23	0.0046	0.0007	0.0039
24	0.0046	0.0007	0.0039
25	0.0046	0.0007	0.0039
26	0.0047	0.0007	0.0039
27	0.0047	0.0007	0.0039
28	0.0047	0.0007	0.0040
29	0.0047	0.0007	0.0040
30	0.0047	0.0007	0.0040
31	0.0048	0.0008	0.0040
32	0.0048	0.0008	0.0040
33	0.0048	0.0008	0.0040
34	0.0048	0.0008	0.0041
35	0.0048	0.0008	0.0041
36	0.0049	0.0008	0.0041
37	0.0049	0.0008	0.0041
38	0.0049	0.0008	0.0041
39	0.0049	0.0008	0.0041
40	0.0049	0.0008	0.0042
41	0.0050	0.0008	0.0042
42	0.0050	0.0008	0.0042
43	0.0050	0.0008	0.0042
44	0.0050	0.0008	0.0042
45	0.0051	0.0008	0.0043
46	0.0051	0.0008	0.0043
47	0.0051	0.0008	0.0043
48	0.0051	0.0008	0.0043
49	0.0051	0.0008	0.0043
50	0.0052	0.0008	0.0043
51	0.0052	0.0008	0.0044
52	0.0052	0.0008	0.0044
53	0.0052	0.0008	0.0044
54	0.0053	0.0008	0.0044
55	0.0053	0.0008	0.0045
56	0.0053	0.0008	0.0045
57	0.0053	0.0008	0.0045
58	0.0054	0.0008	0.0045
59	0.0054	0.0009	0.0046
60	0.0054	0.0009	0.0046
61	0.0055	0.0009	0.0046
62	0.0055	0.0009	0.0046
63	0.0055	0.0009	0.0046
64	0.0055	0.0009	0.0047
65	0.0056	0.0009	0.0047
66	0.0056	0.0009	0.0047
67	0.0056	0.0009	0.0047
68	0.0057	0.0009	0.0048
69	0.0057	0.0009	0.0048
70	0.0057	0.0009	0.0048
71	0.0058	0.0009	0.0048
72	0.0058	0.0009	0.0049
73	0.0058	0.0009	0.0049
74	0.0058	0.0009	0.0049
75	0.0059	0.0009	0.0050
76	0.0059	0.0009	0.0050
77	0.0060	0.0009	0.0050
78	0.0060	0.0009	0.0050
79	0.0060	0.0010	0.0051
80	0.0060	0.0010	0.0051
81	0.0061	0.0010	0.0051

82	0.0061	0.0010	0.0052
83	0.0062	0.0010	0.0052
84	0.0062	0.0010	0.0052
85	0.0062	0.0010	0.0053
86	0.0063	0.0010	0.0053
87	0.0063	0.0010	0.0053
88	0.0064	0.0010	0.0053
89	0.0064	0.0010	0.0054
90	0.0064	0.0010	0.0054
91	0.0065	0.0010	0.0055
92	0.0065	0.0010	0.0055
93	0.0066	0.0010	0.0055
94	0.0066	0.0010	0.0056
95	0.0067	0.0011	0.0056
96	0.0067	0.0011	0.0056
97	0.0068	0.0011	0.0057
98	0.0068	0.0011	0.0057
99	0.0069	0.0011	0.0058
100	0.0069	0.0011	0.0058
101	0.0070	0.0011	0.0059
102	0.0070	0.0011	0.0059
103	0.0071	0.0011	0.0059
104	0.0071	0.0011	0.0060
105	0.0072	0.0011	0.0060
106	0.0072	0.0011	0.0061
107	0.0073	0.0011	0.0061
108	0.0073	0.0012	0.0062
109	0.0074	0.0012	0.0062
110	0.0074	0.0012	0.0063
111	0.0075	0.0012	0.0063
112	0.0076	0.0012	0.0064
113	0.0076	0.0012	0.0064
114	0.0077	0.0012	0.0065
115	0.0078	0.0012	0.0065
116	0.0078	0.0012	0.0066
117	0.0079	0.0012	0.0067
118	0.0080	0.0013	0.0067
119	0.0081	0.0013	0.0068
120	0.0081	0.0013	0.0068
121	0.0082	0.0013	0.0069
122	0.0083	0.0013	0.0070
123	0.0084	0.0013	0.0070
124	0.0084	0.0013	0.0071
125	0.0085	0.0013	0.0072
126	0.0086	0.0014	0.0072
127	0.0087	0.0014	0.0073
128	0.0088	0.0014	0.0074
129	0.0089	0.0014	0.0075
130	0.0089	0.0014	0.0075
131	0.0091	0.0014	0.0076
132	0.0091	0.0014	0.0077
133	0.0093	0.0015	0.0078
134	0.0093	0.0015	0.0079
135	0.0095	0.0015	0.0080
136	0.0096	0.0015	0.0081
137	0.0097	0.0015	0.0082
138	0.0098	0.0015	0.0083
139	0.0100	0.0016	0.0084
140	0.0100	0.0016	0.0085

141	0.0102	0.0016	0.0086
142	0.0103	0.0016	0.0087
143	0.0105	0.0017	0.0088
144	0.0106	0.0017	0.0089
145	0.0101	0.0016	0.0085
146	0.0102	0.0016	0.0086
147	0.0104	0.0016	0.0088
148	0.0105	0.0017	0.0089
149	0.0107	0.0017	0.0090
150	0.0109	0.0017	0.0091
151	0.0111	0.0018	0.0093
152	0.0112	0.0018	0.0095
153	0.0115	0.0018	0.0097
154	0.0116	0.0018	0.0098
155	0.0119	0.0019	0.0100
156	0.0120	0.0019	0.0101
157	0.0124	0.0020	0.0104
158	0.0125	0.0020	0.0105
159	0.0129	0.0020	0.0108
160	0.0130	0.0021	0.0110
161	0.0134	0.0021	0.0113
162	0.0136	0.0021	0.0115
163	0.0140	0.0022	0.0118
164	0.0143	0.0023	0.0120
165	0.0147	0.0023	0.0124
166	0.0150	0.0024	0.0126
167	0.0155	0.0024	0.0131
168	0.0158	0.0025	0.0133
169	0.0270	0.0043	0.0227
170	0.0274	0.0043	0.0230
171	0.0282	0.0044	0.0237
172	0.0286	0.0045	0.0241
173	0.0295	0.0047	0.0249
174	0.0300	0.0047	0.0253
175	0.0311	0.0049	0.0262
176	0.0317	0.0050	0.0267
177	0.0330	0.0052	0.0278
178	0.0337	0.0053	0.0284
179	0.0353	0.0056	0.0297
180	0.0362	0.0057	0.0305
181	0.0382	0.0060	0.0321
182	0.0393	0.0062	0.0331
183	0.0419	0.0066	0.0352
184	0.0433	0.0068	0.0365
185	0.0279	0.0044	0.0235
186	0.0297	0.0047	0.0250
187	0.0344	0.0054	0.0290
188	0.0376	0.0059	0.0317
189	0.0467	0.0074	0.0394
190	0.0538	0.0085	0.0453
191	0.0817	0.0085	0.0732
192	0.1186	0.0085	0.1100
193	0.5130	0.0085	0.5044
194	0.0643	0.0085	0.0558
195	0.0416	0.0066	0.0350
196	0.0318	0.0050	0.0268
197	0.0450	0.0071	0.0379
198	0.0405	0.0064	0.0341
199	0.0371	0.0059	0.0313

200	0.0345	0.0054	0.0291
201	0.0324	0.0051	0.0272
202	0.0306	0.0048	0.0257
203	0.0291	0.0046	0.0245
204	0.0278	0.0044	0.0234
205	0.0161	0.0025	0.0136
206	0.0152	0.0024	0.0128
207	0.0145	0.0023	0.0122
208	0.0138	0.0022	0.0116
209	0.0132	0.0021	0.0111
210	0.0127	0.0020	0.0107
211	0.0122	0.0019	0.0103
212	0.0118	0.0019	0.0099
213	0.0113	0.0018	0.0096
214	0.0110	0.0017	0.0092
215	0.0106	0.0017	0.0090
216	0.0103	0.0016	0.0087
217	0.0107	0.0017	0.0090
218	0.0104	0.0016	0.0088
219	0.0101	0.0016	0.0085
220	0.0099	0.0016	0.0083
221	0.0096	0.0015	0.0081
222	0.0094	0.0015	0.0079
223	0.0092	0.0015	0.0078
224	0.0090	0.0014	0.0076
225	0.0088	0.0014	0.0074
226	0.0086	0.0014	0.0073
227	0.0085	0.0013	0.0071
228	0.0083	0.0013	0.0070
229	0.0082	0.0013	0.0069
230	0.0080	0.0013	0.0067
231	0.0079	0.0012	0.0066
232	0.0077	0.0012	0.0065
233	0.0076	0.0012	0.0064
234	0.0075	0.0012	0.0063
235	0.0074	0.0012	0.0062
236	0.0072	0.0011	0.0061
237	0.0071	0.0011	0.0060
238	0.0070	0.0011	0.0059
239	0.0069	0.0011	0.0058
240	0.0068	0.0011	0.0057
241	0.0067	0.0011	0.0057
242	0.0066	0.0010	0.0056
243	0.0065	0.0010	0.0055
244	0.0065	0.0010	0.0054
245	0.0064	0.0010	0.0054
246	0.0063	0.0010	0.0053
247	0.0062	0.0010	0.0052
248	0.0061	0.0010	0.0052
249	0.0061	0.0010	0.0051
250	0.0060	0.0009	0.0051
251	0.0059	0.0009	0.0050
252	0.0059	0.0009	0.0049
253	0.0058	0.0009	0.0049
254	0.0057	0.0009	0.0048
255	0.0057	0.0009	0.0048
256	0.0056	0.0009	0.0047
257	0.0056	0.0009	0.0047
258	0.0055	0.0009	0.0046

259	0.0054	0.0009	0.0046
260	0.0054	0.0009	0.0045
261	0.0053	0.0008	0.0045
262	0.0053	0.0008	0.0044
263	0.0052	0.0008	0.0044
264	0.0052	0.0008	0.0044
265	0.0051	0.0008	0.0043
266	0.0051	0.0008	0.0043
267	0.0050	0.0008	0.0042
268	0.0050	0.0008	0.0042
269	0.0049	0.0008	0.0042
270	0.0049	0.0008	0.0041
271	0.0049	0.0008	0.0041
272	0.0048	0.0008	0.0041
273	0.0048	0.0008	0.0040
274	0.0047	0.0007	0.0040
275	0.0047	0.0007	0.0040
276	0.0047	0.0007	0.0039
277	0.0046	0.0007	0.0039
278	0.0046	0.0007	0.0039
279	0.0046	0.0007	0.0038
280	0.0045	0.0007	0.0038
281	0.0045	0.0007	0.0038
282	0.0045	0.0007	0.0038
283	0.0044	0.0007	0.0037
284	0.0044	0.0007	0.0037
285	0.0044	0.0007	0.0037
286	0.0043	0.0007	0.0036
287	0.0043	0.0007	0.0036
288	0.0043	0.0007	0.0036

Total soil rain loss = 0.50(In)
Total effective rainfall = 3.21(In)
Peak flow rate in flood hydrograph = 6025.95(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1525.0	3050.0	4575.0	6100.0
0+ 5	0.0080	1.16	Q	|	|	|	|
0+10	0.0324	3.55	Q	|	|	|	|
0+15	0.0799	6.90	Q	|	|	|	|
0+20	0.1561	11.05	Q	|	|	|	|
0+25	0.2666	16.05	Q	|	|	|	|
0+30	0.4194	22.19	Q	|	|	|	|
0+35	0.6218	29.38	Q	|	|	|	|
0+40	0.8927	39.34	Q	|	|	|	|
0+45	1.2551	52.61	Q	|	|	|	|
0+50	1.7228	67.92	Q	|	|	|	|
0+55	2.3035	84.32	Q	|	|	|	|
1+ 0	3.0212	104.20	Q	|	|	|	|
1+ 5	3.9094	128.97	Q	|	|	|	|
1+10	4.9077	144.96	Q	|	|	|	|

1+15	5.9877	156.82	VQ	|	|	|	|
1+20	7.1338	166.41	VQ	|	|	|	|
1+25	8.3380	174.84	VQ	|	|	|	|
1+30	9.5939	182.36	VQ	|	|	|	|
1+35	10.8968	189.18	VQ	|	|	|	|
1+40	12.2422	195.36	VQ	|	|	|	|
1+45	13.6267	201.03	VQ	|	|	|	|
1+50	15.0488	206.48	VQ	|	|	|	|
1+55	16.5065	211.67	VQ	|	|	|	|
2+ 0	17.9960	216.26	VQ	|	|	|	|
2+ 5	19.5167	220.81	VQ	|	|	|	|
2+10	21.0679	225.24	VQ	|	|	|	|
2+15	22.6457	229.09	VQ	|	|	|	|
2+20	24.2494	232.86	VQ	|	|	|	|
2+25	25.8791	236.63	VQ	|	|	|	|
2+30	27.5324	240.05	VQ	|	|	|	|
2+35	29.2086	243.38	VQ	|	|	|	|
2+40	30.9077	246.72	VQ	|	|	|	|
2+45	32.6284	249.83	VQ	|	|	|	|
2+50	34.3694	252.81	VQ	|	|	|	|
2+55	36.1312	255.81	VQ	|	|	|	|
3+ 0	37.9126	258.66	VQ	|	|	|	|
3+ 5	39.7126	261.36	VQ	|	|	|	|
3+10	41.5312	264.06	|Q	|	|	|	|
3+15	43.3679	266.69	|Q	|	|	|	|
3+20	45.2210	269.06	|Q	|	|	|	|
3+25	47.0905	271.46	|Q	|	|	|	|
3+30	48.9764	273.82	|Q	|	|	|	|
3+35	50.8774	276.03	|Q	|	|	|	|
3+40	52.7936	278.23	|Q	|	|	|	|
3+45	54.7250	280.44	|Q	|	|	|	|
3+50	56.6709	282.53	|Q	|	|	|	|
3+55	58.6311	284.62	|Q	|	|	|	|
4+ 0	60.6056	286.71	|Q	|	|	|	|
4+ 5	62.5940	288.70	|Q	|	|	|	|
4+10	64.5956	290.64	|Q	|	|	|	|
4+15	66.6108	292.61	|Q	|	|	|	|
4+20	68.6386	294.43	|Q	|	|	|	|
4+25	70.6781	296.14	|Q	|	|	|	|
4+30	72.7295	297.86	|Q	|	|	|	|
4+35	74.7929	299.61	|Q	|	|	|	|
4+40	76.8684	301.36	|Q	|	|	|	|
4+45	78.9561	303.14	|Q	|	|	|	|
4+50	81.0559	304.90	|Q	|	|	|	|
4+55	83.1677	306.62	| Q	|	|	|	|
5+ 0	85.2913	308.35	| Q	|	|	|	|
5+ 5	87.4269	310.10	| Q	|	|	|	|
5+10	89.5747	311.86	| Q	|	|	|	|
5+15	91.7348	313.65	| Q	|	|	|	|
5+20	93.9072	315.43	| Q	|	|	|	|
5+25	96.0916	317.17	| Q	|	|	|	|
5+30	98.2878	318.88	| Q	|	|	|	|
5+35	100.4960	320.63	| Q	|	|	|	|
5+40	102.7162	322.38	| Q	|	|	|	|
5+45	104.9488	324.16	| Q	|	|	|	|
5+50	107.1936	325.95	| Q	|	|	|	|
5+55	109.4509	327.76	| Q	|	|	|	|
6+ 0	111.7205	329.54	| Q	|	|	|	|
6+ 5	114.0027	331.37	| Q	|	|	|	|

6+10	116.2974	333.20	Q			
6+15	118.6050	335.06	Q			
6+20	120.9255	336.93	Q			
6+25	123.2591	338.84	Q			
6+30	125.6056	340.72	QV			
6+35	127.9655	342.65	QV			
6+40	130.3386	344.58	QV			
6+45	132.7253	346.55	QV			
6+50	135.1256	348.52	QV			
6+55	137.5398	350.55	QV			
7+ 0	139.9679	352.56	QV			
7+ 5	142.4101	354.61	QV			
7+10	144.8664	356.66	QV			
7+15	147.3372	358.76	QV			
7+20	149.8226	360.87	QV			
7+25	152.3228	363.03	QV			
7+30	154.8378	365.18	QV			
7+35	157.3676	367.32	QV			
7+40	159.9122	369.48	QV			
7+45	162.4720	371.69	QV			
7+50	165.0471	373.90	Q V			
7+55	167.6378	376.17	Q V			
8+ 0	170.2443	378.46	Q V			
8+ 5	172.8668	380.80	Q V			
8+10	175.5056	383.15	Q V			
8+15	178.1609	385.56	Q V			
8+20	180.8329	387.97	Q V			
8+25	183.5217	390.41	Q V			
8+30	186.2273	392.85	Q V			
8+35	188.9502	395.36	Q V			
8+40	191.6905	397.89	Q V			
8+45	194.4486	400.48	Q V			
8+50	197.2247	403.09	Q V			
8+55	200.0193	405.77	Q V			
9+ 0	202.8324	408.47	Q V			
9+ 5	205.6647	411.24	Q V			
9+10	208.5161	414.03	Q V			
9+15	211.3873	416.90	Q V			
9+20	214.2784	419.79	Q V			
9+25	217.1899	422.76	Q V			
9+30	220.1221	425.75	Q V			
9+35	223.0754	428.83	Q V			
9+40	226.0502	431.93	Q V			
9+45	229.0469	435.12	Q V			
9+50	232.0658	438.34	Q V			
9+55	235.1075	441.66	Q V			
10+ 0	238.1722	445.00	Q V			
10+ 5	241.2607	448.44	Q V			
10+10	244.3731	451.92	Q V			
10+15	247.5102	455.50	Q V			
10+20	250.6721	459.12	Q V			
10+25	253.8598	462.85	Q V			
10+30	257.0734	466.61	Q V			
10+35	260.3137	470.50	Q V			
10+40	263.5811	474.43	Q V			
10+45	266.8764	478.48	Q V			
10+50	270.2000	482.58	Q V			
10+55	273.5527	486.81	Q V			
11+ 0	276.9349	491.10	Q V			

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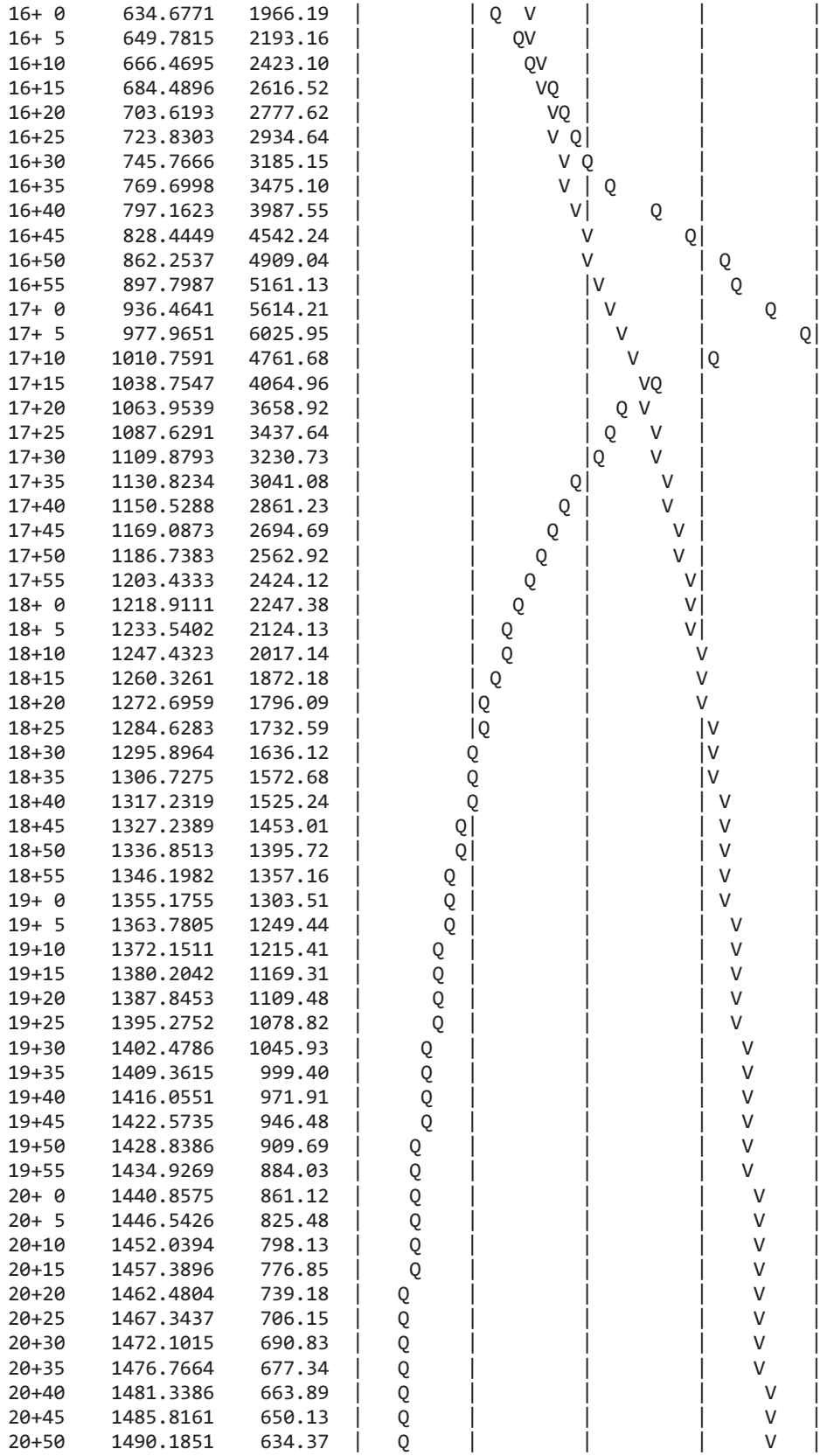
11+ 5     280.3476    495.52  |  Q  V   |          |          |          |
11+10     283.7912    500.00  |  Q  V   |          |          |          |
11+15     287.2666    504.64  |  Q  V   |          |          |          |
11+20     290.7745    509.33  |  Q   V  |          |          |          |
11+25     294.3157    514.19  |  Q   V  |          |          |          |
11+30     297.8909    519.12  |  Q   V  |          |          |          |
11+35     301.5013    524.22  |  Q   V  |          |          |          |
11+40     305.1473    529.40  |  Q   V  |          |          |          |
11+45     308.8302    534.76  |  Q   V  |          |          |          |
11+50     312.5507    540.21  |  Q   V  |          |          |          |
11+55     316.3100    545.86  |  Q   V  |          |          |          |
12+ 0     320.1089    551.60  |  Q   V  |          |          |          |
12+ 5     323.9476    557.38  |  Q   V  |          |          |          |
12+10     327.8254    563.06  |  Q   V  |          |          |          |
12+15     331.7429    568.83  |  Q    V |          |          |          |
12+20     335.7001    574.58  |  Q    V |          |          |          |
12+25     339.6977    580.45  |  Q    V |          |          |          |
12+30     343.7353    586.27  |  Q    V |          |          |          |
12+35     347.8138    592.20  |  Q    V |          |          |          |
12+40     351.9311    597.82  |  Q    V |          |          |          |
12+45     356.0855    603.23  |  Q    V |          |          |          |
12+50     360.2761    608.46  |  Q    V |          |          |          |
12+55     364.5037    613.86  |   Q   V |          |          |          |
13+ 0     368.7659    618.86  |   Q   V |          |          |          |
13+ 5     373.0597    623.46  |   Q    V|          |          |          |
13+10     377.3960    629.64  |   Q    V|          |          |          |
13+15     381.7822    636.87  |   Q    V|          |          |          |
13+20     386.2222    644.70  |   Q    V|          |          |          |
13+25     390.7206    653.16  |   Q    V|          |          |          |
13+30     395.2800    662.03  |   Q    V|          |          |          |
13+35     399.9048    671.52  |   Q    V|          |          |          |
13+40     404.5978    681.43  |   Q    V|          |          |          |
13+45     409.3636    691.99  |   Q    V|          |          |          |
13+50     414.2049    702.96  |   Q     V          |          |          |
13+55     419.1266    714.62  |   Q     V          |          |          |
14+ 0     424.1321    726.81  |   Q     V          |          |          |
14+ 5     429.2469    742.66  |   Q     V          |          |          |
14+10     434.4954    762.09  |   Q     V          |          |          |
14+15     439.9012    784.92  |    Q    V          |          |          |
14+20     445.4826    810.42  |    Q    V          |          |          |
14+25     451.2613    839.07  |    Q    V          |          |          |
14+30     457.2631    871.45  |    Q    |V         |          |          |
14+35     463.5146    907.72  |    Q    |V         |          |          |
14+40     470.0703    951.89  |     Q   |V         |          |          |
14+45     476.9980   1005.90  |     Q   |V         |          |          |
14+50     484.3416   1066.29  |     Q   |V         |          |          |
14+55     492.1333   1131.36  |      Q  |V         |          |          |
15+ 0     500.4443   1206.76  |      Q  | V        |          |          |
15+ 5     509.3753   1296.78  |       Q | V        |          |          |
15+10     518.7906   1367.09  |       Q | V        |          |          |
15+15     528.6407   1430.23  |        Q| V        |          |          |
15+20     538.9050   1490.38  |        Q|  V       |          |          |
15+25     549.5550   1546.38  |         Q  V       |          |          |
15+30     560.5618   1598.18  |         Q  V       |          |          |
15+35     571.9197   1649.17  |         Q  V       |          |          |
15+40     583.6280   1700.05  |         |Q  V       |          |          |
15+45     595.7079   1754.00  |         |Q  V       |          |          |
15+50     608.1807   1811.05  |         |Q  V       |          |          |
15+55     621.1358   1881.08  |         | Q  V     |          |          |
```



16+ 0	634.6771	1966.19	
16+ 5	649.7815	2193.16	
16+10	666.4695	2423.10	
16+15	684.4896	2616.52	
16+20	703.6193	2777.62	
16+25	723.8303	2934.64	
16+30	745.7666	3185.15	
16+35	769.6998	3475.10	
16+40	797.1623	3987.55	
16+45	828.4449	4542.24	
16+50	862.2537	4909.04	
16+55	897.7987	5161.13	
17+ 0	936.4641	5614.21	
17+ 5	977.9651	6025.95	
17+10	1010.7591	4761.68	
17+15	1038.7547	4064.96	
17+20	1063.9539	3658.92	
17+25	1087.6291	3437.64	
17+30	1109.8793	3230.73	
17+35	1130.8234	3041.08	
17+40	1150.5288	2861.23	
17+45	1169.0873	2694.69	
17+50	1186.7383	2562.92	
17+55	1203.4333	2424.12	
18+ 0	1218.9111	2247.38	
18+ 5	1233.5402	2124.13	
18+10	1247.4323	2017.14	
18+15	1260.3261	1872.18	
18+20	1272.6959	1796.09	
18+25	1284.6283	1732.59	
18+30	1295.8964	1636.12	
18+35	1306.7275	1572.68	
18+40	1317.2319	1525.24	
18+45	1327.2389	1453.01	
18+50	1336.8513	1395.72	
18+55	1346.1982	1357.16	
19+ 0	1355.1755	1303.51	
19+ 5	1363.7805	1249.44	
19+10	1372.1511	1215.41	
19+15	1380.2042	1169.31	
19+20	1387.8453	1109.48	
19+25	1395.2752	1078.82	
19+30	1402.4786	1045.93	
19+35	1409.3615	999.40	
19+40	1416.0551	971.91	
19+45	1422.5735	946.48	
19+50	1428.8386	909.69	
19+55	1434.9269	884.03	
20+ 0	1440.8575	861.12	
20+ 5	1446.5426	825.48	
20+10	1452.0394	798.13	
20+15	1457.3896	776.85	
20+20	1462.4804	739.18	
20+25	1467.3437	706.15	
20+30	1472.1015	690.83	
20+35	1476.7664	677.34	
20+40	1481.3386	663.89	
20+45	1485.8161	650.13	
20+50	1490.1851	634.37	

```
20+55    1494.4154    614.25  |   Q     |         |         |     V   |
21+ 0    1498.5634    602.29  |  Q      |         |         |     V   |
21+ 5    1502.6394    591.84  |  Q      |         |         |     V   |
21+10    1506.6457    581.72  |  Q      |         |         |     V   |
21+15    1510.5784    571.02  |  Q      |         |         |     V   |
21+20    1514.4313    559.44  |  Q      |         |         |     V   |
21+25    1518.1479    539.65  |  Q      |         |         |     V   |
21+30    1521.7791    527.25  |  Q      |         |         |     V   |
21+35    1525.3537    519.03  |  Q      |         |         |      V  |
21+40    1528.8747    511.26  |  Q      |         |         |      V  |
21+45    1532.3412    503.34  |  Q      |         |         |      V  |
21+50    1535.7527    495.34  |  Q      |         |         |      V  |
21+55    1539.0967    485.55  |  Q      |         |         |      V  |
22+ 0    1542.3720    475.57  |  Q      |         |         |      V  |
22+ 5    1545.6007    468.81  |  Q      |         |         |      V  |
22+10    1548.7849    462.35  |  Q      |         |         |      V  |
22+15    1551.9250    455.94  | Q       |         |         |      V  |
22+20    1555.0201    449.41  | Q       |         |         |      V  |
22+25    1558.0662    442.28  | Q       |         |         |      V  |
22+30    1561.0497    433.21  | Q       |         |         |      V  |
22+35    1563.9907    427.03  | Q       |         |         |       V |
22+40    1566.8935    421.49  | Q       |         |         |       V |
22+45    1569.7589    416.05  | Q       |         |         |       V |
22+50    1572.5866    410.59  | Q       |         |         |       V |
22+55    1575.3771    405.17  | Q       |         |         |       V |
23+ 0    1578.1185    398.06  | Q       |         |         |       V |
23+ 5    1580.8190    392.11  | Q       |         |         |       V |
23+10    1583.4866    387.33  | Q       |         |         |       V |
23+15    1586.1213    382.56  | Q       |         |         |       V |
23+20    1588.7218    377.59  | Q       |         |         |       V |
23+25    1591.2841    372.05  | Q       |         |         |       V |
23+30    1593.7879    363.54  | Q       |         |         |       V |
23+35    1596.2170    352.71  | Q       |         |         |       V |
23+40    1598.6146    348.13  | Q       |         |         |       V |
23+45    1600.9854    344.24  | Q       |         |         |       V |
23+50    1603.3300    340.44  | Q       |         |         |       V |
23+55    1605.6478    336.54  | Q       |         |         |        V|
24+ 0    1607.9396    332.77  | Q       |         |         |        V|
24+ 5    1610.1977    327.87  | Q       |         |         |        V|
24+10    1612.4135    321.74  | Q       |         |         |        V|
24+15    1614.5784    314.34  | Q       |         |         |        V|
24+20    1616.6796    305.10  | Q       |         |         |        V|
24+25    1618.6828    290.86  |Q        |         |         |        V|
24+30    1620.6211    281.45  |Q        |         |         |        V|
24+35    1622.4912    271.54  |Q        |         |         |        V|
24+40    1624.2755    259.08  |Q        |         |         |        V|
24+45    1625.9515    243.35  |Q        |         |         |        V|
24+50    1627.5067    225.82  |Q        |         |         |        V|
24+55    1628.9354    207.45  |Q        |         |         |        V|
25+ 0    1630.2154    185.85  |Q        |         |         |        V|
25+ 5    1631.3148    159.64  |Q        |         |         |        V|
25+10    1632.2963    142.50  Q         |         |         |        V|
25+15    1633.1896    129.71  Q         |         |         |        V|
25+20    1634.0116    119.35  Q         |         |         |        V|
25+25    1634.7721    110.43  Q         |         |         |        V|
25+30    1635.4780    102.51  Q         |         |         |        V|
25+35    1636.1351     95.41  Q         |         |         |        V|
25+40    1636.7482     89.03  Q         |         |         |        V|
25+45    1637.3216     83.25  Q         |         |         |        V|
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25+50	1637.8572	77.77	Q	|	|	|	V|
25+55	1638.3574	72.63	Q	|	|	|	V|
26+ 0	1638.8268	68.16	Q	|	|	|	V|
26+ 5	1639.2662	63.80	Q	|	|	|	V|
26+10	1639.6767	59.62	Q	|	|	|	V|
26+15	1640.0629	56.07	Q	|	|	|	V|
26+20	1640.4256	52.66	Q	|	|	|	V|
26+25	1640.7651	49.30	Q	|	|	|	V|
26+30	1641.0842	46.33	Q	|	|	|	V|
26+35	1641.3839	43.51	Q	|	|	|	V|
26+40	1641.6643	40.71	Q	|	|	|	V|
26+45	1641.9273	38.19	Q	|	|	|	V|
26+50	1642.1742	35.84	Q	|	|	|	V|
26+55	1642.4050	33.52	Q	|	|	|	V|
27+ 0	1642.6210	31.37	Q	|	|	|	V|
27+ 5	1642.8236	29.42	Q	|	|	|	V|
27+10	1643.0129	27.48	Q	|	|	|	V|
27+15	1643.1897	25.68	Q	|	|	|	V|
27+20	1643.3560	24.14	Q	|	|	|	V|
27+25	1643.5118	22.62	Q	|	|	|	V|
27+30	1643.6575	21.16	Q	|	|	|	V|
27+35	1643.7944	19.88	Q	|	|	|	V|
27+40	1643.9228	18.64	Q	|	|	|	V|
27+45	1644.0428	17.42	Q	|	|	|	V|
27+50	1644.1553	16.34	Q	|	|	|	V|
27+55	1644.2606	15.29	Q	|	|	|	V|
28+ 0	1644.3588	14.26	Q	|	|	|	V|
28+ 5	1644.4508	13.36	Q	|	|	|	V|
28+10	1644.5371	12.53	Q	|	|	|	V|
28+15	1644.6177	11.70	Q	|	|	|	V|
28+20	1644.6936	11.03	Q	|	|	|	V|
28+25	1644.7660	10.50	Q	|	|	|	V|
28+30	1644.8347	9.98	Q	|	|	|	V|
28+35	1644.8998	9.46	Q	|	|	|	V|
28+40	1644.9614	8.94	Q	|	|	|	V|
28+45	1645.0195	8.43	Q	|	|	|	V|
28+50	1645.0743	7.95	Q	|	|	|	V|
28+55	1645.1262	7.53	Q	|	|	|	V|
29+ 0	1645.1753	7.13	Q	|	|	|	V|
29+ 5	1645.2216	6.73	Q	|	|	|	V|
29+10	1645.2652	6.33	Q	|	|	|	V|
29+15	1645.3061	5.94	Q	|	|	|	V|
29+20	1645.3443	5.55	Q	|	|	|	V|
29+25	1645.3804	5.25	Q	|	|	|	V|
29+30	1645.4147	4.98	Q	|	|	|	V|
29+35	1645.4472	4.71	Q	|	|	|	V|
29+40	1645.4779	4.45	Q	|	|	|	V|
29+45	1645.5067	4.19	Q	|	|	|	V|
29+50	1645.5338	3.93	Q	|	|	|	V|
29+55	1645.5592	3.69	Q	|	|	|	V|
30+ 0	1645.5832	3.48	Q	|	|	|	V|
30+ 5	1645.6057	3.27	Q	|	|	|	V|
30+10	1645.6268	3.06	Q	|	|	|	V|
30+15	1645.6464	2.85	Q	|	|	|	V|
30+20	1645.6647	2.65	Q	|	|	|	V|
30+25	1645.6815	2.45	Q	|	|	|	V|
30+30	1645.6972	2.28	Q	|	|	|	V|
30+35	1645.7117	2.11	Q	|	|	|	V|
30+40	1645.7251	1.94	Q	|	|	|	V|

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   30+45    1645.7373      1.78  Q         |          |          |         V|
   30+50    1645.7484      1.61  Q         |          |          |         V|
   30+55    1645.7584      1.45  Q         |          |          |         V|
   31+ 0    1645.7674      1.31  Q         |          |          |         V|
   31+ 5    1645.7755      1.17  Q         |          |          |         V|
   31+10    1645.7826      1.04  Q         |          |          |         V|
   31+15    1645.7889      0.91  Q         |          |          |         V|
   31+20    1645.7942      0.77  Q         |          |          |         V|
   31+25    1645.7986      0.64  Q         |          |          |         V|
   31+30    1645.8023      0.54  Q         |          |          |         V|
   31+35    1645.8056      0.48  Q         |          |          |         V|
   31+40    1645.8085      0.42  Q         |          |          |         V|
   31+45    1645.8111      0.37  Q         |          |          |         V|
   31+50    1645.8133      0.31  Q         |          |          |         V|
   31+55    1645.8150      0.26  Q         |          |          |         V|
   32+ 0    1645.8165      0.21  Q         |          |          |         V|
   32+ 5    1645.8175      0.15  Q         |          |          |         V|
   32+10    1645.8182      0.10  Q         |          |          |         V|
   32+15    1645.8185      0.05  Q         |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/10/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREA "L"
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
1834.31	1	1.41
Rainfall data for year 100		
1834.31	6	2.19
Rainfall data for year 100		
1834.31	24	3.29

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
76.8	92.1	1834.31	1.000	0.153	0.999	0.153

Area-averaged adjusted loss rate Fm (In/Hr) = 0.153

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1832.48	0.999	76.8	92.1	0.86	0.743
1.83	0.001	98.0	98.0	0.20	0.929

Area-averaged catchment yield fraction, Y = 0.743
Area-averaged low loss fraction, Yb = 0.257
++
Watercourse length = 20676.00(Ft.)
Length from concentration point to centroid = 10935.00(Ft.)
Elevation difference along watercourse = 2355.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 1834.31(Ac.)
Catchment Lag time = 0.552 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 15.1061
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.153(In/Hr)
Average low loss rate fraction (Yb) = 0.257 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.250
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.750

Computed peak 5-minute rainfall = 0.668(In)
Computed peak 30-minute rainfall = 1.143(In)
Specified peak 1-hour rainfall = 1.407(In)
Computed peak 3-hour rainfall = 1.845(In)
Specified peak 6-hour rainfall = 2.190(In)
Specified peak 24-hour rainfall = 3.287(In)

Rainfall depth area reduction factors:
Using a total area of 1834.31(Ac.) (Ref: fig. E-4)

5-minute factor = 0.914 Adjusted rainfall = 0.610(In)
30-minute factor = 0.914 Adjusted rainfall = 1.045(In)
1-hour factor = 0.914 Adjusted rainfall = 1.286(In)
3-hour factor = 0.989 Adjusted rainfall = 1.825(In)
6-hour factor = 0.994 Adjusted rainfall = 2.177(In)
24-hour factor = 0.998 Adjusted rainfall = 3.279(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 22183.69 (CFS))	
1	0.751	166.639
2	3.005	499.885
3	6.619	801.749
4	12.275	1254.690
5	22.646	2300.739

6	35.596	2872.878
7	48.173	2790.060
8	57.020	1962.410
9	62.969	1319.786
10	67.582	1023.401
11	71.395	845.907
12	74.642	720.243
13	77.395	610.779
14	79.840	542.256
15	81.893	455.512
16	83.715	404.156
17	85.369	366.873
18	86.853	329.296
19	88.227	304.742
20	89.438	268.581
21	90.465	227.935
22	91.374	201.652
23	92.204	184.063
24	92.978	171.712
25	93.673	154.225
26	94.308	140.876
27	94.889	128.820
28	95.339	99.933
29	95.770	95.506
30	96.198	95.022
31	96.561	80.508
32	96.894	73.724
33	97.226	73.724
34	97.515	64.206
35	97.742	50.382
36	97.969	50.266
37	98.181	47.049
38	98.332	33.378
39	98.475	31.835
40	98.619	31.902
41	98.768	33.078
42	98.919	33.511
43	99.070	33.511
44	99.218	32.721
45	99.361	31.836
46	99.505	31.835
47	99.633	28.407
48	99.707	16.538
49	99.778	15.708
50	99.849	15.708
51	99.920	15.708
52	100.000	7.854

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6102	0.6102
2	0.7513	0.1411
3	0.8485	0.0972
4	0.9249	0.0765
5	0.9890	0.0640
6	1.0446	0.0556
7	1.0940	0.0494
8	1.1387	0.0447
9	1.1797	0.0410

10	1.2176	0.0379
11	1.2529	0.0353
12	1.2860	0.0331
13	1.3193	0.0332
14	1.3508	0.0315
15	1.3808	0.0300
16	1.4095	0.0287
17	1.4371	0.0275
18	1.4635	0.0264
19	1.4889	0.0254
20	1.5135	0.0245
21	1.5372	0.0237
22	1.5602	0.0230
23	1.5824	0.0223
24	1.6040	0.0216
25	1.6251	0.0210
26	1.6455	0.0204
27	1.6654	0.0199
28	1.6848	0.0194
29	1.7038	0.0190
30	1.7223	0.0185
31	1.7404	0.0181
32	1.7581	0.0177
33	1.7754	0.0173
34	1.7924	0.0170
35	1.8091	0.0166
36	1.8254	0.0163
37	1.8382	0.0128
38	1.8507	0.0125
39	1.8629	0.0123
40	1.8750	0.0120
41	1.8868	0.0118
42	1.8984	0.0116
43	1.9098	0.0114
44	1.9210	0.0112
45	1.9320	0.0110
46	1.9429	0.0108
47	1.9535	0.0107
48	1.9640	0.0105
49	1.9743	0.0103
50	1.9845	0.0102
51	1.9945	0.0100
52	2.0044	0.0099
53	2.0142	0.0097
54	2.0238	0.0096
55	2.0332	0.0095
56	2.0426	0.0093
57	2.0518	0.0092
58	2.0609	0.0091
59	2.0699	0.0090
60	2.0787	0.0089
61	2.0875	0.0088
62	2.0962	0.0087
63	2.1047	0.0086
64	2.1132	0.0085
65	2.1215	0.0084
66	2.1298	0.0083
67	2.1379	0.0082
68	2.1460	0.0081

69	2.1540	0.0080
70	2.1619	0.0079
71	2.1697	0.0078
72	2.1774	0.0077
73	2.1863	0.0089
74	2.1951	0.0088
75	2.2039	0.0087
76	2.2125	0.0086
77	2.2211	0.0086
78	2.2295	0.0085
79	2.2380	0.0084
80	2.2463	0.0083
81	2.2545	0.0083
82	2.2627	0.0082
83	2.2708	0.0081
84	2.2789	0.0080
85	2.2869	0.0080
86	2.2948	0.0079
87	2.3026	0.0079
88	2.3104	0.0078
89	2.3182	0.0077
90	2.3258	0.0077
91	2.3334	0.0076
92	2.3410	0.0075
93	2.3485	0.0075
94	2.3559	0.0074
95	2.3633	0.0074
96	2.3706	0.0073
97	2.3779	0.0073
98	2.3851	0.0072
99	2.3922	0.0072
100	2.3993	0.0071
101	2.4064	0.0071
102	2.4134	0.0070
103	2.4204	0.0070
104	2.4273	0.0069
105	2.4342	0.0069
106	2.4410	0.0068
107	2.4478	0.0068
108	2.4545	0.0067
109	2.4612	0.0067
110	2.4679	0.0066
111	2.4745	0.0066
112	2.4810	0.0066
113	2.4876	0.0065
114	2.4940	0.0065
115	2.5005	0.0064
116	2.5069	0.0064
117	2.5133	0.0064
118	2.5196	0.0063
119	2.5259	0.0063
120	2.5321	0.0063
121	2.5383	0.0062
122	2.5445	0.0062
123	2.5507	0.0061
124	2.5568	0.0061
125	2.5628	0.0061
126	2.5689	0.0060
127	2.5749	0.0060

128	2.5809	0.0060
129	2.5868	0.0059
130	2.5927	0.0059
131	2.5986	0.0059
132	2.6044	0.0058
133	2.6102	0.0058
134	2.6160	0.0058
135	2.6218	0.0058
136	2.6275	0.0057
137	2.6332	0.0057
138	2.6389	0.0057
139	2.6445	0.0056
140	2.6501	0.0056
141	2.6557	0.0056
142	2.6612	0.0056
143	2.6667	0.0055
144	2.6722	0.0055
145	2.6777	0.0055
146	2.6831	0.0054
147	2.6886	0.0054
148	2.6940	0.0054
149	2.6993	0.0054
150	2.7047	0.0053
151	2.7100	0.0053
152	2.7153	0.0053
153	2.7205	0.0053
154	2.7258	0.0052
155	2.7310	0.0052
156	2.7362	0.0052
157	2.7413	0.0052
158	2.7465	0.0051
159	2.7516	0.0051
160	2.7567	0.0051
161	2.7618	0.0051
162	2.7669	0.0051
163	2.7719	0.0050
164	2.7769	0.0050
165	2.7819	0.0050
166	2.7869	0.0050
167	2.7918	0.0049
168	2.7967	0.0049
169	2.8016	0.0049
170	2.8065	0.0049
171	2.8114	0.0049
172	2.8162	0.0048
173	2.8211	0.0048
174	2.8259	0.0048
175	2.8307	0.0048
176	2.8354	0.0048
177	2.8402	0.0047
178	2.8449	0.0047
179	2.8496	0.0047
180	2.8543	0.0047
181	2.8590	0.0047
182	2.8637	0.0047
183	2.8683	0.0046
184	2.8729	0.0046
185	2.8775	0.0046
186	2.8821	0.0046

187	2.8867	0.0046
188	2.8912	0.0046
189	2.8958	0.0045
190	2.9003	0.0045
191	2.9048	0.0045
192	2.9093	0.0045
193	2.9137	0.0045
194	2.9182	0.0045
195	2.9226	0.0044
196	2.9270	0.0044
197	2.9314	0.0044
198	2.9358	0.0044
199	2.9402	0.0044
200	2.9446	0.0044
201	2.9489	0.0043
202	2.9532	0.0043
203	2.9575	0.0043
204	2.9618	0.0043
205	2.9661	0.0043
206	2.9704	0.0043
207	2.9746	0.0043
208	2.9789	0.0042
209	2.9831	0.0042
210	2.9873	0.0042
211	2.9915	0.0042
212	2.9957	0.0042
213	2.9999	0.0042
214	3.0040	0.0042
215	3.0081	0.0041
216	3.0123	0.0041
217	3.0164	0.0041
218	3.0205	0.0041
219	3.0246	0.0041
220	3.0286	0.0041
221	3.0327	0.0041
222	3.0368	0.0040
223	3.0408	0.0040
224	3.0448	0.0040
225	3.0488	0.0040
226	3.0528	0.0040
227	3.0568	0.0040
228	3.0608	0.0040
229	3.0647	0.0040
230	3.0687	0.0039
231	3.0726	0.0039
232	3.0765	0.0039
233	3.0804	0.0039
234	3.0843	0.0039
235	3.0882	0.0039
236	3.0921	0.0039
237	3.0960	0.0039
238	3.0998	0.0039
239	3.1037	0.0038
240	3.1075	0.0038
241	3.1113	0.0038
242	3.1151	0.0038
243	3.1189	0.0038
244	3.1227	0.0038
245	3.1265	0.0038

246	3.1303	0.0038
247	3.1340	0.0038
248	3.1378	0.0037
249	3.1415	0.0037
250	3.1452	0.0037
251	3.1489	0.0037
252	3.1526	0.0037
253	3.1563	0.0037
254	3.1600	0.0037
255	3.1637	0.0037
256	3.1673	0.0037
257	3.1710	0.0036
258	3.1746	0.0036
259	3.1782	0.0036
260	3.1819	0.0036
261	3.1855	0.0036
262	3.1891	0.0036
263	3.1927	0.0036
264	3.1962	0.0036
265	3.1998	0.0036
266	3.2034	0.0036
267	3.2069	0.0036
268	3.2105	0.0035
269	3.2140	0.0035
270	3.2175	0.0035
271	3.2210	0.0035
272	3.2246	0.0035
273	3.2281	0.0035
274	3.2315	0.0035
275	3.2350	0.0035
276	3.2385	0.0035
277	3.2420	0.0035
278	3.2454	0.0035
279	3.2488	0.0034
280	3.2523	0.0034
281	3.2557	0.0034
282	3.2591	0.0034
283	3.2625	0.0034
284	3.2659	0.0034
285	3.2693	0.0034
286	3.2727	0.0034
287	3.2761	0.0034
288	3.2795	0.0034

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0034	0.0009	0.0025
2	0.0034	0.0009	0.0025
3	0.0034	0.0009	0.0025
4	0.0034	0.0009	0.0025
5	0.0034	0.0009	0.0025
6	0.0034	0.0009	0.0025
7	0.0034	0.0009	0.0026
8	0.0035	0.0009	0.0026
9	0.0035	0.0009	0.0026
10	0.0035	0.0009	0.0026
11	0.0035	0.0009	0.0026

12	0.0035	0.0009	0.0026
13	0.0035	0.0009	0.0026
14	0.0035	0.0009	0.0026
15	0.0036	0.0009	0.0026
16	0.0036	0.0009	0.0026
17	0.0036	0.0009	0.0027
18	0.0036	0.0009	0.0027
19	0.0036	0.0009	0.0027
20	0.0036	0.0009	0.0027
21	0.0036	0.0009	0.0027
22	0.0036	0.0009	0.0027
23	0.0037	0.0009	0.0027
24	0.0037	0.0009	0.0027
25	0.0037	0.0010	0.0028
26	0.0037	0.0010	0.0028
27	0.0037	0.0010	0.0028
28	0.0037	0.0010	0.0028
29	0.0038	0.0010	0.0028
30	0.0038	0.0010	0.0028
31	0.0038	0.0010	0.0028
32	0.0038	0.0010	0.0028
33	0.0038	0.0010	0.0028
34	0.0038	0.0010	0.0029
35	0.0039	0.0010	0.0029
36	0.0039	0.0010	0.0029
37	0.0039	0.0010	0.0029
38	0.0039	0.0010	0.0029
39	0.0039	0.0010	0.0029
40	0.0039	0.0010	0.0029
41	0.0040	0.0010	0.0030
42	0.0040	0.0010	0.0030
43	0.0040	0.0010	0.0030
44	0.0040	0.0010	0.0030
45	0.0040	0.0010	0.0030
46	0.0041	0.0010	0.0030
47	0.0041	0.0010	0.0030
48	0.0041	0.0011	0.0030
49	0.0041	0.0011	0.0031
50	0.0041	0.0011	0.0031
51	0.0042	0.0011	0.0031
52	0.0042	0.0011	0.0031
53	0.0042	0.0011	0.0031
54	0.0042	0.0011	0.0031
55	0.0043	0.0011	0.0032
56	0.0043	0.0011	0.0032
57	0.0043	0.0011	0.0032
58	0.0043	0.0011	0.0032
59	0.0043	0.0011	0.0032
60	0.0044	0.0011	0.0032
61	0.0044	0.0011	0.0033
62	0.0044	0.0011	0.0033
63	0.0044	0.0011	0.0033
64	0.0045	0.0011	0.0033
65	0.0045	0.0012	0.0033
66	0.0045	0.0012	0.0033
67	0.0045	0.0012	0.0034
68	0.0046	0.0012	0.0034
69	0.0046	0.0012	0.0034
70	0.0046	0.0012	0.0034

71	0.0046	0.0012	0.0034
72	0.0047	0.0012	0.0035
73	0.0047	0.0012	0.0035
74	0.0047	0.0012	0.0035
75	0.0047	0.0012	0.0035
76	0.0048	0.0012	0.0035
77	0.0048	0.0012	0.0036
78	0.0048	0.0012	0.0036
79	0.0049	0.0013	0.0036
80	0.0049	0.0013	0.0036
81	0.0049	0.0013	0.0037
82	0.0049	0.0013	0.0037
83	0.0050	0.0013	0.0037
84	0.0050	0.0013	0.0037
85	0.0051	0.0013	0.0038
86	0.0051	0.0013	0.0038
87	0.0051	0.0013	0.0038
88	0.0051	0.0013	0.0038
89	0.0052	0.0013	0.0039
90	0.0052	0.0013	0.0039
91	0.0053	0.0014	0.0039
92	0.0053	0.0014	0.0039
93	0.0053	0.0014	0.0040
94	0.0054	0.0014	0.0040
95	0.0054	0.0014	0.0040
96	0.0054	0.0014	0.0040
97	0.0055	0.0014	0.0041
98	0.0055	0.0014	0.0041
99	0.0056	0.0014	0.0041
100	0.0056	0.0014	0.0042
101	0.0057	0.0015	0.0042
102	0.0057	0.0015	0.0042
103	0.0058	0.0015	0.0043
104	0.0058	0.0015	0.0043
105	0.0058	0.0015	0.0043
106	0.0059	0.0015	0.0044
107	0.0059	0.0015	0.0044
108	0.0060	0.0015	0.0044
109	0.0060	0.0016	0.0045
110	0.0061	0.0016	0.0045
111	0.0061	0.0016	0.0046
112	0.0062	0.0016	0.0046
113	0.0063	0.0016	0.0046
114	0.0063	0.0016	0.0047
115	0.0064	0.0016	0.0047
116	0.0064	0.0016	0.0048
117	0.0065	0.0017	0.0048
118	0.0065	0.0017	0.0048
119	0.0066	0.0017	0.0049
120	0.0066	0.0017	0.0049
121	0.0067	0.0017	0.0050
122	0.0068	0.0017	0.0050
123	0.0069	0.0018	0.0051
124	0.0069	0.0018	0.0051
125	0.0070	0.0018	0.0052
126	0.0071	0.0018	0.0052
127	0.0072	0.0018	0.0053
128	0.0072	0.0019	0.0054
129	0.0073	0.0019	0.0054

130	0.0074	0.0019	0.0055
131	0.0075	0.0019	0.0056
132	0.0075	0.0019	0.0056
133	0.0077	0.0020	0.0057
134	0.0077	0.0020	0.0057
135	0.0079	0.0020	0.0058
136	0.0079	0.0020	0.0059
137	0.0080	0.0021	0.0060
138	0.0081	0.0021	0.0060
139	0.0083	0.0021	0.0061
140	0.0083	0.0021	0.0062
141	0.0085	0.0022	0.0063
142	0.0086	0.0022	0.0064
143	0.0087	0.0022	0.0065
144	0.0088	0.0023	0.0065
145	0.0077	0.0020	0.0057
146	0.0078	0.0020	0.0058
147	0.0080	0.0021	0.0059
148	0.0081	0.0021	0.0060
149	0.0083	0.0021	0.0061
150	0.0084	0.0021	0.0062
151	0.0086	0.0022	0.0064
152	0.0087	0.0022	0.0064
153	0.0089	0.0023	0.0066
154	0.0090	0.0023	0.0067
155	0.0092	0.0024	0.0069
156	0.0093	0.0024	0.0069
157	0.0096	0.0025	0.0071
158	0.0097	0.0025	0.0072
159	0.0100	0.0026	0.0074
160	0.0102	0.0026	0.0076
161	0.0105	0.0027	0.0078
162	0.0107	0.0027	0.0079
163	0.0110	0.0028	0.0082
164	0.0112	0.0029	0.0083
165	0.0116	0.0030	0.0086
166	0.0118	0.0030	0.0088
167	0.0123	0.0032	0.0091
168	0.0125	0.0032	0.0093
169	0.0163	0.0042	0.0121
170	0.0166	0.0043	0.0124
171	0.0173	0.0045	0.0129
172	0.0177	0.0045	0.0132
173	0.0185	0.0048	0.0138
174	0.0190	0.0049	0.0141
175	0.0199	0.0051	0.0148
176	0.0204	0.0053	0.0152
177	0.0216	0.0056	0.0161
178	0.0223	0.0057	0.0165
179	0.0237	0.0061	0.0176
180	0.0245	0.0063	0.0182
181	0.0264	0.0068	0.0196
182	0.0275	0.0071	0.0204
183	0.0300	0.0077	0.0223
184	0.0315	0.0081	0.0234
185	0.0331	0.0085	0.0246
186	0.0353	0.0091	0.0262
187	0.0410	0.0105	0.0304
188	0.0447	0.0115	0.0332

189	0.0556	0.0128	0.0428
190	0.0640	0.0128	0.0513
191	0.0972	0.0128	0.0844
192	0.1411	0.0128	0.1283
193	0.6102	0.0128	0.5975
194	0.0765	0.0128	0.0637
195	0.0494	0.0127	0.0367
196	0.0379	0.0097	0.0282
197	0.0332	0.0085	0.0247
198	0.0287	0.0074	0.0213
199	0.0254	0.0065	0.0189
200	0.0230	0.0059	0.0171
201	0.0210	0.0054	0.0156
202	0.0194	0.0050	0.0144
203	0.0181	0.0046	0.0134
204	0.0170	0.0044	0.0126
205	0.0128	0.0033	0.0095
206	0.0120	0.0031	0.0089
207	0.0114	0.0029	0.0085
208	0.0108	0.0028	0.0081
209	0.0103	0.0027	0.0077
210	0.0099	0.0025	0.0073
211	0.0095	0.0024	0.0070
212	0.0091	0.0023	0.0068
213	0.0088	0.0023	0.0065
214	0.0085	0.0022	0.0063
215	0.0082	0.0021	0.0061
216	0.0079	0.0020	0.0059
217	0.0089	0.0023	0.0066
218	0.0086	0.0022	0.0064
219	0.0084	0.0022	0.0062
220	0.0082	0.0021	0.0061
221	0.0080	0.0020	0.0059
222	0.0078	0.0020	0.0058
223	0.0076	0.0020	0.0057
224	0.0074	0.0019	0.0055
225	0.0073	0.0019	0.0054
226	0.0071	0.0018	0.0053
227	0.0070	0.0018	0.0052
228	0.0068	0.0018	0.0051
229	0.0067	0.0017	0.0050
230	0.0066	0.0017	0.0049
231	0.0064	0.0017	0.0048
232	0.0063	0.0016	0.0047
233	0.0062	0.0016	0.0046
234	0.0061	0.0016	0.0045
235	0.0060	0.0015	0.0045
236	0.0059	0.0015	0.0044
237	0.0058	0.0015	0.0043
238	0.0057	0.0015	0.0043
239	0.0056	0.0014	0.0042
240	0.0056	0.0014	0.0041
241	0.0055	0.0014	0.0041
242	0.0054	0.0014	0.0040
243	0.0053	0.0014	0.0039
244	0.0052	0.0013	0.0039
245	0.0052	0.0013	0.0038
246	0.0051	0.0013	0.0038
247	0.0050	0.0013	0.0037

248	0.0050	0.0013	0.0037
249	0.0049	0.0013	0.0036
250	0.0048	0.0012	0.0036
251	0.0048	0.0012	0.0036
252	0.0047	0.0012	0.0035
253	0.0047	0.0012	0.0035
254	0.0046	0.0012	0.0034
255	0.0046	0.0012	0.0034
256	0.0045	0.0012	0.0034
257	0.0045	0.0011	0.0033
258	0.0044	0.0011	0.0033
259	0.0044	0.0011	0.0032
260	0.0043	0.0011	0.0032
261	0.0043	0.0011	0.0032
262	0.0042	0.0011	0.0031
263	0.0042	0.0011	0.0031
264	0.0042	0.0011	0.0031
265	0.0041	0.0011	0.0031
266	0.0041	0.0010	0.0030
267	0.0040	0.0010	0.0030
268	0.0040	0.0010	0.0030
269	0.0040	0.0010	0.0029
270	0.0039	0.0010	0.0029
271	0.0039	0.0010	0.0029
272	0.0039	0.0010	0.0029
273	0.0038	0.0010	0.0028
274	0.0038	0.0010	0.0028
275	0.0038	0.0010	0.0028
276	0.0037	0.0010	0.0028
277	0.0037	0.0009	0.0027
278	0.0037	0.0009	0.0027
279	0.0036	0.0009	0.0027
280	0.0036	0.0009	0.0027
281	0.0036	0.0009	0.0027
282	0.0035	0.0009	0.0026
283	0.0035	0.0009	0.0026
284	0.0035	0.0009	0.0026
285	0.0035	0.0009	0.0026
286	0.0034	0.0009	0.0026
287	0.0034	0.0009	0.0025
288	0.0034	0.0009	0.0025

Total soil rain loss = 0.65(In)
Total effective rainfall = 2.63(In)
Peak flow rate in flood hydrograph = 2734.35(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

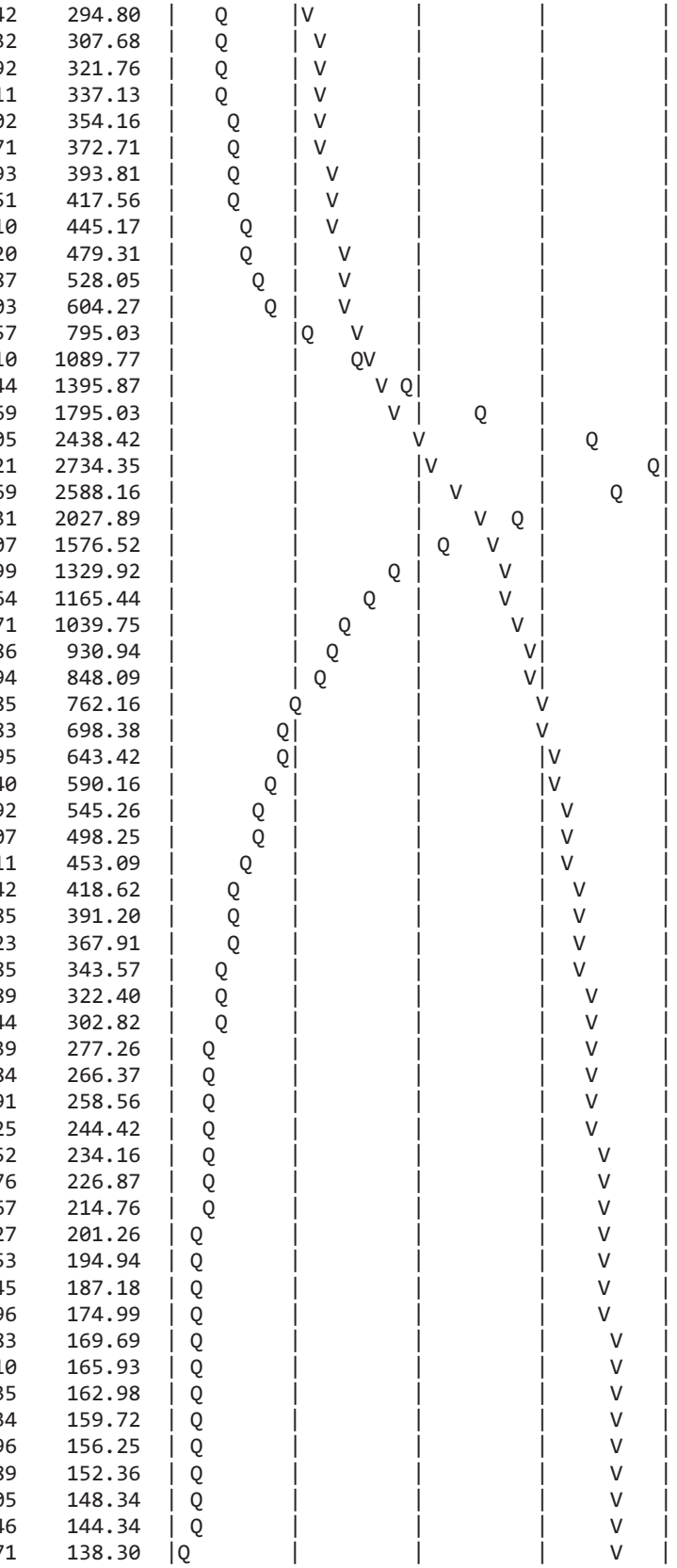
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	700.0	1400.0	2100.0	2800.0
0+ 5	0.0029	0.42	Q	|	|	|	|
0+10	0.0144	1.67	Q	|	|	|	|
0+15	0.0397	3.68	Q	|	|	|	|

0+20	0.0868	6.83	Q				
0+25	0.1737	12.62	Q				
0+30	0.3104	19.85	Q				
0+35	0.4956	26.90	Q				
0+40	0.7154	31.91	Q				
0+45	0.9587	35.33	Q				
0+50	1.2205	38.02	Q				
0+55	1.4979	40.28	Q				
1+ 0	1.7888	42.23	Q				
1+ 5	2.0913	43.92	Q				
1+10	2.4043	45.44	Q				
1+15	2.7263	46.76	Q				
1+20	3.0565	47.95	Q				
1+25	3.3943	49.05	Q				
1+30	3.7391	50.06	Q				
1+35	4.0905	51.02	Q				
1+40	4.4479	51.89	Q				
1+45	4.8107	52.67	Q				
1+50	5.1783	53.38	Q				
1+55	5.5506	54.05	Q				
2+ 0	5.9273	54.70	Q				
2+ 5	6.3082	55.30	Q				
2+10	6.6930	55.88	Q				
2+15	7.0816	56.43	Q				
2+20	7.4736	56.91	Q				
2+25	7.8687	57.38	Q				
2+30	8.2672	57.85	Q				
2+35	8.6687	58.30	Q				
2+40	9.0731	58.72	Q				
2+45	9.4805	59.15	Q				
2+50	9.8907	59.56	Q				
2+55	10.3035	59.94	QV				
3+ 0	10.7189	60.32	QV				
3+ 5	11.1370	60.70	QV				
3+10	11.5574	61.04	QV				
3+15	11.9801	61.39	QV				
3+20	12.4053	61.73	QV				
3+25	12.8329	62.09	QV				
3+30	13.2630	62.45	QV				
3+35	13.6955	62.81	QV				
3+40	14.1306	63.17	QV				
3+45	14.5682	63.53	QV				
3+50	15.0082	63.90	QV				
3+55	15.4508	64.26	QV				
4+ 0	15.8957	64.60	QV				
4+ 5	16.3429	64.94	QV				
4+10	16.7925	65.28	QV				
4+15	17.2444	65.62	QV				
4+20	17.6986	65.95	QV				
4+25	18.1549	66.26	QV				
4+30	18.6134	66.58	QV				
4+35	19.0742	66.90	QV				
4+40	19.5371	67.22	QV				
4+45	20.0023	67.55	QV				
4+50	20.4698	67.88	Q V				
4+55	20.9395	68.21	Q V				
5+ 0	21.4116	68.55	Q V				
5+ 5	21.8861	68.89	Q V				
5+10	22.3630	69.24	Q V				

5+15	22.8422	69.59	Q V	|	|	|	|
5+20	23.3240	69.95	Q V	|	|	|	|
5+25	23.8082	70.31	|QV	|	|	|	|
5+30	24.2949	70.67	|QV	|	|	|	|
5+35	24.7842	71.04	|QV	|	|	|	|
5+40	25.2760	71.41	|QV	|	|	|	|
5+45	25.7705	71.79	|QV	|	|	|	|
5+50	26.2675	72.18	|QV	|	|	|	|
5+55	26.7673	72.57	|QV	|	|	|	|
6+ 0	27.2698	72.96	|QV	|	|	|	|
6+ 5	27.7750	73.36	|QV	|	|	|	|
6+10	28.2831	73.76	|QV	|	|	|	|
6+15	28.7939	74.17	|QV	|	|	|	|
6+20	29.3076	74.59	|QV	|	|	|	|
6+25	29.8242	75.01	|QV	|	|	|	|
6+30	30.3437	75.44	|Q V	|	|	|	|
6+35	30.8663	75.87	|Q V	|	|	|	|
6+40	31.3918	76.31	|Q V	|	|	|	|
6+45	31.9204	76.76	|Q V	|	|	|	|
6+50	32.4522	77.21	|Q V	|	|	|	|
6+55	32.9870	77.67	|Q V	|	|	|	|
7+ 0	33.5251	78.13	|Q V	|	|	|	|
7+ 5	34.0665	78.60	|Q V	|	|	|	|
7+10	34.6111	79.08	|Q V	|	|	|	|
7+15	35.1591	79.57	|Q V	|	|	|	|
7+20	35.7104	80.06	|Q V	|	|	|	|
7+25	36.2652	80.56	|Q V	|	|	|	|
7+30	36.8235	81.07	|Q V	|	|	|	|
7+35	37.3854	81.58	|Q V	|	|	|	|
7+40	37.9509	82.11	|Q V	|	|	|	|
7+45	38.5200	82.64	|Q V	|	|	|	|
7+50	39.0929	83.18	|Q V	|	|	|	|
7+55	39.6696	83.73	|Q V	|	|	|	|
8+ 0	40.2500	84.29	|Q V	|	|	|	|
8+ 5	40.8345	84.86	|Q V	|	|	|	|
8+10	41.4228	85.43	|Q V	|	|	|	|
8+15	42.0153	86.02	|Q V	|	|	|	|
8+20	42.6118	86.61	|Q V	|	|	|	|
8+25	43.2125	87.22	|Q V	|	|	|	|
8+30	43.8174	87.84	|Q V	|	|	|	|
8+35	44.4267	88.47	|Q V	|	|	|	|
8+40	45.0404	89.10	|Q V	|	|	|	|
8+45	45.6585	89.76	|Q V	|	|	|	|
8+50	46.2812	90.42	|Q V	|	|	|	|
8+55	46.9085	91.09	|Q V	|	|	|	|
9+ 0	47.5406	91.77	|Q V	|	|	|	|
9+ 5	48.1775	92.48	|Q V	|	|	|	|
9+10	48.8193	93.18	|Q V	|	|	|	|
9+15	49.4660	93.91	|Q V	|	|	|	|
9+20	50.1179	94.65	|Q V	|	|	|	|
9+25	50.7749	95.40	|Q V	|	|	|	|
9+30	51.4373	96.17	|Q V	|	|	|	|
9+35	52.1050	96.96	|Q V	|	|	|	|
9+40	52.7782	97.75	|Q V	|	|	|	|
9+45	53.4571	98.57	|Q V	|	|	|	|
9+50	54.1417	99.40	|Q V	|	|	|	|
9+55	54.8321	100.25	|Q V	|	|	|	|
10+ 0	55.5285	101.12	|Q V	|	|	|	|
10+ 5	56.2310	102.00	|Q V	|	|	|	|

```
10+10      56.9397    102.91  |Q   V    |          |          |          |
10+15      57.6548    103.83  |Q   V    |          |          |          |
10+20      58.3764    104.78  |Q   V    |          |          |          |
10+25      59.1047    105.74  |Q   V    |          |          |          |
10+30      59.8397    106.73  |Q   V    |          |          |          |
10+35      60.5818    107.74  |Q    V   |          |          |          |
10+40      61.3309    108.78  |Q    V   |          |          |          |
10+45      62.0874    109.84  |Q    V   |          |          |          |
10+50      62.8513    110.92  |Q    V   |          |          |          |
10+55      63.6229    112.03  |Q    V   |          |          |          |
11+ 0      64.4023    113.17  |Q    V   |          |          |          |
11+ 5      65.1897    114.34  |Q    V   |          |          |          |
11+10      65.9854    115.53  |Q    V   |          |          |          |
11+15      66.7896    116.77  |Q    V   |          |          |          |
11+20      67.6024    118.02  |Q    V   |          |          |          |
11+25      68.4242    119.32  |Q    V   |          |          |          |
11+30      69.2551    120.65  |Q    V   |          |          |          |
11+35      70.0955    122.02  |Q    V   |          |          |          |
11+40      70.9454    123.42  |Q     V  |          |          |          |
11+45      71.8054    124.87  |Q     V  |          |          |          |
11+50      72.6756    126.35  |Q     V  |          |          |          |
11+55      73.5563    127.89  |Q     V  |          |          |          |
12+ 0      74.4479    129.46  |Q     V  |          |          |          |
12+ 5      75.3497    130.94  |Q     V  |          |          |          |
12+10      76.2598    132.14  |Q     V  |          |          |          |
12+15      77.1767    133.13  |Q     V  |          |          |          |
12+20      78.0978    133.74  |Q     V  |          |          |          |
12+25      79.0168    133.45  |Q     V  |          |          |          |
12+30      79.9304    132.65  |Q     V  |          |          |          |
12+35      80.8394    131.99  |Q      V |          |          |          |
12+40      81.7493    132.12  |Q      V |          |          |          |
12+45      82.6647    132.91  |Q      V |          |          |          |
12+50      83.5877    134.02  |Q      V |          |          |          |
12+55      84.5200    135.38  |Q      V |          |          |          |
13+ 0      85.4629    136.91  |Q      V |          |          |          |
13+ 5      86.4178    138.65  |Q      V |          |          |          |
13+10      87.3855    140.52  | Q     V |          |          |          |
13+15      88.3675    142.58  | Q     V |          |          |          |
13+20      89.3646    144.78  | Q     V |          |          |          |
13+25      90.3779    147.14  | Q      V|          |          |          |
13+30      91.4084    149.63  | Q      V|          |          |          |
13+35      92.4573    152.30  | Q      V|          |          |          |
13+40      93.5257    155.12  | Q      V|          |          |          |
13+45      94.6149    158.15  | Q      V|          |          |          |
13+50      95.7261    161.35  | Q      V|          |          |          |
13+55      96.8609    164.77  | Q      V|          |          |          |
14+ 0      98.0204    168.36  | Q      V|          |          |          |
14+ 5      99.2093    172.63  | Q      V|          |          |          |
14+10     100.4346    177.92  | Q       V          |          |          |
14+15     101.7037    184.27  | Q       V          |          |          |
14+20     103.0263    192.04  | Q       V          |          |          |
14+25     104.4228    202.77  | Q       V          |          |          |
14+30     105.9057    215.31  |  Q      V          |          |          |
14+35     107.4775    228.23  |  Q      V          |          |          |
14+40     109.1282    239.68  |  Q      V          |          |          |
14+45     110.8516    250.23  |  Q      |V         |          |          |
14+50     112.6468    260.67  |  Q      |V         |          |          |
14+55     114.5166    271.49  |  Q      |V         |          |          |
15+ 0     116.4639    282.76  |   Q     |V         |          |          |
```

15+ 5	118.4942	294.80	
15+10	120.6132	307.68	
15+15	122.8292	321.76	
15+20	125.1511	337.13	
15+25	127.5902	354.16	
15+30	130.1571	372.71	
15+35	132.8693	393.81	
15+40	135.7451	417.56	
15+45	138.8110	445.17	
15+50	142.1120	479.31	
15+55	145.7487	528.05	
16+ 0	149.9103	604.27	
16+ 5	155.3857	795.03	
16+10	162.8910	1089.77	
16+15	172.5044	1395.87	
16+20	184.8669	1795.03	
16+25	201.6605	2438.42	
16+30	220.4921	2734.35	
16+35	238.3169	2588.16	
16+40	252.2831	2027.89	
16+45	263.1407	1576.52	
16+50	272.2999	1329.92	
16+55	280.3264	1165.44	
17+ 0	287.4871	1039.75	
17+ 5	293.8986	930.94	
17+10	299.7394	848.09	
17+15	304.9885	762.16	
17+20	309.7983	698.38	
17+25	314.2295	643.42	
17+30	318.2940	590.16	
17+35	322.0492	545.26	
17+40	325.4807	498.25	
17+45	328.6011	453.09	
17+50	331.4842	418.62	
17+55	334.1785	391.20	
18+ 0	336.7123	367.91	
18+ 5	339.0785	343.57	
18+10	341.2989	322.40	
18+15	343.3844	302.82	
18+20	345.2939	277.26	
18+25	347.1284	266.37	
18+30	348.9091	258.56	
18+35	350.5925	244.42	
18+40	352.2052	234.16	
18+45	353.7676	226.87	
18+50	355.2467	214.76	
18+55	356.6327	201.26	
19+ 0	357.9753	194.94	
19+ 5	359.2645	187.18	
19+10	360.4696	174.99	
19+15	361.6383	169.69	
19+20	362.7810	165.93	
19+25	363.9035	162.98	
19+30	365.0034	159.72	
19+35	366.0796	156.25	
19+40	367.1289	152.36	
19+45	368.1505	148.34	
19+50	369.1446	144.34	
19+55	370.0971	138.30	

```
20+ 0     370.9821    128.50  |Q        |         |         |     V   |
20+ 5     371.8407    124.68  |Q        |         |         |      V  |
20+10     372.6771    121.44  |Q        |         |         |      V  |
20+15     373.4884    117.81  |Q        |         |         |      V  |
20+20     374.2477    110.25  |Q        |         |         |      V  |
20+25     374.9593    103.32  |Q        |         |         |      V  |
20+30     375.6541    100.89  |Q        |         |         |      V  |
20+35     376.3347     98.82  |Q        |         |         |      V  |
20+40     377.0022     96.92  |Q        |         |         |      V  |
20+45     377.6574     95.14  |Q        |         |         |      V  |
20+50     378.3011     93.46  |Q        |         |         |      V  |
20+55     378.9338     91.88  |Q        |         |         |      V  |
21+ 0     379.5564     90.40  |Q        |         |         |      V  |
21+ 5     380.1693     88.99  |Q        |         |         |      V  |
21+10     380.7728     87.63  |Q        |         |         |      V  |
21+15     381.3673     86.33  |Q        |         |         |      V  |
21+20     381.9534     85.09  |Q        |         |         |       V |
21+25     382.5314     83.93  |Q        |         |         |       V |
21+30     383.1017     82.81  |Q        |         |         |       V |
21+35     383.6646     81.73  |Q        |         |         |       V |
21+40     384.2203     80.69  |Q        |         |         |       V |
21+45     384.7691     79.68  |Q        |         |         |       V |
21+50     385.3112     78.71  |Q        |         |         |       V |
21+55     385.8467     77.76  |Q        |         |         |       V |
22+ 0     386.3759     76.84  |Q        |         |         |       V |
22+ 5     386.8989     75.94  |Q        |         |         |       V |
22+10     387.4159     75.07  |Q        |         |         |       V |
22+15     387.9271     74.22  |Q        |         |         |       V |
22+20     388.4326     73.39  |Q        |         |         |       V |
22+25     388.9325     72.58  |Q        |         |         |       V |
22+30     389.4269     71.79  |Q        |         |         |       V |
22+35     389.9160     71.02  |Q        |         |         |       V |
22+40     390.4000     70.27  |Q        |         |         |       V |
22+45     390.8790     69.55  Q        |         |         |       V |
22+50     391.3531     68.84  Q        |         |         |       V |
22+55     391.8224     68.14  Q        |         |         |        V|
23+ 0     392.2870     67.47  Q        |         |         |        V|
23+ 5     392.7472     66.81  Q        |         |         |        V|
23+10     393.2028     66.17  Q        |         |         |        V|
23+15     393.6542     65.54  Q        |         |         |        V|
23+20     394.1014     64.93  Q        |         |         |        V|
23+25     394.5444     64.33  Q        |         |         |        V|
23+30     394.9834     63.74  Q        |         |         |        V|
23+35     395.4184     63.17  Q        |         |         |        V|
23+40     395.8496     62.61  Q        |         |         |        V|
23+45     396.2770     62.06  Q        |         |         |        V|
23+50     396.7007     61.52  Q        |         |         |        V|
23+55     397.1208     61.00  Q        |         |         |        V|
24+ 0     397.5374     60.49  Q        |         |         |        V|
24+ 5     397.9477     59.57  Q        |         |         |        V|
24+10     398.3459     57.83  Q        |         |         |        V|
24+15     398.7271     55.35  Q        |         |         |        V|
24+20     399.0837     51.77  Q        |         |         |        V|
24+25     399.3979     45.61  Q        |         |         |        V|
24+30     399.6601     38.08  Q        |         |         |        V|
24+35     399.8722     30.80  Q        |         |         |        V|
24+40     400.0489     25.65  Q        |         |         |        V|
24+45     400.2014     22.15  Q        |         |         |        V|
24+50     400.3351     19.41  Q        |         |         |        V|
```

24+55	400.4531	17.14	Q	|	|	|	V|
25+ 0	400.5578	15.20	Q	|	|	|	V|
25+ 5	400.6511	13.55	Q	|	|	|	V|
25+10	400.7344	12.08	Q	|	|	|	V|
25+15	400.8091	10.85	Q	|	|	|	V|
25+20	400.8762	9.75	Q	|	|	|	V|
25+25	400.9365	8.75	Q	|	|	|	V|
25+30	400.9906	7.86	Q	|	|	|	V|
25+35	401.0391	7.03	Q	|	|	|	V|
25+40	401.0825	6.31	Q	|	|	|	V|
25+45	401.1217	5.69	Q	|	|	|	V|
25+50	401.1570	5.14	Q	|	|	|	V|
25+55	401.1889	4.63	Q	|	|	|	V|
26+ 0	401.2176	4.17	Q	|	|	|	V|
26+ 5	401.2434	3.75	Q	|	|	|	V|
26+10	401.2666	3.37	Q	|	|	|	V|
26+15	401.2874	3.02	Q	|	|	|	V|
26+20	401.3063	2.74	Q	|	|	|	V|
26+25	401.3234	2.48	Q	|	|	|	V|
26+30	401.3387	2.23	Q	|	|	|	V|
26+35	401.3525	2.01	Q	|	|	|	V|
26+40	401.3650	1.81	Q	|	|	|	V|
26+45	401.3761	1.61	Q	|	|	|	V|
26+50	401.3859	1.44	Q	|	|	|	V|
26+55	401.3949	1.30	Q	|	|	|	V|
27+ 0	401.4029	1.16	Q	|	|	|	V|
27+ 5	401.4100	1.04	Q	|	|	|	V|
27+10	401.4165	0.94	Q	|	|	|	V|
27+15	401.4224	0.86	Q	|	|	|	V|
27+20	401.4277	0.77	Q	|	|	|	V|
27+25	401.4324	0.68	Q	|	|	|	V|
27+30	401.4365	0.59	Q	|	|	|	V|
27+35	401.4400	0.51	Q	|	|	|	V|
27+40	401.4429	0.42	Q	|	|	|	V|
27+45	401.4452	0.34	Q	|	|	|	V|
27+50	401.4470	0.26	Q	|	|	|	V|
27+55	401.4482	0.18	Q	|	|	|	V|
28+ 0	401.4492	0.14	Q	|	|	|	V|
28+ 5	401.4499	0.10	Q	|	|	|	V|
28+10	401.4503	0.06	Q	|	|	|	V|
28+15	401.4504	0.02	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/10/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREA "M"
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
108.85	1	1.40
Rainfall data for year 100		
108.85	6	1.93
Rainfall data for year 100		
108.85	24	2.72

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
63.0	81.4	108.85	1.000	0.345	0.987	0.341

Area-averaged adjusted loss rate Fm (In/Hr) = 0.341

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
107.43	0.987	63.0	81.4	2.28	0.415
1.42	0.013	98.0	98.0	0.20	0.915

Area-averaged catchment yield fraction, Y = 0.422
Area-averaged low loss fraction, Yb = 0.578
++
Watercourse length = 4940.00(Ft.)
Length from concentration point to centroid = 2687.00(Ft.)
Elevation difference along watercourse = 164.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 108.85(Ac.)
Catchment Lag time = 0.237 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 35.1007
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.341(In/Hr)
Average low loss rate fraction (Yb) = 0.578 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.662(In)
Computed peak 30-minute rainfall = 1.133(In)
Specified peak 1-hour rainfall = 1.395(In)
Computed peak 3-hour rainfall = 1.704(In)
Specified peak 6-hour rainfall = 1.933(In)
Specified peak 24-hour rainfall = 2.724(In)

Rainfall depth area reduction factors:
Using a total area of 108.85(Ac.) (Ref: fig. E-4)

5-minute factor = 0.995 Adjusted rainfall = 0.659(In)
30-minute factor = 0.995 Adjusted rainfall = 1.127(In)
1-hour factor = 0.995 Adjusted rainfall = 1.388(In)
3-hour factor = 0.999 Adjusted rainfall = 1.703(In)
6-hour factor = 1.000 Adjusted rainfall = 1.932(In)
24-hour factor = 1.000 Adjusted rainfall = 2.724(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1316.40 (CFS))	
1	2.243	29.524
2	13.490	148.054
3	41.137	363.955
4	60.126	249.967
5	70.281	133.680
6	77.059	89.228
7	81.870	63.330
8	85.562	48.599
9	88.496	38.633
10	90.669	28.597

11	92.484	23.892
12	93.997	19.919
13	95.213	16.012
14	96.220	13.257
15	97.053	10.959
16	97.678	8.226
17	98.092	5.448
18	98.471	5.000
19	98.892	5.541
20	99.313	5.540
21	99.622	4.068
22	99.842	2.888
23	100.000	2.084

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6586	0.6586
2	0.8108	0.1522
3	0.9157	0.1049
4	0.9982	0.0825
5	1.0673	0.0691
6	1.1273	0.0600
7	1.1807	0.0534
8	1.2289	0.0483
9	1.2731	0.0442
10	1.3140	0.0409
11	1.3521	0.0381
12	1.3879	0.0358
13	1.4087	0.0208
14	1.4283	0.0196
15	1.4467	0.0185
16	1.4642	0.0175
17	1.4808	0.0166
18	1.4967	0.0158
19	1.5118	0.0151
20	1.5263	0.0145
21	1.5402	0.0139
22	1.5536	0.0134
23	1.5665	0.0129
24	1.5790	0.0125
25	1.5910	0.0120
26	1.6027	0.0117
27	1.6140	0.0113
28	1.6249	0.0110
29	1.6356	0.0106
30	1.6459	0.0104
31	1.6560	0.0101
32	1.6658	0.0098
33	1.6754	0.0096
34	1.6847	0.0093
35	1.6938	0.0091
36	1.7027	0.0089
37	1.7113	0.0085
38	1.7196	0.0083
39	1.7278	0.0082
40	1.7358	0.0080
41	1.7436	0.0078
42	1.7513	0.0077
43	1.7589	0.0075

44	1.7663	0.0074
45	1.7735	0.0073
46	1.7806	0.0071
47	1.7876	0.0070
48	1.7945	0.0069
49	1.8013	0.0068
50	1.8079	0.0067
51	1.8145	0.0065
52	1.8209	0.0064
53	1.8273	0.0063
54	1.8335	0.0062
55	1.8397	0.0061
56	1.8457	0.0061
57	1.8517	0.0060
58	1.8576	0.0059
59	1.8634	0.0058
60	1.8691	0.0057
61	1.8748	0.0056
62	1.8803	0.0056
63	1.8858	0.0055
64	1.8913	0.0054
65	1.8966	0.0054
66	1.9019	0.0053
67	1.9071	0.0052
68	1.9123	0.0052
69	1.9174	0.0051
70	1.9224	0.0050
71	1.9274	0.0050
72	1.9323	0.0049
73	1.9390	0.0066
74	1.9455	0.0065
75	1.9520	0.0065
76	1.9584	0.0064
77	1.9647	0.0063
78	1.9710	0.0063
79	1.9772	0.0062
80	1.9834	0.0062
81	1.9895	0.0061
82	1.9956	0.0061
83	2.0016	0.0060
84	2.0075	0.0059
85	2.0134	0.0059
86	2.0192	0.0058
87	2.0250	0.0058
88	2.0308	0.0057
89	2.0365	0.0057
90	2.0421	0.0056
91	2.0477	0.0056
92	2.0532	0.0055
93	2.0588	0.0055
94	2.0642	0.0055
95	2.0696	0.0054
96	2.0750	0.0054
97	2.0803	0.0053
98	2.0856	0.0053
99	2.0909	0.0052
100	2.0961	0.0052
101	2.1012	0.0052
102	2.1064	0.0051

103	2.1115	0.0051
104	2.1165	0.0051
105	2.1216	0.0050
106	2.1265	0.0050
107	2.1315	0.0049
108	2.1364	0.0049
109	2.1413	0.0049
110	2.1461	0.0048
111	2.1509	0.0048
112	2.1557	0.0048
113	2.1605	0.0047
114	2.1652	0.0047
115	2.1699	0.0047
116	2.1745	0.0047
117	2.1792	0.0046
118	2.1838	0.0046
119	2.1883	0.0046
120	2.1929	0.0045
121	2.1974	0.0045
122	2.2019	0.0045
123	2.2063	0.0045
124	2.2107	0.0044
125	2.2151	0.0044
126	2.2195	0.0044
127	2.2239	0.0043
128	2.2282	0.0043
129	2.2325	0.0043
130	2.2368	0.0043
131	2.2410	0.0042
132	2.2452	0.0042
133	2.2494	0.0042
134	2.2536	0.0042
135	2.2578	0.0042
136	2.2619	0.0041
137	2.2660	0.0041
138	2.2701	0.0041
139	2.2741	0.0041
140	2.2782	0.0040
141	2.2822	0.0040
142	2.2862	0.0040
143	2.2902	0.0040
144	2.2941	0.0040
145	2.2981	0.0039
146	2.3020	0.0039
147	2.3059	0.0039
148	2.3097	0.0039
149	2.3136	0.0039
150	2.3174	0.0038
151	2.3212	0.0038
152	2.3250	0.0038
153	2.3288	0.0038
154	2.3326	0.0038
155	2.3363	0.0037
156	2.3400	0.0037
157	2.3437	0.0037
158	2.3474	0.0037
159	2.3511	0.0037
160	2.3548	0.0037
161	2.3584	0.0036

162	2.3620	0.0036
163	2.3656	0.0036
164	2.3692	0.0036
165	2.3728	0.0036
166	2.3763	0.0036
167	2.3798	0.0035
168	2.3834	0.0035
169	2.3869	0.0035
170	2.3904	0.0035
171	2.3938	0.0035
172	2.3973	0.0035
173	2.4007	0.0034
174	2.4042	0.0034
175	2.4076	0.0034
176	2.4110	0.0034
177	2.4144	0.0034
178	2.4177	0.0034
179	2.4211	0.0034
180	2.4244	0.0033
181	2.4278	0.0033
182	2.4311	0.0033
183	2.4344	0.0033
184	2.4377	0.0033
185	2.4409	0.0033
186	2.4442	0.0033
187	2.4474	0.0032
188	2.4507	0.0032
189	2.4539	0.0032
190	2.4571	0.0032
191	2.4603	0.0032
192	2.4635	0.0032
193	2.4667	0.0032
194	2.4698	0.0032
195	2.4730	0.0031
196	2.4761	0.0031
197	2.4792	0.0031
198	2.4823	0.0031
199	2.4854	0.0031
200	2.4885	0.0031
201	2.4916	0.0031
202	2.4946	0.0031
203	2.4977	0.0031
204	2.5007	0.0030
205	2.5038	0.0030
206	2.5068	0.0030
207	2.5098	0.0030
208	2.5128	0.0030
209	2.5158	0.0030
210	2.5188	0.0030
211	2.5217	0.0030
212	2.5247	0.0030
213	2.5276	0.0029
214	2.5305	0.0029
215	2.5335	0.0029
216	2.5364	0.0029
217	2.5393	0.0029
218	2.5422	0.0029
219	2.5451	0.0029
220	2.5479	0.0029

221	2.5508	0.0029
222	2.5536	0.0029
223	2.5565	0.0028
224	2.5593	0.0028
225	2.5621	0.0028
226	2.5650	0.0028
227	2.5678	0.0028
228	2.5706	0.0028
229	2.5733	0.0028
230	2.5761	0.0028
231	2.5789	0.0028
232	2.5817	0.0028
233	2.5844	0.0028
234	2.5871	0.0027
235	2.5899	0.0027
236	2.5926	0.0027
237	2.5953	0.0027
238	2.5980	0.0027
239	2.6007	0.0027
240	2.6034	0.0027
241	2.6061	0.0027
242	2.6088	0.0027
243	2.6114	0.0027
244	2.6141	0.0027
245	2.6167	0.0026
246	2.6194	0.0026
247	2.6220	0.0026
248	2.6246	0.0026
249	2.6273	0.0026
250	2.6299	0.0026
251	2.6325	0.0026
252	2.6351	0.0026
253	2.6376	0.0026
254	2.6402	0.0026
255	2.6428	0.0026
256	2.6454	0.0026
257	2.6479	0.0026
258	2.6505	0.0025
259	2.6530	0.0025
260	2.6555	0.0025
261	2.6580	0.0025
262	2.6606	0.0025
263	2.6631	0.0025
264	2.6656	0.0025
265	2.6681	0.0025
266	2.6706	0.0025
267	2.6730	0.0025
268	2.6755	0.0025
269	2.6780	0.0025
270	2.6805	0.0025
271	2.6829	0.0025
272	2.6854	0.0024
273	2.6878	0.0024
274	2.6902	0.0024
275	2.6927	0.0024
276	2.6951	0.0024
277	2.6975	0.0024
278	2.6999	0.0024
279	2.7023	0.0024

280	2.7047	0.0024
281	2.7071	0.0024
282	2.7095	0.0024
283	2.7118	0.0024
284	2.7142	0.0024
285	2.7166	0.0024
286	2.7189	0.0024
287	2.7213	0.0024
288	2.7236	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0014	0.0010
2	0.0024	0.0014	0.0010
3	0.0024	0.0014	0.0010
4	0.0024	0.0014	0.0010
5	0.0024	0.0014	0.0010
6	0.0024	0.0014	0.0010
7	0.0024	0.0014	0.0010
8	0.0024	0.0014	0.0010
9	0.0024	0.0014	0.0010
10	0.0024	0.0014	0.0010
11	0.0024	0.0014	0.0010
12	0.0024	0.0014	0.0010
13	0.0025	0.0014	0.0010
14	0.0025	0.0014	0.0010
15	0.0025	0.0014	0.0010
16	0.0025	0.0014	0.0010
17	0.0025	0.0014	0.0011
18	0.0025	0.0015	0.0011
19	0.0025	0.0015	0.0011
20	0.0025	0.0015	0.0011
21	0.0025	0.0015	0.0011
22	0.0026	0.0015	0.0011
23	0.0026	0.0015	0.0011
24	0.0026	0.0015	0.0011
25	0.0026	0.0015	0.0011
26	0.0026	0.0015	0.0011
27	0.0026	0.0015	0.0011
28	0.0026	0.0015	0.0011
29	0.0026	0.0015	0.0011
30	0.0026	0.0015	0.0011
31	0.0027	0.0015	0.0011
32	0.0027	0.0015	0.0011
33	0.0027	0.0016	0.0011
34	0.0027	0.0016	0.0011
35	0.0027	0.0016	0.0011
36	0.0027	0.0016	0.0011
37	0.0027	0.0016	0.0012
38	0.0028	0.0016	0.0012
39	0.0028	0.0016	0.0012
40	0.0028	0.0016	0.0012
41	0.0028	0.0016	0.0012
42	0.0028	0.0016	0.0012
43	0.0028	0.0016	0.0012
44	0.0028	0.0016	0.0012
45	0.0029	0.0016	0.0012

46	0.0029	0.0017	0.0012
47	0.0029	0.0017	0.0012
48	0.0029	0.0017	0.0012
49	0.0029	0.0017	0.0012
50	0.0029	0.0017	0.0012
51	0.0029	0.0017	0.0012
52	0.0030	0.0017	0.0012
53	0.0030	0.0017	0.0013
54	0.0030	0.0017	0.0013
55	0.0030	0.0017	0.0013
56	0.0030	0.0017	0.0013
57	0.0030	0.0018	0.0013
58	0.0031	0.0018	0.0013
59	0.0031	0.0018	0.0013
60	0.0031	0.0018	0.0013
61	0.0031	0.0018	0.0013
62	0.0031	0.0018	0.0013
63	0.0031	0.0018	0.0013
64	0.0032	0.0018	0.0013
65	0.0032	0.0018	0.0013
66	0.0032	0.0018	0.0013
67	0.0032	0.0019	0.0014
68	0.0032	0.0019	0.0014
69	0.0033	0.0019	0.0014
70	0.0033	0.0019	0.0014
71	0.0033	0.0019	0.0014
72	0.0033	0.0019	0.0014
73	0.0033	0.0019	0.0014
74	0.0034	0.0019	0.0014
75	0.0034	0.0020	0.0014
76	0.0034	0.0020	0.0014
77	0.0034	0.0020	0.0014
78	0.0034	0.0020	0.0015
79	0.0035	0.0020	0.0015
80	0.0035	0.0020	0.0015
81	0.0035	0.0020	0.0015
82	0.0035	0.0020	0.0015
83	0.0036	0.0021	0.0015
84	0.0036	0.0021	0.0015
85	0.0036	0.0021	0.0015
86	0.0036	0.0021	0.0015
87	0.0037	0.0021	0.0015
88	0.0037	0.0021	0.0016
89	0.0037	0.0022	0.0016
90	0.0037	0.0022	0.0016
91	0.0038	0.0022	0.0016
92	0.0038	0.0022	0.0016
93	0.0038	0.0022	0.0016
94	0.0039	0.0022	0.0016
95	0.0039	0.0023	0.0016
96	0.0039	0.0023	0.0017
97	0.0040	0.0023	0.0017
98	0.0040	0.0023	0.0017
99	0.0040	0.0023	0.0017
100	0.0040	0.0023	0.0017
101	0.0041	0.0024	0.0017
102	0.0041	0.0024	0.0017
103	0.0042	0.0024	0.0018
104	0.0042	0.0024	0.0018

105	0.0042	0.0024	0.0018
106	0.0042	0.0025	0.0018
107	0.0043	0.0025	0.0018
108	0.0043	0.0025	0.0018
109	0.0044	0.0025	0.0018
110	0.0044	0.0025	0.0019
111	0.0045	0.0026	0.0019
112	0.0045	0.0026	0.0019
113	0.0045	0.0026	0.0019
114	0.0046	0.0026	0.0019
115	0.0046	0.0027	0.0020
116	0.0047	0.0027	0.0020
117	0.0047	0.0027	0.0020
118	0.0047	0.0027	0.0020
119	0.0048	0.0028	0.0020
120	0.0048	0.0028	0.0020
121	0.0049	0.0028	0.0021
122	0.0049	0.0029	0.0021
123	0.0050	0.0029	0.0021
124	0.0051	0.0029	0.0021
125	0.0051	0.0030	0.0022
126	0.0052	0.0030	0.0022
127	0.0052	0.0030	0.0022
128	0.0053	0.0031	0.0022
129	0.0054	0.0031	0.0023
130	0.0054	0.0031	0.0023
131	0.0055	0.0032	0.0023
132	0.0055	0.0032	0.0023
133	0.0056	0.0033	0.0024
134	0.0057	0.0033	0.0024
135	0.0058	0.0033	0.0024
136	0.0058	0.0034	0.0025
137	0.0059	0.0034	0.0025
138	0.0060	0.0035	0.0025
139	0.0061	0.0035	0.0026
140	0.0062	0.0036	0.0026
141	0.0063	0.0036	0.0027
142	0.0063	0.0037	0.0027
143	0.0065	0.0037	0.0027
144	0.0065	0.0038	0.0028
145	0.0049	0.0028	0.0021
146	0.0050	0.0029	0.0021
147	0.0051	0.0030	0.0022
148	0.0052	0.0030	0.0022
149	0.0053	0.0031	0.0022
150	0.0054	0.0031	0.0023
151	0.0055	0.0032	0.0023
152	0.0056	0.0032	0.0023
153	0.0057	0.0033	0.0024
154	0.0058	0.0034	0.0024
155	0.0060	0.0035	0.0025
156	0.0061	0.0035	0.0026
157	0.0062	0.0036	0.0026
158	0.0063	0.0037	0.0027
159	0.0065	0.0038	0.0028
160	0.0067	0.0038	0.0028
161	0.0069	0.0040	0.0029
162	0.0070	0.0040	0.0030
163	0.0073	0.0042	0.0031

164	0.0074	0.0043	0.0031
165	0.0077	0.0044	0.0032
166	0.0078	0.0045	0.0033
167	0.0082	0.0047	0.0034
168	0.0083	0.0048	0.0035
169	0.0089	0.0051	0.0038
170	0.0091	0.0053	0.0038
171	0.0096	0.0055	0.0040
172	0.0098	0.0057	0.0041
173	0.0104	0.0060	0.0044
174	0.0106	0.0062	0.0045
175	0.0113	0.0065	0.0048
176	0.0117	0.0067	0.0049
177	0.0125	0.0072	0.0053
178	0.0129	0.0075	0.0054
179	0.0139	0.0081	0.0059
180	0.0145	0.0084	0.0061
181	0.0158	0.0092	0.0067
182	0.0166	0.0096	0.0070
183	0.0185	0.0107	0.0078
184	0.0196	0.0113	0.0082
185	0.0358	0.0207	0.0151
186	0.0381	0.0220	0.0161
187	0.0442	0.0256	0.0186
188	0.0483	0.0279	0.0203
189	0.0600	0.0284	0.0316
190	0.0691	0.0284	0.0407
191	0.1049	0.0284	0.0765
192	0.1522	0.0284	0.1238
193	0.6586	0.0284	0.6302
194	0.0825	0.0284	0.0541
195	0.0534	0.0284	0.0250
196	0.0409	0.0236	0.0172
197	0.0208	0.0120	0.0088
198	0.0175	0.0101	0.0074
199	0.0151	0.0088	0.0064
200	0.0134	0.0077	0.0056
201	0.0120	0.0070	0.0051
202	0.0110	0.0063	0.0046
203	0.0101	0.0058	0.0042
204	0.0093	0.0054	0.0039
205	0.0085	0.0049	0.0036
206	0.0080	0.0046	0.0034
207	0.0075	0.0044	0.0032
208	0.0071	0.0041	0.0030
209	0.0068	0.0039	0.0029
210	0.0064	0.0037	0.0027
211	0.0061	0.0036	0.0026
212	0.0059	0.0034	0.0025
213	0.0056	0.0033	0.0024
214	0.0054	0.0031	0.0023
215	0.0052	0.0030	0.0022
216	0.0050	0.0029	0.0021
217	0.0066	0.0038	0.0028
218	0.0064	0.0037	0.0027
219	0.0062	0.0036	0.0026
220	0.0061	0.0035	0.0026
221	0.0059	0.0034	0.0025
222	0.0057	0.0033	0.0024

223	0.0056	0.0032	0.0024
224	0.0055	0.0032	0.0023
225	0.0053	0.0031	0.0022
226	0.0052	0.0030	0.0022
227	0.0051	0.0029	0.0021
228	0.0050	0.0029	0.0021
229	0.0049	0.0028	0.0021
230	0.0048	0.0028	0.0020
231	0.0047	0.0027	0.0020
232	0.0046	0.0027	0.0019
233	0.0045	0.0026	0.0019
234	0.0044	0.0026	0.0019
235	0.0043	0.0025	0.0018
236	0.0043	0.0025	0.0018
237	0.0042	0.0024	0.0018
238	0.0041	0.0024	0.0017
239	0.0041	0.0023	0.0017
240	0.0040	0.0023	0.0017
241	0.0039	0.0023	0.0017
242	0.0039	0.0022	0.0016
243	0.0038	0.0022	0.0016
244	0.0038	0.0022	0.0016
245	0.0037	0.0021	0.0016
246	0.0037	0.0021	0.0015
247	0.0036	0.0021	0.0015
248	0.0036	0.0021	0.0015
249	0.0035	0.0020	0.0015
250	0.0035	0.0020	0.0015
251	0.0034	0.0020	0.0014
252	0.0034	0.0019	0.0014
253	0.0033	0.0019	0.0014
254	0.0033	0.0019	0.0014
255	0.0032	0.0019	0.0014
256	0.0032	0.0019	0.0014
257	0.0032	0.0018	0.0013
258	0.0031	0.0018	0.0013
259	0.0031	0.0018	0.0013
260	0.0031	0.0018	0.0013
261	0.0030	0.0018	0.0013
262	0.0030	0.0017	0.0013
263	0.0030	0.0017	0.0012
264	0.0029	0.0017	0.0012
265	0.0029	0.0017	0.0012
266	0.0029	0.0017	0.0012
267	0.0028	0.0016	0.0012
268	0.0028	0.0016	0.0012
269	0.0028	0.0016	0.0012
270	0.0028	0.0016	0.0012
271	0.0027	0.0016	0.0012
272	0.0027	0.0016	0.0011
273	0.0027	0.0016	0.0011
274	0.0027	0.0015	0.0011
275	0.0026	0.0015	0.0011
276	0.0026	0.0015	0.0011
277	0.0026	0.0015	0.0011
278	0.0026	0.0015	0.0011
279	0.0025	0.0015	0.0011
280	0.0025	0.0015	0.0011
281	0.0025	0.0014	0.0011

282	0.0025	0.0014	0.0010
283	0.0025	0.0014	0.0010
284	0.0024	0.0014	0.0010
285	0.0024	0.0014	0.0010
286	0.0024	0.0014	0.0010
287	0.0024	0.0014	0.0010
288	0.0024	0.0014	0.0010

Total soil rain loss = 1.09(In)
Total effective rainfall = 1.63(In)
Peak flow rate in flood hydrograph = 288.10(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0002	0.03	Q				
0+10	0.0014	0.18	Q				
0+15	0.0051	0.54	Q				
0+20	0.0105	0.78	Q				
0+25	0.0168	0.92	Q				
0+30	0.0238	1.01	Q				
0+35	0.0312	1.08	Q				
0+40	0.0390	1.13	Q				
0+45	0.0471	1.17	Q				
0+50	0.0554	1.21	Q				
0+55	0.0639	1.24	Q				
1+ 0	0.0726	1.26	Q				
1+ 5	0.0814	1.28	Q				
1+10	0.0904	1.30	Q				
1+15	0.0994	1.32	Q				
1+20	0.1086	1.33	Q				
1+25	0.1178	1.34	Q				
1+30	0.1271	1.35	Q				
1+35	0.1365	1.36	Q				
1+40	0.1459	1.37	Q				
1+45	0.1555	1.38	Q				
1+50	0.1651	1.39	Q				
1+55	0.1747	1.40	Q				
2+ 0	0.1844	1.41	Q				
2+ 5	0.1941	1.41	Q				
2+10	0.2039	1.42	Q				
2+15	0.2137	1.42	Q				
2+20	0.2235	1.43	Q				
2+25	0.2334	1.44	Q				
2+30	0.2434	1.44	Q				
2+35	0.2534	1.45	Q				
2+40	0.2634	1.46	Q				
2+45	0.2735	1.46	Q				
2+50	0.2836	1.47	Q				
2+55	0.2938	1.48	Q				
3+ 0	0.3040	1.48	Q				
3+ 5	0.3143	1.49	Q				

3+10	0.3246	1.50	Q				
3+15	0.3349	1.51	Q				
3+20	0.3454	1.51	Q				
3+25	0.3558	1.52	Q				
3+30	0.3663	1.53	Q				
3+35	0.3769	1.53	QV				
3+40	0.3875	1.54	QV				
3+45	0.3982	1.55	QV				
3+50	0.4089	1.56	QV				
3+55	0.4197	1.57	QV				
4+ 0	0.4305	1.57	QV				
4+ 5	0.4414	1.58	QV				
4+10	0.4524	1.59	QV				
4+15	0.4634	1.60	QV				
4+20	0.4744	1.61	QV				
4+25	0.4856	1.61	QV				
4+30	0.4967	1.62	QV				
4+35	0.5080	1.63	QV				
4+40	0.5193	1.64	QV				
4+45	0.5306	1.65	QV				
4+50	0.5420	1.66	QV				
4+55	0.5535	1.67	QV				
5+ 0	0.5650	1.68	QV				
5+ 5	0.5767	1.69	QV				
5+10	0.5883	1.69	QV				
5+15	0.6001	1.70	QV				
5+20	0.6119	1.71	QV				
5+25	0.6237	1.72	QV				
5+30	0.6357	1.73	QV				
5+35	0.6477	1.74	QV				
5+40	0.6597	1.75	QV				
5+45	0.6719	1.76	QV				
5+50	0.6841	1.77	QV				
5+55	0.6964	1.78	QV				
6+ 0	0.7088	1.80	QV				
6+ 5	0.7212	1.81	QV				
6+10	0.7337	1.82	QV				
6+15	0.7463	1.83	Q V				
6+20	0.7590	1.84	Q V				
6+25	0.7717	1.85	Q V				
6+30	0.7846	1.86	Q V				
6+35	0.7975	1.88	Q V				
6+40	0.8105	1.89	Q V				
6+45	0.8236	1.90	Q V				
6+50	0.8367	1.91	Q V				
6+55	0.8500	1.92	Q V				
7+ 0	0.8633	1.94	Q V				
7+ 5	0.8768	1.95	Q V				
7+10	0.8903	1.96	Q V				
7+15	0.9039	1.98	Q V				
7+20	0.9176	1.99	Q V				
7+25	0.9314	2.00	Q V				
7+30	0.9453	2.02	Q V				
7+35	0.9593	2.03	Q V				
7+40	0.9734	2.05	Q V				
7+45	0.9876	2.06	Q V				
7+50	1.0019	2.08	Q V				
7+55	1.0164	2.09	Q V				
8+ 0	1.0309	2.11	Q V				

8+ 5	1.0455	2.12	Q V	|	|	|	|
8+10	1.0602	2.14	Q V	|	|	|	|
8+15	1.0751	2.16	Q V	|	|	|	|
8+20	1.0901	2.17	Q V	|	|	|	|
8+25	1.1052	2.19	Q V	|	|	|	|
8+30	1.1204	2.21	Q V	|	|	|	|
8+35	1.1357	2.23	Q V	|	|	|	|
8+40	1.1511	2.24	Q V	|	|	|	|
8+45	1.1667	2.26	Q V	|	|	|	|
8+50	1.1824	2.28	Q V	|	|	|	|
8+55	1.1983	2.30	Q V	|	|	|	|
9+ 0	1.2142	2.32	Q V	|	|	|	|
9+ 5	1.2304	2.34	Q V	|	|	|	|
9+10	1.2466	2.36	Q V	|	|	|	|
9+15	1.2630	2.38	Q V	|	|	|	|
9+20	1.2795	2.40	Q V	|	|	|	|
9+25	1.2962	2.42	Q V	|	|	|	|
9+30	1.3131	2.44	Q V	|	|	|	|
9+35	1.3300	2.47	Q V	|	|	|	|
9+40	1.3472	2.49	Q V	|	|	|	|
9+45	1.3645	2.51	Q V	|	|	|	|
9+50	1.3820	2.54	Q V	|	|	|	|
9+55	1.3996	2.56	Q V	|	|	|	|
10+ 0	1.4174	2.59	Q V	|	|	|	|
10+ 5	1.4354	2.61	Q V	|	|	|	|
10+10	1.4536	2.64	Q V	|	|	|	|
10+15	1.4720	2.67	Q V	|	|	|	|
10+20	1.4905	2.69	Q V	|	|	|	|
10+25	1.5093	2.72	Q V	|	|	|	|
10+30	1.5282	2.75	Q V	|	|	|	|
10+35	1.5474	2.78	Q V	|	|	|	|
10+40	1.5667	2.81	Q V	|	|	|	|
10+45	1.5863	2.84	Q V	|	|	|	|
10+50	1.6061	2.87	Q V	|	|	|	|
10+55	1.6261	2.91	Q V	|	|	|	|
11+ 0	1.6463	2.94	Q V	|	|	|	|
11+ 5	1.6668	2.98	Q V	|	|	|	|
11+10	1.6875	3.01	Q V	|	|	|	|
11+15	1.7085	3.05	Q V	|	|	|	|
11+20	1.7298	3.08	Q V	|	|	|	|
11+25	1.7513	3.12	Q V	|	|	|	|
11+30	1.7731	3.16	Q V	|	|	|	|
11+35	1.7951	3.20	Q V	|	|	|	|
11+40	1.8175	3.25	Q V	|	|	|	|
11+45	1.8402	3.29	Q V	|	|	|	|
11+50	1.8631	3.34	Q V	|	|	|	|
11+55	1.8864	3.38	Q V	|	|	|	|
12+ 0	1.9101	3.43	Q V	|	|	|	|
12+ 5	1.9339	3.46	Q V	|	|	|	|
12+10	1.9573	3.40	Q V	|	|	|	|
12+15	1.9792	3.18	Q V	|	|	|	|
12+20	2.0002	3.05	Q V	|	|	|	|
12+25	2.0209	3.00	Q V	|	|	|	|
12+30	2.0415	2.99	Q V	|	|	|	|
12+35	2.0621	2.99	Q V	|	|	|	|
12+40	2.0828	3.01	Q V	|	|	|	|
12+45	2.1037	3.04	Q V	|	|	|	|
12+50	2.1249	3.07	Q V	|	|	|	|
12+55	2.1463	3.11	Q V	|	|	|	|

```
13+ 0       2.1681      3.16  Q    V    |          |          |          |
13+ 5       2.1902      3.21  Q    V    |          |          |          |
13+10       2.2127      3.27  Q    V    |          |          |          |
13+15       2.2357      3.34  Q     V   |          |          |          |
13+20       2.2591      3.40  Q     V   |          |          |          |
13+25       2.2831      3.48  Q     V   |          |          |          |
13+30       2.3076      3.55  Q     V   |          |          |          |
13+35       2.3326      3.64  Q     V   |          |          |          |
13+40       2.3583      3.72  Q     V   |          |          |          |
13+45       2.3846      3.82  Q     V   |          |          |          |
13+50       2.4115      3.92  Q     V   |          |          |          |
13+55       2.4392      4.03  Q     V   |          |          |          |
14+ 0       2.4677      4.14  Q     V   |          |          |          |
14+ 5       2.4971      4.27  Q     V   |          |          |          |
14+10       2.5275      4.41  Q     V   |          |          |          |
14+15       2.5590      4.58  Q     V   |          |          |          |
14+20       2.5917      4.74  Q      V  |          |          |          |
14+25       2.6256      4.92  Q      V  |          |          |          |
14+30       2.6607      5.11  Q      V  |          |          |          |
14+35       2.6973      5.31  Q      V  |          |          |          |
14+40       2.7353      5.52  Q      V  |          |          |          |
14+45       2.7750      5.76  Q      V  |          |          |          |
14+50       2.8164      6.01  Q      V  |          |          |          |
14+55       2.8599      6.31  Q      V  |          |          |          |
15+ 0       2.9055      6.62  Q      V  |          |          |          |
15+ 5       2.9536      6.98  Q      V  |          |          |          |
15+10       3.0044      7.38  Q       V |          |          |          |
15+15       3.0584      7.85  |Q      V |          |          |          |
15+20       3.1161      8.37  |Q      V |          |          |          |
15+25       3.1793      9.18  |Q      V |          |          |          |
15+30       3.2533     10.75  |Q      V |          |          |          |
15+35       3.3484     13.80  |Q       V|          |          |          |
15+40       3.4622     16.53  | Q      V|          |          |          |
15+45       3.5956     19.37  | Q      V|          |          |          |
15+50       3.7570     23.44  |  Q      V          |          |          |
15+55       3.9728     31.33  |   Q     V          |          |          |
16+ 0       4.2833     45.09  |     Q   |V         |          |          |
16+ 5       4.8655     84.53  |         |Q V       |          |          |
16+10       6.0460    171.40  |         |     V    | Q        |          |
16+15       8.0302    288.10  |         |          |V         |        Q |
16+20       9.4865    211.45  |         |          |    V  Q  |          |
16+25      10.3871    130.78  |         |      Q   |       V  |          |
16+30      11.0289     93.19  |         | Q        |        V |          |
16+35      11.5048     69.10  |        Q|          |          |V         |
16+40      11.8783     54.23  |      Q  |          |          | V        |
16+45      12.1812     43.97  |    Q    |          |          | V        |
16+50      12.4220     34.97  |   Q     |          |          |  V       |
16+55      12.6263     29.66  |  Q      |          |          |   V      |
17+ 0      12.8005     25.29  |  Q      |          |          |   V      |
17+ 5      12.9473     21.32  | Q       |          |          |   V      |
17+10      13.0729     18.24  | Q       |          |          |    V     |
17+15      13.1802     15.58  | Q       |          |          |    V     |
17+20      13.2690     12.89  |Q        |          |          |    V     |
17+25      13.3415     10.53  |Q        |          |          |     V    |
17+30      13.4082      9.69  |Q        |          |          |     V    |
17+35      13.4734      9.46  |Q        |          |          |     V    |
17+40      13.5344      8.87  |Q        |          |          |     V    |
17+45      13.5858      7.46  Q         |          |          |     V    |
17+50      13.6286      6.22  Q         |          |          |     V    |
```

17+55	13.6645	5.21	Q	|	|	|	V |
18+ 0	13.6898	3.67	Q	|	|	|	V |
18+ 5	13.7133	3.41	Q	|	|	|	V |
18+10	13.7362	3.33	Q	|	|	|	V |
18+15	13.7599	3.44	Q	|	|	|	V |
18+20	13.7839	3.49	Q	|	|	|	V |
18+25	13.8077	3.46	Q	|	|	|	V |
18+30	13.8312	3.41	Q	|	|	|	V |
18+35	13.8543	3.35	Q	|	|	|	V |
18+40	13.8769	3.28	Q	|	|	|	V |
18+45	13.8991	3.22	Q	|	|	|	V |
18+50	13.9208	3.15	Q	|	|	|	V |
18+55	13.9420	3.08	Q	|	|	|	V |
19+ 0	13.9628	3.02	Q	|	|	|	V |
19+ 5	13.9832	2.96	Q	|	|	|	V |
19+10	14.0032	2.90	Q	|	|	|	V |
19+15	14.0227	2.84	Q	|	|	|	V |
19+20	14.0419	2.78	Q	|	|	|	V |
19+25	14.0607	2.73	Q	|	|	|	V |
19+30	14.0791	2.67	Q	|	|	|	V |
19+35	14.0971	2.62	Q	|	|	|	V |
19+40	14.1149	2.57	Q	|	|	|	V |
19+45	14.1323	2.53	Q	|	|	|	V |
19+50	14.1494	2.48	Q	|	|	|	V |
19+55	14.1662	2.44	Q	|	|	|	V |
20+ 0	14.1827	2.40	Q	|	|	|	V |
20+ 5	14.1989	2.35	Q	|	|	|	V |
20+10	14.2148	2.31	Q	|	|	|	V |
20+15	14.2305	2.27	Q	|	|	|	V |
20+20	14.2459	2.24	Q	|	|	|	V |
20+25	14.2611	2.20	Q	|	|	|	V |
20+30	14.2760	2.17	Q	|	|	|	V |
20+35	14.2907	2.13	Q	|	|	|	V |
20+40	14.3052	2.10	Q	|	|	|	V |
20+45	14.3194	2.07	Q	|	|	|	V |
20+50	14.3335	2.04	Q	|	|	|	V |
20+55	14.3474	2.01	Q	|	|	|	V |
21+ 0	14.3610	1.98	Q	|	|	|	V |
21+ 5	14.3745	1.96	Q	|	|	|	V |
21+10	14.3878	1.93	Q	|	|	|	V |
21+15	14.4009	1.91	Q	|	|	|	V |
21+20	14.4139	1.88	Q	|	|	|	V |
21+25	14.4267	1.86	Q	|	|	|	V |
21+30	14.4393	1.83	Q	|	|	|	V|
21+35	14.4518	1.81	Q	|	|	|	V|
21+40	14.4641	1.79	Q	|	|	|	V|
21+45	14.4763	1.77	Q	|	|	|	V|
21+50	14.4884	1.75	Q	|	|	|	V|
21+55	14.5003	1.73	Q	|	|	|	V|
22+ 0	14.5120	1.71	Q	|	|	|	V|
22+ 5	14.5237	1.69	Q	|	|	|	V|
22+10	14.5352	1.67	Q	|	|	|	V|
22+15	14.5466	1.65	Q	|	|	|	V|
22+20	14.5578	1.64	Q	|	|	|	V|
22+25	14.5690	1.62	Q	|	|	|	V|
22+30	14.5800	1.60	Q	|	|	|	V|
22+35	14.5909	1.58	Q	|	|	|	V|
22+40	14.6017	1.57	Q	|	|	|	V|
22+45	14.6124	1.55	Q	|	|	|	V|

22+50	14.6230	1.54	Q	|	|	|	V|
22+55	14.6335	1.52	Q	|	|	|	V|
23+ 0	14.6439	1.51	Q	|	|	|	V|
23+ 5	14.6542	1.49	Q	|	|	|	V|
23+10	14.6643	1.48	Q	|	|	|	V|
23+15	14.6744	1.47	Q	|	|	|	V|
23+20	14.6845	1.45	Q	|	|	|	V|
23+25	14.6944	1.44	Q	|	|	|	V|
23+30	14.7042	1.43	Q	|	|	|	V|
23+35	14.7139	1.41	Q	|	|	|	V|
23+40	14.7236	1.40	Q	|	|	|	V|
23+45	14.7332	1.39	Q	|	|	|	V|
23+50	14.7427	1.38	Q	|	|	|	V|
23+55	14.7521	1.37	Q	|	|	|	V|
24+ 0	14.7614	1.36	Q	|	|	|	V|
24+ 5	14.7705	1.32	Q	|	|	|	V|
24+10	14.7784	1.16	Q	|	|	|	V|
24+15	14.7839	0.79	Q	|	|	|	V|
24+20	14.7876	0.54	Q	|	|	|	V|
24+25	14.7903	0.40	Q	|	|	|	V|
24+30	14.7925	0.31	Q	|	|	|	V|
24+35	14.7942	0.24	Q	|	|	|	V|
24+40	14.7955	0.19	Q	|	|	|	V|
24+45	14.7966	0.16	Q	|	|	|	V|
24+50	14.7974	0.13	Q	|	|	|	V|
24+55	14.7981	0.10	Q	|	|	|	V|
25+ 0	14.7987	0.08	Q	|	|	|	V|
25+ 5	14.7991	0.06	Q	|	|	|	V|
25+10	14.7995	0.05	Q	|	|	|	V|
25+15	14.7998	0.04	Q	|	|	|	V|
25+20	14.8000	0.03	Q	|	|	|	V|
25+25	14.8001	0.03	Q	|	|	|	V|
25+30	14.8003	0.02	Q	|	|	|	V|
25+35	14.8004	0.01	Q	|	|	|	V|
25+40	14.8004	0.01	Q	|	|	|	V|
25+45	14.8005	0.00	Q	|	|	|	V|
25+50	14.8005	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/10/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREA "N"
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
1657.38	1	1.40
Rainfall data for year 100		
1657.38	6	2.08
Rainfall data for year 100		
1657.38	24	3.00

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.9	90.1	1657.38	1.000	0.190	0.989	0.188

Area-averaged adjusted loss rate Fm (In/Hr) = 0.188

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1639.15	0.989	73.9	90.1	1.10	0.664
18.23	0.011	98.0	98.0	0.20	0.923

Area-averaged catchment yield fraction, Y = 0.667
Area-averaged low loss fraction, Yb = 0.333
++
Watercourse length = 14260.00(Ft.)
Length from concentration point to centroid = 7479.00(Ft.)
Elevation difference along watercourse = 1690.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 1657.38(Ac.)
Catchment Lag time = 0.412 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.2503
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.188(In/Hr)
Average low loss rate fraction (Yb) = 0.333 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.050
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.950

Computed peak 5-minute rainfall = 0.662(In)
Computed peak 30-minute rainfall = 1.133(In)
Specified peak 1-hour rainfall = 1.395(In)
Computed peak 3-hour rainfall = 1.784(In)
Specified peak 6-hour rainfall = 2.083(In)
Specified peak 24-hour rainfall = 2.996(In)

Rainfall depth area reduction factors:
Using a total area of 1657.38(Ac.) (Ref: fig. E-4)

5-minute factor = 0.922 Adjusted rainfall = 0.611(In)
30-minute factor = 0.922 Adjusted rainfall = 1.045(In)
1-hour factor = 0.922 Adjusted rainfall = 1.287(In)
3-hour factor = 0.990 Adjusted rainfall = 1.766(In)
6-hour factor = 0.995 Adjusted rainfall = 2.072(In)
24-hour factor = 0.998 Adjusted rainfall = 2.990(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 20043.94 (CFS))	
1	1.025	205.543
2	4.620	720.453
3	11.535	1386.050
4	26.598	3019.170
5	43.759	3439.734

6	55.717	2396.832
7	63.461	1552.332
8	69.077	1125.705
9	73.577	901.934
10	77.208	727.694
11	80.179	595.681
12	82.673	499.719
13	84.820	430.448
14	86.751	386.986
15	88.418	334.260
16	89.771	271.014
17	90.948	235.909
18	92.032	217.370
19	92.992	192.441
20	93.872	176.468
21	94.598	145.386
22	95.264	133.540
23	95.883	124.078
24	96.397	103.055
25	96.900	100.774
26	97.290	78.184
27	97.642	70.626
28	97.941	59.888
29	98.144	40.574
30	98.346	40.658
31	98.575	45.718
32	98.809	47.084
33	99.044	46.919
34	99.276	46.680
35	99.499	44.631
36	99.637	27.669
37	99.757	24.100
38	99.878	24.100
39	100.000	12.050

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6105	0.6105
2	0.7516	0.1411
3	0.8489	0.0972
4	0.9254	0.0765
5	0.9894	0.0641
6	1.0451	0.0556
7	1.0945	0.0495
8	1.1393	0.0447
9	1.1802	0.0410
10	1.2181	0.0379
11	1.2535	0.0353
12	1.2866	0.0332
13	1.3167	0.0300
14	1.3451	0.0284
15	1.3721	0.0270
16	1.3979	0.0258
17	1.4226	0.0247
18	1.4462	0.0236
19	1.4689	0.0227
20	1.4908	0.0219
21	1.5119	0.0211
22	1.5324	0.0204

23	1.5521	0.0198
24	1.5713	0.0192
25	1.5899	0.0186
26	1.6080	0.0181
27	1.6256	0.0176
28	1.6427	0.0171
29	1.6594	0.0167
30	1.6757	0.0163
31	1.6917	0.0159
32	1.7072	0.0156
33	1.7224	0.0152
34	1.7373	0.0149
35	1.7519	0.0146
36	1.7662	0.0143
37	1.7774	0.0112
38	1.7883	0.0110
39	1.7991	0.0107
40	1.8096	0.0105
41	1.8199	0.0103
42	1.8301	0.0101
43	1.8400	0.0100
44	1.8498	0.0098
45	1.8594	0.0096
46	1.8689	0.0094
47	1.8782	0.0093
48	1.8873	0.0091
49	1.8963	0.0090
50	1.9051	0.0089
51	1.9139	0.0087
52	1.9224	0.0086
53	1.9309	0.0085
54	1.9392	0.0083
55	1.9475	0.0082
56	1.9556	0.0081
57	1.9636	0.0080
58	1.9715	0.0079
59	1.9792	0.0078
60	1.9869	0.0077
61	1.9945	0.0076
62	2.0020	0.0075
63	2.0094	0.0074
64	2.0167	0.0073
65	2.0239	0.0072
66	2.0311	0.0071
67	2.0381	0.0071
68	2.0451	0.0070
69	2.0520	0.0069
70	2.0588	0.0068
71	2.0655	0.0067
72	2.0722	0.0067
73	2.0798	0.0076
74	2.0873	0.0075
75	2.0947	0.0074
76	2.1021	0.0073
77	2.1093	0.0073
78	2.1165	0.0072
79	2.1237	0.0071
80	2.1308	0.0071
81	2.1378	0.0070

82	2.1447	0.0069
83	2.1516	0.0069
84	2.1584	0.0068
85	2.1652	0.0068
86	2.1719	0.0067
87	2.1785	0.0066
88	2.1851	0.0066
89	2.1917	0.0065
90	2.1982	0.0065
91	2.2046	0.0064
92	2.2110	0.0064
93	2.2173	0.0063
94	2.2236	0.0063
95	2.2298	0.0062
96	2.2360	0.0062
97	2.2421	0.0061
98	2.2482	0.0061
99	2.2543	0.0060
100	2.2603	0.0060
101	2.2662	0.0060
102	2.2721	0.0059
103	2.2780	0.0059
104	2.2838	0.0058
105	2.2896	0.0058
106	2.2954	0.0057
107	2.3011	0.0057
108	2.3067	0.0057
109	2.3124	0.0056
110	2.3180	0.0056
111	2.3235	0.0056
112	2.3290	0.0055
113	2.3345	0.0055
114	2.3400	0.0054
115	2.3454	0.0054
116	2.3507	0.0054
117	2.3561	0.0053
118	2.3614	0.0053
119	2.3667	0.0053
120	2.3719	0.0052
121	2.3771	0.0052
122	2.3823	0.0052
123	2.3875	0.0051
124	2.3926	0.0051
125	2.3977	0.0051
126	2.4027	0.0051
127	2.4077	0.0050
128	2.4127	0.0050
129	2.4177	0.0050
130	2.4227	0.0049
131	2.4276	0.0049
132	2.4325	0.0049
133	2.4373	0.0049
134	2.4421	0.0048
135	2.4470	0.0048
136	2.4517	0.0048
137	2.4565	0.0048
138	2.4612	0.0047
139	2.4659	0.0047
140	2.4706	0.0047

141	2.4753	0.0047
142	2.4799	0.0046
143	2.4845	0.0046
144	2.4891	0.0046
145	2.4936	0.0046
146	2.4982	0.0045
147	2.5027	0.0045
148	2.5072	0.0045
149	2.5116	0.0045
150	2.5161	0.0044
151	2.5205	0.0044
152	2.5249	0.0044
153	2.5293	0.0044
154	2.5337	0.0044
155	2.5380	0.0043
156	2.5423	0.0043
157	2.5466	0.0043
158	2.5509	0.0043
159	2.5552	0.0043
160	2.5594	0.0042
161	2.5636	0.0042
162	2.5678	0.0042
163	2.5720	0.0042
164	2.5762	0.0042
165	2.5803	0.0041
166	2.5844	0.0041
167	2.5885	0.0041
168	2.5926	0.0041
169	2.5967	0.0041
170	2.6008	0.0041
171	2.6048	0.0040
172	2.6088	0.0040
173	2.6128	0.0040
174	2.6168	0.0040
175	2.6208	0.0040
176	2.6247	0.0040
177	2.6287	0.0039
178	2.6326	0.0039
179	2.6365	0.0039
180	2.6404	0.0039
181	2.6442	0.0039
182	2.6481	0.0039
183	2.6519	0.0038
184	2.6558	0.0038
185	2.6596	0.0038
186	2.6634	0.0038
187	2.6671	0.0038
188	2.6709	0.0038
189	2.6747	0.0037
190	2.6784	0.0037
191	2.6821	0.0037
192	2.6858	0.0037
193	2.6895	0.0037
194	2.6932	0.0037
195	2.6968	0.0037
196	2.7005	0.0037
197	2.7041	0.0036
198	2.7078	0.0036
199	2.7114	0.0036

200	2.7150	0.0036
201	2.7185	0.0036
202	2.7221	0.0036
203	2.7257	0.0036
204	2.7292	0.0035
205	2.7328	0.0035
206	2.7363	0.0035
207	2.7398	0.0035
208	2.7433	0.0035
209	2.7468	0.0035
210	2.7502	0.0035
211	2.7537	0.0035
212	2.7571	0.0034
213	2.7606	0.0034
214	2.7640	0.0034
215	2.7674	0.0034
216	2.7708	0.0034
217	2.7742	0.0034
218	2.7775	0.0034
219	2.7809	0.0034
220	2.7843	0.0034
221	2.7876	0.0033
222	2.7909	0.0033
223	2.7943	0.0033
224	2.7976	0.0033
225	2.8009	0.0033
226	2.8041	0.0033
227	2.8074	0.0033
228	2.8107	0.0033
229	2.8139	0.0033
230	2.8172	0.0032
231	2.8204	0.0032
232	2.8236	0.0032
233	2.8269	0.0032
234	2.8301	0.0032
235	2.8332	0.0032
236	2.8364	0.0032
237	2.8396	0.0032
238	2.8428	0.0032
239	2.8459	0.0032
240	2.8491	0.0031
241	2.8522	0.0031
242	2.8553	0.0031
243	2.8584	0.0031
244	2.8615	0.0031
245	2.8646	0.0031
246	2.8677	0.0031
247	2.8708	0.0031
248	2.8739	0.0031
249	2.8769	0.0031
250	2.8800	0.0031
251	2.8830	0.0030
252	2.8861	0.0030
253	2.8891	0.0030
254	2.8921	0.0030
255	2.8951	0.0030
256	2.8981	0.0030
257	2.9011	0.0030
258	2.9041	0.0030

259	2.9071	0.0030
260	2.9100	0.0030
261	2.9130	0.0030
262	2.9159	0.0029
263	2.9189	0.0029
264	2.9218	0.0029
265	2.9247	0.0029
266	2.9276	0.0029
267	2.9305	0.0029
268	2.9334	0.0029
269	2.9363	0.0029
270	2.9392	0.0029
271	2.9421	0.0029
272	2.9449	0.0029
273	2.9478	0.0029
274	2.9507	0.0029
275	2.9535	0.0028
276	2.9563	0.0028
277	2.9592	0.0028
278	2.9620	0.0028
279	2.9648	0.0028
280	2.9676	0.0028
281	2.9704	0.0028
282	2.9732	0.0028
283	2.9760	0.0028
284	2.9788	0.0028
285	2.9815	0.0028
286	2.9843	0.0028
287	2.9870	0.0028
288	2.9898	0.0027

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0027	0.0009	0.0018
2	0.0028	0.0009	0.0018
3	0.0028	0.0009	0.0018
4	0.0028	0.0009	0.0019
5	0.0028	0.0009	0.0019
6	0.0028	0.0009	0.0019
7	0.0028	0.0009	0.0019
8	0.0028	0.0009	0.0019
9	0.0028	0.0009	0.0019
10	0.0028	0.0009	0.0019
11	0.0029	0.0010	0.0019
12	0.0029	0.0010	0.0019
13	0.0029	0.0010	0.0019
14	0.0029	0.0010	0.0019
15	0.0029	0.0010	0.0019
16	0.0029	0.0010	0.0019
17	0.0029	0.0010	0.0020
18	0.0029	0.0010	0.0020
19	0.0030	0.0010	0.0020
20	0.0030	0.0010	0.0020
21	0.0030	0.0010	0.0020
22	0.0030	0.0010	0.0020
23	0.0030	0.0010	0.0020
24	0.0030	0.0010	0.0020

25	0.0030	0.0010	0.0020
26	0.0030	0.0010	0.0020
27	0.0031	0.0010	0.0020
28	0.0031	0.0010	0.0020
29	0.0031	0.0010	0.0021
30	0.0031	0.0010	0.0021
31	0.0031	0.0010	0.0021
32	0.0031	0.0010	0.0021
33	0.0031	0.0010	0.0021
34	0.0032	0.0011	0.0021
35	0.0032	0.0011	0.0021
36	0.0032	0.0011	0.0021
37	0.0032	0.0011	0.0021
38	0.0032	0.0011	0.0021
39	0.0032	0.0011	0.0022
40	0.0032	0.0011	0.0022
41	0.0033	0.0011	0.0022
42	0.0033	0.0011	0.0022
43	0.0033	0.0011	0.0022
44	0.0033	0.0011	0.0022
45	0.0033	0.0011	0.0022
46	0.0033	0.0011	0.0022
47	0.0034	0.0011	0.0022
48	0.0034	0.0011	0.0023
49	0.0034	0.0011	0.0023
50	0.0034	0.0011	0.0023
51	0.0034	0.0011	0.0023
52	0.0034	0.0011	0.0023
53	0.0035	0.0012	0.0023
54	0.0035	0.0012	0.0023
55	0.0035	0.0012	0.0023
56	0.0035	0.0012	0.0023
57	0.0035	0.0012	0.0024
58	0.0036	0.0012	0.0024
59	0.0036	0.0012	0.0024
60	0.0036	0.0012	0.0024
61	0.0036	0.0012	0.0024
62	0.0036	0.0012	0.0024
63	0.0037	0.0012	0.0024
64	0.0037	0.0012	0.0025
65	0.0037	0.0012	0.0025
66	0.0037	0.0012	0.0025
67	0.0037	0.0012	0.0025
68	0.0038	0.0013	0.0025
69	0.0038	0.0013	0.0025
70	0.0038	0.0013	0.0025
71	0.0038	0.0013	0.0026
72	0.0039	0.0013	0.0026
73	0.0039	0.0013	0.0026
74	0.0039	0.0013	0.0026
75	0.0039	0.0013	0.0026
76	0.0040	0.0013	0.0026
77	0.0040	0.0013	0.0027
78	0.0040	0.0013	0.0027
79	0.0040	0.0013	0.0027
80	0.0041	0.0014	0.0027
81	0.0041	0.0014	0.0027
82	0.0041	0.0014	0.0027
83	0.0041	0.0014	0.0028

84	0.0042	0.0014	0.0028
85	0.0042	0.0014	0.0028
86	0.0042	0.0014	0.0028
87	0.0043	0.0014	0.0028
88	0.0043	0.0014	0.0029
89	0.0043	0.0014	0.0029
90	0.0043	0.0014	0.0029
91	0.0044	0.0015	0.0029
92	0.0044	0.0015	0.0029
93	0.0044	0.0015	0.0030
94	0.0045	0.0015	0.0030
95	0.0045	0.0015	0.0030
96	0.0045	0.0015	0.0030
97	0.0046	0.0015	0.0031
98	0.0046	0.0015	0.0031
99	0.0047	0.0016	0.0031
100	0.0047	0.0016	0.0031
101	0.0047	0.0016	0.0032
102	0.0048	0.0016	0.0032
103	0.0048	0.0016	0.0032
104	0.0048	0.0016	0.0032
105	0.0049	0.0016	0.0033
106	0.0049	0.0016	0.0033
107	0.0050	0.0017	0.0033
108	0.0050	0.0017	0.0033
109	0.0051	0.0017	0.0034
110	0.0051	0.0017	0.0034
111	0.0051	0.0017	0.0034
112	0.0052	0.0017	0.0035
113	0.0052	0.0017	0.0035
114	0.0053	0.0018	0.0035
115	0.0053	0.0018	0.0036
116	0.0054	0.0018	0.0036
117	0.0054	0.0018	0.0036
118	0.0055	0.0018	0.0037
119	0.0056	0.0019	0.0037
120	0.0056	0.0019	0.0037
121	0.0057	0.0019	0.0038
122	0.0057	0.0019	0.0038
123	0.0058	0.0019	0.0039
124	0.0058	0.0019	0.0039
125	0.0059	0.0020	0.0039
126	0.0060	0.0020	0.0040
127	0.0060	0.0020	0.0040
128	0.0061	0.0020	0.0041
129	0.0062	0.0021	0.0041
130	0.0062	0.0021	0.0042
131	0.0063	0.0021	0.0042
132	0.0064	0.0021	0.0043
133	0.0065	0.0022	0.0043
134	0.0065	0.0022	0.0044
135	0.0066	0.0022	0.0044
136	0.0067	0.0022	0.0045
137	0.0068	0.0023	0.0046
138	0.0069	0.0023	0.0046
139	0.0070	0.0023	0.0047
140	0.0071	0.0024	0.0047
141	0.0072	0.0024	0.0048
142	0.0073	0.0024	0.0049

143	0.0074	0.0025	0.0049
144	0.0075	0.0025	0.0050
145	0.0067	0.0022	0.0044
146	0.0067	0.0022	0.0045
147	0.0069	0.0023	0.0046
148	0.0070	0.0023	0.0046
149	0.0071	0.0024	0.0048
150	0.0072	0.0024	0.0048
151	0.0074	0.0025	0.0049
152	0.0075	0.0025	0.0050
153	0.0077	0.0026	0.0051
154	0.0078	0.0026	0.0052
155	0.0080	0.0027	0.0053
156	0.0081	0.0027	0.0054
157	0.0083	0.0028	0.0056
158	0.0085	0.0028	0.0056
159	0.0087	0.0029	0.0058
160	0.0089	0.0029	0.0059
161	0.0091	0.0030	0.0061
162	0.0093	0.0031	0.0062
163	0.0096	0.0032	0.0064
164	0.0098	0.0033	0.0065
165	0.0101	0.0034	0.0068
166	0.0103	0.0034	0.0069
167	0.0107	0.0036	0.0072
168	0.0110	0.0037	0.0073
169	0.0143	0.0048	0.0095
170	0.0146	0.0049	0.0097
171	0.0152	0.0051	0.0101
172	0.0156	0.0052	0.0104
173	0.0163	0.0054	0.0109
174	0.0167	0.0056	0.0111
175	0.0176	0.0059	0.0117
176	0.0181	0.0060	0.0121
177	0.0192	0.0064	0.0128
178	0.0198	0.0066	0.0132
179	0.0211	0.0070	0.0141
180	0.0219	0.0073	0.0146
181	0.0236	0.0079	0.0158
182	0.0247	0.0082	0.0164
183	0.0270	0.0090	0.0180
184	0.0284	0.0095	0.0190
185	0.0332	0.0110	0.0221
186	0.0353	0.0118	0.0236
187	0.0410	0.0137	0.0273
188	0.0447	0.0149	0.0298
189	0.0556	0.0157	0.0399
190	0.0641	0.0157	0.0484
191	0.0972	0.0157	0.0815
192	0.1411	0.0157	0.1254
193	0.6105	0.0157	0.5948
194	0.0765	0.0157	0.0608
195	0.0495	0.0157	0.0338
196	0.0379	0.0126	0.0253
197	0.0300	0.0100	0.0200
198	0.0258	0.0086	0.0172
199	0.0227	0.0076	0.0152
200	0.0204	0.0068	0.0136
201	0.0186	0.0062	0.0124

202	0.0171	0.0057	0.0114
203	0.0159	0.0053	0.0106
204	0.0149	0.0050	0.0099
205	0.0112	0.0037	0.0075
206	0.0105	0.0035	0.0070
207	0.0100	0.0033	0.0066
208	0.0094	0.0031	0.0063
209	0.0090	0.0030	0.0060
210	0.0086	0.0029	0.0057
211	0.0082	0.0027	0.0055
212	0.0079	0.0026	0.0053
213	0.0076	0.0025	0.0051
214	0.0073	0.0024	0.0049
215	0.0071	0.0023	0.0047
216	0.0068	0.0023	0.0045
217	0.0076	0.0025	0.0050
218	0.0073	0.0024	0.0049
219	0.0071	0.0024	0.0048
220	0.0069	0.0023	0.0046
221	0.0068	0.0023	0.0045
222	0.0066	0.0022	0.0044
223	0.0064	0.0021	0.0043
224	0.0063	0.0021	0.0042
225	0.0061	0.0020	0.0041
226	0.0060	0.0020	0.0040
227	0.0059	0.0020	0.0039
228	0.0057	0.0019	0.0038
229	0.0056	0.0019	0.0038
230	0.0055	0.0018	0.0037
231	0.0054	0.0018	0.0036
232	0.0053	0.0018	0.0035
233	0.0052	0.0017	0.0035
234	0.0051	0.0017	0.0034
235	0.0050	0.0017	0.0034
236	0.0049	0.0016	0.0033
237	0.0049	0.0016	0.0032
238	0.0048	0.0016	0.0032
239	0.0047	0.0016	0.0031
240	0.0046	0.0015	0.0031
241	0.0046	0.0015	0.0030
242	0.0045	0.0015	0.0030
243	0.0044	0.0015	0.0030
244	0.0044	0.0015	0.0029
245	0.0043	0.0014	0.0029
246	0.0042	0.0014	0.0028
247	0.0042	0.0014	0.0028
248	0.0041	0.0014	0.0028
249	0.0041	0.0014	0.0027
250	0.0040	0.0013	0.0027
251	0.0040	0.0013	0.0026
252	0.0039	0.0013	0.0026
253	0.0039	0.0013	0.0026
254	0.0038	0.0013	0.0026
255	0.0038	0.0013	0.0025
256	0.0037	0.0012	0.0025
257	0.0037	0.0012	0.0025
258	0.0037	0.0012	0.0024
259	0.0036	0.0012	0.0024
260	0.0036	0.0012	0.0024

261	0.0035	0.0012	0.0024
262	0.0035	0.0012	0.0023
263	0.0035	0.0012	0.0023
264	0.0034	0.0011	0.0023
265	0.0034	0.0011	0.0023
266	0.0034	0.0011	0.0022
267	0.0033	0.0011	0.0022
268	0.0033	0.0011	0.0022
269	0.0033	0.0011	0.0022
270	0.0032	0.0011	0.0021
271	0.0032	0.0011	0.0021
272	0.0032	0.0011	0.0021
273	0.0031	0.0010	0.0021
274	0.0031	0.0010	0.0021
275	0.0031	0.0010	0.0021
276	0.0031	0.0010	0.0020
277	0.0030	0.0010	0.0020
278	0.0030	0.0010	0.0020
279	0.0030	0.0010	0.0020
280	0.0029	0.0010	0.0020
281	0.0029	0.0010	0.0019
282	0.0029	0.0010	0.0019
283	0.0029	0.0010	0.0019
284	0.0029	0.0009	0.0019
285	0.0028	0.0009	0.0019
286	0.0028	0.0009	0.0019
287	0.0028	0.0009	0.0019
288	0.0028	0.0009	0.0018

Total soil rain loss = 0.74(In)
Total effective rainfall = 2.25(In)
Peak flow rate in flood hydrograph = 2917.50(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	750.0	1500.0	2250.0	3000.0
0+ 5	0.0026	0.38	Q				
0+10	0.0143	1.70	Q				
0+15	0.0435	4.24	Q				
0+20	0.1110	9.79	Q				
0+25	0.2221	16.13	Q				
0+30	0.3638	20.58	Q				
0+35	0.5257	23.51	Q				
0+40	0.7024	25.66	Q				
0+45	0.8912	27.41	Q				
0+50	1.0899	28.85	Q				
0+55	1.2969	30.06	Q				
1+ 0	1.5111	31.09	Q				
1+ 5	1.7315	32.00	Q				
1+10	1.9577	32.84	Q				
1+15	2.1890	33.59	Q				
1+20	2.4246	34.22	Q				

1+25	2.6642	34.79	Q				
1+30	2.9075	35.33	Q				
1+35	3.1543	35.83	Q				
1+40	3.4042	36.30	Q				
1+45	3.6571	36.71	Q				
1+50	3.9126	37.11	Q				
1+55	4.1709	37.49	Q				
2+ 0	4.4314	37.84	Q				
2+ 5	4.6944	38.18	Q				
2+10	4.9595	38.49	Q				
2+15	5.2266	38.78	Q				
2+20	5.4956	39.06	Q				
2+25	5.7662	39.30	Q				
2+30	6.0386	39.55	Q				
2+35	6.3127	39.80	Q				
2+40	6.5886	40.06	Q				
2+45	6.8663	40.33	Q				
2+50	7.1459	40.59	Q				
2+55	7.4272	40.85	Q				
3+ 0	7.7102	41.09	Q				
3+ 5	7.9948	41.32	QV				
3+10	8.2809	41.55	QV				
3+15	8.5685	41.76	QV				
3+20	8.8575	41.95	QV				
3+25	9.1477	42.15	QV				
3+30	9.4394	42.34	QV				
3+35	9.7324	42.54	QV				
3+40	10.0267	42.74	QV				
3+45	10.3225	42.95	QV				
3+50	10.6197	43.15	QV				
3+55	10.9183	43.36	QV				
4+ 0	11.2184	43.57	QV				
4+ 5	11.5199	43.78	QV				
4+10	11.8229	44.00	QV				
4+15	12.1274	44.21	QV				
4+20	12.4335	44.44	QV				
4+25	12.7410	44.66	QV				
4+30	13.0501	44.88	QV				
4+35	13.3608	45.11	QV				
4+40	13.6731	45.34	QV				
4+45	13.9870	45.57	QV				
4+50	14.3025	45.81	QV				
4+55	14.6196	46.05	QV				
5+ 0	14.9384	46.29	QV				
5+ 5	15.2590	46.54	QV				
5+10	15.5812	46.79	Q V				
5+15	15.9051	47.04	Q V				
5+20	16.2309	47.29	Q V				
5+25	16.5583	47.55	Q V				
5+30	16.8876	47.81	Q V				
5+35	17.2187	48.08	Q V				
5+40	17.5517	48.35	Q V				
5+45	17.8865	48.62	Q V				
5+50	18.2233	48.89	Q V				
5+55	18.5619	49.17	Q V				
6+ 0	18.9025	49.46	Q V				
6+ 5	19.2451	49.74	Q V				
6+10	19.5897	50.03	Q V				
6+15	19.9363	50.33	Q V				

6+20	20.2850	50.63	Q V	|	|	|	|
6+25	20.6358	50.93	Q V	|	|	|	|
6+30	20.9887	51.24	Q V	|	|	|	|
6+35	21.3437	51.55	Q V	|	|	|	|
6+40	21.7009	51.87	Q V	|	|	|	|
6+45	22.0604	52.19	Q V	|	|	|	|
6+50	22.4220	52.52	Q V	|	|	|	|
6+55	22.7860	52.85	Q V	|	|	|	|
7+ 0	23.1523	53.18	Q V	|	|	|	|
7+ 5	23.5209	53.52	Q V	|	|	|	|
7+10	23.8919	53.87	Q V	|	|	|	|
7+15	24.2653	54.22	Q V	|	|	|	|
7+20	24.6412	54.58	Q V	|	|	|	|
7+25	25.0196	54.94	Q V	|	|	|	|
7+30	25.4005	55.31	Q V	|	|	|	|
7+35	25.7840	55.68	Q V	|	|	|	|
7+40	26.1701	56.07	Q V	|	|	|	|
7+45	26.5589	56.45	Q V	|	|	|	|
7+50	26.9504	56.84	Q V	|	|	|	|
7+55	27.3446	57.24	Q V	|	|	|	|
8+ 0	27.7417	57.65	Q V	|	|	|	|
8+ 5	28.1416	58.06	Q V	|	|	|	|
8+10	28.5443	58.48	Q V	|	|	|	|
8+15	28.9500	58.91	Q V	|	|	|	|
8+20	29.3588	59.35	Q V	|	|	|	|
8+25	29.7705	59.79	Q V	|	|	|	|
8+30	30.1854	60.24	Q V	|	|	|	|
8+35	30.6034	60.70	Q V	|	|	|	|
8+40	31.0246	61.16	Q V	|	|	|	|
8+45	31.4492	61.64	Q V	|	|	|	|
8+50	31.8770	62.12	Q V	|	|	|	|
8+55	32.3083	62.62	Q V	|	|	|	|
9+ 0	32.7430	63.12	Q V	|	|	|	|
9+ 5	33.1812	63.63	Q V	|	|	|	|
9+10	33.6230	64.16	Q V	|	|	|	|
9+15	34.0685	64.69	Q V	|	|	|	|
9+20	34.5178	65.23	Q V	|	|	|	|
9+25	34.9709	65.78	Q V	|	|	|	|
9+30	35.4278	66.35	Q V	|	|	|	|
9+35	35.8888	66.93	Q V	|	|	|	|
9+40	36.3538	67.52	Q V	|	|	|	|
9+45	36.8229	68.12	Q V	|	|	|	|
9+50	37.2963	68.73	Q V	|	|	|	|
9+55	37.7740	69.36	Q V	|	|	|	|
10+ 0	38.2561	70.00	Q V	|	|	|	|
10+ 5	38.7427	70.66	Q V	|	|	|	|
10+10	39.2340	71.33	Q V	|	|	|	|
10+15	39.7299	72.01	Q V	|	|	|	|
10+20	40.2307	72.72	Q V	|	|	|	|
10+25	40.7365	73.43	Q V	|	|	|	|
10+30	41.2473	74.17	Q V	|	|	|	|
10+35	41.7633	74.92	Q V	|	|	|	|
10+40	42.2846	75.70	|Q V	|	|	|	|
10+45	42.8114	76.48	|Q V	|	|	|	|
10+50	43.3437	77.30	|Q V	|	|	|	|
10+55	43.8818	78.12	|Q V	|	|	|	|
11+ 0	44.4257	78.98	|Q V	|	|	|	|
11+ 5	44.9756	79.85	|Q V	|	|	|	|
11+10	45.5318	80.75	|Q V	|	|	|	|

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11+15      46.0943     81.67  |Q   V    |          |          |          |
11+20      46.6633     82.62  |Q    V   |          |          |          |
11+25      47.2390     83.59  |Q    V   |          |          |          |
11+30      47.8217     84.60  |Q    V   |          |          |          |
11+35      48.4114     85.63  |Q    V   |          |          |          |
11+40      49.0085     86.69  |Q    V   |          |          |          |
11+45      49.6130     87.78  |Q    V   |          |          |          |
11+50      50.2254     88.91  |Q    V   |          |          |          |
11+55      50.8457     90.07  |Q    V   |          |          |          |
12+ 0      51.4743     91.27  |Q    V   |          |          |          |
12+ 5      52.1105     92.37  |Q    V   |          |          |          |
12+10      52.7523     93.18  |Q    V   |          |          |          |
12+15      53.3968     93.59  |Q    V   |          |          |          |
12+20      54.0371     92.97  |Q    V   |          |          |          |
12+25      54.6714     92.10  |Q     V  |          |          |          |
12+30      55.3047     91.95  |Q     V  |          |          |          |
12+35      55.9408     92.36  |Q     V  |          |          |          |
12+40      56.5821     93.11  |Q     V  |          |          |          |
12+45      57.2298     94.05  |Q     V  |          |          |          |
12+50      57.8852     95.16  |Q     V  |          |          |          |
12+55      58.5491     96.41  |Q     V  |          |          |          |
13+ 0      59.2226     97.79  |Q     V  |          |          |          |
13+ 5      59.9063     99.27  |Q     V  |          |          |          |
13+10      60.6010    100.87  |Q     V  |          |          |          |
13+15      61.3075    102.57  |Q     V  |          |          |          |
13+20      62.0266    104.42  |Q     V  |          |          |          |
13+25      62.7591    106.36  |Q      V |          |          |          |
13+30      63.5059    108.43  |Q      V |          |          |          |
13+35      64.2676    110.61  |Q      V |          |          |          |
13+40      65.0454    112.94  |Q      V |          |          |          |
13+45      65.8401    115.39  |Q      V |          |          |          |
13+50      66.6529    118.01  |Q      V |          |          |          |
13+55      67.4846    120.77  |Q      V |          |          |          |
14+ 0      68.3367    123.73  |Q      V |          |          |          |
14+ 5      69.2130    127.24  |Q      V |          |          |          |
14+10      70.1219    131.98  |Q       V|          |          |          |
14+15      71.0737    138.20  |Q       V|          |          |          |
14+20      72.0922    147.88  |Q       V|          |          |          |
14+25      73.1853    158.72  | Q      V|          |          |          |
14+30      74.3428    168.07  | Q      V|          |          |          |
14+35      75.5565    176.23  | Q      V|          |          |          |
14+40      76.8246    184.12  | Q      V|          |          |          |
14+45      78.1472    192.05  | Q       V          |          |          |
14+50      79.5266    200.29  | Q       V          |          |          |
14+55      80.9652    208.88  | Q       V          |          |          |
15+ 0      82.4675    218.14  | Q       V          |          |          |
15+ 5      84.0382    228.06  |  Q      V          |          |          |
15+10      85.6845    239.04  |  Q      |V         |          |          |
15+15      87.4136    251.06  |  Q      |V         |          |          |
15+20      89.2358    264.59  |  Q      |V         |          |          |
15+25      91.1636    279.92  |  Q      |V         |          |          |
15+30      93.2170    298.15  |  Q      | V        |          |          |
15+35      95.4187    319.69  |   Q     | V        |          |          |
15+40      97.8078    346.89  |   Q     | V        |          |          |
15+45     100.4270    380.31  |    Q    | V        |          |          |
15+50     103.3445    423.63  |    Q    |  V       |          |          |
15+55     106.6850    485.03  |     Q   |  V       |          |          |
16+ 0     110.7364    588.26  |      Q  |   V      |          |          |
16+ 5     116.5411    842.84  |         |Q   V     |          |          |
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16+10	125.4980	1300.56			VQ			
16+15	138.2766	1855.44			V	Q		
16+20	157.3963	2776.18			V			Q
16+25	177.4893	2917.50			V			Q
16+30	192.8854	2235.52			V	Q		
16+35	204.2732	1653.51			Q V			
16+40	213.3405	1316.56		Q	V			
16+45	220.9896	1110.65		Q	V			
16+50	227.5297	949.63		Q	V			
16+55	233.2044	823.97		Q	V			
17+ 0	238.2137	727.34		Q	V			
17+ 5	242.7026	651.80		Q	V			
17+10	246.7851	592.77		Q	V			
17+15	250.4433	531.18		Q	V			
17+20	253.6518	465.87		Q	V			
17+25	256.5333	418.40		Q	V			
17+30	259.1806	384.40		Q	V			
17+35	261.5974	350.91		Q	V			
17+40	263.8279	323.87		Q	V			
17+45	265.8381	291.87		Q	V			
17+50	267.7063	271.27		Q	V			
17+55	269.4500	253.18		Q	V			
18+ 0	271.0382	230.60		Q	V			
18+ 5	272.5391	217.93		Q	V			
18+10	273.8931	196.60		Q	V			
18+15	275.1598	183.93		Q	V			
18+20	276.3420	171.65		Q	V			
18+25	277.4249	157.23		Q	V			
18+30	278.4815	153.42		Q	V			
18+35	279.5305	152.31		Q	V			
18+40	280.5574	149.12		Q	V			
18+45	281.5556	144.93		Q	V			
18+50	282.5202	140.06		Q	V			
18+55	283.4394	133.47		Q	V			
19+ 0	284.2643	119.78		Q	V			
19+ 5	285.0435	113.14		Q	V			
19+10	285.7881	108.11		Q	V			
19+15	286.4578	97.24		Q	V			
19+20	287.0595	87.37		Q	V			
19+25	287.6410	84.43		Q	V			
19+30	288.2061	82.05		Q	V			
19+35	288.7565	79.92		Q	V			
19+40	289.2935	77.98		Q	V			
19+45	289.8180	76.16		Q	V			
19+50	290.3309	74.46	Q		V			
19+55	290.8327	72.87	Q		V			
20+ 0	291.3243	71.39	Q		V			
20+ 5	291.8064	69.99	Q		V			
20+10	292.2792	68.65	Q		V			
20+15	292.7434	67.40	Q		V			
20+20	293.1994	66.22	Q		V			
20+25	293.6477	65.08	Q		V			
20+30	294.0884	64.00	Q		V			
20+35	294.5221	62.96	Q		V			
20+40	294.9488	61.97	Q		V			
20+45	295.3691	61.02	Q		V			
20+50	295.7830	60.10	Q		V			
20+55	296.1908	59.22	Q		V			
21+ 0	296.5927	58.36	Q		V			

21+ 5	296.9889	57.52	Q	|	|	|	V |
21+10	297.3795	56.72	Q	|	|	|	V |
21+15	297.7648	55.94	Q	|	|	|	V |
21+20	298.1447	55.17	Q	|	|	|	V |
21+25	298.5196	54.43	Q	|	|	|	V |
21+30	298.8896	53.72	Q	|	|	|	V |
21+35	299.2548	53.03	Q	|	|	|	V |
21+40	299.6153	52.35	Q	|	|	|	V |
21+45	299.9714	51.70	Q	|	|	|	V |
21+50	300.3231	51.07	Q	|	|	|	V |
21+55	300.6706	50.45	Q	|	|	|	V |
22+ 0	301.0140	49.86	Q	|	|	|	V |
22+ 5	301.3534	49.28	Q	|	|	|	V |
22+10	301.6889	48.71	Q	|	|	|	V |
22+15	302.0206	48.17	Q	|	|	|	V |
22+20	302.3486	47.63	Q	|	|	|	V |
22+25	302.6731	47.11	Q	|	|	|	V|
22+30	302.9940	46.60	Q	|	|	|	V|
22+35	303.3116	46.11	Q	|	|	|	V|
22+40	303.6259	45.63	Q	|	|	|	V|
22+45	303.9369	45.16	Q	|	|	|	V|
22+50	304.2447	44.70	Q	|	|	|	V|
22+55	304.5495	44.25	Q	|	|	|	V|
23+ 0	304.8513	43.82	Q	|	|	|	V|
23+ 5	305.1501	43.39	Q	|	|	|	V|
23+10	305.4461	42.97	Q	|	|	|	V|
23+15	305.7393	42.57	Q	|	|	|	V|
23+20	306.0297	42.17	Q	|	|	|	V|
23+25	306.3174	41.78	Q	|	|	|	V|
23+30	306.6025	41.40	Q	|	|	|	V|
23+35	306.8851	41.03	Q	|	|	|	V|
23+40	307.1651	40.66	Q	|	|	|	V|
23+45	307.4427	40.30	Q	|	|	|	V|
23+50	307.7179	39.95	Q	|	|	|	V|
23+55	307.9907	39.61	Q	|	|	|	V|
24+ 0	308.2612	39.28	Q	|	|	|	V|
24+ 5	308.5268	38.57	Q	|	|	|	V|
24+10	308.7812	36.93	Q	|	|	|	V|
24+15	309.0160	34.10	Q	|	|	|	V|
24+20	309.2109	28.30	Q	|	|	|	V|
24+25	309.3608	21.78	Q	|	|	|	V|
24+30	309.4794	17.22	Q	|	|	|	V|
24+35	309.5775	14.24	Q	|	|	|	V|
24+40	309.6605	12.06	Q	|	|	|	V|
24+45	309.7315	10.31	Q	|	|	|	V|
24+50	309.7928	8.89	Q	|	|	|	V|
24+55	309.8460	7.73	Q	|	|	|	V|
25+ 0	309.8925	6.75	Q	|	|	|	V|
25+ 5	309.9332	5.91	Q	|	|	|	V|
25+10	309.9687	5.15	Q	|	|	|	V|
25+15	309.9997	4.50	Q	|	|	|	V|
25+20	310.0270	3.97	Q	|	|	|	V|
25+25	310.0511	3.50	Q	|	|	|	V|
25+30	310.0723	3.08	Q	|	|	|	V|
25+35	310.0909	2.70	Q	|	|	|	V|
25+40	310.1071	2.35	Q	|	|	|	V|
25+45	310.1213	2.07	Q	|	|	|	V|
25+50	310.1338	1.81	Q	|	|	|	V|
25+55	310.1445	1.57	Q	|	|	|	V|

```
   26+ 0     310.1539      1.36  Q         |          |          |         V|
   26+ 5     310.1620      1.17  Q         |          |          |         V|
   26+10     310.1690      1.02  Q         |          |          |         V|
   26+15     310.1751      0.88  Q         |          |          |         V|
   26+20     310.1803      0.76  Q         |          |          |         V|
   26+25     310.1850      0.68  Q         |          |          |         V|
   26+30     310.1892      0.60  Q         |          |          |         V|
   26+35     310.1927      0.51  Q         |          |          |         V|
   26+40     310.1956      0.42  Q         |          |          |         V|
   26+45     310.1979      0.34  Q         |          |          |         V|
   26+50     310.1996      0.25  Q         |          |          |         V|
   26+55     310.2008      0.16  Q         |          |          |         V|
   27+ 0     310.2015      0.11  Q         |          |          |         V|
   27+ 5     310.2020      0.07  Q         |          |          |         V|
   27+10     310.2021      0.02  Q         |          |          |          V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/10/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREA "O"
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
155.66	1	1.39
Rainfall data for year 100		
155.66	6	1.95
Rainfall data for year 100		
155.66	24	2.71

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
64.2	82.4	155.66	1.000	0.329	0.900	0.296

Area-averaged adjusted loss rate Fm (In/Hr) = 0.296

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
140.09	0.900	64.2	82.4	2.14	0.435
15.57	0.100	98.0	98.0	0.20	0.915

Area-averaged catchment yield fraction, Y = 0.483
Area-averaged low loss fraction, Yb = 0.517
++
Watercourse length = 4860.00(Ft.)
Length from concentration point to centroid = 2228.00(Ft.)
Elevation difference along watercourse = 170.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 155.66(Ac.)
Catchment Lag time = 0.218 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 38.3033
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.296(In/Hr)
Average low loss rate fraction (Yb) = 0.517 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.712(In)
Specified peak 6-hour rainfall = 1.952(In)
Specified peak 24-hour rainfall = 2.712(In)

Rainfall depth area reduction factors:
Using a total area of 155.66(Ac.) (Ref: fig. E-4)

5-minute factor = 0.993 Adjusted rainfall = 0.655(In)
30-minute factor = 0.993 Adjusted rainfall = 1.121(In)
1-hour factor = 0.993 Adjusted rainfall = 1.380(In)
3-hour factor = 0.999 Adjusted rainfall = 1.710(In)
6-hour factor = 1.000 Adjusted rainfall = 1.951(In)
24-hour factor = 1.000 Adjusted rainfall = 2.711(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1882.51 (CFS))	
1	2.566	48.309
2	16.806	268.065
3	46.592	560.730
4	63.874	325.325
5	73.341	178.221
6	79.667	119.093
7	84.137	84.155
8	87.661	66.337
9	90.214	48.061
10	92.260	38.510

11	93.937	31.563
12	95.267	25.041
13	96.349	20.363
14	97.207	16.165
15	97.834	11.803
16	98.241	7.664
17	98.684	8.334
18	99.144	8.653
19	99.545	7.564
20	99.793	4.664
21	100.000	3.893

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6548	0.6548
2	0.8061	0.1513
3	0.9104	0.1043
4	0.9924	0.0821
5	1.0611	0.0687
6	1.1208	0.0597
7	1.1738	0.0530
8	1.2218	0.0480
9	1.2658	0.0439
10	1.3064	0.0406
11	1.3443	0.0379
12	1.3799	0.0356
13	1.4016	0.0217
14	1.4220	0.0204
15	1.4413	0.0193
16	1.4596	0.0183
17	1.4770	0.0174
18	1.4936	0.0166
19	1.5094	0.0159
20	1.5246	0.0152
21	1.5392	0.0146
22	1.5533	0.0141
23	1.5668	0.0135
24	1.5799	0.0131
25	1.5926	0.0126
26	1.6048	0.0122
27	1.6167	0.0119
28	1.6282	0.0115
29	1.6394	0.0112
30	1.6503	0.0109
31	1.6609	0.0106
32	1.6712	0.0103
33	1.6813	0.0101
34	1.6912	0.0098
35	1.7008	0.0096
36	1.7101	0.0094
37	1.7191	0.0089
38	1.7278	0.0087
39	1.7364	0.0086
40	1.7447	0.0084
41	1.7530	0.0082
42	1.7610	0.0081
43	1.7689	0.0079
44	1.7766	0.0077
45	1.7843	0.0076

46	1.7917	0.0075
47	1.7991	0.0073
48	1.8063	0.0072
49	1.8134	0.0071
50	1.8204	0.0070
51	1.8272	0.0069
52	1.8340	0.0068
53	1.8406	0.0067
54	1.8472	0.0066
55	1.8537	0.0065
56	1.8600	0.0064
57	1.8663	0.0063
58	1.8725	0.0062
59	1.8786	0.0061
60	1.8846	0.0060
61	1.8905	0.0059
62	1.8964	0.0059
63	1.9021	0.0058
64	1.9078	0.0057
65	1.9135	0.0056
66	1.9190	0.0056
67	1.9245	0.0055
68	1.9300	0.0054
69	1.9353	0.0054
70	1.9406	0.0053
71	1.9459	0.0052
72	1.9511	0.0052
73	1.9575	0.0064
74	1.9638	0.0063
75	1.9701	0.0063
76	1.9763	0.0062
77	1.9824	0.0061
78	1.9885	0.0061
79	1.9945	0.0060
80	2.0005	0.0060
81	2.0064	0.0059
82	2.0122	0.0059
83	2.0180	0.0058
84	2.0238	0.0057
85	2.0295	0.0057
86	2.0351	0.0056
87	2.0407	0.0056
88	2.0463	0.0055
89	2.0517	0.0055
90	2.0572	0.0054
91	2.0626	0.0054
92	2.0680	0.0054
93	2.0733	0.0053
94	2.0785	0.0053
95	2.0838	0.0052
96	2.0890	0.0052
97	2.0941	0.0051
98	2.0992	0.0051
99	2.1043	0.0051
100	2.1093	0.0050
101	2.1143	0.0050
102	2.1192	0.0050
103	2.1242	0.0049
104	2.1290	0.0049

105	2.1339	0.0048
106	2.1387	0.0048
107	2.1435	0.0048
108	2.1482	0.0047
109	2.1529	0.0047
110	2.1576	0.0047
111	2.1622	0.0046
112	2.1668	0.0046
113	2.1714	0.0046
114	2.1760	0.0045
115	2.1805	0.0045
116	2.1850	0.0045
117	2.1894	0.0045
118	2.1938	0.0044
119	2.1982	0.0044
120	2.2026	0.0044
121	2.2070	0.0043
122	2.2113	0.0043
123	2.2156	0.0043
124	2.2198	0.0043
125	2.2241	0.0042
126	2.2283	0.0042
127	2.2325	0.0042
128	2.2366	0.0042
129	2.2408	0.0041
130	2.2449	0.0041
131	2.2490	0.0041
132	2.2530	0.0041
133	2.2571	0.0040
134	2.2611	0.0040
135	2.2651	0.0040
136	2.2690	0.0040
137	2.2730	0.0039
138	2.2769	0.0039
139	2.2808	0.0039
140	2.2847	0.0039
141	2.2886	0.0039
142	2.2924	0.0038
143	2.2962	0.0038
144	2.3000	0.0038
145	2.3038	0.0038
146	2.3076	0.0038
147	2.3113	0.0037
148	2.3151	0.0037
149	2.3188	0.0037
150	2.3224	0.0037
151	2.3261	0.0037
152	2.3298	0.0036
153	2.3334	0.0036
154	2.3370	0.0036
155	2.3406	0.0036
156	2.3442	0.0036
157	2.3477	0.0036
158	2.3513	0.0035
159	2.3548	0.0035
160	2.3583	0.0035
161	2.3618	0.0035
162	2.3653	0.0035
163	2.3687	0.0035

164	2.3722	0.0034
165	2.3756	0.0034
166	2.3790	0.0034
167	2.3824	0.0034
168	2.3858	0.0034
169	2.3891	0.0034
170	2.3925	0.0033
171	2.3958	0.0033
172	2.3991	0.0033
173	2.4025	0.0033
174	2.4057	0.0033
175	2.4090	0.0033
176	2.4123	0.0033
177	2.4155	0.0032
178	2.4188	0.0032
179	2.4220	0.0032
180	2.4252	0.0032
181	2.4284	0.0032
182	2.4316	0.0032
183	2.4347	0.0032
184	2.4379	0.0032
185	2.4410	0.0031
186	2.4441	0.0031
187	2.4472	0.0031
188	2.4504	0.0031
189	2.4534	0.0031
190	2.4565	0.0031
191	2.4596	0.0031
192	2.4626	0.0031
193	2.4657	0.0030
194	2.4687	0.0030
195	2.4717	0.0030
196	2.4747	0.0030
197	2.4777	0.0030
198	2.4807	0.0030
199	2.4837	0.0030
200	2.4866	0.0030
201	2.4896	0.0029
202	2.4925	0.0029
203	2.4954	0.0029
204	2.4983	0.0029
205	2.5012	0.0029
206	2.5041	0.0029
207	2.5070	0.0029
208	2.5099	0.0029
209	2.5127	0.0029
210	2.5156	0.0028
211	2.5184	0.0028
212	2.5212	0.0028
213	2.5241	0.0028
214	2.5269	0.0028
215	2.5297	0.0028
216	2.5325	0.0028
217	2.5352	0.0028
218	2.5380	0.0028
219	2.5408	0.0028
220	2.5435	0.0027
221	2.5463	0.0027
222	2.5490	0.0027

223	2.5517	0.0027
224	2.5544	0.0027
225	2.5571	0.0027
226	2.5598	0.0027
227	2.5625	0.0027
228	2.5652	0.0027
229	2.5678	0.0027
230	2.5705	0.0027
231	2.5732	0.0026
232	2.5758	0.0026
233	2.5784	0.0026
234	2.5810	0.0026
235	2.5837	0.0026
236	2.5863	0.0026
237	2.5889	0.0026
238	2.5915	0.0026
239	2.5940	0.0026
240	2.5966	0.0026
241	2.5992	0.0026
242	2.6017	0.0026
243	2.6043	0.0025
244	2.6068	0.0025
245	2.6094	0.0025
246	2.6119	0.0025
247	2.6144	0.0025
248	2.6169	0.0025
249	2.6194	0.0025
250	2.6219	0.0025
251	2.6244	0.0025
252	2.6269	0.0025
253	2.6293	0.0025
254	2.6318	0.0025
255	2.6343	0.0025
256	2.6367	0.0024
257	2.6391	0.0024
258	2.6416	0.0024
259	2.6440	0.0024
260	2.6464	0.0024
261	2.6488	0.0024
262	2.6512	0.0024
263	2.6536	0.0024
264	2.6560	0.0024
265	2.6584	0.0024
266	2.6608	0.0024
267	2.6632	0.0024
268	2.6655	0.0024
269	2.6679	0.0024
270	2.6702	0.0024
271	2.6726	0.0023
272	2.6749	0.0023
273	2.6773	0.0023
274	2.6796	0.0023
275	2.6819	0.0023
276	2.6842	0.0023
277	2.6865	0.0023
278	2.6888	0.0023
279	2.6911	0.0023
280	2.6934	0.0023
281	2.6957	0.0023

282	2.6980	0.0023
283	2.7002	0.0023
284	2.7025	0.0023
285	2.7047	0.0023
286	2.7070	0.0023
287	2.7092	0.0022
288	2.7115	0.0022

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0022	0.0012	0.0011
2	0.0022	0.0012	0.0011
3	0.0023	0.0012	0.0011
4	0.0023	0.0012	0.0011
5	0.0023	0.0012	0.0011
6	0.0023	0.0012	0.0011
7	0.0023	0.0012	0.0011
8	0.0023	0.0012	0.0011
9	0.0023	0.0012	0.0011
10	0.0023	0.0012	0.0011
11	0.0023	0.0012	0.0011
12	0.0023	0.0012	0.0011
13	0.0024	0.0012	0.0011
14	0.0024	0.0012	0.0011
15	0.0024	0.0012	0.0011
16	0.0024	0.0012	0.0011
17	0.0024	0.0012	0.0012
18	0.0024	0.0012	0.0012
19	0.0024	0.0012	0.0012
20	0.0024	0.0013	0.0012
21	0.0024	0.0013	0.0012
22	0.0024	0.0013	0.0012
23	0.0025	0.0013	0.0012
24	0.0025	0.0013	0.0012
25	0.0025	0.0013	0.0012
26	0.0025	0.0013	0.0012
27	0.0025	0.0013	0.0012
28	0.0025	0.0013	0.0012
29	0.0025	0.0013	0.0012
30	0.0025	0.0013	0.0012
31	0.0025	0.0013	0.0012
32	0.0026	0.0013	0.0012
33	0.0026	0.0013	0.0012
34	0.0026	0.0013	0.0012
35	0.0026	0.0013	0.0013
36	0.0026	0.0013	0.0013
37	0.0026	0.0014	0.0013
38	0.0026	0.0014	0.0013
39	0.0026	0.0014	0.0013
40	0.0027	0.0014	0.0013
41	0.0027	0.0014	0.0013
42	0.0027	0.0014	0.0013
43	0.0027	0.0014	0.0013
44	0.0027	0.0014	0.0013
45	0.0027	0.0014	0.0013
46	0.0027	0.0014	0.0013
47	0.0028	0.0014	0.0013

48	0.0028	0.0014	0.0013
49	0.0028	0.0014	0.0013
50	0.0028	0.0014	0.0014
51	0.0028	0.0015	0.0014
52	0.0028	0.0015	0.0014
53	0.0028	0.0015	0.0014
54	0.0029	0.0015	0.0014
55	0.0029	0.0015	0.0014
56	0.0029	0.0015	0.0014
57	0.0029	0.0015	0.0014
58	0.0029	0.0015	0.0014
59	0.0029	0.0015	0.0014
60	0.0030	0.0015	0.0014
61	0.0030	0.0015	0.0014
62	0.0030	0.0015	0.0014
63	0.0030	0.0016	0.0015
64	0.0030	0.0016	0.0015
65	0.0031	0.0016	0.0015
66	0.0031	0.0016	0.0015
67	0.0031	0.0016	0.0015
68	0.0031	0.0016	0.0015
69	0.0031	0.0016	0.0015
70	0.0031	0.0016	0.0015
71	0.0032	0.0016	0.0015
72	0.0032	0.0016	0.0015
73	0.0032	0.0017	0.0015
74	0.0032	0.0017	0.0016
75	0.0032	0.0017	0.0016
76	0.0033	0.0017	0.0016
77	0.0033	0.0017	0.0016
78	0.0033	0.0017	0.0016
79	0.0033	0.0017	0.0016
80	0.0033	0.0017	0.0016
81	0.0034	0.0017	0.0016
82	0.0034	0.0018	0.0016
83	0.0034	0.0018	0.0017
84	0.0034	0.0018	0.0017
85	0.0035	0.0018	0.0017
86	0.0035	0.0018	0.0017
87	0.0035	0.0018	0.0017
88	0.0035	0.0018	0.0017
89	0.0036	0.0019	0.0017
90	0.0036	0.0019	0.0017
91	0.0036	0.0019	0.0018
92	0.0036	0.0019	0.0018
93	0.0037	0.0019	0.0018
94	0.0037	0.0019	0.0018
95	0.0037	0.0019	0.0018
96	0.0038	0.0019	0.0018
97	0.0038	0.0020	0.0018
98	0.0038	0.0020	0.0018
99	0.0039	0.0020	0.0019
100	0.0039	0.0020	0.0019
101	0.0039	0.0020	0.0019
102	0.0039	0.0020	0.0019
103	0.0040	0.0021	0.0019
104	0.0040	0.0021	0.0019
105	0.0041	0.0021	0.0020
106	0.0041	0.0021	0.0020

107	0.0041	0.0021	0.0020
108	0.0042	0.0022	0.0020
109	0.0042	0.0022	0.0020
110	0.0042	0.0022	0.0020
111	0.0043	0.0022	0.0021
112	0.0043	0.0022	0.0021
113	0.0044	0.0023	0.0021
114	0.0044	0.0023	0.0021
115	0.0045	0.0023	0.0022
116	0.0045	0.0023	0.0022
117	0.0045	0.0024	0.0022
118	0.0046	0.0024	0.0022
119	0.0046	0.0024	0.0022
120	0.0047	0.0024	0.0023
121	0.0047	0.0025	0.0023
122	0.0048	0.0025	0.0023
123	0.0048	0.0025	0.0023
124	0.0049	0.0025	0.0024
125	0.0050	0.0026	0.0024
126	0.0050	0.0026	0.0024
127	0.0051	0.0026	0.0024
128	0.0051	0.0026	0.0025
129	0.0052	0.0027	0.0025
130	0.0052	0.0027	0.0025
131	0.0053	0.0027	0.0026
132	0.0054	0.0028	0.0026
133	0.0054	0.0028	0.0026
134	0.0055	0.0028	0.0027
135	0.0056	0.0029	0.0027
136	0.0056	0.0029	0.0027
137	0.0057	0.0030	0.0028
138	0.0058	0.0030	0.0028
139	0.0059	0.0031	0.0029
140	0.0060	0.0031	0.0029
141	0.0061	0.0031	0.0029
142	0.0061	0.0032	0.0030
143	0.0063	0.0032	0.0030
144	0.0063	0.0033	0.0031
145	0.0052	0.0027	0.0025
146	0.0052	0.0027	0.0025
147	0.0054	0.0028	0.0026
148	0.0054	0.0028	0.0026
149	0.0056	0.0029	0.0027
150	0.0056	0.0029	0.0027
151	0.0058	0.0030	0.0028
152	0.0059	0.0030	0.0028
153	0.0060	0.0031	0.0029
154	0.0061	0.0032	0.0029
155	0.0063	0.0032	0.0030
156	0.0064	0.0033	0.0031
157	0.0066	0.0034	0.0032
158	0.0067	0.0034	0.0032
159	0.0069	0.0036	0.0033
160	0.0070	0.0036	0.0034
161	0.0072	0.0037	0.0035
162	0.0073	0.0038	0.0035
163	0.0076	0.0039	0.0037
164	0.0077	0.0040	0.0037
165	0.0081	0.0042	0.0039

166	0.0082	0.0042	0.0040
167	0.0086	0.0044	0.0041
168	0.0087	0.0045	0.0042
169	0.0094	0.0049	0.0045
170	0.0096	0.0050	0.0046
171	0.0101	0.0052	0.0049
172	0.0103	0.0053	0.0050
173	0.0109	0.0056	0.0053
174	0.0112	0.0058	0.0054
175	0.0119	0.0061	0.0057
176	0.0122	0.0063	0.0059
177	0.0131	0.0068	0.0063
178	0.0135	0.0070	0.0065
179	0.0146	0.0076	0.0070
180	0.0152	0.0079	0.0073
181	0.0166	0.0086	0.0080
182	0.0174	0.0090	0.0084
183	0.0193	0.0100	0.0093
184	0.0204	0.0106	0.0099
185	0.0356	0.0184	0.0172
186	0.0379	0.0196	0.0183
187	0.0439	0.0227	0.0212
188	0.0480	0.0247	0.0233
189	0.0597	0.0247	0.0350
190	0.0687	0.0247	0.0440
191	0.1043	0.0247	0.0796
192	0.1513	0.0247	0.1267
193	0.6548	0.0247	0.6301
194	0.0821	0.0247	0.0574
195	0.0530	0.0247	0.0284
196	0.0406	0.0210	0.0196
197	0.0217	0.0113	0.0105
198	0.0183	0.0095	0.0088
199	0.0159	0.0082	0.0077
200	0.0141	0.0073	0.0068
201	0.0126	0.0065	0.0061
202	0.0115	0.0060	0.0056
203	0.0106	0.0055	0.0051
204	0.0098	0.0051	0.0047
205	0.0089	0.0046	0.0043
206	0.0084	0.0043	0.0040
207	0.0079	0.0041	0.0038
208	0.0075	0.0039	0.0036
209	0.0071	0.0037	0.0034
210	0.0068	0.0035	0.0033
211	0.0065	0.0033	0.0031
212	0.0062	0.0032	0.0030
213	0.0059	0.0031	0.0029
214	0.0057	0.0030	0.0028
215	0.0055	0.0028	0.0027
216	0.0053	0.0027	0.0026
217	0.0064	0.0033	0.0031
218	0.0062	0.0032	0.0030
219	0.0060	0.0031	0.0029
220	0.0059	0.0030	0.0028
221	0.0057	0.0029	0.0027
222	0.0055	0.0029	0.0027
223	0.0054	0.0028	0.0026
224	0.0053	0.0027	0.0025

225	0.0051	0.0027	0.0025
226	0.0050	0.0026	0.0024
227	0.0049	0.0025	0.0024
228	0.0048	0.0025	0.0023
229	0.0047	0.0024	0.0023
230	0.0046	0.0024	0.0022
231	0.0045	0.0023	0.0022
232	0.0044	0.0023	0.0021
233	0.0043	0.0022	0.0021
234	0.0043	0.0022	0.0021
235	0.0042	0.0022	0.0020
236	0.0041	0.0021	0.0020
237	0.0040	0.0021	0.0019
238	0.0040	0.0021	0.0019
239	0.0039	0.0020	0.0019
240	0.0038	0.0020	0.0019
241	0.0038	0.0020	0.0018
242	0.0037	0.0019	0.0018
243	0.0037	0.0019	0.0018
244	0.0036	0.0019	0.0017
245	0.0036	0.0018	0.0017
246	0.0035	0.0018	0.0017
247	0.0035	0.0018	0.0017
248	0.0034	0.0018	0.0016
249	0.0034	0.0017	0.0016
250	0.0033	0.0017	0.0016
251	0.0033	0.0017	0.0016
252	0.0032	0.0017	0.0016
253	0.0032	0.0017	0.0015
254	0.0032	0.0016	0.0015
255	0.0031	0.0016	0.0015
256	0.0031	0.0016	0.0015
257	0.0030	0.0016	0.0015
258	0.0030	0.0016	0.0014
259	0.0030	0.0015	0.0014
260	0.0029	0.0015	0.0014
261	0.0029	0.0015	0.0014
262	0.0029	0.0015	0.0014
263	0.0028	0.0015	0.0014
264	0.0028	0.0015	0.0014
265	0.0028	0.0014	0.0013
266	0.0027	0.0014	0.0013
267	0.0027	0.0014	0.0013
268	0.0027	0.0014	0.0013
269	0.0027	0.0014	0.0013
270	0.0026	0.0014	0.0013
271	0.0026	0.0014	0.0013
272	0.0026	0.0013	0.0012
273	0.0026	0.0013	0.0012
274	0.0025	0.0013	0.0012
275	0.0025	0.0013	0.0012
276	0.0025	0.0013	0.0012
277	0.0025	0.0013	0.0012
278	0.0024	0.0013	0.0012
279	0.0024	0.0013	0.0012
280	0.0024	0.0012	0.0012
281	0.0024	0.0012	0.0012
282	0.0024	0.0012	0.0011
283	0.0023	0.0012	0.0011

284	0.0023	0.0012	0.0011
285	0.0023	0.0012	0.0011
286	0.0023	0.0012	0.0011
287	0.0023	0.0012	0.0011
288	0.0023	0.0012	0.0011

Total soil rain loss = 0.97(In)
Total effective rainfall = 1.74(In)
Peak flow rate in flood hydrograph = 438.36(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	125.0	250.0	375.0	500.0
0+ 5	0.0004	0.05	Q				
0+10	0.0027	0.34	Q				
0+15	0.0092	0.95	Q				
0+20	0.0182	1.30	Q				
0+25	0.0286	1.50	Q				
0+30	0.0398	1.64	Q				
0+35	0.0518	1.73	Q				
0+40	0.0642	1.81	Q				
0+45	0.0771	1.87	Q				
0+50	0.0903	1.92	Q				
0+55	0.1039	1.96	Q				
1+ 0	0.1176	2.00	Q				
1+ 5	0.1316	2.03	Q				
1+10	0.1457	2.05	Q				
1+15	0.1600	2.07	Q				
1+20	0.1744	2.09	Q				
1+25	0.1889	2.11	Q				
1+30	0.2036	2.13	Q				
1+35	0.2184	2.15	Q				
1+40	0.2332	2.16	Q				
1+45	0.2482	2.17	Q				
1+50	0.2632	2.18	Q				
1+55	0.2783	2.19	Q				
2+ 0	0.2935	2.20	Q				
2+ 5	0.3087	2.21	Q				
2+10	0.3240	2.22	Q				
2+15	0.3394	2.23	Q				
2+20	0.3548	2.24	Q				
2+25	0.3704	2.25	Q				
2+30	0.3859	2.26	Q				
2+35	0.4016	2.27	Q				
2+40	0.4173	2.28	Q				
2+45	0.4331	2.29	Q				
2+50	0.4490	2.30	Q				
2+55	0.4649	2.32	Q				
3+ 0	0.4809	2.33	Q				
3+ 5	0.4970	2.34	Q				
3+10	0.5132	2.35	Q				
3+15	0.5295	2.36	Q				

3+20	0.5458	2.37	Q				
3+25	0.5622	2.38	Q				
3+30	0.5787	2.39	QV				
3+35	0.5953	2.41	QV				
3+40	0.6119	2.42	QV				
3+45	0.6287	2.43	QV				
3+50	0.6455	2.44	QV				
3+55	0.6624	2.46	QV				
4+ 0	0.6794	2.47	QV				
4+ 5	0.6965	2.48	QV				
4+10	0.7137	2.49	QV				
4+15	0.7310	2.51	QV				
4+20	0.7483	2.52	QV				
4+25	0.7658	2.53	QV				
4+30	0.7833	2.55	QV				
4+35	0.8009	2.56	QV				
4+40	0.8187	2.57	QV				
4+45	0.8365	2.59	QV				
4+50	0.8544	2.60	QV				
4+55	0.8725	2.62	QV				
5+ 0	0.8906	2.63	QV				
5+ 5	0.9088	2.65	QV				
5+10	0.9271	2.66	QV				
5+15	0.9456	2.68	QV				
5+20	0.9641	2.69	QV				
5+25	0.9828	2.71	QV				
5+30	1.0015	2.72	QV				
5+35	1.0204	2.74	QV				
5+40	1.0394	2.76	QV				
5+45	1.0585	2.77	QV				
5+50	1.0777	2.79	QV				
5+55	1.0970	2.81	QV				
6+ 0	1.1164	2.82	QV				
6+ 5	1.1360	2.84	Q V				
6+10	1.1557	2.86	Q V				
6+15	1.1755	2.88	Q V				
6+20	1.1954	2.89	Q V				
6+25	1.2155	2.91	Q V				
6+30	1.2357	2.93	Q V				
6+35	1.2560	2.95	Q V				
6+40	1.2765	2.97	Q V				
6+45	1.2971	2.99	Q V				
6+50	1.3178	3.01	Q V				
6+55	1.3386	3.03	Q V				
7+ 0	1.3597	3.05	Q V				
7+ 5	1.3808	3.07	Q V				
7+10	1.4021	3.09	Q V				
7+15	1.4235	3.11	Q V				
7+20	1.4451	3.14	Q V				
7+25	1.4669	3.16	Q V				
7+30	1.4888	3.18	Q V				
7+35	1.5108	3.20	Q V				
7+40	1.5331	3.23	Q V				
7+45	1.5554	3.25	Q V				
7+50	1.5780	3.27	Q V				
7+55	1.6007	3.30	Q V				
8+ 0	1.6236	3.32	Q V				
8+ 5	1.6467	3.35	Q V				
8+10	1.6699	3.37	Q V				

8+15	1.6934	3.40	Q V	|	|	|	|
8+20	1.7170	3.43	Q V	|	|	|	|
8+25	1.7408	3.46	Q V	|	|	|	|
8+30	1.7648	3.48	Q V	|	|	|	|
8+35	1.7889	3.51	Q V	|	|	|	|
8+40	1.8133	3.54	Q V	|	|	|	|
8+45	1.8379	3.57	Q V	|	|	|	|
8+50	1.8627	3.60	Q V	|	|	|	|
8+55	1.8877	3.63	Q V	|	|	|	|
9+ 0	1.9129	3.66	Q V	|	|	|	|
9+ 5	1.9384	3.69	Q V	|	|	|	|
9+10	1.9641	3.73	Q V	|	|	|	|
9+15	1.9900	3.76	Q V	|	|	|	|
9+20	2.0161	3.79	Q V	|	|	|	|
9+25	2.0425	3.83	Q V	|	|	|	|
9+30	2.0691	3.86	Q V	|	|	|	|
9+35	2.0959	3.90	Q V	|	|	|	|
9+40	2.1230	3.94	Q V	|	|	|	|
9+45	2.1504	3.98	Q V	|	|	|	|
9+50	2.1780	4.01	Q V	|	|	|	|
9+55	2.2060	4.05	Q V	|	|	|	|
10+ 0	2.2341	4.09	Q V	|	|	|	|
10+ 5	2.2626	4.13	Q V	|	|	|	|
10+10	2.2914	4.18	Q V	|	|	|	|
10+15	2.3204	4.22	Q V	|	|	|	|
10+20	2.3498	4.26	Q V	|	|	|	|
10+25	2.3795	4.31	Q V	|	|	|	|
10+30	2.4095	4.36	Q V	|	|	|	|
10+35	2.4398	4.40	Q V	|	|	|	|
10+40	2.4705	4.45	Q V	|	|	|	|
10+45	2.5015	4.50	Q V	|	|	|	|
10+50	2.5329	4.55	Q V	|	|	|	|
10+55	2.5646	4.61	Q V	|	|	|	|
11+ 0	2.5967	4.66	Q V	|	|	|	|
11+ 5	2.6292	4.72	Q V	|	|	|	|
11+10	2.6621	4.78	Q V	|	|	|	|
11+15	2.6954	4.84	Q V	|	|	|	|
11+20	2.7291	4.90	Q V	|	|	|	|
11+25	2.7633	4.96	Q V	|	|	|	|
11+30	2.7979	5.02	Q V	|	|	|	|
11+35	2.8329	5.09	Q V	|	|	|	|
11+40	2.8684	5.16	Q V	|	|	|	|
11+45	2.9045	5.23	Q V	|	|	|	|
11+50	2.9410	5.30	Q V	|	|	|	|
11+55	2.9780	5.38	Q V	|	|	|	|
12+ 0	3.0156	5.46	Q V	|	|	|	|
12+ 5	3.0535	5.51	Q V	|	|	|	|
12+10	3.0909	5.42	Q V	|	|	|	|
12+15	3.1264	5.16	Q V	|	|	|	|
12+20	3.1611	5.04	Q V	|	|	|	|
12+25	3.1957	5.02	Q V	|	|	|	|
12+30	3.2303	5.03	Q V	|	|	|	|
12+35	3.2652	5.07	Q V	|	|	|	|
12+40	3.3004	5.11	Q V	|	|	|	|
12+45	3.3361	5.18	Q V	|	|	|	|
12+50	3.3723	5.25	Q V	|	|	|	|
12+55	3.4090	5.34	Q V	|	|	|	|
13+ 0	3.4464	5.43	Q V	|	|	|	|
13+ 5	3.4844	5.53	Q V	|	|	|	|

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13+10       3.5232      5.63  Q     V   |          |          |          |
13+15       3.5628      5.75  Q     V   |          |          |          |
13+20       3.6032      5.87  Q     V   |          |          |          |
13+25       3.6445      6.00  Q     V   |          |          |          |
13+30       3.6868      6.13  Q     V   |          |          |          |
13+35       3.7300      6.28  Q     V   |          |          |          |
13+40       3.7743      6.43  Q     V   |          |          |          |
13+45       3.8197      6.60  Q     V   |          |          |          |
13+50       3.8664      6.77  Q     V   |          |          |          |
13+55       3.9143      6.96  Q     V   |          |          |          |
14+ 0       3.9636      7.16  Q      V  |          |          |          |
14+ 5       4.0145      7.38  Q      V  |          |          |          |
14+10       4.0671      7.64  Q      V  |          |          |          |
14+15       4.1219      7.96  Q      V  |          |          |          |
14+20       4.1787      8.25  Q      V  |          |          |          |
14+25       4.2377      8.57  Q      V  |          |          |          |
14+30       4.2989      8.89  Q      V  |          |          |          |
14+35       4.3626      9.25  Q      V  |          |          |          |
14+40       4.4288      9.62  Q      V  |          |          |          |
14+45       4.4980     10.04  Q      V  |          |          |          |
14+50       4.5701     10.48  Q       V |          |          |          |
14+55       4.6458     10.99  Q       V |          |          |          |
15+ 0       4.7253     11.54  Q       V |          |          |          |
15+ 5       4.8091     12.18  Q       V |          |          |          |
15+10       4.8977     12.87  |Q      V |          |          |          |
15+15       4.9920     13.69  |Q      V |          |          |          |
15+20       5.0926     14.61  |Q       V|          |          |          |
15+25       5.2029     16.02  |Q       V|          |          |          |
15+30       5.3331     18.90  |Q       V|          |          |          |
15+35       5.4981     23.97  |Q       V|          |          |          |
15+40       5.6924     28.21  | Q       V          |          |          |
15+45       5.9190     32.89  | Q       V          |          |          |
15+50       6.1933     39.84  |  Q      V          |          |          |
15+55       6.5558     52.63  |   Q     |V         |          |          |
16+ 0       7.0705     74.73  |    Q    | V        |          |          |
16+ 5       8.0184    137.65  |         |Q  V      |          |          |
16+10       9.9928    286.67  |         |      V   | Q        |          |
16+15      13.0118    438.36  |         |          |  V       |    Q     |
16+20      14.9914    287.44  |         |          | Q   V    |          |
16+25      16.2444    181.94  |         |   Q      |       V  |          |
16+30      17.1431    130.48  |         Q          |          V          |
16+35      17.8097     96.79  |      Q  |          |          |V         |
16+40      18.3407     77.11  |     Q   |          |          | V        |
16+45      18.7560     60.29  |   Q     |          |          |  V       |
16+50      19.0997     49.91  |  Q      |          |          |  V       |
16+55      19.3894     42.07  |  Q      |          |          |   V      |
17+ 0      19.6317     35.17  | Q       |          |          |   V      |
17+ 5      19.8371     29.83  | Q       |          |          |    V     |
17+10      20.0100     25.10  | Q       |          |          |    V     |
17+15      20.1526     20.71  |Q        |          |          |    V     |
17+20      20.2701     17.05  |Q        |          |          |    V     |
17+25      20.3825     16.33  |Q        |          |          |     V    |
17+30      20.4889     15.45  |Q        |          |          |     V    |
17+35      20.5836     13.75  |Q        |          |          |     V    |
17+40      20.6602     11.12  Q         |          |          |     V    |
17+45      20.7266      9.65  Q         |          |          |     V    |
17+50      20.7734      6.79  Q         |          |          |     V    |
17+55      20.8164      6.25  Q         |          |          |     V    |
18+ 0      20.8569      5.88  Q         |          |          |     V    |
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18+ 5	20.8955	5.60	Q				V
18+10	20.9335	5.52	Q				V
18+15	20.9724	5.65	Q				V
18+20	21.0113	5.64	Q				V
18+25	21.0495	5.56	Q				V
18+30	21.0870	5.45	Q				V
18+35	21.1238	5.33	Q				V
18+40	21.1597	5.21	Q				V
18+45	21.1948	5.10	Q				V
18+50	21.2291	4.98	Q				V
18+55	21.2626	4.87	Q				V
19+ 0	21.2954	4.76	Q				V
19+ 5	21.3275	4.66	Q				V
19+10	21.3589	4.56	Q				V
19+15	21.3896	4.46	Q				V
19+20	21.4197	4.37	Q				V
19+25	21.4492	4.28	Q				V
19+30	21.4781	4.19	Q				V
19+35	21.5064	4.11	Q				V
19+40	21.5342	4.04	Q				V
19+45	21.5615	3.96	Q				V
19+50	21.5882	3.88	Q				V
19+55	21.6145	3.81	Q				V
20+ 0	21.6403	3.75	Q				V
20+ 5	21.6656	3.68	Q				V
20+10	21.6905	3.62	Q				V
20+15	21.7150	3.56	Q				V
20+20	21.7391	3.50	Q				V
20+25	21.7628	3.44	Q				V
20+30	21.7861	3.39	Q				V
20+35	21.8091	3.34	Q				V
20+40	21.8317	3.29	Q				V
20+45	21.8540	3.24	Q				V
20+50	21.8760	3.19	Q				V
20+55	21.8977	3.15	Q				V
21+ 0	21.9190	3.10	Q				V
21+ 5	21.9401	3.06	Q				V
21+10	21.9609	3.02	Q				V
21+15	21.9814	2.98	Q				V
21+20	22.0016	2.94	Q				V
21+25	22.0216	2.90	Q				V
21+30	22.0414	2.87	Q				V
21+35	22.0609	2.83	Q				V
21+40	22.0801	2.80	Q				V
21+45	22.0991	2.76	Q				V
21+50	22.1179	2.73	Q				V
21+55	22.1365	2.70	Q				V
22+ 0	22.1549	2.67	Q				V
22+ 5	22.1731	2.64	Q				V
22+10	22.1910	2.61	Q				V
22+15	22.2088	2.58	Q				V
22+20	22.2264	2.55	Q				V
22+25	22.2437	2.52	Q				V
22+30	22.2610	2.50	Q				V
22+35	22.2780	2.47	Q				V
22+40	22.2948	2.45	Q				V
22+45	22.3115	2.42	Q				V
22+50	22.3280	2.40	Q				V
22+55	22.3444	2.38	Q				V

23+ 0	22.3606	2.35	Q	|	|	|	V|
23+ 5	22.3767	2.33	Q	|	|	|	V|
23+10	22.3925	2.31	Q	|	|	|	V|
23+15	22.4083	2.29	Q	|	|	|	V|
23+20	22.4239	2.27	Q	|	|	|	V|
23+25	22.4394	2.24	Q	|	|	|	V|
23+30	22.4547	2.22	Q	|	|	|	V|
23+35	22.4699	2.20	Q	|	|	|	V|
23+40	22.4849	2.19	Q	|	|	|	V|
23+45	22.4998	2.17	Q	|	|	|	V|
23+50	22.5146	2.15	Q	|	|	|	V|
23+55	22.5293	2.13	Q	|	|	|	V|
24+ 0	22.5438	2.11	Q	|	|	|	V|
24+ 5	22.5579	2.04	Q	|	|	|	V|
24+10	22.5699	1.74	Q	|	|	|	V|
24+15	22.5776	1.12	Q	|	|	|	V|
24+20	22.5828	0.76	Q	|	|	|	V|
24+25	22.5867	0.56	Q	|	|	|	V|
24+30	22.5896	0.43	Q	|	|	|	V|
24+35	22.5919	0.33	Q	|	|	|	V|
24+40	22.5937	0.26	Q	|	|	|	V|
24+45	22.5951	0.21	Q	|	|	|	V|
24+50	22.5962	0.16	Q	|	|	|	V|
24+55	22.5971	0.13	Q	|	|	|	V|
25+ 0	22.5978	0.10	Q	|	|	|	V|
25+ 5	22.5983	0.08	Q	|	|	|	V|
25+10	22.5987	0.06	Q	|	|	|	V|
25+15	22.5990	0.05	Q	|	|	|	V|
25+20	22.5993	0.04	Q	|	|	|	V|
25+25	22.5995	0.03	Q	|	|	|	V|
25+30	22.5996	0.02	Q	|	|	|	V|
25+35	22.5996	0.01	Q	|	|	|	V|
25+40	22.5997	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/06/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREA "P"
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-16-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3782.66	1	1.29
Rainfall data for year 100		
3782.66	6	2.16
Rainfall data for year 100		
3782.66	24	3.27

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
87.0	97.4	3782.66	1.000	0.051	0.981	0.050

Area-averaged adjusted loss rate Fm (In/Hr) = 0.050

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3709.28	0.981	87.0	97.4	0.27	0.908
73.38	0.019	98.0	98.0	0.20	0.929

Area-averaged catchment yield fraction, Y = 0.909
Area-averaged low loss fraction, Yb = 0.091
++
Watercourse length = 35115.00(Ft.)
Length from concentration point to centroid = 20362.00(Ft.)
Elevation difference along watercourse = 2044.90(Ft.)
Mannings friction factor along watercourse = 0.030
Watershed area = 3782.66(Ac.)
Catchment Lag time = 0.832 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 10.0169
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.050(In/Hr)
Average low loss rate fraction (Yb) = 0.091 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.170
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.830

Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.770(In)
Specified peak 6-hour rainfall = 2.160(In)
Specified peak 24-hour rainfall = 3.270(In)

Rainfall depth area reduction factors:
Using a total area of 3782.66(Ac.) (Ref: fig. E-4)

5-minute factor = 0.831 Adjusted rainfall = 0.509(In)
30-minute factor = 0.831 Adjusted rainfall = 0.871(In)
1-hour factor = 0.831 Adjusted rainfall = 1.072(In)
3-hour factor = 0.978 Adjusted rainfall = 1.730(In)
6-hour factor = 0.989 Adjusted rainfall = 2.135(In)
24-hour factor = 0.995 Adjusted rainfall = 3.254(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 45746.54 (CFS))	
1	0.474	216.686
2	1.623	525.660
3	3.400	813.175
4	5.787	1091.995
5	8.853	1402.404

6	13.492	2122.091
7	20.491	3201.751
8	29.652	4190.896
9	38.141	3883.423
10	46.231	3700.946
11	52.842	3024.301
12	57.803	2269.453
13	61.701	1783.477
14	64.962	1491.412
15	67.802	1299.220
16	70.337	1159.998
17	72.634	1050.683
18	74.667	929.813
19	76.472	826.111
20	78.199	790.060
21	79.714	692.687
22	81.056	614.223
23	82.364	598.309
24	83.492	515.984
25	84.594	504.189
26	85.620	469.420
27	86.582	439.909
28	87.520	428.964
29	88.338	374.133
30	89.139	366.478
31	89.834	317.956
32	90.442	278.059
33	91.040	273.799
34	91.593	253.124
35	92.141	250.318
36	92.643	229.951
37	93.110	213.723
38	93.569	209.826
39	93.988	191.503
40	94.401	189.046
41	94.752	160.618
42	95.055	138.663
43	95.358	138.663
44	95.661	138.663
45	95.964	138.571
46	96.227	120.334
47	96.461	106.678
48	96.694	106.678
49	96.927	106.678
50	97.160	106.559
51	97.350	87.195
52	97.510	73.135
53	97.670	73.135
54	97.830	73.135
55	97.990	73.011
56	98.112	56.145
57	98.209	44.266
58	98.306	44.266
59	98.403	44.266
60	98.499	44.289
61	98.602	46.943
62	98.709	48.757
63	98.815	48.757
64	98.922	48.757

65	99.028	48.747
66	99.133	47.816
67	99.236	47.199
68	99.339	47.199
69	99.442	47.199
70	99.547	47.641
71	99.617	32.275
72	99.669	23.771
73	99.721	23.771
74	99.773	23.771
75	99.825	23.771
76	99.877	23.771
77	99.929	23.771
78	100.000	11.886

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5086	0.5086
2	0.6262	0.1176
3	0.7071	0.0810
4	0.7709	0.0637
5	0.8243	0.0534
6	0.8706	0.0463
7	0.9118	0.0412
8	0.9491	0.0373
9	0.9832	0.0341
10	1.0148	0.0316
11	1.0442	0.0294
12	1.0718	0.0276
13	1.1099	0.0381
14	1.1463	0.0364
15	1.1814	0.0350
16	1.2151	0.0337
17	1.2476	0.0325
18	1.2791	0.0315
19	1.3096	0.0305
20	1.3392	0.0296
21	1.3680	0.0288
22	1.3960	0.0280
23	1.4234	0.0273
24	1.4500	0.0267
25	1.4761	0.0260
26	1.5015	0.0255
27	1.5264	0.0249
28	1.5508	0.0244
29	1.5747	0.0239
30	1.5982	0.0234
31	1.6212	0.0230
32	1.6438	0.0226
33	1.6660	0.0222
34	1.6878	0.0218
35	1.7093	0.0215
36	1.7304	0.0211
37	1.7448	0.0144
38	1.7590	0.0142
39	1.7729	0.0139
40	1.7866	0.0137
41	1.8000	0.0134
42	1.8132	0.0132

43	1.8262	0.0130
44	1.8390	0.0128
45	1.8516	0.0126
46	1.8640	0.0124
47	1.8762	0.0122
48	1.8882	0.0120
49	1.9000	0.0118
50	1.9117	0.0117
51	1.9232	0.0115
52	1.9346	0.0114
53	1.9458	0.0112
54	1.9568	0.0111
55	1.9678	0.0109
56	1.9785	0.0108
57	1.9892	0.0106
58	1.9997	0.0105
59	2.0101	0.0104
60	2.0204	0.0103
61	2.0305	0.0102
62	2.0406	0.0100
63	2.0505	0.0099
64	2.0603	0.0098
65	2.0700	0.0097
66	2.0796	0.0096
67	2.0891	0.0095
68	2.0986	0.0094
69	2.1079	0.0093
70	2.1171	0.0092
71	2.1262	0.0091
72	2.1353	0.0090
73	2.1442	0.0090
74	2.1531	0.0089
75	2.1619	0.0088
76	2.1706	0.0087
77	2.1793	0.0086
78	2.1878	0.0086
79	2.1963	0.0085
80	2.2047	0.0084
81	2.2131	0.0083
82	2.2213	0.0083
83	2.2295	0.0082
84	2.2377	0.0081
85	2.2457	0.0081
86	2.2537	0.0080
87	2.2616	0.0079
88	2.2695	0.0079
89	2.2773	0.0078
90	2.2851	0.0077
91	2.2928	0.0077
92	2.3004	0.0076
93	2.3080	0.0076
94	2.3155	0.0075
95	2.3229	0.0075
96	2.3303	0.0074
97	2.3377	0.0074
98	2.3450	0.0073
99	2.3522	0.0072
100	2.3594	0.0072
101	2.3666	0.0071

102	2.3737	0.0071
103	2.3807	0.0070
104	2.3877	0.0070
105	2.3947	0.0070
106	2.4016	0.0069
107	2.4084	0.0069
108	2.4152	0.0068
109	2.4220	0.0068
110	2.4288	0.0067
111	2.4354	0.0067
112	2.4421	0.0066
113	2.4487	0.0066
114	2.4553	0.0066
115	2.4618	0.0065
116	2.4683	0.0065
117	2.4747	0.0064
118	2.4811	0.0064
119	2.4875	0.0064
120	2.4938	0.0063
121	2.5001	0.0063
122	2.5064	0.0063
123	2.5126	0.0062
124	2.5188	0.0062
125	2.5250	0.0062
126	2.5311	0.0061
127	2.5372	0.0061
128	2.5432	0.0061
129	2.5492	0.0060
130	2.5552	0.0060
131	2.5612	0.0060
132	2.5671	0.0059
133	2.5730	0.0059
134	2.5789	0.0059
135	2.5847	0.0058
136	2.5905	0.0058
137	2.5963	0.0058
138	2.6020	0.0057
139	2.6077	0.0057
140	2.6134	0.0057
141	2.6191	0.0057
142	2.6247	0.0056
143	2.6303	0.0056
144	2.6359	0.0056
145	2.6415	0.0055
146	2.6470	0.0055
147	2.6525	0.0055
148	2.6579	0.0055
149	2.6634	0.0054
150	2.6688	0.0054
151	2.6742	0.0054
152	2.6796	0.0054
153	2.6849	0.0053
154	2.6902	0.0053
155	2.6955	0.0053
156	2.7008	0.0053
157	2.7061	0.0052
158	2.7113	0.0052
159	2.7165	0.0052
160	2.7217	0.0052

161	2.7268	0.0052
162	2.7320	0.0051
163	2.7371	0.0051
164	2.7422	0.0051
165	2.7472	0.0051
166	2.7523	0.0050
167	2.7573	0.0050
168	2.7623	0.0050
169	2.7673	0.0050
170	2.7723	0.0050
171	2.7772	0.0049
172	2.7821	0.0049
173	2.7871	0.0049
174	2.7919	0.0049
175	2.7968	0.0049
176	2.8016	0.0048
177	2.8065	0.0048
178	2.8113	0.0048
179	2.8161	0.0048
180	2.8208	0.0048
181	2.8256	0.0048
182	2.8303	0.0047
183	2.8351	0.0047
184	2.8398	0.0047
185	2.8444	0.0047
186	2.8491	0.0047
187	2.8537	0.0046
188	2.8584	0.0046
189	2.8630	0.0046
190	2.8676	0.0046
191	2.8722	0.0046
192	2.8767	0.0046
193	2.8813	0.0045
194	2.8858	0.0045
195	2.8903	0.0045
196	2.8948	0.0045
197	2.8993	0.0045
198	2.9037	0.0045
199	2.9082	0.0044
200	2.9126	0.0044
201	2.9170	0.0044
202	2.9214	0.0044
203	2.9258	0.0044
204	2.9302	0.0044
205	2.9346	0.0044
206	2.9389	0.0043
207	2.9432	0.0043
208	2.9476	0.0043
209	2.9519	0.0043
210	2.9561	0.0043
211	2.9604	0.0043
212	2.9647	0.0043
213	2.9689	0.0042
214	2.9731	0.0042
215	2.9773	0.0042
216	2.9816	0.0042
217	2.9857	0.0042
218	2.9899	0.0042
219	2.9941	0.0042

220	2.9982	0.0041
221	3.0024	0.0041
222	3.0065	0.0041
223	3.0106	0.0041
224	3.0147	0.0041
225	3.0188	0.0041
226	3.0228	0.0041
227	3.0269	0.0041
228	3.0309	0.0040
229	3.0350	0.0040
230	3.0390	0.0040
231	3.0430	0.0040
232	3.0470	0.0040
233	3.0510	0.0040
234	3.0550	0.0040
235	3.0589	0.0040
236	3.0629	0.0039
237	3.0668	0.0039
238	3.0707	0.0039
239	3.0747	0.0039
240	3.0786	0.0039
241	3.0825	0.0039
242	3.0863	0.0039
243	3.0902	0.0039
244	3.0941	0.0039
245	3.0979	0.0038
246	3.1017	0.0038
247	3.1056	0.0038
248	3.1094	0.0038
249	3.1132	0.0038
250	3.1170	0.0038
251	3.1208	0.0038
252	3.1245	0.0038
253	3.1283	0.0038
254	3.1321	0.0038
255	3.1358	0.0037
256	3.1395	0.0037
257	3.1433	0.0037
258	3.1470	0.0037
259	3.1507	0.0037
260	3.1544	0.0037
261	3.1580	0.0037
262	3.1617	0.0037
263	3.1654	0.0037
264	3.1690	0.0037
265	3.1727	0.0036
266	3.1763	0.0036
267	3.1799	0.0036
268	3.1835	0.0036
269	3.1872	0.0036
270	3.1907	0.0036
271	3.1943	0.0036
272	3.1979	0.0036
273	3.2015	0.0036
274	3.2050	0.0036
275	3.2086	0.0036
276	3.2121	0.0035
277	3.2157	0.0035
278	3.2192	0.0035

279	3.2227	0.0035
280	3.2262	0.0035
281	3.2297	0.0035
282	3.2332	0.0035
283	3.2367	0.0035
284	3.2401	0.0035
285	3.2436	0.0035
286	3.2471	0.0035
287	3.2505	0.0034
288	3.2539	0.0034

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0034	0.0003	0.0031
2	0.0034	0.0003	0.0031
3	0.0035	0.0003	0.0031
4	0.0035	0.0003	0.0032
5	0.0035	0.0003	0.0032
6	0.0035	0.0003	0.0032
7	0.0035	0.0003	0.0032
8	0.0035	0.0003	0.0032
9	0.0035	0.0003	0.0032
10	0.0036	0.0003	0.0032
11	0.0036	0.0003	0.0032
12	0.0036	0.0003	0.0033
13	0.0036	0.0003	0.0033
14	0.0036	0.0003	0.0033
15	0.0036	0.0003	0.0033
16	0.0036	0.0003	0.0033
17	0.0037	0.0003	0.0033
18	0.0037	0.0003	0.0033
19	0.0037	0.0003	0.0033
20	0.0037	0.0003	0.0034
21	0.0037	0.0003	0.0034
22	0.0037	0.0003	0.0034
23	0.0037	0.0003	0.0034
24	0.0038	0.0003	0.0034
25	0.0038	0.0003	0.0034
26	0.0038	0.0003	0.0034
27	0.0038	0.0003	0.0035
28	0.0038	0.0003	0.0035
29	0.0038	0.0004	0.0035
30	0.0038	0.0004	0.0035
31	0.0039	0.0004	0.0035
32	0.0039	0.0004	0.0035
33	0.0039	0.0004	0.0035
34	0.0039	0.0004	0.0036
35	0.0039	0.0004	0.0036
36	0.0039	0.0004	0.0036
37	0.0040	0.0004	0.0036
38	0.0040	0.0004	0.0036
39	0.0040	0.0004	0.0036
40	0.0040	0.0004	0.0037
41	0.0040	0.0004	0.0037
42	0.0041	0.0004	0.0037
43	0.0041	0.0004	0.0037
44	0.0041	0.0004	0.0037

45	0.0041	0.0004	0.0037
46	0.0041	0.0004	0.0038
47	0.0042	0.0004	0.0038
48	0.0042	0.0004	0.0038
49	0.0042	0.0004	0.0038
50	0.0042	0.0004	0.0038
51	0.0042	0.0004	0.0039
52	0.0043	0.0004	0.0039
53	0.0043	0.0004	0.0039
54	0.0043	0.0004	0.0039
55	0.0043	0.0004	0.0039
56	0.0043	0.0004	0.0039
57	0.0044	0.0004	0.0040
58	0.0044	0.0004	0.0040
59	0.0044	0.0004	0.0040
60	0.0044	0.0004	0.0040
61	0.0045	0.0004	0.0041
62	0.0045	0.0004	0.0041
63	0.0045	0.0004	0.0041
64	0.0045	0.0004	0.0041
65	0.0046	0.0004	0.0041
66	0.0046	0.0004	0.0042
67	0.0046	0.0004	0.0042
68	0.0046	0.0004	0.0042
69	0.0047	0.0004	0.0042
70	0.0047	0.0004	0.0043
71	0.0047	0.0004	0.0043
72	0.0047	0.0004	0.0043
73	0.0048	0.0004	0.0043
74	0.0048	0.0004	0.0044
75	0.0048	0.0004	0.0044
76	0.0048	0.0004	0.0044
77	0.0049	0.0004	0.0044
78	0.0049	0.0004	0.0045
79	0.0049	0.0005	0.0045
80	0.0050	0.0005	0.0045
81	0.0050	0.0005	0.0045
82	0.0050	0.0005	0.0046
83	0.0051	0.0005	0.0046
84	0.0051	0.0005	0.0046
85	0.0051	0.0005	0.0047
86	0.0052	0.0005	0.0047
87	0.0052	0.0005	0.0047
88	0.0052	0.0005	0.0047
89	0.0053	0.0005	0.0048
90	0.0053	0.0005	0.0048
91	0.0053	0.0005	0.0049
92	0.0054	0.0005	0.0049
93	0.0054	0.0005	0.0049
94	0.0054	0.0005	0.0049
95	0.0055	0.0005	0.0050
96	0.0055	0.0005	0.0050
97	0.0056	0.0005	0.0051
98	0.0056	0.0005	0.0051
99	0.0057	0.0005	0.0051
100	0.0057	0.0005	0.0052
101	0.0057	0.0005	0.0052
102	0.0058	0.0005	0.0052
103	0.0058	0.0005	0.0053

104	0.0059	0.0005	0.0053
105	0.0059	0.0005	0.0054
106	0.0060	0.0005	0.0054
107	0.0060	0.0005	0.0055
108	0.0061	0.0006	0.0055
109	0.0061	0.0006	0.0056
110	0.0062	0.0006	0.0056
111	0.0062	0.0006	0.0057
112	0.0063	0.0006	0.0057
113	0.0063	0.0006	0.0058
114	0.0064	0.0006	0.0058
115	0.0064	0.0006	0.0059
116	0.0065	0.0006	0.0059
117	0.0066	0.0006	0.0060
118	0.0066	0.0006	0.0060
119	0.0067	0.0006	0.0061
120	0.0067	0.0006	0.0061
121	0.0068	0.0006	0.0062
122	0.0069	0.0006	0.0062
123	0.0070	0.0006	0.0063
124	0.0070	0.0006	0.0064
125	0.0071	0.0006	0.0064
126	0.0071	0.0007	0.0065
127	0.0072	0.0007	0.0066
128	0.0073	0.0007	0.0066
129	0.0074	0.0007	0.0067
130	0.0075	0.0007	0.0068
131	0.0076	0.0007	0.0069
132	0.0076	0.0007	0.0069
133	0.0077	0.0007	0.0070
134	0.0078	0.0007	0.0071
135	0.0079	0.0007	0.0072
136	0.0080	0.0007	0.0073
137	0.0081	0.0007	0.0074
138	0.0082	0.0007	0.0074
139	0.0083	0.0008	0.0076
140	0.0084	0.0008	0.0076
141	0.0086	0.0008	0.0078
142	0.0086	0.0008	0.0079
143	0.0088	0.0008	0.0080
144	0.0089	0.0008	0.0081
145	0.0090	0.0008	0.0082
146	0.0091	0.0008	0.0083
147	0.0093	0.0009	0.0085
148	0.0094	0.0009	0.0085
149	0.0096	0.0009	0.0087
150	0.0097	0.0009	0.0088
151	0.0099	0.0009	0.0090
152	0.0100	0.0009	0.0091
153	0.0103	0.0009	0.0093
154	0.0104	0.0009	0.0094
155	0.0106	0.0010	0.0097
156	0.0108	0.0010	0.0098
157	0.0111	0.0010	0.0101
158	0.0112	0.0010	0.0102
159	0.0115	0.0011	0.0105
160	0.0117	0.0011	0.0106
161	0.0120	0.0011	0.0109
162	0.0122	0.0011	0.0111

163	0.0126	0.0011	0.0114
164	0.0128	0.0012	0.0116
165	0.0132	0.0012	0.0120
166	0.0134	0.0012	0.0122
167	0.0139	0.0013	0.0126
168	0.0142	0.0013	0.0129
169	0.0211	0.0019	0.0192
170	0.0215	0.0020	0.0195
171	0.0222	0.0020	0.0202
172	0.0226	0.0021	0.0205
173	0.0234	0.0021	0.0213
174	0.0239	0.0022	0.0217
175	0.0249	0.0023	0.0226
176	0.0255	0.0023	0.0231
177	0.0267	0.0024	0.0242
178	0.0273	0.0025	0.0248
179	0.0288	0.0026	0.0262
180	0.0296	0.0027	0.0269
181	0.0315	0.0029	0.0286
182	0.0325	0.0030	0.0296
183	0.0350	0.0032	0.0318
184	0.0364	0.0033	0.0331
185	0.0276	0.0025	0.0251
186	0.0294	0.0027	0.0267
187	0.0341	0.0031	0.0310
188	0.0373	0.0034	0.0339
189	0.0463	0.0042	0.0421
190	0.0534	0.0042	0.0492
191	0.0810	0.0042	0.0768
192	0.1176	0.0042	0.1134
193	0.5086	0.0042	0.5044
194	0.0637	0.0042	0.0595
195	0.0412	0.0038	0.0374
196	0.0316	0.0029	0.0287
197	0.0381	0.0035	0.0346
198	0.0337	0.0031	0.0306
199	0.0305	0.0028	0.0277
200	0.0280	0.0026	0.0255
201	0.0260	0.0024	0.0237
202	0.0244	0.0022	0.0222
203	0.0230	0.0021	0.0209
204	0.0218	0.0020	0.0198
205	0.0144	0.0013	0.0131
206	0.0137	0.0012	0.0124
207	0.0130	0.0012	0.0118
208	0.0124	0.0011	0.0113
209	0.0118	0.0011	0.0108
210	0.0114	0.0010	0.0103
211	0.0109	0.0010	0.0099
212	0.0105	0.0010	0.0096
213	0.0102	0.0009	0.0092
214	0.0098	0.0009	0.0089
215	0.0095	0.0009	0.0086
216	0.0092	0.0008	0.0084
217	0.0090	0.0008	0.0082
218	0.0087	0.0008	0.0079
219	0.0085	0.0008	0.0077
220	0.0083	0.0008	0.0075
221	0.0081	0.0007	0.0073

222	0.0079	0.0007	0.0072
223	0.0077	0.0007	0.0070
224	0.0075	0.0007	0.0068
225	0.0074	0.0007	0.0067
226	0.0072	0.0007	0.0065
227	0.0070	0.0006	0.0064
228	0.0069	0.0006	0.0063
229	0.0068	0.0006	0.0062
230	0.0066	0.0006	0.0060
231	0.0065	0.0006	0.0059
232	0.0064	0.0006	0.0058
233	0.0063	0.0006	0.0057
234	0.0062	0.0006	0.0056
235	0.0061	0.0006	0.0055
236	0.0060	0.0005	0.0054
237	0.0059	0.0005	0.0054
238	0.0058	0.0005	0.0053
239	0.0057	0.0005	0.0052
240	0.0056	0.0005	0.0051
241	0.0055	0.0005	0.0050
242	0.0055	0.0005	0.0050
243	0.0054	0.0005	0.0049
244	0.0053	0.0005	0.0048
245	0.0052	0.0005	0.0048
246	0.0052	0.0005	0.0047
247	0.0051	0.0005	0.0046
248	0.0050	0.0005	0.0046
249	0.0050	0.0005	0.0045
250	0.0049	0.0004	0.0045
251	0.0049	0.0004	0.0044
252	0.0048	0.0004	0.0044
253	0.0048	0.0004	0.0043
254	0.0047	0.0004	0.0043
255	0.0046	0.0004	0.0042
256	0.0046	0.0004	0.0042
257	0.0045	0.0004	0.0041
258	0.0045	0.0004	0.0041
259	0.0044	0.0004	0.0040
260	0.0044	0.0004	0.0040
261	0.0044	0.0004	0.0040
262	0.0043	0.0004	0.0039
263	0.0043	0.0004	0.0039
264	0.0042	0.0004	0.0038
265	0.0042	0.0004	0.0038
266	0.0041	0.0004	0.0038
267	0.0041	0.0004	0.0037
268	0.0041	0.0004	0.0037
269	0.0040	0.0004	0.0037
270	0.0040	0.0004	0.0036
271	0.0040	0.0004	0.0036
272	0.0039	0.0004	0.0036
273	0.0039	0.0004	0.0035
274	0.0039	0.0004	0.0035
275	0.0038	0.0003	0.0035
276	0.0038	0.0003	0.0034
277	0.0038	0.0003	0.0034
278	0.0037	0.0003	0.0034
279	0.0037	0.0003	0.0034
280	0.0037	0.0003	0.0033

281	0.0036	0.0003	0.0033
282	0.0036	0.0003	0.0033
283	0.0036	0.0003	0.0033
284	0.0036	0.0003	0.0032
285	0.0035	0.0003	0.0032
286	0.0035	0.0003	0.0032
287	0.0035	0.0003	0.0032
288	0.0035	0.0003	0.0031

Total soil rain loss = 0.24(In)
Total effective rainfall = 3.01(In)
Peak flow rate in flood hydrograph = 3931.07(CFS)

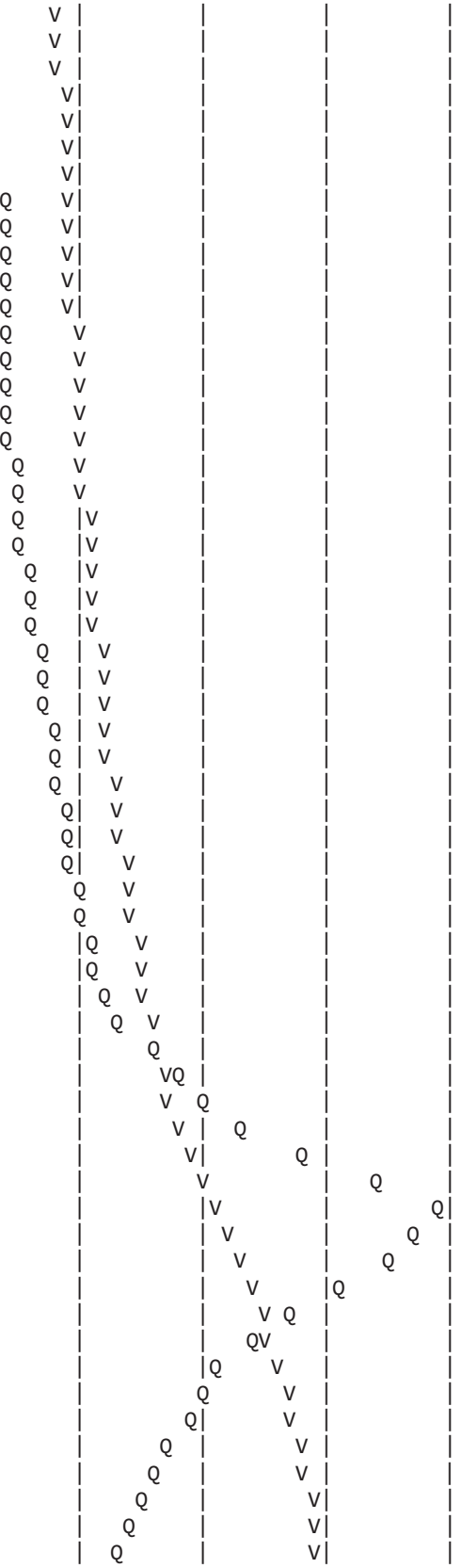
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1000.0	2000.0	3000.0	4000.0
0+ 5	0.0047	0.68	Q				
0+10	0.0206	2.32	Q				
0+15	0.0542	4.87	Q				
0+20	0.1113	8.30	Q				
0+25	0.1988	12.70	Q				
0+30	0.3322	19.38	Q				
0+35	0.5350	29.44	Q				
0+40	0.8287	42.64	Q				
0+45	1.2069	54.92	Q				
0+50	1.6661	66.67	Q				
0+55	2.1919	76.36	Q				
1+ 0	2.7686	83.73	Q				
1+ 5	3.3857	89.61	Q				
1+10	4.0372	94.60	Q				
1+15	4.7190	99.01	Q				
1+20	5.4284	103.00	VQ				
1+25	6.1631	106.67	VQ				
1+30	6.9205	109.98	VQ				
1+35	7.6986	112.98	VQ				
1+40	8.4966	115.88	VQ				
1+45	9.3126	118.48	VQ				
1+50	10.1450	120.86	VQ				
1+55	10.9934	123.19	VQ				
2+ 0	11.8563	125.29	VQ				
2+ 5	12.7333	127.35	VQ				
2+10	13.6239	129.32	VQ				
2+15	14.5275	131.20	VQ				
2+20	15.4440	133.06	VQ				
2+25	16.3721	134.76	VQ				
2+30	17.3118	136.45	VQ				
2+35	18.2621	137.99	VQ				
2+40	19.2223	139.42	VQ				
2+45	20.1923	140.84	VQ				
2+50	21.1717	142.21	VQ				
2+55	22.1605	143.57	VQ				
3+ 0	23.1583	144.89	VQ				

3+ 5	24.1649	146.16	Q			
3+10	25.1802	147.42	Q			
3+15	26.2039	148.64	Q			
3+20	27.2360	149.86	Q			
3+25	28.2759	151.00	Q			
3+30	29.3233	152.08	Q			
3+35	30.3781	153.16	Q			
3+40	31.4406	154.26	Q			
3+45	32.5106	155.36	Q			
3+50	33.5878	156.42	Q			
3+55	34.6721	157.44	Q			
4+ 0	35.7636	158.47	Q			
4+ 5	36.8621	159.51	Q			
4+10	37.9679	160.56	Q			
4+15	39.0806	161.56	Q			
4+20	40.1999	162.52	Q			
4+25	41.3258	163.49	Q			
4+30	42.4586	164.47	Q			
4+35	43.5981	165.46	Q			
4+40	44.7441	166.41	Q			
4+45	45.8965	167.32	Q			
4+50	47.0552	168.25	Q			
4+55	48.2204	169.19	QV			
5+ 0	49.3922	170.14	QV			
5+ 5	50.5706	171.10	QV			
5+10	51.7557	172.08	QV			
5+15	52.9477	173.07	QV			
5+20	54.1466	174.08	QV			
5+25	55.3524	175.09	QV			
5+30	56.5653	176.11	QV			
5+35	57.7853	177.14	QV			
5+40	59.0125	178.19	QV			
5+45	60.2470	179.24	QV			
5+50	61.4888	180.31	QV			
5+55	62.7377	181.34	QV			
6+ 0	63.9936	182.36	QV			
6+ 5	65.2566	183.39	QV			
6+10	66.5267	184.43	QV			
6+15	67.8042	185.48	QV			
6+20	69.0890	186.55	QV			
6+25	70.3812	187.63	QV			
6+30	71.6808	188.69	Q V			
6+35	72.9874	189.73	Q V			
6+40	74.3013	190.78	Q V			
6+45	75.6226	191.84	Q V			
6+50	76.9512	192.92	Q V			
6+55	78.2874	194.01	Q V			
7+ 0	79.6312	195.12	Q V			
7+ 5	80.9827	196.24	Q V			
7+10	82.3422	197.39	Q V			
7+15	83.7095	198.54	Q V			
7+20	85.0850	199.72	Q V			
7+25	86.4686	200.90	QV			
7+30	87.8606	202.12	QV			
7+35	89.2610	203.34	QV			
7+40	90.6700	204.59	QV			
7+45	92.0877	205.85	QV			
7+50	93.5142	207.13	QV			
7+55	94.9497	208.43	Q V			

8+ 0	96.3943	209.76	Q V			
8+ 5	97.8482	211.10	Q V			
8+10	99.3114	212.47	Q V			
8+15	100.7842	213.85	Q V			
8+20	102.2668	215.26	Q V			
8+25	103.7591	216.69	Q V			
8+30	105.2615	218.15	Q V			
8+35	106.7741	219.63	Q V			
8+40	108.2971	221.14	Q V			
8+45	109.8306	222.66	Q V			
8+50	111.3748	224.22	Q V			
8+55	112.9300	225.80	Q V			
9+ 0	114.4962	227.42	Q V			
9+ 5	116.0737	229.06	Q V			
9+10	117.6628	230.73	Q V			
9+15	119.2635	232.43	Q V			
9+20	120.8762	234.16	Q V			
9+25	122.5010	235.92	Q V			
9+30	124.1382	237.72	Q V			
9+35	125.7880	239.55	Q V			
9+40	127.4507	241.42	Q V			
9+45	129.1264	243.31	Q V			
9+50	130.8155	245.26	Q V			
9+55	132.5182	247.23	Q V			
10+ 0	134.2348	249.25	Q V			
10+ 5	135.9656	251.31	Q V			
10+10	137.7109	253.41	Q V			
10+15	139.4709	255.55	Q V			
10+20	141.2460	257.75	Q V			
10+25	143.0365	259.98	Q V			
10+30	144.8427	262.27	Q V			
10+35	146.6651	264.60	Q V			
10+40	148.5039	266.99	Q V			
10+45	150.3594	269.43	Q V			
10+50	152.2323	271.93	Q V			
10+55	154.1226	274.48	Q V			
11+ 0	156.0311	277.10	Q V			
11+ 5	157.9579	279.77	Q V			
11+10	159.9037	282.53	Q V			
11+15	161.8687	285.33	Q V			
11+20	163.8537	288.22	Q V			
11+25	165.8589	291.16	Q V			
11+30	167.8851	294.20	Q V			
11+35	169.9326	297.30	Q V			
11+40	172.0022	300.50	Q V			
11+45	174.0943	303.77	Q V			
11+50	176.2097	307.15	Q V			
11+55	178.3488	310.60	Q V			
12+ 0	180.5125	314.17	Q V			
12+ 5	182.7014	317.82	Q V			
12+10	184.9162	321.60	Q V			
12+15	187.1577	325.46	Q V			
12+20	189.4266	329.46	Q V			
12+25	191.7238	333.55	Q V			
12+30	194.0502	337.79	Q V			
12+35	196.4064	342.12	Q V			
12+40	198.7935	346.61	Q V			
12+45	201.2124	351.23	Q V			
12+50	203.6645	356.04	Q V			

12+55	206.1508	361.01	
13+ 0	208.6728	366.19	
13+ 5	211.2317	371.55	
13+10	213.8291	377.15	
13+15	216.4663	382.93	
13+20	219.1452	388.98	
13+25	221.8673	395.24	
13+30	224.6345	401.80	
13+35	227.4486	408.60	
13+40	230.3119	415.75	
13+45	233.2264	423.18	
13+50	236.1947	431.00	
13+55	239.2192	439.15	
14+ 0	242.3029	447.76	
14+ 5	245.4573	458.01	
14+10	248.6983	470.60	
14+15	252.0410	485.36	
14+20	255.5012	502.42	
14+25	259.0957	521.91	
14+30	262.8590	546.44	
14+35	266.8402	578.06	
14+40	271.0865	616.57	
14+45	275.5935	654.42	
14+50	280.3638	692.64	
14+55	285.3794	728.27	
15+ 0	290.6221	761.23	
15+ 5	296.0832	792.96	
15+10	301.7655	825.07	
15+15	307.6754	858.11	
15+20	313.8258	893.05	
15+25	320.2153	927.74	
15+30	326.8404	961.97	
15+35	333.7021	996.32	
15+40	340.8139	1032.62	
15+45	348.1914	1071.23	
15+50	355.8393	1110.47	
15+55	363.7728	1151.95	
16+ 0	372.0876	1207.31	
16+ 5	381.5742	1377.45	
16+10	392.6073	1602.00	
16+15	405.2281	1832.53	
16+20	419.5759	2083.31	
16+25	435.9768	2381.41	
16+30	455.7650	2873.24	
16+35	479.6894	3473.83	
16+40	506.7629	3931.07	
16+45	532.6586	3760.05	
16+50	557.2534	3571.17	
16+55	578.9624	3152.15	
17+ 0	597.6472	2713.04	
17+ 5	614.2043	2404.08	
17+10	629.3334	2196.74	
17+15	643.3830	2040.01	
17+20	656.5287	1908.75	
17+25	668.8631	1790.95	
17+30	680.3592	1669.24	
17+35	691.0666	1554.70	
17+40	701.1574	1465.18	
17+45	710.5017	1356.80	

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17+50     719.1918   1261.81  |         | Q       |         V         |
17+55     727.4539   1199.66  |         |Q        |         V         |
18+ 0     735.1641   1119.52  |         |Q        |         |V        |
18+ 5     742.5566   1073.40  |         Q         |         |V        |
18+10     749.5933   1021.72  |         Q         |         |V        |
18+15     756.3070    974.84  |        Q|         |         |V        |
18+20     762.7554    936.31  |        Q|         |         | V       |
18+25     768.8304    882.09  |       Q |         |         | V       |
18+30     774.6716    848.14  |       Q |         |         | V       |
18+35     780.1784    799.58  |      Q  |         |         | V       |
18+40     785.3960    757.60  |      Q  |         |         |  V      |
18+45     790.4427    732.79  |      Q  |         |         |  V      |
18+50     795.2886    703.62  |      Q  |         |         |  V      |
18+55     799.9852    681.95  |     Q   |         |         |  V      |
19+ 0     804.4894    654.02  |     Q   |         |         |  V      |
19+ 5     808.8205    628.87  |     Q   |         |         |   V     |
19+10     813.0192    609.66  |     Q   |         |         |   V     |
19+15     817.0507    585.37  |    Q    |         |         |   V     |
19+20     820.9570    567.20  |    Q    |         |         |   V     |
19+25     824.6709    539.25  |    Q    |         |         |   V     |
19+30     828.2237    515.87  |    Q    |         |         |   V     |
19+35     831.6907    503.40  |    Q    |         |         |    V    |
19+40     835.0778    491.81  |   Q     |         |         |    V    |
19+45     838.3798    479.45  |   Q     |         |         |    V    |
19+50     841.5465    459.80  |   Q     |         |         |    V    |
19+55     844.5979    443.08  |   Q     |         |         |    V    |
20+ 0     847.5812    433.16  |   Q     |         |         |    V    |
20+ 5     850.4983    423.57  |   Q     |         |         |    V    |
20+10     853.3432    413.07  |   Q     |         |         |    V    |
20+15     856.0622    394.80  |  Q      |         |         |     V   |
20+20     858.6780    379.82  |  Q      |         |         |     V   |
20+25     861.2380    371.72  |  Q      |         |         |     V   |
20+30     863.7437    363.82  |  Q      |         |         |     V   |
20+35     866.1891    355.08  |  Q      |         |         |     V   |
20+40     868.5276    339.55  |  Q      |         |         |     V   |
20+45     870.7808    327.16  |  Q      |         |         |     V   |
20+50     872.9902    320.80  |  Q      |         |         |     V   |
20+55     875.1609    315.19  |  Q      |         |         |     V   |
21+ 0     877.2950    309.88  |  Q      |         |         |      V  |
21+ 5     879.4009    305.77  |  Q      |         |         |      V  |
21+10     881.4765    301.38  |  Q      |         |         |      V  |
21+15     883.5187    296.53  | Q       |         |         |      V  |
21+20     885.5288    291.87  | Q       |         |         |      V  |
21+25     887.5069    287.22  | Q       |         |         |      V  |
21+30     889.4507    282.24  | Q       |         |         |      V  |
21+35     891.3609    277.36  | Q       |         |         |      V  |
21+40     893.2397    272.79  | Q       |         |         |      V  |
21+45     895.0848    267.91  | Q       |         |         |      V  |
21+50     896.8931    262.57  | Q       |         |         |      V  |
21+55     898.6210    250.88  | Q       |         |         |      V  |
22+ 0     900.2926    242.72  | Q       |         |         |      V  |
22+ 5     901.9362    238.65  | Q       |         |         |       V |
22+10     903.5535    234.84  | Q       |         |         |       V |
22+15     905.1438    230.91  | Q       |         |         |       V |
22+20     906.7048    226.65  | Q       |         |         |       V |
22+25     908.2320    221.76  | Q       |         |         |       V |
22+30     909.6915    211.92  | Q       |         |         |       V |
22+35     911.0884    202.82  | Q       |         |         |       V |
22+40     912.4614    199.37  |Q        |         |         |       V |
```

22+45	913.8139	196.37	|Q	|	|	|	V |
22+50	915.1463	193.48	|Q	|	|	|	V |
22+55	916.4598	190.72	|Q	|	|	|	V |
23+ 0	917.7557	188.16	|Q	|	|	|	V |
23+ 5	919.0347	185.72	|Q	|	|	|	V |
23+10	920.2977	183.38	|Q	|	|	|	V |
23+15	921.5452	181.13	|Q	|	|	|	V |
23+20	922.7777	178.97	|Q	|	|	|	V |
23+25	923.9959	176.88	|Q	|	|	|	V |
23+30	925.2006	174.92	|Q	|	|	|	V|
23+35	926.3927	173.10	|Q	|	|	|	V|
23+40	927.5727	171.33	|Q	|	|	|	V|
23+45	928.7408	169.61	|Q	|	|	|	V|
23+50	929.8975	167.95	|Q	|	|	|	V|
23+55	931.0430	166.32	|Q	|	|	|	V|
24+ 0	932.1776	164.74	|Q	|	|	|	V|
24+ 5	933.2969	162.53	|Q	|	|	|	V|
24+10	934.3947	159.40	|Q	|	|	|	V|
24+15	935.4651	155.42	|Q	|	|	|	V|
24+20	936.5024	150.62	|Q	|	|	|	V|
24+25	937.5005	144.92	|Q	|	|	|	V|
24+30	938.4442	137.03	|Q	|	|	|	V|
24+35	939.3110	125.86	|Q	|	|	|	V|
24+40	940.0803	111.70	|Q	|	|	|	V|
24+45	940.7595	98.62	Q	|	|	|	V|
24+50	941.3533	86.22	Q	|	|	|	V|
24+55	941.8770	76.03	Q	|	|	|	V|
25+ 0	942.3472	68.28	Q	|	|	|	V|
25+ 5	942.7749	62.10	Q	|	|	|	V|
25+10	943.1668	56.90	Q	|	|	|	V|
25+15	943.5272	52.33	Q	|	|	|	V|
25+20	943.8595	48.25	Q	|	|	|	V|
25+25	944.1662	44.54	Q	|	|	|	V|
25+30	944.4502	41.24	Q	|	|	|	V|
25+35	944.7139	38.29	Q	|	|	|	V|
25+40	944.9583	35.48	Q	|	|	|	V|
25+45	945.1856	33.01	Q	|	|	|	V|
25+50	945.3977	30.79	Q	|	|	|	V|
25+55	945.5950	28.65	Q	|	|	|	V|
26+ 0	945.7795	26.79	Q	|	|	|	V|
26+ 5	945.9516	24.98	Q	|	|	|	V|
26+10	946.1120	23.29	Q	|	|	|	V|
26+15	946.2615	21.71	Q	|	|	|	V|
26+20	946.4005	20.19	Q	|	|	|	V|
26+25	946.5303	18.84	Q	|	|	|	V|
26+30	946.6510	17.53	Q	|	|	|	V|
26+35	946.7639	16.39	Q	|	|	|	V|
26+40	946.8698	15.38	Q	|	|	|	V|
26+45	946.9689	14.39	Q	|	|	|	V|
26+50	947.0616	13.47	Q	|	|	|	V|
26+55	947.1483	12.58	Q	|	|	|	V|
27+ 0	947.2292	11.75	Q	|	|	|	V|
27+ 5	947.3048	10.98	Q	|	|	|	V|
27+10	947.3753	10.23	Q	|	|	|	V|
27+15	947.4410	9.55	Q	|	|	|	V|
27+20	947.5022	8.88	Q	|	|	|	V|
27+25	947.5593	8.30	Q	|	|	|	V|
27+30	947.6130	7.80	Q	|	|	|	V|
27+35	947.6633	7.30	Q	|	|	|	V|

27+40	947.7101	6.80	Q	|	|	|	V|
27+45	947.7536	6.32	Q	|	|	|	V|
27+50	947.7942	5.89	Q	|	|	|	V|
27+55	947.8321	5.51	Q	|	|	|	V|
28+ 0	947.8674	5.13	Q	|	|	|	V|
28+ 5	947.9001	4.75	Q	|	|	|	V|
28+10	947.9303	4.38	Q	|	|	|	V|
28+15	947.9584	4.07	Q	|	|	|	V|
28+20	947.9846	3.81	Q	|	|	|	V|
28+25	948.0091	3.55	Q	|	|	|	V|
28+30	948.0318	3.30	Q	|	|	|	V|
28+35	948.0527	3.04	Q	|	|	|	V|
28+40	948.0723	2.84	Q	|	|	|	V|
28+45	948.0907	2.68	Q	|	|	|	V|
28+50	948.1081	2.52	Q	|	|	|	V|
28+55	948.1244	2.36	Q	|	|	|	V|
29+ 0	948.1396	2.21	Q	|	|	|	V|
29+ 5	948.1536	2.04	Q	|	|	|	V|
29+10	948.1665	1.87	Q	|	|	|	V|
29+15	948.1783	1.71	Q	|	|	|	V|
29+20	948.1889	1.54	Q	|	|	|	V|
29+25	948.1984	1.38	Q	|	|	|	V|
29+30	948.2068	1.22	Q	|	|	|	V|
29+35	948.2142	1.06	Q	|	|	|	V|
29+40	948.2204	0.91	Q	|	|	|	V|
29+45	948.2256	0.75	Q	|	|	|	V|
29+50	948.2297	0.60	Q	|	|	|	V|
29+55	948.2331	0.50	Q	|	|	|	V|
30+ 0	948.2360	0.42	Q	|	|	|	V|
30+ 5	948.2384	0.34	Q	|	|	|	V|
30+10	948.2402	0.26	Q	|	|	|	V|
30+15	948.2415	0.19	Q	|	|	|	V|
30+20	948.2422	0.11	Q	|	|	|	V|
30+25	948.2425	0.04	Q	|	|	|	V|

TECHNICAL APPENDIX NO. 2

Tributary Watershed
Hydrograph Routing Calculations
100-Year, 24-Hour Storm Event

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 08/10/17

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREAS "E" & "F" ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFE10024.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++++++++++

Process from Point/Station 1.000 to Point/Station 1.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

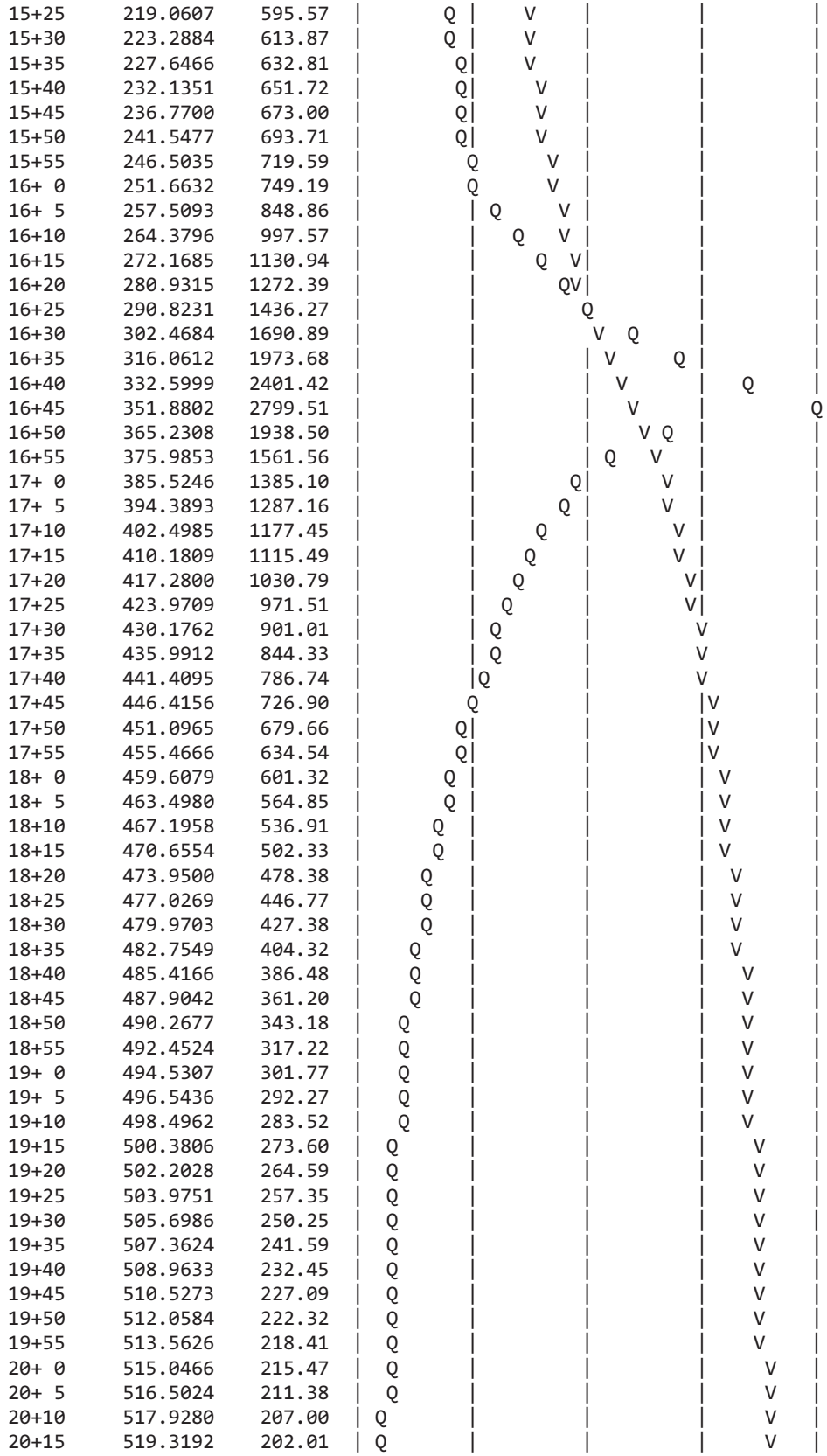
Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q				
0+45	1.0442	49.62	Q				
0+50	1.4418	57.74	Q				
0+55	1.8774	63.25	Q				
1+ 0	2.3435	67.68	Q				
1+ 5	2.8357	71.46	VQ				
1+10	3.3495	74.60	VQ				
1+15	3.8839	77.60	VQ				
1+20	4.4361	80.18	VQ				
1+25	5.0051	82.61	VQ				
1+30	5.5888	84.75	VQ				
1+35	6.1862	86.74	VQ				
1+40	6.7962	88.58	VQ				
1+45	7.4181	90.30	VQ				
1+50	8.0511	91.90	VQ				
1+55	8.6941	93.37	VQ				
2+ 0	9.3468	94.77	VQ				
2+ 5	10.0084	96.06	VQ				
2+10	10.6785	97.30	VQ				
2+15	11.3564	98.42	VQ				
2+20	12.0417	99.50	VQ				
2+25	12.7335	100.46	VQ				
2+30	13.4318	101.39	VQ				
2+35	14.1361	102.27	VQ				
2+40	14.8463	103.11	|Q				
2+45	15.5617	103.88	|Q				
2+50	16.2821	104.60	|Q				
2+55	17.0067	105.21	|Q				
3+ 0	17.7352	105.77	|Q				
3+ 5	18.4676	106.35	|Q				
3+10	19.2039	106.92	|Q				
3+15	19.9442	107.49	|Q				
3+20	20.6883	108.04	|Q				
3+25	21.4362	108.60	|Q				
3+30	22.1880	109.16	|Q				
3+35	22.9437	109.72	|Q				
3+40	23.7030	110.24	|Q				
3+45	24.4659	110.78	|Q				
3+50	25.2326	111.31	|Q				
3+55	26.0030	111.87	|Q				
4+ 0	26.7773	112.42	|Q				
4+ 5	27.5555	113.00	|Q				
4+10	28.3377	113.57	|Q				
4+15	29.1239	114.15	|QV				
4+20	29.9138	114.70	|QV				
4+25	30.7076	115.25	|QV				
4+30	31.5051	115.80	|QV				
4+35	32.3065	116.37	|QV				
4+40	33.1117	116.91	|QV				
4+45	33.9208	117.47	|QV				
4+50	34.7336	118.02	|QV				
4+55	35.5504	118.60	|QV				
5+ 0	36.3709	119.14	|QV				
5+ 5	37.1953	119.70	|QV				
5+10	38.0234	120.25	|QV				
5+15	38.8555	120.81	|QV				
5+20	39.6914	121.38	|QV				
5+25	40.5313	121.96	|QV				
5+30	41.3752	122.53	|QV				

5+35	42.2232	123.13	QV				
5+40	43.0752	123.71	Q V				
5+45	43.9315	124.32	Q V				
5+50	44.7918	124.92	Q V				
5+55	45.6564	125.55	Q V				
6+ 0	46.5253	126.16	Q V				
6+ 5	47.3986	126.80	Q V				
6+10	48.2762	127.43	Q V				
6+15	49.1584	128.09	Q V				
6+20	50.0450	128.74	Q V				
6+25	50.9363	129.41	Q V				
6+30	51.8321	130.07	Q V				
6+35	52.7327	130.77	Q V				
6+40	53.6380	131.45	Q V				
6+45	54.5482	132.16	Q V				
6+50	55.4632	132.86	Q V				
6+55	56.3832	133.59	Q V				
7+ 0	57.3082	134.31	Q V				
7+ 5	58.2384	135.06	Q V				
7+10	59.1737	135.80	Q V				
7+15	60.1143	136.58	Q V				
7+20	61.0602	137.34	Q V				
7+25	62.0115	138.13	Q V				
7+30	62.9682	138.92	Q V				
7+35	63.9306	139.74	Q V				
7+40	64.8985	140.54	Q V				
7+45	65.8722	141.39	Q V				
7+50	66.8517	142.22	Q V				
7+55	67.8372	143.09	Q V				
8+ 0	68.8285	143.95	Q V				
8+ 5	69.8261	144.84	Q V				
8+10	70.8297	145.73	Q V				
8+15	71.8397	146.65	Q V				
8+20	72.8560	147.57	Q V				
8+25	73.8789	148.52	Q V				
8+30	74.9083	149.47	Q V				
8+35	75.9445	150.45	Q V				
8+40	76.9874	151.43	Q V				
8+45	78.0373	152.45	Q V				
8+50	79.0941	153.46	Q V				
8+55	80.1583	154.51	Q V				
9+ 0	81.2296	155.56	Q V				
9+ 5	82.3085	156.65	Q V				
9+10	83.3948	157.73	Q V				
9+15	84.4889	158.86	Q V				
9+20	85.5907	159.99	Q V				
9+25	86.7006	161.16	Q V				
9+30	87.8185	162.32	Q V				
9+35	88.9448	163.54	Q V				
9+40	90.0795	164.75	Q V				
9+45	91.2228	166.01	Q V				
9+50	92.3748	167.27	Q V				
9+55	93.5359	168.58	Q V				
10+ 0	94.7059	169.89	Q V				
10+ 5	95.8854	171.26	Q V				
10+10	97.0742	172.62	Q V				
10+15	98.2729	174.04	Q V				
10+20	99.4813	175.46	Q V				
10+25	100.6999	176.95	Q V				

10+30	101.9288	178.43	Q V	|	|	|	|
10+35	103.1683	179.98	Q V	|	|	|	|
10+40	104.4185	181.52	Q V	|	|	|	|
10+45	105.6798	183.15	Q V	|	|	|	|
10+50	106.9523	184.76	Q V	|	|	|	|
10+55	108.2364	186.46	Q V	|	|	|	|
11+ 0	109.5322	188.15	Q V	|	|	|	|
11+ 5	110.8402	189.93	Q V	|	|	|	|
11+10	112.1605	191.70	Q V	|	|	|	|
11+15	113.4936	193.57	Q V	|	|	|	|
11+20	114.8396	195.43	Q V	|	|	|	|
11+25	116.1990	197.39	Q V	|	|	|	|
11+30	117.5719	199.35	Q V	|	|	|	|
11+35	118.9591	201.41	Q V	|	|	|	|
11+40	120.3604	203.48	Q V	|	|	|	|
11+45	121.7768	205.65	Q V	|	|	|	|
11+50	123.2081	207.83	Q V	|	|	|	|
11+55	124.6552	210.13	Q V	|	|	|	|
12+ 0	126.1182	212.43	Q V	|	|	|	|
12+ 5	127.5980	214.86	Q V	|	|	|	|
12+10	129.0946	217.31	Q V	|	|	|	|
12+15	130.6091	219.90	Q V	|	|	|	|
12+20	132.1416	222.51	Q V	|	|	|	|
12+25	133.6930	225.27	Q V	|	|	|	|
12+30	135.2636	228.06	Q V	|	|	|	|
12+35	136.8547	231.02	Q V	|	|	|	|
12+40	138.4663	234.02	Q V	|	|	|	|
12+45	140.1002	237.23	Q V	|	|	|	|
12+50	141.7559	240.42	Q V	|	|	|	|
12+55	143.4349	243.79	Q V	|	|	|	|
13+ 0	145.1373	247.19	Q V	|	|	|	|
13+ 5	146.8646	250.80	Q V	|	|	|	|
13+10	148.6169	254.44	Q V	|	|	|	|
13+15	150.3960	258.33	Q V	|	|	|	|
13+20	152.2022	262.25	Q V	|	|	|	|
13+25	154.0372	266.45	Q V	|	|	|	|
13+30	155.9016	270.71	Q V	|	|	|	|
13+35	157.7974	275.27	Q V	|	|	|	|
13+40	159.7251	279.90	Q V	|	|	|	|
13+45	161.6870	284.87	Q V	|	|	|	|
13+50	163.6838	289.93	Q V	|	|	|	|
13+55	165.7181	295.38	Q V	|	|	|	|
14+ 0	167.7908	300.95	Q V	|	|	|	|
14+ 5	169.9119	307.98	Q V	|	|	|	|
14+10	172.0914	316.48	Q V	|	|	|	|
14+15	174.3396	326.43	Q V	|	|	|	|
14+20	176.6643	337.54	Q V	|	|	|	|
14+25	179.0766	350.28	Q V	|	|	|	|
14+30	181.5931	365.40	Q V	|	|	|	|
14+35	184.2343	383.51	Q V	|	|	|	|
14+40	187.0375	407.02	Q V	|	|	|	|
14+45	190.0556	438.22	Q V	|	|	|	|
14+50	193.2225	459.84	Q V	|	|	|	|
14+55	196.5210	478.94	Q V	|	|	|	|
15+ 0	199.9449	497.14	Q V	|	|	|	|
15+ 5	203.4974	515.83	Q V	|	|	|	|
15+10	207.1779	534.41	Q V	|	|	|	|
15+15	210.9971	554.55	Q V	|	|	|	|
15+20	214.9590	575.26	Q V	|	|	|	|



15+25	219.0607	595.57	
15+30	223.2884	613.87	
15+35	227.6466	632.81	
15+40	232.1351	651.72	
15+45	236.7700	673.00	
15+50	241.5477	693.71	
15+55	246.5035	719.59	
16+ 0	251.6632	749.19	
16+ 5	257.5093	848.86	
16+10	264.3796	997.57	
16+15	272.1685	1130.94	
16+20	280.9315	1272.39	
16+25	290.8231	1436.27	
16+30	302.4684	1690.89	
16+35	316.0612	1973.68	
16+40	332.5999	2401.42	
16+45	351.8802	2799.51	
16+50	365.2308	1938.50	
16+55	375.9853	1561.56	
17+ 0	385.5246	1385.10	
17+ 5	394.3893	1287.16	
17+10	402.4985	1177.45	
17+15	410.1809	1115.49	
17+20	417.2800	1030.79	
17+25	423.9709	971.51	
17+30	430.1762	901.01	
17+35	435.9912	844.33	
17+40	441.4095	786.74	
17+45	446.4156	726.90	
17+50	451.0965	679.66	
17+55	455.4666	634.54	
18+ 0	459.6079	601.32	
18+ 5	463.4980	564.85	
18+10	467.1958	536.91	
18+15	470.6554	502.33	
18+20	473.9500	478.38	
18+25	477.0269	446.77	
18+30	479.9703	427.38	
18+35	482.7549	404.32	
18+40	485.4166	386.48	
18+45	487.9042	361.20	
18+50	490.2677	343.18	
18+55	492.4524	317.22	
19+ 0	494.5307	301.77	
19+ 5	496.5436	292.27	
19+10	498.4962	283.52	
19+15	500.3806	273.60	
19+20	502.2028	264.59	
19+25	503.9751	257.35	
19+30	505.6986	250.25	
19+35	507.3624	241.59	
19+40	508.9633	232.45	
19+45	510.5273	227.09	
19+50	512.0584	222.32	
19+55	513.5626	218.41	
20+ 0	515.0466	215.47	
20+ 5	516.5024	211.38	
20+10	517.9280	207.00	
20+15	519.3192	202.01	

20+20	520.6595	194.61	Q			V
20+25	521.9690	190.14	Q			V
20+30	523.2539	186.56	Q			V
20+35	524.5140	182.97	Q			V
20+40	525.7400	178.01	Q			V
20+45	526.9395	174.16	Q			V
20+50	528.1178	171.09	Q			V
20+55	529.2811	168.91	Q			V
21+ 0	530.3990	162.32	Q			V
21+ 5	531.4964	159.34	Q			V
21+10	532.5763	156.80	Q			V
21+15	533.6400	154.45	Q			V
21+20	534.6877	152.13	Q			V
21+25	535.7200	149.89	Q			V
21+30	536.7362	147.56	Q			V
21+35	537.7371	145.33	Q			V
21+40	538.7247	143.40	Q			V
21+45	539.6996	141.56	Q			V
21+50	540.6623	139.79	Q			V
21+55	541.6131	138.05	Q			V
22+ 0	542.5527	136.42	Q			V
22+ 5	543.4814	134.85	Q			V
22+10	544.3996	133.33	Q			V
22+15	545.3076	131.85	Q			V
22+20	546.2058	130.42	Q			V
22+25	547.0944	129.02	Q			V
22+30	547.9737	127.67	Q			V
22+35	548.8440	126.36	Q			V
22+40	549.7055	125.09	Q			V
22+45	550.5584	123.85	Q			V
22+50	551.4031	122.64	Q			V
22+55	552.2396	121.46	Q			V
23+ 0	553.0682	120.31	Q			V
23+ 5	553.8891	119.19	Q			V
23+10	554.7024	118.10	Q			V
23+15	555.5084	117.03	Q			V
23+20	556.3073	115.99	Q			V
23+25	557.0991	114.97	Q			V
23+30	557.8840	113.98	Q			V
23+35	558.6623	113.00	Q			V
23+40	559.4340	112.05	Q			V
23+45	560.1993	111.12	Q			V
23+50	560.9583	110.21	Q			V
23+55	561.7111	109.32	Q			V
24+ 0	562.4580	108.44	Q			V
24+ 5	563.1939	106.86	Q			V
24+10	563.9126	104.35	Q			V
24+15	564.6096	101.21	Q			V
24+20	565.2806	97.42	Q			V
24+25	565.9208	92.96	Q			V
24+30	566.5203	87.04	Q			V
24+35	567.0682	79.56	Q			V
24+40	567.5403	68.55	Q			V
24+45	567.9039	52.80	Q			V
24+50	568.2101	44.46	Q			V
24+55	568.4775	38.82	Q			V
25+ 0	568.7139	34.33	Q			V
25+ 5	568.9241	30.52	Q			V
25+10	569.1128	27.41	Q			V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

```
        Peak (CFS)   2799.507     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)    570.680     0.000     0.000     0.000     0.000
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Process from Point/Station        1.000 to Point/Station        1.100
**** STREAM ROUTING SCS CONVEX METHOD ****
______________________________________________________________________________
HYDROGRAPH STREAM ROUTING DATA:
Length of stream =  14544.00 (Ft.)
Elevation difference =  800.00 (Ft.)
Slope of channel =  0.055006 (Vert/Horiz)
Channel type - Improved Channel


Channel length = 14544.00(Ft.)     Elevation difference = 800.00(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width  =  350.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Manning's 'N'    = 0.035
Maximum depth of channel  =    4.000(Ft.)
Flow(q) thru subarea =    268.931(CFS)
Depth of flow =     0.215(Ft.)
Average velocity =     3.570(Ft/s)
Total flow rate =   268.931(CFS)
Channel flow top width =  350.860(Ft.)
Depth of flow in channel =   0.21(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    3.57(Ft/s)
Travel time  =   55.85 min.
Individual channel flow =  268.931(CFS)
Total capacity of improved channels =    268.931(CFS)
Critical Depth in Channel =    0.26(Ft.)


Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea =   2799.507(CFS)
Depth of flow =     0.876(Ft.)
Average velocity =     9.082(Ft/s)
Total flow rate =  2799.507(CFS)
Channel flow top width =  353.505(Ft.)
Depth of flow in channel =   0.88(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    9.08(Ft/s)
Travel time  =   55.85 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels =   2799.507(CFS)
Critical Depth in Channel =    1.25(Ft.)


********************** SCS CONVEX CHANNEL ROUTING ********************
Convex method of stream routing  data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
          where c* = 1 - (1-c)^e and dt = c(length)/velocity
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c(v/v+1.7) = 0.8423 Travel time = 26.69 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.4816
dt(routing time-step) = 22.48 (min.), c* = 0.5892

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3348	0.73	O				
0+10	1.3357	2.41	O				
0+15	3.0426	4.76	O				
0+20	5.4411	7.79	O				
0+25	8.5440	11.54	O				
0+30	12.7286	16.82	O				
0+35	18.2973	23.71	O				
0+40	26.3090	34.24	O				
0+45	38.0282	49.62	O				
0+50	48.5791	57.74	O				
0+55	56.5009	63.25	O				
1+ 0	62.5047	67.68	O				
1+ 5	67.2864	71.46	OI				
1+10	71.1846	74.60	|O				
1+15	74.5703	77.60	|O				
1+20	77.5385	80.18	|O				
1+25	80.2108	82.61	|O				
1+30	82.6075	84.75	|O				
1+35	84.7833	86.74	|O				
1+40	86.7787	88.58	|O				
1+45	88.6288	90.30	|O				
1+50	90.3489	91.90	|O				
1+55	91.9370	93.37	|O				
2+ 0	93.4221	94.77	|O				
2+ 5	94.8084	96.06	|O				
2+10	96.1151	97.30	|O				
2+15	97.3284	98.42	|O				
2+20	98.4672	99.50	|O				
2+25	99.5159	100.46	|O				
2+30	100.4985	101.39	|O				
2+35	101.4251	102.27	|O				
2+40	102.3090	103.11	|O				
2+45	103.1330	103.88	|O				
2+50	103.9040	104.60	|O				
2+55	104.5959	105.21	|O				
3+ 0	105.2165	105.77	|O				
3+ 5	105.8081	106.35	|O				
3+10	106.3869	106.92	|O				
3+15	106.9598	107.49	|O				
3+20	107.5221	108.04	|O				
3+25	108.0851	108.60	|O				
3+30	108.6476	109.16	|O				
3+35	109.2081	109.72	|O				

3+40	109.7507	110.24	O				
3+45	110.2884	110.78	O				
3+50	110.8232	111.31	O				
3+55	111.3654	111.87	O				
4+ 0	111.9161	112.42	O				
4+ 5	112.4797	113.00	O				
4+10	113.0478	113.57	O				
4+15	113.6232	114.15	O				
4+20	114.1854	114.70	O				
4+25	114.7423	115.25	O				
4+30	115.2953	115.80	O				
4+35	115.8540	116.37	O				
4+40	116.4074	116.91	O				
4+45	116.9613	117.47	O				
4+50	117.5137	118.02	O				
4+55	118.0786	118.60	O				
5+ 0	118.6332	119.14	O				
5+ 5	119.1866	119.70	O				
5+10	119.7383	120.25	O				
5+15	120.2980	120.81	O				
5+20	120.8600	121.38	O				
5+25	121.4317	121.96	O				
5+30	122.0059	122.53	O				
5+35	122.5889	123.13	O				
5+40	123.1747	123.71	O				
5+45	123.7708	124.32	O				
5+50	124.3705	124.92	O				
5+55	124.9813	125.55	O				
6+ 0	125.5960	126.16	O				
6+ 5	126.2222	126.80	O				
6+10	126.8525	127.43	O				
6+15	127.4948	128.09	O				
6+20	128.1414	128.74	O				
6+25	128.8005	129.41	O				
6+30	129.4641	130.07	O				
6+35	130.1407	130.77	O				
6+40	130.8220	131.45	O				
6+45	131.5168	132.16	O				
6+50	132.2167	132.86	O				
6+55	132.9305	133.59	O				
7+ 0	133.6498	134.31	O				
7+ 5	134.3835	135.06	O				
7+10	135.1229	135.80	O				
7+15	135.8774	136.58	O				
7+20	136.6380	137.34	O				
7+25	137.4143	138.13	O				
7+30	138.1970	138.92	O				
7+35	138.9961	139.74	O				
7+40	139.8020	140.54	OI				
7+45	140.6250	141.39	O				
7+50	141.4553	142.22	O				
7+55	142.3033	143.09	O				
8+ 0	143.1591	143.95	O				
8+ 5	144.0335	144.84	O				
8+10	144.9160	145.73	O				
8+15	145.8181	146.65	O				
8+20	146.7288	147.57	O				
8+25	147.6600	148.52	O				
8+30	148.6004	149.47	O				

8+35	149.5622	150.45	O				
8+40	150.5339	151.43	O				
8+45	151.5280	152.45	O				
8+50	152.5327	153.46	O				
8+55	153.5609	154.51	O				
9+ 0	154.6003	155.56	O				
9+ 5	155.6646	156.65	O				
9+10	156.7408	157.73	O				
9+15	157.8431	158.86	O				
9+20	158.9583	159.99	O				
9+25	160.1010	161.16	O				
9+30	161.2575	162.32	O				
9+35	162.4429	163.54	O				
9+40	163.6432	164.75	O				
9+45	164.8741	166.01	O				
9+50	166.1209	167.27	O				
9+55	167.4000	168.58	O				
10+ 0	168.6963	169.89	O				
10+ 5	170.0269	171.26	O				
10+10	171.3760	172.62	O				
10+15	172.7615	174.04	O				
10+20	174.1669	175.46	O				
10+25	175.6109	176.95	O				
10+30	177.0765	178.43	O				
10+35	178.5833	179.98	O				
10+40	180.1134	181.52	O				
10+45	181.6874	183.15	O				
10+50	183.2867	184.76	O				
10+55	184.9329	186.46	O				
11+ 0	186.6067	188.15	O				
11+ 5	188.3306	189.93	O				
11+10	190.0845	191.70	O				
11+15	191.8923	193.57	O				
11+20	193.7328	195.43	O				
11+25	195.6313	197.39	O				
11+30	197.5654	199.35	O				
11+35	199.5621	201.41	O				
11+40	201.5980	203.48	O				
11+45	203.7014	205.65	O				
11+50	205.8479	207.83	O				
11+55	208.0676	210.13	OI				
12+ 0	210.3347	212.43	O				
12+ 5	212.6836	214.86	O				
12+10	215.0890	217.31	O				
12+15	217.5855	219.90	O				
12+20	220.1446	222.51	O				
12+25	222.8031	225.27	O				
12+30	225.5331	228.06	O				
12+35	228.3759	231.02	O				
12+40	231.3064	234.02	O				
12+45	234.3747	237.23	O				
12+50	237.5175	240.42	O				
12+55	240.7717	243.79	O				
13+ 0	244.1061	247.19	O				
13+ 5	247.5749	250.80	O				
13+10	251.1423	254.44	O				
13+15	254.8652	258.33	O				
13+20	258.7041	262.25	O				
13+25	262.7196	266.45	O				

13+30	266.8694	270.71	O				
13+35	271.2197	275.27	O				
13+40	275.7258	279.90	O				
13+45	280.4613	284.87	O				
13+50	285.3784	289.93	O				
13+55	290.5593	295.38	O				
14+ 0	295.9535	300.95	O				
14+ 5	302.1194	307.98	O				
14+10	309.4654	316.48	O				
14+15	318.1571	326.43	O				
14+20	328.1225	337.54	O				
14+25	339.5061	350.28	OI				
14+30	352.7783	365.40	O				
14+35	368.5094	383.51	O				
14+40	388.1202	407.02	O				
14+45	413.5524	438.22	OI				
14+50	437.9907	459.84	O				
14+55	459.6158	478.94	O				
15+ 0	479.3410	497.14	OI				
15+ 5	498.3890	515.83	O				
15+10	517.1764	534.41	O				
15+15	536.5581	554.55	O				
15+20	556.6469	575.26	OI				
15+25	576.9196	595.57	O				
15+30	596.2904	613.87	O				
15+35	615.3245	632.81	OI				
15+40	634.2907	651.72	O				
15+45	654.3074	673.00	O				
15+50	674.8099	693.71	O				
15+55	697.8019	719.59	OI				
16+ 0	724.1992	749.19	O				
16+ 5	784.5857	848.86	OI				
16+10	890.5870	997.57	O I				
16+15	1014.7255	1130.94	O I				
16+20	1148.0017	1272.39	O I				
16+25	1296.3703	1436.27	O I				
16+30	1495.4506	1690.89	O I				
16+35	1740.1607	1973.68	O I				
16+40	2073.7155	2401.42	O	I			
16+45	2449.1786	2799.51	O	I			
16+50	2261.1126	1938.50	O	I			
16+55	1898.3386	1561.56	I O	I			
17+ 0	1619.0663	1385.10	I O				
17+ 5	1436.3466	1287.16	I O				
17+10	1298.1841	1177.45	I O				
17+15	1198.6615	1115.49	I O				
17+20	1110.8526	1030.79	IO				
17+25	1036.5235	971.51	IO				
17+30	965.9214	901.01	IO				
17+35	901.7101	844.33	O				
17+40	841.5158	786.74	IO				
17+45	781.8248	726.90	IO				
17+50	727.8181	679.66	IO				
17+55	678.7734	634.54	O				
18+ 0	637.4906	601.32	IO				
18+ 5	599.4696	564.85	O				
18+10	566.2727	536.91	IO				
18+15	533.1305	502.33	O				
18+20	504.0097	478.38	IO				

18+25	474.4255	446.77	O			
18+30	449.2470	427.38	O			
18+35	425.7997	404.32	IO			
18+40	404.9730	386.48	O			
18+45	382.4947	361.20	O			
18+50	361.6929	343.18	IO			
18+55	338.8925	317.22	O			
19+ 0	319.0462	301.77	O			
19+ 5	304.5150	292.27	O			
19+10	293.2910	283.52	O			
19+15	282.9907	273.60	IO			
19+20	273.3287	264.59	O			
19+25	264.8608	257.35	O			
19+30	257.1816	250.25	O			
19+35	249.1276	241.59	O			
19+40	240.5004	232.45	O			
19+45	233.3009	227.09	O			
19+50	227.4564	222.32	O			
19+55	222.6383	218.41	O			
20+ 0	218.7996	215.47	O			
20+ 5	214.9639	211.38	O			
20+10	210.8448	207.00	IO			
20+15	206.2910	202.01	O			
20+20	200.3782	194.61	O			
20+25	194.9340	190.14	O			
20+30	190.4698	186.56	O			
20+35	186.5228	182.97	O			
20+40	182.1591	178.01	O			
20+45	177.9520	174.16	O			
20+50	174.3132	171.09	O			
20+55	171.4136	168.91	O			
21+ 0	166.9199	162.32	O			
21+ 5	162.8464	159.34	O			
21+10	159.6157	156.80	O			
21+15	156.8785	154.45	O			
21+20	154.3841	152.13	O			
21+25	152.0301	149.89	O			
21+30	149.7000	147.56	O			
21+35	147.4157	145.33	O			
21+40	145.3017	143.40	O			
21+45	143.3386	141.56	O			
21+50	141.4779	139.79	IO			
21+55	139.6863	138.05	O			
22+ 0	137.9770	136.42	O			
22+ 5	136.3407	134.85	O			
22+10	134.7642	133.33	O			
22+15	133.2402	131.85	O			
22+20	131.7639	130.42	O			
22+25	130.3320	129.02	O			
22+30	128.9429	127.67	O			
22+35	127.5951	126.36	O			
22+40	126.2857	125.09	O			
22+45	125.0122	123.85	O			
22+50	123.7727	122.64	O			
22+55	122.5653	121.46	O			
23+ 0	121.3888	120.31	O			
23+ 5	120.2418	119.19	O			
23+10	119.1229	118.10	O			
23+15	118.0311	117.03	O			

23+20	116.9651	115.99	|O	|	|	|	|
23+25	115.9239	114.97	|O	|	|	|	|
23+30	114.9067	113.98	|O	|	|	|	|
23+35	113.9125	113.00	|O	|	|	|	|
23+40	112.9403	112.05	|O	|	|	|	|
23+45	111.9895	111.12	|O	|	|	|	|
23+50	111.0592	110.21	|O	|	|	|	|
23+55	110.1487	109.32	|O	|	|	|	|
24+ 0	109.2573	108.44	|O	|	|	|	|
24+ 5	108.0503	106.86	|O	|	|	|	|
24+10	106.1996	104.35	|O	|	|	|	|
24+15	103.6715	101.21	|O	|	|	|	|
24+20	100.4866	97.42	|O	|	|	|	|
24+25	96.6388	92.96	|O	|	|	|	|
24+30	91.7577	87.04	|O	|	|	|	|
24+35	85.5514	79.56	|O	|	|	|	|
24+40	76.9765	68.55	IO	|	|	|	|
24+45	64.7938	52.80	O	|	|	|	|
24+50	53.9043	44.46	O	|	|	|	|
24+55	45.7577	38.82	O	|	|	|	|
25+ 0	39.6120	34.33	O	|	|	|	|
25+ 5	34.7557	30.52	O	|	|	|	|
25+10	30.8335	27.41	O	|	|	|	|
25+15	27.4696	24.47	O	|	|	|	|
25+20	24.5588	21.97	O	|	|	|	|
25+25	21.9795	19.67	O	|	|	|	|
25+30	19.7034	17.67	O	|	|	|	|
25+35	17.6774	15.86	O	|	|	|	|
25+40	15.8539	14.22	O	|	|	|	|
25+45	14.2003	12.71	O	|	|	|	|
25+50	12.6948	11.34	O	|	|	|	|
25+55	11.3427	10.13	O	|	|	|	|
26+ 0	10.1087	9.00	O	|	|	|	|
26+ 5	8.9922	7.99	O	|	|	|	|
26+10	7.9679	7.04	O	|	|	|	|
26+15	7.0536	6.24	O	|	|	|	|
26+20	6.2245	5.48	O	|	|	|	|
26+25	5.5000	4.86	O	|	|	|	|
26+30	4.8504	4.27	O	|	|	|	|
26+35	4.2698	3.75	O	|	|	|	|
26+40	3.7392	3.26	O	|	|	|	|
26+45	3.2802	2.87	O	|	|	|	|
26+50	2.8804	2.52	O	|	|	|	|
26+55	2.5702	2.31	O	|	|	|	|
27+ 0	2.3360	2.13	O	|	|	|	|
27+ 5	2.1399	1.97	O	|	|	|	|
27+10	1.9602	1.80	O	|	|	|	|
27+15	1.7952	1.65	O	|	|	|	|
27+20	1.6441	1.51	O	|	|	|	|
27+25	1.5009	1.37	O	|	|	|	|
27+30	1.3616	1.23	O	|	|	|	|
27+35	1.2329	1.12	O	|	|	|	|
27+40	1.1254	1.03	O	|	|	|	|
27+45	1.0312	0.95	O	|	|	|	|
27+50	0.9429	0.86	O	|	|	|	|
27+55	0.8557	0.78	O	|	|	|	|
28+ 0	0.7630	0.68	O	|	|	|	|
28+ 5	0.6664	0.58	O	|	|	|	|
28+10	0.5683	0.48	O	|	|	|	|

28+15	0.4721	0.38	O				
28+20	0.3923	0.32	O				
28+25	0.3269	0.27	O				
28+30	0.2686	0.22	O				
28+35	0.2136	0.16	O				
28+40	0.1672	0.13	O				
28+45	0.1295	0.10	O				
28+50	0.0963	0.07	O				
28+55	0.0602	0.03	O				
29+ 0	0.0376	0.02	O				
29+ 5	0.0258	0.02	O				
29+10	0.0188	0.01	O				
29+15	0.0136	0.01	O				
29+20	0.0094	0.01	O				
29+25	0.0054	0.00	O				
29+30	0.0025	0.00	O				
29+35	0.0010	0.00	O				
29+40	0.0000	0.00	O				

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2449.179 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 1.100 to Point/Station 1.200

**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:
Length of stream = 6475.00 (Ft.)
Elevation difference = 178.00 (Ft.)
Slope of channel = 0.027490 (Vert/Horiz)
Channel type - Improved Channel

Channel length = 6475.00(Ft.) Elevation difference = 178.00(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width = 1000.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Manning's 'N' = 0.035
Maximum depth of channel = 1.000(Ft.)
Flow(q) thru subarea = 278.038(CFS)
Depth of flow = 0.144(Ft.)
Average velocity = 1.932(Ft/s)
Total flow rate = 278.038(CFS)
Channel flow top width = 1000.575(Ft.)
Depth of flow in channel = 0.14(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity = 1.93(Ft/s)

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      Travel time  =   55.85 min.
      Individual channel flow =  278.038(CFS)
      Total capacity of improved channels =    278.038(CFS)
      Critical Depth in Channel =    0.13(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =   2449.179(CFS)
      Depth of flow =     0.531(Ft.)
      Average velocity =     4.610(Ft/s)
      Total flow rate =  2449.179(CFS)
      Channel flow top width = 1002.123(Ft.)
      Depth of flow in channel =   0.53(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    4.61(Ft/s)
      Travel time  =   55.85 min.
      Individual channel flow = 2449.179(CFS)
      Total capacity of improved channels =   2449.179(CFS)
      Critical Depth in Channel =    0.57(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING *********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.7306   Travel time =  23.41 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   0.5282
               dt(routing time-step) =  17.10 (min.),   c* =   0.4998

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      612.3    1224.6    1836.9    2449.2
----------------------------------------------------------------------
  0+ 5       0.1184      0.33  O         |         |         |         |
  0+10       0.5806      1.34  O         |         |         |         |
  0+15       1.5617      3.04  O         |         |         |         |
  0+20       3.1503      5.44  O         |         |         |         |
  0+25       5.3928      8.54  O         |         |         |         |
  0+30       8.4480     12.73  O         |         |         |         |
  0+35      12.5572     18.30  O         |         |         |         |
  0+40      18.2600     26.31  O         |         |         |         |
  0+45      26.4282     38.03  O         |         |         |         |
  0+50      35.9581     48.58  O         |         |         |         |
  0+55      45.0685     56.50  O         |         |         |         |
  1+ 0      52.9063     62.50  OI        |         |         |         |
  1+ 5      59.3952     67.29  OI        |         |         |         |
  1+10      64.7183     71.18  |O        |         |         |         |
  1+15      69.1479     74.57  |O        |         |         |         |
  1+20      72.9080     77.54  |O        |         |         |         |
  1+25      76.1677     80.21  |O        |         |         |         |
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1+30	79.0363	82.61	O				
1+35	81.5909	84.78	O				
1+40	83.8923	86.78	O				
1+45	85.9894	88.63	O				
1+50	87.9171	90.35	O				
1+55	89.6943	91.94	O				
2+ 0	91.3406	93.42	O				
2+ 5	92.8713	94.81	O				
2+10	94.3017	96.12	O				
2+15	95.6372	97.33	O				
2+20	96.8853	98.47	O				
2+25	98.0469	99.52	O				
2+30	99.1287	100.50	O				
2+35	100.1411	101.43	O				
2+40	101.0955	102.31	O				
2+45	101.9935	103.13	O				
2+50	102.8357	103.90	O				
2+55	103.6144	104.60	O				
3+ 0	104.3245	105.22	O				
3+ 5	104.9796	105.81	O				
3+10	105.5984	106.39	O				
3+15	106.1951	106.96	O				
3+20	106.7762	107.52	O				
3+25	107.3482	108.09	O				
3+30	107.9155	108.65	O				
3+35	108.4797	109.21	O				
3+40	109.0357	109.75	O				
3+45	109.5833	110.29	O				
3+50	110.1249	110.82	O				
3+55	110.6657	111.37	O				
4+ 0	111.2102	111.92	O				
4+ 5	111.7624	112.48	O				
4+10	112.3218	113.05	O				
4+15	112.8882	113.62	O				
4+20	113.4544	114.19	O				
4+25	114.0167	114.74	O				
4+30	114.5750	115.30	O				
4+35	115.1326	115.85	O				
4+40	115.6889	116.41	O				
4+45	116.2439	116.96	O				
4+50	116.7979	117.51	O				
4+55	117.3555	118.08	O				
5+ 0	117.9131	118.63	O				
5+ 5	118.4688	119.19	O				
5+10	119.0227	119.74	O				
5+15	119.5784	120.30	O				
5+20	120.1368	120.86	O				
5+25	120.7005	121.43	O				
5+30	121.2691	122.01	O				
5+35	121.8436	122.59	OI				
5+40	122.4233	123.17	OI				
5+45	123.0097	123.77	O				
5+50	123.6022	124.37	O				
5+55	124.2023	124.98	O				
6+ 0	124.8091	125.60	O				
6+ 5	125.4239	126.22	O				
6+10	126.0459	126.85	O				
6+15	126.6762	127.49	O				
6+20	127.3141	128.14	O				

6+25	127.9607	128.80	O				
6+30	128.6152	129.46	O				
6+35	129.2788	130.14	O				
6+40	129.9506	130.82	O				
6+45	130.6319	131.52	O				
6+50	131.3218	132.22	O				
6+55	132.0216	132.93	O				
7+ 0	132.7303	133.65	O				
7+ 5	133.4494	134.38	O				
7+10	134.1778	135.12	O				
7+15	134.9171	135.88	O				
7+20	135.6661	136.64	O				
7+25	136.4265	137.41	O				
7+30	137.1971	138.20	O				
7+35	137.9795	139.00	O				
7+40	138.7727	139.80	O				
7+45	139.5783	140.63	O				
7+50	140.3951	141.46	O				
7+55	141.2250	142.30	O				
8+ 0	142.0666	143.16	O				
8+ 5	142.9219	144.03	O				
8+10	143.7897	144.92	O				
8+15	144.6717	145.82	O				
8+20	145.5668	146.73	O				
8+25	146.4770	147.66	O				
8+30	147.4009	148.60	O				
8+35	148.3407	149.56	O				
8+40	149.2949	150.53	O				
8+45	150.2658	151.53	O				
8+50	151.2520	152.53	O				
8+55	152.2558	153.56	O				
9+ 0	153.2758	154.60	O				
9+ 5	154.3142	155.66	O				
9+10	155.3698	156.74	O				
9+15	156.4450	157.84	O				
9+20	157.5383	158.96	O				
9+25	158.6522	160.10	O				
9+30	159.7854	161.26	O				
9+35	160.9405	162.44	O				
9+40	162.1160	163.64	O				
9+45	163.3147	164.87	O				
9+50	164.5351	166.12	O				
9+55	165.7802	167.40	O				
10+ 0	167.0483	168.70	O				
10+ 5	168.3427	170.03	O				
10+10	169.6617	171.38	O				
10+15	171.0086	172.76	O				
10+20	172.3818	174.17	O				
10+25	173.7848	175.61	O				
10+30	175.2159	177.08	O				
10+35	176.6789	178.58	O				
10+40	178.1720	180.11	O				
10+45	179.6991	181.69	O				
10+50	181.2586	183.29	O				
10+55	182.8546	184.93	OI				
11+ 0	184.4854	186.61	O				
11+ 5	186.1555	188.33	O				
11+10	187.8630	190.08	O				
11+15	189.6128	191.89	O				

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11+20     191.4032    193.73  |  O      |         |         |         |
11+25     193.2391    195.63  |  O      |         |         |         |
11+30     195.1189    197.57  |  O      |         |         |         |
11+35     197.0480    199.56  |  O      |         |         |         |
11+40     199.0247    201.60  |  O      |         |         |         |
11+45     201.0549    203.70  |  O      |         |         |         |
11+50     203.1369    205.85  |  O      |         |         |         |
11+55     205.2770    208.07  |  O      |         |         |         |
12+ 0     207.4737    210.33  |  O      |         |         |         |
12+ 5     209.7345    212.68  |  O      |         |         |         |
12+10     212.0594    215.09  |  O      |         |         |         |
12+15     214.4567    217.59  |  O      |         |         |         |
12+20     216.9257    220.14  |  O      |         |         |         |
12+25     219.4749    222.80  |  O      |         |         |         |
12+30     222.1040    225.53  |  O      |         |         |         |
12+35     224.8235    228.38  |  O      |         |         |         |
12+40     227.6356    231.31  |  O      |         |         |         |
12+45     230.5556    234.37  |  O      |         |         |         |
12+50     233.5762    237.52  |  O      |         |         |         |
12+55     236.6972    240.77  |  O      |         |         |         |
13+ 0     239.9132    244.11  |  O      |         |         |         |
13+ 5     243.2358    247.57  |  OI     |         |         |         |
13+10     246.6664    251.14  |   O     |         |         |         |
13+15     250.2204    254.87  |   O     |         |         |         |
13+20     253.8999    258.70  |   O     |         |         |         |
13+25     257.7215    262.72  |   O     |         |         |         |
13+30     261.6875    266.87  |   O     |         |         |         |
13+35     265.8163    271.22  |   O     |         |         |         |
13+40     270.1109    275.73  |   O     |         |         |         |
13+45     274.5924    280.46  |   O     |         |         |         |
13+50     279.2650    285.38  |   O     |         |         |         |
13+55     284.1531    290.56  |   O     |         |         |         |
14+ 0     289.2631    295.95  |   O     |         |         |         |
14+ 5     294.7880    302.12  |   O     |         |         |         |
14+10     301.0508    309.47  |   OI    |         |         |         |
14+15     308.3309    318.16  |    O    |         |         |         |
14+20     316.7671    328.12  |    O    |         |         |         |
14+25     326.4693    339.51  |    O    |         |         |         |
14+30     337.6799    352.78  |    O    |         |         |         |
14+35     350.7906    368.51  |    OI   |         |         |         |
14+40     366.5834    388.12  |    OI   |         |         |         |
14+45     386.3436    413.55  |     O   |         |         |         |
14+50     408.5872    437.99  |     OI  |         |         |         |
14+55     430.9328    459.62  |      O  |         |         |         |
15+ 0     452.2463    479.34  |      O  |         |         |         |
15+ 5     472.5264    498.39  |      OI |         |         |         |
15+10     492.0984    517.18  |       O |         |         |         |
15+15     511.4885    536.56  |       O |         |         |         |
15+20     531.1245    556.65  |       OI|         |         |         |
15+25     551.0519    576.92  |       OI|         |         |         |
15+30     570.8329    596.29  |        O|         |         |         |
15+35     590.2897    615.32  |        OI         |         |         |
15+40     609.5113    634.29  |        OI         |         |         |
15+45     628.9767    654.31  |         O         |         |         |
15+50     648.8895    674.81  |         OI        |         |         |
15+55     669.9776    697.80  |         OI        |         |         |
16+ 0     693.2218    724.20  |         |O        |         |         |
16+ 5     730.0640    784.59  |         |OI       |         |         |
16+10     794.8083    890.59  |         | O I     |         |         |
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16+15	886.5893	1014.73	| O I | | |
16+20	997.7757	1148.00	| O I | | |
16+25	1125.3415	1296.37	| O |I | |
16+30	1281.2418	1495.45	| O I | |
16+35	1474.8642	1740.16	| O I | |
16+40	1725.4462	2073.72	| O | I |
16+45	2032.3236	2449.18	| | O | I
16+50	2174.1627	2261.11	| | OI |
16+55	2089.3102	1898.34	| |I O |
17+ 0	1895.0779	1619.07	| I O |
17+ 5	1692.4904	1436.35	| I O | |
17+10	1515.5933	1298.18	|I O | |
17+15	1371.7240	1198.66	| I| O | |
17+20	1254.1637	1110.85	| I O | |
17+25	1156.2420	1036.52	| I O | | |
17+30	1071.4308	965.92	| I O | | |
17+35	995.9823	901.71	| I O | | |
17+40	927.5713	841.52	| I O | | |
17+45	863.4453	781.82	| I O | | |
17+50	803.5465	727.82	|I O | | |
17+55	748.3479	678.77	|IO | | |
18+ 0	698.9706	637.49	| IO | | |
18+ 5	654.7929	599.47	| IO | | |
18+10	615.3988	566.27	| IO | | |
18+15	579.1216	533.13	| IO| | |
18+20	545.8337	504.01	| O | | |
18+25	514.4648	474.43	| IO | | |
18+30	485.5462	449.25	| O | | |
18+35	459.1094	425.80	| IO | | |
18+40	435.0937	404.97	| IO | | |
18+45	412.0878	382.49	| O | | |
18+50	389.9386	361.69	| IO | | |
18+55	367.7560	338.89	| IO | | |
19+ 0	346.3094	319.05	| O | | |
19+ 5	327.5427	304.52	| IO | | |
19+10	312.0628	293.29	| IO | | |
19+15	299.0368	282.99	| O | | |
19+20	287.5990	273.33	| O | | |
19+25	277.4711	264.86	| O | | |
19+30	268.4520	257.18	| O | | |
19+35	259.9700	249.13	| O | | |
19+40	251.4992	240.50	| IO | | |
19+45	243.4552	233.30	| O | | |
19+50	236.3125	227.46	| O | | |
19+55	230.1818	222.64	| O | | |
20+ 0	225.0536	218.80	| O | | |
20+ 5	220.5709	214.96	| O | | |
20+10	216.3114	210.84	| O | | |
20+15	211.9684	206.29	| O | | |
20+20	207.0393	200.38	| O | | |
20+25	201.7842	194.93	| O | | |
20+30	196.7813	190.47	| O | | |
20+35	192.2305	186.52	| O | | |
20+40	187.8342	182.16	| IO | | |
20+45	183.5095	177.95	| O | | |
20+50	179.4447	174.31	| O | | |
20+55	175.8542	171.41	| O | | |
21+ 0	172.0452	166.92	| O | | |
21+ 5	168.0426	162.85	| O | | |

21+10	164.3027	159.62	O				
21+15	160.9918	156.88	O				
21+20	158.0536	154.38	O				
21+25	155.3868	152.03	O				
21+30	152.8849	149.70	O				
21+35	150.4850	147.42	O				
21+40	148.2032	145.30	O				
21+45	146.0586	143.34	O				
21+50	144.0409	141.48	O				
21+55	142.1262	139.69	O				
22+ 0	140.3021	137.98	O				
22+ 5	138.5612	136.34	O				
22+10	136.8937	134.76	O				
22+15	135.2902	133.24	O				
22+20	133.7434	131.76	O				
22+25	132.2475	130.33	O				
22+30	130.7987	128.94	O				
22+35	129.3944	127.60	O				
22+40	128.0319	126.29	O				
22+45	126.7087	125.01	O				
22+50	125.4223	123.77	O				
22+55	124.1707	122.57	O				
23+ 0	122.9522	121.39	IO				
23+ 5	121.7651	120.24	O				
23+10	120.6079	119.12	O				
23+15	119.4795	118.03	O				
23+20	118.3785	116.97	O				
23+25	117.3038	115.92	O				
23+30	116.2543	114.91	O				
23+35	115.2291	113.91	O				
23+40	114.2271	112.94	O				
23+45	113.2476	111.99	O				
23+50	112.2897	111.06	O				
23+55	111.3526	110.15	O				
24+ 0	110.4356	109.26	O				
24+ 5	109.4197	108.05	O				
24+10	108.0807	106.20	O				
24+15	106.2463	103.67	O				
24+20	103.8328	100.49	O				
24+25	100.7993	96.64	O				
24+30	96.9933	91.76	O				
24+35	92.1812	85.55	O				
24+40	85.8345	76.98	O				
24+45	77.0980	64.79	O				
24+50	67.0964	53.90	IO				
24+55	57.6211	45.76	O				
25+ 0	49.5176	39.61	O				
25+ 5	42.8488	34.76	O				
25+10	37.4163	30.83	O				
25+15	32.9362	27.47	O				
25+20	29.1743	24.56	O				
25+25	25.9550	21.98	O				
25+30	23.1629	19.70	O				
25+35	20.7171	17.68	O				
25+40	18.5528	15.85	O				
25+45	16.6189	14.20	O				
25+50	14.8775	12.69	O				
25+55	13.3083	11.34	O				
26+ 0	11.8894	10.11	O				

26+ 5	10.6044	8.99	O	|	|	|	|
26+10	9.4363	7.97	O	|	|	|	|
26+15	8.3790	7.05	O	|	|	|	|
26+20	7.4232	6.22	O	|	|	|	|
26+25	6.5678	5.50	O	|	|	|	|
26+30	5.8043	4.85	O	|	|	|	|
26+35	5.1221	4.27	O	|	|	|	|
26+40	4.5084	3.74	O	|	|	|	|
26+45	3.9616	3.28	O	|	|	|	|
26+50	3.4796	2.88	O	|	|	|	|
26+55	3.0704	2.57	O	|	|	|	|
27+ 0	2.7375	2.34	O	|	|	|	|
27+ 5	2.4674	2.14	O	|	|	|	|
27+10	2.2402	1.96	O	|	|	|	|
27+15	2.0419	1.80	O	|	|	|	|
27+20	1.8651	1.64	O	|	|	|	|
27+25	1.7040	1.50	O	|	|	|	|
27+30	1.5532	1.36	O	|	|	|	|
27+35	1.4119	1.23	O	|	|	|	|
27+40	1.2844	1.13	O	|	|	|	|
27+45	1.1716	1.03	O	|	|	|	|
27+50	1.0702	0.94	O	|	|	|	|
27+55	0.9757	0.86	O	|	|	|	|
28+ 0	0.8830	0.76	O	|	|	|	|
28+ 5	0.7888	0.67	O	|	|	|	|
28+10	0.6929	0.57	O	|	|	|	|
28+15	0.5966	0.47	O	|	|	|	|
28+20	0.5061	0.39	O	|	|	|	|
28+25	0.4261	0.33	O	|	|	|	|
28+30	0.3559	0.27	O	|	|	|	|
28+35	0.2928	0.21	O	|	|	|	|
28+40	0.2368	0.17	O	|	|	|	|
28+45	0.1887	0.13	O	|	|	|	|
28+50	0.1474	0.10	O	|	|	|	|
28+55	0.1091	0.06	O	|	|	|	|
29+ 0	0.0767	0.04	O	|	|	|	|
29+ 5	0.0530	0.03	O	|	|	|	|
29+10	0.0369	0.02	O	|	|	|	|
29+15	0.0260	0.01	O	|	|	|	|
29+20	0.0183	0.01	O	|	|	|	|
29+25	0.0124	0.01	O	|	|	|	|
29+30	0.0079	0.00	O	|	|	|	|
29+35	0.0047	0.00	O	|	|	|	|
29+40	0.0025	0.00	O	|	|	|	|
29+45	0.0012	0.00	O	|	|	|	|
29+50	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 358
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2174.163 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 1.200 to Point/Station 1.200
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFF10024.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	1648.0	3296.1	4944.1	6592.2
0+ 5	0.6528	0.77	Q				
0+10	2.2576	2.84	Q				
0+15	4.7713	6.33	Q				
0+20	8.1820	11.33	Q				
0+25	12.5822	17.98	Q				
0+30	19.3069	27.75	Q				
0+35	29.5357	42.09	Q				
0+40	43.0804	61.34	Q				
0+45	55.4320	81.86	Q				
0+50	66.5015	102.46	Q				
0+55	75.7273	120.80	Q				
1+ 0	83.0125	135.92	Q				
1+ 5	88.8210	148.22	Q				
1+10	93.7673	158.49	Q				
1+15	98.1318	167.28	qQ				
1+20	102.1103	175.02	qQ				
1+25	105.7678	181.94	qQ				
1+30	109.0438	188.08	qQ				
1+35	112.0245	193.62	qQ				
1+40	114.9005	198.79	qQ				
1+45	117.5112	203.50	qQ				
1+50	119.8650	207.78	qQ				
1+55	122.1895	211.88	qQ				
2+ 0	124.2729	215.61	qQ				
2+ 5	126.3160	219.19	qQ				
2+10	128.2850	222.59	qQ				
2+15	130.1616	225.80	qQ				
2+20	132.0267	228.91	qQ				
2+25	133.7287	231.78	qQ				
2+30	135.4107	234.54	qQ				
2+35	136.9710	237.11	qQ				
2+40	138.3936	239.49	qQ				
2+45	139.8140	241.81	qQ				
2+50	141.1912	244.03	qQ				
2+55	142.5631	246.18	qQ				
3+ 0	143.8955	248.22	qQ				
3+ 5	145.1716	250.15	qQ				
3+10	146.4527	252.05	qQ				
3+15	147.6882	253.88	qQ				
3+20	148.9257	255.70	qQ				
3+25	150.1011	257.45	qQ				

3+30	151.2058	259.12	qQ	|	|	|	|
3+35	152.3153	260.79	qQ	|	|	|	|
3+40	153.4371	262.47	qQ	|	|	|	|
3+45	154.5640	264.15	qQ	|	|	|	|
3+50	155.6572	265.78	qQ	|	|	|	|
3+55	156.6971	267.36	qQ	|	|	|	|
4+ 0	157.7494	268.96	qQ	|	|	|	|
4+ 5	158.8069	270.57	qQ	|	|	|	|
4+10	159.8773	272.20	qQ	|	|	|	|
4+15	160.9063	273.79	qQ	|	|	|	|
4+20	161.8877	275.34	qQ	|	|	|	|
4+25	162.8740	276.89	qQ	|	|	|	|
4+30	163.8737	278.45	qQ	|	|	|	|
4+35	164.8789	280.01	|Q	|	|	|	|
4+40	165.8553	281.54	|Q	|	|	|	|
4+45	166.7807	283.02	|Q	|	|	|	|
4+50	167.7196	284.52	|Q	|	|	|	|
4+55	168.6642	286.02	|Q	|	|	|	|
5+ 0	169.6230	287.54	|Q	|	|	|	|
5+ 5	170.5961	289.06	|Q	|	|	|	|
5+10	171.5954	290.62	|Q	|	|	|	|
5+15	172.6010	292.18	|Q	|	|	|	|
5+20	173.6220	293.76	|Q	|	|	|	|
5+25	174.6494	295.35	|Q	|	|	|	|
5+30	175.6915	296.96	|Q	|	|	|	|
5+35	176.7388	298.58	|Q	|	|	|	|
5+40	177.8026	300.23	|Q	|	|	|	|
5+45	178.8734	301.88	|Q	|	|	|	|
5+50	179.9612	303.56	|Q	|	|	|	|
5+55	181.0253	305.23	|Q	|	|	|	|
6+ 0	182.0621	306.87	|Q	|	|	|	|
6+ 5	183.1061	308.53	|Q	|	|	|	|
6+10	184.1682	310.21	|Q	|	|	|	|
6+15	185.2381	311.91	|Q	|	|	|	|
6+20	186.3268	313.64	|Q	|	|	|	|
6+25	187.4237	315.38	|Q	|	|	|	|
6+30	188.5401	317.16	|Q	|	|	|	|
6+35	189.6338	318.91	|Q	|	|	|	|
6+40	190.6991	320.65	|Q	|	|	|	|
6+45	191.7733	322.41	|Q	|	|	|	|
6+50	192.8682	324.19	|Q	|	|	|	|
6+55	193.9725	325.99	|Q	|	|	|	|
7+ 0	195.0983	327.83	|Q	|	|	|	|
7+ 5	196.2341	329.68	|qQ	|	|	|	|
7+10	197.3922	331.57	|qQ	|	|	|	|
7+15	198.5609	333.48	|qQ	|	|	|	|
7+20	199.7529	335.42	|qQ	|	|	|	|
7+25	200.9560	337.38	|qQ	|	|	|	|
7+30	202.1835	339.38	|qQ	|	|	|	|
7+35	203.4228	341.40	|qQ	|	|	|	|
7+40	204.6874	343.46	|qQ	|	|	|	|
7+45	205.9645	345.54	|qQ	|	|	|	|
7+50	207.2682	347.66	|qQ	|	|	|	|
7+55	208.5850	349.81	|qQ	|	|	|	|
8+ 0	209.9297	352.00	|qQ	|	|	|	|
8+ 5	211.2883	354.21	|qQ	|	|	|	|
8+10	212.6760	356.47	|qQ	|	|	|	|
8+15	214.0785	358.75	|qQ	|	|	|	|
8+20	215.5115	361.08	|qQ	|	|	|	|

8+25	216.9603	363.44	|qQ	|	|	|
8+30	218.4410	365.84	|qQ	|	|	|
8+35	219.9385	368.28	|qQ	|	|	|
8+40	221.4695	370.76	|qQ	|	|	|
8+45	223.0184	373.28	|qQ	|	|	|
8+50	224.6025	375.85	|qQ	|	|	|
8+55	226.2056	378.46	|qQ	|	|	|
9+ 0	227.8458	381.12	|qQ	|	|	|
9+ 5	229.5063	383.82	|qQ	|	|	|
9+10	231.2059	386.58	|qQ	|	|	|
9+15	232.9271	389.37	|qQ	|	|	|
9+20	234.6895	392.23	|qQ	|	|	|
9+25	236.4751	395.13	|qQ	|	|	|
9+30	238.3042	398.09	|qQ	|	|	|
9+35	240.1580	401.10	|qQ	|	|	|
9+40	242.0579	404.17	|qQ	|	|	|
9+45	243.9842	407.30	|qQ	|	|	|
9+50	245.9594	410.49	|qQ	|	|	|
9+55	247.9630	413.74	|qQ	|	|	|
10+ 0	250.0183	417.07	|qQ	|	|	|
10+ 5	252.1042	420.45	|qQ	|	|	|
10+10	254.2451	423.91	|qQ	|	|	|
10+15	256.4188	427.43	|qQ	|	|	|
10+20	258.6510	431.03	|qQ	|	|	|
10+25	260.9187	434.70	|qQ	|	|	|
10+30	263.2486	438.46	|qQ	|	|	|
10+35	265.6169	442.30	|qQ	|	|	|
10+40	268.0516	446.22	|qQ	|	|	|
10+45	270.5279	450.23	|qQ	|	|	|
10+50	273.0752	454.33	|qQ	|	|	|
10+55	275.6676	458.52	|qQ	|	|	|
11+ 0	278.3361	462.82	|qQ	|	|	|
11+ 5	281.0535	467.21	|qQ	|	|	|
11+10	283.8527	471.72	|qQ	|	|	|
11+15	286.7051	476.32	|qQ	|	|	|
11+20	289.6456	481.05	|qQ	|	|	|
11+25	292.6443	485.88	|qQ	|	|	|
11+30	295.7378	490.86	|qQ	|	|	|
11+35	298.8950	495.94	|q Q	|	|	|
11+40	302.1549	501.18	|q Q	|	|	|
11+45	305.4847	506.54	|q Q	|	|	|
11+50	308.9258	512.06	|q Q	|	|	|
11+55	312.4438	517.72	|q Q	|	|	|
12+ 0	316.0828	523.56	|q Q	|	|	|
12+ 5	319.6236	529.36	|q Q	|	|	|
12+10	323.0287	535.09	|q Q	|	|	|
12+15	326.2703	540.73	|q Q	|	|	|
12+20	329.4012	546.33	|q Q	|	|	|
12+25	332.3532	551.83	| qQ	|	|	|
12+30	334.8050	556.91	| qQ	|	|	|
12+35	336.3795	561.20	| qQ	|	|	|
12+40	337.1826	564.82	| qQ	|	|	|
12+45	338.4283	568.98	| qQ	|	|	|
12+50	340.2042	573.78	| qQ	|	|	|
12+55	342.6239	579.32	| qQ	|	|	|
13+ 0	345.7834	585.70	| qQ	|	|	|
13+ 5	349.5073	592.74	| qQ	|	|	|
13+10	353.6984	600.36	| qQ	|	|	|
13+15	358.2285	608.45	| qQ	|	|	|

13+20	363.1233	617.02	qQ | | | |
13+25	368.3116	626.03	qQ | | | |
13+30	373.8992	635.59	qQ | | | |
13+35	379.8056	645.62	qQ | | | |
13+40	386.0763	656.19	qQ | | | |
13+45	392.6966	667.29	q Q | | | |
13+50	399.7751	679.04	q Q | | | |
13+55	407.1854	691.34	q Q | | | |
14+ 0	415.1122	704.38	q Q | | | |
14+ 5	425.0538	719.84	q Q | | | |
14+10	437.9160	738.97	q Q | | | |
14+15	453.5554	761.89	q Q | | | |
14+20	472.1067	788.87	q Q | | | |
14+25	493.8005	820.27	q Q | | | |
14+30	522.1290	859.81	q Q | | | |
14+35	560.0355	910.83	q Q | | | |
14+40	607.3801	973.96	q Q | | | |
14+45	652.9712	1039.31	q Q | | | |
14+50	696.9052	1105.49	q Q | | | |
14+55	737.6894	1168.62	q Q | | | |
15+ 0	775.4626	1227.71	q Q | | | |
15+ 5	811.2995	1283.83	q Q | | | |
15+10	847.1903	1339.29	q Q | | | |
15+15	883.8465	1395.33	q Q | | | |
15+20	922.4170	1453.54	q Q | | | |
15+25	960.8502	1511.90	q Q| | | |
15+30	998.8316	1569.66	q Q| | | |
15+35	1037.0312	1627.32	q Q| | | |
15+40	1077.3878	1686.90	q Q | | | |
15+45	1120.3492	1749.33	q Q | | | |
15+50	1164.3587	1813.25	q |Q | | | |
15+55	1212.8123	1882.79	q |Q | | | |
16+ 0	1279.9895	1973.21	q |Q | | | |
16+ 5	1492.9747	2223.04	q| Q | | | |
16+10	1780.3818	2575.19	q Q | | | |
16+15	2076.1086	2962.70	| q Q | | | |
16+20	2398.0872	3395.86	| q Q | | |
16+25	2783.1578	3908.50	| q | Q | | |
16+30	3435.3812	4716.62	| | q Q | | |
16+35	4238.8756	5713.74	| | | q | Q | |
16+40	4856.3895	6581.84	| | | q| Q| |
16+45	4559.8482	6592.17	| | | q | Q |
16+50	4176.9593	6351.12	| | | q | Q | |
16+55	3681.0741	5770.38	| | | q | Q | |
17+ 0	3186.0612	5081.14	| | q| Q | |
17+ 5	2795.9445	4488.43	| | q | Q | | |
17+10	2535.8614	4051.45	| | q | Q | | |
17+15	2339.7683	3711.49	| | q | Q | | |
17+20	2183.0644	3437.23	| | q | Q | | |
17+25	2040.0006	3196.24	| | q | Q| | |
17+30	1886.1686	2957.60	| |q | Q | | |
17+35	1748.0402	2744.02	| q | Q | | |
17+40	1637.6906	2565.26	| q| | Q | | |
17+45	1508.5785	2372.02	| q| | Q | | |
17+50	1389.0642	2192.61	| q | | Q | | |
17+55	1318.6197	2066.97	| q | Q | | |
18+ 0	1221.2561	1920.23	| q |Q | | |
18+ 5	1166.8446	1821.64	| q |Q | | |
18+10	1110.4165	1725.82	| q Q | | |

18+15	1055.2670	1634.39	q Q			
18+20	1013.9115	1559.75	q Q			
18+25	950.1654	1464.63	q Q			
18+30	911.9859	1397.53	q Q			
18+35	860.3250	1319.43	q Q			
18+40	809.6209	1244.71	q Q			
18+45	786.4039	1198.49	q Q			
18+50	757.4808	1147.42	q Q			
18+55	735.8217	1103.58	q Q			
19+ 0	707.3517	1053.66	q Q			
19+ 5	678.0390	1005.58	q Q			
19+10	659.0134	971.08	q Q			
19+15	633.2183	932.26	q Q			
19+20	613.7823	901.38	q Q			
19+25	584.9492	862.42	q Q			
19+30	555.5044	823.96	qQ			
19+35	542.6102	802.58	qQ			
19+40	530.8758	782.38	qQ			
19+45	518.0814	761.54	qQ			
19+50	496.9144	733.23	qQ			
19+55	474.9308	705.11	q Q			
20+ 0	464.4525	689.51	q Q			
20+ 5	454.5562	675.13	q Q			
20+10	443.5180	659.83	q Q			
20+15	424.0019	635.97	qQ			
20+20	403.4302	610.47	qQ			
20+25	394.7573	596.54	qQ			
20+30	386.5655	583.35	qQ			
20+35	377.2687	569.50	qQ			
20+40	360.0720	547.91	qQ			
20+45	341.8216	525.33	qQ			
20+50	334.9138	514.36	qQ			
20+55	329.1541	505.01	q Q			
21+ 0	323.8851	495.93	q Q			
21+ 5	320.2345	488.28	qQ			
21+10	317.1062	481.41	qQ			
21+15	312.1382	473.13	qQ			
21+20	307.4349	465.49	qQ			
21+25	302.7366	458.12	qQ			
21+30	297.8344	450.72	qQ			
21+35	292.8356	443.32	qQ			
21+40	288.1150	436.32	qQ			
21+45	283.1237	429.18	qQ			
21+50	277.1610	421.20	qQ			
21+55	265.4857	407.61	qQ			
22+ 0	252.4610	392.76	qQ			
22+ 5	248.0531	386.61	qQ			
22+10	244.1469	381.04	qQ			
22+15	240.2450	375.54	qQ			
22+20	236.1277	369.87	qQ			
22+25	231.6618	363.91	qQ			
22+30	226.2809	357.08	qQ			
22+35	215.0860	344.48	qQ			
22+40	201.8800	329.91	qQ			
22+45	198.1238	324.83	Q			
22+50	194.9758	320.40	Q			
22+55	192.0704	316.24	Q			
23+ 0	189.2982	312.25	Q			
23+ 5	186.6873	308.45	Q			

23+10	184.2091	304.82	|Q	|	|	|	|
23+15	181.8411	301.32	|Q	|	|	|	|
23+20	179.5692	297.95	|Q	|	|	|	|
23+25	177.3830	294.69	|Q	|	|	|	|
23+30	175.2738	291.53	|Q	|	|	|	|
23+35	173.3119	288.54	|Q	|	|	|	|
23+40	171.5324	285.76	|Q	|	|	|	|
23+45	169.8083	283.06	|Q	|	|	|	|
23+50	168.1358	280.43	|Q	|	|	|	|
23+55	166.5029	277.86	|Q	|	|	|	|
24+ 0	164.9031	275.34	|Q	|	|	|	|
24+ 5	162.6953	272.12	qQ	|	|	|	|
24+10	159.5851	267.67	qQ	|	|	|	|
24+15	155.6242	261.87	qQ	|	|	|	|
24+20	150.8317	254.66	qQ	|	|	|	|
24+25	145.1239	245.92	qQ	|	|	|	|
24+30	137.1769	234.17	qQ	|	|	|	|
24+35	125.8279	218.01	qQ	|	|	|	|
24+40	111.2955	197.13	qQ	|	|	|	|
24+45	98.1259	175.22	qQ	|	|	|	|
24+50	86.3970	153.49	Q	|	|	|	|
24+55	76.6473	134.27	Q	|	|	|	|
25+ 0	68.9567	118.47	Q	|	|	|	|
25+ 5	62.8336	105.68	Q	|	|	|	|
25+10	57.6523	95.07	Q	|	|	|	|
25+15	53.1163	86.05	Q	|	|	|	|
25+20	49.0285	78.20	Q	|	|	|	|
25+25	45.3127	71.27	Q	|	|	|	|
25+30	42.0308	65.19	Q	|	|	|	|
25+35	39.0859	59.80	Q	|	|	|	|
25+40	36.2896	54.84	Q	|	|	|	|
25+45	33.7944	50.41	Q	|	|	|	|
25+50	31.5943	46.47	Q	|	|	|	|
25+55	29.4530	42.76	Q	|	|	|	|
26+ 0	27.5866	39.48	Q	|	|	|	|
26+ 5	25.7860	36.39	Q	|	|	|	|
26+10	24.0897	33.53	Q	|	|	|	|
26+15	22.5092	30.89	Q	|	|	|	|
26+20	20.9679	28.39	Q	|	|	|	|
26+25	19.6108	26.18	Q	|	|	|	|
26+30	18.2992	24.10	Q	|	|	|	|
26+35	17.1276	22.25	Q	|	|	|	|
26+40	16.1169	20.63	Q	|	|	|	|
26+45	15.1237	19.09	Q	|	|	|	|
26+50	14.1950	17.67	Q	|	|	|	|
26+55	13.2860	16.36	Q	|	|	|	|
27+ 0	12.4369	15.17	Q	|	|	|	|
27+ 5	11.6575	14.12	Q	|	|	|	|
27+10	10.8924	13.13	Q	|	|	|	|
27+15	10.1851	12.23	Q	|	|	|	|
27+20	9.4947	11.36	Q	|	|	|	|
27+25	8.8777	10.58	Q	|	|	|	|
27+30	8.3493	9.90	Q	|	|	|	|
27+35	7.8261	9.24	Q	|	|	|	|
27+40	7.3076	8.59	Q	|	|	|	|
27+45	6.7938	7.97	Q	|	|	|	|
27+50	6.3309	7.40	Q	|	|	|	|
27+55	5.9306	6.91	Q	|	|	|	|
28+ 0	5.5341	6.42	Q	|	|	|	|

28+ 5	5.1412	5.93	Q	|	|	|	|
28+10	4.7518	5.44	Q	|	|	|	|
28+15	4.4125	5.01	Q	|	|	|	|
28+20	4.1370	4.64	Q	|	|	|	|
28+25	3.8642	4.29	Q	|	|	|	|
28+30	3.5938	3.95	Q	|	|	|	|
28+35	3.3259	3.62	Q	|	|	|	|
28+40	3.1026	3.34	Q	|	|	|	|
28+45	2.9379	3.13	Q	|	|	|	|
28+50	2.7750	2.92	Q	|	|	|	|
28+55	2.6135	2.72	Q	|	|	|	|
29+ 0	2.4535	2.53	Q	|	|	|	|
29+ 5	2.2866	2.34	Q	|	|	|	|
29+10	2.1096	2.15	Q	|	|	|	|
29+15	1.9342	1.96	Q	|	|	|	|
29+20	1.7601	1.78	Q	|	|	|	|
29+25	1.5876	1.60	Q	|	|	|	|
29+30	1.4176	1.43	Q	|	|	|	|
29+35	1.2506	1.26	Q	|	|	|	|
29+40	1.0850	1.09	Q	|	|	|	|
29+45	0.9207	0.92	Q	|	|	|	|
29+50	0.7577	0.76	Q	|	|	|	|
29+55	0.6271	0.63	Q	|	|	|	|
30+ 0	0.5423	0.54	Q	|	|	|	|
30+ 5	0.4584	0.46	Q	|	|	|	|
30+10	0.3752	0.38	Q	|	|	|	|
30+15	0.2927	0.29	Q	|	|	|	|
30+20	0.2107	0.21	Q	|	|	|	|
30+25	0.1294	0.13	Q	|	|	|	|
30+30	0.0487	0.05	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 366
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 6592.172 (CFS)
Total volume = 1589.759 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 08/10/17

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREAS "E", "G", & "H" ROUTING
100-YEAR, 24-HOUR EVENT
BY: JDN, DATE: 08-10-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFE10024.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 2.000 to Point/Station 2.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

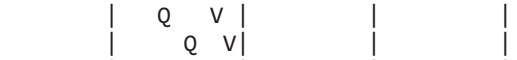
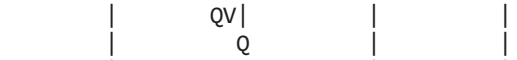
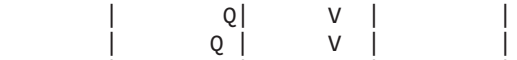
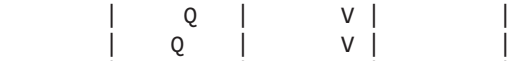
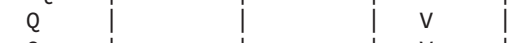
Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q				
0+45	1.0442	49.62	Q				
0+50	1.4418	57.74	Q				
0+55	1.8774	63.25	Q				
1+ 0	2.3435	67.68	Q				
1+ 5	2.8357	71.46	VQ				
1+10	3.3495	74.60	VQ				
1+15	3.8839	77.60	VQ				
1+20	4.4361	80.18	VQ				
1+25	5.0051	82.61	VQ				
1+30	5.5888	84.75	VQ				
1+35	6.1862	86.74	VQ				
1+40	6.7962	88.58	VQ				
1+45	7.4181	90.30	VQ				
1+50	8.0511	91.90	VQ				
1+55	8.6941	93.37	VQ				
2+ 0	9.3468	94.77	VQ				
2+ 5	10.0084	96.06	VQ				
2+10	10.6785	97.30	VQ				
2+15	11.3564	98.42	VQ				
2+20	12.0417	99.50	VQ				
2+25	12.7335	100.46	VQ				
2+30	13.4318	101.39	VQ				
2+35	14.1361	102.27	VQ				
2+40	14.8463	103.11	|Q				
2+45	15.5617	103.88	|Q				
2+50	16.2821	104.60	|Q				
2+55	17.0067	105.21	|Q				
3+ 0	17.7352	105.77	|Q				
3+ 5	18.4676	106.35	|Q				
3+10	19.2039	106.92	|Q				
3+15	19.9442	107.49	|Q				
3+20	20.6883	108.04	|Q				
3+25	21.4362	108.60	|Q				
3+30	22.1880	109.16	|Q				
3+35	22.9437	109.72	|Q				
3+40	23.7030	110.24	|Q				
3+45	24.4659	110.78	|Q				
3+50	25.2326	111.31	|Q				
3+55	26.0030	111.87	|Q				
4+ 0	26.7773	112.42	|Q				
4+ 5	27.5555	113.00	|Q				
4+10	28.3377	113.57	|Q				
4+15	29.1239	114.15	|QV				
4+20	29.9138	114.70	|QV				
4+25	30.7076	115.25	|QV				
4+30	31.5051	115.80	|QV				
4+35	32.3065	116.37	|QV				
4+40	33.1117	116.91	|QV				
4+45	33.9208	117.47	|QV				
4+50	34.7336	118.02	|QV				
4+55	35.5504	118.60	|QV				
5+ 0	36.3709	119.14	|QV				
5+ 5	37.1953	119.70	|QV				
5+10	38.0234	120.25	|QV				
5+15	38.8555	120.81	|QV				
5+20	39.6914	121.38	|QV				
5+25	40.5313	121.96	|QV				
5+30	41.3752	122.53	|QV				

5+35	42.2232	123.13	QV				
5+40	43.0752	123.71	Q V				
5+45	43.9315	124.32	Q V				
5+50	44.7918	124.92	Q V				
5+55	45.6564	125.55	Q V				
6+ 0	46.5253	126.16	Q V				
6+ 5	47.3986	126.80	Q V				
6+10	48.2762	127.43	Q V				
6+15	49.1584	128.09	Q V				
6+20	50.0450	128.74	Q V				
6+25	50.9363	129.41	Q V				
6+30	51.8321	130.07	Q V				
6+35	52.7327	130.77	Q V				
6+40	53.6380	131.45	Q V				
6+45	54.5482	132.16	Q V				
6+50	55.4632	132.86	Q V				
6+55	56.3832	133.59	Q V				
7+ 0	57.3082	134.31	Q V				
7+ 5	58.2384	135.06	Q V				
7+10	59.1737	135.80	Q V				
7+15	60.1143	136.58	Q V				
7+20	61.0602	137.34	Q V				
7+25	62.0115	138.13	Q V				
7+30	62.9682	138.92	Q V				
7+35	63.9306	139.74	Q V				
7+40	64.8985	140.54	Q V				
7+45	65.8722	141.39	Q V				
7+50	66.8517	142.22	Q V				
7+55	67.8372	143.09	Q V				
8+ 0	68.8285	143.95	Q V				
8+ 5	69.8261	144.84	Q V				
8+10	70.8297	145.73	Q V				
8+15	71.8397	146.65	Q V				
8+20	72.8560	147.57	Q V				
8+25	73.8789	148.52	Q V				
8+30	74.9083	149.47	Q V				
8+35	75.9445	150.45	Q V				
8+40	76.9874	151.43	Q V				
8+45	78.0373	152.45	Q V				
8+50	79.0941	153.46	Q V				
8+55	80.1583	154.51	Q V				
9+ 0	81.2296	155.56	Q V				
9+ 5	82.3085	156.65	Q V				
9+10	83.3948	157.73	Q V				
9+15	84.4889	158.86	Q V				
9+20	85.5907	159.99	Q V				
9+25	86.7006	161.16	Q V				
9+30	87.8185	162.32	Q V				
9+35	88.9448	163.54	Q V				
9+40	90.0795	164.75	Q V				
9+45	91.2228	166.01	Q V				
9+50	92.3748	167.27	Q V				
9+55	93.5359	168.58	Q V				
10+ 0	94.7059	169.89	Q V				
10+ 5	95.8854	171.26	Q V				
10+10	97.0742	172.62	Q V				
10+15	98.2729	174.04	Q V				
10+20	99.4813	175.46	Q V				
10+25	100.6999	176.95	Q V				

10+30	101.9288	178.43	Q V	|	|	|	|
10+35	103.1683	179.98	Q V	|	|	|	|
10+40	104.4185	181.52	Q V	|	|	|	|
10+45	105.6798	183.15	Q V	|	|	|	|
10+50	106.9523	184.76	Q V	|	|	|	|
10+55	108.2364	186.46	Q V	|	|	|	|
11+ 0	109.5322	188.15	Q V	|	|	|	|
11+ 5	110.8402	189.93	Q V	|	|	|	|
11+10	112.1605	191.70	Q V	|	|	|	|
11+15	113.4936	193.57	Q V	|	|	|	|
11+20	114.8396	195.43	Q V	|	|	|	|
11+25	116.1990	197.39	Q V	|	|	|	|
11+30	117.5719	199.35	Q V	|	|	|	|
11+35	118.9591	201.41	Q V	|	|	|	|
11+40	120.3604	203.48	Q V	|	|	|	|
11+45	121.7768	205.65	Q V	|	|	|	|
11+50	123.2081	207.83	Q V	|	|	|	|
11+55	124.6552	210.13	Q V	|	|	|	|
12+ 0	126.1182	212.43	Q V	|	|	|	|
12+ 5	127.5980	214.86	Q V	|	|	|	|
12+10	129.0946	217.31	Q V	|	|	|	|
12+15	130.6091	219.90	Q V	|	|	|	|
12+20	132.1416	222.51	Q V	|	|	|	|
12+25	133.6930	225.27	Q V	|	|	|	|
12+30	135.2636	228.06	Q V	|	|	|	|
12+35	136.8547	231.02	Q V	|	|	|	|
12+40	138.4663	234.02	Q V	|	|	|	|
12+45	140.1002	237.23	Q V	|	|	|	|
12+50	141.7559	240.42	Q V	|	|	|	|
12+55	143.4349	243.79	Q V	|	|	|	|
13+ 0	145.1373	247.19	Q V	|	|	|	|
13+ 5	146.8646	250.80	Q V	|	|	|	|
13+10	148.6169	254.44	Q V	|	|	|	|
13+15	150.3960	258.33	Q V	|	|	|	|
13+20	152.2022	262.25	Q V	|	|	|	|
13+25	154.0372	266.45	Q V	|	|	|	|
13+30	155.9016	270.71	Q V	|	|	|	|
13+35	157.7974	275.27	Q V	|	|	|	|
13+40	159.7251	279.90	Q V	|	|	|	|
13+45	161.6870	284.87	Q V	|	|	|	|
13+50	163.6838	289.93	Q V	|	|	|	|
13+55	165.7181	295.38	Q V	|	|	|	|
14+ 0	167.7908	300.95	Q V	|	|	|	|
14+ 5	169.9119	307.98	Q V	|	|	|	|
14+10	172.0914	316.48	Q V	|	|	|	|
14+15	174.3396	326.43	Q V	|	|	|	|
14+20	176.6643	337.54	Q V	|	|	|	|
14+25	179.0766	350.28	Q V	|	|	|	|
14+30	181.5931	365.40	Q V	|	|	|	|
14+35	184.2343	383.51	Q V	|	|	|	|
14+40	187.0375	407.02	Q V	|	|	|	|
14+45	190.0556	438.22	Q V	|	|	|	|
14+50	193.2225	459.84	Q V	|	|	|	|
14+55	196.5210	478.94	Q V	|	|	|	|
15+ 0	199.9449	497.14	Q V	|	|	|	|
15+ 5	203.4974	515.83	Q V	|	|	|	|
15+10	207.1779	534.41	Q V	|	|	|	|
15+15	210.9971	554.55	Q V	|	|	|	|
15+20	214.9590	575.26	Q V	|	|	|	|

15+25	219.0607	595.57	
15+30	223.2884	613.87	
15+35	227.6466	632.81	
15+40	232.1351	651.72	
15+45	236.7700	673.00	
15+50	241.5477	693.71	
15+55	246.5035	719.59	
16+ 0	251.6632	749.19	
16+ 5	257.5093	848.86	
16+10	264.3796	997.57	
16+15	272.1685	1130.94	
16+20	280.9315	1272.39	
16+25	290.8231	1436.27	
16+30	302.4684	1690.89	
16+35	316.0612	1973.68	
16+40	332.5999	2401.42	
16+45	351.8802	2799.51	
16+50	365.2308	1938.50	
16+55	375.9853	1561.56	
17+ 0	385.5246	1385.10	
17+ 5	394.3893	1287.16	
17+10	402.4985	1177.45	
17+15	410.1809	1115.49	
17+20	417.2800	1030.79	
17+25	423.9709	971.51	
17+30	430.1762	901.01	
17+35	435.9912	844.33	
17+40	441.4095	786.74	
17+45	446.4156	726.90	
17+50	451.0965	679.66	
17+55	455.4666	634.54	
18+ 0	459.6079	601.32	
18+ 5	463.4980	564.85	
18+10	467.1958	536.91	
18+15	470.6554	502.33	
18+20	473.9500	478.38	
18+25	477.0269	446.77	
18+30	479.9703	427.38	
18+35	482.7549	404.32	
18+40	485.4166	386.48	
18+45	487.9042	361.20	
18+50	490.2677	343.18	
18+55	492.4524	317.22	
19+ 0	494.5307	301.77	
19+ 5	496.5436	292.27	
19+10	498.4962	283.52	
19+15	500.3806	273.60	
19+20	502.2028	264.59	
19+25	503.9751	257.35	
19+30	505.6986	250.25	
19+35	507.3624	241.59	
19+40	508.9633	232.45	
19+45	510.5273	227.09	
19+50	512.0584	222.32	
19+55	513.5626	218.41	
20+ 0	515.0466	215.47	
20+ 5	516.5024	211.38	
20+10	517.9280	207.00	
20+15	519.3192	202.01	

20+20	520.6595	194.61	Q				V
20+25	521.9690	190.14	Q				V
20+30	523.2539	186.56	Q				V
20+35	524.5140	182.97	Q				V
20+40	525.7400	178.01	Q				V
20+45	526.9395	174.16	Q				V
20+50	528.1178	171.09	Q				V
20+55	529.2811	168.91	Q				V
21+ 0	530.3990	162.32	Q				V
21+ 5	531.4964	159.34	Q				V
21+10	532.5763	156.80	Q				V
21+15	533.6400	154.45	Q				V
21+20	534.6877	152.13	Q				V
21+25	535.7200	149.89	Q				V
21+30	536.7362	147.56	Q				V
21+35	537.7371	145.33	Q				V
21+40	538.7247	143.40	Q				V
21+45	539.6996	141.56	Q				V
21+50	540.6623	139.79	Q				V
21+55	541.6131	138.05	Q				V
22+ 0	542.5527	136.42	Q				V
22+ 5	543.4814	134.85	Q				V
22+10	544.3996	133.33	Q				V
22+15	545.3076	131.85	Q				V
22+20	546.2058	130.42	Q				V
22+25	547.0944	129.02	Q				V
22+30	547.9737	127.67	Q				V
22+35	548.8440	126.36	Q				V
22+40	549.7055	125.09	Q				V
22+45	550.5584	123.85	Q				V
22+50	551.4031	122.64	Q				V
22+55	552.2396	121.46	Q				V
23+ 0	553.0682	120.31	Q				V
23+ 5	553.8891	119.19	Q				V
23+10	554.7024	118.10	Q				V
23+15	555.5084	117.03	Q				V
23+20	556.3073	115.99	Q				V
23+25	557.0991	114.97	Q				V
23+30	557.8840	113.98	Q				V
23+35	558.6623	113.00	Q				V
23+40	559.4340	112.05	Q				V
23+45	560.1993	111.12	Q				V
23+50	560.9583	110.21	Q				V
23+55	561.7111	109.32	Q				V
24+ 0	562.4580	108.44	Q				V
24+ 5	563.1939	106.86	Q				V
24+10	563.9126	104.35	Q				V
24+15	564.6096	101.21	Q				V
24+20	565.2806	97.42	Q				V
24+25	565.9208	92.96	Q				V
24+30	566.5203	87.04	Q				V
24+35	567.0682	79.56	Q				V
24+40	567.5403	68.55	Q				V
24+45	567.9039	52.80	Q				V
24+50	568.2101	44.46	Q				V
24+55	568.4775	38.82	Q				V
25+ 0	568.7139	34.33	Q				V
25+ 5	568.9241	30.52	Q				V
25+10	569.1128	27.41	Q				V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

```
        Peak (CFS)   2799.507     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)    570.680     0.000     0.000     0.000     0.000
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Process from Point/Station        2.000 to Point/Station        2.100
**** STREAM ROUTING SCS CONVEX METHOD ****
______________________________________________________________________________
HYDROGRAPH STREAM ROUTING DATA:
Length of stream =   9603.00 (Ft.)
Elevation difference =  530.00 (Ft.)
Slope of channel =  0.055191 (Vert/Horiz)
Channel type - Improved Channel


Channel length =  9603.00(Ft.)     Elevation difference = 530.00(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width  =  300.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    268.931(CFS)
Depth of flow =     0.236(Ft.)
Average velocity =     3.800(Ft/s)
Total flow rate =   268.931(CFS)
Channel flow top width =  300.942(Ft.)
Depth of flow in channel =   0.24(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    3.80(Ft/s)
Travel time  =   76.87 min.
Individual channel flow =  268.931(CFS)
Total capacity of improved channels =    268.931(CFS)
Critical Depth in Channel =    0.29(Ft.)


Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea =   2799.507(CFS)
Depth of flow =     0.960(Ft.)
Average velocity =     9.657(Ft/s)
Total flow rate =  2799.507(CFS)
Channel flow top width =  303.841(Ft.)
Depth of flow in channel =   0.96(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    9.66(Ft/s)
Travel time  =   76.87 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels =   2799.507(CFS)
Critical Depth in Channel =    1.39(Ft.)


********************** SCS CONVEX CHANNEL ROUTING ********************
Convex method of stream routing  data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
          where c* = 1 - (1-c)^e and dt = c(length)/velocity
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c(v/v+1.7) = 0.8503 Travel time = 16.57 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.5699
dt(routing time-step) = 14.09 (min.), c* = 0.6612

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3118	0.73	O				
0+10	1.3035	2.41	O				
0+15	3.0346	4.76	O				
0+20	5.4660	7.79	O				
0+25	8.6030	11.54	O				
0+30	12.7979	16.82	O				
0+35	18.3978	23.71	O				
0+40	26.4009	34.24	O				
0+45	38.1445	49.62	O				
0+50	49.1970	57.74	O				
0+55	57.1962	63.25	O				
1+ 0	63.0865	67.68	O				
1+ 5	67.7363	71.46	OI				
1+10	71.5387	74.60	|O				
1+15	74.8416	77.60	|O				
1+20	77.7668	80.18	|O				
1+25	80.4018	82.61	|O				
1+30	82.7778	84.75	|O				
1+35	84.9329	86.74	|O				
1+40	86.9125	88.58	|O				
1+45	88.7493	90.30	|O				
1+50	90.4596	91.90	|O				
1+55	92.0403	93.37	|O				
2+ 0	93.5162	94.77	|O				
2+ 5	94.8964	96.06	|O				
2+10	96.1961	97.30	|O				
2+15	97.4059	98.42	|O				
2+20	98.5384	99.50	|O				
2+25	99.5842	100.46	|O				
2+30	100.5603	101.39	|O				
2+35	101.4826	102.27	|O				
2+40	102.3622	103.11	|O				
2+45	103.1849	103.88	|O				
2+50	103.9523	104.60	|O				
2+55	104.6433	105.21	|O				
3+ 0	105.2594	105.77	|O				
3+ 5	105.8446	106.35	|O				
3+10	106.4202	106.92	|O				
3+15	106.9913	107.49	|O				
3+20	107.5533	108.04	|O				
3+25	108.1149	108.60	|O				
3+30	108.6774	109.16	|O				
3+35	109.2378	109.72	|O				

3+40	109.7813	110.24	O				
3+45	110.3174	110.78	O				
3+50	110.8519	111.31	O				
3+55	111.3931	111.87	O				
4+ 0	111.9440	112.42	O				
4+ 5	112.5075	113.00	O				
4+10	113.0767	113.57	O				
4+15	113.6522	114.15	O				
4+20	114.2163	114.70	O				
4+25	114.7722	115.25	O				
4+30	115.3249	115.80	O				
4+35	115.8827	116.37	O				
4+40	116.4370	116.91	O				
4+45	116.9903	117.47	O				
4+50	117.5429	118.02	O				
4+55	118.1067	118.60	O				
5+ 0	118.6634	119.14	O				
5+ 5	119.2157	119.70	O				
5+10	119.7676	120.25	O				
5+15	120.3264	120.81	O				
5+20	120.8891	121.38	O				
5+25	121.4604	121.96	O				
5+30	122.0355	122.53	O				
5+35	122.6183	123.13	O				
5+40	123.2049	123.71	O				
5+45	123.8006	124.32	O				
5+50	124.4013	124.92	O				
5+55	125.0118	125.55	O				
6+ 0	125.6275	126.16	O				
6+ 5	126.2534	126.80	O				
6+10	126.8848	127.43	O				
6+15	127.5268	128.09	O				
6+20	128.1746	128.74	O				
6+25	128.8333	129.41	O				
6+30	129.4981	130.07	O				
6+35	130.1743	130.77	O				
6+40	130.8569	131.45	O				
6+45	131.5514	132.16	O				
6+50	132.2525	132.86	O				
6+55	132.9660	133.59	O				
7+ 0	133.6865	134.31	O				
7+ 5	134.4199	135.06	O				
7+10	135.1607	135.80	O				
7+15	135.9149	136.58	O				
7+20	136.6769	137.34	O				
7+25	137.4528	138.13	O				
7+30	138.2370	138.92	O				
7+35	139.0357	139.74	O				
7+40	139.8431	140.54	OI				
7+45	140.6658	141.39	O				
7+50	141.4976	142.22	O				
7+55	142.3453	143.09	O				
8+ 0	143.2027	143.95	O				
8+ 5	144.0767	144.84	O				
8+10	144.9609	145.73	O				
8+15	145.8626	146.65	O				
8+20	146.7751	147.57	O				
8+25	147.7059	148.52	O				
8+30	148.6482	149.47	O				

8+35	149.6096	150.45	O				
8+40	150.5832	151.43	O				
8+45	151.5770	152.45	O				
8+50	152.5836	153.46	O				
8+55	153.6115	154.51	O				
9+ 0	154.6530	155.56	O				
9+ 5	155.7169	156.65	O				
9+10	156.7953	157.73	O				
9+15	157.8973	158.86	O				
9+20	159.0147	159.99	O				
9+25	160.1570	161.16	O				
9+30	161.3159	162.32	O				
9+35	162.5010	163.54	O				
9+40	163.7037	164.75	O				
9+45	164.9343	166.01	O				
9+50	166.1837	167.27	O				
9+55	167.4625	168.58	O				
10+ 0	168.7615	169.89	O				
10+ 5	170.0918	171.26	O				
10+10	171.4438	172.62	O				
10+15	172.8289	174.04	O				
10+20	174.2374	175.46	O				
10+25	175.6811	176.95	O				
10+30	177.1499	178.43	O				
10+35	178.6565	179.98	O				
10+40	180.1899	181.52	O				
10+45	181.7637	183.15	O				
10+50	183.3666	184.76	O				
10+55	185.0126	186.46	O				
11+ 0	186.6901	188.15	O				
11+ 5	188.4139	189.93	O				
11+10	190.1718	191.70	O				
11+15	191.9795	193.57	O				
11+20	193.8242	195.43	O				
11+25	195.7226	197.39	O				
11+30	197.6613	199.35	O				
11+35	199.6579	201.41	O				
11+40	201.6986	203.48	O				
11+45	203.8021	205.65	O				
11+50	205.9537	207.83	O				
11+55	208.1735	210.13	OI				
12+ 0	210.4463	212.43	O				
12+ 5	212.7951	214.86	O				
12+10	215.2065	217.31	O				
12+15	217.7035	219.90	O				
12+20	220.2692	222.51	O				
12+25	222.9283	225.27	O				
12+30	225.6653	228.06	O				
12+35	228.5089	231.02	O				
12+40	231.4469	234.02	O				
12+45	234.5161	237.23	O				
12+50	237.6702	240.42	O				
12+55	240.9259	243.79	O				
13+ 0	244.2686	247.19	O				
13+ 5	247.7378	250.80	O				
13+10	251.3145	254.44	O				
13+15	255.0384	258.33	O				
13+20	258.8879	262.25	O				
13+25	262.9051	266.45	O				

13+30	267.0667	270.71	O				
13+35	271.4192	275.27	O				
13+40	275.9386	279.90	O				
13+45	280.6769	284.87	O				
13+50	285.6089	289.93	O				
13+55	290.7933	295.38	O				
14+ 0	296.2044	300.95	O				
14+ 5	302.3426	307.98	O				
14+10	309.6951	316.48	O				
14+15	318.4256	326.43	O				
14+20	328.4586	337.54	O				
14+25	339.8963	350.28	OI				
14+30	353.2088	365.40	O				
14+35	368.9921	383.51	O				
14+40	388.6213	407.02	O				
14+45	414.0988	438.22	OI				
14+50	439.2700	459.84	O				
14+55	461.0192	478.94	O				
15+ 0	480.6337	497.14	OI				
15+ 5	499.5191	515.83	O				
15+10	518.2282	534.41	O				
15+15	537.5196	554.55	O				
15+20	557.6148	575.26	OI				
15+25	577.9466	595.57	O				
15+30	597.4041	613.87	O				
15+35	616.3694	632.81	OI				
15+40	635.3068	651.72	O				
15+45	655.2353	673.00	O				
15+50	675.8160	693.71	O				
15+55	698.6873	719.59	OI				
16+ 0	725.1337	749.19	O				
16+ 5	783.5562	848.86	OI				
16+10	890.1727	997.57	O I				
16+15	1018.0790	1130.94	O I				
16+20	1153.0421	1272.39	O I				
16+25	1301.8620	1436.27	O I				
16+30	1499.3488	1690.89	O I				
16+35	1746.6287	1973.68	O I				
16+40	2079.2219	2401.42	O	I			
16+45	2462.0759	2799.51	O	I			
16+50	2317.8765	1938.50	O	I			
16+55	1906.2382	1561.56	I O	I			
17+ 0	1603.0639	1385.10	I O				
17+ 5	1417.1695	1287.16	I O				
17+10	1284.4078	1177.45	I O				
17+15	1187.2563	1115.49	IO				
17+20	1103.6728	1030.79	IO				
17+25	1030.1970	971.51	IO				
17+30	961.3220	901.01	IO				
17+35	897.2673	844.33	O				
17+40	837.6969	786.74	O				
17+45	778.4751	726.90	IO				
17+50	724.2192	679.66	IO				
17+55	675.5099	634.54	O				
18+ 0	634.2490	601.32	IO				
18+ 5	596.9175	564.85	O				
18+10	563.7970	536.91	IO				
18+15	531.2691	502.33	O				
18+20	501.9174	478.38	IO				

18+25	472.8686	446.77	O			
18+30	447.3400	427.38	O			
18+35	424.3066	404.32	IO			
18+40	403.4838	386.48	O			
18+45	381.4569	361.20	O			
18+50	360.3764	343.18	IO			
18+55	337.9329	317.22	O			
19+ 0	317.6483	301.77	O			
19+ 5	303.0976	292.27	O			
19+10	292.2052	283.52	O			
19+15	282.2322	273.60	IO			
19+20	272.6803	264.59	O			
19+25	264.2402	257.35	O			
19+30	256.6543	250.25	O			
19+35	248.7232	241.59	O			
19+40	240.1084	232.45	O			
19+45	232.7581	227.09	O			
19+50	226.9756	222.32	O			
19+55	222.2291	218.41	O			
20+ 0	218.4492	215.47	O			
20+ 5	214.7345	211.38	O			
20+10	210.6473	207.00	IO			
20+15	206.1047	202.01	O			
20+20	200.2398	194.61	O			
20+25	194.6128	190.14	O			
20+30	190.1293	186.56	O			
20+35	186.2391	182.97	O			
20+40	181.9639	178.01	O			
20+45	177.7089	174.16	O			
20+50	174.0548	171.09	O			
20+55	171.1633	168.91	O			
21+ 0	166.8622	162.32	O			
21+ 5	162.5899	159.34	O			
21+10	159.3569	156.80	O			
21+15	156.6620	154.45	O			
21+20	154.2088	152.13	O			
21+25	151.8790	149.89	O			
21+30	149.5685	147.56	O			
21+35	147.2871	145.33	O			
21+40	145.1687	143.40	O			
21+45	143.2145	141.56	O			
21+50	141.3639	139.79	IO			
21+55	139.5806	138.05	O			
22+ 0	137.8749	136.42	O			
22+ 5	136.2438	134.85	O			
22+10	134.6721	133.33	O			
22+15	133.1520	131.85	O			
22+20	131.6791	130.42	O			
22+25	130.2501	129.02	O			
22+30	128.8636	127.67	O			
22+35	127.5182	126.36	O			
22+40	126.2112	125.09	O			
22+45	124.9400	123.85	O			
22+50	123.7025	122.64	O			
22+55	122.4972	121.46	O			
23+ 0	121.3225	120.31	O			
23+ 5	120.1772	119.19	O			
23+10	119.0600	118.10	O			
23+15	117.9698	117.03	O			

23+20	116.9053	115.99	|O	|	|	|	|
23+25	115.8656	114.97	|O	|	|	|	|
23+30	114.8498	113.98	|O	|	|	|	|
23+35	113.8569	113.00	|O	|	|	|	|
23+40	112.8860	112.05	|O	|	|	|	|
23+45	111.9364	111.12	|O	|	|	|	|
23+50	111.0073	110.21	|O	|	|	|	|
23+55	110.0980	109.32	|O	|	|	|	|
24+ 0	109.2077	108.44	|O	|	|	|	|
24+ 5	108.0248	106.86	|O	|	|	|	|
24+10	106.1840	104.35	|O	|	|	|	|
24+15	103.6324	101.21	|O	|	|	|	|
24+20	100.4156	97.42	|O	|	|	|	|
24+25	96.5349	92.96	|O	|	|	|	|
24+30	91.6450	87.04	|O	|	|	|	|
24+35	85.4091	79.56	|O	|	|	|	|
24+40	76.8446	68.55	IO	|	|	|	|
24+45	64.6394	52.80	O	|	|	|	|
24+50	53.2513	44.46	O	|	|	|	|
24+55	45.0340	38.82	O	|	|	|	|
25+ 0	39.0095	34.33	O	|	|	|	|
25+ 5	34.2911	30.52	O	|	|	|	|
25+10	30.4698	27.41	O	|	|	|	|
25+15	27.1921	24.47	O	|	|	|	|
25+20	24.3278	21.97	O	|	|	|	|
25+25	21.7878	19.67	O	|	|	|	|
25+30	19.5351	17.67	O	|	|	|	|
25+35	17.5313	15.86	O	|	|	|	|
25+40	15.7257	14.22	O	|	|	|	|
25+45	14.0864	12.71	O	|	|	|	|
25+50	12.5925	11.34	O	|	|	|	|
25+55	11.2486	10.13	O	|	|	|	|
26+ 0	10.0254	9.00	O	|	|	|	|
26+ 5	8.9156	7.99	O	|	|	|	|
26+10	7.8997	7.04	O	|	|	|	|
26+15	6.9894	6.24	O	|	|	|	|
26+20	6.1678	5.48	O	|	|	|	|
26+25	5.4466	4.86	O	|	|	|	|
26+30	4.8046	4.27	O	|	|	|	|
26+35	4.2285	3.75	O	|	|	|	|
26+40	3.7032	3.26	O	|	|	|	|
26+45	3.2457	2.87	O	|	|	|	|
26+50	2.8506	2.52	O	|	|	|	|
26+55	2.5413	2.31	O	|	|	|	|
27+ 0	2.3125	2.13	O	|	|	|	|
27+ 5	2.1228	1.97	O	|	|	|	|
27+10	1.9472	1.80	O	|	|	|	|
27+15	1.7838	1.65	O	|	|	|	|
27+20	1.6339	1.51	O	|	|	|	|
27+25	1.4920	1.37	O	|	|	|	|
27+30	1.3535	1.23	O	|	|	|	|
27+35	1.2247	1.12	O	|	|	|	|
27+40	1.1170	1.03	O	|	|	|	|
27+45	1.0242	0.95	O	|	|	|	|
27+50	0.9371	0.86	O	|	|	|	|
27+55	0.8507	0.78	O	|	|	|	|
28+ 0	0.7587	0.68	O	|	|	|	|
28+ 5	0.6618	0.58	O	|	|	|	|
28+10	0.5635	0.48	O	|	|	|	|

28+15	0.4669	0.38	O	|	|	|	|
28+20	0.3861	0.32	O	|	|	|	|
28+25	0.3215	0.27	O	|	|	|	|
28+30	0.2643	0.22	O	|	|	|	|
28+35	0.2100	0.16	O	|	|	|	|
28+40	0.1636	0.13	O	|	|	|	|
28+45	0.1263	0.10	O	|	|	|	|
28+50	0.0938	0.07	O	|	|	|	|
28+55	0.0585	0.03	O	|	|	|	|
29+ 0	0.0347	0.02	O	|	|	|	|
29+ 5	0.0237	0.02	O	|	|	|	|
29+10	0.0175	0.01	O	|	|	|	|
29+15	0.0129	0.01	O	|	|	|	|
29+20	0.0089	0.01	O	|	|	|	|
29+25	0.0051	0.00	O	|	|	|	|
29+30	0.0022	0.00	O	|	|	|	|
29+35	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 355
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2462.076 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.100 to Point/Station 2.100
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

****

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFG10024.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	667.8	1335.6	2003.4	2671.2
0+ 5	0.0821	0.39	Q	|	|	|	|
0+10	0.3407	1.64	Q	|	|	|	|
0+15	0.7832	3.82	Q	|	|	|	|
0+20	1.6440	7.11	Q	|	|	|	|
0+25	2.8760	11.48	Q	|	|	|	|
0+30	4.1256	16.92	Q	|	|	|	|
0+35	4.8337	23.23	Q	|	|	|	|
0+40	5.3293	31.73	Q	|	|	|	|
0+45	5.7180	43.86	Q	|	|	|	|
0+50	6.0417	55.24	Q	|	|	|	|
0+55	6.3166	63.51	Q	|	|	|	|

1+ 0	6.5477	69.63	qQ	|	|	|	|
1+ 5	6.7493	74.49	qQ	|	|	|	|
1+10	6.9312	78.47	qQ	|	|	|	|
1+15	7.0950	81.94	qQ	|	|	|	|
1+20	7.2410	85.01	qQ	|	|	|	|
1+25	7.3659	87.77	qQ	|	|	|	|
1+30	7.4791	90.26	qQ	|	|	|	|
1+35	7.5832	92.52	qQ	|	|	|	|
1+40	7.6791	94.59	qQ	|	|	|	|
1+45	7.7665	96.52	qQ	|	|	|	|
1+50	7.8418	98.30	qQ	|	|	|	|
1+55	7.9103	99.95	qQ	|	|	|	|
2+ 0	7.9787	101.49	qQ	|	|	|	|
2+ 5	8.0406	102.94	qQ	|	|	|	|
2+10	8.1028	104.30	qQ	|	|	|	|
2+15	8.1606	105.57	qQ	|	|	|	|
2+20	8.2140	106.75	qQ	|	|	|	|
2+25	8.2670	107.85	qQ	|	|	|	|
2+30	8.3167	108.88	qQ	|	|	|	|
2+35	8.3649	109.85	qQ	|	|	|	|
2+40	8.4139	110.78	qQ	|	|	|	|
2+45	8.4623	111.65	qQ	|	|	|	|
2+50	8.5117	112.46	qQ	|	|	|	|
2+55	8.5602	113.20	qQ	|	|	|	|
3+ 0	8.6093	113.87	qQ	|	|	|	|
3+ 5	8.6575	114.50	qQ	|	|	|	|
3+10	8.7017	115.12	qQ	|	|	|	|
3+15	8.7451	115.74	qQ	|	|	|	|
3+20	8.7896	116.34	qQ	|	|	|	|
3+25	8.8311	116.95	qQ	|	|	|	|
3+30	8.8709	117.55	qQ	|	|	|	|
3+35	8.9105	118.15	qQ	|	|	|	|
3+40	8.9512	118.73	qQ	|	|	|	|
3+45	8.9916	119.31	qQ	|	|	|	|
3+50	9.0332	119.89	qQ	|	|	|	|
3+55	9.0746	120.47	qQ	|	|	|	|
4+ 0	9.1171	121.06	qQ	|	|	|	|
4+ 5	9.1594	121.67	qQ	|	|	|	|
4+10	9.2028	122.28	qQ	|	|	|	|
4+15	9.2461	122.90	qQ	|	|	|	|
4+20	9.2906	123.51	qQ	|	|	|	|
4+25	9.3349	124.11	qQ	|	|	|	|
4+30	9.3804	124.71	qQ	|	|	|	|
4+35	9.4257	125.31	qQ	|	|	|	|
4+40	9.4723	125.91	qQ	|	|	|	|
4+45	9.5187	126.51	qQ	|	|	|	|
4+50	9.5665	127.11	qQ	|	|	|	|
4+55	9.6140	127.72	qQ	|	|	|	|
5+ 0	9.6629	128.33	qQ	|	|	|	|
5+ 5	9.7116	128.93	qQ	|	|	|	|
5+10	9.7617	129.53	qQ	|	|	|	|
5+15	9.8117	130.14	qQ	|	|	|	|
5+20	9.8630	130.75	qQ	|	|	|	|
5+25	9.9142	131.37	qQ	|	|	|	|
5+30	9.9669	132.00	qQ	|	|	|	|
5+35	10.0194	132.64	qQ	|	|	|	|
5+40	10.0735	133.28	qQ	|	|	|	|
5+45	10.1274	133.93	q Q	|	|	|	|
5+50	10.1829	134.58	q Q	|	|	|	|

5+55	10.2382	135.25	q Q	|	|	|	|
6+ 0	10.2952	135.92	q Q	|	|	|	|
6+ 5	10.3520	136.61	q Q	|	|	|	|
6+10	10.4105	137.30	q Q	|	|	|	|
6+15	10.4689	138.00	q Q	|	|	|	|
6+20	10.5291	138.70	q Q	|	|	|	|
6+25	10.5891	139.42	q Q	|	|	|	|
6+30	10.6509	140.15	q Q	|	|	|	|
6+35	10.7126	140.89	q Q	|	|	|	|
6+40	10.7762	141.63	q Q	|	|	|	|
6+45	10.8397	142.39	q Q	|	|	|	|
6+50	10.9051	143.16	q Q	|	|	|	|
6+55	10.9705	143.94	q Q	|	|	|	|
7+ 0	11.0379	144.72	q Q	|	|	|	|
7+ 5	11.1052	145.53	q Q	|	|	|	|
7+10	11.1746	146.34	q Q	|	|	|	|
7+15	11.2439	147.16	q Q	|	|	|	|
7+20	11.3155	147.99	q Q	|	|	|	|
7+25	11.3870	148.84	q Q	|	|	|	|
7+30	11.4608	149.70	q Q	|	|	|	|
7+35	11.5345	150.57	q Q	|	|	|	|
7+40	11.6107	151.45	q Q	|	|	|	|
7+45	11.6868	152.35	q Q	|	|	|	|
7+50	11.7654	153.26	q Q	|	|	|	|
7+55	11.8440	154.19	q Q	|	|	|	|
8+ 0	11.9252	155.13	q Q	|	|	|	|
8+ 5	12.0064	156.08	q Q	|	|	|	|
8+10	12.0903	157.05	q Q	|	|	|	|
8+15	12.1743	158.04	q Q	|	|	|	|
8+20	12.2611	159.04	q Q	|	|	|	|
8+25	12.3480	160.05	q Q	|	|	|	|
8+30	12.4379	161.09	q Q	|	|	|	|
8+35	12.5279	162.14	q Q	|	|	|	|
8+40	12.6210	163.20	q Q	|	|	|	|
8+45	12.7143	164.29	q Q	|	|	|	|
8+50	12.8108	165.39	q Q	|	|	|	|
8+55	12.9075	166.52	q Q	|	|	|	|
9+ 0	13.0076	167.66	q Q	|	|	|	|
9+ 5	13.1079	168.82	q Q	|	|	|	|
9+10	13.2119	170.01	q Q	|	|	|	|
9+15	13.3161	171.21	q Q	|	|	|	|
9+20	13.4242	172.44	q Q	|	|	|	|
9+25	13.5325	173.69	q Q	|	|	|	|
9+30	13.6449	174.96	q Q	|	|	|	|
9+35	13.7577	176.26	q Q	|	|	|	|
9+40	13.8747	177.58	q Q	|	|	|	|
9+45	13.9921	178.93	q Q	|	|	|	|
9+50	14.1140	180.30	q Q	|	|	|	|
9+55	14.2365	181.70	q Q	|	|	|	|
10+ 0	14.3636	183.13	q Q	|	|	|	|
10+ 5	14.4914	184.58	q Q	|	|	|	|
10+10	14.6242	186.07	q Q	|	|	|	|
10+15	14.7578	187.59	q Q	|	|	|	|
10+20	14.8966	189.13	q Q	|	|	|	|
10+25	15.0363	190.72	q Q	|	|	|	|
10+30	15.1817	192.33	q Q	|	|	|	|
10+35	15.3280	193.98	q Q	|	|	|	|
10+40	15.4803	195.67	q Q	|	|	|	|
10+45	15.6338	197.40	q Q	|	|	|	|

10+50	15.7936	199.16	q Q	|	|	|	|
10+55	15.9548	200.97	q Q	|	|	|	|
11+ 0	16.1228	202.81	q Q	|	|	|	|
11+ 5	16.2923	204.71	q Q	|	|	|	|
11+10	16.4691	206.64	q Q	|	|	|	|
11+15	16.6477	208.63	q Q	|	|	|	|
11+20	16.8341	210.66	q Q	|	|	|	|
11+25	17.0225	212.75	q Q	|	|	|	|
11+30	17.2194	214.88	q Q	|	|	|	|
11+35	17.4186	217.08	q Q	|	|	|	|
11+40	17.6269	219.33	q Q	|	|	|	|
11+45	17.8378	221.64	q Q	|	|	|	|
11+50	18.0587	224.01	q Q	|	|	|	|
11+55	18.2824	226.46	q Q	|	|	|	|
12+ 0	18.5171	228.96	q Q	|	|	|	|
12+ 5	18.7267	231.52	q Q	|	|	|	|
12+10	18.8869	234.09	q Q	|	|	|	|
12+15	18.9870	236.69	q Q	|	|	|	|
12+20	18.9546	239.22	q Q	|	|	|	|
12+25	18.7966	241.72	q Q	|	|	|	|
12+30	18.6442	244.31	q Q	|	|	|	|
12+35	18.6816	247.19	q Q	|	|	|	|
12+40	18.8059	250.25	q Q	|	|	|	|
12+45	18.9722	253.49	q Q	|	|	|	|
12+50	19.1767	256.85	q Q	|	|	|	|
12+55	19.4043	260.33	q Q	|	|	|	|
13+ 0	19.6651	263.93	q Q	|	|	|	|
13+ 5	19.9435	267.68	q Q	|	|	|	|
13+10	20.2492	271.56	q Q	|	|	|	|
13+15	20.5701	275.61	q Q	|	|	|	|
13+20	20.9202	279.81	q Q	|	|	|	|
13+25	21.2885	284.19	q Q	|	|	|	|
13+30	21.6871	288.75	q Q	|	|	|	|
13+35	22.1020	293.52	q Q	|	|	|	|
13+40	22.5500	298.49	q Q	|	|	|	|
13+45	23.0167	303.69	q Q	|	|	|	|
13+50	23.5227	309.13	q Q	|	|	|	|
13+55	24.0502	314.84	q Q	|	|	|	|
14+ 0	24.6190	320.82	q Q	|	|	|	|
14+ 5	25.2254	327.57	q Q	|	|	|	|
14+10	25.9056	335.60	q Q	|	|	|	|
14+15	26.6437	345.07	q Q	|	|	|	|
14+20	27.5024	355.96	q Q	|	|	|	|
14+25	28.4534	368.35	q Q	|	|	|	|
14+30	29.4825	382.69	q Q	|	|	|	|
14+35	30.4863	399.48	q Q	|	|	|	|
14+40	31.5508	420.17	q Q	|	|	|	|
14+45	32.6652	446.76	q Q	|	|	|	|
14+50	33.8846	473.15	q Q	|	|	|	|
14+55	35.1839	496.20	q Q	|	|	|	|
15+ 0	36.6261	517.26	q Q	|	|	|	|
15+ 5	38.1843	537.70	q Q	|	|	|	|
15+10	39.9427	558.17	q Q	|	|	|	|
15+15	41.8721	579.39	q Q	|	|	|	|
15+20	44.0844	601.70	q Q	|	|	|	|
15+25	46.6596	624.61	q Q	|	|	|	|
15+30	49.8835	647.29	q Q	|	|	|	|
15+35	53.7875	670.16	q Q	|	|	|	|
15+40	58.9510	694.26	q Q	|	|	|	|

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15+45      65.5643    720.80  q         Q          |          |          |
15+50      74.0430    749.86  |q        |Q         |          |          |
15+55      84.9906    783.68  |q        |Q         |          |          |
16+ 0     102.3883    827.52  |q        | Q        |          |          |
16+ 5     145.9227    929.48  | q       |  Q       |          |          |
16+10     217.7918   1107.96  |  q      |     Q    |          |          |
16+15     295.8148   1313.89  |   q     |        Q |          |          |
16+20     420.8284   1573.87  |     q   |          |  Q       |          |
16+25     509.7660   1811.63  |      q  |          |     Q    |          |
16+30     488.1557   1987.50  |      q  |          |       Q  |          |
16+35     330.4192   2077.05  |   q     |          |         Q|          |
16+40     253.7924   2333.01  |  q      |          |          |   Q      |
16+45     209.1718   2671.25  |  q      |          |          |         Q|
16+50     178.4480   2496.32  | q       |          |          |      Q   |
16+55     154.9942   2061.23  | q       |          |        Q |          |
17+ 0     134.7944   1737.86  | q       |          |     Q    |          |
17+ 5     119.8413   1537.01  |q        |          |  Q       |          |
17+10     108.0417   1392.45  |q        |          Q          |          |
17+15      97.5388   1284.80  |q        |         Q|          |          |
17+20      87.4352   1191.11  |q        |       Q  |          |          |
17+25      77.4496   1107.65  |q        |      Q   |          |          |
17+30      70.0937   1031.42  |q        |     Q    |          |          |
17+35      64.1443    961.41  q         |    Q     |          |          |
17+40      58.5161    896.21  q         |   Q      |          |          |
17+45      53.2840    831.76  q         |  Q       |          |          |
17+50      47.4374    771.66  q         | Q        |          |          |
17+55      43.5503    719.06  q         |Q         |          |          |
18+ 0      41.1932    675.44  q         Q          |          |          |
18+ 5      37.9642    634.88  q        Q|          |          |          |
18+10      36.1327    599.93  q       Q |          |          |          |
18+15      33.7201    564.99  q       Q |          |          |          |
18+20      31.3656    533.28  q      Q  |          |          |          |
18+25      30.4015    503.27  q      Q  |          |          |          |
18+30      28.6910    476.03  q      Q  |          |          |          |
18+35      27.6322    451.94  q     Q   |          |          |          |
18+40      26.8887    430.37  q     Q   |          |          |          |
18+45      26.1094    407.57  q     Q   |          |          |          |
18+50      25.4115    385.79  q    Q    |          |          |          |
18+55      24.5503    362.48  q    Q    |          |          |          |
19+ 0      23.6891    341.34  q    Q    |          |          |          |
19+ 5      22.6970    325.79  q   Q     |          |          |          |
19+10      20.7775    312.98  q   Q     |          |          |          |
19+15      19.9474    302.18  q   Q     |          |          |          |
19+20      19.2530    291.93  q   Q     |          |          |          |
19+25      17.9388    282.18  q   Q     |          |          |          |
19+30      16.7433    273.40  q   Q     |          |          |          |
19+35      16.2966    265.02  q  Q      |          |          |          |
19+40      15.9142    256.02  q  Q      |          |          |          |
19+45      15.5679    248.33  q  Q      |          |          |          |
19+50      15.2465    242.22  q  Q      |          |          |          |
19+55      14.9441    237.17  q  Q      |          |          |          |
20+ 0      14.6594    233.11  q  Q      |          |          |          |
20+ 5      14.3886    229.12  q  Q      |          |          |          |
20+10      14.1324    224.78  q  Q      |          |          |          |
20+15      13.8875    219.99  q  Q      |          |          |          |
20+20      13.6525    213.89  q  Q      |          |          |          |
20+25      13.4283    208.04  q  Q      |          |          |          |
20+30      13.2129    203.34  q  Q      |          |          |          |
20+35      13.0061    199.25  q Q       |          |          |          |
```

20+40	12.8076	194.77	q Q	|	|	|	|
20+45	12.6168	190.33	q Q	|	|	|	|
20+50	12.4334	186.49	q Q	|	|	|	|
20+55	12.2566	183.42	q Q	|	|	|	|
21+ 0	12.0860	178.95	q Q	|	|	|	|
21+ 5	11.9213	174.51	q Q	|	|	|	|
21+10	11.7606	171.12	q Q	|	|	|	|
21+15	11.6050	168.27	q Q	|	|	|	|
21+20	11.4546	165.66	q Q	|	|	|	|
21+25	11.3081	163.19	q Q	|	|	|	|
21+30	11.1653	160.73	q Q	|	|	|	|
21+35	11.0269	158.31	q Q	|	|	|	|
21+40	10.8926	156.06	q Q	|	|	|	|
21+45	10.7623	153.98	q Q	|	|	|	|
21+50	10.6358	152.00	q Q	|	|	|	|
21+55	10.5130	150.09	q Q	|	|	|	|
22+ 0	10.3935	148.27	q Q	|	|	|	|
22+ 5	10.2774	146.52	q Q	|	|	|	|
22+10	10.1644	144.84	q Q	|	|	|	|
22+15	10.0544	143.21	q Q	|	|	|	|
22+20	9.9473	141.63	q Q	|	|	|	|
22+25	9.8429	140.09	q Q	|	|	|	|
22+30	9.7412	138.60	q Q	|	|	|	|
22+35	9.6421	137.16	q Q	|	|	|	|
22+40	9.5453	135.76	q Q	|	|	|	|
22+45	9.4509	134.39	q Q	|	|	|	|
22+50	9.3588	133.06	qQ	|	|	|	|
22+55	9.2689	131.77	qQ	|	|	|	|
23+ 0	9.1810	130.50	qQ	|	|	|	|
23+ 5	9.0951	129.27	qQ	|	|	|	|
23+10	9.0112	128.07	qQ	|	|	|	|
23+15	8.9291	126.90	qQ	|	|	|	|
23+20	8.8489	125.75	qQ	|	|	|	|
23+25	8.7703	124.64	qQ	|	|	|	|
23+30	8.6935	123.54	qQ	|	|	|	|
23+35	8.6183	122.48	qQ	|	|	|	|
23+40	8.5446	121.43	qQ	|	|	|	|
23+45	8.4725	120.41	qQ	|	|	|	|
23+50	8.4018	119.41	qQ	|	|	|	|
23+55	8.3326	118.43	qQ	|	|	|	|
24+ 0	8.2647	117.47	qQ	|	|	|	|
24+ 5	8.1162	116.14	qQ	|	|	|	|
24+10	7.7938	113.98	qQ	|	|	|	|
24+15	7.2919	110.92	qQ	|	|	|	|
24+20	6.3786	106.79	qQ	|	|	|	|
24+25	5.1051	101.64	qQ	|	|	|	|
24+30	3.8284	95.47	qQ	|	|	|	|
24+35	3.1064	88.52	qQ	|	|	|	|
24+40	2.6053	79.45	qQ	|	|	|	|
24+45	2.2163	66.86	qQ	|	|	|	|
24+50	1.8973	55.15	Q	|	|	|	|
24+55	1.6304	46.66	Q	|	|	|	|
25+ 0	1.4110	40.42	Q	|	|	|	|
25+ 5	1.2231	35.51	Q	|	|	|	|
25+10	1.0579	31.53	Q	|	|	|	|
25+15	0.9125	28.10	Q	|	|	|	|
25+20	0.7871	25.11	Q	|	|	|	|
25+25	0.6840	22.47	Q	|	|	|	|
25+30	0.5946	20.13	Q	|	|	|	|

25+35	0.5150	18.05	Q	|	|	|	|
25+40	0.4453	16.17	Q	|	|	|	|
25+45	0.3847	14.47	Q	|	|	|	|
25+50	0.3376	12.93	Q	|	|	|	|
25+55	0.2976	11.55	Q	|	|	|	|
26+ 0	0.2592	10.28	Q	|	|	|	|
26+ 5	0.2272	9.14	Q	|	|	|	|
26+10	0.1964	8.10	Q	|	|	|	|
26+15	0.1700	7.16	Q	|	|	|	|
26+20	0.1491	6.32	Q	|	|	|	|
26+25	0.1287	5.58	Q	|	|	|	|
26+30	0.1127	4.92	Q	|	|	|	|
26+35	0.0982	4.33	Q	|	|	|	|
26+40	0.0840	3.79	Q	|	|	|	|
26+45	0.0703	3.32	Q	|	|	|	|
26+50	0.0567	2.91	Q	|	|	|	|
26+55	0.0440	2.59	Q	|	|	|	|
27+ 0	0.0318	2.34	Q	|	|	|	|
27+ 5	0.0204	2.14	Q	|	|	|	|
27+10	0.0141	1.96	Q	|	|	|	|
27+15	0.0084	1.79	Q	|	|	|	|
27+20	0.0028	1.64	Q	|	|	|	|
27+25	0.0000	1.49	Q	|	|	|	|
27+30	0.0000	1.35	Q	|	|	|	|
27+35	0.0000	1.22	Q	|	|	|	|
27+40	0.0000	1.12	Q	|	|	|	|
27+45	0.0000	1.02	Q	|	|	|	|
27+50	0.0000	0.94	Q	|	|	|	|
27+55	0.0000	0.85	Q	|	|	|	|
28+ 0	0.0000	0.76	Q	|	|	|	|
28+ 5	0.0000	0.66	Q	|	|	|	|
28+10	0.0000	0.56	Q	|	|	|	|
28+15	0.0000	0.47	Q	|	|	|	|
28+20	0.0000	0.39	Q	|	|	|	|
28+25	0.0000	0.32	Q	|	|	|	|
28+30	0.0000	0.26	Q	|	|	|	|
28+35	0.0000	0.21	Q	|	|	|	|
28+40	0.0000	0.16	Q	|	|	|	|
28+45	0.0000	0.13	Q	|	|	|	|
28+50	0.0000	0.09	Q	|	|	|	|
28+55	0.0000	0.06	Q	|	|	|	|
29+ 0	0.0000	0.03	Q	|	|	|	|
29+ 5	0.0000	0.02	Q	|	|	|	|
29+10	0.0000	0.02	Q	|	|	|	|
29+15	0.0000	0.01	Q	|	|	|	|
29+20	0.0000	0.01	Q	|	|	|	|
29+25	0.0000	0.01	Q	|	|	|	|
29+30	0.0000	0.00	Q	|	|	|	|
29+35	0.0000	0.00	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 355
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2671.248 (CFS)
Total volume = 628.843 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.100 to Point/Station 2.100

**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 2
Total volume of excess flow diverted into flowby
basin (stream number 2) is 314.42(Ac.Ft)

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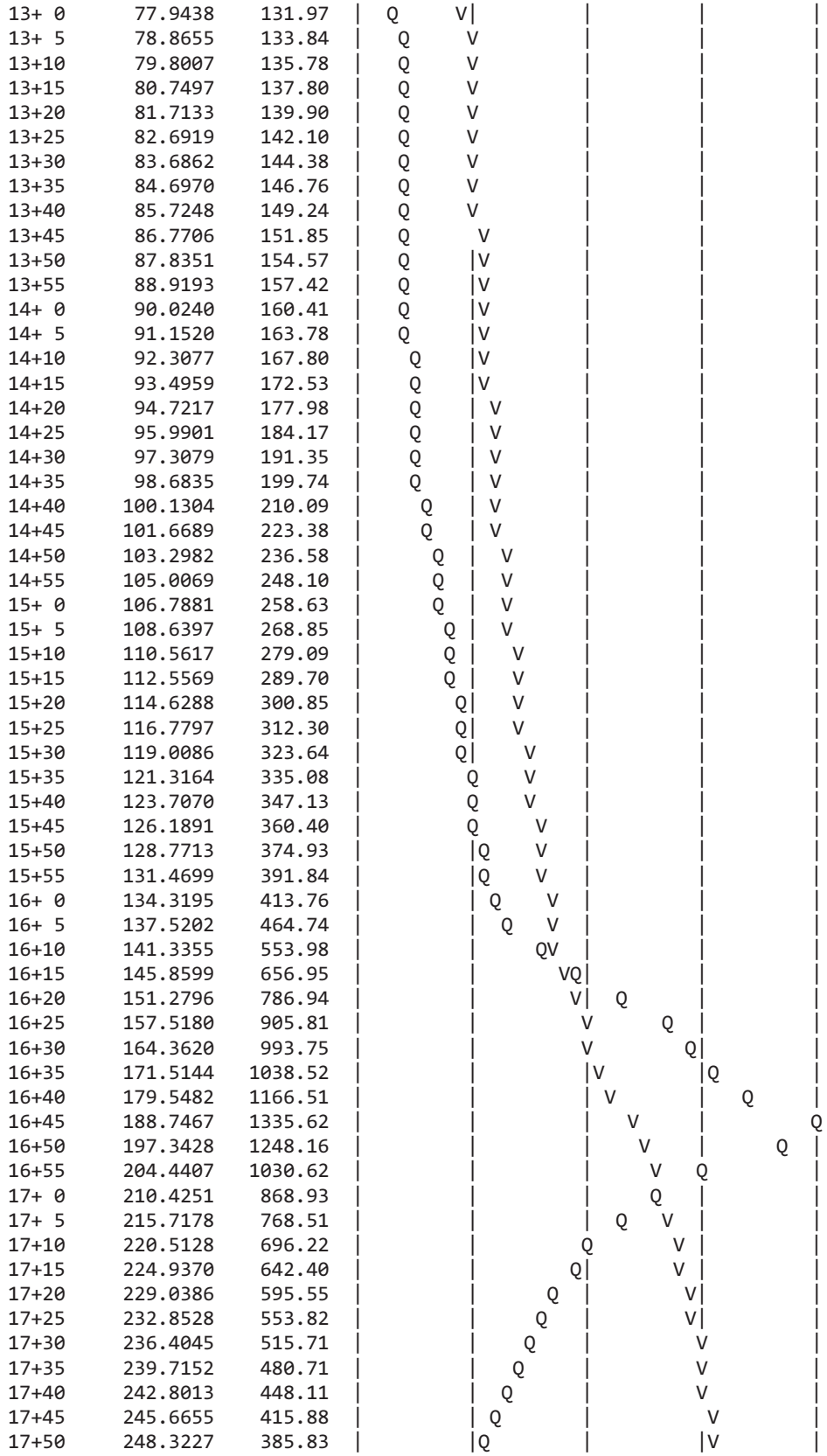
P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	333.9	667.8	1001.7	1335.6
0+ 5	0.0014	0.20	Q				
0+10	0.0070	0.82	Q				
0+15	0.0202	1.91	Q				
0+20	0.0446	3.56	Q				
0+25	0.0842	5.74	Q				
0+30	0.1425	8.46	Q				
0+35	0.2225	11.62	Q				
0+40	0.3317	15.87	Q				
0+45	0.4828	21.93	Q				
0+50	0.6730	27.62	Q				
0+55	0.8917	31.76	Q				
1+ 0	1.1315	34.82	VQ				
1+ 5	1.3880	37.24	VQ				
1+10	1.6582	39.23	VQ				
1+15	1.9403	40.97	VQ				
1+20	2.2331	42.50	VQ				
1+25	2.5353	43.88	VQ				
1+30	2.8461	45.13	VQ				
1+35	3.1647	46.26	VQ				
1+40	3.4904	47.30	VQ				
1+45	3.8227	48.26	VQ				
1+50	4.1613	49.15	VQ				
1+55	4.5054	49.98	VQ				
2+ 0	4.8549	50.75	VQ				
2+ 5	5.2094	51.47	VQ				
2+10	5.5686	52.15	VQ				
2+15	5.9321	52.78	VQ				
2+20	6.2997	53.38	VQ				
2+25	6.6711	53.93	VQ				
2+30	7.0460	54.44	VQ				
2+35	7.4243	54.92	VQ				
2+40	7.8057	55.39	VQ				
2+45	8.1902	55.82	|Q				
2+50	8.5774	56.23	|Q				
2+55	8.9673	56.60	|Q				
3+ 0	9.3594	56.93	|Q				
3+ 5	9.7537	57.25	|Q				

3+10	10.1501	57.56	Q				
3+15	10.5486	57.87	Q				
3+20	10.9493	58.17	Q				
3+25	11.3520	58.47	Q				
3+30	11.7568	58.77	Q				
3+35	12.1636	59.07	Q				
3+40	12.5725	59.37	Q				
3+45	12.9833	59.65	Q				
3+50	13.3961	59.94	Q				
3+55	13.8110	60.23	Q				
4+ 0	14.2278	60.53	Q				
4+ 5	14.6468	60.83	Q				
4+10	15.0679	61.14	Q				
4+15	15.4911	61.45	Q				
4+20	15.9164	61.75	QV				
4+25	16.3437	62.05	QV				
4+30	16.7732	62.35	QV				
4+35	17.2047	62.65	QV				
4+40	17.6382	62.95	QV				
4+45	18.0739	63.25	QV				
4+50	18.5116	63.55	QV				
4+55	18.9514	63.86	QV				
5+ 0	19.3933	64.16	QV				
5+ 5	19.8373	64.46	QV				
5+10	20.2833	64.76	QV				
5+15	20.7314	65.07	QV				
5+20	21.1817	65.38	QV				
5+25	21.6341	65.69	QV				
5+30	22.0886	66.00	QV				
5+35	22.5454	66.32	QV				
5+40	23.0043	66.64	QV				
5+45	23.4655	66.96	Q				
5+50	23.9289	67.29	QV				
5+55	24.3947	67.63	QV				
6+ 0	24.8627	67.96	QV				
6+ 5	25.3331	68.30	QV				
6+10	25.8059	68.65	QV				
6+15	26.2811	69.00	QV				
6+20	26.7587	69.35	QV				
6+25	27.2388	69.71	QV				
6+30	27.7214	70.07	QV				
6+35	28.2066	70.44	QV				
6+40	28.6943	70.82	QV				
6+45	29.1846	71.20	QV				
6+50	29.6776	71.58	QV				
6+55	30.1733	71.97	QV				
7+ 0	30.6716	72.36	QV				
7+ 5	31.1727	72.76	QV				
7+10	31.6766	73.17	Q V				
7+15	32.1834	73.58	Q V				
7+20	32.6930	74.00	Q V				
7+25	33.2055	74.42	Q V				
7+30	33.7210	74.85	Q V				
7+35	34.2395	75.29	Q V				
7+40	34.7611	75.73	Q V				
7+45	35.2857	76.18	Q V				
7+50	35.8135	76.63	Q V				
7+55	36.3444	77.09	Q V				
8+ 0	36.8786	77.56	Q V				

8+ 5	37.4161	78.04	Q V				
8+10	37.9569	78.53	Q V				
8+15	38.5011	79.02	Q V				
8+20	39.0487	79.52	Q V				
8+25	39.5999	80.03	Q V				
8+30	40.1546	80.54	Q V				
8+35	40.7129	81.07	Q V				
8+40	41.2749	81.60	Q V				
8+45	41.8406	82.15	Q V				
8+50	42.4102	82.70	Q V				
8+55	42.9836	83.26	Q V				
9+ 0	43.5609	83.83	Q V				
9+ 5	44.1423	84.41	Q V				
9+10	44.7277	85.00	Q V				
9+15	45.3173	85.61	Q V				
9+20	45.9111	86.22	Q V				
9+25	46.5092	86.84	Q V				
9+30	47.1117	87.48	Q V				
9+35	47.7186	88.13	Q V				
9+40	48.3301	88.79	Q V				
9+45	48.9463	89.46	Q V				
9+50	49.5671	90.15	Q V				
9+55	50.1928	90.85	Q V				
10+ 0	50.8234	91.56	Q V				
10+ 5	51.4590	92.29	Q V				
10+10	52.0998	93.03	Q V				
10+15	52.7457	93.79	Q V				
10+20	53.3970	94.57	Q V				
10+25	54.0537	95.36	Q V				
10+30	54.7160	96.17	Q V				
10+35	55.3840	96.99	Q V				
10+40	56.0578	97.84	Q V				
10+45	56.7376	98.70	Q V				
10+50	57.4234	99.58	Q V				
10+55	58.1154	100.48	Q V				
11+ 0	58.8138	101.41	Q V				
11+ 5	59.5187	102.35	Q V				
11+10	60.2303	103.32	Q V				
11+15	60.9487	104.31	Q V				
11+20	61.6741	105.33	Q V				
11+25	62.4067	106.37	Q V				
11+30	63.1467	107.44	Q V				
11+35	63.8942	108.54	Q V				
11+40	64.6494	109.66	Q V				
11+45	65.4126	110.82	Q V				
11+50	66.1840	112.01	Q V				
11+55	66.9638	113.23	Q V				
12+ 0	67.7523	114.48	Q V				
12+ 5	68.5495	115.76	Q V				
12+10	69.3556	117.05	Q V				
12+15	70.1707	118.35	Q V				
12+20	70.9945	119.61	Q V				
12+25	71.8269	120.86	Q V				
12+30	72.6681	122.15	Q V				
12+35	73.5193	123.60	Q V				
12+40	74.3811	125.13	Q V				
12+45	75.2540	126.74	Q V				
12+50	76.1385	128.42	Q V				
12+55	77.0349	130.17	Q V				



13+ 0	77.9438	131.97	Q V
13+ 5	78.8655	133.84	Q V
13+10	79.8007	135.78	Q V
13+15	80.7497	137.80	Q V
13+20	81.7133	139.90	Q V
13+25	82.6919	142.10	Q V
13+30	83.6862	144.38	Q V
13+35	84.6970	146.76	Q V
13+40	85.7248	149.24	Q V
13+45	86.7706	151.85	Q V
13+50	87.8351	154.57	Q V
13+55	88.9193	157.42	Q V
14+ 0	90.0240	160.41	Q V
14+ 5	91.1520	163.78	Q V
14+10	92.3077	167.80	Q V
14+15	93.4959	172.53	Q V
14+20	94.7217	177.98	Q V
14+25	95.9901	184.17	Q V
14+30	97.3079	191.35	Q V
14+35	98.6835	199.74	Q V
14+40	100.1304	210.09	Q V
14+45	101.6689	223.38	Q V
14+50	103.2982	236.58	Q V
14+55	105.0069	248.10	Q V
15+ 0	106.7881	258.63	Q V
15+ 5	108.6397	268.85	Q V
15+10	110.5617	279.09	Q V
15+15	112.5569	289.70	Q V
15+20	114.6288	300.85	Q V
15+25	116.7797	312.30	Q V
15+30	119.0086	323.64	Q V
15+35	121.3164	335.08	Q V
15+40	123.7070	347.13	Q V
15+45	126.1891	360.40	Q V
15+50	128.7713	374.93	Q V
15+55	131.4699	391.84	Q V
16+ 0	134.3195	413.76	Q V
16+ 5	137.5202	464.74	Q V
16+10	141.3355	553.98	QV
16+15	145.8599	656.95	VQ
16+20	151.2796	786.94	V Q
16+25	157.5180	905.81	V Q
16+30	164.3620	993.75	V Q
16+35	171.5144	1038.52	V Q
16+40	179.5482	1166.51	V Q
16+45	188.7467	1335.62	V Q
16+50	197.3428	1248.16	V Q
16+55	204.4407	1030.62	V Q
17+ 0	210.4251	868.93	Q
17+ 5	215.7178	768.51	Q V
17+10	220.5128	696.22	Q V
17+15	224.9370	642.40	Q V
17+20	229.0386	595.55	Q V
17+25	232.8528	553.82	Q V
17+30	236.4045	515.71	Q V
17+35	239.7152	480.71	Q V
17+40	242.8013	448.11	Q V
17+45	245.6655	415.88	Q V
17+50	248.3227	385.83	Q V

17+55	250.7988	359.53		Q		V
18+ 0	253.1247	337.72		Q		V
18+ 5	255.3110	317.44		Q		V
18+10	257.3768	299.96		Q		V
18+15	259.3224	282.49		Q		V
18+20	261.1588	266.64		Q		V
18+25	262.8918	251.64		Q		V
18+30	264.5310	238.02		Q		V
18+35	266.0873	225.97		Q		V
18+40	267.5693	215.19		Q		V
18+45	268.9727	203.78		Q		V
18+50	270.3012	192.89		Q		V
18+55	271.5494	181.24		Q		V
19+ 0	272.7248	170.67		Q		V
19+ 5	273.8467	162.90		Q		V
19+10	274.9245	156.49		Q		V
19+15	275.9650	151.09		Q		V
19+20	276.9703	145.97		Q		V
19+25	277.9420	141.09		Q		V
19+30	278.8835	136.70		Q		V
19+35	279.7961	132.51		Q		V
19+40	280.6777	128.01		Q		V
19+45	281.5328	124.16		Q		V
19+50	282.3669	121.11		Q		V
19+55	283.1836	118.59		Q		V
20+ 0	283.9863	116.55		Q		V
20+ 5	284.7753	114.56		Q		V
20+10	285.5494	112.39		Q		V
20+15	286.3069	110.00		Q		V
20+20	287.0434	106.95		Q		V
20+25	287.7598	104.02		Q		V
20+30	288.4601	101.67		Q		V
20+35	289.1462	99.62	Q			V
20+40	289.8169	97.39	Q			V
20+45	290.4723	95.16	Q			V
20+50	291.1144	93.24	Q			V
20+55	291.7460	91.71	Q			V
21+ 0	292.3623	89.47	Q			V
21+ 5	292.9632	87.26	Q			V
21+10	293.5524	85.56	Q			V
21+15	294.1319	84.13	Q			V
21+20	294.7023	82.83	Q			V
21+25	295.2643	81.59	Q			V
21+30	295.8178	80.37	Q			V
21+35	296.3629	79.16	Q			V
21+40	296.9003	78.03	Q			V
21+45	297.4305	76.99	Q			V
21+50	297.9540	76.00	Q			V
21+55	298.4708	75.05	Q			V
22+ 0	298.9814	74.13	Q			V
22+ 5	299.4859	73.26	Q			V
22+10	299.9847	72.42	Q			V
22+15	300.4778	71.60	Q			V
22+20	300.9655	70.81	Q			V
22+25	301.4479	70.05	Q			V
22+30	301.9252	69.30	Q			V
22+35	302.3975	68.58	Q			V
22+40	302.8650	67.88	Q			V
22+45	303.3278	67.20	Q			V

22+50	303.7860	66.53	|Q	|	|	|	V |
22+55	304.2397	65.88	|Q	|	|	|	V |
23+ 0	304.6891	65.25	|Q	|	|	|	V |
23+ 5	305.1343	64.64	|Q	|	|	|	V |
23+10	305.5753	64.04	|Q	|	|	|	V |
23+15	306.0123	63.45	|Q	|	|	|	V |
23+20	306.4453	62.88	|Q	|	|	|	V |
23+25	306.8745	62.32	|Q	|	|	|	V|
23+30	307.2999	61.77	|Q	|	|	|	V|
23+35	307.7217	61.24	|Q	|	|	|	V|
23+40	308.1398	60.72	|Q	|	|	|	V|
23+45	308.5544	60.20	|Q	|	|	|	V|
23+50	308.9656	59.70	|Q	|	|	|	V|
23+55	309.3734	59.22	|Q	|	|	|	V|
24+ 0	309.7780	58.74	|Q	|	|	|	V|
24+ 5	310.1779	58.07	|Q	|	|	|	V|
24+10	310.5704	56.99	|Q	|	|	|	V|
24+15	310.9524	55.46	|Q	|	|	|	V|
24+20	311.3201	53.40	|Q	|	|	|	V|
24+25	311.6701	50.82	|Q	|	|	|	V|
24+30	311.9989	47.74	|Q	|	|	|	V|
24+35	312.3037	44.26	|Q	|	|	|	V|
24+40	312.5773	39.72	|Q	|	|	|	V|
24+45	312.8075	33.43	|Q	|	|	|	V|
24+50	312.9974	27.57	Q	|	|	|	V|
24+55	313.1581	23.33	Q	|	|	|	V|
25+ 0	313.2973	20.21	Q	|	|	|	V|
25+ 5	313.4196	17.76	Q	|	|	|	V|
25+10	313.5281	15.76	Q	|	|	|	V|
25+15	313.6249	14.05	Q	|	|	|	V|
25+20	313.7114	12.56	Q	|	|	|	V|
25+25	313.7888	11.24	Q	|	|	|	V|
25+30	313.8581	10.06	Q	|	|	|	V|
25+35	313.9202	9.02	Q	|	|	|	V|
25+40	313.9759	8.09	Q	|	|	|	V|
25+45	314.0258	7.24	Q	|	|	|	V|
25+50	314.0703	6.47	Q	|	|	|	V|
25+55	314.1100	5.77	Q	|	|	|	V|
26+ 0	314.1455	5.14	Q	|	|	|	V|
26+ 5	314.1769	4.57	Q	|	|	|	V|
26+10	314.2048	4.05	Q	|	|	|	V|
26+15	314.2295	3.58	Q	|	|	|	V|
26+20	314.2512	3.16	Q	|	|	|	V|
26+25	314.2704	2.79	Q	|	|	|	V|
26+30	314.2874	2.46	Q	|	|	|	V|
26+35	314.3023	2.16	Q	|	|	|	V|
26+40	314.3153	1.89	Q	|	|	|	V|
26+45	314.3267	1.66	Q	|	|	|	V|
26+50	314.3367	1.45	Q	|	|	|	V|
26+55	314.3456	1.29	Q	|	|	|	V|
27+ 0	314.3537	1.17	Q	|	|	|	V|
27+ 5	314.3611	1.07	Q	|	|	|	V|
27+10	314.3678	0.98	Q	|	|	|	V|
27+15	314.3740	0.90	Q	|	|	|	V|
27+20	314.3796	0.82	Q	|	|	|	V|
27+25	314.3848	0.75	Q	|	|	|	V|
27+30	314.3894	0.68	Q	|	|	|	V|
27+35	314.3937	0.61	Q	|	|	|	V|
27+40	314.3975	0.56	Q	|	|	|	V|

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   27+45     314.4010      0.51  Q         |          |          |        V|
   27+50     314.4043      0.47  Q         |          |          |        V|
   27+55     314.4072      0.43  Q         |          |          |        V|
   28+ 0     314.4098      0.38  Q         |          |          |        V|
   28+ 5     314.4121      0.33  Q         |          |          |        V|
   28+10     314.4140      0.28  Q         |          |          |        V|
   28+15     314.4156      0.23  Q         |          |          |        V|
   28+20     314.4170      0.19  Q         |          |          |        V|
   28+25     314.4181      0.16  Q         |          |          |        V|
   28+30     314.4190      0.13  Q         |          |          |        V|
   28+35     314.4197      0.11  Q         |          |          |        V|
   28+40     314.4203      0.08  Q         |          |          |        V|
   28+45     314.4207      0.06  Q         |          |          |        V|
   28+50     314.4210      0.05  Q         |          |          |        V|
   28+55     314.4212      0.03  Q         |          |          |        V|
   29+ 0     314.4213      0.02  Q         |          |          |        V|
   29+ 5     314.4214      0.01  Q         |          |          |        V|
   29+10     314.4215      0.01  Q         |          |          |        V|
   29+15     314.4215      0.01  Q         |          |          |        V|
   29+20     314.4216      0.00  Q         |          |          |        V|
   29+25     314.4216      0.00  Q         |          |          |        V|
   29+30     314.4216      0.00  Q         |          |          |         V
   29+35     314.4216      0.00  Q         |          |          |         V
------------------------------------------------------------------------
       ***************************HYDROGRAPH DATA****************************
                     Number of intervals =   355
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =     1335.624 (CFS)
                     Total volume =     314.422 (Ac.Ft)
              Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)   2799.507  1335.624     0.000     0.000     0.000
              Vol (Ac.Ft)    570.680   314.422     0.000     0.000     0.000
       ************************************************************************

       ------------------------------------------------------------------------


       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
       Process from Point/Station        2.100 to Point/Station        2.200
       **** STREAM ROUTING SCS CONVEX METHOD ****
       ________________________________________________________________________
       HYDROGRAPH STREAM ROUTING DATA:
       Length of stream =  14210.00 (Ft.)
       Elevation difference =  473.00 (Ft.)
       Slope of channel =  0.033286 (Vert/Horiz)
       Channel type - Improved Channel


       Channel length = 14210.00(Ft.)     Elevation difference = 473.00(Ft.)
       Channel evaluation using mean flow rate of hydrograph
       Channel base width  =  200.000(Ft.)
       Slope or 'Z' of left channel bank =   2.000
       Slope or 'Z' of right channel bank =   2.000
       Manning's 'N'    = 0.035
       Maximum depth of channel  =    1.000(Ft.)
       Flow(q) thru subarea =    155.429(CFS)
       Depth of flow =     0.252(Ft.)
       Average velocity =     3.081(Ft/s)
```

```
      Total flow rate =   155.429(CFS)
      Channel flow top width =  201.006(Ft.)
      Depth of flow in channel =   0.25(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    3.08(Ft/s)
      Travel time  =   76.87 min.
      Individual channel flow =  155.429(CFS)
      Total capacity of improved channels =    155.429(CFS)
      Critical Depth in Channel =    0.27(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =   1335.624(CFS)
      Depth of flow =     0.914(Ft.)
      Average velocity =     7.241(Ft/s)
      Total flow rate =  1335.624(CFS)
      Channel flow top width =  203.656(Ft.)
      Depth of flow in channel =   0.91(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    7.24(Ft/s)
      Travel time  =   76.87 min.
      Individual channel flow = 1335.624(CFS)
      Total capacity of improved channels =   1335.624(CFS)
      Critical Depth in Channel =    1.11(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING *********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.8099   Travel time =  32.71 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   0.4592
               dt(routing time-step) =  26.49 (min.),   c* =   0.5334

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      333.9     667.8    1001.7    1335.6
----------------------------------------------------------------------------
  0+ 5       0.0852      0.20  O         |         |         |         |
  0+10       0.4153      0.82  O         |         |         |         |
  0+15       1.1025      1.91  O         |         |         |         |
  0+20       2.2449      3.56  O         |         |         |         |
  0+25       3.8889      5.74  O         |         |         |         |
  0+30       6.0539      8.46  O         |         |         |         |
  0+35       8.7029     11.62  O         |         |         |         |
  0+40      12.0952     15.87  O         |         |         |         |
  0+45      16.7308     21.93  O         |         |         |         |
  0+50      21.9658     27.62  O         |         |         |         |
  0+55      26.7714     31.76  O         |         |         |         |
  1+ 0      30.7546     34.82  OI        |         |         |         |
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1+ 5      33.9711     37.24  |O        |         |         |         |
1+10      36.5781     39.23  |O        |         |         |         |
1+15      38.7452     40.97  |O        |         |         |         |
1+20      40.5954     42.50  |O        |         |         |         |
1+25      42.2105     43.88  |O        |         |         |         |
1+30      43.6415     45.13  |O        |         |         |         |
1+35      44.9234     46.26  |O        |         |         |         |
1+40      46.0843     47.30  |O        |         |         |         |
1+45      47.1468     48.26  |O        |         |         |         |
1+50      48.1257     49.15  |O        |         |         |         |
1+55      49.0293     49.98  |O        |         |         |         |
2+ 0      49.8679     50.75  |O        |         |         |         |
2+ 5      50.6491     51.47  |O        |         |         |         |
2+10      51.3808     52.15  |O        |         |         |         |
2+15      52.0650     52.78  |O        |         |         |         |
2+20      52.7047     53.38  |O        |         |         |         |
2+25      53.3006     53.93  |O        |         |         |         |
2+30      53.8559     54.44  |O        |         |         |         |
2+35      54.3766     54.92  |O        |         |         |         |
2+40      54.8693     55.39  |O        |         |         |         |
2+45      55.3345     55.82  |O        |         |         |         |
2+50      55.7721     56.23  |O        |         |         |         |
2+55      56.1774     56.60  |O        |         |         |         |
3+ 0      56.5476     56.93  |O        |         |         |         |
3+ 5      56.8909     57.25  |O        |         |         |         |
3+10      57.2171     57.56  |O        |         |         |         |
3+15      57.5335     57.87  |O        |         |         |         |
3+20      57.8432     58.17  |O        |         |         |         |
3+25      58.1488     58.47  |O        |         |         |         |
3+30      58.4520     58.77  |O        |         |         |         |
3+35      58.7536     59.07  |O        |         |         |         |
3+40      59.0510     59.37  |O        |         |         |         |
3+45      59.3439     59.65  |O        |         |         |         |
3+50      59.6342     59.94  |O        |         |         |         |
3+55      59.9247     60.23  |O        |         |         |         |
4+ 0      60.2179     60.53  |O        |         |         |         |
4+ 5      60.5157     60.83  |O        |         |         |         |
4+10      60.8177     61.14  |O        |         |         |         |
4+15      61.1234     61.45  |O        |         |         |         |
4+20      61.4288     61.75  |O        |         |         |         |
4+25      61.7318     62.05  |O        |         |         |         |
4+30      62.0328     62.35  |O        |         |         |         |
4+35      62.3339     62.65  |O        |         |         |         |
4+40      62.6348     62.95  |O        |         |         |         |
4+45      62.9351     63.25  |O        |         |         |         |
4+50      63.2354     63.55  |O        |         |         |         |
4+55      63.5380     63.86  |O        |         |         |         |
5+ 0      63.8409     64.16  |O        |         |         |         |
5+ 5      64.1428     64.46  |O        |         |         |         |
5+10      64.4442     64.76  |O        |         |         |         |
5+15      64.7468     65.07  |O        |         |         |         |
5+20      65.0515     65.38  |O        |         |         |         |
5+25      65.3593     65.69  |O        |         |         |         |
5+30      65.6701     66.00  |O        |         |         |         |
5+35      65.9841     66.32  |O        |         |         |         |
5+40      66.3013     66.64  |O        |         |         |         |
5+45      66.6221     66.96  |OI       |         |         |         |
5+50      66.9464     67.29  | O       |         |         |         |
5+55      67.2748     67.63  | O       |         |         |         |
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6+ 0	67.6072	67.96	O				
6+ 5	67.9438	68.30	O				
6+10	68.2845	68.65	O				
6+15	68.6297	69.00	O				
6+20	68.9792	69.35	O				
6+25	69.3335	69.71	O				
6+30	69.6921	70.07	O				
6+35	70.0557	70.44	O				
6+40	70.4240	70.82	O				
6+45	70.7974	71.20	O				
6+50	71.1756	71.58	O				
6+55	71.5592	71.97	O				
7+ 0	71.9478	72.36	O				
7+ 5	72.3421	72.76	O				
7+10	72.7416	73.17	O				
7+15	73.1470	73.58	O				
7+20	73.5580	74.00	O				
7+25	73.9751	74.42	O				
7+30	74.3979	74.85	O				
7+35	74.8272	75.29	O				
7+40	75.2626	75.73	O				
7+45	75.7047	76.18	O				
7+50	76.1532	76.63	O				
7+55	76.6087	77.09	O				
8+ 0	77.0709	77.56	O				
8+ 5	77.5405	78.04	O				
8+10	78.0172	78.53	O				
8+15	78.5017	79.02	O				
8+20	78.9935	79.52	O				
8+25	79.4935	80.03	O				
8+30	80.0014	80.54	O				
8+35	80.5178	81.07	O				
8+40	81.0424	81.60	O				
8+45	81.5761	82.15	O				
8+50	82.1185	82.70	O				
8+55	82.6705	83.26	O				
9+ 0	83.2316	83.83	O				
9+ 5	83.8028	84.41	O				
9+10	84.3838	85.00	O				
9+15	84.9753	85.61	O				
9+20	85.5772	86.22	O				
9+25	86.1904	86.84	O				
9+30	86.8144	87.48	O				
9+35	87.4504	88.13	O				
9+40	88.0981	88.79	O				
9+45	88.7583	89.46	O				
9+50	89.4310	90.15	O				
9+55	90.1170	90.85	O				
10+ 0	90.8163	91.56	O				
10+ 5	91.5298	92.29	O				
10+10	92.2574	93.03	O				
10+15	93.0002	93.79	O				
10+20	93.7580	94.57	O				
10+25	94.5321	95.36	O				
10+30	95.3222	96.17	O				
10+35	96.1298	96.99	O				
10+40	96.9545	97.84	O				
10+45	97.7979	98.70	O				
10+50	98.6597	99.58	O				

10+55	99.5416	100.48	OI				
11+ 0	100.4434	101.41	O				
11+ 5	101.3667	102.35	O				
11+10	102.3114	103.32	O				
11+15	103.2793	104.31	O				
11+20	104.2704	105.33	O				
11+25	105.2866	106.37	O				
11+30	106.3279	107.44	O				
11+35	107.3963	108.54	O				
11+40	108.4920	109.66	O				
11+45	109.6171	110.82	O				
11+50	110.7720	112.01	O				
11+55	111.9589	113.23	O				
12+ 0	113.1783	114.48	O				
12+ 5	114.4270	115.76	O				
12+10	115.6948	117.05	O				
12+15	116.9778	118.35	O				
12+20	118.2552	119.61	O				
12+25	119.5200	120.86	O				
12+30	120.7952	122.15	O				
12+35	122.1437	123.60	O				
12+40	123.5804	125.13	O				
12+45	125.1050	126.74	O				
12+50	126.7059	128.42	O				
12+55	128.3756	130.17	O				
13+ 0	130.1097	131.97	O				
13+ 5	131.9111	133.84	OI				
13+10	133.7802	135.78	O				
13+15	135.7229	137.80	O				
13+20	137.7416	139.90	O				
13+25	139.8438	142.10	O				
13+30	142.0321	144.38	O				
13+35	144.3142	146.76	O				
13+40	146.6938	149.24	O				
13+45	149.1802	151.85	O				
13+50	151.7790	154.57	O				
13+55	154.5012	157.42	O				
14+ 0	157.3527	160.41	O				
14+ 5	160.4435	163.78	O				
14+10	163.9631	167.80	OI				
14+15	168.0583	172.53	O				
14+20	172.8023	177.98	O				
14+25	178.2445	184.17	O				
14+30	184.5104	191.35	O				
14+35	191.7881	199.74	O				
14+40	200.5061	210.09	O				
14+45	211.3689	223.38	O				
14+50	223.4860	236.58	OI				
14+55	235.4552	248.10	O				
15+ 0	246.7561	258.63	O				
15+ 5	257.5123	268.85	OI				
15+10	267.9886	279.09	O				
15+15	278.4985	289.70	O				
15+20	289.2971	300.85	OI				
15+25	300.4149	312.30	OI				
15+30	311.6629	323.64	O				
15+35	323.0010	335.08	OI				
15+40	334.6571	347.13	O				
15+45	347.0515	360.40	O				

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15+50     360.4582    374.93  |         OI        |         |         |
15+55     375.4936    391.84  |         |O        |         |         |
16+ 0     393.6974    413.76  |         |OI       |         |         |
16+ 5     426.4572    464.74  |         | OI      |         |         |
16+10     485.4913    553.98  |         |   O I   |         |         |
16+15     566.5754    656.95  |         |     O  I|         |         |
16+20     671.0233    786.94  |         |         O  I      |         |
16+25     784.2868    905.81  |         |         |  O   I  |         |
16+30     887.1575    993.75  |         |         |     O  I|         |
16+35     963.3855   1038.52  |         |         |       O |I        |
16+40    1058.8408   1166.51  |         |         |         |O  I     |
16+45    1189.4441   1335.62  |         |         |         |    O    I
16+50    1229.5689   1248.16  |         |         |         |     OI  |
16+55    1145.3546   1030.62  |         |         |         I   O     |
17+ 0    1014.1940    868.93  |         |         |     I   O         |
17+ 5     893.2597    768.51  |         |         |  I  O   |         |
17+10     795.4428    696.22  |         |         I  O      |         |
17+15     719.2311    642.40  |         |        I|O        |         |
17+20     657.9806    595.55  |         |      I O|         |         |
17+25     606.6268    553.82  |         |     I O |         |         |
17+30     561.9701    515.71  |         |    IO   |         |         |
17+35     522.1495    480.71  |         |   IO    |         |         |
17+40     485.9387    448.11  |         |  IO     |         |         |
17+45     451.8153    415.88  |         | IO      |         |         |
17+50     419.6448    385.83  |         |IO       |         |         |
17+55     390.2286    359.53  |         IO        |         |         |
18+ 0     364.4180    337.72  |         O         |         |         |
18+ 5     341.4032    317.44  |        IO         |         |         |
18+10     321.0604    299.96  |       IO|         |         |         |
18+15     302.2491    282.49  |       IO|         |         |         |
18+20     284.8529    266.64  |      IO |         |         |         |
18+25     268.6461    251.64  |      IO |         |         |         |
18+30     253.6796    238.02  |      O  |         |         |         |
18+35     240.1124    225.97  |     IO  |         |         |         |
18+40     227.9030    215.19  |     O   |         |         |         |
18+45     216.1861    203.78  |     O   |         |         |         |
18+50     204.8589    192.89  |    IO   |         |         |         |
18+55     193.4351    181.24  |    O    |         |         |         |
19+ 0     182.3565    170.67  |    O    |         |         |         |
19+ 5     172.7598    162.90  |   IO    |         |         |         |
19+10     164.7275    156.49  |   O     |         |         |         |
19+15     157.9973    151.09  |   O     |         |         |         |
19+20     152.0962    145.97  |   O     |         |         |         |
19+25     146.7165    141.09  |   O     |         |         |         |
19+30     141.8153    136.70  |   O     |         |         |         |
19+35     137.2737    132.51  |  IO     |         |         |         |
19+40     132.7863    128.01  |  O      |         |         |         |
19+45     128.5743    124.16  |  O      |         |         |         |
19+50     124.9008    121.11  |  O      |         |         |         |
19+55     121.7871    118.59  |  O      |         |         |         |
20+ 0     119.2007    116.55  |  O      |         |         |         |
20+ 5     116.9269    114.56  |  O      |         |         |         |
20+10     114.7256    112.39  |  O      |         |         |         |
20+15     112.4440    110.00  |  O      |         |         |         |
20+20     109.8186    106.95  |  O      |         |         |         |
20+25     107.0206    104.02  |  O      |         |         |         |
20+30     104.4038    101.67  |  O      |         |         |         |
20+35     102.0598     99.62  | IO      |         |         |         |
20+40      99.7920     97.39  | O       |         |         |         |
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20+45	97.5467	95.16	O				
20+50	95.4450	93.24	O				
20+55	93.6073	91.71	O				
21+ 0	91.6278	89.47	O				
21+ 5	89.5191	87.26	O				
21+10	87.5776	85.56	O				
21+15	85.8841	84.13	O				
21+20	84.3871	82.83	O				
21+25	83.0218	81.59	O				
21+30	81.7292	80.37	O				
21+35	80.4791	79.16	O				
21+40	79.2865	78.03	O				
21+45	78.1657	76.99	O				
21+50	77.1100	76.00	O				
21+55	76.1055	75.05	O				
22+ 0	75.1459	74.13	O				
22+ 5	74.2283	73.26	O				
22+10	73.3477	72.42	O				
22+15	72.4993	71.60	O				
22+20	71.6795	70.81	O				
22+25	70.8857	70.05	O				
22+30	70.1161	69.30	O				
22+35	69.3696	68.58	O				
22+40	68.6448	67.88	O				
22+45	67.9405	67.20	O				
22+50	67.2555	66.53	IO				
22+55	66.5886	65.88	O				
23+ 0	65.9391	65.25	O				
23+ 5	65.3061	64.64	O				
23+10	64.6889	64.04	O				
23+15	64.0868	63.45	O				
23+20	63.4992	62.88	O				
23+25	62.9255	62.32	O				
23+30	62.3650	61.77	O				
23+35	61.8174	61.24	O				
23+40	61.2822	60.72	O				
23+45	60.7588	60.20	O				
23+50	60.2468	59.70	O				
23+55	59.7459	59.22	O				
24+ 0	59.2556	58.74	O				
24+ 5	58.6905	58.07	O				
24+10	57.8918	56.99	O				
24+15	56.7496	55.46	O				
24+20	55.1694	53.40	O				
24+25	53.1090	50.82	O				
24+30	50.5540	47.74	O				
24+35	47.5460	44.26	O				
24+40	43.8308	39.72	O				
24+45	38.9161	33.43	O				
24+50	33.4560	27.57	IO				
24+55	28.4833	23.33	O				
25+ 0	24.3849	20.21	O				
25+ 5	21.0968	17.76	O				
25+10	18.4530	15.76	O				
25+15	16.2781	14.05	O				
25+20	14.4441	12.56	O				
25+25	12.8660	11.24	O				
25+30	11.4898	10.06	O				
25+35	10.2790	9.02	O				

25+40	9.2034	8.09	O	|	|	|	|
25+45	8.2394	7.24	O	|	|	|	|
25+50	7.3706	6.47	O	|	|	|	|
25+55	6.5882	5.77	O	|	|	|	|
26+ 0	5.8805	5.14	O	|	|	|	|
26+ 5	5.2397	4.57	O	|	|	|	|
26+10	4.6568	4.05	O	|	|	|	|
26+15	4.1294	3.58	O	|	|	|	|
26+20	3.6539	3.16	O	|	|	|	|
26+25	3.2292	2.79	O	|	|	|	|
26+30	2.8514	2.46	O	|	|	|	|
26+35	2.5141	2.16	O	|	|	|	|
26+40	2.2103	1.89	O	|	|	|	|
26+45	1.9394	1.66	O	|	|	|	|
26+50	1.7009	1.45	O	|	|	|	|
26+55	1.4994	1.29	O	|	|	|	|
27+ 0	1.3370	1.17	O	|	|	|	|
27+ 5	1.2055	1.07	O	|	|	|	|
27+10	1.0947	0.98	O	|	|	|	|
27+15	0.9973	0.90	O	|	|	|	|
27+20	0.9097	0.82	O	|	|	|	|
27+25	0.8297	0.75	O	|	|	|	|
27+30	0.7551	0.68	O	|	|	|	|
27+35	0.6854	0.61	O	|	|	|	|
27+40	0.6231	0.56	O	|	|	|	|
27+45	0.5686	0.51	O	|	|	|	|
27+50	0.5196	0.47	O	|	|	|	|
27+55	0.4737	0.43	O	|	|	|	|
28+ 0	0.4280	0.38	O	|	|	|	|
28+ 5	0.3811	0.33	O	|	|	|	|
28+10	0.3330	0.28	O	|	|	|	|
28+15	0.2848	0.23	O	|	|	|	|
28+20	0.2399	0.19	O	|	|	|	|
28+25	0.2010	0.16	O	|	|	|	|
28+30	0.1671	0.13	O	|	|	|	|
28+35	0.1367	0.11	O	|	|	|	|
28+40	0.1098	0.08	O	|	|	|	|
28+45	0.0868	0.06	O	|	|	|	|
28+50	0.0671	0.05	O	|	|	|	|
28+55	0.0487	0.03	O	|	|	|	|
29+ 0	0.0332	0.02	O	|	|	|	|
29+ 5	0.0224	0.01	O	|	|	|	|
29+10	0.0154	0.01	O	|	|	|	|
29+15	0.0109	0.01	O	|	|	|	|
29+20	0.0077	0.00	O	|	|	|	|
29+25	0.0051	0.00	O	|	|	|	|
29+30	0.0031	0.00	O	|	|	|	|
29+35	0.0016	0.00	O	|	|	|	|
29+40	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1229.569 (CFS)
Total volume = 314.422 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	1335.624	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	314.422	0.000	0.000	0.000

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Process from Point/Station 2.200 to Point/Station 2.200

**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

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********** HYDROGRAPH INFORMATION **********

From study/file name: OFFH10024.rte

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P R I N T O F S T O R M

R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	413.9	827.8	1241.7	1655.6
0+ 5	0.0628	0.15	Q				
0+10	0.2776	0.69	Q				
0+15	0.6516	1.75	Q				
0+20	1.4299	3.67	Q				
0+25	2.6505	6.54	Q				
0+30	3.6149	9.67	Q				
0+35	4.3017	13.00	Q				
0+40	4.7846	16.88	Q				
0+45	5.1624	21.89	Q				
0+50	5.4808	27.45	Q				
0+55	5.7445	32.52	Q				
1+ 0	5.9758	36.73	Q				
1+ 5	6.1728	40.14	Q				
1+10	6.3461	42.92	qQ				
1+15	6.5068	45.25	qQ				
1+20	6.6562	47.25	qQ				
1+25	6.7906	49.00	qQ				
1+30	6.9065	50.55	qQ				
1+35	7.0127	51.94	qQ				
1+40	7.1149	53.20	qQ				
1+45	7.2101	54.36	qQ				
1+50	7.3009	55.43	qQ				
1+55	7.3877	56.42	qQ				
2+ 0	7.4649	57.33	qQ				
2+ 5	7.5416	58.19	qQ				
2+10	7.6155	59.00	qQ				
2+15	7.6829	59.75	qQ				
2+20	7.7502	60.45	qQ				
2+25	7.8135	61.11	qQ				
2+30	7.8712	61.73	qQ				
2+35	7.9295	62.31	qQ				
2+40	7.9813	62.85	qQ				
2+45	8.0301	63.36	qQ				
2+50	8.0791	63.85	qQ				
2+55	8.1308	64.31	qQ				
3+ 0	8.1832	64.73	qQ				
3+ 5	8.2364	65.13	qQ				
3+10	8.2896	65.51	qQ				

3+15	8.3438	65.88	qQ	|	|	|	|
3+20	8.3959	66.24	qQ	|	|	|	|
3+25	8.4437	66.59	qQ	|	|	|	|
3+30	8.4912	66.94	qQ	|	|	|	|
3+35	8.5396	67.29	qQ	|	|	|	|
3+40	8.5840	67.64	qQ	|	|	|	|
3+45	8.6251	67.97	qQ	|	|	|	|
3+50	8.6663	68.30	qQ	|	|	|	|
3+55	8.7084	68.63	qQ	|	|	|	|
4+ 0	8.7505	68.97	qQ	|	|	|	|
4+ 5	8.7936	69.31	qQ	|	|	|	|
4+10	8.8367	69.65	qQ	|	|	|	|
4+15	8.8807	70.00	qQ	|	|	|	|
4+20	8.9248	70.35	qQ	|	|	|	|
4+25	8.9699	70.70	qQ	|	|	|	|
4+30	9.0151	71.05	qQ	|	|	|	|
4+35	9.0612	71.40	qQ	|	|	|	|
4+40	9.1075	71.74	qQ	|	|	|	|
4+45	9.1548	72.09	qQ	|	|	|	|
4+50	9.2022	72.44	qQ	|	|	|	|
4+55	9.2507	72.79	qQ	|	|	|	|
5+ 0	9.2993	73.14	qQ	|	|	|	|
5+ 5	9.3489	73.49	qQ	|	|	|	|
5+10	9.3987	73.84	qQ	|	|	|	|
5+15	9.4497	74.20	qQ	|	|	|	|
5+20	9.5008	74.55	qQ	|	|	|	|
5+25	9.5530	74.91	qQ	|	|	|	|
5+30	9.6054	75.28	qQ	|	|	|	|
5+35	9.6590	75.64	qQ	|	|	|	|
5+40	9.7128	76.01	qQ	|	|	|	|
5+45	9.7679	76.39	qQ	|	|	|	|
5+50	9.8231	76.77	qQ	|	|	|	|
5+55	9.8797	77.15	qQ	|	|	|	|
6+ 0	9.9364	77.54	qQ	|	|	|	|
6+ 5	9.9945	77.94	qQ	|	|	|	|
6+10	10.0528	78.34	qQ	|	|	|	|
6+15	10.1125	78.74	qQ	|	|	|	|
6+20	10.1725	79.15	qQ	|	|	|	|
6+25	10.2339	79.57	qQ	|	|	|	|
6+30	10.2955	79.99	qQ	|	|	|	|
6+35	10.3587	80.41	qQ	|	|	|	|
6+40	10.4222	80.85	qQ	|	|	|	|
6+45	10.4872	81.28	qQ	|	|	|	|
6+50	10.5525	81.73	qQ	|	|	|	|
6+55	10.6195	82.18	qQ	|	|	|	|
7+ 0	10.6868	82.63	qQ	|	|	|	|
7+ 5	10.7558	83.10	q Q	|	|	|	|
7+10	10.8251	83.57	q Q	|	|	|	|
7+15	10.8963	84.04	q Q	|	|	|	|
7+20	10.9678	84.53	q Q	|	|	|	|
7+25	11.0411	85.02	q Q	|	|	|	|
7+30	11.1149	85.51	q Q	|	|	|	|
7+35	11.1906	86.02	q Q	|	|	|	|
7+40	11.2668	86.53	q Q	|	|	|	|
7+45	11.3450	87.05	q Q	|	|	|	|
7+50	11.4237	87.58	q Q	|	|	|	|
7+55	11.5044	88.11	q Q	|	|	|	|
8+ 0	11.5858	88.66	q Q	|	|	|	|
8+ 5	11.6693	89.21	q Q	|	|	|	|

8+10	11.7534	89.77	q Q	|	|	|	|
8+15	11.8398	90.34	q Q	|	|	|	|
8+20	11.9268	90.92	q Q	|	|	|	|
8+25	12.0163	91.51	q Q	|	|	|	|
8+30	12.1064	92.11	q Q	|	|	|	|
8+35	12.1991	92.72	q Q	|	|	|	|
8+40	12.2925	93.33	q Q	|	|	|	|
8+45	12.3886	93.96	q Q	|	|	|	|
8+50	12.4855	94.60	q Q	|	|	|	|
8+55	12.5852	95.26	q Q	|	|	|	|
9+ 0	12.6858	95.92	q Q	|	|	|	|
9+ 5	12.7893	96.59	q Q	|	|	|	|
9+10	12.8938	97.28	q Q	|	|	|	|
9+15	13.0014	97.98	q Q	|	|	|	|
9+20	13.1100	98.69	q Q	|	|	|	|
9+25	13.2219	99.41	q Q	|	|	|	|
9+30	13.3350	100.15	q Q	|	|	|	|
9+35	13.4515	100.90	q Q	|	|	|	|
9+40	13.5693	101.67	q Q	|	|	|	|
9+45	13.6908	102.45	q Q	|	|	|	|
9+50	13.8136	103.24	q Q	|	|	|	|
9+55	13.9403	104.06	q Q	|	|	|	|
10+ 0	14.0685	104.88	q Q	|	|	|	|
10+ 5	14.2008	105.73	q Q	|	|	|	|
10+10	14.3348	106.59	q Q	|	|	|	|
10+15	14.4731	107.47	q Q	|	|	|	|
10+20	14.6132	108.37	q Q	|	|	|	|
10+25	14.7580	109.29	q Q	|	|	|	|
10+30	14.9048	110.23	q Q	|	|	|	|
10+35	15.0566	111.19	q Q	|	|	|	|
10+40	15.2105	112.17	q Q	|	|	|	|
10+45	15.3698	113.17	q Q	|	|	|	|
10+50	15.5315	114.19	q Q	|	|	|	|
10+55	15.6989	115.24	q Q	|	|	|	|
11+ 0	15.8689	116.31	q Q	|	|	|	|
11+ 5	16.0451	117.41	q Q	|	|	|	|
11+10	16.2242	118.54	q Q	|	|	|	|
11+15	16.4099	119.69	q Q	|	|	|	|
11+20	16.5989	120.87	q Q	|	|	|	|
11+25	16.7950	122.08	q Q	|	|	|	|
11+30	16.9947	123.32	q Q	|	|	|	|
11+35	17.2021	124.60	q Q	|	|	|	|
11+40	17.4135	125.91	q Q	|	|	|	|
11+45	17.6334	127.25	q Q	|	|	|	|
11+50	17.8577	128.63	q Q	|	|	|	|
11+55	18.0912	130.05	q Q	|	|	|	|
12+ 0	18.3297	131.51	q Q	|	|	|	|
12+ 5	18.5227	132.95	q Q	|	|	|	|
12+10	18.5865	134.28	q Q	|	|	|	|
12+15	18.5192	135.50	q Q	|	|	|	|
12+20	18.0979	136.35	q Q	|	|	|	|
12+25	17.2927	136.81	q Q	|	|	|	|
12+30	16.7122	137.51	q Q	|	|	|	|
12+35	16.3822	138.53	q Q	|	|	|	|
12+40	16.2348	139.82	q Q	|	|	|	|
12+45	16.1897	141.29	q Q	|	|	|	|
12+50	16.2026	142.91	q Q	|	|	|	|
12+55	16.2759	144.65	q Q	|	|	|	|
13+ 0	16.3850	146.49	q Q	|	|	|	|

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13+ 5      16.5388    148.45  q  Q      |          |          |          |
13+10      16.7226    150.50  q  Q      |          |          |          |
13+15      16.9343    152.66  q  Q      |          |          |          |
13+20      17.1668    154.91  q  Q      |          |          |          |
13+25      17.4319    157.28  q  Q      |          |          |          |
13+30      17.7264    159.76  q  Q      |          |          |          |
13+35      18.0520    162.37  q  Q      |          |          |          |
13+40      18.3969    165.09  q  Q      |          |          |          |
13+45      18.7743    167.95  q   Q     |          |          |          |
13+50      19.1744    170.95  q   Q     |          |          |          |
13+55      19.6090    174.11  q   Q     |          |          |          |
14+ 0      20.0751    177.43  q   Q     |          |          |          |
14+ 5      20.5994    181.04  q   Q     |          |          |          |
14+10      21.2057    185.17  q   Q     |          |          |          |
14+15      21.9167    189.98  q   Q     |          |          |          |
14+20      22.8012    195.60  q   Q     |          |          |          |
14+25      23.8970    202.14  q   Q     |          |          |          |
14+30      24.9667    209.48  q    Q    |          |          |          |
14+35      26.0202    217.81  q    Q    |          |          |          |
14+40      27.0765    227.58  q    Q    |          |          |          |
14+45      28.1934    239.56  q    Q    |          |          |          |
14+50      29.3725    252.86  q     Q   |          |          |          |
14+55      30.6501    266.11  q     Q   |          |          |          |
15+ 0      32.0265    278.78  q     Q   |          |          |          |
15+ 5      33.5497    291.06  q      Q  |          |          |          |
15+10      35.2190    303.21  q      Q  |          |          |          |
15+15      37.1052    315.60  q      Q  |          |          |          |
15+20      39.2165    328.51  q      Q  |          |          |          |
15+25      41.9732    342.39  |q      Q |          |          |          |
15+30      45.8665    357.53  |q      Q |          |          |          |
15+35      51.1589    374.16  |q       Q|          |          |          |
15+40      59.2711    393.93  |q       Q|          |          |          |
15+45      71.1668    418.22  |q        Q          |          |          |
15+50      84.5587    445.02  | q       Q          |          |          |
15+55     101.8355    477.33  | q       |Q         |          |          |
16+ 0     129.2184    522.92  |  q      | Q        |          |          |
16+ 5     197.9538    624.41  |   q     |    Q     |          |          |
16+10     317.0730    802.56  |      q  |       Q  |          |          |
16+15     451.5518   1018.13  |         q          |   Q      |          |
16+20     678.6621   1349.69  |          |     q   |          | Q        |
16+25     871.3563   1655.64  |          |         |q         |         Q
16+30     719.1982   1606.36  |          |      q  |          |       Q  |
16+35     546.1290   1509.51  |          |  q      |          |     Q    |
16+40     412.9549   1471.80  |        q|          |          |    Q     |
16+45     331.9409   1521.39  |       q |          |          |     Q    |
16+50     279.9977   1509.57  |     q   |          |          |     Q    |
16+55     236.1813   1381.54  |    q    |          |          |  Q       |
17+ 0     206.3526   1220.55  |   q     |          |        Q|          |
17+ 5     178.5523   1071.81  |   q     |          |    Q    |          |
17+10     157.9695    953.41  |  q      |          |  Q      |          |
17+15     143.6803    862.91  |  q      |         Q|         |          |
17+20     130.7471    788.73  |  q      |        Q|          |          |
17+25     116.3309    722.96  | q       |      Q  |          |          |
17+30     101.8547    663.82  | q       |     Q   |          |          |
17+35      92.1659    614.32  | q       |   Q     |          |          |
17+40      85.9663    571.90  | q       |  Q      |          |          |
17+45      78.7369    530.55  |q        | Q       |          |          |
17+50      73.2083    492.85  |q        |Q        |          |          |
17+55      67.7061    457.93  |q        |Q        |          |          |
```

```
18+ 0      60.4974    424.92  |q        Q          |          |          |
18+ 5      57.3458    398.75  |q       Q|          |          |          |
18+10      53.6597    374.72  |q       Q|          |          |          |
18+15      48.5610    350.81  |q      Q |          |          |          |
18+20      46.8765    331.73  |q      Q |          |          |          |
18+25      43.6877    312.33  |q     Q  |          |          |          |
18+30      40.0483    293.73  q      Q  |          |          |          |
18+35      38.6603    278.77  q     Q   |          |          |          |
18+40      34.4901    262.39  q     Q   |          |          |          |
18+45      31.9055    248.09  q    Q    |          |          |          |
18+50      31.4446    236.30  q    Q    |          |          |          |
18+55      31.8318    225.27  q    Q    |          |          |          |
19+ 0      31.5795    213.94  q    Q    |          |          |          |
19+ 5      30.9583    203.72  q   Q     |          |          |          |
19+10      30.2115    194.94  q   Q     |          |          |          |
19+15      29.2161    187.21  q   Q     |          |          |          |
19+20      27.1265    179.22  q   Q     |          |          |          |
19+25      23.7545    170.47  q   Q     |          |          |          |
19+30      22.6512    164.47  q  Q      |          |          |          |
19+35      21.5404    158.81  q  Q      |          |          |          |
19+40      18.6395    151.43  q  Q      |          |          |          |
19+45      16.0273    144.60  q  Q      |          |          |          |
19+50      15.4714    140.37  q  Q      |          |          |          |
19+55      15.0560    136.84  q  Q      |          |          |          |
20+ 0      14.7082    133.91  q  Q      |          |          |          |
20+ 5      14.4118    131.34  q  Q      |          |          |          |
20+10      14.1357    128.86  q  Q      |          |          |          |
20+15      13.8723    126.32  q  Q      |          |          |          |
20+20      13.6255    123.44  q Q       |          |          |          |
20+25      13.3906    120.41  q Q       |          |          |          |
20+30      13.1633    117.57  q Q       |          |          |          |
20+35      12.9473    115.01  q Q       |          |          |          |
20+40      12.7373    112.53  q Q       |          |          |          |
20+45      12.5349    110.08  q Q       |          |          |          |
20+50      12.3414    107.79  q Q       |          |          |          |
20+55      12.1577    105.76  q Q       |          |          |          |
21+ 0      11.9820    103.61  q Q       |          |          |          |
21+ 5      11.8132    101.33  q Q       |          |          |          |
21+10      11.6510     99.23  q Q       |          |          |          |
21+15      11.4949     97.38  q Q       |          |          |          |
21+20      11.3427     95.73  q Q       |          |          |          |
21+25      11.1913     94.21  q Q       |          |          |          |
21+30      11.0449     92.77  q Q       |          |          |          |
21+35      10.9034     91.38  q Q       |          |          |          |
21+40      10.7630     90.05  q Q       |          |          |          |
21+45      10.6234     88.79  q Q       |          |          |          |
21+50      10.4882     87.60  q Q       |          |          |          |
21+55      10.3571     86.46  q Q       |          |          |          |
22+ 0      10.2299     85.38  q Q       |          |          |          |
22+ 5      10.1064     84.33  q Q       |          |          |          |
22+10       9.9865     83.33  q Q       |          |          |          |
22+15       9.8700     82.37  qQ        |          |          |          |
22+20       9.7567     81.44  qQ        |          |          |          |
22+25       9.6465     80.53  qQ        |          |          |          |
22+30       9.5392     79.66  qQ        |          |          |          |
22+35       9.4348     78.80  qQ        |          |          |          |
22+40       9.3331     77.98  qQ        |          |          |          |
22+45       9.2339     77.17  qQ        |          |          |          |
22+50       9.1373     76.39  qQ        |          |          |          |
```

22+55	9.0431	75.63	qQ				
23+ 0	8.9511	74.89	qQ				
23+ 5	8.8613	74.17	qQ				
23+10	8.7737	73.46	qQ				
23+15	8.6881	72.77	qQ				
23+20	8.6045	72.10	qQ				
23+25	8.5228	71.45	qQ				
23+30	8.4429	70.81	qQ				
23+35	8.3648	70.18	qQ				
23+40	8.2883	69.57	qQ				
23+45	8.2135	68.97	qQ				
23+50	8.1403	68.39	qQ				
23+55	8.0687	67.81	qQ				
24+ 0	7.9985	67.25	qQ				
24+ 5	7.8671	66.56	qQ				
24+10	7.5861	65.48	qQ				
24+15	7.1501	63.90	qQ				
24+20	6.3162	61.49	qQ				
24+25	5.0508	58.16	qQ				
24+30	4.0560	54.61	qQ				
24+35	3.3505	50.90	qQ				
24+40	2.8568	46.69	qQ				
24+45	2.4743	41.39	Q				
24+50	2.1557	35.61	Q				
24+55	1.8960	30.38	Q				
25+ 0	1.6717	26.06	Q				
25+ 5	1.4848	22.58	Q				
25+10	1.3238	19.78	Q				
25+15	1.1779	17.46	Q				
25+20	1.0450	15.49	Q				
25+25	0.9293	13.80	Q				
25+30	0.8334	12.32	Q				
25+35	0.7489	11.03	Q				
25+40	0.6694	9.87	Q				
25+45	0.5985	8.84	Q				
25+50	0.5327	7.90	Q				
25+55	0.4724	7.06	Q				
26+ 0	0.4224	6.30	Q				
26+ 5	0.3741	5.61	Q				
26+10	0.3293	4.99	Q				
26+15	0.2920	4.42	Q				
26+20	0.2554	3.91	Q				
26+25	0.2238	3.45	Q				
26+30	0.1983	3.05	Q				
26+35	0.1731	2.69	Q				
26+40	0.1547	2.37	Q				
26+45	0.1403	2.08	Q				
26+50	0.1258	1.83	Q				
26+55	0.1096	1.61	Q				
27+ 0	0.0929	1.43	Q				
27+ 5	0.0763	1.28	Q				
27+10	0.0599	1.15	Q				
27+15	0.0437	1.04	Q				
27+20	0.0296	0.94	Q				
27+25	0.0209	0.85	Q				
27+30	0.0125	0.77	Q				
27+35	0.0041	0.69	Q				
27+40	0.0000	0.62	Q				
27+45	0.0000	0.57	Q				

27+50	0.0000	0.52	Q	|	|	|	|
27+55	0.0000	0.47	Q	|	|	|	|
28+ 0	0.0000	0.43	Q	|	|	|	|
28+ 5	0.0000	0.38	Q	|	|	|	|
28+10	0.0000	0.33	Q	|	|	|	|
28+15	0.0000	0.28	Q	|	|	|	|
28+20	0.0000	0.24	Q	|	|	|	|
28+25	0.0000	0.20	Q	|	|	|	|
28+30	0.0000	0.17	Q	|	|	|	|
28+35	0.0000	0.14	Q	|	|	|	|
28+40	0.0000	0.11	Q	|	|	|	|
28+45	0.0000	0.09	Q	|	|	|	|
28+50	0.0000	0.07	Q	|	|	|	|
28+55	0.0000	0.05	Q	|	|	|	|
29+ 0	0.0000	0.03	Q	|	|	|	|
29+ 5	0.0000	0.02	Q	|	|	|	|
29+10	0.0000	0.02	Q	|	|	|	|
29+15	0.0000	0.01	Q	|	|	|	|
29+20	0.0000	0.01	Q	|	|	|	|
29+25	0.0000	0.01	Q	|	|	|	|
29+30	0.0000	0.00	Q	|	|	|	|
29+35	0.0000	0.00	Q	|	|	|	|
29+40	0.0000	0.00	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1655.643 (CFS)
Total volume = 388.918 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	1335.624	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	314.422	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 08/10/17

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREAS "E", "G" & "I" ROUTING
100-YEAR, 24-HOUR EVENT
BY: JDN, DATE: 08-10-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFE10024.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 2.000 to Point/Station 2.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

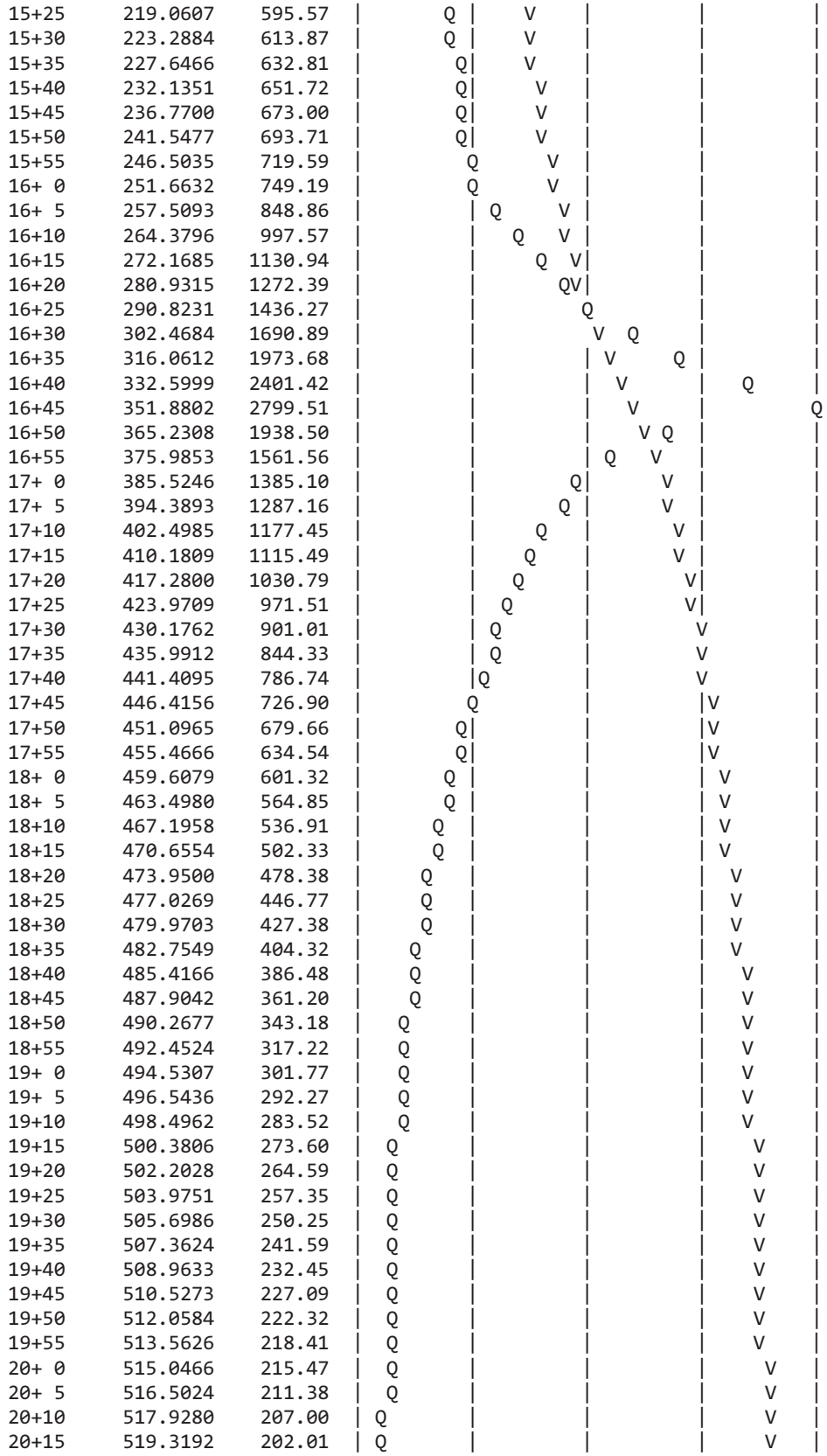
Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q	|	|	|	|
0+45	1.0442	49.62	Q	|	|	|	|
0+50	1.4418	57.74	Q	|	|	|	|
0+55	1.8774	63.25	Q	|	|	|	|
1+ 0	2.3435	67.68	Q	|	|	|	|
1+ 5	2.8357	71.46	VQ	|	|	|	|
1+10	3.3495	74.60	VQ	|	|	|	|
1+15	3.8839	77.60	VQ	|	|	|	|
1+20	4.4361	80.18	VQ	|	|	|	|
1+25	5.0051	82.61	VQ	|	|	|	|
1+30	5.5888	84.75	VQ	|	|	|	|
1+35	6.1862	86.74	VQ	|	|	|	|
1+40	6.7962	88.58	VQ	|	|	|	|
1+45	7.4181	90.30	VQ	|	|	|	|
1+50	8.0511	91.90	VQ	|	|	|	|
1+55	8.6941	93.37	VQ	|	|	|	|
2+ 0	9.3468	94.77	VQ	|	|	|	|
2+ 5	10.0084	96.06	VQ	|	|	|	|
2+10	10.6785	97.30	VQ	|	|	|	|
2+15	11.3564	98.42	VQ	|	|	|	|
2+20	12.0417	99.50	VQ	|	|	|	|
2+25	12.7335	100.46	VQ	|	|	|	|
2+30	13.4318	101.39	VQ	|	|	|	|
2+35	14.1361	102.27	VQ	|	|	|	|
2+40	14.8463	103.11	|Q	|	|	|	|
2+45	15.5617	103.88	|Q	|	|	|	|
2+50	16.2821	104.60	|Q	|	|	|	|
2+55	17.0067	105.21	|Q	|	|	|	|
3+ 0	17.7352	105.77	|Q	|	|	|	|
3+ 5	18.4676	106.35	|Q	|	|	|	|
3+10	19.2039	106.92	|Q	|	|	|	|
3+15	19.9442	107.49	|Q	|	|	|	|
3+20	20.6883	108.04	|Q	|	|	|	|
3+25	21.4362	108.60	|Q	|	|	|	|
3+30	22.1880	109.16	|Q	|	|	|	|
3+35	22.9437	109.72	|Q	|	|	|	|
3+40	23.7030	110.24	|Q	|	|	|	|
3+45	24.4659	110.78	|Q	|	|	|	|
3+50	25.2326	111.31	|Q	|	|	|	|
3+55	26.0030	111.87	|Q	|	|	|	|
4+ 0	26.7773	112.42	|Q	|	|	|	|
4+ 5	27.5555	113.00	|Q	|	|	|	|
4+10	28.3377	113.57	|Q	|	|	|	|
4+15	29.1239	114.15	|QV	|	|	|	|
4+20	29.9138	114.70	|QV	|	|	|	|
4+25	30.7076	115.25	|QV	|	|	|	|
4+30	31.5051	115.80	|QV	|	|	|	|
4+35	32.3065	116.37	|QV	|	|	|	|
4+40	33.1117	116.91	|QV	|	|	|	|
4+45	33.9208	117.47	|QV	|	|	|	|
4+50	34.7336	118.02	|QV	|	|	|	|
4+55	35.5504	118.60	|QV	|	|	|	|
5+ 0	36.3709	119.14	|QV	|	|	|	|
5+ 5	37.1953	119.70	|QV	|	|	|	|
5+10	38.0234	120.25	|QV	|	|	|	|
5+15	38.8555	120.81	|QV	|	|	|	|
5+20	39.6914	121.38	|QV	|	|	|	|
5+25	40.5313	121.96	|QV	|	|	|	|
5+30	41.3752	122.53	|QV	|	|	|	|

5+35	42.2232	123.13	QV			
5+40	43.0752	123.71	Q V			
5+45	43.9315	124.32	Q V			
5+50	44.7918	124.92	Q V			
5+55	45.6564	125.55	Q V			
6+ 0	46.5253	126.16	Q V			
6+ 5	47.3986	126.80	Q V			
6+10	48.2762	127.43	Q V			
6+15	49.1584	128.09	Q V			
6+20	50.0450	128.74	Q V			
6+25	50.9363	129.41	Q V			
6+30	51.8321	130.07	Q V			
6+35	52.7327	130.77	Q V			
6+40	53.6380	131.45	Q V			
6+45	54.5482	132.16	Q V			
6+50	55.4632	132.86	Q V			
6+55	56.3832	133.59	Q V			
7+ 0	57.3082	134.31	Q V			
7+ 5	58.2384	135.06	Q V			
7+10	59.1737	135.80	Q V			
7+15	60.1143	136.58	Q V			
7+20	61.0602	137.34	Q V			
7+25	62.0115	138.13	Q V			
7+30	62.9682	138.92	Q V			
7+35	63.9306	139.74	Q V			
7+40	64.8985	140.54	Q V			
7+45	65.8722	141.39	Q V			
7+50	66.8517	142.22	Q V			
7+55	67.8372	143.09	Q V			
8+ 0	68.8285	143.95	Q V			
8+ 5	69.8261	144.84	Q V			
8+10	70.8297	145.73	Q V			
8+15	71.8397	146.65	Q V			
8+20	72.8560	147.57	Q V			
8+25	73.8789	148.52	Q V			
8+30	74.9083	149.47	Q V			
8+35	75.9445	150.45	Q V			
8+40	76.9874	151.43	Q V			
8+45	78.0373	152.45	Q V			
8+50	79.0941	153.46	Q V			
8+55	80.1583	154.51	Q V			
9+ 0	81.2296	155.56	Q V			
9+ 5	82.3085	156.65	Q V			
9+10	83.3948	157.73	Q V			
9+15	84.4889	158.86	Q V			
9+20	85.5907	159.99	Q V			
9+25	86.7006	161.16	Q V			
9+30	87.8185	162.32	Q V			
9+35	88.9448	163.54	Q V			
9+40	90.0795	164.75	Q V			
9+45	91.2228	166.01	Q V			
9+50	92.3748	167.27	Q V			
9+55	93.5359	168.58	Q V			
10+ 0	94.7059	169.89	Q V			
10+ 5	95.8854	171.26	Q V			
10+10	97.0742	172.62	Q V			
10+15	98.2729	174.04	Q V			
10+20	99.4813	175.46	Q V			
10+25	100.6999	176.95	Q V			

10+30	101.9288	178.43	Q V				
10+35	103.1683	179.98	Q V				
10+40	104.4185	181.52	Q V				
10+45	105.6798	183.15	Q V				
10+50	106.9523	184.76	Q V				
10+55	108.2364	186.46	Q V				
11+ 0	109.5322	188.15	Q V				
11+ 5	110.8402	189.93	Q V				
11+10	112.1605	191.70	Q V				
11+15	113.4936	193.57	Q V				
11+20	114.8396	195.43	Q V				
11+25	116.1990	197.39	Q V				
11+30	117.5719	199.35	Q V				
11+35	118.9591	201.41	Q V				
11+40	120.3604	203.48	Q V				
11+45	121.7768	205.65	Q V				
11+50	123.2081	207.83	Q V				
11+55	124.6552	210.13	Q V				
12+ 0	126.1182	212.43	Q V				
12+ 5	127.5980	214.86	Q V				
12+10	129.0946	217.31	Q V				
12+15	130.6091	219.90	Q V				
12+20	132.1416	222.51	Q V				
12+25	133.6930	225.27	Q V				
12+30	135.2636	228.06	Q V				
12+35	136.8547	231.02	Q V				
12+40	138.4663	234.02	Q V				
12+45	140.1002	237.23	Q V				
12+50	141.7559	240.42	Q V				
12+55	143.4349	243.79	Q V				
13+ 0	145.1373	247.19	Q V				
13+ 5	146.8646	250.80	Q V				
13+10	148.6169	254.44	Q V				
13+15	150.3960	258.33	Q V				
13+20	152.2022	262.25	Q V				
13+25	154.0372	266.45	Q V				
13+30	155.9016	270.71	Q V				
13+35	157.7974	275.27	Q V				
13+40	159.7251	279.90	Q V				
13+45	161.6870	284.87	Q V				
13+50	163.6838	289.93	Q V				
13+55	165.7181	295.38	Q V				
14+ 0	167.7908	300.95	Q V				
14+ 5	169.9119	307.98	Q V				
14+10	172.0914	316.48	Q V				
14+15	174.3396	326.43	Q V				
14+20	176.6643	337.54	Q V				
14+25	179.0766	350.28	Q V				
14+30	181.5931	365.40	Q V				
14+35	184.2343	383.51	Q V				
14+40	187.0375	407.02	Q V				
14+45	190.0556	438.22	Q V				
14+50	193.2225	459.84	Q V				
14+55	196.5210	478.94	Q V				
15+ 0	199.9449	497.14	Q V				
15+ 5	203.4974	515.83	Q V				
15+10	207.1779	534.41	Q V				
15+15	210.9971	554.55	Q V				
15+20	214.9590	575.26	Q V				



15+25	219.0607	595.57	
15+30	223.2884	613.87	
15+35	227.6466	632.81	
15+40	232.1351	651.72	
15+45	236.7700	673.00	
15+50	241.5477	693.71	
15+55	246.5035	719.59	
16+ 0	251.6632	749.19	
16+ 5	257.5093	848.86	
16+10	264.3796	997.57	
16+15	272.1685	1130.94	
16+20	280.9315	1272.39	
16+25	290.8231	1436.27	
16+30	302.4684	1690.89	
16+35	316.0612	1973.68	
16+40	332.5999	2401.42	
16+45	351.8802	2799.51	
16+50	365.2308	1938.50	
16+55	375.9853	1561.56	
17+ 0	385.5246	1385.10	
17+ 5	394.3893	1287.16	
17+10	402.4985	1177.45	
17+15	410.1809	1115.49	
17+20	417.2800	1030.79	
17+25	423.9709	971.51	
17+30	430.1762	901.01	
17+35	435.9912	844.33	
17+40	441.4095	786.74	
17+45	446.4156	726.90	
17+50	451.0965	679.66	
17+55	455.4666	634.54	
18+ 0	459.6079	601.32	
18+ 5	463.4980	564.85	
18+10	467.1958	536.91	
18+15	470.6554	502.33	
18+20	473.9500	478.38	
18+25	477.0269	446.77	
18+30	479.9703	427.38	
18+35	482.7549	404.32	
18+40	485.4166	386.48	
18+45	487.9042	361.20	
18+50	490.2677	343.18	
18+55	492.4524	317.22	
19+ 0	494.5307	301.77	
19+ 5	496.5436	292.27	
19+10	498.4962	283.52	
19+15	500.3806	273.60	
19+20	502.2028	264.59	
19+25	503.9751	257.35	
19+30	505.6986	250.25	
19+35	507.3624	241.59	
19+40	508.9633	232.45	
19+45	510.5273	227.09	
19+50	512.0584	222.32	
19+55	513.5626	218.41	
20+ 0	515.0466	215.47	
20+ 5	516.5024	211.38	
20+10	517.9280	207.00	
20+15	519.3192	202.01	

20+20	520.6595	194.61	Q				V
20+25	521.9690	190.14	Q				V
20+30	523.2539	186.56	Q				V
20+35	524.5140	182.97	Q				V
20+40	525.7400	178.01	Q				V
20+45	526.9395	174.16	Q				V
20+50	528.1178	171.09	Q				V
20+55	529.2811	168.91	Q				V
21+ 0	530.3990	162.32	Q				V
21+ 5	531.4964	159.34	Q				V
21+10	532.5763	156.80	Q				V
21+15	533.6400	154.45	Q				V
21+20	534.6877	152.13	Q				V
21+25	535.7200	149.89	Q				V
21+30	536.7362	147.56	Q				V
21+35	537.7371	145.33	Q				V
21+40	538.7247	143.40	Q				V
21+45	539.6996	141.56	Q				V
21+50	540.6623	139.79	Q				V
21+55	541.6131	138.05	Q				V
22+ 0	542.5527	136.42	Q				V
22+ 5	543.4814	134.85	Q				V
22+10	544.3996	133.33	Q				V
22+15	545.3076	131.85	Q				V
22+20	546.2058	130.42	Q				V
22+25	547.0944	129.02	Q				V
22+30	547.9737	127.67	Q				V
22+35	548.8440	126.36	Q				V
22+40	549.7055	125.09	Q				V
22+45	550.5584	123.85	Q				V
22+50	551.4031	122.64	Q				V
22+55	552.2396	121.46	Q				V
23+ 0	553.0682	120.31	Q				V
23+ 5	553.8891	119.19	Q				V
23+10	554.7024	118.10	Q				V
23+15	555.5084	117.03	Q				V
23+20	556.3073	115.99	Q				V
23+25	557.0991	114.97	Q				V
23+30	557.8840	113.98	Q				V
23+35	558.6623	113.00	Q				V
23+40	559.4340	112.05	Q				V
23+45	560.1993	111.12	Q				V
23+50	560.9583	110.21	Q				V
23+55	561.7111	109.32	Q				V
24+ 0	562.4580	108.44	Q				V
24+ 5	563.1939	106.86	Q				V
24+10	563.9126	104.35	Q				V
24+15	564.6096	101.21	Q				V
24+20	565.2806	97.42	Q				V
24+25	565.9208	92.96	Q				V
24+30	566.5203	87.04	Q				V
24+35	567.0682	79.56	Q				V
24+40	567.5403	68.55	Q				V
24+45	567.9039	52.80	Q				V
24+50	568.2101	44.46	Q				V
24+55	568.4775	38.82	Q				V
25+ 0	568.7139	34.33	Q				V
25+ 5	568.9241	30.52	Q				V
25+10	569.1128	27.41	Q				V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

```
        Peak (CFS)   2799.507     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)    570.680     0.000     0.000     0.000     0.000
******************************************************************************

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        2.100
**** STREAM ROUTING SCS CONVEX METHOD ****
______________________________________________________________________________
HYDROGRAPH STREAM ROUTING DATA:
Length of stream =   9603.00 (Ft.)
Elevation difference =  530.00 (Ft.)
Slope of channel =  0.055191 (Vert/Horiz)
Channel type - Improved Channel


Channel length =  9603.00(Ft.)     Elevation difference = 530.00(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width  =  300.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    268.931(CFS)
Depth of flow =     0.236(Ft.)
Average velocity =     3.800(Ft/s)
Total flow rate =   268.931(CFS)
Channel flow top width =  300.942(Ft.)
Depth of flow in channel =   0.24(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    3.80(Ft/s)
Travel time  =    0.00 min.
Individual channel flow =  268.931(CFS)
Total capacity of improved channels =    268.931(CFS)
Critical Depth in Channel =    0.29(Ft.)


Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea =   2799.507(CFS)
Depth of flow =     0.960(Ft.)
Average velocity =     9.657(Ft/s)
Total flow rate =  2799.507(CFS)
Channel flow top width =  303.841(Ft.)
Depth of flow in channel =   0.96(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    9.66(Ft/s)
Travel time  =    0.00 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels =   2799.507(CFS)
Critical Depth in Channel =    1.39(Ft.)


********************** SCS CONVEX CHANNEL ROUTING ********************
Convex method of stream routing  data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
          where c* = 1 - (1-c)^e and dt = c(length)/velocity
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c(v/v+1.7) = 0.8503 Travel time = 16.57 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.5699
dt(routing time-step) = 14.09 (min.), c* = 0.6612

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3118	0.73	O				
0+10	1.3035	2.41	O				
0+15	3.0346	4.76	O				
0+20	5.4660	7.79	O				
0+25	8.6030	11.54	O				
0+30	12.7979	16.82	O				
0+35	18.3978	23.71	O				
0+40	26.4009	34.24	O				
0+45	38.1445	49.62	O				
0+50	49.1970	57.74	O				
0+55	57.1962	63.25	O				
1+ 0	63.0865	67.68	O				
1+ 5	67.7363	71.46	OI				
1+10	71.5387	74.60	|O				
1+15	74.8416	77.60	|O				
1+20	77.7668	80.18	|O				
1+25	80.4018	82.61	|O				
1+30	82.7778	84.75	|O				
1+35	84.9329	86.74	|O				
1+40	86.9125	88.58	|O				
1+45	88.7493	90.30	|O				
1+50	90.4596	91.90	|O				
1+55	92.0403	93.37	|O				
2+ 0	93.5162	94.77	|O				
2+ 5	94.8964	96.06	|O				
2+10	96.1961	97.30	|O				
2+15	97.4059	98.42	|O				
2+20	98.5384	99.50	|O				
2+25	99.5842	100.46	|O				
2+30	100.5603	101.39	|O				
2+35	101.4826	102.27	|O				
2+40	102.3622	103.11	|O				
2+45	103.1849	103.88	|O				
2+50	103.9523	104.60	|O				
2+55	104.6433	105.21	|O				
3+ 0	105.2594	105.77	|O				
3+ 5	105.8446	106.35	|O				
3+10	106.4202	106.92	|O				
3+15	106.9913	107.49	|O				
3+20	107.5533	108.04	|O				
3+25	108.1149	108.60	|O				
3+30	108.6774	109.16	|O				
3+35	109.2378	109.72	|O				

3+40	109.7813	110.24	O				
3+45	110.3174	110.78	O				
3+50	110.8519	111.31	O				
3+55	111.3931	111.87	O				
4+ 0	111.9440	112.42	O				
4+ 5	112.5075	113.00	O				
4+10	113.0767	113.57	O				
4+15	113.6522	114.15	O				
4+20	114.2163	114.70	O				
4+25	114.7722	115.25	O				
4+30	115.3249	115.80	O				
4+35	115.8827	116.37	O				
4+40	116.4370	116.91	O				
4+45	116.9903	117.47	O				
4+50	117.5429	118.02	O				
4+55	118.1067	118.60	O				
5+ 0	118.6634	119.14	O				
5+ 5	119.2157	119.70	O				
5+10	119.7676	120.25	O				
5+15	120.3264	120.81	O				
5+20	120.8891	121.38	O				
5+25	121.4604	121.96	O				
5+30	122.0355	122.53	O				
5+35	122.6183	123.13	O				
5+40	123.2049	123.71	O				
5+45	123.8006	124.32	O				
5+50	124.4013	124.92	O				
5+55	125.0118	125.55	O				
6+ 0	125.6275	126.16	O				
6+ 5	126.2534	126.80	O				
6+10	126.8848	127.43	O				
6+15	127.5268	128.09	O				
6+20	128.1746	128.74	O				
6+25	128.8333	129.41	O				
6+30	129.4981	130.07	O				
6+35	130.1743	130.77	O				
6+40	130.8569	131.45	O				
6+45	131.5514	132.16	O				
6+50	132.2525	132.86	O				
6+55	132.9660	133.59	O				
7+ 0	133.6865	134.31	O				
7+ 5	134.4199	135.06	O				
7+10	135.1607	135.80	O				
7+15	135.9149	136.58	O				
7+20	136.6769	137.34	O				
7+25	137.4528	138.13	O				
7+30	138.2370	138.92	O				
7+35	139.0357	139.74	O				
7+40	139.8431	140.54	OI				
7+45	140.6658	141.39	O				
7+50	141.4976	142.22	O				
7+55	142.3453	143.09	O				
8+ 0	143.2027	143.95	O				
8+ 5	144.0767	144.84	O				
8+10	144.9609	145.73	O				
8+15	145.8626	146.65	O				
8+20	146.7751	147.57	O				
8+25	147.7059	148.52	O				
8+30	148.6482	149.47	O				

8+35	149.6096	150.45	O				
8+40	150.5832	151.43	O				
8+45	151.5770	152.45	O				
8+50	152.5836	153.46	O				
8+55	153.6115	154.51	O				
9+ 0	154.6530	155.56	O				
9+ 5	155.7169	156.65	O				
9+10	156.7953	157.73	O				
9+15	157.8973	158.86	O				
9+20	159.0147	159.99	O				
9+25	160.1570	161.16	O				
9+30	161.3159	162.32	O				
9+35	162.5010	163.54	O				
9+40	163.7037	164.75	O				
9+45	164.9343	166.01	O				
9+50	166.1837	167.27	O				
9+55	167.4625	168.58	O				
10+ 0	168.7615	169.89	O				
10+ 5	170.0918	171.26	O				
10+10	171.4438	172.62	O				
10+15	172.8289	174.04	O				
10+20	174.2374	175.46	O				
10+25	175.6811	176.95	O				
10+30	177.1499	178.43	O				
10+35	178.6565	179.98	O				
10+40	180.1899	181.52	O				
10+45	181.7637	183.15	O				
10+50	183.3666	184.76	O				
10+55	185.0126	186.46	O				
11+ 0	186.6901	188.15	O				
11+ 5	188.4139	189.93	O				
11+10	190.1718	191.70	O				
11+15	191.9795	193.57	O				
11+20	193.8242	195.43	O				
11+25	195.7226	197.39	O				
11+30	197.6613	199.35	O				
11+35	199.6579	201.41	O				
11+40	201.6986	203.48	O				
11+45	203.8021	205.65	O				
11+50	205.9537	207.83	O				
11+55	208.1735	210.13	OI				
12+ 0	210.4463	212.43	O				
12+ 5	212.7951	214.86	O				
12+10	215.2065	217.31	O				
12+15	217.7035	219.90	O				
12+20	220.2692	222.51	O				
12+25	222.9283	225.27	O				
12+30	225.6653	228.06	O				
12+35	228.5089	231.02	O				
12+40	231.4469	234.02	O				
12+45	234.5161	237.23	O				
12+50	237.6702	240.42	O				
12+55	240.9259	243.79	O				
13+ 0	244.2686	247.19	O				
13+ 5	247.7378	250.80	O				
13+10	251.3145	254.44	O				
13+15	255.0384	258.33	O				
13+20	258.8879	262.25	O				
13+25	262.9051	266.45	O				

13+30	267.0667	270.71	O				
13+35	271.4192	275.27	O				
13+40	275.9386	279.90	O				
13+45	280.6769	284.87	O				
13+50	285.6089	289.93	O				
13+55	290.7933	295.38	O				
14+ 0	296.2044	300.95	O				
14+ 5	302.3426	307.98	O				
14+10	309.6951	316.48	O				
14+15	318.4256	326.43	O				
14+20	328.4586	337.54	O				
14+25	339.8963	350.28	OI				
14+30	353.2088	365.40	O				
14+35	368.9921	383.51	O				
14+40	388.6213	407.02	O				
14+45	414.0988	438.22	OI				
14+50	439.2700	459.84	O				
14+55	461.0192	478.94	O				
15+ 0	480.6337	497.14	OI				
15+ 5	499.5191	515.83	O				
15+10	518.2282	534.41	O				
15+15	537.5196	554.55	O				
15+20	557.6148	575.26	OI				
15+25	577.9466	595.57	O				
15+30	597.4041	613.87	O				
15+35	616.3694	632.81	OI				
15+40	635.3068	651.72	O				
15+45	655.2353	673.00	O				
15+50	675.8160	693.71	O				
15+55	698.6873	719.59	OI				
16+ 0	725.1337	749.19	O				
16+ 5	783.5562	848.86	OI				
16+10	890.1727	997.57	O I				
16+15	1018.0790	1130.94	O I				
16+20	1153.0421	1272.39	O I				
16+25	1301.8620	1436.27	O I				
16+30	1499.3488	1690.89	O I				
16+35	1746.6287	1973.68	O I				
16+40	2079.2219	2401.42	O	I			
16+45	2462.0759	2799.51	O	I			
16+50	2317.8765	1938.50	O	I			
16+55	1906.2382	1561.56	O	I			
17+ 0	1603.0639	1385.10	O	I			
17+ 5	1417.1695	1287.16	O	I			
17+10	1284.4078	1177.45	O	I			
17+15	1187.2563	1115.49	O	I			
17+20	1103.6728	1030.79	O	I			
17+25	1030.1970	971.51	O	I			
17+30	961.3220	901.01	O	I			
17+35	897.2673	844.33	O	I			
17+40	837.6969	786.74	O	I			
17+45	778.4751	726.90	O	I			
17+50	724.2192	679.66	O	I			
17+55	675.5099	634.54	O	I			
18+ 0	634.2490	601.32	O	I			
18+ 5	596.9175	564.85	O	I			
18+10	563.7970	536.91	O	I			
18+15	531.2691	502.33	O	I			
18+20	501.9174	478.38	O	I			

18+25	472.8686	446.77	O			
18+30	447.3400	427.38	O			
18+35	424.3066	404.32	IO			
18+40	403.4838	386.48	O			
18+45	381.4569	361.20	O			
18+50	360.3764	343.18	IO			
18+55	337.9329	317.22	O			
19+ 0	317.6483	301.77	O			
19+ 5	303.0976	292.27	O			
19+10	292.2052	283.52	O			
19+15	282.2322	273.60	IO			
19+20	272.6803	264.59	O			
19+25	264.2402	257.35	O			
19+30	256.6543	250.25	O			
19+35	248.7232	241.59	O			
19+40	240.1084	232.45	O			
19+45	232.7581	227.09	O			
19+50	226.9756	222.32	O			
19+55	222.2291	218.41	O			
20+ 0	218.4492	215.47	O			
20+ 5	214.7345	211.38	O			
20+10	210.6473	207.00	IO			
20+15	206.1047	202.01	O			
20+20	200.2398	194.61	O			
20+25	194.6128	190.14	O			
20+30	190.1293	186.56	O			
20+35	186.2391	182.97	O			
20+40	181.9639	178.01	O			
20+45	177.7089	174.16	O			
20+50	174.0548	171.09	O			
20+55	171.1633	168.91	O			
21+ 0	166.8622	162.32	O			
21+ 5	162.5899	159.34	O			
21+10	159.3569	156.80	O			
21+15	156.6620	154.45	O			
21+20	154.2088	152.13	O			
21+25	151.8790	149.89	O			
21+30	149.5685	147.56	O			
21+35	147.2871	145.33	O			
21+40	145.1687	143.40	O			
21+45	143.2145	141.56	O			
21+50	141.3639	139.79	IO			
21+55	139.5806	138.05	O			
22+ 0	137.8749	136.42	O			
22+ 5	136.2438	134.85	O			
22+10	134.6721	133.33	O			
22+15	133.1520	131.85	O			
22+20	131.6791	130.42	O			
22+25	130.2501	129.02	O			
22+30	128.8636	127.67	O			
22+35	127.5182	126.36	O			
22+40	126.2112	125.09	O			
22+45	124.9400	123.85	O			
22+50	123.7025	122.64	O			
22+55	122.4972	121.46	O			
23+ 0	121.3225	120.31	O			
23+ 5	120.1772	119.19	O			
23+10	119.0600	118.10	O			
23+15	117.9698	117.03	O			

23+20	116.9053	115.99	|O	|	|	|	|
23+25	115.8656	114.97	|O	|	|	|	|
23+30	114.8498	113.98	|O	|	|	|	|
23+35	113.8569	113.00	|O	|	|	|	|
23+40	112.8860	112.05	|O	|	|	|	|
23+45	111.9364	111.12	|O	|	|	|	|
23+50	111.0073	110.21	|O	|	|	|	|
23+55	110.0980	109.32	|O	|	|	|	|
24+ 0	109.2077	108.44	|O	|	|	|	|
24+ 5	108.0248	106.86	|O	|	|	|	|
24+10	106.1840	104.35	|O	|	|	|	|
24+15	103.6324	101.21	|O	|	|	|	|
24+20	100.4156	97.42	|O	|	|	|	|
24+25	96.5349	92.96	|O	|	|	|	|
24+30	91.6450	87.04	|O	|	|	|	|
24+35	85.4091	79.56	|O	|	|	|	|
24+40	76.8446	68.55	IO	|	|	|	|
24+45	64.6394	52.80	O	|	|	|	|
24+50	53.2513	44.46	O	|	|	|	|
24+55	45.0340	38.82	O	|	|	|	|
25+ 0	39.0095	34.33	O	|	|	|	|
25+ 5	34.2911	30.52	O	|	|	|	|
25+10	30.4698	27.41	O	|	|	|	|
25+15	27.1921	24.47	O	|	|	|	|
25+20	24.3278	21.97	O	|	|	|	|
25+25	21.7878	19.67	O	|	|	|	|
25+30	19.5351	17.67	O	|	|	|	|
25+35	17.5313	15.86	O	|	|	|	|
25+40	15.7257	14.22	O	|	|	|	|
25+45	14.0864	12.71	O	|	|	|	|
25+50	12.5925	11.34	O	|	|	|	|
25+55	11.2486	10.13	O	|	|	|	|
26+ 0	10.0254	9.00	O	|	|	|	|
26+ 5	8.9156	7.99	O	|	|	|	|
26+10	7.8997	7.04	O	|	|	|	|
26+15	6.9894	6.24	O	|	|	|	|
26+20	6.1678	5.48	O	|	|	|	|
26+25	5.4466	4.86	O	|	|	|	|
26+30	4.8046	4.27	O	|	|	|	|
26+35	4.2285	3.75	O	|	|	|	|
26+40	3.7032	3.26	O	|	|	|	|
26+45	3.2457	2.87	O	|	|	|	|
26+50	2.8506	2.52	O	|	|	|	|
26+55	2.5413	2.31	O	|	|	|	|
27+ 0	2.3125	2.13	O	|	|	|	|
27+ 5	2.1228	1.97	O	|	|	|	|
27+10	1.9472	1.80	O	|	|	|	|
27+15	1.7838	1.65	O	|	|	|	|
27+20	1.6339	1.51	O	|	|	|	|
27+25	1.4920	1.37	O	|	|	|	|
27+30	1.3535	1.23	O	|	|	|	|
27+35	1.2247	1.12	O	|	|	|	|
27+40	1.1170	1.03	O	|	|	|	|
27+45	1.0242	0.95	O	|	|	|	|
27+50	0.9371	0.86	O	|	|	|	|
27+55	0.8507	0.78	O	|	|	|	|
28+ 0	0.7587	0.68	O	|	|	|	|
28+ 5	0.6618	0.58	O	|	|	|	|
28+10	0.5635	0.48	O	|	|	|	|

28+15	0.4669	0.38	O	|	|	|	|
28+20	0.3861	0.32	O	|	|	|	|
28+25	0.3215	0.27	O	|	|	|	|
28+30	0.2643	0.22	O	|	|	|	|
28+35	0.2100	0.16	O	|	|	|	|
28+40	0.1636	0.13	O	|	|	|	|
28+45	0.1263	0.10	O	|	|	|	|
28+50	0.0938	0.07	O	|	|	|	|
28+55	0.0585	0.03	O	|	|	|	|
29+ 0	0.0347	0.02	O	|	|	|	|
29+ 5	0.0237	0.02	O	|	|	|	|
29+10	0.0175	0.01	O	|	|	|	|
29+15	0.0129	0.01	O	|	|	|	|
29+20	0.0089	0.01	O	|	|	|	|
29+25	0.0051	0.00	O	|	|	|	|
29+30	0.0022	0.00	O	|	|	|	|
29+35	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 355
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2462.076 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.100 to Point/Station 2.100
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFG10024.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	667.8	1335.6	2003.4	2671.2
0+ 5	0.0821	0.39	Q	|	|	|	|
0+10	0.3407	1.64	Q	|	|	|	|
0+15	0.7832	3.82	Q	|	|	|	|
0+20	1.6440	7.11	Q	|	|	|	|
0+25	2.8760	11.48	Q	|	|	|	|
0+30	4.1256	16.92	Q	|	|	|	|
0+35	4.8337	23.23	Q	|	|	|	|
0+40	5.3293	31.73	Q	|	|	|	|
0+45	5.7180	43.86	Q	|	|	|	|
0+50	6.0417	55.24	Q	|	|	|	|
0+55	6.3166	63.51	Q	|	|	|	|

1+ 0	6.5477	69.63	qQ	|	|	|	|
1+ 5	6.7493	74.49	qQ	|	|	|	|
1+10	6.9312	78.47	qQ	|	|	|	|
1+15	7.0950	81.94	qQ	|	|	|	|
1+20	7.2410	85.01	qQ	|	|	|	|
1+25	7.3659	87.77	qQ	|	|	|	|
1+30	7.4791	90.26	qQ	|	|	|	|
1+35	7.5832	92.52	qQ	|	|	|	|
1+40	7.6791	94.59	qQ	|	|	|	|
1+45	7.7665	96.52	qQ	|	|	|	|
1+50	7.8418	98.30	qQ	|	|	|	|
1+55	7.9103	99.95	qQ	|	|	|	|
2+ 0	7.9787	101.49	qQ	|	|	|	|
2+ 5	8.0406	102.94	qQ	|	|	|	|
2+10	8.1028	104.30	qQ	|	|	|	|
2+15	8.1606	105.57	qQ	|	|	|	|
2+20	8.2140	106.75	qQ	|	|	|	|
2+25	8.2670	107.85	qQ	|	|	|	|
2+30	8.3167	108.88	qQ	|	|	|	|
2+35	8.3649	109.85	qQ	|	|	|	|
2+40	8.4139	110.78	qQ	|	|	|	|
2+45	8.4623	111.65	qQ	|	|	|	|
2+50	8.5117	112.46	qQ	|	|	|	|
2+55	8.5602	113.20	qQ	|	|	|	|
3+ 0	8.6093	113.87	qQ	|	|	|	|
3+ 5	8.6575	114.50	qQ	|	|	|	|
3+10	8.7017	115.12	qQ	|	|	|	|
3+15	8.7451	115.74	qQ	|	|	|	|
3+20	8.7896	116.34	qQ	|	|	|	|
3+25	8.8311	116.95	qQ	|	|	|	|
3+30	8.8709	117.55	qQ	|	|	|	|
3+35	8.9105	118.15	qQ	|	|	|	|
3+40	8.9512	118.73	qQ	|	|	|	|
3+45	8.9916	119.31	qQ	|	|	|	|
3+50	9.0332	119.89	qQ	|	|	|	|
3+55	9.0746	120.47	qQ	|	|	|	|
4+ 0	9.1171	121.06	qQ	|	|	|	|
4+ 5	9.1594	121.67	qQ	|	|	|	|
4+10	9.2028	122.28	qQ	|	|	|	|
4+15	9.2461	122.90	qQ	|	|	|	|
4+20	9.2906	123.51	qQ	|	|	|	|
4+25	9.3349	124.11	qQ	|	|	|	|
4+30	9.3804	124.71	qQ	|	|	|	|
4+35	9.4257	125.31	qQ	|	|	|	|
4+40	9.4723	125.91	qQ	|	|	|	|
4+45	9.5187	126.51	qQ	|	|	|	|
4+50	9.5665	127.11	qQ	|	|	|	|
4+55	9.6140	127.72	qQ	|	|	|	|
5+ 0	9.6629	128.33	qQ	|	|	|	|
5+ 5	9.7116	128.93	qQ	|	|	|	|
5+10	9.7617	129.53	qQ	|	|	|	|
5+15	9.8117	130.14	qQ	|	|	|	|
5+20	9.8630	130.75	qQ	|	|	|	|
5+25	9.9142	131.37	qQ	|	|	|	|
5+30	9.9669	132.00	qQ	|	|	|	|
5+35	10.0194	132.64	qQ	|	|	|	|
5+40	10.0735	133.28	qQ	|	|	|	|
5+45	10.1274	133.93	q Q	|	|	|	|
5+50	10.1829	134.58	q Q	|	|	|	|

5+55	10.2382	135.25	q Q	|	|	|	|
6+ 0	10.2952	135.92	q Q	|	|	|	|
6+ 5	10.3520	136.61	q Q	|	|	|	|
6+10	10.4105	137.30	q Q	|	|	|	|
6+15	10.4689	138.00	q Q	|	|	|	|
6+20	10.5291	138.70	q Q	|	|	|	|
6+25	10.5891	139.42	q Q	|	|	|	|
6+30	10.6509	140.15	q Q	|	|	|	|
6+35	10.7126	140.89	q Q	|	|	|	|
6+40	10.7762	141.63	q Q	|	|	|	|
6+45	10.8397	142.39	q Q	|	|	|	|
6+50	10.9051	143.16	q Q	|	|	|	|
6+55	10.9705	143.94	q Q	|	|	|	|
7+ 0	11.0379	144.72	q Q	|	|	|	|
7+ 5	11.1052	145.53	q Q	|	|	|	|
7+10	11.1746	146.34	q Q	|	|	|	|
7+15	11.2439	147.16	q Q	|	|	|	|
7+20	11.3155	147.99	q Q	|	|	|	|
7+25	11.3870	148.84	q Q	|	|	|	|
7+30	11.4608	149.70	q Q	|	|	|	|
7+35	11.5345	150.57	q Q	|	|	|	|
7+40	11.6107	151.45	q Q	|	|	|	|
7+45	11.6868	152.35	q Q	|	|	|	|
7+50	11.7654	153.26	q Q	|	|	|	|
7+55	11.8440	154.19	q Q	|	|	|	|
8+ 0	11.9252	155.13	q Q	|	|	|	|
8+ 5	12.0064	156.08	q Q	|	|	|	|
8+10	12.0903	157.05	q Q	|	|	|	|
8+15	12.1743	158.04	q Q	|	|	|	|
8+20	12.2611	159.04	q Q	|	|	|	|
8+25	12.3480	160.05	q Q	|	|	|	|
8+30	12.4379	161.09	q Q	|	|	|	|
8+35	12.5279	162.14	q Q	|	|	|	|
8+40	12.6210	163.20	q Q	|	|	|	|
8+45	12.7143	164.29	q Q	|	|	|	|
8+50	12.8108	165.39	q Q	|	|	|	|
8+55	12.9075	166.52	q Q	|	|	|	|
9+ 0	13.0076	167.66	q Q	|	|	|	|
9+ 5	13.1079	168.82	q Q	|	|	|	|
9+10	13.2119	170.01	q Q	|	|	|	|
9+15	13.3161	171.21	q Q	|	|	|	|
9+20	13.4242	172.44	q Q	|	|	|	|
9+25	13.5325	173.69	q Q	|	|	|	|
9+30	13.6449	174.96	q Q	|	|	|	|
9+35	13.7577	176.26	q Q	|	|	|	|
9+40	13.8747	177.58	q Q	|	|	|	|
9+45	13.9921	178.93	q Q	|	|	|	|
9+50	14.1140	180.30	q Q	|	|	|	|
9+55	14.2365	181.70	q Q	|	|	|	|
10+ 0	14.3636	183.13	q Q	|	|	|	|
10+ 5	14.4914	184.58	q Q	|	|	|	|
10+10	14.6242	186.07	q Q	|	|	|	|
10+15	14.7578	187.59	q Q	|	|	|	|
10+20	14.8966	189.13	q Q	|	|	|	|
10+25	15.0363	190.72	q Q	|	|	|	|
10+30	15.1817	192.33	q Q	|	|	|	|
10+35	15.3280	193.98	q Q	|	|	|	|
10+40	15.4803	195.67	q Q	|	|	|	|
10+45	15.6338	197.40	q Q	|	|	|	|

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10+50      15.7936    199.16  q Q       |          |          |          |
10+55      15.9548    200.97  q  Q      |          |          |          |
11+ 0      16.1228    202.81  q  Q      |          |          |          |
11+ 5      16.2923    204.71  q  Q      |          |          |          |
11+10      16.4691    206.64  q  Q      |          |          |          |
11+15      16.6477    208.63  q  Q      |          |          |          |
11+20      16.8341    210.66  q  Q      |          |          |          |
11+25      17.0225    212.75  q  Q      |          |          |          |
11+30      17.2194    214.88  q  Q      |          |          |          |
11+35      17.4186    217.08  q  Q      |          |          |          |
11+40      17.6269    219.33  q  Q      |          |          |          |
11+45      17.8378    221.64  q  Q      |          |          |          |
11+50      18.0587    224.01  q  Q      |          |          |          |
11+55      18.2824    226.46  q  Q      |          |          |          |
12+ 0      18.5171    228.96  q  Q      |          |          |          |
12+ 5      18.7267    231.52  q  Q      |          |          |          |
12+10      18.8869    234.09  q  Q      |          |          |          |
12+15      18.9870    236.69  q  Q      |          |          |          |
12+20      18.9546    239.22  q  Q      |          |          |          |
12+25      18.7966    241.72  q  Q      |          |          |          |
12+30      18.6442    244.31  q  Q      |          |          |          |
12+35      18.6816    247.19  q  Q      |          |          |          |
12+40      18.8059    250.25  q  Q      |          |          |          |
12+45      18.9722    253.49  q  Q      |          |          |          |
12+50      19.1767    256.85  q  Q      |          |          |          |
12+55      19.4043    260.33  q  Q      |          |          |          |
13+ 0      19.6651    263.93  q  Q      |          |          |          |
13+ 5      19.9435    267.68  q   Q     |          |          |          |
13+10      20.2492    271.56  q   Q     |          |          |          |
13+15      20.5701    275.61  q   Q     |          |          |          |
13+20      20.9202    279.81  q   Q     |          |          |          |
13+25      21.2885    284.19  q   Q     |          |          |          |
13+30      21.6871    288.75  q   Q     |          |          |          |
13+35      22.1020    293.52  q   Q     |          |          |          |
13+40      22.5500    298.49  q   Q     |          |          |          |
13+45      23.0167    303.69  q   Q     |          |          |          |
13+50      23.5227    309.13  q   Q     |          |          |          |
13+55      24.0502    314.84  q   Q     |          |          |          |
14+ 0      24.6190    320.82  q   Q     |          |          |          |
14+ 5      25.2254    327.57  q   Q     |          |          |          |
14+10      25.9056    335.60  q    Q    |          |          |          |
14+15      26.6437    345.07  q    Q    |          |          |          |
14+20      27.5024    355.96  q    Q    |          |          |          |
14+25      28.4534    368.35  q    Q    |          |          |          |
14+30      29.4825    382.69  q    Q    |          |          |          |
14+35      30.4863    399.48  q    Q    |          |          |          |
14+40      31.5508    420.17  q     Q   |          |          |          |
14+45      32.6652    446.76  q     Q   |          |          |          |
14+50      33.8846    473.15  q      Q  |          |          |          |
14+55      35.1839    496.20  q      Q  |          |          |          |
15+ 0      36.6261    517.26  q      Q  |          |          |          |
15+ 5      38.1843    537.70  q       Q |          |          |          |
15+10      39.9427    558.17  q       Q |          |          |          |
15+15      41.8721    579.39  q       Q |          |          |          |
15+20      44.0844    601.70  q        Q|          |          |          |
15+25      46.6596    624.61  q        Q|          |          |          |
15+30      49.8835    647.29  q        Q|          |          |          |
15+35      53.7875    670.16  q         Q          |          |          |
15+40      58.9510    694.26  q         Q          |          |          |
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15+45      65.5643    720.80  q         Q          |          |          |
15+50      74.0430    749.86  |q        |Q         |          |          |
15+55      84.9906    783.68  |q        |Q         |          |          |
16+ 0     102.3883    827.52  |q        | Q        |          |          |
16+ 5     145.9227    929.48  | q       |  Q       |          |          |
16+10     217.7918   1107.96  |  q      |     Q    |          |          |
16+15     295.8148   1313.89  |   q     |        Q |          |          |
16+20     420.8284   1573.87  |     q   |          |  Q       |          |
16+25     509.7660   1811.63  |      q  |          |     Q    |          |
16+30     488.1557   1987.50  |      q  |          |       Q  |          |
16+35     330.4192   2077.05  |   q     |          |         Q|          |
16+40     253.7924   2333.01  |  q      |          |          |   Q      |
16+45     209.1718   2671.25  |  q      |          |          |         Q|
16+50     178.4480   2496.32  | q       |          |          |      Q   |
16+55     154.9942   2061.23  | q       |          |        Q |          |
17+ 0     134.7944   1737.86  | q       |          |     Q    |          |
17+ 5     119.8413   1537.01  |q        |          |  Q       |          |
17+10     108.0417   1392.45  |q        |          Q          |          |
17+15      97.5388   1284.80  |q        |         Q|          |          |
17+20      87.4352   1191.11  |q        |       Q  |          |          |
17+25      77.4496   1107.65  |q        |     Q    |          |          |
17+30      70.0937   1031.42  |q        |    Q     |          |          |
17+35      64.1443    961.41  q         |   Q      |          |          |
17+40      58.5161    896.21  q         |  Q       |          |          |
17+45      53.2840    831.76  q         | Q        |          |          |
17+50      47.4374    771.66  q         |Q         |          |          |
17+55      43.5503    719.06  q         Q          |          |          |
18+ 0      41.1932    675.44  q         Q          |          |          |
18+ 5      37.9642    634.88  q        Q|          |          |          |
18+10      36.1327    599.93  q       Q |          |          |          |
18+15      33.7201    564.99  q       Q |          |          |          |
18+20      31.3656    533.28  q      Q  |          |          |          |
18+25      30.4015    503.27  q      Q  |          |          |          |
18+30      28.6910    476.03  q      Q  |          |          |          |
18+35      27.6322    451.94  q     Q   |          |          |          |
18+40      26.8887    430.37  q     Q   |          |          |          |
18+45      26.1094    407.57  q     Q   |          |          |          |
18+50      25.4115    385.79  q    Q    |          |          |          |
18+55      24.5503    362.48  q    Q    |          |          |          |
19+ 0      23.6891    341.34  q    Q    |          |          |          |
19+ 5      22.6970    325.79  q   Q     |          |          |          |
19+10      20.7775    312.98  q   Q     |          |          |          |
19+15      19.9474    302.18  q   Q     |          |          |          |
19+20      19.2530    291.93  q   Q     |          |          |          |
19+25      17.9388    282.18  q   Q     |          |          |          |
19+30      16.7433    273.40  q   Q     |          |          |          |
19+35      16.2966    265.02  q  Q      |          |          |          |
19+40      15.9142    256.02  q  Q      |          |          |          |
19+45      15.5679    248.33  q  Q      |          |          |          |
19+50      15.2465    242.22  q  Q      |          |          |          |
19+55      14.9441    237.17  q  Q      |          |          |          |
20+ 0      14.6594    233.11  q  Q      |          |          |          |
20+ 5      14.3886    229.12  q  Q      |          |          |          |
20+10      14.1324    224.78  q  Q      |          |          |          |
20+15      13.8875    219.99  q  Q      |          |          |          |
20+20      13.6525    213.89  q  Q      |          |          |          |
20+25      13.4283    208.04  q  Q      |          |          |          |
20+30      13.2129    203.34  q  Q      |          |          |          |
20+35      13.0061    199.25  q Q       |          |          |          |
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20+40	12.8076	194.77	q Q	|	|	|	|
20+45	12.6168	190.33	q Q	|	|	|	|
20+50	12.4334	186.49	q Q	|	|	|	|
20+55	12.2566	183.42	q Q	|	|	|	|
21+ 0	12.0860	178.95	q Q	|	|	|	|
21+ 5	11.9213	174.51	q Q	|	|	|	|
21+10	11.7606	171.12	q Q	|	|	|	|
21+15	11.6050	168.27	q Q	|	|	|	|
21+20	11.4546	165.66	q Q	|	|	|	|
21+25	11.3081	163.19	q Q	|	|	|	|
21+30	11.1653	160.73	q Q	|	|	|	|
21+35	11.0269	158.31	q Q	|	|	|	|
21+40	10.8926	156.06	q Q	|	|	|	|
21+45	10.7623	153.98	q Q	|	|	|	|
21+50	10.6358	152.00	q Q	|	|	|	|
21+55	10.5130	150.09	q Q	|	|	|	|
22+ 0	10.3935	148.27	q Q	|	|	|	|
22+ 5	10.2774	146.52	q Q	|	|	|	|
22+10	10.1644	144.84	q Q	|	|	|	|
22+15	10.0544	143.21	q Q	|	|	|	|
22+20	9.9473	141.63	q Q	|	|	|	|
22+25	9.8429	140.09	q Q	|	|	|	|
22+30	9.7412	138.60	q Q	|	|	|	|
22+35	9.6421	137.16	q Q	|	|	|	|
22+40	9.5453	135.76	q Q	|	|	|	|
22+45	9.4509	134.39	q Q	|	|	|	|
22+50	9.3588	133.06	qQ	|	|	|	|
22+55	9.2689	131.77	qQ	|	|	|	|
23+ 0	9.1810	130.50	qQ	|	|	|	|
23+ 5	9.0951	129.27	qQ	|	|	|	|
23+10	9.0112	128.07	qQ	|	|	|	|
23+15	8.9291	126.90	qQ	|	|	|	|
23+20	8.8489	125.75	qQ	|	|	|	|
23+25	8.7703	124.64	qQ	|	|	|	|
23+30	8.6935	123.54	qQ	|	|	|	|
23+35	8.6183	122.48	qQ	|	|	|	|
23+40	8.5446	121.43	qQ	|	|	|	|
23+45	8.4725	120.41	qQ	|	|	|	|
23+50	8.4018	119.41	qQ	|	|	|	|
23+55	8.3326	118.43	qQ	|	|	|	|
24+ 0	8.2647	117.47	qQ	|	|	|	|
24+ 5	8.1162	116.14	qQ	|	|	|	|
24+10	7.7938	113.98	qQ	|	|	|	|
24+15	7.2919	110.92	qQ	|	|	|	|
24+20	6.3786	106.79	qQ	|	|	|	|
24+25	5.1051	101.64	qQ	|	|	|	|
24+30	3.8284	95.47	qQ	|	|	|	|
24+35	3.1064	88.52	qQ	|	|	|	|
24+40	2.6053	79.45	qQ	|	|	|	|
24+45	2.2163	66.86	qQ	|	|	|	|
24+50	1.8973	55.15	Q	|	|	|	|
24+55	1.6304	46.66	Q	|	|	|	|
25+ 0	1.4110	40.42	Q	|	|	|	|
25+ 5	1.2231	35.51	Q	|	|	|	|
25+10	1.0579	31.53	Q	|	|	|	|
25+15	0.9125	28.10	Q	|	|	|	|
25+20	0.7871	25.11	Q	|	|	|	|
25+25	0.6840	22.47	Q	|	|	|	|
25+30	0.5946	20.13	Q	|	|	|	|

25+35	0.5150	18.05	Q				
25+40	0.4453	16.17	Q				
25+45	0.3847	14.47	Q				
25+50	0.3376	12.93	Q				
25+55	0.2976	11.55	Q				
26+ 0	0.2592	10.28	Q				
26+ 5	0.2272	9.14	Q				
26+10	0.1964	8.10	Q				
26+15	0.1700	7.16	Q				
26+20	0.1491	6.32	Q				
26+25	0.1287	5.58	Q				
26+30	0.1127	4.92	Q				
26+35	0.0982	4.33	Q				
26+40	0.0840	3.79	Q				
26+45	0.0703	3.32	Q				
26+50	0.0567	2.91	Q				
26+55	0.0440	2.59	Q				
27+ 0	0.0318	2.34	Q				
27+ 5	0.0204	2.14	Q				
27+10	0.0141	1.96	Q				
27+15	0.0084	1.79	Q				
27+20	0.0028	1.64	Q				
27+25	0.0000	1.49	Q				
27+30	0.0000	1.35	Q				
27+35	0.0000	1.22	Q				
27+40	0.0000	1.12	Q				
27+45	0.0000	1.02	Q				
27+50	0.0000	0.94	Q				
27+55	0.0000	0.85	Q				
28+ 0	0.0000	0.76	Q				
28+ 5	0.0000	0.66	Q				
28+10	0.0000	0.56	Q				
28+15	0.0000	0.47	Q				
28+20	0.0000	0.39	Q				
28+25	0.0000	0.32	Q				
28+30	0.0000	0.26	Q				
28+35	0.0000	0.21	Q				
28+40	0.0000	0.16	Q				
28+45	0.0000	0.13	Q				
28+50	0.0000	0.09	Q				
28+55	0.0000	0.06	Q				
29+ 0	0.0000	0.03	Q				
29+ 5	0.0000	0.02	Q				
29+10	0.0000	0.02	Q				
29+15	0.0000	0.01	Q				
29+20	0.0000	0.01	Q				
29+25	0.0000	0.01	Q				
29+30	0.0000	0.00	Q				
29+35	0.0000	0.00	Q				

**********HYDROGRAPH DATA**********

Number of intervals = 355
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2671.248 (CFS)
Total volume = 628.843 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.100 to Point/Station 2.100

**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 2
Total volume of excess flow diverted into flowby
basin (stream number 2) is 314.42(Ac.Ft)

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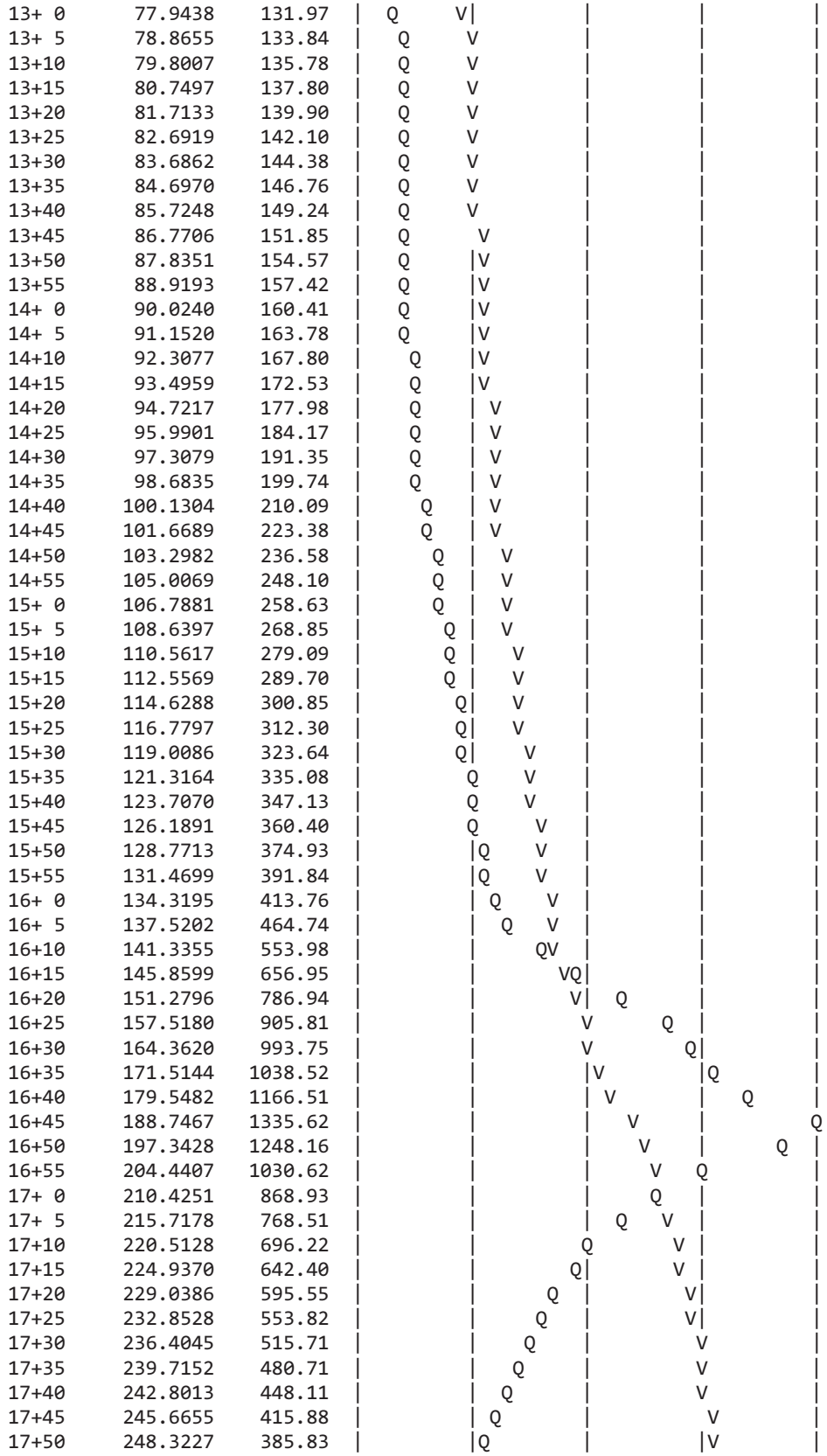
P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	333.9	667.8	1001.7	1335.6
0+ 5	0.0014	0.20	Q				
0+10	0.0070	0.82	Q				
0+15	0.0202	1.91	Q				
0+20	0.0446	3.56	Q				
0+25	0.0842	5.74	Q				
0+30	0.1425	8.46	Q				
0+35	0.2225	11.62	Q				
0+40	0.3317	15.87	Q				
0+45	0.4828	21.93	Q				
0+50	0.6730	27.62	Q				
0+55	0.8917	31.76	Q				
1+ 0	1.1315	34.82	VQ				
1+ 5	1.3880	37.24	VQ				
1+10	1.6582	39.23	VQ				
1+15	1.9403	40.97	VQ				
1+20	2.2331	42.50	VQ				
1+25	2.5353	43.88	VQ				
1+30	2.8461	45.13	VQ				
1+35	3.1647	46.26	VQ				
1+40	3.4904	47.30	VQ				
1+45	3.8227	48.26	VQ				
1+50	4.1613	49.15	VQ				
1+55	4.5054	49.98	VQ				
2+ 0	4.8549	50.75	VQ				
2+ 5	5.2094	51.47	VQ				
2+10	5.5686	52.15	VQ				
2+15	5.9321	52.78	VQ				
2+20	6.2997	53.38	VQ				
2+25	6.6711	53.93	VQ				
2+30	7.0460	54.44	VQ				
2+35	7.4243	54.92	VQ				
2+40	7.8057	55.39	VQ				
2+45	8.1902	55.82	|Q				
2+50	8.5774	56.23	|Q				
2+55	8.9673	56.60	|Q				
3+ 0	9.3594	56.93	|Q				
3+ 5	9.7537	57.25	|Q				

3+10	10.1501	57.56	Q				
3+15	10.5486	57.87	Q				
3+20	10.9493	58.17	Q				
3+25	11.3520	58.47	Q				
3+30	11.7568	58.77	Q				
3+35	12.1636	59.07	Q				
3+40	12.5725	59.37	Q				
3+45	12.9833	59.65	Q				
3+50	13.3961	59.94	Q				
3+55	13.8110	60.23	Q				
4+ 0	14.2278	60.53	Q				
4+ 5	14.6468	60.83	Q				
4+10	15.0679	61.14	Q				
4+15	15.4911	61.45	Q				
4+20	15.9164	61.75	QV				
4+25	16.3437	62.05	QV				
4+30	16.7732	62.35	QV				
4+35	17.2047	62.65	QV				
4+40	17.6382	62.95	QV				
4+45	18.0739	63.25	QV				
4+50	18.5116	63.55	QV				
4+55	18.9514	63.86	QV				
5+ 0	19.3933	64.16	QV				
5+ 5	19.8373	64.46	QV				
5+10	20.2833	64.76	QV				
5+15	20.7314	65.07	QV				
5+20	21.1817	65.38	QV				
5+25	21.6341	65.69	QV				
5+30	22.0886	66.00	QV				
5+35	22.5454	66.32	QV				
5+40	23.0043	66.64	QV				
5+45	23.4655	66.96	Q				
5+50	23.9289	67.29	QV				
5+55	24.3947	67.63	QV				
6+ 0	24.8627	67.96	QV				
6+ 5	25.3331	68.30	QV				
6+10	25.8059	68.65	QV				
6+15	26.2811	69.00	QV				
6+20	26.7587	69.35	QV				
6+25	27.2388	69.71	QV				
6+30	27.7214	70.07	QV				
6+35	28.2066	70.44	QV				
6+40	28.6943	70.82	QV				
6+45	29.1846	71.20	QV				
6+50	29.6776	71.58	QV				
6+55	30.1733	71.97	QV				
7+ 0	30.6716	72.36	QV				
7+ 5	31.1727	72.76	QV				
7+10	31.6766	73.17	Q V				
7+15	32.1834	73.58	Q V				
7+20	32.6930	74.00	Q V				
7+25	33.2055	74.42	Q V				
7+30	33.7210	74.85	Q V				
7+35	34.2395	75.29	Q V				
7+40	34.7611	75.73	Q V				
7+45	35.2857	76.18	Q V				
7+50	35.8135	76.63	Q V				
7+55	36.3444	77.09	Q V				
8+ 0	36.8786	77.56	Q V				

8+ 5	37.4161	78.04	Q V			
8+10	37.9569	78.53	Q V			
8+15	38.5011	79.02	Q V			
8+20	39.0487	79.52	Q V			
8+25	39.5999	80.03	Q V			
8+30	40.1546	80.54	Q V			
8+35	40.7129	81.07	Q V			
8+40	41.2749	81.60	Q V			
8+45	41.8406	82.15	Q V			
8+50	42.4102	82.70	Q V			
8+55	42.9836	83.26	Q V			
9+ 0	43.5609	83.83	Q V			
9+ 5	44.1423	84.41	Q V			
9+10	44.7277	85.00	Q V			
9+15	45.3173	85.61	Q V			
9+20	45.9111	86.22	Q V			
9+25	46.5092	86.84	Q V			
9+30	47.1117	87.48	Q V			
9+35	47.7186	88.13	Q V			
9+40	48.3301	88.79	Q V			
9+45	48.9463	89.46	Q V			
9+50	49.5671	90.15	Q V			
9+55	50.1928	90.85	Q V			
10+ 0	50.8234	91.56	Q V			
10+ 5	51.4590	92.29	Q V			
10+10	52.0998	93.03	Q V			
10+15	52.7457	93.79	Q V			
10+20	53.3970	94.57	Q V			
10+25	54.0537	95.36	Q V			
10+30	54.7160	96.17	Q V			
10+35	55.3840	96.99	Q V			
10+40	56.0578	97.84	Q V			
10+45	56.7376	98.70	Q V			
10+50	57.4234	99.58	Q V			
10+55	58.1154	100.48	Q V			
11+ 0	58.8138	101.41	Q V			
11+ 5	59.5187	102.35	Q V			
11+10	60.2303	103.32	Q V			
11+15	60.9487	104.31	Q V			
11+20	61.6741	105.33	Q V			
11+25	62.4067	106.37	Q V			
11+30	63.1467	107.44	Q V			
11+35	63.8942	108.54	Q V			
11+40	64.6494	109.66	Q V			
11+45	65.4126	110.82	Q V			
11+50	66.1840	112.01	Q V			
11+55	66.9638	113.23	Q V			
12+ 0	67.7523	114.48	Q V			
12+ 5	68.5495	115.76	Q V			
12+10	69.3556	117.05	Q V			
12+15	70.1707	118.35	Q V			
12+20	70.9945	119.61	Q V			
12+25	71.8269	120.86	Q V			
12+30	72.6681	122.15	Q V			
12+35	73.5193	123.60	Q V			
12+40	74.3811	125.13	Q V			
12+45	75.2540	126.74	Q V			
12+50	76.1385	128.42	Q V			
12+55	77.0349	130.17	Q V			



13+ 0	77.9438	131.97	Q V
13+ 5	78.8655	133.84	Q V
13+10	79.8007	135.78	Q V
13+15	80.7497	137.80	Q V
13+20	81.7133	139.90	Q V
13+25	82.6919	142.10	Q V
13+30	83.6862	144.38	Q V
13+35	84.6970	146.76	Q V
13+40	85.7248	149.24	Q V
13+45	86.7706	151.85	Q V
13+50	87.8351	154.57	Q V
13+55	88.9193	157.42	Q V
14+ 0	90.0240	160.41	Q V
14+ 5	91.1520	163.78	Q V
14+10	92.3077	167.80	Q V
14+15	93.4959	172.53	Q V
14+20	94.7217	177.98	Q V
14+25	95.9901	184.17	Q V
14+30	97.3079	191.35	Q V
14+35	98.6835	199.74	Q V
14+40	100.1304	210.09	Q V
14+45	101.6689	223.38	Q V
14+50	103.2982	236.58	Q V
14+55	105.0069	248.10	Q V
15+ 0	106.7881	258.63	Q V
15+ 5	108.6397	268.85	Q V
15+10	110.5617	279.09	Q V
15+15	112.5569	289.70	Q V
15+20	114.6288	300.85	Q V
15+25	116.7797	312.30	Q V
15+30	119.0086	323.64	Q V
15+35	121.3164	335.08	Q V
15+40	123.7070	347.13	Q V
15+45	126.1891	360.40	Q V
15+50	128.7713	374.93	Q V
15+55	131.4699	391.84	Q V
16+ 0	134.3195	413.76	Q V
16+ 5	137.5202	464.74	Q V
16+10	141.3355	553.98	QV
16+15	145.8599	656.95	VQ
16+20	151.2796	786.94	V Q
16+25	157.5180	905.81	V Q
16+30	164.3620	993.75	V Q
16+35	171.5144	1038.52	V Q
16+40	179.5482	1166.51	V Q
16+45	188.7467	1335.62	V Q
16+50	197.3428	1248.16	V Q
16+55	204.4407	1030.62	V Q
17+ 0	210.4251	868.93	Q
17+ 5	215.7178	768.51	Q V
17+10	220.5128	696.22	Q V
17+15	224.9370	642.40	Q V
17+20	229.0386	595.55	Q V
17+25	232.8528	553.82	Q V
17+30	236.4045	515.71	Q V
17+35	239.7152	480.71	Q V
17+40	242.8013	448.11	Q V
17+45	245.6655	415.88	Q V
17+50	248.3227	385.83	Q V

17+55	250.7988	359.53		Q		V
18+ 0	253.1247	337.72		Q		V
18+ 5	255.3110	317.44		Q		V
18+10	257.3768	299.96		Q		V
18+15	259.3224	282.49		Q		V
18+20	261.1588	266.64		Q		V
18+25	262.8918	251.64		Q		V
18+30	264.5310	238.02		Q		V
18+35	266.0873	225.97		Q		V
18+40	267.5693	215.19		Q		V
18+45	268.9727	203.78		Q		V
18+50	270.3012	192.89		Q		V
18+55	271.5494	181.24		Q		V
19+ 0	272.7248	170.67		Q		V
19+ 5	273.8467	162.90		Q		V
19+10	274.9245	156.49		Q		V
19+15	275.9650	151.09		Q		V
19+20	276.9703	145.97		Q		V
19+25	277.9420	141.09		Q		V
19+30	278.8835	136.70		Q		V
19+35	279.7961	132.51		Q		V
19+40	280.6777	128.01		Q		V
19+45	281.5328	124.16		Q		V
19+50	282.3669	121.11		Q		V
19+55	283.1836	118.59		Q		V
20+ 0	283.9863	116.55		Q		V
20+ 5	284.7753	114.56		Q		V
20+10	285.5494	112.39		Q		V
20+15	286.3069	110.00		Q		V
20+20	287.0434	106.95		Q		V
20+25	287.7598	104.02		Q		V
20+30	288.4601	101.67		Q		V
20+35	289.1462	99.62	Q			V
20+40	289.8169	97.39	Q			V
20+45	290.4723	95.16	Q			V
20+50	291.1144	93.24	Q			V
20+55	291.7460	91.71	Q			V
21+ 0	292.3623	89.47	Q			V
21+ 5	292.9632	87.26	Q			V
21+10	293.5524	85.56	Q			V
21+15	294.1319	84.13	Q			V
21+20	294.7023	82.83	Q			V
21+25	295.2643	81.59	Q			V
21+30	295.8178	80.37	Q			V
21+35	296.3629	79.16	Q			V
21+40	296.9003	78.03	Q			V
21+45	297.4305	76.99	Q			V
21+50	297.9540	76.00	Q			V
21+55	298.4708	75.05	Q			V
22+ 0	298.9814	74.13	Q			V
22+ 5	299.4859	73.26	Q			V
22+10	299.9847	72.42	Q			V
22+15	300.4778	71.60	Q			V
22+20	300.9655	70.81	Q			V
22+25	301.4479	70.05	Q			V
22+30	301.9252	69.30	Q			V
22+35	302.3975	68.58	Q			V
22+40	302.8650	67.88	Q			V
22+45	303.3278	67.20	Q			V

22+50	303.7860	66.53	|Q	|	|	|	V |
22+55	304.2397	65.88	|Q	|	|	|	V |
23+ 0	304.6891	65.25	|Q	|	|	|	V |
23+ 5	305.1343	64.64	|Q	|	|	|	V |
23+10	305.5753	64.04	|Q	|	|	|	V |
23+15	306.0123	63.45	|Q	|	|	|	V |
23+20	306.4453	62.88	|Q	|	|	|	V |
23+25	306.8745	62.32	|Q	|	|	|	V|
23+30	307.2999	61.77	|Q	|	|	|	V|
23+35	307.7217	61.24	|Q	|	|	|	V|
23+40	308.1398	60.72	|Q	|	|	|	V|
23+45	308.5544	60.20	|Q	|	|	|	V|
23+50	308.9656	59.70	|Q	|	|	|	V|
23+55	309.3734	59.22	|Q	|	|	|	V|
24+ 0	309.7780	58.74	|Q	|	|	|	V|
24+ 5	310.1779	58.07	|Q	|	|	|	V|
24+10	310.5704	56.99	|Q	|	|	|	V|
24+15	310.9524	55.46	|Q	|	|	|	V|
24+20	311.3201	53.40	|Q	|	|	|	V|
24+25	311.6701	50.82	|Q	|	|	|	V|
24+30	311.9989	47.74	|Q	|	|	|	V|
24+35	312.3037	44.26	|Q	|	|	|	V|
24+40	312.5773	39.72	|Q	|	|	|	V|
24+45	312.8075	33.43	|Q	|	|	|	V|
24+50	312.9974	27.57	Q	|	|	|	V|
24+55	313.1581	23.33	Q	|	|	|	V|
25+ 0	313.2973	20.21	Q	|	|	|	V|
25+ 5	313.4196	17.76	Q	|	|	|	V|
25+10	313.5281	15.76	Q	|	|	|	V|
25+15	313.6249	14.05	Q	|	|	|	V|
25+20	313.7114	12.56	Q	|	|	|	V|
25+25	313.7888	11.24	Q	|	|	|	V|
25+30	313.8581	10.06	Q	|	|	|	V|
25+35	313.9202	9.02	Q	|	|	|	V|
25+40	313.9759	8.09	Q	|	|	|	V|
25+45	314.0258	7.24	Q	|	|	|	V|
25+50	314.0703	6.47	Q	|	|	|	V|
25+55	314.1100	5.77	Q	|	|	|	V|
26+ 0	314.1455	5.14	Q	|	|	|	V|
26+ 5	314.1769	4.57	Q	|	|	|	V|
26+10	314.2048	4.05	Q	|	|	|	V|
26+15	314.2295	3.58	Q	|	|	|	V|
26+20	314.2512	3.16	Q	|	|	|	V|
26+25	314.2704	2.79	Q	|	|	|	V|
26+30	314.2874	2.46	Q	|	|	|	V|
26+35	314.3023	2.16	Q	|	|	|	V|
26+40	314.3153	1.89	Q	|	|	|	V|
26+45	314.3267	1.66	Q	|	|	|	V|
26+50	314.3367	1.45	Q	|	|	|	V|
26+55	314.3456	1.29	Q	|	|	|	V|
27+ 0	314.3537	1.17	Q	|	|	|	V|
27+ 5	314.3611	1.07	Q	|	|	|	V|
27+10	314.3678	0.98	Q	|	|	|	V|
27+15	314.3740	0.90	Q	|	|	|	V|
27+20	314.3796	0.82	Q	|	|	|	V|
27+25	314.3848	0.75	Q	|	|	|	V|
27+30	314.3894	0.68	Q	|	|	|	V|
27+35	314.3937	0.61	Q	|	|	|	V|
27+40	314.3975	0.56	Q	|	|	|	V|

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   27+45     314.4010      0.51  Q         |          |          |        V|
   27+50     314.4043      0.47  Q         |          |          |        V|
   27+55     314.4072      0.43  Q         |          |          |        V|
   28+ 0     314.4098      0.38  Q         |          |          |        V|
   28+ 5     314.4121      0.33  Q         |          |          |        V|
   28+10     314.4140      0.28  Q         |          |          |        V|
   28+15     314.4156      0.23  Q         |          |          |        V|
   28+20     314.4170      0.19  Q         |          |          |        V|
   28+25     314.4181      0.16  Q         |          |          |        V|
   28+30     314.4190      0.13  Q         |          |          |        V|
   28+35     314.4197      0.11  Q         |          |          |        V|
   28+40     314.4203      0.08  Q         |          |          |        V|
   28+45     314.4207      0.06  Q         |          |          |        V|
   28+50     314.4210      0.05  Q         |          |          |        V|
   28+55     314.4212      0.03  Q         |          |          |        V|
   29+ 0     314.4213      0.02  Q         |          |          |        V|
   29+ 5     314.4214      0.01  Q         |          |          |        V|
   29+10     314.4215      0.01  Q         |          |          |        V|
   29+15     314.4215      0.01  Q         |          |          |        V|
   29+20     314.4216      0.00  Q         |          |          |        V|
   29+25     314.4216      0.00  Q         |          |          |        V|
   29+30     314.4216      0.00  Q         |          |          |         V
   29+35     314.4216      0.00  Q         |          |          |         V
------------------------------------------------------------------------
       ***************************HYDROGRAPH DATA****************************
                     Number of intervals =   355
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =     1335.624 (CFS)
                     Total volume =     314.422 (Ac.Ft)
              Status of hydrographs being held in storage
                         Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)   2799.507  1335.624     0.000     0.000     0.000
              Vol (Ac.Ft)    570.680   314.422     0.000     0.000     0.000
       ************************************************************************

       ------------------------------------------------------------------------


       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
       Process from Point/Station        2.100 to Point/Station        3.000
       **** STREAM ROUTING SCS CONVEX METHOD ****
       ________________________________________________________________________
       HYDROGRAPH STREAM ROUTING DATA:
       Length of stream =  14708.00 (Ft.)
       Elevation difference =  483.00 (Ft.)
       Slope of channel =  0.032839 (Vert/Horiz)
       Channel type - Improved Channel


       Channel length = 14708.00(Ft.)     Elevation difference = 483.00(Ft.)
       Channel evaluation using mean flow rate of hydrograph
       Channel base width  =  200.000(Ft.)
       Slope or 'Z' of left channel bank =   2.000
       Slope or 'Z' of right channel bank =   2.000
       Manning's 'N'    = 0.035
       Maximum depth of channel  =    1.000(Ft.)
       Flow(q) thru subarea =    155.429(CFS)
       Depth of flow =     0.253(Ft.)
       Average velocity =     3.068(Ft/s)
```

```
      Total flow rate =   155.429(CFS)
      Channel flow top width =  201.011(Ft.)
      Depth of flow in channel =   0.25(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    3.07(Ft/s)
      Travel time  =    0.00 min.
      Individual channel flow =  155.429(CFS)
      Total capacity of improved channels =    155.429(CFS)
      Critical Depth in Channel =    0.27(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =   1335.624(CFS)
      Depth of flow =     0.918(Ft.)
      Average velocity =     7.211(Ft/s)
      Total flow rate =  1335.624(CFS)
      Channel flow top width =  203.671(Ft.)
      Depth of flow in channel =   0.92(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    7.21(Ft/s)
      Travel time  =    0.00 min.
      Individual channel flow = 1335.624(CFS)
      Total capacity of improved channels =   1335.624(CFS)
      Critical Depth in Channel =    1.11(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING *********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.8092   Travel time =  33.99 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   0.4545
               dt(routing time-step) =  27.51 (min.),   c* =   0.5290

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      333.9     667.8    1001.7    1335.6
----------------------------------------------------------------------------
  0+ 5       0.0852      0.20  O         |         |         |         |
  0+10       0.4150      0.82  O         |         |         |         |
  0+15       1.1008      1.91  O         |         |         |         |
  0+20       2.2409      3.56  O         |         |         |         |
  0+25       3.8817      5.74  O         |         |         |         |
  0+30       6.0430      8.46  O         |         |         |         |
  0+35       8.6879     11.62  O         |         |         |         |
  0+40      12.0763     15.87  O         |         |         |         |
  0+45      16.7067     21.93  O         |         |         |         |
  0+50      21.9330     27.62  O         |         |         |         |
  0+55      26.7322     31.76  O         |         |         |         |
  1+ 0      30.7151     34.82  OI        |         |         |         |
```

1+ 5	33.9353	37.24	O				
1+10	36.5475	39.23	O				
1+15	38.7196	40.97	O				
1+20	40.5740	42.50	O				
1+25	42.1924	43.88	O				
1+30	43.6260	45.13	O				
1+35	44.9098	46.26	O				
1+40	46.0723	47.30	O				
1+45	47.1361	48.26	O				
1+50	48.1160	49.15	O				
1+55	49.0204	49.98	O				
2+ 0	49.8598	50.75	O				
2+ 5	50.6415	51.47	O				
2+10	51.3738	52.15	O				
2+15	52.0585	52.78	O				
2+20	52.6986	53.38	O				
2+25	53.2949	53.93	O				
2+30	53.8506	54.44	O				
2+35	54.3717	54.92	O				
2+40	54.8647	55.39	O				
2+45	55.3301	55.82	O				
2+50	55.7680	56.23	O				
2+55	56.1735	56.60	O				
3+ 0	56.5441	56.93	O				
3+ 5	56.8876	57.25	O				
3+10	57.2141	57.56	O				
3+15	57.5306	57.87	O				
3+20	57.8405	58.17	O				
3+25	58.1461	58.47	O				
3+30	58.4494	58.77	O				
3+35	58.7511	59.07	O				
3+40	59.0484	59.37	O				
3+45	59.3414	59.65	O				
3+50	59.6317	59.94	O				
3+55	59.9222	60.23	O				
4+ 0	60.2155	60.53	O				
4+ 5	60.5133	60.83	O				
4+10	60.8153	61.14	O				
4+15	61.1209	61.45	O				
4+20	61.4263	61.75	O				
4+25	61.7292	62.05	O				
4+30	62.0303	62.35	O				
4+35	62.3314	62.65	O				
4+40	62.6322	62.95	O				
4+45	62.9326	63.25	O				
4+50	63.2329	63.55	O				
4+55	63.5354	63.86	O				
5+ 0	63.8384	64.16	O				
5+ 5	64.1403	64.46	O				
5+10	64.4417	64.76	O				
5+15	64.7443	65.07	O				
5+20	65.0490	65.38	O				
5+25	65.3568	65.69	O				
5+30	65.6675	66.00	O				
5+35	65.9816	66.32	O				
5+40	66.2987	66.64	O				
5+45	66.6194	66.96	OI				
5+50	66.9438	67.29	O				
5+55	67.2722	67.63	O				

6+ 0	67.6044	67.96	O				
6+ 5	67.9410	68.30	O				
6+10	68.2817	68.65	O				
6+15	68.6269	69.00	O				
6+20	68.9764	69.35	O				
6+25	69.3306	69.71	O				
6+30	69.6892	70.07	O				
6+35	70.0528	70.44	O				
6+40	70.4210	70.82	O				
6+45	70.7943	71.20	O				
6+50	71.1725	71.58	O				
6+55	71.5560	71.97	O				
7+ 0	71.9447	72.36	O				
7+ 5	72.3389	72.76	O				
7+10	72.7384	73.17	O				
7+15	73.1437	73.58	O				
7+20	73.5546	74.00	O				
7+25	73.9717	74.42	O				
7+30	74.3945	74.85	O				
7+35	74.8237	75.29	O				
7+40	75.2591	75.73	O				
7+45	75.7011	76.18	O				
7+50	76.1495	76.63	O				
7+55	76.6050	77.09	O				
8+ 0	77.0672	77.56	O				
8+ 5	77.5367	78.04	O				
8+10	78.0134	78.53	O				
8+15	78.4977	79.02	O				
8+20	78.9895	79.52	O				
8+25	79.4895	80.03	O				
8+30	79.9972	80.54	O				
8+35	80.5136	81.07	O				
8+40	81.0382	81.60	O				
8+45	81.5718	82.15	O				
8+50	82.1141	82.70	O				
8+55	82.6660	83.26	O				
9+ 0	83.2271	83.83	O				
9+ 5	83.7982	84.41	O				
9+10	84.3791	85.00	O				
9+15	84.9705	85.61	O				
9+20	85.5723	86.22	O				
9+25	86.1854	86.84	O				
9+30	86.8094	87.48	O				
9+35	87.4453	88.13	O				
9+40	88.0928	88.79	O				
9+45	88.7530	89.46	O				
9+50	89.4255	90.15	O				
9+55	90.1115	90.85	O				
10+ 0	90.8106	91.56	O				
10+ 5	91.5240	92.29	O				
10+10	92.2515	93.03	O				
10+15	92.9942	93.79	O				
10+20	93.7519	94.57	O				
10+25	94.5258	95.36	O				
10+30	95.3158	96.17	O				
10+35	96.1233	96.99	O				
10+40	96.9478	97.84	O				
10+45	97.7911	98.70	O				
10+50	98.6528	99.58	O				

10+55	99.5345	100.48	OI				
11+ 0	100.4361	101.41	O				
11+ 5	101.3593	102.35	O				
11+10	102.3038	103.32	O				
11+15	103.2716	104.31	O				
11+20	104.2625	105.33	O				
11+25	105.2785	106.37	O				
11+30	106.3195	107.44	O				
11+35	107.3878	108.54	O				
11+40	108.4832	109.66	O				
11+45	109.6082	110.82	O				
11+50	110.7627	112.01	O				
11+55	111.9495	113.23	O				
12+ 0	113.1686	114.48	O				
12+ 5	114.4170	115.76	O				
12+10	115.6846	117.05	O				
12+15	116.9673	118.35	O				
12+20	118.2446	119.61	O				
12+25	119.5093	120.86	O				
12+30	120.7846	122.15	O				
12+35	122.1330	123.60	O				
12+40	123.5694	125.13	O				
12+45	125.0934	126.74	O				
12+50	126.6937	128.42	O				
12+55	128.3627	130.17	O				
13+ 0	130.0962	131.97	O				
13+ 5	131.8970	133.84	OI				
13+10	133.7656	135.78	O				
13+15	135.7077	137.80	O				
13+20	137.7258	139.90	O				
13+25	139.8274	142.10	O				
13+30	142.0150	144.38	O				
13+35	144.2964	146.76	O				
13+40	146.6752	149.24	O				
13+45	149.1610	151.85	O				
13+50	151.7589	154.57	O				
13+55	154.4802	157.42	O				
14+ 0	157.3307	160.41	O				
14+ 5	160.4205	163.78	O				
14+10	163.9385	167.80	OI				
14+15	168.0310	172.53	O				
14+20	172.7710	177.98	O				
14+25	178.2085	184.17	O				
14+30	184.4691	191.35	O				
14+35	191.7405	199.74	O				
14+40	200.4512	210.09	O				
14+45	211.3040	223.38	O				
14+50	223.4058	236.58	OI				
14+55	235.3628	248.10	O				
15+ 0	246.6597	258.63	O				
15+ 5	257.4173	268.85	OI				
15+10	267.8966	279.09	O				
15+15	278.4091	289.70	O				
15+20	289.2085	300.85	OI				
15+25	300.3252	312.30	OI				
15+30	311.5712	323.64	O				
15+35	322.9080	335.08	OI				
15+40	334.5631	347.13	O				
15+45	346.9557	360.40	O				

15+50	360.3579	374.93	OI
15+55	375.3867	391.84	O
16+ 0	393.5803	413.76	OI
16+ 5	426.3245	464.74	OI
16+10	485.2793	553.98	O I
16+15	566.1978	656.95	O I
16+20	670.4777	786.94	O I
16+25	783.5494	905.81	O I
16+30	886.2997	993.75	O I
16+35	962.5278	1038.52	O I
16+40	1058.1348	1166.51	O I
16+45	1188.6762	1335.62	O I
16+50	1228.5576	1248.16	OI
16+55	1144.7576	1030.62	I O
17+ 0	1014.3803	868.93	I O
17+ 5	893.9585	768.51	I O
17+10	796.2992	696.22	I O
17+15	720.0545	642.40	I O
17+20	658.6928	595.55	I O
17+25	607.2251	553.82	I O
17+30	562.4736	515.71	IO
17+35	522.5807	480.71	IO
17+40	486.3154	448.11	IO
17+45	452.1507	415.88	IO
17+50	419.9530	385.83	IO
17+55	390.5155	359.53	IO
18+ 0	364.6821	337.72	O
18+ 5	341.6396	317.44	IO
18+10	321.2723	299.96	IO
18+15	302.4372	282.49	IO
18+20	285.0241	266.64	IO
18+25	268.8029	251.64	IO
18+30	253.8247	238.02	O
18+35	240.2464	225.97	IO
18+40	228.0254	215.19	O
18+45	216.2967	203.78	O
18+50	204.9627	192.89	IO
18+55	193.5337	181.24	O
19+ 0	182.4538	170.67	O
19+ 5	172.8549	162.90	IO
19+10	164.8138	156.49	O
19+15	158.0726	151.09	O
19+20	152.1607	145.97	O
19+25	146.7725	141.09	O
19+30	141.8653	136.70	O
19+35	137.3187	132.51	IO
19+40	132.8273	128.01	O
19+45	128.6136	124.16	O
19+50	124.9379	121.11	O
19+55	121.8205	118.59	O
20+ 0	119.2299	116.55	O
20+ 5	116.9518	114.56	O
20+10	114.7471	112.39	O
20+15	112.4638	110.00	O
20+20	109.8380	106.95	O
20+25	107.0417	104.02	O
20+30	104.4263	101.67	O
20+35	102.0819	99.62	IO
20+40	99.8125	97.39	O

20+45	97.5664	95.16	O				
20+50	95.4642	93.24	O				
20+55	93.6256	91.71	O				
21+ 0	91.6443	89.47	O				
21+ 5	89.5358	87.26	O				
21+10	87.5949	85.56	O				
21+15	85.9007	84.13	O				
21+20	84.4023	82.83	O				
21+25	83.0354	81.59	O				
21+30	81.7416	80.37	O				
21+35	80.4906	79.16	O				
21+40	79.2975	78.03	O				
21+45	78.1761	76.99	O				
21+50	77.1199	76.00	O				
21+55	76.1148	75.05	O				
22+ 0	75.1547	74.13	O				
22+ 5	74.2366	73.26	O				
22+10	73.3556	72.42	O				
22+15	72.5069	71.60	O				
22+20	71.6868	70.81	O				
22+25	70.8927	70.05	O				
22+30	70.1229	69.30	O				
22+35	69.3762	68.58	O				
22+40	68.6512	67.88	O				
22+45	67.9467	67.20	O				
22+50	67.2615	66.53	IO				
22+55	66.5945	65.88	O				
23+ 0	65.9448	65.25	O				
23+ 5	65.3117	64.64	O				
23+10	64.6943	64.04	O				
23+15	64.0921	63.45	O				
23+20	63.5043	62.88	O				
23+25	62.9305	62.32	O				
23+30	62.3699	61.77	O				
23+35	61.8222	61.24	O				
23+40	61.2868	60.72	O				
23+45	60.7633	60.20	O				
23+50	60.2513	59.70	O				
23+55	59.7502	59.22	O				
24+ 0	59.2598	58.74	O				
24+ 5	58.6946	58.07	O				
24+10	57.8963	56.99	O				
24+15	56.7553	55.46	O				
24+20	55.1773	53.40	O				
24+25	53.1199	50.82	O				
24+30	50.5685	47.74	O				
24+35	47.5644	44.26	O				
24+40	43.8529	39.72	O				
24+45	38.9431	33.43	O				
24+50	33.4914	27.57	IO				
24+55	28.5247	23.33	O				
25+ 0	24.4262	20.21	O				
25+ 5	21.1338	17.76	O				
25+10	18.4846	15.76	O				
25+15	16.3043	14.05	O				
25+20	14.4658	12.56	O				
25+25	12.8841	11.24	O				
25+30	11.5052	10.06	O				
25+35	10.2923	9.02	O				

25+40	9.2149	8.09	O	|	|	|	|
25+45	8.2495	7.24	O	|	|	|	|
25+50	7.3795	6.47	O	|	|	|	|
25+55	6.5962	5.77	O	|	|	|	|
26+ 0	5.8877	5.14	O	|	|	|	|
26+ 5	5.2462	4.57	O	|	|	|	|
26+10	4.6627	4.05	O	|	|	|	|
26+15	4.1347	3.58	O	|	|	|	|
26+20	3.6588	3.16	O	|	|	|	|
26+25	3.2336	2.79	O	|	|	|	|
26+30	2.8552	2.46	O	|	|	|	|
26+35	2.5176	2.16	O	|	|	|	|
26+40	2.2134	1.89	O	|	|	|	|
26+45	1.9422	1.66	O	|	|	|	|
26+50	1.7034	1.45	O	|	|	|	|
26+55	1.5016	1.29	O	|	|	|	|
27+ 0	1.3389	1.17	O	|	|	|	|
27+ 5	1.2071	1.07	O	|	|	|	|
27+10	1.0960	0.98	O	|	|	|	|
27+15	0.9984	0.90	O	|	|	|	|
27+20	0.9106	0.82	O	|	|	|	|
27+25	0.8305	0.75	O	|	|	|	|
27+30	0.7558	0.68	O	|	|	|	|
27+35	0.6861	0.61	O	|	|	|	|
27+40	0.6238	0.56	O	|	|	|	|
27+45	0.5692	0.51	O	|	|	|	|
27+50	0.5201	0.47	O	|	|	|	|
27+55	0.4741	0.43	O	|	|	|	|
28+ 0	0.4284	0.38	O	|	|	|	|
28+ 5	0.3815	0.33	O	|	|	|	|
28+10	0.3334	0.28	O	|	|	|	|
28+15	0.2852	0.23	O	|	|	|	|
28+20	0.2403	0.19	O	|	|	|	|
28+25	0.2013	0.16	O	|	|	|	|
28+30	0.1675	0.13	O	|	|	|	|
28+35	0.1370	0.11	O	|	|	|	|
28+40	0.1100	0.08	O	|	|	|	|
28+45	0.0870	0.06	O	|	|	|	|
28+50	0.0674	0.05	O	|	|	|	|
28+55	0.0489	0.03	O	|	|	|	|
29+ 0	0.0334	0.02	O	|	|	|	|
29+ 5	0.0225	0.01	O	|	|	|	|
29+10	0.0155	0.01	O	|	|	|	|
29+15	0.0110	0.01	O	|	|	|	|
29+20	0.0077	0.00	O	|	|	|	|
29+25	0.0052	0.00	O	|	|	|	|
29+30	0.0031	0.00	O	|	|	|	|
29+35	0.0016	0.00	O	|	|	|	|
29+40	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1228.558 (CFS)
Total volume = 314.422 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	1335.624	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	314.422	0.000	0.000	0.000

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Process from Point/Station 3.000 to Point/Station 3.000

**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

****

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFI10024.rte

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P R I N T O F S T O R M

R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	1451.8	2903.7	4355.5	5807.4
0+ 5	0.6869	0.77	Q				
0+10	2.2087	2.62	Q				
0+15	4.4915	5.59	Q				
0+20	7.4712	9.71	Q				
0+25	11.1715	15.05	Q				
0+30	15.7975	21.84	Q				
0+35	22.7767	31.46	Q				
0+40	32.5794	44.66	Q				
0+45	44.0376	60.74	Q				
0+50	55.3566	77.29	Q				
0+55	68.0433	94.78	Q				
1+ 0	79.1039	109.82	Q				
1+ 5	86.8390	120.77	Q				
1+10	92.9167	129.46	Q				
1+15	98.1501	136.87	Q				
1+20	102.7854	143.36	Q				
1+25	106.9215	149.11	qQ				
1+30	110.6750	154.30	qQ				
1+35	114.1881	159.10	qQ				
1+40	117.4479	163.52	qQ				
1+45	120.3801	167.52	qQ				
1+50	123.2264	171.34	qQ				
1+55	125.9272	174.95	qQ				
2+ 0	128.2853	178.15	qQ				
2+ 5	130.6391	181.28	qQ				
2+10	132.8574	184.23	qQ				
2+15	134.9104	186.97	qQ				
2+20	136.9681	189.67	qQ				
2+25	138.9006	192.20	qQ				
2+30	140.7636	194.61	qQ				
2+35	142.6246	197.00	qQ				
2+40	144.3342	199.20	qQ				
2+45	146.0147	201.34	|Q				
2+50	147.6582	203.43	|Q				
2+55	149.1281	205.30	|Q				
3+ 0	150.5836	207.13	|Q				
3+ 5	152.0153	208.90	|Q				
3+10	153.3808	210.59	|Q				

3+15	154.7567	212.29	|Q	|	|	|	|
3+20	156.0823	213.92	|Q	|	|	|	|
3+25	157.3689	215.51	|Q	|	|	|	|
3+30	158.6590	217.11	|Q	|	|	|	|
3+35	159.8990	218.65	|Q	|	|	|	|
3+40	161.1187	220.17	|Q	|	|	|	|
3+45	162.3340	221.68	|Q	|	|	|	|
3+50	163.4330	223.06	|Q	|	|	|	|
3+55	164.5205	224.44	|Q	|	|	|	|
4+ 0	165.6137	225.83	|Q	|	|	|	|
4+ 5	166.7198	227.23	|Q	|	|	|	|
4+10	167.8320	228.65	|Q	|	|	|	|
4+15	168.9259	230.05	|Q	|	|	|	|
4+20	169.9782	231.40	|Q	|	|	|	|
4+25	171.0434	232.77	|Q	|	|	|	|
4+30	172.1147	234.15	|Q	|	|	|	|
4+35	173.1999	235.53	|Q	|	|	|	|
4+40	174.2870	236.92	|Q	|	|	|	|
4+45	175.3242	238.26	|Q	|	|	|	|
4+50	176.3473	239.58	|Q	|	|	|	|
4+55	177.3847	240.92	|Q	|	|	|	|
5+ 0	178.4289	242.27	|Q	|	|	|	|
5+ 5	179.4878	243.63	|Q	|	|	|	|
5+10	180.5366	244.98	|Q	|	|	|	|
5+15	181.5588	246.30	|Q	|	|	|	|
5+20	182.5862	247.64	|Q	|	|	|	|
5+25	183.6293	248.99	|Q	|	|	|	|
5+30	184.6797	250.35	|Q	|	|	|	|
5+35	185.7463	251.73	|Q	|	|	|	|
5+40	186.8198	253.12	|Q	|	|	|	|
5+45	187.9095	254.53	|Q	|	|	|	|
5+50	189.0073	255.95	|Q	|	|	|	|
5+55	190.1225	257.39	|Q	|	|	|	|
6+ 0	191.2461	258.85	|Q	|	|	|	|
6+ 5	192.3860	260.33	|Q	|	|	|	|
6+10	193.5277	261.81	|Q	|	|	|	|
6+15	194.6874	263.31	|Q	|	|	|	|
6+20	195.8564	264.83	|Q	|	|	|	|
6+25	197.0446	266.38	|Q	|	|	|	|
6+30	198.2469	267.94	|Q	|	|	|	|
6+35	199.4279	269.48	|Q	|	|	|	|
6+40	200.5962	271.02	|Q	|	|	|	|
6+45	201.7850	272.58	|Q	|	|	|	|
6+50	202.9844	274.16	|Q	|	|	|	|
6+55	204.2053	275.76	|Q	|	|	|	|
7+ 0	205.4372	277.38	|Q	|	|	|	|
7+ 5	206.6915	279.03	|Q	|	|	|	|
7+10	207.9575	280.70	|Q	|	|	|	|
7+15	209.2193	282.36	|Q	|	|	|	|
7+20	210.4658	284.02	|Q	|	|	|	|
7+25	211.7364	285.71	|Q	|	|	|	|
7+30	213.0198	287.41	|Q	|	|	|	|
7+35	214.3283	289.15	|Q	|	|	|	|
7+40	215.6503	290.91	|qQ	|	|	|	|
7+45	216.9986	292.70	|qQ	|	|	|	|
7+50	218.3611	294.51	|qQ	|	|	|	|
7+55	219.7510	296.36	|qQ	|	|	|	|
8+ 0	221.1560	298.22	|qQ	|	|	|	|
8+ 5	222.5898	300.13	|qQ	|	|	|	|

8+10	224.0395	302.05	|qQ	|	|	|	|
8+15	225.5192	304.02	|qQ	|	|	|	|
8+20	227.0159	306.01	|qQ	|	|	|	|
8+25	228.5441	308.03	|qQ	|	|	|	|
8+30	230.0903	310.09	|qQ	|	|	|	|
8+35	231.6695	312.18	|qQ	|	|	|	|
8+40	233.2678	314.31	|qQ	|	|	|	|
8+45	234.9009	316.47	|qQ	|	|	|	|
8+50	236.5541	318.67	|qQ	|	|	|	|
8+55	238.2440	320.91	|qQ	|	|	|	|
9+ 0	239.9553	323.18	|qQ	|	|	|	|
9+ 5	241.7052	325.50	|qQ	|	|	|	|
9+10	243.4779	327.86	|qQ	|	|	|	|
9+15	245.2913	330.26	|qQ	|	|	|	|
9+20	247.1291	332.70	|qQ	|	|	|	|
9+25	249.0097	335.20	|qQ	|	|	|	|
9+30	250.9163	337.73	|qQ	|	|	|	|
9+35	252.8683	340.31	|qQ	|	|	|	|
9+40	254.8481	342.94	|qQ	|	|	|	|
9+45	256.8758	345.63	|qQ	|	|	|	|
9+50	258.9333	348.36	|qQ	|	|	|	|
9+55	261.0416	351.15	|qQ	|	|	|	|
10+ 0	263.1818	353.99	|qQ	|	|	|	|
10+ 5	265.3760	356.90	|qQ	|	|	|	|
10+10	267.6044	359.86	|qQ	|	|	|	|
10+15	269.8901	362.88	|qQ	|	|	|	|
10+20	272.2126	365.96	|qQ	|	|	|	|
10+25	274.5962	369.12	|qQ	|	|	|	|
10+30	277.0194	372.34	|qQ	|	|	|	|
10+35	279.5077	375.63	|qQ	|	|	|	|
10+40	282.0387	378.99	|qQ	|	|	|	|
10+45	284.6393	382.43	|qQ	|	|	|	|
10+50	287.2861	385.94	|qQ	|	|	|	|
10+55	290.0074	389.54	|qQ	|	|	|	|
11+ 0	292.7787	393.21	| Q	|	|	|	|
11+ 5	295.6299	396.99	| Q	|	|	|	|
11+10	298.5353	400.84	| Q	|	|	|	|
11+15	301.5266	404.80	| Q	|	|	|	|
11+20	304.5770	408.84	| Q	|	|	|	|
11+25	307.7199	413.00	| Q	|	|	|	|
11+30	310.9271	417.25	| Q	|	|	|	|
11+35	314.2342	421.62	| Q	|	|	|	|
11+40	317.6117	426.09	| Q	|	|	|	|
11+45	321.0973	430.71	| Q	|	|	|	|
11+50	324.6600	435.42	| Q	|	|	|	|
11+55	328.3402	440.29	| qQ	|	|	|	|
12+ 0	332.1051	445.27	| qQ	|	|	|	|
12+ 5	335.8006	450.22	| qQ	|	|	|	|
12+10	339.3487	455.03	| qQ	|	|	|	|
12+15	342.8155	459.78	| qQ	|	|	|	|
12+20	346.1816	464.43	| qQ	|	|	|	|
12+25	349.4887	469.00	| qQ	|	|	|	|
12+30	352.6382	473.42	| qQ	|	|	|	|
12+35	355.2717	477.40	| qQ	|	|	|	|
12+40	357.2101	480.78	| qQ	|	|	|	|
12+45	358.8415	483.93	| qQ	|	|	|	|
12+50	360.6350	487.33	| qQ	|	|	|	|
12+55	362.2195	490.58	| qQ	|	|	|	|
13+ 0	364.4083	494.50	| qQ	|	|	|	|

13+ 5	367.7572	499.65	qQ				
13+10	371.7457	505.51	qQ				
13+15	376.2168	511.92	qQ				
13+20	381.0512	518.78	qQ				
13+25	386.3028	526.13	qQ				
13+30	391.8858	533.90	qQ				
13+35	397.8508	542.15	qQ				
13+40	404.1453	550.82	qQ				
13+45	410.8932	560.05	qQ				
13+50	417.9651	569.72	qQ				
13+55	425.4943	579.97	qQ				
14+ 0	433.4733	590.80	q Q				
14+ 5	443.7302	604.15	qQ				
14+10	456.6327	620.57	qQ				
14+15	472.1769	640.21	qQ				
14+20	490.0927	662.86	qQ				
14+25	510.6860	688.89	qQ				
14+30	534.4185	718.89	qQ				
14+35	565.2444	756.98	q Q				
14+40	604.4078	804.86	qQ				
14+45	649.1865	860.49	qQ				
14+50	694.8790	918.28	q Q				
14+55	745.8212	981.18	qQ				
15+ 0	794.1117	1040.77	q Q				
15+ 5	835.7897	1093.21	q Q				
15+10	875.0621	1142.96	qQ				
15+15	914.6224	1193.03	q Q				
15+20	955.0822	1244.29	q Q				
15+25	995.0238	1295.35	q Q				
15+30	1034.2039	1345.78	q Q				
15+35	1074.5141	1397.42	q Q				
15+40	1116.4211	1450.98	q Q				
15+45	1161.9929	1508.95	q Q				
15+50	1212.7998	1573.16	q Q				
15+55	1272.0020	1647.39	q Q				
16+ 0	1348.3678	1741.95	q Q				
16+ 5	1562.0234	1988.35	q Q				
16+10	1812.2216	2297.50	q Q				
16+15	2048.7897	2614.99	q Q				
16+20	2286.5018	2956.98	q Q				
16+25	2564.6388	3348.19	q Q				
16+30	2923.9222	3810.22	q Q				
16+35	3545.7618	4508.29	q Q				
16+40	4194.4952	5252.63	q Q				
16+45	4554.6544	5743.33	q Q				
16+50	4531.6570	5760.21	q Q				
16+55	4662.6330	5807.39	q Q				
17+ 0	4189.1334	5203.51	q Q				
17+ 5	3414.3803	4308.34	q Q				
17+10	2967.9992	3764.30	q Q				
17+15	2704.6977	3424.75	q Q				
17+20	2501.9886	3160.68	q Q				
17+25	2318.5479	2925.77	q Q				
17+30	2162.4278	2724.90	q Q				
17+35	2030.7641	2553.34	q Q				
17+40	1895.2315	2381.55	q Q				
17+45	1749.6855	2201.84	q Q				
17+50	1651.2066	2071.16	q Q				
17+55	1540.2373	1930.75	q Q				

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18+ 0    1407.3183   1772.00  |         q| Q       |          |          |
18+ 5    1344.8641   1686.50  |         q|Q       |          |          |
18+10    1268.6473   1589.92  |        q Q         |          |          |
18+15    1193.2536   1495.69  |        q Q         |          |          |
18+20    1151.0195   1436.04  |       q Q|         |          |          |
18+25    1089.4995   1358.30  |       q Q|         |          |          |
18+30    1041.7081   1295.53  |       qQ |         |          |          |
18+35    1005.5616   1245.81  |      q Q |         |          |          |
18+40     948.0742   1176.10  |      q Q |         |          |          |
18+45     912.5918   1128.89  |      qQ  |         |          |          |
18+50     876.5280   1081.49  |      qQ  |         |          |          |
18+55     819.5035   1013.04  |     qQ   |         |          |          |
19+ 0     793.6344    976.09  |     qQ   |         |          |          |
19+ 5     765.7529    938.61  |     qQ   |         |          |          |
19+10     733.2748    898.09  |     qQ   |         |          |          |
19+15     713.1336    871.21  |    q Q   |         |          |          |
19+20     684.1017    836.26  |    qQ    |         |          |          |
19+25     657.1400    803.91  |    qQ    |         |          |          |
19+30     638.7192    780.58  |    qQ    |         |          |          |
19+35     610.6826    748.00  |    qQ    |         |          |          |
19+40     589.2799    722.11  |    Q     |         |          |          |
19+45     568.7842    697.40  |   qQ     |         |          |          |
19+50     531.8321    656.77  |   qQ     |         |          |          |
19+55     514.5861    636.41  |   qQ     |         |          |          |
20+ 0     503.1187    622.35  |   qQ     |         |          |          |
20+ 5     492.3548    609.31  |   qQ     |         |          |          |
20+10     480.9033    595.65  |   qQ     |         |          |          |
20+15     463.8012    576.27  |   Q      |         |          |          |
20+20     445.1496    554.99  |   Q      |         |          |          |
20+25     435.8621    542.90  |   Q      |         |          |          |
20+30     427.2337    531.66  |  qQ      |         |          |          |
20+35     418.2515    520.33  |  qQ      |         |          |          |
20+40     407.4104    507.22  |  qQ      |         |          |          |
20+45     386.8225    484.39  |  qQ      |         |          |          |
20+50     375.3314    470.80  |  qQ      |         |          |          |
20+55     368.3532    461.98  |  qQ      |         |          |          |
21+ 0     361.6119    453.26  |  qQ      |         |          |          |
21+ 5     354.2237    443.76  |  qQ      |         |          |          |
21+10     343.5273    431.12  |  Q       |         |          |          |
21+15     329.3717    415.27  |  Q       |         |          |          |
21+20     323.1099    407.51  |  Q       |         |          |          |
21+25     317.7711    400.81  |  Q       |         |          |          |
21+30     312.6927    394.43  |  Q       |         |          |          |
21+35     307.6347    388.13  |  Q       |         |          |          |
21+40     302.5973    381.89  |  Q       |         |          |          |
21+45     297.9340    376.11  |  Q       |         |          |          |
21+50     293.4535    370.57  |  Q       |         |          |          |
21+55     289.1560    365.27  | qQ       |         |          |          |
22+ 0     284.9022    360.06  | qQ       |         |          |          |
22+ 5     280.2653    354.50  | qQ       |         |          |          |
22+10     274.8747    348.23  | qQ       |         |          |          |
22+15     270.7335    343.24  | qQ       |         |          |          |
22+20     266.7070    338.39  | qQ       |         |          |          |
22+25     262.2759    333.17  | qQ       |         |          |          |
22+30     257.6757    327.80  | qQ       |         |          |          |
22+35     245.2773    314.65  | qQ       |         |          |          |
22+40     236.9305    305.58  | qQ       |         |          |          |
22+45     233.2385    301.19  | qQ       |         |          |          |
22+50     229.8833    297.14  | qQ       |         |          |          |
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22+55	226.4731	293.07	|qQ	|	|	|	|
23+ 0	222.9725	288.92	|Q	|	|	|	|
23+ 5	219.2047	284.52	|Q	|	|	|	|
23+10	214.8161	279.51	|Q	|	|	|	|
23+15	205.5670	269.66	|Q	|	|	|	|
23+20	197.0229	260.53	|Q	|	|	|	|
23+25	193.9453	256.88	|Q	|	|	|	|
23+30	191.2588	253.63	|Q	|	|	|	|
23+35	188.7784	250.60	|Q	|	|	|	|
23+40	186.4016	247.69	|Q	|	|	|	|
23+45	184.1431	244.91	|Q	|	|	|	|
23+50	181.9831	242.23	|Q	|	|	|	|
23+55	179.9082	239.66	|Q	|	|	|	|
24+ 0	177.9084	237.17	|Q	|	|	|	|
24+ 5	175.2905	233.99	|Q	|	|	|	|
24+10	171.9061	229.80	|Q	|	|	|	|
24+15	167.9065	224.66	|Q	|	|	|	|
24+20	163.3577	218.53	|Q	|	|	|	|
24+25	158.1677	211.29	|Q	|	|	|	|
24+30	152.1371	202.71	|Q	|	|	|	|
24+35	143.8368	191.40	qQ	|	|	|	|
24+40	132.8238	176.68	qQ	|	|	|	|
24+45	120.2999	159.24	qQ	|	|	|	|
24+50	108.0705	141.56	Q	|	|	|	|
24+55	94.6301	123.15	Q	|	|	|	|
25+ 0	82.9731	107.40	Q	|	|	|	|
25+ 5	74.7820	95.92	Q	|	|	|	|
25+10	68.3476	86.83	Q	|	|	|	|
25+15	62.8347	79.14	Q	|	|	|	|
25+20	57.9821	72.45	Q	|	|	|	|
25+25	53.6957	66.58	Q	|	|	|	|
25+30	49.8475	61.35	Q	|	|	|	|
25+35	46.2954	56.59	Q	|	|	|	|
25+40	43.0433	52.26	Q	|	|	|	|
25+45	40.1668	48.42	Q	|	|	|	|
25+50	37.4154	44.79	Q	|	|	|	|
25+55	34.8515	41.45	Q	|	|	|	|
26+ 0	32.6648	38.55	Q	|	|	|	|
26+ 5	30.5183	35.76	Q	|	|	|	|
26+10	28.5370	33.20	Q	|	|	|	|
26+15	26.7541	30.89	Q	|	|	|	|
26+20	24.9920	28.65	Q	|	|	|	|
26+25	23.3856	26.62	Q	|	|	|	|
26+30	21.8719	24.73	Q	|	|	|	|
26+35	20.3880	22.91	Q	|	|	|	|
26+40	19.0769	21.29	Q	|	|	|	|
26+45	17.8204	19.76	Q	|	|	|	|
26+50	16.6199	18.32	Q	|	|	|	|
26+55	15.6169	17.12	Q	|	|	|	|
27+ 0	14.6446	15.98	Q	|	|	|	|
27+ 5	13.7178	14.92	Q	|	|	|	|
27+10	12.8723	13.97	Q	|	|	|	|
27+15	12.0369	13.04	Q	|	|	|	|
27+20	11.2660	12.18	Q	|	|	|	|
27+25	10.5538	11.38	Q	|	|	|	|
27+30	9.8510	10.61	Q	|	|	|	|
27+35	9.2173	9.90	Q	|	|	|	|
27+40	8.6162	9.24	Q	|	|	|	|
27+45	8.0376	8.61	Q	|	|	|	|

27+50	7.5865	8.11	Q				
27+55	7.1639	7.64	Q				
28+ 0	6.7455	7.17	Q				
28+ 5	6.3310	6.71	Q				
28+10	5.9203	6.25	Q				
28+15	5.5449	5.83	Q				
28+20	5.2206	5.46	Q				
28+25	4.8999	5.10	Q				
28+30	4.5822	4.75	Q				
28+35	4.2673	4.40	Q				
28+40	3.9599	4.07	Q				
28+45	3.7191	3.81	Q				
28+50	3.5011	3.57	Q				
28+55	3.2851	3.33	Q				
29+ 0	3.0712	3.10	Q				
29+ 5	2.8591	2.88	Q				
29+10	2.6661	2.68	Q				
29+15	2.5165	2.53	Q				
29+20	2.3701	2.38	Q				
29+25	2.2251	2.23	Q				
29+30	2.0814	2.08	Q				
29+35	1.9390	1.94	Q				
29+40	1.7987	1.80	Q				
29+45	1.6601	1.66	Q				
29+50	1.5227	1.52	Q				
29+55	1.3864	1.39	Q				
30+ 0	1.2512	1.25	Q				
30+ 5	1.1190	1.12	Q				
30+10	0.9948	0.99	Q				
30+15	0.8723	0.87	Q				
30+20	0.7508	0.75	Q				
30+25	0.6303	0.63	Q				
30+30	0.5065	0.51	Q				
30+35	0.4249	0.42	Q				
30+40	0.3668	0.37	Q				
30+45	0.3091	0.31	Q				
30+50	0.2520	0.25	Q				
30+55	0.1952	0.20	Q				
31+ 0	0.1389	0.14	Q				
31+ 5	0.0831	0.08	Q				
31+10	0.0276	0.03	Q				

**********HYDROGRAPH DATA**********

Number of intervals = 374
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5807.391 (CFS)
Total volume = 1404.142 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	1335.624	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	314.422	0.000	0.000	0.000

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 08/10/17

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREAS "J" & "K" ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-24

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFJ10024.rte
**********HYDROGRAPH DATA**********
Number of intervals = 333
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1201.045 (CFS)
Total volume = 169.197 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 4.000 to Point/Station 4.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 84.60(Ac.Ft)

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	150.1	300.3	450.4	600.5
0+ 5	0.0009	0.13	Q	|	|	|	|
0+10	0.0045	0.51	Q	|	|	|	|
0+15	0.0120	1.09	Q	|	|	|	|
0+20	0.0257	1.99	Q	|	|	|	|
0+25	0.0492	3.42	Q	|	|	|	|
0+30	0.0881	5.64	Q	|	|	|	|
0+35	0.1400	7.55	Q	|	|	|	|

0+40	0.1990	8.57	Q	|	|	|	|
0+45	0.2633	9.32	Q	|	|	|	|
0+50	0.3316	9.92	Q	|	|	|	|
0+55	0.4036	10.45	Q	|	|	|	|
1+ 0	0.4786	10.89	Q	|	|	|	|
1+ 5	0.5562	11.27	Q	|	|	|	|
1+10	0.6362	11.61	Q	|	|	|	|
1+15	0.7183	11.92	Q	|	|	|	|
1+20	0.8022	12.19	Q	|	|	|	|
1+25	0.8879	12.44	Q	|	|	|	|
1+30	0.9751	12.66	Q	|	|	|	|
1+35	1.0636	12.86	Q	|	|	|	|
1+40	1.1534	13.03	Q	|	|	|	|
1+45	1.2442	13.19	Q	|	|	|	|
1+50	1.3361	13.34	Q	|	|	|	|
1+55	1.4289	13.47	Q	|	|	|	|
2+ 0	1.5225	13.59	Q	|	|	|	|
2+ 5	1.6168	13.69	Q	|	|	|	|
2+10	1.7117	13.78	Q	|	|	|	|
2+15	1.8073	13.87	Q	|	|	|	|
2+20	1.9034	13.96	Q	|	|	|	|
2+25	2.0002	14.05	Q	|	|	|	|
2+30	2.0975	14.13	Q	|	|	|	|
2+35	2.1953	14.21	QV	|	|	|	|
2+40	2.2938	14.29	QV	|	|	|	|
2+45	2.3927	14.37	QV	|	|	|	|
2+50	2.4922	14.44	QV	|	|	|	|
2+55	2.5922	14.52	QV	|	|	|	|
3+ 0	2.6928	14.60	QV	|	|	|	|
3+ 5	2.7938	14.68	QV	|	|	|	|
3+10	2.8954	14.75	QV	|	|	|	|
3+15	2.9975	14.83	QV	|	|	|	|
3+20	3.1001	14.90	QV	|	|	|	|
3+25	3.2033	14.97	QV	|	|	|	|
3+30	3.3069	15.04	|Q	|	|	|	|
3+35	3.4109	15.11	|Q	|	|	|	|
3+40	3.5155	15.18	|Q	|	|	|	|
3+45	3.6205	15.25	|Q	|	|	|	|
3+50	3.7260	15.32	|Q	|	|	|	|
3+55	3.8320	15.39	|Q	|	|	|	|
4+ 0	3.9385	15.46	|Q	|	|	|	|
4+ 5	4.0454	15.53	|Q	|	|	|	|
4+10	4.1529	15.60	|Q	|	|	|	|
4+15	4.2608	15.67	|QV	|	|	|	|
4+20	4.3692	15.74	|QV	|	|	|	|
4+25	4.4781	15.81	|QV	|	|	|	|
4+30	4.5875	15.89	|QV	|	|	|	|
4+35	4.6975	15.96	|QV	|	|	|	|
4+40	4.8080	16.04	|QV	|	|	|	|
4+45	4.9189	16.12	|QV	|	|	|	|
4+50	5.0305	16.19	|QV	|	|	|	|
4+55	5.1425	16.27	|QV	|	|	|	|
5+ 0	5.2551	16.35	|QV	|	|	|	|
5+ 5	5.3683	16.43	|QV	|	|	|	|
5+10	5.4820	16.51	|QV	|	|	|	|
5+15	5.5963	16.59	|QV	|	|	|	|
5+20	5.7111	16.68	|QV	|	|	|	|
5+25	5.8265	16.76	|QV	|	|	|	|
5+30	5.9426	16.85	|QV	|	|	|	|

5+35	6.0592	16.93	QV				
5+40	6.1764	17.02	QV				
5+45	6.2942	17.11	QV				
5+50	6.4126	17.20	Q V				
5+55	6.5317	17.29	Q V				
6+ 0	6.6514	17.38	Q V				
6+ 5	6.7717	17.47	Q V				
6+10	6.8927	17.57	Q V				
6+15	7.0144	17.66	Q V				
6+20	7.1367	17.76	Q V				
6+25	7.2597	17.86	Q V				
6+30	7.3834	17.96	Q V				
6+35	7.5077	18.06	Q V				
6+40	7.6328	18.16	Q V				
6+45	7.7586	18.27	Q V				
6+50	7.8851	18.37	Q V				
6+55	8.0124	18.48	Q V				
7+ 0	8.1404	18.59	Q V				
7+ 5	8.2692	18.70	Q V				
7+10	8.3987	18.81	Q V				
7+15	8.5290	18.92	Q V				
7+20	8.6601	19.04	Q V				
7+25	8.7920	19.15	Q V				
7+30	8.9248	19.27	Q V				
7+35	9.0583	19.39	Q V				
7+40	9.1927	19.51	Q V				
7+45	9.3280	19.64	Q V				
7+50	9.4641	19.77	Q V				
7+55	9.6011	19.89	Q V				
8+ 0	9.7390	20.02	Q V				
8+ 5	9.8778	20.16	Q V				
8+10	10.0176	20.29	Q V				
8+15	10.1582	20.43	Q V				
8+20	10.2999	20.57	Q V				
8+25	10.4425	20.71	Q V				
8+30	10.5861	20.85	Q V				
8+35	10.7307	21.00	Q V				
8+40	10.8764	21.15	Q V				
8+45	11.0230	21.30	Q V				
8+50	11.1708	21.45	Q V				
8+55	11.3196	21.61	Q V				
9+ 0	11.4695	21.77	Q V				
9+ 5	11.6206	21.93	Q V				
9+10	11.7728	22.10	Q V				
9+15	11.9261	22.27	Q V				
9+20	12.0807	22.44	Q V				
9+25	12.2364	22.62	Q V				
9+30	12.3934	22.79	Q V				
9+35	12.5517	22.98	Q V				
9+40	12.7112	23.16	Q V				
9+45	12.8720	23.35	Q V				
9+50	13.0342	23.55	Q V				
9+55	13.1977	23.75	Q V				
10+ 0	13.3627	23.95	Q V				
10+ 5	13.5290	24.15	Q V				
10+10	13.6968	24.37	Q V				
10+15	13.8661	24.58	Q V				
10+20	14.0369	24.80	Q V				
10+25	14.2093	25.03	Q V				

10+30	14.3832	25.26	Q V				
10+35	14.5588	25.49	Q V				
10+40	14.7360	25.73	Q V				
10+45	14.9149	25.98	Q V				
10+50	15.0956	26.23	Q V				
10+55	15.2781	26.49	Q V				
11+ 0	15.4623	26.76	Q V				
11+ 5	15.6485	27.03	Q V				
11+10	15.8366	27.31	Q V				
11+15	16.0266	27.60	Q V				
11+20	16.2187	27.89	Q V				
11+25	16.4129	28.19	Q V				
11+30	16.6092	28.50	Q V				
11+35	16.8076	28.82	Q V				
11+40	17.0084	29.15	Q V				
11+45	17.2115	29.48	Q V				
11+50	17.4169	29.83	Q V				
11+55	17.6248	30.19	Q V				
12+ 0	17.8353	30.56	Q V				
12+ 5	18.0480	30.89	Q V				
12+10	18.2627	31.17	Q V				
12+15	18.4789	31.40	Q V				
12+20	18.6961	31.54	Q V				
12+25	18.9133	31.53	Q V				
12+30	19.1288	31.29	Q V				
12+35	19.3433	31.16	Q V				
12+40	19.5590	31.31	Q V				
12+45	19.7763	31.56	Q V				
12+50	19.9958	31.87	Q V				
12+55	20.2177	32.23	Q V				
13+ 0	20.4424	32.62	Q V				
13+ 5	20.6701	33.06	Q V				
13+10	20.9011	33.54	Q V				
13+15	21.1355	34.04	Q V				
13+20	21.3737	34.58	Q V				
13+25	21.6159	35.16	Q V				
13+30	21.8623	35.78	Q V				
13+35	22.1132	36.43	Q V				
13+40	22.3688	37.12	Q V				
13+45	22.6295	37.86	Q V				
13+50	22.8956	38.64	Q V				
13+55	23.1674	39.46	Q V				
14+ 0	23.4453	40.34	Q V				
14+ 5	23.7298	41.32	Q V				
14+10	24.0220	42.42	Q V				
14+15	24.3225	43.63	Q V				
14+20	24.6325	45.01	Q V				
14+25	24.9535	46.62	Q V				
14+30	25.2878	48.53	Q V				
14+35	25.6353	50.46	Q V				
14+40	25.9953	52.27	Q V				
14+45	26.3681	54.13	Q V				
14+50	26.7543	56.08	Q V				
14+55	27.1550	58.18	Q V				
15+ 0	27.5712	60.44	Q V				
15+ 5	28.0044	62.89	Q V				
15+10	28.4561	65.59	Q V				
15+15	28.9283	68.57	Q V				
15+20	29.4235	71.90	Q V				

15+25	29.9446	75.66	Q	V			
15+30	30.4953	79.97	Q	V			
15+35	31.0804	84.94	Q	V			
15+40	31.7060	90.85	Q	V			
15+45	32.3809	98.00	Q	V			
15+50	33.1181	107.04	Q	V			
15+55	33.9390	119.20	Q	V			
16+ 0	34.8847	137.31	Q	V			
16+ 5	36.1306	180.91	Q	V			
16+10	37.8128	244.26	Q	V			
16+15	39.9049	303.77	V	Q			
16+20	42.5605	385.59	V	Q			
16+25	45.9342	489.87	V		Q		
16+30	50.0701	600.52	V				Q
16+35	53.6819	524.44	V		Q		
16+40	56.1449	357.63	Q	V			
16+45	58.1520	291.43	Q	V			
16+50	59.8558	247.40	Q	V			
16+55	61.3675	219.49	Q	V			
17+ 0	62.7069	194.48	Q	V			
17+ 5	63.8989	173.08	Q	V			
17+10	64.9814	157.18	Q	V			
17+15	65.9650	142.82	Q	V			
17+20	66.8578	129.64	Q	V			
17+25	67.6752	118.68	Q	V			
17+30	68.4192	108.03	Q	V			
17+35	69.0905	97.46	Q	V			
17+40	69.7034	89.00	Q	V			
17+45	70.2653	81.58	Q	V			
17+50	70.7826	75.11	Q	V			
17+55	71.2558	68.71	Q	V			
18+ 0	71.6862	62.50	Q	V			
18+ 5	72.0705	55.80	Q	V			
18+10	72.4348	52.91	Q	V			
18+15	72.7825	50.48	Q	V			
18+20	73.1122	47.87	Q	V			
18+25	73.4313	46.33	Q	V			
18+30	73.7390	44.68	Q	V			
18+35	74.0319	42.53	Q	V			
18+40	74.3167	41.36	Q	V			
18+45	74.5938	40.23	Q	V			
18+50	74.8630	39.08	Q	V			
18+55	75.1249	38.03	Q	V			
19+ 0	75.3771	36.62	Q	V			
19+ 5	75.6195	35.19	Q	V			
19+10	75.8554	34.25	Q	V			
19+15	76.0834	33.11	Q	V			
19+20	76.3038	32.00	Q	V			
19+25	76.5193	31.29	Q	V			
19+30	76.7222	29.46	Q	V			
19+35	76.9186	28.52	Q	V			
19+40	77.1103	27.84	Q	V			
19+45	77.2975	27.17	Q	V			
19+50	77.4784	26.28	Q	V			
19+55	77.6537	25.44	Q	V			
20+ 0	77.8254	24.93	Q	V			
20+ 5	77.9937	24.45	Q	V			
20+10	78.1591	24.00	Q	V			
20+15	78.3215	23.58	Q	V			

20+20	78.4811	23.18	|Q	|	|	|	V |
20+25	78.6381	22.80	|Q	|	|	|	V |
20+30	78.7926	22.43	|Q	|	|	|	V |
20+35	78.9447	22.08	|Q	|	|	|	V |
20+40	79.0945	21.75	|Q	|	|	|	V |
20+45	79.2421	21.43	|Q	|	|	|	V |
20+50	79.3875	21.12	|Q	|	|	|	V |
20+55	79.5309	20.82	|Q	|	|	|	V |
21+ 0	79.6723	20.53	|Q	|	|	|	V |
21+ 5	79.8118	20.26	|Q	|	|	|	V |
21+10	79.9495	19.99	|Q	|	|	|	V |
21+15	80.0853	19.73	|Q	|	|	|	V |
21+20	80.2195	19.48	|Q	|	|	|	V |
21+25	80.3520	19.24	|Q	|	|	|	V |
21+30	80.4828	19.00	|Q	|	|	|	V |
21+35	80.6121	18.77	|Q	|	|	|	V |
21+40	80.7398	18.55	|Q	|	|	|	V |
21+45	80.8661	18.33	|Q	|	|	|	V |
21+50	80.9909	18.12	|Q	|	|	|	V |
21+55	81.1142	17.92	|Q	|	|	|	V |
22+ 0	81.2362	17.72	|Q	|	|	|	V |
22+ 5	81.3569	17.52	|Q	|	|	|	V |
22+10	81.4763	17.33	|Q	|	|	|	V |
22+15	81.5944	17.15	|Q	|	|	|	V |
22+20	81.7113	16.97	|Q	|	|	|	V |
22+25	81.8270	16.80	|Q	|	|	|	V |
22+30	81.9415	16.63	|Q	|	|	|	V |
22+35	82.0549	16.46	|Q	|	|	|	V |
22+40	82.1671	16.30	|Q	|	|	|	V |
22+45	82.2783	16.14	|Q	|	|	|	V |
22+50	82.3884	15.99	|Q	|	|	|	V |
22+55	82.4975	15.84	|Q	|	|	|	V|
23+ 0	82.6056	15.69	|Q	|	|	|	V|
23+ 5	82.7127	15.55	|Q	|	|	|	V|
23+10	82.8188	15.41	|Q	|	|	|	V|
23+15	82.9240	15.27	|Q	|	|	|	V|
23+20	83.0282	15.14	|Q	|	|	|	V|
23+25	83.1316	15.01	Q	|	|	|	V|
23+30	83.2341	14.88	Q	|	|	|	V|
23+35	83.3357	14.75	Q	|	|	|	V|
23+40	83.4364	14.63	Q	|	|	|	V|
23+45	83.5364	14.51	Q	|	|	|	V|
23+50	83.6355	14.39	Q	|	|	|	V|
23+55	83.7338	14.28	Q	|	|	|	V|
24+ 0	83.8313	14.16	Q	|	|	|	V|
24+ 5	83.9272	13.92	Q	|	|	|	V|
24+10	84.0197	13.43	Q	|	|	|	V|
24+15	84.1075	12.76	Q	|	|	|	V|
24+20	84.1885	11.76	Q	|	|	|	V|
24+25	84.2591	10.25	Q	|	|	|	V|
24+30	84.3140	7.97	Q	|	|	|	V|
24+35	84.3555	6.03	Q	|	|	|	V|
24+40	84.3899	4.99	Q	|	|	|	V|
24+45	84.4190	4.23	Q	|	|	|	V|
24+50	84.4440	3.63	Q	|	|	|	V|
24+55	84.4655	3.12	Q	|	|	|	V|
25+ 0	84.4840	2.68	Q	|	|	|	V|
25+ 5	84.5000	2.32	Q	|	|	|	V|
25+10	84.5138	2.01	Q	|	|	|	V|

25+15	84.5257	1.73	Q	|	|	|	V|
25+20	84.5360	1.49	Q	|	|	|	V|
25+25	84.5448	1.28	Q	|	|	|	V|
25+30	84.5523	1.09	Q	|	|	|	V|
25+35	84.5588	0.94	Q	|	|	|	V|
25+40	84.5643	0.80	Q	|	|	|	V|
25+45	84.5691	0.69	Q	|	|	|	V|
25+50	84.5731	0.58	Q	|	|	|	V|
25+55	84.5765	0.50	Q	|	|	|	V|
26+ 0	84.5795	0.43	Q	|	|	|	V|
26+ 5	84.5821	0.38	Q	|	|	|	V|
26+10	84.5844	0.34	Q	|	|	|	V|
26+15	84.5865	0.30	Q	|	|	|	V|
26+20	84.5884	0.27	Q	|	|	|	V|
26+25	84.5900	0.23	Q	|	|	|	V|
26+30	84.5914	0.20	Q	|	|	|	V|
26+35	84.5926	0.18	Q	|	|	|	V|
26+40	84.5937	0.16	Q	|	|	|	V|
26+45	84.5946	0.14	Q	|	|	|	V|
26+50	84.5955	0.12	Q	|	|	|	V|
26+55	84.5961	0.10	Q	|	|	|	V|
27+ 0	84.5967	0.08	Q	|	|	|	V|
27+ 5	84.5971	0.07	Q	|	|	|	V|
27+10	84.5975	0.05	Q	|	|	|	V|
27+15	84.5978	0.04	Q	|	|	|	V|
27+20	84.5980	0.03	Q	|	|	|	V|
27+25	84.5981	0.02	Q	|	|	|	V|
27+30	84.5982	0.01	Q	|	|	|	V|
27+35	84.5982	0.01	Q	|	|	|	V|
27+40	84.5983	0.01	Q	|	|	|	V|
27+45	84.5983	0.00	Q	|	|	|	V

**********HYDROGRAPH DATA**********

Number of intervals = 333
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 600.523 (CFS)
Total volume = 84.598 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	600.523	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	84.598	0.000	0.000	0.000	0.000

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Process from Point/Station 4.000 to Point/Station 4.100

**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:
Length of stream = 1768.00 (Ft.)
Elevation difference = 50.00 (Ft.)
Slope of channel = 0.028281 (Vert/Horiz)
Channel type - Improved Channel

Channel length = 1768.00(Ft.) Elevation difference = 50.00(Ft.)
Channel evaluation using mean flow rate of hydrograph

```
      Channel base width  =   60.000(Ft.)
      Slope or 'Z' of left channel bank =   2.000
      Slope or 'Z' of right channel bank =   2.000
      Manning's 'N'    = 0.035
      Maximum depth of channel  =    5.000(Ft.)
      Flow(q) thru subarea =     40.761(CFS)
      Depth of flow =     0.244(Ft.)
      Average velocity =     2.766(Ft/s)
      Total flow rate =    40.761(CFS)
      Channel flow top width =   60.974(Ft.)
      Depth of flow in channel =   0.24(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    2.77(Ft/s)
      Travel time  =   46.49 min.
      Individual channel flow =   40.761(CFS)
      Total capacity of improved channels =     40.761(CFS)
      Critical Depth in Channel =    0.24(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =    600.523(CFS)
      Depth of flow =     1.218(Ft.)
      Average velocity =     7.893(Ft/s)
      Total flow rate =   600.523(CFS)
      Channel flow top width =   64.874(Ft.)
      Depth of flow in channel =   1.22(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    7.89(Ft/s)
      Travel time  =   46.49 min.
      Individual channel flow =  600.523(CFS)
      Total capacity of improved channels =    600.523(CFS)
      Critical Depth in Channel =    1.44(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING *********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.8228   Travel time =   3.73 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   1.4186
               dt(routing time-step) =   3.07 (min.),   c* =   0.9141

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      150.1     300.3     450.4     600.5
----------------------------------------------------------------------
  0+ 5       0.0476      0.13  O         |         |         |         |
  0+10       0.2609      0.51  O         |         |         |         |
  0+15       0.6943      1.09  O         |         |         |         |
  0+20       1.3721      1.99  O         |         |         |         |
```

0+25	2.4422	3.42	O	|	|	|	|
0+30	4.1192	5.64	O	|	|	|	|
0+35	6.1807	7.55	O	|	|	|	|
0+40	7.7897	8.57	O	|	|	|	|
0+45	8.7667	9.32	O	|	|	|	|
0+50	9.4882	9.92	O	|	|	|	|
0+55	10.0711	10.45	O	|	|	|	|
1+ 0	10.5717	10.89	O	|	|	|	|
1+ 5	10.9992	11.27	O	|	|	|	|
1+10	11.3696	11.61	O	|	|	|	|
1+15	11.7004	11.92	O	|	|	|	|
1+20	11.9955	12.19	O	|	|	|	|
1+25	12.2600	12.44	O	|	|	|	|
1+30	12.5005	12.66	O	|	|	|	|
1+35	12.7159	12.86	O	|	|	|	|
1+40	12.9067	13.03	O	|	|	|	|
1+45	13.0787	13.19	O	|	|	|	|
1+50	13.2355	13.34	O	|	|	|	|
1+55	13.3789	13.47	O	|	|	|	|
2+ 0	13.5079	13.59	O	|	|	|	|
2+ 5	13.6189	13.69	O	|	|	|	|
2+10	13.7147	13.78	O	|	|	|	|
2+15	13.8078	13.87	O	|	|	|	|
2+20	13.8983	13.96	O	|	|	|	|
2+25	13.9858	14.05	O	|	|	|	|
2+30	14.0722	14.13	O	|	|	|	|
2+35	14.1546	14.21	O	|	|	|	|
2+40	14.2328	14.29	O	|	|	|	|
2+45	14.3110	14.37	O	|	|	|	|
2+50	14.3893	14.44	O	|	|	|	|
2+55	14.4678	14.52	O	|	|	|	|
3+ 0	14.5461	14.60	O	|	|	|	|
3+ 5	14.6225	14.68	O	|	|	|	|
3+10	14.6975	14.75	O	|	|	|	|
3+15	14.7725	14.83	O	|	|	|	|
3+20	14.8465	14.90	O	|	|	|	|
3+25	14.9206	14.97	O	|	|	|	|
3+30	14.9938	15.04	OI	|	|	|	|
3+35	15.0633	15.11	|O	|	|	|	|
3+40	15.1324	15.18	|O	|	|	|	|
3+45	15.2022	15.25	|O	|	|	|	|
3+50	15.2720	15.32	|O	|	|	|	|
3+55	15.3410	15.39	|O	|	|	|	|
4+ 0	15.4095	15.46	|O	|	|	|	|
4+ 5	15.4787	15.53	|O	|	|	|	|
4+10	15.5487	15.60	|O	|	|	|	|
4+15	15.6194	15.67	|O	|	|	|	|
4+20	15.6910	15.74	|O	|	|	|	|
4+25	15.7633	15.81	|O	|	|	|	|
4+30	15.8365	15.89	|O	|	|	|	|
4+35	15.9105	15.96	|O	|	|	|	|
4+40	15.9854	16.04	|O	|	|	|	|
4+45	16.0612	16.12	|O	|	|	|	|
4+50	16.1378	16.19	|O	|	|	|	|
4+55	16.2154	16.27	|O	|	|	|	|
5+ 0	16.2939	16.35	|O	|	|	|	|
5+ 5	16.3733	16.43	|O	|	|	|	|
5+10	16.4537	16.51	|O	|	|	|	|
5+15	16.5351	16.59	|O	|	|	|	|

5+20	16.6175	16.68	O				
5+25	16.7009	16.76	O				
5+30	16.7853	16.85	O				
5+35	16.8708	16.93	O				
5+40	16.9574	17.02	O				
5+45	17.0451	17.11	O				
5+50	17.1339	17.20	O				
5+55	17.2238	17.29	O				
6+ 0	17.3150	17.38	O				
6+ 5	17.4073	17.47	O				
6+10	17.5008	17.57	O				
6+15	17.5957	17.66	O				
6+20	17.6917	17.76	O				
6+25	17.7891	17.86	O				
6+30	17.8878	17.96	O				
6+35	17.9879	18.06	O				
6+40	18.0894	18.16	O				
6+45	18.1923	18.27	O				
6+50	18.2967	18.37	O				
6+55	18.4025	18.48	O				
7+ 0	18.5099	18.59	O				
7+ 5	18.6188	18.70	O				
7+10	18.7293	18.81	O				
7+15	18.8415	18.92	O				
7+20	18.9553	19.04	O				
7+25	19.0709	19.15	O				
7+30	19.1881	19.27	O				
7+35	19.3073	19.39	O				
7+40	19.4282	19.51	O				
7+45	19.5510	19.64	O				
7+50	19.6758	19.77	O				
7+55	19.8025	19.89	O				
8+ 0	19.9313	20.02	O				
8+ 5	20.0621	20.16	O				
8+10	20.1951	20.29	O				
8+15	20.3304	20.43	O				
8+20	20.4678	20.57	O				
8+25	20.6076	20.71	O				
8+30	20.7497	20.85	O				
8+35	20.8943	21.00	O				
8+40	21.0414	21.15	O				
8+45	21.1912	21.30	O				
8+50	21.3435	21.45	O				
8+55	21.4986	21.61	O				
9+ 0	21.6565	21.77	O				
9+ 5	21.8173	21.93	O				
9+10	21.9811	22.10	O				
9+15	22.1480	22.27	O				
9+20	22.3180	22.44	O				
9+25	22.4913	22.62	O				
9+30	22.6679	22.79	O				
9+35	22.8481	22.98	O				
9+40	23.0317	23.16	O				
9+45	23.2191	23.35	O				
9+50	23.4103	23.55	O				
9+55	23.6055	23.75	O				
10+ 0	23.8047	23.95	O				
10+ 5	24.0081	24.15	O				
10+10	24.2159	24.37	O				

10+15	24.4282	24.58	O				
10+20	24.6451	24.80	O				
10+25	24.8669	25.03	O				
10+30	25.0936	25.26	O				
10+35	25.3256	25.49	O				
10+40	25.5629	25.73	O				
10+45	25.8059	25.98	O				
10+50	26.0545	26.23	O				
10+55	26.3093	26.49	O				
11+ 0	26.5702	26.76	O				
11+ 5	26.8378	27.03	O				
11+10	27.1120	27.31	O				
11+15	27.3933	27.60	O				
11+20	27.6819	27.89	O				
11+25	27.9783	28.19	O				
11+30	28.2825	28.50	O				
11+35	28.5952	28.82	O				
11+40	28.9164	29.15	O				
11+45	29.2469	29.48	O				
11+50	29.5868	29.83	O				
11+55	29.9367	30.19	OI				
12+ 0	30.2970	30.56	O				
12+ 5	30.6538	30.89	O				
12+10	30.9712	31.17	O				
12+15	31.2332	31.40	O				
12+20	31.4323	31.54	O				
12+25	31.5239	31.53	O				
12+30	31.4421	31.29	O				
12+35	31.2551	31.16	O				
12+40	31.2188	31.31	O				
12+45	31.3896	31.56	O				
12+50	31.6540	31.87	O				
12+55	31.9781	32.23	O				
13+ 0	32.3453	32.62	O				
13+ 5	32.7548	33.06	O				
13+10	33.2025	33.54	O				
13+15	33.6850	34.04	O				
13+20	34.2024	34.58	O				
13+25	34.7552	35.16	O				
13+30	35.3430	35.78	O				
13+35	35.9686	36.43	O				
13+40	36.6338	37.12	O				
13+45	37.3398	37.86	O				
13+50	38.0879	38.64	O				
13+55	38.8815	39.46	O				
14+ 0	39.7235	40.34	O				
14+ 5	40.6331	41.32	O				
14+10	41.6458	42.42	O				
14+15	42.7793	43.63	O				
14+20	44.0463	45.01	O				
14+25	45.4964	46.62	O				
14+30	47.1963	48.53	O				
14+35	49.0983	50.46	O				
14+40	50.9833	52.27	O				
14+45	52.8136	54.13	O				
14+50	54.7034	56.08	O				
14+55	56.7034	58.18	O				
15+ 0	58.8478	60.44	OI				
15+ 5	61.1673	62.89	O				

15+10	63.6953	65.59	O				
15+15	66.4784	68.57	O				
15+20	69.5650	71.90	O				
15+25	73.0264	75.66	OI				
15+30	76.9508	79.97	O				
15+35	81.4632	84.94	O				
15+40	86.7267	90.85	OI				
15+45	93.0138	98.00	O				
15+50	100.7564	107.04	OI				
15+55	110.7856	119.20	O				
16+ 0	124.8599	137.31	OI				
16+ 5	151.6110	180.91	O I				
16+10	200.7288	244.26	O I				
16+15	261.4999	303.77	O I				
16+20	328.9879	385.59	O I				
16+25	417.4953	489.87	O	I			
16+30	522.6642	600.52	O		I		
16+35	567.0103	524.44	I O				
16+40	469.2816	357.63	I	O			
16+45	343.8789	291.43	I O				
16+50	280.4121	247.40	I O				
16+55	240.3953	219.49	I O				
17+ 0	212.4690	194.48	I O				
17+ 5	188.4811	173.08	IO				
17+10	168.7981	157.18	IO				
17+15	153.1127	142.82	IO				
17+20	139.0545	129.64	IO				
17+25	126.5847	118.68	IO				
17+30	115.6053	108.03	O				
17+35	104.9572	97.46	O				
17+40	95.1246	89.00	IO				
17+45	86.9129	81.58	O				
17+50	79.7574	75.11	O				
17+55	73.2495	68.71	O				
18+ 0	66.9084	62.50	O				
18+ 5	60.5155	55.80	IO				
18+10	55.1832	52.91	O				
18+15	52.2458	50.48	O				
18+20	49.7103	47.87	O				
18+25	47.4867	46.33	O				
18+30	45.8475	44.68	IO				
18+35	44.0204	42.53	O				
18+40	42.2467	41.36	O				
18+45	41.0414	40.23	O				
18+50	39.8963	39.08	O				
18+55	38.7804	38.03	O				
19+ 0	37.5980	36.62	O				
19+ 5	36.2023	35.19	O				
19+10	34.9463	34.25	O				
19+15	33.9083	33.11	O				
19+20	32.7868	32.00	O				
19+25	31.8183	31.29	O				
19+30	30.6917	29.46	IO				
19+35	29.2352	28.52	O				
19+40	28.3393	27.84	O				
19+45	27.6464	27.17	O				
19+50	26.8976	26.28	O				
19+55	26.0368	25.44	O				
20+ 0	25.3132	24.93	O				

20+ 5	24.7929	24.45	|O	|	|	|	|
20+10	24.3223	24.00	|O	|	|	|	|
20+15	23.8819	23.58	|O	|	|	|	|
20+20	23.4656	23.18	|O	|	|	|	|
20+25	23.0697	22.80	|O	|	|	|	|
20+30	22.6926	22.43	|O	|	|	|	|
20+35	22.3324	22.08	|O	|	|	|	|
20+40	21.9867	21.75	|O	|	|	|	|
20+45	21.6552	21.43	|O	|	|	|	|
20+50	21.3369	21.12	|O	|	|	|	|
20+55	21.0314	20.82	|O	|	|	|	|
21+ 0	20.7374	20.53	|O	|	|	|	|
21+ 5	20.4533	20.26	|O	|	|	|	|
21+10	20.1788	19.99	|O	|	|	|	|
21+15	19.9136	19.73	|O	|	|	|	|
21+20	19.6568	19.48	|O	|	|	|	|
21+25	19.4084	19.24	|O	|	|	|	|
21+30	19.1674	19.00	|O	|	|	|	|
21+35	18.9327	18.77	|O	|	|	|	|
21+40	18.7050	18.55	|O	|	|	|	|
21+45	18.4840	18.33	|O	|	|	|	|
21+50	18.2694	18.12	|O	|	|	|	|
21+55	18.0605	17.92	|O	|	|	|	|
22+ 0	17.8573	17.72	|O	|	|	|	|
22+ 5	17.6596	17.52	|O	|	|	|	|
22+10	17.4674	17.33	|O	|	|	|	|
22+15	17.2803	17.15	|O	|	|	|	|
22+20	17.0982	16.97	|O	|	|	|	|
22+25	16.9209	16.80	|O	|	|	|	|
22+30	16.7481	16.63	|O	|	|	|	|
22+35	16.5796	16.46	|O	|	|	|	|
22+40	16.4153	16.30	|O	|	|	|	|
22+45	16.2550	16.14	|O	|	|	|	|
22+50	16.0986	15.99	|O	|	|	|	|
22+55	15.9459	15.84	|O	|	|	|	|
23+ 0	15.7967	15.69	|O	|	|	|	|
23+ 5	15.6510	15.55	|O	|	|	|	|
23+10	15.5086	15.41	|O	|	|	|	|
23+15	15.3694	15.27	|O	|	|	|	|
23+20	15.2333	15.14	|O	|	|	|	|
23+25	15.1001	15.01	IO	|	|	|	|
23+30	14.9698	14.88	O	|	|	|	|
23+35	14.8422	14.75	O	|	|	|	|
23+40	14.7173	14.63	O	|	|	|	|
23+45	14.5950	14.51	O	|	|	|	|
23+50	14.4752	14.39	O	|	|	|	|
23+55	14.3578	14.28	O	|	|	|	|
24+ 0	14.2427	14.16	O	|	|	|	|
24+ 5	14.0825	13.92	O	|	|	|	|
24+10	13.7595	13.43	O	|	|	|	|
24+15	13.2213	12.76	O	|	|	|	|
24+20	12.4457	11.76	O	|	|	|	|
24+25	11.2876	10.25	O	|	|	|	|
24+30	9.5369	7.97	O	|	|	|	|
24+35	7.4216	6.03	O	|	|	|	|
24+40	5.7809	4.99	O	|	|	|	|
24+45	4.7893	4.23	O	|	|	|	|
24+50	4.0640	3.63	O	|	|	|	|
24+55	3.4853	3.12	O	|	|	|	|

25+ 0	2.9956	2.68	O	|	|	|	|
25+ 5	2.5846	2.32	O	|	|	|	|
25+10	2.2355	2.01	O	|	|	|	|
25+15	1.9301	1.73	O	|	|	|	|
25+20	1.6643	1.49	O	|	|	|	|
25+25	1.4322	1.28	O	|	|	|	|
25+30	1.2272	1.09	O	|	|	|	|
25+35	1.0498	0.94	O	|	|	|	|
25+40	0.8995	0.80	O	|	|	|	|
25+45	0.7699	0.69	O	|	|	|	|
25+50	0.6575	0.58	O	|	|	|	|
25+55	0.5602	0.50	O	|	|	|	|
26+ 0	0.4789	0.43	O	|	|	|	|
26+ 5	0.4168	0.38	O	|	|	|	|
26+10	0.3712	0.34	O	|	|	|	|
26+15	0.3293	0.30	O	|	|	|	|
26+20	0.2910	0.27	O	|	|	|	|
26+25	0.2566	0.23	O	|	|	|	|
26+30	0.2242	0.20	O	|	|	|	|
26+35	0.1968	0.18	O	|	|	|	|
26+40	0.1744	0.16	O	|	|	|	|
26+45	0.1529	0.14	O	|	|	|	|
26+50	0.1320	0.12	O	|	|	|	|
26+55	0.1118	0.10	O	|	|	|	|
27+ 0	0.0926	0.08	O	|	|	|	|
27+ 5	0.0762	0.07	O	|	|	|	|
27+10	0.0619	0.05	O	|	|	|	|
27+15	0.0485	0.04	O	|	|	|	|
27+20	0.0368	0.03	O	|	|	|	|
27+25	0.0258	0.02	O	|	|	|	|
27+30	0.0165	0.01	O	|	|	|	|
27+35	0.0116	0.01	O	|	|	|	|
27+40	0.0079	0.01	O	|	|	|	|
27+45	0.0043	0.00	O	|	|	|	|
27+50	0.0014	0.00	O	|	|	|	|
27+55	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 335
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 567.010 (CFS)
Total volume = 84.598 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	600.523	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	84.598	0.000	0.000	0.000	0.000

****

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Process from Point/Station 4.100 to Point/Station 4.200

**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:

Length of stream = 4189.00 (Ft.)
Elevation difference = 75.00 (Ft.)
Slope of channel = 0.017904 (Vert/Horiz)

```
      Channel type - Improved Channel


      Channel length =  4189.00(Ft.)     Elevation difference =  75.00(Ft.)
      Channel evaluation using mean flow rate of hydrograph
      Channel base width  =  200.000(Ft.)
      Slope or 'Z' of left channel bank =   2.000
      Slope or 'Z' of right channel bank =   2.000
      Manning's 'N'    = 0.035
      Maximum depth of channel  =    1.000(Ft.)
      Flow(q) thru subarea =     40.957(CFS)
      Depth of flow =     0.136(Ft.)
      Average velocity =     1.502(Ft/s)
      Total flow rate =    40.957(CFS)
      Channel flow top width =  200.545(Ft.)
      Depth of flow in channel =   0.14(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    1.50(Ft/s)
      Travel time  =   46.49 min.
      Individual channel flow =   40.957(CFS)
      Total capacity of improved channels =     40.957(CFS)
      Critical Depth in Channel =    0.11(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =    567.010(CFS)
      Depth of flow =     0.659(Ft.)
      Average velocity =     4.277(Ft/s)
      Total flow rate =   567.010(CFS)
      Channel flow top width =  202.634(Ft.)
      Depth of flow in channel =   0.66(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    4.28(Ft/s)
      Travel time  =   46.49 min.
      Individual channel flow =  567.010(CFS)
      Total capacity of improved channels =    567.010(CFS)
      Critical Depth in Channel =    0.63(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING **********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.7156   Travel time =  16.32 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   0.6187
               dt(routing time-step) =  11.68 (min.),   c* =   0.5406

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      141.8     283.5     425.3     567.0
```

0+ 5	0.0147	0.05	O				
0+10	0.0984	0.26	O				
0+15	0.3203	0.69	O				
0+20	0.7320	1.37	O				
0+25	1.4089	2.44	O				
0+30	2.4861	4.12	O				
0+35	4.0064	6.18	O				
0+40	5.6794	7.79	O				
0+45	7.1224	8.77	O				
0+50	8.2344	9.49	O				
0+55	9.0925	10.07	O				
1+ 0	9.7764	10.57	O				
1+ 5	10.3385	11.00	O				
1+10	10.8102	11.37	O				
1+15	11.2149	11.70	O				
1+20	11.5686	12.00	O				
1+25	11.8812	12.26	O				
1+30	12.1603	12.50	O				
1+35	12.4108	12.72	O				
1+40	12.6347	12.91	O				
1+45	12.8349	13.08	O				
1+50	13.0152	13.24	O				
1+55	13.1787	13.38	O				
2+ 0	13.3268	13.51	O				
2+ 5	13.4590	13.62	O				
2+10	13.5751	13.71	O				
2+15	13.6794	13.81	O				
2+20	13.7768	13.90	O				
2+25	13.8695	13.99	O				
2+30	13.9591	14.07	O				
2+35	14.0457	14.15	O				
2+40	14.1288	14.23	OI				
2+45	14.2092	14.31	|O				
2+50	14.2885	14.39	|O				
2+55	14.3673	14.47	|O				
3+ 0	14.4458	14.55	|O				
3+ 5	14.5237	14.62	|O				
3+10	14.6003	14.70	|O				
3+15	14.6760	14.77	|O				
3+20	14.7510	14.85	|O				
3+25	14.8255	14.92	|O				
3+30	14.8996	14.99	|O				
3+35	14.9720	15.06	|O				
3+40	15.0427	15.13	|O				
3+45	15.1128	15.20	|O				
3+50	15.1827	15.27	|O				
3+55	15.2523	15.34	|O				
4+ 0	15.3214	15.41	|O				
4+ 5	15.3905	15.48	|O				
4+10	15.4598	15.55	|O				
4+15	15.5297	15.62	|O				
4+20	15.6003	15.69	|O				
4+25	15.6717	15.76	|O				
4+30	15.7439	15.84	|O				
4+35	15.8168	15.91	|O				
4+40	15.8907	15.99	|O				
4+45	15.9653	16.06	|O				
4+50	16.0408	16.14	|O				

4+55	16.1173	16.22	O				
5+ 0	16.1946	16.29	O				
5+ 5	16.2728	16.37	O				
5+10	16.3520	16.45	O				
5+15	16.4322	16.54	O				
5+20	16.5133	16.62	O				
5+25	16.5954	16.70	O				
5+30	16.6785	16.79	O				
5+35	16.7627	16.87	O				
5+40	16.8479	16.96	O				
5+45	16.9342	17.05	O				
5+50	17.0216	17.13	O				
5+55	17.1101	17.22	O				
6+ 0	17.1998	17.31	O				
6+ 5	17.2906	17.41	O				
6+10	17.3826	17.50	O				
6+15	17.4758	17.60	O				
6+20	17.5703	17.69	O				
6+25	17.6661	17.79	O				
6+30	17.7631	17.89	O				
6+35	17.8615	17.99	O				
6+40	17.9612	18.09	O				
6+45	18.0623	18.19	O				
6+50	18.1649	18.30	O				
6+55	18.2688	18.40	O				
7+ 0	18.3743	18.51	O				
7+ 5	18.4813	18.62	O				
7+10	18.5898	18.73	O				
7+15	18.6999	18.84	O				
7+20	18.8117	18.96	O				
7+25	18.9251	19.07	O				
7+30	19.0401	19.19	O				
7+35	19.1570	19.31	O				
7+40	19.2756	19.43	O				
7+45	19.3961	19.55	O				
7+50	19.5184	19.68	O				
7+55	19.6427	19.80	O				
8+ 0	19.7689	19.93	O				
8+ 5	19.8971	20.06	O				
8+10	20.0275	20.20	O				
8+15	20.1599	20.33	O				
8+20	20.2946	20.47	O				
8+25	20.4314	20.61	O				
8+30	20.5706	20.75	O				
8+35	20.7122	20.89	O				
8+40	20.8561	21.04	O				
8+45	21.0026	21.19	O				
8+50	21.1517	21.34	O				
8+55	21.3033	21.50	O				
9+ 0	21.4577	21.66	O				
9+ 5	21.6149	21.82	O				
9+10	21.7750	21.98	O				
9+15	21.9380	22.15	O				
9+20	22.1041	22.32	O				
9+25	22.2733	22.49	O				
9+30	22.4458	22.67	O				
9+35	22.6216	22.85	O				
9+40	22.8008	23.03	O				
9+45	22.9836	23.22	O				

9+50	23.1700	23.41	O				
9+55	23.3603	23.61	O				
10+ 0	23.5544	23.80	O				
10+ 5	23.7526	24.01	O				
10+10	23.9550	24.22	O				
10+15	24.1617	24.43	O				
10+20	24.3728	24.65	O				
10+25	24.5886	24.87	O				
10+30	24.8092	25.09	O				
10+35	25.0347	25.33	O				
10+40	25.2653	25.56	O				
10+45	25.5013	25.81	O				
10+50	25.7429	26.05	O				
10+55	25.9901	26.31	O				
11+ 0	26.2434	26.57	O				
11+ 5	26.5028	26.84	O				
11+10	26.7687	27.11	O				
11+15	27.0413	27.39	O				
11+20	27.3208	27.68	O				
11+25	27.6077	27.98	O				
11+30	27.9021	28.28	O				
11+35	28.2044	28.60	OI				
11+40	28.5150	28.92	O				
11+45	28.8342	29.25	O				
11+50	29.1624	29.59	O				
11+55	29.5000	29.94	O				
12+ 0	29.8475	30.30	O				
12+ 5	30.2009	30.65	O				
12+10	30.5439	30.97	O				
12+15	30.8559	31.23	O				
12+20	31.1215	31.43	O				
12+25	31.3179	31.52	O				
12+30	31.4040	31.44	O				
12+35	31.3668	31.26	O				
12+40	31.2952	31.22	O				
12+45	31.3067	31.39	O				
12+50	31.4333	31.65	O				
12+55	31.6528	31.98	O				
13+ 0	31.9422	32.35	O				
13+ 5	32.2868	32.75	O				
13+10	32.6782	33.20	O				
13+15	33.1108	33.69	O				
13+20	33.5812	34.20	O				
13+25	34.0880	34.76	O				
13+30	34.6304	35.34	O				
13+35	35.2091	35.97	O				
13+40	35.8254	36.63	O				
13+45	36.4807	37.34	O				
13+50	37.1765	38.09	O				
13+55	37.9146	38.88	O				
14+ 0	38.6977	39.72	O				
14+ 5	39.5335	40.63	O				
14+10	40.4411	41.65	O				
14+15	41.4429	42.78	OI				
14+20	42.5572	44.05	O				
14+25	43.8106	45.50	O				
14+30	45.2476	47.20	O				
14+35	46.8892	49.10	O				
14+40	48.6664	50.98	O				

14+45	50.4849	52.81	O				
14+50	52.3282	54.70	O				
14+55	54.2307	56.70	OI				
15+ 0	56.2306	58.85	OI				
15+ 5	58.3627	61.17	O				
15+10	60.6606	63.70	O				
15+15	63.1618	66.48	O				
15+20	65.9093	69.57	O				
15+25	68.9559	73.03	OI				
15+30	72.3700	76.95	O				
15+35	76.2418	81.46	O				
15+40	80.6921	86.73	OI				
15+45	85.8986	93.01	O				
15+50	92.1393	100.76	OI				
15+55	99.8991	110.79	O				
16+ 0	110.1365	124.86	OI				
16+ 5	126.3680	151.61	O I				
16+10	155.2027	200.73	O I				
16+15	198.6062	261.50	O I				
16+20	253.4760	328.99	O I				
16+25	321.6670	417.50	O I				
16+30	405.9934	522.66	O I				
16+35	482.7807	567.01	O I				
16+40	498.0986	469.28	I O				
16+45	443.7437	343.88	I O				
16+50	370.1298	280.41	I O				
16+55	309.2526	240.40	I O				
17+ 0	263.3916	212.47	I O				
17+ 5	228.4443	188.48	I O				
17+10	200.7530	168.80	I O				
17+15	178.6273	153.11	I O				
17+20	160.4866	139.05	I O				
17+25	145.0441	126.58	I O				
17+30	131.6695	115.61	IO				
17+35	119.6923	104.96	IO				
17+40	108.6858	95.12	IO				
17+45	98.8152	86.91	O				
17+50	90.1680	79.76	IO				
17+55	82.5275	73.25	O				
18+ 0	75.5509	66.91	IO				
18+ 5	68.9018	60.52	O				
18+10	62.7192	55.18	IO				
18+15	57.7368	52.25	IO				
18+20	53.9842	49.71	O				
18+25	50.9861	47.49	O				
18+30	48.5874	45.85	O				
18+35	46.5412	44.02	O				
18+40	44.6299	42.25	IO				
18+45	42.9688	41.04	IO				
18+50	41.5727	39.90	O				
18+55	40.3214	38.78	O				
19+ 0	39.1227	37.60	O				
19+ 5	37.8669	36.20	O				
19+10	36.5786	34.95	O				
19+15	35.3752	33.91	O				
19+20	34.2354	32.79	O				
19+25	33.1528	31.82	O				
19+30	32.0830	30.69	O				
19+35	30.8804	29.24	O				

19+40	29.7139	28.34	IO				
19+45	28.7565	27.65	IO				
19+50	27.9248	26.90	O				
19+55	27.1033	26.04	O				
20+ 0	26.3030	25.31	O				
20+ 5	25.6070	24.79	O				
20+10	25.0214	24.32	O				
20+15	24.5073	23.88	O				
20+20	24.0404	23.47	O				
20+25	23.6072	23.07	O				
20+30	23.2000	22.69	O				
20+35	22.8143	22.33	O				
20+40	22.4469	21.99	O				
20+45	22.0956	21.66	O				
20+50	21.7591	21.34	O				
20+55	21.4364	21.03	O				
21+ 0	21.1265	20.74	O				
21+ 5	20.8283	20.45	O				
21+10	20.5407	20.18	O				
21+15	20.2630	19.91	O				
21+20	19.9947	19.66	O				
21+25	19.7352	19.41	O				
21+30	19.4840	19.17	O				
21+35	19.2403	18.93	O				
21+40	19.0036	18.70	O				
21+45	18.7738	18.48	O				
21+50	18.5508	18.27	O				
21+55	18.3341	18.06	O				
22+ 0	18.1234	17.86	O				
22+ 5	17.9184	17.66	O				
22+10	17.7190	17.47	O				
22+15	17.5252	17.28	O				
22+20	17.3365	17.10	O				
22+25	17.1528	16.92	O				
22+30	16.9740	16.75	O				
22+35	16.7998	16.58	O				
22+40	16.6299	16.42	O				
22+45	16.4643	16.26	O				
22+50	16.3028	16.10	O				
22+55	16.1452	15.95	O				
23+ 0	15.9913	15.80	O				
23+ 5	15.8411	15.65	O				
23+10	15.6943	15.51	O				
23+15	15.5509	15.37	O				
23+20	15.4107	15.23	O				
23+25	15.2736	15.10	O				
23+30	15.1395	14.97	O				
23+35	15.0083	14.84	O				
23+40	14.8799	14.72	O				
23+45	14.7542	14.60	O				
23+50	14.6311	14.48	O				
23+55	14.5105	14.36	O				
24+ 0	14.3924	14.24	O				
24+ 5	14.2619	14.08	IO				
24+10	14.0650	13.76	O				
24+15	13.7334	13.22	O				
24+20	13.2167	12.45	O				
24+25	12.4418	11.29	O				
24+30	11.2765	9.54	O				

24+35	9.6819	7.42	O	|	|	|	|
24+40	7.9526	5.78	O	|	|	|	|
24+45	6.4719	4.79	O	|	|	|	|
24+50	5.3380	4.06	O	|	|	|	|
24+55	4.4703	3.49	O	|	|	|	|
25+ 0	3.7864	3.00	O	|	|	|	|
25+ 5	3.2318	2.58	O	|	|	|	|
25+10	2.7739	2.24	O	|	|	|	|
25+15	2.3884	1.93	O	|	|	|	|
25+20	2.0584	1.66	O	|	|	|	|
25+25	1.7736	1.43	O	|	|	|	|
25+30	1.5256	1.23	O	|	|	|	|
25+35	1.3094	1.05	O	|	|	|	|
25+40	1.1226	0.90	O	|	|	|	|
25+45	0.9619	0.77	O	|	|	|	|
25+50	0.8234	0.66	O	|	|	|	|
25+55	0.7036	0.56	O	|	|	|	|
26+ 0	0.6009	0.48	O	|	|	|	|
26+ 5	0.5158	0.42	O	|	|	|	|
26+10	0.4482	0.37	O	|	|	|	|
26+15	0.3936	0.33	O	|	|	|	|
26+20	0.3470	0.29	O	|	|	|	|
26+25	0.3061	0.26	O	|	|	|	|
26+30	0.2693	0.22	O	|	|	|	|
26+35	0.2365	0.20	O	|	|	|	|
26+40	0.2081	0.17	O	|	|	|	|
26+45	0.1832	0.15	O	|	|	|	|
26+50	0.1604	0.13	O	|	|	|	|
26+55	0.1388	0.11	O	|	|	|	|
27+ 0	0.1183	0.09	O	|	|	|	|
27+ 5	0.0993	0.08	O	|	|	|	|
27+10	0.0824	0.06	O	|	|	|	|
27+15	0.0672	0.05	O	|	|	|	|
27+20	0.0535	0.04	O	|	|	|	|
27+25	0.0411	0.03	O	|	|	|	|
27+30	0.0299	0.02	O	|	|	|	|
27+35	0.0212	0.01	O	|	|	|	|
27+40	0.0149	0.01	O	|	|	|	|
27+45	0.0100	0.00	O	|	|	|	|
27+50	0.0060	0.00	O	|	|	|	|
27+55	0.0031	0.00	O	|	|	|	|
28+ 0	0.0014	0.00	O	|	|	|	|
28+ 5	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 337
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 498.099 (CFS)
Total volume = 84.598 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	600.523	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	84.598	0.000	0.000	0.000	0.000

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Process from Point/Station 4.200 to Point/Station 4.200
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFK10024.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	1563.6	3127.2	4690.8	6254.4
0+ 5	1.1621	1.18	Q				
0+10	3.5476	3.65	Q				
0+15	6.8988	7.22	Q				
0+20	11.0548	11.79	Q				
0+25	16.0462	17.46	Q				
0+30	22.1928	24.68	Q				
0+35	29.3824	33.39	Q				
0+40	39.3423	45.02	Q				
0+45	52.6114	59.73	Q				
0+50	67.9182	76.15	Q				
0+55	84.3156	93.41	Q				
1+ 0	104.2019	113.98	Q				
1+ 5	128.9655	139.30	Q				
1+10	144.9575	155.77	Q				
1+15	156.8234	168.04	|Q				
1+20	166.4143	177.98	|Q				
1+25	174.8390	186.72	|Q				
1+30	182.3637	194.52	|Q				
1+35	189.1758	201.59	|Q				
1+40	195.3563	207.99	|Q				
1+45	201.0322	213.87	|Q				
1+50	206.4800	219.50	|Q				
1+55	211.6675	224.85	|Q				
2+ 0	216.2630	229.59	|Q				
2+ 5	220.8124	234.27	|Q				
2+10	225.2375	238.81	|Q				
2+15	229.0924	242.77	|Q				
2+20	232.8623	246.64	|Q				
2+25	236.6334	250.50	|Q				
2+30	240.0503	254.01	|Q				
2+35	243.3841	257.43	|Q				
2+40	246.7198	260.85	|Q				
2+45	249.8331	264.04	|Q				
2+50	252.8064	267.09	|Q				
2+55	255.8077	270.17	|Q				
3+ 0	258.6594	273.11	|Q				
3+ 5	261.3599	275.88	|Q				
3+10	264.0646	278.66	|Q				
3+15	266.6863	281.36	|Q				
3+20	269.0646	283.82	|Q				
3+25	271.4614	286.29	|Q				
3+30	273.8205	288.72	|Q				
3+35	276.0342	291.01	|Q				
3+40	278.2313	293.27	|Q				

3+45	280.4425	295.56	|Q	|	|	|
3+50	282.5328	297.72	|Q	|	|	|
3+55	284.6220	299.87	|Q	|	|	|
4+ 0	286.7093	302.03	|Q	|	|	|
4+ 5	288.7019	304.09	|Q	|	|	|
4+10	290.6411	306.10	|Q	|	|	|
4+15	292.6091	308.14	|Q	|	|	|
4+20	294.4276	310.03	|Q	|	|	|
4+25	296.1434	311.82	|Q	|	|	|
4+30	297.8608	313.60	|qQ	|	|	|
4+35	299.6079	315.42	|qQ	|	|	|
4+40	301.3567	317.25	|qQ	|	|	|
4+45	303.1361	319.10	|qQ	|	|	|
4+50	304.8971	320.94	|qQ	|	|	|
4+55	306.6230	322.74	|qQ	|	|	|
5+ 0	308.3457	324.54	|qQ	|	|	|
5+ 5	310.1004	326.37	|qQ	|	|	|
5+10	311.8573	328.21	|qQ	|	|	|
5+15	313.6471	330.08	| Q	|	|	|
5+20	315.4344	331.95	| Q	|	|	|
5+25	317.1727	333.77	| Q	|	|	|
5+30	318.8844	335.56	| Q	|	|	|
5+35	320.6307	337.39	| Q	|	|	|
5+40	322.3797	339.23	| Q	|	|	|
5+45	324.1643	341.10	| Q	|	|	|
5+50	325.9520	342.97	| Q	|	|	|
5+55	327.7585	344.87	| Q	|	|	|
6+ 0	329.5446	346.74	| Q	|	|	|
6+ 5	331.3684	348.66	| Q	|	|	|
6+10	333.1958	350.58	| Q	|	|	|
6+15	335.0623	352.54	| Q	|	|	|
6+20	336.9329	354.50	| Q	|	|	|
6+25	338.8387	356.50	| Q	|	|	|
6+30	340.7240	358.49	| Q	|	|	|
6+35	342.6477	360.51	| Q	|	|	|
6+40	344.5761	362.54	| Q	|	|	|
6+45	346.5478	364.61	| Q	|	|	|
6+50	348.5247	366.69	| Q	|	|	|
6+55	350.5460	368.81	| Q	|	|	|
7+ 0	352.5568	370.93	| Q	|	|	|
7+ 5	354.6055	373.09	| Q	|	|	|
7+10	356.6605	375.25	| Q	|	|	|
7+15	358.7636	377.46	| Q	|	|	|
7+20	360.8736	379.69	| Q	|	|	|
7+25	363.0334	381.96	| Q	|	|	|
7+30	365.1770	384.22	| Q	|	|	|
7+35	367.3239	386.48	| Q	|	|	|
7+40	369.4779	388.75	| Q	|	|	|
7+45	371.6855	391.08	| Q	|	|	|
7+50	373.9019	393.42	| Q	|	|	|
7+55	376.1741	395.82	| Q	|	|	|
8+ 0	378.4558	398.22	| Q	|	|	|
8+ 5	380.7957	400.69	| Q	|	|	|
8+10	383.1461	403.17	| Q	|	|	|
8+15	385.5571	405.72	| Q	|	|	|
8+20	387.9732	408.27	| Q	|	|	|
8+25	390.4065	410.84	| Q	|	|	|
8+30	392.8523	413.42	| Q	|	|	|
8+35	395.3638	416.08	| Q	|	|	|

8+40	397.8888	418.74	Q			
8+45	400.4825	421.49	Q			
8+50	403.0911	424.24	Q			
8+55	405.7716	427.07	Q			
9+ 0	408.4682	429.93	Q			
9+ 5	411.2401	432.86	Q			
9+10	414.0297	435.80	Q			
9+15	416.8983	438.84	Q			
9+20	419.7861	441.89	Q			
9+25	422.7568	445.03	Q			
9+30	425.7487	448.19	Q			
9+35	428.8275	451.45	Q			
9+40	431.9295	454.73	Q			
9+45	435.1231	458.11	Q			
9+50	438.3419	461.51	Q			
9+55	441.6572	465.02	Q			
10+ 0	445.0002	468.55	Q			
10+ 5	448.4449	472.20	qQ			
10+10	451.9199	475.87	qQ			
10+15	455.5025	479.66	qQ			
10+20	459.1182	483.49	qQ			
10+25	462.8477	487.44	qQ			
10+30	466.6135	491.42	qQ			
10+35	470.4999	495.53	Q			
10+40	474.4263	499.69	Q			
10+45	478.4806	503.98	Q			
10+50	482.5789	508.32	Q			
10+55	486.8132	512.80	Q			
11+ 0	491.0960	517.34	Q			
11+ 5	495.5235	522.03	Q			
11+10	500.0045	526.77	Q			
11+15	504.6401	531.68	Q			
11+20	509.3347	536.66	Q			
11+25	514.1946	541.80	Q			
11+30	519.1197	547.02	Q			
11+35	524.2222	552.43	Q			
11+40	529.3969	557.91	Q			
11+45	534.7621	563.60	Q			
11+50	540.2077	569.37	Q			
11+55	545.8584	575.36	Q			
12+ 0	551.5985	581.45	Q			
12+ 5	557.3760	587.58	Q			
12+10	563.0587	593.60	Q			
12+15	568.8269	599.68	Q			
12+20	574.5771	605.70	Q			
12+25	580.4528	611.77	Q			
12+30	586.2675	617.67	Q			
12+35	592.1970	623.56	Q			
12+40	597.8234	629.12	qQ			
12+45	603.2297	634.54	qQ			
12+50	608.4633	639.90	qQ			
12+55	613.8551	645.51	qQ			
13+ 0	618.8628	650.80	qQ			
13+ 5	623.4604	655.75	qQ			
13+10	629.6376	662.32	Q			
13+15	636.8724	669.98	Q			
13+20	644.6951	678.28	Q			
13+25	653.1577	687.25	Q			
13+30	662.0279	696.66	Q			

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13+35     671.5237    706.73  |   Q     |          |          |          |
13+40     681.4285    717.25  |   Q     |          |          |          |
13+45     691.9934    728.47  |   Q     |          |          |          |
13+50     702.9568    740.13  |   Q     |          |          |          |
13+55     714.6224    752.54  |   Q     |          |          |          |
14+ 0     726.8092    765.51  |   Q     |          |          |          |
14+ 5     742.6577    782.19  |   qQ    |          |          |          |
14+10     762.0904    802.53  |   qQ    |          |          |          |
14+15     784.9239    826.37  |    Q    |          |          |          |
14+20     810.4186    852.98  |    Q    |          |          |          |
14+25     839.0702    882.88  |    Q    |          |          |          |
14+30     871.4476    916.70  |    Q    |          |          |          |
14+35     907.7246    954.61  |    qQ   |          |          |          |
14+40     951.8896   1000.56  |     Q   |          |          |          |
14+45    1005.9039   1056.39  |     Q   |          |          |          |
14+50    1066.2936   1118.62  |     qQ  |          |          |          |
14+55    1131.3554   1185.59  |      Q  |          |          |          |
15+ 0    1206.7570   1262.99  |      qQ |          |          |          |
15+ 5    1296.7796   1355.14  |       Q |          |          |          |
15+10    1367.0948   1427.76  |       qQ|          |          |          |
15+15    1430.2336   1493.40  |        Q|          |          |          |
15+20    1490.3837   1556.29  |        Q|          |          |          |
15+25    1546.3761   1615.33  |        qQ          |          |          |
15+30    1598.1816   1670.55  |         Q          |          |          |
15+35    1649.1671   1725.41  |         qQ         |          |          |
15+40    1700.0470   1780.74  |         qQ         |          |          |
15+45    1754.0037   1839.90  |         |Q         |          |          |
15+50    1811.0531   1903.19  |         |qQ        |          |          |
15+55    1881.0845   1980.98  |         | Q        |          |          |
16+ 0    1966.1854   2076.32  |         | qQ       |          |          |
16+ 5    2193.1600   2319.53  |         |   Q      |          |          |
16+10    2423.1050   2578.31  |         |    qQ    |          |          |
16+15    2616.5226   2815.13  |         |     q Q  |          |          |
16+20    2777.6206   3031.10  |         |      q Q|          |          |
16+25    2934.6396   3256.31  |         |       q Q          |          |
16+30    3185.1534   3591.15  |         |         q Q        |          |
16+35    3475.1045   3957.89  |         |         | q  Q     |          |
16+40    3987.5469   4485.65  |         |         |    q  Q  |          |
16+45    4542.2444   4985.99  |         |         |       q|Q          |
16+50    4909.0376   5279.17  |         |         |         |q Q        |
16+55    5161.1287   5470.38  |         |         |         |  qQ       |
17+ 0    5614.2135   5877.61  |         |         |         |    q Q    |
17+ 5    6025.9518   6254.40  |         |         |         |       q Q
17+10    4761.6847   4962.44  |         |         |         qQ         |
17+15    4064.9636   4243.59  |         |         |    q Q  |          |
17+20    3658.9170   3819.40  |         |         |  qQ     |          |
17+25    3437.6436   3582.69  |         |         |qQ       |          |
17+30    3230.7329   3362.40  |         |         qQ        |          |
17+35    3041.0774   3160.77  |         |        qQ         |          |
17+40    2861.2284   2969.91  |         |       Q |         |          |
17+45    2694.6857   2793.50  |         |      Q  |         |          |
17+50    2562.9244   2653.09  |         |     Q   |         |          |
17+55    2424.1184   2506.65  |         |    qQ   |         |          |
18+ 0    2247.3829   2322.93  |         |   Q     |         |          |
18+ 5    2124.1333   2193.04  |         |  qQ     |         |          |
18+10    2017.1430   2079.86  |         | qQ      |         |          |
18+15    1872.1830   1929.92  |         |qQ       |         |          |
18+20    1796.0901   1850.07  |         |Q        |         |          |
18+25    1732.5854   1783.57  |         |Q        |         |          |
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18+30	1636.1214	1684.71	Q	|	|	|
18+35	1572.6843	1619.23	Q	|	|	|
18+40	1525.2388	1569.87	qQ	|	|	|
18+45	1453.0122	1495.98	Q|	|	|	|
18+50	1395.7239	1437.30	qQ|	|	|	|
18+55	1357.1646	1397.49	Q |	|	|	|
19+ 0	1303.5119	1342.63	Q |	|	|	|
19+ 5	1249.4448	1287.31	qQ |	|	|	|
19+10	1215.4109	1251.99	qQ |	|	|	|
19+15	1169.3073	1204.68	Q |	|	|	|
19+20	1109.4806	1143.72	Q |	|	|	|
19+25	1078.8239	1111.98	qQ |	|	|	|
19+30	1045.9314	1078.01	Q |	|	|	|
19+35	999.3999	1030.28	Q |	|	|	|
19+40	971.9077	1001.62	Q |	|	|	|
19+45	946.4752	975.23	Q |	|	|	|
19+50	909.6919	937.62	Q |	|	|	|
19+55	884.0286	911.13	Q |	|	|	|
20+ 0	861.1160	887.42	Q |	|	|	|
20+ 5	825.4785	851.09	Q |	|	|	|
20+10	798.1327	823.15	Q |	|	|	|
20+15	776.8505	801.36	qQ |	|	|	|
20+20	739.1805	763.22	Q |	|	|	|
20+25	706.1500	729.76	Q |	|	|	|
20+30	690.8330	714.03	Q |	|	|	|
20+35	677.3442	700.16	Q |	|	|	|
20+40	663.8882	686.34	Q |	|	|	|
20+45	650.1348	672.23	Q |	|	|	|
20+50	634.3704	656.13	Q |	|	|	|
20+55	614.2477	635.68	qQ |	|	|	|
21+ 0	602.2912	623.42	Q |	|	|	|
21+ 5	591.8358	612.66	Q |	|	|	|
21+10	581.7165	602.26	Q |	|	|	|
21+15	571.0198	591.28	Q |	|	|	|
21+20	559.4368	579.43	Q |	|	|	|
21+25	539.6537	559.39	Q |	|	|	|
21+30	527.2532	546.74	Q |	|	|	|
21+35	519.0270	538.27	Q |	|	|	|
21+40	511.2615	530.27	Q |	|	|	|
21+45	503.3357	522.11	Q |	|	|	|
21+50	495.3424	513.89	Q |	|	|	|
21+55	485.5483	503.88	Q |	|	|	|
22+ 0	475.5707	493.69	Q |	|	|	|
22+ 5	468.8135	486.73	qQ |	|	|	|
22+10	462.3481	480.07	qQ |	|	|	|
22+15	455.9434	473.47	qQ |	|	|	|
22+20	449.4087	466.75	Q |	|	|	|
22+25	442.2833	459.44	Q |	|	|	|
22+30	433.2080	450.18	Q |	|	|	|
22+35	427.0287	443.83	Q |	|	|	|
22+40	421.4928	438.12	Q |	|	|	|
22+45	416.0542	432.52	Q |	|	|	|
22+50	410.5895	426.89	Q |	|	|	|
22+55	405.1701	421.32	Q |	|	|	|
23+ 0	398.0601	414.05	Q |	|	|	|
23+ 5	392.1123	407.95	Q |	|	|	|
23+10	387.3250	403.02	Q |	|	|	|
23+15	382.5644	398.12	Q |	|	|	|
23+20	377.5906	393.00	Q |	|	|	|

23+25	372.0532	387.33	| Q	|	|	|	|
23+30	363.5391	378.68	| Q	|	|	|	|
23+35	352.7138	367.72	| Q	|	|	|	|
23+40	348.1303	363.01	| Q	|	|	|	|
23+45	344.2392	358.99	| Q	|	|	|	|
23+50	340.4436	355.07	| Q	|	|	|	|
23+55	336.5420	351.05	| Q	|	|	|	|
24+ 0	332.7685	347.16	| Q	|	|	|	|
24+ 5	327.8681	342.13	| Q	|	|	|	|
24+10	321.7387	335.80	| Q	|	|	|	|
24+15	314.3434	328.08	| Q	|	|	|	|
24+20	305.0980	318.31	|qQ	|	|	|	|
24+25	290.8570	303.30	|Q	|	|	|	|
24+30	281.4509	292.73	|Q	|	|	|	|
24+35	271.5366	281.22	|Q	|	|	|	|
24+40	259.0810	267.03	|Q	|	|	|	|
24+45	243.3457	249.82	|Q	|	|	|	|
24+50	225.8198	231.16	|Q	|	|	|	|
24+55	207.4525	211.92	|Q	|	|	|	|
25+ 0	185.8471	189.63	|Q	|	|	|	|
25+ 5	159.6431	162.87	|Q	|	|	|	|
25+10	142.5025	145.28	Q	|	|	|	|
25+15	129.7062	132.09	Q	|	|	|	|
25+20	119.3540	121.41	Q	|	|	|	|
25+25	110.4278	112.20	Q	|	|	|	|
25+30	102.5068	104.03	Q	|	|	|	|
25+35	95.4073	96.72	Q	|	|	|	|
25+40	89.0259	90.15	Q	|	|	|	|
25+45	83.2471	84.21	Q	|	|	|	|
25+50	77.7674	78.59	Q	|	|	|	|
25+55	72.6345	73.34	Q	|	|	|	|
26+ 0	68.1551	68.76	Q	|	|	|	|
26+ 5	63.7974	64.31	Q	|	|	|	|
26+10	59.6159	60.06	Q	|	|	|	|
26+15	56.0749	56.47	Q	|	|	|	|
26+20	52.6607	53.01	Q	|	|	|	|
26+25	49.3003	49.61	Q	|	|	|	|
26+30	46.3334	46.60	Q	|	|	|	|
26+35	43.5066	43.74	Q	|	|	|	|
26+40	40.7113	40.92	Q	|	|	|	|
26+45	38.1930	38.38	Q	|	|	|	|
26+50	35.8441	36.00	Q	|	|	|	|
26+55	33.5175	33.66	Q	|	|	|	|
27+ 0	31.3670	31.49	Q	|	|	|	|
27+ 5	29.4156	29.51	Q	|	|	|	|
27+10	27.4827	27.57	Q	|	|	|	|
27+15	25.6783	25.75	Q	|	|	|	|
27+20	24.1377	24.19	Q	|	|	|	|
27+25	22.6207	22.66	Q	|	|	|	|
27+30	21.1586	21.19	Q	|	|	|	|
27+35	19.8831	19.90	Q	|	|	|	|
27+40	18.6390	18.65	Q	|	|	|	|
27+45	17.4200	17.43	Q	|	|	|	|
27+50	16.3358	16.34	Q	|	|	|	|
27+55	15.2909	15.29	Q	|	|	|	|
28+ 0	14.2600	14.26	Q	|	|	|	|
28+ 5	13.3617	13.36	Q	|	|	|	|
28+10	12.5273	12.53	Q	|	|	|	|
28+15	11.7005	11.70	Q	|	|	|	|

28+20	11.0329	11.03	Q	|	|	|	|
28+25	10.5031	10.50	Q	|	|	|	|
28+30	9.9785	9.98	Q	|	|	|	|
28+35	9.4589	9.46	Q	|	|	|	|
28+40	8.9441	8.94	Q	|	|	|	|
28+45	8.4341	8.43	Q	|	|	|	|
28+50	7.9491	7.95	Q	|	|	|	|
28+55	7.5347	7.53	Q	|	|	|	|
29+ 0	7.1293	7.13	Q	|	|	|	|
29+ 5	6.7276	6.73	Q	|	|	|	|
29+10	6.3296	6.33	Q	|	|	|	|
29+15	5.9350	5.94	Q	|	|	|	|
29+20	5.5490	5.55	Q	|	|	|	|
29+25	5.2491	5.25	Q	|	|	|	|
29+30	4.9808	4.98	Q	|	|	|	|
29+35	4.7150	4.71	Q	|	|	|	|
29+40	4.4515	4.45	Q	|	|	|	|
29+45	4.1904	4.19	Q	|	|	|	|
29+50	3.9316	3.93	Q	|	|	|	|
29+55	3.6928	3.69	Q	|	|	|	|
30+ 0	3.4798	3.48	Q	|	|	|	|
30+ 5	3.2688	3.27	Q	|	|	|	|
30+10	3.0596	3.06	Q	|	|	|	|
30+15	2.8522	2.85	Q	|	|	|	|
30+20	2.6465	2.65	Q	|	|	|	|
30+25	2.4477	2.45	Q	|	|	|	|
30+30	2.2753	2.28	Q	|	|	|	|
30+35	2.1078	2.11	Q	|	|	|	|
30+40	1.9415	1.94	Q	|	|	|	|
30+45	1.7767	1.78	Q	|	|	|	|
30+50	1.6131	1.61	Q	|	|	|	|
30+55	1.4513	1.45	Q	|	|	|	|
31+ 0	1.3069	1.31	Q	|	|	|	|
31+ 5	1.1721	1.17	Q	|	|	|	|
31+10	1.0382	1.04	Q	|	|	|	|
31+15	0.9055	0.91	Q	|	|	|	|
31+20	0.7737	0.77	Q	|	|	|	|
31+25	0.6429	0.64	Q	|	|	|	|
31+30	0.5367	0.54	Q	|	|	|	|
31+35	0.4798	0.48	Q	|	|	|	|
31+40	0.4242	0.42	Q	|	|	|	|
31+45	0.3690	0.37	Q	|	|	|	|
31+50	0.3142	0.31	Q	|	|	|	|
31+55	0.2598	0.26	Q	|	|	|	|
32+ 0	0.2058	0.21	Q	|	|	|	|
32+ 5	0.1522	0.15	Q	|	|	|	|
32+10	0.0990	0.10	Q	|	|	|	|
32+15	0.0462	0.05	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 387
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 6254.396 (CFS)
Total volume = 1730.417 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	600.523	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	84.598	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 08/10/17

164309 - NRG COOLWATER SOLAR FACILITY - DAGGETT, CA
OFFSITE AREAS "J" & "L" ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-10-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFJ10024.rte
**********HYDROGRAPH DATA**********
Number of intervals = 333
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1201.045 (CFS)
Total volume = 169.197 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 5.000 to Point/Station 5.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 84.60(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	150.1	300.3	450.4	600.5
0+ 5	0.0009	0.13	Q	|	|	|	|
0+10	0.0045	0.51	Q	|	|	|	|
0+15	0.0120	1.09	Q	|	|	|	|
0+20	0.0257	1.99	Q	|	|	|	|
0+25	0.0492	3.42	Q	|	|	|	|
0+30	0.0881	5.64	Q	|	|	|	|
0+35	0.1400	7.55	Q	|	|	|	|

0+40	0.1990	8.57	Q				
0+45	0.2633	9.32	Q				
0+50	0.3316	9.92	Q				
0+55	0.4036	10.45	Q				
1+ 0	0.4786	10.89	Q				
1+ 5	0.5562	11.27	Q				
1+10	0.6362	11.61	Q				
1+15	0.7183	11.92	Q				
1+20	0.8022	12.19	Q				
1+25	0.8879	12.44	Q				
1+30	0.9751	12.66	Q				
1+35	1.0636	12.86	Q				
1+40	1.1534	13.03	Q				
1+45	1.2442	13.19	Q				
1+50	1.3361	13.34	Q				
1+55	1.4289	13.47	Q				
2+ 0	1.5225	13.59	Q				
2+ 5	1.6168	13.69	Q				
2+10	1.7117	13.78	Q				
2+15	1.8073	13.87	Q				
2+20	1.9034	13.96	Q				
2+25	2.0002	14.05	Q				
2+30	2.0975	14.13	Q				
2+35	2.1953	14.21	QV				
2+40	2.2938	14.29	QV				
2+45	2.3927	14.37	QV				
2+50	2.4922	14.44	QV				
2+55	2.5922	14.52	QV				
3+ 0	2.6928	14.60	QV				
3+ 5	2.7938	14.68	QV				
3+10	2.8954	14.75	QV				
3+15	2.9975	14.83	QV				
3+20	3.1001	14.90	QV				
3+25	3.2033	14.97	QV				
3+30	3.3069	15.04	|Q				
3+35	3.4109	15.11	|Q				
3+40	3.5155	15.18	|Q				
3+45	3.6205	15.25	|Q				
3+50	3.7260	15.32	|Q				
3+55	3.8320	15.39	|Q				
4+ 0	3.9385	15.46	|Q				
4+ 5	4.0454	15.53	|Q				
4+10	4.1529	15.60	|Q				
4+15	4.2608	15.67	|QV				
4+20	4.3692	15.74	|QV				
4+25	4.4781	15.81	|QV				
4+30	4.5875	15.89	|QV				
4+35	4.6975	15.96	|QV				
4+40	4.8080	16.04	|QV				
4+45	4.9189	16.12	|QV				
4+50	5.0305	16.19	|QV				
4+55	5.1425	16.27	|QV				
5+ 0	5.2551	16.35	|QV				
5+ 5	5.3683	16.43	|QV				
5+10	5.4820	16.51	|QV				
5+15	5.5963	16.59	|QV				
5+20	5.7111	16.68	|QV				
5+25	5.8265	16.76	|QV				
5+30	5.9426	16.85	|QV				

5+35	6.0592	16.93	QV				
5+40	6.1764	17.02	QV				
5+45	6.2942	17.11	QV				
5+50	6.4126	17.20	Q V				
5+55	6.5317	17.29	Q V				
6+ 0	6.6514	17.38	Q V				
6+ 5	6.7717	17.47	Q V				
6+10	6.8927	17.57	Q V				
6+15	7.0144	17.66	Q V				
6+20	7.1367	17.76	Q V				
6+25	7.2597	17.86	Q V				
6+30	7.3834	17.96	Q V				
6+35	7.5077	18.06	Q V				
6+40	7.6328	18.16	Q V				
6+45	7.7586	18.27	Q V				
6+50	7.8851	18.37	Q V				
6+55	8.0124	18.48	Q V				
7+ 0	8.1404	18.59	Q V				
7+ 5	8.2692	18.70	Q V				
7+10	8.3987	18.81	Q V				
7+15	8.5290	18.92	Q V				
7+20	8.6601	19.04	Q V				
7+25	8.7920	19.15	Q V				
7+30	8.9248	19.27	Q V				
7+35	9.0583	19.39	Q V				
7+40	9.1927	19.51	Q V				
7+45	9.3280	19.64	Q V				
7+50	9.4641	19.77	Q V				
7+55	9.6011	19.89	Q V				
8+ 0	9.7390	20.02	Q V				
8+ 5	9.8778	20.16	Q V				
8+10	10.0176	20.29	Q V				
8+15	10.1582	20.43	Q V				
8+20	10.2999	20.57	Q V				
8+25	10.4425	20.71	Q V				
8+30	10.5861	20.85	Q V				
8+35	10.7307	21.00	Q V				
8+40	10.8764	21.15	Q V				
8+45	11.0230	21.30	Q V				
8+50	11.1708	21.45	Q V				
8+55	11.3196	21.61	Q V				
9+ 0	11.4695	21.77	Q V				
9+ 5	11.6206	21.93	Q V				
9+10	11.7728	22.10	Q V				
9+15	11.9261	22.27	Q V				
9+20	12.0807	22.44	Q V				
9+25	12.2364	22.62	Q V				
9+30	12.3934	22.79	Q V				
9+35	12.5517	22.98	Q V				
9+40	12.7112	23.16	Q V				
9+45	12.8720	23.35	Q V				
9+50	13.0342	23.55	Q V				
9+55	13.1977	23.75	Q V				
10+ 0	13.3627	23.95	Q V				
10+ 5	13.5290	24.15	Q V				
10+10	13.6968	24.37	Q V				
10+15	13.8661	24.58	Q V				
10+20	14.0369	24.80	Q V				
10+25	14.2093	25.03	Q V				

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10+30      14.3832     25.26  |Q    V   |          |          |          |
10+35      14.5588     25.49  |Q    V   |          |          |          |
10+40      14.7360     25.73  |Q    V   |          |          |          |
10+45      14.9149     25.98  |Q     V  |          |          |          |
10+50      15.0956     26.23  |Q     V  |          |          |          |
10+55      15.2781     26.49  |Q     V  |          |          |          |
11+ 0      15.4623     26.76  |Q     V  |          |          |          |
11+ 5      15.6485     27.03  |Q     V  |          |          |          |
11+10      15.8366     27.31  |Q     V  |          |          |          |
11+15      16.0266     27.60  |Q     V  |          |          |          |
11+20      16.2187     27.89  |Q     V  |          |          |          |
11+25      16.4129     28.19  |Q     V  |          |          |          |
11+30      16.6092     28.50  |Q     V  |          |          |          |
11+35      16.8076     28.82  |Q     V  |          |          |          |
11+40      17.0084     29.15  |Q      V |          |          |          |
11+45      17.2115     29.48  |Q      V |          |          |          |
11+50      17.4169     29.83  |Q      V |          |          |          |
11+55      17.6248     30.19  | Q     V |          |          |          |
12+ 0      17.8353     30.56  | Q     V |          |          |          |
12+ 5      18.0480     30.89  | Q     V |          |          |          |
12+10      18.2627     31.17  | Q     V |          |          |          |
12+15      18.4789     31.40  | Q     V |          |          |          |
12+20      18.6961     31.54  | Q     V |          |          |          |
12+25      18.9133     31.53  | Q     V |          |          |          |
12+30      19.1288     31.29  | Q      V|          |          |          |
12+35      19.3433     31.16  | Q      V|          |          |          |
12+40      19.5590     31.31  | Q      V|          |          |          |
12+45      19.7763     31.56  | Q      V|          |          |          |
12+50      19.9958     31.87  | Q      V|          |          |          |
12+55      20.2177     32.23  | Q      V|          |          |          |
13+ 0      20.4424     32.62  | Q      V|          |          |          |
13+ 5      20.6701     33.06  | Q      V|          |          |          |
13+10      20.9011     33.54  | Q      V|          |          |          |
13+15      21.1355     34.04  | Q      V|          |          |          |
13+20      21.3737     34.58  | Q       V          |          |          |
13+25      21.6159     35.16  | Q       V          |          |          |
13+30      21.8623     35.78  | Q       V          |          |          |
13+35      22.1132     36.43  | Q       V          |          |          |
13+40      22.3688     37.12  | Q       V          |          |          |
13+45      22.6295     37.86  | Q       V          |          |          |
13+50      22.8956     38.64  | Q       V          |          |          |
13+55      23.1674     39.46  | Q       V          |          |          |
14+ 0      23.4453     40.34  | Q        V         |          |          |
14+ 5      23.7298     41.32  | Q       |V         |          |          |
14+10      24.0220     42.42  | Q       |V         |          |          |
14+15      24.3225     43.63  | Q       |V         |          |          |
14+20      24.6325     45.01  | Q       |V         |          |          |
14+25      24.9535     46.62  |  Q      |V         |          |          |
14+30      25.2878     48.53  |  Q      |V         |          |          |
14+35      25.6353     50.46  |  Q      | V        |          |          |
14+40      25.9953     52.27  |  Q      | V        |          |          |
14+45      26.3681     54.13  |  Q      | V        |          |          |
14+50      26.7543     56.08  |  Q      | V        |          |          |
14+55      27.1550     58.18  |  Q      | V        |          |          |
15+ 0      27.5712     60.44  |   Q     |  V       |          |          |
15+ 5      28.0044     62.89  |   Q     |  V       |          |          |
15+10      28.4561     65.59  |   Q     |  V       |          |          |
15+15      28.9283     68.57  |   Q     |  V       |          |          |
15+20      29.4235     71.90  |   Q     |  V       |          |          |
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15+25	29.9446	75.66	Q	V			
15+30	30.4953	79.97	Q	V			
15+35	31.0804	84.94	Q	V			
15+40	31.7060	90.85	Q	V			
15+45	32.3809	98.00	Q	V			
15+50	33.1181	107.04	Q	V			
15+55	33.9390	119.20	Q	V			
16+ 0	34.8847	137.31	Q	V			
16+ 5	36.1306	180.91	Q	V			
16+10	37.8128	244.26	QV				
16+15	39.9049	303.77	V Q				
16+20	42.5605	385.59	V	Q			
16+25	45.9342	489.87	V		Q		
16+30	50.0701	600.52	V				Q
16+35	53.6819	524.44	V		Q		
16+40	56.1449	357.63	Q V				
16+45	58.1520	291.43	Q	V			
16+50	59.8558	247.40	Q	V			
16+55	61.3675	219.49	Q	V			
17+ 0	62.7069	194.48	Q	V			
17+ 5	63.8989	173.08	Q	V			
17+10	64.9814	157.18	Q	V			
17+15	65.9650	142.82	Q	V			
17+20	66.8578	129.64	Q	V			
17+25	67.6752	118.68	Q	V			
17+30	68.4192	108.03	Q	V			
17+35	69.0905	97.46	Q	V			
17+40	69.7034	89.00	Q	V			
17+45	70.2653	81.58	Q	V			
17+50	70.7826	75.11	Q	V			
17+55	71.2558	68.71	Q	V			
18+ 0	71.6862	62.50	Q	V			
18+ 5	72.0705	55.80	Q	V			
18+10	72.4348	52.91	Q	V			
18+15	72.7825	50.48	Q	V			
18+20	73.1122	47.87	Q	V			
18+25	73.4313	46.33	Q	V			
18+30	73.7390	44.68	Q	V			
18+35	74.0319	42.53	Q	V			
18+40	74.3167	41.36	Q	V			
18+45	74.5938	40.23	Q	V			
18+50	74.8630	39.08	Q	V			
18+55	75.1249	38.03	Q	V			
19+ 0	75.3771	36.62	Q	V			
19+ 5	75.6195	35.19	Q	V			
19+10	75.8554	34.25	Q	V			
19+15	76.0834	33.11	Q	V			
19+20	76.3038	32.00	Q	V			
19+25	76.5193	31.29	Q	V			
19+30	76.7222	29.46	Q	V			
19+35	76.9186	28.52	Q	V			
19+40	77.1103	27.84	Q	V			
19+45	77.2975	27.17	Q	V			
19+50	77.4784	26.28	Q	V			
19+55	77.6537	25.44	Q	V			
20+ 0	77.8254	24.93	Q	V			
20+ 5	77.9937	24.45	Q	V			
20+10	78.1591	24.00	Q	V			
20+15	78.3215	23.58	Q	V			

20+20	78.4811	23.18	|Q	|	|	|	V |
20+25	78.6381	22.80	|Q	|	|	|	V |
20+30	78.7926	22.43	|Q	|	|	|	V |
20+35	78.9447	22.08	|Q	|	|	|	V |
20+40	79.0945	21.75	|Q	|	|	|	V |
20+45	79.2421	21.43	|Q	|	|	|	V |
20+50	79.3875	21.12	|Q	|	|	|	V |
20+55	79.5309	20.82	|Q	|	|	|	V |
21+ 0	79.6723	20.53	|Q	|	|	|	V |
21+ 5	79.8118	20.26	|Q	|	|	|	V |
21+10	79.9495	19.99	|Q	|	|	|	V |
21+15	80.0853	19.73	|Q	|	|	|	V |
21+20	80.2195	19.48	|Q	|	|	|	V |
21+25	80.3520	19.24	|Q	|	|	|	V |
21+30	80.4828	19.00	|Q	|	|	|	V |
21+35	80.6121	18.77	|Q	|	|	|	V |
21+40	80.7398	18.55	|Q	|	|	|	V |
21+45	80.8661	18.33	|Q	|	|	|	V |
21+50	80.9909	18.12	|Q	|	|	|	V |
21+55	81.1142	17.92	|Q	|	|	|	V |
22+ 0	81.2362	17.72	|Q	|	|	|	V |
22+ 5	81.3569	17.52	|Q	|	|	|	V |
22+10	81.4763	17.33	|Q	|	|	|	V |
22+15	81.5944	17.15	|Q	|	|	|	V |
22+20	81.7113	16.97	|Q	|	|	|	V |
22+25	81.8270	16.80	|Q	|	|	|	V |
22+30	81.9415	16.63	|Q	|	|	|	V |
22+35	82.0549	16.46	|Q	|	|	|	V |
22+40	82.1671	16.30	|Q	|	|	|	V |
22+45	82.2783	16.14	|Q	|	|	|	V |
22+50	82.3884	15.99	|Q	|	|	|	V |
22+55	82.4975	15.84	|Q	|	|	|	V|
23+ 0	82.6056	15.69	|Q	|	|	|	V|
23+ 5	82.7127	15.55	|Q	|	|	|	V|
23+10	82.8188	15.41	|Q	|	|	|	V|
23+15	82.9240	15.27	|Q	|	|	|	V|
23+20	83.0282	15.14	|Q	|	|	|	V|
23+25	83.1316	15.01	Q	|	|	|	V|
23+30	83.2341	14.88	Q	|	|	|	V|
23+35	83.3357	14.75	Q	|	|	|	V|
23+40	83.4364	14.63	Q	|	|	|	V|
23+45	83.5364	14.51	Q	|	|	|	V|
23+50	83.6355	14.39	Q	|	|	|	V|
23+55	83.7338	14.28	Q	|	|	|	V|
24+ 0	83.8313	14.16	Q	|	|	|	V|
24+ 5	83.9272	13.92	Q	|	|	|	V|
24+10	84.0197	13.43	Q	|	|	|	V|
24+15	84.1075	12.76	Q	|	|	|	V|
24+20	84.1885	11.76	Q	|	|	|	V|
24+25	84.2591	10.25	Q	|	|	|	V|
24+30	84.3140	7.97	Q	|	|	|	V|
24+35	84.3555	6.03	Q	|	|	|	V|
24+40	84.3899	4.99	Q	|	|	|	V|
24+45	84.4190	4.23	Q	|	|	|	V|
24+50	84.4440	3.63	Q	|	|	|	V|
24+55	84.4655	3.12	Q	|	|	|	V|
25+ 0	84.4840	2.68	Q	|	|	|	V|
25+ 5	84.5000	2.32	Q	|	|	|	V|
25+10	84.5138	2.01	Q	|	|	|	V|

```
   25+15      84.5257      1.73  Q         |          |          |         V|
   25+20      84.5360      1.49  Q         |          |          |         V|
   25+25      84.5448      1.28  Q         |          |          |         V|
   25+30      84.5523      1.09  Q         |          |          |         V|
   25+35      84.5588      0.94  Q         |          |          |         V|
   25+40      84.5643      0.80  Q         |          |          |         V|
   25+45      84.5691      0.69  Q         |          |          |         V|
   25+50      84.5731      0.58  Q         |          |          |         V|
   25+55      84.5765      0.50  Q         |          |          |         V|
   26+ 0      84.5795      0.43  Q         |          |          |         V|
   26+ 5      84.5821      0.38  Q         |          |          |         V|
   26+10      84.5844      0.34  Q         |          |          |         V|
   26+15      84.5865      0.30  Q         |          |          |         V|
   26+20      84.5884      0.27  Q         |          |          |         V|
   26+25      84.5900      0.23  Q         |          |          |         V|
   26+30      84.5914      0.20  Q         |          |          |         V|
   26+35      84.5926      0.18  Q         |          |          |         V|
   26+40      84.5937      0.16  Q         |          |          |         V|
   26+45      84.5946      0.14  Q         |          |          |         V|
   26+50      84.5955      0.12  Q         |          |          |         V|
   26+55      84.5961      0.10  Q         |          |          |         V|
   27+ 0      84.5967      0.08  Q         |          |          |         V|
   27+ 5      84.5971      0.07  Q         |          |          |         V|
   27+10      84.5975      0.05  Q         |          |          |         V|
   27+15      84.5978      0.04  Q         |          |          |         V|
   27+20      84.5980      0.03  Q         |          |          |         V|
   27+25      84.5981      0.02  Q         |          |          |         V|
   27+30      84.5982      0.01  Q         |          |          |         V|
   27+35      84.5982      0.01  Q         |          |          |         V|
   27+40      84.5983      0.01  Q         |          |          |         V|
   27+45      84.5983      0.00  Q         |          |          |          V
------------------------------------------------------------------------
       ***************************HYDROGRAPH DATA****************************
                     Number of intervals =   333
                     Time interval =    5.0 (Min.)
                     Maximum/Peak flow rate =      600.523 (CFS)
                     Total volume =      84.598 (Ac.Ft)
              Status of hydrographs being held in storage
                        Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
              Peak (CFS)    600.523     0.000     0.000     0.000     0.000
              Vol (Ac.Ft)     84.598     0.000     0.000     0.000     0.000
       ************************************************************************

       ------------------------------------------------------------------


       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
       Process from Point/Station        5.000 to Point/Station        5.100
       **** STREAM ROUTING SCS CONVEX METHOD ****
       ________________________________________________________________________
       HYDROGRAPH STREAM ROUTING DATA:
       Length of stream =   2289.00 (Ft.)
       Elevation difference =   50.00 (Ft.)
       Slope of channel =  0.021844 (Vert/Horiz)
       Channel type - Improved Channel


       Channel length =  2289.00(Ft.)     Elevation difference =  50.00(Ft.)
       Channel evaluation using mean flow rate of hydrograph
```

```
      Channel base width  =   60.000(Ft.)
      Slope or 'Z' of left channel bank =   2.000
      Slope or 'Z' of right channel bank =   2.000
      Manning's 'N'    = 0.035
      Maximum depth of channel  =    5.000(Ft.)
      Flow(q) thru subarea =     40.761(CFS)
      Depth of flow =     0.263(Ft.)
      Average velocity =     2.559(Ft/s)
      Total flow rate =    40.761(CFS)
      Channel flow top width =   61.053(Ft.)
      Depth of flow in channel =   0.26(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    2.56(Ft/s)
      Travel time  =   23.43 min.
      Individual channel flow =   40.761(CFS)
      Total capacity of improved channels =     40.761(CFS)
      Critical Depth in Channel =    0.24(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =    600.523(CFS)
      Depth of flow =     1.316(Ft.)
      Average velocity =     7.286(Ft/s)
      Total flow rate =   600.523(CFS)
      Channel flow top width =   65.264(Ft.)
      Depth of flow in channel =   1.32(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    7.29(Ft/s)
      Travel time  =   23.43 min.
      Individual channel flow =  600.523(CFS)
      Total capacity of improved channels =    600.523(CFS)
      Critical Depth in Channel =    1.44(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING *********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.8108   Travel time =   5.24 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   1.1184
               dt(routing time-step) =   4.25 (min.),   c* =   0.8447

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      150.1     300.3     450.4     600.5
----------------------------------------------------------------------
  0+ 5       0.0172      0.13  O         |         |         |         |
  0+10       0.1649      0.51  O         |         |         |         |
  0+15       0.5325      1.09  O         |         |         |         |
  0+20       1.1164      1.99  O         |         |         |         |
```

0+25	2.0370	3.42	O	|	|	|	|
0+30	3.4896	5.64	O	|	|	|	|
0+35	5.5471	7.55	O	|	|	|	|
0+40	7.3673	8.57	O	|	|	|	|
0+45	8.4763	9.32	O	|	|	|	|
0+50	9.2693	9.92	O	|	|	|	|
0+55	9.8893	10.45	O	|	|	|	|
1+ 0	10.4170	10.89	O	|	|	|	|
1+ 5	10.8673	11.27	O	|	|	|	|
1+10	11.2533	11.61	O	|	|	|	|
1+15	11.5968	11.92	O	|	|	|	|
1+20	11.9033	12.19	O	|	|	|	|
1+25	12.1765	12.44	O	|	|	|	|
1+30	12.4248	12.66	O	|	|	|	|
1+35	12.6489	12.86	O	|	|	|	|
1+40	12.8467	13.03	O	|	|	|	|
1+45	13.0246	13.19	O	|	|	|	|
1+50	13.1859	13.34	O	|	|	|	|
1+55	13.3339	13.47	O	|	|	|	|
2+ 0	13.4676	13.59	O	|	|	|	|
2+ 5	13.5854	13.69	O	|	|	|	|
2+10	13.6837	13.78	O	|	|	|	|
2+15	13.7777	13.87	O	|	|	|	|
2+20	13.8694	13.96	O	|	|	|	|
2+25	13.9573	14.05	O	|	|	|	|
2+30	14.0444	14.13	O	|	|	|	|
2+35	14.1286	14.21	O	|	|	|	|
2+40	14.2073	14.29	O	|	|	|	|
2+45	14.2856	14.37	O	|	|	|	|
2+50	14.3639	14.44	O	|	|	|	|
2+55	14.4423	14.52	O	|	|	|	|
3+ 0	14.5209	14.60	O	|	|	|	|
3+ 5	14.5980	14.68	O	|	|	|	|
3+10	14.6731	14.75	O	|	|	|	|
3+15	14.7482	14.83	O	|	|	|	|
3+20	14.8225	14.90	O	|	|	|	|
3+25	14.8963	14.97	O	|	|	|	|
3+30	14.9706	15.04	OI	|	|	|	|
3+35	15.0408	15.11	|O	|	|	|	|
3+40	15.1099	15.18	|O	|	|	|	|
3+45	15.1795	15.25	|O	|	|	|	|
3+50	15.2495	15.32	|O	|	|	|	|
3+55	15.3187	15.39	|O	|	|	|	|
4+ 0	15.3872	15.46	|O	|	|	|	|
4+ 5	15.4562	15.53	|O	|	|	|	|
4+10	15.5259	15.60	|O	|	|	|	|
4+15	15.5964	15.67	|O	|	|	|	|
4+20	15.6676	15.74	|O	|	|	|	|
4+25	15.7397	15.81	|O	|	|	|	|
4+30	15.8126	15.89	|O	|	|	|	|
4+35	15.8864	15.96	|O	|	|	|	|
4+40	15.9610	16.04	|O	|	|	|	|
4+45	16.0365	16.12	|O	|	|	|	|
4+50	16.1128	16.19	|O	|	|	|	|
4+55	16.1901	16.27	|O	|	|	|	|
5+ 0	16.2683	16.35	|O	|	|	|	|
5+ 5	16.3474	16.43	|O	|	|	|	|
5+10	16.4275	16.51	|O	|	|	|	|
5+15	16.5086	16.59	|O	|	|	|	|

5+20	16.5906	16.68	O				
5+25	16.6737	16.76	O				
5+30	16.7578	16.85	O				
5+35	16.8429	16.93	O				
5+40	16.9291	17.02	O				
5+45	17.0165	17.11	O				
5+50	17.1049	17.20	O				
5+55	17.1945	17.29	O				
6+ 0	17.2852	17.38	O				
6+ 5	17.3772	17.47	O				
6+10	17.4703	17.57	O				
6+15	17.5648	17.66	O				
6+20	17.6604	17.76	O				
6+25	17.7574	17.86	O				
6+30	17.8556	17.96	O				
6+35	17.9553	18.06	O				
6+40	18.0563	18.16	O				
6+45	18.1588	18.27	O				
6+50	18.2626	18.37	O				
6+55	18.3680	18.48	O				
7+ 0	18.4748	18.59	O				
7+ 5	18.5833	18.70	O				
7+10	18.6932	18.81	O				
7+15	18.8049	18.92	O				
7+20	18.9181	19.04	O				
7+25	19.0332	19.15	O				
7+30	19.1498	19.27	O				
7+35	19.2684	19.39	O				
7+40	19.3887	19.51	O				
7+45	19.5109	19.64	O				
7+50	19.6350	19.77	O				
7+55	19.7612	19.89	O				
8+ 0	19.8892	20.02	O				
8+ 5	20.0194	20.16	O				
8+10	20.1517	20.29	O				
8+15	20.2862	20.43	O				
8+20	20.4229	20.57	O				
8+25	20.5620	20.71	O				
8+30	20.7033	20.85	O				
8+35	20.8471	21.00	O				
8+40	20.9934	21.15	O				
8+45	21.1423	21.30	O				
8+50	21.2937	21.45	O				
8+55	21.4480	21.61	O				
9+ 0	21.6049	21.77	O				
9+ 5	21.7648	21.93	O				
9+10	21.9275	22.10	O				
9+15	22.0935	22.27	O				
9+20	22.2624	22.44	O				
9+25	22.4347	22.62	O				
9+30	22.6101	22.79	O				
9+35	22.7892	22.98	O				
9+40	22.9716	23.16	O				
9+45	23.1579	23.35	O				
9+50	23.3478	23.55	O				
9+55	23.5417	23.75	O				
10+ 0	23.7395	23.95	O				
10+ 5	23.9416	24.15	O				
10+10	24.1479	24.37	O				

10+15	24.3588	24.58	O				
10+20	24.5741	24.80	O				
10+25	24.7944	25.03	O				
10+30	25.0194	25.26	O				
10+35	25.2498	25.49	O				
10+40	25.4852	25.73	O				
10+45	25.7264	25.98	O				
10+50	25.9731	26.23	O				
10+55	26.2260	26.49	O				
11+ 0	26.4848	26.76	O				
11+ 5	26.7502	27.03	O				
11+10	27.0221	27.31	O				
11+15	27.3013	27.60	O				
11+20	27.5873	27.89	O				
11+25	27.8813	28.19	O				
11+30	28.1827	28.50	O				
11+35	28.4928	28.82	O				
11+40	28.8110	29.15	O				
11+45	29.1386	29.48	O				
11+50	29.4752	29.83	O				
11+55	29.8221	30.19	OI				
12+ 0	30.1788	30.56	O				
12+ 5	30.5414	30.89	O				
12+10	30.8750	31.17	O				
12+15	31.1534	31.40	O				
12+20	31.3771	31.54	O				
12+25	31.5106	31.53	O				
12+30	31.4932	31.29	O				
12+35	31.3037	31.16	O				
12+40	31.1984	31.31	O				
12+45	31.3244	31.56	O				
12+50	31.5615	31.87	O				
12+55	31.8688	32.23	O				
13+ 0	32.2215	32.62	O				
13+ 5	32.6176	33.06	O				
13+10	33.0533	33.54	O				
13+15	33.5248	34.04	O				
13+20	34.0303	34.58	O				
13+25	34.5722	35.16	O				
13+30	35.1480	35.78	O				
13+35	35.7614	36.43	O				
13+40	36.4133	37.12	O				
13+45	37.1063	37.86	O				
13+50	37.8401	38.64	O				
13+55	38.6189	39.46	O				
14+ 0	39.4442	40.34	O				
14+ 5	40.3276	41.32	O				
14+10	41.3031	42.42	O				
14+15	42.3989	43.63	O				
14+20	43.6169	45.01	O				
14+25	45.0015	46.62	OI				
14+30	46.6106	48.53	O				
14+35	48.4796	50.46	O				
14+40	50.3857	52.27	O				
14+45	52.2137	54.13	O				
14+50	54.0781	56.08	O				
14+55	56.0394	58.18	O				
15+ 0	58.1328	60.44	OI				
15+ 5	60.3938	62.89	O				

```
15+10      62.8475     65.59  |   O     |          |          |          |
15+15      65.5448     68.57  |   O     |          |          |          |
15+20      68.5239     71.90  |   O     |          |          |          |
15+25      71.8573     75.66  |   OI    |          |          |          |
15+30      75.6161     79.97  |    O    |          |          |          |
15+35      79.9257     84.94  |    O    |          |          |          |
15+40      84.9173     90.85  |    OI   |          |          |          |
15+45      90.8368     98.00  |     O   |          |          |          |
15+50      98.0368    107.04  |     OI  |          |          |          |
15+55     107.1890    119.20  |      O  |          |          |          |
16+ 0     119.6405    137.31  |      O I|          |          |          |
16+ 5     140.1181    180.91  |        O| I        |          |          |
16+10     182.6477    244.26  |         | O   I    |          |          |
16+15     242.2696    303.77  |         |     O   I|          |          |
16+20     304.6433    385.59  |         |          O    I     |          |
16+25     386.3070    489.87  |         |          |    O     | I        |
16+30     487.8805    600.52  |         |          |          | O       I|
16+35     573.3303    524.44  |         |          |          |   I   O  |
16+40     510.7751    357.63  |         |          |  I       |   O      |
16+45     372.9814    291.43  |         |        I|   O      |          |
16+50     298.4886    247.40  |         |     I  O|          |          |
16+55     251.7788    219.49  |         |   I O   |          |          |
17+ 0     221.3200    194.48  |         | I O     |          |          |
17+ 5     195.9227    173.08  |         |I O      |          |          |
17+10     174.6039    157.18  |         IO        |          |          |
17+15     158.0553    142.82  |        IO         |          |          |
17+20     143.5035    129.64  |       IO|         |          |          |
17+25     130.3972    118.68  |      IO |         |          |          |
17+30     119.1434    108.03  |      O  |         |          |          |
17+35     108.4123     97.46  |     IO  |         |          |          |
17+40      98.0864     89.00  |    IO   |         |          |          |
17+45      89.4687     81.58  |    O    |         |          |          |
17+50      81.9826     75.11  |    O    |         |          |          |
17+55      75.3592     68.71  |   IO    |         |          |          |
18+ 0      68.9488     62.50  |   O     |         |          |          |
18+ 5      62.6479     55.80  |  IO     |         |          |          |
18+10      56.4927     52.91  |  O      |         |          |          |
18+15      53.1544     50.48  |  O      |         |          |          |
18+20      50.5607     47.87  |  O      |         |          |          |
18+25      48.0933     46.33  |  O      |         |          |          |
18+30      46.3944     44.68  | IO      |         |          |          |
18+35      44.6702     42.53  | O       |         |          |          |
18+40      42.7133     41.36  | O       |         |          |          |
18+45      41.4300     40.23  | O       |         |          |          |
18+50      40.2720     39.08  | O       |         |          |          |
18+55      39.1325     38.03  | O       |         |          |          |
19+ 0      38.0211     36.62  | O       |         |          |          |
19+ 5      36.6585     35.19  | O       |         |          |          |
19+10      35.2986     34.25  | O       |         |          |          |
19+15      34.2688     33.11  | O       |         |          |          |
19+20      33.1475     32.00  | O       |         |          |          |
19+25      32.0890     31.29  | O       |         |          |          |
19+30      31.1818     29.46  |IO       |         |          |          |
19+35      29.6096     28.52  |O        |         |          |          |
19+40      28.6002     27.84  |O        |         |          |          |
19+45      27.8715     27.17  |O        |         |          |          |
19+50      27.1671     26.28  |O        |         |          |          |
19+55      26.3093     25.44  |O        |         |          |          |
20+ 0      25.5128     24.93  |O        |         |          |          |
```

20+ 5	24.9582	24.45	|O	|	|	|	|
20+10	24.4724	24.00	|O	|	|	|	|
20+15	24.0224	23.58	|O	|	|	|	|
20+20	23.5987	23.18	|O	|	|	|	|
20+25	23.1963	22.80	|O	|	|	|	|
20+30	22.8131	22.43	|O	|	|	|	|
20+35	22.4479	22.08	|O	|	|	|	|
20+40	22.0974	21.75	|O	|	|	|	|
20+45	21.7614	21.43	|O	|	|	|	|
20+50	21.4389	21.12	|O	|	|	|	|
20+55	21.1293	20.82	|O	|	|	|	|
21+ 0	20.8318	20.53	|O	|	|	|	|
21+ 5	20.5446	20.26	|O	|	|	|	|
21+10	20.2670	19.99	|O	|	|	|	|
21+15	19.9988	19.73	|O	|	|	|	|
21+20	19.7394	19.48	|O	|	|	|	|
21+25	19.4881	19.24	|O	|	|	|	|
21+30	19.2451	19.00	|O	|	|	|	|
21+35	19.0082	18.77	|O	|	|	|	|
21+40	18.7782	18.55	|O	|	|	|	|
21+45	18.5551	18.33	|O	|	|	|	|
21+50	18.3385	18.12	|O	|	|	|	|
21+55	18.1278	17.92	|O	|	|	|	|
22+ 0	17.9227	17.72	|O	|	|	|	|
22+ 5	17.7232	17.52	|O	|	|	|	|
22+10	17.5293	17.33	|O	|	|	|	|
22+15	17.3406	17.15	|O	|	|	|	|
22+20	17.1569	16.97	|O	|	|	|	|
22+25	16.9780	16.80	|O	|	|	|	|
22+30	16.8037	16.63	|O	|	|	|	|
22+35	16.6338	16.46	|O	|	|	|	|
22+40	16.4682	16.30	|O	|	|	|	|
22+45	16.3067	16.14	|O	|	|	|	|
22+50	16.1490	15.99	|O	|	|	|	|
22+55	15.9951	15.84	|O	|	|	|	|
23+ 0	15.8448	15.69	|O	|	|	|	|
23+ 5	15.6980	15.55	|O	|	|	|	|
23+10	15.5545	15.41	|O	|	|	|	|
23+15	15.4143	15.27	|O	|	|	|	|
23+20	15.2772	15.14	|O	|	|	|	|
23+25	15.1430	15.01	IO	|	|	|	|
23+30	15.0118	14.88	O	|	|	|	|
23+35	14.8833	14.75	O	|	|	|	|
23+40	14.7576	14.63	O	|	|	|	|
23+45	14.6345	14.51	O	|	|	|	|
23+50	14.5138	14.39	O	|	|	|	|
23+55	14.3957	14.28	O	|	|	|	|
24+ 0	14.2799	14.16	O	|	|	|	|
24+ 5	14.1492	13.92	O	|	|	|	|
24+10	13.8907	13.43	O	|	|	|	|
24+15	13.4163	12.76	O	|	|	|	|
24+20	12.7321	11.76	O	|	|	|	|
24+25	11.7200	10.25	O	|	|	|	|
24+30	10.1884	7.97	O	|	|	|	|
24+35	8.0701	6.03	O	|	|	|	|
24+40	6.2114	4.99	O	|	|	|	|
24+45	5.0833	4.23	O	|	|	|	|
24+50	4.2832	3.63	O	|	|	|	|
24+55	3.6651	3.12	O	|	|	|	|

25+ 0	3.1462	2.68	O	|	|	|	|
25+ 5	2.7106	2.32	O	|	|	|	|
25+10	2.3444	2.01	O	|	|	|	|
25+15	2.0251	1.73	O	|	|	|	|
25+20	1.7466	1.49	O	|	|	|	|
25+25	1.5049	1.28	O	|	|	|	|
25+30	1.2910	1.09	O	|	|	|	|
25+35	1.1042	0.94	O	|	|	|	|
25+40	0.9460	0.80	O	|	|	|	|
25+45	0.8101	0.69	O	|	|	|	|
25+50	0.6925	0.58	O	|	|	|	|
25+55	0.5902	0.50	O	|	|	|	|
26+ 0	0.5035	0.43	O	|	|	|	|
26+ 5	0.4343	0.38	O	|	|	|	|
26+10	0.3858	0.34	O	|	|	|	|
26+15	0.3427	0.30	O	|	|	|	|
26+20	0.3028	0.27	O	|	|	|	|
26+25	0.2677	0.23	O	|	|	|	|
26+30	0.2344	0.20	O	|	|	|	|
26+35	0.2049	0.18	O	|	|	|	|
26+40	0.1817	0.16	O	|	|	|	|
26+45	0.1598	0.14	O	|	|	|	|
26+50	0.1387	0.12	O	|	|	|	|
26+55	0.1184	0.10	O	|	|	|	|
27+ 0	0.0986	0.08	O	|	|	|	|
27+ 5	0.0812	0.07	O	|	|	|	|
27+10	0.0665	0.05	O	|	|	|	|
27+15	0.0527	0.04	O	|	|	|	|
27+20	0.0404	0.03	O	|	|	|	|
27+25	0.0295	0.02	O	|	|	|	|
27+30	0.0188	0.01	O	|	|	|	|
27+35	0.0131	0.01	O	|	|	|	|
27+40	0.0091	0.01	O	|	|	|	|
27+45	0.0055	0.00	O	|	|	|	|
27+50	0.0021	0.00	O	|	|	|	|
27+55	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 335
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 573.330 (CFS)
Total volume = 84.598 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	600.523	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	84.598	0.000	0.000	0.000	0.000

****

++++++++++

Process from Point/Station 5.100 to Point/Station 5.200

**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:

Length of stream = 2487.00 (Ft.)
Elevation difference = 75.00 (Ft.)
Slope of channel = 0.030157 (Vert/Horiz)

```
      Channel type - Improved Channel


      Channel length =  2487.00(Ft.)     Elevation difference =  75.00(Ft.)
      Channel evaluation using mean flow rate of hydrograph
      Channel base width  =  200.000(Ft.)
      Slope or 'Z' of left channel bank =   2.000
      Slope or 'Z' of right channel bank =   2.000
      Manning's 'N'    = 0.035
      Maximum depth of channel  =    1.000(Ft.)
      Flow(q) thru subarea =     41.713(CFS)
      Depth of flow =     0.118(Ft.)
      Average velocity =     1.769(Ft/s)
      Total flow rate =    41.713(CFS)
      Channel flow top width =  200.471(Ft.)
      Depth of flow in channel =   0.12(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    1.77(Ft/s)
      Travel time  =   23.43 min.
      Individual channel flow =   41.713(CFS)
      Total capacity of improved channels =     41.713(CFS)
      Critical Depth in Channel =    0.11(Ft.)


      Channel evaluation using maximum flow rate of hydrograph
      Flow(q) thru subarea =    573.330(CFS)
      Depth of flow =     0.567(Ft.)
      Average velocity =     5.027(Ft/s)
      Total flow rate =   573.330(CFS)
      Channel flow top width =  202.268(Ft.)
      Depth of flow in channel =   0.57(Ft.)
      Total number of channels (same dimensions) = 1
      Flow Velocity =    5.03(Ft/s)
      Travel time  =   23.43 min.
      Individual channel flow =  573.330(CFS)
      Total capacity of improved channels =    573.330(CFS)
      Critical Depth in Channel =    0.63(Ft.)


      ********************** SCS CONVEX CHANNEL ROUTING **********************
      Convex method of stream routing  data items:
      Using equation: Outflow =
      O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
                where c* = 1 - (1-c)^e and dt = c(length)/velocity
                c(v/v+1.7) =   0.7473   Travel time =   8.24 (min.)
               dt*(unit time interval) =   5.00(min.),  e=   0.8743
               dt(routing time-step) =   6.16 (min.),   c* =   0.6996

      Output hydrograph delayed by 0  unit time increments


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        P R I N T  O F  S T O R M
                     R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
Time(h+m) Out = O(CFS) In = I  0      143.3     286.7     430.0     573.3
```

0+ 5	0.0023	0.02	O				
0+10	0.0322	0.16	O				
0+15	0.1735	0.53	O				
0+20	0.5017	1.12	O				
0+25	1.0532	2.04	O				
0+30	1.9330	3.49	O				
0+35	3.2934	5.55	O				
0+40	5.1102	7.37	O				
0+45	6.8355	8.48	O				
0+50	8.0881	9.27	O				
0+55	8.9963	9.89	O				
1+ 0	9.6906	10.42	O				
1+ 5	10.2582	10.87	O				
1+10	10.7352	11.25	O				
1+15	11.1430	11.60	O				
1+20	11.5009	11.90	O				
1+25	11.8184	12.18	O				
1+30	12.1017	12.42	O				
1+35	12.3573	12.65	O				
1+40	12.5874	12.85	O				
1+45	12.7923	13.02	O				
1+50	12.9761	13.19	O				
1+55	13.1424	13.33	O				
2+ 0	13.2940	13.47	O				
2+ 5	13.4310	13.59	O				
2+10	13.5520	13.68	O				
2+15	13.6565	13.78	O				
2+20	13.7534	13.87	O				
2+25	13.8462	13.96	O				
2+30	13.9354	14.04	O				
2+35	14.0228	14.13	O				
2+40	14.1072	14.21	O				
2+45	14.1876	14.29	O				
2+50	14.2665	14.36	OI				
2+55	14.3450	14.44	|O				
3+ 0	14.4234	14.52	|O				
3+ 5	14.5018	14.60	|O				
3+10	14.5790	14.67	|O				
3+15	14.6547	14.75	|O				
3+20	14.7299	14.82	|O				
3+25	14.8044	14.90	|O				
3+30	14.8785	14.97	|O				
3+35	14.9522	15.04	|O				
3+40	15.0233	15.11	|O				
3+45	15.0931	15.18	|O				
3+50	15.1627	15.25	|O				
3+55	15.2326	15.32	|O				
4+ 0	15.3019	15.39	|O				
4+ 5	15.3706	15.46	|O				
4+10	15.4397	15.53	|O				
4+15	15.5093	15.60	|O				
4+20	15.5796	15.67	|O				
4+25	15.6507	15.74	|O				
4+30	15.7226	15.81	|O				
4+35	15.7953	15.89	|O				
4+40	15.8689	15.96	|O				
4+45	15.9433	16.04	|O				
4+50	16.0186	16.11	|O				

4+55	16.0947	16.19	O				
5+ 0	16.1718	16.27	O				
5+ 5	16.2497	16.35	O				
5+10	16.3287	16.43	O				
5+15	16.4085	16.51	O				
5+20	16.4893	16.59	O				
5+25	16.5711	16.67	O				
5+30	16.6540	16.76	O				
5+35	16.7378	16.84	O				
5+40	16.8227	16.93	O				
5+45	16.9087	17.02	O				
5+50	16.9958	17.10	O				
5+55	17.0839	17.19	O				
6+ 0	17.1733	17.29	O				
6+ 5	17.2637	17.38	O				
6+10	17.3554	17.47	O				
6+15	17.4482	17.56	O				
6+20	17.5424	17.66	O				
6+25	17.6377	17.76	O				
6+30	17.7344	17.86	O				
6+35	17.8323	17.96	O				
6+40	17.9317	18.06	O				
6+45	18.0324	18.16	O				
6+50	18.1345	18.26	O				
6+55	18.2380	18.37	O				
7+ 0	18.3430	18.47	O				
7+ 5	18.4495	18.58	O				
7+10	18.5576	18.69	O				
7+15	18.6672	18.80	O				
7+20	18.7785	18.92	O				
7+25	18.8914	19.03	O				
7+30	19.0060	19.15	O				
7+35	19.1223	19.27	O				
7+40	19.2404	19.39	O				
7+45	19.3603	19.51	O				
7+50	19.4820	19.64	O				
7+55	19.6057	19.76	O				
8+ 0	19.7313	19.89	O				
8+ 5	19.8590	20.02	O				
8+10	19.9887	20.15	O				
8+15	20.1205	20.29	O				
8+20	20.2545	20.42	O				
8+25	20.3906	20.56	O				
8+30	20.5291	20.70	O				
8+35	20.6699	20.85	O				
8+40	20.8132	20.99	O				
8+45	20.9589	21.14	O				
8+50	21.1072	21.29	O				
8+55	21.2580	21.45	O				
9+ 0	21.4116	21.60	O				
9+ 5	21.5679	21.76	O				
9+10	21.7271	21.93	O				
9+15	21.8892	22.09	O				
9+20	22.0544	22.26	O				
9+25	22.2226	22.43	O				
9+30	22.3941	22.61	O				
9+35	22.5689	22.79	O				
9+40	22.7471	22.97	O				
9+45	22.9287	23.16	O				

9+50	23.1141	23.35	O				
9+55	23.3032	23.54	O				
10+ 0	23.4961	23.74	O				
10+ 5	23.6930	23.94	O				
10+10	23.8942	24.15	O				
10+15	24.0995	24.36	O				
10+20	24.3093	24.57	O				
10+25	24.5236	24.79	O				
10+30	24.7427	25.02	O				
10+35	24.9667	25.25	O				
10+40	25.1958	25.49	O				
10+45	25.4301	25.73	O				
10+50	25.6699	25.97	O				
10+55	25.9154	26.23	O				
11+ 0	26.1668	26.48	O				
11+ 5	26.4243	26.75	O				
11+10	26.6882	27.02	O				
11+15	26.9586	27.30	O				
11+20	27.2361	27.59	O				
11+25	27.5206	27.88	O				
11+30	27.8127	28.18	O				
11+35	28.1125	28.49	O				
11+40	28.4205	28.81	OI				
11+45	28.7369	29.14	O				
11+50	29.0624	29.48	O				
11+55	29.3970	29.82	O				
12+ 0	29.7414	30.18	O				
12+ 5	30.0952	30.54	O				
12+10	30.4514	30.87	O				
12+15	30.7844	31.15	O				
12+20	31.0721	31.38	O				
12+25	31.3031	31.51	O				
12+30	31.4460	31.49	O				
12+35	31.4540	31.30	O				
12+40	31.3349	31.20	O				
12+45	31.2561	31.32	O				
12+50	31.3351	31.56	O				
12+55	31.5340	31.87	O				
13+ 0	31.8147	32.22	O				
13+ 5	32.1515	32.62	O				
13+10	32.5351	33.05	O				
13+15	32.9598	33.52	O				
13+20	33.4217	34.03	O				
13+25	33.9190	34.57	O				
13+30	34.4519	35.15	O				
13+35	35.0198	35.76	O				
13+40	35.6246	36.41	O				
13+45	36.2677	37.11	O				
13+50	36.9512	37.84	O				
13+55	37.6758	38.62	O				
14+ 0	38.4444	39.44	O				
14+ 5	39.2604	40.33	O				
14+10	40.1356	41.30	O				
14+15	41.0969	42.40	O				
14+20	42.1684	43.62	OI				
14+25	43.3644	45.00	O				
14+30	44.7219	46.61	O				
14+35	46.2897	48.48	O				
14+40	48.0732	50.39	O				

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14+45      49.9321     52.21  |  O      |          |          |          |
14+50      51.7742     54.08  |  O      |          |          |          |
14+55      53.6447     56.04  |  O      |          |          |          |
15+ 0      55.5961     58.13  |  OI     |          |          |          |
15+ 5      57.6690     60.39  |   O     |          |          |          |
15+10      59.8989     62.85  |   O     |          |          |          |
15+15      62.3175     65.54  |   O     |          |          |          |
15+20      64.9682     68.52  |   O     |          |          |          |
15+25      67.8954     71.86  |   OI    |          |          |          |
15+30      71.1629     75.62  |   OI    |          |          |          |
15+35      74.8467     79.93  |    O    |          |          |          |
15+40      79.0584     84.92  |    O    |          |          |          |
15+45      83.9380     90.84  |    OI   |          |          |          |
15+50      89.7140     98.04  |     O   |          |          |          |
15+55      96.7437    107.19  |     OI  |          |          |          |
16+ 0     105.6935    119.64  |      OI |          |          |          |
16+ 5     118.1515    140.12  |       OI|          |          |          |
16+10     139.1282    182.65  |        O| I        |          |          |
16+15     177.4377    242.27  |         | O   I    |          |          |
16+20     231.0208    304.64  |         |     O    |I         |          |
16+25     293.2977    386.31  |         |          O     I   |          |
16+30     371.7636    487.88  |         |          |    O     |   I      |
16+35     464.2699    573.33  |         |          |          | O       I
16+40     532.3219    510.78  |         |          |          |    I O   |
16+45     499.0764    372.98  |         |          |     I    |   O      |
16+50     401.0341    298.49  |         |          I      O  |          |
16+55     323.1313    251.78  |         |       I  | O       |          |
17+ 0     269.1949    221.32  |         |     I  O |         |          |
17+ 5     232.3514    195.92  |         |  I  O    |         |          |
17+10     204.0538    174.60  |         | I O      |         |          |
17+15     181.2677    158.06  |         |IO        |         |          |
17+20     163.1088    143.50  |         IO         |         |          |
17+25     147.6642    130.40  |        IO          |         |          |
17+30     134.0998    119.14  |       IO|          |         |          |
17+35     122.2208    108.41  |      IO |          |         |          |
17+40     111.1984     98.09  |     IO  |          |         |          |
17+45     100.8885     89.47  |     IO  |          |         |          |
17+50      91.9118     81.98  |    IO   |          |         |          |
17+55      84.0917     75.36  |    O    |          |         |          |
18+ 0      77.1369     68.95  |   IO    |          |         |          |
18+ 5      70.5774     62.65  |   O     |          |         |          |
18+10      64.2180     56.49  |  IO     |          |         |          |
18+15      58.3730     53.15  |  IO     |          |         |          |
18+20      54.3799     50.56  |  O      |          |         |          |
18+25      51.3825     48.09  |  O      |          |         |          |
18+30      48.8573     46.39  |  O      |          |         |          |
18+35      46.9068     44.67  |  O      |          |         |          |
18+40      45.0840     42.71  | IO      |          |         |          |
18+45      43.2562     41.43  | IO      |          |         |    I     |
18+50      41.8259     40.27  | O       |          |         |          |
18+55      40.5884     39.13  | O       |          |         |          |
19+ 0      39.4233     38.02  | O       |          |         |          |
19+ 5      38.2626     36.66  | O       |          |         |          |
19+10      36.9610     35.30  | O       |          |         |          |
19+15      35.6622     34.27  | O       |          |         |          |
19+20      34.5395     33.15  | O       |          |         |          |
19+25      33.4260     32.09  | O       |          |         |          |
19+30      32.3710     31.18  | O       |          |         |          |
19+35      31.3317     29.61  | O       |          |         |          |
```

19+40	29.9938	28.60	IO				
19+45	28.9227	27.87	IO				
19+50	28.0944	27.17	O				
19+55	27.3325	26.31	O				
20+ 0	26.5116	25.51	O				
20+ 5	25.7397	24.96	O				
20+10	25.1289	24.47	O				
20+15	24.6103	24.02	O				
20+20	24.1431	23.60	O				
20+25	23.7091	23.20	O				
20+30	23.2998	22.81	O				
20+35	22.9112	22.45	O				
20+40	22.5409	22.10	O				
20+45	22.1863	21.76	O				
20+50	21.8465	21.44	O				
20+55	21.5205	21.13	O				
21+ 0	21.2076	20.83	O				
21+ 5	20.9068	20.54	O				
21+10	20.6168	20.27	O				
21+15	20.3367	20.00	O				
21+20	20.0661	19.74	O				
21+25	19.8044	19.49	O				
21+30	19.5511	19.25	O				
21+35	19.3058	19.01	O				
21+40	19.0673	18.78	O				
21+45	18.8356	18.56	O				
21+50	18.6108	18.34	O				
21+55	18.3925	18.13	O				
22+ 0	18.1803	17.92	O				
22+ 5	17.9737	17.72	O				
22+10	17.7729	17.53	O				
22+15	17.5776	17.34	O				
22+20	17.3875	17.16	O				
22+25	17.2026	16.98	O				
22+30	17.0225	16.80	O				
22+35	16.8470	16.63	O				
22+40	16.6760	16.47	O				
22+45	16.5093	16.31	O				
22+50	16.3468	16.15	O				
22+55	16.1881	16.00	O				
23+ 0	16.0333	15.84	O				
23+ 5	15.8821	15.70	O				
23+10	15.7344	15.55	O				
23+15	15.5901	15.41	O				
23+20	15.4490	15.28	O				
23+25	15.3111	15.14	O				
23+30	15.1762	15.01	O				
23+35	15.0442	14.88	O				
23+40	14.9151	14.76	O				
23+45	14.7887	14.63	O				
23+50	14.6649	14.51	O				
23+55	14.5436	14.40	O				
24+ 0	14.4248	14.28	IO				
24+ 5	14.3062	14.15	O				
24+10	14.1623	13.89	O				
24+15	13.9097	13.42	O				
24+20	13.4743	12.73	O				
24+25	12.8216	11.72	O				
24+30	11.8489	10.19	O				

24+35	10.4078	8.07	O	|	|	|	|
24+40	8.5272	6.21	O	|	|	|	|
24+45	6.7583	5.08	O	|	|	|	|
24+50	5.4809	4.28	O	|	|	|	|
24+55	4.5615	3.67	O	|	|	|	|
25+ 0	3.8659	3.15	O	|	|	|	|
25+ 5	3.3049	2.71	O	|	|	|	|
25+10	2.8408	2.34	O	|	|	|	|
25+15	2.4514	2.03	O	|	|	|	|
25+20	2.1164	1.75	O	|	|	|	|
25+25	1.8258	1.50	O	|	|	|	|
25+30	1.5731	1.29	O	|	|	|	|
25+35	1.3511	1.10	O	|	|	|	|
25+40	1.1575	0.95	O	|	|	|	|
25+45	0.9916	0.81	O	|	|	|	|
25+50	0.8491	0.69	O	|	|	|	|
25+55	0.7261	0.59	O	|	|	|	|
26+ 0	0.6196	0.50	O	|	|	|	|
26+ 5	0.5293	0.43	O	|	|	|	|
26+10	0.4564	0.39	O	|	|	|	|
26+15	0.4013	0.34	O	|	|	|	|
26+20	0.3550	0.30	O	|	|	|	|
26+25	0.3139	0.27	O	|	|	|	|
26+30	0.2772	0.23	O	|	|	|	|
26+35	0.2433	0.20	O	|	|	|	|
26+40	0.2134	0.18	O	|	|	|	|
26+45	0.1883	0.16	O	|	|	|	|
26+50	0.1656	0.14	O	|	|	|	|
26+55	0.1441	0.12	O	|	|	|	|
27+ 0	0.1235	0.10	O	|	|	|	|
27+ 5	0.1038	0.08	O	|	|	|	|
27+10	0.0860	0.07	O	|	|	|	|
27+15	0.0706	0.05	O	|	|	|	|
27+20	0.0564	0.04	O	|	|	|	|
27+25	0.0438	0.03	O	|	|	|	|
27+30	0.0324	0.02	O	|	|	|	|
27+35	0.0221	0.01	O	|	|	|	|
27+40	0.0153	0.01	O	|	|	|	|
27+45	0.0105	0.01	O	|	|	|	|
27+50	0.0065	0.00	O	|	|	|	|
27+55	0.0032	0.00	O	|	|	|	|
28+ 0	0.0000	0.00	O	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 336
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 532.322 (CFS)
Total volume = 84.598 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	600.523	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	84.598	0.000	0.000	0.000	0.000

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Process from Point/Station 5.200 to Point/Station 5.200

**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

********** HYDROGRAPH INFORMATION **********

From study/file name: OFFL10024.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q	0	776.5	1553.1	2329.6	3106.1
0+ 5	0.4171	0.42	Q				
0+10	1.6693	1.70	Q				
0+15	3.6811	3.85	Q				
0+20	6.8336	7.34	Q				
0+25	12.6151	13.67	Q				
0+30	19.8477	21.78	Q				
0+35	26.9005	30.19	Q				
0+40	31.9079	37.02	Q				
0+45	35.3288	42.16	Q				
0+50	38.0202	46.11	Q				
0+55	40.2798	49.28	Q				
1+ 0	42.2327	51.92	Q				
1+ 5	43.9214	54.18	Q				
1+10	45.4443	56.18	Q				
1+15	46.7583	57.90	Q				
1+20	47.9482	59.45	Q				
1+25	49.0517	60.87	Q				
1+30	50.0649	62.17	Q				
1+35	51.0229	63.38	Q				
1+40	51.8937	64.48	Q				
1+45	52.6687	65.46	Q				
1+50	53.3805	66.36	Q				
1+55	54.0537	67.20	Q				
2+ 0	54.6983	67.99	Q				
2+ 5	55.3043	68.74	Q				
2+10	55.8789	69.43	Q				
2+15	56.4284	70.08	Q				
2+20	56.9076	70.66	Q				
2+25	57.3804	71.23	Q				
2+30	57.8537	71.79	Q				
2+35	58.2955	72.32	Q				
2+40	58.7219	72.83	Q				
2+45	59.1530	73.34	Q				
2+50	59.5619	73.83	Q				
2+55	59.9410	74.29	Q				
3+ 0	60.3212	74.74	Q				
3+ 5	60.6982	75.20	Q				
3+10	61.0424	75.62	Q				
3+15	61.3876	76.04	Q				
3+20	61.7342	76.46	Q				
3+25	62.0888	76.89	Q				
3+30	62.4457	77.32	Q				
3+35	62.8078	77.76	qQ				
3+40	63.1694	78.19	qQ				
3+45	63.5340	78.63	qQ				

3+50	63.9000	79.06	qQ				
3+55	64.2630	79.50	qQ				
4+ 0	64.5977	79.90	qQ				
4+ 5	64.9358	80.31	qQ				
4+10	65.2754	80.72	qQ				
4+15	65.6206	81.13	qQ				
4+20	65.9477	81.53	qQ				
4+25	66.2608	81.91	qQ				
4+30	66.5755	82.30	qQ				
4+35	66.8960	82.69	qQ				
4+40	67.2180	83.09	qQ				
4+45	67.5460	83.49	qQ				
4+50	67.8757	83.89	qQ				
4+55	68.2116	84.31	qQ				
5+ 0	68.5493	84.72	qQ				
5+ 5	68.8934	85.14	qQ				
5+10	69.2393	85.57	qQ				
5+15	69.5919	86.00	qQ				
5+20	69.9464	86.44	qQ				
5+25	70.3078	86.88	qQ				
5+30	70.6712	87.33	qQ				
5+35	71.0418	87.78	qQ				
5+40	71.4146	88.24	qQ				
5+45	71.7948	88.70	qQ				
5+50	72.1772	89.17	qQ				
5+55	72.5674	89.65	qQ				
6+ 0	72.9599	90.13	qQ				
6+ 5	73.3604	90.62	qQ				
6+10	73.7635	91.12	qQ				
6+15	74.1749	91.62	qQ				
6+20	74.5889	92.13	qQ				
6+25	75.0116	92.65	qQ				
6+30	75.4371	93.17	qQ				
6+35	75.8716	93.70	qQ				
6+40	76.3091	94.24	qQ				
6+45	76.7559	94.79	qQ				
6+50	77.2060	95.34	qQ				
6+55	77.6657	95.90	|Q				
7+ 0	78.1288	96.47	|Q				
7+ 5	78.6021	97.05	|Q				
7+10	79.0789	97.64	|Q				
7+15	79.5663	98.23	|Q				
7+20	80.0576	98.84	|Q				
7+25	80.5598	99.45	|Q				
7+30	81.0662	100.07	|Q				
7+35	81.5840	100.71	|Q				
7+40	82.1062	101.35	|Q				
7+45	82.6404	102.00	|Q				
7+50	83.1793	102.66	|Q				
7+55	83.7306	103.34	|Q				
8+ 0	84.2870	104.02	|Q				
8+ 5	84.8564	104.72	|Q				
8+10	85.4313	105.42	|Q				
8+15	86.0198	106.14	|Q				
8+20	86.6140	106.87	|Q				
8+25	87.2226	107.61	|Q				
8+30	87.8373	108.37	|Q				
8+35	88.4671	109.14	|Q				
8+40	89.1035	109.92	|Q				

8+45	89.7557	110.71	|Q	|	|	|	|
8+50	90.4150	111.52	|Q	|	|	|	|
8+55	91.0909	112.35	|Q	|	|	|	|
9+ 0	91.7744	113.19	|Q	|	|	|	|
9+ 5	92.4755	114.04	|Q	|	|	|	|
9+10	93.1846	114.91	|Q	|	|	|	|
9+15	93.9123	115.80	|Q	|	|	|	|
9+20	94.6487	116.70	|Q	|	|	|	|
9+25	95.4047	117.63	|Q	|	|	|	|
9+30	96.1700	118.56	|Q	|	|	|	|
9+35	96.9561	119.52	|Q	|	|	|	|
9+40	97.7522	120.50	|Q	|	|	|	|
9+45	98.5703	121.50	|Q	|	|	|	|
9+50	99.3993	122.51	|Q	|	|	|	|
9+55	100.2515	123.55	|Q	|	|	|	|
10+ 0	101.1156	124.61	|Q	|	|	|	|
10+ 5	102.0043	125.70	|Q	|	|	|	|
10+10	102.9058	126.80	|Q	|	|	|	|
10+15	103.8336	127.93	|Q	|	|	|	|
10+20	104.7753	129.08	|Q	|	|	|	|
10+25	105.7450	130.27	|Q	|	|	|	|
10+30	106.7296	131.47	|Q	|	|	|	|
10+35	107.7443	132.71	|Q	|	|	|	|
10+40	108.7753	133.97	|Q	|	|	|	|
10+45	109.8383	135.27	|Q	|	|	|	|
10+50	110.9192	136.59	|Q	|	|	|	|
10+55	112.0344	137.95	|Q	|	|	|	|
11+ 0	113.1691	139.34	|Q	|	|	|	|
11+ 5	114.3408	140.77	|Q	|	|	|	|
11+10	115.5337	142.22	|Q	|	|	|	|
11+15	116.7665	143.73	|Q	|	|	|	|
11+20	118.0225	145.26	|Q	|	|	|	|
11+25	119.3217	146.84	|Q	|	|	|	|
11+30	120.6464	148.46	|Q	|	|	|	|
11+35	122.0178	150.13	|Q	|	|	|	|
11+40	123.4175	151.84	|Q	|	|	|	|
11+45	124.8678	153.60	|Q	|	|	|	|
11+50	126.3494	155.41	|qQ	|	|	|	|
11+55	127.8862	157.28	|qQ	|	|	|	|
12+ 0	129.4576	159.20	|qQ	|	|	|	|
12+ 5	130.9354	161.03	|qQ	|	|	|	|
12+10	132.1431	162.59	|qQ	|	|	|	|
12+15	133.1340	163.92	|qQ	|	|	|	|
12+20	133.7428	164.81	|qQ	|	|	|	|
12+25	133.4477	164.75	|qQ	|	|	|	|
12+30	132.6536	164.10	|qQ	|	|	|	|
12+35	131.9895	163.44	|qQ	|	|	|	|
12+40	132.1182	163.45	|qQ	|	|	|	|
12+45	132.9071	164.16	|qQ	|	|	|	|
12+50	134.0174	165.35	|qQ	|	|	|	|
12+55	135.3766	166.91	|qQ	|	|	|	|
13+ 0	136.9117	168.73	|qQ	|	|	|	|
13+ 5	138.6469	170.80	|qQ	|	|	|	|
13+10	140.5166	173.05	|qQ	|	|	|	|
13+15	142.5805	175.54	|qQ	|	|	|	|
13+20	144.7758	178.20	|qQ	|	|	|	|
13+25	147.1372	181.06	|qQ	|	|	|	|
13+30	149.6319	184.08	|qQ	|	|	|	|
13+35	152.3013	187.32	|qQ	|	|	|	|

13+40	155.1204	190.74	qQ
13+45	158.1534	194.42	Q
13+50	161.3492	198.30	Q
13+55	164.7679	202.44	Q
14+ 0	168.3638	206.81	Q
14+ 5	172.6268	211.89	Q
14+10	177.9205	218.06	Q
14+15	184.2745	225.37	Q
14+20	192.0411	234.21	qQ
14+25	202.7737	246.14	qQ
14+30	215.3069	260.03	qQ
14+35	228.2330	274.52	qQ
14+40	239.6768	287.75	Q
14+45	250.2345	300.17	Q
14+50	260.6693	312.44	qQ
14+55	271.4926	325.14	qQ
15+ 0	282.7555	338.35	qQ
15+ 5	294.7961	352.47	qQ
15+10	307.6810	367.58	qQ
15+15	321.7638	384.08	Q
15+20	337.1312	402.10	qQ
15+25	354.1643	422.06	qQ
15+30	372.7125	443.88	qQ
15+35	393.8060	468.65	qQ
15+40	417.5628	496.62	qQ
15+45	445.1680	529.11	qQ
15+50	479.3069	569.02	qQ
15+55	528.0465	624.79	q Q
16+ 0	604.2657	709.96	q Q
16+ 5	795.0332	913.18	qQ
16+10	1089.7684	1228.90	qQ
16+15	1395.8733	1573.31	q Q
16+20	1795.0314	2026.05	q Q
16+25	2438.4242	2731.72	q Q
16+30	2734.3532	3106.12	q Q
16+35	2588.1577	3052.43	q Q
16+40	2027.8948	2560.22	q Q
16+45	1576.5232	2075.60	q Q
16+50	1329.9168	1730.95	q Q
16+55	1165.4410	1488.57	q Q
17+ 0	1039.7456	1308.94	q Q
17+ 5	930.9396	1163.29	q Q
17+10	848.0912	1052.14	q Q
17+15	762.1627	943.43	q Q
17+20	698.3803	861.49	q Q
17+25	643.4216	791.09	q Q
17+30	590.1600	724.26	q Q
17+35	545.2597	667.48	qQ
17+40	498.2486	609.45	qQ
17+45	453.0894	553.98	q Q
17+50	418.6227	510.53	qQ
17+55	391.2043	475.30	qQ
18+ 0	367.9088	445.05	qQ
18+ 5	343.5745	414.15	qQ
18+10	322.4013	386.62	Q
18+15	302.8227	361.20	qQ
18+20	277.2556	331.64	qQ
18+25	266.3680	317.75	qQ
18+30	258.5641	307.42	Q

18+35	244.4249	291.33	Q				
18+40	234.1613	279.25	Q				
18+45	226.8665	270.12	qQ				
18+50	214.7557	256.58	qQ				
18+55	201.2579	241.85	qQ				
19+ 0	194.9437	234.37	qQ				
19+ 5	187.1831	225.45	Q				
19+10	174.9864	211.95	Q				
19+15	169.6872	205.35	Q				
19+20	165.9258	200.47	Q				
19+25	162.9842	196.41	Q				
19+30	159.7152	192.09	Q				
19+35	156.2523	187.58	Q				
19+40	152.3586	182.35	qQ				
19+45	148.3379	177.26	qQ				
19+50	144.3446	172.44	qQ				
19+55	138.3048	165.64	qQ				
20+ 0	128.4969	155.01	Q				
20+ 5	124.6786	150.42	Q				
20+10	121.4389	146.57	Q				
20+15	117.8058	142.42	Q				
20+20	110.2517	134.39	Q				
20+25	103.3190	127.03	Q				
20+30	100.8916	124.19	Q				
20+35	98.8190	121.73	Q				
20+40	96.9157	119.46	Q				
20+45	95.1391	117.33	Q				
20+50	93.4635	115.31	Q				
20+55	91.8762	113.40	Q				
21+ 0	90.3975	111.61	Q				
21+ 5	88.9881	109.89	Q				
21+10	87.6290	108.25	Q				
21+15	86.3258	106.66	Q				
21+20	85.0942	105.16	Q				
21+25	83.9305	103.73	Q				
21+30	82.8107	102.36	Q				
21+35	81.7317	101.04	Q				
21+40	80.6899	99.76	Q				
21+45	79.6829	98.52	Q				
21+50	78.7094	97.32	Q				
21+55	77.7643	96.16	Q				
22+ 0	76.8383	95.02	qQ				
22+ 5	75.9399	93.91	qQ				
22+10	75.0686	92.84	qQ				
22+15	74.2229	91.80	qQ				
22+20	73.3943	90.78	qQ				
22+25	72.5819	89.78	qQ				
22+30	71.7918	88.81	qQ				
22+35	71.0231	87.87	qQ				
22+40	70.2748	86.95	qQ				
22+45	69.5459	86.06	qQ				
22+50	68.8358	85.18	qQ				
22+55	68.1435	84.33	qQ				
23+ 0	67.4683	83.50	qQ				
23+ 5	66.8096	82.69	qQ				
23+10	66.1667	81.90	qQ				
23+15	65.5389	81.13	qQ				
23+20	64.9258	80.37	qQ				
23+25	64.3267	79.64	qQ				

23+30	63.7411	78.92	qQ				
23+35	63.1685	78.21	qQ				
23+40	62.6085	77.52	Q				
23+45	62.0607	76.85	Q				
23+50	61.5245	76.19	Q				
23+55	60.9996	75.54	Q				
24+ 0	60.4856	74.91	Q				
24+ 5	59.5661	73.87	Q				
24+10	57.8278	71.99	Q				
24+15	55.3546	69.26	Q				
24+20	51.7745	65.25	Q				
24+25	45.6141	58.44	Q				
24+30	38.0751	49.92	Q				
24+35	30.8021	41.21	Q				
24+40	25.6522	34.18	Q				
24+45	22.1472	28.91	Q				
24+50	19.4104	24.89	Q				
24+55	17.1389	21.70	Q				
25+ 0	15.1997	19.07	Q				
25+ 5	13.5497	16.85	Q				
25+10	12.0843	14.93	Q				
25+15	10.8476	13.30	Q				
25+20	9.7493	11.87	Q				
25+25	8.7533	10.58	Q				
25+30	7.8592	9.43	Q				
25+35	7.0339	8.39	Q				
25+40	6.3057	7.46	Q				
25+45	5.6850	6.68	Q				
25+50	5.1351	5.98	Q				
25+55	4.6336	5.36	Q				
26+ 0	4.1672	4.79	Q				
26+ 5	3.7482	4.28	Q				
26+10	3.3661	3.82	Q				
26+15	3.0172	3.42	Q				
26+20	2.7433	3.10	Q				
26+25	2.4827	2.80	Q				
26+30	2.2255	2.50	Q				
26+35	2.0067	2.25	Q				
26+40	1.8066	2.02	Q				
26+45	1.6081	1.80	Q				
26+50	1.4350	1.60	Q				
26+55	1.2979	1.44	Q				
27+ 0	1.1621	1.29	Q				
27+ 5	1.0355	1.14	Q				
27+10	0.9441	1.03	Q				
27+15	0.8572	0.93	Q				
27+20	0.7709	0.83	Q				
27+25	0.6824	0.73	Q				
27+30	0.5935	0.63	Q				
27+35	0.5053	0.53	Q				
27+40	0.4198	0.44	Q				
27+45	0.3371	0.35	Q				
27+50	0.2551	0.26	Q				
27+55	0.1823	0.19	Q				
28+ 0	0.1396	0.14	Q				
28+ 5	0.0994	0.10	Q				
28+10	0.0594	0.06	Q				
28+15	0.0198	0.02	Q				

```
**************************HYDROGRAPH DATA**************************
               Number of intervals =   339
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =     3106.117 (CFS)
               Total volume =     486.049 (Ac.Ft)
        Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)    600.523     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)     84.598     0.000     0.000     0.000     0.000
*******************************************************************

-------------------------------------------------------------------
```

TECHNICAL APPENDIX NO. 3

Existing Conditions
Rational Method Calculations
100-Year, 1-Hour Storm Event

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 1
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.260 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 1.000 to Point/Station 1.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 357.000(Ft.)
Top (of initial area) elevation = 1965.400(Ft.)
Bottom (of initial area) elevation = 1956.100(Ft.)
Difference in elevation = 9.300(Ft.)
Slope = 0.02605 s(%)= 2.61
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 18.888 min.
Rainfall intensity = 2.830(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.786
Subarea runoff = 2.223(CFS)
Total initial stream area = 1.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 1.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY
EXISTING CONDTIIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 2.000 to Point/Station 2.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 285.000(Ft.)
Top (of initial area) elevation = 1965.100(Ft.)
Bottom (of initial area) elevation = 1955.600(Ft.)
Difference in elevation = 9.500(Ft.)
Slope = 0.03333 s(%)= 3.33
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 16.430 min.
Rainfall intensity = 3.145(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.797
Subarea runoff = 3.885(CFS)
Total initial stream area = 1.550(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 1.55 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 3
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 3.000 to Point/Station 3.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 600.000(Ft.)
Top (of initial area) elevation = 1963.000(Ft.)
Bottom (of initial area) elevation = 1955.000(Ft.)
Difference in elevation = 8.000(Ft.)
Slope = 0.01333 s(%)= 1.33
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 26.580 min.
Rainfall intensity = 2.246(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.756
Subarea runoff = 8.351(CFS)
Total initial stream area = 4.920(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 4.92 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 4
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 4.000 to Point/Station 4.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1971.300(Ft.)
Bottom (of initial area) elevation = 1953.900(Ft.)
Difference in elevation = 17.400(Ft.)
Slope = 0.01740 s(%)= 1.74
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 30.915 min.
Rainfall intensity = 2.020(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.740
Subarea runoff = 13.376(CFS)
Total initial stream area = 8.950(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 8.95 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 5
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 5.000 to Point/Station 5.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 931.000(Ft.)
Top (of initial area) elevation = 1971.200(Ft.)
Bottom (of initial area) elevation = 1954.800(Ft.)
Difference in elevation = 16.400(Ft.)
Slope = 0.01762 s(%)= 1.76
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 29.970 min.
Rainfall intensity = 2.065(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.743
Subarea runoff = 15.345(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 5.100 to Point/Station 5.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1954.800(Ft.)
Downstream point elevation = 1950.600(Ft.)

```
Channel length thru subarea  =   146.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     17.870(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     17.870(CFS)
Depth of flow =   0.165(Ft.), Average velocity =   2.154(Ft/s)
Channel flow top width =   50.659(Ft.)
Flow Velocity =    2.15(Ft/s)
Travel time  =    1.13 min.
Time of concentration =   31.10 min.
Critical depth =      0.158(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      2.012(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.739
Subarea runoff =      4.967(CFS) for    3.660(Ac.)
Total runoff =     20.312(CFS)
Effective area this stream =       13.66(Ac.)
Total Study Area (Main Stream No. 1) =       13.66(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.178(Ft.), Average velocity =   2.266(Ft/s)
Critical depth =      0.172(Ft.)
End of computations, Total Study Area =           13.66 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 6
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 6.000 to Point/Station 6.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1970.700(Ft.)
Bottom (of initial area) elevation = 1962.800(Ft.)
Difference in elevation = 7.900(Ft.)
Slope = 0.00790 s(%)= 0.79
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 36.204 min.
Rainfall intensity = 1.809(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.721
Subarea runoff = 12.352(CFS)
Total initial stream area = 9.470(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 6.100 to Point/Station 6.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1962.800(Ft.)
Downstream point elevation = 1948.800(Ft.)

```
Channel length thru subarea  =   474.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.414(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.414(CFS)
Depth of flow =   0.144(Ft.), Average velocity =   1.993(Ft/s)
Channel flow top width =   50.575(Ft.)
Flow Velocity =    1.99(Ft/s)
Travel time  =    3.96 min.
Time of concentration =   40.17 min.
Critical depth =      0.137(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.682(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.708
Subarea runoff =      4.072(CFS) for    4.330(Ac.)
Total runoff =     16.423(CFS)
Effective area this stream =       13.80(Ac.)
Total Study Area (Main Stream No. 1) =       13.80(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.155(Ft.), Average velocity =   2.099(Ft/s)
Critical depth =      0.148(Ft.)
End of computations, Total Study Area =           13.80 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 7
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 7.000 to Point/Station 7.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1970.400(Ft.)
Bottom (of initial area) elevation = 1966.600(Ft.)
Difference in elevation = 3.800(Ft.)
Slope = 0.00380 s(%)= 0.38
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 41.911 min.
Rainfall intensity = 1.633(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.702
Subarea runoff = 10.690(CFS)
Total initial stream area = 9.330(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 7.100 to Point/Station 7.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1966.600(Ft.)
Downstream point elevation = 1949.600(Ft.)

```
Channel length thru subarea  =   716.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     12.886(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     12.886(CFS)
Depth of flow =   0.144(Ft.), Average velocity =   1.785(Ft/s)
Channel flow top width =   50.574(Ft.)
Flow Velocity =    1.79(Ft/s)
Travel time  =    6.68 min.
Time of concentration =   48.60 min.
Critical depth =      0.127(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.472(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.680
Subarea runoff =      4.317(CFS) for    5.660(Ac.)
Total runoff =     15.007(CFS)
Effective area this stream =       14.99(Ac.)
Total Study Area (Main Stream No. 1) =       14.99(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.157(Ft.), Average velocity =   1.896(Ft/s)
Critical depth =      0.141(Ft.)
End of computations, Total Study Area =           14.99 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 8
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 8.000 to Point/Station 8.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1966.700(Ft.)
Bottom (of initial area) elevation = 1950.300(Ft.)
Difference in elevation = 16.400(Ft.)
Slope = 0.01640 s(%)= 1.64
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 31.283 min.
Rainfall intensity = 2.004(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.738
Subarea runoff = 13.272(CFS)
Total initial stream area = 8.970(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 8.97 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXITING CONDITIONS AREA 9
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 9.000 to Point/Station 9.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 776.000(Ft.)
Top (of initial area) elevation = 1967.200(Ft.)
Bottom (of initial area) elevation = 1965.200(Ft.)
Difference in elevation = 2.000(Ft.)
Slope = 0.00258 s(%)= 0.26
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 40.925 min.
Rainfall intensity = 1.660(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.705
Subarea runoff = 11.704(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 9.100 to Point/Station 9.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1965.200(Ft.)
Downstream point elevation = 1960.400(Ft.)

```
Channel length thru subarea  =   780.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     13.502(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     13.502(CFS)
Depth of flow =   0.221(Ft.), Average velocity =   1.210(Ft/s)
Channel flow top width =   50.885(Ft.)
Flow Velocity =    1.21(Ft/s)
Travel time  =   10.75 min.
Time of concentration =   51.67 min.
Critical depth =      0.131(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.410(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.671
Subarea runoff =      3.527(CFS) for    6.110(Ac.)
Total runoff =     15.231(CFS)
Effective area this stream =       16.11(Ac.)
Total Study Area (Main Stream No. 1) =       16.11(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.238(Ft.), Average velocity =   1.269(Ft/s)
Critical depth =      0.143(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.100 to Point/Station        9.200
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     16.110(Ac.)
Runoff from this stream =     15.231(CFS)
Time of concentration =   51.67 min.
Rainfall intensity =     1.410(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.300 to Point/Station        9.200
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1967.900(Ft.)
Bottom (of initial area) elevation =  1960.400(Ft.)
Difference in elevation =     7.500(Ft.)
```

```
Slope =    0.00750  s(%)=       0.75
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   36.582 min.
Rainfall intensity =      1.796(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.720
Subarea runoff =     11.658(CFS)
Total initial stream area =        9.020(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.360(In/Hr)


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Process from Point/Station        9.300 to Point/Station        9.200
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      9.020(Ac.)
Runoff from this stream =     11.658(CFS)
Time of concentration =   36.58 min.
Rainfall intensity =     1.796(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     15.23    16.110     51.67    0.360      1.410
2     11.66     9.020     36.58    0.360      1.796
Qmax(1) =
           1.000 *    1.000 *    15.231) +
           0.731 *    1.000 *    11.658) + =      23.759
Qmax(2) =
           1.367 *    0.708 *    15.231) +
           1.000 *    1.000 *    11.658) + =      26.399

Total of 2 streams to confluence:
Flow rates before confluence point:
      15.231      11.658
Maximum flow rates at confluence using above data:
       23.759       26.399
Area of streams before confluence:
       16.110        9.020
Effective area values after confluence:
       25.130       20.425
Results of confluence:
Total flow rate =     26.399(CFS)
Time of concentration =    36.582 min.
Effective stream area after confluence =     20.425(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.360(In/Hr)
Study area total (this main stream) =      25.13(Ac.)


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Process from Point/Station        9.200 to Point/Station        9.500
**** IMPROVED CHANNEL TRAVEL TIME ****
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Upstream point elevation =  1960.400(Ft.)
Downstream point elevation =  1946.500(Ft.)
Channel length thru subarea  =   495.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     28.398(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     28.398(CFS)
Depth of flow =   0.219(Ft.), Average velocity =   2.568(Ft/s)
Channel flow top width =   50.877(Ft.)
Flow Velocity =    2.57(Ft/s)
Travel time  =    3.21 min.
Time of concentration =   39.79 min.
Critical depth =      0.215(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.693(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.709
Subarea runoff =      3.919(CFS) for    4.840(Ac.)
Total runoff =     30.319(CFS)
Effective area this stream =       25.27(Ac.)
Total Study Area (Main Stream No. 1) =       29.97(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.228(Ft.), Average velocity =   2.636(Ft/s)
Critical depth =      0.225(Ft.)
End of computations, Total Study Area =           29.97 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164307 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 10A
100-YEAR, 1-HOURS STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 10.000 to Point/Station 10.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1967.300(Ft.)
Bottom (of initial area) elevation = 1957.800(Ft.)
Difference in elevation = 9.500(Ft.)
Slope = 0.00950 s(%)= 0.95
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 34.893 min.
Rainfall intensity = 1.856(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.726
Subarea runoff = 8.418(CFS)
Total initial stream area = 6.250(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 10.100 to Point/Station 10.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1957.800(Ft.)
Downstream point elevation = 1957.300(Ft.)

```
Channel length thru subarea  =  1280.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =      8.458(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      8.458(CFS)
Depth of flow =   0.382(Ft.), Average velocity =   0.436(Ft/s)
Channel flow top width =   51.528(Ft.)
Flow Velocity =    0.44(Ft/s)
Travel time  =   48.90 min.
Time of concentration =   83.79 min.
Critical depth =      0.096(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =      7.886(CFS)
therefore the upstream flow rate of Q =      8.418(CFS) is being used
Rainfall intensity =      1.005(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.578
Subarea runoff =      0.000(CFS) for    7.320(Ac.)
Total runoff =      8.418(CFS)
Effective area this stream =       13.57(Ac.)
Total Study Area (Main Stream No. 1) =       13.57(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.381(Ft.), Average velocity =   0.435(Ft/s)
Critical depth =      0.096(Ft.)
End of computations, Total Study Area =           13.57 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 11
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 11.000 to Point/Station 11.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 841.000(Ft.)
Top (of initial area) elevation = 1957.600(Ft.)
Bottom (of initial area) elevation = 1947.600(Ft.)
Difference in elevation = 10.000(Ft.)
Slope = 0.01189 s(%)= 1.19
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 31.129 min.
Rainfall intensity = 2.010(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.739
Subarea runoff = 13.670(CFS)
Total initial stream area = 9.200(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 9.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 12
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.280 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 12.000 to Point/Station 12.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 225.000(Ft.)
Top (of initial area) elevation = 1955.300(Ft.)
Bottom (of initial area) elevation = 1948.800(Ft.)
Difference in elevation = 6.500(Ft.)
Slope = 0.02889 s(%)= 2.89
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.382 min.
Rainfall intensity = 3.319(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.803
Subarea runoff = 2.317(CFS)
Total initial stream area = 0.870(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 0.87 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 13
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.280 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 13.000 to Point/Station 13.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1959.000(Ft.)
Bottom (of initial area) elevation = 1955.600(Ft.)
Difference in elevation = 3.400(Ft.)
Slope = 0.00340 s(%)= 0.34
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 42.853 min.
Rainfall intensity = 1.620(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.700
Subarea runoff = 9.484(CFS)
Total initial stream area = 8.360(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 13.100 to Point/Station 13.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1955.600(Ft.)
Downstream point elevation = 1951.600(Ft.)

```
Channel length thru subarea  =   808.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     12.348(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     12.348(CFS)
Depth of flow =   0.224(Ft.), Average velocity =   1.093(Ft/s)
Channel flow top width =   50.895(Ft.)
Flow Velocity =    1.09(Ft/s)
Travel time  =   12.32 min.
Time of concentration =   55.17 min.
Critical depth =      0.123(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.357(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.662
Subarea runoff =      5.649(CFS) for    8.490(Ac.)
Total runoff =     15.133(CFS)
Effective area this stream =       16.85(Ac.)
Total Study Area (Main Stream No. 1) =       16.85(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.253(Ft.), Average velocity =   1.185(Ft/s)
Critical depth =      0.141(Ft.)
End of computations, Total Study Area =           16.85 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 19
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.350 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 19.000 to Point/Station 19.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 756.000(Ft.)
Top (of initial area) elevation = 1933.900(Ft.)
Bottom (of initial area) elevation = 1929.600(Ft.)
Difference in elevation = 4.300(Ft.)
Slope = 0.00569 s(%)= 0.57
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 34.570 min.
Rainfall intensity = 1.986(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.737
Subarea runoff = 11.519(CFS)
Total initial stream area = 7.870(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 7.87 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXITING CONDITIONS AREA 14
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.290 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 14.000 to Point/Station 14.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1955.000(Ft.)
Bottom (of initial area) elevation = 1951.800(Ft.)
Difference in elevation = 3.200(Ft.)
Slope = 0.00320 s(%)= 0.32
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 43.376 min.
Rainfall intensity = 1.619(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.700
Subarea runoff = 11.334(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 14.100 to Point/Station 14.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1951.800(Ft.)
Downstream point elevation = 1947.400(Ft.)

```
Channel length thru subarea  =   627.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.491(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.491(CFS)
Depth of flow =   0.222(Ft.), Average velocity =   1.294(Ft/s)
Channel flow top width =   50.888(Ft.)
Flow Velocity =    1.29(Ft/s)
Travel time  =    8.07 min.
Time of concentration =   51.45 min.
Critical depth =      0.137(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.437(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.675
Subarea runoff =      6.259(CFS) for    8.150(Ac.)
Total runoff =     17.593(CFS)
Effective area this stream =       18.15(Ac.)
Total Study Area (Main Stream No. 1) =       18.15(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.249(Ft.), Average velocity =   1.397(Ft/s)
Critical depth =      0.156(Ft.)
End of computations, Total Study Area =           18.15 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  62.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITONS AREA 15
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 15.000 to Point/Station 15.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.7180 Max loss rate(Fm)= 0.258(In/Hr)
Initial subarea data:
Initial area flow distance = 588.000(Ft.)
Top (of initial area) elevation = 1983.200(Ft.)
Bottom (of initial area) elevation = 1970.000(Ft.)
Difference in elevation = 13.200(Ft.)
Slope = 0.02245 s(%)= 2.24
TC = k(0.452)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.366 min.
Rainfall intensity = 3.837(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.839
Subarea runoff = 32.206(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.718
Initial area Fm value = 0.258(In/Hr)

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Process from Point/Station 15.100 to Point/Station 15.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1970.000(Ft.)
Downstream point elevation = 1964.600(Ft.)

Channel length thru subarea =   891.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   55.915(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   55.915(CFS)
Depth of flow =   0.521(Ft.), Average velocity =   2.104(Ft/s)
Channel flow top width =   52.083(Ft.)
Flow Velocity =   2.10(Ft/s)
Travel time =   7.06 min.
Time of concentration =   19.42 min.
Critical depth =   0.336(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.4540   Max loss rate(Fm)=   0.163(In/Hr)
Rainfall intensity =   2.797(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.838
Subarea runoff =   47.363(CFS) for   23.930(Ac.)
Total runoff =   79.569(CFS)
Effective area this stream =   33.93(Ac.)
Total Study Area (Main Stream No. 1) =   33.93(Ac.)
Area averaged Fm value =   0.191(In/Hr)
Depth of flow =   0.643(Ft.), Average velocity =   2.413(Ft/s)
Critical depth =   0.426(Ft.)

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Process from Point/Station   15.200 to Point/Station   15.300
**** IMPROVED CHANNEL TRAVEL TIME ****
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Upstream point elevation = 1964.600(Ft.)
Downstream point elevation = 1963.800(Ft.)
Channel length thru subarea = 1336.000(Ft.)
Channel base width   = 100.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   104.671(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   2.000(Ft.)
Flow(q) thru subarea =   104.671(CFS)
Depth of flow =   1.002(Ft.), Average velocity =   1.024(Ft/s)
Channel flow top width = 104.009(Ft.)
Flow Velocity =   1.02(Ft/s)
Travel time =   21.75 min.
Time of concentration =   41.17 min.
Critical depth =   0.324(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.5120   Max loss rate(Fm)=   0.184(In/Hr)
Rainfall intensity =   1.653(In/Hr) for a   100.0 year storm

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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.798
Subarea runoff =     50.137(CFS) for   64.340(Ac.)
Total runoff =    129.706(CFS)
Effective area this stream =       98.27(Ac.)
Total Study Area (Main Stream No. 1) =       98.27(Ac.)
Area averaged Fm value =    0.187(In/Hr)
Depth of flow =   1.139(Ft.), Average velocity =   1.113(Ft/s)
Critical depth =      0.375(Ft.)


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Process from Point/Station       15.300 to Point/Station       15.400
**** IMPROVED CHANNEL TRAVEL TIME ****
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Upstream point elevation =  1963.800(Ft.)
Downstream point elevation =  1949.300(Ft.)
Channel length thru subarea  =  6809.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    129.738(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    129.738(CFS)
Depth of flow =   1.177(Ft.), Average velocity =   2.106(Ft/s)
Channel flow top width =   54.706(Ft.)
Flow Velocity =    2.11(Ft/s)
Travel time  =   53.88 min.
Time of concentration =   95.05 min.
Critical depth =      0.586(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9660     Max loss rate(Fm)=     0.347(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    115.854(CFS)
therefore the upstream flow rate of Q =    129.706(CFS) is being used
Rainfall intensity =      0.920(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.639
Subarea runoff =      0.000(CFS) for   98.810(Ac.)
Total runoff =    129.706(CFS)
Effective area this stream =      197.08(Ac.)
Total Study Area (Main Stream No. 1) =      197.08(Ac.)
Area averaged Fm value =    0.267(In/Hr)
Depth of flow =   1.176(Ft.), Average velocity =   2.106(Ft/s)
Critical depth =      0.586(Ft.)
End of computations, Total Study Area =          197.08 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.743
Area averaged SCS curve number =  62.0
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San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXITING CONDITIONS AREA 20
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 20.000 to Point/Station 20.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 58.61
Adjusted SCS curve number for AMC 3 = 77.89
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.405(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1932.900(Ft.)
Bottom (of initial area) elevation = 1925.300(Ft.)
Difference in elevation = 7.600(Ft.)
Slope = 0.00760 s(%)= 0.76
TC = k(0.933)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 39.244 min.
Rainfall intensity = 1.831(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.701
Subarea runoff = 12.827(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.405(In/Hr)

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Process from Point/Station 20.100 to Point/Station 20.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1925.300(Ft.)
Downstream point elevation = 1920.500(Ft.)

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Channel length thru subarea  =   801.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     19.189(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.189(CFS)
Depth of flow =   0.275(Ft.), Average velocity =   1.379(Ft/s)
Channel flow top width =   51.101(Ft.)
Flow Velocity =    1.38(Ft/s)
Travel time  =    9.68 min.
Time of concentration =   48.93 min.
Critical depth =      0.166(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.22
Adjusted SCS curve number for AMC 3 = 77.58
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.411(In/Hr)
Rainfall intensity =      1.569(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.666
Subarea runoff =     12.664(CFS) for   14.410(Ac.)
Total runoff =     25.491(CFS)
Effective area this stream =       24.41(Ac.)
Total Study Area (Main Stream No. 1) =       24.41(Ac.)
Area averaged Fm value =    0.408(In/Hr)
Depth of flow =   0.326(Ft.), Average velocity =   1.542(Ft/s)
Critical depth =      0.199(Ft.)
End of computations, Total Study Area =           24.41 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  58.4
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San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXITING CONDITIONS AREA 17
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.300 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 17.000 to Point/Station 17.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.140(In/Hr)
Initial subarea data:
Initial area flow distance = 805.000(Ft.)
Top (of initial area) elevation = 1951.200(Ft.)
Bottom (of initial area) elevation = 1947.600(Ft.)
Difference in elevation = 3.600(Ft.)
Slope = 0.00447 s(%)= 0.45
TC = k(0.615)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 26.369 min.
Rainfall intensity = 2.311(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.845
Subarea runoff = 19.543(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.140(In/Hr)

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Process from Point/Station 17.100 to Point/Station 17.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1947.600(Ft.)
Downstream point elevation = 1940.500(Ft.)

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Channel length thru subarea  =  1959.000(Ft.)
Channel base width      =  100.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    103.701(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    103.701(CFS)
Depth of flow =   0.581(Ft.), Average velocity =   1.764(Ft/s)
Channel flow top width =  102.325(Ft.)
Flow Velocity =    1.76(Ft/s)
Travel time  =   18.51 min.
Time of concentration =   44.88 min.
Critical depth =      0.320(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 73.74
Adjusted SCS curve number for AMC 3 = 89.99
Pervious ratio(Ap) = 0.9930     Max loss rate(Fm)=     0.191(In/Hr)
Rainfall intensity =      1.593(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.794
Subarea runoff =    168.237(CFS) for  138.480(Ac.)
Total runoff =    187.780(CFS)
Effective area this stream =      148.48(Ac.)
Total Study Area (Main Stream No. 1) =      148.48(Ac.)
Area averaged Fm value =    0.188(In/Hr)
Depth of flow =   0.830(Ft.), Average velocity =   2.227(Ft/s)
Critical depth =      0.477(Ft.)
End of computations, Total Study Area =          148.48 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.993
Area averaged SCS curve number =  74.0
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San Bernardino County Rational Hydrology Program

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Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 18
100-YEAR, 1-HOUR STORM
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.330 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 18.000 to Point/Station 18.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 404.000(Ft.)
Top (of initial area) elevation = 1944.900(Ft.)
Bottom (of initial area) elevation = 1938.100(Ft.)
Difference in elevation = 6.800(Ft.)
Slope = 0.01683 s(%)= 1.68
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.658 min.
Rainfall intensity = 2.714(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.781
Subarea runoff = 21.191(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

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Process from Point/Station 18.100 to Point/Station 18.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1938.100(Ft.)
Downstream point elevation = 1932.700(Ft.)

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Channel length thru subarea  =   830.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     36.369(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     36.369(CFS)
Depth of flow =   0.394(Ft.), Average velocity =   1.817(Ft/s)
Channel flow top width =   51.576(Ft.)
Flow Velocity =    1.82(Ft/s)
Travel time  =    7.61 min.
Time of concentration =   29.27 min.
Critical depth =      0.254(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      2.198(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.753
Subarea runoff =     30.273(CFS) for   21.100(Ac.)
Total runoff =     51.464(CFS)
Effective area this stream =       31.10(Ac.)
Total Study Area (Main Stream No. 1) =       31.10(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.485(Ft.), Average velocity =   2.082(Ft/s)
Critical depth =      0.320(Ft.)


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Process from Point/Station       18.200 to Point/Station       18.300
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1932.700(Ft.)
Downstream point elevation =  1926.100(Ft.)
Channel length thru subarea  =   590.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     61.701(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     61.701(CFS)
Depth of flow =   0.460(Ft.), Average velocity =   2.636(Ft/s)
Channel flow top width =   51.839(Ft.)
Flow Velocity =    2.64(Ft/s)
Travel time  =    3.73 min.
Time of concentration =   33.00 min.
Critical depth =      0.359(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      2.021(In/Hr) for a   100.0 year storm
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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.740
Subarea runoff = 20.407(CFS) for 16.960(Ac.)
Total runoff = 71.871(CFS)
Effective area this stream = 48.06(Ac.)
Total Study Area (Main Stream No. 1) = 48.06(Ac.)
Area averaged Fm value = 0.360(In/Hr)
Depth of flow = 0.504(Ft.), Average velocity = 2.797(Ft/s)
Critical depth = 0.398(Ft.)
End of computations, Total Study Area = 48.06 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 21
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 21.000 to Point/Station 21.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 61.58
Adjusted SCS curve number for AMC 3 = 80.26
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.365(In/Hr)
Initial subarea data:
Initial area flow distance = 947.000(Ft.)
Top (of initial area) elevation = 1926.400(Ft.)
Bottom (of initial area) elevation = 1924.800(Ft.)
Difference in elevation = 1.600(Ft.)
Slope = 0.00169 s(%)= 0.17
TC = k(0.875)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 48.662 min.
Rainfall intensity = 1.575(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.691
Subarea runoff = 10.765(CFS)
Total initial stream area = 9.890(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.365(In/Hr)
End of computations, Total Study Area = 9.89 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 61.6

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 22
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 22.000 to Point/Station 22.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 392.000(Ft.)
Top (of initial area) elevation = 1928.100(Ft.)
Bottom (of initial area) elevation = 1924.000(Ft.)
Difference in elevation = 4.100(Ft.)
Slope = 0.01046 s(%)= 1.05
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 23.534 min.
Rainfall intensity = 2.619(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.776
Subarea runoff = 7.583(CFS)
Total initial stream area = 3.730(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 3.73 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 27
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.380 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 27.000 to Point/Station 27.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 424.000(Ft.)
Top (of initial area) elevation = 1908.100(Ft.)
Bottom (of initial area) elevation = 1906.000(Ft.)
Difference in elevation = 2.100(Ft.)
Slope = 0.00495 s(%)= 0.50
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 28.201 min.
Rainfall intensity = 2.341(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.762
Subarea runoff = 10.967(CFS)
Total initial stream area = 6.150(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 6.15 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 23
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 23.000 to Point/Station 23.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 770.000(Ft.)
Top (of initial area) elevation = 1926.000(Ft.)
Bottom (of initial area) elevation = 1922.200(Ft.)
Difference in elevation = 3.800(Ft.)
Slope = 0.00494 s(%)= 0.49
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 35.828 min.
Rainfall intensity = 1.951(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.734
Subarea runoff = 14.324(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

++

Process from Point/Station 23.100 to Point/Station 23.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1922.200(Ft.)
Downstream point elevation = 1917.200(Ft.)

Channel length thru subarea = 1058.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   24.034(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   24.034(CFS)
Depth of flow =   0.338(Ft.), Average velocity =   1.402(Ft/s)
Channel flow top width =   51.353(Ft.)
Flow Velocity =   1.40(Ft/s)
Travel time =   12.58 min.
Time of concentration =   48.41 min.
Critical depth =   0.191(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 61.57
Adjusted SCS curve number for AMC 3 = 80.26
Pervious ratio(Ap) = 1.0000   Max loss rate(Fm)=   0.365(In/Hr)
Rainfall intensity =   1.581(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.693
Subarea runoff =   19.357(CFS) for   20.750(Ac.)
Total runoff =   33.681(CFS)
Effective area this stream =   30.75(Ac.)
Total Study Area (Main Stream No. 1) =   30.75(Ac.)
Area averaged Fm value =   0.364(In/Hr)
Depth of flow =   0.414(Ft.), Average velocity =   1.600(Ft/s)
Critical depth =   0.242(Ft.)

++
Process from Point/Station   23.200 to Point/Station   23.300
**** IMPROVED CHANNEL TRAVEL TIME ****
____
Upstream point elevation = 1917.200(Ft.)
Downstream point elevation = 1910.200(Ft.)
Channel length thru subarea = 2495.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   40.629(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   40.629(CFS)
Depth of flow =   0.542(Ft.), Average velocity =   1.469(Ft/s)
Channel flow top width =   52.166(Ft.)
Flow Velocity =   1.47(Ft/s)
Travel time =   28.31 min.
Time of concentration =   76.72 min.
Critical depth =   0.273(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 58.95
Adjusted SCS curve number for AMC 3 = 78.16
Pervious ratio(Ap) = 1.0000   Max loss rate(Fm)=   0.401(In/Hr)
Rainfall intensity =   1.145(In/Hr) for a   100.0 year storm

Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.598
Subarea runoff = 13.838(CFS) for 38.660(Ac.)
Total runoff = 47.519(CFS)
Effective area this stream = 69.41(Ac.)
Total Study Area (Main Stream No. 1) = 69.41(Ac.)
Area averaged Fm value = 0.384(In/Hr)
Depth of flow = 0.595(Ft.), Average velocity = 1.561(Ft/s)
Critical depth = 0.301(Ft.)
End of computations, Total Study Area = 69.41 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 60.2

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 24
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.350 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 24.000 to Point/Station 24.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 807.000(Ft.)
Top (of initial area) elevation = 1941.900(Ft.)
Bottom (of initial area) elevation = 1938.400(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.00434 s(%)= 0.43
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 37.462 min.
Rainfall intensity = 1.877(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.728
Subarea runoff = 13.659(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

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Process from Point/Station 24.100 to Point/Station 24.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1938.400(Ft.)
Downstream point elevation = 1936.300(Ft.)

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Channel length thru subarea  =  1074.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     21.046(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     21.046(CFS)
Depth of flow =   0.407(Ft.), Average velocity =   1.018(Ft/s)
Channel flow top width =   51.628(Ft.)
Flow Velocity =    1.02(Ft/s)
Travel time  =   17.59 min.
Time of concentration =   55.05 min.
Critical depth =      0.176(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.434(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.674
Subarea runoff =     14.699(CFS) for   19.330(Ac.)
Total runoff =     28.358(CFS)
Effective area this stream =       29.33(Ac.)
Total Study Area (Main Stream No. 1) =       29.33(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.487(Ft.), Average velocity =   1.143(Ft/s)
Critical depth =      0.215(Ft.)


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Process from Point/Station       24.200 to Point/Station       24.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1936.300(Ft.)
Downstream point elevation =  1929.100(Ft.)
Channel length thru subarea  =  1697.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     41.644(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     41.644(CFS)
Depth of flow =   0.486(Ft.), Average velocity =   1.682(Ft/s)
Channel flow top width =   51.943(Ft.)
Flow Velocity =    1.68(Ft/s)
Travel time  =   16.81 min.
Time of concentration =   71.86 min.
Critical depth =      0.277(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 61.06
Adjusted SCS curve number for AMC 3 = 79.85
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.372(In/Hr)
Rainfall intensity =      1.190(In/Hr) for a   100.0 year storm
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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.622
Subarea runoff =     26.474(CFS) for   44.740(Ac.)
Total runoff =     54.832(CFS)
Effective area this stream =       74.07(Ac.)
Total Study Area (Main Stream No. 1) =       74.07(Ac.)
Area averaged Fm value =    0.367(In/Hr)
Depth of flow =   0.573(Ft.), Average velocity =   1.872(Ft/s)
Critical depth =      0.332(Ft.)


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Process from Point/Station       24.300 to Point/Station       24.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1929.100(Ft.)
Downstream point elevation =  1921.900(Ft.)
Channel length thru subarea  =  1554.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     59.050(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     59.050(CFS)
Depth of flow =   0.583(Ft.), Average velocity =   1.980(Ft/s)
Channel flow top width =   52.332(Ft.)
Flow Velocity =    1.98(Ft/s)
Travel time  =   13.08 min.
Time of concentration =   84.95 min.
Critical depth =      0.352(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 59.81
Adjusted SCS curve number for AMC 3 = 78.85
Pervious ratio(Ap) = 0.9960     Max loss rate(Fm)=     0.388(In/Hr)
Rainfall intensity =      1.058(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.583
Subarea runoff =      8.373(CFS) for   28.390(Ac.)
Total runoff =     63.205(CFS)
Effective area this stream =      102.46(Ac.)
Total Study Area (Main Stream No. 1) =      102.46(Ac.)
Area averaged Fm value =    0.373(In/Hr)
Depth of flow =   0.607(Ft.), Average velocity =   2.033(Ft/s)
Critical depth =      0.367(Ft.)


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Process from Point/Station       24.300 to Point/Station       24.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    102.460(Ac.)
Runoff from this stream =     63.205(CFS)
Time of concentration =   84.95 min.
Rainfall intensity =     1.058(In/Hr)
Area averaged loss rate (Fm) =    0.3730(In/Hr)
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Area averaged Pervious ratio (Ap) = 0.9989


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Process from Point/Station       24.500 to Point/Station       24.600
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 60.62
Adjusted SCS curve number for AMC 3 = 79.50
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.378(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1940.000(Ft.)
Bottom (of initial area) elevation =  1932.200(Ft.)
Difference in elevation =     7.800(Ft.)
Slope =    0.00780  s(%)=       0.78
TC = k(0.894)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   37.389 min.
Rainfall intensity =      1.880(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.719
Subarea runoff =      8.784(CFS)
Total initial stream area =        6.500(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.378(In/Hr)


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Process from Point/Station       24.600 to Point/Station       24.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1932.200(Ft.)
Downstream point elevation =  1928.300(Ft.)
Channel length thru subarea  =   755.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     15.363(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     15.363(CFS)
Depth of flow =   0.252(Ft.), Average velocity =   1.207(Ft/s)
Channel flow top width =   51.008(Ft.)
Flow Velocity =    1.21(Ft/s)
Travel time  =   10.42 min.
Time of concentration =   47.81 min.
Critical depth =      0.143(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.11
Adjusted SCS curve number for AMC 3 = 77.49
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.412(In/Hr)
Rainfall intensity =      1.583(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.672
Subarea runoff =     13.094(CFS) for   14.080(Ac.)
Total runoff =     21.878(CFS)
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```
Effective area this stream =       20.58(Ac.)
Total Study Area (Main Stream No. 1) =      123.04(Ac.)
Area averaged Fm value =    0.401(In/Hr)
Depth of flow =   0.311(Ft.), Average velocity =   1.388(Ft/s)
Critical depth =      0.180(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       24.700 to Point/Station       24.800
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1928.300(Ft.)
Downstream point elevation =  1927.300(Ft.)
Channel length thru subarea  =  1059.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     29.962(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     29.962(CFS)
Depth of flow =   0.625(Ft.), Average velocity =   0.935(Ft/s)
Channel flow top width =   52.501(Ft.)
Flow Velocity =    0.94(Ft/s)
Travel time  =   18.87 min.
Time of concentration =   66.69 min.
Critical depth =      0.223(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 59.72
Adjusted SCS curve number for AMC 3 = 78.78
Pervious ratio(Ap) = 0.9940     Max loss rate(Fm)=     0.388(In/Hr)
Rainfall intensity =      1.254(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.617
Subarea runoff =     16.082(CFS) for   28.460(Ac.)
Total runoff =     37.959(CFS)
Effective area this stream =       49.04(Ac.)
Total Study Area (Main Stream No. 1) =      151.50(Ac.)
Area averaged Fm value =    0.394(In/Hr)
Depth of flow =   0.720(Ft.), Average velocity =   1.025(Ft/s)
Critical depth =      0.262(Ft.)


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Process from Point/Station       24.800 to Point/Station       24.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1927.300(Ft.)
Downstream point elevation =  1921.900(Ft.)
Channel length thru subarea  =  1788.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     39.933(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     39.933(CFS)
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Depth of flow =   0.524(Ft.), Average velocity =   1.492(Ft/s)
Channel flow top width =   52.097(Ft.)
Flow Velocity =    1.49(Ft/s)
Travel time  =   19.97 min.
Time of concentration =   86.66 min.
Critical depth =      0.270(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 61.09
Adjusted SCS curve number for AMC 3 = 79.87
Pervious ratio(Ap) = 0.9950     Max loss rate(Fm)=     0.370(In/Hr)
Rainfall intensity =      1.044(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.567
Subarea runoff =      3.877(CFS) for   21.690(Ac.)
Total runoff =     41.836(CFS)
Effective area this stream =       70.73(Ac.)
Total Study Area (Main Stream No. 1) =      173.19(Ac.)
Area averaged Fm value =    0.386(In/Hr)
Depth of flow =   0.539(Ft.), Average velocity =   1.519(Ft/s)
Critical depth =      0.277(Ft.)


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Process from Point/Station       24.800 to Point/Station       24.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     70.730(Ac.)
Runoff from this stream =     41.836(CFS)
Time of concentration =   86.66 min.
Rainfall intensity =     1.044(In/Hr)
Area averaged loss rate (Fm) =    0.3865(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9961
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     63.20   102.460     84.95    0.373      1.058
2     41.84    70.730     86.66    0.386      1.044
Qmax(1) =
           1.000 *    1.000 *    63.205) +
           1.022 *    0.980 *    41.836) + =     105.130
Qmax(2) =
           0.979 *    1.000 *    63.205) +
           1.000 *    1.000 *    41.836) + =     103.687

Total of 2 streams to confluence:
Flow rates before confluence point:
      63.205      41.836
Maximum flow rates at confluence using above data:
      105.130      103.687
Area of streams before confluence:
      102.460       70.730
Effective area values after confluence:
      171.792      173.190
```

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Results of confluence:
Total flow rate =    105.130(CFS)
Time of concentration =    84.946 min.
Effective stream area after confluence =    171.792(Ac.)
Study area average Pervious fraction(Ap) =  0.998
Study area average soil loss rate(Fm) =    0.378(In/Hr)
Study area total (this main stream) =     173.19(Ac.)


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Process from Point/Station       24.400 to Point/Station       24.900
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1921.900(Ft.)
Downstream point elevation =  1914.200(Ft.)
Channel length thru subarea  =  4942.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    105.169(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    105.169(CFS)
Depth of flow =   1.139(Ft.), Average velocity =   1.765(Ft/s)
Channel flow top width =   54.558(Ft.)
Flow Velocity =    1.77(Ft/s)
Travel time  =   46.65 min.
Time of concentration =  131.60 min.
Critical depth =      0.516(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 59.21
Adjusted SCS curve number for AMC 3 = 78.37
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.397(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    103.108(CFS)
therefore the upstream flow rate of Q =    105.130(CFS) is being used
Rainfall intensity =      0.779(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.454
Subarea runoff =      0.000(CFS) for  119.870(Ac.)
Total runoff =    105.130(CFS)
Effective area this stream =      291.66(Ac.)
Total Study Area (Main Stream No. 1) =      293.06(Ac.)
Area averaged Fm value =    0.386(In/Hr)
Depth of flow =   1.139(Ft.), Average velocity =   1.765(Ft/s)
Critical depth =      0.516(Ft.)
End of computations, Total Study Area =          293.06 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.999
Area averaged SCS curve number =  60.0
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San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXITING CONDITIONS AREA 28
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 28.000 to Point/Station 28.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 58.00
Adjusted SCS curve number for AMC 3 = 77.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.414(In/Hr)
Initial subarea data:
Initial area flow distance = 752.000(Ft.)
Top (of initial area) elevation = 1892.100(Ft.)
Bottom (of initial area) elevation = 1890.100(Ft.)
Difference in elevation = 2.000(Ft.)
Slope = 0.00266 s(%)= 0.27
TC = k(0.945)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 43.768 min.
Rainfall intensity = 1.733(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.685
Subarea runoff = 11.879(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.414(In/Hr)

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Process from Point/Station 28.100 to Point/Station 28.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1890.100(Ft.)
Downstream point elevation = 1887.500(Ft.)

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Channel length thru subarea  =  1206.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     12.845(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     12.845(CFS)
Depth of flow =   0.294(Ft.), Average velocity =   0.863(Ft/s)
Channel flow top width =   51.176(Ft.)
Flow Velocity =    0.86(Ft/s)
Travel time  =   23.28 min.
Time of concentration =   67.05 min.
Critical depth =      0.127(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.00
Adjusted SCS curve number for AMC 3 = 77.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.414(In/Hr)
Rainfall intensity =      1.286(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.611
Subarea runoff =      1.847(CFS) for    7.480(Ac.)
Total runoff =     13.727(CFS)
Effective area this stream =       17.48(Ac.)
Total Study Area (Main Stream No. 1) =       17.48(Ac.)
Area averaged Fm value =    0.414(In/Hr)
Depth of flow =   0.306(Ft.), Average velocity =   0.886(Ft/s)
Critical depth =      0.133(Ft.)


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Process from Point/Station       28.100 to Point/Station       28.200
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     17.480(Ac.)
Runoff from this stream =     13.727(CFS)
Time of concentration =   67.05 min.
Rainfall intensity =     1.286(In/Hr)
Area averaged loss rate (Fm) =    0.4135(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000


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Process from Point/Station       28.300 to Point/Station       28.400
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.00
Adjusted SCS curve number for AMC 3 = 77.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.414(In/Hr)
Initial subarea data:
Initial area flow distance =   752.000(Ft.)
Top (of initial area) elevation =  1890.900(Ft.)
Bottom (of initial area) elevation =  1887.600(Ft.)
Difference in elevation =     3.300(Ft.)
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Slope =    0.00439  s(%)=       0.44
TC = k(0.945)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   39.597 min.
Rainfall intensity =      1.859(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.700
Subarea runoff =     13.012(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.414(In/Hr)


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Process from Point/Station       28.400 to Point/Station       28.200
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1887.600(Ft.)
Downstream point elevation =  1887.500(Ft.)
Channel length thru subarea  =   578.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.367(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.367(CFS)
Depth of flow =   0.669(Ft.), Average velocity =   0.418(Ft/s)
Channel flow top width =   52.676(Ft.)
Flow Velocity =    0.42(Ft/s)
Travel time  =   23.03 min.
Time of concentration =   62.63 min.
Critical depth =      0.137(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.00
Adjusted SCS curve number for AMC 3 = 77.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.414(In/Hr)
Rainfall intensity =      1.349(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.624
Subarea runoff =      2.654(CFS) for    8.610(Ac.)
Total runoff =     15.667(CFS)
Effective area this stream =       18.61(Ac.)
Total Study Area (Main Stream No. 1) =       36.09(Ac.)
Area averaged Fm value =    0.414(In/Hr)
Depth of flow =   0.705(Ft.), Average velocity =   0.432(Ft/s)
Critical depth =      0.145(Ft.)


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Process from Point/Station       28.400 to Point/Station       28.200
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     18.610(Ac.)
Runoff from this stream =     15.667(CFS)
Time of concentration =   62.63 min.
Rainfall intensity =     1.349(In/Hr)
Area averaged loss rate (Fm) =    0.4135(In/Hr)
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Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     13.73    17.480     67.05    0.414      1.286
2     15.67    18.610     62.63    0.414      1.349
Qmax(1) =
           1.000 *    1.000 *    13.727) +
           0.933 *    1.000 *    15.667) + =      28.341
Qmax(2) =
           1.072 *    0.934 *    13.727) +
           1.000 *    1.000 *    15.667) + =      29.413

Total of 2 streams to confluence:
Flow rates before confluence point:
      13.727      15.667
Maximum flow rates at confluence using above data:
       28.341       29.413
Area of streams before confluence:
       17.480       18.610
Effective area values after confluence:
       36.090       34.938
Results of confluence:
Total flow rate =     29.413(CFS)
Time of concentration =    62.628 min.
Effective stream area after confluence =     34.938(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.414(In/Hr)
Study area total (this main stream) =      36.09(Ac.)


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Process from Point/Station       28.200 to Point/Station       28.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1887.500(Ft.)
Downstream point elevation =  1884.400(Ft.)
Channel length thru subarea  =  1132.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     35.617(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     35.617(CFS)
Depth of flow =   0.504(Ft.), Average velocity =   1.385(Ft/s)
Channel flow top width =   52.017(Ft.)
Flow Velocity =    1.38(Ft/s)
Travel time  =   13.62 min.
Time of concentration =   76.25 min.
Critical depth =      0.250(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 59.30
Adjusted SCS curve number for AMC 3 = 78.44
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Pervious ratio(Ap) = 0.9960 Max loss rate(Fm)= 0.395(In/Hr)
Rainfall intensity = 1.175(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.589
Subarea runoff = 12.319(CFS) for 25.300(Ac.)
Total runoff = 41.731(CFS)
Effective area this stream = 60.24(Ac.)
Total Study Area (Main Stream No. 1) = 61.39(Ac.)
Area averaged Fm value = 0.406(In/Hr)
Depth of flow = 0.554(Ft.), Average velocity = 1.473(Ft/s)
Critical depth = 0.277(Ft.)
End of computations, Total Study Area = 61.39 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.998
Area averaged SCS curve number = 58.5

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 25
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 25.000 to Point/Station 25.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 61.51
Adjusted SCS curve number for AMC 3 = 80.21
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.366(In/Hr)
Initial subarea data:
Initial area flow distance = 879.000(Ft.)
Top (of initial area) elevation = 1935.000(Ft.)
Bottom (of initial area) elevation = 1925.300(Ft.)
Difference in elevation = 9.700(Ft.)
Slope = 0.01104 s(%)= 1.10
TC = k(0.877)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 32.501 min.
Rainfall intensity = 2.089(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.742
Subarea runoff = 15.504(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.366(In/Hr)

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Process from Point/Station 25.100 to Point/Station 25.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1925.300(Ft.)
Downstream point elevation = 1923.000(Ft.)

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Channel length thru subarea  =  1574.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     21.485(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     21.485(CFS)
Depth of flow =   0.450(Ft.), Average velocity =   0.939(Ft/s)
Channel flow top width =   51.798(Ft.)
Flow Velocity =    0.94(Ft/s)
Travel time  =   27.94 min.
Time of concentration =   60.44 min.
Critical depth =      0.180(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.353(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.659
Subarea runoff =     11.876(CFS) for   20.690(Ac.)
Total runoff =     27.380(CFS)
Effective area this stream =       30.69(Ac.)
Total Study Area (Main Stream No. 1) =       30.69(Ac.)
Area averaged Fm value =    0.362(In/Hr)
Depth of flow =   0.520(Ft.), Average velocity =   1.032(Ft/s)
Critical depth =      0.211(Ft.)


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Process from Point/Station       25.200 to Point/Station       25.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1923.000(Ft.)
Downstream point elevation =  1922.900(Ft.)
Channel length thru subarea  =  1306.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     30.106(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     30.106(CFS)
Depth of flow =   1.327(Ft.), Average velocity =   0.431(Ft/s)
Channel flow top width =   55.308(Ft.)
Flow Velocity =    0.43(Ft/s)
Travel time  =   50.51 min.
Time of concentration =  110.96 min.
Critical depth =      0.223(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      0.884(In/Hr) for a   100.0 year storm
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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.533
Subarea runoff =      5.382(CFS) for   38.800(Ac.)
Total runoff =     32.762(CFS)
Effective area this stream =       69.49(Ac.)
Total Study Area (Main Stream No. 1) =       69.49(Ac.)
Area averaged Fm value =    0.361(In/Hr)
Depth of flow =   1.395(Ft.), Average velocity =   0.445(Ft/s)
Critical depth =      0.236(Ft.)


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Process from Point/Station       25.300 to Point/Station       25.400
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1922.900(Ft.)
Downstream point elevation =  1916.700(Ft.)
Channel length thru subarea  =  1863.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     46.033(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     46.033(CFS)
Depth of flow =   0.555(Ft.), Average velocity =   1.624(Ft/s)
Channel flow top width =   52.218(Ft.)
Flow Velocity =    1.62(Ft/s)
Travel time  =   19.12 min.
Time of concentration =  130.07 min.
Critical depth =      0.297(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 61.41
Adjusted SCS curve number for AMC 3 = 80.13
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.368(In/Hr)
Rainfall intensity =      0.791(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.485
Subarea runoff =     26.469(CFS) for   84.700(Ac.)
Total runoff =     59.232(CFS)
Effective area this stream =      154.19(Ac.)
Total Study Area (Main Stream No. 1) =      154.19(Ac.)
Area averaged Fm value =    0.364(In/Hr)
Depth of flow =   0.645(Ft.), Average velocity =   1.791(Ft/s)
Critical depth =      0.352(Ft.)


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Process from Point/Station       25.400 to Point/Station       25.500
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1916.700(Ft.)
Downstream point elevation =  1906.400(Ft.)
Channel length thru subarea  =   125.720(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
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Estimated mean flow rate at midpoint of channel =     83.070(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     83.070(CFS)
Depth of flow =   0.303(Ft.), Average velocity =   5.424(Ft/s)
Channel flow top width =   51.210(Ft.)
Flow Velocity =    5.42(Ft/s)
Travel time  =    0.39 min.
Time of concentration =  130.46 min.
Critical depth =      0.438(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 61.40
Adjusted SCS curve number for AMC 3 = 80.12
Pervious ratio(Ap) = 0.9980     Max loss rate(Fm)=     0.367(In/Hr)
Rainfall intensity =      0.790(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.483
Subarea runoff =     47.588(CFS) for  125.720(Ac.)
Total runoff =    106.820(CFS)
Effective area this stream =      279.91(Ac.)
Total Study Area (Main Stream No. 1) =      279.91(Ac.)
Area averaged Fm value =    0.366(In/Hr)
Depth of flow =   0.352(Ft.), Average velocity =   5.988(Ft/s)
Critical depth =      0.516(Ft.)
End of computations, Total Study Area =          279.91 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.999
Area averaged SCS curve number =  61.5
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San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 26
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 26.000 to Point/Station 26.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1912.600(Ft.)
Bottom (of initial area) elevation = 1905.800(Ft.)
Difference in elevation = 6.800(Ft.)
Slope = 0.00680 s(%)= 0.68
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 37.306 min.
Rainfall intensity = 1.939(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.733
Subarea runoff = 6.807(CFS)
Total initial stream area = 4.790(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)

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Process from Point/Station 26.000 to Point/Station 26.100
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 4.790(Ac.)

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Runoff from this stream =      6.807(CFS)
Time of concentration =   37.31 min.
Rainfall intensity =     1.939(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000


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Process from Point/Station       26.200 to Point/Station       26.100
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Initial subarea data:
Initial area flow distance =   694.000(Ft.)
Top (of initial area) elevation =  1906.900(Ft.)
Bottom (of initial area) elevation =  1905.800(Ft.)
Difference in elevation =     1.100(Ft.)
Slope =    0.00159  s(%)=       0.16
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   43.134 min.
Rainfall intensity =      1.751(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.715
Subarea runoff =      6.413(CFS)
Total initial stream area =        5.120(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.360(In/Hr)


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Process from Point/Station       26.200 to Point/Station       26.100
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.120(Ac.)
Runoff from this stream =      6.413(CFS)
Time of concentration =   43.13 min.
Rainfall intensity =     1.751(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area     TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1      6.81     4.790     37.31    0.360      1.939
2      6.41     5.120     43.13    0.360      1.751
Qmax(1) =
           1.000 *    1.000 *     6.807) +
           1.135 *    0.865 *     6.413) + =      13.100
Qmax(2) =
           0.881 *    1.000 *     6.807) +
           1.000 *    1.000 *     6.413) + =      12.412

Total of 2 streams to confluence:
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Flow rates before confluence point:
       6.807       6.413
Maximum flow rates at confluence using above data:
       13.100       12.412
Area of streams before confluence:
        4.790        5.120
Effective area values after confluence:
        9.218        9.910
Results of confluence:
Total flow rate =     13.100(CFS)
Time of concentration =    37.306 min.
Effective stream area after confluence =      9.218(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.360(In/Hr)
Study area total (this main stream) =       9.91(Ac.)


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Process from Point/Station       26.100 to Point/Station       26.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1905.800(Ft.)
Downstream point elevation =  1904.600(Ft.)
Channel length thru subarea  =   403.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.513(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.513(CFS)
Depth of flow =   0.287(Ft.), Average velocity =   0.999(Ft/s)
Channel flow top width =   51.149(Ft.)
Flow Velocity =    1.00(Ft/s)
Travel time  =    6.72 min.
Time of concentration =   44.03 min.
Critical depth =      0.137(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.726(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.713
Subarea runoff =      2.741(CFS) for    3.660(Ac.)
Total runoff =     15.841(CFS)
Effective area this stream =       12.88(Ac.)
Total Study Area (Main Stream No. 1) =       13.57(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.303(Ft.), Average velocity =   1.034(Ft/s)
Critical depth =      0.146(Ft.)


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Process from Point/Station       26.100 to Point/Station       26.300
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
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```
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     12.878(Ac.)
Runoff from this stream =     15.841(CFS)
Time of concentration =   44.03 min.
Rainfall intensity =     1.726(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000


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Process from Point/Station       26.400 to Point/Station       26.300
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Initial subarea data:
Initial area flow distance =   792.000(Ft.)
Top (of initial area) elevation =  1913.200(Ft.)
Bottom (of initial area) elevation =  1904.600(Ft.)
Difference in elevation =     8.600(Ft.)
Slope =    0.01086  s(%)=       1.09
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   30.947 min.
Rainfall intensity =      2.209(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.754
Subarea runoff =      7.276(CFS)
Total initial stream area =        4.370(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.360(In/Hr)


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Process from Point/Station       26.400 to Point/Station       26.300
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.370(Ac.)
Runoff from this stream =      7.276(CFS)
Time of concentration =   30.95 min.
Rainfall intensity =     2.209(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area     TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     15.84    12.878     44.03    0.360      1.726
2      7.28     4.370     30.95    0.360      2.209
Qmax(1) =
           1.000 *    1.000 *    15.841) +
           0.739 *    1.000 *     7.276) + =      21.216
Qmax(2) =
           1.354 *    0.703 *    15.841) +
           1.000 *    1.000 *     7.276) + =      22.346
```

```
Total of 2 streams to confluence:
Flow rates before confluence point:
      15.841       7.276
Maximum flow rates at confluence using above data:
       21.216       22.346
Area of streams before confluence:
       12.878        4.370
Effective area values after confluence:
       17.248       13.422
Results of confluence:
Total flow rate =     22.346(CFS)
Time of concentration =    30.947 min.
Effective stream area after confluence =     13.422(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.360(In/Hr)
Study area total (this main stream) =      17.25(Ac.)


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Process from Point/Station       26.300 to Point/Station       26.500
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1904.600(Ft.)
Downstream point elevation =  1904.500(Ft.)
Channel length thru subarea  =   391.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     22.375(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     22.375(CFS)
Depth of flow =   0.776(Ft.), Average velocity =   0.559(Ft/s)
Channel flow top width =   53.103(Ft.)
Flow Velocity =    0.56(Ft/s)
Travel time  =   11.65 min.
Time of concentration =   42.59 min.
Critical depth =      0.184(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     22.241(CFS)
therefore the upstream flow rate of Q =     22.346(CFS) is being used
Rainfall intensity =      1.767(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.717
Subarea runoff =      0.000(CFS) for    4.140(Ac.)
Total runoff =     22.346(CFS)
Effective area this stream =       17.56(Ac.)
Total Study Area (Main Stream No. 1) =       22.08(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.775(Ft.), Average velocity =   0.559(Ft/s)
Critical depth =      0.184(Ft.)
```

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Process from Point/Station       26.300 to Point/Station       26.500
**** CONFLUENCE OF MINOR STREAMS ****
----------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     17.562(Ac.)
Runoff from this stream =     22.346(CFS)
Time of concentration =   42.59 min.
Rainfall intensity =     1.767(In/Hr)
Area averaged loss rate (Fm) =    0.3596(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000


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Process from Point/Station       26.600 to Point/Station       26.700
**** INITIAL AREA EVALUATION ****
----------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 60.53
Adjusted SCS curve number for AMC 3 = 79.42
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.380(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1912.700(Ft.)
Bottom (of initial area) elevation =  1908.000(Ft.)
Difference in elevation =     4.700(Ft.)
Slope =    0.00470  s(%)=       0.47
TC = k(0.895)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   41.456 min.
Rainfall intensity =      1.801(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.710
Subarea runoff =     12.060(CFS)
Total initial stream area =        9.430(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.380(In/Hr)


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Process from Point/Station       26.700 to Point/Station       26.500
**** IMPROVED CHANNEL TRAVEL TIME ****
----------------------------------------------------------------------------
Upstream point elevation =  1908.000(Ft.)
Downstream point elevation =  1904.500(Ft.)
Channel length thru subarea  =   534.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     12.325(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     12.325(CFS)
Depth of flow =   0.206(Ft.), Average velocity =   1.189(Ft/s)
Channel flow top width =   50.822(Ft.)
Flow Velocity =    1.19(Ft/s)
Travel time  =    7.48 min.
Time of concentration =   48.94 min.
Critical depth =      0.123(Ft.)
```

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 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.603(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.689
Subarea runoff =      0.462(CFS) for    1.910(Ac.)
Total runoff =     12.522(CFS)
Effective area this stream =       11.34(Ac.)
Total Study Area (Main Stream No. 1) =       33.42(Ac.)
Area averaged Fm value =    0.376(In/Hr)
Depth of flow =   0.208(Ft.), Average velocity =   1.197(Ft/s)
Critical depth =      0.125(Ft.)


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Process from Point/Station       26.700 to Point/Station       26.500
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     11.340(Ac.)
Runoff from this stream =     12.522(CFS)
Time of concentration =   48.94 min.
Rainfall intensity =     1.603(In/Hr)
Area averaged loss rate (Fm) =    0.3762(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     22.35    17.562     42.59    0.360      1.767
2     12.52    11.340     48.94    0.376      1.603
Qmax(1) =
           1.000 *    1.000 *    22.346) +
           1.133 *    0.870 *    12.522) + =      34.698
Qmax(2) =
           0.884 *    1.000 *    22.346) +
           1.000 *    1.000 *    12.522) + =      32.270

Total of 2 streams to confluence:
Flow rates before confluence point:
      22.346      12.522
Maximum flow rates at confluence using above data:
       34.698       32.270
Area of streams before confluence:
       17.562       11.340
Effective area values after confluence:
       27.432       28.902
Results of confluence:
Total flow rate =     34.698(CFS)
Time of concentration =    42.595 min.
Effective stream area after confluence =     27.432(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.366(In/Hr)
```

Study area total (this main stream) =   28.90(Ac.)

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Process from Point/Station   26.500 to Point/Station   26.800
**** IMPROVED CHANNEL TRAVEL TIME ****
____
Upstream point elevation = 1904.500(Ft.)
Downstream point elevation = 1904.100(Ft.)
Channel length thru subarea =   369.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   34.748(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   34.748(CFS)
Depth of flow =   0.655(Ft.), Average velocity =   1.033(Ft/s)
Channel flow top width =   52.622(Ft.)
Flow Velocity =   1.03(Ft/s)
Travel time =   5.95 min.
Time of concentration =   48.55 min.
Critical depth =   0.246(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000   Max loss rate(Fm)=   0.360(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =   33.593(CFS)
therefore the upstream flow rate of Q =   34.698(CFS) is being used
Rainfall intensity =   1.612(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.696
Subarea runoff =   0.000(CFS) for   2.510(Ac.)
Total runoff =   34.698(CFS)
Effective area this stream =   29.94(Ac.)
Total Study Area (Main Stream No. 1) =   35.93(Ac.)
Area averaged Fm value =   0.366(In/Hr)
Depth of flow =   0.655(Ft.), Average velocity =   1.033(Ft/s)
Critical depth =   0.246(Ft.)

++
Process from Point/Station   26.500 to Point/Station   26.800
**** CONFLUENCE OF MINOR STREAMS ****
____
Along Main Stream number: 1 in normal stream number 1
Stream flow area =   29.942(Ac.)
Runoff from this stream =   34.698(CFS)
Time of concentration =   48.55 min.
Rainfall intensity =   1.612(In/Hr)
Area averaged loss rate (Fm) =   0.3655(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000

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Process from Point/Station   26.900 to Point/Station   26.100

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**** INITIAL AREA EVALUATION ****
_____________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 61.95
Adjusted SCS curve number for AMC 3 = 80.56
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Initial subarea data:
Initial area flow distance =   755.000(Ft.)
Top (of initial area) elevation =  1911.000(Ft.)
Bottom (of initial area) elevation =  1905.600(Ft.)
Difference in elevation =     5.400(Ft.)
Slope =    0.00715  s(%)=       0.72
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   33.040 min.
Rainfall intensity =      2.111(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.746
Subarea runoff =     15.753(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.360(In/Hr)


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Process from Point/Station       26.100 to Point/Station       26.800
**** IMPROVED CHANNEL TRAVEL TIME ****
_____________________________________________________________________
Upstream point elevation =  1905.600(Ft.)
Downstream point elevation =  1904.100(Ft.)
Channel length thru subarea  =   690.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     18.709(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     18.709(CFS)
Depth of flow =   0.367(Ft.), Average velocity =   1.004(Ft/s)
Channel flow top width =   51.470(Ft.)
Flow Velocity =    1.00(Ft/s)
Travel time  =   11.46 min.
Time of concentration =   44.50 min.
Critical depth =      0.162(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.713(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.711
Subarea runoff =      5.846(CFS) for    7.730(Ac.)
Total runoff =     21.598(CFS)
Effective area this stream =       17.73(Ac.)
Total Study Area (Main Stream No. 1) =       53.66(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.400(Ft.), Average velocity =   1.062(Ft/s)
Critical depth =      0.180(Ft.)
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Process from Point/Station       26.100 to Point/Station       26.800
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     17.730(Ac.)
Runoff from this stream =     21.598(CFS)
Time of concentration =   44.50 min.
Rainfall intensity =     1.713(In/Hr)
Area averaged loss rate (Fm) =    0.3599(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     34.70    29.942     48.55    0.366      1.612
2     21.60    17.730     44.50    0.360      1.713
Qmax(1) =
           1.000 *    1.000 *    34.698) +
           0.925 *    1.000 *    21.598) + =      54.680
Qmax(2) =
           1.081 *    0.917 *    34.698) +
           1.000 *    1.000 *    21.598) + =      55.988

Total of 2 streams to confluence:
Flow rates before confluence point:
      34.698      21.598
Maximum flow rates at confluence using above data:
       54.680       55.988
Area of streams before confluence:
       29.942       17.730
Effective area values after confluence:
       47.672       45.175
Results of confluence:
Total flow rate =     55.988(CFS)
Time of concentration =    44.499 min.
Effective stream area after confluence =     45.175(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.363(In/Hr)
Study area total (this main stream) =      47.67(Ac.)


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Process from Point/Station       26.800 to Point/Station       26.110
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1904.100(Ft.)
Downstream point elevation =  1902.500(Ft.)
Channel length thru subarea  =  1377.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     59.913(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
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Flow(q) thru subarea =     59.913(CFS)
Depth of flow =   0.699(Ft.), Average velocity =   1.123(Ft/s)
Channel flow top width =   77.794(Ft.)
Flow Velocity =    1.12(Ft/s)
Travel time  =   20.44 min.
Time of concentration =   64.94 min.
Critical depth =      0.270(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.315(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.652
Subarea runoff =      7.761(CFS) for   29.140(Ac.)
Total runoff =     63.749(CFS)
Effective area this stream =       74.31(Ac.)
Total Study Area (Main Stream No. 1) =       82.80(Ac.)
Area averaged Fm value =    0.362(In/Hr)
Depth of flow =   0.725(Ft.), Average velocity =   1.150(Ft/s)
Critical depth =      0.281(Ft.)


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Process from Point/Station       26.110 to Point/Station       26.120
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1902.500(Ft.)
Downstream point elevation =  1897.100(Ft.)
Channel length thru subarea  =  2640.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     66.881(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     66.881(CFS)
Depth of flow =   0.630(Ft.), Average velocity =   1.392(Ft/s)
Channel flow top width =   77.520(Ft.)
Flow Velocity =    1.39(Ft/s)
Travel time  =   31.60 min.
Time of concentration =   96.55 min.
Critical depth =      0.289(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      0.996(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.574
Subarea runoff =      6.201(CFS) for   48.020(Ac.)
Total runoff =     69.950(CFS)
Effective area this stream =      122.33(Ac.)
Total Study Area (Main Stream No. 1) =      130.82(Ac.)
Area averaged Fm value =    0.361(In/Hr)
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Depth of flow =   0.647(Ft.), Average velocity =   1.417(Ft/s)
Critical depth =      0.301(Ft.)


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Process from Point/Station       26.120 to Point/Station       26.130
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1897.100(Ft.)
Downstream point elevation =  1893.100(Ft.)
Channel length thru subarea  =  1785.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     70.632(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     70.632(CFS)
Depth of flow =   0.806(Ft.), Average velocity =   1.698(Ft/s)
Channel flow top width =   53.225(Ft.)
Flow Velocity =    1.70(Ft/s)
Travel time  =   17.53 min.
Time of concentration =  114.07 min.
Critical depth =      0.395(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      0.887(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.534
Subarea runoff =      1.290(CFS) for   28.210(Ac.)
Total runoff =     71.241(CFS)
Effective area this stream =      150.54(Ac.)
Total Study Area (Main Stream No. 1) =      159.03(Ac.)
Area averaged Fm value =    0.361(In/Hr)
Depth of flow =   0.810(Ft.), Average velocity =   1.703(Ft/s)
Critical depth =      0.398(Ft.)


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Process from Point/Station       26.120 to Point/Station       26.130
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    150.545(Ac.)
Runoff from this stream =     71.241(CFS)
Time of concentration =  114.07 min.
Rainfall intensity =     0.887(In/Hr)
Area averaged loss rate (Fm) =    0.3607(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.140 to Point/Station       26.150
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
```

```
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Initial subarea data:
Initial area flow distance =   707.000(Ft.)
Top (of initial area) elevation =  1908.100(Ft.)
Bottom (of initial area) elevation =  1905.800(Ft.)
Difference in elevation =     2.300(Ft.)
Slope =    0.00325  s(%)=       0.33
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   37.635 min.
Rainfall intensity =      1.927(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.732
Subarea runoff =     12.073(CFS)
Total initial stream area =        8.560(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.360(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.150 to Point/Station       26.160
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1905.800(Ft.)
Downstream point elevation =  1901.600(Ft.)
Channel length thru subarea  =  1141.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     19.856(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.856(CFS)
Depth of flow =   0.325(Ft.), Average velocity =   1.205(Ft/s)
Channel flow top width =   51.301(Ft.)
Flow Velocity =    1.21(Ft/s)
Travel time  =   15.78 min.
Time of concentration =   53.41 min.
Critical depth =      0.170(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.508(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.685
Subarea runoff =     15.502(CFS) for   18.120(Ac.)
Total runoff =     27.575(CFS)
Effective area this stream =       26.68(Ac.)
Total Study Area (Main Stream No. 1) =      185.71(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.396(Ft.), Average velocity =   1.371(Ft/s)
Critical depth =      0.211(Ft.)
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.160 to Point/Station       26.170
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1901.600(Ft.)
Downstream point elevation =  1896.100(Ft.)
Channel length thru subarea  =  1868.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     40.200(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     40.200(CFS)
Depth of flow =   0.530(Ft.), Average velocity =   1.484(Ft/s)
Channel flow top width =   52.122(Ft.)
Flow Velocity =    1.48(Ft/s)
Travel time  =   20.98 min.
Time of concentration =   74.39 min.
Critical depth =      0.270(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9860     Max loss rate(Fm)=     0.355(In/Hr)
Rainfall intensity =      1.196(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.632
Subarea runoff =     25.187(CFS) for   43.160(Ac.)
Total runoff =     52.762(CFS)
Effective area this stream =       69.84(Ac.)
Total Study Area (Main Stream No. 1) =      228.87(Ac.)
Area averaged Fm value =    0.356(In/Hr)
Depth of flow =   0.624(Ft.), Average velocity =   1.650(Ft/s)
Critical depth =      0.324(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.170 to Point/Station       26.130
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1896.100(Ft.)
Downstream point elevation =  1893.100(Ft.)
Channel length thru subarea  =  1118.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     54.006(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     54.006(CFS)
Depth of flow =   0.651(Ft.), Average velocity =   1.618(Ft/s)
Channel flow top width =   52.603(Ft.)
Flow Velocity =    1.62(Ft/s)
Travel time  =   11.52 min.
Time of concentration =   85.90 min.
Critical depth =      0.328(Ft.)
 Adding area flow to channel
```

```
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9930     Max loss rate(Fm)=     0.357(In/Hr)
Rainfall intensity =      1.081(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.603
Subarea runoff =      2.408(CFS) for   14.750(Ac.)
Total runoff =     55.170(CFS)
Effective area this stream =       84.59(Ac.)
Total Study Area (Main Stream No. 1) =      243.62(Ac.)
Area averaged Fm value =    0.357(In/Hr)
Depth of flow =   0.659(Ft.), Average velocity =   1.631(Ft/s)
Critical depth =      0.336(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.170 to Point/Station       26.130
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     84.590(Ac.)
Runoff from this stream =     55.170(CFS)
Time of concentration =   85.90 min.
Rainfall intensity =     1.081(In/Hr)
Area averaged loss rate (Fm) =    0.3566(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9916
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     71.24   150.545    114.07    0.361      0.887
2     55.17    84.590     85.90    0.357      1.081
Qmax(1) =
           1.000 *    1.000 *    71.241) +
           0.731 *    1.000 *    55.170) + =     111.588
Qmax(2) =
           1.370 *    0.753 *    71.241) +
           1.000 *    1.000 *    55.170) + =     128.682

Total of 2 streams to confluence:
Flow rates before confluence point:
      71.241      55.170
Maximum flow rates at confluence using above data:
      111.588      128.682
Area of streams before confluence:
      150.545       84.590
Effective area values after confluence:
      235.135      197.958
Results of confluence:
Total flow rate =    128.682(CFS)
Time of concentration =    85.903 min.
Effective stream area after confluence =    197.958(Ac.)
Study area average Pervious fraction(Ap) =  0.997
Study area average soil loss rate(Fm) =    0.359(In/Hr)
Study area total (this main stream) =     235.13(Ac.)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.130 to Point/Station       26.180
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.100(Ft.)
Downstream point elevation =  1890.700(Ft.)
Channel length thru subarea  =  2434.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    128.716(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    128.716(CFS)
Depth of flow =   1.159(Ft.), Average velocity =   1.436(Ft/s)
Channel flow top width =   79.637(Ft.)
Flow Velocity =    1.44(Ft/s)
Travel time  =   28.25 min.
Time of concentration =  114.15 min.
Critical depth =      0.449(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.81
Adjusted SCS curve number for AMC 3 = 81.25
Pervious ratio(Ap) = 0.9950     Max loss rate(Fm)=     0.347(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    106.897(CFS)
therefore the upstream flow rate of Q =    128.682(CFS) is being used
Rainfall intensity =      0.886(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.537
Subarea runoff =      0.000(CFS) for   26.840(Ac.)
Total runoff =    128.682(CFS)
Effective area this stream =      224.80(Ac.)
Total Study Area (Main Stream No. 1) =      270.46(Ac.)
Area averaged Fm value =    0.358(In/Hr)
Depth of flow =   1.159(Ft.), Average velocity =   1.436(Ft/s)
Critical depth =      0.449(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.130 to Point/Station       26.180
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    224.798(Ac.)
Runoff from this stream =    128.682(CFS)
Time of concentration =  114.15 min.
Rainfall intensity =     0.886(In/Hr)
Area averaged loss rate (Fm) =    0.3577(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9968


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.190 to Point/Station       26.200
**** INITIAL AREA EVALUATION ****
```

```
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Initial subarea data:
Initial area flow distance =   967.000(Ft.)
Top (of initial area) elevation =  1900.300(Ft.)
Bottom (of initial area) elevation =  1894.200(Ft.)
Difference in elevation =     6.100(Ft.)
Slope =    0.00631  s(%)=       0.63
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   37.366 min.
Rainfall intensity =      1.936(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.733
Subarea runoff =     10.899(CFS)
Total initial stream area =        7.680(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.360(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.200 to Point/Station       26.210
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1894.200(Ft.)
Downstream point elevation =  1890.800(Ft.)
Channel length thru subarea  =  1041.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     19.843(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.843(CFS)
Depth of flow =   0.337(Ft.), Average velocity =   1.162(Ft/s)
Channel flow top width =   51.348(Ft.)
Flow Velocity =    1.16(Ft/s)
Travel time  =   14.93 min.
Time of concentration =   52.29 min.
Critical depth =      0.170(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.360(In/Hr)
Rainfall intensity =      1.530(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.689
Subarea runoff =     17.826(CFS) for   19.580(Ac.)
Total runoff =     28.725(CFS)
Effective area this stream =       27.26(Ac.)
Total Study Area (Main Stream No. 1) =      297.72(Ac.)
Area averaged Fm value =    0.360(In/Hr)
Depth of flow =   0.420(Ft.), Average velocity =   1.344(Ft/s)
Critical depth =      0.217(Ft.)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.210 to Point/Station       26.180
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1890.800(Ft.)
Downstream point elevation =  1890.700(Ft.)
Channel length thru subarea  =  1444.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     28.752(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     28.752(CFS)
Depth of flow =   1.047(Ft.), Average velocity =   0.356(Ft/s)
Channel flow top width =   79.187(Ft.)
Flow Velocity =    0.36(Ft/s)
Travel time  =   67.55 min.
Time of concentration =  119.84 min.
Critical depth =      0.166(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.79
Adjusted SCS curve number for AMC 3 = 81.23
Pervious ratio(Ap) = 0.9870     Max loss rate(Fm)=     0.344(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     23.961(CFS)
therefore the upstream flow rate of Q =     28.725(CFS) is being used
Rainfall intensity =      0.856(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.530
Subarea runoff =      0.000(CFS) for   25.530(Ac.)
Total runoff =     28.725(CFS)
Effective area this stream =       52.79(Ac.)
Total Study Area (Main Stream No. 1) =      323.25(Ac.)
Area averaged Fm value =    0.352(In/Hr)
Depth of flow =   1.046(Ft.), Average velocity =   0.356(Ft/s)
Critical depth =      0.166(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.210 to Point/Station       26.180
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     52.790(Ac.)
Runoff from this stream =     28.725(CFS)
Time of concentration =  119.84 min.
Rainfall intensity =     0.856(In/Hr)
Area averaged loss rate (Fm) =    0.3521(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9937
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
```

```
1    128.68   224.798    114.15    0.358      0.886
2     28.73    52.790    119.84    0.352      0.856
Qmax(1) =
           1.000 *    1.000 *   128.682) +
           1.059 *    0.953 *    28.725) + =     157.653
Qmax(2) =
           0.944 *    1.000 *   128.682) +
           1.000 *    1.000 *    28.725) + =     150.188

Total of 2 streams to confluence:
Flow rates before confluence point:
     128.682      28.725
Maximum flow rates at confluence using above data:
      157.653      150.188
Area of streams before confluence:
      224.798       52.790
Effective area values after confluence:
      275.083      277.588
Results of confluence:
Total flow rate =    157.653(CFS)
Time of concentration =   114.153 min.
Effective stream area after confluence =    275.083(Ac.)
Study area average Pervious fraction(Ap) =  0.996
Study area average soil loss rate(Fm) =    0.357(In/Hr)
Study area total (this main stream) =     277.59(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.180 to Point/Station       26.220
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1890.700(Ft.)
Downstream point elevation =  1887.200(Ft.)
Channel length thru subarea  =  1942.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    157.695(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    157.695(CFS)
Depth of flow =   1.093(Ft.), Average velocity =   1.869(Ft/s)
Channel flow top width =   79.372(Ft.)
Flow Velocity =    1.87(Ft/s)
Travel time  =   17.32 min.
Time of concentration =  131.47 min.
Critical depth =      0.516(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 59.04
Adjusted SCS curve number for AMC 3 = 78.23
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.400(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    117.246(CFS)
therefore the upstream flow rate of Q =    157.653(CFS) is being used
Rainfall intensity =      0.803(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.497
```

```
Subarea runoff =      0.000(CFS) for   18.810(Ac.)
Total runoff =    157.653(CFS)
Effective area this stream =      293.89(Ac.)
Total Study Area (Main Stream No. 1) =      342.06(Ac.)
Area averaged Fm value =    0.359(In/Hr)
Depth of flow =   1.093(Ft.), Average velocity =   1.869(Ft/s)
Critical depth =      0.516(Ft.)
End of computations, Total Study Area =          342.06 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.997
Area averaged SCS curve number =  61.9
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 29
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 29.000 to Point/Station 29.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 58.00
Adjusted SCS curve number for AMC 3 = 77.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.414(In/Hr)
Initial subarea data:
Initial area flow distance = 776.000(Ft.)
Top (of initial area) elevation = 1889.000(Ft.)
Bottom (of initial area) elevation = 1887.500(Ft.)
Difference in elevation = 1.500(Ft.)
Slope = 0.00193 s(%)= 0.19
TC = k(0.945)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 47.242 min.
Rainfall intensity = 1.643(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.674
Subarea runoff = 11.067(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.414(In/Hr)

++

Process from Point/Station 29.100 to Point/Station 29.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1887.500(Ft.)
Downstream point elevation = 1886.400(Ft.)

```
Channel length thru subarea  =   413.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     12.949(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     12.949(CFS)
Depth of flow =   0.277(Ft.), Average velocity =   0.924(Ft/s)
Channel flow top width =   51.109(Ft.)
Flow Velocity =    0.92(Ft/s)
Travel time  =    7.45 min.
Time of concentration =   54.70 min.
Critical depth =      0.127(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 59.40
Adjusted SCS curve number for AMC 3 = 78.52
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.395(In/Hr)
Rainfall intensity =      1.483(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.653
Subarea runoff =      3.691(CFS) for    5.240(Ac.)
Total runoff =     14.758(CFS)
Effective area this stream =       15.24(Ac.)
Total Study Area (Main Stream No. 1) =       15.24(Ac.)
Area averaged Fm value =    0.407(In/Hr)
Depth of flow =   0.300(Ft.), Average velocity =   0.972(Ft/s)
Critical depth =      0.139(Ft.)
End of computations, Total Study Area =           15.24 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  58.5
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/04/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 30
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 30.000 to Point/Station 30.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 73.93
Adjusted SCS curve number for AMC 3 = 90.14
Pervious ratio(Ap) = 0.8580 Max loss rate(Fm)= 0.163(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1902.900(Ft.)
Bottom (of initial area) elevation = 1896.400(Ft.)
Difference in elevation = 6.500(Ft.)
Slope = 0.00650 s(%)= 0.65
TC = k(0.486)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.092 min.
Rainfall intensity = 2.910(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.850
Subarea runoff = 18.027(CFS)
Total initial stream area = 7.290(Ac.)
Pervious area fraction = 0.858
Initial area Fm value = 0.163(In/Hr)

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Process from Point/Station 30.100 to Point/Station 30.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1896.400(Ft.)
Downstream point elevation = 1893.000(Ft.)

```
Channel length thru subarea  =  1043.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     27.827(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     27.827(CFS)
Depth of flow =   0.413(Ft.), Average velocity =   1.326(Ft/s)
Channel flow top width =   51.651(Ft.)
Flow Velocity =    1.33(Ft/s)
Travel time  =   13.11 min.
Time of concentration =   34.20 min.
Critical depth =      0.211(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.85
Adjusted SCS curve number for AMC 3 = 93.31
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.130(In/Hr)
Rainfall intensity =      2.075(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.839
Subarea runoff =     19.547(CFS) for   14.300(Ac.)
Total runoff =     37.574(CFS)
Effective area this stream =       21.59(Ac.)
Total Study Area (Main Stream No. 1) =       21.59(Ac.)
Area averaged Fm value =    0.141(In/Hr)
Depth of flow =   0.494(Ft.), Average velocity =   1.491(Ft/s)
Critical depth =      0.258(Ft.)


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Process from Point/Station       30.200 to Point/Station       30.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1893.000(Ft.)
Downstream point elevation =  1891.100(Ft.)
Channel length thru subarea  =  1163.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     53.632(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     53.632(CFS)
Depth of flow =   0.752(Ft.), Average velocity =   1.385(Ft/s)
Channel flow top width =   53.006(Ft.)
Flow Velocity =    1.39(Ft/s)
Travel time  =   13.99 min.
Time of concentration =   48.19 min.
Critical depth =      0.328(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 77.80
Adjusted SCS curve number for AMC 3 = 92.68
Pervious ratio(Ap) = 0.9920     Max loss rate(Fm)=     0.141(In/Hr)
Rainfall intensity =      1.632(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.822
Subarea runoff =     32.055(CFS) for   30.300(Ac.)
Total runoff =     69.629(CFS)
Effective area this stream =       51.89(Ac.)
Total Study Area (Main Stream No. 1) =       51.89(Ac.)
Area averaged Fm value =    0.141(In/Hr)
Depth of flow =   0.878(Ft.), Average velocity =   1.531(Ft/s)
Critical depth =      0.391(Ft.)


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Process from Point/Station       30.300 to Point/Station       30.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1891.100(Ft.)
Downstream point elevation =  1886.000(Ft.)
Channel length thru subarea  =  2235.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    104.196(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    104.196(CFS)
Depth of flow =   1.011(Ft.), Average velocity =   1.980(Ft/s)
Channel flow top width =   54.045(Ft.)
Flow Velocity =    1.98(Ft/s)
Travel time  =   18.81 min.
Time of concentration =   67.00 min.
Critical depth =      0.508(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 75.86
Adjusted SCS curve number for AMC 3 = 91.52
Pervious ratio(Ap) = 0.9910     Max loss rate(Fm)=     0.163(In/Hr)
Rainfall intensity =      1.296(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.793
Subarea runoff =     69.065(CFS) for   83.110(Ac.)
Total runoff =    138.695(CFS)
Effective area this stream =      135.00(Ac.)
Total Study Area (Main Stream No. 1) =      135.00(Ac.)
Area averaged Fm value =    0.154(In/Hr)
Depth of flow =   1.199(Ft.), Average velocity =   2.207(Ft/s)
Critical depth =      0.617(Ft.)
End of computations, Total Study Area =          135.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.985
Area averaged SCS curve number =  76.5
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 31
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 31.000 to Point/Station 31.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.6700 Max loss rate(Fm)= 0.241(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1924.300(Ft.)
Bottom (of initial area) elevation = 1920.600(Ft.)
Difference in elevation = 3.700(Ft.)
Slope = 0.00370 s(%)= 0.37
TC = k(0.440)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.357 min.
Rainfall intensity = 2.885(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.825
Subarea runoff = 12.470(CFS)
Total initial stream area = 5.240(Ac.)
Pervious area fraction = 0.670
Initial area Fm value = 0.241(In/Hr)

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Process from Point/Station 31.100 to Point/Station 31.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1920.600(Ft.)
Downstream point elevation = 1917.400(Ft.)

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Channel length thru subarea  =   991.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     18.806(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     18.806(CFS)
Depth of flow =   0.327(Ft.), Average velocity =   1.134(Ft/s)
Channel flow top width =   51.310(Ft.)
Flow Velocity =    1.13(Ft/s)
Travel time  =   14.57 min.
Time of concentration =   35.92 min.
Critical depth =      0.164(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.8450     Max loss rate(Fm)=     0.304(In/Hr)
Rainfall intensity =      2.005(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.773
Subarea runoff =     12.582(CFS) for   10.930(Ac.)
Total runoff =     25.052(CFS)
Effective area this stream =       16.17(Ac.)
Total Study Area (Main Stream No. 1) =       16.17(Ac.)
Area averaged Fm value =    0.283(In/Hr)
Depth of flow =   0.389(Ft.), Average velocity =   1.269(Ft/s)
Critical depth =      0.197(Ft.)


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Process from Point/Station       31.200 to Point/Station       31.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1917.400(Ft.)
Downstream point elevation =  1915.800(Ft.)
Channel length thru subarea  =   862.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     34.622(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     34.622(CFS)
Depth of flow =   0.557(Ft.), Average velocity =   1.216(Ft/s)
Channel flow top width =   52.227(Ft.)
Flow Velocity =    1.22(Ft/s)
Travel time  =   11.81 min.
Time of concentration =   47.73 min.
Critical depth =      0.246(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9670     Max loss rate(Fm)=     0.348(In/Hr)
Rainfall intensity =      1.643(In/Hr) for a   100.0 year storm
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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.725
Subarea runoff =     19.067(CFS) for   20.870(Ac.)
Total runoff =     44.118(CFS)
Effective area this stream =       37.04(Ac.)
Total Study Area (Main Stream No. 1) =       37.04(Ac.)
Area averaged Fm value =    0.320(In/Hr)
Depth of flow =   0.644(Ft.), Average velocity =   1.336(Ft/s)
Critical depth =      0.289(Ft.)


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Process from Point/Station       31.300 to Point/Station       31.400
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1915.800(Ft.)
Downstream point elevation =  1914.700(Ft.)
Channel length thru subarea  =  1062.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     58.278(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     58.278(CFS)
Depth of flow =   0.905(Ft.), Average velocity =   1.243(Ft/s)
Channel flow top width =   53.620(Ft.)
Flow Velocity =    1.24(Ft/s)
Travel time  =   14.24 min.
Time of concentration =   61.97 min.
Critical depth =      0.348(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9750     Max loss rate(Fm)=     0.351(In/Hr)
Rainfall intensity =      1.369(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.679
Subarea runoff =     28.262(CFS) for   40.830(Ac.)
Total runoff =     72.380(CFS)
Effective area this stream =       77.87(Ac.)
Total Study Area (Main Stream No. 1) =       77.87(Ac.)
Area averaged Fm value =    0.336(In/Hr)
Depth of flow =   1.030(Ft.), Average velocity =   1.350(Ft/s)
Critical depth =      0.398(Ft.)


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Process from Point/Station       31.400 to Point/Station       31.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1914.700(Ft.)
Downstream point elevation =  1905.300(Ft.)
Channel length thru subarea  =  3431.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
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Estimated mean flow rate at midpoint of channel =     85.684(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     85.684(CFS)
Depth of flow =   0.852(Ft.), Average velocity =   1.945(Ft/s)
Channel flow top width =   53.408(Ft.)
Flow Velocity =    1.94(Ft/s)
Travel time  =   29.40 min.
Time of concentration =   91.38 min.
Critical depth =      0.445(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 63.18
Adjusted SCS curve number for AMC 3 = 81.54
Pervious ratio(Ap) = 0.9600     Max loss rate(Fm)=     0.330(In/Hr)
Rainfall intensity =      1.043(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.613
Subarea runoff =     26.528(CFS) for   76.880(Ac.)
Total runoff =     98.908(CFS)
Effective area this stream =      154.75(Ac.)
Total Study Area (Main Stream No. 1) =      154.75(Ac.)
Area averaged Fm value =    0.333(In/Hr)
Depth of flow =   0.928(Ft.), Average velocity =   2.055(Ft/s)
Critical depth =      0.492(Ft.)


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Process from Point/Station       31.500 to Point/Station       31.600
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1905.300(Ft.)
Downstream point elevation =  1892.300(Ft.)
Channel length thru subarea  =  5186.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    126.263(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    126.263(CFS)
Depth of flow =   1.103(Ft.), Average velocity =   2.193(Ft/s)
Channel flow top width =   54.411(Ft.)
Flow Velocity =    2.19(Ft/s)
Travel time  =   39.41 min.
Time of concentration =  130.78 min.
Critical depth =      0.578(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 72.77
Adjusted SCS curve number for AMC 3 = 89.22
Pervious ratio(Ap) = 0.9500     Max loss rate(Fm)=     0.196(In/Hr)
Rainfall intensity =      0.811(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.607
Subarea runoff =     54.628(CFS) for  156.960(Ac.)
Total runoff =    153.537(CFS)
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Effective area this stream =      311.71(Ac.)
Total Study Area (Main Stream No. 1) =      311.71(Ac.)
Area averaged Fm value =    0.264(In/Hr)
Depth of flow =   1.239(Ft.), Average velocity =   2.361(Ft/s)
Critical depth =      0.656(Ft.)


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Process from Point/Station       31.600 to Point/Station       31.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1892.300(Ft.)
Downstream point elevation =  1886.800(Ft.)
Channel length thru subarea  =  2516.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    154.923(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    154.923(CFS)
Depth of flow =   1.298(Ft.), Average velocity =   2.270(Ft/s)
Channel flow top width =   55.190(Ft.)
Flow Velocity =    2.27(Ft/s)
Travel time  =   18.47 min.
Time of concentration =  149.26 min.
Critical depth =      0.664(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 69.92
Adjusted SCS curve number for AMC 3 = 86.94
Pervious ratio(Ap) = 0.9500     Max loss rate(Fm)=     0.236(In/Hr)
Rainfall intensity =      0.740(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.583
Subarea runoff =      2.721(CFS) for   50.340(Ac.)
Total runoff =    156.257(CFS)
Effective area this stream =      362.05(Ac.)
Total Study Area (Main Stream No. 1) =      362.05(Ac.)
Area averaged Fm value =    0.260(In/Hr)
Depth of flow =   1.304(Ft.), Average velocity =   2.277(Ft/s)
Critical depth =      0.664(Ft.)


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Process from Point/Station       31.600 to Point/Station       31.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    362.050(Ac.)
Runoff from this stream =    156.257(CFS)
Time of concentration =  149.26 min.
Rainfall intensity =     0.740(In/Hr)
Area averaged loss rate (Fm) =    0.2602(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9487


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Process from Point/Station       31.800 to Point/Station       31.900
**** INITIAL AREA EVALUATION ****
----------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.81
Adjusted SCS curve number for AMC 3 = 96.29
Pervious ratio(Ap) = 0.9590     Max loss rate(Fm)=     0.070(In/Hr)
Initial subarea data:
Initial area flow distance =   548.000(Ft.)
Top (of initial area) elevation =  1911.900(Ft.)
Bottom (of initial area) elevation =  1909.900(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00365  s(%)=       0.36
TC = k(0.511)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   19.565 min.
Rainfall intensity =      3.068(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff =     26.977(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.959
Initial area Fm value =    0.070(In/Hr)


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Process from Point/Station       31.900 to Point/Station       31.100
**** IMPROVED CHANNEL TRAVEL TIME ****
----------------------------------------------------------------------------
Upstream point elevation =  1909.900(Ft.)
Downstream point elevation =  1906.600(Ft.)
Channel length thru subarea  =  1333.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     40.609(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     40.609(CFS)
Depth of flow =   0.562(Ft.), Average velocity =   1.413(Ft/s)
Channel flow top width =   52.248(Ft.)
Flow Velocity =    1.41(Ft/s)
Travel time  =   15.72 min.
Time of concentration =   35.29 min.
Critical depth =      0.273(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 79.18
Adjusted SCS curve number for AMC 3 = 93.51
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.127(In/Hr)
Rainfall intensity =      2.030(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.852
Subarea runoff =     27.204(CFS) for   21.330(Ac.)
Total runoff =     54.181(CFS)
Effective area this stream =       31.33(Ac.)
Total Study Area (Main Stream No. 1) =      393.38(Ac.)
Area averaged Fm value =    0.109(In/Hr)
Depth of flow =   0.668(Ft.), Average velocity =   1.580(Ft/s)
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Critical depth =      0.328(Ft.)


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Process from Point/Station       31.100 to Point/Station       31.110
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1906.600(Ft.)
Downstream point elevation =  1902.700(Ft.)
Channel length thru subarea  =  1835.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     66.393(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     66.393(CFS)
Depth of flow =   0.789(Ft.), Average velocity =   1.631(Ft/s)
Channel flow top width =   53.157(Ft.)
Flow Velocity =    1.63(Ft/s)
Travel time  =   18.75 min.
Time of concentration =   54.04 min.
Critical depth =      0.379(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 60.03
Adjusted SCS curve number for AMC 3 = 79.02
Pervious ratio(Ap) = 0.9800     Max loss rate(Fm)=     0.379(In/Hr)
Rainfall intensity =      1.506(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.746
Subarea runoff =     24.352(CFS) for   38.540(Ac.)
Total runoff =     78.533(CFS)
Effective area this stream =       69.87(Ac.)
Total Study Area (Main Stream No. 1) =      431.92(Ac.)
Area averaged Fm value =    0.258(In/Hr)
Depth of flow =   0.873(Ft.), Average velocity =   1.739(Ft/s)
Critical depth =      0.422(Ft.)


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Process from Point/Station       31.110 to Point/Station       31.120
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1902.700(Ft.)
Downstream point elevation =  1893.600(Ft.)
Channel length thru subarea  =  3382.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    101.503(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    101.503(CFS)
Depth of flow =   0.948(Ft.), Average velocity =   2.063(Ft/s)
Channel flow top width =   53.791(Ft.)
Flow Velocity =    2.06(Ft/s)
Travel time  =   27.32 min.
```

```
Time of concentration =   81.35 min.
Critical depth =      0.500(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.02
Adjusted SCS curve number for AMC 3 = 80.62
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.323(In/Hr)
Rainfall intensity =      1.131(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.665
Subarea runoff =     45.879(CFS) for   95.540(Ac.)
Total runoff =    124.412(CFS)
Effective area this stream =      165.41(Ac.)
Total Study Area (Main Stream No. 1) =      527.46(Ac.)
Area averaged Fm value =    0.296(In/Hr)
Depth of flow =   1.070(Ft.), Average velocity =   2.229(Ft/s)
Critical depth =      0.570(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.120 to Point/Station       31.700
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1893.600(Ft.)
Downstream point elevation =  1886.800(Ft.)
Channel length thru subarea  =  2737.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    134.818(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    134.818(CFS)
Depth of flow =   1.150(Ft.), Average velocity =   2.242(Ft/s)
Channel flow top width =   54.599(Ft.)
Flow Velocity =    2.24(Ft/s)
Travel time  =   20.35 min.
Time of concentration =  101.70 min.
Critical depth =      0.602(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 76.19
Adjusted SCS curve number for AMC 3 = 91.71
Pervious ratio(Ap) = 0.9500     Max loss rate(Fm)=     0.152(In/Hr)
Rainfall intensity =      0.968(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.661
Subarea runoff =     20.745(CFS) for   61.480(Ac.)
Total runoff =    145.157(CFS)
Effective area this stream =      226.89(Ac.)
Total Study Area (Main Stream No. 1) =      588.94(Ac.)
Area averaged Fm value =    0.257(In/Hr)
Depth of flow =   1.202(Ft.), Average velocity =   2.305(Ft/s)
Critical depth =      0.633(Ft.)


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Process from Point/Station       31.120 to Point/Station       31.700
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =    226.890(Ac.)
Runoff from this stream =    145.157(CFS)
Time of concentration =  101.70 min.
Rainfall intensity =     0.968(In/Hr)
Area averaged loss rate (Fm) =    0.2568(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9391
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    156.26   362.050    149.26    0.260      0.740
2    145.16   226.890    101.70    0.257      0.968
Qmax(1) =
           1.000 *    1.000 *   156.257) +
           0.679 *    1.000 *   145.157) + =     254.881
Qmax(2) =
           1.475 *    0.681 *   156.257) +
           1.000 *    1.000 *   145.157) + =     302.224

Total of 2 streams to confluence:
Flow rates before confluence point:
     156.257     145.157
Maximum flow rates at confluence using above data:
      254.881      302.224
Area of streams before confluence:
      362.050      226.890
Effective area values after confluence:
      588.940      473.585
Results of confluence:
Total flow rate =    302.224(CFS)
Time of concentration =   101.701 min.
Effective stream area after confluence =    473.585(Ac.)
Study area average Pervious fraction(Ap) =  0.945
Study area average soil loss rate(Fm) =    0.259(In/Hr)
Study area total (this main stream) =     588.94(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.700 to Point/Station       31.130
**** IMPROVED CHANNEL TRAVEL TIME ****
____________________________________________________________________________
Upstream point elevation =  1886.800(Ft.)
Downstream point elevation =  1880.800(Ft.)
Channel length thru subarea  =  3029.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    302.252(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    302.252(CFS)
Depth of flow =   1.567(Ft.), Average velocity =   2.468(Ft/s)
Channel flow top width =   81.268(Ft.)
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```
Flow Velocity =    2.47(Ft/s)
Travel time  =   20.45 min.
Time of concentration =  122.15 min.
Critical depth =      0.789(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.39
Adjusted SCS curve number for AMC 3 = 94.83
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.101(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    283.438(CFS)
therefore the upstream flow rate of Q =    302.224(CFS) is being used
Rainfall intensity =      0.851(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.641
Subarea runoff =      0.000(CFS) for   45.930(Ac.)
Total runoff =    302.224(CFS)
Effective area this stream =      519.51(Ac.)
Total Study Area (Main Stream No. 1) =      634.87(Ac.)
Area averaged Fm value =    0.245(In/Hr)
Depth of flow =   1.567(Ft.), Average velocity =   2.468(Ft/s)
Critical depth =      0.789(Ft.)
End of computations, Total Study Area =          634.87 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.949
Area averaged SCS curve number =  69.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 36
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 36.000 to Point/Station 36.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 628.000(Ft.)
Top (of initial area) elevation = 1883.300(Ft.)
Bottom (of initial area) elevation = 1876.400(Ft.)
Difference in elevation = 6.900(Ft.)
Slope = 0.01099 s(%)= 1.10
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 17.533 min.
Rainfall intensity = 3.289(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.881
Subarea runoff = 10.338(CFS)
Total initial stream area = 3.570(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)
End of computations, Total Study Area = 3.57 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

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CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 32
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 32.000 to Point/Station 32.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.00
Adjusted SCS curve number for AMC 3 = 94.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.106(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1891.900(Ft.)
Bottom (of initial area) elevation = 1884.700(Ft.)
Difference in elevation = 7.200(Ft.)
Slope = 0.00720 s(%)= 0.72
TC = k(0.577)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.514 min.
Rainfall intensity = 2.601(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.863
Subarea runoff = 20.750(CFS)
Total initial stream area = 9.240(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.106(In/Hr)

++

Process from Point/Station 32.100 to Point/Station 32.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1884.700(Ft.)
Downstream point elevation = 1879.600(Ft.)

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Channel length thru subarea  =  1520.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     28.428(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     28.428(CFS)
Depth of flow =   0.415(Ft.), Average velocity =   1.349(Ft/s)
Channel flow top width =   51.658(Ft.)
Flow Velocity =    1.35(Ft/s)
Travel time  =   18.78 min.
Time of concentration =   43.29 min.
Critical depth =      0.215(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.39
Adjusted SCS curve number for AMC 3 = 94.83
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.101(In/Hr)
Rainfall intensity =      1.747(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.847
Subarea runoff =     15.290(CFS) for   15.120(Ac.)
Total runoff =     36.040(CFS)
Effective area this stream =       24.36(Ac.)
Total Study Area (Main Stream No. 1) =       24.36(Ac.)
Area averaged Fm value =    0.103(In/Hr)
Depth of flow =   0.478(Ft.), Average velocity =   1.480(Ft/s)
Critical depth =      0.252(Ft.)
End of computations, Total Study Area =           24.36 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  81.2
```

San Bernardino County Rational Hydrology Program

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Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 33
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 33.000 to Point/Station 33.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.00
Adjusted SCS curve number for AMC 3 = 94.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.106(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1892.300(Ft.)
Bottom (of initial area) elevation = 1885.700(Ft.)
Difference in elevation = 6.600(Ft.)
Slope = 0.00660 s(%)= 0.66
TC = k(0.577)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.944 min.
Rainfall intensity = 2.569(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.863
Subarea runoff = 12.861(CFS)
Total initial stream area = 5.800(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.106(In/Hr)

++

Process from Point/Station 33.100 to Point/Station 33.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1885.700(Ft.)
Downstream point elevation = 1883.700(Ft.)

```
Channel length thru subarea  =   819.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     21.068(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     21.068(CFS)
Depth of flow =   0.381(Ft.), Average velocity =   1.089(Ft/s)
Channel flow top width =   51.524(Ft.)
Flow Velocity =    1.09(Ft/s)
Travel time  =   12.53 min.
Time of concentration =   37.48 min.
Critical depth =      0.176(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.00
Adjusted SCS curve number for AMC 3 = 94.60
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.106(In/Hr)
Rainfall intensity =      1.932(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.851
Subarea runoff =     16.353(CFS) for   11.970(Ac.)
Total runoff =     29.214(CFS)
Effective area this stream =       17.77(Ac.)
Total Study Area (Main Stream No. 1) =       17.77(Ac.)
Area averaged Fm value =    0.106(In/Hr)
Depth of flow =   0.463(Ft.), Average velocity =   1.238(Ft/s)
Critical depth =      0.219(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       33.200 to Point/Station       33.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1883.700(Ft.)
Downstream point elevation =  1881.400(Ft.)
Channel length thru subarea  =   871.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     35.737(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     35.737(CFS)
Depth of flow =   0.511(Ft.), Average velocity =   1.371(Ft/s)
Channel flow top width =   52.043(Ft.)
Flow Velocity =    1.37(Ft/s)
Travel time  =   10.58 min.
Time of concentration =   48.06 min.
Critical depth =      0.250(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.16
Adjusted SCS curve number for AMC 3 = 94.70
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.104(In/Hr)
Rainfall intensity =      1.624(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.842
Subarea runoff =     12.964(CFS) for   13.090(Ac.)
Total runoff =     42.178(CFS)
Effective area this stream =       30.86(Ac.)
Total Study Area (Main Stream No. 1) =       30.86(Ac.)
Area averaged Fm value =    0.105(In/Hr)
Depth of flow =   0.564(Ft.), Average velocity =   1.463(Ft/s)
Critical depth =      0.281(Ft.)
End of computations, Total Study Area =           30.86 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  81.1
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 37
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 37.000 to Point/Station 37.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1883.000(Ft.)
Bottom (of initial area) elevation = 1878.400(Ft.)
Difference in elevation = 4.600(Ft.)
Slope = 0.00460 s(%)= 0.46
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 25.137 min.
Rainfall intensity = 2.556(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.875
Subarea runoff = 20.349(CFS)
Total initial stream area = 9.100(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)

++

Process from Point/Station 37.100 to Point/Station 37.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1878.400(Ft.)
Downstream point elevation = 1877.300(Ft.)

```
Channel length thru subarea  =   203.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     21.123(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     21.123(CFS)
Depth of flow =   0.301(Ft.), Average velocity =   1.389(Ft/s)
Channel flow top width =   51.202(Ft.)
Flow Velocity =    1.39(Ft/s)
Travel time  =    2.44 min.
Time of concentration =   27.57 min.
Critical depth =      0.176(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      2.395(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.873
Subarea runoff =      1.449(CFS) for    1.320(Ac.)
Total runoff =     21.799(CFS)
Effective area this stream =       10.42(Ac.)
Total Study Area (Main Stream No. 1) =       10.42(Ac.)
Area averaged Fm value =    0.071(In/Hr)
Depth of flow =   0.306(Ft.), Average velocity =   1.406(Ft/s)
Critical depth =      0.180(Ft.)
End of computations, Total Study Area =           10.42 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  84.0
```

San Bernardino County Rational Hydrology Program

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164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 34
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 34.000 to Point/Station 34.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.58
Adjusted SCS curve number for AMC 3 = 94.95
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.089(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1897.600(Ft.)
Bottom (of initial area) elevation = 1894.200(Ft.)
Difference in elevation = 3.400(Ft.)
Slope = 0.00340 s(%)= 0.34
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.523 min.
Rainfall intensity = 2.619(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.869
Subarea runoff = 11.840(CFS)
Total initial stream area = 5.200(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.089(In/Hr)

++

Process from Point/Station 34.100 to Point/Station 34.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1894.200(Ft.)
Downstream point elevation = 1893.300(Ft.)

Channel length thru subarea =   570.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   19.163(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   19.163(CFS)
Depth of flow =   0.410(Ft.), Average velocity =   0.919(Ft/s)
Channel flow top width =   51.641(Ft.)
Flow Velocity =   0.92(Ft/s)
Travel time =   10.33 min.
Time of concentration =   34.86 min.
Critical depth =   0.166(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.19
Adjusted SCS curve number for AMC 3 = 94.71
Pervious ratio(Ap) = 0.9000   Max loss rate(Fm)=   0.093(In/Hr)
Rainfall intensity =   2.047(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.860
Subarea runoff =   14.562(CFS) for   9.800(Ac.)
Total runoff =   26.402(CFS)
Effective area this stream =   15.00(Ac.)
Total Study Area (Main Stream No. 1) =   15.00(Ac.)
Area averaged Fm value =   0.092(In/Hr)
Depth of flow =   0.497(Ft.), Average velocity =   1.042(Ft/s)
Critical depth =   0.205(Ft.)

++
Process from Point/Station   34.200 to Point/Station   34.300
**** IMPROVED CHANNEL TRAVEL TIME ****
____
Upstream point elevation = 1893.300(Ft.)
Downstream point elevation = 1888.500(Ft.)
Channel length thru subarea = 1115.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   37.103(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   37.103(CFS)
Depth of flow =   0.451(Ft.), Average velocity =   1.615(Ft/s)
Channel flow top width =   51.805(Ft.)
Flow Velocity =   1.62(Ft/s)
Travel time =   11.50 min.
Time of concentration =   46.36 min.
Critical depth =   0.258(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.05
Adjusted SCS curve number for AMC 3 = 94.63
Pervious ratio(Ap) = 0.9000   Max loss rate(Fm)=   0.095(In/Hr)
Rainfall intensity =   1.677(In/Hr) for a   100.0 year storm

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.850
Subarea runoff =     21.343(CFS) for   18.500(Ac.)
Total runoff =     47.744(CFS)
Effective area this stream =       33.50(Ac.)
Total Study Area (Main Stream No. 1) =       33.50(Ac.)
Area averaged Fm value =    0.093(In/Hr)
Depth of flow =   0.525(Ft.), Average velocity =   1.782(Ft/s)
Critical depth =      0.305(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       34.300 to Point/Station       34.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1888.500(Ft.)
Downstream point elevation =  1885.500(Ft.)
Channel length thru subarea  =  1198.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     66.520(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     66.520(CFS)
Depth of flow =   0.752(Ft.), Average velocity =   1.717(Ft/s)
Channel flow top width =   53.010(Ft.)
Flow Velocity =    1.72(Ft/s)
Travel time  =   11.63 min.
Time of concentration =   57.99 min.
Critical depth =      0.379(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.00
Adjusted SCS curve number for AMC 3 = 95.80
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.083(In/Hr)
Rainfall intensity =      1.434(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.845
Subarea runoff =     37.475(CFS) for   36.850(Ac.)
Total runoff =     85.220(CFS)
Effective area this stream =       70.35(Ac.)
Total Study Area (Main Stream No. 1) =       70.35(Ac.)
Area averaged Fm value =    0.088(In/Hr)
Depth of flow =   0.872(Ft.), Average velocity =   1.888(Ft/s)
Critical depth =      0.445(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       34.400 to Point/Station       34.500
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1885.500(Ft.)
Downstream point elevation =  1881.800(Ft.)
Channel length thru subarea  =  1714.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
```

```
Estimated mean flow rate at midpoint of channel =     97.074(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     97.074(CFS)
Depth of flow =   0.986(Ft.), Average velocity =   1.895(Ft/s)
Channel flow top width =   53.943(Ft.)
Flow Velocity =    1.89(Ft/s)
Travel time  =   15.07 min.
Time of concentration =   73.07 min.
Critical depth =      0.484(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.63
Adjusted SCS curve number for AMC 3 = 94.98
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.098(In/Hr)
Rainfall intensity =      1.220(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.833
Subarea runoff =     23.655(CFS) for   36.880(Ac.)
Total runoff =    108.875(CFS)
Effective area this stream =      107.23(Ac.)
Total Study Area (Main Stream No. 1) =      107.23(Ac.)
Area averaged Fm value =    0.091(In/Hr)
Depth of flow =   1.056(Ft.), Average velocity =   1.979(Ft/s)
Critical depth =      0.523(Ft.)
End of computations, Total Study Area =          107.23 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.969
Area averaged SCS curve number =  82.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 35
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 35.000 to Point/Station 35.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 83.33
Adjusted SCS curve number for AMC 3 = 96.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.079(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1886.900(Ft.)
Bottom (of initial area) elevation = 1882.600(Ft.)
Difference in elevation = 4.300(Ft.)
Slope = 0.00430 s(%)= 0.43
TC = k(0.548)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 25.848 min.
Rainfall intensity = 2.506(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff = 13.676(CFS)
Total initial stream area = 6.260(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.079(In/Hr)

++

Process from Point/Station 35.100 to Point/Station 35.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1882.600(Ft.)
Downstream point elevation = 1880.800(Ft.)

Channel length thru subarea =   378.000(Ft.)
Channel base width   =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =   14.802(CFS)
Manning's 'N'   = 0.035
Maximum depth of channel =   1.000(Ft.)
Flow(q) thru subarea =   14.802(CFS)
Depth of flow =   0.252(Ft.), Average velocity =   1.161(Ft/s)
Channel flow top width =   51.010(Ft.)
Flow Velocity =   1.16(Ft/s)
Travel time =   5.43 min.
Time of concentration =   31.27 min.
Critical depth =   0.139(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000   Max loss rate(Fm)=   0.071(In/Hr)
Rainfall intensity =   2.193(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.868
Subarea runoff =   2.171(CFS) for   2.060(Ac.)
Total runoff =   15.847(CFS)
Effective area this stream =   8.32(Ac.)
Total Study Area (Main Stream No. 1) =   8.32(Ac.)
Area averaged Fm value =   0.077(In/Hr)
Depth of flow =   0.263(Ft.), Average velocity =   1.192(Ft/s)
Critical depth =   0.146(Ft.)

++
Process from Point/Station   35.100 to Point/Station   35.200
**** CONFLUENCE OF MINOR STREAMS ****
____
Along Main Stream number: 1 in normal stream number 1
Stream flow area =   8.320(Ac.)
Runoff from this stream =   15.847(CFS)
Time of concentration =   31.27 min.
Rainfall intensity =   2.193(In/Hr)
Area averaged loss rate (Fm) =   0.0769(In/Hr)
Area averaged Pervious ratio (Ap) = 1.0000

++
Process from Point/Station   35.300 to Point/Station   35.400
**** INITIAL AREA EVALUATION ****
____
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.19
Adjusted SCS curve number for AMC 3 = 94.71
Pervious ratio(Ap) = 1.0000   Max loss rate(Fm)=   0.104(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1887.000(Ft.)
Bottom (of initial area) elevation = 1881.700(Ft.)
Difference in elevation =   5.300(Ft.)

```
Slope =    0.00530  s(%)=       0.53
TC = k(0.574)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   25.956 min.
Rainfall intensity =      2.499(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.863
Subarea runoff =     21.558(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value =    0.104(In/Hr)


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Process from Point/Station       35.400 to Point/Station       35.200
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1881.700(Ft.)
Downstream point elevation =  1880.800(Ft.)
Channel length thru subarea  =   288.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     25.250(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.250(CFS)
Depth of flow =   0.394(Ft.), Average velocity =   1.260(Ft/s)
Channel flow top width =   51.578(Ft.)
Flow Velocity =    1.26(Ft/s)
Travel time  =    3.81 min.
Time of concentration =   29.76 min.
Critical depth =      0.199(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.13
Adjusted SCS curve number for AMC 3 = 95.88
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.081(In/Hr)
Rainfall intensity =      2.271(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.862
Subarea runoff =      7.285(CFS) for    4.740(Ac.)
Total runoff =     28.843(CFS)
Effective area this stream =       14.74(Ac.)
Total Study Area (Main Stream No. 1) =       23.06(Ac.)
Area averaged Fm value =    0.096(In/Hr)
Depth of flow =   0.427(Ft.), Average velocity =   1.328(Ft/s)
Critical depth =      0.217(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       35.400 to Point/Station       35.200
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     14.740(Ac.)
Runoff from this stream =     28.843(CFS)
Time of concentration =   29.76 min.
Rainfall intensity =     2.271(In/Hr)
Area averaged loss rate (Fm) =    0.0964(In/Hr)
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```
Area averaged Pervious ratio (Ap) = 1.0000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     15.85     8.320     31.27    0.077      2.193
2     28.84    14.740     29.76    0.096      2.271
Qmax(1) =
           1.000 *    1.000 *    15.847) +
           0.964 *    1.000 *    28.843) + =      43.664
Qmax(2) =
           1.037 *    0.952 *    15.847) +
           1.000 *    1.000 *    28.843) + =      44.476

Total of 2 streams to confluence:
Flow rates before confluence point:
      15.847      28.843
Maximum flow rates at confluence using above data:
       43.664       44.476
Area of streams before confluence:
        8.320       14.740
Effective area values after confluence:
       23.060       22.658
Results of confluence:
Total flow rate =     44.476(CFS)
Time of concentration =    29.765 min.
Effective stream area after confluence =     22.658(Ac.)
Study area average Pervious fraction(Ap) =  1.000
Study area average soil loss rate(Fm) =    0.089(In/Hr)
Study area total (this main stream) =      23.06(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       35.200 to Point/Station       35.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1880.800(Ft.)
Downstream point elevation =  1879.800(Ft.)
Channel length thru subarea  =   686.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     48.874(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     48.874(CFS)
Depth of flow =   0.736(Ft.), Average velocity =   1.291(Ft/s)
Channel flow top width =   52.943(Ft.)
Flow Velocity =    1.29(Ft/s)
Travel time  =    8.86 min.
Time of concentration =   38.62 min.
Critical depth =      0.309(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
```

```
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.892(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.860
Subarea runoff =      8.741(CFS) for   10.040(Ac.)
Total runoff =     53.217(CFS)
Effective area this stream =       32.70(Ac.)
Total Study Area (Main Stream No. 1) =       33.10(Ac.)
Area averaged Fm value =    0.084(In/Hr)
Depth of flow =   0.774(Ft.), Average velocity =   1.334(Ft/s)
Critical depth =      0.328(Ft.)
End of computations, Total Study Area =           33.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  82.9
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 38
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 38.000 to Point/Station 38.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1882.000(Ft.)
Bottom (of initial area) elevation = 1879.100(Ft.)
Difference in elevation = 2.900(Ft.)
Slope = 0.00290 s(%)= 0.29
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 27.566 min.
Rainfall intensity = 2.396(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.873
Subarea runoff = 16.090(CFS)
Total initial stream area = 7.690(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)

++

Process from Point/Station 38.100 to Point/Station 38.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1879.100(Ft.)
Downstream point elevation = 1877.700(Ft.)

```
Channel length thru subarea  =   276.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     19.895(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.895(CFS)
Depth of flow =   0.296(Ft.), Average velocity =   1.330(Ft/s)
Channel flow top width =   51.183(Ft.)
Flow Velocity =    1.33(Ft/s)
Travel time  =    3.46 min.
Time of concentration =   31.03 min.
Critical depth =      0.170(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      2.206(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =      7.539(CFS) for    4.610(Ac.)
Total runoff =     23.629(CFS)
Effective area this stream =       12.30(Ac.)
Total Study Area (Main Stream No. 1) =       12.30(Ac.)
Area averaged Fm value =    0.071(In/Hr)
Depth of flow =   0.328(Ft.), Average velocity =   1.423(Ft/s)
Critical depth =      0.191(Ft.)
End of computations, Total Study Area =           12.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  84.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 39
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 39.000 to Point/Station 39.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.324(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1903.000(Ft.)
Bottom (of initial area) elevation = 1897.800(Ft.)
Difference in elevation = 5.200(Ft.)
Slope = 0.00520 s(%)= 0.52
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.525 min.
Rainfall intensity = 2.780(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.795
Subarea runoff = 5.990(CFS)
Total initial stream area = 2.710(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.324(In/Hr)

++

Process from Point/Station 39.100 to Point/Station 39.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1897.800(Ft.)
Downstream point elevation = 1895.200(Ft.)

```
Channel length thru subarea  =   947.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =      8.921(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      8.921(CFS)
Depth of flow =   0.220(Ft.), Average velocity =   0.805(Ft/s)
Channel flow top width =   50.879(Ft.)
Flow Velocity =    0.80(Ft/s)
Travel time  =   19.62 min.
Time of concentration =   42.14 min.
Critical depth =      0.100(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 66.10
Adjusted SCS curve number for AMC 3 = 83.88
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.272(In/Hr)
Rainfall intensity =      1.793(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.755
Subarea runoff =      5.762(CFS) for    5.970(Ac.)
Total runoff =     11.752(CFS)
Effective area this stream =        8.68(Ac.)
Total Study Area (Main Stream No. 1) =        8.68(Ac.)
Area averaged Fm value =    0.288(In/Hr)
Depth of flow =   0.259(Ft.), Average velocity =   0.897(Ft/s)
Critical depth =      0.119(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.200 to Point/Station       39.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1895.200(Ft.)
Downstream point elevation =  1893.000(Ft.)
Channel length thru subarea  =  1225.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.890(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.890(CFS)
Depth of flow =   0.339(Ft.), Average velocity =   0.866(Ft/s)
Channel flow top width =   51.357(Ft.)
Flow Velocity =    0.87(Ft/s)
Travel time  =   23.58 min.
Time of concentration =   65.72 min.
Critical depth =      0.141(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.313(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.780
Subarea runoff =      6.209(CFS) for    8.850(Ac.)
Total runoff =     17.961(CFS)
Effective area this stream =       17.53(Ac.)
Total Study Area (Main Stream No. 1) =       17.53(Ac.)
Area averaged Fm value =    0.175(In/Hr)
Depth of flow =   0.380(Ft.), Average velocity =   0.932(Ft/s)
Critical depth =      0.158(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.300 to Point/Station       39.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.000(Ft.)
Downstream point elevation =  1889.200(Ft.)
Channel length thru subarea  =  1060.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     25.112(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.112(CFS)
Depth of flow =   0.377(Ft.), Average velocity =   1.311(Ft/s)
Channel flow top width =   51.509(Ft.)
Flow Velocity =    1.31(Ft/s)
Travel time  =   13.47 min.
Time of concentration =   79.20 min.
Critical depth =      0.199(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.153(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.806
Subarea runoff =     14.241(CFS) for   17.120(Ac.)
Total runoff =     32.202(CFS)
Effective area this stream =       34.65(Ac.)
Total Study Area (Main Stream No. 1) =       34.65(Ac.)
Area averaged Fm value =    0.120(In/Hr)
Depth of flow =   0.438(Ft.), Average velocity =   1.445(Ft/s)
Critical depth =      0.234(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.300 to Point/Station       39.400
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     34.650(Ac.)
Runoff from this stream =     32.202(CFS)
Time of concentration =   79.20 min.
Rainfall intensity =     1.153(In/Hr)
```

```
Area averaged loss rate (Fm) =    0.1201(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.500 to Point/Station       39.600
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1897.300(Ft.)
Bottom (of initial area) elevation =  1893.300(Ft.)
Difference in elevation =     4.000(Ft.)
Slope =    0.00400  s(%)=       0.40
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.739 min.
Rainfall intensity =      2.679(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff =     23.044(CFS)
Total initial stream area =        9.790(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


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Process from Point/Station       39.600 to Point/Station       39.700
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1893.300(Ft.)
Downstream point elevation =  1890.400(Ft.)
Channel length thru subarea  =  1661.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     34.587(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     34.587(CFS)
Depth of flow =   0.567(Ft.), Average velocity =   1.193(Ft/s)
Channel flow top width =   52.267(Ft.)
Flow Velocity =    1.19(Ft/s)
Travel time  =   23.20 min.
Time of concentration =   46.94 min.
Critical depth =      0.246(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.663(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.865
```

```
Subarea runoff =     23.026(CFS) for   22.230(Ac.)
Total runoff =     46.070(CFS)
Effective area this stream =       32.02(Ac.)
Total Study Area (Main Stream No. 2) =       66.67(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.673(Ft.), Average velocity =   1.334(Ft/s)
Critical depth =      0.297(Ft.)


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Process from Point/Station       39.600 to Point/Station       39.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     32.020(Ac.)
Runoff from this stream =     46.070(CFS)
Time of concentration =   46.94 min.
Rainfall intensity =     1.663(In/Hr)
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


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Process from Point/Station       39.800 to Point/Station       39.900
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1893.000(Ft.)
Bottom (of initial area) elevation =  1891.000(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00200  s(%)=       0.20
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   27.268 min.
Rainfall intensity =      2.431(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.876
Subarea runoff =     21.266(CFS)
Total initial stream area =        9.980(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


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Process from Point/Station       39.900 to Point/Station       39.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1891.000(Ft.)
Downstream point elevation =  1890.400(Ft.)
Channel length thru subarea  =   384.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     24.303(CFS)
Manning's 'N'    = 0.035
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Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     24.303(CFS)
Depth of flow =   0.474(Ft.), Average velocity =   1.005(Ft/s)
Channel flow top width =   51.898(Ft.)
Flow Velocity =    1.01(Ft/s)
Travel time  =    6.37 min.
Time of concentration =   33.63 min.
Critical depth =      0.193(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      2.099(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.873
Subarea runoff =      5.994(CFS) for    4.900(Ac.)
Total runoff =     27.259(CFS)
Effective area this stream =       14.88(Ac.)
Total Study Area (Main Stream No. 2) =       81.55(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.508(Ft.), Average velocity =   1.052(Ft/s)
Critical depth =      0.209(Ft.)


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Process from Point/Station       39.900 to Point/Station       39.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     14.880(Ac.)
Runoff from this stream =     27.259(CFS)
Time of concentration =   33.63 min.
Rainfall intensity =     2.099(In/Hr)
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     46.07    32.020     46.94    0.064      1.663
2     27.26    14.880     33.63    0.064      2.099
Qmax(1) =
           1.000 *    1.000 *    46.070) +
           0.785 *    1.000 *    27.259) + =      67.479
Qmax(2) =
           1.273 *    0.717 *    46.070) +
           1.000 *    1.000 *    27.259) + =      69.293

Total of 2 streams to confluence:
Flow rates before confluence point:
      46.070      27.259
Maximum flow rates at confluence using above data:
       67.479       69.293
Area of streams before confluence:
       32.020       14.880
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```
Effective area values after confluence:
       46.900       37.825
Results of confluence:
Total flow rate =     69.293(CFS)
Time of concentration =    33.634 min.
Effective stream area after confluence =     37.825(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.064(In/Hr)
Study area total (this main stream) =      46.90(Ac.)


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Process from Point/Station       39.700 to Point/Station       39.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1890.400(Ft.)
Downstream point elevation =  1889.200(Ft.)
Channel length thru subarea  =   638.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     70.522(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     70.522(CFS)
Depth of flow =   0.849(Ft.), Average velocity =   1.607(Ft/s)
Channel flow top width =   53.395(Ft.)
Flow Velocity =    1.61(Ft/s)
Travel time  =    6.62 min.
Time of concentration =   40.25 min.
Critical depth =      0.395(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.851(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.869
Subarea runoff =      2.370(CFS) for    6.720(Ac.)
Total runoff =     71.662(CFS)
Effective area this stream =       44.54(Ac.)
Total Study Area (Main Stream No. 2) =       88.27(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.857(Ft.), Average velocity =   1.617(Ft/s)
Critical depth =      0.398(Ft.)


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Process from Point/Station       39.700 to Point/Station       39.400
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     44.545(Ac.)
Runoff from this stream =     71.662(CFS)
Time of concentration =   40.25 min.
Rainfall intensity =     1.851(In/Hr)
```

```
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     32.20    34.650     79.20    0.120      1.153
2     71.66    44.545     40.25    0.064      1.851
Qmax(1) =
           1.000 *    1.000 *    32.202) +
           0.609 *    1.000 *    71.662) + =      75.855
Qmax(2) =
           1.677 *    0.508 *    32.202) +
           1.000 *    1.000 *    71.662) + =      99.101

Total of 2 main streams to confluence:
Flow rates before confluence point:
      33.202      72.662
Maximum flow rates at confluence using above data:
       75.855       99.101
Area of streams before confluence:
       34.650       44.545
Effective area values after confluence:
       79.195       62.155


Results of confluence:
Total flow rate =     99.101(CFS)
Time of concentration =    40.249 min.
Effective stream area after confluence  =     62.155(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.089(In/Hr)
Study area total =      79.19(Ac.)


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Process from Point/Station       39.400 to Point/Station       39.100
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1889.200(Ft.)
Downstream point elevation =  1887.800(Ft.)
Channel length thru subarea  =   551.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     99.346(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     99.346(CFS)
Depth of flow =   0.952(Ft.), Average velocity =   2.011(Ft/s)
Channel flow top width =   53.808(Ft.)
Flow Velocity =    2.01(Ft/s)
Travel time  =    4.57 min.
Time of concentration =   44.82 min.
Critical depth =      0.492(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
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```
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9800     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      1.717(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.854
Subarea runoff =      0.416(CFS) for    5.670(Ac.)
Total runoff =     99.517(CFS)
Effective area this stream =       67.82(Ac.)
Total Study Area (Main Stream No. 1) =       93.94(Ac.)
Area averaged Fm value =    0.087(In/Hr)
Depth of flow =   0.953(Ft.), Average velocity =   2.012(Ft/s)
Critical depth =      0.492(Ft.)


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Process from Point/Station       39.400 to Point/Station       39.100
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     67.825(Ac.)
Runoff from this stream =     99.517(CFS)
Time of concentration =   44.82 min.
Rainfall intensity =     1.717(In/Hr)
Area averaged loss rate (Fm) =    0.0869(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9067


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Process from Point/Station       39.110 to Point/Station       39.120
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1892.800(Ft.)
Bottom (of initial area) elevation =  1888.200(Ft.)
Difference in elevation =     4.600(Ft.)
Slope =    0.00460  s(%)=       0.46
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.084 min.
Rainfall intensity =      2.732(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff =     22.358(CFS)
Total initial stream area =        9.310(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


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Process from Point/Station       39.120 to Point/Station       39.100
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1888.200(Ft.)
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Downstream point elevation =  1887.800(Ft.)
Channel length thru subarea  =   425.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     22.406(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     22.406(CFS)
Depth of flow =   0.526(Ft.), Average velocity =   0.835(Ft/s)
Channel flow top width =   52.104(Ft.)
Flow Velocity =    0.83(Ft/s)
Travel time  =    8.49 min.
Time of concentration =   31.57 min.
Critical depth =      0.184(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     22.339(CFS)
therefore the upstream flow rate of Q =     22.358(CFS) is being used
Rainfall intensity =      2.194(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.874
Subarea runoff =      0.000(CFS) for    2.340(Ac.)
Total runoff =     22.358(CFS)
Effective area this stream =       11.65(Ac.)
Total Study Area (Main Stream No. 1) =      105.59(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.525(Ft.), Average velocity =   0.834(Ft/s)
Critical depth =      0.184(Ft.)


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Process from Point/Station       39.120 to Point/Station       39.100
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     11.650(Ac.)
Runoff from this stream =     22.358(CFS)
Time of concentration =   31.57 min.
Rainfall intensity =     2.194(In/Hr)
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     99.52    67.825     44.82    0.087      1.717
2     22.36    11.650     31.57    0.064      2.194
Qmax(1) =
           1.000 *    1.000 *    99.517) +
           0.776 *    1.000 *    22.358) + =     116.867
Qmax(2) =
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          1.293 *    0.704 *    99.517) +
          1.000 *    1.000 *    22.358) + =     112.986

Total of 2 streams to confluence:
Flow rates before confluence point:
      99.517      22.358
Maximum flow rates at confluence using above data:
      116.867      112.986
Area of streams before confluence:
       67.825       11.650
Effective area values after confluence:
       79.475       59.431
Results of confluence:
Total flow rate =    116.867(CFS)
Time of concentration =    44.816 min.
Effective stream area after confluence =     79.475(Ac.)
Study area average Pervious fraction(Ap) =  0.906
Study area average soil loss rate(Fm) =    0.084(In/Hr)
Study area total (this main stream) =      79.47(Ac.)


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Process from Point/Station       39.100 to Point/Station       39.130
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1887.800(Ft.)
Downstream point elevation =  1886.100(Ft.)
Channel length thru subarea  =   845.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    121.736(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    121.736(CFS)
Depth of flow =   1.152(Ft.), Average velocity =   2.020(Ft/s)
Channel flow top width =   54.608(Ft.)
Flow Velocity =    2.02(Ft/s)
Travel time  =    6.97 min.
Time of concentration =   51.79 min.
Critical depth =      0.563(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.23
Adjusted SCS curve number for AMC 3 = 95.94
Pervious ratio(Ap) = 0.9800     Max loss rate(Fm)=     0.078(In/Hr)
Rainfall intensity =      1.552(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.852
Subarea runoff =      9.674(CFS) for   16.220(Ac.)
Total runoff =    126.541(CFS)
Effective area this stream =       95.69(Ac.)
Total Study Area (Main Stream No. 1) =      121.81(Ac.)
Area averaged Fm value =    0.083(In/Hr)
Depth of flow =   1.179(Ft.), Average velocity =   2.050(Ft/s)
Critical depth =      0.578(Ft.)
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Process from Point/Station       39.130 to Point/Station       39.140
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1886.100(Ft.)
Downstream point elevation =  1882.000(Ft.)
Channel length thru subarea  =  1834.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    133.668(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    133.668(CFS)
Depth of flow =   1.180(Ft.), Average velocity =   2.163(Ft/s)
Channel flow top width =   54.722(Ft.)
Flow Velocity =    2.16(Ft/s)
Travel time  =   14.13 min.
Time of concentration =   65.92 min.
Critical depth =      0.602(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.30
Adjusted SCS curve number for AMC 3 = 95.98
Pervious ratio(Ap) = 0.9800     Max loss rate(Fm)=     0.078(In/Hr)
Rainfall intensity =      1.311(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.844
Subarea runoff =     14.185(CFS) for   31.500(Ac.)
Total runoff =    140.727(CFS)
Effective area this stream =      127.19(Ac.)
Total Study Area (Main Stream No. 1) =      153.31(Ac.)
Area averaged Fm value =    0.081(In/Hr)
Depth of flow =   1.217(Ft.), Average velocity =   2.205(Ft/s)
Critical depth =      0.625(Ft.)


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Process from Point/Station       39.140 to Point/Station       39.150
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1882.000(Ft.)
Downstream point elevation =  1876.100(Ft.)
Channel length thru subarea  =  2287.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    145.104(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    145.104(CFS)
Depth of flow =   1.188(Ft.), Average velocity =   2.332(Ft/s)
Channel flow top width =   54.751(Ft.)
Flow Velocity =    2.33(Ft/s)
Travel time  =   16.34 min.
Time of concentration =   82.26 min.
Critical depth =      0.633(Ft.)
 Adding area flow to channel
```

```
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9800     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      1.122(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.837
Subarea runoff =      8.691(CFS) for   31.910(Ac.)
Total runoff =    149.417(CFS)
Effective area this stream =      159.10(Ac.)
Total Study Area (Main Stream No. 1) =      185.22(Ac.)
Area averaged Fm value =    0.079(In/Hr)
Depth of flow =   1.209(Ft.), Average velocity =   2.358(Ft/s)
Critical depth =      0.648(Ft.)


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Process from Point/Station       39.140 to Point/Station       39.150
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    159.105(Ac.)
Runoff from this stream =    149.417(CFS)
Time of concentration =   82.26 min.
Rainfall intensity =     1.122(In/Hr)
Area averaged loss rate (Fm) =    0.0790(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9429


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Process from Point/Station       39.160 to Point/Station       39.170
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =   680.000(Ft.)
Top (of initial area) elevation =  1888.000(Ft.)
Bottom (of initial area) elevation =  1886.700(Ft.)
Difference in elevation =     1.300(Ft.)
Slope =    0.00191  s(%)=       0.19
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.582 min.
Rainfall intensity =      2.692(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff =     23.650(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


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Process from Point/Station       39.170 to Point/Station       39.180
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
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Upstream point elevation =  1886.700(Ft.)
Downstream point elevation =  1882.400(Ft.)
Channel length thru subarea  =  1765.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     48.955(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     48.955(CFS)
Depth of flow =   0.632(Ft.), Average velocity =   1.512(Ft/s)
Channel flow top width =   52.526(Ft.)
Flow Velocity =    1.51(Ft/s)
Travel time  =   19.45 min.
Time of concentration =   43.04 min.
Critical depth =      0.309(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.33
Adjusted SCS curve number for AMC 3 = 96.00
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.767(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.865
Subarea runoff =     50.522(CFS) for   38.560(Ac.)
Total runoff =     74.173(CFS)
Effective area this stream =       48.56(Ac.)
Total Study Area (Main Stream No. 1) =      233.78(Ac.)
Area averaged Fm value =    0.069(In/Hr)
Depth of flow =   0.810(Ft.), Average velocity =   1.775(Ft/s)
Critical depth =      0.406(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.180 to Point/Station       39.150
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1882.400(Ft.)
Downstream point elevation =  1876.100(Ft.)
Channel length thru subarea  =  2853.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     79.531(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     79.531(CFS)
Depth of flow =   0.869(Ft.), Average velocity =   1.768(Ft/s)
Channel flow top width =   53.477(Ft.)
Flow Velocity =    1.77(Ft/s)
Travel time  =   26.89 min.
Time of concentration =   69.92 min.
Critical depth =      0.426(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
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Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.258(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.852
Subarea runoff =     10.660(CFS) for   30.620(Ac.)
Total runoff =     84.833(CFS)
Effective area this stream =       79.18(Ac.)
Total Study Area (Main Stream No. 1) =      264.40(Ac.)
Area averaged Fm value =    0.067(In/Hr)
Depth of flow =   0.903(Ft.), Average velocity =   1.813(Ft/s)
Critical depth =      0.445(Ft.)


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Process from Point/Station       39.180 to Point/Station       39.150
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     79.180(Ac.)
Runoff from this stream =     84.833(CFS)
Time of concentration =   69.92 min.
Rainfall intensity =     1.258(In/Hr)
Area averaged loss rate (Fm) =    0.0673(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    149.42   159.105     82.26    0.079      1.122
2     84.83    79.180     69.92    0.067      1.258
Qmax(1) =
           1.000 *    1.000 *   149.417) +
           0.886 *    1.000 *    84.833) + =     224.611
Qmax(2) =
           1.130 *    0.850 *   149.417) +
           1.000 *    1.000 *    84.833) + =     228.298

Total of 2 streams to confluence:
Flow rates before confluence point:
     149.417      84.833
Maximum flow rates at confluence using above data:
      224.611      228.298
Area of streams before confluence:
      159.105       79.180
Effective area values after confluence:
      238.285      214.417
Results of confluence:
Total flow rate =    228.298(CFS)
Time of concentration =    69.924 min.
Effective stream area after confluence =    214.417(Ac.)
Study area average Pervious fraction(Ap) =  0.929
Study area average soil loss rate(Fm) =    0.075(In/Hr)
Study area total (this main stream) =     238.28(Ac.)


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Process from Point/Station       39.150 to Point/Station       39.190
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**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1876.100(Ft.)
Downstream point elevation = 1869.900(Ft.)
Channel length thru subarea = 2692.000(Ft.)
Channel base width = 50.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Estimated mean flow rate at midpoint of channel = 228.326(CFS)
Manning's 'N' = 0.035
Maximum depth of channel = 2.000(Ft.)
Flow(q) thru subarea = 228.326(CFS)
Depth of flow = 1.609(Ft.), Average velocity = 2.667(Ft/s)
Channel flow top width = 56.436(Ft.)
Flow Velocity = 2.67(Ft/s)
Travel time = 16.83 min.
Time of concentration = 86.75 min.
Critical depth = 0.859(Ft.)
Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q = 206.571(CFS)
therefore the upstream flow rate of Q = 228.298(CFS) is being used
Rainfall intensity = 1.082(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.838
Subarea runoff = 0.000(CFS) for 13.590(Ac.)
Total runoff = 228.298(CFS)
Effective area this stream = 228.01(Ac.)
Total Study Area (Main Stream No. 1) = 277.99(Ac.)
Area averaged Fm value = 0.075(In/Hr)
Depth of flow = 1.609(Ft.), Average velocity = 2.666(Ft/s)
Critical depth = 0.859(Ft.)
End of computations, Total Study Area = 277.99 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.929
Area averaged SCS curve number = 83.2

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 40
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 40.000 to Point/Station 40.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 515.000(Ft.)
Top (of initial area) elevation = 1881.400(Ft.)
Bottom (of initial area) elevation = 1876.500(Ft.)
Difference in elevation = 4.900(Ft.)
Slope = 0.00951 s(%)= 0.95
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 16.669 min.
Rainfall intensity = 3.432(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.881
Subarea runoff = 10.284(CFS)
Total initial stream area = 3.400(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)
End of computations, Total Study Area = 3.40 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 41
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 41.000 to Point/Station 41.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 340.000(Ft.)
Top (of initial area) elevation = 1878.400(Ft.)
Bottom (of initial area) elevation = 1876.300(Ft.)
Difference in elevation = 2.100(Ft.)
Slope = 0.00618 s(%)= 0.62
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.392 min.
Rainfall intensity = 3.603(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.882
Subarea runoff = 7.183(CFS)
Total initial stream area = 2.260(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)
End of computations, Total Study Area = 2.26 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXITING CONDITIONS AREA 42
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 42.000 to Point/Station 42.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.064(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1886.700(Ft.)
Bottom (of initial area) elevation = 1881.500(Ft.)
Difference in elevation = 5.200(Ft.)
Slope = 0.00520 s(%)= 0.52
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.525 min.
Rainfall intensity = 2.760(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff = 16.838(CFS)
Total initial stream area = 6.940(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.064(In/Hr)

++

Process from Point/Station 42.100 to Point/Station 42.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1881.500(Ft.)
Downstream point elevation = 1877.700(Ft.)

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Channel length thru subarea  =  1696.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     28.000(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     28.000(CFS)
Depth of flow =   0.464(Ft.), Average velocity =   1.186(Ft/s)
Channel flow top width =   51.854(Ft.)
Flow Velocity =    1.19(Ft/s)
Travel time  =   23.83 min.
Time of concentration =   46.36 min.
Critical depth =      0.213(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9500     Max loss rate(Fm)=     0.067(In/Hr)
Rainfall intensity =      1.665(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.864
Subarea runoff =     22.266(CFS) for   20.240(Ac.)
Total runoff =     39.103(CFS)
Effective area this stream =       27.18(Ac.)
Total Study Area (Main Stream No. 1) =       27.18(Ac.)
Area averaged Fm value =    0.067(In/Hr)
Depth of flow =   0.566(Ft.), Average velocity =   1.351(Ft/s)
Critical depth =      0.266(Ft.)


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Process from Point/Station       42.200 to Point/Station       42.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1877.700(Ft.)
Downstream point elevation =  1875.700(Ft.)
Channel length thru subarea  =  1288.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     50.397(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     50.397(CFS)
Depth of flow =   0.735(Ft.), Average velocity =   1.332(Ft/s)
Channel flow top width =   52.941(Ft.)
Flow Velocity =    1.33(Ft/s)
Travel time  =   16.12 min.
Time of concentration =   62.48 min.
Critical depth =      0.316(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.351(In/Hr) for a   100.0 year storm
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```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.854
Subarea runoff =     22.508(CFS) for   26.200(Ac.)
Total runoff =     61.612(CFS)
Effective area this stream =       53.38(Ac.)
Total Study Area (Main Stream No. 1) =       53.38(Ac.)
Area averaged Fm value =    0.069(In/Hr)
Depth of flow =   0.829(Ft.), Average velocity =   1.439(Ft/s)
Critical depth =      0.359(Ft.)


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Process from Point/Station       42.300 to Point/Station       42.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1875.700(Ft.)
Downstream point elevation =  1872.800(Ft.)
Channel length thru subarea  =   781.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     65.763(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     65.763(CFS)
Depth of flow =   0.664(Ft.), Average velocity =   1.929(Ft/s)
Channel flow top width =   52.657(Ft.)
Flow Velocity =    1.93(Ft/s)
Travel time  =    6.75 min.
Time of concentration =   69.23 min.
Critical depth =      0.375(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.258(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.851
Subarea runoff =      8.211(CFS) for   11.900(Ac.)
Total runoff =     69.822(CFS)
Effective area this stream =       65.28(Ac.)
Total Study Area (Main Stream No. 1) =       65.28(Ac.)
Area averaged Fm value =    0.069(In/Hr)
Depth of flow =   0.688(Ft.), Average velocity =   1.974(Ft/s)
Critical depth =      0.391(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.300 to Point/Station       42.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     65.280(Ac.)
Runoff from this stream =     69.822(CFS)
Time of concentration =   69.23 min.
Rainfall intensity =     1.258(In/Hr)
Area averaged loss rate (Fm) =    0.0691(In/Hr)
```

Area averaged Pervious ratio (Ap) = 0.9739

++
Process from Point/Station 42.500 to Point/Station 42.600
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9500 Max loss rate(Fm)= 0.067(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1879.900(Ft.)
Bottom (of initial area) elevation = 1876.400(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.00350 s(%)= 0.35
TC = k(0.509)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.987 min.
Rainfall intensity = 2.566(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.876
Subarea runoff = 14.057(CFS)
Total initial stream area = 6.250(Ac.)
Pervious area fraction = 0.950
Initial area Fm value = 0.067(In/Hr)

++
Process from Point/Station 42.600 to Point/Station 42.400
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1876.400(Ft.)
Downstream point elevation = 1872.800(Ft.)
Channel length thru subarea = 1421.000(Ft.)
Channel base width = 50.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Estimated mean flow rate at midpoint of channel = 19.586(CFS)
Manning's 'N' = 0.035
Maximum depth of channel = 1.000(Ft.)
Flow(q) thru subarea = 19.586(CFS)
Depth of flow = 0.361(Ft.), Average velocity = 1.070(Ft/s)
Channel flow top width = 51.443(Ft.)
Flow Velocity = 1.07(Ft/s)
Travel time = 22.13 min.
Time of concentration = 47.11 min.
Critical depth = 0.168(Ft.)
Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Rainfall intensity = 1.646(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.862
Subarea runoff = 10.960(CFS) for 11.380(Ac.)
Total runoff = 25.016(CFS)

```
Effective area this stream =       17.63(Ac.)
Total Study Area (Main Stream No. 1) =       82.91(Ac.)
Area averaged Fm value =    0.070(In/Hr)
Depth of flow =   0.418(Ft.), Average velocity =   1.178(Ft/s)
Critical depth =      0.197(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.600 to Point/Station       42.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     17.630(Ac.)
Runoff from this stream =     25.016(CFS)
Time of concentration =   47.11 min.
Rainfall intensity =     1.646(In/Hr)
Area averaged loss rate (Fm) =    0.0697(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9823
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     69.82    65.280     69.23    0.069      1.258
2     25.02    17.630     47.11    0.070      1.646
Qmax(1) =
           1.000 *    1.000 *    69.822) +
           0.753 *    1.000 *    25.016) + =      88.670
Qmax(2) =
           1.327 *    0.681 *    69.822) +
           1.000 *    1.000 *    25.016) + =      88.080

Total of 2 streams to confluence:
Flow rates before confluence point:
      69.822      25.016
Maximum flow rates at confluence using above data:
       88.670       88.080
Area of streams before confluence:
       65.280       17.630
Effective area values after confluence:
       82.910       62.056
Results of confluence:
Total flow rate =     88.670(CFS)
Time of concentration =    69.226 min.
Effective stream area after confluence =     82.910(Ac.)
Study area average Pervious fraction(Ap) =  0.976
Study area average soil loss rate(Fm) =    0.069(In/Hr)
Study area total (this main stream) =      82.91(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.400 to Point/Station       42.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1872.800(Ft.)
Downstream point elevation =  1870.500(Ft.)
Channel length thru subarea  =  1035.000(Ft.)
Channel base width      =   50.000(Ft.)
```

```
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     88.815(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     88.815(CFS)
Depth of flow =   0.927(Ft.), Average velocity =   1.848(Ft/s)
Channel flow top width =   53.707(Ft.)
Flow Velocity =    1.85(Ft/s)
Travel time  =    9.33 min.
Time of concentration =   78.56 min.
Critical depth =      0.461(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.151(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.846
Subarea runoff =      0.215(CFS) for    8.400(Ac.)
Total runoff =     88.884(CFS)
Effective area this stream =       91.31(Ac.)
Total Study Area (Main Stream No. 1) =       91.31(Ac.)
Area averaged Fm value =    0.069(In/Hr)
Depth of flow =   0.927(Ft.), Average velocity =   1.849(Ft/s)
Critical depth =      0.461(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.400 to Point/Station       42.700
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     91.310(Ac.)
Runoff from this stream =     88.884(CFS)
Time of concentration =   78.56 min.
Rainfall intensity =     1.151(In/Hr)
Area averaged loss rate (Fm) =    0.0694(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9779


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.800 to Point/Station       42.900
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1879.900(Ft.)
Bottom (of initial area) elevation =  1876.100(Ft.)
Difference in elevation =     3.800(Ft.)
Slope =    0.00380  s(%)=       0.38
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
```

Initial area time of concentration = 23.983 min.
Rainfall intensity = 2.641(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.878
Subarea runoff = 12.919(CFS)
Total initial stream area = 5.570(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.064(In/Hr)

++
Process from Point/Station 42.900 to Point/Station 42.100
**** IMPROVED CHANNEL TRAVEL TIME ****
____
Upstream point elevation = 1876.100(Ft.)
Downstream point elevation = 1874.300(Ft.)
Channel length thru subarea = 859.000(Ft.)
Channel base width = 50.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Estimated mean flow rate at midpoint of channel = 19.339(CFS)
Manning's 'N' = 0.035
Maximum depth of channel = 1.000(Ft.)
Flow(q) thru subarea = 19.339(CFS)
Depth of flow = 0.379(Ft.), Average velocity = 1.005(Ft/s)
Channel flow top width = 51.516(Ft.)
Flow Velocity = 1.01(Ft/s)
Travel time = 14.24 min.
Time of concentration = 38.22 min.
Critical depth = 0.166(Ft.)
 Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.064(In/Hr)
Rainfall intensity = 1.906(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.870
Subarea runoff = 12.776(CFS) for 9.930(Ac.)
Total runoff = 25.696(CFS)
Effective area this stream = 15.50(Ac.)
Total Study Area (Main Stream No. 1) = 106.81(Ac.)
Area averaged Fm value = 0.064(In/Hr)
Depth of flow = 0.449(Ft.), Average velocity = 1.124(Ft/s)
Critical depth = 0.201(Ft.)

++
Process from Point/Station 42.100 to Point/Station 42.700
**** IMPROVED CHANNEL TRAVEL TIME ****
____
Upstream point elevation = 1874.300(Ft.)
Downstream point elevation = 1870.500(Ft.)
Channel length thru subarea = 1381.000(Ft.)
Channel base width = 50.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Estimated mean flow rate at midpoint of channel = 30.664(CFS)
Manning's 'N' = 0.035

```
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     30.664(CFS)
Depth of flow =   0.460(Ft.), Average velocity =   1.308(Ft/s)
Channel flow top width =   51.841(Ft.)
Flow Velocity =    1.31(Ft/s)
Travel time  =   17.59 min.
Time of concentration =   55.82 min.
Critical depth =      0.227(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.462(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.859
Subarea runoff =      9.873(CFS) for   12.830(Ac.)
Total runoff =     35.569(CFS)
Effective area this stream =       28.33(Ac.)
Total Study Area (Main Stream No. 1) =      119.64(Ac.)
Area averaged Fm value =    0.067(In/Hr)
Depth of flow =   0.503(Ft.), Average velocity =   1.386(Ft/s)
Critical depth =      0.250(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.100 to Point/Station       42.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     28.330(Ac.)
Runoff from this stream =     35.569(CFS)
Time of concentration =   55.82 min.
Rainfall intensity =     1.462(In/Hr)
Area averaged loss rate (Fm) =    0.0671(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9453
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     88.88    91.310     78.56    0.069      1.151
2     35.57    28.330     55.82    0.067      1.462
Qmax(1) =
           1.000 *    1.000 *    88.884) +
           0.777 *    1.000 *    35.569) + =     116.521
Qmax(2) =
           1.288 *    0.710 *    88.884) +
           1.000 *    1.000 *    35.569) + =     116.887

Total of 2 streams to confluence:
Flow rates before confluence point:
      88.884      35.569
Maximum flow rates at confluence using above data:
      116.521      116.887
Area of streams before confluence:
       91.310       28.330
```

```
Effective area values after confluence:
      119.640       93.205
Results of confluence:
Total flow rate =    116.887(CFS)
Time of concentration =    55.816 min.
Effective stream area after confluence =     93.205(Ac.)
Study area average Pervious fraction(Ap) =  0.970
Study area average soil loss rate(Fm) =    0.069(In/Hr)
Study area total (this main stream) =     119.64(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.700 to Point/Station       42.110
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1870.500(Ft.)
Downstream point elevation =  1869.200(Ft.)
Channel length thru subarea  =   353.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    117.944(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    117.944(CFS)
Depth of flow =   0.944(Ft.), Average velocity =   2.408(Ft/s)
Channel flow top width =   53.776(Ft.)
Flow Velocity =    2.41(Ft/s)
Travel time  =    2.44 min.
Time of concentration =   58.26 min.
Critical depth =      0.555(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      1.419(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.856
Subarea runoff =      2.053(CFS) for    4.690(Ac.)
Total runoff =    118.939(CFS)
Effective area this stream =       97.90(Ac.)
Total Study Area (Main Stream No. 1) =      124.33(Ac.)
Area averaged Fm value =    0.069(In/Hr)
Depth of flow =   0.949(Ft.), Average velocity =   2.416(Ft/s)
Critical depth =      0.555(Ft.)
End of computations, Total Study Area =          124.33 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.971
Area averaged SCS curve number =  84.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 43
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 43.000 to Point/Station 43.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1877.800(Ft.)
Bottom (of initial area) elevation = 1872.000(Ft.)
Difference in elevation = 5.800(Ft.)
Slope = 0.00580 s(%)= 0.58
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 23.998 min.
Rainfall intensity = 2.640(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.876
Subarea runoff = 12.300(CFS)
Total initial stream area = 5.320(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)

++

Process from Point/Station 43.100 to Point/Station 43.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1872.000(Ft.)
Downstream point elevation = 1871.000(Ft.)

```
Channel length thru subarea  =   245.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     13.399(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     13.399(CFS)
Depth of flow =   0.249(Ft.), Average velocity =   1.065(Ft/s)
Channel flow top width =   50.996(Ft.)
Flow Velocity =    1.07(Ft/s)
Travel time  =    3.83 min.
Time of concentration =   27.83 min.
Critical depth =      0.131(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.071(In/Hr)
Rainfall intensity =      2.380(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.873
Subarea runoff =      2.142(CFS) for    1.630(Ac.)
Total runoff =     14.442(CFS)
Effective area this stream =        6.95(Ac.)
Total Study Area (Main Stream No. 1) =        6.95(Ac.)
Area averaged Fm value =    0.071(In/Hr)
Depth of flow =   0.261(Ft.), Average velocity =   1.097(Ft/s)
Critical depth =      0.137(Ft.)
End of computations, Total Study Area =            6.95 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number =  84.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 44
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 44.000 to Point/Station 44.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 850.000(Ft.)
Top (of initial area) elevation = 1874.300(Ft.)
Bottom (of initial area) elevation = 1871.200(Ft.)
Difference in elevation = 3.100(Ft.)
Slope = 0.00365 s(%)= 0.36
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.674 min.
Rainfall intensity = 2.589(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.875
Subarea runoff = 14.663(CFS)
Total initial stream area = 6.470(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)
End of computations, Total Study Area = 6.47 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 45
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 45.000 to Point/Station 45.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 439.000(Ft.)
Top (of initial area) elevation = 1876.300(Ft.)
Bottom (of initial area) elevation = 1872.800(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.00797 s(%)= 0.80
TC = k(0.541)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 16.200 min.
Rainfall intensity = 3.476(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.882
Subarea runoff = 10.694(CFS)
Total initial stream area = 3.490(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.071(In/Hr)
End of computations, Total Study Area = 3.49 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 84.0

TECHNICAL APPENDIX NO. 4

Existing Conditions
Unit Hydrograph Calculations
100-Year, 24-Hour Storm Event

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 1
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
1.00	1	1.26
Rainfall data for year 100		
1.00	6	1.84
Rainfall data for year 100		
1.00	24	2.50

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	1.00	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1.00	1.000	62.0	80.6	2.41	0.368

Area-averaged catchment yield fraction, Y = 0.368
Area-averaged low loss fraction, Yb = 0.632
User entry of time of concentration = 0.310 (hours)
++
Watershed area = 1.00(Ac.)
Catchment Lag time = 0.248 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 33.6022
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.632 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.598(In)
Computed peak 30-minute rainfall = 1.023(In)
Specified peak 1-hour rainfall = 1.260(In)
Computed peak 3-hour rainfall = 1.589(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.500(In)

Rainfall depth area reduction factors:
Using a total area of 1.00(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.598(In)
30-minute factor = 1.000 Adjusted rainfall = 1.023(In)
1-hour factor = 1.000 Adjusted rainfall = 1.260(In)
3-hour factor = 1.000 Adjusted rainfall = 1.589(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.500(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 12.09 (CFS))	
1	2.097	0.254
2	12.121	1.212
3	38.286	3.164
4	58.090	2.395
5	68.679	1.281
6	75.684	0.847
7	80.693	0.606
8	84.455	0.455
9	87.539	0.373
10	89.846	0.279
11	91.712	0.226
12	93.299	0.192
13	94.581	0.155
14	95.674	0.132

15	96.566	0.108
16	97.275	0.086
17	97.826	0.067
18	98.181	0.043
19	98.560	0.046
20	98.963	0.049
21	99.363	0.048
22	99.640	0.033
23	99.850	0.025
24	100.000	0.018

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5979	0.5979
2	0.7360	0.1382
3	0.8313	0.0952
4	0.9062	0.0749
5	0.9689	0.0627
6	1.0234	0.0545
7	1.0718	0.0484
8	1.1156	0.0438
9	1.1558	0.0401
10	1.1929	0.0371
11	1.2275	0.0346
12	1.2599	0.0325
13	1.2814	0.0215
14	1.3017	0.0202
15	1.3208	0.0191
16	1.3389	0.0181
17	1.3562	0.0173
18	1.3727	0.0165
19	1.3885	0.0158
20	1.4036	0.0151
21	1.4181	0.0145
22	1.4322	0.0140
23	1.4457	0.0135
24	1.4587	0.0131
25	1.4714	0.0126
26	1.4836	0.0122
27	1.4955	0.0119
28	1.5071	0.0115
29	1.5183	0.0112
30	1.5292	0.0109
31	1.5398	0.0106
32	1.5502	0.0104
33	1.5603	0.0101
34	1.5702	0.0099
35	1.5798	0.0097
36	1.5893	0.0094
37	1.5985	0.0092
38	1.6075	0.0090
39	1.6164	0.0088
40	1.6251	0.0087
41	1.6336	0.0085
42	1.6419	0.0083
43	1.6501	0.0082
44	1.6581	0.0080
45	1.6660	0.0079
46	1.6738	0.0078

47	1.6814	0.0076
48	1.6889	0.0075
49	1.6963	0.0074
50	1.7035	0.0073
51	1.7107	0.0071
52	1.7177	0.0070
53	1.7246	0.0069
54	1.7315	0.0068
55	1.7382	0.0067
56	1.7448	0.0066
57	1.7514	0.0065
58	1.7578	0.0064
59	1.7642	0.0064
60	1.7704	0.0063
61	1.7766	0.0062
62	1.7828	0.0061
63	1.7888	0.0060
64	1.7948	0.0060
65	1.8006	0.0059
66	1.8065	0.0058
67	1.8122	0.0058
68	1.8179	0.0057
69	1.8235	0.0056
70	1.8291	0.0056
71	1.8346	0.0055
72	1.8400	0.0054
73	1.8456	0.0056
74	1.8512	0.0056
75	1.8567	0.0055
76	1.8621	0.0054
77	1.8675	0.0054
78	1.8728	0.0053
79	1.8781	0.0053
80	1.8834	0.0052
81	1.8885	0.0052
82	1.8937	0.0051
83	1.8988	0.0051
84	1.9038	0.0050
85	1.9088	0.0050
86	1.9137	0.0049
87	1.9186	0.0049
88	1.9235	0.0049
89	1.9283	0.0048
90	1.9331	0.0048
91	1.9378	0.0047
92	1.9425	0.0047
93	1.9471	0.0046
94	1.9517	0.0046
95	1.9563	0.0046
96	1.9608	0.0045
97	1.9653	0.0045
98	1.9698	0.0045
99	1.9742	0.0044
100	1.9786	0.0044
101	1.9830	0.0044
102	1.9873	0.0043
103	1.9916	0.0043
104	1.9959	0.0043
105	2.0001	0.0042

106	2.0043	0.0042
107	2.0084	0.0042
108	2.0126	0.0041
109	2.0167	0.0041
110	2.0208	0.0041
111	2.0248	0.0040
112	2.0288	0.0040
113	2.0328	0.0040
114	2.0368	0.0040
115	2.0407	0.0039
116	2.0446	0.0039
117	2.0485	0.0039
118	2.0524	0.0039
119	2.0562	0.0038
120	2.0600	0.0038
121	2.0638	0.0038
122	2.0676	0.0038
123	2.0713	0.0037
124	2.0750	0.0037
125	2.0787	0.0037
126	2.0824	0.0037
127	2.0860	0.0036
128	2.0896	0.0036
129	2.0932	0.0036
130	2.0968	0.0036
131	2.1004	0.0036
132	2.1039	0.0035
133	2.1074	0.0035
134	2.1109	0.0035
135	2.1144	0.0035
136	2.1178	0.0035
137	2.1213	0.0034
138	2.1247	0.0034
139	2.1281	0.0034
140	2.1314	0.0034
141	2.1348	0.0034
142	2.1381	0.0033
143	2.1415	0.0033
144	2.1448	0.0033
145	2.1480	0.0033
146	2.1513	0.0033
147	2.1546	0.0032
148	2.1578	0.0032
149	2.1610	0.0032
150	2.1642	0.0032
151	2.1674	0.0032
152	2.1706	0.0032
153	2.1737	0.0031
154	2.1768	0.0031
155	2.1800	0.0031
156	2.1831	0.0031
157	2.1861	0.0031
158	2.1892	0.0031
159	2.1923	0.0031
160	2.1953	0.0030
161	2.1983	0.0030
162	2.2013	0.0030
163	2.2043	0.0030
164	2.2073	0.0030

165	2.2103	0.0030
166	2.2133	0.0030
167	2.2162	0.0029
168	2.2191	0.0029
169	2.2220	0.0029
170	2.2249	0.0029
171	2.2278	0.0029
172	2.2307	0.0029
173	2.2336	0.0029
174	2.2364	0.0028
175	2.2392	0.0028
176	2.2421	0.0028
177	2.2449	0.0028
178	2.2477	0.0028
179	2.2505	0.0028
180	2.2532	0.0028
181	2.2560	0.0028
182	2.2587	0.0028
183	2.2615	0.0027
184	2.2642	0.0027
185	2.2669	0.0027
186	2.2696	0.0027
187	2.2723	0.0027
188	2.2750	0.0027
189	2.2777	0.0027
190	2.2803	0.0027
191	2.2830	0.0026
192	2.2856	0.0026
193	2.2882	0.0026
194	2.2909	0.0026
195	2.2935	0.0026
196	2.2961	0.0026
197	2.2986	0.0026
198	2.3012	0.0026
199	2.3038	0.0026
200	2.3063	0.0026
201	2.3089	0.0025
202	2.3114	0.0025
203	2.3139	0.0025
204	2.3165	0.0025
205	2.3190	0.0025
206	2.3215	0.0025
207	2.3240	0.0025
208	2.3264	0.0025
209	2.3289	0.0025
210	2.3314	0.0025
211	2.3338	0.0025
212	2.3362	0.0024
213	2.3387	0.0024
214	2.3411	0.0024
215	2.3435	0.0024
216	2.3459	0.0024
217	2.3483	0.0024
218	2.3507	0.0024
219	2.3531	0.0024
220	2.3555	0.0024
221	2.3578	0.0024
222	2.3602	0.0024
223	2.3625	0.0023

224	2.3649	0.0023
225	2.3672	0.0023
226	2.3695	0.0023
227	2.3718	0.0023
228	2.3741	0.0023
229	2.3764	0.0023
230	2.3787	0.0023
231	2.3810	0.0023
232	2.3833	0.0023
233	2.3856	0.0023
234	2.3878	0.0023
235	2.3901	0.0023
236	2.3923	0.0022
237	2.3945	0.0022
238	2.3968	0.0022
239	2.3990	0.0022
240	2.4012	0.0022
241	2.4034	0.0022
242	2.4056	0.0022
243	2.4078	0.0022
244	2.4100	0.0022
245	2.4122	0.0022
246	2.4144	0.0022
247	2.4165	0.0022
248	2.4187	0.0022
249	2.4208	0.0022
250	2.4230	0.0021
251	2.4251	0.0021
252	2.4273	0.0021
253	2.4294	0.0021
254	2.4315	0.0021
255	2.4336	0.0021
256	2.4357	0.0021
257	2.4378	0.0021
258	2.4399	0.0021
259	2.4420	0.0021
260	2.4441	0.0021
261	2.4462	0.0021
262	2.4482	0.0021
263	2.4503	0.0021
264	2.4524	0.0021
265	2.4544	0.0021
266	2.4565	0.0020
267	2.4585	0.0020
268	2.4605	0.0020
269	2.4626	0.0020
270	2.4646	0.0020
271	2.4666	0.0020
272	2.4686	0.0020
273	2.4706	0.0020
274	2.4726	0.0020
275	2.4746	0.0020
276	2.4766	0.0020
277	2.4786	0.0020
278	2.4805	0.0020
279	2.4825	0.0020
280	2.4845	0.0020
281	2.4864	0.0020
282	2.4884	0.0020

283	2.4903	0.0019
284	2.4923	0.0019
285	2.4942	0.0019
286	2.4961	0.0019
287	2.4981	0.0019
288	2.5000	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0020	0.0012	0.0007
6	0.0020	0.0012	0.0007
7	0.0020	0.0012	0.0007
8	0.0020	0.0012	0.0007
9	0.0020	0.0013	0.0007
10	0.0020	0.0013	0.0007
11	0.0020	0.0013	0.0007
12	0.0020	0.0013	0.0007
13	0.0020	0.0013	0.0007
14	0.0020	0.0013	0.0007
15	0.0020	0.0013	0.0008
16	0.0020	0.0013	0.0008
17	0.0021	0.0013	0.0008
18	0.0021	0.0013	0.0008
19	0.0021	0.0013	0.0008
20	0.0021	0.0013	0.0008
21	0.0021	0.0013	0.0008
22	0.0021	0.0013	0.0008
23	0.0021	0.0013	0.0008
24	0.0021	0.0013	0.0008
25	0.0021	0.0013	0.0008
26	0.0021	0.0014	0.0008
27	0.0022	0.0014	0.0008
28	0.0022	0.0014	0.0008
29	0.0022	0.0014	0.0008
30	0.0022	0.0014	0.0008
31	0.0022	0.0014	0.0008
32	0.0022	0.0014	0.0008
33	0.0022	0.0014	0.0008
34	0.0022	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0023	0.0014	0.0008
38	0.0023	0.0014	0.0008
39	0.0023	0.0014	0.0008
40	0.0023	0.0014	0.0008
41	0.0023	0.0015	0.0008
42	0.0023	0.0015	0.0009
43	0.0023	0.0015	0.0009
44	0.0023	0.0015	0.0009
45	0.0024	0.0015	0.0009
46	0.0024	0.0015	0.0009
47	0.0024	0.0015	0.0009
48	0.0024	0.0015	0.0009

49	0.0024	0.0015	0.0009
50	0.0024	0.0015	0.0009
51	0.0024	0.0015	0.0009
52	0.0024	0.0015	0.0009
53	0.0025	0.0016	0.0009
54	0.0025	0.0016	0.0009
55	0.0025	0.0016	0.0009
56	0.0025	0.0016	0.0009
57	0.0025	0.0016	0.0009
58	0.0025	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0026	0.0016	0.0009
61	0.0026	0.0016	0.0009
62	0.0026	0.0016	0.0010
63	0.0026	0.0016	0.0010
64	0.0026	0.0017	0.0010
65	0.0026	0.0017	0.0010
66	0.0026	0.0017	0.0010
67	0.0027	0.0017	0.0010
68	0.0027	0.0017	0.0010
69	0.0027	0.0017	0.0010
70	0.0027	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0028	0.0017	0.0010
73	0.0028	0.0018	0.0010
74	0.0028	0.0018	0.0010
75	0.0028	0.0018	0.0010
76	0.0028	0.0018	0.0010
77	0.0028	0.0018	0.0010
78	0.0029	0.0018	0.0011
79	0.0029	0.0018	0.0011
80	0.0029	0.0018	0.0011
81	0.0029	0.0018	0.0011
82	0.0029	0.0019	0.0011
83	0.0030	0.0019	0.0011
84	0.0030	0.0019	0.0011
85	0.0030	0.0019	0.0011
86	0.0030	0.0019	0.0011
87	0.0031	0.0019	0.0011
88	0.0031	0.0019	0.0011
89	0.0031	0.0020	0.0011
90	0.0031	0.0020	0.0011
91	0.0031	0.0020	0.0012
92	0.0032	0.0020	0.0012
93	0.0032	0.0020	0.0012
94	0.0032	0.0020	0.0012
95	0.0032	0.0021	0.0012
96	0.0033	0.0021	0.0012
97	0.0033	0.0021	0.0012
98	0.0033	0.0021	0.0012
99	0.0034	0.0021	0.0012
100	0.0034	0.0021	0.0012
101	0.0034	0.0022	0.0013
102	0.0034	0.0022	0.0013
103	0.0035	0.0022	0.0013
104	0.0035	0.0022	0.0013
105	0.0035	0.0022	0.0013
106	0.0036	0.0022	0.0013
107	0.0036	0.0023	0.0013

108	0.0036	0.0023	0.0013
109	0.0037	0.0023	0.0014
110	0.0037	0.0023	0.0014
111	0.0037	0.0024	0.0014
112	0.0038	0.0024	0.0014
113	0.0038	0.0024	0.0014
114	0.0038	0.0024	0.0014
115	0.0039	0.0025	0.0014
116	0.0039	0.0025	0.0014
117	0.0040	0.0025	0.0015
118	0.0040	0.0025	0.0015
119	0.0040	0.0026	0.0015
120	0.0041	0.0026	0.0015
121	0.0041	0.0026	0.0015
122	0.0042	0.0026	0.0015
123	0.0042	0.0027	0.0016
124	0.0043	0.0027	0.0016
125	0.0043	0.0027	0.0016
126	0.0044	0.0028	0.0016
127	0.0044	0.0028	0.0016
128	0.0045	0.0028	0.0016
129	0.0045	0.0029	0.0017
130	0.0046	0.0029	0.0017
131	0.0046	0.0029	0.0017
132	0.0047	0.0030	0.0017
133	0.0048	0.0030	0.0018
134	0.0048	0.0030	0.0018
135	0.0049	0.0031	0.0018
136	0.0049	0.0031	0.0018
137	0.0050	0.0032	0.0019
138	0.0051	0.0032	0.0019
139	0.0052	0.0033	0.0019
140	0.0052	0.0033	0.0019
141	0.0053	0.0034	0.0020
142	0.0054	0.0034	0.0020
143	0.0055	0.0035	0.0020
144	0.0056	0.0035	0.0020
145	0.0054	0.0034	0.0020
146	0.0055	0.0035	0.0020
147	0.0056	0.0035	0.0021
148	0.0057	0.0036	0.0021
149	0.0058	0.0037	0.0021
150	0.0059	0.0037	0.0022
151	0.0060	0.0038	0.0022
152	0.0061	0.0039	0.0023
153	0.0063	0.0040	0.0023
154	0.0064	0.0040	0.0023
155	0.0065	0.0041	0.0024
156	0.0066	0.0042	0.0024
157	0.0068	0.0043	0.0025
158	0.0069	0.0044	0.0026
159	0.0071	0.0045	0.0026
160	0.0073	0.0046	0.0027
161	0.0075	0.0047	0.0028
162	0.0076	0.0048	0.0028
163	0.0079	0.0050	0.0029
164	0.0080	0.0051	0.0030
165	0.0083	0.0053	0.0031
166	0.0085	0.0054	0.0031

167	0.0088	0.0056	0.0033
168	0.0090	0.0057	0.0033
169	0.0094	0.0060	0.0035
170	0.0097	0.0061	0.0036
171	0.0101	0.0064	0.0037
172	0.0104	0.0065	0.0038
173	0.0109	0.0069	0.0040
174	0.0112	0.0071	0.0041
175	0.0119	0.0075	0.0044
176	0.0122	0.0077	0.0045
177	0.0131	0.0083	0.0048
178	0.0135	0.0085	0.0050
179	0.0145	0.0092	0.0054
180	0.0151	0.0096	0.0056
181	0.0165	0.0104	0.0061
182	0.0173	0.0109	0.0064
183	0.0191	0.0121	0.0070
184	0.0202	0.0128	0.0075
185	0.0325	0.0205	0.0120
186	0.0346	0.0219	0.0127
187	0.0401	0.0253	0.0148
188	0.0438	0.0277	0.0161
189	0.0545	0.0300	0.0245
190	0.0627	0.0300	0.0328
191	0.0952	0.0300	0.0652
192	0.1382	0.0300	0.1082
193	0.5979	0.0300	0.5679
194	0.0749	0.0300	0.0450
195	0.0484	0.0300	0.0185
196	0.0371	0.0234	0.0137
197	0.0215	0.0136	0.0079
198	0.0181	0.0115	0.0067
199	0.0158	0.0100	0.0058
200	0.0140	0.0089	0.0052
201	0.0126	0.0080	0.0047
202	0.0115	0.0073	0.0043
203	0.0106	0.0067	0.0039
204	0.0099	0.0062	0.0036
205	0.0092	0.0058	0.0034
206	0.0087	0.0055	0.0032
207	0.0082	0.0052	0.0030
208	0.0078	0.0049	0.0029
209	0.0074	0.0047	0.0027
210	0.0070	0.0044	0.0026
211	0.0067	0.0042	0.0025
212	0.0064	0.0041	0.0024
213	0.0062	0.0039	0.0023
214	0.0060	0.0038	0.0022
215	0.0058	0.0036	0.0021
216	0.0056	0.0035	0.0020
217	0.0056	0.0036	0.0021
218	0.0054	0.0034	0.0020
219	0.0053	0.0033	0.0019
220	0.0051	0.0032	0.0019
221	0.0050	0.0032	0.0018
222	0.0049	0.0031	0.0018
223	0.0047	0.0030	0.0017
224	0.0046	0.0029	0.0017
225	0.0045	0.0028	0.0017

226	0.0044	0.0028	0.0016
227	0.0043	0.0027	0.0016
228	0.0042	0.0027	0.0015
229	0.0041	0.0026	0.0015
230	0.0040	0.0025	0.0015
231	0.0039	0.0025	0.0015
232	0.0039	0.0024	0.0014
233	0.0038	0.0024	0.0014
234	0.0037	0.0023	0.0014
235	0.0036	0.0023	0.0013
236	0.0036	0.0023	0.0013
237	0.0035	0.0022	0.0013
238	0.0035	0.0022	0.0013
239	0.0034	0.0021	0.0013
240	0.0033	0.0021	0.0012
241	0.0033	0.0021	0.0012
242	0.0032	0.0020	0.0012
243	0.0032	0.0020	0.0012
244	0.0031	0.0020	0.0012
245	0.0031	0.0019	0.0011
246	0.0030	0.0019	0.0011
247	0.0030	0.0019	0.0011
248	0.0030	0.0019	0.0011
249	0.0029	0.0018	0.0011
250	0.0029	0.0018	0.0011
251	0.0028	0.0018	0.0010
252	0.0028	0.0018	0.0010
253	0.0028	0.0017	0.0010
254	0.0027	0.0017	0.0010
255	0.0027	0.0017	0.0010
256	0.0027	0.0017	0.0010
257	0.0026	0.0017	0.0010
258	0.0026	0.0016	0.0010
259	0.0026	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0025	0.0016	0.0009
262	0.0025	0.0016	0.0009
263	0.0025	0.0015	0.0009
264	0.0024	0.0015	0.0009
265	0.0024	0.0015	0.0009
266	0.0024	0.0015	0.0009
267	0.0023	0.0015	0.0009
268	0.0023	0.0015	0.0009
269	0.0023	0.0015	0.0008
270	0.0023	0.0014	0.0008
271	0.0023	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0022	0.0014	0.0008
274	0.0022	0.0014	0.0008
275	0.0022	0.0014	0.0008
276	0.0021	0.0014	0.0008
277	0.0021	0.0013	0.0008
278	0.0021	0.0013	0.0008
279	0.0021	0.0013	0.0008
280	0.0021	0.0013	0.0008
281	0.0021	0.0013	0.0008
282	0.0020	0.0013	0.0007
283	0.0020	0.0013	0.0007
284	0.0020	0.0013	0.0007

285	0.0020	0.0013	0.0007
286	0.0020	0.0012	0.0007
287	0.0019	0.0012	0.0007
288	0.0019	0.0012	0.0007

Total soil rain loss = 1.11(In)
Total effective rainfall = 1.39(In)
Peak flow rate in flood hydrograph = 2.27(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0002	0.01	Q				
0+40	0.0002	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0005	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0006	0.01	Q				
1+15	0.0006	0.01	Q				
1+20	0.0007	0.01	Q				
1+25	0.0008	0.01	Q				
1+30	0.0008	0.01	Q				
1+35	0.0009	0.01	Q				
1+40	0.0009	0.01	Q				
1+45	0.0010	0.01	Q				
1+50	0.0011	0.01	Q				
1+55	0.0011	0.01	Q				
2+ 0	0.0012	0.01	Q				
2+ 5	0.0013	0.01	Q				
2+10	0.0013	0.01	Q				
2+15	0.0014	0.01	Q				
2+20	0.0015	0.01	Q				
2+25	0.0015	0.01	Q				
2+30	0.0016	0.01	Q				
2+35	0.0017	0.01	Q				
2+40	0.0017	0.01	Q				
2+45	0.0018	0.01	Q				
2+50	0.0019	0.01	Q				
2+55	0.0019	0.01	Q				
3+ 0	0.0020	0.01	Q				
3+ 5	0.0021	0.01	Q				
3+10	0.0021	0.01	Q				
3+15	0.0022	0.01	Q				
3+20	0.0023	0.01	Q				

3+25	0.0023	0.01	Q				
3+30	0.0024	0.01	Q				
3+35	0.0025	0.01	Q				
3+40	0.0025	0.01	Q				
3+45	0.0026	0.01	Q				
3+50	0.0027	0.01	Q				
3+55	0.0028	0.01	Q				
4+ 0	0.0028	0.01	Q				
4+ 5	0.0029	0.01	QV				
4+10	0.0030	0.01	QV				
4+15	0.0030	0.01	QV				
4+20	0.0031	0.01	QV				
4+25	0.0032	0.01	QV				
4+30	0.0033	0.01	QV				
4+35	0.0033	0.01	QV				
4+40	0.0034	0.01	QV				
4+45	0.0035	0.01	QV				
4+50	0.0036	0.01	QV				
4+55	0.0036	0.01	QV				
5+ 0	0.0037	0.01	QV				
5+ 5	0.0038	0.01	QV				
5+10	0.0039	0.01	QV				
5+15	0.0040	0.01	QV				
5+20	0.0040	0.01	QV				
5+25	0.0041	0.01	QV				
5+30	0.0042	0.01	QV				
5+35	0.0043	0.01	QV				
5+40	0.0043	0.01	QV				
5+45	0.0044	0.01	QV				
5+50	0.0045	0.01	QV				
5+55	0.0046	0.01	QV				
6+ 0	0.0047	0.01	QV				
6+ 5	0.0048	0.01	QV				
6+10	0.0048	0.01	QV				
6+15	0.0049	0.01	QV				
6+20	0.0050	0.01	QV				
6+25	0.0051	0.01	QV				
6+30	0.0052	0.01	QV				
6+35	0.0053	0.01	QV				
6+40	0.0053	0.01	QV				
6+45	0.0054	0.01	QV				
6+50	0.0055	0.01	QV				
6+55	0.0056	0.01	QV				
7+ 0	0.0057	0.01	QV				
7+ 5	0.0058	0.01	Q V				
7+10	0.0059	0.01	Q V				
7+15	0.0060	0.01	Q V				
7+20	0.0061	0.01	Q V				
7+25	0.0062	0.01	Q V				
7+30	0.0062	0.01	Q V				
7+35	0.0063	0.01	Q V				
7+40	0.0064	0.01	Q V				
7+45	0.0065	0.01	Q V				
7+50	0.0066	0.01	Q V				
7+55	0.0067	0.01	Q V				
8+ 0	0.0068	0.01	Q V				
8+ 5	0.0069	0.01	Q V				
8+10	0.0070	0.01	Q V				
8+15	0.0071	0.01	Q V				

8+20	0.0072	0.01	Q V	|	|	|	|
8+25	0.0073	0.01	Q V	|	|	|	|
8+30	0.0074	0.01	Q V	|	|	|	|
8+35	0.0075	0.01	Q V	|	|	|	|
8+40	0.0076	0.02	Q V	|	|	|	|
8+45	0.0077	0.02	Q V	|	|	|	|
8+50	0.0078	0.02	Q V	|	|	|	|
8+55	0.0079	0.02	Q V	|	|	|	|
9+ 0	0.0080	0.02	Q V	|	|	|	|
9+ 5	0.0082	0.02	Q V	|	|	|	|
9+10	0.0083	0.02	Q V	|	|	|	|
9+15	0.0084	0.02	Q V	|	|	|	|
9+20	0.0085	0.02	Q V	|	|	|	|
9+25	0.0086	0.02	Q V	|	|	|	|
9+30	0.0087	0.02	Q V	|	|	|	|
9+35	0.0088	0.02	Q V	|	|	|	|
9+40	0.0089	0.02	Q V	|	|	|	|
9+45	0.0091	0.02	Q V	|	|	|	|
9+50	0.0092	0.02	Q V	|	|	|	|
9+55	0.0093	0.02	Q V	|	|	|	|
10+ 0	0.0094	0.02	Q V	|	|	|	|
10+ 5	0.0095	0.02	Q V	|	|	|	|
10+10	0.0097	0.02	Q V	|	|	|	|
10+15	0.0098	0.02	Q V	|	|	|	|
10+20	0.0099	0.02	Q V	|	|	|	|
10+25	0.0100	0.02	Q V	|	|	|	|
10+30	0.0102	0.02	Q V	|	|	|	|
10+35	0.0103	0.02	Q V	|	|	|	|
10+40	0.0104	0.02	Q V	|	|	|	|
10+45	0.0105	0.02	Q V	|	|	|	|
10+50	0.0107	0.02	Q V	|	|	|	|
10+55	0.0108	0.02	Q V	|	|	|	|
11+ 0	0.0110	0.02	Q V	|	|	|	|
11+ 5	0.0111	0.02	Q V	|	|	|	|
11+10	0.0112	0.02	Q V	|	|	|	|
11+15	0.0114	0.02	Q V	|	|	|	|
11+20	0.0115	0.02	Q V	|	|	|	|
11+25	0.0117	0.02	Q V	|	|	|	|
11+30	0.0118	0.02	Q V	|	|	|	|
11+35	0.0120	0.02	Q V	|	|	|	|
11+40	0.0121	0.02	Q V	|	|	|	|
11+45	0.0123	0.02	Q V	|	|	|	|
11+50	0.0124	0.02	Q V	|	|	|	|
11+55	0.0126	0.02	Q V	|	|	|	|
12+ 0	0.0127	0.02	Q V	|	|	|	|
12+ 5	0.0129	0.02	Q V	|	|	|	|
12+10	0.0131	0.02	Q V	|	|	|	|
12+15	0.0132	0.02	Q V	|	|	|	|
12+20	0.0134	0.02	Q V	|	|	|	|
12+25	0.0136	0.02	Q V	|	|	|	|
12+30	0.0137	0.02	Q V	|	|	|	|
12+35	0.0139	0.03	Q V	|	|	|	|
12+40	0.0141	0.03	Q V	|	|	|	|
12+45	0.0143	0.03	Q V	|	|	|	|
12+50	0.0144	0.03	Q V	|	|	|	|
12+55	0.0146	0.03	Q V	|	|	|	|
13+ 0	0.0148	0.03	Q V	|	|	|	|
13+ 5	0.0150	0.03	Q V	|	|	|	|
13+10	0.0152	0.03	Q V	|	|	|	|

```
13+15       0.0154      0.03  Q    V    |          |          |          |
13+20       0.0156      0.03  Q    V    |          |          |          |
13+25       0.0158      0.03  Q    V    |          |          |          |
13+30       0.0160      0.03  Q    V    |          |          |          |
13+35       0.0162      0.03  Q    V    |          |          |          |
13+40       0.0165      0.03  Q    V    |          |          |          |
13+45       0.0167      0.03  Q    V    |          |          |          |
13+50       0.0169      0.03  Q    V    |          |          |          |
13+55       0.0172      0.03  Q    V    |          |          |          |
14+ 0       0.0174      0.04  Q     V   |          |          |          |
14+ 5       0.0177      0.04  Q     V   |          |          |          |
14+10       0.0179      0.04  Q     V   |          |          |          |
14+15       0.0182      0.04  Q     V   |          |          |          |
14+20       0.0185      0.04  Q     V   |          |          |          |
14+25       0.0188      0.04  Q     V   |          |          |          |
14+30       0.0191      0.04  Q     V   |          |          |          |
14+35       0.0194      0.04  Q     V   |          |          |          |
14+40       0.0197      0.05  Q     V   |          |          |          |
14+45       0.0200      0.05  Q     V   |          |          |          |
14+50       0.0204      0.05  Q      V  |          |          |          |
14+55       0.0208      0.05  Q      V  |          |          |          |
15+ 0       0.0211      0.06  Q      V  |          |          |          |
15+ 5       0.0215      0.06  Q      V  |          |          |          |
15+10       0.0220      0.06  Q      V  |          |          |          |
15+15       0.0224      0.07  Q      V  |          |          |          |
15+20       0.0229      0.07  Q      V  |          |          |          |
15+25       0.0234      0.08  Q       V |          |          |          |
15+30       0.0240      0.09  Q       V |          |          |          |
15+35       0.0247      0.10  Q       V |          |          |          |
15+40       0.0255      0.12  Q       V |          |          |          |
15+45       0.0265      0.14  Q        V|          |          |          |
15+50       0.0277      0.17  Q        V|          |          |          |
15+55       0.0292      0.22  Q         V          |          |          |
16+ 0       0.0315      0.33  |Q        V          |          |          |
16+ 5       0.0358      0.63  | Q       | V        |          |          |
16+10       0.0447      1.29  |    Q    |    V     |          |          |
16+15       0.0603      2.27  |        Q|         V          |          |
16+20       0.0726      1.77  |      Q  |          |    V     |          |
16+25       0.0800      1.08  |   Q     |          |      V   |          |
16+30       0.0853      0.77  |  Q      |          |        V|          |
16+35       0.0892      0.57  | Q       |          |         V          |
16+40       0.0923      0.45  |Q        |          |         |V         |
16+45       0.0949      0.37  |Q        |          |         | V        |
16+50       0.0969      0.30  |Q        |          |         |  V       |
16+55       0.0986      0.25  Q         |          |         |   V      |
17+ 0       0.1001      0.21  Q         |          |         |   V      |
17+ 5       0.1013      0.18  Q         |          |         |    V     |
17+10       0.1024      0.16  Q         |          |         |    V     |
17+15       0.1033      0.13  Q         |          |         |    V     |
17+20       0.1041      0.11  Q         |          |         |     V    |
17+25       0.1048      0.10  Q         |          |         |     V    |
17+30       0.1053      0.08  Q         |          |         |     V    |
17+35       0.1059      0.08  Q         |          |         |     V    |
17+40       0.1064      0.08  Q         |          |         |     V    |
17+45       0.1069      0.07  Q         |          |         |     V    |
17+50       0.1073      0.06  Q         |          |         |      V   |
17+55       0.1076      0.05  Q         |          |         |      V   |
18+ 0       0.1079      0.04  Q         |          |         |      V   |
18+ 5       0.1081      0.03  Q         |          |         |      V   |
```

18+10	0.1083	0.03	Q	|	|	|	V |
18+15	0.1085	0.03	Q	|	|	|	V |
18+20	0.1087	0.03	Q	|	|	|	V |
18+25	0.1089	0.03	Q	|	|	|	V |
18+30	0.1091	0.02	Q	|	|	|	V |
18+35	0.1092	0.02	Q	|	|	|	V |
18+40	0.1094	0.02	Q	|	|	|	V |
18+45	0.1095	0.02	Q	|	|	|	V |
18+50	0.1097	0.02	Q	|	|	|	V |
18+55	0.1098	0.02	Q	|	|	|	V |
19+ 0	0.1100	0.02	Q	|	|	|	V |
19+ 5	0.1101	0.02	Q	|	|	|	V |
19+10	0.1103	0.02	Q	|	|	|	V |
19+15	0.1104	0.02	Q	|	|	|	V |
19+20	0.1105	0.02	Q	|	|	|	V |
19+25	0.1107	0.02	Q	|	|	|	V |
19+30	0.1108	0.02	Q	|	|	|	V |
19+35	0.1109	0.02	Q	|	|	|	V |
19+40	0.1110	0.02	Q	|	|	|	V |
19+45	0.1111	0.02	Q	|	|	|	V |
19+50	0.1113	0.02	Q	|	|	|	V |
19+55	0.1114	0.02	Q	|	|	|	V |
20+ 0	0.1115	0.02	Q	|	|	|	V |
20+ 5	0.1116	0.02	Q	|	|	|	V |
20+10	0.1117	0.02	Q	|	|	|	V |
20+15	0.1118	0.02	Q	|	|	|	V |
20+20	0.1119	0.02	Q	|	|	|	V |
20+25	0.1120	0.01	Q	|	|	|	V |
20+30	0.1121	0.01	Q	|	|	|	V |
20+35	0.1122	0.01	Q	|	|	|	V |
20+40	0.1123	0.01	Q	|	|	|	V |
20+45	0.1124	0.01	Q	|	|	|	V |
20+50	0.1125	0.01	Q	|	|	|	V |
20+55	0.1126	0.01	Q	|	|	|	V |
21+ 0	0.1127	0.01	Q	|	|	|	V |
21+ 5	0.1128	0.01	Q	|	|	|	V|
21+10	0.1129	0.01	Q	|	|	|	V|
21+15	0.1130	0.01	Q	|	|	|	V|
21+20	0.1130	0.01	Q	|	|	|	V|
21+25	0.1131	0.01	Q	|	|	|	V|
21+30	0.1132	0.01	Q	|	|	|	V|
21+35	0.1133	0.01	Q	|	|	|	V|
21+40	0.1134	0.01	Q	|	|	|	V|
21+45	0.1135	0.01	Q	|	|	|	V|
21+50	0.1135	0.01	Q	|	|	|	V|
21+55	0.1136	0.01	Q	|	|	|	V|
22+ 0	0.1137	0.01	Q	|	|	|	V|
22+ 5	0.1138	0.01	Q	|	|	|	V|
22+10	0.1138	0.01	Q	|	|	|	V|
22+15	0.1139	0.01	Q	|	|	|	V|
22+20	0.1140	0.01	Q	|	|	|	V|
22+25	0.1141	0.01	Q	|	|	|	V|
22+30	0.1141	0.01	Q	|	|	|	V|
22+35	0.1142	0.01	Q	|	|	|	V|
22+40	0.1143	0.01	Q	|	|	|	V|
22+45	0.1144	0.01	Q	|	|	|	V|
22+50	0.1144	0.01	Q	|	|	|	V|
22+55	0.1145	0.01	Q	|	|	|	V|
23+ 0	0.1146	0.01	Q	|	|	|	V|

23+ 5	0.1146	0.01	Q	|	|	|	V|
23+10	0.1147	0.01	Q	|	|	|	V|
23+15	0.1148	0.01	Q	|	|	|	V|
23+20	0.1148	0.01	Q	|	|	|	V|
23+25	0.1149	0.01	Q	|	|	|	V|
23+30	0.1150	0.01	Q	|	|	|	V|
23+35	0.1150	0.01	Q	|	|	|	V|
23+40	0.1151	0.01	Q	|	|	|	V|
23+45	0.1152	0.01	Q	|	|	|	V|
23+50	0.1152	0.01	Q	|	|	|	V|
23+55	0.1153	0.01	Q	|	|	|	V|
24+ 0	0.1153	0.01	Q	|	|	|	V|
24+ 5	0.1154	0.01	Q	|	|	|	V|
24+10	0.1155	0.01	Q	|	|	|	V|
24+15	0.1155	0.01	Q	|	|	|	V|
24+20	0.1155	0.00	Q	|	|	|	V|
24+25	0.1155	0.00	Q	|	|	|	V|
24+30	0.1156	0.00	Q	|	|	|	V|
24+35	0.1156	0.00	Q	|	|	|	V|
24+40	0.1156	0.00	Q	|	|	|	V|
24+45	0.1156	0.00	Q	|	|	|	V|
24+50	0.1156	0.00	Q	|	|	|	V|
24+55	0.1156	0.00	Q	|	|	|	V|
25+ 0	0.1156	0.00	Q	|	|	|	V|
25+ 5	0.1156	0.00	Q	|	|	|	V|
25+10	0.1156	0.00	Q	|	|	|	V|
25+15	0.1156	0.00	Q	|	|	|	V|
25+20	0.1156	0.00	Q	|	|	|	V|
25+25	0.1156	0.00	Q	|	|	|	V|
25+30	0.1156	0.00	Q	|	|	|	V|
25+35	0.1156	0.00	Q	|	|	|	V|
25+40	0.1156	0.00	Q	|	|	|	V|
25+45	0.1156	0.00	Q	|	|	|	V|
25+50	0.1156	0.00	Q	|	|	|	V|
25+55	0.1156	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 2
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
1.55	1	1.27
Rainfall data for year 100		
1.55	6	1.84
Rainfall data for year 100		
1.55	24	2.49

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	1.55	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1.55	1.000	62.0	80.6	2.41	0.367

Area-averaged catchment yield fraction, Y = 0.367
Area-averaged low loss fraction, Yb = 0.633
User entry of time of concentration = 0.270 (hours)
++
Watershed area = 1.55(Ac.)
Catchment Lag time = 0.216 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 38.5802
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.633 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.490(In)

Rainfall depth area reduction factors:
Using a total area of 1.55(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.603(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.270(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.490(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 18.75 (CFS))	
1	2.595	0.486
2	17.110	2.721
3	47.025	5.608
4	64.168	3.213
5	73.585	1.765
6	79.873	1.179
7	84.321	0.834
8	87.824	0.657
9	90.350	0.474
10	92.386	0.382
11	94.047	0.311
12	95.367	0.248
13	96.438	0.201
14	97.275	0.157

15	97.884	0.114
16	98.288	0.076
17	98.739	0.085
18	99.202	0.087
19	99.584	0.072
20	99.827	0.046
21	100.000	0.032

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6026	0.6026
2	0.7419	0.1393
3	0.8378	0.0960
4	0.9133	0.0755
5	0.9766	0.0632
6	1.0315	0.0549
7	1.0803	0.0488
8	1.1245	0.0442
9	1.1649	0.0404
10	1.2023	0.0374
11	1.2372	0.0349
12	1.2699	0.0327
13	1.2911	0.0212
14	1.3111	0.0200
15	1.3299	0.0189
16	1.3478	0.0179
17	1.3648	0.0170
18	1.3811	0.0162
19	1.3966	0.0155
20	1.4115	0.0149
21	1.4259	0.0143
22	1.4397	0.0138
23	1.4530	0.0133
24	1.4658	0.0129
25	1.4782	0.0124
26	1.4903	0.0120
27	1.5020	0.0117
28	1.5133	0.0113
29	1.5244	0.0110
30	1.5351	0.0107
31	1.5456	0.0105
32	1.5557	0.0102
33	1.5657	0.0099
34	1.5754	0.0097
35	1.5849	0.0095
36	1.5941	0.0093
37	1.6032	0.0091
38	1.6121	0.0089
39	1.6208	0.0087
40	1.6293	0.0085
41	1.6376	0.0083
42	1.6458	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6695	0.0077
46	1.6771	0.0076
47	1.6846	0.0075
48	1.6919	0.0074
49	1.6991	0.0072

50	1.7063	0.0071
51	1.7133	0.0070
52	1.7202	0.0069
53	1.7270	0.0068
54	1.7337	0.0067
55	1.7403	0.0066
56	1.7468	0.0065
57	1.7532	0.0064
58	1.7595	0.0063
59	1.7657	0.0062
60	1.7719	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7957	0.0058
65	1.8015	0.0058
66	1.8072	0.0057
67	1.8128	0.0056
68	1.8184	0.0056
69	1.8239	0.0055
70	1.8293	0.0054
71	1.8347	0.0054
72	1.8400	0.0053
73	1.8455	0.0055
74	1.8510	0.0055
75	1.8565	0.0054
76	1.8618	0.0054
77	1.8671	0.0053
78	1.8724	0.0053
79	1.8776	0.0052
80	1.8828	0.0052
81	1.8879	0.0051
82	1.8930	0.0051
83	1.8980	0.0050
84	1.9029	0.0050
85	1.9079	0.0049
86	1.9127	0.0049
87	1.9176	0.0048
88	1.9224	0.0048
89	1.9271	0.0047
90	1.9318	0.0047
91	1.9365	0.0047
92	1.9411	0.0046
93	1.9457	0.0046
94	1.9502	0.0045
95	1.9547	0.0045
96	1.9592	0.0045
97	1.9636	0.0044
98	1.9680	0.0044
99	1.9724	0.0044
100	1.9767	0.0043
101	1.9810	0.0043
102	1.9853	0.0043
103	1.9895	0.0042
104	1.9937	0.0042
105	1.9979	0.0042
106	2.0020	0.0041
107	2.0061	0.0041
108	2.0102	0.0041

109	2.0143	0.0040
110	2.0183	0.0040
111	2.0223	0.0040
112	2.0262	0.0040
113	2.0302	0.0039
114	2.0341	0.0039
115	2.0380	0.0039
116	2.0418	0.0039
117	2.0456	0.0038
118	2.0494	0.0038
119	2.0532	0.0038
120	2.0570	0.0038
121	2.0607	0.0037
122	2.0644	0.0037
123	2.0681	0.0037
124	2.0717	0.0037
125	2.0754	0.0036
126	2.0790	0.0036
127	2.0826	0.0036
128	2.0861	0.0036
129	2.0897	0.0035
130	2.0932	0.0035
131	2.0967	0.0035
132	2.1002	0.0035
133	2.1037	0.0035
134	2.1071	0.0034
135	2.1105	0.0034
136	2.1139	0.0034
137	2.1173	0.0034
138	2.1207	0.0034
139	2.1240	0.0033
140	2.1273	0.0033
141	2.1306	0.0033
142	2.1339	0.0033
143	2.1372	0.0033
144	2.1405	0.0033
145	2.1437	0.0032
146	2.1469	0.0032
147	2.1501	0.0032
148	2.1533	0.0032
149	2.1565	0.0032
150	2.1596	0.0032
151	2.1627	0.0031
152	2.1659	0.0031
153	2.1690	0.0031
154	2.1721	0.0031
155	2.1751	0.0031
156	2.1782	0.0031
157	2.1812	0.0030
158	2.1842	0.0030
159	2.1872	0.0030
160	2.1902	0.0030
161	2.1932	0.0030
162	2.1962	0.0030
163	2.1991	0.0030
164	2.2021	0.0029
165	2.2050	0.0029
166	2.2079	0.0029
167	2.2108	0.0029

168	2.2137	0.0029
169	2.2166	0.0029
170	2.2194	0.0029
171	2.2223	0.0028
172	2.2251	0.0028
173	2.2279	0.0028
174	2.2307	0.0028
175	2.2335	0.0028
176	2.2363	0.0028
177	2.2390	0.0028
178	2.2418	0.0028
179	2.2445	0.0027
180	2.2473	0.0027
181	2.2500	0.0027
182	2.2527	0.0027
183	2.2554	0.0027
184	2.2581	0.0027
185	2.2607	0.0027
186	2.2634	0.0027
187	2.2661	0.0026
188	2.2687	0.0026
189	2.2713	0.0026
190	2.2739	0.0026
191	2.2765	0.0026
192	2.2791	0.0026
193	2.2817	0.0026
194	2.2843	0.0026
195	2.2869	0.0026
196	2.2894	0.0026
197	2.2920	0.0025
198	2.2945	0.0025
199	2.2970	0.0025
200	2.2995	0.0025
201	2.3020	0.0025
202	2.3045	0.0025
203	2.3070	0.0025
204	2.3095	0.0025
205	2.3120	0.0025
206	2.3144	0.0025
207	2.3169	0.0024
208	2.3193	0.0024
209	2.3217	0.0024
210	2.3242	0.0024
211	2.3266	0.0024
212	2.3290	0.0024
213	2.3314	0.0024
214	2.3337	0.0024
215	2.3361	0.0024
216	2.3385	0.0024
217	2.3408	0.0024
218	2.3432	0.0023
219	2.3455	0.0023
220	2.3479	0.0023
221	2.3502	0.0023
222	2.3525	0.0023
223	2.3548	0.0023
224	2.3571	0.0023
225	2.3594	0.0023
226	2.3617	0.0023

227	2.3640	0.0023
228	2.3662	0.0023
229	2.3685	0.0023
230	2.3708	0.0023
231	2.3730	0.0022
232	2.3752	0.0022
233	2.3775	0.0022
234	2.3797	0.0022
235	2.3819	0.0022
236	2.3841	0.0022
237	2.3863	0.0022
238	2.3885	0.0022
239	2.3907	0.0022
240	2.3929	0.0022
241	2.3950	0.0022
242	2.3972	0.0022
243	2.3994	0.0022
244	2.4015	0.0022
245	2.4037	0.0021
246	2.4058	0.0021
247	2.4079	0.0021
248	2.4101	0.0021
249	2.4122	0.0021
250	2.4143	0.0021
251	2.4164	0.0021
252	2.4185	0.0021
253	2.4206	0.0021
254	2.4227	0.0021
255	2.4247	0.0021
256	2.4268	0.0021
257	2.4289	0.0021
258	2.4309	0.0021
259	2.4330	0.0021
260	2.4350	0.0020
261	2.4371	0.0020
262	2.4391	0.0020
263	2.4411	0.0020
264	2.4432	0.0020
265	2.4452	0.0020
266	2.4472	0.0020
267	2.4492	0.0020
268	2.4512	0.0020
269	2.4532	0.0020
270	2.4552	0.0020
271	2.4572	0.0020
272	2.4591	0.0020
273	2.4611	0.0020
274	2.4631	0.0020
275	2.4650	0.0020
276	2.4670	0.0020
277	2.4689	0.0019
278	2.4709	0.0019
279	2.4728	0.0019
280	2.4747	0.0019
281	2.4767	0.0019
282	2.4786	0.0019
283	2.4805	0.0019
284	2.4824	0.0019
285	2.4843	0.0019

286	2.4862	0.0019	
287	2.4881	0.0019	
288	2.4900	0.0019	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0020	0.0012	0.0007
10	0.0020	0.0012	0.0007
11	0.0020	0.0012	0.0007
12	0.0020	0.0013	0.0007
13	0.0020	0.0013	0.0007
14	0.0020	0.0013	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0008
21	0.0021	0.0013	0.0008
22	0.0021	0.0013	0.0008
23	0.0021	0.0013	0.0008
24	0.0021	0.0013	0.0008
25	0.0021	0.0013	0.0008
26	0.0021	0.0013	0.0008
27	0.0021	0.0013	0.0008
28	0.0021	0.0013	0.0008
29	0.0021	0.0014	0.0008
30	0.0021	0.0014	0.0008
31	0.0022	0.0014	0.0008
32	0.0022	0.0014	0.0008
33	0.0022	0.0014	0.0008
34	0.0022	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0022	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0023	0.0014	0.0008
41	0.0023	0.0014	0.0008
42	0.0023	0.0014	0.0008
43	0.0023	0.0015	0.0008
44	0.0023	0.0015	0.0008
45	0.0023	0.0015	0.0009
46	0.0023	0.0015	0.0009
47	0.0023	0.0015	0.0009
48	0.0023	0.0015	0.0009
49	0.0024	0.0015	0.0009
50	0.0024	0.0015	0.0009
51	0.0024	0.0015	0.0009

52	0.0024	0.0015	0.0009
53	0.0024	0.0015	0.0009
54	0.0024	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0025	0.0016	0.0009
57	0.0025	0.0016	0.0009
58	0.0025	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0025	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0026	0.0016	0.0009
64	0.0026	0.0016	0.0009
65	0.0026	0.0016	0.0010
66	0.0026	0.0016	0.0010
67	0.0026	0.0017	0.0010
68	0.0026	0.0017	0.0010
69	0.0027	0.0017	0.0010
70	0.0027	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0027	0.0017	0.0010
73	0.0027	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0028	0.0018	0.0010
76	0.0028	0.0018	0.0010
77	0.0028	0.0018	0.0010
78	0.0028	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0029	0.0018	0.0010
81	0.0029	0.0018	0.0011
82	0.0029	0.0018	0.0011
83	0.0029	0.0019	0.0011
84	0.0029	0.0019	0.0011
85	0.0030	0.0019	0.0011
86	0.0030	0.0019	0.0011
87	0.0030	0.0019	0.0011
88	0.0030	0.0019	0.0011
89	0.0031	0.0019	0.0011
90	0.0031	0.0019	0.0011
91	0.0031	0.0020	0.0011
92	0.0031	0.0020	0.0011
93	0.0032	0.0020	0.0012
94	0.0032	0.0020	0.0012
95	0.0032	0.0020	0.0012
96	0.0032	0.0020	0.0012
97	0.0033	0.0021	0.0012
98	0.0033	0.0021	0.0012
99	0.0033	0.0021	0.0012
100	0.0033	0.0021	0.0012
101	0.0034	0.0021	0.0012
102	0.0034	0.0021	0.0012
103	0.0034	0.0022	0.0013
104	0.0034	0.0022	0.0013
105	0.0035	0.0022	0.0013
106	0.0035	0.0022	0.0013
107	0.0035	0.0022	0.0013
108	0.0036	0.0023	0.0013
109	0.0036	0.0023	0.0013
110	0.0036	0.0023	0.0013

111	0.0037	0.0023	0.0014
112	0.0037	0.0023	0.0014
113	0.0038	0.0024	0.0014
114	0.0038	0.0024	0.0014
115	0.0038	0.0024	0.0014
116	0.0039	0.0024	0.0014
117	0.0039	0.0025	0.0014
118	0.0039	0.0025	0.0014
119	0.0040	0.0025	0.0015
120	0.0040	0.0025	0.0015
121	0.0041	0.0026	0.0015
122	0.0041	0.0026	0.0015
123	0.0042	0.0026	0.0015
124	0.0042	0.0027	0.0015
125	0.0043	0.0027	0.0016
126	0.0043	0.0027	0.0016
127	0.0044	0.0028	0.0016
128	0.0044	0.0028	0.0016
129	0.0045	0.0028	0.0016
130	0.0045	0.0029	0.0017
131	0.0046	0.0029	0.0017
132	0.0046	0.0029	0.0017
133	0.0047	0.0030	0.0017
134	0.0047	0.0030	0.0017
135	0.0048	0.0031	0.0018
136	0.0049	0.0031	0.0018
137	0.0050	0.0031	0.0018
138	0.0050	0.0032	0.0018
139	0.0051	0.0032	0.0019
140	0.0052	0.0033	0.0019
141	0.0053	0.0033	0.0019
142	0.0053	0.0034	0.0020
143	0.0054	0.0034	0.0020
144	0.0055	0.0035	0.0020
145	0.0053	0.0034	0.0020
146	0.0054	0.0034	0.0020
147	0.0055	0.0035	0.0020
148	0.0056	0.0035	0.0020
149	0.0057	0.0036	0.0021
150	0.0058	0.0037	0.0021
151	0.0059	0.0037	0.0022
152	0.0060	0.0038	0.0022
153	0.0062	0.0039	0.0023
154	0.0062	0.0039	0.0023
155	0.0064	0.0041	0.0024
156	0.0065	0.0041	0.0024
157	0.0067	0.0042	0.0025
158	0.0068	0.0043	0.0025
159	0.0070	0.0044	0.0026
160	0.0071	0.0045	0.0026
161	0.0074	0.0047	0.0027
162	0.0075	0.0047	0.0027
163	0.0077	0.0049	0.0028
164	0.0079	0.0050	0.0029
165	0.0082	0.0052	0.0030
166	0.0083	0.0053	0.0031
167	0.0087	0.0055	0.0032
168	0.0089	0.0056	0.0033
169	0.0093	0.0059	0.0034

170	0.0095	0.0060	0.0035
171	0.0099	0.0063	0.0036
172	0.0102	0.0065	0.0037
173	0.0107	0.0068	0.0039
174	0.0110	0.0070	0.0040
175	0.0117	0.0074	0.0043
176	0.0120	0.0076	0.0044
177	0.0129	0.0081	0.0047
178	0.0133	0.0084	0.0049
179	0.0143	0.0091	0.0053
180	0.0149	0.0094	0.0055
181	0.0162	0.0103	0.0060
182	0.0170	0.0108	0.0062
183	0.0189	0.0119	0.0069
184	0.0200	0.0126	0.0073
185	0.0327	0.0207	0.0120
186	0.0349	0.0221	0.0128
187	0.0404	0.0256	0.0148
188	0.0442	0.0280	0.0162
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0333
191	0.0960	0.0300	0.0660
192	0.1393	0.0300	0.1093
193	0.6026	0.0300	0.5726
194	0.0755	0.0300	0.0456
195	0.0488	0.0300	0.0189
196	0.0374	0.0237	0.0137
197	0.0212	0.0134	0.0078
198	0.0179	0.0113	0.0066
199	0.0155	0.0098	0.0057
200	0.0138	0.0087	0.0051
201	0.0124	0.0079	0.0046
202	0.0113	0.0072	0.0042
203	0.0105	0.0066	0.0038
204	0.0097	0.0061	0.0036
205	0.0091	0.0057	0.0033
206	0.0085	0.0054	0.0031
207	0.0080	0.0051	0.0029
208	0.0076	0.0048	0.0028
209	0.0072	0.0046	0.0027
210	0.0069	0.0044	0.0025
211	0.0066	0.0042	0.0024
212	0.0063	0.0040	0.0023
213	0.0061	0.0038	0.0022
214	0.0058	0.0037	0.0021
215	0.0056	0.0036	0.0021
216	0.0054	0.0034	0.0020
217	0.0055	0.0035	0.0020
218	0.0054	0.0034	0.0020
219	0.0052	0.0033	0.0019
220	0.0051	0.0032	0.0019
221	0.0049	0.0031	0.0018
222	0.0048	0.0030	0.0018
223	0.0047	0.0030	0.0017
224	0.0045	0.0029	0.0017
225	0.0044	0.0028	0.0016
226	0.0043	0.0027	0.0016
227	0.0042	0.0027	0.0016
228	0.0041	0.0026	0.0015

229	0.0040	0.0026	0.0015
230	0.0040	0.0025	0.0015
231	0.0039	0.0025	0.0014
232	0.0038	0.0024	0.0014
233	0.0037	0.0024	0.0014
234	0.0037	0.0023	0.0013
235	0.0036	0.0023	0.0013
236	0.0035	0.0022	0.0013
237	0.0035	0.0022	0.0013
238	0.0034	0.0022	0.0012
239	0.0033	0.0021	0.0012
240	0.0033	0.0021	0.0012
241	0.0032	0.0020	0.0012
242	0.0032	0.0020	0.0012
243	0.0031	0.0020	0.0011
244	0.0031	0.0020	0.0011
245	0.0030	0.0019	0.0011
246	0.0030	0.0019	0.0011
247	0.0030	0.0019	0.0011
248	0.0029	0.0018	0.0011
249	0.0029	0.0018	0.0011
250	0.0028	0.0018	0.0010
251	0.0028	0.0018	0.0010
252	0.0028	0.0017	0.0010
253	0.0027	0.0017	0.0010
254	0.0027	0.0017	0.0010
255	0.0026	0.0017	0.0010
256	0.0026	0.0017	0.0010
257	0.0026	0.0016	0.0009
258	0.0026	0.0016	0.0009
259	0.0025	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0025	0.0016	0.0009
262	0.0024	0.0015	0.0009
263	0.0024	0.0015	0.0009
264	0.0024	0.0015	0.0009
265	0.0024	0.0015	0.0009
266	0.0023	0.0015	0.0009
267	0.0023	0.0015	0.0008
268	0.0023	0.0014	0.0008
269	0.0023	0.0014	0.0008
270	0.0022	0.0014	0.0008
271	0.0022	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0022	0.0014	0.0008
274	0.0022	0.0014	0.0008
275	0.0021	0.0013	0.0008
276	0.0021	0.0013	0.0008
277	0.0021	0.0013	0.0008
278	0.0021	0.0013	0.0008
279	0.0021	0.0013	0.0008
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0013	0.0007
283	0.0020	0.0013	0.0007
284	0.0020	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0019	0.0012	0.0007

288 0.0019 0.0012 0.0007

Total soil rain loss = 1.10(In)
Total effective rainfall = 1.39(In)
Peak flow rate in flood hydrograph = 3.91(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0006	0.01	Q				
0+55	0.0007	0.01	Q				
1+ 0	0.0008	0.01	Q				
1+ 5	0.0008	0.01	Q				
1+10	0.0009	0.01	Q				
1+15	0.0010	0.01	Q				
1+20	0.0011	0.01	Q				
1+25	0.0012	0.01	Q				
1+30	0.0013	0.01	Q				
1+35	0.0014	0.01	Q				
1+40	0.0015	0.01	Q				
1+45	0.0016	0.01	Q				
1+50	0.0017	0.01	Q				
1+55	0.0018	0.01	Q				
2+ 0	0.0019	0.01	Q				
2+ 5	0.0020	0.01	Q				
2+10	0.0021	0.01	Q				
2+15	0.0022	0.01	Q				
2+20	0.0023	0.01	Q				
2+25	0.0024	0.01	Q				
2+30	0.0025	0.01	Q				
2+35	0.0026	0.01	Q				
2+40	0.0027	0.01	Q				
2+45	0.0028	0.01	Q				
2+50	0.0029	0.01	Q				
2+55	0.0030	0.01	Q				
3+ 0	0.0031	0.01	Q				
3+ 5	0.0032	0.01	Q				
3+10	0.0033	0.02	Q				
3+15	0.0034	0.02	Q				
3+20	0.0035	0.02	Q				
3+25	0.0036	0.02	Q				
3+30	0.0037	0.02	Q				
3+35	0.0038	0.02	Q				

3+40	0.0039	0.02	Q				
3+45	0.0040	0.02	Q				
3+50	0.0041	0.02	Q				
3+55	0.0042	0.02	Q				
4+ 0	0.0044	0.02	Q				
4+ 5	0.0045	0.02	Q				
4+10	0.0046	0.02	QV				
4+15	0.0047	0.02	QV				
4+20	0.0048	0.02	QV				
4+25	0.0049	0.02	QV				
4+30	0.0050	0.02	QV				
4+35	0.0051	0.02	QV				
4+40	0.0053	0.02	QV				
4+45	0.0054	0.02	QV				
4+50	0.0055	0.02	QV				
4+55	0.0056	0.02	QV				
5+ 0	0.0057	0.02	QV				
5+ 5	0.0058	0.02	QV				
5+10	0.0059	0.02	QV				
5+15	0.0061	0.02	QV				
5+20	0.0062	0.02	QV				
5+25	0.0063	0.02	QV				
5+30	0.0064	0.02	QV				
5+35	0.0065	0.02	QV				
5+40	0.0067	0.02	QV				
5+45	0.0068	0.02	QV				
5+50	0.0069	0.02	QV				
5+55	0.0070	0.02	QV				
6+ 0	0.0072	0.02	QV				
6+ 5	0.0073	0.02	QV				
6+10	0.0074	0.02	QV				
6+15	0.0075	0.02	QV				
6+20	0.0077	0.02	QV				
6+25	0.0078	0.02	QV				
6+30	0.0079	0.02	QV				
6+35	0.0081	0.02	QV				
6+40	0.0082	0.02	QV				
6+45	0.0083	0.02	QV				
6+50	0.0085	0.02	QV				
6+55	0.0086	0.02	QV				
7+ 0	0.0087	0.02	QV				
7+ 5	0.0089	0.02	QV				
7+10	0.0090	0.02	Q V				
7+15	0.0092	0.02	Q V				
7+20	0.0093	0.02	Q V				
7+25	0.0094	0.02	Q V				
7+30	0.0096	0.02	Q V				
7+35	0.0097	0.02	Q V				
7+40	0.0099	0.02	Q V				
7+45	0.0100	0.02	Q V				
7+50	0.0101	0.02	Q V				
7+55	0.0103	0.02	Q V				
8+ 0	0.0104	0.02	Q V				
8+ 5	0.0106	0.02	Q V				
8+10	0.0107	0.02	Q V				
8+15	0.0109	0.02	Q V				
8+20	0.0110	0.02	Q V				
8+25	0.0112	0.02	Q V				
8+30	0.0114	0.02	Q V				

8+35	0.0115	0.02	Q V	|	|	|	|
8+40	0.0117	0.02	Q V	|	|	|	|
8+45	0.0118	0.02	Q V	|	|	|	|
8+50	0.0120	0.02	Q V	|	|	|	|
8+55	0.0122	0.02	Q V	|	|	|	|
9+ 0	0.0123	0.02	Q V	|	|	|	|
9+ 5	0.0125	0.02	Q V	|	|	|	|
9+10	0.0127	0.02	Q V	|	|	|	|
9+15	0.0128	0.02	Q V	|	|	|	|
9+20	0.0130	0.02	Q V	|	|	|	|
9+25	0.0132	0.02	Q V	|	|	|	|
9+30	0.0133	0.03	Q V	|	|	|	|
9+35	0.0135	0.03	Q V	|	|	|	|
9+40	0.0137	0.03	Q V	|	|	|	|
9+45	0.0139	0.03	Q V	|	|	|	|
9+50	0.0140	0.03	Q V	|	|	|	|
9+55	0.0142	0.03	Q V	|	|	|	|
10+ 0	0.0144	0.03	Q V	|	|	|	|
10+ 5	0.0146	0.03	Q V	|	|	|	|
10+10	0.0148	0.03	Q V	|	|	|	|
10+15	0.0150	0.03	Q V	|	|	|	|
10+20	0.0152	0.03	Q V	|	|	|	|
10+25	0.0154	0.03	Q V	|	|	|	|
10+30	0.0155	0.03	Q V	|	|	|	|
10+35	0.0157	0.03	Q V	|	|	|	|
10+40	0.0159	0.03	Q V	|	|	|	|
10+45	0.0161	0.03	Q V	|	|	|	|
10+50	0.0164	0.03	Q V	|	|	|	|
10+55	0.0166	0.03	Q V	|	|	|	|
11+ 0	0.0168	0.03	Q V	|	|	|	|
11+ 5	0.0170	0.03	Q V	|	|	|	|
11+10	0.0172	0.03	Q V	|	|	|	|
11+15	0.0174	0.03	Q V	|	|	|	|
11+20	0.0176	0.03	Q V	|	|	|	|
11+25	0.0179	0.03	Q V	|	|	|	|
11+30	0.0181	0.03	Q V	|	|	|	|
11+35	0.0183	0.03	Q V	|	|	|	|
11+40	0.0185	0.03	Q V	|	|	|	|
11+45	0.0188	0.03	Q V	|	|	|	|
11+50	0.0190	0.03	Q V	|	|	|	|
11+55	0.0193	0.04	Q V	|	|	|	|
12+ 0	0.0195	0.04	Q V	|	|	|	|
12+ 5	0.0198	0.04	Q V	|	|	|	|
12+10	0.0200	0.04	Q V	|	|	|	|
12+15	0.0203	0.04	Q V	|	|	|	|
12+20	0.0205	0.04	Q V	|	|	|	|
12+25	0.0208	0.04	Q V	|	|	|	|
12+30	0.0210	0.04	Q V	|	|	|	|
12+35	0.0213	0.04	Q V	|	|	|	|
12+40	0.0216	0.04	Q V	|	|	|	|
12+45	0.0218	0.04	Q V	|	|	|	|
12+50	0.0221	0.04	Q V	|	|	|	|
12+55	0.0224	0.04	Q V	|	|	|	|
13+ 0	0.0227	0.04	Q V	|	|	|	|
13+ 5	0.0230	0.04	Q V	|	|	|	|
13+10	0.0233	0.04	Q V	|	|	|	|
13+15	0.0236	0.04	Q V	|	|	|	|
13+20	0.0239	0.05	Q V	|	|	|	|
13+25	0.0242	0.05	Q V	|	|	|	|

```
13+30       0.0245      0.05  Q    V    |          |          |          |
13+35       0.0249      0.05  Q    V    |          |          |          |
13+40       0.0252      0.05  Q    V    |          |          |          |
13+45       0.0256      0.05  Q    V    |          |          |          |
13+50       0.0259      0.05  Q    V    |          |          |          |
13+55       0.0263      0.05  Q    V    |          |          |          |
14+ 0       0.0267      0.06  Q    V    |          |          |          |
14+ 5       0.0271      0.06  Q     V   |          |          |          |
14+10       0.0275      0.06  Q     V   |          |          |          |
14+15       0.0279      0.06  Q     V   |          |          |          |
14+20       0.0283      0.06  Q     V   |          |          |          |
14+25       0.0288      0.06  Q     V   |          |          |          |
14+30       0.0292      0.07  Q     V   |          |          |          |
14+35       0.0297      0.07  Q     V   |          |          |          |
14+40       0.0302      0.07  Q     V   |          |          |          |
14+45       0.0307      0.08  Q     V   |          |          |          |
14+50       0.0312      0.08  Q     V   |          |          |          |
14+55       0.0318      0.08  Q      V  |          |          |          |
15+ 0       0.0324      0.09  Q      V  |          |          |          |
15+ 5       0.0330      0.09  Q      V  |          |          |          |
15+10       0.0337      0.10  Q      V  |          |          |          |
15+15       0.0344      0.10  Q      V  |          |          |          |
15+20       0.0351      0.11  Q      V  |          |          |          |
15+25       0.0360      0.12  Q       V |          |          |          |
15+30       0.0369      0.14  Q       V |          |          |          |
15+35       0.0381      0.17  Q       V |          |          |          |
15+40       0.0395      0.20  Q       V |          |          |          |
15+45       0.0411      0.23  Q        V|          |          |          |
15+50       0.0430      0.28  |Q       V|          |          |          |
15+55       0.0456      0.38  |Q        V          |          |          |
16+ 0       0.0496      0.58  | Q       |V         |          |          |
16+ 5       0.0576      1.15  |   Q     | V        |          |          |
16+10       0.0750      2.54  |         Q     V    |          |          |
16+15       0.1019      3.91  |         |    Q     | V        |          |
16+20       0.1191      2.49  |        Q|          |     V    |          |
16+25       0.1297      1.54  |     Q   |          |       V  |          |
16+30       0.1373      1.09  |   Q     |          |         V          |
16+35       0.1428      0.81  |  Q      |          |          |V         |
16+40       0.1473      0.64  | Q       |          |          | V        |
16+45       0.1507      0.50  |Q        |          |          |  V       |
16+50       0.1535      0.41  |Q        |          |          |   V      |
16+55       0.1559      0.35  |Q        |          |          |   V      |
17+ 0       0.1579      0.29  |Q        |          |          |    V     |
17+ 5       0.1596      0.24  Q         |          |          |    V     |
17+10       0.1610      0.20  Q         |          |          |    V     |
17+15       0.1621      0.17  Q         |          |          |     V    |
17+20       0.1631      0.14  Q         |          |          |     V    |
17+25       0.1640      0.13  Q         |          |          |     V    |
17+30       0.1648      0.13  Q         |          |          |     V    |
17+35       0.1656      0.11  Q         |          |          |     V    |
17+40       0.1662      0.09  Q         |          |          |      V   |
17+45       0.1667      0.07  Q         |          |          |      V   |
17+50       0.1671      0.05  Q         |          |          |      V   |
17+55       0.1674      0.05  Q         |          |          |      V   |
18+ 0       0.1677      0.05  Q         |          |          |      V   |
18+ 5       0.1680      0.04  Q         |          |          |      V   |
18+10       0.1683      0.04  Q         |          |          |      V   |
18+15       0.1686      0.04  Q         |          |          |      V   |
18+20       0.1688      0.04  Q         |          |          |      V   |
```

18+25	0.1691	0.04	Q	|	|	|	V |
18+30	0.1694	0.04	Q	|	|	|	V |
18+35	0.1696	0.04	Q	|	|	|	V |
18+40	0.1699	0.03	Q	|	|	|	V |
18+45	0.1701	0.03	Q	|	|	|	V |
18+50	0.1703	0.03	Q	|	|	|	V |
18+55	0.1705	0.03	Q	|	|	|	V |
19+ 0	0.1707	0.03	Q	|	|	|	V |
19+ 5	0.1710	0.03	Q	|	|	|	V |
19+10	0.1712	0.03	Q	|	|	|	V |
19+15	0.1714	0.03	Q	|	|	|	V |
19+20	0.1716	0.03	Q	|	|	|	V |
19+25	0.1718	0.03	Q	|	|	|	V |
19+30	0.1719	0.03	Q	|	|	|	V |
19+35	0.1721	0.03	Q	|	|	|	V |
19+40	0.1723	0.03	Q	|	|	|	V |
19+45	0.1725	0.03	Q	|	|	|	V |
19+50	0.1727	0.03	Q	|	|	|	V |
19+55	0.1728	0.02	Q	|	|	|	V |
20+ 0	0.1730	0.02	Q	|	|	|	V |
20+ 5	0.1732	0.02	Q	|	|	|	V |
20+10	0.1733	0.02	Q	|	|	|	V |
20+15	0.1735	0.02	Q	|	|	|	V |
20+20	0.1736	0.02	Q	|	|	|	V |
20+25	0.1738	0.02	Q	|	|	|	V |
20+30	0.1739	0.02	Q	|	|	|	V |
20+35	0.1741	0.02	Q	|	|	|	V |
20+40	0.1742	0.02	Q	|	|	|	V |
20+45	0.1744	0.02	Q	|	|	|	V |
20+50	0.1745	0.02	Q	|	|	|	V |
20+55	0.1747	0.02	Q	|	|	|	V |
21+ 0	0.1748	0.02	Q	|	|	|	V|
21+ 5	0.1749	0.02	Q	|	|	|	V|
21+10	0.1751	0.02	Q	|	|	|	V|
21+15	0.1752	0.02	Q	|	|	|	V|
21+20	0.1753	0.02	Q	|	|	|	V|
21+25	0.1755	0.02	Q	|	|	|	V|
21+30	0.1756	0.02	Q	|	|	|	V|
21+35	0.1757	0.02	Q	|	|	|	V|
21+40	0.1758	0.02	Q	|	|	|	V|
21+45	0.1760	0.02	Q	|	|	|	V|
21+50	0.1761	0.02	Q	|	|	|	V|
21+55	0.1762	0.02	Q	|	|	|	V|
22+ 0	0.1763	0.02	Q	|	|	|	V|
22+ 5	0.1764	0.02	Q	|	|	|	V|
22+10	0.1766	0.02	Q	|	|	|	V|
22+15	0.1767	0.02	Q	|	|	|	V|
22+20	0.1768	0.02	Q	|	|	|	V|
22+25	0.1769	0.02	Q	|	|	|	V|
22+30	0.1770	0.02	Q	|	|	|	V|
22+35	0.1771	0.02	Q	|	|	|	V|
22+40	0.1772	0.02	Q	|	|	|	V|
22+45	0.1773	0.02	Q	|	|	|	V|
22+50	0.1774	0.02	Q	|	|	|	V|
22+55	0.1775	0.02	Q	|	|	|	V|
23+ 0	0.1776	0.02	Q	|	|	|	V|
23+ 5	0.1777	0.01	Q	|	|	|	V|
23+10	0.1778	0.01	Q	|	|	|	V|
23+15	0.1779	0.01	Q	|	|	|	V|

23+20	0.1780	0.01	Q	|	|	|	V|
23+25	0.1781	0.01	Q	|	|	|	V|
23+30	0.1782	0.01	Q	|	|	|	V|
23+35	0.1783	0.01	Q	|	|	|	V|
23+40	0.1784	0.01	Q	|	|	|	V|
23+45	0.1785	0.01	Q	|	|	|	V|
23+50	0.1786	0.01	Q	|	|	|	V|
23+55	0.1787	0.01	Q	|	|	|	V|
24+ 0	0.1788	0.01	Q	|	|	|	V|
24+ 5	0.1789	0.01	Q	|	|	|	V|
24+10	0.1790	0.01	Q	|	|	|	V|
24+15	0.1790	0.01	Q	|	|	|	V|
24+20	0.1791	0.00	Q	|	|	|	V|
24+25	0.1791	0.00	Q	|	|	|	V|
24+30	0.1791	0.00	Q	|	|	|	V|
24+35	0.1791	0.00	Q	|	|	|	V|
24+40	0.1791	0.00	Q	|	|	|	V|
24+45	0.1791	0.00	Q	|	|	|	V|
24+50	0.1791	0.00	Q	|	|	|	V|
24+55	0.1792	0.00	Q	|	|	|	V|
25+ 0	0.1792	0.00	Q	|	|	|	V|
25+ 5	0.1792	0.00	Q	|	|	|	V|
25+10	0.1792	0.00	Q	|	|	|	V|
25+15	0.1792	0.00	Q	|	|	|	V|
25+20	0.1792	0.00	Q	|	|	|	V|
25+25	0.1792	0.00	Q	|	|	|	V|
25+30	0.1792	0.00	Q	|	|	|	V|
25+35	0.1792	0.00	Q	|	|	|	V|
25+40	0.1792	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 3
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
4.92	1	1.27
Rainfall data for year 100		
4.92	6	1.84
Rainfall data for year 100		
4.92	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	4.92	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
4.92	1.000	62.0	80.6	2.41	0.366

Area-averaged catchment yield fraction, Y = 0.366
Area-averaged low loss fraction, Yb = 0.634
User entry of time of concentration = 0.440 (hours)
++
Watershed area = 4.92(Ac.)
Catchment Lag time = 0.352 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 23.6742
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.634 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 4.92(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.602(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.270(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.50 (CFS))	
1	1.253	0.745
2	5.990	2.819
3	17.013	6.559
4	37.736	12.330
5	53.227	9.218
6	62.837	5.718
7	69.391	3.900
8	74.406	2.984
9	78.377	2.363
10	81.518	1.869
11	84.119	1.548
12	86.408	1.362
13	88.349	1.155
14	89.873	0.907

15	91.219	0.801
16	92.412	0.710
17	93.486	0.639
18	94.386	0.535
19	95.191	0.479
20	95.903	0.423
21	96.518	0.366
22	97.061	0.323
23	97.488	0.254
24	97.858	0.220
25	98.100	0.144
26	98.347	0.147
27	98.628	0.167
28	98.912	0.169
29	99.197	0.169
30	99.468	0.161
31	99.638	0.101
32	99.786	0.088
33	100.000	0.044

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6025	0.6025
2	0.7418	0.1393
3	0.8377	0.0959
4	0.9132	0.0755
5	0.9764	0.0632
6	1.0313	0.0549
7	1.0801	0.0488
8	1.1243	0.0441
9	1.1647	0.0404
10	1.2021	0.0374
11	1.2370	0.0349
12	1.2697	0.0327
13	1.2909	0.0212
14	1.3109	0.0200
15	1.3298	0.0189
16	1.3477	0.0179
17	1.3647	0.0170
18	1.3809	0.0163
19	1.3965	0.0155
20	1.4114	0.0149
21	1.4257	0.0143
22	1.4395	0.0138
23	1.4528	0.0133
24	1.4657	0.0129
25	1.4782	0.0124
26	1.4902	0.0121
27	1.5019	0.0117
28	1.5133	0.0114
29	1.5243	0.0110
30	1.5350	0.0107
31	1.5455	0.0105
32	1.5557	0.0102
33	1.5656	0.0099
34	1.5753	0.0097
35	1.5848	0.0095
36	1.5941	0.0093
37	1.6032	0.0091

38	1.6120	0.0089
39	1.6207	0.0087
40	1.6292	0.0085
41	1.6376	0.0083
42	1.6458	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6694	0.0077
46	1.6771	0.0076
47	1.6845	0.0075
48	1.6919	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7595	0.0063
59	1.7657	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7957	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8128	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8293	0.0054
71	1.8347	0.0054
72	1.8400	0.0053
73	1.8454	0.0055
74	1.8509	0.0054
75	1.8562	0.0054
76	1.8615	0.0053
77	1.8668	0.0052
78	1.8720	0.0052
79	1.8771	0.0051
80	1.8822	0.0051
81	1.8872	0.0050
82	1.8922	0.0050
83	1.8972	0.0049
84	1.9021	0.0049
85	1.9069	0.0049
86	1.9117	0.0048
87	1.9165	0.0048
88	1.9212	0.0047
89	1.9259	0.0047
90	1.9305	0.0046
91	1.9351	0.0046
92	1.9397	0.0046
93	1.9442	0.0045
94	1.9487	0.0045
95	1.9531	0.0044
96	1.9576	0.0044

97	1.9619	0.0044
98	1.9663	0.0043
99	1.9706	0.0043
100	1.9748	0.0043
101	1.9791	0.0042
102	1.9833	0.0042
103	1.9874	0.0042
104	1.9916	0.0041
105	1.9957	0.0041
106	1.9998	0.0041
107	2.0038	0.0040
108	2.0078	0.0040
109	2.0118	0.0040
110	2.0158	0.0040
111	2.0197	0.0039
112	2.0236	0.0039
113	2.0275	0.0039
114	2.0313	0.0039
115	2.0352	0.0038
116	2.0390	0.0038
117	2.0427	0.0038
118	2.0465	0.0037
119	2.0502	0.0037
120	2.0539	0.0037
121	2.0576	0.0037
122	2.0612	0.0036
123	2.0649	0.0036
124	2.0685	0.0036
125	2.0720	0.0036
126	2.0756	0.0036
127	2.0791	0.0035
128	2.0826	0.0035
129	2.0861	0.0035
130	2.0896	0.0035
131	2.0931	0.0035
132	2.0965	0.0034
133	2.0999	0.0034
134	2.1033	0.0034
135	2.1067	0.0034
136	2.1100	0.0034
137	2.1133	0.0033
138	2.1167	0.0033
139	2.1199	0.0033
140	2.1232	0.0033
141	2.1265	0.0033
142	2.1297	0.0032
143	2.1329	0.0032
144	2.1361	0.0032
145	2.1393	0.0032
146	2.1425	0.0032
147	2.1456	0.0032
148	2.1488	0.0031
149	2.1519	0.0031
150	2.1550	0.0031
151	2.1581	0.0031
152	2.1612	0.0031
153	2.1642	0.0031
154	2.1672	0.0030
155	2.1703	0.0030

156	2.1733	0.0030
157	2.1763	0.0030
158	2.1792	0.0030
159	2.1822	0.0030
160	2.1852	0.0029
161	2.1881	0.0029
162	2.1910	0.0029
163	2.1939	0.0029
164	2.1968	0.0029
165	2.1997	0.0029
166	2.2025	0.0029
167	2.2054	0.0029
168	2.2082	0.0028
169	2.2111	0.0028
170	2.2139	0.0028
171	2.2167	0.0028
172	2.2195	0.0028
173	2.2222	0.0028
174	2.2250	0.0028
175	2.2277	0.0027
176	2.2305	0.0027
177	2.2332	0.0027
178	2.2359	0.0027
179	2.2386	0.0027
180	2.2413	0.0027
181	2.2440	0.0027
182	2.2466	0.0027
183	2.2493	0.0027
184	2.2519	0.0026
185	2.2545	0.0026
186	2.2572	0.0026
187	2.2598	0.0026
188	2.2624	0.0026
189	2.2650	0.0026
190	2.2675	0.0026
191	2.2701	0.0026
192	2.2726	0.0026
193	2.2752	0.0025
194	2.2777	0.0025
195	2.2802	0.0025
196	2.2828	0.0025
197	2.2853	0.0025
198	2.2878	0.0025
199	2.2902	0.0025
200	2.2927	0.0025
201	2.2952	0.0025
202	2.2976	0.0025
203	2.3001	0.0024
204	2.3025	0.0024
205	2.3049	0.0024
206	2.3074	0.0024
207	2.3098	0.0024
208	2.3122	0.0024
209	2.3145	0.0024
210	2.3169	0.0024
211	2.3193	0.0024
212	2.3217	0.0024
213	2.3240	0.0024
214	2.3264	0.0023

215	2.3287	0.0023
216	2.3310	0.0023
217	2.3333	0.0023
218	2.3357	0.0023
219	2.3380	0.0023
220	2.3403	0.0023
221	2.3425	0.0023
222	2.3448	0.0023
223	2.3471	0.0023
224	2.3493	0.0023
225	2.3516	0.0023
226	2.3539	0.0022
227	2.3561	0.0022
228	2.3583	0.0022
229	2.3605	0.0022
230	2.3628	0.0022
231	2.3650	0.0022
232	2.3672	0.0022
233	2.3694	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3759	0.0022
237	2.3781	0.0022
238	2.3802	0.0022
239	2.3824	0.0021
240	2.3845	0.0021
241	2.3866	0.0021
242	2.3888	0.0021
243	2.3909	0.0021
244	2.3930	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4014	0.0021
249	2.4035	0.0021
250	2.4056	0.0021
251	2.4076	0.0021
252	2.4097	0.0021
253	2.4118	0.0021
254	2.4138	0.0020
255	2.4158	0.0020
256	2.4179	0.0020
257	2.4199	0.0020
258	2.4219	0.0020
259	2.4240	0.0020
260	2.4260	0.0020
261	2.4280	0.0020
262	2.4300	0.0020
263	2.4320	0.0020
264	2.4340	0.0020
265	2.4359	0.0020
266	2.4379	0.0020
267	2.4399	0.0020
268	2.4418	0.0020
269	2.4438	0.0020
270	2.4458	0.0020
271	2.4477	0.0019
272	2.4496	0.0019
273	2.4516	0.0019

274	2.4535	0.0019
275	2.4554	0.0019
276	2.4574	0.0019
277	2.4593	0.0019
278	2.4612	0.0019
279	2.4631	0.0019
280	2.4650	0.0019
281	2.4669	0.0019
282	2.4688	0.0019
283	2.4707	0.0019
284	2.4725	0.0019
285	2.4744	0.0019
286	2.4763	0.0019
287	2.4781	0.0019
288	2.4800	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0020	0.0012	0.0007
14	0.0020	0.0012	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0021	0.0013	0.0008
26	0.0021	0.0013	0.0008
27	0.0021	0.0013	0.0008
28	0.0021	0.0013	0.0008
29	0.0021	0.0013	0.0008
30	0.0021	0.0013	0.0008
31	0.0021	0.0013	0.0008
32	0.0021	0.0014	0.0008
33	0.0021	0.0014	0.0008
34	0.0021	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0022	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008

40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0023	0.0014	0.0008
44	0.0023	0.0014	0.0008
45	0.0023	0.0014	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0009
50	0.0023	0.0015	0.0009
51	0.0024	0.0015	0.0009
52	0.0024	0.0015	0.0009
53	0.0024	0.0015	0.0009
54	0.0024	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0024	0.0015	0.0009
57	0.0024	0.0015	0.0009
58	0.0024	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0025	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0026	0.0016	0.0009
66	0.0026	0.0016	0.0009
67	0.0026	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0017	0.0010
70	0.0026	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0027	0.0017	0.0010
73	0.0027	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0028	0.0018	0.0010
78	0.0028	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0029	0.0018	0.0010
83	0.0029	0.0018	0.0011
84	0.0029	0.0018	0.0011
85	0.0029	0.0019	0.0011
86	0.0029	0.0019	0.0011
87	0.0030	0.0019	0.0011
88	0.0030	0.0019	0.0011
89	0.0030	0.0019	0.0011
90	0.0030	0.0019	0.0011
91	0.0031	0.0019	0.0011
92	0.0031	0.0019	0.0011
93	0.0031	0.0020	0.0011
94	0.0031	0.0020	0.0011
95	0.0032	0.0020	0.0012
96	0.0032	0.0020	0.0012
97	0.0032	0.0020	0.0012
98	0.0032	0.0020	0.0012

99	0.0033	0.0021	0.0012
100	0.0033	0.0021	0.0012
101	0.0033	0.0021	0.0012
102	0.0033	0.0021	0.0012
103	0.0034	0.0021	0.0012
104	0.0034	0.0022	0.0012
105	0.0034	0.0022	0.0013
106	0.0035	0.0022	0.0013
107	0.0035	0.0022	0.0013
108	0.0035	0.0022	0.0013
109	0.0036	0.0023	0.0013
110	0.0036	0.0023	0.0013
111	0.0036	0.0023	0.0013
112	0.0036	0.0023	0.0013
113	0.0037	0.0023	0.0014
114	0.0037	0.0024	0.0014
115	0.0038	0.0024	0.0014
116	0.0038	0.0024	0.0014
117	0.0039	0.0024	0.0014
118	0.0039	0.0025	0.0014
119	0.0039	0.0025	0.0014
120	0.0040	0.0025	0.0014
121	0.0040	0.0025	0.0015
122	0.0040	0.0026	0.0015
123	0.0041	0.0026	0.0015
124	0.0041	0.0026	0.0015
125	0.0042	0.0027	0.0015
126	0.0042	0.0027	0.0015
127	0.0043	0.0027	0.0016
128	0.0043	0.0028	0.0016
129	0.0044	0.0028	0.0016
130	0.0044	0.0028	0.0016
131	0.0045	0.0029	0.0017
132	0.0046	0.0029	0.0017
133	0.0046	0.0029	0.0017
134	0.0047	0.0030	0.0017
135	0.0048	0.0030	0.0017
136	0.0048	0.0031	0.0018
137	0.0049	0.0031	0.0018
138	0.0049	0.0031	0.0018
139	0.0050	0.0032	0.0018
140	0.0051	0.0032	0.0019
141	0.0052	0.0033	0.0019
142	0.0052	0.0033	0.0019
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0053	0.0034	0.0019
146	0.0054	0.0034	0.0020
147	0.0055	0.0035	0.0020
148	0.0056	0.0035	0.0020
149	0.0057	0.0036	0.0021
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0022
152	0.0060	0.0038	0.0022
153	0.0062	0.0039	0.0022
154	0.0062	0.0040	0.0023
155	0.0064	0.0041	0.0023
156	0.0065	0.0041	0.0024
157	0.0067	0.0042	0.0024

158	0.0068	0.0043	0.0025
159	0.0070	0.0044	0.0026
160	0.0071	0.0045	0.0026
161	0.0074	0.0047	0.0027
162	0.0075	0.0047	0.0027
163	0.0077	0.0049	0.0028
164	0.0079	0.0050	0.0029
165	0.0082	0.0052	0.0030
166	0.0083	0.0053	0.0031
167	0.0087	0.0055	0.0032
168	0.0089	0.0056	0.0032
169	0.0093	0.0059	0.0034
170	0.0095	0.0060	0.0035
171	0.0099	0.0063	0.0036
172	0.0102	0.0065	0.0037
173	0.0107	0.0068	0.0039
174	0.0110	0.0070	0.0040
175	0.0117	0.0074	0.0043
176	0.0121	0.0076	0.0044
177	0.0129	0.0082	0.0047
178	0.0133	0.0084	0.0049
179	0.0143	0.0091	0.0052
180	0.0149	0.0095	0.0055
181	0.0163	0.0103	0.0059
182	0.0170	0.0108	0.0062
183	0.0189	0.0120	0.0069
184	0.0200	0.0127	0.0073
185	0.0327	0.0208	0.0120
186	0.0349	0.0221	0.0127
187	0.0404	0.0257	0.0148
188	0.0441	0.0280	0.0161
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0333
191	0.0959	0.0300	0.0660
192	0.1393	0.0300	0.1093
193	0.6025	0.0300	0.5725
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0189
196	0.0374	0.0237	0.0137
197	0.0212	0.0135	0.0078
198	0.0179	0.0114	0.0065
199	0.0155	0.0099	0.0057
200	0.0138	0.0088	0.0050
201	0.0124	0.0079	0.0045
202	0.0114	0.0072	0.0042
203	0.0105	0.0066	0.0038
204	0.0097	0.0062	0.0035
205	0.0091	0.0058	0.0033
206	0.0085	0.0054	0.0031
207	0.0080	0.0051	0.0029
208	0.0076	0.0048	0.0028
209	0.0072	0.0046	0.0026
210	0.0069	0.0044	0.0025
211	0.0066	0.0042	0.0024
212	0.0063	0.0040	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0037	0.0021
215	0.0056	0.0036	0.0021
216	0.0054	0.0035	0.0020

217	0.0055	0.0035	0.0020
218	0.0053	0.0034	0.0019
219	0.0051	0.0033	0.0019
220	0.0050	0.0032	0.0018
221	0.0049	0.0031	0.0018
222	0.0047	0.0030	0.0017
223	0.0046	0.0029	0.0017
224	0.0045	0.0028	0.0016
225	0.0044	0.0028	0.0016
226	0.0043	0.0027	0.0016
227	0.0042	0.0026	0.0015
228	0.0041	0.0026	0.0015
229	0.0040	0.0025	0.0015
230	0.0039	0.0025	0.0014
231	0.0038	0.0024	0.0014
232	0.0037	0.0024	0.0014
233	0.0037	0.0023	0.0013
234	0.0036	0.0023	0.0013
235	0.0035	0.0022	0.0013
236	0.0035	0.0022	0.0013
237	0.0034	0.0022	0.0012
238	0.0034	0.0021	0.0012
239	0.0033	0.0021	0.0012
240	0.0032	0.0021	0.0012
241	0.0032	0.0020	0.0012
242	0.0031	0.0020	0.0011
243	0.0031	0.0020	0.0011
244	0.0030	0.0019	0.0011
245	0.0030	0.0019	0.0011
246	0.0029	0.0019	0.0011
247	0.0029	0.0018	0.0011
248	0.0029	0.0018	0.0010
249	0.0028	0.0018	0.0010
250	0.0028	0.0018	0.0010
251	0.0027	0.0017	0.0010
252	0.0027	0.0017	0.0010
253	0.0027	0.0017	0.0010
254	0.0026	0.0017	0.0010
255	0.0026	0.0017	0.0010
256	0.0026	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0025	0.0016	0.0009
259	0.0025	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0024	0.0015	0.0009
262	0.0024	0.0015	0.0009
263	0.0024	0.0015	0.0009
264	0.0023	0.0015	0.0009
265	0.0023	0.0015	0.0008
266	0.0023	0.0015	0.0008
267	0.0023	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0022	0.0014	0.0008
270	0.0022	0.0014	0.0008
271	0.0022	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0021	0.0014	0.0008
274	0.0021	0.0013	0.0008
275	0.0021	0.0013	0.0008

276	0.0021	0.0013	0.0008
277	0.0021	0.0013	0.0008
278	0.0020	0.0013	0.0007
279	0.0020	0.0013	0.0007
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0019	0.0012	0.0007
288	0.0019	0.0012	0.0007

Total soil rain loss = 1.10(In)
Total effective rainfall = 1.38(In)
Peak flow rate in flood hydrograph = 9.16(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0000	0.00	Q	|	|	|	|
0+15	0.0001	0.01	Q	|	|	|	|
0+20	0.0002	0.02	Q	|	|	|	|
0+25	0.0003	0.02	Q	|	|	|	|
0+30	0.0005	0.03	Q	|	|	|	|
0+35	0.0007	0.03	Q	|	|	|	|
0+40	0.0009	0.03	Q	|	|	|	|
0+45	0.0011	0.03	Q	|	|	|	|
0+50	0.0014	0.03	Q	|	|	|	|
0+55	0.0016	0.03	Q	|	|	|	|
1+ 0	0.0018	0.04	Q	|	|	|	|
1+ 5	0.0021	0.04	Q	|	|	|	|
1+10	0.0024	0.04	Q	|	|	|	|
1+15	0.0026	0.04	Q	|	|	|	|
1+20	0.0029	0.04	Q	|	|	|	|
1+25	0.0032	0.04	Q	|	|	|	|
1+30	0.0034	0.04	Q	|	|	|	|
1+35	0.0037	0.04	Q	|	|	|	|
1+40	0.0040	0.04	Q	|	|	|	|
1+45	0.0043	0.04	Q	|	|	|	|
1+50	0.0046	0.04	Q	|	|	|	|
1+55	0.0049	0.04	Q	|	|	|	|
2+ 0	0.0052	0.04	Q	|	|	|	|
2+ 5	0.0054	0.04	Q	|	|	|	|
2+10	0.0057	0.04	Q	|	|	|	|
2+15	0.0060	0.04	Q	|	|	|	|
2+20	0.0063	0.04	Q	|	|	|	|
2+25	0.0066	0.04	Q	|	|	|	|
2+30	0.0070	0.04	Q	|	|	|	|
2+35	0.0073	0.04	Q	|	|	|	|

2+40	0.0076	0.04	Q				
2+45	0.0079	0.05	Q				
2+50	0.0082	0.05	Q				
2+55	0.0085	0.05	Q				
3+ 0	0.0088	0.05	Q				
3+ 5	0.0091	0.05	Q				
3+10	0.0095	0.05	Q				
3+15	0.0098	0.05	Q				
3+20	0.0101	0.05	Q				
3+25	0.0104	0.05	Q				
3+30	0.0107	0.05	Q				
3+35	0.0111	0.05	Q				
3+40	0.0114	0.05	Q				
3+45	0.0117	0.05	Q				
3+50	0.0121	0.05	Q				
3+55	0.0124	0.05	Q				
4+ 0	0.0127	0.05	Q				
4+ 5	0.0131	0.05	Q				
4+10	0.0134	0.05	Q				
4+15	0.0138	0.05	Q				
4+20	0.0141	0.05	Q				
4+25	0.0144	0.05	QV				
4+30	0.0148	0.05	QV				
4+35	0.0151	0.05	QV				
4+40	0.0155	0.05	QV				
4+45	0.0158	0.05	QV				
4+50	0.0162	0.05	QV				
4+55	0.0165	0.05	QV				
5+ 0	0.0169	0.05	QV				
5+ 5	0.0173	0.05	QV				
5+10	0.0176	0.05	QV				
5+15	0.0180	0.05	QV				
5+20	0.0184	0.05	QV				
5+25	0.0187	0.05	QV				
5+30	0.0191	0.05	QV				
5+35	0.0195	0.05	QV				
5+40	0.0198	0.05	QV				
5+45	0.0202	0.05	QV				
5+50	0.0206	0.06	QV				
5+55	0.0210	0.06	QV				
6+ 0	0.0214	0.06	QV				
6+ 5	0.0217	0.06	QV				
6+10	0.0221	0.06	QV				
6+15	0.0225	0.06	QV				
6+20	0.0229	0.06	QV				
6+25	0.0233	0.06	QV				
6+30	0.0237	0.06	QV				
6+35	0.0241	0.06	QV				
6+40	0.0245	0.06	QV				
6+45	0.0249	0.06	QV				
6+50	0.0253	0.06	QV				
6+55	0.0257	0.06	QV				
7+ 0	0.0262	0.06	QV				
7+ 5	0.0266	0.06	QV				
7+10	0.0270	0.06	QV				
7+15	0.0274	0.06	QV				
7+20	0.0279	0.06	QV				
7+25	0.0283	0.06	Q V				
7+30	0.0287	0.06	Q V				

7+35	0.0292	0.06	Q V	|	|	|	|
7+40	0.0296	0.06	Q V	|	|	|	|
7+45	0.0300	0.06	Q V	|	|	|	|
7+50	0.0305	0.06	Q V	|	|	|	|
7+55	0.0309	0.07	Q V	|	|	|	|
8+ 0	0.0314	0.07	Q V	|	|	|	|
8+ 5	0.0318	0.07	Q V	|	|	|	|
8+10	0.0323	0.07	Q V	|	|	|	|
8+15	0.0328	0.07	Q V	|	|	|	|
8+20	0.0332	0.07	Q V	|	|	|	|
8+25	0.0337	0.07	Q V	|	|	|	|
8+30	0.0342	0.07	Q V	|	|	|	|
8+35	0.0347	0.07	Q V	|	|	|	|
8+40	0.0351	0.07	Q V	|	|	|	|
8+45	0.0356	0.07	Q V	|	|	|	|
8+50	0.0361	0.07	Q V	|	|	|	|
8+55	0.0366	0.07	Q V	|	|	|	|
9+ 0	0.0371	0.07	Q V	|	|	|	|
9+ 5	0.0376	0.07	Q V	|	|	|	|
9+10	0.0381	0.07	Q V	|	|	|	|
9+15	0.0386	0.07	Q V	|	|	|	|
9+20	0.0391	0.08	Q V	|	|	|	|
9+25	0.0397	0.08	Q V	|	|	|	|
9+30	0.0402	0.08	Q V	|	|	|	|
9+35	0.0407	0.08	Q V	|	|	|	|
9+40	0.0413	0.08	Q V	|	|	|	|
9+45	0.0418	0.08	Q V	|	|	|	|
9+50	0.0424	0.08	Q V	|	|	|	|
9+55	0.0429	0.08	Q V	|	|	|	|
10+ 0	0.0435	0.08	Q V	|	|	|	|
10+ 5	0.0440	0.08	Q V	|	|	|	|
10+10	0.0446	0.08	Q V	|	|	|	|
10+15	0.0452	0.08	Q V	|	|	|	|
10+20	0.0458	0.08	Q V	|	|	|	|
10+25	0.0463	0.09	Q V	|	|	|	|
10+30	0.0469	0.09	Q V	|	|	|	|
10+35	0.0475	0.09	Q V	|	|	|	|
10+40	0.0481	0.09	Q V	|	|	|	|
10+45	0.0488	0.09	Q V	|	|	|	|
10+50	0.0494	0.09	Q V	|	|	|	|
10+55	0.0500	0.09	Q V	|	|	|	|
11+ 0	0.0506	0.09	Q V	|	|	|	|
11+ 5	0.0513	0.09	Q V	|	|	|	|
11+10	0.0519	0.09	Q V	|	|	|	|
11+15	0.0526	0.10	Q V	|	|	|	|
11+20	0.0533	0.10	Q V	|	|	|	|
11+25	0.0539	0.10	Q V	|	|	|	|
11+30	0.0546	0.10	Q V	|	|	|	|
11+35	0.0553	0.10	Q V	|	|	|	|
11+40	0.0560	0.10	Q V	|	|	|	|
11+45	0.0567	0.10	Q V	|	|	|	|
11+50	0.0575	0.10	Q V	|	|	|	|
11+55	0.0582	0.11	Q V	|	|	|	|
12+ 0	0.0589	0.11	Q V	|	|	|	|
12+ 5	0.0597	0.11	Q V	|	|	|	|
12+10	0.0605	0.11	Q V	|	|	|	|
12+15	0.0612	0.11	Q V	|	|	|	|
12+20	0.0620	0.11	Q V	|	|	|	|
12+25	0.0628	0.11	Q V	|	|	|	|

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12+30       0.0636      0.12  Q   V     |          |          |          |
12+35       0.0644      0.12  Q   V     |          |          |          |
12+40       0.0652      0.12  Q   V     |          |          |          |
12+45       0.0660      0.12  Q   V     |          |          |          |
12+50       0.0669      0.12  Q   V     |          |          |          |
12+55       0.0677      0.12  Q   V     |          |          |          |
13+ 0       0.0686      0.13  Q   V     |          |          |          |
13+ 5       0.0695      0.13  Q   V     |          |          |          |
13+10       0.0704      0.13  Q   V     |          |          |          |
13+15       0.0713      0.13  Q    V    |          |          |          |
13+20       0.0723      0.14  Q    V    |          |          |          |
13+25       0.0732      0.14  Q    V    |          |          |          |
13+30       0.0742      0.14  Q    V    |          |          |          |
13+35       0.0752      0.15  Q    V    |          |          |          |
13+40       0.0763      0.15  Q    V    |          |          |          |
13+45       0.0773      0.15  Q    V    |          |          |          |
13+50       0.0784      0.16  Q    V    |          |          |          |
13+55       0.0795      0.16  Q    V    |          |          |          |
14+ 0       0.0807      0.17  Q    V    |          |          |          |
14+ 5       0.0818      0.17  Q    V    |          |          |          |
14+10       0.0830      0.17  Q    V    |          |          |          |
14+15       0.0843      0.18  Q    V    |          |          |          |
14+20       0.0855      0.19  Q     V   |          |          |          |
14+25       0.0869      0.19  Q     V   |          |          |          |
14+30       0.0882      0.20  Q     V   |          |          |          |
14+35       0.0896      0.20  Q     V   |          |          |          |
14+40       0.0911      0.21  Q     V   |          |          |          |
14+45       0.0926      0.22  Q     V   |          |          |          |
14+50       0.0942      0.23  Q     V   |          |          |          |
14+55       0.0958      0.24  Q     V   |          |          |          |
15+ 0       0.0975      0.25  Q     V   |          |          |          |
15+ 5       0.0993      0.26  |Q     V  |          |          |          |
15+10       0.1012      0.27  |Q     V  |          |          |          |
15+15       0.1032      0.29  |Q     V  |          |          |          |
15+20       0.1053      0.31  |Q     V  |          |          |          |
15+25       0.1076      0.33  |Q     V  |          |          |          |
15+30       0.1101      0.36  |Q     V  |          |          |          |
15+35       0.1130      0.42  |Q     V  |          |          |          |
15+40       0.1164      0.50  |Q      V |          |          |          |
15+45       0.1205      0.59  | Q     V |          |          |          |
15+50       0.1252      0.69  | Q     V |          |          |          |
15+55       0.1311      0.86  |  Q     V|          |          |          |
16+ 0       0.1394      1.19  |   Q    V|          |          |          |
16+ 5       0.1538      2.09  |       Q V          |          |          |
16+10       0.1803      3.85  |         | V  Q     |          |          |
16+15       0.2238      6.32  |         |    V     |    Q     |          |
16+20       0.2868      9.16  |         |         V          |     Q    |
16+25       0.3362      7.17  |         |         |  V    Q  |          |
16+30       0.3699      4.89  |         |        Q|     V    |          |
16+35       0.3946      3.58  |         |   Q     |      V   |          |
16+40       0.4140      2.82  |         |Q        |        V|          |
16+45       0.4298      2.29  |        Q|         |         V          |
16+50       0.4428      1.89  |      Q  |         |         |V         |
16+55       0.4538      1.61  |     Q   |         |         | V        |
17+ 0       0.4636      1.42  |    Q    |         |         | V        |
17+ 5       0.4720      1.23  |   Q     |         |         |  V       |
17+10       0.4791      1.03  |   Q     |         |         |  V       |
17+15       0.4855      0.92  |  Q      |         |         |   V      |
17+20       0.4912      0.83  |  Q      |         |         |   V      |
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17+25       0.4964      0.75  |  Q      |         |         |    V    |
17+30       0.5010      0.66  | Q       |         |         |    V    |
17+35       0.5051      0.60  | Q       |         |         |    V    |
17+40       0.5088      0.54  | Q       |         |         |    V    |
17+45       0.5122      0.49  |Q        |         |         |     V   |
17+50       0.5152      0.44  |Q        |         |         |     V   |
17+55       0.5178      0.38  |Q        |         |         |     V   |
18+ 0       0.5202      0.34  |Q        |         |         |     V   |
18+ 5       0.5222      0.29  |Q        |         |         |     V   |
18+10       0.5241      0.28  |Q        |         |         |      V  |
18+15       0.5260      0.28  |Q        |         |         |      V  |
18+20       0.5280      0.28  |Q        |         |         |      V  |
18+25       0.5298      0.27  |Q        |         |         |      V  |
18+30       0.5315      0.25  Q         |         |         |      V  |
18+35       0.5329      0.21  Q         |         |         |      V  |
18+40       0.5342      0.18  Q         |         |         |      V  |
18+45       0.5352      0.15  Q         |         |         |      V  |
18+50       0.5360      0.12  Q         |         |         |      V  |
18+55       0.5368      0.11  Q         |         |         |      V  |
19+ 0       0.5375      0.11  Q         |         |         |       V |
19+ 5       0.5383      0.10  Q         |         |         |       V |
19+10       0.5390      0.10  Q         |         |         |       V |
19+15       0.5396      0.10  Q         |         |         |       V |
19+20       0.5403      0.10  Q         |         |         |       V |
19+25       0.5409      0.09  Q         |         |         |       V |
19+30       0.5416      0.09  Q         |         |         |       V |
19+35       0.5422      0.09  Q         |         |         |       V |
19+40       0.5428      0.09  Q         |         |         |       V |
19+45       0.5434      0.09  Q         |         |         |       V |
19+50       0.5439      0.08  Q         |         |         |       V |
19+55       0.5445      0.08  Q         |         |         |       V |
20+ 0       0.5451      0.08  Q         |         |         |       V |
20+ 5       0.5456      0.08  Q         |         |         |       V |
20+10       0.5461      0.08  Q         |         |         |       V |
20+15       0.5466      0.08  Q         |         |         |       V |
20+20       0.5472      0.07  Q         |         |         |       V |
20+25       0.5477      0.07  Q         |         |         |       V |
20+30       0.5481      0.07  Q         |         |         |       V |
20+35       0.5486      0.07  Q         |         |         |       V |
20+40       0.5491      0.07  Q         |         |         |       V |
20+45       0.5496      0.07  Q         |         |         |       V |
20+50       0.5500      0.07  Q         |         |         |       V |
20+55       0.5505      0.07  Q         |         |         |       V |
21+ 0       0.5509      0.06  Q         |         |         |       V |
21+ 5       0.5514      0.06  Q         |         |         |       V |
21+10       0.5518      0.06  Q         |         |         |        V|
21+15       0.5522      0.06  Q         |         |         |        V|
21+20       0.5527      0.06  Q         |         |         |        V|
21+25       0.5531      0.06  Q         |         |         |        V|
21+30       0.5535      0.06  Q         |         |         |        V|
21+35       0.5539      0.06  Q         |         |         |        V|
21+40       0.5543      0.06  Q         |         |         |        V|
21+45       0.5547      0.06  Q         |         |         |        V|
21+50       0.5551      0.06  Q         |         |         |        V|
21+55       0.5555      0.06  Q         |         |         |        V|
22+ 0       0.5558      0.06  Q         |         |         |        V|
22+ 5       0.5562      0.05  Q         |         |         |        V|
22+10       0.5566      0.05  Q         |         |         |        V|
22+15       0.5569      0.05  Q         |         |         |        V|
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22+20	0.5573	0.05	Q	|	|	|	V|
22+25	0.5577	0.05	Q	|	|	|	V|
22+30	0.5580	0.05	Q	|	|	|	V|
22+35	0.5584	0.05	Q	|	|	|	V|
22+40	0.5587	0.05	Q	|	|	|	V|
22+45	0.5591	0.05	Q	|	|	|	V|
22+50	0.5594	0.05	Q	|	|	|	V|
22+55	0.5597	0.05	Q	|	|	|	V|
23+ 0	0.5601	0.05	Q	|	|	|	V|
23+ 5	0.5604	0.05	Q	|	|	|	V|
23+10	0.5607	0.05	Q	|	|	|	V|
23+15	0.5610	0.05	Q	|	|	|	V|
23+20	0.5613	0.05	Q	|	|	|	V|
23+25	0.5617	0.05	Q	|	|	|	V|
23+30	0.5620	0.05	Q	|	|	|	V|
23+35	0.5623	0.04	Q	|	|	|	V|
23+40	0.5626	0.04	Q	|	|	|	V|
23+45	0.5629	0.04	Q	|	|	|	V|
23+50	0.5632	0.04	Q	|	|	|	V|
23+55	0.5635	0.04	Q	|	|	|	V|
24+ 0	0.5638	0.04	Q	|	|	|	V|
24+ 5	0.5641	0.04	Q	|	|	|	V|
24+10	0.5644	0.04	Q	|	|	|	V|
24+15	0.5646	0.03	Q	|	|	|	V|
24+20	0.5648	0.03	Q	|	|	|	V|
24+25	0.5649	0.02	Q	|	|	|	V|
24+30	0.5650	0.02	Q	|	|	|	V|
24+35	0.5651	0.01	Q	|	|	|	V|
24+40	0.5652	0.01	Q	|	|	|	V|
24+45	0.5652	0.01	Q	|	|	|	V|
24+50	0.5653	0.01	Q	|	|	|	V|
24+55	0.5653	0.01	Q	|	|	|	V|
25+ 0	0.5654	0.01	Q	|	|	|	V|
25+ 5	0.5654	0.00	Q	|	|	|	V|
25+10	0.5654	0.00	Q	|	|	|	V|
25+15	0.5655	0.00	Q	|	|	|	V|
25+20	0.5655	0.00	Q	|	|	|	V|
25+25	0.5655	0.00	Q	|	|	|	V|
25+30	0.5655	0.00	Q	|	|	|	V|
25+35	0.5655	0.00	Q	|	|	|	V|
25+40	0.5656	0.00	Q	|	|	|	V|
25+45	0.5656	0.00	Q	|	|	|	V|
25+50	0.5656	0.00	Q	|	|	|	V|
25+55	0.5656	0.00	Q	|	|	|	V|
26+ 0	0.5656	0.00	Q	|	|	|	V|
26+ 5	0.5656	0.00	Q	|	|	|	V|
26+10	0.5656	0.00	Q	|	|	|	V|
26+15	0.5656	0.00	Q	|	|	|	V|
26+20	0.5656	0.00	Q	|	|	|	V|
26+25	0.5656	0.00	Q	|	|	|	V|
26+30	0.5656	0.00	Q	|	|	|	V|
26+35	0.5656	0.00	Q	|	|	|	V|
26+40	0.5656	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 4
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
8.95	1	1.27
Rainfall data for year 100		
8.95	6	1.84
Rainfall data for year 100		
8.95	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	8.95	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
8.95	1.000	62.0	80.6	2.41	0.366

Area-averaged catchment yield fraction, Y = 0.366
Area-averaged low loss fraction, Yb = 0.634
User entry of time of concentration = 0.520 (hours)
++
Watershed area = 8.95(Ac.)
Catchment Lag time = 0.416 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.0321
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.634 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 8.95(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.602(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 108.24 (CFS))	
1	0.995	1.077
2	4.516	3.811
3	11.300	7.344
4	26.240	16.170
5	43.399	18.573
6	55.091	12.655
7	62.875	8.425
8	68.500	6.089
9	73.033	4.906
10	76.661	3.927
11	79.664	3.251
12	82.167	2.709
13	84.311	2.321
14	86.250	2.099

15	87.937	1.826
16	89.330	1.507
17	90.508	1.275
18	91.609	1.192
19	92.585	1.057
20	93.487	0.976
21	94.262	0.839
22	94.943	0.737
23	95.601	0.712
24	96.140	0.582
25	96.660	0.564
26	97.095	0.470
27	97.455	0.390
28	97.792	0.365
29	98.009	0.235
30	98.210	0.217
31	98.432	0.241
32	98.672	0.260
33	98.913	0.260
34	99.153	0.260
35	99.393	0.260
36	99.570	0.191
37	99.695	0.136
38	99.820	0.136
39	100.000	0.068

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6024	0.6024
2	0.7416	0.1392
3	0.8375	0.0959
4	0.9130	0.0755
5	0.9762	0.0632
6	1.0311	0.0549
7	1.0799	0.0488
8	1.1241	0.0441
9	1.1645	0.0404
10	1.2019	0.0374
11	1.2368	0.0349
12	1.2695	0.0327
13	1.2907	0.0212
14	1.3107	0.0200
15	1.3296	0.0189
16	1.3475	0.0179
17	1.3645	0.0170
18	1.3808	0.0163
19	1.3963	0.0156
20	1.4112	0.0149
21	1.4256	0.0143
22	1.4394	0.0138
23	1.4527	0.0133
24	1.4656	0.0129
25	1.4780	0.0125
26	1.4901	0.0121
27	1.5018	0.0117
28	1.5132	0.0114
29	1.5242	0.0110
30	1.5350	0.0107
31	1.5454	0.0105

32	1.5556	0.0102
33	1.5656	0.0100
34	1.5753	0.0097
35	1.5848	0.0095
36	1.5941	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6207	0.0087
40	1.6292	0.0085
41	1.6376	0.0083
42	1.6457	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6919	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7657	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8293	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8454	0.0055
74	1.8508	0.0054
75	1.8562	0.0054
76	1.8615	0.0053
77	1.8667	0.0052
78	1.8719	0.0052
79	1.8771	0.0051
80	1.8822	0.0051
81	1.8872	0.0050
82	1.8922	0.0050
83	1.8971	0.0049
84	1.9020	0.0049
85	1.9069	0.0049
86	1.9117	0.0048
87	1.9165	0.0048
88	1.9212	0.0047
89	1.9259	0.0047
90	1.9305	0.0046

91	1.9351	0.0046
92	1.9397	0.0046
93	1.9442	0.0045
94	1.9487	0.0045
95	1.9531	0.0044
96	1.9575	0.0044
97	1.9619	0.0044
98	1.9662	0.0043
99	1.9705	0.0043
100	1.9748	0.0043
101	1.9790	0.0042
102	1.9833	0.0042
103	1.9874	0.0042
104	1.9916	0.0041
105	1.9957	0.0041
106	1.9997	0.0041
107	2.0038	0.0040
108	2.0078	0.0040
109	2.0118	0.0040
110	2.0158	0.0040
111	2.0197	0.0039
112	2.0236	0.0039
113	2.0275	0.0039
114	2.0313	0.0039
115	2.0351	0.0038
116	2.0389	0.0038
117	2.0427	0.0038
118	2.0465	0.0037
119	2.0502	0.0037
120	2.0539	0.0037
121	2.0576	0.0037
122	2.0612	0.0036
123	2.0648	0.0036
124	2.0684	0.0036
125	2.0720	0.0036
126	2.0756	0.0036
127	2.0791	0.0035
128	2.0826	0.0035
129	2.0861	0.0035
130	2.0896	0.0035
131	2.0930	0.0035
132	2.0965	0.0034
133	2.0999	0.0034
134	2.1033	0.0034
135	2.1066	0.0034
136	2.1100	0.0034
137	2.1133	0.0033
138	2.1166	0.0033
139	2.1199	0.0033
140	2.1232	0.0033
141	2.1265	0.0033
142	2.1297	0.0032
143	2.1329	0.0032
144	2.1361	0.0032
145	2.1393	0.0032
146	2.1425	0.0032
147	2.1456	0.0032
148	2.1488	0.0031
149	2.1519	0.0031

150	2.1550	0.0031
151	2.1581	0.0031
152	2.1611	0.0031
153	2.1642	0.0031
154	2.1672	0.0030
155	2.1703	0.0030
156	2.1733	0.0030
157	2.1763	0.0030
158	2.1792	0.0030
159	2.1822	0.0030
160	2.1851	0.0029
161	2.1881	0.0029
162	2.1910	0.0029
163	2.1939	0.0029
164	2.1968	0.0029
165	2.1997	0.0029
166	2.2025	0.0029
167	2.2054	0.0029
168	2.2082	0.0028
169	2.2110	0.0028
170	2.2139	0.0028
171	2.2166	0.0028
172	2.2194	0.0028
173	2.2222	0.0028
174	2.2250	0.0028
175	2.2277	0.0027
176	2.2304	0.0027
177	2.2332	0.0027
178	2.2359	0.0027
179	2.2386	0.0027
180	2.2413	0.0027
181	2.2439	0.0027
182	2.2466	0.0027
183	2.2493	0.0027
184	2.2519	0.0026
185	2.2545	0.0026
186	2.2571	0.0026
187	2.2598	0.0026
188	2.2624	0.0026
189	2.2649	0.0026
190	2.2675	0.0026
191	2.2701	0.0026
192	2.2726	0.0026
193	2.2752	0.0025
194	2.2777	0.0025
195	2.2802	0.0025
196	2.2827	0.0025
197	2.2852	0.0025
198	2.2877	0.0025
199	2.2902	0.0025
200	2.2927	0.0025
201	2.2952	0.0025
202	2.2976	0.0025
203	2.3001	0.0024
204	2.3025	0.0024
205	2.3049	0.0024
206	2.3073	0.0024
207	2.3097	0.0024
208	2.3121	0.0024

209	2.3145	0.0024
210	2.3169	0.0024
211	2.3193	0.0024
212	2.3216	0.0024
213	2.3240	0.0024
214	2.3263	0.0023
215	2.3287	0.0023
216	2.3310	0.0023
217	2.3333	0.0023
218	2.3356	0.0023
219	2.3379	0.0023
220	2.3402	0.0023
221	2.3425	0.0023
222	2.3448	0.0023
223	2.3471	0.0023
224	2.3493	0.0023
225	2.3516	0.0023
226	2.3538	0.0022
227	2.3561	0.0022
228	2.3583	0.0022
229	2.3605	0.0022
230	2.3627	0.0022
231	2.3650	0.0022
232	2.3672	0.0022
233	2.3693	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3759	0.0022
237	2.3780	0.0022
238	2.3802	0.0022
239	2.3824	0.0021
240	2.3845	0.0021
241	2.3866	0.0021
242	2.3888	0.0021
243	2.3909	0.0021
244	2.3930	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4014	0.0021
249	2.4035	0.0021
250	2.4055	0.0021
251	2.4076	0.0021
252	2.4097	0.0021
253	2.4117	0.0021
254	2.4138	0.0020
255	2.4158	0.0020
256	2.4179	0.0020
257	2.4199	0.0020
258	2.4219	0.0020
259	2.4239	0.0020
260	2.4260	0.0020
261	2.4280	0.0020
262	2.4300	0.0020
263	2.4320	0.0020
264	2.4339	0.0020
265	2.4359	0.0020
266	2.4379	0.0020
267	2.4399	0.0020

268	2.4418	0.0020
269	2.4438	0.0020
270	2.4457	0.0020
271	2.4477	0.0019
272	2.4496	0.0019
273	2.4516	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4573	0.0019
277	2.4593	0.0019
278	2.4612	0.0019
279	2.4631	0.0019
280	2.4650	0.0019
281	2.4669	0.0019
282	2.4688	0.0019
283	2.4706	0.0019
284	2.4725	0.0019
285	2.4744	0.0019
286	2.4763	0.0019
287	2.4781	0.0019
288	2.4800	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0020	0.0012	0.0007
14	0.0020	0.0012	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0021	0.0013	0.0008
26	0.0021	0.0013	0.0008
27	0.0021	0.0013	0.0008
28	0.0021	0.0013	0.0008
29	0.0021	0.0013	0.0008
30	0.0021	0.0013	0.0008
31	0.0021	0.0013	0.0008
32	0.0021	0.0014	0.0008
33	0.0021	0.0014	0.0008

34	0.0021	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0022	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0023	0.0014	0.0008
44	0.0023	0.0014	0.0008
45	0.0023	0.0014	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0009
50	0.0023	0.0015	0.0009
51	0.0024	0.0015	0.0009
52	0.0024	0.0015	0.0009
53	0.0024	0.0015	0.0009
54	0.0024	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0024	0.0015	0.0009
57	0.0024	0.0015	0.0009
58	0.0024	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0025	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0026	0.0016	0.0009
66	0.0026	0.0016	0.0009
67	0.0026	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0017	0.0010
70	0.0026	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0027	0.0017	0.0010
73	0.0027	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0028	0.0018	0.0010
78	0.0028	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0029	0.0018	0.0010
83	0.0029	0.0018	0.0011
84	0.0029	0.0018	0.0011
85	0.0029	0.0019	0.0011
86	0.0029	0.0019	0.0011
87	0.0030	0.0019	0.0011
88	0.0030	0.0019	0.0011
89	0.0030	0.0019	0.0011
90	0.0030	0.0019	0.0011
91	0.0031	0.0019	0.0011
92	0.0031	0.0019	0.0011

93	0.0031	0.0020	0.0011
94	0.0031	0.0020	0.0011
95	0.0032	0.0020	0.0012
96	0.0032	0.0020	0.0012
97	0.0032	0.0020	0.0012
98	0.0032	0.0020	0.0012
99	0.0033	0.0021	0.0012
100	0.0033	0.0021	0.0012
101	0.0033	0.0021	0.0012
102	0.0033	0.0021	0.0012
103	0.0034	0.0021	0.0012
104	0.0034	0.0022	0.0012
105	0.0034	0.0022	0.0013
106	0.0035	0.0022	0.0013
107	0.0035	0.0022	0.0013
108	0.0035	0.0022	0.0013
109	0.0036	0.0023	0.0013
110	0.0036	0.0023	0.0013
111	0.0036	0.0023	0.0013
112	0.0036	0.0023	0.0013
113	0.0037	0.0023	0.0014
114	0.0037	0.0024	0.0014
115	0.0038	0.0024	0.0014
116	0.0038	0.0024	0.0014
117	0.0039	0.0024	0.0014
118	0.0039	0.0025	0.0014
119	0.0039	0.0025	0.0014
120	0.0040	0.0025	0.0014
121	0.0040	0.0025	0.0015
122	0.0040	0.0026	0.0015
123	0.0041	0.0026	0.0015
124	0.0041	0.0026	0.0015
125	0.0042	0.0027	0.0015
126	0.0042	0.0027	0.0015
127	0.0043	0.0027	0.0016
128	0.0043	0.0028	0.0016
129	0.0044	0.0028	0.0016
130	0.0044	0.0028	0.0016
131	0.0045	0.0029	0.0017
132	0.0046	0.0029	0.0017
133	0.0046	0.0029	0.0017
134	0.0047	0.0030	0.0017
135	0.0048	0.0030	0.0017
136	0.0048	0.0031	0.0018
137	0.0049	0.0031	0.0018
138	0.0049	0.0031	0.0018
139	0.0050	0.0032	0.0018
140	0.0051	0.0032	0.0019
141	0.0052	0.0033	0.0019
142	0.0052	0.0033	0.0019
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0053	0.0034	0.0019
146	0.0054	0.0034	0.0020
147	0.0055	0.0035	0.0020
148	0.0056	0.0035	0.0020
149	0.0057	0.0036	0.0021
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0022

152	0.0060	0.0038	0.0022
153	0.0062	0.0039	0.0022
154	0.0062	0.0040	0.0023
155	0.0064	0.0041	0.0023
156	0.0065	0.0041	0.0024
157	0.0067	0.0042	0.0024
158	0.0068	0.0043	0.0025
159	0.0070	0.0044	0.0026
160	0.0071	0.0045	0.0026
161	0.0074	0.0047	0.0027
162	0.0075	0.0047	0.0027
163	0.0077	0.0049	0.0028
164	0.0079	0.0050	0.0029
165	0.0082	0.0052	0.0030
166	0.0083	0.0053	0.0031
167	0.0087	0.0055	0.0032
168	0.0089	0.0056	0.0032
169	0.0093	0.0059	0.0034
170	0.0095	0.0060	0.0035
171	0.0100	0.0063	0.0036
172	0.0102	0.0065	0.0037
173	0.0107	0.0068	0.0039
174	0.0110	0.0070	0.0040
175	0.0117	0.0074	0.0043
176	0.0121	0.0077	0.0044
177	0.0129	0.0082	0.0047
178	0.0133	0.0085	0.0049
179	0.0143	0.0091	0.0052
180	0.0149	0.0095	0.0055
181	0.0163	0.0103	0.0059
182	0.0170	0.0108	0.0062
183	0.0189	0.0120	0.0069
184	0.0200	0.0127	0.0073
185	0.0327	0.0208	0.0120
186	0.0349	0.0221	0.0127
187	0.0404	0.0256	0.0148
188	0.0441	0.0280	0.0161
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0959	0.0300	0.0660
192	0.1392	0.0300	0.1093
193	0.6024	0.0300	0.5724
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0237	0.0137
197	0.0212	0.0135	0.0078
198	0.0179	0.0114	0.0065
199	0.0156	0.0099	0.0057
200	0.0138	0.0088	0.0050
201	0.0125	0.0079	0.0046
202	0.0114	0.0072	0.0042
203	0.0105	0.0066	0.0038
204	0.0097	0.0062	0.0036
205	0.0091	0.0058	0.0033
206	0.0085	0.0054	0.0031
207	0.0080	0.0051	0.0029
208	0.0076	0.0048	0.0028
209	0.0072	0.0046	0.0026
210	0.0069	0.0044	0.0025

211	0.0066	0.0042	0.0024
212	0.0063	0.0040	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0037	0.0021
215	0.0056	0.0036	0.0021
216	0.0054	0.0035	0.0020
217	0.0055	0.0035	0.0020
218	0.0053	0.0034	0.0019
219	0.0051	0.0033	0.0019
220	0.0050	0.0032	0.0018
221	0.0049	0.0031	0.0018
222	0.0047	0.0030	0.0017
223	0.0046	0.0029	0.0017
224	0.0045	0.0028	0.0016
225	0.0044	0.0028	0.0016
226	0.0043	0.0027	0.0016
227	0.0042	0.0026	0.0015
228	0.0041	0.0026	0.0015
229	0.0040	0.0025	0.0015
230	0.0039	0.0025	0.0014
231	0.0038	0.0024	0.0014
232	0.0037	0.0024	0.0014
233	0.0037	0.0023	0.0013
234	0.0036	0.0023	0.0013
235	0.0035	0.0022	0.0013
236	0.0035	0.0022	0.0013
237	0.0034	0.0022	0.0012
238	0.0034	0.0021	0.0012
239	0.0033	0.0021	0.0012
240	0.0032	0.0021	0.0012
241	0.0032	0.0020	0.0012
242	0.0031	0.0020	0.0011
243	0.0031	0.0020	0.0011
244	0.0030	0.0019	0.0011
245	0.0030	0.0019	0.0011
246	0.0029	0.0019	0.0011
247	0.0029	0.0018	0.0011
248	0.0029	0.0018	0.0010
249	0.0028	0.0018	0.0010
250	0.0028	0.0018	0.0010
251	0.0027	0.0017	0.0010
252	0.0027	0.0017	0.0010
253	0.0027	0.0017	0.0010
254	0.0026	0.0017	0.0010
255	0.0026	0.0017	0.0010
256	0.0026	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0025	0.0016	0.0009
259	0.0025	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0024	0.0015	0.0009
262	0.0024	0.0015	0.0009
263	0.0024	0.0015	0.0009
264	0.0023	0.0015	0.0009
265	0.0023	0.0015	0.0008
266	0.0023	0.0015	0.0008
267	0.0023	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0022	0.0014	0.0008

270	0.0022	0.0014	0.0008
271	0.0022	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0021	0.0014	0.0008
274	0.0021	0.0013	0.0008
275	0.0021	0.0013	0.0008
276	0.0021	0.0013	0.0008
277	0.0021	0.0013	0.0008
278	0.0020	0.0013	0.0007
279	0.0020	0.0013	0.0007
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0019	0.0012	0.0007
288	0.0019	0.0012	0.0007

Total soil rain loss = 1.10(In)
Total effective rainfall = 1.38(In)
Peak flow rate in flood hydrograph = 14.09(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.02	Q				
0+25	0.0004	0.03	Q				
0+30	0.0007	0.04	Q				
0+35	0.0010	0.05	Q				
0+40	0.0014	0.05	Q				
0+45	0.0018	0.05	Q				
0+50	0.0022	0.06	Q				
0+55	0.0026	0.06	Q				
1+ 0	0.0030	0.06	Q				
1+ 5	0.0034	0.06	Q				
1+10	0.0039	0.07	Q				
1+15	0.0043	0.07	Q				
1+20	0.0048	0.07	Q				
1+25	0.0053	0.07	Q				
1+30	0.0058	0.07	Q				
1+35	0.0063	0.07	Q				
1+40	0.0068	0.07	Q				
1+45	0.0073	0.07	Q				
1+50	0.0078	0.07	Q				
1+55	0.0083	0.08	Q				
2+ 0	0.0088	0.08	Q				
2+ 5	0.0094	0.08	Q				

2+10	0.0099	0.08	Q				
2+15	0.0104	0.08	Q				
2+20	0.0110	0.08	Q				
2+25	0.0115	0.08	Q				
2+30	0.0121	0.08	Q				
2+35	0.0126	0.08	Q				
2+40	0.0132	0.08	Q				
2+45	0.0137	0.08	Q				
2+50	0.0143	0.08	Q				
2+55	0.0148	0.08	Q				
3+ 0	0.0154	0.08	Q				
3+ 5	0.0160	0.08	Q				
3+10	0.0166	0.08	Q				
3+15	0.0171	0.08	Q				
3+20	0.0177	0.08	Q				
3+25	0.0183	0.08	Q				
3+30	0.0189	0.09	Q				
3+35	0.0195	0.09	Q				
3+40	0.0201	0.09	Q				
3+45	0.0207	0.09	Q				
3+50	0.0213	0.09	Q				
3+55	0.0219	0.09	Q				
4+ 0	0.0225	0.09	Q				
4+ 5	0.0231	0.09	Q				
4+10	0.0237	0.09	Q				
4+15	0.0243	0.09	Q				
4+20	0.0250	0.09	Q				
4+25	0.0256	0.09	Q				
4+30	0.0262	0.09	QV				
4+35	0.0268	0.09	QV				
4+40	0.0275	0.09	QV				
4+45	0.0281	0.09	QV				
4+50	0.0287	0.09	QV				
4+55	0.0294	0.09	QV				
5+ 0	0.0300	0.09	QV				
5+ 5	0.0307	0.09	QV				
5+10	0.0313	0.09	QV				
5+15	0.0320	0.10	QV				
5+20	0.0327	0.10	QV				
5+25	0.0333	0.10	QV				
5+30	0.0340	0.10	QV				
5+35	0.0347	0.10	QV				
5+40	0.0353	0.10	QV				
5+45	0.0360	0.10	QV				
5+50	0.0367	0.10	QV				
5+55	0.0374	0.10	QV				
6+ 0	0.0381	0.10	QV				
6+ 5	0.0388	0.10	QV				
6+10	0.0395	0.10	QV				
6+15	0.0402	0.10	QV				
6+20	0.0409	0.10	QV				
6+25	0.0416	0.10	QV				
6+30	0.0423	0.10	QV				
6+35	0.0431	0.11	QV				
6+40	0.0438	0.11	QV				
6+45	0.0445	0.11	QV				
6+50	0.0453	0.11	QV				
6+55	0.0460	0.11	QV				
7+ 0	0.0468	0.11	QV				

7+ 5	0.0475	0.11	QV				
7+10	0.0483	0.11	QV				
7+15	0.0491	0.11	QV				
7+20	0.0498	0.11	QV				
7+25	0.0506	0.11	QV				
7+30	0.0514	0.11	QV				
7+35	0.0522	0.11	Q V				
7+40	0.0530	0.12	Q V				
7+45	0.0538	0.12	Q V				
7+50	0.0546	0.12	Q V				
7+55	0.0554	0.12	Q V				
8+ 0	0.0562	0.12	Q V				
8+ 5	0.0570	0.12	Q V				
8+10	0.0579	0.12	Q V				
8+15	0.0587	0.12	Q V				
8+20	0.0595	0.12	Q V				
8+25	0.0604	0.12	Q V				
8+30	0.0612	0.12	Q V				
8+35	0.0621	0.13	Q V				
8+40	0.0630	0.13	Q V				
8+45	0.0638	0.13	Q V				
8+50	0.0647	0.13	Q V				
8+55	0.0656	0.13	Q V				
9+ 0	0.0665	0.13	Q V				
9+ 5	0.0674	0.13	Q V				
9+10	0.0684	0.13	Q V				
9+15	0.0693	0.13	Q V				
9+20	0.0702	0.14	Q V				
9+25	0.0711	0.14	Q V				
9+30	0.0721	0.14	Q V				
9+35	0.0731	0.14	Q V				
9+40	0.0740	0.14	Q V				
9+45	0.0750	0.14	Q V				
9+50	0.0760	0.14	Q V				
9+55	0.0770	0.14	Q V				
10+ 0	0.0780	0.15	Q V				
10+ 5	0.0790	0.15	Q V				
10+10	0.0800	0.15	Q V				
10+15	0.0811	0.15	Q V				
10+20	0.0821	0.15	Q V				
10+25	0.0832	0.15	Q V				
10+30	0.0842	0.16	Q V				
10+35	0.0853	0.16	Q V				
10+40	0.0864	0.16	Q V				
10+45	0.0875	0.16	Q V				
10+50	0.0886	0.16	Q V				
10+55	0.0898	0.16	Q V				
11+ 0	0.0909	0.17	Q V				
11+ 5	0.0921	0.17	Q V				
11+10	0.0932	0.17	Q V				
11+15	0.0944	0.17	Q V				
11+20	0.0956	0.17	Q V				
11+25	0.0968	0.18	Q V				
11+30	0.0981	0.18	Q V				
11+35	0.0993	0.18	Q V				
11+40	0.1006	0.18	Q V				
11+45	0.1019	0.19	Q V				
11+50	0.1031	0.19	Q V				
11+55	0.1045	0.19	Q V				

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12+ 0       0.1058      0.19  Q   V     |          |          |          |
12+ 5       0.1071      0.20  Q   V     |          |          |          |
12+10       0.1085      0.20  Q   V     |          |          |          |
12+15       0.1099      0.20  Q   V     |          |          |          |
12+20       0.1113      0.20  Q   V     |          |          |          |
12+25       0.1127      0.20  Q   V     |          |          |          |
12+30       0.1141      0.21  Q   V     |          |          |          |
12+35       0.1156      0.21  Q   V     |          |          |          |
12+40       0.1171      0.21  Q   V     |          |          |          |
12+45       0.1185      0.22  Q   V     |          |          |          |
12+50       0.1201      0.22  Q   V     |          |          |          |
12+55       0.1216      0.22  Q   V     |          |          |          |
13+ 0       0.1232      0.23  Q   V     |          |          |          |
13+ 5       0.1248      0.23  Q   V     |          |          |          |
13+10       0.1264      0.24  Q   V     |          |          |          |
13+15       0.1280      0.24  Q   V     |          |          |          |
13+20       0.1297      0.24  Q    V    |          |          |          |
13+25       0.1314      0.25  Q    V    |          |          |          |
13+30       0.1332      0.26  Q    V    |          |          |          |
13+35       0.1350      0.26  Q    V    |          |          |          |
13+40       0.1368      0.27  Q    V    |          |          |          |
13+45       0.1387      0.27  Q    V    |          |          |          |
13+50       0.1406      0.28  Q    V    |          |          |          |
13+55       0.1426      0.29  Q    V    |          |          |          |
14+ 0       0.1446      0.29  Q    V    |          |          |          |
14+ 5       0.1467      0.30  Q    V    |          |          |          |
14+10       0.1488      0.31  Q    V    |          |          |          |
14+15       0.1510      0.32  Q    V    |          |          |          |
14+20       0.1533      0.33  Q    V    |          |          |          |
14+25       0.1556      0.34  Q     V   |          |          |          |
14+30       0.1580      0.35  Q     V   |          |          |          |
14+35       0.1605      0.36  Q     V   |          |          |          |
14+40       0.1631      0.37  Q     V   |          |          |          |
14+45       0.1658      0.39  Q     V   |          |          |          |
14+50       0.1685      0.40  Q     V   |          |          |          |
14+55       0.1714      0.42  Q     V   |          |          |          |
15+ 0       0.1744      0.44  Q     V   |          |          |          |
15+ 5       0.1776      0.46  Q     V   |          |          |          |
15+10       0.1809      0.48  Q      V  |          |          |          |
15+15       0.1844      0.51  |Q     V  |          |          |          |
15+20       0.1881      0.53  |Q     V  |          |          |          |
15+25       0.1920      0.57  |Q     V  |          |          |          |
15+30       0.1963      0.62  |Q     V  |          |          |          |
15+35       0.2011      0.70  |Q     V  |          |          |          |
15+40       0.2067      0.82  |Q      V |          |          |          |
15+45       0.2134      0.97  |Q      V |          |          |          |
15+50       0.2212      1.14  | Q     V |          |          |          |
15+55       0.2308      1.39  | Q     V |          |          |          |
16+ 0       0.2436      1.86  |  Q     V|          |          |          |
16+ 5       0.2652      3.14  |     Q   V          |          |          |
16+10       0.3031      5.50  |         QV         |          |          |
16+15       0.3609      8.39  |          |   V Q   |          |          |
16+20       0.4524     13.28  |          |      V  |     Q    |          |
16+25       0.5495     14.09  |          |         |V      Q  |          |
16+30       0.6207     10.34  |          |         Q   V      |          |
16+35       0.6720      7.45  |          |   Q     |     V    |          |
16+40       0.7112      5.70  |          |Q        |      V   |          |
16+45       0.7434      4.67  |        Q |         |       V  |          |
16+50       0.7700      3.86  |      Q   |         |        V |          |
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16+55       0.7926      3.28  |     Q   |         |         V         |
17+ 0       0.8121      2.82  |    Q    |         |         |V        |
17+ 5       0.8291      2.47  |   Q     |         |         | V       |
17+10       0.8445      2.23  |   Q     |         |         | V       |
17+15       0.8581      1.98  |  Q      |         |         |  V      |
17+20       0.8699      1.71  |  Q      |         |         |  V      |
17+25       0.8803      1.52  |  Q      |         |         |   V     |
17+30       0.8900      1.40  | Q       |         |         |   V     |
17+35       0.8988      1.28  | Q       |         |         |   V     |
17+40       0.9069      1.18  | Q       |         |         |    V    |
17+45       0.9142      1.06  | Q       |         |         |    V    |
17+50       0.9208      0.96  |Q        |         |         |    V    |
17+55       0.9270      0.90  |Q        |         |         |     V   |
18+ 0       0.9326      0.80  |Q        |         |         |     V   |
18+ 5       0.9378      0.75  |Q        |         |         |     V   |
18+10       0.9424      0.67  |Q        |         |         |     V   |
18+15       0.9465      0.60  |Q        |         |         |     V   |
18+20       0.9504      0.56  |Q        |         |         |     V   |
18+25       0.9537      0.47  Q         |         |         |      V  |
18+30       0.9568      0.45  Q         |         |         |      V  |
18+35       0.9599      0.45  Q         |         |         |      V  |
18+40       0.9630      0.45  Q         |         |         |      V  |
18+45       0.9660      0.44  Q         |         |         |      V  |
18+50       0.9690      0.43  Q         |         |         |      V  |
18+55       0.9718      0.41  Q         |         |         |      V  |
19+ 0       0.9742      0.35  Q         |         |         |      V  |
19+ 5       0.9764      0.31  Q         |         |         |      V  |
19+10       0.9783      0.29  Q         |         |         |       V |
19+15       0.9800      0.24  Q         |         |         |       V |
19+20       0.9813      0.19  Q         |         |         |       V |
19+25       0.9825      0.18  Q         |         |         |       V |
19+30       0.9837      0.17  Q         |         |         |       V |
19+35       0.9849      0.17  Q         |         |         |       V |
19+40       0.9860      0.17  Q         |         |         |       V |
19+45       0.9871      0.16  Q         |         |         |       V |
19+50       0.9882      0.16  Q         |         |         |       V |
19+55       0.9893      0.15  Q         |         |         |       V |
20+ 0       0.9903      0.15  Q         |         |         |       V |
20+ 5       0.9913      0.15  Q         |         |         |       V |
20+10       0.9923      0.14  Q         |         |         |       V |
20+15       0.9933      0.14  Q         |         |         |       V |
20+20       0.9943      0.14  Q         |         |         |       V |
20+25       0.9952      0.14  Q         |         |         |       V |
20+30       0.9961      0.13  Q         |         |         |       V |
20+35       0.9970      0.13  Q         |         |         |       V |
20+40       0.9979      0.13  Q         |         |         |       V |
20+45       0.9988      0.13  Q         |         |         |       V |
20+50       0.9996      0.12  Q         |         |         |       V |
20+55       1.0005      0.12  Q         |         |         |       V |
21+ 0       1.0013      0.12  Q         |         |         |       V |
21+ 5       1.0021      0.12  Q         |         |         |       V |
21+10       1.0029      0.12  Q         |         |         |       V |
21+15       1.0037      0.12  Q         |         |         |        V|
21+20       1.0045      0.11  Q         |         |         |        V|
21+25       1.0053      0.11  Q         |         |         |        V|
21+30       1.0060      0.11  Q         |         |         |        V|
21+35       1.0068      0.11  Q         |         |         |        V|
21+40       1.0075      0.11  Q         |         |         |        V|
21+45       1.0083      0.11  Q         |         |         |        V|
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21+50	1.0090	0.10	Q	|	|	|	V|
21+55	1.0097	0.10	Q	|	|	|	V|
22+ 0	1.0104	0.10	Q	|	|	|	V|
22+ 5	1.0111	0.10	Q	|	|	|	V|
22+10	1.0118	0.10	Q	|	|	|	V|
22+15	1.0125	0.10	Q	|	|	|	V|
22+20	1.0131	0.10	Q	|	|	|	V|
22+25	1.0138	0.10	Q	|	|	|	V|
22+30	1.0144	0.09	Q	|	|	|	V|
22+35	1.0151	0.09	Q	|	|	|	V|
22+40	1.0157	0.09	Q	|	|	|	V|
22+45	1.0163	0.09	Q	|	|	|	V|
22+50	1.0170	0.09	Q	|	|	|	V|
22+55	1.0176	0.09	Q	|	|	|	V|
23+ 0	1.0182	0.09	Q	|	|	|	V|
23+ 5	1.0188	0.09	Q	|	|	|	V|
23+10	1.0194	0.09	Q	|	|	|	V|
23+15	1.0200	0.09	Q	|	|	|	V|
23+20	1.0206	0.09	Q	|	|	|	V|
23+25	1.0212	0.08	Q	|	|	|	V|
23+30	1.0217	0.08	Q	|	|	|	V|
23+35	1.0223	0.08	Q	|	|	|	V|
23+40	1.0229	0.08	Q	|	|	|	V|
23+45	1.0234	0.08	Q	|	|	|	V|
23+50	1.0240	0.08	Q	|	|	|	V|
23+55	1.0245	0.08	Q	|	|	|	V|
24+ 0	1.0251	0.08	Q	|	|	|	V|
24+ 5	1.0256	0.08	Q	|	|	|	V|
24+10	1.0261	0.07	Q	|	|	|	V|
24+15	1.0266	0.07	Q	|	|	|	V|
24+20	1.0270	0.06	Q	|	|	|	V|
24+25	1.0273	0.04	Q	|	|	|	V|
24+30	1.0275	0.04	Q	|	|	|	V|
24+35	1.0277	0.03	Q	|	|	|	V|
24+40	1.0279	0.02	Q	|	|	|	V|
24+45	1.0280	0.02	Q	|	|	|	V|
24+50	1.0282	0.02	Q	|	|	|	V|
24+55	1.0283	0.02	Q	|	|	|	V|
25+ 0	1.0284	0.01	Q	|	|	|	V|
25+ 5	1.0285	0.01	Q	|	|	|	V|
25+10	1.0285	0.01	Q	|	|	|	V|
25+15	1.0286	0.01	Q	|	|	|	V|
25+20	1.0287	0.01	Q	|	|	|	V|
25+25	1.0287	0.01	Q	|	|	|	V|
25+30	1.0288	0.01	Q	|	|	|	V|
25+35	1.0288	0.01	Q	|	|	|	V|
25+40	1.0288	0.00	Q	|	|	|	V|
25+45	1.0289	0.00	Q	|	|	|	V|
25+50	1.0289	0.00	Q	|	|	|	V|
25+55	1.0289	0.00	Q	|	|	|	V|
26+ 0	1.0289	0.00	Q	|	|	|	V|
26+ 5	1.0289	0.00	Q	|	|	|	V|
26+10	1.0290	0.00	Q	|	|	|	V|
26+15	1.0290	0.00	Q	|	|	|	V|
26+20	1.0290	0.00	Q	|	|	|	V|
26+25	1.0290	0.00	Q	|	|	|	V|
26+30	1.0290	0.00	Q	|	|	|	V|
26+35	1.0290	0.00	Q	|	|	|	V|
26+40	1.0290	0.00	Q	|	|	|	V|

26+45	1.0290	0.00	Q	|	|	|	V|
26+50	1.0290	0.00	Q	|	|	|	V|
26+55	1.0290	0.00	Q	|	|	|	V|
27+ 0	1.0290	0.00	Q	|	|	|	V|
27+ 5	1.0290	0.00	Q	|	|	|	V|
27+10	1.0290	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 5
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
13.66	1	1.27
Rainfall data for year 100		
13.66	6	1.84
Rainfall data for year 100		
13.66	24	2.46

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	13.66	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
13.66	1.000	62.0	80.6	2.41	0.363

Area-averaged catchment yield fraction, Y = 0.363
Area-averaged low loss fraction, Yb = 0.637
User entry of time of concentration = 0.520 (hours)
++
Watershed area = 13.66(Ac.)
Catchment Lag time = 0.416 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.0321
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.637 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.460(In)

Rainfall depth area reduction factors:
Using a total area of 13.66(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.460(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 165.20 (CFS))	
1	0.995	1.643
2	4.516	5.817
3	11.300	11.208
4	26.240	24.680
5	43.399	28.347
6	55.091	19.315
7	62.875	12.859
8	68.500	9.294
9	73.033	7.487
10	76.661	5.993
11	79.664	4.962
12	82.167	4.134
13	84.311	3.542
14	86.250	3.203

15	87.937	2.788
16	89.330	2.301
17	90.508	1.946
18	91.609	1.820
19	92.585	1.613
20	93.487	1.490
21	94.262	1.280
22	94.943	1.125
23	95.601	1.087
24	96.140	0.889
25	96.660	0.860
26	97.095	0.718
27	97.455	0.596
28	97.792	0.557
29	98.009	0.358
30	98.210	0.331
31	98.432	0.367
32	98.672	0.397
33	98.913	0.397
34	99.153	0.397
35	99.393	0.397
36	99.570	0.292
37	99.695	0.207
38	99.820	0.207
39	100.000	0.103

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7414	0.1392
3	0.8374	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0309	0.0549
7	1.0797	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2365	0.0349
12	1.2692	0.0327
13	1.2904	0.0212
14	1.3104	0.0200
15	1.3293	0.0189
16	1.3472	0.0179
17	1.3643	0.0170
18	1.3805	0.0163
19	1.3961	0.0156
20	1.4111	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4526	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4900	0.0121
27	1.5017	0.0117
28	1.5131	0.0114
29	1.5241	0.0111
30	1.5349	0.0108
31	1.5453	0.0105

32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6918	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7838	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8452	0.0053
74	1.8505	0.0053
75	1.8557	0.0052
76	1.8609	0.0052
77	1.8660	0.0051
78	1.8710	0.0051
79	1.8760	0.0050
80	1.8810	0.0050
81	1.8859	0.0049
82	1.8907	0.0049
83	1.8955	0.0048
84	1.9003	0.0048
85	1.9050	0.0047
86	1.9097	0.0047
87	1.9143	0.0046
88	1.9189	0.0046
89	1.9235	0.0045
90	1.9280	0.0045

91	1.9324	0.0045
92	1.9369	0.0044
93	1.9413	0.0044
94	1.9456	0.0044
95	1.9499	0.0043
96	1.9542	0.0043
97	1.9585	0.0042
98	1.9627	0.0042
99	1.9669	0.0042
100	1.9710	0.0041
101	1.9751	0.0041
102	1.9792	0.0041
103	1.9832	0.0040
104	1.9873	0.0040
105	1.9913	0.0040
106	1.9952	0.0040
107	1.9991	0.0039
108	2.0030	0.0039
109	2.0069	0.0039
110	2.0108	0.0038
111	2.0146	0.0038
112	2.0184	0.0038
113	2.0221	0.0038
114	2.0259	0.0037
115	2.0296	0.0037
116	2.0333	0.0037
117	2.0369	0.0037
118	2.0405	0.0036
119	2.0442	0.0036
120	2.0477	0.0036
121	2.0513	0.0036
122	2.0548	0.0035
123	2.0584	0.0035
124	2.0619	0.0035
125	2.0653	0.0035
126	2.0688	0.0035
127	2.0722	0.0034
128	2.0756	0.0034
129	2.0790	0.0034
130	2.0824	0.0034
131	2.0857	0.0033
132	2.0890	0.0033
133	2.0923	0.0033
134	2.0956	0.0033
135	2.0989	0.0033
136	2.1021	0.0032
137	2.1054	0.0032
138	2.1086	0.0032
139	2.1118	0.0032
140	2.1150	0.0032
141	2.1181	0.0032
142	2.1212	0.0031
143	2.1244	0.0031
144	2.1275	0.0031
145	2.1306	0.0031
146	2.1336	0.0031
147	2.1367	0.0031
148	2.1397	0.0030
149	2.1427	0.0030

150	2.1457	0.0030
151	2.1487	0.0030
152	2.1517	0.0030
153	2.1547	0.0030
154	2.1576	0.0029
155	2.1605	0.0029
156	2.1634	0.0029
157	2.1663	0.0029
158	2.1692	0.0029
159	2.1721	0.0029
160	2.1750	0.0029
161	2.1778	0.0028
162	2.1806	0.0028
163	2.1834	0.0028
164	2.1862	0.0028
165	2.1890	0.0028
166	2.1918	0.0028
167	2.1945	0.0028
168	2.1973	0.0027
169	2.2000	0.0027
170	2.2028	0.0027
171	2.2055	0.0027
172	2.2082	0.0027
173	2.2108	0.0027
174	2.2135	0.0027
175	2.2162	0.0027
176	2.2188	0.0026
177	2.2214	0.0026
178	2.2241	0.0026
179	2.2267	0.0026
180	2.2293	0.0026
181	2.2319	0.0026
182	2.2345	0.0026
183	2.2370	0.0026
184	2.2396	0.0026
185	2.2421	0.0025
186	2.2447	0.0025
187	2.2472	0.0025
188	2.2497	0.0025
189	2.2522	0.0025
190	2.2547	0.0025
191	2.2572	0.0025
192	2.2596	0.0025
193	2.2621	0.0025
194	2.2645	0.0025
195	2.2670	0.0024
196	2.2694	0.0024
197	2.2718	0.0024
198	2.2742	0.0024
199	2.2766	0.0024
200	2.2790	0.0024
201	2.2814	0.0024
202	2.2838	0.0024
203	2.2862	0.0024
204	2.2885	0.0024
205	2.2909	0.0023
206	2.2932	0.0023
207	2.2955	0.0023
208	2.2978	0.0023

209	2.3002	0.0023
210	2.3025	0.0023
211	2.3047	0.0023
212	2.3070	0.0023
213	2.3093	0.0023
214	2.3116	0.0023
215	2.3138	0.0023
216	2.3161	0.0023
217	2.3183	0.0022
218	2.3206	0.0022
219	2.3228	0.0022
220	2.3250	0.0022
221	2.3272	0.0022
222	2.3294	0.0022
223	2.3316	0.0022
224	2.3338	0.0022
225	2.3360	0.0022
226	2.3381	0.0022
227	2.3403	0.0022
228	2.3425	0.0022
229	2.3446	0.0021
230	2.3468	0.0021
231	2.3489	0.0021
232	2.3510	0.0021
233	2.3531	0.0021
234	2.3552	0.0021
235	2.3574	0.0021
236	2.3594	0.0021
237	2.3615	0.0021
238	2.3636	0.0021
239	2.3657	0.0021
240	2.3678	0.0021
241	2.3698	0.0021
242	2.3719	0.0021
243	2.3739	0.0020
244	2.3760	0.0020
245	2.3780	0.0020
246	2.3801	0.0020
247	2.3821	0.0020
248	2.3841	0.0020
249	2.3861	0.0020
250	2.3881	0.0020
251	2.3901	0.0020
252	2.3921	0.0020
253	2.3941	0.0020
254	2.3961	0.0020
255	2.3980	0.0020
256	2.4000	0.0020
257	2.4020	0.0020
258	2.4039	0.0020
259	2.4059	0.0019
260	2.4078	0.0019
261	2.4097	0.0019
262	2.4117	0.0019
263	2.4136	0.0019
264	2.4155	0.0019
265	2.4174	0.0019
266	2.4193	0.0019
267	2.4212	0.0019

268	2.4231	0.0019
269	2.4250	0.0019
270	2.4269	0.0019
271	2.4288	0.0019
272	2.4307	0.0019
273	2.4325	0.0019
274	2.4344	0.0019
275	2.4363	0.0019
276	2.4381	0.0019
277	2.4400	0.0018
278	2.4418	0.0018
279	2.4437	0.0018
280	2.4455	0.0018
281	2.4473	0.0018
282	2.4491	0.0018
283	2.4509	0.0018
284	2.4528	0.0018
285	2.4546	0.0018
286	2.4564	0.0018
287	2.4582	0.0018
288	2.4600	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0011	0.0007
2	0.0018	0.0011	0.0007
3	0.0018	0.0012	0.0007
4	0.0018	0.0012	0.0007
5	0.0018	0.0012	0.0007
6	0.0018	0.0012	0.0007
7	0.0018	0.0012	0.0007
8	0.0018	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0019	0.0012	0.0007
14	0.0019	0.0012	0.0007
15	0.0019	0.0012	0.0007
16	0.0019	0.0012	0.0007
17	0.0019	0.0012	0.0007
18	0.0019	0.0012	0.0007
19	0.0019	0.0012	0.0007
20	0.0019	0.0012	0.0007
21	0.0020	0.0012	0.0007
22	0.0020	0.0012	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0020	0.0013	0.0007
26	0.0020	0.0013	0.0007
27	0.0020	0.0013	0.0007
28	0.0020	0.0013	0.0007
29	0.0020	0.0013	0.0007
30	0.0020	0.0013	0.0007
31	0.0020	0.0013	0.0007
32	0.0021	0.0013	0.0007
33	0.0021	0.0013	0.0008

34	0.0021	0.0013	0.0008
35	0.0021	0.0013	0.0008
36	0.0021	0.0013	0.0008
37	0.0021	0.0013	0.0008
38	0.0021	0.0014	0.0008
39	0.0021	0.0014	0.0008
40	0.0021	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0022	0.0014	0.0008
44	0.0022	0.0014	0.0008
45	0.0022	0.0014	0.0008
46	0.0022	0.0014	0.0008
47	0.0022	0.0014	0.0008
48	0.0022	0.0014	0.0008
49	0.0023	0.0014	0.0008
50	0.0023	0.0014	0.0008
51	0.0023	0.0014	0.0008
52	0.0023	0.0015	0.0008
53	0.0023	0.0015	0.0008
54	0.0023	0.0015	0.0008
55	0.0023	0.0015	0.0008
56	0.0023	0.0015	0.0008
57	0.0024	0.0015	0.0009
58	0.0024	0.0015	0.0009
59	0.0024	0.0015	0.0009
60	0.0024	0.0015	0.0009
61	0.0024	0.0015	0.0009
62	0.0024	0.0015	0.0009
63	0.0024	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0025	0.0016	0.0009
66	0.0025	0.0016	0.0009
67	0.0025	0.0016	0.0009
68	0.0025	0.0016	0.0009
69	0.0025	0.0016	0.0009
70	0.0025	0.0016	0.0009
71	0.0026	0.0016	0.0009
72	0.0026	0.0016	0.0009
73	0.0026	0.0017	0.0009
74	0.0026	0.0017	0.0009
75	0.0026	0.0017	0.0010
76	0.0026	0.0017	0.0010
77	0.0027	0.0017	0.0010
78	0.0027	0.0017	0.0010
79	0.0027	0.0017	0.0010
80	0.0027	0.0017	0.0010
81	0.0027	0.0017	0.0010
82	0.0028	0.0018	0.0010
83	0.0028	0.0018	0.0010
84	0.0028	0.0018	0.0010
85	0.0028	0.0018	0.0010
86	0.0028	0.0018	0.0010
87	0.0029	0.0018	0.0010
88	0.0029	0.0018	0.0010
89	0.0029	0.0019	0.0011
90	0.0029	0.0019	0.0011
91	0.0030	0.0019	0.0011
92	0.0030	0.0019	0.0011

93	0.0030	0.0019	0.0011
94	0.0030	0.0019	0.0011
95	0.0031	0.0019	0.0011
96	0.0031	0.0020	0.0011
97	0.0031	0.0020	0.0011
98	0.0031	0.0020	0.0011
99	0.0032	0.0020	0.0011
100	0.0032	0.0020	0.0012
101	0.0032	0.0020	0.0012
102	0.0032	0.0021	0.0012
103	0.0033	0.0021	0.0012
104	0.0033	0.0021	0.0012
105	0.0033	0.0021	0.0012
106	0.0033	0.0021	0.0012
107	0.0034	0.0022	0.0012
108	0.0034	0.0022	0.0012
109	0.0035	0.0022	0.0013
110	0.0035	0.0022	0.0013
111	0.0035	0.0022	0.0013
112	0.0035	0.0023	0.0013
113	0.0036	0.0023	0.0013
114	0.0036	0.0023	0.0013
115	0.0037	0.0023	0.0013
116	0.0037	0.0023	0.0013
117	0.0037	0.0024	0.0014
118	0.0038	0.0024	0.0014
119	0.0038	0.0024	0.0014
120	0.0038	0.0024	0.0014
121	0.0039	0.0025	0.0014
122	0.0039	0.0025	0.0014
123	0.0040	0.0025	0.0014
124	0.0040	0.0026	0.0015
125	0.0041	0.0026	0.0015
126	0.0041	0.0026	0.0015
127	0.0042	0.0027	0.0015
128	0.0042	0.0027	0.0015
129	0.0043	0.0027	0.0016
130	0.0043	0.0028	0.0016
131	0.0044	0.0028	0.0016
132	0.0044	0.0028	0.0016
133	0.0045	0.0029	0.0016
134	0.0045	0.0029	0.0017
135	0.0046	0.0030	0.0017
136	0.0047	0.0030	0.0017
137	0.0048	0.0030	0.0017
138	0.0048	0.0031	0.0017
139	0.0049	0.0031	0.0018
140	0.0050	0.0032	0.0018
141	0.0051	0.0032	0.0018
142	0.0051	0.0033	0.0019
143	0.0052	0.0033	0.0019
144	0.0053	0.0034	0.0019
145	0.0053	0.0034	0.0019
146	0.0054	0.0034	0.0020
147	0.0055	0.0035	0.0020
148	0.0056	0.0035	0.0020
149	0.0057	0.0036	0.0021
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0021

152	0.0060	0.0038	0.0022
153	0.0062	0.0039	0.0022
154	0.0062	0.0040	0.0023
155	0.0064	0.0041	0.0023
156	0.0065	0.0041	0.0024
157	0.0067	0.0043	0.0024
158	0.0068	0.0043	0.0025
159	0.0070	0.0045	0.0025
160	0.0071	0.0045	0.0026
161	0.0074	0.0047	0.0027
162	0.0075	0.0048	0.0027
163	0.0077	0.0049	0.0028
164	0.0079	0.0050	0.0029
165	0.0082	0.0052	0.0030
166	0.0083	0.0053	0.0030
167	0.0087	0.0055	0.0032
168	0.0089	0.0057	0.0032
169	0.0093	0.0059	0.0034
170	0.0095	0.0061	0.0034
171	0.0100	0.0063	0.0036
172	0.0102	0.0065	0.0037
173	0.0108	0.0069	0.0039
174	0.0111	0.0070	0.0040
175	0.0117	0.0075	0.0042
176	0.0121	0.0077	0.0044
177	0.0129	0.0082	0.0047
178	0.0133	0.0085	0.0048
179	0.0144	0.0091	0.0052
180	0.0149	0.0095	0.0054
181	0.0163	0.0104	0.0059
182	0.0170	0.0109	0.0062
183	0.0189	0.0120	0.0069
184	0.0200	0.0127	0.0073
185	0.0327	0.0208	0.0119
186	0.0349	0.0222	0.0126
187	0.0404	0.0258	0.0147
188	0.0441	0.0281	0.0160
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0959	0.0300	0.0659
192	0.1392	0.0300	0.1092
193	0.6022	0.0300	0.5723
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0238	0.0136
197	0.0212	0.0135	0.0077
198	0.0179	0.0114	0.0065
199	0.0156	0.0099	0.0057
200	0.0138	0.0088	0.0050
201	0.0125	0.0079	0.0045
202	0.0114	0.0072	0.0041
203	0.0105	0.0067	0.0038
204	0.0097	0.0062	0.0035
205	0.0091	0.0058	0.0033
206	0.0085	0.0054	0.0031
207	0.0080	0.0051	0.0029
208	0.0076	0.0048	0.0028
209	0.0072	0.0046	0.0026
210	0.0069	0.0044	0.0025

211	0.0066	0.0042	0.0024
212	0.0063	0.0040	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0037	0.0021
215	0.0056	0.0036	0.0020
216	0.0054	0.0035	0.0020
217	0.0053	0.0034	0.0019
218	0.0052	0.0033	0.0019
219	0.0050	0.0032	0.0018
220	0.0049	0.0031	0.0018
221	0.0047	0.0030	0.0017
222	0.0046	0.0029	0.0017
223	0.0045	0.0028	0.0016
224	0.0044	0.0028	0.0016
225	0.0042	0.0027	0.0015
226	0.0041	0.0026	0.0015
227	0.0040	0.0026	0.0015
228	0.0040	0.0025	0.0014
229	0.0039	0.0025	0.0014
230	0.0038	0.0024	0.0014
231	0.0037	0.0024	0.0013
232	0.0036	0.0023	0.0013
233	0.0036	0.0023	0.0013
234	0.0035	0.0022	0.0013
235	0.0034	0.0022	0.0012
236	0.0034	0.0021	0.0012
237	0.0033	0.0021	0.0012
238	0.0032	0.0021	0.0012
239	0.0032	0.0020	0.0012
240	0.0031	0.0020	0.0011
241	0.0031	0.0020	0.0011
242	0.0030	0.0019	0.0011
243	0.0030	0.0019	0.0011
244	0.0029	0.0019	0.0011
245	0.0029	0.0018	0.0011
246	0.0029	0.0018	0.0010
247	0.0028	0.0018	0.0010
248	0.0028	0.0018	0.0010
249	0.0027	0.0017	0.0010
250	0.0027	0.0017	0.0010
251	0.0027	0.0017	0.0010
252	0.0026	0.0017	0.0010
253	0.0026	0.0016	0.0009
254	0.0026	0.0016	0.0009
255	0.0025	0.0016	0.0009
256	0.0025	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0024	0.0015	0.0009
259	0.0024	0.0015	0.0009
260	0.0024	0.0015	0.0009
261	0.0023	0.0015	0.0009
262	0.0023	0.0015	0.0008
263	0.0023	0.0015	0.0008
264	0.0023	0.0014	0.0008
265	0.0022	0.0014	0.0008
266	0.0022	0.0014	0.0008
267	0.0022	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0021	0.0014	0.0008

270	0.0021	0.0014	0.0008
271	0.0021	0.0013	0.0008
272	0.0021	0.0013	0.0008
273	0.0021	0.0013	0.0007
274	0.0020	0.0013	0.0007
275	0.0020	0.0013	0.0007
276	0.0020	0.0013	0.0007
277	0.0020	0.0013	0.0007
278	0.0020	0.0013	0.0007
279	0.0019	0.0012	0.0007
280	0.0019	0.0012	0.0007
281	0.0019	0.0012	0.0007
282	0.0019	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0018	0.0012	0.0007
286	0.0018	0.0012	0.0007
287	0.0018	0.0012	0.0007
288	0.0018	0.0011	0.0007

Total soil rain loss = 1.09(In)
Total effective rainfall = 1.37(In)
Peak flow rate in flood hydrograph = 21.50(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0000	0.00	Q	|	|	|	|
0+15	0.0001	0.01	Q	|	|	|	|
0+20	0.0003	0.03	Q	|	|	|	|
0+25	0.0006	0.05	Q	|	|	|	|
0+30	0.0011	0.06	Q	|	|	|	|
0+35	0.0015	0.07	Q	|	|	|	|
0+40	0.0020	0.07	Q	|	|	|	|
0+45	0.0026	0.08	Q	|	|	|	|
0+50	0.0032	0.08	Q	|	|	|	|
0+55	0.0038	0.09	Q	|	|	|	|
1+ 0	0.0044	0.09	Q	|	|	|	|
1+ 5	0.0050	0.09	Q	|	|	|	|
1+10	0.0057	0.10	Q	|	|	|	|
1+15	0.0064	0.10	Q	|	|	|	|
1+20	0.0070	0.10	Q	|	|	|	|
1+25	0.0077	0.10	Q	|	|	|	|
1+30	0.0085	0.10	Q	|	|	|	|
1+35	0.0092	0.10	Q	|	|	|	|
1+40	0.0099	0.11	Q	|	|	|	|
1+45	0.0106	0.11	Q	|	|	|	|
1+50	0.0114	0.11	Q	|	|	|	|
1+55	0.0122	0.11	Q	|	|	|	|
2+ 0	0.0129	0.11	Q	|	|	|	|
2+ 5	0.0137	0.11	Q	|	|	|	|

2+10	0.0145	0.11	Q				
2+15	0.0152	0.11	Q				
2+20	0.0160	0.11	Q				
2+25	0.0168	0.12	Q				
2+30	0.0176	0.12	Q				
2+35	0.0184	0.12	Q				
2+40	0.0192	0.12	Q				
2+45	0.0201	0.12	Q				
2+50	0.0209	0.12	Q				
2+55	0.0217	0.12	Q				
3+ 0	0.0226	0.12	Q				
3+ 5	0.0234	0.12	Q				
3+10	0.0242	0.12	Q				
3+15	0.0251	0.12	Q				
3+20	0.0259	0.12	Q				
3+25	0.0268	0.12	Q				
3+30	0.0277	0.13	Q				
3+35	0.0285	0.13	Q				
3+40	0.0294	0.13	Q				
3+45	0.0303	0.13	Q				
3+50	0.0311	0.13	Q				
3+55	0.0320	0.13	Q				
4+ 0	0.0329	0.13	Q				
4+ 5	0.0338	0.13	Q				
4+10	0.0347	0.13	Q				
4+15	0.0356	0.13	Q				
4+20	0.0365	0.13	Q				
4+25	0.0374	0.13	Q				
4+30	0.0383	0.13	Q				
4+35	0.0393	0.13	QV				
4+40	0.0402	0.13	QV				
4+45	0.0411	0.14	QV				
4+50	0.0421	0.14	QV				
4+55	0.0430	0.14	QV				
5+ 0	0.0439	0.14	QV				
5+ 5	0.0449	0.14	QV				
5+10	0.0459	0.14	QV				
5+15	0.0468	0.14	QV				
5+20	0.0478	0.14	QV				
5+25	0.0488	0.14	QV				
5+30	0.0497	0.14	QV				
5+35	0.0507	0.14	QV				
5+40	0.0517	0.14	QV				
5+45	0.0527	0.15	QV				
5+50	0.0537	0.15	QV				
5+55	0.0547	0.15	QV				
6+ 0	0.0558	0.15	QV				
6+ 5	0.0568	0.15	QV				
6+10	0.0578	0.15	QV				
6+15	0.0588	0.15	QV				
6+20	0.0599	0.15	QV				
6+25	0.0609	0.15	QV				
6+30	0.0620	0.15	QV				
6+35	0.0631	0.15	QV				
6+40	0.0641	0.16	QV				
6+45	0.0652	0.16	QV				
6+50	0.0663	0.16	QV				
6+55	0.0674	0.16	QV				
7+ 0	0.0685	0.16	QV				

7+ 5	0.0696	0.16	QV				
7+10	0.0707	0.16	QV				
7+15	0.0718	0.16	QV				
7+20	0.0730	0.16	QV				
7+25	0.0741	0.17	QV				
7+30	0.0752	0.17	QV				
7+35	0.0764	0.17	QV				
7+40	0.0776	0.17	QV				
7+45	0.0787	0.17	Q V				
7+50	0.0799	0.17	Q V				
7+55	0.0811	0.17	Q V				
8+ 0	0.0823	0.17	Q V				
8+ 5	0.0835	0.18	Q V				
8+10	0.0847	0.18	Q V				
8+15	0.0860	0.18	Q V				
8+20	0.0872	0.18	Q V				
8+25	0.0884	0.18	Q V				
8+30	0.0897	0.18	Q V				
8+35	0.0910	0.18	Q V				
8+40	0.0922	0.19	Q V				
8+45	0.0935	0.19	Q V				
8+50	0.0948	0.19	Q V				
8+55	0.0961	0.19	Q V				
9+ 0	0.0975	0.19	Q V				
9+ 5	0.0988	0.19	Q V				
9+10	0.1001	0.20	Q V				
9+15	0.1015	0.20	Q V				
9+20	0.1029	0.20	Q V				
9+25	0.1043	0.20	Q V				
9+30	0.1056	0.20	Q V				
9+35	0.1071	0.20	Q V				
9+40	0.1085	0.21	Q V				
9+45	0.1099	0.21	Q V				
9+50	0.1114	0.21	Q V				
9+55	0.1128	0.21	Q V				
10+ 0	0.1143	0.21	Q V				
10+ 5	0.1158	0.22	Q V				
10+10	0.1173	0.22	Q V				
10+15	0.1188	0.22	Q V				
10+20	0.1204	0.22	Q V				
10+25	0.1219	0.23	Q V				
10+30	0.1235	0.23	Q V				
10+35	0.1251	0.23	Q V				
10+40	0.1267	0.23	Q V				
10+45	0.1283	0.24	Q V				
10+50	0.1299	0.24	Q V				
10+55	0.1316	0.24	Q V				
11+ 0	0.1333	0.24	Q V				
11+ 5	0.1350	0.25	Q V				
11+10	0.1367	0.25	Q V				
11+15	0.1385	0.25	Q V				
11+20	0.1402	0.26	Q V				
11+25	0.1420	0.26	Q V				
11+30	0.1438	0.26	Q V				
11+35	0.1457	0.27	Q V				
11+40	0.1475	0.27	Q V				
11+45	0.1494	0.27	Q V				
11+50	0.1513	0.28	Q V				
11+55	0.1532	0.28	Q V				

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12+ 0       0.1552      0.29  Q  V      |          |          |          |
12+ 5       0.1572      0.29  Q   V     |          |          |          |
12+10       0.1592      0.29  Q   V     |          |          |          |
12+15       0.1613      0.30  Q   V     |          |          |          |
12+20       0.1634      0.30  Q   V     |          |          |          |
12+25       0.1655      0.31  Q   V     |          |          |          |
12+30       0.1676      0.31  Q   V     |          |          |          |
12+35       0.1698      0.32  Q   V     |          |          |          |
12+40       0.1720      0.32  Q   V     |          |          |          |
12+45       0.1742      0.33  Q   V     |          |          |          |
12+50       0.1765      0.33  Q   V     |          |          |          |
12+55       0.1788      0.34  Q   V     |          |          |          |
13+ 0       0.1812      0.34  Q   V     |          |          |          |
13+ 5       0.1836      0.35  Q   V     |          |          |          |
13+10       0.1860      0.36  Q   V     |          |          |          |
13+15       0.1885      0.36  Q   V     |          |          |          |
13+20       0.1911      0.37  Q   V     |          |          |          |
13+25       0.1937      0.38  Q   V     |          |          |          |
13+30       0.1963      0.39  Q    V    |          |          |          |
13+35       0.1991      0.39  Q    V    |          |          |          |
13+40       0.2018      0.40  Q    V    |          |          |          |
13+45       0.2047      0.41  Q    V    |          |          |          |
13+50       0.2076      0.42  Q    V    |          |          |          |
13+55       0.2106      0.43  Q    V    |          |          |          |
14+ 0       0.2136      0.44  Q    V    |          |          |          |
14+ 5       0.2168      0.46  Q    V    |          |          |          |
14+10       0.2200      0.47  Q    V    |          |          |          |
14+15       0.2233      0.48  Q    V    |          |          |          |
14+20       0.2267      0.50  Q    V    |          |          |          |
14+25       0.2303      0.51  Q    V    |          |          |          |
14+30       0.2339      0.53  Q     V   |          |          |          |
14+35       0.2377      0.55  Q     V   |          |          |          |
14+40       0.2416      0.57  Q     V   |          |          |          |
14+45       0.2456      0.59  Q     V   |          |          |          |
14+50       0.2498      0.61  Q     V   |          |          |          |
14+55       0.2542      0.64  Q     V   |          |          |          |
15+ 0       0.2588      0.66  Q     V   |          |          |          |
15+ 5       0.2636      0.69  Q     V   |          |          |          |
15+10       0.2686      0.73  Q     V   |          |          |          |
15+15       0.2739      0.77  |Q     V  |          |          |          |
15+20       0.2795      0.81  |Q     V  |          |          |          |
15+25       0.2854      0.87  |Q     V  |          |          |          |
15+30       0.2919      0.95  |Q     V  |          |          |          |
15+35       0.2992      1.06  |Q     V  |          |          |          |
15+40       0.3078      1.24  |Q     V  |          |          |          |
15+45       0.3178      1.46  |Q      V |          |          |          |
15+50       0.3297      1.73  | Q     V |          |          |          |
15+55       0.3443      2.11  | Q     V |          |          |          |
16+ 0       0.3638      2.83  |  Q     V|          |          |          |
16+ 5       0.3967      4.78  |     Q   V          |          |          |
16+10       0.4544      8.39  |         |Q         |          |          |
16+15       0.5426     12.80  |         |  V   Q   |          |          |
16+20       0.6822     20.27  |         |      V   |       Q  |          |
16+25       0.8302     21.50  |         |          |V      Q  |          |
16+30       0.9389     15.77  |         |          |Q  V      |          |
16+35       1.0171     11.37  |         |    Q     |     V    |          |
16+40       1.0770      8.69  |         |Q         |      V   |          |
16+45       1.1261      7.12  |        Q|          |       V  |          |
16+50       1.1666      5.89  |      Q  |          |        V |          |
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16+55       1.2011      5.00  |     Q   |          |         V         |
17+ 0       1.2307      4.30  |    Q    |          |         |V        |
17+ 5       1.2566      3.77  |    Q    |          |         | V       |
17+10       1.2801      3.40  |   Q     |          |         | V       |
17+15       1.3008      3.01  |   Q     |          |         |  V      |
17+20       1.3188      2.61  |  Q      |          |         |  V      |
17+25       1.3347      2.31  |  Q      |          |         |   V     |
17+30       1.3494      2.14  | Q       |          |         |   V     |
17+35       1.3628      1.94  | Q       |          |         |   V     |
17+40       1.3751      1.79  | Q       |          |         |    V    |
17+45       1.3862      1.61  | Q       |          |         |    V    |
17+50       1.3963      1.46  |Q        |          |         |    V    |
17+55       1.4058      1.38  |Q        |          |         |     V   |
18+ 0       1.4142      1.22  |Q        |          |         |     V   |
18+ 5       1.4221      1.15  |Q        |          |         |     V   |
18+10       1.4291      1.02  |Q        |          |         |     V   |
18+15       1.4354      0.91  |Q        |          |         |     V   |
18+20       1.4413      0.85  |Q        |          |         |      V  |
18+25       1.4462      0.71  Q         |          |         |      V  |
18+30       1.4509      0.68  Q         |          |         |      V  |
18+35       1.4556      0.68  Q         |          |         |      V  |
18+40       1.4603      0.68  Q         |          |         |      V  |
18+45       1.4649      0.67  Q         |          |         |      V  |
18+50       1.4693      0.64  Q         |          |         |      V  |
18+55       1.4735      0.62  Q         |          |         |      V  |
19+ 0       1.4772      0.53  Q         |          |         |      V  |
19+ 5       1.4804      0.46  Q         |          |         |       V |
19+10       1.4834      0.43  Q         |          |         |       V |
19+15       1.4858      0.35  Q         |          |         |       V |
19+20       1.4877      0.28  Q         |          |         |       V |
19+25       1.4896      0.27  Q         |          |         |       V |
19+30       1.4913      0.26  Q         |          |         |       V |
19+35       1.4931      0.25  Q         |          |         |       V |
19+40       1.4947      0.24  Q         |          |         |       V |
19+45       1.4964      0.24  Q         |          |         |       V |
19+50       1.4980      0.23  Q         |          |         |       V |
19+55       1.4995      0.23  Q         |          |         |       V |
20+ 0       1.5011      0.22  Q         |          |         |       V |
20+ 5       1.5026      0.22  Q         |          |         |       V |
20+10       1.5040      0.21  Q         |          |         |       V |
20+15       1.5055      0.21  Q         |          |         |       V |
20+20       1.5069      0.20  Q         |          |         |       V |
20+25       1.5082      0.20  Q         |          |         |       V |
20+30       1.5096      0.20  Q         |          |         |       V |
20+35       1.5109      0.19  Q         |          |         |       V |
20+40       1.5122      0.19  Q         |          |         |       V |
20+45       1.5135      0.19  Q         |          |         |       V |
20+50       1.5148      0.18  Q         |          |         |       V |
20+55       1.5160      0.18  Q         |          |         |       V |
21+ 0       1.5172      0.18  Q         |          |         |       V |
21+ 5       1.5184      0.17  Q         |          |         |       V |
21+10       1.5196      0.17  Q         |          |         |        V|
21+15       1.5208      0.17  Q         |          |         |        V|
21+20       1.5219      0.17  Q         |          |         |        V|
21+25       1.5230      0.16  Q         |          |         |        V|
21+30       1.5242      0.16  Q         |          |         |        V|
21+35       1.5253      0.16  Q         |          |         |        V|
21+40       1.5263      0.16  Q         |          |         |        V|
21+45       1.5274      0.16  Q         |          |         |        V|
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21+50	1.5285	0.15	Q	|	|	|	V|
21+55	1.5295	0.15	Q	|	|	|	V|
22+ 0	1.5305	0.15	Q	|	|	|	V|
22+ 5	1.5316	0.15	Q	|	|	|	V|
22+10	1.5326	0.15	Q	|	|	|	V|
22+15	1.5335	0.14	Q	|	|	|	V|
22+20	1.5345	0.14	Q	|	|	|	V|
22+25	1.5355	0.14	Q	|	|	|	V|
22+30	1.5364	0.14	Q	|	|	|	V|
22+35	1.5374	0.14	Q	|	|	|	V|
22+40	1.5383	0.14	Q	|	|	|	V|
22+45	1.5393	0.13	Q	|	|	|	V|
22+50	1.5402	0.13	Q	|	|	|	V|
22+55	1.5411	0.13	Q	|	|	|	V|
23+ 0	1.5420	0.13	Q	|	|	|	V|
23+ 5	1.5429	0.13	Q	|	|	|	V|
23+10	1.5437	0.13	Q	|	|	|	V|
23+15	1.5446	0.13	Q	|	|	|	V|
23+20	1.5455	0.12	Q	|	|	|	V|
23+25	1.5463	0.12	Q	|	|	|	V|
23+30	1.5471	0.12	Q	|	|	|	V|
23+35	1.5480	0.12	Q	|	|	|	V|
23+40	1.5488	0.12	Q	|	|	|	V|
23+45	1.5496	0.12	Q	|	|	|	V|
23+50	1.5504	0.12	Q	|	|	|	V|
23+55	1.5512	0.12	Q	|	|	|	V|
24+ 0	1.5520	0.12	Q	|	|	|	V|
24+ 5	1.5528	0.11	Q	|	|	|	V|
24+10	1.5536	0.11	Q	|	|	|	V|
24+15	1.5543	0.10	Q	|	|	|	V|
24+20	1.5548	0.08	Q	|	|	|	V|
24+25	1.5553	0.06	Q	|	|	|	V|
24+30	1.5556	0.05	Q	|	|	|	V|
24+35	1.5559	0.04	Q	|	|	|	V|
24+40	1.5562	0.04	Q	|	|	|	V|
24+45	1.5564	0.03	Q	|	|	|	V|
24+50	1.5566	0.03	Q	|	|	|	V|
24+55	1.5567	0.02	Q	|	|	|	V|
25+ 0	1.5569	0.02	Q	|	|	|	V|
25+ 5	1.5570	0.02	Q	|	|	|	V|
25+10	1.5571	0.02	Q	|	|	|	V|
25+15	1.5572	0.01	Q	|	|	|	V|
25+20	1.5573	0.01	Q	|	|	|	V|
25+25	1.5573	0.01	Q	|	|	|	V|
25+30	1.5574	0.01	Q	|	|	|	V|
25+35	1.5575	0.01	Q	|	|	|	V|
25+40	1.5575	0.01	Q	|	|	|	V|
25+45	1.5576	0.01	Q	|	|	|	V|
25+50	1.5576	0.01	Q	|	|	|	V|
25+55	1.5576	0.00	Q	|	|	|	V|
26+ 0	1.5577	0.00	Q	|	|	|	V|
26+ 5	1.5577	0.00	Q	|	|	|	V|
26+10	1.5577	0.00	Q	|	|	|	V|
26+15	1.5577	0.00	Q	|	|	|	V|
26+20	1.5577	0.00	Q	|	|	|	V|
26+25	1.5578	0.00	Q	|	|	|	V|
26+30	1.5578	0.00	Q	|	|	|	V|
26+35	1.5578	0.00	Q	|	|	|	V|
26+40	1.5578	0.00	Q	|	|	|	V|

```
   26+45       1.5578      0.00  Q         |          |         |        V|
   26+50       1.5578      0.00  Q         |          |         |        V|
   26+55       1.5578      0.00  Q         |          |         |        V|
   27+ 0       1.5578      0.00  Q         |          |         |        V|
   27+ 5       1.5578      0.00  Q         |          |         |        V|
   27+10       1.5578      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 6
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
13.80	1	1.27
Rainfall data for year 100		
13.80	6	1.84
Rainfall data for year 100		
13.80	24	2.45

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	13.80	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
13.80	1.000	62.0	80.6	2.41	0.362

Area-averaged catchment yield fraction, Y = 0.362
Area-averaged low loss fraction, Yb = 0.638
User entry of time of concentration = 0.670 (hours)
++
Watershed area = 13.80(Ac.)
Catchment Lag time = 0.536 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 15.5473
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.638 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.450(In)

Rainfall depth area reduction factors:
Using a total area of 13.80(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.450(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 166.89 (CFS))	
1	0.708	1.182
2	3.013	3.848
3	6.876	6.446
4	13.436	10.949
5	26.103	21.139
6	40.064	23.301
7	50.376	17.209
8	58.017	12.753
9	63.521	9.186
10	67.869	7.257
11	71.586	6.202
12	74.655	5.123
13	77.344	4.487
14	79.605	3.774

15	81.605	3.338
16	83.326	2.872
17	84.926	2.671
18	86.407	2.472
19	87.710	2.174
20	88.877	1.947
21	89.823	1.579
22	90.719	1.495
23	91.575	1.428
24	92.337	1.273
25	93.060	1.205
26	93.738	1.133
27	94.308	0.951
28	94.837	0.882
29	95.365	0.882
30	95.825	0.767
31	96.229	0.675
32	96.633	0.675
33	96.994	0.601
34	97.275	0.470
35	97.555	0.467
36	97.810	0.427
37	97.975	0.274
38	98.130	0.259
39	98.288	0.264
40	98.469	0.302
41	98.656	0.311
42	98.843	0.311
43	99.029	0.311
44	99.216	0.311
45	99.402	0.311
46	99.546	0.240
47	99.643	0.162
48	99.741	0.162
49	99.838	0.162
50	99.935	0.162
51	100.000	0.109

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7414	0.1392
3	0.8373	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0309	0.0549
7	1.0797	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2365	0.0349
12	1.2692	0.0327
13	1.2904	0.0212
14	1.3104	0.0200
15	1.3293	0.0189
16	1.3472	0.0179
17	1.3643	0.0170
18	1.3805	0.0163
19	1.3961	0.0156

20	1.4110	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4526	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4900	0.0121
27	1.5017	0.0117
28	1.5131	0.0114
29	1.5241	0.0111
30	1.5349	0.0108
31	1.5453	0.0105
32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6918	0.0074
49	1.6990	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7838	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8452	0.0052
74	1.8504	0.0052
75	1.8555	0.0051
76	1.8606	0.0051
77	1.8656	0.0050
78	1.8706	0.0050

79	1.8755	0.0049
80	1.8804	0.0049
81	1.8852	0.0048
82	1.8900	0.0048
83	1.8948	0.0047
84	1.8994	0.0047
85	1.9041	0.0046
86	1.9087	0.0046
87	1.9133	0.0046
88	1.9178	0.0045
89	1.9223	0.0045
90	1.9267	0.0044
91	1.9311	0.0044
92	1.9355	0.0044
93	1.9398	0.0043
94	1.9441	0.0043
95	1.9483	0.0043
96	1.9526	0.0042
97	1.9568	0.0042
98	1.9609	0.0041
99	1.9650	0.0041
100	1.9691	0.0041
101	1.9732	0.0041
102	1.9772	0.0040
103	1.9812	0.0040
104	1.9851	0.0040
105	1.9890	0.0039
106	1.9929	0.0039
107	1.9968	0.0039
108	2.0007	0.0038
109	2.0045	0.0038
110	2.0083	0.0038
111	2.0120	0.0038
112	2.0157	0.0037
113	2.0194	0.0037
114	2.0231	0.0037
115	2.0268	0.0037
116	2.0304	0.0036
117	2.0340	0.0036
118	2.0376	0.0036
119	2.0411	0.0036
120	2.0447	0.0035
121	2.0482	0.0035
122	2.0517	0.0035
123	2.0551	0.0035
124	2.0586	0.0034
125	2.0620	0.0034
126	2.0654	0.0034
127	2.0688	0.0034
128	2.0721	0.0034
129	2.0754	0.0033
130	2.0788	0.0033
131	2.0821	0.0033
132	2.0853	0.0033
133	2.0886	0.0033
134	2.0918	0.0032
135	2.0950	0.0032
136	2.0982	0.0032
137	2.1014	0.0032

138	2.1046	0.0032
139	2.1077	0.0031
140	2.1108	0.0031
141	2.1139	0.0031
142	2.1170	0.0031
143	2.1201	0.0031
144	2.1231	0.0031
145	2.1262	0.0030
146	2.1292	0.0030
147	2.1322	0.0030
148	2.1352	0.0030
149	2.1382	0.0030
150	2.1411	0.0030
151	2.1441	0.0029
152	2.1470	0.0029
153	2.1499	0.0029
154	2.1528	0.0029
155	2.1557	0.0029
156	2.1585	0.0029
157	2.1614	0.0029
158	2.1642	0.0028
159	2.1670	0.0028
160	2.1699	0.0028
161	2.1726	0.0028
162	2.1754	0.0028
163	2.1782	0.0028
164	2.1809	0.0028
165	2.1837	0.0027
166	2.1864	0.0027
167	2.1891	0.0027
168	2.1918	0.0027
169	2.1945	0.0027
170	2.1972	0.0027
171	2.1999	0.0027
172	2.2025	0.0027
173	2.2051	0.0026
174	2.2078	0.0026
175	2.2104	0.0026
176	2.2130	0.0026
177	2.2156	0.0026
178	2.2182	0.0026
179	2.2207	0.0026
180	2.2233	0.0026
181	2.2258	0.0025
182	2.2284	0.0025
183	2.2309	0.0025
184	2.2334	0.0025
185	2.2359	0.0025
186	2.2384	0.0025
187	2.2409	0.0025
188	2.2434	0.0025
189	2.2458	0.0025
190	2.2483	0.0024
191	2.2507	0.0024
192	2.2531	0.0024
193	2.2555	0.0024
194	2.2580	0.0024
195	2.2604	0.0024
196	2.2627	0.0024

197	2.2651	0.0024
198	2.2675	0.0024
199	2.2699	0.0024
200	2.2722	0.0024
201	2.2745	0.0023
202	2.2769	0.0023
203	2.2792	0.0023
204	2.2815	0.0023
205	2.2838	0.0023
206	2.2861	0.0023
207	2.2884	0.0023
208	2.2907	0.0023
209	2.2930	0.0023
210	2.2952	0.0023
211	2.2975	0.0023
212	2.2997	0.0022
213	2.3020	0.0022
214	2.3042	0.0022
215	2.3064	0.0022
216	2.3086	0.0022
217	2.3108	0.0022
218	2.3130	0.0022
219	2.3152	0.0022
220	2.3174	0.0022
221	2.3196	0.0022
222	2.3217	0.0022
223	2.3239	0.0022
224	2.3260	0.0021
225	2.3282	0.0021
226	2.3303	0.0021
227	2.3324	0.0021
228	2.3345	0.0021
229	2.3367	0.0021
230	2.3388	0.0021
231	2.3409	0.0021
232	2.3429	0.0021
233	2.3450	0.0021
234	2.3471	0.0021
235	2.3492	0.0021
236	2.3512	0.0021
237	2.3533	0.0021
238	2.3553	0.0020
239	2.3574	0.0020
240	2.3594	0.0020
241	2.3614	0.0020
242	2.3635	0.0020
243	2.3655	0.0020
244	2.3675	0.0020
245	2.3695	0.0020
246	2.3715	0.0020
247	2.3735	0.0020
248	2.3754	0.0020
249	2.3774	0.0020
250	2.3794	0.0020
251	2.3814	0.0020
252	2.3833	0.0020
253	2.3853	0.0020
254	2.3872	0.0019
255	2.3891	0.0019

256	2.3911	0.0019
257	2.3930	0.0019
258	2.3949	0.0019
259	2.3968	0.0019
260	2.3987	0.0019
261	2.4006	0.0019
262	2.4025	0.0019
263	2.4044	0.0019
264	2.4063	0.0019
265	2.4082	0.0019
266	2.4101	0.0019
267	2.4119	0.0019
268	2.4138	0.0019
269	2.4157	0.0019
270	2.4175	0.0019
271	2.4194	0.0018
272	2.4212	0.0018
273	2.4230	0.0018
274	2.4249	0.0018
275	2.4267	0.0018
276	2.4285	0.0018
277	2.4303	0.0018
278	2.4321	0.0018
279	2.4339	0.0018
280	2.4357	0.0018
281	2.4375	0.0018
282	2.4393	0.0018
283	2.4411	0.0018
284	2.4429	0.0018
285	2.4447	0.0018
286	2.4464	0.0018
287	2.4482	0.0018
288	2.4500	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0011	0.0006
2	0.0018	0.0011	0.0006
3	0.0018	0.0011	0.0006
4	0.0018	0.0011	0.0006
5	0.0018	0.0011	0.0006
6	0.0018	0.0011	0.0006
7	0.0018	0.0012	0.0007
8	0.0018	0.0012	0.0007
9	0.0018	0.0012	0.0007
10	0.0018	0.0012	0.0007
11	0.0018	0.0012	0.0007
12	0.0018	0.0012	0.0007
13	0.0019	0.0012	0.0007
14	0.0019	0.0012	0.0007
15	0.0019	0.0012	0.0007
16	0.0019	0.0012	0.0007
17	0.0019	0.0012	0.0007
18	0.0019	0.0012	0.0007
19	0.0019	0.0012	0.0007
20	0.0019	0.0012	0.0007
21	0.0019	0.0012	0.0007

22	0.0019	0.0012	0.0007
23	0.0019	0.0012	0.0007
24	0.0019	0.0012	0.0007
25	0.0020	0.0012	0.0007
26	0.0020	0.0013	0.0007
27	0.0020	0.0013	0.0007
28	0.0020	0.0013	0.0007
29	0.0020	0.0013	0.0007
30	0.0020	0.0013	0.0007
31	0.0020	0.0013	0.0007
32	0.0020	0.0013	0.0007
33	0.0020	0.0013	0.0007
34	0.0020	0.0013	0.0007
35	0.0021	0.0013	0.0007
36	0.0021	0.0013	0.0007
37	0.0021	0.0013	0.0008
38	0.0021	0.0013	0.0008
39	0.0021	0.0013	0.0008
40	0.0021	0.0013	0.0008
41	0.0021	0.0014	0.0008
42	0.0021	0.0014	0.0008
43	0.0021	0.0014	0.0008
44	0.0021	0.0014	0.0008
45	0.0022	0.0014	0.0008
46	0.0022	0.0014	0.0008
47	0.0022	0.0014	0.0008
48	0.0022	0.0014	0.0008
49	0.0022	0.0014	0.0008
50	0.0022	0.0014	0.0008
51	0.0022	0.0014	0.0008
52	0.0022	0.0014	0.0008
53	0.0023	0.0014	0.0008
54	0.0023	0.0014	0.0008
55	0.0023	0.0015	0.0008
56	0.0023	0.0015	0.0008
57	0.0023	0.0015	0.0008
58	0.0023	0.0015	0.0008
59	0.0023	0.0015	0.0008
60	0.0024	0.0015	0.0009
61	0.0024	0.0015	0.0009
62	0.0024	0.0015	0.0009
63	0.0024	0.0015	0.0009
64	0.0024	0.0015	0.0009
65	0.0024	0.0016	0.0009
66	0.0024	0.0016	0.0009
67	0.0025	0.0016	0.0009
68	0.0025	0.0016	0.0009
69	0.0025	0.0016	0.0009
70	0.0025	0.0016	0.0009
71	0.0025	0.0016	0.0009
72	0.0025	0.0016	0.0009
73	0.0026	0.0016	0.0009
74	0.0026	0.0016	0.0009
75	0.0026	0.0017	0.0009
76	0.0026	0.0017	0.0009
77	0.0026	0.0017	0.0009
78	0.0026	0.0017	0.0010
79	0.0027	0.0017	0.0010
80	0.0027	0.0017	0.0010

81	0.0027	0.0017	0.0010
82	0.0027	0.0017	0.0010
83	0.0027	0.0017	0.0010
84	0.0028	0.0018	0.0010
85	0.0028	0.0018	0.0010
86	0.0028	0.0018	0.0010
87	0.0028	0.0018	0.0010
88	0.0028	0.0018	0.0010
89	0.0029	0.0018	0.0010
90	0.0029	0.0018	0.0010
91	0.0029	0.0019	0.0011
92	0.0029	0.0019	0.0011
93	0.0030	0.0019	0.0011
94	0.0030	0.0019	0.0011
95	0.0030	0.0019	0.0011
96	0.0030	0.0019	0.0011
97	0.0031	0.0019	0.0011
98	0.0031	0.0020	0.0011
99	0.0031	0.0020	0.0011
100	0.0031	0.0020	0.0011
101	0.0032	0.0020	0.0011
102	0.0032	0.0020	0.0011
103	0.0032	0.0021	0.0012
104	0.0032	0.0021	0.0012
105	0.0033	0.0021	0.0012
106	0.0033	0.0021	0.0012
107	0.0033	0.0021	0.0012
108	0.0034	0.0021	0.0012
109	0.0034	0.0022	0.0012
110	0.0034	0.0022	0.0012
111	0.0035	0.0022	0.0013
112	0.0035	0.0022	0.0013
113	0.0035	0.0023	0.0013
114	0.0036	0.0023	0.0013
115	0.0036	0.0023	0.0013
116	0.0036	0.0023	0.0013
117	0.0037	0.0023	0.0013
118	0.0037	0.0024	0.0013
119	0.0038	0.0024	0.0014
120	0.0038	0.0024	0.0014
121	0.0038	0.0025	0.0014
122	0.0039	0.0025	0.0014
123	0.0039	0.0025	0.0014
124	0.0040	0.0025	0.0014
125	0.0040	0.0026	0.0015
126	0.0041	0.0026	0.0015
127	0.0041	0.0026	0.0015
128	0.0041	0.0026	0.0015
129	0.0042	0.0027	0.0015
130	0.0043	0.0027	0.0015
131	0.0043	0.0028	0.0016
132	0.0044	0.0028	0.0016
133	0.0044	0.0028	0.0016
134	0.0045	0.0029	0.0016
135	0.0046	0.0029	0.0016
136	0.0046	0.0029	0.0017
137	0.0047	0.0030	0.0017
138	0.0047	0.0030	0.0017
139	0.0048	0.0031	0.0017

140	0.0049	0.0031	0.0018
141	0.0050	0.0032	0.0018
142	0.0050	0.0032	0.0018
143	0.0051	0.0033	0.0019
144	0.0052	0.0033	0.0019
145	0.0053	0.0034	0.0019
146	0.0054	0.0034	0.0019
147	0.0055	0.0035	0.0020
148	0.0056	0.0036	0.0020
149	0.0057	0.0036	0.0021
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0021
152	0.0060	0.0038	0.0022
153	0.0062	0.0039	0.0022
154	0.0062	0.0040	0.0023
155	0.0064	0.0041	0.0023
156	0.0065	0.0042	0.0024
157	0.0067	0.0043	0.0024
158	0.0068	0.0043	0.0025
159	0.0070	0.0045	0.0025
160	0.0071	0.0045	0.0026
161	0.0074	0.0047	0.0027
162	0.0075	0.0048	0.0027
163	0.0077	0.0049	0.0028
164	0.0079	0.0050	0.0029
165	0.0082	0.0052	0.0030
166	0.0083	0.0053	0.0030
167	0.0087	0.0055	0.0031
168	0.0089	0.0057	0.0032
169	0.0093	0.0059	0.0034
170	0.0095	0.0061	0.0034
171	0.0100	0.0064	0.0036
172	0.0102	0.0065	0.0037
173	0.0108	0.0069	0.0039
174	0.0111	0.0071	0.0040
175	0.0117	0.0075	0.0042
176	0.0121	0.0077	0.0044
177	0.0129	0.0082	0.0047
178	0.0133	0.0085	0.0048
179	0.0144	0.0092	0.0052
180	0.0149	0.0095	0.0054
181	0.0163	0.0104	0.0059
182	0.0170	0.0109	0.0062
183	0.0189	0.0121	0.0068
184	0.0200	0.0128	0.0072
185	0.0327	0.0209	0.0118
186	0.0349	0.0223	0.0126
187	0.0404	0.0258	0.0146
188	0.0441	0.0282	0.0160
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0959	0.0300	0.0659
192	0.1392	0.0300	0.1092
193	0.6022	0.0300	0.5723
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0239	0.0135
197	0.0212	0.0136	0.0077
198	0.0179	0.0114	0.0065

199	0.0156	0.0099	0.0056
200	0.0138	0.0088	0.0050
201	0.0125	0.0080	0.0045
202	0.0114	0.0073	0.0041
203	0.0105	0.0067	0.0038
204	0.0097	0.0062	0.0035
205	0.0091	0.0058	0.0033
206	0.0085	0.0054	0.0031
207	0.0080	0.0051	0.0029
208	0.0076	0.0049	0.0028
209	0.0072	0.0046	0.0026
210	0.0069	0.0044	0.0025
211	0.0066	0.0042	0.0024
212	0.0063	0.0040	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0037	0.0021
215	0.0056	0.0036	0.0020
216	0.0054	0.0035	0.0020
217	0.0052	0.0034	0.0019
218	0.0051	0.0032	0.0018
219	0.0049	0.0031	0.0018
220	0.0048	0.0031	0.0017
221	0.0046	0.0030	0.0017
222	0.0045	0.0029	0.0016
223	0.0044	0.0028	0.0016
224	0.0043	0.0027	0.0016
225	0.0042	0.0027	0.0015
226	0.0041	0.0026	0.0015
227	0.0040	0.0025	0.0014
228	0.0039	0.0025	0.0014
229	0.0038	0.0024	0.0014
230	0.0037	0.0024	0.0013
231	0.0037	0.0023	0.0013
232	0.0036	0.0023	0.0013
233	0.0035	0.0022	0.0013
234	0.0034	0.0022	0.0012
235	0.0034	0.0022	0.0012
236	0.0033	0.0021	0.0012
237	0.0033	0.0021	0.0012
238	0.0032	0.0020	0.0012
239	0.0031	0.0020	0.0011
240	0.0031	0.0020	0.0011
241	0.0030	0.0019	0.0011
242	0.0030	0.0019	0.0011
243	0.0029	0.0019	0.0011
244	0.0029	0.0018	0.0010
245	0.0029	0.0018	0.0010
246	0.0028	0.0018	0.0010
247	0.0028	0.0018	0.0010
248	0.0027	0.0017	0.0010
249	0.0027	0.0017	0.0010
250	0.0027	0.0017	0.0010
251	0.0026	0.0017	0.0009
252	0.0026	0.0016	0.0009
253	0.0025	0.0016	0.0009
254	0.0025	0.0016	0.0009
255	0.0025	0.0016	0.0009
256	0.0024	0.0016	0.0009
257	0.0024	0.0015	0.0009

258	0.0024	0.0015	0.0009
259	0.0024	0.0015	0.0009
260	0.0023	0.0015	0.0008
261	0.0023	0.0015	0.0008
262	0.0023	0.0015	0.0008
263	0.0023	0.0014	0.0008
264	0.0022	0.0014	0.0008
265	0.0022	0.0014	0.0008
266	0.0022	0.0014	0.0008
267	0.0022	0.0014	0.0008
268	0.0021	0.0014	0.0008
269	0.0021	0.0013	0.0008
270	0.0021	0.0013	0.0008
271	0.0021	0.0013	0.0007
272	0.0020	0.0013	0.0007
273	0.0020	0.0013	0.0007
274	0.0020	0.0013	0.0007
275	0.0020	0.0013	0.0007
276	0.0020	0.0013	0.0007
277	0.0020	0.0012	0.0007
278	0.0019	0.0012	0.0007
279	0.0019	0.0012	0.0007
280	0.0019	0.0012	0.0007
281	0.0019	0.0012	0.0007
282	0.0019	0.0012	0.0007
283	0.0018	0.0012	0.0007
284	0.0018	0.0012	0.0007
285	0.0018	0.0012	0.0007
286	0.0018	0.0011	0.0007
287	0.0018	0.0011	0.0006
288	0.0018	0.0011	0.0006

Total soil rain loss = 1.08(In)
Total effective rainfall = 1.37(In)
Peak flow rate in flood hydrograph = 18.27(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0000	0.00	Q	|	|	|	|
0+15	0.0001	0.01	Q	|	|	|	|
0+20	0.0002	0.01	Q	|	|	|	|
0+25	0.0004	0.03	Q	|	|	|	|
0+30	0.0007	0.04	Q	|	|	|	|
0+35	0.0010	0.05	Q	|	|	|	|
0+40	0.0015	0.06	Q	|	|	|	|
0+45	0.0019	0.07	Q	|	|	|	|
0+50	0.0024	0.07	Q	|	|	|	|
0+55	0.0030	0.08	Q	|	|	|	|
1+ 0	0.0035	0.08	Q	|	|	|	|
1+ 5	0.0041	0.08	Q	|	|	|	|

1+10	0.0047	0.09	Q				
1+15	0.0053	0.09	Q				
1+20	0.0060	0.09	Q				
1+25	0.0066	0.09	Q				
1+30	0.0073	0.10	Q				
1+35	0.0079	0.10	Q				
1+40	0.0086	0.10	Q				
1+45	0.0093	0.10	Q				
1+50	0.0100	0.10	Q				
1+55	0.0107	0.10	Q				
2+ 0	0.0114	0.10	Q				
2+ 5	0.0122	0.11	Q				
2+10	0.0129	0.11	Q				
2+15	0.0137	0.11	Q				
2+20	0.0144	0.11	Q				
2+25	0.0152	0.11	Q				
2+30	0.0159	0.11	Q				
2+35	0.0167	0.11	Q				
2+40	0.0175	0.11	Q				
2+45	0.0183	0.11	Q				
2+50	0.0191	0.12	Q				
2+55	0.0199	0.12	Q				
3+ 0	0.0207	0.12	Q				
3+ 5	0.0215	0.12	Q				
3+10	0.0223	0.12	Q				
3+15	0.0231	0.12	Q				
3+20	0.0239	0.12	Q				
3+25	0.0248	0.12	Q				
3+30	0.0256	0.12	Q				
3+35	0.0264	0.12	Q				
3+40	0.0273	0.12	Q				
3+45	0.0281	0.12	Q				
3+50	0.0290	0.12	Q				
3+55	0.0299	0.13	Q				
4+ 0	0.0307	0.13	Q				
4+ 5	0.0316	0.13	Q				
4+10	0.0325	0.13	Q				
4+15	0.0334	0.13	Q				
4+20	0.0343	0.13	Q				
4+25	0.0351	0.13	Q				
4+30	0.0360	0.13	Q				
4+35	0.0369	0.13	Q				
4+40	0.0379	0.13	Q				
4+45	0.0388	0.13	Q				
4+50	0.0397	0.13	QV				
4+55	0.0406	0.13	QV				
5+ 0	0.0415	0.13	QV				
5+ 5	0.0425	0.14	QV				
5+10	0.0434	0.14	QV				
5+15	0.0444	0.14	QV				
5+20	0.0453	0.14	QV				
5+25	0.0463	0.14	QV				
5+30	0.0472	0.14	QV				
5+35	0.0482	0.14	QV				
5+40	0.0492	0.14	QV				
5+45	0.0501	0.14	QV				
5+50	0.0511	0.14	QV				
5+55	0.0521	0.14	QV				
6+ 0	0.0531	0.14	QV				

6+ 5	0.0541	0.15	QV				
6+10	0.0551	0.15	QV				
6+15	0.0561	0.15	QV				
6+20	0.0571	0.15	QV				
6+25	0.0582	0.15	QV				
6+30	0.0592	0.15	QV				
6+35	0.0602	0.15	QV				
6+40	0.0613	0.15	QV				
6+45	0.0623	0.15	QV				
6+50	0.0634	0.15	QV				
6+55	0.0645	0.16	QV				
7+ 0	0.0655	0.16	QV				
7+ 5	0.0666	0.16	QV				
7+10	0.0677	0.16	QV				
7+15	0.0688	0.16	QV				
7+20	0.0699	0.16	QV				
7+25	0.0710	0.16	QV				
7+30	0.0722	0.16	QV				
7+35	0.0733	0.16	QV				
7+40	0.0744	0.17	QV				
7+45	0.0756	0.17	QV				
7+50	0.0767	0.17	QV				
7+55	0.0779	0.17	QV				
8+ 0	0.0791	0.17	Q V				
8+ 5	0.0802	0.17	Q V				
8+10	0.0814	0.17	Q V				
8+15	0.0826	0.17	Q V				
8+20	0.0838	0.18	Q V				
8+25	0.0850	0.18	Q V				
8+30	0.0863	0.18	Q V				
8+35	0.0875	0.18	Q V				
8+40	0.0888	0.18	Q V				
8+45	0.0900	0.18	Q V				
8+50	0.0913	0.18	Q V				
8+55	0.0926	0.19	Q V				
9+ 0	0.0938	0.19	Q V				
9+ 5	0.0951	0.19	Q V				
9+10	0.0965	0.19	Q V				
9+15	0.0978	0.19	Q V				
9+20	0.0991	0.19	Q V				
9+25	0.1005	0.20	Q V				
9+30	0.1018	0.20	Q V				
9+35	0.1032	0.20	Q V				
9+40	0.1046	0.20	Q V				
9+45	0.1060	0.20	Q V				
9+50	0.1074	0.20	Q V				
9+55	0.1088	0.21	Q V				
10+ 0	0.1102	0.21	Q V				
10+ 5	0.1117	0.21	Q V				
10+10	0.1132	0.21	Q V				
10+15	0.1146	0.22	Q V				
10+20	0.1161	0.22	Q V				
10+25	0.1177	0.22	Q V				
10+30	0.1192	0.22	Q V				
10+35	0.1207	0.22	Q V				
10+40	0.1223	0.23	Q V				
10+45	0.1239	0.23	Q V				
10+50	0.1255	0.23	Q V				
10+55	0.1271	0.23	Q V				

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11+ 0       0.1287      0.24  Q  V      |          |          |          |
11+ 5       0.1304      0.24  Q  V      |          |          |          |
11+10       0.1320      0.24  Q  V      |          |          |          |
11+15       0.1337      0.25  Q  V      |          |          |          |
11+20       0.1354      0.25  Q  V      |          |          |          |
11+25       0.1372      0.25  Q  V      |          |          |          |
11+30       0.1389      0.25  Q  V      |          |          |          |
11+35       0.1407      0.26  Q  V      |          |          |          |
11+40       0.1425      0.26  Q  V      |          |          |          |
11+45       0.1443      0.26  Q  V      |          |          |          |
11+50       0.1462      0.27  Q  V      |          |          |          |
11+55       0.1481      0.27  Q  V      |          |          |          |
12+ 0       0.1500      0.28  Q  V      |          |          |          |
12+ 5       0.1519      0.28  Q  V      |          |          |          |
12+10       0.1538      0.28  Q  V      |          |          |          |
12+15       0.1558      0.29  Q  V      |          |          |          |
12+20       0.1578      0.29  Q   V     |          |          |          |
12+25       0.1599      0.30  Q   V     |          |          |          |
12+30       0.1620      0.30  Q   V     |          |          |          |
12+35       0.1641      0.31  Q   V     |          |          |          |
12+40       0.1662      0.31  Q   V     |          |          |          |
12+45       0.1684      0.32  Q   V     |          |          |          |
12+50       0.1706      0.32  Q   V     |          |          |          |
12+55       0.1729      0.33  Q   V     |          |          |          |
13+ 0       0.1752      0.33  Q   V     |          |          |          |
13+ 5       0.1775      0.34  Q   V     |          |          |          |
13+10       0.1799      0.35  Q   V     |          |          |          |
13+15       0.1823      0.35  Q   V     |          |          |          |
13+20       0.1848      0.36  Q   V     |          |          |          |
13+25       0.1873      0.37  Q   V     |          |          |          |
13+30       0.1899      0.37  Q   V     |          |          |          |
13+35       0.1926      0.38  Q   V     |          |          |          |
13+40       0.1952      0.39  Q   V     |          |          |          |
13+45       0.1980      0.40  Q    V    |          |          |          |
13+50       0.2008      0.41  Q    V    |          |          |          |
13+55       0.2037      0.42  Q    V    |          |          |          |
14+ 0       0.2067      0.43  Q    V    |          |          |          |
14+ 5       0.2097      0.44  Q    V    |          |          |          |
14+10       0.2128      0.45  Q    V    |          |          |          |
14+15       0.2160      0.46  Q    V    |          |          |          |
14+20       0.2193      0.48  Q    V    |          |          |          |
14+25       0.2227      0.49  Q    V    |          |          |          |
14+30       0.2262      0.51 |Q   V     |          |          |          |
14+35       0.2298      0.52 |Q   V     |          |          |          |
14+40       0.2335      0.54 |Q   V     |          |          |          |
14+45       0.2373      0.56 |Q    V    |          |          |          |
14+50       0.2413      0.58 |Q    V    |          |          |          |
14+55       0.2455      0.60 |Q    V    |          |          |          |
15+ 0       0.2498      0.63 |Q    V    |          |          |          |
15+ 5       0.2543      0.65 |Q    V    |          |          |          |
15+10       0.2590      0.68 |Q    V    |          |          |          |
15+15       0.2640      0.72 |Q    V    |          |          |          |
15+20       0.2692      0.76 |Q    V    |          |          |          |
15+25       0.2747      0.80 |Q     V   |          |          |          |
15+30       0.2807      0.87 |Q     V   |          |          |          |
15+35       0.2872      0.95 |Q     V   |          |          |          |
15+40       0.2945      1.06 | Q    V   |          |          |          |
15+45       0.3030      1.23 | Q    V   |          |          |          |
15+50       0.3131      1.46 | Q    V   |          |          |          |
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15+55	0.3253	1.77	Q V				
16+ 0	0.3409	2.27	Q V				
16+ 5	0.3657	3.60	Q V				
16+10	0.4063	5.89	VQ				
16+15	0.4642	8.41	V Q				
16+20	0.5467	11.98	V	Q			
16+25	0.6680	17.62	V			Q	
16+30	0.7939	18.27	V			Q	
16+35	0.8924	14.31	V Q				
16+40	0.9690	11.11	Q V				
16+45	1.0279	8.55	Q	V			
16+50	1.0761	7.00	Q	V			
16+55	1.1176	6.03	Q	V			
17+ 0	1.1531	5.15	Q	V			
17+ 5	1.1845	4.55	Q	V			
17+10	1.2118	3.97	Q	V			
17+15	1.2363	3.56	Q	V			
17+20	1.2582	3.17	Q	V			
17+25	1.2784	2.94	Q	V			
17+30	1.2971	2.71	Q	V			
17+35	1.3139	2.45	Q	V			
17+40	1.3292	2.22	Q	V			
17+45	1.3426	1.95	Q	V			
17+50	1.3552	1.83	Q	V			
17+55	1.3672	1.73	Q	V			
18+ 0	1.3782	1.60	Q	V			
18+ 5	1.3885	1.51	Q	V			
18+10	1.3983	1.41	Q	V			
18+15	1.4070	1.27	Q	V			
18+20	1.4152	1.19	Q	V			
18+25	1.4232	1.15	Q	V			
18+30	1.4304	1.05	Q	V			
18+35	1.4371	0.97	Q	V			
18+40	1.4436	0.93	Q	V			
18+45	1.4495	0.86	Q	V			
18+50	1.4547	0.76	Q	V			
18+55	1.4598	0.73	Q	V			
19+ 0	1.4644	0.68	Q	V			
19+ 5	1.4684	0.58	Q	V			
19+10	1.4722	0.56	Q	V			
19+15	1.4760	0.55	Q	V			
19+20	1.4799	0.56	Q	V			
19+25	1.4837	0.56	Q	V			
19+30	1.4875	0.55	Q	V			
19+35	1.4912	0.54	Q	V			
19+40	1.4947	0.52	Q	V			
19+45	1.4982	0.50	Q	V			
19+50	1.5013	0.44	Q	V			
19+55	1.5039	0.39	Q	V			
20+ 0	1.5065	0.38	Q	V			
20+ 5	1.5090	0.36	Q	V			
20+10	1.5114	0.34	Q	V			
20+15	1.5134	0.30	Q	V			
20+20	1.5150	0.23	Q	V			
20+25	1.5165	0.22	Q	V			
20+30	1.5179	0.21	Q	V			
20+35	1.5194	0.21	Q	V			
20+40	1.5207	0.20	Q	V			
20+45	1.5221	0.20	Q	V			

20+50	1.5234	0.19	Q	|	|	|	V |
20+55	1.5247	0.19	Q	|	|	|	V |
21+ 0	1.5260	0.19	Q	|	|	|	V |
21+ 5	1.5273	0.18	Q	|	|	|	V |
21+10	1.5285	0.18	Q	|	|	|	V |
21+15	1.5297	0.18	Q	|	|	|	V |
21+20	1.5309	0.17	Q	|	|	|	V|
21+25	1.5321	0.17	Q	|	|	|	V|
21+30	1.5332	0.17	Q	|	|	|	V|
21+35	1.5344	0.17	Q	|	|	|	V|
21+40	1.5355	0.16	Q	|	|	|	V|
21+45	1.5366	0.16	Q	|	|	|	V|
21+50	1.5377	0.16	Q	|	|	|	V|
21+55	1.5387	0.16	Q	|	|	|	V|
22+ 0	1.5398	0.15	Q	|	|	|	V|
22+ 5	1.5408	0.15	Q	|	|	|	V|
22+10	1.5419	0.15	Q	|	|	|	V|
22+15	1.5429	0.15	Q	|	|	|	V|
22+20	1.5439	0.15	Q	|	|	|	V|
22+25	1.5449	0.14	Q	|	|	|	V|
22+30	1.5459	0.14	Q	|	|	|	V|
22+35	1.5468	0.14	Q	|	|	|	V|
22+40	1.5478	0.14	Q	|	|	|	V|
22+45	1.5487	0.14	Q	|	|	|	V|
22+50	1.5497	0.14	Q	|	|	|	V|
22+55	1.5506	0.13	Q	|	|	|	V|
23+ 0	1.5515	0.13	Q	|	|	|	V|
23+ 5	1.5524	0.13	Q	|	|	|	V|
23+10	1.5533	0.13	Q	|	|	|	V|
23+15	1.5542	0.13	Q	|	|	|	V|
23+20	1.5551	0.13	Q	|	|	|	V|
23+25	1.5559	0.13	Q	|	|	|	V|
23+30	1.5568	0.12	Q	|	|	|	V|
23+35	1.5576	0.12	Q	|	|	|	V|
23+40	1.5585	0.12	Q	|	|	|	V|
23+45	1.5593	0.12	Q	|	|	|	V|
23+50	1.5601	0.12	Q	|	|	|	V|
23+55	1.5609	0.12	Q	|	|	|	V|
24+ 0	1.5617	0.12	Q	|	|	|	V|
24+ 5	1.5625	0.12	Q	|	|	|	V|
24+10	1.5633	0.11	Q	|	|	|	V|
24+15	1.5640	0.11	Q	|	|	|	V|
24+20	1.5647	0.10	Q	|	|	|	V|
24+25	1.5653	0.08	Q	|	|	|	V|
24+30	1.5658	0.07	Q	|	|	|	V|
24+35	1.5662	0.06	Q	|	|	|	V|
24+40	1.5665	0.05	Q	|	|	|	V|
24+45	1.5668	0.04	Q	|	|	|	V|
24+50	1.5670	0.04	Q	|	|	|	V|
24+55	1.5673	0.03	Q	|	|	|	V|
25+ 0	1.5675	0.03	Q	|	|	|	V|
25+ 5	1.5677	0.03	Q	|	|	|	V|
25+10	1.5678	0.02	Q	|	|	|	V|
25+15	1.5680	0.02	Q	|	|	|	V|
25+20	1.5681	0.02	Q	|	|	|	V|
25+25	1.5682	0.02	Q	|	|	|	V|
25+30	1.5683	0.02	Q	|	|	|	V|
25+35	1.5684	0.01	Q	|	|	|	V|
25+40	1.5685	0.01	Q	|	|	|	V|

25+45	1.5686	0.01	Q	|	|	|	V|
25+50	1.5687	0.01	Q	|	|	|	V|
25+55	1.5687	0.01	Q	|	|	|	V|
26+ 0	1.5688	0.01	Q	|	|	|	V|
26+ 5	1.5689	0.01	Q	|	|	|	V|
26+10	1.5689	0.01	Q	|	|	|	V|
26+15	1.5689	0.01	Q	|	|	|	V|
26+20	1.5690	0.01	Q	|	|	|	V|
26+25	1.5690	0.01	Q	|	|	|	V|
26+30	1.5691	0.00	Q	|	|	|	V|
26+35	1.5691	0.00	Q	|	|	|	V|
26+40	1.5691	0.00	Q	|	|	|	V|
26+45	1.5691	0.00	Q	|	|	|	V|
26+50	1.5692	0.00	Q	|	|	|	V|
26+55	1.5692	0.00	Q	|	|	|	V|
27+ 0	1.5692	0.00	Q	|	|	|	V|
27+ 5	1.5692	0.00	Q	|	|	|	V|
27+10	1.5692	0.00	Q	|	|	|	V|
27+15	1.5692	0.00	Q	|	|	|	V|
27+20	1.5692	0.00	Q	|	|	|	V|
27+25	1.5693	0.00	Q	|	|	|	V|
27+30	1.5693	0.00	Q	|	|	|	V|
27+35	1.5693	0.00	Q	|	|	|	V|
27+40	1.5693	0.00	Q	|	|	|	V|
27+45	1.5693	0.00	Q	|	|	|	V|
27+50	1.5693	0.00	Q	|	|	|	V|
27+55	1.5693	0.00	Q	|	|	|	V|
28+ 0	1.5693	0.00	Q	|	|	|	V|
28+ 5	1.5693	0.00	Q	|	|	|	V|
28+10	1.5693	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 7
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
14.99	1	1.27
Rainfall data for year 100		
14.99	6	1.84
Rainfall data for year 100		
14.99	24	2.44

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	14.99	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
14.99	1.000	62.0	80.6	2.41	0.360

Area-averaged catchment yield fraction, Y = 0.360
Area-averaged low loss fraction, Yb = 0.640
User entry of time of concentration = 0.810 (hours)
++
Watershed area = 14.99(Ac.)
Catchment Lag time = 0.648 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 12.8601
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.640 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.440(In)

Rainfall depth area reduction factors:
Using a total area of 14.99(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.440(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 181.29 (CFS))	
1	0.566	1.027
2	2.242	3.039
3	4.977	4.958
4	8.848	7.017
5	15.585	12.214
6	26.897	20.507
7	38.600	21.215
8	47.690	16.478
9	54.786	12.865
10	60.177	9.774
11	64.400	7.656
12	67.926	6.391
13	71.046	5.657
14	73.699	4.808

15	76.010	4.190
16	78.141	3.864
17	79.909	3.205
18	81.568	3.006
19	82.994	2.587
20	84.359	2.474
21	85.609	2.265
22	86.804	2.167
23	87.848	1.893
24	88.819	1.760
25	89.604	1.424
26	90.362	1.374
27	91.084	1.309
28	91.773	1.248
29	92.393	1.123
30	92.992	1.086
31	93.558	1.027
32	94.072	0.932
33	94.510	0.794
34	94.948	0.793
35	95.385	0.793
36	95.770	0.698
37	96.104	0.606
38	96.439	0.606
39	96.772	0.605
40	97.044	0.492
41	97.275	0.420
42	97.506	0.420
43	97.735	0.415
44	97.894	0.288
45	98.023	0.233
46	98.151	0.233
47	98.281	0.236
48	98.430	0.270
49	98.585	0.280
50	98.739	0.280
51	98.893	0.280
52	99.048	0.280
53	99.202	0.280
54	99.356	0.280
55	99.499	0.258
56	99.586	0.158
57	99.666	0.146
58	99.747	0.146
59	99.827	0.146
60	99.907	0.146
61	100.000	0.073

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7414	0.1392
3	0.8373	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0308	0.0549
7	1.0796	0.0488
8	1.1238	0.0441
9	1.1642	0.0404

10	1.2016	0.0374
11	1.2364	0.0349
12	1.2691	0.0327
13	1.2904	0.0213
14	1.3104	0.0200
15	1.3292	0.0189
16	1.3472	0.0179
17	1.3642	0.0171
18	1.3805	0.0163
19	1.3961	0.0156
20	1.4110	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4525	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4899	0.0121
27	1.5016	0.0117
28	1.5130	0.0114
29	1.5241	0.0111
30	1.5348	0.0108
31	1.5453	0.0105
32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6119	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6844	0.0075
48	1.6918	0.0074
49	1.6990	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7778	0.0061
62	1.7838	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056

69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8451	0.0052
74	1.8502	0.0051
75	1.8553	0.0051
76	1.8603	0.0050
77	1.8652	0.0050
78	1.8701	0.0049
79	1.8750	0.0049
80	1.8798	0.0048
81	1.8846	0.0048
82	1.8893	0.0047
83	1.8940	0.0047
84	1.8986	0.0046
85	1.9032	0.0046
86	1.9077	0.0045
87	1.9122	0.0045
88	1.9166	0.0045
89	1.9211	0.0044
90	1.9254	0.0044
91	1.9298	0.0043
92	1.9341	0.0043
93	1.9383	0.0043
94	1.9426	0.0042
95	1.9467	0.0042
96	1.9509	0.0042
97	1.9550	0.0041
98	1.9591	0.0041
99	1.9632	0.0041
100	1.9672	0.0040
101	1.9712	0.0040
102	1.9751	0.0040
103	1.9791	0.0039
104	1.9830	0.0039
105	1.9868	0.0039
106	1.9907	0.0038
107	1.9945	0.0038
108	1.9983	0.0038
109	2.0020	0.0038
110	2.0057	0.0037
111	2.0094	0.0037
112	2.0131	0.0037
113	2.0168	0.0036
114	2.0204	0.0036
115	2.0240	0.0036
116	2.0275	0.0036
117	2.0311	0.0035
118	2.0346	0.0035
119	2.0381	0.0035
120	2.0416	0.0035
121	2.0450	0.0035
122	2.0485	0.0034
123	2.0519	0.0034
124	2.0553	0.0034
125	2.0586	0.0034
126	2.0620	0.0033
127	2.0653	0.0033

128	2.0686	0.0033
129	2.0719	0.0033
130	2.0751	0.0033
131	2.0784	0.0032
132	2.0816	0.0032
133	2.0848	0.0032
134	2.0880	0.0032
135	2.0911	0.0032
136	2.0943	0.0031
137	2.0974	0.0031
138	2.1005	0.0031
139	2.1036	0.0031
140	2.1067	0.0031
141	2.1097	0.0031
142	2.1128	0.0030
143	2.1158	0.0030
144	2.1188	0.0030
145	2.1218	0.0030
146	2.1248	0.0030
147	2.1277	0.0030
148	2.1307	0.0029
149	2.1336	0.0029
150	2.1365	0.0029
151	2.1394	0.0029
152	2.1423	0.0029
153	2.1451	0.0029
154	2.1480	0.0028
155	2.1508	0.0028
156	2.1536	0.0028
157	2.1564	0.0028
158	2.1592	0.0028
159	2.1620	0.0028
160	2.1647	0.0028
161	2.1675	0.0027
162	2.1702	0.0027
163	2.1729	0.0027
164	2.1757	0.0027
165	2.1783	0.0027
166	2.1810	0.0027
167	2.1837	0.0027
168	2.1864	0.0027
169	2.1890	0.0026
170	2.1916	0.0026
171	2.1942	0.0026
172	2.1969	0.0026
173	2.1994	0.0026
174	2.2020	0.0026
175	2.2046	0.0026
176	2.2072	0.0026
177	2.2097	0.0025
178	2.2122	0.0025
179	2.2148	0.0025
180	2.2173	0.0025
181	2.2198	0.0025
182	2.2223	0.0025
183	2.2248	0.0025
184	2.2272	0.0025
185	2.2297	0.0025
186	2.2321	0.0024

187	2.2346	0.0024
188	2.2370	0.0024
189	2.2394	0.0024
190	2.2418	0.0024
191	2.2442	0.0024
192	2.2466	0.0024
193	2.2490	0.0024
194	2.2514	0.0024
195	2.2537	0.0024
196	2.2561	0.0023
197	2.2584	0.0023
198	2.2607	0.0023
199	2.2631	0.0023
200	2.2654	0.0023
201	2.2677	0.0023
202	2.2700	0.0023
203	2.2722	0.0023
204	2.2745	0.0023
205	2.2768	0.0023
206	2.2790	0.0023
207	2.2813	0.0022
208	2.2835	0.0022
209	2.2858	0.0022
210	2.2880	0.0022
211	2.2902	0.0022
212	2.2924	0.0022
213	2.2946	0.0022
214	2.2968	0.0022
215	2.2990	0.0022
216	2.3011	0.0022
217	2.3033	0.0022
218	2.3055	0.0022
219	2.3076	0.0021
220	2.3098	0.0021
221	2.3119	0.0021
222	2.3140	0.0021
223	2.3161	0.0021
224	2.3182	0.0021
225	2.3203	0.0021
226	2.3224	0.0021
227	2.3245	0.0021
228	2.3266	0.0021
229	2.3287	0.0021
230	2.3308	0.0021
231	2.3328	0.0021
232	2.3349	0.0021
233	2.3369	0.0020
234	2.3390	0.0020
235	2.3410	0.0020
236	2.3430	0.0020
237	2.3450	0.0020
238	2.3470	0.0020
239	2.3490	0.0020
240	2.3510	0.0020
241	2.3530	0.0020
242	2.3550	0.0020
243	2.3570	0.0020
244	2.3590	0.0020
245	2.3609	0.0020

246	2.3629	0.0020
247	2.3648	0.0020
248	2.3668	0.0019
249	2.3687	0.0019
250	2.3707	0.0019
251	2.3726	0.0019
252	2.3745	0.0019
253	2.3764	0.0019
254	2.3783	0.0019
255	2.3802	0.0019
256	2.3821	0.0019
257	2.3840	0.0019
258	2.3859	0.0019
259	2.3878	0.0019
260	2.3897	0.0019
261	2.3915	0.0019
262	2.3934	0.0019
263	2.3953	0.0019
264	2.3971	0.0019
265	2.3990	0.0018
266	2.4008	0.0018
267	2.4026	0.0018
268	2.4045	0.0018
269	2.4063	0.0018
270	2.4081	0.0018
271	2.4099	0.0018
272	2.4117	0.0018
273	2.4135	0.0018
274	2.4153	0.0018
275	2.4171	0.0018
276	2.4189	0.0018
277	2.4207	0.0018
278	2.4225	0.0018
279	2.4242	0.0018
280	2.4260	0.0018
281	2.4278	0.0018
282	2.4295	0.0018
283	2.4313	0.0018
284	2.4330	0.0017
285	2.4348	0.0017
286	2.4365	0.0017
287	2.4382	0.0017
288	2.4400	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0011	0.0006
2	0.0017	0.0011	0.0006
3	0.0017	0.0011	0.0006
4	0.0017	0.0011	0.0006
5	0.0018	0.0011	0.0006
6	0.0018	0.0011	0.0006
7	0.0018	0.0011	0.0006
8	0.0018	0.0011	0.0006
9	0.0018	0.0011	0.0006
10	0.0018	0.0011	0.0006
11	0.0018	0.0012	0.0006

12	0.0018	0.0012	0.0007
13	0.0018	0.0012	0.0007
14	0.0018	0.0012	0.0007
15	0.0018	0.0012	0.0007
16	0.0018	0.0012	0.0007
17	0.0019	0.0012	0.0007
18	0.0019	0.0012	0.0007
19	0.0019	0.0012	0.0007
20	0.0019	0.0012	0.0007
21	0.0019	0.0012	0.0007
22	0.0019	0.0012	0.0007
23	0.0019	0.0012	0.0007
24	0.0019	0.0012	0.0007
25	0.0019	0.0012	0.0007
26	0.0019	0.0012	0.0007
27	0.0019	0.0012	0.0007
28	0.0019	0.0012	0.0007
29	0.0020	0.0013	0.0007
30	0.0020	0.0013	0.0007
31	0.0020	0.0013	0.0007
32	0.0020	0.0013	0.0007
33	0.0020	0.0013	0.0007
34	0.0020	0.0013	0.0007
35	0.0020	0.0013	0.0007
36	0.0020	0.0013	0.0007
37	0.0020	0.0013	0.0007
38	0.0020	0.0013	0.0007
39	0.0021	0.0013	0.0007
40	0.0021	0.0013	0.0007
41	0.0021	0.0013	0.0007
42	0.0021	0.0013	0.0008
43	0.0021	0.0013	0.0008
44	0.0021	0.0014	0.0008
45	0.0021	0.0014	0.0008
46	0.0021	0.0014	0.0008
47	0.0021	0.0014	0.0008
48	0.0022	0.0014	0.0008
49	0.0022	0.0014	0.0008
50	0.0022	0.0014	0.0008
51	0.0022	0.0014	0.0008
52	0.0022	0.0014	0.0008
53	0.0022	0.0014	0.0008
54	0.0022	0.0014	0.0008
55	0.0022	0.0014	0.0008
56	0.0023	0.0014	0.0008
57	0.0023	0.0015	0.0008
58	0.0023	0.0015	0.0008
59	0.0023	0.0015	0.0008
60	0.0023	0.0015	0.0008
61	0.0023	0.0015	0.0008
62	0.0023	0.0015	0.0008
63	0.0024	0.0015	0.0008
64	0.0024	0.0015	0.0009
65	0.0024	0.0015	0.0009
66	0.0024	0.0015	0.0009
67	0.0024	0.0015	0.0009
68	0.0024	0.0016	0.0009
69	0.0024	0.0016	0.0009
70	0.0025	0.0016	0.0009

71	0.0025	0.0016	0.0009
72	0.0025	0.0016	0.0009
73	0.0025	0.0016	0.0009
74	0.0025	0.0016	0.0009
75	0.0025	0.0016	0.0009
76	0.0026	0.0016	0.0009
77	0.0026	0.0017	0.0009
78	0.0026	0.0017	0.0009
79	0.0026	0.0017	0.0009
80	0.0026	0.0017	0.0009
81	0.0027	0.0017	0.0010
82	0.0027	0.0017	0.0010
83	0.0027	0.0017	0.0010
84	0.0027	0.0017	0.0010
85	0.0027	0.0017	0.0010
86	0.0027	0.0018	0.0010
87	0.0028	0.0018	0.0010
88	0.0028	0.0018	0.0010
89	0.0028	0.0018	0.0010
90	0.0028	0.0018	0.0010
91	0.0029	0.0018	0.0010
92	0.0029	0.0018	0.0010
93	0.0029	0.0019	0.0010
94	0.0029	0.0019	0.0011
95	0.0030	0.0019	0.0011
96	0.0030	0.0019	0.0011
97	0.0030	0.0019	0.0011
98	0.0030	0.0019	0.0011
99	0.0031	0.0020	0.0011
100	0.0031	0.0020	0.0011
101	0.0031	0.0020	0.0011
102	0.0031	0.0020	0.0011
103	0.0032	0.0020	0.0011
104	0.0032	0.0020	0.0011
105	0.0032	0.0021	0.0012
106	0.0032	0.0021	0.0012
107	0.0033	0.0021	0.0012
108	0.0033	0.0021	0.0012
109	0.0033	0.0021	0.0012
110	0.0034	0.0022	0.0012
111	0.0034	0.0022	0.0012
112	0.0034	0.0022	0.0012
113	0.0035	0.0022	0.0013
114	0.0035	0.0022	0.0013
115	0.0035	0.0023	0.0013
116	0.0036	0.0023	0.0013
117	0.0036	0.0023	0.0013
118	0.0036	0.0023	0.0013
119	0.0037	0.0024	0.0013
120	0.0037	0.0024	0.0013
121	0.0038	0.0024	0.0014
122	0.0038	0.0024	0.0014
123	0.0039	0.0025	0.0014
124	0.0039	0.0025	0.0014
125	0.0040	0.0025	0.0014
126	0.0040	0.0026	0.0014
127	0.0041	0.0026	0.0015
128	0.0041	0.0026	0.0015
129	0.0042	0.0027	0.0015

130	0.0042	0.0027	0.0015
131	0.0043	0.0027	0.0015
132	0.0043	0.0028	0.0015
133	0.0044	0.0028	0.0016
134	0.0044	0.0028	0.0016
135	0.0045	0.0029	0.0016
136	0.0045	0.0029	0.0016
137	0.0046	0.0030	0.0017
138	0.0047	0.0030	0.0017
139	0.0048	0.0030	0.0017
140	0.0048	0.0031	0.0017
141	0.0049	0.0031	0.0018
142	0.0050	0.0032	0.0018
143	0.0051	0.0032	0.0018
144	0.0051	0.0033	0.0018
145	0.0053	0.0034	0.0019
146	0.0054	0.0034	0.0019
147	0.0055	0.0035	0.0020
148	0.0056	0.0036	0.0020
149	0.0057	0.0036	0.0021
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0021
152	0.0060	0.0038	0.0022
153	0.0062	0.0039	0.0022
154	0.0062	0.0040	0.0022
155	0.0064	0.0041	0.0023
156	0.0065	0.0042	0.0023
157	0.0067	0.0043	0.0024
158	0.0068	0.0043	0.0024
159	0.0070	0.0045	0.0025
160	0.0071	0.0046	0.0026
161	0.0074	0.0047	0.0026
162	0.0075	0.0048	0.0027
163	0.0077	0.0050	0.0028
164	0.0079	0.0050	0.0028
165	0.0082	0.0052	0.0029
166	0.0083	0.0053	0.0030
167	0.0087	0.0056	0.0031
168	0.0089	0.0057	0.0032
169	0.0093	0.0059	0.0033
170	0.0095	0.0061	0.0034
171	0.0100	0.0064	0.0036
172	0.0102	0.0065	0.0037
173	0.0108	0.0069	0.0039
174	0.0111	0.0071	0.0040
175	0.0117	0.0075	0.0042
176	0.0121	0.0077	0.0043
177	0.0129	0.0082	0.0046
178	0.0133	0.0085	0.0048
179	0.0144	0.0092	0.0052
180	0.0149	0.0096	0.0054
181	0.0163	0.0104	0.0059
182	0.0171	0.0109	0.0061
183	0.0189	0.0121	0.0068
184	0.0200	0.0128	0.0072
185	0.0327	0.0209	0.0118
186	0.0349	0.0223	0.0126
187	0.0404	0.0259	0.0146
188	0.0441	0.0282	0.0159

189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0959	0.0300	0.0659
192	0.1392	0.0300	0.1092
193	0.6022	0.0300	0.5722
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0239	0.0135
197	0.0213	0.0136	0.0077
198	0.0179	0.0115	0.0065
199	0.0156	0.0100	0.0056
200	0.0138	0.0088	0.0050
201	0.0125	0.0080	0.0045
202	0.0114	0.0073	0.0041
203	0.0105	0.0067	0.0038
204	0.0097	0.0062	0.0035
205	0.0091	0.0058	0.0033
206	0.0085	0.0054	0.0031
207	0.0080	0.0051	0.0029
208	0.0076	0.0049	0.0027
209	0.0072	0.0046	0.0026
210	0.0069	0.0044	0.0025
211	0.0066	0.0042	0.0024
212	0.0063	0.0040	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0037	0.0021
215	0.0056	0.0036	0.0020
216	0.0054	0.0035	0.0020
217	0.0052	0.0033	0.0019
218	0.0050	0.0032	0.0018
219	0.0049	0.0031	0.0017
220	0.0047	0.0030	0.0017
221	0.0046	0.0029	0.0016
222	0.0045	0.0029	0.0016
223	0.0043	0.0028	0.0016
224	0.0042	0.0027	0.0015
225	0.0041	0.0026	0.0015
226	0.0040	0.0026	0.0014
227	0.0039	0.0025	0.0014
228	0.0038	0.0025	0.0014
229	0.0038	0.0024	0.0014
230	0.0037	0.0024	0.0013
231	0.0036	0.0023	0.0013
232	0.0035	0.0023	0.0013
233	0.0035	0.0022	0.0012
234	0.0034	0.0022	0.0012
235	0.0033	0.0021	0.0012
236	0.0033	0.0021	0.0012
237	0.0032	0.0020	0.0012
238	0.0031	0.0020	0.0011
239	0.0031	0.0020	0.0011
240	0.0030	0.0019	0.0011
241	0.0030	0.0019	0.0011
242	0.0029	0.0019	0.0011
243	0.0029	0.0019	0.0010
244	0.0028	0.0018	0.0010
245	0.0028	0.0018	0.0010
246	0.0028	0.0018	0.0010
247	0.0027	0.0017	0.0010

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      248              0.0027          0.0017              0.0010
      249              0.0026          0.0017              0.0010
      250              0.0026          0.0017              0.0009
      251              0.0026          0.0016              0.0009
      252              0.0025          0.0016              0.0009
      253              0.0025          0.0016              0.0009
      254              0.0025          0.0016              0.0009
      255              0.0024          0.0016              0.0009
      256              0.0024          0.0015              0.0009
      257              0.0024          0.0015              0.0009
      258              0.0023          0.0015              0.0008
      259              0.0023          0.0015              0.0008
      260              0.0023          0.0015              0.0008
      261              0.0023          0.0014              0.0008
      262              0.0022          0.0014              0.0008
      263              0.0022          0.0014              0.0008
      264              0.0022          0.0014              0.0008
      265              0.0022          0.0014              0.0008
      266              0.0021          0.0014              0.0008
      267              0.0021          0.0014              0.0008
      268              0.0021          0.0013              0.0008
      269              0.0021          0.0013              0.0007
      270              0.0021          0.0013              0.0007
      271              0.0020          0.0013              0.0007
      272              0.0020          0.0013              0.0007
      273              0.0020          0.0013              0.0007
      274              0.0020          0.0013              0.0007
      275              0.0020          0.0012              0.0007
      276              0.0019          0.0012              0.0007
      277              0.0019          0.0012              0.0007
      278              0.0019          0.0012              0.0007
      279              0.0019          0.0012              0.0007
      280              0.0019          0.0012              0.0007
      281              0.0018          0.0012              0.0007
      282              0.0018          0.0012              0.0007
      283              0.0018          0.0012              0.0007
      284              0.0018          0.0012              0.0006
      285              0.0018          0.0011              0.0006
      286              0.0018          0.0011              0.0006
      287              0.0018          0.0011              0.0006
      288              0.0017          0.0011              0.0006
      ------------------------------------------------------------------
      ------------------------------------------------------------------
      Total soil rain loss =      1.08(In)
      Total effective rainfall =      1.36(In)
      Peak flow rate in flood hydrograph =     17.15(CFS)
      ------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q         |         |         |         |
  0+10       0.0000      0.00  Q         |         |         |         |
  0+15       0.0001      0.01  Q         |         |         |         |
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0+20	0.0001	0.01	Q				
0+25	0.0003	0.02	Q				
0+30	0.0005	0.03	Q				
0+35	0.0008	0.04	Q				
0+40	0.0011	0.05	Q				
0+45	0.0016	0.06	Q				
0+50	0.0020	0.07	Q				
0+55	0.0025	0.07	Q				
1+ 0	0.0031	0.08	Q				
1+ 5	0.0037	0.08	Q				
1+10	0.0042	0.09	Q				
1+15	0.0048	0.09	Q				
1+20	0.0055	0.09	Q				
1+25	0.0061	0.09	Q				
1+30	0.0068	0.10	Q				
1+35	0.0074	0.10	Q				
1+40	0.0081	0.10	Q				
1+45	0.0088	0.10	Q				
1+50	0.0095	0.10	Q				
1+55	0.0103	0.11	Q				
2+ 0	0.0110	0.11	Q				
2+ 5	0.0117	0.11	Q				
2+10	0.0125	0.11	Q				
2+15	0.0133	0.11	Q				
2+20	0.0140	0.11	Q				
2+25	0.0148	0.11	Q				
2+30	0.0156	0.11	Q				
2+35	0.0164	0.12	Q				
2+40	0.0172	0.12	Q				
2+45	0.0180	0.12	Q				
2+50	0.0188	0.12	Q				
2+55	0.0197	0.12	Q				
3+ 0	0.0205	0.12	Q				
3+ 5	0.0213	0.12	Q				
3+10	0.0222	0.12	Q				
3+15	0.0230	0.12	Q				
3+20	0.0239	0.12	Q				
3+25	0.0247	0.13	Q				
3+30	0.0256	0.13	Q				
3+35	0.0265	0.13	Q				
3+40	0.0274	0.13	Q				
3+45	0.0283	0.13	Q				
3+50	0.0291	0.13	Q				
3+55	0.0300	0.13	Q				
4+ 0	0.0309	0.13	Q				
4+ 5	0.0319	0.13	Q				
4+10	0.0328	0.13	Q				
4+15	0.0337	0.13	Q				
4+20	0.0346	0.13	Q				
4+25	0.0356	0.14	Q				
4+30	0.0365	0.14	Q				
4+35	0.0374	0.14	Q				
4+40	0.0384	0.14	Q				
4+45	0.0394	0.14	Q				
4+50	0.0403	0.14	Q				
4+55	0.0413	0.14	Q				
5+ 0	0.0423	0.14	Q				
5+ 5	0.0432	0.14	QV				
5+10	0.0442	0.14	QV				

5+15	0.0452	0.14	QV				
5+20	0.0462	0.14	QV				
5+25	0.0472	0.15	QV				
5+30	0.0482	0.15	QV				
5+35	0.0493	0.15	QV				
5+40	0.0503	0.15	QV				
5+45	0.0513	0.15	QV				
5+50	0.0523	0.15	QV				
5+55	0.0534	0.15	QV				
6+ 0	0.0544	0.15	QV				
6+ 5	0.0555	0.15	QV				
6+10	0.0565	0.15	QV				
6+15	0.0576	0.15	QV				
6+20	0.0587	0.16	QV				
6+25	0.0598	0.16	QV				
6+30	0.0608	0.16	QV				
6+35	0.0619	0.16	QV				
6+40	0.0630	0.16	QV				
6+45	0.0641	0.16	QV				
6+50	0.0653	0.16	QV				
6+55	0.0664	0.16	QV				
7+ 0	0.0675	0.16	QV				
7+ 5	0.0686	0.17	QV				
7+10	0.0698	0.17	QV				
7+15	0.0709	0.17	QV				
7+20	0.0721	0.17	QV				
7+25	0.0733	0.17	QV				
7+30	0.0744	0.17	QV				
7+35	0.0756	0.17	QV				
7+40	0.0768	0.17	QV				
7+45	0.0780	0.17	QV				
7+50	0.0792	0.18	QV				
7+55	0.0805	0.18	QV				
8+ 0	0.0817	0.18	QV				
8+ 5	0.0829	0.18	QV				
8+10	0.0842	0.18	QV				
8+15	0.0854	0.18	Q V				
8+20	0.0867	0.18	Q V				
8+25	0.0880	0.19	Q V				
8+30	0.0893	0.19	Q V				
8+35	0.0906	0.19	Q V				
8+40	0.0919	0.19	Q V				
8+45	0.0932	0.19	Q V				
8+50	0.0945	0.19	Q V				
8+55	0.0959	0.19	Q V				
9+ 0	0.0972	0.20	Q V				
9+ 5	0.0986	0.20	Q V				
9+10	0.0999	0.20	Q V				
9+15	0.1013	0.20	Q V				
9+20	0.1027	0.20	Q V				
9+25	0.1041	0.20	Q V				
9+30	0.1056	0.21	Q V				
9+35	0.1070	0.21	Q V				
9+40	0.1085	0.21	Q V				
9+45	0.1099	0.21	Q V				
9+50	0.1114	0.21	Q V				
9+55	0.1129	0.22	Q V				
10+ 0	0.1144	0.22	Q V				
10+ 5	0.1159	0.22	Q V				

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10+10       0.1174      0.22  Q V       |          |          |          |
10+15       0.1190      0.23  Q V       |          |          |          |
10+20       0.1206      0.23  Q V       |          |          |          |
10+25       0.1221      0.23  Q V       |          |          |          |
10+30       0.1237      0.23  Q V       |          |          |          |
10+35       0.1254      0.23  Q V       |          |          |          |
10+40       0.1270      0.24  Q V       |          |          |          |
10+45       0.1286      0.24  Q  V      |          |          |          |
10+50       0.1303      0.24  Q  V      |          |          |          |
10+55       0.1320      0.24  Q  V      |          |          |          |
11+ 0       0.1337      0.25  Q  V      |          |          |          |
11+ 5       0.1354      0.25  Q  V      |          |          |          |
11+10       0.1372      0.25  Q  V      |          |          |          |
11+15       0.1389      0.26  Q  V      |          |          |          |
11+20       0.1407      0.26  Q  V      |          |          |          |
11+25       0.1425      0.26  Q  V      |          |          |          |
11+30       0.1444      0.27  Q  V      |          |          |          |
11+35       0.1462      0.27  Q  V      |          |          |          |
11+40       0.1481      0.27  Q  V      |          |          |          |
11+45       0.1500      0.28  Q  V      |          |          |          |
11+50       0.1519      0.28  Q  V      |          |          |          |
11+55       0.1539      0.28  Q  V      |          |          |          |
12+ 0       0.1559      0.29  Q  V      |          |          |          |
12+ 5       0.1579      0.29  Q  V      |          |          |          |
12+10       0.1599      0.30  Q  V      |          |          |          |
12+15       0.1620      0.30  Q  V      |          |          |          |
12+20       0.1641      0.30  Q  V      |          |          |          |
12+25       0.1662      0.31  Q  V      |          |          |          |
12+30       0.1684      0.32  Q  V      |          |          |          |
12+35       0.1706      0.32  Q   V     |          |          |          |
12+40       0.1728      0.33  Q   V     |          |          |          |
12+45       0.1751      0.33  Q   V     |          |          |          |
12+50       0.1774      0.34  Q   V     |          |          |          |
12+55       0.1798      0.34  Q   V     |          |          |          |
13+ 0       0.1822      0.35  Q   V     |          |          |          |
13+ 5       0.1847      0.36  Q   V     |          |          |          |
13+10       0.1872      0.36  Q   V     |          |          |          |
13+15       0.1897      0.37  Q   V     |          |          |          |
13+20       0.1923      0.38  Q   V     |          |          |          |
13+25       0.1950      0.38  Q   V     |          |          |          |
13+30       0.1977      0.39  Q   V     |          |          |          |
13+35       0.2004      0.40  Q   V     |          |          |          |
13+40       0.2032      0.41  Q   V     |          |          |          |
13+45       0.2061      0.42  Q   V     |          |          |          |
13+50       0.2090      0.43  Q   V     |          |          |          |
13+55       0.2120      0.44  Q   V     |          |          |          |
14+ 0       0.2151      0.45  Q    V    |          |          |          |
14+ 5       0.2183      0.46  Q    V    |          |          |          |
14+10       0.2215      0.47  Q    V    |          |          |          |
14+15       0.2248      0.48  Q    V    |          |          |          |
14+20       0.2282      0.50  Q    V    |          |          |          |
14+25       0.2318      0.51  |Q   V    |          |          |          |
14+30       0.2354      0.52  |Q   V    |          |          |          |
14+35       0.2391      0.54  |Q   V    |          |          |          |
14+40       0.2429      0.56  |Q   V    |          |          |          |
14+45       0.2469      0.58  |Q   V    |          |          |          |
14+50       0.2510      0.60  |Q   V    |          |          |          |
14+55       0.2553      0.62  |Q    V   |          |          |          |
15+ 0       0.2597      0.64  |Q    V   |          |          |          |
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15+ 5	0.2643	0.67	Q V				
15+10	0.2691	0.70	Q V				
15+15	0.2742	0.73	Q V				
15+20	0.2795	0.77	Q V				
15+25	0.2850	0.81	Q V				
15+30	0.2910	0.87	Q V				
15+35	0.2975	0.94	Q V				
15+40	0.3046	1.03	Q V				
15+45	0.3127	1.16	Q V				
15+50	0.3220	1.36	Q V				
15+55	0.3334	1.64	Q V				
16+ 0	0.3476	2.07	Q V				
16+ 5	0.3694	3.17	Q V				
16+10	0.4032	4.90	Q				
16+15	0.4496	6.74	V Q				
16+20	0.5109	8.90	V Q				
16+25	0.5977	12.61	V Q				
16+30	0.7159	17.15	V			Q	
16+35	0.8337	17.12	V			Q	
16+40	0.9298	13.95	V Q				
16+45	1.0076	11.29	QV				
16+50	1.0696	9.01	Q V				
16+55	1.1204	7.38	Q V				
17+ 0	1.1639	6.32	Q V				
17+ 5	1.2026	5.62	Q V				
17+10	1.2365	4.92	Q V				
17+15	1.2667	4.38	Q V				
17+20	1.2943	4.01	Q V				
17+25	1.3185	3.52	Q V				
17+30	1.3410	3.27	Q V				
17+35	1.3613	2.94	Q V				
17+40	1.3804	2.78	Q V				
17+45	1.3982	2.58	Q V				
17+50	1.4149	2.43	Q V				
17+55	1.4301	2.20	Q V				
18+ 0	1.4442	2.05	Q V				
18+ 5	1.4566	1.81	Q V				
18+10	1.4685	1.72	Q V				
18+15	1.4798	1.64	Q V				
18+20	1.4906	1.56	Q V				
18+25	1.5006	1.45	Q V				
18+30	1.5101	1.39	Q V				
18+35	1.5192	1.32	Q V				
18+40	1.5276	1.22	Q V				
18+45	1.5354	1.12	Q V				
18+50	1.5429	1.09	Q V				
18+55	1.5501	1.06	Q V				
19+ 0	1.5568	0.97	Q V				
19+ 5	1.5630	0.90	Q V				
19+10	1.5691	0.87	Q V				
19+15	1.5749	0.84	Q V				
19+20	1.5801	0.76	Q V				
19+25	1.5849	0.70	Q V				
19+30	1.5896	0.68	Q V				
19+35	1.5940	0.65	Q V				
19+40	1.5979	0.56	Q V				
19+45	1.6014	0.52	Q V				
19+50	1.6049	0.51	Q V				
19+55	1.6084	0.50	Q V				

```
20+ 0       1.6119      0.51  |Q        |         |         |      V  |
20+ 5       1.6154      0.51  |Q        |         |         |       V |
20+10       1.6189      0.51  |Q        |         |         |       V |
20+15       1.6224      0.50  Q         |         |         |       V |
20+20       1.6257      0.49  Q         |         |         |       V |
20+25       1.6290      0.48  Q         |         |         |       V |
20+30       1.6322      0.46  Q         |         |         |       V |
20+35       1.6352      0.43  Q         |         |         |       V |
20+40       1.6378      0.37  Q         |         |         |       V |
20+45       1.6402      0.35  Q         |         |         |       V |
20+50       1.6425      0.34  Q         |         |         |       V |
20+55       1.6448      0.33  Q         |         |         |       V |
21+ 0       1.6469      0.31  Q         |         |         |       V |
21+ 5       1.6487      0.26  Q         |         |         |       V |
21+10       1.6502      0.21  Q         |         |         |       V |
21+15       1.6516      0.20  Q         |         |         |       V |
21+20       1.6529      0.20  Q         |         |         |       V |
21+25       1.6542      0.19  Q         |         |         |       V |
21+30       1.6555      0.19  Q         |         |         |        V|
21+35       1.6568      0.19  Q         |         |         |        V|
21+40       1.6581      0.18  Q         |         |         |        V|
21+45       1.6593      0.18  Q         |         |         |        V|
21+50       1.6605      0.18  Q         |         |         |        V|
21+55       1.6617      0.17  Q         |         |         |        V|
22+ 0       1.6629      0.17  Q         |         |         |        V|
22+ 5       1.6640      0.17  Q         |         |         |        V|
22+10       1.6652      0.17  Q         |         |         |        V|
22+15       1.6663      0.16  Q         |         |         |        V|
22+20       1.6674      0.16  Q         |         |         |        V|
22+25       1.6685      0.16  Q         |         |         |        V|
22+30       1.6696      0.16  Q         |         |         |        V|
22+35       1.6707      0.15  Q         |         |         |        V|
22+40       1.6717      0.15  Q         |         |         |        V|
22+45       1.6727      0.15  Q         |         |         |        V|
22+50       1.6738      0.15  Q         |         |         |        V|
22+55       1.6748      0.15  Q         |         |         |        V|
23+ 0       1.6758      0.15  Q         |         |         |        V|
23+ 5       1.6768      0.14  Q         |         |         |        V|
23+10       1.6777      0.14  Q         |         |         |        V|
23+15       1.6787      0.14  Q         |         |         |        V|
23+20       1.6797      0.14  Q         |         |         |        V|
23+25       1.6806      0.14  Q         |         |         |        V|
23+30       1.6815      0.14  Q         |         |         |        V|
23+35       1.6825      0.13  Q         |         |         |        V|
23+40       1.6834      0.13  Q         |         |         |        V|
23+45       1.6843      0.13  Q         |         |         |        V|
23+50       1.6852      0.13  Q         |         |         |        V|
23+55       1.6861      0.13  Q         |         |         |        V|
24+ 0       1.6869      0.13  Q         |         |         |        V|
24+ 5       1.6878      0.13  Q         |         |         |        V|
24+10       1.6886      0.12  Q         |         |         |        V|
24+15       1.6895      0.12  Q         |         |         |        V|
24+20       1.6902      0.11  Q         |         |         |        V|
24+25       1.6909      0.10  Q         |         |         |        V|
24+30       1.6916      0.09  Q         |         |         |        V|
24+35       1.6921      0.08  Q         |         |         |        V|
24+40       1.6925      0.07  Q         |         |         |        V|
24+45       1.6929      0.06  Q         |         |         |        V|
24+50       1.6933      0.05  Q         |         |         |        V|
```

24+55	1.6936	0.04	Q	|	|	|	V|
25+ 0	1.6939	0.04	Q	|	|	|	V|
25+ 5	1.6941	0.04	Q	|	|	|	V|
25+10	1.6944	0.03	Q	|	|	|	V|
25+15	1.6946	0.03	Q	|	|	|	V|
25+20	1.6948	0.03	Q	|	|	|	V|
25+25	1.6949	0.03	Q	|	|	|	V|
25+30	1.6951	0.02	Q	|	|	|	V|
25+35	1.6952	0.02	Q	|	|	|	V|
25+40	1.6954	0.02	Q	|	|	|	V|
25+45	1.6955	0.02	Q	|	|	|	V|
25+50	1.6956	0.02	Q	|	|	|	V|
25+55	1.6957	0.02	Q	|	|	|	V|
26+ 0	1.6958	0.01	Q	|	|	|	V|
26+ 5	1.6959	0.01	Q	|	|	|	V|
26+10	1.6960	0.01	Q	|	|	|	V|
26+15	1.6961	0.01	Q	|	|	|	V|
26+20	1.6961	0.01	Q	|	|	|	V|
26+25	1.6962	0.01	Q	|	|	|	V|
26+30	1.6963	0.01	Q	|	|	|	V|
26+35	1.6963	0.01	Q	|	|	|	V|
26+40	1.6964	0.01	Q	|	|	|	V|
26+45	1.6964	0.01	Q	|	|	|	V|
26+50	1.6964	0.01	Q	|	|	|	V|
26+55	1.6965	0.01	Q	|	|	|	V|
27+ 0	1.6965	0.01	Q	|	|	|	V|
27+ 5	1.6966	0.00	Q	|	|	|	V|
27+10	1.6966	0.00	Q	|	|	|	V|
27+15	1.6966	0.00	Q	|	|	|	V|
27+20	1.6966	0.00	Q	|	|	|	V|
27+25	1.6967	0.00	Q	|	|	|	V|
27+30	1.6967	0.00	Q	|	|	|	V|
27+35	1.6967	0.00	Q	|	|	|	V|
27+40	1.6967	0.00	Q	|	|	|	V|
27+45	1.6967	0.00	Q	|	|	|	V|
27+50	1.6967	0.00	Q	|	|	|	V|
27+55	1.6968	0.00	Q	|	|	|	V|
28+ 0	1.6968	0.00	Q	|	|	|	V|
28+ 5	1.6968	0.00	Q	|	|	|	V|
28+10	1.6968	0.00	Q	|	|	|	V|
28+15	1.6968	0.00	Q	|	|	|	V|
28+20	1.6968	0.00	Q	|	|	|	V|
28+25	1.6968	0.00	Q	|	|	|	V|
28+30	1.6968	0.00	Q	|	|	|	V|
28+35	1.6968	0.00	Q	|	|	|	V|
28+40	1.6968	0.00	Q	|	|	|	V|
28+45	1.6968	0.00	Q	|	|	|	V|
28+50	1.6968	0.00	Q	|	|	|	V|
28+55	1.6968	0.00	Q	|	|	|	V|
29+ 0	1.6968	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 8
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
8.97	1	1.27
Rainfall data for year 100		
8.97	6	1.84
Rainfall data for year 100		
8.97	24	2.42

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	8.97	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
8.97	1.000	62.0	80.6	2.41	0.357

Area-averaged catchment yield fraction, Y = 0.357
Area-averaged low loss fraction, Yb = 0.643
User entry of time of concentration = 0.520 (hours)
++
Watershed area = 8.97(Ac.)
Catchment Lag time = 0.416 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.0321
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.643 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.420(In)

Rainfall depth area reduction factors:
Using a total area of 8.97(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.602(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.420(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 108.48 (CFS))	
1	0.995	1.079
2	4.516	3.820
3	11.300	7.360
4	26.240	16.207
5	43.399	18.615
6	55.091	12.683
7	62.875	8.444
8	68.500	6.103
9	73.033	4.917
10	76.661	3.936
11	79.664	3.258
12	82.167	2.715
13	84.311	2.326
14	86.250	2.103

15	87.937	1.830
16	89.330	1.511
17	90.508	1.278
18	91.609	1.195
19	92.585	1.059
20	93.487	0.979
21	94.262	0.841
22	94.943	0.739
23	95.601	0.714
24	96.140	0.584
25	96.660	0.565
26	97.095	0.471
27	97.455	0.391
28	97.792	0.365
29	98.009	0.235
30	98.210	0.217
31	98.432	0.241
32	98.672	0.261
33	98.913	0.261
34	99.153	0.261
35	99.393	0.261
36	99.570	0.191
37	99.695	0.136
38	99.820	0.136
39	100.000	0.068

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6024	0.6024
2	0.7416	0.1392
3	0.8375	0.0959
4	0.9130	0.0755
5	0.9762	0.0632
6	1.0311	0.0549
7	1.0799	0.0488
8	1.1241	0.0441
9	1.1645	0.0404
10	1.2019	0.0374
11	1.2368	0.0349
12	1.2695	0.0327
13	1.2907	0.0212
14	1.3107	0.0200
15	1.3296	0.0189
16	1.3475	0.0179
17	1.3645	0.0170
18	1.3808	0.0163
19	1.3963	0.0156
20	1.4112	0.0149
21	1.4256	0.0143
22	1.4394	0.0138
23	1.4527	0.0133
24	1.4656	0.0129
25	1.4780	0.0125
26	1.4901	0.0121
27	1.5018	0.0117
28	1.5132	0.0114
29	1.5242	0.0110
30	1.5350	0.0107
31	1.5454	0.0105

32	1.5556	0.0102
33	1.5656	0.0100
34	1.5753	0.0097
35	1.5848	0.0095
36	1.5941	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6207	0.0087
40	1.6292	0.0085
41	1.6376	0.0083
42	1.6457	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6919	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7657	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8293	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8450	0.0050
74	1.8499	0.0050
75	1.8549	0.0049
76	1.8597	0.0049
77	1.8645	0.0048
78	1.8693	0.0048
79	1.8740	0.0047
80	1.8787	0.0047
81	1.8833	0.0046
82	1.8879	0.0046
83	1.8924	0.0045
84	1.8969	0.0045
85	1.9013	0.0044
86	1.9057	0.0044
87	1.9101	0.0044
88	1.9144	0.0043
89	1.9187	0.0043
90	1.9229	0.0042

91	1.9271	0.0042
92	1.9313	0.0042
93	1.9354	0.0041
94	1.9395	0.0041
95	1.9436	0.0041
96	1.9476	0.0040
97	1.9516	0.0040
98	1.9556	0.0040
99	1.9595	0.0039
100	1.9634	0.0039
101	1.9673	0.0039
102	1.9711	0.0038
103	1.9749	0.0038
104	1.9787	0.0038
105	1.9824	0.0037
106	1.9861	0.0037
107	1.9898	0.0037
108	1.9935	0.0037
109	1.9971	0.0036
110	2.0007	0.0036
111	2.0043	0.0036
112	2.0079	0.0036
113	2.0114	0.0035
114	2.0149	0.0035
115	2.0184	0.0035
116	2.0218	0.0035
117	2.0253	0.0034
118	2.0287	0.0034
119	2.0321	0.0034
120	2.0354	0.0034
121	2.0388	0.0033
122	2.0421	0.0033
123	2.0454	0.0033
124	2.0487	0.0033
125	2.0519	0.0033
126	2.0552	0.0032
127	2.0584	0.0032
128	2.0616	0.0032
129	2.0647	0.0032
130	2.0679	0.0032
131	2.0710	0.0031
132	2.0741	0.0031
133	2.0772	0.0031
134	2.0803	0.0031
135	2.0834	0.0031
136	2.0864	0.0030
137	2.0894	0.0030
138	2.0924	0.0030
139	2.0954	0.0030
140	2.0984	0.0030
141	2.1014	0.0030
142	2.1043	0.0029
143	2.1072	0.0029
144	2.1101	0.0029
145	2.1130	0.0029
146	2.1159	0.0029
147	2.1187	0.0029
148	2.1216	0.0028
149	2.1244	0.0028

150	2.1272	0.0028
151	2.1300	0.0028
152	2.1328	0.0028
153	2.1356	0.0028
154	2.1383	0.0028
155	2.1411	0.0027
156	2.1438	0.0027
157	2.1465	0.0027
158	2.1492	0.0027
159	2.1519	0.0027
160	2.1545	0.0027
161	2.1572	0.0027
162	2.1598	0.0026
163	2.1625	0.0026
164	2.1651	0.0026
165	2.1677	0.0026
166	2.1703	0.0026
167	2.1728	0.0026
168	2.1754	0.0026
169	2.1780	0.0026
170	2.1805	0.0025
171	2.1830	0.0025
172	2.1856	0.0025
173	2.1881	0.0025
174	2.1906	0.0025
175	2.1930	0.0025
176	2.1955	0.0025
177	2.1980	0.0025
178	2.2004	0.0024
179	2.2029	0.0024
180	2.2053	0.0024
181	2.2077	0.0024
182	2.2101	0.0024
183	2.2125	0.0024
184	2.2149	0.0024
185	2.2173	0.0024
186	2.2196	0.0024
187	2.2220	0.0024
188	2.2243	0.0023
189	2.2266	0.0023
190	2.2290	0.0023
191	2.2313	0.0023
192	2.2336	0.0023
193	2.2359	0.0023
194	2.2382	0.0023
195	2.2404	0.0023
196	2.2427	0.0023
197	2.2450	0.0023
198	2.2472	0.0022
199	2.2495	0.0022
200	2.2517	0.0022
201	2.2539	0.0022
202	2.2561	0.0022
203	2.2583	0.0022
204	2.2605	0.0022
205	2.2627	0.0022
206	2.2649	0.0022
207	2.2671	0.0022
208	2.2692	0.0022

209	2.2714	0.0022
210	2.2735	0.0021
211	2.2756	0.0021
212	2.2778	0.0021
213	2.2799	0.0021
214	2.2820	0.0021
215	2.2841	0.0021
216	2.2862	0.0021
217	2.2883	0.0021
218	2.2904	0.0021
219	2.2924	0.0021
220	2.2945	0.0021
221	2.2966	0.0021
222	2.2986	0.0021
223	2.3007	0.0020
224	2.3027	0.0020
225	2.3047	0.0020
226	2.3067	0.0020
227	2.3088	0.0020
228	2.3108	0.0020
229	2.3128	0.0020
230	2.3148	0.0020
231	2.3167	0.0020
232	2.3187	0.0020
233	2.3207	0.0020
234	2.3227	0.0020
235	2.3246	0.0020
236	2.3266	0.0020
237	2.3285	0.0019
238	2.3305	0.0019
239	2.3324	0.0019
240	2.3343	0.0019
241	2.3362	0.0019
242	2.3381	0.0019
243	2.3401	0.0019
244	2.3420	0.0019
245	2.3438	0.0019
246	2.3457	0.0019
247	2.3476	0.0019
248	2.3495	0.0019
249	2.3514	0.0019
250	2.3532	0.0019
251	2.3551	0.0019
252	2.3569	0.0019
253	2.3588	0.0018
254	2.3606	0.0018
255	2.3625	0.0018
256	2.3643	0.0018
257	2.3661	0.0018
258	2.3679	0.0018
259	2.3697	0.0018
260	2.3715	0.0018
261	2.3733	0.0018
262	2.3751	0.0018
263	2.3769	0.0018
264	2.3787	0.0018
265	2.3805	0.0018
266	2.3823	0.0018
267	2.3840	0.0018

268	2.3858	0.0018
269	2.3875	0.0018
270	2.3893	0.0018
271	2.3910	0.0017
272	2.3928	0.0017
273	2.3945	0.0017
274	2.3963	0.0017
275	2.3980	0.0017
276	2.3997	0.0017
277	2.4014	0.0017
278	2.4031	0.0017
279	2.4048	0.0017
280	2.4065	0.0017
281	2.4082	0.0017
282	2.4099	0.0017
283	2.4116	0.0017
284	2.4133	0.0017
285	2.4150	0.0017
286	2.4166	0.0017
287	2.4183	0.0017
288	2.4200	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0011	0.0006
2	0.0017	0.0011	0.0006
3	0.0017	0.0011	0.0006
4	0.0017	0.0011	0.0006
5	0.0017	0.0011	0.0006
6	0.0017	0.0011	0.0006
7	0.0017	0.0011	0.0006
8	0.0017	0.0011	0.0006
9	0.0017	0.0011	0.0006
10	0.0017	0.0011	0.0006
11	0.0017	0.0011	0.0006
12	0.0017	0.0011	0.0006
13	0.0018	0.0011	0.0006
14	0.0018	0.0011	0.0006
15	0.0018	0.0011	0.0006
16	0.0018	0.0011	0.0006
17	0.0018	0.0011	0.0006
18	0.0018	0.0011	0.0006
19	0.0018	0.0012	0.0006
20	0.0018	0.0012	0.0006
21	0.0018	0.0012	0.0006
22	0.0018	0.0012	0.0007
23	0.0018	0.0012	0.0007
24	0.0018	0.0012	0.0007
25	0.0019	0.0012	0.0007
26	0.0019	0.0012	0.0007
27	0.0019	0.0012	0.0007
28	0.0019	0.0012	0.0007
29	0.0019	0.0012	0.0007
30	0.0019	0.0012	0.0007
31	0.0019	0.0012	0.0007
32	0.0019	0.0012	0.0007
33	0.0019	0.0012	0.0007

34	0.0019	0.0012	0.0007
35	0.0019	0.0013	0.0007
36	0.0020	0.0013	0.0007
37	0.0020	0.0013	0.0007
38	0.0020	0.0013	0.0007
39	0.0020	0.0013	0.0007
40	0.0020	0.0013	0.0007
41	0.0020	0.0013	0.0007
42	0.0020	0.0013	0.0007
43	0.0020	0.0013	0.0007
44	0.0020	0.0013	0.0007
45	0.0021	0.0013	0.0007
46	0.0021	0.0013	0.0007
47	0.0021	0.0013	0.0007
48	0.0021	0.0013	0.0007
49	0.0021	0.0013	0.0007
50	0.0021	0.0014	0.0008
51	0.0021	0.0014	0.0008
52	0.0021	0.0014	0.0008
53	0.0021	0.0014	0.0008
54	0.0022	0.0014	0.0008
55	0.0022	0.0014	0.0008
56	0.0022	0.0014	0.0008
57	0.0022	0.0014	0.0008
58	0.0022	0.0014	0.0008
59	0.0022	0.0014	0.0008
60	0.0022	0.0014	0.0008
61	0.0022	0.0014	0.0008
62	0.0023	0.0015	0.0008
63	0.0023	0.0015	0.0008
64	0.0023	0.0015	0.0008
65	0.0023	0.0015	0.0008
66	0.0023	0.0015	0.0008
67	0.0023	0.0015	0.0008
68	0.0023	0.0015	0.0008
69	0.0024	0.0015	0.0008
70	0.0024	0.0015	0.0008
71	0.0024	0.0015	0.0009
72	0.0024	0.0015	0.0009
73	0.0024	0.0016	0.0009
74	0.0024	0.0016	0.0009
75	0.0025	0.0016	0.0009
76	0.0025	0.0016	0.0009
77	0.0025	0.0016	0.0009
78	0.0025	0.0016	0.0009
79	0.0025	0.0016	0.0009
80	0.0025	0.0016	0.0009
81	0.0026	0.0016	0.0009
82	0.0026	0.0017	0.0009
83	0.0026	0.0017	0.0009
84	0.0026	0.0017	0.0009
85	0.0026	0.0017	0.0009
86	0.0027	0.0017	0.0009
87	0.0027	0.0017	0.0010
88	0.0027	0.0017	0.0010
89	0.0027	0.0018	0.0010
90	0.0027	0.0018	0.0010
91	0.0028	0.0018	0.0010
92	0.0028	0.0018	0.0010

93	0.0028	0.0018	0.0010
94	0.0028	0.0018	0.0010
95	0.0029	0.0018	0.0010
96	0.0029	0.0018	0.0010
97	0.0029	0.0019	0.0010
98	0.0029	0.0019	0.0010
99	0.0030	0.0019	0.0011
100	0.0030	0.0019	0.0011
101	0.0030	0.0019	0.0011
102	0.0030	0.0019	0.0011
103	0.0031	0.0020	0.0011
104	0.0031	0.0020	0.0011
105	0.0031	0.0020	0.0011
106	0.0031	0.0020	0.0011
107	0.0032	0.0020	0.0011
108	0.0032	0.0021	0.0011
109	0.0032	0.0021	0.0012
110	0.0033	0.0021	0.0012
111	0.0033	0.0021	0.0012
112	0.0033	0.0021	0.0012
113	0.0034	0.0022	0.0012
114	0.0034	0.0022	0.0012
115	0.0034	0.0022	0.0012
116	0.0035	0.0022	0.0012
117	0.0035	0.0023	0.0013
118	0.0035	0.0023	0.0013
119	0.0036	0.0023	0.0013
120	0.0036	0.0023	0.0013
121	0.0037	0.0024	0.0013
122	0.0037	0.0024	0.0013
123	0.0037	0.0024	0.0013
124	0.0038	0.0024	0.0013
125	0.0038	0.0025	0.0014
126	0.0039	0.0025	0.0014
127	0.0039	0.0025	0.0014
128	0.0040	0.0025	0.0014
129	0.0040	0.0026	0.0014
130	0.0041	0.0026	0.0015
131	0.0041	0.0027	0.0015
132	0.0042	0.0027	0.0015
133	0.0042	0.0027	0.0015
134	0.0043	0.0028	0.0015
135	0.0044	0.0028	0.0016
136	0.0044	0.0028	0.0016
137	0.0045	0.0029	0.0016
138	0.0045	0.0029	0.0016
139	0.0046	0.0030	0.0017
140	0.0047	0.0030	0.0017
141	0.0048	0.0031	0.0017
142	0.0048	0.0031	0.0017
143	0.0049	0.0032	0.0018
144	0.0050	0.0032	0.0018
145	0.0053	0.0034	0.0019
146	0.0054	0.0035	0.0019
147	0.0055	0.0035	0.0020
148	0.0056	0.0036	0.0020
149	0.0057	0.0037	0.0020
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0021

152	0.0060	0.0039	0.0021
153	0.0062	0.0040	0.0022
154	0.0062	0.0040	0.0022
155	0.0064	0.0041	0.0023
156	0.0065	0.0042	0.0023
157	0.0067	0.0043	0.0024
158	0.0068	0.0044	0.0024
159	0.0070	0.0045	0.0025
160	0.0071	0.0046	0.0025
161	0.0074	0.0047	0.0026
162	0.0075	0.0048	0.0027
163	0.0077	0.0050	0.0028
164	0.0079	0.0051	0.0028
165	0.0082	0.0053	0.0029
166	0.0083	0.0054	0.0030
167	0.0087	0.0056	0.0031
168	0.0089	0.0057	0.0032
169	0.0093	0.0060	0.0033
170	0.0095	0.0061	0.0034
171	0.0100	0.0064	0.0036
172	0.0102	0.0066	0.0036
173	0.0107	0.0069	0.0038
174	0.0110	0.0071	0.0039
175	0.0117	0.0075	0.0042
176	0.0121	0.0078	0.0043
177	0.0129	0.0083	0.0046
178	0.0133	0.0086	0.0048
179	0.0143	0.0092	0.0051
180	0.0149	0.0096	0.0053
181	0.0163	0.0104	0.0058
182	0.0170	0.0109	0.0061
183	0.0189	0.0121	0.0067
184	0.0200	0.0128	0.0071
185	0.0327	0.0210	0.0117
186	0.0349	0.0224	0.0125
187	0.0404	0.0260	0.0144
188	0.0441	0.0284	0.0158
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0959	0.0300	0.0660
192	0.1392	0.0300	0.1093
193	0.6024	0.0300	0.5724
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0240	0.0134
197	0.0212	0.0136	0.0076
198	0.0179	0.0115	0.0064
199	0.0156	0.0100	0.0056
200	0.0138	0.0089	0.0049
201	0.0125	0.0080	0.0045
202	0.0114	0.0073	0.0041
203	0.0105	0.0067	0.0037
204	0.0097	0.0062	0.0035
205	0.0091	0.0058	0.0032
206	0.0085	0.0055	0.0030
207	0.0080	0.0052	0.0029
208	0.0076	0.0049	0.0027
209	0.0072	0.0046	0.0026
210	0.0069	0.0044	0.0025

211	0.0066	0.0042	0.0024
212	0.0063	0.0041	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0038	0.0021
215	0.0056	0.0036	0.0020
216	0.0054	0.0035	0.0019
217	0.0050	0.0032	0.0018
218	0.0049	0.0031	0.0017
219	0.0047	0.0030	0.0017
220	0.0046	0.0029	0.0016
221	0.0044	0.0029	0.0016
222	0.0043	0.0028	0.0015
223	0.0042	0.0027	0.0015
224	0.0041	0.0026	0.0015
225	0.0040	0.0026	0.0014
226	0.0039	0.0025	0.0014
227	0.0038	0.0024	0.0014
228	0.0037	0.0024	0.0013
229	0.0036	0.0023	0.0013
230	0.0036	0.0023	0.0013
231	0.0035	0.0022	0.0012
232	0.0034	0.0022	0.0012
233	0.0033	0.0021	0.0012
234	0.0033	0.0021	0.0012
235	0.0032	0.0021	0.0011
236	0.0032	0.0020	0.0011
237	0.0031	0.0020	0.0011
238	0.0030	0.0020	0.0011
239	0.0030	0.0019	0.0011
240	0.0029	0.0019	0.0010
241	0.0029	0.0019	0.0010
242	0.0028	0.0018	0.0010
243	0.0028	0.0018	0.0010
244	0.0028	0.0018	0.0010
245	0.0027	0.0017	0.0010
246	0.0027	0.0017	0.0010
247	0.0026	0.0017	0.0009
248	0.0026	0.0017	0.0009
249	0.0026	0.0016	0.0009
250	0.0025	0.0016	0.0009
251	0.0025	0.0016	0.0009
252	0.0024	0.0016	0.0009
253	0.0024	0.0016	0.0009
254	0.0024	0.0015	0.0009
255	0.0024	0.0015	0.0008
256	0.0023	0.0015	0.0008
257	0.0023	0.0015	0.0008
258	0.0023	0.0015	0.0008
259	0.0022	0.0014	0.0008
260	0.0022	0.0014	0.0008
261	0.0022	0.0014	0.0008
262	0.0022	0.0014	0.0008
263	0.0021	0.0014	0.0008
264	0.0021	0.0014	0.0008
265	0.0021	0.0013	0.0007
266	0.0021	0.0013	0.0007
267	0.0020	0.0013	0.0007
268	0.0020	0.0013	0.0007
269	0.0020	0.0013	0.0007

270	0.0020	0.0013	0.0007
271	0.0020	0.0013	0.0007
272	0.0019	0.0012	0.0007
273	0.0019	0.0012	0.0007
274	0.0019	0.0012	0.0007
275	0.0019	0.0012	0.0007
276	0.0019	0.0012	0.0007
277	0.0018	0.0012	0.0007
278	0.0018	0.0012	0.0007
279	0.0018	0.0012	0.0006
280	0.0018	0.0012	0.0006
281	0.0018	0.0011	0.0006
282	0.0018	0.0011	0.0006
283	0.0017	0.0011	0.0006
284	0.0017	0.0011	0.0006
285	0.0017	0.0011	0.0006
286	0.0017	0.0011	0.0006
287	0.0017	0.0011	0.0006
288	0.0017	0.0011	0.0006

Total soil rain loss = 1.07(In)
Total effective rainfall = 1.35(In)
Peak flow rate in flood hydrograph = 14.12(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0000	0.00	Q	|	|	|	|
0+15	0.0001	0.01	Q	|	|	|	|
0+20	0.0002	0.02	Q	|	|	|	|
0+25	0.0004	0.03	Q	|	|	|	|
0+30	0.0006	0.04	Q	|	|	|	|
0+35	0.0009	0.04	Q	|	|	|	|
0+40	0.0012	0.04	Q	|	|	|	|
0+45	0.0015	0.05	Q	|	|	|	|
0+50	0.0019	0.05	Q	|	|	|	|
0+55	0.0023	0.05	Q	|	|	|	|
1+ 0	0.0026	0.05	Q	|	|	|	|
1+ 5	0.0030	0.06	Q	|	|	|	|
1+10	0.0034	0.06	Q	|	|	|	|
1+15	0.0038	0.06	Q	|	|	|	|
1+20	0.0042	0.06	Q	|	|	|	|
1+25	0.0047	0.06	Q	|	|	|	|
1+30	0.0051	0.06	Q	|	|	|	|
1+35	0.0055	0.06	Q	|	|	|	|
1+40	0.0059	0.06	Q	|	|	|	|
1+45	0.0064	0.06	Q	|	|	|	|
1+50	0.0068	0.07	Q	|	|	|	|
1+55	0.0073	0.07	Q	|	|	|	|
2+ 0	0.0078	0.07	Q	|	|	|	|
2+ 5	0.0082	0.07	Q	|	|	|	|

2+10	0.0087	0.07	Q				
2+15	0.0092	0.07	Q				
2+20	0.0096	0.07	Q				
2+25	0.0101	0.07	Q				
2+30	0.0106	0.07	Q				
2+35	0.0111	0.07	Q				
2+40	0.0116	0.07	Q				
2+45	0.0121	0.07	Q				
2+50	0.0125	0.07	Q				
2+55	0.0130	0.07	Q				
3+ 0	0.0135	0.07	Q				
3+ 5	0.0141	0.07	Q				
3+10	0.0146	0.07	Q				
3+15	0.0151	0.07	Q				
3+20	0.0156	0.07	Q				
3+25	0.0161	0.07	Q				
3+30	0.0166	0.08	Q				
3+35	0.0171	0.08	Q				
3+40	0.0177	0.08	Q				
3+45	0.0182	0.08	Q				
3+50	0.0187	0.08	Q				
3+55	0.0192	0.08	Q				
4+ 0	0.0198	0.08	Q				
4+ 5	0.0203	0.08	Q				
4+10	0.0209	0.08	Q				
4+15	0.0214	0.08	Q				
4+20	0.0219	0.08	Q				
4+25	0.0225	0.08	Q				
4+30	0.0230	0.08	Q				
4+35	0.0236	0.08	Q				
4+40	0.0242	0.08	Q				
4+45	0.0247	0.08	Q				
4+50	0.0253	0.08	QV				
4+55	0.0259	0.08	QV				
5+ 0	0.0264	0.08	QV				
5+ 5	0.0270	0.08	QV				
5+10	0.0276	0.08	QV				
5+15	0.0282	0.08	QV				
5+20	0.0287	0.08	QV				
5+25	0.0293	0.09	QV				
5+30	0.0299	0.09	QV				
5+35	0.0305	0.09	QV				
5+40	0.0311	0.09	QV				
5+45	0.0317	0.09	QV				
5+50	0.0323	0.09	QV				
5+55	0.0329	0.09	QV				
6+ 0	0.0335	0.09	QV				
6+ 5	0.0342	0.09	QV				
6+10	0.0348	0.09	QV				
6+15	0.0354	0.09	QV				
6+20	0.0360	0.09	QV				
6+25	0.0367	0.09	QV				
6+30	0.0373	0.09	QV				
6+35	0.0380	0.09	QV				
6+40	0.0386	0.09	QV				
6+45	0.0392	0.09	QV				
6+50	0.0399	0.10	QV				
6+55	0.0406	0.10	QV				
7+ 0	0.0412	0.10	QV				

7+ 5	0.0419	0.10	QV				
7+10	0.0426	0.10	QV				
7+15	0.0432	0.10	QV				
7+20	0.0439	0.10	QV				
7+25	0.0446	0.10	QV				
7+30	0.0453	0.10	QV				
7+35	0.0460	0.10	QV				
7+40	0.0467	0.10	QV				
7+45	0.0474	0.10	QV				
7+50	0.0481	0.10	QV				
7+55	0.0489	0.10	QV				
8+ 0	0.0496	0.11	QV				
8+ 5	0.0503	0.11	QV				
8+10	0.0510	0.11	Q V				
8+15	0.0518	0.11	Q V				
8+20	0.0525	0.11	Q V				
8+25	0.0533	0.11	Q V				
8+30	0.0541	0.11	Q V				
8+35	0.0548	0.11	Q V				
8+40	0.0556	0.11	Q V				
8+45	0.0564	0.11	Q V				
8+50	0.0572	0.11	Q V				
8+55	0.0580	0.12	Q V				
9+ 0	0.0588	0.12	Q V				
9+ 5	0.0596	0.12	Q V				
9+10	0.0604	0.12	Q V				
9+15	0.0612	0.12	Q V				
9+20	0.0620	0.12	Q V				
9+25	0.0629	0.12	Q V				
9+30	0.0637	0.12	Q V				
9+35	0.0646	0.12	Q V				
9+40	0.0654	0.13	Q V				
9+45	0.0663	0.13	Q V				
9+50	0.0672	0.13	Q V				
9+55	0.0681	0.13	Q V				
10+ 0	0.0690	0.13	Q V				
10+ 5	0.0699	0.13	Q V				
10+10	0.0708	0.13	Q V				
10+15	0.0717	0.13	Q V				
10+20	0.0726	0.14	Q V				
10+25	0.0736	0.14	Q V				
10+30	0.0745	0.14	Q V				
10+35	0.0755	0.14	Q V				
10+40	0.0765	0.14	Q V				
10+45	0.0775	0.14	Q V				
10+50	0.0785	0.14	Q V				
10+55	0.0795	0.15	Q V				
11+ 0	0.0805	0.15	Q V				
11+ 5	0.0815	0.15	Q V				
11+10	0.0826	0.15	Q V				
11+15	0.0836	0.15	Q V				
11+20	0.0847	0.16	Q V				
11+25	0.0858	0.16	Q V				
11+30	0.0869	0.16	Q V				
11+35	0.0880	0.16	Q V				
11+40	0.0891	0.16	Q V				
11+45	0.0903	0.17	Q V				
11+50	0.0915	0.17	Q V				
11+55	0.0926	0.17	Q V				

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12+ 0       0.0938      0.17  Q  V      |          |          |          |
12+ 5       0.0950      0.18  Q  V      |          |          |          |
12+10       0.0963      0.18  Q  V      |          |          |          |
12+15       0.0975      0.18  Q  V      |          |          |          |
12+20       0.0988      0.19  Q  V      |          |          |          |
12+25       0.1001      0.19  Q  V      |          |          |          |
12+30       0.1015      0.20  Q   V     |          |          |          |
12+35       0.1029      0.20  Q   V     |          |          |          |
12+40       0.1043      0.20  Q   V     |          |          |          |
12+45       0.1057      0.21  Q   V     |          |          |          |
12+50       0.1072      0.21  Q   V     |          |          |          |
12+55       0.1086      0.22  Q   V     |          |          |          |
13+ 0       0.1102      0.22  Q   V     |          |          |          |
13+ 5       0.1117      0.22  Q   V     |          |          |          |
13+10       0.1133      0.23  Q   V     |          |          |          |
13+15       0.1149      0.23  Q   V     |          |          |          |
13+20       0.1165      0.24  Q   V     |          |          |          |
13+25       0.1182      0.24  Q   V     |          |          |          |
13+30       0.1199      0.25  Q   V     |          |          |          |
13+35       0.1217      0.25  Q   V     |          |          |          |
13+40       0.1235      0.26  Q   V     |          |          |          |
13+45       0.1253      0.27  Q   V     |          |          |          |
13+50       0.1272      0.27  Q    V    |          |          |          |
13+55       0.1291      0.28  Q    V    |          |          |          |
14+ 0       0.1311      0.29  Q    V    |          |          |          |
14+ 5       0.1331      0.29  Q    V    |          |          |          |
14+10       0.1352      0.30  Q    V    |          |          |          |
14+15       0.1373      0.31  Q    V    |          |          |          |
14+20       0.1395      0.32  Q    V    |          |          |          |
14+25       0.1418      0.33  Q    V    |          |          |          |
14+30       0.1442      0.34  Q    V    |          |          |          |
14+35       0.1466      0.35  Q    V    |          |          |          |
14+40       0.1491      0.37  Q    V    |          |          |          |
14+45       0.1517      0.38  Q     V   |          |          |          |
14+50       0.1545      0.39  Q     V   |          |          |          |
14+55       0.1573      0.41  Q     V   |          |          |          |
15+ 0       0.1602      0.43  Q     V   |          |          |          |
15+ 5       0.1633      0.45  Q     V   |          |          |          |
15+10       0.1666      0.47  Q     V   |          |          |          |
15+15       0.1700      0.50  Q     V   |          |          |          |
15+20       0.1736      0.52  |Q    V   |          |          |          |
15+25       0.1775      0.56  |Q     V  |          |          |          |
15+30       0.1817      0.61  |Q     V  |          |          |          |
15+35       0.1864      0.68  |Q     V  |          |          |          |
15+40       0.1919      0.80  |Q     V  |          |          |          |
15+45       0.1984      0.95  |Q     V  |          |          |          |
15+50       0.2061      1.12  | Q     V |          |          |          |
15+55       0.2156      1.37  | Q     V |          |          |          |
16+ 0       0.2283      1.85  |  Q     V|          |          |          |
16+ 5       0.2498      3.13  |     Q  V|          |          |          |
16+10       0.2877      5.50  |          |Q         |          |          |
16+15       0.3456      8.40  |          |  V  Q    |          |          |
16+20       0.4372     13.31  |          |     V    |     Q    |          |
16+25       0.5345     14.12  |          |          |V      Q  |          |
16+30       0.6058     10.35  |          |         Q   V      |          |
16+35       0.6571      7.46  |          |   Q      |     V    |          |
16+40       0.6964      5.70  |          |Q         |      V   |          |
16+45       0.7285      4.67  |        Q |          |       V  |          |
16+50       0.7551      3.86  |      Q   |          |         V|          |
```

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16+55       0.7777      3.28  |     Q   |         |         V         |
17+ 0       0.7971      2.81  |    Q    |         |         |V        |
17+ 5       0.8141      2.47  |   Q     |         |         | V       |
17+10       0.8294      2.23  |   Q     |         |         | V       |
17+15       0.8430      1.97  |  Q      |         |         |  V      |
17+20       0.8547      1.71  |  Q      |         |         |  V      |
17+25       0.8651      1.51  |  Q      |         |         |   V     |
17+30       0.8747      1.40  | Q       |         |         |   V     |
17+35       0.8835      1.27  | Q       |         |         |    V    |
17+40       0.8916      1.17  | Q       |         |         |    V    |
17+45       0.8988      1.05  | Q       |         |         |    V    |
17+50       0.9054      0.96  |Q        |         |         |    V    |
17+55       0.9116      0.90  |Q        |         |         |     V   |
18+ 0       0.9171      0.80  |Q        |         |         |     V   |
18+ 5       0.9222      0.75  |Q        |         |         |     V   |
18+10       0.9268      0.67  |Q        |         |         |     V   |
18+15       0.9309      0.59  |Q        |         |         |     V   |
18+20       0.9347      0.55  |Q        |         |         |      V  |
18+25       0.9379      0.46  Q         |         |         |      V  |
18+30       0.9409      0.44  Q         |         |         |      V  |
18+35       0.9439      0.44  Q         |         |         |      V  |
18+40       0.9469      0.44  Q         |         |         |      V  |
18+45       0.9498      0.43  Q         |         |         |      V  |
18+50       0.9527      0.41  Q         |         |         |      V  |
18+55       0.9554      0.39  Q         |         |         |      V  |
19+ 0       0.9577      0.34  Q         |         |         |       V |
19+ 5       0.9597      0.29  Q         |         |         |       V |
19+10       0.9616      0.27  Q         |         |         |       V |
19+15       0.9631      0.22  Q         |         |         |       V |
19+20       0.9643      0.17  Q         |         |         |       V |
19+25       0.9654      0.16  Q         |         |         |       V |
19+30       0.9665      0.16  Q         |         |         |       V |
19+35       0.9676      0.15  Q         |         |         |       V |
19+40       0.9686      0.15  Q         |         |         |       V |
19+45       0.9696      0.15  Q         |         |         |       V |
19+50       0.9706      0.14  Q         |         |         |       V |
19+55       0.9715      0.14  Q         |         |         |       V |
20+ 0       0.9725      0.13  Q         |         |         |       V |
20+ 5       0.9734      0.13  Q         |         |         |       V |
20+10       0.9743      0.13  Q         |         |         |       V |
20+15       0.9751      0.13  Q         |         |         |       V |
20+20       0.9760      0.12  Q         |         |         |       V |
20+25       0.9768      0.12  Q         |         |         |       V |
20+30       0.9777      0.12  Q         |         |         |       V |
20+35       0.9785      0.12  Q         |         |         |       V |
20+40       0.9792      0.11  Q         |         |         |       V |
20+45       0.9800      0.11  Q         |         |         |       V |
20+50       0.9808      0.11  Q         |         |         |       V |
20+55       0.9815      0.11  Q         |         |         |       V |
21+ 0       0.9823      0.11  Q         |         |         |        V|
21+ 5       0.9830      0.11  Q         |         |         |        V|
21+10       0.9837      0.10  Q         |         |         |        V|
21+15       0.9844      0.10  Q         |         |         |        V|
21+20       0.9851      0.10  Q         |         |         |        V|
21+25       0.9858      0.10  Q         |         |         |        V|
21+30       0.9865      0.10  Q         |         |         |        V|
21+35       0.9871      0.10  Q         |         |         |        V|
21+40       0.9878      0.10  Q         |         |         |        V|
21+45       0.9884      0.09  Q         |         |         |        V|
```

21+50	0.9891	0.09	Q	|	|	|	V|
21+55	0.9897	0.09	Q	|	|	|	V|
22+ 0	0.9903	0.09	Q	|	|	|	V|
22+ 5	0.9909	0.09	Q	|	|	|	V|
22+10	0.9915	0.09	Q	|	|	|	V|
22+15	0.9921	0.09	Q	|	|	|	V|
22+20	0.9927	0.09	Q	|	|	|	V|
22+25	0.9933	0.08	Q	|	|	|	V|
22+30	0.9939	0.08	Q	|	|	|	V|
22+35	0.9945	0.08	Q	|	|	|	V|
22+40	0.9950	0.08	Q	|	|	|	V|
22+45	0.9956	0.08	Q	|	|	|	V|
22+50	0.9961	0.08	Q	|	|	|	V|
22+55	0.9967	0.08	Q	|	|	|	V|
23+ 0	0.9972	0.08	Q	|	|	|	V|
23+ 5	0.9977	0.08	Q	|	|	|	V|
23+10	0.9983	0.08	Q	|	|	|	V|
23+15	0.9988	0.08	Q	|	|	|	V|
23+20	0.9993	0.08	Q	|	|	|	V|
23+25	0.9998	0.07	Q	|	|	|	V|
23+30	1.0003	0.07	Q	|	|	|	V|
23+35	1.0008	0.07	Q	|	|	|	V|
23+40	1.0013	0.07	Q	|	|	|	V|
23+45	1.0018	0.07	Q	|	|	|	V|
23+50	1.0023	0.07	Q	|	|	|	V|
23+55	1.0028	0.07	Q	|	|	|	V|
24+ 0	1.0033	0.07	Q	|	|	|	V|
24+ 5	1.0037	0.07	Q	|	|	|	V|
24+10	1.0042	0.07	Q	|	|	|	V|
24+15	1.0046	0.06	Q	|	|	|	V|
24+20	1.0049	0.05	Q	|	|	|	V|
24+25	1.0052	0.04	Q	|	|	|	V|
24+30	1.0054	0.03	Q	|	|	|	V|
24+35	1.0056	0.03	Q	|	|	|	V|
24+40	1.0057	0.02	Q	|	|	|	V|
24+45	1.0059	0.02	Q	|	|	|	V|
24+50	1.0060	0.02	Q	|	|	|	V|
24+55	1.0061	0.01	Q	|	|	|	V|
25+ 0	1.0062	0.01	Q	|	|	|	V|
25+ 5	1.0062	0.01	Q	|	|	|	V|
25+10	1.0063	0.01	Q	|	|	|	V|
25+15	1.0064	0.01	Q	|	|	|	V|
25+20	1.0064	0.01	Q	|	|	|	V|
25+25	1.0065	0.01	Q	|	|	|	V|
25+30	1.0065	0.01	Q	|	|	|	V|
25+35	1.0065	0.01	Q	|	|	|	V|
25+40	1.0066	0.00	Q	|	|	|	V|
25+45	1.0066	0.00	Q	|	|	|	V|
25+50	1.0066	0.00	Q	|	|	|	V|
25+55	1.0066	0.00	Q	|	|	|	V|
26+ 0	1.0066	0.00	Q	|	|	|	V|
26+ 5	1.0067	0.00	Q	|	|	|	V|
26+10	1.0067	0.00	Q	|	|	|	V|
26+15	1.0067	0.00	Q	|	|	|	V|
26+20	1.0067	0.00	Q	|	|	|	V|
26+25	1.0067	0.00	Q	|	|	|	V|
26+30	1.0067	0.00	Q	|	|	|	V|
26+35	1.0067	0.00	Q	|	|	|	V|
26+40	1.0067	0.00	Q	|	|	|	V|

```
   26+45       1.0067      0.00  Q         |          |         |        V|
   26+50       1.0067      0.00  Q         |          |         |        V|
   26+55       1.0067      0.00  Q         |          |         |        V|
   27+ 0       1.0067      0.00  Q         |          |         |        V|
   27+ 5       1.0067      0.00  Q         |          |         |        V|
   27+10       1.0067      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0

Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 9
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
29.97	1	1.27
Rainfall data for year 100		
29.97	6	1.84
Rainfall data for year 100		
29.97	24	2.42

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	29.97	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
29.97	1.000	62.0	80.6	2.41	0.357

Area-averaged catchment yield fraction, Y = 0.357
Area-averaged low loss fraction, Yb = 0.643
User entry of time of concentration = 0.660 (hours)
++
Watershed area = 29.97(Ac.)
Catchment Lag time = 0.528 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 15.7828
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.643 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.420(In)

Rainfall depth area reduction factors:
Using a total area of 29.97(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.030(In)
1-hour factor = 0.999 Adjusted rainfall = 1.268(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.420(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 362.45 (CFS))	
1	0.722	2.616
2	3.087	8.571
3	7.056	14.386
4	13.926	24.902
5	27.146	47.915
6	41.051	50.400
7	51.239	36.926
8	58.733	27.163
9	64.125	19.541
10	68.437	15.629
11	72.116	13.336
12	75.142	10.967
13	77.813	9.682
14	80.025	8.016

15	82.003	7.171
16	83.718	6.214
17	85.300	5.734
18	86.773	5.340
19	88.059	4.659
20	89.166	4.013
21	90.108	3.413
22	91.003	3.244
23	91.843	3.048
24	92.601	2.746
25	93.314	2.583
26	93.974	2.394
27	94.520	1.979
28	95.057	1.945
29	95.579	1.890
30	96.005	1.547
31	96.416	1.487
32	96.820	1.464
33	97.133	1.135
34	97.417	1.030
35	97.700	1.024
36	97.903	0.737
37	98.061	0.572
38	98.219	0.572
39	98.392	0.627
40	98.581	0.686
41	98.770	0.686
42	98.960	0.686
43	99.149	0.686
44	99.339	0.686
45	99.509	0.617
46	99.613	0.378
47	99.712	0.358
48	99.811	0.358
49	99.909	0.358
50	100.000	0.329

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6018	0.6018
2	0.7409	0.1391
3	0.8367	0.0958
4	0.9121	0.0754
5	0.9753	0.0632
6	1.0301	0.0548
7	1.0789	0.0488
8	1.1230	0.0441
9	1.1634	0.0404
10	1.2007	0.0374
11	1.2355	0.0348
12	1.2682	0.0327
13	1.2895	0.0213
14	1.3095	0.0200
15	1.3285	0.0189
16	1.3464	0.0180
17	1.3635	0.0171
18	1.3798	0.0163
19	1.3954	0.0156
20	1.4104	0.0150

21	1.4248	0.0144
22	1.4387	0.0139
23	1.4520	0.0134
24	1.4649	0.0129
25	1.4774	0.0125
26	1.4895	0.0121
27	1.5013	0.0117
28	1.5127	0.0114
29	1.5238	0.0111
30	1.5345	0.0108
31	1.5450	0.0105
32	1.5553	0.0102
33	1.5653	0.0100
34	1.5750	0.0098
35	1.5846	0.0095
36	1.5939	0.0093
37	1.6029	0.0091
38	1.6118	0.0089
39	1.6205	0.0087
40	1.6290	0.0085
41	1.6374	0.0083
42	1.6456	0.0082
43	1.6536	0.0080
44	1.6615	0.0079
45	1.6692	0.0077
46	1.6768	0.0076
47	1.6843	0.0075
48	1.6917	0.0074
49	1.6989	0.0072
50	1.7060	0.0071
51	1.7131	0.0070
52	1.7200	0.0069
53	1.7267	0.0068
54	1.7334	0.0067
55	1.7400	0.0066
56	1.7465	0.0065
57	1.7530	0.0064
58	1.7593	0.0063
59	1.7655	0.0062
60	1.7717	0.0062
61	1.7777	0.0061
62	1.7837	0.0060
63	1.7897	0.0059
64	1.7955	0.0058
65	1.8013	0.0058
66	1.8070	0.0057
67	1.8126	0.0056
68	1.8182	0.0056
69	1.8237	0.0055
70	1.8291	0.0054
71	1.8345	0.0054
72	1.8398	0.0053
73	1.8449	0.0050
74	1.8498	0.0050
75	1.8547	0.0049
76	1.8596	0.0049
77	1.8644	0.0048
78	1.8692	0.0048
79	1.8739	0.0047

80	1.8786	0.0047
81	1.8832	0.0046
82	1.8877	0.0046
83	1.8923	0.0045
84	1.8968	0.0045
85	1.9012	0.0044
86	1.9056	0.0044
87	1.9100	0.0044
88	1.9143	0.0043
89	1.9186	0.0043
90	1.9228	0.0042
91	1.9270	0.0042
92	1.9312	0.0042
93	1.9353	0.0041
94	1.9394	0.0041
95	1.9435	0.0041
96	1.9475	0.0040
97	1.9515	0.0040
98	1.9555	0.0040
99	1.9594	0.0039
100	1.9633	0.0039
101	1.9671	0.0039
102	1.9710	0.0038
103	1.9748	0.0038
104	1.9786	0.0038
105	1.9823	0.0037
106	1.9860	0.0037
107	1.9897	0.0037
108	1.9934	0.0037
109	1.9970	0.0036
110	2.0006	0.0036
111	2.0042	0.0036
112	2.0078	0.0036
113	2.0113	0.0035
114	2.0148	0.0035
115	2.0183	0.0035
116	2.0217	0.0035
117	2.0252	0.0034
118	2.0286	0.0034
119	2.0320	0.0034
120	2.0353	0.0034
121	2.0387	0.0033
122	2.0420	0.0033
123	2.0453	0.0033
124	2.0486	0.0033
125	2.0518	0.0033
126	2.0551	0.0032
127	2.0583	0.0032
128	2.0615	0.0032
129	2.0646	0.0032
130	2.0678	0.0032
131	2.0709	0.0031
132	2.0740	0.0031
133	2.0771	0.0031
134	2.0802	0.0031
135	2.0833	0.0031
136	2.0863	0.0030
137	2.0893	0.0030
138	2.0923	0.0030

139	2.0953	0.0030
140	2.0983	0.0030
141	2.1013	0.0030
142	2.1042	0.0029
143	2.1071	0.0029
144	2.1100	0.0029
145	2.1129	0.0029
146	2.1158	0.0029
147	2.1186	0.0029
148	2.1215	0.0028
149	2.1243	0.0028
150	2.1271	0.0028
151	2.1299	0.0028
152	2.1327	0.0028
153	2.1355	0.0028
154	2.1382	0.0028
155	2.1410	0.0027
156	2.1437	0.0027
157	2.1464	0.0027
158	2.1491	0.0027
159	2.1518	0.0027
160	2.1544	0.0027
161	2.1571	0.0027
162	2.1597	0.0026
163	2.1624	0.0026
164	2.1650	0.0026
165	2.1676	0.0026
166	2.1702	0.0026
167	2.1728	0.0026
168	2.1753	0.0026
169	2.1779	0.0026
170	2.1804	0.0025
171	2.1829	0.0025
172	2.1855	0.0025
173	2.1880	0.0025
174	2.1905	0.0025
175	2.1929	0.0025
176	2.1954	0.0025
177	2.1979	0.0025
178	2.2003	0.0024
179	2.2028	0.0024
180	2.2052	0.0024
181	2.2076	0.0024
182	2.2100	0.0024
183	2.2124	0.0024
184	2.2148	0.0024
185	2.2172	0.0024
186	2.2195	0.0024
187	2.2219	0.0024
188	2.2242	0.0023
189	2.2266	0.0023
190	2.2289	0.0023
191	2.2312	0.0023
192	2.2335	0.0023
193	2.2358	0.0023
194	2.2381	0.0023
195	2.2404	0.0023
196	2.2426	0.0023
197	2.2449	0.0023

198	2.2471	0.0022
199	2.2494	0.0022
200	2.2516	0.0022
201	2.2538	0.0022
202	2.2560	0.0022
203	2.2582	0.0022
204	2.2604	0.0022
205	2.2626	0.0022
206	2.2648	0.0022
207	2.2670	0.0022
208	2.2691	0.0022
209	2.2713	0.0022
210	2.2734	0.0021
211	2.2756	0.0021
212	2.2777	0.0021
213	2.2798	0.0021
214	2.2819	0.0021
215	2.2840	0.0021
216	2.2861	0.0021
217	2.2882	0.0021
218	2.2903	0.0021
219	2.2924	0.0021
220	2.2944	0.0021
221	2.2965	0.0021
222	2.2985	0.0021
223	2.3006	0.0020
224	2.3026	0.0020
225	2.3046	0.0020
226	2.3067	0.0020
227	2.3087	0.0020
228	2.3107	0.0020
229	2.3127	0.0020
230	2.3147	0.0020
231	2.3167	0.0020
232	2.3186	0.0020
233	2.3206	0.0020
234	2.3226	0.0020
235	2.3245	0.0020
236	2.3265	0.0020
237	2.3284	0.0019
238	2.3304	0.0019
239	2.3323	0.0019
240	2.3342	0.0019
241	2.3362	0.0019
242	2.3381	0.0019
243	2.3400	0.0019
244	2.3419	0.0019
245	2.3438	0.0019
246	2.3457	0.0019
247	2.3475	0.0019
248	2.3494	0.0019
249	2.3513	0.0019
250	2.3532	0.0019
251	2.3550	0.0019
252	2.3569	0.0019
253	2.3587	0.0018
254	2.3606	0.0018
255	2.3624	0.0018
256	2.3642	0.0018

257	2.3660	0.0018
258	2.3679	0.0018
259	2.3697	0.0018
260	2.3715	0.0018
261	2.3733	0.0018
262	2.3751	0.0018
263	2.3769	0.0018
264	2.3786	0.0018
265	2.3804	0.0018
266	2.3822	0.0018
267	2.3840	0.0018
268	2.3857	0.0018
269	2.3875	0.0018
270	2.3892	0.0018
271	2.3910	0.0017
272	2.3927	0.0017
273	2.3945	0.0017
274	2.3962	0.0017
275	2.3979	0.0017
276	2.3996	0.0017
277	2.4014	0.0017
278	2.4031	0.0017
279	2.4048	0.0017
280	2.4065	0.0017
281	2.4082	0.0017
282	2.4099	0.0017
283	2.4115	0.0017
284	2.4132	0.0017
285	2.4149	0.0017
286	2.4166	0.0017
287	2.4182	0.0017
288	2.4199	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0011	0.0006
2	0.0017	0.0011	0.0006
3	0.0017	0.0011	0.0006
4	0.0017	0.0011	0.0006
5	0.0017	0.0011	0.0006
6	0.0017	0.0011	0.0006
7	0.0017	0.0011	0.0006
8	0.0017	0.0011	0.0006
9	0.0017	0.0011	0.0006
10	0.0017	0.0011	0.0006
11	0.0017	0.0011	0.0006
12	0.0017	0.0011	0.0006
13	0.0018	0.0011	0.0006
14	0.0018	0.0011	0.0006
15	0.0018	0.0011	0.0006
16	0.0018	0.0011	0.0006
17	0.0018	0.0011	0.0006
18	0.0018	0.0011	0.0006
19	0.0018	0.0012	0.0006
20	0.0018	0.0012	0.0006
21	0.0018	0.0012	0.0006
22	0.0018	0.0012	0.0007

23	0.0018	0.0012	0.0007
24	0.0018	0.0012	0.0007
25	0.0019	0.0012	0.0007
26	0.0019	0.0012	0.0007
27	0.0019	0.0012	0.0007
28	0.0019	0.0012	0.0007
29	0.0019	0.0012	0.0007
30	0.0019	0.0012	0.0007
31	0.0019	0.0012	0.0007
32	0.0019	0.0012	0.0007
33	0.0019	0.0012	0.0007
34	0.0019	0.0012	0.0007
35	0.0019	0.0013	0.0007
36	0.0020	0.0013	0.0007
37	0.0020	0.0013	0.0007
38	0.0020	0.0013	0.0007
39	0.0020	0.0013	0.0007
40	0.0020	0.0013	0.0007
41	0.0020	0.0013	0.0007
42	0.0020	0.0013	0.0007
43	0.0020	0.0013	0.0007
44	0.0020	0.0013	0.0007
45	0.0021	0.0013	0.0007
46	0.0021	0.0013	0.0007
47	0.0021	0.0013	0.0007
48	0.0021	0.0013	0.0007
49	0.0021	0.0013	0.0007
50	0.0021	0.0014	0.0008
51	0.0021	0.0014	0.0008
52	0.0021	0.0014	0.0008
53	0.0021	0.0014	0.0008
54	0.0022	0.0014	0.0008
55	0.0022	0.0014	0.0008
56	0.0022	0.0014	0.0008
57	0.0022	0.0014	0.0008
58	0.0022	0.0014	0.0008
59	0.0022	0.0014	0.0008
60	0.0022	0.0014	0.0008
61	0.0022	0.0014	0.0008
62	0.0023	0.0015	0.0008
63	0.0023	0.0015	0.0008
64	0.0023	0.0015	0.0008
65	0.0023	0.0015	0.0008
66	0.0023	0.0015	0.0008
67	0.0023	0.0015	0.0008
68	0.0023	0.0015	0.0008
69	0.0024	0.0015	0.0008
70	0.0024	0.0015	0.0008
71	0.0024	0.0015	0.0009
72	0.0024	0.0015	0.0009
73	0.0024	0.0016	0.0009
74	0.0024	0.0016	0.0009
75	0.0025	0.0016	0.0009
76	0.0025	0.0016	0.0009
77	0.0025	0.0016	0.0009
78	0.0025	0.0016	0.0009
79	0.0025	0.0016	0.0009
80	0.0025	0.0016	0.0009
81	0.0026	0.0016	0.0009

82	0.0026	0.0017	0.0009
83	0.0026	0.0017	0.0009
84	0.0026	0.0017	0.0009
85	0.0026	0.0017	0.0009
86	0.0027	0.0017	0.0009
87	0.0027	0.0017	0.0010
88	0.0027	0.0017	0.0010
89	0.0027	0.0018	0.0010
90	0.0027	0.0018	0.0010
91	0.0028	0.0018	0.0010
92	0.0028	0.0018	0.0010
93	0.0028	0.0018	0.0010
94	0.0028	0.0018	0.0010
95	0.0029	0.0018	0.0010
96	0.0029	0.0018	0.0010
97	0.0029	0.0019	0.0010
98	0.0029	0.0019	0.0010
99	0.0030	0.0019	0.0011
100	0.0030	0.0019	0.0011
101	0.0030	0.0019	0.0011
102	0.0030	0.0019	0.0011
103	0.0031	0.0020	0.0011
104	0.0031	0.0020	0.0011
105	0.0031	0.0020	0.0011
106	0.0031	0.0020	0.0011
107	0.0032	0.0020	0.0011
108	0.0032	0.0021	0.0011
109	0.0032	0.0021	0.0012
110	0.0033	0.0021	0.0012
111	0.0033	0.0021	0.0012
112	0.0033	0.0021	0.0012
113	0.0034	0.0022	0.0012
114	0.0034	0.0022	0.0012
115	0.0034	0.0022	0.0012
116	0.0035	0.0022	0.0012
117	0.0035	0.0023	0.0013
118	0.0035	0.0023	0.0013
119	0.0036	0.0023	0.0013
120	0.0036	0.0023	0.0013
121	0.0037	0.0024	0.0013
122	0.0037	0.0024	0.0013
123	0.0037	0.0024	0.0013
124	0.0038	0.0024	0.0013
125	0.0038	0.0025	0.0014
126	0.0039	0.0025	0.0014
127	0.0039	0.0025	0.0014
128	0.0040	0.0025	0.0014
129	0.0040	0.0026	0.0014
130	0.0041	0.0026	0.0015
131	0.0041	0.0027	0.0015
132	0.0042	0.0027	0.0015
133	0.0042	0.0027	0.0015
134	0.0043	0.0028	0.0015
135	0.0044	0.0028	0.0016
136	0.0044	0.0028	0.0016
137	0.0045	0.0029	0.0016
138	0.0045	0.0029	0.0016
139	0.0046	0.0030	0.0017
140	0.0047	0.0030	0.0017

141	0.0048	0.0031	0.0017
142	0.0048	0.0031	0.0017
143	0.0049	0.0032	0.0018
144	0.0050	0.0032	0.0018
145	0.0053	0.0034	0.0019
146	0.0054	0.0035	0.0019
147	0.0055	0.0035	0.0020
148	0.0056	0.0036	0.0020
149	0.0057	0.0037	0.0020
150	0.0058	0.0037	0.0021
151	0.0059	0.0038	0.0021
152	0.0060	0.0039	0.0021
153	0.0062	0.0040	0.0022
154	0.0062	0.0040	0.0022
155	0.0064	0.0041	0.0023
156	0.0065	0.0042	0.0023
157	0.0067	0.0043	0.0024
158	0.0068	0.0044	0.0024
159	0.0070	0.0045	0.0025
160	0.0071	0.0046	0.0025
161	0.0074	0.0047	0.0026
162	0.0075	0.0048	0.0027
163	0.0077	0.0050	0.0028
164	0.0079	0.0051	0.0028
165	0.0082	0.0053	0.0029
166	0.0083	0.0054	0.0030
167	0.0087	0.0056	0.0031
168	0.0089	0.0057	0.0032
169	0.0093	0.0060	0.0033
170	0.0095	0.0061	0.0034
171	0.0100	0.0064	0.0036
172	0.0102	0.0066	0.0037
173	0.0108	0.0069	0.0039
174	0.0111	0.0071	0.0040
175	0.0117	0.0075	0.0042
176	0.0121	0.0078	0.0043
177	0.0129	0.0083	0.0046
178	0.0134	0.0086	0.0048
179	0.0144	0.0092	0.0051
180	0.0150	0.0096	0.0053
181	0.0163	0.0105	0.0058
182	0.0171	0.0110	0.0061
183	0.0189	0.0122	0.0068
184	0.0200	0.0129	0.0072
185	0.0327	0.0210	0.0117
186	0.0348	0.0224	0.0124
187	0.0404	0.0260	0.0144
188	0.0441	0.0283	0.0158
189	0.0548	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0958	0.0300	0.0659
192	0.1391	0.0300	0.1091
193	0.6018	0.0300	0.5718
194	0.0754	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0240	0.0134
197	0.0213	0.0137	0.0076
198	0.0180	0.0115	0.0064
199	0.0156	0.0100	0.0056

200	0.0139	0.0089	0.0050
201	0.0125	0.0080	0.0045
202	0.0114	0.0073	0.0041
203	0.0105	0.0067	0.0038
204	0.0098	0.0063	0.0035
205	0.0091	0.0058	0.0032
206	0.0085	0.0055	0.0030
207	0.0080	0.0052	0.0029
208	0.0076	0.0049	0.0027
209	0.0072	0.0047	0.0026
210	0.0069	0.0044	0.0025
211	0.0066	0.0042	0.0024
212	0.0063	0.0041	0.0023
213	0.0061	0.0039	0.0022
214	0.0058	0.0038	0.0021
215	0.0056	0.0036	0.0020
216	0.0054	0.0035	0.0019
217	0.0050	0.0032	0.0018
218	0.0049	0.0031	0.0017
219	0.0047	0.0030	0.0017
220	0.0046	0.0029	0.0016
221	0.0044	0.0029	0.0016
222	0.0043	0.0028	0.0015
223	0.0042	0.0027	0.0015
224	0.0041	0.0026	0.0015
225	0.0040	0.0026	0.0014
226	0.0039	0.0025	0.0014
227	0.0038	0.0024	0.0014
228	0.0037	0.0024	0.0013
229	0.0036	0.0023	0.0013
230	0.0036	0.0023	0.0013
231	0.0035	0.0022	0.0012
232	0.0034	0.0022	0.0012
233	0.0033	0.0021	0.0012
234	0.0033	0.0021	0.0012
235	0.0032	0.0021	0.0011
236	0.0032	0.0020	0.0011
237	0.0031	0.0020	0.0011
238	0.0030	0.0020	0.0011
239	0.0030	0.0019	0.0011
240	0.0029	0.0019	0.0010
241	0.0029	0.0019	0.0010
242	0.0028	0.0018	0.0010
243	0.0028	0.0018	0.0010
244	0.0028	0.0018	0.0010
245	0.0027	0.0017	0.0010
246	0.0027	0.0017	0.0010
247	0.0026	0.0017	0.0009
248	0.0026	0.0017	0.0009
249	0.0026	0.0016	0.0009
250	0.0025	0.0016	0.0009
251	0.0025	0.0016	0.0009
252	0.0024	0.0016	0.0009
253	0.0024	0.0016	0.0009
254	0.0024	0.0015	0.0009
255	0.0024	0.0015	0.0008
256	0.0023	0.0015	0.0008
257	0.0023	0.0015	0.0008
258	0.0023	0.0015	0.0008

259	0.0022	0.0014	0.0008
260	0.0022	0.0014	0.0008
261	0.0022	0.0014	0.0008
262	0.0022	0.0014	0.0008
263	0.0021	0.0014	0.0008
264	0.0021	0.0014	0.0008
265	0.0021	0.0013	0.0007
266	0.0021	0.0013	0.0007
267	0.0020	0.0013	0.0007
268	0.0020	0.0013	0.0007
269	0.0020	0.0013	0.0007
270	0.0020	0.0013	0.0007
271	0.0020	0.0013	0.0007
272	0.0019	0.0012	0.0007
273	0.0019	0.0012	0.0007
274	0.0019	0.0012	0.0007
275	0.0019	0.0012	0.0007
276	0.0019	0.0012	0.0007
277	0.0018	0.0012	0.0007
278	0.0018	0.0012	0.0007
279	0.0018	0.0012	0.0006
280	0.0018	0.0012	0.0006
281	0.0018	0.0011	0.0006
282	0.0018	0.0011	0.0006
283	0.0017	0.0011	0.0006
284	0.0017	0.0011	0.0006
285	0.0017	0.0011	0.0006
286	0.0017	0.0011	0.0006
287	0.0017	0.0011	0.0006
288	0.0017	0.0011	0.0006

Total soil rain loss = 1.07(In)
Total effective rainfall = 1.35(In)
Peak flow rate in flood hydrograph = 39.52(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0002	0.02	Q	|	|	|	|
0+20	0.0004	0.03	Q	|	|	|	|
0+25	0.0008	0.06	Q	|	|	|	|
0+30	0.0014	0.09	Q	|	|	|	|
0+35	0.0022	0.11	Q	|	|	|	|
0+40	0.0030	0.13	Q	|	|	|	|
0+45	0.0040	0.14	Q	|	|	|	|
0+50	0.0050	0.15	Q	|	|	|	|
0+55	0.0061	0.16	Q	|	|	|	|
1+ 0	0.0073	0.17	Q	|	|	|	|
1+ 5	0.0084	0.17	Q	|	|	|	|
1+10	0.0097	0.18	Q	|	|	|	|

1+15	0.0109	0.18	Q				
1+20	0.0122	0.19	Q				
1+25	0.0135	0.19	Q				
1+30	0.0149	0.20	Q				
1+35	0.0162	0.20	Q				
1+40	0.0176	0.20	Q				
1+45	0.0190	0.21	Q				
1+50	0.0205	0.21	Q				
1+55	0.0219	0.21	Q				
2+ 0	0.0234	0.21	Q				
2+ 5	0.0249	0.22	Q				
2+10	0.0264	0.22	Q				
2+15	0.0279	0.22	Q				
2+20	0.0294	0.22	Q				
2+25	0.0310	0.22	Q				
2+30	0.0326	0.23	Q				
2+35	0.0341	0.23	Q				
2+40	0.0357	0.23	Q				
2+45	0.0373	0.23	Q				
2+50	0.0389	0.23	Q				
2+55	0.0406	0.24	Q				
3+ 0	0.0422	0.24	Q				
3+ 5	0.0438	0.24	Q				
3+10	0.0455	0.24	Q				
3+15	0.0472	0.24	Q				
3+20	0.0488	0.24	Q				
3+25	0.0505	0.25	Q				
3+30	0.0522	0.25	Q				
3+35	0.0539	0.25	Q				
3+40	0.0557	0.25	Q				
3+45	0.0574	0.25	Q				
3+50	0.0592	0.25	Q				
3+55	0.0609	0.26	Q				
4+ 0	0.0627	0.26	Q				
4+ 5	0.0645	0.26	Q				
4+10	0.0662	0.26	Q				
4+15	0.0680	0.26	Q				
4+20	0.0699	0.26	Q				
4+25	0.0717	0.26	Q				
4+30	0.0735	0.27	Q				
4+35	0.0753	0.27	Q				
4+40	0.0772	0.27	Q				
4+45	0.0790	0.27	Q				
4+50	0.0809	0.27	Q				
4+55	0.0828	0.27	Q				
5+ 0	0.0847	0.27	QV				
5+ 5	0.0866	0.28	QV				
5+10	0.0885	0.28	QV				
5+15	0.0904	0.28	QV				
5+20	0.0923	0.28	QV				
5+25	0.0943	0.28	QV				
5+30	0.0962	0.28	QV				
5+35	0.0982	0.29	QV				
5+40	0.1002	0.29	QV				
5+45	0.1022	0.29	QV				
5+50	0.1042	0.29	QV				
5+55	0.1062	0.29	QV				
6+ 0	0.1082	0.29	QV				
6+ 5	0.1103	0.30	QV				

6+10	0.1123	0.30	QV				
6+15	0.1144	0.30	QV				
6+20	0.1165	0.30	QV				
6+25	0.1186	0.30	QV				
6+30	0.1207	0.31	QV				
6+35	0.1228	0.31	QV				
6+40	0.1249	0.31	QV				
6+45	0.1271	0.31	QV				
6+50	0.1292	0.31	QV				
6+55	0.1314	0.32	QV				
7+ 0	0.1336	0.32	QV				
7+ 5	0.1358	0.32	QV				
7+10	0.1380	0.32	QV				
7+15	0.1403	0.33	QV				
7+20	0.1425	0.33	QV				
7+25	0.1448	0.33	QV				
7+30	0.1471	0.33	QV				
7+35	0.1494	0.33	QV				
7+40	0.1517	0.34	QV				
7+45	0.1541	0.34	QV				
7+50	0.1564	0.34	QV				
7+55	0.1588	0.34	QV				
8+ 0	0.1612	0.35	QV				
8+ 5	0.1636	0.35	QV				
8+10	0.1660	0.35	QV				
8+15	0.1685	0.36	Q V				
8+20	0.1709	0.36	Q V				
8+25	0.1734	0.36	Q V				
8+30	0.1759	0.36	Q V				
8+35	0.1785	0.37	Q V				
8+40	0.1810	0.37	Q V				
8+45	0.1836	0.37	Q V				
8+50	0.1862	0.38	Q V				
8+55	0.1888	0.38	Q V				
9+ 0	0.1914	0.38	Q V				
9+ 5	0.1941	0.39	Q V				
9+10	0.1968	0.39	Q V				
9+15	0.1995	0.39	Q V				
9+20	0.2022	0.40	Q V				
9+25	0.2050	0.40	Q V				
9+30	0.2077	0.40	Q V				
9+35	0.2105	0.41	Q V				
9+40	0.2134	0.41	Q V				
9+45	0.2162	0.42	Q V				
9+50	0.2191	0.42	Q V				
9+55	0.2220	0.42	Q V				
10+ 0	0.2250	0.43	Q V				
10+ 5	0.2280	0.43	Q V				
10+10	0.2310	0.44	Q V				
10+15	0.2340	0.44	Q V				
10+20	0.2371	0.45	Q V				
10+25	0.2402	0.45	Q V				
10+30	0.2433	0.45	Q V				
10+35	0.2465	0.46	Q V				
10+40	0.2497	0.46	Q V				
10+45	0.2529	0.47	Q V				
10+50	0.2562	0.48	Q V				
10+55	0.2595	0.48	Q V				
11+ 0	0.2628	0.49	Q V				

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11+ 5       0.2662      0.49  Q  V      |          |          |          |
11+10       0.2696      0.50  Q  V      |          |          |          |
11+15       0.2731      0.50  Q  V      |          |          |          |
11+20       0.2766      0.51  Q  V      |          |          |          |
11+25       0.2802      0.52  Q  V      |          |          |          |
11+30       0.2838      0.52  Q  V      |          |          |          |
11+35       0.2874      0.53  Q  V      |          |          |          |
11+40       0.2911      0.54  Q  V      |          |          |          |
11+45       0.2949      0.54  Q  V      |          |          |          |
11+50       0.2987      0.55  Q  V      |          |          |          |
11+55       0.3025      0.56  Q  V      |          |          |          |
12+ 0       0.3064      0.57  Q  V      |          |          |          |
12+ 5       0.3104      0.58  Q  V      |          |          |          |
12+10       0.3144      0.58  Q  V      |          |          |          |
12+15       0.3185      0.59  Q  V      |          |          |          |
12+20       0.3227      0.61  Q  V      |          |          |          |
12+25       0.3269      0.62  Q  V      |          |          |          |
12+30       0.3313      0.63  Q  V      |          |          |          |
12+35       0.3358      0.65  Q  V      |          |          |          |
12+40       0.3403      0.66  Q   V     |          |          |          |
12+45       0.3449      0.67  Q   V     |          |          |          |
12+50       0.3497      0.69  Q   V     |          |          |          |
12+55       0.3545      0.70  Q   V     |          |          |          |
13+ 0       0.3594      0.71  Q   V     |          |          |          |
13+ 5       0.3644      0.73  Q   V     |          |          |          |
13+10       0.3695      0.74  Q   V     |          |          |          |
13+15       0.3747      0.75  Q   V     |          |          |          |
13+20       0.3800      0.77  Q   V     |          |          |          |
13+25       0.3854      0.79  Q   V     |          |          |          |
13+30       0.3909      0.80  Q   V     |          |          |          |
13+35       0.3966      0.82  Q   V     |          |          |          |
13+40       0.4023      0.84  Q   V     |          |          |          |
13+45       0.4082      0.86  Q   V     |          |          |          |
13+50       0.4143      0.88  Q   V     |          |          |          |
13+55       0.4205      0.90  Q   V     |          |          |          |
14+ 0       0.4268      0.92  Q    V    |          |          |          |
14+ 5       0.4333      0.95  Q    V    |          |          |          |
14+10       0.4400      0.97  Q    V    |          |          |          |
14+15       0.4469      1.00  Q    V    |          |          |          |
14+20       0.4540      1.03  |Q   V    |          |          |          |
14+25       0.4613      1.06  |Q   V    |          |          |          |
14+30       0.4688      1.09  |Q   V    |          |          |          |
14+35       0.4765      1.13  |Q   V    |          |          |          |
14+40       0.4846      1.17  |Q   V    |          |          |          |
14+45       0.4929      1.21  |Q   V    |          |          |          |
14+50       0.5015      1.25  |Q   V    |          |          |          |
14+55       0.5105      1.30  |Q    V   |          |          |          |
15+ 0       0.5198      1.35  |Q    V   |          |          |          |
15+ 5       0.5295      1.41  |Q    V   |          |          |          |
15+10       0.5397      1.48  |Q    V   |          |          |          |
15+15       0.5504      1.55  |Q    V   |          |          |          |
15+20       0.5617      1.63  |Q    V   |          |          |          |
15+25       0.5736      1.74  |Q    V   |          |          |          |
15+30       0.5865      1.88  |Q    V   |          |          |          |
15+35       0.6007      2.06  | Q    V  |          |          |          |
15+40       0.6165      2.30  | Q    V  |          |          |          |
15+45       0.6350      2.68  | Q    V  |          |          |          |
15+50       0.6569      3.18  |  Q   V  |          |          |          |
15+55       0.6834      3.85  |  Q    V |          |          |          |
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16+ 0       0.7175      4.95  |   Q   V |         |         |         |
16+ 5       0.7721      7.93  |      Q V|         |         |         |
16+10       0.8619     13.03  |         V  Q      |         |         |
16+15       0.9905     18.68  |         |V      Q |         |         |
16+20       1.1751     26.80  |         |  V      |     Q   |         |
16+25       1.4459     39.33  |         |      V  |         |        Q|
16+30       1.7181     39.52  |         |         V         |        Q|
16+35       1.9297     30.73  |         |          | V      Q         |
16+40       2.0931     23.73  |         |          |  QV     |         |
16+45       2.2188     18.25  |         |        Q |     V   |         |
16+50       2.3224     15.04  |         |    Q     |      V  |         |
16+55       2.4116     12.96  |         | Q        |       V |         |
17+ 0       2.4877     11.04  |         |Q         |        V|         |
17+ 5       2.5551      9.79  |        Q|          |         V         |
17+10       2.6134      8.47  |       Q |          |         |V        |
17+15       2.6660      7.64  |      Q  |          |         |V        |
17+20       2.7130      6.83  |     Q   |          |         | V       |
17+25       2.7564      6.30  |     Q   |          |         | V       |
17+30       2.7965      5.83  |    Q    |          |         |  V      |
17+35       2.8325      5.22  |    Q    |          |         |  V      |
17+40       2.8647      4.67  |   Q     |          |         |   V     |
17+45       2.8935      4.18  |   Q     |          |         |   V     |
17+50       2.9206      3.94  |  Q      |          |         |   V     |
17+55       2.9461      3.70  |  Q      |          |         |    V    |
18+ 0       2.9697      3.42  |  Q      |          |         |    V    |
18+ 5       2.9918      3.22  |  Q      |          |         |    V    |
18+10       3.0125      3.00  | Q       |          |         |    V    |
18+15       3.0310      2.69  | Q       |          |         |     V   |
18+20       3.0487      2.57  | Q       |          |         |     V   |
18+25       3.0655      2.45  | Q       |          |         |     V   |
18+30       3.0806      2.19  | Q       |          |         |     V   |
18+35       3.0949      2.07  | Q       |          |         |     V   |
18+40       3.1085      1.98  |Q        |          |         |     V   |
18+45       3.1205      1.74  |Q        |          |         |      V  |
18+50       3.1316      1.61  |Q        |          |         |      V  |
18+55       3.1421      1.54  |Q        |          |         |      V  |
19+ 0       3.1513      1.33  |Q        |          |         |      V  |
19+ 5       3.1596      1.21  |Q        |          |         |      V  |
19+10       3.1678      1.18  |Q        |          |         |      V  |
19+15       3.1760      1.19  |Q        |          |         |      V  |
19+20       3.1843      1.20  |Q        |          |         |      V  |
19+25       3.1924      1.18  |Q        |          |         |      V  |
19+30       3.2004      1.16  |Q        |          |         |       V |
19+35       3.2082      1.13  |Q        |          |         |       V |
19+40       3.2157      1.09  |Q        |          |         |       V |
19+45       3.2226      1.01  |Q        |          |         |       V |
19+50       3.2285      0.85  Q         |          |         |       V |
19+55       3.2340      0.81  Q         |          |         |       V |
20+ 0       3.2394      0.78  Q         |          |         |       V |
20+ 5       3.2445      0.74  Q         |          |         |       V |
20+10       3.2492      0.68  Q         |          |         |       V |
20+15       3.2525      0.48  Q         |          |         |       V |
20+20       3.2557      0.46  Q         |          |         |       V |
20+25       3.2587      0.44  Q         |          |         |       V |
20+30       3.2616      0.43  Q         |          |         |       V |
20+35       3.2645      0.42  Q         |          |         |       V |
20+40       3.2674      0.41  Q         |          |         |       V |
20+45       3.2701      0.40  Q         |          |         |       V |
20+50       3.2728      0.39  Q         |          |         |       V |
```

20+55	3.2755	0.39	Q	|	|	|	V |
21+ 0	3.2781	0.38	Q	|	|	|	V |
21+ 5	3.2806	0.37	Q	|	|	|	V |
21+10	3.2832	0.36	Q	|	|	|	V|
21+15	3.2856	0.36	Q	|	|	|	V|
21+20	3.2881	0.35	Q	|	|	|	V|
21+25	3.2904	0.35	Q	|	|	|	V|
21+30	3.2928	0.34	Q	|	|	|	V|
21+35	3.2951	0.34	Q	|	|	|	V|
21+40	3.2974	0.33	Q	|	|	|	V|
21+45	3.2996	0.33	Q	|	|	|	V|
21+50	3.3018	0.32	Q	|	|	|	V|
21+55	3.3040	0.32	Q	|	|	|	V|
22+ 0	3.3062	0.31	Q	|	|	|	V|
22+ 5	3.3083	0.31	Q	|	|	|	V|
22+10	3.3104	0.30	Q	|	|	|	V|
22+15	3.3125	0.30	Q	|	|	|	V|
22+20	3.3145	0.30	Q	|	|	|	V|
22+25	3.3165	0.29	Q	|	|	|	V|
22+30	3.3185	0.29	Q	|	|	|	V|
22+35	3.3205	0.29	Q	|	|	|	V|
22+40	3.3224	0.28	Q	|	|	|	V|
22+45	3.3243	0.28	Q	|	|	|	V|
22+50	3.3262	0.28	Q	|	|	|	V|
22+55	3.3281	0.27	Q	|	|	|	V|
23+ 0	3.3299	0.27	Q	|	|	|	V|
23+ 5	3.3318	0.27	Q	|	|	|	V|
23+10	3.3336	0.26	Q	|	|	|	V|
23+15	3.3354	0.26	Q	|	|	|	V|
23+20	3.3372	0.26	Q	|	|	|	V|
23+25	3.3389	0.25	Q	|	|	|	V|
23+30	3.3406	0.25	Q	|	|	|	V|
23+35	3.3424	0.25	Q	|	|	|	V|
23+40	3.3441	0.25	Q	|	|	|	V|
23+45	3.3457	0.24	Q	|	|	|	V|
23+50	3.3474	0.24	Q	|	|	|	V|
23+55	3.3491	0.24	Q	|	|	|	V|
24+ 0	3.3507	0.24	Q	|	|	|	V|
24+ 5	3.3523	0.23	Q	|	|	|	V|
24+10	3.3539	0.23	Q	|	|	|	V|
24+15	3.3554	0.22	Q	|	|	|	V|
24+20	3.3567	0.20	Q	|	|	|	V|
24+25	3.3579	0.17	Q	|	|	|	V|
24+30	3.3588	0.14	Q	|	|	|	V|
24+35	3.3596	0.11	Q	|	|	|	V|
24+40	3.3603	0.10	Q	|	|	|	V|
24+45	3.3609	0.08	Q	|	|	|	V|
24+50	3.3614	0.07	Q	|	|	|	V|
24+55	3.3618	0.07	Q	|	|	|	V|
25+ 0	3.3622	0.06	Q	|	|	|	V|
25+ 5	3.3626	0.05	Q	|	|	|	V|
25+10	3.3629	0.05	Q	|	|	|	V|
25+15	3.3632	0.04	Q	|	|	|	V|
25+20	3.3635	0.04	Q	|	|	|	V|
25+25	3.3637	0.03	Q	|	|	|	V|
25+30	3.3639	0.03	Q	|	|	|	V|
25+35	3.3641	0.03	Q	|	|	|	V|
25+40	3.3643	0.03	Q	|	|	|	V|
25+45	3.3645	0.02	Q	|	|	|	V|

25+50	3.3646	0.02	Q	|	|	|	V|
25+55	3.3648	0.02	Q	|	|	|	V|
26+ 0	3.3649	0.02	Q	|	|	|	V|
26+ 5	3.3650	0.02	Q	|	|	|	V|
26+10	3.3651	0.01	Q	|	|	|	V|
26+15	3.3652	0.01	Q	|	|	|	V|
26+20	3.3652	0.01	Q	|	|	|	V|
26+25	3.3653	0.01	Q	|	|	|	V|
26+30	3.3654	0.01	Q	|	|	|	V|
26+35	3.3654	0.01	Q	|	|	|	V|
26+40	3.3655	0.01	Q	|	|	|	V|
26+45	3.3655	0.01	Q	|	|	|	V|
26+50	3.3656	0.01	Q	|	|	|	V|
26+55	3.3656	0.01	Q	|	|	|	V|
27+ 0	3.3656	0.00	Q	|	|	|	V|
27+ 5	3.3657	0.00	Q	|	|	|	V|
27+10	3.3657	0.00	Q	|	|	|	V|
27+15	3.3657	0.00	Q	|	|	|	V|
27+20	3.3657	0.00	Q	|	|	|	V|
27+25	3.3658	0.00	Q	|	|	|	V|
27+30	3.3658	0.00	Q	|	|	|	V|
27+35	3.3658	0.00	Q	|	|	|	V|
27+40	3.3658	0.00	Q	|	|	|	V|
27+45	3.3658	0.00	Q	|	|	|	V|
27+50	3.3658	0.00	Q	|	|	|	V|
27+55	3.3658	0.00	Q	|	|	|	V|
28+ 0	3.3658	0.00	Q	|	|	|	V|
28+ 5	3.3658	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 10A
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
13.57	1	1.27
Rainfall data for year 100		
13.57	6	1.84
Rainfall data for year 100		
13.57	24	2.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	13.57	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
13.57	1.000	62.0	80.6	2.41	0.355

Area-averaged catchment yield fraction, Y = 0.355
Area-averaged low loss fraction, Yb = 0.645
User entry of time of concentration = 1.400 (hours)
++
Watershed area = 13.57(Ac.)
Catchment Lag time = 1.120 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.4405
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.645 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.400(In)

Rainfall depth area reduction factors:
Using a total area of 13.57(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.400(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 164.11 (CFS))	
1	0.327	0.537
2	1.013	1.125
3	2.125	1.826
4	3.497	2.251
5	5.304	2.965
6	7.451	3.523
7	10.039	4.247
8	14.214	6.853
9	19.490	8.659
10	26.881	12.129
11	33.971	11.636
12	40.298	10.383
13	45.524	8.577
14	50.146	7.585

15	54.101	6.491
16	57.578	5.707
17	60.432	4.683
18	62.925	4.091
19	65.198	3.731
20	67.204	3.291
21	69.105	3.120
22	70.889	2.928
23	72.482	2.614
24	73.950	2.408
25	75.283	2.189
26	76.574	2.118
27	77.823	2.050
28	78.909	1.782
29	79.891	1.612
30	80.873	1.612
31	81.804	1.527
32	82.613	1.327
33	83.416	1.319
34	84.213	1.307
35	84.943	1.199
36	85.657	1.172
37	86.371	1.172
38	87.021	1.067
39	87.617	0.977
40	88.212	0.977
41	88.773	0.920
42	89.227	0.745
43	89.673	0.733
44	90.118	0.730
45	90.542	0.695
46	90.958	0.684
47	91.375	0.684
48	91.764	0.639
49	92.121	0.586
50	92.479	0.586
51	92.830	0.577
52	93.160	0.541
53	93.488	0.537
54	93.813	0.534
55	94.087	0.450
56	94.340	0.415
57	94.593	0.415
58	94.846	0.415
59	95.099	0.415
60	95.352	0.415
61	95.597	0.402
62	95.797	0.329
63	95.991	0.317
64	96.184	0.317
65	96.378	0.317
66	96.571	0.317
67	96.765	0.317
68	96.939	0.286
69	97.074	0.222
70	97.208	0.220
71	97.342	0.220
72	97.476	0.220
73	97.610	0.220

74	97.744	0.219
75	97.843	0.163
76	97.918	0.122
77	97.992	0.122
78	98.066	0.122
79	98.141	0.122
80	98.215	0.122
81	98.291	0.124
82	98.377	0.142
83	98.466	0.147
84	98.555	0.147
85	98.645	0.147
86	98.734	0.147
87	98.823	0.147
88	98.912	0.147
89	99.002	0.147
90	99.091	0.147
91	99.180	0.147
92	99.270	0.147
93	99.359	0.147
94	99.448	0.147
95	99.519	0.117
96	99.566	0.077
97	99.613	0.076
98	99.659	0.076
99	99.706	0.076
100	99.752	0.076
101	99.799	0.076
102	99.845	0.076
103	99.892	0.076
104	99.938	0.076
105	100.000	0.038

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7415	0.1392
3	0.8374	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0309	0.0549
7	1.0797	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2365	0.0349
12	1.2692	0.0327
13	1.2904	0.0212
14	1.3104	0.0200
15	1.3293	0.0189
16	1.3472	0.0179
17	1.3643	0.0170
18	1.3806	0.0163
19	1.3961	0.0156
20	1.4111	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4526	0.0133
24	1.4654	0.0129

25	1.4779	0.0125
26	1.4900	0.0121
27	1.5017	0.0117
28	1.5131	0.0114
29	1.5241	0.0111
30	1.5349	0.0108
31	1.5453	0.0105
32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6918	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8448	0.0049
74	1.8496	0.0048
75	1.8544	0.0048
76	1.8591	0.0047
77	1.8638	0.0047
78	1.8684	0.0046
79	1.8729	0.0046
80	1.8775	0.0045
81	1.8819	0.0045
82	1.8864	0.0044
83	1.8908	0.0044

84	1.8951	0.0043
85	1.8994	0.0043
86	1.9037	0.0043
87	1.9079	0.0042
88	1.9121	0.0042
89	1.9162	0.0041
90	1.9203	0.0041
91	1.9244	0.0041
92	1.9284	0.0040
93	1.9324	0.0040
94	1.9364	0.0040
95	1.9403	0.0039
96	1.9442	0.0039
97	1.9481	0.0039
98	1.9519	0.0038
99	1.9557	0.0038
100	1.9595	0.0038
101	1.9632	0.0037
102	1.9670	0.0037
103	1.9706	0.0037
104	1.9743	0.0037
105	1.9779	0.0036
106	1.9815	0.0036
107	1.9851	0.0036
108	1.9886	0.0035
109	1.9921	0.0035
110	1.9956	0.0035
111	1.9991	0.0035
112	2.0025	0.0034
113	2.0060	0.0034
114	2.0093	0.0034
115	2.0127	0.0034
116	2.0161	0.0033
117	2.0194	0.0033
118	2.0227	0.0033
119	2.0259	0.0033
120	2.0292	0.0033
121	2.0324	0.0032
122	2.0356	0.0032
123	2.0388	0.0032
124	2.0420	0.0032
125	2.0451	0.0031
126	2.0483	0.0031
127	2.0514	0.0031
128	2.0545	0.0031
129	2.0575	0.0031
130	2.0606	0.0030
131	2.0636	0.0030
132	2.0666	0.0030
133	2.0696	0.0030
134	2.0726	0.0030
135	2.0755	0.0030
136	2.0785	0.0029
137	2.0814	0.0029
138	2.0843	0.0029
139	2.0872	0.0029
140	2.0900	0.0029
141	2.0929	0.0029
142	2.0957	0.0028

143	2.0986	0.0028
144	2.1014	0.0028
145	2.1042	0.0028
146	2.1069	0.0028
147	2.1097	0.0028
148	2.1124	0.0027
149	2.1152	0.0027
150	2.1179	0.0027
151	2.1206	0.0027
152	2.1233	0.0027
153	2.1259	0.0027
154	2.1286	0.0027
155	2.1312	0.0026
156	2.1339	0.0026
157	2.1365	0.0026
158	2.1391	0.0026
159	2.1417	0.0026
160	2.1442	0.0026
161	2.1468	0.0026
162	2.1493	0.0025
163	2.1519	0.0025
164	2.1544	0.0025
165	2.1569	0.0025
166	2.1594	0.0025
167	2.1619	0.0025
168	2.1644	0.0025
169	2.1668	0.0025
170	2.1693	0.0025
171	2.1717	0.0024
172	2.1742	0.0024
173	2.1766	0.0024
174	2.1790	0.0024
175	2.1814	0.0024
176	2.1838	0.0024
177	2.1861	0.0024
178	2.1885	0.0024
179	2.1909	0.0024
180	2.1932	0.0023
181	2.1955	0.0023
182	2.1978	0.0023
183	2.2002	0.0023
184	2.2025	0.0023
185	2.2047	0.0023
186	2.2070	0.0023
187	2.2093	0.0023
188	2.2116	0.0023
189	2.2138	0.0023
190	2.2160	0.0022
191	2.2183	0.0022
192	2.2205	0.0022
193	2.2227	0.0022
194	2.2249	0.0022
195	2.2271	0.0022
196	2.2293	0.0022
197	2.2315	0.0022
198	2.2336	0.0022
199	2.2358	0.0022
200	2.2379	0.0021
201	2.2401	0.0021

202	2.2422	0.0021
203	2.2443	0.0021
204	2.2465	0.0021
205	2.2486	0.0021
206	2.2507	0.0021
207	2.2527	0.0021
208	2.2548	0.0021
209	2.2569	0.0021
210	2.2590	0.0021
211	2.2610	0.0021
212	2.2631	0.0021
213	2.2651	0.0020
214	2.2672	0.0020
215	2.2692	0.0020
216	2.2712	0.0020
217	2.2732	0.0020
218	2.2752	0.0020
219	2.2772	0.0020
220	2.2792	0.0020
221	2.2812	0.0020
222	2.2832	0.0020
223	2.2851	0.0020
224	2.2871	0.0020
225	2.2890	0.0020
226	2.2910	0.0019
227	2.2929	0.0019
228	2.2949	0.0019
229	2.2968	0.0019
230	2.2987	0.0019
231	2.3006	0.0019
232	2.3025	0.0019
233	2.3044	0.0019
234	2.3063	0.0019
235	2.3082	0.0019
236	2.3101	0.0019
237	2.3120	0.0019
238	2.3138	0.0019
239	2.3157	0.0019
240	2.3175	0.0019
241	2.3194	0.0018
242	2.3212	0.0018
243	2.3231	0.0018
244	2.3249	0.0018
245	2.3267	0.0018
246	2.3285	0.0018
247	2.3303	0.0018
248	2.3321	0.0018
249	2.3339	0.0018
250	2.3357	0.0018
251	2.3375	0.0018
252	2.3393	0.0018
253	2.3411	0.0018
254	2.3429	0.0018
255	2.3446	0.0018
256	2.3464	0.0018
257	2.3481	0.0018
258	2.3499	0.0017
259	2.3516	0.0017
260	2.3534	0.0017

261	2.3551	0.0017
262	2.3568	0.0017
263	2.3585	0.0017
264	2.3603	0.0017
265	2.3620	0.0017
266	2.3637	0.0017
267	2.3654	0.0017
268	2.3671	0.0017
269	2.3688	0.0017
270	2.3705	0.0017
271	2.3721	0.0017
272	2.3738	0.0017
273	2.3755	0.0017
274	2.3771	0.0017
275	2.3788	0.0017
276	2.3805	0.0017
277	2.3821	0.0017
278	2.3838	0.0016
279	2.3854	0.0016
280	2.3870	0.0016
281	2.3887	0.0016
282	2.3903	0.0016
283	2.3919	0.0016
284	2.3935	0.0016
285	2.3951	0.0016
286	2.3968	0.0016
287	2.3984	0.0016
288	2.4000	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0010	0.0006
2	0.0016	0.0010	0.0006
3	0.0016	0.0010	0.0006
4	0.0016	0.0010	0.0006
5	0.0016	0.0011	0.0006
6	0.0016	0.0011	0.0006
7	0.0016	0.0011	0.0006
8	0.0016	0.0011	0.0006
9	0.0017	0.0011	0.0006
10	0.0017	0.0011	0.0006
11	0.0017	0.0011	0.0006
12	0.0017	0.0011	0.0006
13	0.0017	0.0011	0.0006
14	0.0017	0.0011	0.0006
15	0.0017	0.0011	0.0006
16	0.0017	0.0011	0.0006
17	0.0017	0.0011	0.0006
18	0.0017	0.0011	0.0006
19	0.0017	0.0011	0.0006
20	0.0017	0.0011	0.0006
21	0.0017	0.0011	0.0006
22	0.0018	0.0011	0.0006
23	0.0018	0.0011	0.0006
24	0.0018	0.0011	0.0006
25	0.0018	0.0012	0.0006
26	0.0018	0.0012	0.0006

27	0.0018	0.0012	0.0006
28	0.0018	0.0012	0.0006
29	0.0018	0.0012	0.0006
30	0.0018	0.0012	0.0006
31	0.0018	0.0012	0.0007
32	0.0018	0.0012	0.0007
33	0.0019	0.0012	0.0007
34	0.0019	0.0012	0.0007
35	0.0019	0.0012	0.0007
36	0.0019	0.0012	0.0007
37	0.0019	0.0012	0.0007
38	0.0019	0.0012	0.0007
39	0.0019	0.0012	0.0007
40	0.0019	0.0012	0.0007
41	0.0019	0.0012	0.0007
42	0.0019	0.0013	0.0007
43	0.0020	0.0013	0.0007
44	0.0020	0.0013	0.0007
45	0.0020	0.0013	0.0007
46	0.0020	0.0013	0.0007
47	0.0020	0.0013	0.0007
48	0.0020	0.0013	0.0007
49	0.0020	0.0013	0.0007
50	0.0020	0.0013	0.0007
51	0.0020	0.0013	0.0007
52	0.0021	0.0013	0.0007
53	0.0021	0.0013	0.0007
54	0.0021	0.0013	0.0007
55	0.0021	0.0013	0.0007
56	0.0021	0.0014	0.0007
57	0.0021	0.0014	0.0007
58	0.0021	0.0014	0.0008
59	0.0021	0.0014	0.0008
60	0.0021	0.0014	0.0008
61	0.0022	0.0014	0.0008
62	0.0022	0.0014	0.0008
63	0.0022	0.0014	0.0008
64	0.0022	0.0014	0.0008
65	0.0022	0.0014	0.0008
66	0.0022	0.0014	0.0008
67	0.0023	0.0015	0.0008
68	0.0023	0.0015	0.0008
69	0.0023	0.0015	0.0008
70	0.0023	0.0015	0.0008
71	0.0023	0.0015	0.0008
72	0.0023	0.0015	0.0008
73	0.0023	0.0015	0.0008
74	0.0024	0.0015	0.0008
75	0.0024	0.0015	0.0008
76	0.0024	0.0015	0.0008
77	0.0024	0.0016	0.0009
78	0.0024	0.0016	0.0009
79	0.0024	0.0016	0.0009
80	0.0025	0.0016	0.0009
81	0.0025	0.0016	0.0009
82	0.0025	0.0016	0.0009
83	0.0025	0.0016	0.0009
84	0.0025	0.0016	0.0009
85	0.0025	0.0016	0.0009

86	0.0026	0.0017	0.0009
87	0.0026	0.0017	0.0009
88	0.0026	0.0017	0.0009
89	0.0026	0.0017	0.0009
90	0.0026	0.0017	0.0009
91	0.0027	0.0017	0.0009
92	0.0027	0.0017	0.0010
93	0.0027	0.0018	0.0010
94	0.0027	0.0018	0.0010
95	0.0028	0.0018	0.0010
96	0.0028	0.0018	0.0010
97	0.0028	0.0018	0.0010
98	0.0028	0.0018	0.0010
99	0.0029	0.0018	0.0010
100	0.0029	0.0019	0.0010
101	0.0029	0.0019	0.0010
102	0.0029	0.0019	0.0010
103	0.0030	0.0019	0.0010
104	0.0030	0.0019	0.0011
105	0.0030	0.0019	0.0011
106	0.0030	0.0020	0.0011
107	0.0031	0.0020	0.0011
108	0.0031	0.0020	0.0011
109	0.0031	0.0020	0.0011
110	0.0031	0.0020	0.0011
111	0.0032	0.0021	0.0011
112	0.0032	0.0021	0.0011
113	0.0033	0.0021	0.0012
114	0.0033	0.0021	0.0012
115	0.0033	0.0021	0.0012
116	0.0033	0.0022	0.0012
117	0.0034	0.0022	0.0012
118	0.0034	0.0022	0.0012
119	0.0035	0.0022	0.0012
120	0.0035	0.0023	0.0012
121	0.0035	0.0023	0.0013
122	0.0036	0.0023	0.0013
123	0.0036	0.0023	0.0013
124	0.0037	0.0024	0.0013
125	0.0037	0.0024	0.0013
126	0.0037	0.0024	0.0013
127	0.0038	0.0025	0.0013
128	0.0038	0.0025	0.0014
129	0.0039	0.0025	0.0014
130	0.0039	0.0025	0.0014
131	0.0040	0.0026	0.0014
132	0.0040	0.0026	0.0014
133	0.0041	0.0027	0.0015
134	0.0041	0.0027	0.0015
135	0.0042	0.0027	0.0015
136	0.0043	0.0028	0.0015
137	0.0043	0.0028	0.0015
138	0.0044	0.0028	0.0016
139	0.0045	0.0029	0.0016
140	0.0045	0.0029	0.0016
141	0.0046	0.0030	0.0016
142	0.0047	0.0030	0.0017
143	0.0048	0.0031	0.0017
144	0.0048	0.0031	0.0017

145	0.0053	0.0034	0.0019
146	0.0054	0.0035	0.0019
147	0.0055	0.0036	0.0020
148	0.0056	0.0036	0.0020
149	0.0057	0.0037	0.0020
150	0.0058	0.0037	0.0020
151	0.0059	0.0038	0.0021
152	0.0060	0.0039	0.0021
153	0.0062	0.0040	0.0022
154	0.0062	0.0040	0.0022
155	0.0064	0.0041	0.0023
156	0.0065	0.0042	0.0023
157	0.0067	0.0043	0.0024
158	0.0068	0.0044	0.0024
159	0.0070	0.0045	0.0025
160	0.0071	0.0046	0.0025
161	0.0074	0.0047	0.0026
162	0.0075	0.0048	0.0027
163	0.0077	0.0050	0.0027
164	0.0079	0.0051	0.0028
165	0.0082	0.0053	0.0029
166	0.0083	0.0054	0.0030
167	0.0087	0.0056	0.0031
168	0.0089	0.0057	0.0031
169	0.0093	0.0060	0.0033
170	0.0095	0.0061	0.0034
171	0.0100	0.0064	0.0035
172	0.0102	0.0066	0.0036
173	0.0108	0.0069	0.0038
174	0.0111	0.0071	0.0039
175	0.0117	0.0076	0.0042
176	0.0121	0.0078	0.0043
177	0.0129	0.0083	0.0046
178	0.0133	0.0086	0.0047
179	0.0144	0.0093	0.0051
180	0.0149	0.0096	0.0053
181	0.0163	0.0105	0.0058
182	0.0170	0.0110	0.0060
183	0.0189	0.0122	0.0067
184	0.0200	0.0129	0.0071
185	0.0327	0.0211	0.0116
186	0.0349	0.0225	0.0124
187	0.0404	0.0261	0.0143
188	0.0441	0.0285	0.0156
189	0.0549	0.0300	0.0249
190	0.0632	0.0300	0.0332
191	0.0959	0.0300	0.0659
192	0.1392	0.0300	0.1092
193	0.6022	0.0300	0.5723
194	0.0755	0.0300	0.0455
195	0.0488	0.0300	0.0188
196	0.0374	0.0241	0.0133
197	0.0212	0.0137	0.0075
198	0.0179	0.0116	0.0064
199	0.0156	0.0100	0.0055
200	0.0138	0.0089	0.0049
201	0.0125	0.0080	0.0044
202	0.0114	0.0073	0.0040
203	0.0105	0.0068	0.0037

204	0.0097	0.0063	0.0034
205	0.0091	0.0059	0.0032
206	0.0085	0.0055	0.0030
207	0.0080	0.0052	0.0028
208	0.0076	0.0049	0.0027
209	0.0072	0.0047	0.0026
210	0.0069	0.0045	0.0024
211	0.0066	0.0043	0.0023
212	0.0063	0.0041	0.0022
213	0.0061	0.0039	0.0022
214	0.0058	0.0038	0.0021
215	0.0056	0.0036	0.0020
216	0.0054	0.0035	0.0019
217	0.0049	0.0031	0.0017
218	0.0047	0.0030	0.0017
219	0.0046	0.0029	0.0016
220	0.0044	0.0029	0.0016
221	0.0043	0.0028	0.0015
222	0.0042	0.0027	0.0015
223	0.0041	0.0026	0.0014
224	0.0040	0.0026	0.0014
225	0.0039	0.0025	0.0014
226	0.0038	0.0024	0.0013
227	0.0037	0.0024	0.0013
228	0.0036	0.0023	0.0013
229	0.0035	0.0023	0.0012
230	0.0034	0.0022	0.0012
231	0.0034	0.0022	0.0012
232	0.0033	0.0021	0.0012
233	0.0032	0.0021	0.0011
234	0.0032	0.0020	0.0011
235	0.0031	0.0020	0.0011
236	0.0030	0.0020	0.0011
237	0.0030	0.0019	0.0011
238	0.0029	0.0019	0.0010
239	0.0029	0.0019	0.0010
240	0.0028	0.0018	0.0010
241	0.0028	0.0018	0.0010
242	0.0027	0.0018	0.0010
243	0.0027	0.0017	0.0010
244	0.0027	0.0017	0.0009
245	0.0026	0.0017	0.0009
246	0.0026	0.0017	0.0009
247	0.0025	0.0016	0.0009
248	0.0025	0.0016	0.0009
249	0.0025	0.0016	0.0009
250	0.0024	0.0016	0.0009
251	0.0024	0.0015	0.0008
252	0.0024	0.0015	0.0008
253	0.0023	0.0015	0.0008
254	0.0023	0.0015	0.0008
255	0.0023	0.0015	0.0008
256	0.0022	0.0014	0.0008
257	0.0022	0.0014	0.0008
258	0.0022	0.0014	0.0008
259	0.0022	0.0014	0.0008
260	0.0021	0.0014	0.0008
261	0.0021	0.0014	0.0007
262	0.0021	0.0013	0.0007

263	0.0021	0.0013	0.0007
264	0.0020	0.0013	0.0007
265	0.0020	0.0013	0.0007
266	0.0020	0.0013	0.0007
267	0.0020	0.0013	0.0007
268	0.0019	0.0013	0.0007
269	0.0019	0.0012	0.0007
270	0.0019	0.0012	0.0007
271	0.0019	0.0012	0.0007
272	0.0019	0.0012	0.0007
273	0.0018	0.0012	0.0007
274	0.0018	0.0012	0.0006
275	0.0018	0.0012	0.0006
276	0.0018	0.0012	0.0006
277	0.0018	0.0011	0.0006
278	0.0018	0.0011	0.0006
279	0.0017	0.0011	0.0006
280	0.0017	0.0011	0.0006
281	0.0017	0.0011	0.0006
282	0.0017	0.0011	0.0006
283	0.0017	0.0011	0.0006
284	0.0017	0.0011	0.0006
285	0.0017	0.0011	0.0006
286	0.0016	0.0011	0.0006
287	0.0016	0.0010	0.0006
288	0.0016	0.0010	0.0006

Total soil rain loss = 1.06(In)
Total effective rainfall = 1.34(In)
Peak flow rate in flood hydrograph = 10.55(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

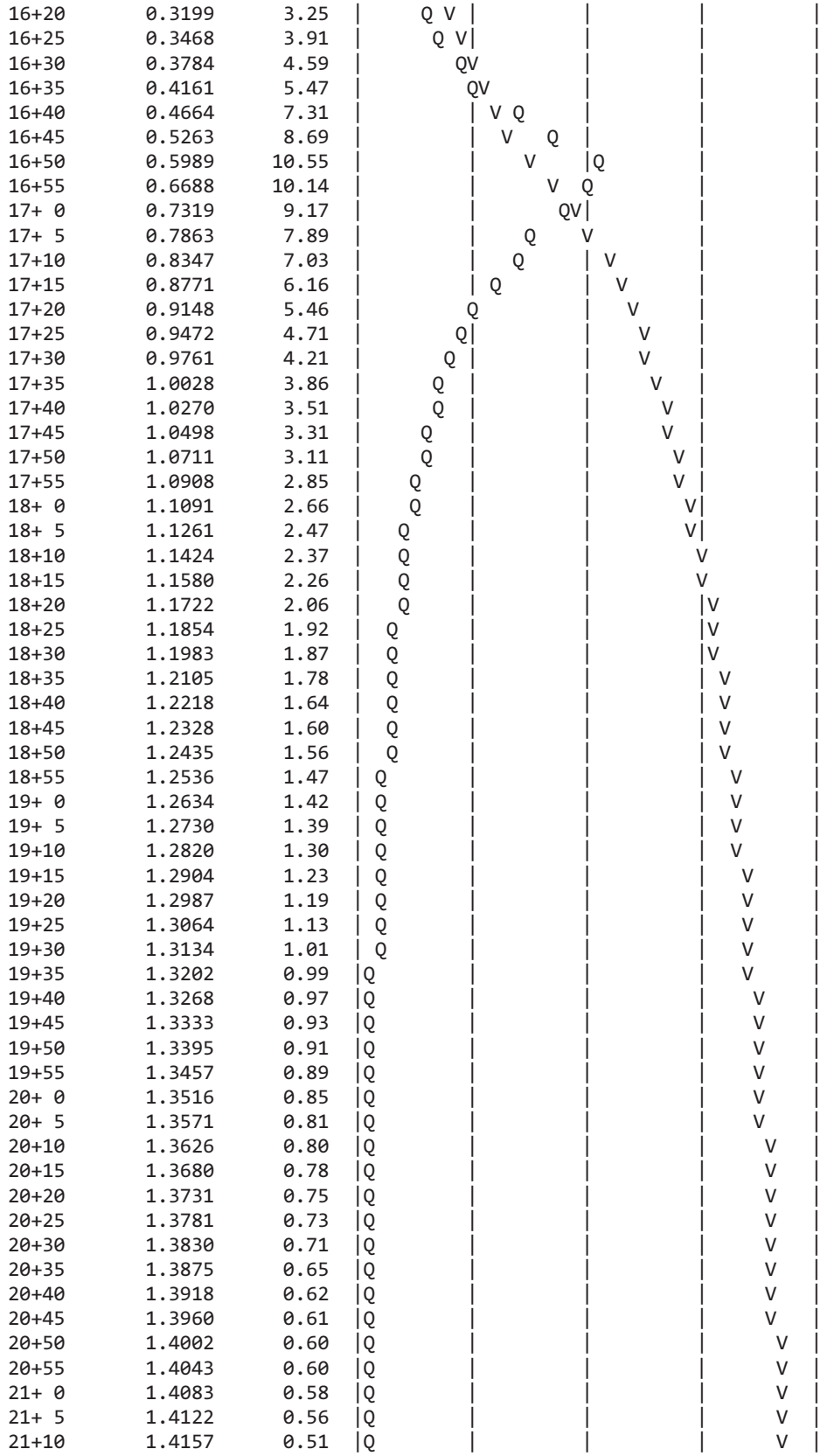
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0000	0.00	Q	|	|	|	|
0+15	0.0000	0.00	Q	|	|	|	|
0+20	0.0000	0.00	Q	|	|	|	|
0+25	0.0001	0.00	Q	|	|	|	|
0+30	0.0001	0.01	Q	|	|	|	|
0+35	0.0002	0.01	Q	|	|	|	|
0+40	0.0003	0.01	Q	|	|	|	|
0+45	0.0004	0.02	Q	|	|	|	|
0+50	0.0006	0.03	Q	|	|	|	|
0+55	0.0008	0.03	Q	|	|	|	|
1+ 0	0.0011	0.04	Q	|	|	|	|
1+ 5	0.0014	0.04	Q	|	|	|	|
1+10	0.0017	0.05	Q	|	|	|	|
1+15	0.0020	0.05	Q	|	|	|	|
1+20	0.0024	0.05	Q	|	|	|	|
1+25	0.0028	0.06	Q	|	|	|	|
1+30	0.0032	0.06	Q	|	|	|	|

1+35	0.0037	0.06	Q				
1+40	0.0041	0.06	Q				
1+45	0.0046	0.07	Q				
1+50	0.0050	0.07	Q				
1+55	0.0055	0.07	Q				
2+ 0	0.0060	0.07	Q				
2+ 5	0.0065	0.07	Q				
2+10	0.0071	0.08	Q				
2+15	0.0076	0.08	Q				
2+20	0.0081	0.08	Q				
2+25	0.0087	0.08	Q				
2+30	0.0092	0.08	Q				
2+35	0.0098	0.08	Q				
2+40	0.0104	0.08	Q				
2+45	0.0110	0.08	Q				
2+50	0.0115	0.09	Q				
2+55	0.0121	0.09	Q				
3+ 0	0.0127	0.09	Q				
3+ 5	0.0134	0.09	Q				
3+10	0.0140	0.09	Q				
3+15	0.0146	0.09	Q				
3+20	0.0152	0.09	Q				
3+25	0.0159	0.09	Q				
3+30	0.0165	0.09	Q				
3+35	0.0172	0.09	Q				
3+40	0.0178	0.10	Q				
3+45	0.0185	0.10	Q				
3+50	0.0191	0.10	Q				
3+55	0.0198	0.10	Q				
4+ 0	0.0205	0.10	Q				
4+ 5	0.0212	0.10	Q				
4+10	0.0219	0.10	Q				
4+15	0.0226	0.10	Q				
4+20	0.0233	0.10	Q				
4+25	0.0240	0.10	Q				
4+30	0.0247	0.10	Q				
4+35	0.0254	0.10	Q				
4+40	0.0262	0.11	Q				
4+45	0.0269	0.11	Q				
4+50	0.0276	0.11	Q				
4+55	0.0284	0.11	Q				
5+ 0	0.0291	0.11	Q				
5+ 5	0.0299	0.11	Q				
5+10	0.0306	0.11	Q				
5+15	0.0314	0.11	Q				
5+20	0.0322	0.11	Q				
5+25	0.0329	0.11	Q				
5+30	0.0337	0.11	Q				
5+35	0.0345	0.11	Q				
5+40	0.0353	0.12	Q				
5+45	0.0361	0.12	Q				
5+50	0.0369	0.12	Q				
5+55	0.0377	0.12	Q				
6+ 0	0.0385	0.12	QV				
6+ 5	0.0393	0.12	QV				
6+10	0.0402	0.12	QV				
6+15	0.0410	0.12	QV				
6+20	0.0418	0.12	QV				
6+25	0.0427	0.12	QV				

6+30	0.0435	0.12	QV				
6+35	0.0444	0.12	QV				
6+40	0.0453	0.12	QV				
6+45	0.0461	0.13	QV				
6+50	0.0470	0.13	QV				
6+55	0.0479	0.13	QV				
7+ 0	0.0488	0.13	QV				
7+ 5	0.0496	0.13	QV				
7+10	0.0505	0.13	QV				
7+15	0.0514	0.13	QV				
7+20	0.0524	0.13	QV				
7+25	0.0533	0.13	QV				
7+30	0.0542	0.13	QV				
7+35	0.0551	0.14	QV				
7+40	0.0561	0.14	QV				
7+45	0.0570	0.14	QV				
7+50	0.0580	0.14	QV				
7+55	0.0589	0.14	QV				
8+ 0	0.0599	0.14	QV				
8+ 5	0.0609	0.14	QV				
8+10	0.0619	0.14	QV				
8+15	0.0628	0.14	QV				
8+20	0.0638	0.14	QV				
8+25	0.0648	0.15	QV				
8+30	0.0659	0.15	QV				
8+35	0.0669	0.15	QV				
8+40	0.0679	0.15	QV				
8+45	0.0689	0.15	QV				
8+50	0.0700	0.15	QV				
8+55	0.0710	0.15	QV				
9+ 0	0.0721	0.15	QV				
9+ 5	0.0732	0.16	QV				
9+10	0.0742	0.16	QV				
9+15	0.0753	0.16	QV				
9+20	0.0764	0.16	Q V				
9+25	0.0775	0.16	Q V				
9+30	0.0787	0.16	Q V				
9+35	0.0798	0.16	Q V				
9+40	0.0809	0.16	Q V				
9+45	0.0821	0.17	Q V				
9+50	0.0832	0.17	Q V				
9+55	0.0844	0.17	Q V				
10+ 0	0.0856	0.17	Q V				
10+ 5	0.0867	0.17	Q V				
10+10	0.0879	0.17	Q V				
10+15	0.0891	0.18	Q V				
10+20	0.0904	0.18	Q V				
10+25	0.0916	0.18	Q V				
10+30	0.0928	0.18	Q V				
10+35	0.0941	0.18	Q V				
10+40	0.0954	0.18	Q V				
10+45	0.0966	0.19	Q V				
10+50	0.0979	0.19	Q V				
10+55	0.0993	0.19	Q V				
11+ 0	0.1006	0.19	Q V				
11+ 5	0.1019	0.19	Q V				
11+10	0.1033	0.20	Q V				
11+15	0.1046	0.20	Q V				
11+20	0.1060	0.20	Q V				

```
11+25       0.1074      0.20  Q V       |          |          |          |
11+30       0.1088      0.21  Q V       |          |          |          |
11+35       0.1103      0.21  Q V       |          |          |          |
11+40       0.1117      0.21  Q V       |          |          |          |
11+45       0.1132      0.21  Q V       |          |          |          |
11+50       0.1146      0.22  Q  V      |          |          |          |
11+55       0.1161      0.22  Q  V      |          |          |          |
12+ 0       0.1177      0.22  Q  V      |          |          |          |
12+ 5       0.1192      0.22  Q  V      |          |          |          |
12+10       0.1208      0.23  Q  V      |          |          |          |
12+15       0.1223      0.23  Q  V      |          |          |          |
12+20       0.1240      0.23  Q  V      |          |          |          |
12+25       0.1256      0.24  Q  V      |          |          |          |
12+30       0.1272      0.24  Q  V      |          |          |          |
12+35       0.1289      0.24  Q  V      |          |          |          |
12+40       0.1306      0.25  Q  V      |          |          |          |
12+45       0.1324      0.25  Q  V      |          |          |          |
12+50       0.1342      0.26  Q  V      |          |          |          |
12+55       0.1360      0.27  Q  V      |          |          |          |
13+ 0       0.1379      0.27  Q  V      |          |          |          |
13+ 5       0.1398      0.28  Q  V      |          |          |          |
13+10       0.1417      0.28  Q  V      |          |          |          |
13+15       0.1437      0.29  Q  V      |          |          |          |
13+20       0.1457      0.29  Q  V      |          |          |          |
13+25       0.1478      0.30  Q  V      |          |          |          |
13+30       0.1499      0.31  Q  V      |          |          |          |
13+35       0.1520      0.31  Q   V     |          |          |          |
13+40       0.1542      0.32  Q   V     |          |          |          |
13+45       0.1565      0.32  Q   V     |          |          |          |
13+50       0.1587      0.33  Q   V     |          |          |          |
13+55       0.1611      0.34  Q   V     |          |          |          |
14+ 0       0.1634      0.35  Q   V     |          |          |          |
14+ 5       0.1659      0.35  Q   V     |          |          |          |
14+10       0.1684      0.36  Q   V     |          |          |          |
14+15       0.1709      0.37  Q   V     |          |          |          |
14+20       0.1735      0.38  Q   V     |          |          |          |
14+25       0.1762      0.39  Q   V     |          |          |          |
14+30       0.1789      0.40  Q   V     |          |          |          |
14+35       0.1817      0.41  Q   V     |          |          |          |
14+40       0.1846      0.42  Q   V     |          |          |          |
14+45       0.1876      0.43  Q   V     |          |          |          |
14+50       0.1907      0.44  Q    V    |          |          |          |
14+55       0.1938      0.46  Q    V    |          |          |          |
15+ 0       0.1971      0.47  Q    V    |          |          |          |
15+ 5       0.2005      0.49  Q    V    |          |          |          |
15+10       0.2040      0.51  |Q   V    |          |          |          |
15+15       0.2076      0.53  |Q   V    |          |          |          |
15+20       0.2114      0.55  |Q   V    |          |          |          |
15+25       0.2153      0.57  |Q   V    |          |          |          |
15+30       0.2195      0.60  |Q   V    |          |          |          |
15+35       0.2239      0.64  |Q   V    |          |          |          |
15+40       0.2286      0.68  |Q    V   |          |          |          |
15+45       0.2336      0.74  |Q    V   |          |          |          |
15+50       0.2392      0.81  |Q    V   |          |          |          |
15+55       0.2455      0.91  |Q    V   |          |          |          |
16+ 0       0.2530      1.09  | Q   V   |          |          |          |
16+ 5       0.2638      1.58  |  Q  V   |          |          |          |
16+10       0.2785      2.14  |   Q  V  |          |          |          |
16+15       0.2975      2.75  |    Q V  |          |          |          |
```



16+20	0.3199	3.25	
16+25	0.3468	3.91	
16+30	0.3784	4.59	
16+35	0.4161	5.47	
16+40	0.4664	7.31	
16+45	0.5263	8.69	
16+50	0.5989	10.55	
16+55	0.6688	10.14	
17+ 0	0.7319	9.17	
17+ 5	0.7863	7.89	
17+10	0.8347	7.03	
17+15	0.8771	6.16	
17+20	0.9148	5.46	
17+25	0.9472	4.71	
17+30	0.9761	4.21	
17+35	1.0028	3.86	
17+40	1.0270	3.51	
17+45	1.0498	3.31	
17+50	1.0711	3.11	
17+55	1.0908	2.85	
18+ 0	1.1091	2.66	
18+ 5	1.1261	2.47	
18+10	1.1424	2.37	
18+15	1.1580	2.26	
18+20	1.1722	2.06	
18+25	1.1854	1.92	
18+30	1.1983	1.87	
18+35	1.2105	1.78	
18+40	1.2218	1.64	
18+45	1.2328	1.60	
18+50	1.2435	1.56	
18+55	1.2536	1.47	
19+ 0	1.2634	1.42	
19+ 5	1.2730	1.39	
19+10	1.2820	1.30	
19+15	1.2904	1.23	
19+20	1.2987	1.19	
19+25	1.3064	1.13	
19+30	1.3134	1.01	
19+35	1.3202	0.99	
19+40	1.3268	0.97	
19+45	1.3333	0.93	
19+50	1.3395	0.91	
19+55	1.3457	0.89	
20+ 0	1.3516	0.85	
20+ 5	1.3571	0.81	
20+10	1.3626	0.80	
20+15	1.3680	0.78	
20+20	1.3731	0.75	
20+25	1.3781	0.73	
20+30	1.3830	0.71	
20+35	1.3875	0.65	
20+40	1.3918	0.62	
20+45	1.3960	0.61	
20+50	1.4002	0.60	
20+55	1.4043	0.60	
21+ 0	1.4083	0.58	
21+ 5	1.4122	0.56	
21+10	1.4157	0.51	

21+15	1.4192	0.50	Q	|	|	|	V |
21+20	1.4226	0.49	Q	|	|	|	V |
21+25	1.4259	0.49	Q	|	|	|	V |
21+30	1.4292	0.48	Q	|	|	|	V |
21+35	1.4324	0.47	Q	|	|	|	V |
21+40	1.4354	0.44	Q	|	|	|	V |
21+45	1.4381	0.39	Q	|	|	|	V |
21+50	1.4408	0.39	Q	|	|	|	V |
21+55	1.4434	0.38	Q	|	|	|	V |
22+ 0	1.4460	0.37	Q	|	|	|	V |
22+ 5	1.4485	0.37	Q	|	|	|	V |
22+10	1.4509	0.35	Q	|	|	|	V |
22+15	1.4531	0.31	Q	|	|	|	V |
22+20	1.4551	0.29	Q	|	|	|	V |
22+25	1.4570	0.28	Q	|	|	|	V |
22+30	1.4589	0.28	Q	|	|	|	V |
22+35	1.4608	0.28	Q	|	|	|	V |
22+40	1.4627	0.27	Q	|	|	|	V |
22+45	1.4646	0.27	Q	|	|	|	V |
22+50	1.4665	0.28	Q	|	|	|	V |
22+55	1.4685	0.28	Q	|	|	|	V |
23+ 0	1.4704	0.28	Q	|	|	|	V |
23+ 5	1.4723	0.28	Q	|	|	|	V |
23+10	1.4742	0.28	Q	|	|	|	V|
23+15	1.4761	0.27	Q	|	|	|	V|
23+20	1.4780	0.27	Q	|	|	|	V|
23+25	1.4799	0.27	Q	|	|	|	V|
23+30	1.4817	0.27	Q	|	|	|	V|
23+35	1.4835	0.26	Q	|	|	|	V|
23+40	1.4853	0.26	Q	|	|	|	V|
23+45	1.4871	0.26	Q	|	|	|	V|
23+50	1.4888	0.25	Q	|	|	|	V|
23+55	1.4903	0.22	Q	|	|	|	V|
24+ 0	1.4917	0.20	Q	|	|	|	V|
24+ 5	1.4930	0.19	Q	|	|	|	V|
24+10	1.4943	0.19	Q	|	|	|	V|
24+15	1.4956	0.19	Q	|	|	|	V|
24+20	1.4969	0.18	Q	|	|	|	V|
24+25	1.4981	0.18	Q	|	|	|	V|
24+30	1.4993	0.17	Q	|	|	|	V|
24+35	1.5004	0.17	Q	|	|	|	V|
24+40	1.5015	0.15	Q	|	|	|	V|
24+45	1.5023	0.12	Q	|	|	|	V|
24+50	1.5029	0.09	Q	|	|	|	V|
24+55	1.5035	0.08	Q	|	|	|	V|
25+ 0	1.5040	0.07	Q	|	|	|	V|
25+ 5	1.5045	0.07	Q	|	|	|	V|
25+10	1.5049	0.06	Q	|	|	|	V|
25+15	1.5053	0.06	Q	|	|	|	V|
25+20	1.5056	0.05	Q	|	|	|	V|
25+25	1.5059	0.05	Q	|	|	|	V|
25+30	1.5063	0.05	Q	|	|	|	V|
25+35	1.5066	0.04	Q	|	|	|	V|
25+40	1.5068	0.04	Q	|	|	|	V|
25+45	1.5071	0.04	Q	|	|	|	V|
25+50	1.5073	0.04	Q	|	|	|	V|
25+55	1.5076	0.03	Q	|	|	|	V|
26+ 0	1.5078	0.03	Q	|	|	|	V|
26+ 5	1.5080	0.03	Q	|	|	|	V|

26+10	1.5082	0.03	Q	|	|	|	V|
26+15	1.5084	0.03	Q	|	|	|	V|
26+20	1.5085	0.03	Q	|	|	|	V|
26+25	1.5087	0.02	Q	|	|	|	V|
26+30	1.5089	0.02	Q	|	|	|	V|
26+35	1.5090	0.02	Q	|	|	|	V|
26+40	1.5092	0.02	Q	|	|	|	V|
26+45	1.5093	0.02	Q	|	|	|	V|
26+50	1.5094	0.02	Q	|	|	|	V|
26+55	1.5095	0.02	Q	|	|	|	V|
27+ 0	1.5097	0.02	Q	|	|	|	V|
27+ 5	1.5098	0.02	Q	|	|	|	V|
27+10	1.5099	0.02	Q	|	|	|	V|
27+15	1.5100	0.01	Q	|	|	|	V|
27+20	1.5101	0.01	Q	|	|	|	V|
27+25	1.5102	0.01	Q	|	|	|	V|
27+30	1.5103	0.01	Q	|	|	|	V|
27+35	1.5103	0.01	Q	|	|	|	V|
27+40	1.5104	0.01	Q	|	|	|	V|
27+45	1.5105	0.01	Q	|	|	|	V|
27+50	1.5106	0.01	Q	|	|	|	V|
27+55	1.5106	0.01	Q	|	|	|	V|
28+ 0	1.5107	0.01	Q	|	|	|	V|
28+ 5	1.5108	0.01	Q	|	|	|	V|
28+10	1.5108	0.01	Q	|	|	|	V|
28+15	1.5109	0.01	Q	|	|	|	V|
28+20	1.5109	0.01	Q	|	|	|	V|
28+25	1.5110	0.01	Q	|	|	|	V|
28+30	1.5110	0.01	Q	|	|	|	V|
28+35	1.5111	0.01	Q	|	|	|	V|
28+40	1.5111	0.01	Q	|	|	|	V|
28+45	1.5111	0.01	Q	|	|	|	V|
28+50	1.5112	0.01	Q	|	|	|	V|
28+55	1.5112	0.01	Q	|	|	|	V|
29+ 0	1.5113	0.01	Q	|	|	|	V|
29+ 5	1.5113	0.00	Q	|	|	|	V|
29+10	1.5113	0.00	Q	|	|	|	V|
29+15	1.5114	0.00	Q	|	|	|	V|
29+20	1.5114	0.00	Q	|	|	|	V|
29+25	1.5114	0.00	Q	|	|	|	V|
29+30	1.5114	0.00	Q	|	|	|	V|
29+35	1.5115	0.00	Q	|	|	|	V|
29+40	1.5115	0.00	Q	|	|	|	V|
29+45	1.5115	0.00	Q	|	|	|	V|
29+50	1.5115	0.00	Q	|	|	|	V|
29+55	1.5115	0.00	Q	|	|	|	V|
30+ 0	1.5116	0.00	Q	|	|	|	V|
30+ 5	1.5116	0.00	Q	|	|	|	V|
30+10	1.5116	0.00	Q	|	|	|	V|
30+15	1.5116	0.00	Q	|	|	|	V|
30+20	1.5116	0.00	Q	|	|	|	V|
30+25	1.5116	0.00	Q	|	|	|	V|
30+30	1.5117	0.00	Q	|	|	|	V|
30+35	1.5117	0.00	Q	|	|	|	V|
30+40	1.5117	0.00	Q	|	|	|	V|
30+45	1.5117	0.00	Q	|	|	|	V|
30+50	1.5117	0.00	Q	|	|	|	V|
30+55	1.5117	0.00	Q	|	|	|	V|
31+ 0	1.5117	0.00	Q	|	|	|	V|

31+ 5	1.5117	0.00	Q	|	|	|	V|
31+10	1.5117	0.00	Q	|	|	|	V|
31+15	1.5117	0.00	Q	|	|	|	V|
31+20	1.5118	0.00	Q	|	|	|	V|
31+25	1.5118	0.00	Q	|	|	|	V|
31+30	1.5118	0.00	Q	|	|	|	V|
31+35	1.5118	0.00	Q	|	|	|	V|
31+40	1.5118	0.00	Q	|	|	|	V|
31+45	1.5118	0.00	Q	|	|	|	V|
31+50	1.5118	0.00	Q	|	|	|	V|
31+55	1.5118	0.00	Q	|	|	|	V|
32+ 0	1.5118	0.00	Q	|	|	|	V|
32+ 5	1.5118	0.00	Q	|	|	|	V|
32+10	1.5118	0.00	Q	|	|	|	V|
32+15	1.5118	0.00	Q	|	|	|	V|
32+20	1.5118	0.00	Q	|	|	|	V|
32+25	1.5118	0.00	Q	|	|	|	V|
32+30	1.5118	0.00	Q	|	|	|	V|
32+35	1.5118	0.00	Q	|	|	|	V|
32+40	1.5118	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/07/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 10B (BORROW PIT)
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
43.92	1	1.27
Rainfall data for year 100		
43.92	6	1.84
Rainfall data for year 100		
43.92	24	2.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
98.0	99.6	43.92	1.000	0.008	0.010	0.000

Area-averaged adjusted loss rate Fm (In/Hr) = 0.000

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.44	0.010	98.0	99.6	0.04	0.980
43.48	0.990	98.0	98.0	0.20	0.905

Area-averaged catchment yield fraction, Y = 0.905
Area-averaged low loss fraction, Yb = 0.095
Direct entry of lag time by user
++
Watershed area = 43.92(Ac.)
Catchment Lag time = 0.500 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.6667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.000(In/Hr)
Average low loss rate fraction (Yb) = 0.095 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.400(In)

Rainfall depth area reduction factors:
Using a total area of 43.92(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998 Adjusted rainfall = 0.601(In)
30-minute factor = 0.998 Adjusted rainfall = 1.029(In)
1-hour factor = 0.998 Adjusted rainfall = 1.267(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.400(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 531.16 (CFS))	
1	0.775	4.116
2	3.367	13.766
3	7.746	23.260
4	16.033	44.020
5	30.950	79.231
6	44.554	72.260
7	54.263	51.567
8	61.150	36.583
9	66.275	27.222
10	70.479	22.331
11	73.950	18.436
12	76.896	15.647
13	79.400	13.301

14	81.550	11.420
15	83.400	9.826
16	85.100	9.030
17	86.667	8.321
18	88.033	7.259
19	89.200	6.197
20	90.192	5.267
21	91.133	5.002
22	92.000	4.603
23	92.792	4.205
24	93.533	3.939
25	94.183	3.453
26	94.750	3.010
27	95.317	3.010
28	95.817	2.656
29	96.250	2.302
30	96.683	2.302
31	97.050	1.948
32	97.350	1.593
33	97.650	1.593
34	97.883	1.239
35	98.050	0.885
36	98.217	0.885
37	98.400	0.974
38	98.600	1.062
39	98.800	1.062
40	99.000	1.062
41	99.200	1.062
42	99.400	1.062
43	99.552	0.808
44	99.656	0.553
45	99.760	0.553
46	99.865	0.553
47	100.000	0.277

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6014	0.6014
2	0.7404	0.1390
3	0.8362	0.0958
4	0.9115	0.0754
5	0.9746	0.0631
6	1.0294	0.0548
7	1.0782	0.0487
8	1.1222	0.0441
9	1.1626	0.0404
10	1.1999	0.0373
11	1.2347	0.0348
12	1.2674	0.0327
13	1.2887	0.0213
14	1.3088	0.0201
15	1.3278	0.0190
16	1.3458	0.0180
17	1.3629	0.0171
18	1.3792	0.0163
19	1.3949	0.0156
20	1.4099	0.0150
21	1.4243	0.0144
22	1.4382	0.0139

23	1.4516	0.0134
24	1.4645	0.0129
25	1.4770	0.0125
26	1.4892	0.0121
27	1.5009	0.0118
28	1.5124	0.0114
29	1.5235	0.0111
30	1.5343	0.0108
31	1.5448	0.0105
32	1.5551	0.0103
33	1.5651	0.0100
34	1.5748	0.0098
35	1.5844	0.0095
36	1.5937	0.0093
37	1.6028	0.0091
38	1.6117	0.0089
39	1.6204	0.0087
40	1.6289	0.0085
41	1.6372	0.0084
42	1.6454	0.0082
43	1.6535	0.0080
44	1.6614	0.0079
45	1.6691	0.0078
46	1.6767	0.0076
47	1.6842	0.0075
48	1.6916	0.0074
49	1.6988	0.0072
50	1.7059	0.0071
51	1.7129	0.0070
52	1.7198	0.0069
53	1.7266	0.0068
54	1.7333	0.0067
55	1.7399	0.0066
56	1.7464	0.0065
57	1.7529	0.0064
58	1.7592	0.0063
59	1.7654	0.0062
60	1.7716	0.0062
61	1.7777	0.0061
62	1.7836	0.0060
63	1.7896	0.0059
64	1.7954	0.0058
65	1.8012	0.0058
66	1.8069	0.0057
67	1.8125	0.0056
68	1.8181	0.0056
69	1.8236	0.0055
70	1.8290	0.0054
71	1.8344	0.0054
72	1.8397	0.0053
73	1.8446	0.0049
74	1.8494	0.0048
75	1.8542	0.0048
76	1.8589	0.0047
77	1.8636	0.0047
78	1.8682	0.0046
79	1.8728	0.0046
80	1.8773	0.0045
81	1.8818	0.0045

82	1.8862	0.0044
83	1.8906	0.0044
84	1.8949	0.0043
85	1.8992	0.0043
86	1.9035	0.0043
87	1.9077	0.0042
88	1.9119	0.0042
89	1.9161	0.0041
90	1.9202	0.0041
91	1.9242	0.0041
92	1.9283	0.0040
93	1.9323	0.0040
94	1.9362	0.0040
95	1.9402	0.0039
96	1.9441	0.0039
97	1.9479	0.0039
98	1.9518	0.0038
99	1.9556	0.0038
100	1.9593	0.0038
101	1.9631	0.0037
102	1.9668	0.0037
103	1.9705	0.0037
104	1.9741	0.0037
105	1.9778	0.0036
106	1.9814	0.0036
107	1.9849	0.0036
108	1.9885	0.0035
109	1.9920	0.0035
110	1.9955	0.0035
111	1.9989	0.0035
112	2.0024	0.0034
113	2.0058	0.0034
114	2.0092	0.0034
115	2.0126	0.0034
116	2.0159	0.0033
117	2.0192	0.0033
118	2.0225	0.0033
119	2.0258	0.0033
120	2.0290	0.0033
121	2.0323	0.0032
122	2.0355	0.0032
123	2.0387	0.0032
124	2.0418	0.0032
125	2.0450	0.0031
126	2.0481	0.0031
127	2.0512	0.0031
128	2.0543	0.0031
129	2.0574	0.0031
130	2.0604	0.0030
131	2.0635	0.0030
132	2.0665	0.0030
133	2.0695	0.0030
134	2.0724	0.0030
135	2.0754	0.0030
136	2.0783	0.0029
137	2.0812	0.0029
138	2.0842	0.0029
139	2.0870	0.0029
140	2.0899	0.0029

141	2.0928	0.0029
142	2.0956	0.0028
143	2.0984	0.0028
144	2.1012	0.0028
145	2.1040	0.0028
146	2.1068	0.0028
147	2.1095	0.0028
148	2.1123	0.0027
149	2.1150	0.0027
150	2.1177	0.0027
151	2.1204	0.0027
152	2.1231	0.0027
153	2.1258	0.0027
154	2.1284	0.0027
155	2.1311	0.0026
156	2.1337	0.0026
157	2.1363	0.0026
158	2.1389	0.0026
159	2.1415	0.0026
160	2.1441	0.0026
161	2.1467	0.0026
162	2.1492	0.0025
163	2.1518	0.0025
164	2.1543	0.0025
165	2.1568	0.0025
166	2.1593	0.0025
167	2.1618	0.0025
168	2.1643	0.0025
169	2.1667	0.0025
170	2.1692	0.0025
171	2.1716	0.0024
172	2.1740	0.0024
173	2.1765	0.0024
174	2.1789	0.0024
175	2.1813	0.0024
176	2.1836	0.0024
177	2.1860	0.0024
178	2.1884	0.0024
179	2.1907	0.0024
180	2.1931	0.0023
181	2.1954	0.0023
182	2.1977	0.0023
183	2.2000	0.0023
184	2.2023	0.0023
185	2.2046	0.0023
186	2.2069	0.0023
187	2.2092	0.0023
188	2.2114	0.0023
189	2.2137	0.0023
190	2.2159	0.0022
191	2.2182	0.0022
192	2.2204	0.0022
193	2.2226	0.0022
194	2.2248	0.0022
195	2.2270	0.0022
196	2.2292	0.0022
197	2.2313	0.0022
198	2.2335	0.0022
199	2.2357	0.0022

200	2.2378	0.0021
201	2.2400	0.0021
202	2.2421	0.0021
203	2.2442	0.0021
204	2.2463	0.0021
205	2.2484	0.0021
206	2.2505	0.0021
207	2.2526	0.0021
208	2.2547	0.0021
209	2.2568	0.0021
210	2.2589	0.0021
211	2.2609	0.0021
212	2.2630	0.0021
213	2.2650	0.0020
214	2.2670	0.0020
215	2.2691	0.0020
216	2.2711	0.0020
217	2.2731	0.0020
218	2.2751	0.0020
219	2.2771	0.0020
220	2.2791	0.0020
221	2.2811	0.0020
222	2.2830	0.0020
223	2.2850	0.0020
224	2.2870	0.0020
225	2.2889	0.0020
226	2.2909	0.0019
227	2.2928	0.0019
228	2.2948	0.0019
229	2.2967	0.0019
230	2.2986	0.0019
231	2.3005	0.0019
232	2.3024	0.0019
233	2.3043	0.0019
234	2.3062	0.0019
235	2.3081	0.0019
236	2.3100	0.0019
237	2.3118	0.0019
238	2.3137	0.0019
239	2.3156	0.0019
240	2.3174	0.0019
241	2.3193	0.0018
242	2.3211	0.0018
243	2.3230	0.0018
244	2.3248	0.0018
245	2.3266	0.0018
246	2.3284	0.0018
247	2.3302	0.0018
248	2.3320	0.0018
249	2.3338	0.0018
250	2.3356	0.0018
251	2.3374	0.0018
252	2.3392	0.0018
253	2.3410	0.0018
254	2.3428	0.0018
255	2.3445	0.0018
256	2.3463	0.0018
257	2.3480	0.0018
258	2.3498	0.0017

259	2.3515	0.0017
260	2.3533	0.0017
261	2.3550	0.0017
262	2.3567	0.0017
263	2.3584	0.0017
264	2.3602	0.0017
265	2.3619	0.0017
266	2.3636	0.0017
267	2.3653	0.0017
268	2.3670	0.0017
269	2.3687	0.0017
270	2.3704	0.0017
271	2.3720	0.0017
272	2.3737	0.0017
273	2.3754	0.0017
274	2.3770	0.0017
275	2.3787	0.0017
276	2.3804	0.0017
277	2.3820	0.0017
278	2.3837	0.0016
279	2.3853	0.0016
280	2.3869	0.0016
281	2.3886	0.0016
282	2.3902	0.0016
283	2.3918	0.0016
284	2.3934	0.0016
285	2.3951	0.0016
286	2.3967	0.0016
287	2.3983	0.0016
288	2.3999	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0000	0.0016
2	0.0016	0.0000	0.0016
3	0.0016	0.0000	0.0016
4	0.0016	0.0000	0.0016
5	0.0016	0.0000	0.0016
6	0.0016	0.0000	0.0016
7	0.0016	0.0000	0.0016
8	0.0016	0.0000	0.0016
9	0.0017	0.0000	0.0016
10	0.0017	0.0000	0.0017
11	0.0017	0.0000	0.0017
12	0.0017	0.0000	0.0017
13	0.0017	0.0000	0.0017
14	0.0017	0.0000	0.0017
15	0.0017	0.0000	0.0017
16	0.0017	0.0000	0.0017
17	0.0017	0.0000	0.0017
18	0.0017	0.0000	0.0017
19	0.0017	0.0000	0.0017
20	0.0017	0.0000	0.0017
21	0.0017	0.0000	0.0017
22	0.0018	0.0000	0.0017
23	0.0018	0.0000	0.0018
24	0.0018	0.0000	0.0018

25	0.0018	0.0000	0.0018
26	0.0018	0.0000	0.0018
27	0.0018	0.0000	0.0018
28	0.0018	0.0000	0.0018
29	0.0018	0.0000	0.0018
30	0.0018	0.0000	0.0018
31	0.0018	0.0000	0.0018
32	0.0018	0.0000	0.0018
33	0.0019	0.0000	0.0018
34	0.0019	0.0000	0.0019
35	0.0019	0.0000	0.0019
36	0.0019	0.0000	0.0019
37	0.0019	0.0000	0.0019
38	0.0019	0.0000	0.0019
39	0.0019	0.0000	0.0019
40	0.0019	0.0000	0.0019
41	0.0019	0.0000	0.0019
42	0.0019	0.0000	0.0019
43	0.0020	0.0000	0.0019
44	0.0020	0.0000	0.0020
45	0.0020	0.0000	0.0020
46	0.0020	0.0000	0.0020
47	0.0020	0.0000	0.0020
48	0.0020	0.0000	0.0020
49	0.0020	0.0000	0.0020
50	0.0020	0.0000	0.0020
51	0.0020	0.0000	0.0020
52	0.0021	0.0000	0.0020
53	0.0021	0.0000	0.0021
54	0.0021	0.0000	0.0021
55	0.0021	0.0000	0.0021
56	0.0021	0.0000	0.0021
57	0.0021	0.0000	0.0021
58	0.0021	0.0000	0.0021
59	0.0021	0.0000	0.0021
60	0.0021	0.0000	0.0021
61	0.0022	0.0000	0.0022
62	0.0022	0.0000	0.0022
63	0.0022	0.0000	0.0022
64	0.0022	0.0000	0.0022
65	0.0022	0.0000	0.0022
66	0.0022	0.0000	0.0022
67	0.0023	0.0000	0.0022
68	0.0023	0.0000	0.0023
69	0.0023	0.0000	0.0023
70	0.0023	0.0000	0.0023
71	0.0023	0.0000	0.0023
72	0.0023	0.0000	0.0023
73	0.0023	0.0000	0.0023
74	0.0024	0.0000	0.0023
75	0.0024	0.0000	0.0024
76	0.0024	0.0000	0.0024
77	0.0024	0.0000	0.0024
78	0.0024	0.0000	0.0024
79	0.0024	0.0000	0.0024
80	0.0025	0.0000	0.0024
81	0.0025	0.0000	0.0025
82	0.0025	0.0000	0.0025
83	0.0025	0.0000	0.0025

84	0.0025	0.0000	0.0025
85	0.0025	0.0000	0.0025
86	0.0026	0.0000	0.0026
87	0.0026	0.0000	0.0026
88	0.0026	0.0000	0.0026
89	0.0026	0.0000	0.0026
90	0.0026	0.0000	0.0026
91	0.0027	0.0000	0.0027
92	0.0027	0.0000	0.0027
93	0.0027	0.0000	0.0027
94	0.0027	0.0000	0.0027
95	0.0028	0.0000	0.0028
96	0.0028	0.0000	0.0028
97	0.0028	0.0000	0.0028
98	0.0028	0.0000	0.0028
99	0.0029	0.0000	0.0028
100	0.0029	0.0000	0.0029
101	0.0029	0.0000	0.0029
102	0.0029	0.0000	0.0029
103	0.0030	0.0000	0.0029
104	0.0030	0.0000	0.0030
105	0.0030	0.0000	0.0030
106	0.0030	0.0000	0.0030
107	0.0031	0.0000	0.0031
108	0.0031	0.0000	0.0031
109	0.0031	0.0000	0.0031
110	0.0031	0.0000	0.0031
111	0.0032	0.0000	0.0032
112	0.0032	0.0000	0.0032
113	0.0033	0.0000	0.0032
114	0.0033	0.0000	0.0033
115	0.0033	0.0000	0.0033
116	0.0033	0.0000	0.0033
117	0.0034	0.0000	0.0034
118	0.0034	0.0000	0.0034
119	0.0035	0.0000	0.0035
120	0.0035	0.0000	0.0035
121	0.0035	0.0000	0.0035
122	0.0036	0.0000	0.0036
123	0.0036	0.0000	0.0036
124	0.0037	0.0000	0.0036
125	0.0037	0.0000	0.0037
126	0.0037	0.0000	0.0037
127	0.0038	0.0000	0.0038
128	0.0038	0.0000	0.0038
129	0.0039	0.0000	0.0039
130	0.0039	0.0000	0.0039
131	0.0040	0.0000	0.0040
132	0.0040	0.0000	0.0040
133	0.0041	0.0000	0.0041
134	0.0041	0.0000	0.0041
135	0.0042	0.0000	0.0042
136	0.0043	0.0000	0.0043
137	0.0043	0.0000	0.0043
138	0.0044	0.0000	0.0044
139	0.0045	0.0000	0.0045
140	0.0045	0.0000	0.0045
141	0.0046	0.0000	0.0046
142	0.0047	0.0000	0.0047

143	0.0048	0.0000	0.0048
144	0.0048	0.0000	0.0048
145	0.0053	0.0000	0.0053
146	0.0054	0.0000	0.0054
147	0.0055	0.0000	0.0055
148	0.0056	0.0000	0.0056
149	0.0057	0.0000	0.0057
150	0.0058	0.0000	0.0058
151	0.0059	0.0000	0.0059
152	0.0060	0.0000	0.0060
153	0.0062	0.0000	0.0061
154	0.0062	0.0000	0.0062
155	0.0064	0.0000	0.0064
156	0.0065	0.0000	0.0065
157	0.0067	0.0000	0.0067
158	0.0068	0.0000	0.0068
159	0.0070	0.0000	0.0070
160	0.0071	0.0000	0.0071
161	0.0074	0.0000	0.0074
162	0.0075	0.0000	0.0075
163	0.0078	0.0000	0.0077
164	0.0079	0.0000	0.0079
165	0.0082	0.0000	0.0082
166	0.0084	0.0000	0.0083
167	0.0087	0.0000	0.0087
168	0.0089	0.0000	0.0089
169	0.0093	0.0000	0.0093
170	0.0095	0.0000	0.0095
171	0.0100	0.0000	0.0100
172	0.0103	0.0000	0.0103
173	0.0108	0.0000	0.0108
174	0.0111	0.0000	0.0111
175	0.0118	0.0000	0.0118
176	0.0121	0.0000	0.0121
177	0.0129	0.0000	0.0129
178	0.0134	0.0000	0.0134
179	0.0144	0.0000	0.0144
180	0.0150	0.0000	0.0150
181	0.0163	0.0000	0.0163
182	0.0171	0.0000	0.0171
183	0.0190	0.0000	0.0190
184	0.0201	0.0000	0.0201
185	0.0327	0.0000	0.0326
186	0.0348	0.0000	0.0348
187	0.0404	0.0000	0.0404
188	0.0441	0.0000	0.0441
189	0.0548	0.0000	0.0548
190	0.0631	0.0000	0.0631
191	0.0958	0.0000	0.0958
192	0.1390	0.0000	0.1390
193	0.6014	0.0000	0.6014
194	0.0754	0.0000	0.0754
195	0.0487	0.0000	0.0487
196	0.0373	0.0000	0.0373
197	0.0213	0.0000	0.0213
198	0.0180	0.0000	0.0180
199	0.0156	0.0000	0.0156
200	0.0139	0.0000	0.0139
201	0.0125	0.0000	0.0125

202	0.0114	0.0000	0.0114
203	0.0105	0.0000	0.0105
204	0.0098	0.0000	0.0098
205	0.0091	0.0000	0.0091
206	0.0085	0.0000	0.0085
207	0.0080	0.0000	0.0080
208	0.0076	0.0000	0.0076
209	0.0072	0.0000	0.0072
210	0.0069	0.0000	0.0069
211	0.0066	0.0000	0.0066
212	0.0063	0.0000	0.0063
213	0.0061	0.0000	0.0061
214	0.0058	0.0000	0.0058
215	0.0056	0.0000	0.0056
216	0.0054	0.0000	0.0054
217	0.0049	0.0000	0.0049
218	0.0047	0.0000	0.0047
219	0.0046	0.0000	0.0046
220	0.0044	0.0000	0.0044
221	0.0043	0.0000	0.0043
222	0.0042	0.0000	0.0042
223	0.0041	0.0000	0.0041
224	0.0040	0.0000	0.0040
225	0.0039	0.0000	0.0039
226	0.0038	0.0000	0.0038
227	0.0037	0.0000	0.0037
228	0.0036	0.0000	0.0036
229	0.0035	0.0000	0.0035
230	0.0034	0.0000	0.0034
231	0.0034	0.0000	0.0034
232	0.0033	0.0000	0.0033
233	0.0032	0.0000	0.0032
234	0.0032	0.0000	0.0032
235	0.0031	0.0000	0.0031
236	0.0030	0.0000	0.0030
237	0.0030	0.0000	0.0030
238	0.0029	0.0000	0.0029
239	0.0029	0.0000	0.0029
240	0.0028	0.0000	0.0028
241	0.0028	0.0000	0.0028
242	0.0027	0.0000	0.0027
243	0.0027	0.0000	0.0027
244	0.0027	0.0000	0.0027
245	0.0026	0.0000	0.0026
246	0.0026	0.0000	0.0026
247	0.0025	0.0000	0.0025
248	0.0025	0.0000	0.0025
249	0.0025	0.0000	0.0025
250	0.0024	0.0000	0.0024
251	0.0024	0.0000	0.0024
252	0.0024	0.0000	0.0024
253	0.0023	0.0000	0.0023
254	0.0023	0.0000	0.0023
255	0.0023	0.0000	0.0023
256	0.0022	0.0000	0.0022
257	0.0022	0.0000	0.0022
258	0.0022	0.0000	0.0022
259	0.0022	0.0000	0.0022
260	0.0021	0.0000	0.0021

261	0.0021	0.0000	0.0021
262	0.0021	0.0000	0.0021
263	0.0021	0.0000	0.0021
264	0.0020	0.0000	0.0020
265	0.0020	0.0000	0.0020
266	0.0020	0.0000	0.0020
267	0.0020	0.0000	0.0020
268	0.0019	0.0000	0.0019
269	0.0019	0.0000	0.0019
270	0.0019	0.0000	0.0019
271	0.0019	0.0000	0.0019
272	0.0019	0.0000	0.0019
273	0.0018	0.0000	0.0018
274	0.0018	0.0000	0.0018
275	0.0018	0.0000	0.0018
276	0.0018	0.0000	0.0018
277	0.0018	0.0000	0.0018
278	0.0018	0.0000	0.0018
279	0.0017	0.0000	0.0017
280	0.0017	0.0000	0.0017
281	0.0017	0.0000	0.0017
282	0.0017	0.0000	0.0017
283	0.0017	0.0000	0.0017
284	0.0017	0.0000	0.0017
285	0.0017	0.0000	0.0016
286	0.0016	0.0000	0.0016
287	0.0016	0.0000	0.0016
288	0.0016	0.0000	0.0016

Total soil rain loss = 0.00(In)
Total effective rainfall = 2.40(In)
Peak flow rate in flood hydrograph = 75.67(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

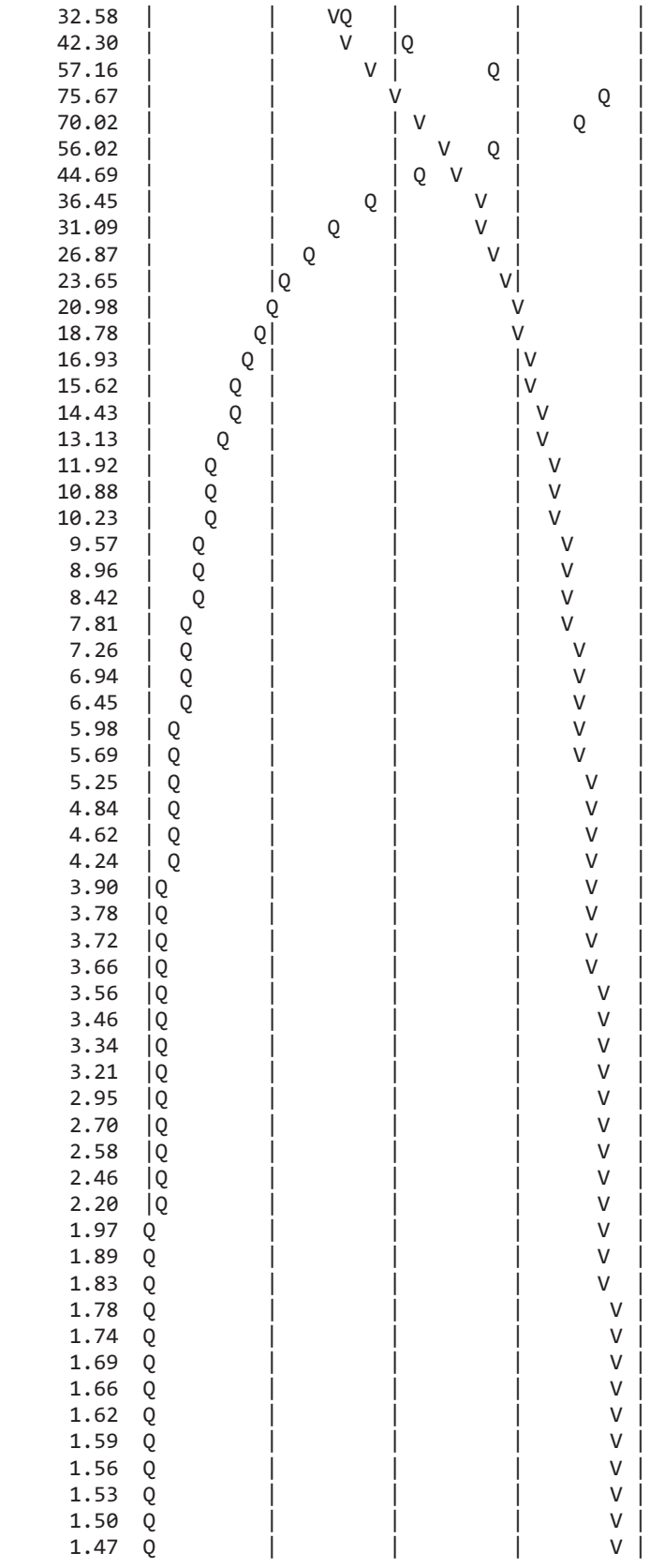
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0002	0.03	Q	|	|	|	|
0+15	0.0007	0.07	Q	|	|	|	|
0+20	0.0016	0.14	Q	|	|	|	|
0+25	0.0034	0.26	Q	|	|	|	|
0+30	0.0061	0.38	Q	|	|	|	|
0+35	0.0092	0.46	Q	|	|	|	|
0+40	0.0128	0.52	Q	|	|	|	|
0+45	0.0168	0.57	Q	|	|	|	|
0+50	0.0209	0.61	Q	|	|	|	|
0+55	0.0253	0.64	Q	|	|	|	|
1+ 0	0.0299	0.67	Q	|	|	|	|
1+ 5	0.0347	0.69	Q	|	|	|	|
1+10	0.0396	0.71	Q	|	|	|	|
1+15	0.0446	0.73	Q	|	|	|	|
1+20	0.0497	0.75	Q	|	|	|	|

1+25	0.0550	0.76	Q				
1+30	0.0604	0.78	Q				
1+35	0.0658	0.79	Q				
1+40	0.0714	0.80	Q				
1+45	0.0770	0.82	Q				
1+50	0.0827	0.83	Q				
1+55	0.0885	0.84	Q				
2+ 0	0.0943	0.85	Q				
2+ 5	0.1002	0.86	Q				
2+10	0.1062	0.87	Q				
2+15	0.1122	0.88	Q				
2+20	0.1183	0.88	Q				
2+25	0.1244	0.89	Q				
2+30	0.1306	0.90	Q				
2+35	0.1369	0.91	Q				
2+40	0.1432	0.91	Q				
2+45	0.1495	0.92	Q				
2+50	0.1559	0.93	Q				
2+55	0.1623	0.93	Q				
3+ 0	0.1688	0.94	Q				
3+ 5	0.1753	0.95	Q				
3+10	0.1818	0.95	Q				
3+15	0.1884	0.96	Q				
3+20	0.1951	0.96	Q				
3+25	0.2018	0.97	Q				
3+30	0.2085	0.98	Q				
3+35	0.2153	0.98	Q				
3+40	0.2221	0.99	QV				
3+45	0.2290	1.00	QV				
3+50	0.2359	1.00	QV				
3+55	0.2428	1.01	QV				
4+ 0	0.2498	1.01	QV				
4+ 5	0.2568	1.02	QV				
4+10	0.2638	1.02	QV				
4+15	0.2709	1.03	QV				
4+20	0.2781	1.04	QV				
4+25	0.2852	1.04	QV				
4+30	0.2924	1.05	QV				
4+35	0.2997	1.05	QV				
4+40	0.3070	1.06	QV				
4+45	0.3143	1.06	QV				
4+50	0.3217	1.07	QV				
4+55	0.3291	1.08	QV				
5+ 0	0.3365	1.08	QV				
5+ 5	0.3440	1.09	QV				
5+10	0.3516	1.10	QV				
5+15	0.3592	1.10	QV				
5+20	0.3668	1.11	QV				
5+25	0.3745	1.11	QV				
5+30	0.3822	1.12	QV				
5+35	0.3900	1.13	QV				
5+40	0.3978	1.13	QV				
5+45	0.4057	1.14	QV				
5+50	0.4136	1.15	QV				
5+55	0.4215	1.16	QV				
6+ 0	0.4295	1.16	QV				
6+ 5	0.4376	1.17	QV				
6+10	0.4457	1.18	Q V				
6+15	0.4539	1.19	Q V				

6+20	0.4621	1.19	Q	V			
6+25	0.4704	1.20	Q	V			
6+30	0.4787	1.21	Q	V			
6+35	0.4871	1.22	Q	V			
6+40	0.4955	1.23	Q	V			
6+45	0.5040	1.23	Q	V			
6+50	0.5126	1.24	Q	V			
6+55	0.5212	1.25	Q	V			
7+ 0	0.5299	1.26	Q	V			
7+ 5	0.5386	1.27	Q	V			
7+10	0.5474	1.28	Q	V			
7+15	0.5563	1.29	Q	V			
7+20	0.5652	1.30	Q	V			
7+25	0.5742	1.30	Q	V			
7+30	0.5832	1.31	Q	V			
7+35	0.5923	1.32	Q	V			
7+40	0.6015	1.33	Q	V			
7+45	0.6108	1.34	Q	V			
7+50	0.6201	1.35	Q	V			
7+55	0.6295	1.36	Q	V			
8+ 0	0.6390	1.37	Q	V			
8+ 5	0.6485	1.39	Q	V			
8+10	0.6581	1.40	Q	V			
8+15	0.6678	1.41	Q	V			
8+20	0.6776	1.42	Q	V			
8+25	0.6874	1.43	Q	V			
8+30	0.6974	1.44	Q	V			
8+35	0.7074	1.45	Q	V			
8+40	0.7175	1.47	Q	V			
8+45	0.7277	1.48	Q	V			
8+50	0.7379	1.49	Q	V			
8+55	0.7483	1.50	Q	V			
9+ 0	0.7587	1.52	Q	V			
9+ 5	0.7693	1.53	Q	V			
9+10	0.7799	1.54	Q	V			
9+15	0.7907	1.56	Q	V			
9+20	0.8015	1.57	Q	V			
9+25	0.8124	1.59	Q	V			
9+30	0.8234	1.60	Q	V			
9+35	0.8346	1.62	Q	V			
9+40	0.8458	1.63	Q	V			
9+45	0.8572	1.65	Q	V			
9+50	0.8686	1.66	Q	V			
9+55	0.8802	1.68	Q	V			
10+ 0	0.8919	1.70	Q	V			
10+ 5	0.9037	1.71	Q	V			
10+10	0.9156	1.73	Q	V			
10+15	0.9277	1.75	Q	V			
10+20	0.9399	1.77	Q	V			
10+25	0.9522	1.79	Q	V			
10+30	0.9646	1.81	Q	V			
10+35	0.9772	1.83	Q	V			
10+40	0.9900	1.85	Q	V			
10+45	1.0028	1.87	Q	V			
10+50	1.0158	1.89	Q	V			
10+55	1.0290	1.91	Q	V			
11+ 0	1.0423	1.93	Q	V			
11+ 5	1.0558	1.96	Q	V			
11+10	1.0695	1.98	Q	V			

```
11+15       1.0833      2.01  |Q  V     |          |          |          |
11+20       1.0973      2.03  |Q   V     |          |          |          |
11+25       1.1114      2.06  |Q   V     |          |          |          |
11+30       1.1258      2.08  |Q   V     |          |          |          |
11+35       1.1403      2.11  |Q   V     |          |          |          |
11+40       1.1550      2.14  |Q   V     |          |          |          |
11+45       1.1700      2.17  |Q   V     |          |          |          |
11+50       1.1851      2.20  |Q   V     |          |          |          |
11+55       1.2005      2.23  |Q   V     |          |          |          |
12+ 0       1.2160      2.26  |Q   V     |          |          |          |
12+ 5       1.2319      2.30  |Q   V     |          |          |          |
12+10       1.2479      2.34  |Q   V     |          |          |          |
12+15       1.2643      2.38  |Q   V     |          |          |          |
12+20       1.2811      2.43  |Q   V     |          |          |          |
12+25       1.2983      2.50  |Q   V     |          |          |          |
12+30       1.3161      2.57  |Q    V    |          |          |          |
12+35       1.3342      2.63  |Q    V    |          |          |          |
12+40       1.3528      2.69  |Q    V    |          |          |          |
12+45       1.3717      2.75  |Q    V    |          |          |          |
12+50       1.3910      2.81  |Q    V    |          |          |          |
12+55       1.4107      2.86  |Q    V    |          |          |          |
13+ 0       1.4308      2.92  |Q    V    |          |          |          |
13+ 5       1.4514      2.98  |Q    V    |          |          |          |
13+10       1.4723      3.04  |Q    V    |          |          |          |
13+15       1.4937      3.10  |Q    V    |          |          |          |
13+20       1.5155      3.17  |Q    V    |          |          |          |
13+25       1.5378      3.24  |Q     V   |          |          |          |
13+30       1.5606      3.31  |Q     V   |          |          |          |
13+35       1.5839      3.38  |Q     V   |          |          |          |
13+40       1.6077      3.46  |Q     V   |          |          |          |
13+45       1.6321      3.54  |Q     V   |          |          |          |
13+50       1.6570      3.62  |Q     V   |          |          |          |
13+55       1.6826      3.71  |Q     V   |          |          |          |
14+ 0       1.7088      3.81  |Q     V   |          |          |          |
14+ 5       1.7357      3.91  |Q     V   |          |          |          |
14+10       1.7634      4.01  | Q     V  |          |          |          |
14+15       1.7918      4.13  | Q     V  |          |          |          |
14+20       1.8211      4.25  | Q     V  |          |          |          |
14+25       1.8513      4.39  | Q     V  |          |          |          |
14+30       1.8825      4.53  | Q     V  |          |          |          |
14+35       1.9147      4.68  | Q     V  |          |          |          |
14+40       1.9481      4.84  | Q     V  |          |          |          |
14+45       1.9826      5.02  | Q      V |          |          |          |
14+50       2.0185      5.20  | Q      V |          |          |          |
14+55       2.0557      5.41  | Q      V |          |          |          |
15+ 0       2.0946      5.64  | Q      V |          |          |          |
15+ 5       2.1351      5.89  | Q      V |          |          |          |
15+10       2.1776      6.16  |  Q     V |          |          |          |
15+15       2.2222      6.48  |  Q      V          |          |          |
15+20       2.2692      6.82  |  Q      V          |          |          |
15+25       2.3192      7.27  |  Q      V          |          |          |
15+30       2.3734      7.86  |  Q      V          |          |          |
15+35       2.4329      8.65  |   Q     |V         |          |          |
15+40       2.5001      9.75  |   Q     |V         |          |          |
15+45       2.5785     11.39  |    Q    |V         |          |          |
15+50       2.6697     13.23  |     Q   | V        |          |          |
15+55       2.7753     15.34  |      Q  | V        |          |          |
16+ 0       2.8996     18.06  |        Q|  V       |          |          |
16+ 5       3.0625     23.65  |         |Q V       |          |          |
```

16+10	3.2868	32.58	
16+15	3.5781	42.30	
16+20	3.9718	57.16	
16+25	4.4929	75.67	
16+30	4.9752	70.02	
16+35	5.3610	56.02	
16+40	5.6687	44.69	
16+45	5.9198	36.45	
16+50	6.1339	31.09	
16+55	6.3190	26.87	
17+ 0	6.4818	23.65	
17+ 5	6.6263	20.98	
17+10	6.7556	18.78	
17+15	6.8722	16.93	
17+20	6.9798	15.62	
17+25	7.0792	14.43	
17+30	7.1696	13.13	
17+35	7.2517	11.92	
17+40	7.3266	10.88	
17+45	7.3971	10.23	
17+50	7.4630	9.57	
17+55	7.5247	8.96	
18+ 0	7.5827	8.42	
18+ 5	7.6365	7.81	
18+10	7.6866	7.26	
18+15	7.7343	6.94	
18+20	7.7787	6.45	
18+25	7.8199	5.98	
18+30	7.8591	5.69	
18+35	7.8952	5.25	
18+40	7.9286	4.84	
18+45	7.9604	4.62	
18+50	7.9896	4.24	
18+55	8.0165	3.90	
19+ 0	8.0425	3.78	
19+ 5	8.0681	3.72	
19+10	8.0933	3.66	
19+15	8.1178	3.56	
19+20	8.1416	3.46	
19+25	8.1647	3.34	
19+30	8.1867	3.21	
19+35	8.2070	2.95	
19+40	8.2256	2.70	
19+45	8.2434	2.58	
19+50	8.2603	2.46	
19+55	8.2754	2.20	
20+ 0	8.2890	1.97	
20+ 5	8.3020	1.89	
20+10	8.3147	1.83	
20+15	8.3269	1.78	
20+20	8.3389	1.74	
20+25	8.3505	1.69	
20+30	8.3619	1.66	
20+35	8.3731	1.62	
20+40	8.3840	1.59	
20+45	8.3948	1.56	
20+50	8.4053	1.53	
20+55	8.4156	1.50	
21+ 0	8.4257	1.47	

21+ 5	8.4357	1.44	Q	|	|	|	V |
21+10	8.4454	1.42	Q	|	|	|	V |
21+15	8.4551	1.40	Q	|	|	|	V |
21+20	8.4645	1.37	Q	|	|	|	V |
21+25	8.4738	1.35	Q	|	|	|	V |
21+30	8.4830	1.33	Q	|	|	|	V |
21+35	8.4920	1.31	Q	|	|	|	V |
21+40	8.5009	1.29	Q	|	|	|	V |
21+45	8.5096	1.27	Q	|	|	|	V |
21+50	8.5182	1.25	Q	|	|	|	V |
21+55	8.5267	1.23	Q	|	|	|	V |
22+ 0	8.5351	1.22	Q	|	|	|	V |
22+ 5	8.5434	1.20	Q	|	|	|	V |
22+10	8.5516	1.19	Q	|	|	|	V|
22+15	8.5596	1.17	Q	|	|	|	V|
22+20	8.5676	1.16	Q	|	|	|	V|
22+25	8.5755	1.14	Q	|	|	|	V|
22+30	8.5832	1.13	Q	|	|	|	V|
22+35	8.5909	1.11	Q	|	|	|	V|
22+40	8.5985	1.10	Q	|	|	|	V|
22+45	8.6059	1.09	Q	|	|	|	V|
22+50	8.6133	1.07	Q	|	|	|	V|
22+55	8.6207	1.06	Q	|	|	|	V|
23+ 0	8.6279	1.05	Q	|	|	|	V|
23+ 5	8.6350	1.04	Q	|	|	|	V|
23+10	8.6421	1.03	Q	|	|	|	V|
23+15	8.6491	1.02	Q	|	|	|	V|
23+20	8.6560	1.01	Q	|	|	|	V|
23+25	8.6629	0.99	Q	|	|	|	V|
23+30	8.6697	0.98	Q	|	|	|	V|
23+35	8.6764	0.97	Q	|	|	|	V|
23+40	8.6830	0.96	Q	|	|	|	V|
23+45	8.6896	0.95	Q	|	|	|	V|
23+50	8.6961	0.95	Q	|	|	|	V|
23+55	8.7025	0.94	Q	|	|	|	V|
24+ 0	8.7089	0.93	Q	|	|	|	V|
24+ 5	8.7152	0.91	Q	|	|	|	V|
24+10	8.7213	0.88	Q	|	|	|	V|
24+15	8.7270	0.84	Q	|	|	|	V|
24+20	8.7323	0.76	Q	|	|	|	V|
24+25	8.7366	0.63	Q	|	|	|	V|
24+30	8.7401	0.51	Q	|	|	|	V|
24+35	8.7429	0.42	Q	|	|	|	V|
24+40	8.7454	0.36	Q	|	|	|	V|
24+45	8.7475	0.31	Q	|	|	|	V|
24+50	8.7494	0.27	Q	|	|	|	V|
24+55	8.7511	0.24	Q	|	|	|	V|
25+ 0	8.7525	0.21	Q	|	|	|	V|
25+ 5	8.7538	0.19	Q	|	|	|	V|
25+10	8.7550	0.17	Q	|	|	|	V|
25+15	8.7560	0.15	Q	|	|	|	V|
25+20	8.7570	0.14	Q	|	|	|	V|
25+25	8.7578	0.12	Q	|	|	|	V|
25+30	8.7586	0.11	Q	|	|	|	V|
25+35	8.7593	0.10	Q	|	|	|	V|
25+40	8.7599	0.09	Q	|	|	|	V|
25+45	8.7604	0.08	Q	|	|	|	V|
25+50	8.7609	0.07	Q	|	|	|	V|
25+55	8.7614	0.07	Q	|	|	|	V|

26+ 0	8.7618	0.06	Q	|	|	|	V|
26+ 5	8.7621	0.05	Q	|	|	|	V|
26+10	8.7625	0.05	Q	|	|	|	V|
26+15	8.7627	0.04	Q	|	|	|	V|
26+20	8.7630	0.04	Q	|	|	|	V|
26+25	8.7632	0.03	Q	|	|	|	V|
26+30	8.7634	0.03	Q	|	|	|	V|
26+35	8.7636	0.03	Q	|	|	|	V|
26+40	8.7638	0.02	Q	|	|	|	V|
26+45	8.7639	0.02	Q	|	|	|	V|
26+50	8.7640	0.02	Q	|	|	|	V|
26+55	8.7641	0.02	Q	|	|	|	V|
27+ 0	8.7642	0.02	Q	|	|	|	V|
27+ 5	8.7643	0.01	Q	|	|	|	V|
27+10	8.7644	0.01	Q	|	|	|	V|
27+15	8.7645	0.01	Q	|	|	|	V|
27+20	8.7645	0.01	Q	|	|	|	V|
27+25	8.7646	0.01	Q	|	|	|	V|
27+30	8.7646	0.00	Q	|	|	|	V|
27+35	8.7646	0.00	Q	|	|	|	V|
27+40	8.7646	0.00	Q	|	|	|	V|
27+45	8.7647	0.00	Q	|	|	|	V|
27+50	8.7647	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 11
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
9.20	1	1.28
Rainfall data for year 100		
9.20	6	1.84
Rainfall data for year 100		
9.20	24	2.38

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	9.20	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
9.20	1.000	62.0	80.6	2.41	0.352

Area-averaged catchment yield fraction, Y = 0.352
Area-averaged low loss fraction, Yb = 0.648
User entry of time of concentration = 0.520 (hours)
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Watershed area = 9.20(Ac.)
Catchment Lag time = 0.416 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.0321
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.648 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.607(In)
Computed peak 30-minute rainfall = 1.040(In)
Specified peak 1-hour rainfall = 1.280(In)
Computed peak 3-hour rainfall = 1.599(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.380(In)

Rainfall depth area reduction factors:
Using a total area of 9.20(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.607(In)
30-minute factor = 1.000 Adjusted rainfall = 1.039(In)
1-hour factor = 1.000 Adjusted rainfall = 1.279(In)
3-hour factor = 1.000 Adjusted rainfall = 1.599(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.380(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 111.26 (CFS))	
1	0.995	1.107
2	4.516	3.918
3	11.300	7.549
4	26.240	16.622
5	43.399	19.092
6	55.091	13.008
7	62.875	8.660
8	68.500	6.259
9	73.033	5.043
10	76.661	4.037
11	79.664	3.342
12	82.167	2.784
13	84.311	2.385
14	86.250	2.157

15	87.937	1.877
16	89.330	1.550
17	90.508	1.310
18	91.609	1.226
19	92.585	1.086
20	93.487	1.004
21	94.262	0.862
22	94.943	0.758
23	95.601	0.732
24	96.140	0.599
25	96.660	0.579
26	97.095	0.483
27	97.455	0.401
28	97.792	0.375
29	98.009	0.241
30	98.210	0.223
31	98.432	0.247
32	98.672	0.267
33	98.913	0.267
34	99.153	0.267
35	99.393	0.267
36	99.570	0.196
37	99.695	0.139
38	99.820	0.139
39	100.000	0.070

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6071	0.6071
2	0.7474	0.1403
3	0.8441	0.0967
4	0.9202	0.0761
5	0.9839	0.0637
6	1.0392	0.0553
7	1.0884	0.0492
8	1.1329	0.0445
9	1.1737	0.0407
10	1.2113	0.0377
11	1.2465	0.0351
12	1.2794	0.0330
13	1.3004	0.0209
14	1.3201	0.0197
15	1.3387	0.0186
16	1.3563	0.0176
17	1.3731	0.0168
18	1.3891	0.0160
19	1.4045	0.0153
20	1.4192	0.0147
21	1.4333	0.0141
22	1.4469	0.0136
23	1.4600	0.0131
24	1.4726	0.0127
25	1.4849	0.0122
26	1.4968	0.0119
27	1.5083	0.0115
28	1.5194	0.0112
29	1.5303	0.0109
30	1.5408	0.0106
31	1.5511	0.0103

32	1.5612	0.0100
33	1.5709	0.0098
34	1.5805	0.0095
35	1.5898	0.0093
36	1.5989	0.0091
37	1.6078	0.0089
38	1.6165	0.0087
39	1.6250	0.0085
40	1.6334	0.0084
41	1.6416	0.0082
42	1.6496	0.0080
43	1.6575	0.0079
44	1.6652	0.0077
45	1.6728	0.0076
46	1.6803	0.0075
47	1.6876	0.0073
48	1.6949	0.0072
49	1.7020	0.0071
50	1.7089	0.0070
51	1.7158	0.0069
52	1.7226	0.0068
53	1.7292	0.0067
54	1.7358	0.0066
55	1.7422	0.0065
56	1.7486	0.0064
57	1.7549	0.0063
58	1.7611	0.0062
59	1.7672	0.0061
60	1.7732	0.0060
61	1.7792	0.0059
62	1.7850	0.0059
63	1.7908	0.0058
64	1.7966	0.0057
65	1.8022	0.0057
66	1.8078	0.0056
67	1.8133	0.0055
68	1.8188	0.0055
69	1.8242	0.0054
70	1.8295	0.0053
71	1.8347	0.0053
72	1.8399	0.0052
73	1.8447	0.0047
74	1.8493	0.0047
75	1.8539	0.0046
76	1.8585	0.0046
77	1.8630	0.0045
78	1.8675	0.0045
79	1.8719	0.0044
80	1.8763	0.0044
81	1.8806	0.0043
82	1.8849	0.0043
83	1.8892	0.0042
84	1.8934	0.0042
85	1.8975	0.0042
86	1.9016	0.0041
87	1.9057	0.0041
88	1.9098	0.0040
89	1.9138	0.0040
90	1.9178	0.0040

91	1.9217	0.0039
92	1.9256	0.0039
93	1.9295	0.0039
94	1.9333	0.0038
95	1.9371	0.0038
96	1.9409	0.0038
97	1.9446	0.0037
98	1.9483	0.0037
99	1.9520	0.0037
100	1.9556	0.0036
101	1.9593	0.0036
102	1.9628	0.0036
103	1.9664	0.0036
104	1.9699	0.0035
105	1.9734	0.0035
106	1.9769	0.0035
107	1.9804	0.0034
108	1.9838	0.0034
109	1.9872	0.0034
110	1.9906	0.0034
111	1.9939	0.0033
112	1.9972	0.0033
113	2.0005	0.0033
114	2.0038	0.0033
115	2.0070	0.0033
116	2.0103	0.0032
117	2.0135	0.0032
118	2.0167	0.0032
119	2.0198	0.0032
120	2.0230	0.0031
121	2.0261	0.0031
122	2.0292	0.0031
123	2.0323	0.0031
124	2.0353	0.0031
125	2.0384	0.0030
126	2.0414	0.0030
127	2.0444	0.0030
128	2.0474	0.0030
129	2.0503	0.0030
130	2.0533	0.0029
131	2.0562	0.0029
132	2.0591	0.0029
133	2.0620	0.0029
134	2.0648	0.0029
135	2.0677	0.0029
136	2.0705	0.0028
137	2.0733	0.0028
138	2.0761	0.0028
139	2.0789	0.0028
140	2.0817	0.0028
141	2.0844	0.0028
142	2.0872	0.0027
143	2.0899	0.0027
144	2.0926	0.0027
145	2.0953	0.0027
146	2.0980	0.0027
147	2.1006	0.0027
148	2.1033	0.0026
149	2.1059	0.0026

150	2.1085	0.0026
151	2.1111	0.0026
152	2.1137	0.0026
153	2.1163	0.0026
154	2.1189	0.0026
155	2.1214	0.0025
156	2.1239	0.0025
157	2.1265	0.0025
158	2.1290	0.0025
159	2.1315	0.0025
160	2.1339	0.0025
161	2.1364	0.0025
162	2.1389	0.0025
163	2.1413	0.0024
164	2.1437	0.0024
165	2.1462	0.0024
166	2.1486	0.0024
167	2.1510	0.0024
168	2.1534	0.0024
169	2.1557	0.0024
170	2.1581	0.0024
171	2.1604	0.0024
172	2.1628	0.0023
173	2.1651	0.0023
174	2.1674	0.0023
175	2.1697	0.0023
176	2.1720	0.0023
177	2.1743	0.0023
178	2.1766	0.0023
179	2.1789	0.0023
180	2.1811	0.0023
181	2.1834	0.0022
182	2.1856	0.0022
183	2.1878	0.0022
184	2.1900	0.0022
185	2.1922	0.0022
186	2.1944	0.0022
187	2.1966	0.0022
188	2.1988	0.0022
189	2.2010	0.0022
190	2.2031	0.0022
191	2.2053	0.0021
192	2.2074	0.0021
193	2.2095	0.0021
194	2.2117	0.0021
195	2.2138	0.0021
196	2.2159	0.0021
197	2.2180	0.0021
198	2.2201	0.0021
199	2.2221	0.0021
200	2.2242	0.0021
201	2.2263	0.0021
202	2.2283	0.0021
203	2.2304	0.0020
204	2.2324	0.0020
205	2.2344	0.0020
206	2.2364	0.0020
207	2.2384	0.0020
208	2.2405	0.0020

209	2.2424	0.0020
210	2.2444	0.0020
211	2.2464	0.0020
212	2.2484	0.0020
213	2.2504	0.0020
214	2.2523	0.0020
215	2.2543	0.0020
216	2.2562	0.0019
217	2.2581	0.0019
218	2.2601	0.0019
219	2.2620	0.0019
220	2.2639	0.0019
221	2.2658	0.0019
222	2.2677	0.0019
223	2.2696	0.0019
224	2.2715	0.0019
225	2.2734	0.0019
226	2.2752	0.0019
227	2.2771	0.0019
228	2.2790	0.0019
229	2.2808	0.0019
230	2.2827	0.0018
231	2.2845	0.0018
232	2.2863	0.0018
233	2.2882	0.0018
234	2.2900	0.0018
235	2.2918	0.0018
236	2.2936	0.0018
237	2.2954	0.0018
238	2.2972	0.0018
239	2.2990	0.0018
240	2.3008	0.0018
241	2.3025	0.0018
242	2.3043	0.0018
243	2.3061	0.0018
244	2.3078	0.0018
245	2.3096	0.0018
246	2.3113	0.0017
247	2.3131	0.0017
248	2.3148	0.0017
249	2.3165	0.0017
250	2.3183	0.0017
251	2.3200	0.0017
252	2.3217	0.0017
253	2.3234	0.0017
254	2.3251	0.0017
255	2.3268	0.0017
256	2.3285	0.0017
257	2.3302	0.0017
258	2.3319	0.0017
259	2.3335	0.0017
260	2.3352	0.0017
261	2.3369	0.0017
262	2.3385	0.0017
263	2.3402	0.0017
264	2.3418	0.0016
265	2.3435	0.0016
266	2.3451	0.0016
267	2.3468	0.0016

268	2.3484	0.0016
269	2.3500	0.0016
270	2.3516	0.0016
271	2.3532	0.0016
272	2.3549	0.0016
273	2.3565	0.0016
274	2.3581	0.0016
275	2.3597	0.0016
276	2.3612	0.0016
277	2.3628	0.0016
278	2.3644	0.0016
279	2.3660	0.0016
280	2.3676	0.0016
281	2.3691	0.0016
282	2.3707	0.0016
283	2.3722	0.0016
284	2.3738	0.0016
285	2.3754	0.0015
286	2.3769	0.0015
287	2.3784	0.0015
288	2.3800	0.0015

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0015	0.0010	0.0005
2	0.0015	0.0010	0.0005
3	0.0015	0.0010	0.0005
4	0.0016	0.0010	0.0005
5	0.0016	0.0010	0.0005
6	0.0016	0.0010	0.0006
7	0.0016	0.0010	0.0006
8	0.0016	0.0010	0.0006
9	0.0016	0.0010	0.0006
10	0.0016	0.0010	0.0006
11	0.0016	0.0010	0.0006
12	0.0016	0.0010	0.0006
13	0.0016	0.0010	0.0006
14	0.0016	0.0011	0.0006
15	0.0016	0.0011	0.0006
16	0.0016	0.0011	0.0006
17	0.0016	0.0011	0.0006
18	0.0017	0.0011	0.0006
19	0.0017	0.0011	0.0006
20	0.0017	0.0011	0.0006
21	0.0017	0.0011	0.0006
22	0.0017	0.0011	0.0006
23	0.0017	0.0011	0.0006
24	0.0017	0.0011	0.0006
25	0.0017	0.0011	0.0006
26	0.0017	0.0011	0.0006
27	0.0017	0.0011	0.0006
28	0.0017	0.0011	0.0006
29	0.0017	0.0011	0.0006
30	0.0018	0.0011	0.0006
31	0.0018	0.0011	0.0006
32	0.0018	0.0011	0.0006
33	0.0018	0.0012	0.0006

34	0.0018	0.0012	0.0006
35	0.0018	0.0012	0.0006
36	0.0018	0.0012	0.0006
37	0.0018	0.0012	0.0006
38	0.0018	0.0012	0.0006
39	0.0018	0.0012	0.0006
40	0.0018	0.0012	0.0006
41	0.0019	0.0012	0.0007
42	0.0019	0.0012	0.0007
43	0.0019	0.0012	0.0007
44	0.0019	0.0012	0.0007
45	0.0019	0.0012	0.0007
46	0.0019	0.0012	0.0007
47	0.0019	0.0012	0.0007
48	0.0019	0.0012	0.0007
49	0.0019	0.0013	0.0007
50	0.0020	0.0013	0.0007
51	0.0020	0.0013	0.0007
52	0.0020	0.0013	0.0007
53	0.0020	0.0013	0.0007
54	0.0020	0.0013	0.0007
55	0.0020	0.0013	0.0007
56	0.0020	0.0013	0.0007
57	0.0020	0.0013	0.0007
58	0.0020	0.0013	0.0007
59	0.0021	0.0013	0.0007
60	0.0021	0.0013	0.0007
61	0.0021	0.0014	0.0007
62	0.0021	0.0014	0.0007
63	0.0021	0.0014	0.0007
64	0.0021	0.0014	0.0007
65	0.0021	0.0014	0.0008
66	0.0021	0.0014	0.0008
67	0.0022	0.0014	0.0008
68	0.0022	0.0014	0.0008
69	0.0022	0.0014	0.0008
70	0.0022	0.0014	0.0008
71	0.0022	0.0014	0.0008
72	0.0022	0.0014	0.0008
73	0.0023	0.0015	0.0008
74	0.0023	0.0015	0.0008
75	0.0023	0.0015	0.0008
76	0.0023	0.0015	0.0008
77	0.0023	0.0015	0.0008
78	0.0023	0.0015	0.0008
79	0.0024	0.0015	0.0008
80	0.0024	0.0015	0.0008
81	0.0024	0.0015	0.0008
82	0.0024	0.0016	0.0008
83	0.0024	0.0016	0.0009
84	0.0024	0.0016	0.0009
85	0.0025	0.0016	0.0009
86	0.0025	0.0016	0.0009
87	0.0025	0.0016	0.0009
88	0.0025	0.0016	0.0009
89	0.0025	0.0016	0.0009
90	0.0025	0.0017	0.0009
91	0.0026	0.0017	0.0009
92	0.0026	0.0017	0.0009

93	0.0026	0.0017	0.0009
94	0.0026	0.0017	0.0009
95	0.0027	0.0017	0.0009
96	0.0027	0.0017	0.0009
97	0.0027	0.0018	0.0010
98	0.0027	0.0018	0.0010
99	0.0028	0.0018	0.0010
100	0.0028	0.0018	0.0010
101	0.0028	0.0018	0.0010
102	0.0028	0.0018	0.0010
103	0.0029	0.0018	0.0010
104	0.0029	0.0019	0.0010
105	0.0029	0.0019	0.0010
106	0.0029	0.0019	0.0010
107	0.0030	0.0019	0.0010
108	0.0030	0.0019	0.0010
109	0.0030	0.0020	0.0011
110	0.0030	0.0020	0.0011
111	0.0031	0.0020	0.0011
112	0.0031	0.0020	0.0011
113	0.0031	0.0020	0.0011
114	0.0032	0.0020	0.0011
115	0.0032	0.0021	0.0011
116	0.0032	0.0021	0.0011
117	0.0033	0.0021	0.0012
118	0.0033	0.0021	0.0012
119	0.0033	0.0022	0.0012
120	0.0034	0.0022	0.0012
121	0.0034	0.0022	0.0012
122	0.0034	0.0022	0.0012
123	0.0035	0.0023	0.0012
124	0.0035	0.0023	0.0012
125	0.0036	0.0023	0.0013
126	0.0036	0.0023	0.0013
127	0.0037	0.0024	0.0013
128	0.0037	0.0024	0.0013
129	0.0038	0.0024	0.0013
130	0.0038	0.0025	0.0013
131	0.0039	0.0025	0.0014
132	0.0039	0.0025	0.0014
133	0.0040	0.0026	0.0014
134	0.0040	0.0026	0.0014
135	0.0041	0.0026	0.0014
136	0.0041	0.0027	0.0015
137	0.0042	0.0027	0.0015
138	0.0042	0.0028	0.0015
139	0.0043	0.0028	0.0015
140	0.0044	0.0028	0.0015
141	0.0045	0.0029	0.0016
142	0.0045	0.0029	0.0016
143	0.0046	0.0030	0.0016
144	0.0047	0.0030	0.0016
145	0.0052	0.0034	0.0018
146	0.0053	0.0034	0.0019
147	0.0054	0.0035	0.0019
148	0.0055	0.0035	0.0019
149	0.0056	0.0036	0.0020
150	0.0057	0.0037	0.0020
151	0.0058	0.0038	0.0020

152	0.0059	0.0038	0.0021
153	0.0060	0.0039	0.0021
154	0.0061	0.0040	0.0021
155	0.0063	0.0041	0.0022
156	0.0064	0.0041	0.0022
157	0.0066	0.0043	0.0023
158	0.0067	0.0043	0.0023
159	0.0069	0.0045	0.0024
160	0.0070	0.0045	0.0025
161	0.0072	0.0047	0.0025
162	0.0073	0.0048	0.0026
163	0.0076	0.0049	0.0027
164	0.0077	0.0050	0.0027
165	0.0080	0.0052	0.0028
166	0.0082	0.0053	0.0029
167	0.0085	0.0055	0.0030
168	0.0087	0.0056	0.0031
169	0.0091	0.0059	0.0032
170	0.0093	0.0060	0.0033
171	0.0098	0.0063	0.0034
172	0.0100	0.0065	0.0035
173	0.0106	0.0068	0.0037
174	0.0109	0.0070	0.0038
175	0.0115	0.0075	0.0040
176	0.0119	0.0077	0.0042
177	0.0127	0.0082	0.0045
178	0.0131	0.0085	0.0046
179	0.0141	0.0092	0.0050
180	0.0147	0.0095	0.0052
181	0.0160	0.0104	0.0056
182	0.0168	0.0109	0.0059
183	0.0186	0.0121	0.0065
184	0.0197	0.0128	0.0069
185	0.0330	0.0214	0.0116
186	0.0351	0.0228	0.0124
187	0.0407	0.0264	0.0143
188	0.0445	0.0288	0.0156
189	0.0553	0.0300	0.0254
190	0.0637	0.0300	0.0337
191	0.0967	0.0300	0.0667
192	0.1403	0.0300	0.1104
193	0.6071	0.0300	0.5771
194	0.0761	0.0300	0.0461
195	0.0492	0.0300	0.0192
196	0.0377	0.0244	0.0133
197	0.0209	0.0136	0.0074
198	0.0176	0.0114	0.0062
199	0.0153	0.0099	0.0054
200	0.0136	0.0088	0.0048
201	0.0122	0.0079	0.0043
202	0.0112	0.0072	0.0039
203	0.0103	0.0067	0.0036
204	0.0095	0.0062	0.0034
205	0.0089	0.0058	0.0031
206	0.0084	0.0054	0.0029
207	0.0079	0.0051	0.0028
208	0.0075	0.0048	0.0026
209	0.0071	0.0046	0.0025
210	0.0068	0.0044	0.0024

211	0.0065	0.0042	0.0023
212	0.0062	0.0040	0.0022
213	0.0059	0.0039	0.0021
214	0.0057	0.0037	0.0020
215	0.0055	0.0036	0.0019
216	0.0053	0.0035	0.0019
217	0.0047	0.0031	0.0017
218	0.0046	0.0030	0.0016
219	0.0044	0.0029	0.0016
220	0.0043	0.0028	0.0015
221	0.0042	0.0027	0.0015
222	0.0040	0.0026	0.0014
223	0.0039	0.0026	0.0014
224	0.0038	0.0025	0.0013
225	0.0037	0.0024	0.0013
226	0.0036	0.0024	0.0013
227	0.0036	0.0023	0.0013
228	0.0035	0.0023	0.0012
229	0.0034	0.0022	0.0012
230	0.0033	0.0022	0.0012
231	0.0033	0.0021	0.0011
232	0.0032	0.0021	0.0011
233	0.0031	0.0020	0.0011
234	0.0031	0.0020	0.0011
235	0.0030	0.0019	0.0011
236	0.0029	0.0019	0.0010
237	0.0029	0.0019	0.0010
238	0.0028	0.0018	0.0010
239	0.0028	0.0018	0.0010
240	0.0027	0.0018	0.0010
241	0.0027	0.0017	0.0009
242	0.0026	0.0017	0.0009
243	0.0026	0.0017	0.0009
244	0.0026	0.0017	0.0009
245	0.0025	0.0016	0.0009
246	0.0025	0.0016	0.0009
247	0.0024	0.0016	0.0009
248	0.0024	0.0016	0.0008
249	0.0024	0.0015	0.0008
250	0.0023	0.0015	0.0008
251	0.0023	0.0015	0.0008
252	0.0023	0.0015	0.0008
253	0.0022	0.0015	0.0008
254	0.0022	0.0014	0.0008
255	0.0022	0.0014	0.0008
256	0.0022	0.0014	0.0008
257	0.0021	0.0014	0.0007
258	0.0021	0.0014	0.0007
259	0.0021	0.0013	0.0007
260	0.0021	0.0013	0.0007
261	0.0020	0.0013	0.0007
262	0.0020	0.0013	0.0007
263	0.0020	0.0013	0.0007
264	0.0020	0.0013	0.0007
265	0.0019	0.0013	0.0007
266	0.0019	0.0012	0.0007
267	0.0019	0.0012	0.0007
268	0.0019	0.0012	0.0007
269	0.0019	0.0012	0.0007

270	0.0018	0.0012	0.0006
271	0.0018	0.0012	0.0006
272	0.0018	0.0012	0.0006
273	0.0018	0.0012	0.0006
274	0.0018	0.0011	0.0006
275	0.0017	0.0011	0.0006
276	0.0017	0.0011	0.0006
277	0.0017	0.0011	0.0006
278	0.0017	0.0011	0.0006
279	0.0017	0.0011	0.0006
280	0.0017	0.0011	0.0006
281	0.0016	0.0011	0.0006
282	0.0016	0.0011	0.0006
283	0.0016	0.0010	0.0006
284	0.0016	0.0010	0.0006
285	0.0016	0.0010	0.0006
286	0.0016	0.0010	0.0006
287	0.0016	0.0010	0.0005
288	0.0015	0.0010	0.0005

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.33(In)
Peak flow rate in flood hydrograph = 14.60(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.02	Q				
0+25	0.0004	0.03	Q				
0+30	0.0006	0.03	Q				
0+35	0.0009	0.04	Q				
0+40	0.0011	0.04	Q				
0+45	0.0014	0.04	Q				
0+50	0.0018	0.05	Q				
0+55	0.0021	0.05	Q				
1+ 0	0.0025	0.05	Q				
1+ 5	0.0028	0.05	Q				
1+10	0.0032	0.05	Q				
1+15	0.0036	0.05	Q				
1+20	0.0039	0.06	Q				
1+25	0.0043	0.06	Q				
1+30	0.0047	0.06	Q				
1+35	0.0051	0.06	Q				
1+40	0.0056	0.06	Q				
1+45	0.0060	0.06	Q				
1+50	0.0064	0.06	Q				
1+55	0.0068	0.06	Q				
2+ 0	0.0072	0.06	Q				
2+ 5	0.0077	0.06	Q				

2+10	0.0081	0.06	Q				
2+15	0.0085	0.06	Q				
2+20	0.0090	0.06	Q				
2+25	0.0094	0.06	Q				
2+30	0.0099	0.07	Q				
2+35	0.0103	0.07	Q				
2+40	0.0108	0.07	Q				
2+45	0.0113	0.07	Q				
2+50	0.0117	0.07	Q				
2+55	0.0122	0.07	Q				
3+ 0	0.0126	0.07	Q				
3+ 5	0.0131	0.07	Q				
3+10	0.0136	0.07	Q				
3+15	0.0141	0.07	Q				
3+20	0.0145	0.07	Q				
3+25	0.0150	0.07	Q				
3+30	0.0155	0.07	Q				
3+35	0.0160	0.07	Q				
3+40	0.0165	0.07	Q				
3+45	0.0170	0.07	Q				
3+50	0.0175	0.07	Q				
3+55	0.0180	0.07	Q				
4+ 0	0.0185	0.07	Q				
4+ 5	0.0190	0.07	Q				
4+10	0.0195	0.07	Q				
4+15	0.0200	0.07	Q				
4+20	0.0205	0.07	Q				
4+25	0.0210	0.07	Q				
4+30	0.0215	0.07	Q				
4+35	0.0220	0.08	Q				
4+40	0.0226	0.08	Q				
4+45	0.0231	0.08	Q				
4+50	0.0236	0.08	Q				
4+55	0.0242	0.08	Q				
5+ 0	0.0247	0.08	Q				
5+ 5	0.0252	0.08	Q				
5+10	0.0258	0.08	QV				
5+15	0.0263	0.08	QV				
5+20	0.0269	0.08	QV				
5+25	0.0274	0.08	QV				
5+30	0.0280	0.08	QV				
5+35	0.0285	0.08	QV				
5+40	0.0291	0.08	QV				
5+45	0.0296	0.08	QV				
5+50	0.0302	0.08	QV				
5+55	0.0308	0.08	QV				
6+ 0	0.0314	0.08	QV				
6+ 5	0.0319	0.08	QV				
6+10	0.0325	0.08	QV				
6+15	0.0331	0.09	QV				
6+20	0.0337	0.09	QV				
6+25	0.0343	0.09	QV				
6+30	0.0349	0.09	QV				
6+35	0.0355	0.09	QV				
6+40	0.0361	0.09	QV				
6+45	0.0367	0.09	QV				
6+50	0.0373	0.09	QV				
6+55	0.0379	0.09	QV				
7+ 0	0.0386	0.09	QV				

7+ 5	0.0392	0.09	QV	|	|	|	|
7+10	0.0398	0.09	QV	|	|	|	|
7+15	0.0405	0.09	QV	|	|	|	|
7+20	0.0411	0.09	QV	|	|	|	|
7+25	0.0417	0.09	QV	|	|	|	|
7+30	0.0424	0.09	QV	|	|	|	|
7+35	0.0431	0.10	QV	|	|	|	|
7+40	0.0437	0.10	QV	|	|	|	|
7+45	0.0444	0.10	QV	|	|	|	|
7+50	0.0450	0.10	QV	|	|	|	|
7+55	0.0457	0.10	QV	|	|	|	|
8+ 0	0.0464	0.10	QV	|	|	|	|
8+ 5	0.0471	0.10	QV	|	|	|	|
8+10	0.0478	0.10	QV	|	|	|	|
8+15	0.0485	0.10	QV	|	|	|	|
8+20	0.0492	0.10	QV	|	|	|	|
8+25	0.0499	0.10	QV	|	|	|	|
8+30	0.0506	0.10	QV	|	|	|	|
8+35	0.0513	0.10	Q V	|	|	|	|
8+40	0.0521	0.11	Q V	|	|	|	|
8+45	0.0528	0.11	Q V	|	|	|	|
8+50	0.0535	0.11	Q V	|	|	|	|
8+55	0.0543	0.11	Q V	|	|	|	|
9+ 0	0.0550	0.11	Q V	|	|	|	|
9+ 5	0.0558	0.11	Q V	|	|	|	|
9+10	0.0566	0.11	Q V	|	|	|	|
9+15	0.0573	0.11	Q V	|	|	|	|
9+20	0.0581	0.11	Q V	|	|	|	|
9+25	0.0589	0.11	Q V	|	|	|	|
9+30	0.0597	0.12	Q V	|	|	|	|
9+35	0.0605	0.12	Q V	|	|	|	|
9+40	0.0613	0.12	Q V	|	|	|	|
9+45	0.0621	0.12	Q V	|	|	|	|
9+50	0.0630	0.12	Q V	|	|	|	|
9+55	0.0638	0.12	Q V	|	|	|	|
10+ 0	0.0646	0.12	Q V	|	|	|	|
10+ 5	0.0655	0.12	Q V	|	|	|	|
10+10	0.0664	0.13	Q V	|	|	|	|
10+15	0.0672	0.13	Q V	|	|	|	|
10+20	0.0681	0.13	Q V	|	|	|	|
10+25	0.0690	0.13	Q V	|	|	|	|
10+30	0.0699	0.13	Q V	|	|	|	|
10+35	0.0708	0.13	Q V	|	|	|	|
10+40	0.0717	0.13	Q V	|	|	|	|
10+45	0.0727	0.14	Q V	|	|	|	|
10+50	0.0736	0.14	Q V	|	|	|	|
10+55	0.0746	0.14	Q V	|	|	|	|
11+ 0	0.0755	0.14	Q V	|	|	|	|
11+ 5	0.0765	0.14	Q V	|	|	|	|
11+10	0.0775	0.14	Q V	|	|	|	|
11+15	0.0785	0.15	Q V	|	|	|	|
11+20	0.0795	0.15	Q V	|	|	|	|
11+25	0.0805	0.15	Q V	|	|	|	|
11+30	0.0816	0.15	Q V	|	|	|	|
11+35	0.0826	0.15	Q V	|	|	|	|
11+40	0.0837	0.16	Q V	|	|	|	|
11+45	0.0848	0.16	Q V	|	|	|	|
11+50	0.0859	0.16	Q V	|	|	|	|
11+55	0.0870	0.16	Q V	|	|	|	|

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12+ 0       0.0881      0.16  Q  V      |          |          |          |
12+ 5       0.0893      0.17  Q  V      |          |          |          |
12+10       0.0904      0.17  Q  V      |          |          |          |
12+15       0.0916      0.17  Q  V      |          |          |          |
12+20       0.0929      0.18  Q  V      |          |          |          |
12+25       0.0942      0.19  Q  V      |          |          |          |
12+30       0.0955      0.19  Q  V      |          |          |          |
12+35       0.0968      0.19  Q  V      |          |          |          |
12+40       0.0982      0.20  Q  V      |          |          |          |
12+45       0.0996      0.20  Q  V      |          |          |          |
12+50       0.1010      0.21  Q  V      |          |          |          |
12+55       0.1025      0.21  Q   V     |          |          |          |
13+ 0       0.1040      0.22  Q   V     |          |          |          |
13+ 5       0.1055      0.22  Q   V     |          |          |          |
13+10       0.1070      0.23  Q   V     |          |          |          |
13+15       0.1086      0.23  Q   V     |          |          |          |
13+20       0.1102      0.23  Q   V     |          |          |          |
13+25       0.1119      0.24  Q   V     |          |          |          |
13+30       0.1136      0.25  Q   V     |          |          |          |
13+35       0.1153      0.25  Q   V     |          |          |          |
13+40       0.1171      0.26  Q   V     |          |          |          |
13+45       0.1189      0.26  Q   V     |          |          |          |
13+50       0.1207      0.27  Q   V     |          |          |          |
13+55       0.1226      0.28  Q   V     |          |          |          |
14+ 0       0.1246      0.28  Q   V     |          |          |          |
14+ 5       0.1266      0.29  Q   V     |          |          |          |
14+10       0.1287      0.30  Q    V    |          |          |          |
14+15       0.1308      0.31  Q    V    |          |          |          |
14+20       0.1330      0.32  Q    V    |          |          |          |
14+25       0.1352      0.33  Q    V    |          |          |          |
14+30       0.1376      0.34  Q    V    |          |          |          |
14+35       0.1400      0.35  Q    V    |          |          |          |
14+40       0.1425      0.36  Q    V    |          |          |          |
14+45       0.1451      0.38  Q    V    |          |          |          |
14+50       0.1478      0.39  Q    V    |          |          |          |
14+55       0.1506      0.41  Q    V    |          |          |          |
15+ 0       0.1535      0.43  Q     V   |          |          |          |
15+ 5       0.1566      0.45  Q     V   |          |          |          |
15+10       0.1598      0.47  Q     V   |          |          |          |
15+15       0.1632      0.49  Q     V   |          |          |          |
15+20       0.1668      0.52  |Q    V   |          |          |          |
15+25       0.1706      0.56  |Q    V   |          |          |          |
15+30       0.1748      0.61  |Q    V   |          |          |          |
15+35       0.1795      0.68  |Q     V  |          |          |          |
15+40       0.1851      0.80  |Q     V  |          |          |          |
15+45       0.1916      0.96  |Q     V  |          |          |          |
15+50       0.1995      1.14  | Q    V  |          |          |          |
15+55       0.2091      1.40  | Q     V |          |          |          |
16+ 0       0.2222      1.90  |  Q    V |          |          |          |
16+ 5       0.2444      3.23  |     Q  V|          |          |          |
16+10       0.2836      5.69  |          |Q         |          |          |
16+15       0.3435      8.70  |          |  V   Q   |          |          |
16+20       0.4383     13.76  |          |      V   |       Q  |          |
16+25       0.5389     14.60  |          |          |V       Q|          |
16+30       0.6126     10.71  |          |          |Q  V      |          |
16+35       0.6658      7.71  |          |    Q     |     V    |          |
16+40       0.7063      5.89  |          |Q         |      V   |          |
16+45       0.7395      4.82  |        Q |          |       V  |          |
16+50       0.7669      3.98  |      Q   |          |         V|          |
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16+55       0.7901      3.37  |     Q   |         |         V         |
17+ 0       0.8100      2.89  |    Q    |         |         |V        |
17+ 5       0.8275      2.54  |    Q    |         |         | V       |
17+10       0.8432      2.29  |   Q     |         |         |  V      |
17+15       0.8572      2.02  |   Q     |         |         |  V      |
17+20       0.8692      1.75  |  Q      |         |         |   V     |
17+25       0.8799      1.55  |  Q      |         |         |   V     |
17+30       0.8897      1.43  | Q       |         |         |   V     |
17+35       0.8987      1.30  | Q       |         |         |    V    |
17+40       0.9069      1.20  | Q       |         |         |    V    |
17+45       0.9143      1.07  | Q       |         |         |    V    |
17+50       0.9211      0.98  |Q        |         |         |     V   |
17+55       0.9274      0.92  |Q        |         |         |     V   |
18+ 0       0.9330      0.81  |Q        |         |         |     V   |
18+ 5       0.9382      0.76  |Q        |         |         |     V   |
18+10       0.9429      0.68  |Q        |         |         |     V   |
18+15       0.9471      0.60  |Q        |         |         |      V  |
18+20       0.9509      0.56  |Q        |         |         |      V  |
18+25       0.9541      0.46  Q         |         |         |      V  |
18+30       0.9571      0.44  Q         |         |         |      V  |
18+35       0.9601      0.44  Q         |         |         |      V  |
18+40       0.9631      0.44  Q         |         |         |      V  |
18+45       0.9661      0.43  Q         |         |         |      V  |
18+50       0.9689      0.41  Q         |         |         |      V  |
18+55       0.9716      0.39  Q         |         |         |       V |
19+ 0       0.9739      0.34  Q         |         |         |       V |
19+ 5       0.9759      0.29  Q         |         |         |       V |
19+10       0.9778      0.27  Q         |         |         |       V |
19+15       0.9792      0.21  Q         |         |         |       V |
19+20       0.9804      0.17  Q         |         |         |       V |
19+25       0.9814      0.16  Q         |         |         |       V |
19+30       0.9825      0.15  Q         |         |         |       V |
19+35       0.9835      0.15  Q         |         |         |       V |
19+40       0.9845      0.14  Q         |         |         |       V |
19+45       0.9854      0.14  Q         |         |         |       V |
19+50       0.9863      0.13  Q         |         |         |       V |
19+55       0.9872      0.13  Q         |         |         |       V |
20+ 0       0.9881      0.13  Q         |         |         |       V |
20+ 5       0.9890      0.12  Q         |         |         |       V |
20+10       0.9898      0.12  Q         |         |         |       V |
20+15       0.9906      0.12  Q         |         |         |       V |
20+20       0.9914      0.12  Q         |         |         |       V |
20+25       0.9922      0.11  Q         |         |         |       V |
20+30       0.9930      0.11  Q         |         |         |       V |
20+35       0.9938      0.11  Q         |         |         |       V |
20+40       0.9945      0.11  Q         |         |         |       V |
20+45       0.9952      0.11  Q         |         |         |        V|
20+50       0.9960      0.10  Q         |         |         |        V|
20+55       0.9967      0.10  Q         |         |         |        V|
21+ 0       0.9974      0.10  Q         |         |         |        V|
21+ 5       0.9980      0.10  Q         |         |         |        V|
21+10       0.9987      0.10  Q         |         |         |        V|
21+15       0.9994      0.10  Q         |         |         |        V|
21+20       1.0000      0.09  Q         |         |         |        V|
21+25       1.0007      0.09  Q         |         |         |        V|
21+30       1.0013      0.09  Q         |         |         |        V|
21+35       1.0019      0.09  Q         |         |         |        V|
21+40       1.0025      0.09  Q         |         |         |        V|
21+45       1.0031      0.09  Q         |         |         |        V|
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21+50	1.0037	0.09	Q	|	|	|	V|
21+55	1.0043	0.09	Q	|	|	|	V|
22+ 0	1.0049	0.08	Q	|	|	|	V|
22+ 5	1.0055	0.08	Q	|	|	|	V|
22+10	1.0060	0.08	Q	|	|	|	V|
22+15	1.0066	0.08	Q	|	|	|	V|
22+20	1.0072	0.08	Q	|	|	|	V|
22+25	1.0077	0.08	Q	|	|	|	V|
22+30	1.0082	0.08	Q	|	|	|	V|
22+35	1.0088	0.08	Q	|	|	|	V|
22+40	1.0093	0.08	Q	|	|	|	V|
22+45	1.0098	0.08	Q	|	|	|	V|
22+50	1.0103	0.07	Q	|	|	|	V|
22+55	1.0108	0.07	Q	|	|	|	V|
23+ 0	1.0114	0.07	Q	|	|	|	V|
23+ 5	1.0119	0.07	Q	|	|	|	V|
23+10	1.0123	0.07	Q	|	|	|	V|
23+15	1.0128	0.07	Q	|	|	|	V|
23+20	1.0133	0.07	Q	|	|	|	V|
23+25	1.0138	0.07	Q	|	|	|	V|
23+30	1.0143	0.07	Q	|	|	|	V|
23+35	1.0147	0.07	Q	|	|	|	V|
23+40	1.0152	0.07	Q	|	|	|	V|
23+45	1.0157	0.07	Q	|	|	|	V|
23+50	1.0161	0.07	Q	|	|	|	V|
23+55	1.0166	0.07	Q	|	|	|	V|
24+ 0	1.0170	0.06	Q	|	|	|	V|
24+ 5	1.0174	0.06	Q	|	|	|	V|
24+10	1.0179	0.06	Q	|	|	|	V|
24+15	1.0183	0.06	Q	|	|	|	V|
24+20	1.0186	0.05	Q	|	|	|	V|
24+25	1.0188	0.04	Q	|	|	|	V|
24+30	1.0190	0.03	Q	|	|	|	V|
24+35	1.0192	0.02	Q	|	|	|	V|
24+40	1.0193	0.02	Q	|	|	|	V|
24+45	1.0194	0.02	Q	|	|	|	V|
24+50	1.0195	0.01	Q	|	|	|	V|
24+55	1.0196	0.01	Q	|	|	|	V|
25+ 0	1.0197	0.01	Q	|	|	|	V|
25+ 5	1.0198	0.01	Q	|	|	|	V|
25+10	1.0198	0.01	Q	|	|	|	V|
25+15	1.0199	0.01	Q	|	|	|	V|
25+20	1.0199	0.01	Q	|	|	|	V|
25+25	1.0200	0.01	Q	|	|	|	V|
25+30	1.0200	0.01	Q	|	|	|	V|
25+35	1.0201	0.00	Q	|	|	|	V|
25+40	1.0201	0.00	Q	|	|	|	V|
25+45	1.0201	0.00	Q	|	|	|	V|
25+50	1.0201	0.00	Q	|	|	|	V|
25+55	1.0202	0.00	Q	|	|	|	V|
26+ 0	1.0202	0.00	Q	|	|	|	V|
26+ 5	1.0202	0.00	Q	|	|	|	V|
26+10	1.0202	0.00	Q	|	|	|	V|
26+15	1.0202	0.00	Q	|	|	|	V|
26+20	1.0202	0.00	Q	|	|	|	V|
26+25	1.0202	0.00	Q	|	|	|	V|
26+30	1.0202	0.00	Q	|	|	|	V|
26+35	1.0202	0.00	Q	|	|	|	V|
26+40	1.0202	0.00	Q	|	|	|	V|

```
   26+45       1.0202      0.00  Q         |          |         |        V|
   26+50       1.0202      0.00  Q         |          |         |        V|
   26+55       1.0202      0.00  Q         |          |         |        V|
   27+ 0       1.0202      0.00  Q         |          |         |        V|
   27+ 5       1.0203      0.00  Q         |          |         |        V|
   27+10       1.0203      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 12
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
0.87	1	1.28
Rainfall data for year 100		
0.87	6	1.84
Rainfall data for year 100		
0.87	24	2.37

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	0.87	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.87	1.000	62.0	80.6	2.41	0.350

Area-averaged catchment yield fraction, Y = 0.350
Area-averaged low loss fraction, Yb = 0.650
User entry of time of concentration = 0.260 (hours)
++
Watershed area = 0.87(Ac.)
Catchment Lag time = 0.208 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 40.0641
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.650 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.607(In)
Computed peak 30-minute rainfall = 1.040(In)
Specified peak 1-hour rainfall = 1.280(In)
Computed peak 3-hour rainfall = 1.599(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.370(In)

Rainfall depth area reduction factors:
Using a total area of 0.87(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.607(In)
30-minute factor = 1.000 Adjusted rainfall = 1.040(In)
1-hour factor = 1.000 Adjusted rainfall = 1.280(In)
3-hour factor = 1.000 Adjusted rainfall = 1.599(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.370(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 10.52 (CFS))	
1	2.755	0.290
2	18.770	1.685
3	49.245	3.206
4	65.688	1.730
5	74.847	0.964
6	80.916	0.639
7	85.280	0.459
8	88.633	0.353
9	91.058	0.255
10	93.036	0.208
11	94.603	0.165
12	95.871	0.133
13	96.878	0.106
14	97.624	0.079

15	98.109	0.051
16	98.552	0.047
17	99.033	0.051
18	99.481	0.047
19	99.757	0.029
20	100.000	0.026

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6073	0.6073
2	0.7477	0.1404
3	0.8445	0.0967
4	0.9206	0.0761
5	0.9843	0.0637
6	1.0396	0.0553
7	1.0888	0.0492
8	1.1334	0.0445
9	1.1741	0.0408
10	1.2118	0.0377
11	1.2470	0.0351
12	1.2799	0.0330
13	1.3009	0.0209
14	1.3205	0.0197
15	1.3391	0.0186
16	1.3568	0.0176
17	1.3735	0.0168
18	1.3895	0.0160
19	1.4048	0.0153
20	1.4195	0.0147
21	1.4336	0.0141
22	1.4472	0.0136
23	1.4603	0.0131
24	1.4729	0.0126
25	1.4851	0.0122
26	1.4970	0.0118
27	1.5085	0.0115
28	1.5196	0.0112
29	1.5305	0.0108
30	1.5410	0.0105
31	1.5513	0.0103
32	1.5613	0.0100
33	1.5710	0.0098
34	1.5806	0.0095
35	1.5899	0.0093
36	1.5990	0.0091
37	1.6079	0.0089
38	1.6166	0.0087
39	1.6251	0.0085
40	1.6335	0.0084
41	1.6417	0.0082
42	1.6497	0.0080
43	1.6576	0.0079
44	1.6653	0.0077
45	1.6729	0.0076
46	1.6804	0.0075
47	1.6877	0.0073
48	1.6949	0.0072
49	1.7020	0.0071
50	1.7090	0.0070

51	1.7159	0.0069
52	1.7226	0.0068
53	1.7293	0.0067
54	1.7358	0.0066
55	1.7423	0.0065
56	1.7487	0.0064
57	1.7550	0.0063
58	1.7612	0.0062
59	1.7673	0.0061
60	1.7733	0.0060
61	1.7792	0.0059
62	1.7851	0.0059
63	1.7909	0.0058
64	1.7966	0.0057
65	1.8023	0.0057
66	1.8079	0.0056
67	1.8134	0.0055
68	1.8188	0.0054
69	1.8242	0.0054
70	1.8295	0.0053
71	1.8348	0.0053
72	1.8400	0.0052
73	1.8446	0.0046
74	1.8492	0.0046
75	1.8538	0.0045
76	1.8582	0.0045
77	1.8627	0.0044
78	1.8671	0.0044
79	1.8714	0.0043
80	1.8757	0.0043
81	1.8800	0.0043
82	1.8842	0.0042
83	1.8884	0.0042
84	1.8925	0.0041
85	1.8966	0.0041
86	1.9007	0.0041
87	1.9047	0.0040
88	1.9087	0.0040
89	1.9126	0.0039
90	1.9165	0.0039
91	1.9204	0.0039
92	1.9242	0.0038
93	1.9280	0.0038
94	1.9318	0.0038
95	1.9355	0.0037
96	1.9392	0.0037
97	1.9429	0.0037
98	1.9465	0.0036
99	1.9502	0.0036
100	1.9537	0.0036
101	1.9573	0.0036
102	1.9608	0.0035
103	1.9643	0.0035
104	1.9678	0.0035
105	1.9712	0.0034
106	1.9746	0.0034
107	1.9780	0.0034
108	1.9814	0.0034
109	1.9847	0.0033

110	1.9880	0.0033
111	1.9913	0.0033
112	1.9946	0.0033
113	1.9978	0.0032
114	2.0010	0.0032
115	2.0042	0.0032
116	2.0074	0.0032
117	2.0106	0.0031
118	2.0137	0.0031
119	2.0168	0.0031
120	2.0199	0.0031
121	2.0229	0.0031
122	2.0260	0.0030
123	2.0290	0.0030
124	2.0320	0.0030
125	2.0350	0.0030
126	2.0379	0.0030
127	2.0409	0.0029
128	2.0438	0.0029
129	2.0467	0.0029
130	2.0496	0.0029
131	2.0525	0.0029
132	2.0553	0.0029
133	2.0582	0.0028
134	2.0610	0.0028
135	2.0638	0.0028
136	2.0666	0.0028
137	2.0693	0.0028
138	2.0721	0.0027
139	2.0748	0.0027
140	2.0775	0.0027
141	2.0802	0.0027
142	2.0829	0.0027
143	2.0856	0.0027
144	2.0882	0.0027
145	2.0909	0.0026
146	2.0935	0.0026
147	2.0961	0.0026
148	2.0987	0.0026
149	2.1013	0.0026
150	2.1039	0.0026
151	2.1064	0.0026
152	2.1090	0.0025
153	2.1115	0.0025
154	2.1140	0.0025
155	2.1165	0.0025
156	2.1190	0.0025
157	2.1215	0.0025
158	2.1239	0.0025
159	2.1264	0.0024
160	2.1288	0.0024
161	2.1312	0.0024
162	2.1336	0.0024
163	2.1360	0.0024
164	2.1384	0.0024
165	2.1408	0.0024
166	2.1432	0.0024
167	2.1455	0.0024
168	2.1479	0.0023

169	2.1502	0.0023
170	2.1525	0.0023
171	2.1548	0.0023
172	2.1571	0.0023
173	2.1594	0.0023
174	2.1617	0.0023
175	2.1639	0.0023
176	2.1662	0.0023
177	2.1684	0.0022
178	2.1707	0.0022
179	2.1729	0.0022
180	2.1751	0.0022
181	2.1773	0.0022
182	2.1795	0.0022
183	2.1817	0.0022
184	2.1838	0.0022
185	2.1860	0.0022
186	2.1882	0.0022
187	2.1903	0.0021
188	2.1924	0.0021
189	2.1946	0.0021
190	2.1967	0.0021
191	2.1988	0.0021
192	2.2009	0.0021
193	2.2030	0.0021
194	2.2050	0.0021
195	2.2071	0.0021
196	2.2092	0.0021
197	2.2112	0.0021
198	2.2133	0.0020
199	2.2153	0.0020
200	2.2173	0.0020
201	2.2194	0.0020
202	2.2214	0.0020
203	2.2234	0.0020
204	2.2254	0.0020
205	2.2274	0.0020
206	2.2293	0.0020
207	2.2313	0.0020
208	2.2333	0.0020
209	2.2352	0.0020
210	2.2372	0.0019
211	2.2391	0.0019
212	2.2411	0.0019
213	2.2430	0.0019
214	2.2449	0.0019
215	2.2468	0.0019
216	2.2487	0.0019
217	2.2506	0.0019
218	2.2525	0.0019
219	2.2544	0.0019
220	2.2563	0.0019
221	2.2581	0.0019
222	2.2600	0.0019
223	2.2619	0.0019
224	2.2637	0.0018
225	2.2655	0.0018
226	2.2674	0.0018
227	2.2692	0.0018

228	2.2710	0.0018
229	2.2728	0.0018
230	2.2747	0.0018
231	2.2765	0.0018
232	2.2783	0.0018
233	2.2800	0.0018
234	2.2818	0.0018
235	2.2836	0.0018
236	2.2854	0.0018
237	2.2871	0.0018
238	2.2889	0.0018
239	2.2907	0.0018
240	2.2924	0.0017
241	2.2941	0.0017
242	2.2959	0.0017
243	2.2976	0.0017
244	2.2993	0.0017
245	2.3010	0.0017
246	2.3028	0.0017
247	2.3045	0.0017
248	2.3062	0.0017
249	2.3079	0.0017
250	2.3095	0.0017
251	2.3112	0.0017
252	2.3129	0.0017
253	2.3146	0.0017
254	2.3163	0.0017
255	2.3179	0.0017
256	2.3196	0.0017
257	2.3212	0.0017
258	2.3229	0.0016
259	2.3245	0.0016
260	2.3261	0.0016
261	2.3278	0.0016
262	2.3294	0.0016
263	2.3310	0.0016
264	2.3326	0.0016
265	2.3343	0.0016
266	2.3359	0.0016
267	2.3375	0.0016
268	2.3391	0.0016
269	2.3406	0.0016
270	2.3422	0.0016
271	2.3438	0.0016
272	2.3454	0.0016
273	2.3470	0.0016
274	2.3485	0.0016
275	2.3501	0.0016
276	2.3517	0.0016
277	2.3532	0.0016
278	2.3548	0.0015
279	2.3563	0.0015
280	2.3578	0.0015
281	2.3594	0.0015
282	2.3609	0.0015
283	2.3624	0.0015
284	2.3640	0.0015
285	2.3655	0.0015
286	2.3670	0.0015

287	2.3685	0.0015
288	2.3700	0.0015

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0015	0.0010	0.0005
2	0.0015	0.0010	0.0005
3	0.0015	0.0010	0.0005
4	0.0015	0.0010	0.0005
5	0.0015	0.0010	0.0005
6	0.0015	0.0010	0.0005
7	0.0015	0.0010	0.0005
8	0.0015	0.0010	0.0005
9	0.0016	0.0010	0.0005
10	0.0016	0.0010	0.0005
11	0.0016	0.0010	0.0006
12	0.0016	0.0010	0.0006
13	0.0016	0.0010	0.0006
14	0.0016	0.0010	0.0006
15	0.0016	0.0010	0.0006
16	0.0016	0.0010	0.0006
17	0.0016	0.0010	0.0006
18	0.0016	0.0011	0.0006
19	0.0016	0.0011	0.0006
20	0.0016	0.0011	0.0006
21	0.0016	0.0011	0.0006
22	0.0017	0.0011	0.0006
23	0.0017	0.0011	0.0006
24	0.0017	0.0011	0.0006
25	0.0017	0.0011	0.0006
26	0.0017	0.0011	0.0006
27	0.0017	0.0011	0.0006
28	0.0017	0.0011	0.0006
29	0.0017	0.0011	0.0006
30	0.0017	0.0011	0.0006
31	0.0017	0.0011	0.0006
32	0.0017	0.0011	0.0006
33	0.0017	0.0011	0.0006
34	0.0018	0.0011	0.0006
35	0.0018	0.0011	0.0006
36	0.0018	0.0012	0.0006
37	0.0018	0.0012	0.0006
38	0.0018	0.0012	0.0006
39	0.0018	0.0012	0.0006
40	0.0018	0.0012	0.0006
41	0.0018	0.0012	0.0006
42	0.0018	0.0012	0.0006
43	0.0018	0.0012	0.0006
44	0.0018	0.0012	0.0006
45	0.0019	0.0012	0.0007
46	0.0019	0.0012	0.0007
47	0.0019	0.0012	0.0007
48	0.0019	0.0012	0.0007
49	0.0019	0.0012	0.0007
50	0.0019	0.0012	0.0007
51	0.0019	0.0013	0.0007
52	0.0019	0.0013	0.0007

53	0.0019	0.0013	0.0007
54	0.0020	0.0013	0.0007
55	0.0020	0.0013	0.0007
56	0.0020	0.0013	0.0007
57	0.0020	0.0013	0.0007
58	0.0020	0.0013	0.0007
59	0.0020	0.0013	0.0007
60	0.0020	0.0013	0.0007
61	0.0020	0.0013	0.0007
62	0.0021	0.0013	0.0007
63	0.0021	0.0013	0.0007
64	0.0021	0.0014	0.0007
65	0.0021	0.0014	0.0007
66	0.0021	0.0014	0.0007
67	0.0021	0.0014	0.0007
68	0.0021	0.0014	0.0007
69	0.0022	0.0014	0.0008
70	0.0022	0.0014	0.0008
71	0.0022	0.0014	0.0008
72	0.0022	0.0014	0.0008
73	0.0022	0.0014	0.0008
74	0.0022	0.0014	0.0008
75	0.0022	0.0015	0.0008
76	0.0023	0.0015	0.0008
77	0.0023	0.0015	0.0008
78	0.0023	0.0015	0.0008
79	0.0023	0.0015	0.0008
80	0.0023	0.0015	0.0008
81	0.0023	0.0015	0.0008
82	0.0024	0.0015	0.0008
83	0.0024	0.0015	0.0008
84	0.0024	0.0016	0.0008
85	0.0024	0.0016	0.0008
86	0.0024	0.0016	0.0008
87	0.0024	0.0016	0.0009
88	0.0025	0.0016	0.0009
89	0.0025	0.0016	0.0009
90	0.0025	0.0016	0.0009
91	0.0025	0.0016	0.0009
92	0.0025	0.0017	0.0009
93	0.0026	0.0017	0.0009
94	0.0026	0.0017	0.0009
95	0.0026	0.0017	0.0009
96	0.0026	0.0017	0.0009
97	0.0027	0.0017	0.0009
98	0.0027	0.0017	0.0009
99	0.0027	0.0018	0.0009
100	0.0027	0.0018	0.0010
101	0.0027	0.0018	0.0010
102	0.0028	0.0018	0.0010
103	0.0028	0.0018	0.0010
104	0.0028	0.0018	0.0010
105	0.0029	0.0019	0.0010
106	0.0029	0.0019	0.0010
107	0.0029	0.0019	0.0010
108	0.0029	0.0019	0.0010
109	0.0030	0.0019	0.0010
110	0.0030	0.0019	0.0010
111	0.0030	0.0020	0.0011

112	0.0030	0.0020	0.0011
113	0.0031	0.0020	0.0011
114	0.0031	0.0020	0.0011
115	0.0031	0.0020	0.0011
116	0.0032	0.0021	0.0011
117	0.0032	0.0021	0.0011
118	0.0032	0.0021	0.0011
119	0.0033	0.0021	0.0012
120	0.0033	0.0022	0.0012
121	0.0034	0.0022	0.0012
122	0.0034	0.0022	0.0012
123	0.0034	0.0022	0.0012
124	0.0035	0.0023	0.0012
125	0.0035	0.0023	0.0012
126	0.0036	0.0023	0.0012
127	0.0036	0.0023	0.0013
128	0.0036	0.0024	0.0013
129	0.0037	0.0024	0.0013
130	0.0037	0.0024	0.0013
131	0.0038	0.0025	0.0013
132	0.0038	0.0025	0.0013
133	0.0039	0.0025	0.0014
134	0.0039	0.0026	0.0014
135	0.0040	0.0026	0.0014
136	0.0041	0.0026	0.0014
137	0.0041	0.0027	0.0014
138	0.0042	0.0027	0.0015
139	0.0043	0.0028	0.0015
140	0.0043	0.0028	0.0015
141	0.0044	0.0029	0.0015
142	0.0044	0.0029	0.0016
143	0.0045	0.0029	0.0016
144	0.0046	0.0030	0.0016
145	0.0052	0.0034	0.0018
146	0.0053	0.0034	0.0018
147	0.0054	0.0035	0.0019
148	0.0054	0.0035	0.0019
149	0.0056	0.0036	0.0020
150	0.0057	0.0037	0.0020
151	0.0058	0.0038	0.0020
152	0.0059	0.0038	0.0021
153	0.0060	0.0039	0.0021
154	0.0061	0.0040	0.0021
155	0.0063	0.0041	0.0022
156	0.0064	0.0041	0.0022
157	0.0066	0.0043	0.0023
158	0.0067	0.0043	0.0023
159	0.0069	0.0045	0.0024
160	0.0070	0.0045	0.0024
161	0.0072	0.0047	0.0025
162	0.0073	0.0048	0.0026
163	0.0076	0.0049	0.0027
164	0.0077	0.0050	0.0027
165	0.0080	0.0052	0.0028
166	0.0082	0.0053	0.0029
167	0.0085	0.0055	0.0030
168	0.0087	0.0057	0.0031
169	0.0091	0.0059	0.0032
170	0.0093	0.0060	0.0033

171	0.0098	0.0063	0.0034
172	0.0100	0.0065	0.0035
173	0.0105	0.0069	0.0037
174	0.0108	0.0070	0.0038
175	0.0115	0.0075	0.0040
176	0.0118	0.0077	0.0042
177	0.0126	0.0082	0.0044
178	0.0131	0.0085	0.0046
179	0.0141	0.0092	0.0049
180	0.0147	0.0095	0.0051
181	0.0160	0.0104	0.0056
182	0.0168	0.0109	0.0059
183	0.0186	0.0121	0.0065
184	0.0197	0.0128	0.0069
185	0.0330	0.0214	0.0116
186	0.0351	0.0228	0.0123
187	0.0408	0.0265	0.0143
188	0.0445	0.0289	0.0156
189	0.0553	0.0300	0.0254
190	0.0637	0.0300	0.0338
191	0.0967	0.0300	0.0668
192	0.1404	0.0300	0.1104
193	0.6073	0.0300	0.5774
194	0.0761	0.0300	0.0462
195	0.0492	0.0300	0.0192
196	0.0377	0.0245	0.0132
197	0.0209	0.0136	0.0073
198	0.0176	0.0114	0.0062
199	0.0153	0.0099	0.0054
200	0.0136	0.0088	0.0048
201	0.0122	0.0079	0.0043
202	0.0112	0.0072	0.0039
203	0.0103	0.0067	0.0036
204	0.0095	0.0062	0.0033
205	0.0089	0.0058	0.0031
206	0.0084	0.0054	0.0029
207	0.0079	0.0051	0.0028
208	0.0075	0.0048	0.0026
209	0.0071	0.0046	0.0025
210	0.0068	0.0044	0.0024
211	0.0065	0.0042	0.0023
212	0.0062	0.0040	0.0022
213	0.0059	0.0039	0.0021
214	0.0057	0.0037	0.0020
215	0.0055	0.0036	0.0019
216	0.0053	0.0035	0.0019
217	0.0046	0.0030	0.0016
218	0.0045	0.0029	0.0016
219	0.0043	0.0028	0.0015
220	0.0042	0.0027	0.0015
221	0.0041	0.0027	0.0014
222	0.0040	0.0026	0.0014
223	0.0039	0.0025	0.0014
224	0.0038	0.0024	0.0013
225	0.0037	0.0024	0.0013
226	0.0036	0.0023	0.0013
227	0.0035	0.0023	0.0012
228	0.0034	0.0022	0.0012
229	0.0033	0.0022	0.0012

230	0.0033	0.0021	0.0011
231	0.0032	0.0021	0.0011
232	0.0031	0.0020	0.0011
233	0.0031	0.0020	0.0011
234	0.0030	0.0020	0.0011
235	0.0029	0.0019	0.0010
236	0.0029	0.0019	0.0010
237	0.0028	0.0018	0.0010
238	0.0028	0.0018	0.0010
239	0.0027	0.0018	0.0010
240	0.0027	0.0017	0.0009
241	0.0026	0.0017	0.0009
242	0.0026	0.0017	0.0009
243	0.0026	0.0017	0.0009
244	0.0025	0.0016	0.0009
245	0.0025	0.0016	0.0009
246	0.0024	0.0016	0.0009
247	0.0024	0.0016	0.0008
248	0.0024	0.0015	0.0008
249	0.0023	0.0015	0.0008
250	0.0023	0.0015	0.0008
251	0.0023	0.0015	0.0008
252	0.0022	0.0014	0.0008
253	0.0022	0.0014	0.0008
254	0.0022	0.0014	0.0008
255	0.0021	0.0014	0.0008
256	0.0021	0.0014	0.0007
257	0.0021	0.0014	0.0007
258	0.0021	0.0013	0.0007
259	0.0020	0.0013	0.0007
260	0.0020	0.0013	0.0007
261	0.0020	0.0013	0.0007
262	0.0020	0.0013	0.0007
263	0.0019	0.0013	0.0007
264	0.0019	0.0012	0.0007
265	0.0019	0.0012	0.0007
266	0.0019	0.0012	0.0007
267	0.0019	0.0012	0.0007
268	0.0018	0.0012	0.0006
269	0.0018	0.0012	0.0006
270	0.0018	0.0012	0.0006
271	0.0018	0.0012	0.0006
272	0.0018	0.0011	0.0006
273	0.0017	0.0011	0.0006
274	0.0017	0.0011	0.0006
275	0.0017	0.0011	0.0006
276	0.0017	0.0011	0.0006
277	0.0017	0.0011	0.0006
278	0.0017	0.0011	0.0006
279	0.0016	0.0011	0.0006
280	0.0016	0.0011	0.0006
281	0.0016	0.0010	0.0006
282	0.0016	0.0010	0.0006
283	0.0016	0.0010	0.0006
284	0.0016	0.0010	0.0005
285	0.0016	0.0010	0.0005
286	0.0015	0.0010	0.0005
287	0.0015	0.0010	0.0005
288	0.0015	0.0010	0.0005

Total soil rain loss = 1.04(In)
Total effective rainfall = 1.33(In)
Peak flow rate in flood hydrograph = 2.24(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0001	0.00	Q				
0+40	0.0002	0.01	Q				
0+45	0.0002	0.01	Q				
0+50	0.0003	0.01	Q				
0+55	0.0003	0.01	Q				
1+ 0	0.0003	0.01	Q				
1+ 5	0.0004	0.01	Q				
1+10	0.0004	0.01	Q				
1+15	0.0004	0.01	Q				
1+20	0.0005	0.01	Q				
1+25	0.0005	0.01	Q				
1+30	0.0006	0.01	Q				
1+35	0.0006	0.01	Q				
1+40	0.0006	0.01	Q				
1+45	0.0007	0.01	Q				
1+50	0.0007	0.01	Q				
1+55	0.0008	0.01	Q				
2+ 0	0.0008	0.01	Q				
2+ 5	0.0009	0.01	Q				
2+10	0.0009	0.01	Q				
2+15	0.0009	0.01	Q				
2+20	0.0010	0.01	Q				
2+25	0.0010	0.01	Q				
2+30	0.0011	0.01	Q				
2+35	0.0011	0.01	Q				
2+40	0.0012	0.01	Q				
2+45	0.0012	0.01	Q				
2+50	0.0012	0.01	Q				
2+55	0.0013	0.01	Q				
3+ 0	0.0013	0.01	Q				
3+ 5	0.0014	0.01	Q				
3+10	0.0014	0.01	Q				
3+15	0.0015	0.01	Q				
3+20	0.0015	0.01	Q				
3+25	0.0016	0.01	Q				
3+30	0.0016	0.01	Q				
3+35	0.0016	0.01	Q				
3+40	0.0017	0.01	Q				

3+45	0.0017	0.01	Q				
3+50	0.0018	0.01	Q				
3+55	0.0018	0.01	Q				
4+ 0	0.0019	0.01	Q				
4+ 5	0.0019	0.01	Q				
4+10	0.0020	0.01	Q				
4+15	0.0020	0.01	Q				
4+20	0.0021	0.01	Q				
4+25	0.0021	0.01	Q				
4+30	0.0022	0.01	Q				
4+35	0.0022	0.01	Q				
4+40	0.0023	0.01	Q				
4+45	0.0023	0.01	Q				
4+50	0.0024	0.01	Q				
4+55	0.0024	0.01	QV				
5+ 0	0.0025	0.01	QV				
5+ 5	0.0025	0.01	QV				
5+10	0.0026	0.01	QV				
5+15	0.0026	0.01	QV				
5+20	0.0027	0.01	QV				
5+25	0.0027	0.01	QV				
5+30	0.0028	0.01	QV				
5+35	0.0028	0.01	QV				
5+40	0.0029	0.01	QV				
5+45	0.0029	0.01	QV				
5+50	0.0030	0.01	QV				
5+55	0.0030	0.01	QV				
6+ 0	0.0031	0.01	QV				
6+ 5	0.0031	0.01	QV				
6+10	0.0032	0.01	QV				
6+15	0.0033	0.01	QV				
6+20	0.0033	0.01	QV				
6+25	0.0034	0.01	QV				
6+30	0.0034	0.01	QV				
6+35	0.0035	0.01	QV				
6+40	0.0035	0.01	QV				
6+45	0.0036	0.01	QV				
6+50	0.0037	0.01	QV				
6+55	0.0037	0.01	QV				
7+ 0	0.0038	0.01	QV				
7+ 5	0.0038	0.01	QV				
7+10	0.0039	0.01	QV				
7+15	0.0040	0.01	QV				
7+20	0.0040	0.01	QV				
7+25	0.0041	0.01	QV				
7+30	0.0041	0.01	QV				
7+35	0.0042	0.01	QV				
7+40	0.0043	0.01	QV				
7+45	0.0043	0.01	QV				
7+50	0.0044	0.01	QV				
7+55	0.0045	0.01	QV				
8+ 0	0.0045	0.01	QV				
8+ 5	0.0046	0.01	QV				
8+10	0.0046	0.01	QV				
8+15	0.0047	0.01	QV				
8+20	0.0048	0.01	QV				
8+25	0.0048	0.01	Q V				
8+30	0.0049	0.01	Q V				
8+35	0.0050	0.01	Q V				

8+40	0.0051	0.01	Q V	|	|	|	|
8+45	0.0051	0.01	Q V	|	|	|	|
8+50	0.0052	0.01	Q V	|	|	|	|
8+55	0.0053	0.01	Q V	|	|	|	|
9+ 0	0.0053	0.01	Q V	|	|	|	|
9+ 5	0.0054	0.01	Q V	|	|	|	|
9+10	0.0055	0.01	Q V	|	|	|	|
9+15	0.0056	0.01	Q V	|	|	|	|
9+20	0.0056	0.01	Q V	|	|	|	|
9+25	0.0057	0.01	Q V	|	|	|	|
9+30	0.0058	0.01	Q V	|	|	|	|
9+35	0.0059	0.01	Q V	|	|	|	|
9+40	0.0059	0.01	Q V	|	|	|	|
9+45	0.0060	0.01	Q V	|	|	|	|
9+50	0.0061	0.01	Q V	|	|	|	|
9+55	0.0062	0.01	Q V	|	|	|	|
10+ 0	0.0063	0.01	Q V	|	|	|	|
10+ 5	0.0063	0.01	Q V	|	|	|	|
10+10	0.0064	0.01	Q V	|	|	|	|
10+15	0.0065	0.01	Q V	|	|	|	|
10+20	0.0066	0.01	Q V	|	|	|	|
10+25	0.0067	0.01	Q V	|	|	|	|
10+30	0.0068	0.01	Q V	|	|	|	|
10+35	0.0069	0.01	Q V	|	|	|	|
10+40	0.0069	0.01	Q V	|	|	|	|
10+45	0.0070	0.01	Q V	|	|	|	|
10+50	0.0071	0.01	Q V	|	|	|	|
10+55	0.0072	0.01	Q V	|	|	|	|
11+ 0	0.0073	0.01	Q V	|	|	|	|
11+ 5	0.0074	0.01	Q V	|	|	|	|
11+10	0.0075	0.01	Q V	|	|	|	|
11+15	0.0076	0.01	Q V	|	|	|	|
11+20	0.0077	0.01	Q V	|	|	|	|
11+25	0.0078	0.01	Q V	|	|	|	|
11+30	0.0079	0.01	Q V	|	|	|	|
11+35	0.0080	0.01	Q V	|	|	|	|
11+40	0.0081	0.02	Q V	|	|	|	|
11+45	0.0082	0.02	Q V	|	|	|	|
11+50	0.0083	0.02	Q V	|	|	|	|
11+55	0.0084	0.02	Q V	|	|	|	|
12+ 0	0.0085	0.02	Q V	|	|	|	|
12+ 5	0.0086	0.02	Q V	|	|	|	|
12+10	0.0088	0.02	Q V	|	|	|	|
12+15	0.0089	0.02	Q V	|	|	|	|
12+20	0.0090	0.02	Q V	|	|	|	|
12+25	0.0091	0.02	Q V	|	|	|	|
12+30	0.0093	0.02	Q V	|	|	|	|
12+35	0.0094	0.02	Q V	|	|	|	|
12+40	0.0095	0.02	Q V	|	|	|	|
12+45	0.0097	0.02	Q V	|	|	|	|
12+50	0.0098	0.02	Q V	|	|	|	|
12+55	0.0100	0.02	Q V	|	|	|	|
13+ 0	0.0101	0.02	Q V	|	|	|	|
13+ 5	0.0103	0.02	Q V	|	|	|	|
13+10	0.0104	0.02	Q V	|	|	|	|
13+15	0.0106	0.02	Q V	|	|	|	|
13+20	0.0108	0.02	Q V	|	|	|	|
13+25	0.0109	0.02	Q V	|	|	|	|
13+30	0.0111	0.02	Q V	|	|	|	|

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13+35       0.0113      0.03  Q   V     |          |          |          |
13+40       0.0115      0.03  Q   V     |          |          |          |
13+45       0.0116      0.03  Q   V     |          |          |          |
13+50       0.0118      0.03  Q   V     |          |          |          |
13+55       0.0120      0.03  Q   V     |          |          |          |
14+ 0       0.0122      0.03  Q    V    |          |          |          |
14+ 5       0.0124      0.03  Q    V    |          |          |          |
14+10       0.0126      0.03  Q    V    |          |          |          |
14+15       0.0129      0.03  Q    V    |          |          |          |
14+20       0.0131      0.03  Q    V    |          |          |          |
14+25       0.0133      0.03  Q    V    |          |          |          |
14+30       0.0136      0.04  Q    V    |          |          |          |
14+35       0.0138      0.04  Q    V    |          |          |          |
14+40       0.0141      0.04  Q    V    |          |          |          |
14+45       0.0144      0.04  Q    V    |          |          |          |
14+50       0.0146      0.04  Q     V   |          |          |          |
14+55       0.0149      0.04  Q     V   |          |          |          |
15+ 0       0.0153      0.05  Q     V   |          |          |          |
15+ 5       0.0156      0.05  Q     V   |          |          |          |
15+10       0.0159      0.05  Q     V   |          |          |          |
15+15       0.0163      0.05  Q     V   |          |          |          |
15+20       0.0167      0.06  Q     V   |          |          |          |
15+25       0.0171      0.06  Q      V  |          |          |          |
15+30       0.0177      0.07  Q      V  |          |          |          |
15+35       0.0183      0.09  Q      V  |          |          |          |
15+40       0.0191      0.11  Q      V  |          |          |          |
15+45       0.0199      0.13  Q       V |          |          |          |
15+50       0.0210      0.16  Q       V |          |          |          |
15+55       0.0225      0.22  Q        V|          |          |          |
16+ 0       0.0249      0.34  |Q        V          |          |          |
16+ 5       0.0295      0.68  | Q       | V        |          |          |
16+10       0.0400      1.53  |     Q   |     V    |          |          |
16+15       0.0555      2.24  |       Q |          |  V       |          |
16+20       0.0649      1.37  |    Q    |          |     V    |          |
16+25       0.0708      0.85  |  Q      |          |        V |          |
16+30       0.0749      0.60  | Q       |          |          |V         |
16+35       0.0780      0.45  |Q        |          |          | V        |
16+40       0.0804      0.35  |Q        |          |          |  V       |
16+45       0.0822      0.27  |Q        |          |          |   V      |
16+50       0.0838      0.22  Q         |          |          |   V      |
16+55       0.0850      0.18  Q         |          |          |    V     |
17+ 0       0.0861      0.15  Q         |          |          |    V     |
17+ 5       0.0870      0.13  Q         |          |          |     V    |
17+10       0.0877      0.10  Q         |          |          |     V    |
17+15       0.0883      0.08  Q         |          |          |     V    |
17+20       0.0888      0.08  Q         |          |          |     V    |
17+25       0.0893      0.07  Q         |          |          |      V   |
17+30       0.0898      0.07  Q         |          |          |      V   |
17+35       0.0901      0.05  Q         |          |          |      V   |
17+40       0.0904      0.05  Q         |          |          |      V   |
17+45       0.0906      0.03  Q         |          |          |      V   |
17+50       0.0908      0.03  Q         |          |          |      V   |
17+55       0.0910      0.02  Q         |          |          |      V   |
18+ 0       0.0911      0.02  Q         |          |          |      V   |
18+ 5       0.0913      0.02  Q         |          |          |      V   |
18+10       0.0914      0.02  Q         |          |          |       V  |
18+15       0.0916      0.02  Q         |          |          |       V  |
18+20       0.0917      0.02  Q         |          |          |       V  |
18+25       0.0918      0.02  Q         |          |          |       V  |
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18+30	0.0919	0.02	Q	|	|	|	V |
18+35	0.0921	0.02	Q	|	|	|	V |
18+40	0.0922	0.02	Q	|	|	|	V |
18+45	0.0923	0.02	Q	|	|	|	V |
18+50	0.0924	0.01	Q	|	|	|	V |
18+55	0.0925	0.01	Q	|	|	|	V |
19+ 0	0.0926	0.01	Q	|	|	|	V |
19+ 5	0.0927	0.01	Q	|	|	|	V |
19+10	0.0928	0.01	Q	|	|	|	V |
19+15	0.0929	0.01	Q	|	|	|	V |
19+20	0.0929	0.01	Q	|	|	|	V |
19+25	0.0930	0.01	Q	|	|	|	V |
19+30	0.0931	0.01	Q	|	|	|	V |
19+35	0.0932	0.01	Q	|	|	|	V |
19+40	0.0933	0.01	Q	|	|	|	V |
19+45	0.0933	0.01	Q	|	|	|	V |
19+50	0.0934	0.01	Q	|	|	|	V |
19+55	0.0935	0.01	Q	|	|	|	V |
20+ 0	0.0936	0.01	Q	|	|	|	V |
20+ 5	0.0936	0.01	Q	|	|	|	V |
20+10	0.0937	0.01	Q	|	|	|	V |
20+15	0.0938	0.01	Q	|	|	|	V |
20+20	0.0938	0.01	Q	|	|	|	V|
20+25	0.0939	0.01	Q	|	|	|	V|
20+30	0.0940	0.01	Q	|	|	|	V|
20+35	0.0940	0.01	Q	|	|	|	V|
20+40	0.0941	0.01	Q	|	|	|	V|
20+45	0.0942	0.01	Q	|	|	|	V|
20+50	0.0942	0.01	Q	|	|	|	V|
20+55	0.0943	0.01	Q	|	|	|	V|
21+ 0	0.0944	0.01	Q	|	|	|	V|
21+ 5	0.0944	0.01	Q	|	|	|	V|
21+10	0.0945	0.01	Q	|	|	|	V|
21+15	0.0945	0.01	Q	|	|	|	V|
21+20	0.0946	0.01	Q	|	|	|	V|
21+25	0.0946	0.01	Q	|	|	|	V|
21+30	0.0947	0.01	Q	|	|	|	V|
21+35	0.0948	0.01	Q	|	|	|	V|
21+40	0.0948	0.01	Q	|	|	|	V|
21+45	0.0949	0.01	Q	|	|	|	V|
21+50	0.0949	0.01	Q	|	|	|	V|
21+55	0.0950	0.01	Q	|	|	|	V|
22+ 0	0.0950	0.01	Q	|	|	|	V|
22+ 5	0.0951	0.01	Q	|	|	|	V|
22+10	0.0951	0.01	Q	|	|	|	V|
22+15	0.0952	0.01	Q	|	|	|	V|
22+20	0.0952	0.01	Q	|	|	|	V|
22+25	0.0953	0.01	Q	|	|	|	V|
22+30	0.0953	0.01	Q	|	|	|	V|
22+35	0.0954	0.01	Q	|	|	|	V|
22+40	0.0954	0.01	Q	|	|	|	V|
22+45	0.0954	0.01	Q	|	|	|	V|
22+50	0.0955	0.01	Q	|	|	|	V|
22+55	0.0955	0.01	Q	|	|	|	V|
23+ 0	0.0956	0.01	Q	|	|	|	V|
23+ 5	0.0956	0.01	Q	|	|	|	V|
23+10	0.0957	0.01	Q	|	|	|	V|
23+15	0.0957	0.01	Q	|	|	|	V|
23+20	0.0958	0.01	Q	|	|	|	V|

23+25	0.0958	0.01	Q	|	|	|	V|
23+30	0.0958	0.01	Q	|	|	|	V|
23+35	0.0959	0.01	Q	|	|	|	V|
23+40	0.0959	0.01	Q	|	|	|	V|
23+45	0.0960	0.01	Q	|	|	|	V|
23+50	0.0960	0.01	Q	|	|	|	V|
23+55	0.0960	0.01	Q	|	|	|	V|
24+ 0	0.0961	0.01	Q	|	|	|	V|
24+ 5	0.0961	0.01	Q	|	|	|	V|
24+10	0.0962	0.00	Q	|	|	|	V|
24+15	0.0962	0.00	Q	|	|	|	V|
24+20	0.0962	0.00	Q	|	|	|	V|
24+25	0.0962	0.00	Q	|	|	|	V|
24+30	0.0962	0.00	Q	|	|	|	V|
24+35	0.0962	0.00	Q	|	|	|	V|
24+40	0.0962	0.00	Q	|	|	|	V|
24+45	0.0962	0.00	Q	|	|	|	V|
24+50	0.0962	0.00	Q	|	|	|	V|
24+55	0.0962	0.00	Q	|	|	|	V|
25+ 0	0.0962	0.00	Q	|	|	|	V|
25+ 5	0.0962	0.00	Q	|	|	|	V|
25+10	0.0962	0.00	Q	|	|	|	V|
25+15	0.0962	0.00	Q	|	|	|	V|
25+20	0.0962	0.00	Q	|	|	|	V|
25+25	0.0962	0.00	Q	|	|	|	V|
25+30	0.0962	0.00	Q	|	|	|	V|
25+35	0.0962	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 13
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
16.85	1	1.28
Rainfall data for year 100		
16.85	6	1.84
Rainfall data for year 100		
16.85	24	2.39

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	16.85	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
16.85	1.000	62.0	80.6	2.41	0.353

Area-averaged catchment yield fraction, Y = 0.353
Area-averaged low loss fraction, Yb = 0.647
User entry of time of concentration = 0.920 (hours)
++
Watershed area = 16.85(Ac.)
Catchment Lag time = 0.736 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 11.3225
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.647 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.607(In)
Computed peak 30-minute rainfall = 1.040(In)
Specified peak 1-hour rainfall = 1.280(In)
Computed peak 3-hour rainfall = 1.599(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.390(In)

Rainfall depth area reduction factors:
Using a total area of 16.85(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.607(In)
30-minute factor = 0.999 Adjusted rainfall = 1.039(In)
1-hour factor = 0.999 Adjusted rainfall = 1.279(In)
3-hour factor = 1.000 Adjusted rainfall = 1.599(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.390(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 203.78 (CFS))	
1	0.498	1.015
2	1.858	2.771
3	4.040	4.445
4	7.064	6.163
5	11.407	8.850
6	18.856	15.180
7	29.728	22.155
8	39.700	20.321
9	47.575	16.048
10	53.930	12.950
11	58.952	10.235
12	62.924	8.094
13	66.258	6.794
14	69.176	5.946

15	71.807	5.361
16	74.059	4.590
17	76.072	4.101
18	77.965	3.858
19	79.549	3.229
20	81.042	3.041
21	82.368	2.702
22	83.591	2.492
23	84.756	2.375
24	85.843	2.216
25	86.885	2.121
26	87.798	1.861
27	88.675	1.787
28	89.382	1.441
29	90.059	1.380
30	90.705	1.315
31	91.338	1.291
32	91.920	1.184
33	92.463	1.107
34	92.989	1.072
35	93.487	1.016
36	93.960	0.963
37	94.351	0.797
38	94.736	0.784
39	95.121	0.784
40	95.503	0.778
41	95.823	0.651
42	96.117	0.600
43	96.411	0.600
44	96.706	0.600
45	96.968	0.535
46	97.173	0.418
47	97.377	0.415
48	97.581	0.415
49	97.776	0.399
50	97.905	0.261
51	98.018	0.231
52	98.131	0.231
53	98.244	0.231
54	98.369	0.254
55	98.505	0.277
56	98.641	0.277
57	98.777	0.277
58	98.913	0.277
59	99.048	0.277
60	99.184	0.277
61	99.320	0.277
62	99.455	0.275
63	99.548	0.189
64	99.619	0.144
65	99.689	0.144
66	99.760	0.144
67	99.831	0.144
68	99.902	0.144
69	100.000	0.072

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6069	0.6069

2	0.7472	0.1403
3	0.8438	0.0966
4	0.9199	0.0761
5	0.9836	0.0637
6	1.0389	0.0553
7	1.0880	0.0492
8	1.1325	0.0445
9	1.1732	0.0407
10	1.2109	0.0377
11	1.2460	0.0351
12	1.2790	0.0330
13	1.3000	0.0210
14	1.3197	0.0197
15	1.3383	0.0186
16	1.3560	0.0177
17	1.3728	0.0168
18	1.3888	0.0160
19	1.4042	0.0153
20	1.4189	0.0147
21	1.4330	0.0141
22	1.4466	0.0136
23	1.4597	0.0131
24	1.4724	0.0127
25	1.4847	0.0123
26	1.4965	0.0119
27	1.5081	0.0115
28	1.5192	0.0112
29	1.5301	0.0109
30	1.5407	0.0106
31	1.5510	0.0103
32	1.5610	0.0100
33	1.5708	0.0098
34	1.5804	0.0096
35	1.5897	0.0093
36	1.5988	0.0091
37	1.6077	0.0089
38	1.6164	0.0087
39	1.6250	0.0085
40	1.6333	0.0084
41	1.6415	0.0082
42	1.6496	0.0080
43	1.6574	0.0079
44	1.6652	0.0077
45	1.6728	0.0076
46	1.6802	0.0075
47	1.6876	0.0073
48	1.6948	0.0072
49	1.7019	0.0071
50	1.7089	0.0070
51	1.7157	0.0069
52	1.7225	0.0068
53	1.7292	0.0067
54	1.7357	0.0066
55	1.7422	0.0065
56	1.7486	0.0064
57	1.7548	0.0063
58	1.7610	0.0062
59	1.7671	0.0061
60	1.7732	0.0060

61	1.7791	0.0059
62	1.7850	0.0059
63	1.7908	0.0058
64	1.7965	0.0057
65	1.8022	0.0057
66	1.8078	0.0056
67	1.8133	0.0055
68	1.8187	0.0055
69	1.8241	0.0054
70	1.8294	0.0053
71	1.8347	0.0053
72	1.8399	0.0052
73	1.8447	0.0048
74	1.8494	0.0047
75	1.8541	0.0047
76	1.8588	0.0046
77	1.8634	0.0046
78	1.8679	0.0045
79	1.8724	0.0045
80	1.8768	0.0044
81	1.8812	0.0044
82	1.8856	0.0044
83	1.8899	0.0043
84	1.8942	0.0043
85	1.8984	0.0042
86	1.9026	0.0042
87	1.9068	0.0042
88	1.9109	0.0041
89	1.9150	0.0041
90	1.9190	0.0040
91	1.9230	0.0040
92	1.9270	0.0040
93	1.9309	0.0039
94	1.9348	0.0039
95	1.9387	0.0039
96	1.9425	0.0038
97	1.9463	0.0038
98	1.9501	0.0038
99	1.9538	0.0037
100	1.9575	0.0037
101	1.9612	0.0037
102	1.9649	0.0036
103	1.9685	0.0036
104	1.9721	0.0036
105	1.9757	0.0036
106	1.9792	0.0035
107	1.9827	0.0035
108	1.9862	0.0035
109	1.9896	0.0035
110	1.9931	0.0034
111	1.9965	0.0034
112	1.9999	0.0034
113	2.0032	0.0034
114	2.0065	0.0033
115	2.0099	0.0033
116	2.0131	0.0033
117	2.0164	0.0033
118	2.0196	0.0032
119	2.0229	0.0032

120	2.0261	0.0032
121	2.0292	0.0032
122	2.0324	0.0032
123	2.0355	0.0031
124	2.0386	0.0031
125	2.0417	0.0031
126	2.0448	0.0031
127	2.0478	0.0031
128	2.0509	0.0030
129	2.0539	0.0030
130	2.0569	0.0030
131	2.0599	0.0030
132	2.0628	0.0030
133	2.0658	0.0029
134	2.0687	0.0029
135	2.0716	0.0029
136	2.0745	0.0029
137	2.0773	0.0029
138	2.0802	0.0029
139	2.0830	0.0028
140	2.0859	0.0028
141	2.0887	0.0028
142	2.0914	0.0028
143	2.0942	0.0028
144	2.0970	0.0028
145	2.0997	0.0027
146	2.1024	0.0027
147	2.1051	0.0027
148	2.1078	0.0027
149	2.1105	0.0027
150	2.1132	0.0027
151	2.1158	0.0027
152	2.1185	0.0026
153	2.1211	0.0026
154	2.1237	0.0026
155	2.1263	0.0026
156	2.1289	0.0026
157	2.1314	0.0026
158	2.1340	0.0026
159	2.1365	0.0025
160	2.1391	0.0025
161	2.1416	0.0025
162	2.1441	0.0025
163	2.1466	0.0025
164	2.1491	0.0025
165	2.1515	0.0025
166	2.1540	0.0025
167	2.1564	0.0024
168	2.1589	0.0024
169	2.1613	0.0024
170	2.1637	0.0024
171	2.1661	0.0024
172	2.1685	0.0024
173	2.1708	0.0024
174	2.1732	0.0024
175	2.1755	0.0024
176	2.1779	0.0023
177	2.1802	0.0023
178	2.1825	0.0023

179	2.1848	0.0023
180	2.1871	0.0023
181	2.1894	0.0023
182	2.1917	0.0023
183	2.1940	0.0023
184	2.1962	0.0023
185	2.1985	0.0022
186	2.2007	0.0022
187	2.2029	0.0022
188	2.2052	0.0022
189	2.2074	0.0022
190	2.2096	0.0022
191	2.2118	0.0022
192	2.2139	0.0022
193	2.2161	0.0022
194	2.2183	0.0022
195	2.2204	0.0022
196	2.2226	0.0021
197	2.2247	0.0021
198	2.2268	0.0021
199	2.2289	0.0021
200	2.2311	0.0021
201	2.2332	0.0021
202	2.2352	0.0021
203	2.2373	0.0021
204	2.2394	0.0021
205	2.2415	0.0021
206	2.2435	0.0021
207	2.2456	0.0021
208	2.2476	0.0020
209	2.2497	0.0020
210	2.2517	0.0020
211	2.2537	0.0020
212	2.2557	0.0020
213	2.2577	0.0020
214	2.2597	0.0020
215	2.2617	0.0020
216	2.2637	0.0020
217	2.2657	0.0020
218	2.2676	0.0020
219	2.2696	0.0020
220	2.2715	0.0020
221	2.2735	0.0019
222	2.2754	0.0019
223	2.2773	0.0019
224	2.2793	0.0019
225	2.2812	0.0019
226	2.2831	0.0019
227	2.2850	0.0019
228	2.2869	0.0019
229	2.2888	0.0019
230	2.2907	0.0019
231	2.2925	0.0019
232	2.2944	0.0019
233	2.2963	0.0019
234	2.2981	0.0019
235	2.3000	0.0018
236	2.3018	0.0018
237	2.3037	0.0018

238	2.3055	0.0018
239	2.3073	0.0018
240	2.3091	0.0018
241	2.3109	0.0018
242	2.3128	0.0018
243	2.3146	0.0018
244	2.3163	0.0018
245	2.3181	0.0018
246	2.3199	0.0018
247	2.3217	0.0018
248	2.3235	0.0018
249	2.3252	0.0018
250	2.3270	0.0018
251	2.3287	0.0018
252	2.3305	0.0017
253	2.3322	0.0017
254	2.3340	0.0017
255	2.3357	0.0017
256	2.3374	0.0017
257	2.3391	0.0017
258	2.3409	0.0017
259	2.3426	0.0017
260	2.3443	0.0017
261	2.3460	0.0017
262	2.3477	0.0017
263	2.3494	0.0017
264	2.3510	0.0017
265	2.3527	0.0017
266	2.3544	0.0017
267	2.3561	0.0017
268	2.3577	0.0017
269	2.3594	0.0017
270	2.3610	0.0017
271	2.3627	0.0016
272	2.3643	0.0016
273	2.3660	0.0016
274	2.3676	0.0016
275	2.3692	0.0016
276	2.3708	0.0016
277	2.3725	0.0016
278	2.3741	0.0016
279	2.3757	0.0016
280	2.3773	0.0016
281	2.3789	0.0016
282	2.3805	0.0016
283	2.3821	0.0016
284	2.3837	0.0016
285	2.3852	0.0016
286	2.3868	0.0016
287	2.3884	0.0016
288	2.3899	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0010	0.0006
2	0.0016	0.0010	0.0006
3	0.0016	0.0010	0.0006

4	0.0016	0.0010	0.0006
5	0.0016	0.0010	0.0006
6	0.0016	0.0010	0.0006
7	0.0016	0.0010	0.0006
8	0.0016	0.0010	0.0006
9	0.0016	0.0010	0.0006
10	0.0016	0.0011	0.0006
11	0.0016	0.0011	0.0006
12	0.0016	0.0011	0.0006
13	0.0017	0.0011	0.0006
14	0.0017	0.0011	0.0006
15	0.0017	0.0011	0.0006
16	0.0017	0.0011	0.0006
17	0.0017	0.0011	0.0006
18	0.0017	0.0011	0.0006
19	0.0017	0.0011	0.0006
20	0.0017	0.0011	0.0006
21	0.0017	0.0011	0.0006
22	0.0017	0.0011	0.0006
23	0.0017	0.0011	0.0006
24	0.0017	0.0011	0.0006
25	0.0017	0.0011	0.0006
26	0.0018	0.0011	0.0006
27	0.0018	0.0011	0.0006
28	0.0018	0.0011	0.0006
29	0.0018	0.0012	0.0006
30	0.0018	0.0012	0.0006
31	0.0018	0.0012	0.0006
32	0.0018	0.0012	0.0006
33	0.0018	0.0012	0.0006
34	0.0018	0.0012	0.0006
35	0.0018	0.0012	0.0006
36	0.0018	0.0012	0.0007
37	0.0019	0.0012	0.0007
38	0.0019	0.0012	0.0007
39	0.0019	0.0012	0.0007
40	0.0019	0.0012	0.0007
41	0.0019	0.0012	0.0007
42	0.0019	0.0012	0.0007
43	0.0019	0.0012	0.0007
44	0.0019	0.0012	0.0007
45	0.0019	0.0013	0.0007
46	0.0019	0.0013	0.0007
47	0.0020	0.0013	0.0007
48	0.0020	0.0013	0.0007
49	0.0020	0.0013	0.0007
50	0.0020	0.0013	0.0007
51	0.0020	0.0013	0.0007
52	0.0020	0.0013	0.0007
53	0.0020	0.0013	0.0007
54	0.0020	0.0013	0.0007
55	0.0021	0.0013	0.0007
56	0.0021	0.0013	0.0007
57	0.0021	0.0013	0.0007
58	0.0021	0.0013	0.0007
59	0.0021	0.0014	0.0007
60	0.0021	0.0014	0.0007
61	0.0021	0.0014	0.0008
62	0.0021	0.0014	0.0008

63	0.0022	0.0014	0.0008
64	0.0022	0.0014	0.0008
65	0.0022	0.0014	0.0008
66	0.0022	0.0014	0.0008
67	0.0022	0.0014	0.0008
68	0.0022	0.0014	0.0008
69	0.0022	0.0014	0.0008
70	0.0022	0.0015	0.0008
71	0.0023	0.0015	0.0008
72	0.0023	0.0015	0.0008
73	0.0023	0.0015	0.0008
74	0.0023	0.0015	0.0008
75	0.0023	0.0015	0.0008
76	0.0023	0.0015	0.0008
77	0.0024	0.0015	0.0008
78	0.0024	0.0015	0.0008
79	0.0024	0.0015	0.0008
80	0.0024	0.0016	0.0009
81	0.0024	0.0016	0.0009
82	0.0024	0.0016	0.0009
83	0.0025	0.0016	0.0009
84	0.0025	0.0016	0.0009
85	0.0025	0.0016	0.0009
86	0.0025	0.0016	0.0009
87	0.0025	0.0016	0.0009
88	0.0026	0.0017	0.0009
89	0.0026	0.0017	0.0009
90	0.0026	0.0017	0.0009
91	0.0026	0.0017	0.0009
92	0.0026	0.0017	0.0009
93	0.0027	0.0017	0.0009
94	0.0027	0.0017	0.0009
95	0.0027	0.0018	0.0010
96	0.0027	0.0018	0.0010
97	0.0028	0.0018	0.0010
98	0.0028	0.0018	0.0010
99	0.0028	0.0018	0.0010
100	0.0028	0.0018	0.0010
101	0.0029	0.0018	0.0010
102	0.0029	0.0019	0.0010
103	0.0029	0.0019	0.0010
104	0.0029	0.0019	0.0010
105	0.0030	0.0019	0.0010
106	0.0030	0.0019	0.0011
107	0.0030	0.0019	0.0011
108	0.0030	0.0020	0.0011
109	0.0031	0.0020	0.0011
110	0.0031	0.0020	0.0011
111	0.0031	0.0020	0.0011
112	0.0032	0.0020	0.0011
113	0.0032	0.0021	0.0011
114	0.0032	0.0021	0.0011
115	0.0033	0.0021	0.0012
116	0.0033	0.0021	0.0012
117	0.0033	0.0022	0.0012
118	0.0034	0.0022	0.0012
119	0.0034	0.0022	0.0012
120	0.0034	0.0022	0.0012
121	0.0035	0.0023	0.0012

122	0.0035	0.0023	0.0012
123	0.0036	0.0023	0.0013
124	0.0036	0.0023	0.0013
125	0.0036	0.0024	0.0013
126	0.0037	0.0024	0.0013
127	0.0037	0.0024	0.0013
128	0.0038	0.0024	0.0013
129	0.0038	0.0025	0.0014
130	0.0039	0.0025	0.0014
131	0.0039	0.0025	0.0014
132	0.0040	0.0026	0.0014
133	0.0040	0.0026	0.0014
134	0.0041	0.0026	0.0014
135	0.0042	0.0027	0.0015
136	0.0042	0.0027	0.0015
137	0.0043	0.0028	0.0015
138	0.0043	0.0028	0.0015
139	0.0044	0.0028	0.0016
140	0.0044	0.0029	0.0016
141	0.0045	0.0029	0.0016
142	0.0046	0.0030	0.0016
143	0.0047	0.0030	0.0017
144	0.0047	0.0031	0.0017
145	0.0052	0.0034	0.0018
146	0.0053	0.0034	0.0019
147	0.0054	0.0035	0.0019
148	0.0055	0.0035	0.0019
149	0.0056	0.0036	0.0020
150	0.0057	0.0037	0.0020
151	0.0058	0.0037	0.0020
152	0.0059	0.0038	0.0021
153	0.0060	0.0039	0.0021
154	0.0061	0.0040	0.0022
155	0.0063	0.0041	0.0022
156	0.0064	0.0041	0.0023
157	0.0066	0.0042	0.0023
158	0.0067	0.0043	0.0024
159	0.0069	0.0044	0.0024
160	0.0070	0.0045	0.0025
161	0.0072	0.0047	0.0025
162	0.0073	0.0047	0.0026
163	0.0076	0.0049	0.0027
164	0.0077	0.0050	0.0027
165	0.0080	0.0052	0.0028
166	0.0082	0.0053	0.0029
167	0.0085	0.0055	0.0030
168	0.0087	0.0056	0.0031
169	0.0091	0.0059	0.0032
170	0.0093	0.0060	0.0033
171	0.0098	0.0063	0.0035
172	0.0100	0.0065	0.0035
173	0.0106	0.0068	0.0037
174	0.0109	0.0070	0.0038
175	0.0115	0.0075	0.0041
176	0.0119	0.0077	0.0042
177	0.0127	0.0082	0.0045
178	0.0131	0.0085	0.0046
179	0.0141	0.0091	0.0050
180	0.0147	0.0095	0.0052

181	0.0160	0.0104	0.0057
182	0.0168	0.0109	0.0059
183	0.0186	0.0120	0.0066
184	0.0197	0.0128	0.0070
185	0.0330	0.0213	0.0116
186	0.0351	0.0227	0.0124
187	0.0407	0.0263	0.0144
188	0.0445	0.0288	0.0157
189	0.0553	0.0300	0.0253
190	0.0637	0.0300	0.0337
191	0.0966	0.0300	0.0667
192	0.1403	0.0300	0.1103
193	0.6069	0.0300	0.5769
194	0.0761	0.0300	0.0461
195	0.0492	0.0300	0.0192
196	0.0377	0.0244	0.0133
197	0.0210	0.0136	0.0074
198	0.0177	0.0114	0.0062
199	0.0153	0.0099	0.0054
200	0.0136	0.0088	0.0048
201	0.0123	0.0079	0.0043
202	0.0112	0.0072	0.0040
203	0.0103	0.0067	0.0036
204	0.0096	0.0062	0.0034
205	0.0089	0.0058	0.0031
206	0.0084	0.0054	0.0030
207	0.0079	0.0051	0.0028
208	0.0075	0.0048	0.0026
209	0.0071	0.0046	0.0025
210	0.0068	0.0044	0.0024
211	0.0065	0.0042	0.0023
212	0.0062	0.0040	0.0022
213	0.0059	0.0038	0.0021
214	0.0057	0.0037	0.0020
215	0.0055	0.0036	0.0019
216	0.0053	0.0034	0.0019
217	0.0048	0.0031	0.0017
218	0.0046	0.0030	0.0016
219	0.0045	0.0029	0.0016
220	0.0044	0.0028	0.0015
221	0.0042	0.0027	0.0015
222	0.0041	0.0027	0.0015
223	0.0040	0.0026	0.0014
224	0.0039	0.0025	0.0014
225	0.0038	0.0025	0.0013
226	0.0037	0.0024	0.0013
227	0.0036	0.0023	0.0013
228	0.0035	0.0023	0.0012
229	0.0035	0.0022	0.0012
230	0.0034	0.0022	0.0012
231	0.0033	0.0021	0.0012
232	0.0032	0.0021	0.0011
233	0.0032	0.0021	0.0011
234	0.0031	0.0020	0.0011
235	0.0031	0.0020	0.0011
236	0.0030	0.0019	0.0011
237	0.0029	0.0019	0.0010
238	0.0029	0.0019	0.0010
239	0.0028	0.0018	0.0010

240	0.0028	0.0018	0.0010
241	0.0027	0.0018	0.0010
242	0.0027	0.0017	0.0010
243	0.0027	0.0017	0.0009
244	0.0026	0.0017	0.0009
245	0.0026	0.0017	0.0009
246	0.0025	0.0016	0.0009
247	0.0025	0.0016	0.0009
248	0.0025	0.0016	0.0009
249	0.0024	0.0016	0.0009
250	0.0024	0.0015	0.0008
251	0.0024	0.0015	0.0008
252	0.0023	0.0015	0.0008
253	0.0023	0.0015	0.0008
254	0.0023	0.0015	0.0008
255	0.0022	0.0014	0.0008
256	0.0022	0.0014	0.0008
257	0.0022	0.0014	0.0008
258	0.0021	0.0014	0.0008
259	0.0021	0.0014	0.0007
260	0.0021	0.0014	0.0007
261	0.0021	0.0013	0.0007
262	0.0020	0.0013	0.0007
263	0.0020	0.0013	0.0007
264	0.0020	0.0013	0.0007
265	0.0020	0.0013	0.0007
266	0.0020	0.0013	0.0007
267	0.0019	0.0012	0.0007
268	0.0019	0.0012	0.0007
269	0.0019	0.0012	0.0007
270	0.0019	0.0012	0.0007
271	0.0018	0.0012	0.0007
272	0.0018	0.0012	0.0006
273	0.0018	0.0012	0.0006
274	0.0018	0.0012	0.0006
275	0.0018	0.0011	0.0006
276	0.0018	0.0011	0.0006
277	0.0017	0.0011	0.0006
278	0.0017	0.0011	0.0006
279	0.0017	0.0011	0.0006
280	0.0017	0.0011	0.0006
281	0.0017	0.0011	0.0006
282	0.0017	0.0011	0.0006
283	0.0016	0.0011	0.0006
284	0.0016	0.0011	0.0006
285	0.0016	0.0010	0.0006
286	0.0016	0.0010	0.0006
287	0.0016	0.0010	0.0006
288	0.0016	0.0010	0.0006

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.34(In)
Peak flow rate in flood hydrograph = 18.40(CFS)

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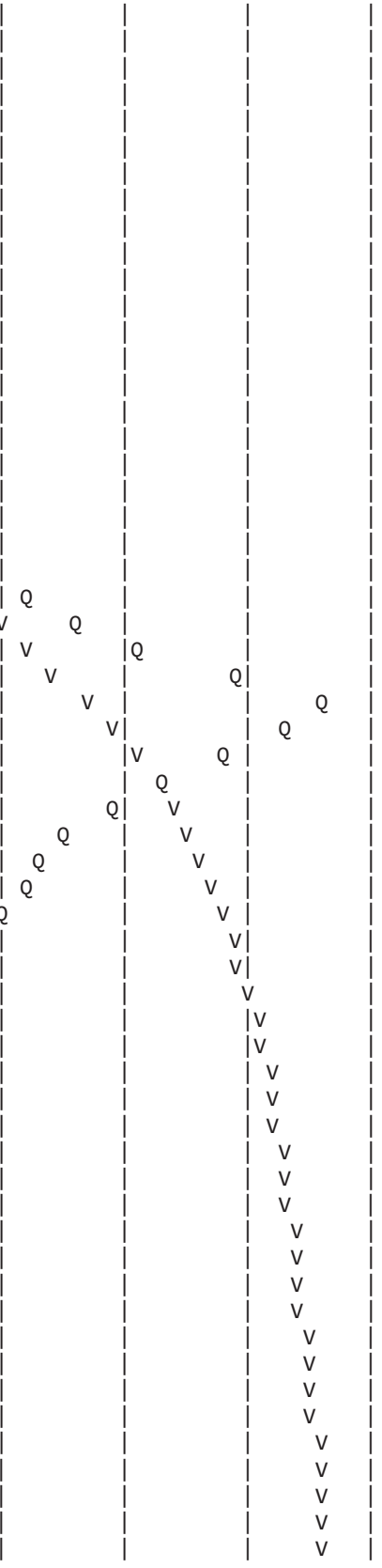
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.02	Q				
0+35	0.0006	0.03	Q				
0+40	0.0009	0.05	Q				
0+45	0.0013	0.05	Q				
0+50	0.0017	0.06	Q				
0+55	0.0021	0.07	Q				
1+ 0	0.0026	0.07	Q				
1+ 5	0.0032	0.08	Q				
1+10	0.0037	0.08	Q				
1+15	0.0043	0.08	Q				
1+20	0.0049	0.09	Q				
1+25	0.0055	0.09	Q				
1+30	0.0061	0.09	Q				
1+35	0.0068	0.09	Q				
1+40	0.0074	0.10	Q				
1+45	0.0081	0.10	Q				
1+50	0.0088	0.10	Q				
1+55	0.0095	0.10	Q				
2+ 0	0.0102	0.10	Q				
2+ 5	0.0109	0.10	Q				
2+10	0.0116	0.11	Q				
2+15	0.0124	0.11	Q				
2+20	0.0131	0.11	Q				
2+25	0.0139	0.11	Q				
2+30	0.0147	0.11	Q				
2+35	0.0154	0.11	Q				
2+40	0.0162	0.11	Q				
2+45	0.0170	0.11	Q				
2+50	0.0178	0.12	Q				
2+55	0.0186	0.12	Q				
3+ 0	0.0194	0.12	Q				
3+ 5	0.0203	0.12	Q				
3+10	0.0211	0.12	Q				
3+15	0.0219	0.12	Q				
3+20	0.0228	0.12	Q				
3+25	0.0236	0.12	Q				
3+30	0.0245	0.12	Q				
3+35	0.0253	0.13	Q				
3+40	0.0262	0.13	Q				
3+45	0.0271	0.13	Q				
3+50	0.0280	0.13	Q				
3+55	0.0289	0.13	Q				
4+ 0	0.0297	0.13	Q				
4+ 5	0.0306	0.13	Q				
4+10	0.0316	0.13	Q				
4+15	0.0325	0.13	Q				
4+20	0.0334	0.13	Q				
4+25	0.0343	0.13	Q				
4+30	0.0352	0.13	Q				

4+35	0.0362	0.14	Q				
4+40	0.0371	0.14	Q				
4+45	0.0381	0.14	Q				
4+50	0.0390	0.14	Q				
4+55	0.0400	0.14	Q				
5+ 0	0.0409	0.14	Q				
5+ 5	0.0419	0.14	Q				
5+10	0.0429	0.14	Q				
5+15	0.0439	0.14	Q				
5+20	0.0449	0.14	Q				
5+25	0.0459	0.15	Q				
5+30	0.0469	0.15	Q				
5+35	0.0479	0.15	QV				
5+40	0.0489	0.15	QV				
5+45	0.0499	0.15	QV				
5+50	0.0510	0.15	QV				
5+55	0.0520	0.15	QV				
6+ 0	0.0531	0.15	QV				
6+ 5	0.0541	0.15	QV				
6+10	0.0552	0.15	QV				
6+15	0.0562	0.15	QV				
6+20	0.0573	0.16	QV				
6+25	0.0584	0.16	QV				
6+30	0.0595	0.16	QV				
6+35	0.0605	0.16	QV				
6+40	0.0616	0.16	QV				
6+45	0.0627	0.16	QV				
6+50	0.0639	0.16	QV				
6+55	0.0650	0.16	QV				
7+ 0	0.0661	0.16	QV				
7+ 5	0.0672	0.16	QV				
7+10	0.0684	0.17	QV				
7+15	0.0695	0.17	QV				
7+20	0.0707	0.17	QV				
7+25	0.0719	0.17	QV				
7+30	0.0730	0.17	QV				
7+35	0.0742	0.17	QV				
7+40	0.0754	0.17	QV				
7+45	0.0766	0.17	QV				
7+50	0.0778	0.18	QV				
7+55	0.0790	0.18	QV				
8+ 0	0.0803	0.18	QV				
8+ 5	0.0815	0.18	QV				
8+10	0.0828	0.18	QV				
8+15	0.0840	0.18	QV				
8+20	0.0853	0.18	QV				
8+25	0.0866	0.19	QV				
8+30	0.0878	0.19	QV				
8+35	0.0891	0.19	QV				
8+40	0.0904	0.19	QV				
8+45	0.0918	0.19	QV				
8+50	0.0931	0.19	QV				
8+55	0.0944	0.19	Q V				
9+ 0	0.0958	0.20	Q V				
9+ 5	0.0971	0.20	Q V				
9+10	0.0985	0.20	Q V				
9+15	0.0999	0.20	Q V				
9+20	0.1013	0.20	Q V				
9+25	0.1027	0.20	Q V				

9+30	0.1041	0.21	Q V	|	|	|	|
9+35	0.1056	0.21	Q V	|	|	|	|
9+40	0.1070	0.21	Q V	|	|	|	|
9+45	0.1085	0.21	Q V	|	|	|	|
9+50	0.1100	0.21	Q V	|	|	|	|
9+55	0.1115	0.22	Q V	|	|	|	|
10+ 0	0.1130	0.22	Q V	|	|	|	|
10+ 5	0.1145	0.22	Q V	|	|	|	|
10+10	0.1160	0.22	Q V	|	|	|	|
10+15	0.1176	0.23	Q V	|	|	|	|
10+20	0.1191	0.23	Q V	|	|	|	|
10+25	0.1207	0.23	Q V	|	|	|	|
10+30	0.1223	0.23	Q V	|	|	|	|
10+35	0.1239	0.23	Q V	|	|	|	|
10+40	0.1256	0.24	Q V	|	|	|	|
10+45	0.1272	0.24	Q V	|	|	|	|
10+50	0.1289	0.24	Q V	|	|	|	|
10+55	0.1306	0.25	Q V	|	|	|	|
11+ 0	0.1323	0.25	Q V	|	|	|	|
11+ 5	0.1340	0.25	Q V	|	|	|	|
11+10	0.1357	0.25	Q V	|	|	|	|
11+15	0.1375	0.26	Q V	|	|	|	|
11+20	0.1393	0.26	Q V	|	|	|	|
11+25	0.1411	0.26	Q V	|	|	|	|
11+30	0.1429	0.27	Q V	|	|	|	|
11+35	0.1448	0.27	Q V	|	|	|	|
11+40	0.1467	0.27	Q V	|	|	|	|
11+45	0.1486	0.28	Q V	|	|	|	|
11+50	0.1505	0.28	Q V	|	|	|	|
11+55	0.1525	0.28	Q V	|	|	|	|
12+ 0	0.1544	0.29	Q V	|	|	|	|
12+ 5	0.1565	0.29	Q V	|	|	|	|
12+10	0.1585	0.30	Q V	|	|	|	|
12+15	0.1606	0.30	Q V	|	|	|	|
12+20	0.1627	0.31	Q V	|	|	|	|
12+25	0.1648	0.31	Q V	|	|	|	|
12+30	0.1670	0.32	Q V	|	|	|	|
12+35	0.1693	0.33	Q V	|	|	|	|
12+40	0.1716	0.33	Q V	|	|	|	|
12+45	0.1739	0.34	Q V	|	|	|	|
12+50	0.1763	0.35	Q V	|	|	|	|
12+55	0.1788	0.36	Q V	|	|	|	|
13+ 0	0.1813	0.36	Q V	|	|	|	|
13+ 5	0.1838	0.37	Q V	|	|	|	|
13+10	0.1864	0.38	Q V	|	|	|	|
13+15	0.1891	0.39	Q V	|	|	|	|
13+20	0.1918	0.39	Q V	|	|	|	|
13+25	0.1946	0.40	Q V	|	|	|	|
13+30	0.1974	0.41	Q V	|	|	|	|
13+35	0.2003	0.42	Q V	|	|	|	|
13+40	0.2032	0.43	Q V	|	|	|	|
13+45	0.2062	0.44	Q V	|	|	|	|
13+50	0.2093	0.45	Q V	|	|	|	|
13+55	0.2124	0.46	Q V	|	|	|	|
14+ 0	0.2156	0.47	Q V	|	|	|	|
14+ 5	0.2190	0.48	Q V	|	|	|	|
14+10	0.2223	0.49	Q V	|	|	|	|
14+15	0.2258	0.50	|Q V	|	|	|	|
14+20	0.2294	0.52	|Q V	|	|	|	|

14+25	0.2330	0.53	
14+30	0.2368	0.55	
14+35	0.2407	0.56	
14+40	0.2447	0.58	
14+45	0.2489	0.60	
14+50	0.2531	0.62	
14+55	0.2576	0.64	
15+ 0	0.2622	0.67	
15+ 5	0.2670	0.70	
15+10	0.2720	0.72	
15+15	0.2772	0.76	
15+20	0.2826	0.79	
15+25	0.2884	0.84	
15+30	0.2946	0.89	
15+35	0.3012	0.96	
15+40	0.3085	1.05	
15+45	0.3165	1.17	
15+50	0.3258	1.35	
15+55	0.3370	1.62	
16+ 0	0.3510	2.04	
16+ 5	0.3724	3.10	
16+10	0.4043	4.64	
16+15	0.4474	6.25	
16+20	0.5029	8.06	
16+25	0.5759	10.59	
16+30	0.6774	14.74	
16+35	0.8041	18.40	
16+40	0.9209	16.97	
16+45	1.0174	14.00	
16+50	1.0974	11.62	
16+55	1.1630	9.52	
17+ 0	1.2172	7.87	
17+ 5	1.2640	6.79	
17+10	1.3055	6.03	
17+15	1.3430	5.45	
17+20	1.3762	4.82	
17+25	1.4063	4.38	
17+30	1.4343	4.07	
17+35	1.4591	3.60	
17+40	1.4822	3.36	
17+45	1.5034	3.07	
17+50	1.5232	2.87	
17+55	1.5419	2.72	
18+ 0	1.5595	2.56	
18+ 5	1.5762	2.42	
18+10	1.5914	2.21	
18+15	1.6058	2.09	
18+20	1.6185	1.84	
18+25	1.6305	1.76	
18+30	1.6421	1.67	
18+35	1.6532	1.61	
18+40	1.6636	1.52	
18+45	1.6735	1.44	
18+50	1.6830	1.38	
18+55	1.6920	1.31	
19+ 0	1.7006	1.24	
19+ 5	1.7083	1.12	
19+10	1.7158	1.09	
19+15	1.7231	1.06	

19+20	1.7302	1.03	Q				V
19+25	1.7367	0.93	Q				V
19+30	1.7427	0.88	Q				V
19+35	1.7487	0.86	Q				V
19+40	1.7544	0.84	Q				V
19+45	1.7598	0.77	Q				V
19+50	1.7645	0.69	Q				V
19+55	1.7692	0.67	Q				V
20+ 0	1.7736	0.65	Q				V
20+ 5	1.7779	0.62	Q				V
20+10	1.7815	0.53	Q				V
20+15	1.7849	0.50	Q				V
20+20	1.7883	0.49	Q				V
20+25	1.7916	0.48	Q				V
20+30	1.7950	0.49	Q				V
20+35	1.7985	0.50	Q				V
20+40	1.8019	0.49	Q				V
20+45	1.8052	0.49	Q				V
20+50	1.8085	0.48	Q				V
20+55	1.8118	0.47	Q				V
21+ 0	1.8150	0.47	Q				V
21+ 5	1.8181	0.45	Q				V
21+10	1.8211	0.43	Q				V
21+15	1.8237	0.38	Q				V
21+20	1.8261	0.34	Q				V
21+25	1.8283	0.33	Q				V
21+30	1.8306	0.32	Q				V
21+35	1.8327	0.31	Q				V
21+40	1.8347	0.30	Q				V
21+45	1.8364	0.24	Q				V
21+50	1.8378	0.19	Q				V
21+55	1.8390	0.19	Q				V
22+ 0	1.8403	0.18	Q				V
22+ 5	1.8415	0.18	Q				V
22+10	1.8427	0.18	Q				V
22+15	1.8439	0.17	Q				V
22+20	1.8451	0.17	Q				V
22+25	1.8462	0.17	Q				V
22+30	1.8474	0.16	Q				V
22+35	1.8485	0.16	Q				V
22+40	1.8496	0.16	Q				V
22+45	1.8507	0.16	Q				V
22+50	1.8517	0.15	Q				V
22+55	1.8528	0.15	Q				V
23+ 0	1.8538	0.15	Q				V
23+ 5	1.8548	0.15	Q				V
23+10	1.8558	0.15	Q				V
23+15	1.8568	0.14	Q				V
23+20	1.8578	0.14	Q				V
23+25	1.8588	0.14	Q				V
23+30	1.8598	0.14	Q				V
23+35	1.8607	0.14	Q				V
23+40	1.8616	0.14	Q				V
23+45	1.8626	0.13	Q				V
23+50	1.8635	0.13	Q				V
23+55	1.8644	0.13	Q				V
24+ 0	1.8653	0.13	Q				V
24+ 5	1.8662	0.13	Q				V
24+10	1.8671	0.13	Q				V

24+15	1.8679	0.12	Q	|	|	|	V|
24+20	1.8687	0.12	Q	|	|	|	V|
24+25	1.8695	0.11	Q	|	|	|	V|
24+30	1.8702	0.10	Q	|	|	|	V|
24+35	1.8708	0.09	Q	|	|	|	V|
24+40	1.8713	0.08	Q	|	|	|	V|
24+45	1.8718	0.07	Q	|	|	|	V|
24+50	1.8722	0.06	Q	|	|	|	V|
24+55	1.8725	0.05	Q	|	|	|	V|
25+ 0	1.8729	0.05	Q	|	|	|	V|
25+ 5	1.8732	0.04	Q	|	|	|	V|
25+10	1.8734	0.04	Q	|	|	|	V|
25+15	1.8737	0.04	Q	|	|	|	V|
25+20	1.8739	0.03	Q	|	|	|	V|
25+25	1.8741	0.03	Q	|	|	|	V|
25+30	1.8743	0.03	Q	|	|	|	V|
25+35	1.8745	0.03	Q	|	|	|	V|
25+40	1.8747	0.02	Q	|	|	|	V|
25+45	1.8748	0.02	Q	|	|	|	V|
25+50	1.8750	0.02	Q	|	|	|	V|
25+55	1.8751	0.02	Q	|	|	|	V|
26+ 0	1.8752	0.02	Q	|	|	|	V|
26+ 5	1.8754	0.02	Q	|	|	|	V|
26+10	1.8755	0.02	Q	|	|	|	V|
26+15	1.8756	0.01	Q	|	|	|	V|
26+20	1.8757	0.01	Q	|	|	|	V|
26+25	1.8758	0.01	Q	|	|	|	V|
26+30	1.8758	0.01	Q	|	|	|	V|
26+35	1.8759	0.01	Q	|	|	|	V|
26+40	1.8760	0.01	Q	|	|	|	V|
26+45	1.8760	0.01	Q	|	|	|	V|
26+50	1.8761	0.01	Q	|	|	|	V|
26+55	1.8762	0.01	Q	|	|	|	V|
27+ 0	1.8762	0.01	Q	|	|	|	V|
27+ 5	1.8763	0.01	Q	|	|	|	V|
27+10	1.8763	0.01	Q	|	|	|	V|
27+15	1.8763	0.01	Q	|	|	|	V|
27+20	1.8764	0.01	Q	|	|	|	V|
27+25	1.8764	0.01	Q	|	|	|	V|
27+30	1.8765	0.00	Q	|	|	|	V|
27+35	1.8765	0.00	Q	|	|	|	V|
27+40	1.8765	0.00	Q	|	|	|	V|
27+45	1.8765	0.00	Q	|	|	|	V|
27+50	1.8766	0.00	Q	|	|	|	V|
27+55	1.8766	0.00	Q	|	|	|	V|
28+ 0	1.8766	0.00	Q	|	|	|	V|
28+ 5	1.8766	0.00	Q	|	|	|	V|
28+10	1.8766	0.00	Q	|	|	|	V|
28+15	1.8767	0.00	Q	|	|	|	V|
28+20	1.8767	0.00	Q	|	|	|	V|
28+25	1.8767	0.00	Q	|	|	|	V|
28+30	1.8767	0.00	Q	|	|	|	V|
28+35	1.8767	0.00	Q	|	|	|	V|
28+40	1.8767	0.00	Q	|	|	|	V|
28+45	1.8767	0.00	Q	|	|	|	V|
28+50	1.8767	0.00	Q	|	|	|	V|
28+55	1.8767	0.00	Q	|	|	|	V|
29+ 0	1.8767	0.00	Q	|	|	|	V|
29+ 5	1.8768	0.00	Q	|	|	|	V|

29+10	1.8768	0.00	Q	|	|	|	V|
29+15	1.8768	0.00	Q	|	|	|	V|
29+20	1.8768	0.00	Q	|	|	|	V|
29+25	1.8768	0.00	Q	|	|	|	V|
29+30	1.8768	0.00	Q	|	|	|	V|
29+35	1.8768	0.00	Q	|	|	|	V|
29+40	1.8768	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 14
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
18.15	1	1.29
Rainfall data for year 100		
18.15	6	1.84
Rainfall data for year 100		
18.15	24	2.39

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	18.15	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
18.15	1.000	62.0	80.6	2.41	0.353

Area-averaged catchment yield fraction, Y = 0.353
Area-averaged low loss fraction, Yb = 0.647
User entry of time of concentration = 0.860 (hours)
++
Watershed area = 18.15(Ac.)
Catchment Lag time = 0.688 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 12.1124
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.647 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.604(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.390(In)

Rainfall depth area reduction factors:
Using a total area of 18.15(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.612(In)
30-minute factor = 0.999 Adjusted rainfall = 1.047(In)
1-hour factor = 0.999 Adjusted rainfall = 1.289(In)
3-hour factor = 1.000 Adjusted rainfall = 1.604(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.390(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 219.50 (CFS))	
1	0.533	1.170
2	2.053	3.336
3	4.512	5.397
4	7.949	7.545
5	13.414	11.995
6	22.777	20.551
7	34.456	25.636
8	44.074	21.112
9	51.489	16.277
10	57.418	13.013
11	61.936	9.917
12	65.637	8.125
13	68.816	6.977
14	71.662	6.247

15	74.082	5.312
16	76.230	4.715
17	78.224	4.377
18	79.880	3.635
19	81.452	3.452
20	82.809	2.977
21	84.107	2.851
22	85.300	2.618
23	86.454	2.534
24	87.471	2.232
25	88.434	2.113
26	89.232	1.752
27	89.958	1.594
28	90.653	1.526
29	91.331	1.488
30	91.951	1.362
31	92.533	1.276
32	93.088	1.219
33	93.621	1.170
34	94.096	1.043
35	94.508	0.904
36	94.920	0.904
37	95.331	0.904
38	95.708	0.827
39	96.025	0.694
40	96.339	0.691
41	96.654	0.691
42	96.944	0.636
43	97.166	0.487
44	97.384	0.479
45	97.602	0.479
46	97.803	0.441
47	97.932	0.284
48	98.053	0.266
49	98.175	0.266
50	98.298	0.272
51	98.440	0.311
52	98.585	0.319
53	98.731	0.319
54	98.876	0.319
55	99.022	0.319
56	99.167	0.319
57	99.312	0.319
58	99.456	0.316
59	99.554	0.214
60	99.629	0.166
61	99.705	0.166
62	99.781	0.166
63	99.856	0.166
64	99.932	0.166
65	100.000	0.149

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6116	0.6116
2	0.7530	0.1414
3	0.8504	0.0974
4	0.9270	0.0766
5	0.9912	0.0642

6	1.0469	0.0557
7	1.0965	0.0496
8	1.1413	0.0448
9	1.1823	0.0410
10	1.2203	0.0380
11	1.2557	0.0354
12	1.2889	0.0332
13	1.3096	0.0207
14	1.3290	0.0194
15	1.3474	0.0184
16	1.3648	0.0174
17	1.3813	0.0166
18	1.3971	0.0158
19	1.4122	0.0151
20	1.4267	0.0145
21	1.4406	0.0139
22	1.4540	0.0134
23	1.4669	0.0129
24	1.4794	0.0125
25	1.4915	0.0121
26	1.5031	0.0117
27	1.5145	0.0113
28	1.5255	0.0110
29	1.5361	0.0107
30	1.5465	0.0104
31	1.5567	0.0101
32	1.5665	0.0099
33	1.5761	0.0096
34	1.5855	0.0094
35	1.5947	0.0092
36	1.6036	0.0090
37	1.6124	0.0087
38	1.6209	0.0085
39	1.6293	0.0084
40	1.6375	0.0082
41	1.6455	0.0080
42	1.6534	0.0079
43	1.6611	0.0077
44	1.6687	0.0076
45	1.6762	0.0075
46	1.6835	0.0073
47	1.6907	0.0072
48	1.6978	0.0071
49	1.7047	0.0070
50	1.7116	0.0068
51	1.7183	0.0067
52	1.7249	0.0066
53	1.7315	0.0065
54	1.7379	0.0064
55	1.7442	0.0063
56	1.7505	0.0062
57	1.7566	0.0062
58	1.7627	0.0061
59	1.7687	0.0060
60	1.7746	0.0059
61	1.7804	0.0058
62	1.7861	0.0057
63	1.7918	0.0057
64	1.7974	0.0056

65	1.8030	0.0055
66	1.8084	0.0055
67	1.8138	0.0054
68	1.8192	0.0053
69	1.8244	0.0053
70	1.8296	0.0052
71	1.8348	0.0052
72	1.8399	0.0051
73	1.8447	0.0048
74	1.8494	0.0047
75	1.8541	0.0047
76	1.8588	0.0046
77	1.8634	0.0046
78	1.8679	0.0045
79	1.8724	0.0045
80	1.8768	0.0044
81	1.8812	0.0044
82	1.8856	0.0044
83	1.8899	0.0043
84	1.8942	0.0043
85	1.8984	0.0042
86	1.9026	0.0042
87	1.9068	0.0042
88	1.9109	0.0041
89	1.9150	0.0041
90	1.9190	0.0040
91	1.9230	0.0040
92	1.9270	0.0040
93	1.9309	0.0039
94	1.9348	0.0039
95	1.9387	0.0039
96	1.9425	0.0038
97	1.9463	0.0038
98	1.9501	0.0038
99	1.9538	0.0037
100	1.9575	0.0037
101	1.9612	0.0037
102	1.9649	0.0036
103	1.9685	0.0036
104	1.9721	0.0036
105	1.9756	0.0036
106	1.9792	0.0035
107	1.9827	0.0035
108	1.9862	0.0035
109	1.9896	0.0035
110	1.9931	0.0034
111	1.9965	0.0034
112	1.9999	0.0034
113	2.0032	0.0034
114	2.0065	0.0033
115	2.0098	0.0033
116	2.0131	0.0033
117	2.0164	0.0033
118	2.0196	0.0032
119	2.0229	0.0032
120	2.0261	0.0032
121	2.0292	0.0032
122	2.0324	0.0032
123	2.0355	0.0031

124	2.0386	0.0031
125	2.0417	0.0031
126	2.0448	0.0031
127	2.0478	0.0031
128	2.0509	0.0030
129	2.0539	0.0030
130	2.0569	0.0030
131	2.0599	0.0030
132	2.0628	0.0030
133	2.0658	0.0029
134	2.0687	0.0029
135	2.0716	0.0029
136	2.0745	0.0029
137	2.0773	0.0029
138	2.0802	0.0029
139	2.0830	0.0028
140	2.0858	0.0028
141	2.0886	0.0028
142	2.0914	0.0028
143	2.0942	0.0028
144	2.0970	0.0028
145	2.0997	0.0027
146	2.1024	0.0027
147	2.1051	0.0027
148	2.1078	0.0027
149	2.1105	0.0027
150	2.1132	0.0027
151	2.1158	0.0027
152	2.1185	0.0026
153	2.1211	0.0026
154	2.1237	0.0026
155	2.1263	0.0026
156	2.1289	0.0026
157	2.1314	0.0026
158	2.1340	0.0026
159	2.1365	0.0025
160	2.1391	0.0025
161	2.1416	0.0025
162	2.1441	0.0025
163	2.1466	0.0025
164	2.1491	0.0025
165	2.1515	0.0025
166	2.1540	0.0025
167	2.1564	0.0024
168	2.1588	0.0024
169	2.1613	0.0024
170	2.1637	0.0024
171	2.1661	0.0024
172	2.1685	0.0024
173	2.1708	0.0024
174	2.1732	0.0024
175	2.1755	0.0024
176	2.1779	0.0023
177	2.1802	0.0023
178	2.1825	0.0023
179	2.1848	0.0023
180	2.1871	0.0023
181	2.1894	0.0023
182	2.1917	0.0023

183	2.1940	0.0023
184	2.1962	0.0023
185	2.1985	0.0022
186	2.2007	0.0022
187	2.2029	0.0022
188	2.2052	0.0022
189	2.2074	0.0022
190	2.2096	0.0022
191	2.2117	0.0022
192	2.2139	0.0022
193	2.2161	0.0022
194	2.2183	0.0022
195	2.2204	0.0022
196	2.2226	0.0021
197	2.2247	0.0021
198	2.2268	0.0021
199	2.2289	0.0021
200	2.2310	0.0021
201	2.2331	0.0021
202	2.2352	0.0021
203	2.2373	0.0021
204	2.2394	0.0021
205	2.2415	0.0021
206	2.2435	0.0021
207	2.2456	0.0021
208	2.2476	0.0020
209	2.2497	0.0020
210	2.2517	0.0020
211	2.2537	0.0020
212	2.2557	0.0020
213	2.2577	0.0020
214	2.2597	0.0020
215	2.2617	0.0020
216	2.2637	0.0020
217	2.2657	0.0020
218	2.2676	0.0020
219	2.2696	0.0020
220	2.2715	0.0020
221	2.2735	0.0019
222	2.2754	0.0019
223	2.2773	0.0019
224	2.2793	0.0019
225	2.2812	0.0019
226	2.2831	0.0019
227	2.2850	0.0019
228	2.2869	0.0019
229	2.2888	0.0019
230	2.2907	0.0019
231	2.2925	0.0019
232	2.2944	0.0019
233	2.2963	0.0019
234	2.2981	0.0019
235	2.3000	0.0018
236	2.3018	0.0018
237	2.3037	0.0018
238	2.3055	0.0018
239	2.3073	0.0018
240	2.3091	0.0018
241	2.3109	0.0018

242	2.3127	0.0018
243	2.3145	0.0018
244	2.3163	0.0018
245	2.3181	0.0018
246	2.3199	0.0018
247	2.3217	0.0018
248	2.3235	0.0018
249	2.3252	0.0018
250	2.3270	0.0018
251	2.3287	0.0018
252	2.3305	0.0017
253	2.3322	0.0017
254	2.3340	0.0017
255	2.3357	0.0017
256	2.3374	0.0017
257	2.3391	0.0017
258	2.3409	0.0017
259	2.3426	0.0017
260	2.3443	0.0017
261	2.3460	0.0017
262	2.3477	0.0017
263	2.3493	0.0017
264	2.3510	0.0017
265	2.3527	0.0017
266	2.3544	0.0017
267	2.3560	0.0017
268	2.3577	0.0017
269	2.3594	0.0017
270	2.3610	0.0017
271	2.3627	0.0016
272	2.3643	0.0016
273	2.3659	0.0016
274	2.3676	0.0016
275	2.3692	0.0016
276	2.3708	0.0016
277	2.3724	0.0016
278	2.3741	0.0016
279	2.3757	0.0016
280	2.3773	0.0016
281	2.3789	0.0016
282	2.3805	0.0016
283	2.3821	0.0016
284	2.3836	0.0016
285	2.3852	0.0016
286	2.3868	0.0016
287	2.3884	0.0016
288	2.3899	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0010	0.0006
2	0.0016	0.0010	0.0006
3	0.0016	0.0010	0.0006
4	0.0016	0.0010	0.0006
5	0.0016	0.0010	0.0006
6	0.0016	0.0010	0.0006
7	0.0016	0.0010	0.0006

8	0.0016	0.0010	0.0006
9	0.0016	0.0010	0.0006
10	0.0016	0.0011	0.0006
11	0.0016	0.0011	0.0006
12	0.0016	0.0011	0.0006
13	0.0017	0.0011	0.0006
14	0.0017	0.0011	0.0006
15	0.0017	0.0011	0.0006
16	0.0017	0.0011	0.0006
17	0.0017	0.0011	0.0006
18	0.0017	0.0011	0.0006
19	0.0017	0.0011	0.0006
20	0.0017	0.0011	0.0006
21	0.0017	0.0011	0.0006
22	0.0017	0.0011	0.0006
23	0.0017	0.0011	0.0006
24	0.0017	0.0011	0.0006
25	0.0017	0.0011	0.0006
26	0.0018	0.0011	0.0006
27	0.0018	0.0011	0.0006
28	0.0018	0.0011	0.0006
29	0.0018	0.0012	0.0006
30	0.0018	0.0012	0.0006
31	0.0018	0.0012	0.0006
32	0.0018	0.0012	0.0006
33	0.0018	0.0012	0.0006
34	0.0018	0.0012	0.0006
35	0.0018	0.0012	0.0006
36	0.0018	0.0012	0.0007
37	0.0019	0.0012	0.0007
38	0.0019	0.0012	0.0007
39	0.0019	0.0012	0.0007
40	0.0019	0.0012	0.0007
41	0.0019	0.0012	0.0007
42	0.0019	0.0012	0.0007
43	0.0019	0.0012	0.0007
44	0.0019	0.0012	0.0007
45	0.0019	0.0013	0.0007
46	0.0019	0.0013	0.0007
47	0.0020	0.0013	0.0007
48	0.0020	0.0013	0.0007
49	0.0020	0.0013	0.0007
50	0.0020	0.0013	0.0007
51	0.0020	0.0013	0.0007
52	0.0020	0.0013	0.0007
53	0.0020	0.0013	0.0007
54	0.0020	0.0013	0.0007
55	0.0021	0.0013	0.0007
56	0.0021	0.0013	0.0007
57	0.0021	0.0013	0.0007
58	0.0021	0.0013	0.0007
59	0.0021	0.0014	0.0007
60	0.0021	0.0014	0.0007
61	0.0021	0.0014	0.0008
62	0.0021	0.0014	0.0008
63	0.0022	0.0014	0.0008
64	0.0022	0.0014	0.0008
65	0.0022	0.0014	0.0008
66	0.0022	0.0014	0.0008

67	0.0022	0.0014	0.0008
68	0.0022	0.0014	0.0008
69	0.0022	0.0014	0.0008
70	0.0022	0.0015	0.0008
71	0.0023	0.0015	0.0008
72	0.0023	0.0015	0.0008
73	0.0023	0.0015	0.0008
74	0.0023	0.0015	0.0008
75	0.0023	0.0015	0.0008
76	0.0023	0.0015	0.0008
77	0.0024	0.0015	0.0008
78	0.0024	0.0015	0.0008
79	0.0024	0.0015	0.0008
80	0.0024	0.0016	0.0009
81	0.0024	0.0016	0.0009
82	0.0024	0.0016	0.0009
83	0.0025	0.0016	0.0009
84	0.0025	0.0016	0.0009
85	0.0025	0.0016	0.0009
86	0.0025	0.0016	0.0009
87	0.0025	0.0016	0.0009
88	0.0026	0.0017	0.0009
89	0.0026	0.0017	0.0009
90	0.0026	0.0017	0.0009
91	0.0026	0.0017	0.0009
92	0.0026	0.0017	0.0009
93	0.0027	0.0017	0.0009
94	0.0027	0.0017	0.0009
95	0.0027	0.0018	0.0010
96	0.0027	0.0018	0.0010
97	0.0028	0.0018	0.0010
98	0.0028	0.0018	0.0010
99	0.0028	0.0018	0.0010
100	0.0028	0.0018	0.0010
101	0.0029	0.0018	0.0010
102	0.0029	0.0019	0.0010
103	0.0029	0.0019	0.0010
104	0.0029	0.0019	0.0010
105	0.0030	0.0019	0.0010
106	0.0030	0.0019	0.0011
107	0.0030	0.0019	0.0011
108	0.0030	0.0020	0.0011
109	0.0031	0.0020	0.0011
110	0.0031	0.0020	0.0011
111	0.0031	0.0020	0.0011
112	0.0032	0.0020	0.0011
113	0.0032	0.0021	0.0011
114	0.0032	0.0021	0.0011
115	0.0033	0.0021	0.0012
116	0.0033	0.0021	0.0012
117	0.0033	0.0022	0.0012
118	0.0034	0.0022	0.0012
119	0.0034	0.0022	0.0012
120	0.0034	0.0022	0.0012
121	0.0035	0.0023	0.0012
122	0.0035	0.0023	0.0012
123	0.0036	0.0023	0.0013
124	0.0036	0.0023	0.0013
125	0.0036	0.0024	0.0013

126	0.0037	0.0024	0.0013
127	0.0037	0.0024	0.0013
128	0.0038	0.0024	0.0013
129	0.0038	0.0025	0.0014
130	0.0039	0.0025	0.0014
131	0.0039	0.0025	0.0014
132	0.0040	0.0026	0.0014
133	0.0040	0.0026	0.0014
134	0.0041	0.0026	0.0014
135	0.0042	0.0027	0.0015
136	0.0042	0.0027	0.0015
137	0.0043	0.0028	0.0015
138	0.0043	0.0028	0.0015
139	0.0044	0.0028	0.0016
140	0.0044	0.0029	0.0016
141	0.0045	0.0029	0.0016
142	0.0046	0.0030	0.0016
143	0.0047	0.0030	0.0017
144	0.0047	0.0031	0.0017
145	0.0051	0.0033	0.0018
146	0.0052	0.0033	0.0018
147	0.0053	0.0034	0.0019
148	0.0053	0.0035	0.0019
149	0.0055	0.0035	0.0019
150	0.0055	0.0036	0.0020
151	0.0057	0.0037	0.0020
152	0.0057	0.0037	0.0020
153	0.0059	0.0038	0.0021
154	0.0060	0.0039	0.0021
155	0.0062	0.0040	0.0022
156	0.0062	0.0040	0.0022
157	0.0064	0.0042	0.0023
158	0.0065	0.0042	0.0023
159	0.0067	0.0044	0.0024
160	0.0068	0.0044	0.0024
161	0.0071	0.0046	0.0025
162	0.0072	0.0047	0.0025
163	0.0075	0.0048	0.0026
164	0.0076	0.0049	0.0027
165	0.0079	0.0051	0.0028
166	0.0080	0.0052	0.0028
167	0.0084	0.0054	0.0030
168	0.0085	0.0055	0.0030
169	0.0090	0.0058	0.0032
170	0.0092	0.0059	0.0032
171	0.0096	0.0062	0.0034
172	0.0099	0.0064	0.0035
173	0.0104	0.0067	0.0037
174	0.0107	0.0069	0.0038
175	0.0113	0.0073	0.0040
176	0.0117	0.0076	0.0041
177	0.0125	0.0081	0.0044
178	0.0129	0.0084	0.0046
179	0.0139	0.0090	0.0049
180	0.0145	0.0094	0.0051
181	0.0158	0.0102	0.0056
182	0.0166	0.0107	0.0058
183	0.0184	0.0119	0.0065
184	0.0194	0.0126	0.0069

185	0.0332	0.0215	0.0117
186	0.0354	0.0229	0.0125
187	0.0410	0.0266	0.0145
188	0.0448	0.0290	0.0158
189	0.0557	0.0300	0.0258
190	0.0642	0.0300	0.0342
191	0.0974	0.0300	0.0674
192	0.1414	0.0300	0.1114
193	0.6116	0.0300	0.5816
194	0.0766	0.0300	0.0467
195	0.0496	0.0300	0.0196
196	0.0380	0.0246	0.0134
197	0.0207	0.0134	0.0073
198	0.0174	0.0113	0.0061
199	0.0151	0.0098	0.0053
200	0.0134	0.0087	0.0047
201	0.0121	0.0078	0.0043
202	0.0110	0.0071	0.0039
203	0.0101	0.0065	0.0036
204	0.0094	0.0061	0.0033
205	0.0087	0.0057	0.0031
206	0.0082	0.0053	0.0029
207	0.0077	0.0050	0.0027
208	0.0073	0.0047	0.0026
209	0.0070	0.0045	0.0025
210	0.0066	0.0043	0.0023
211	0.0063	0.0041	0.0022
212	0.0061	0.0039	0.0021
213	0.0058	0.0038	0.0021
214	0.0056	0.0036	0.0020
215	0.0054	0.0035	0.0019
216	0.0052	0.0034	0.0018
217	0.0048	0.0031	0.0017
218	0.0046	0.0030	0.0016
219	0.0045	0.0029	0.0016
220	0.0044	0.0028	0.0015
221	0.0042	0.0027	0.0015
222	0.0041	0.0027	0.0015
223	0.0040	0.0026	0.0014
224	0.0039	0.0025	0.0014
225	0.0038	0.0025	0.0013
226	0.0037	0.0024	0.0013
227	0.0036	0.0023	0.0013
228	0.0035	0.0023	0.0012
229	0.0035	0.0022	0.0012
230	0.0034	0.0022	0.0012
231	0.0033	0.0021	0.0012
232	0.0032	0.0021	0.0011
233	0.0032	0.0021	0.0011
234	0.0031	0.0020	0.0011
235	0.0031	0.0020	0.0011
236	0.0030	0.0019	0.0011
237	0.0029	0.0019	0.0010
238	0.0029	0.0019	0.0010
239	0.0028	0.0018	0.0010
240	0.0028	0.0018	0.0010
241	0.0027	0.0018	0.0010
242	0.0027	0.0017	0.0010
243	0.0027	0.0017	0.0009

244	0.0026	0.0017	0.0009
245	0.0026	0.0017	0.0009
246	0.0025	0.0016	0.0009
247	0.0025	0.0016	0.0009
248	0.0025	0.0016	0.0009
249	0.0024	0.0016	0.0009
250	0.0024	0.0015	0.0008
251	0.0024	0.0015	0.0008
252	0.0023	0.0015	0.0008
253	0.0023	0.0015	0.0008
254	0.0023	0.0015	0.0008
255	0.0022	0.0014	0.0008
256	0.0022	0.0014	0.0008
257	0.0022	0.0014	0.0008
258	0.0021	0.0014	0.0008
259	0.0021	0.0014	0.0007
260	0.0021	0.0014	0.0007
261	0.0021	0.0013	0.0007
262	0.0020	0.0013	0.0007
263	0.0020	0.0013	0.0007
264	0.0020	0.0013	0.0007
265	0.0020	0.0013	0.0007
266	0.0020	0.0013	0.0007
267	0.0019	0.0012	0.0007
268	0.0019	0.0012	0.0007
269	0.0019	0.0012	0.0007
270	0.0019	0.0012	0.0007
271	0.0018	0.0012	0.0007
272	0.0018	0.0012	0.0006
273	0.0018	0.0012	0.0006
274	0.0018	0.0012	0.0006
275	0.0018	0.0011	0.0006
276	0.0018	0.0011	0.0006
277	0.0017	0.0011	0.0006
278	0.0017	0.0011	0.0006
279	0.0017	0.0011	0.0006
280	0.0017	0.0011	0.0006
281	0.0017	0.0011	0.0006
282	0.0017	0.0011	0.0006
283	0.0016	0.0011	0.0006
284	0.0016	0.0011	0.0006
285	0.0016	0.0010	0.0006
286	0.0016	0.0010	0.0006
287	0.0016	0.0010	0.0006
288	0.0016	0.0010	0.0006

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.34(In)
Peak flow rate in flood hydrograph = 21.03(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

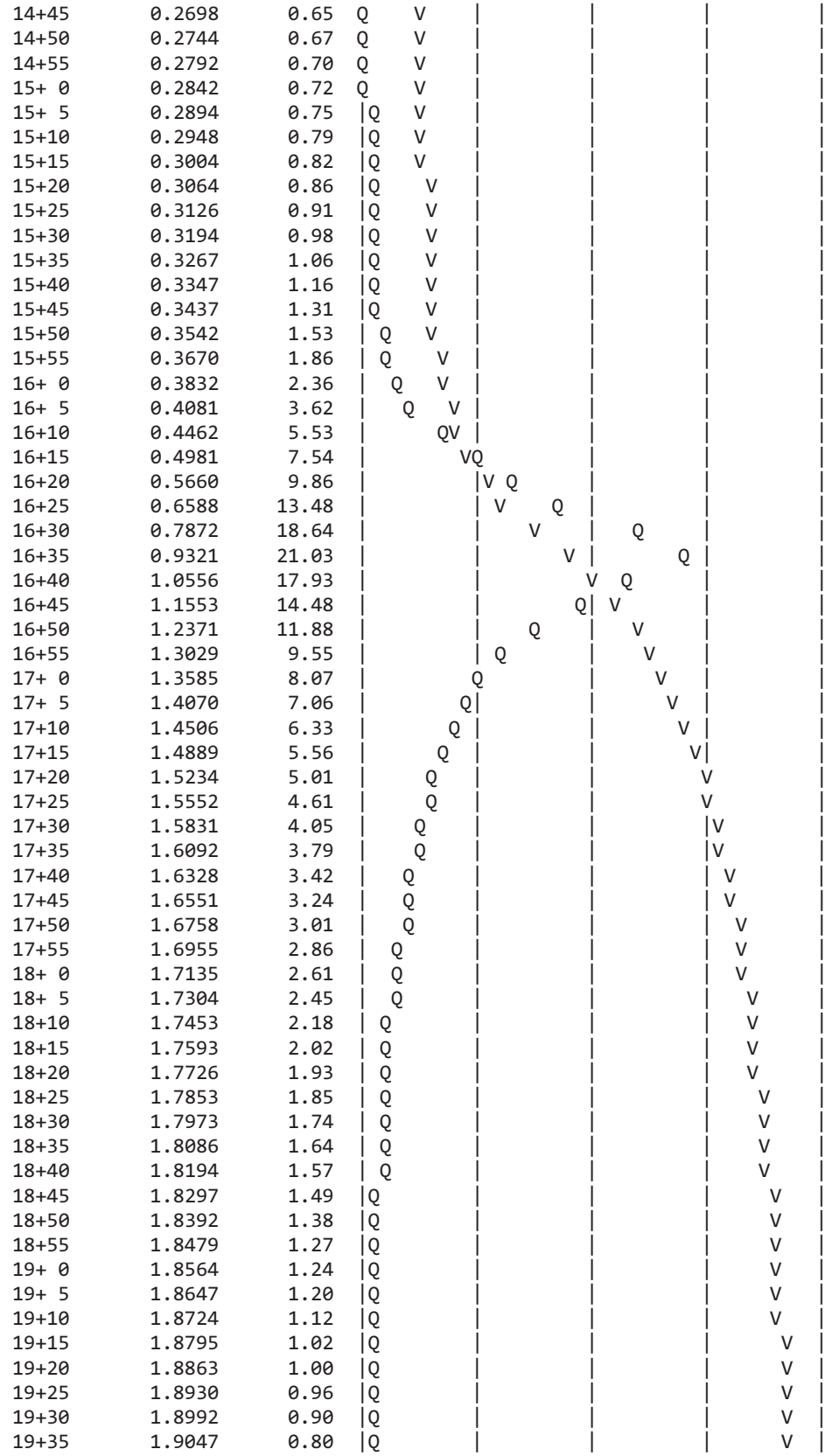
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m) Volume Ac.Ft Q(CFS) 0 7.5 15.0 22.5 30.0

0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.02	Q				
0+30	0.0004	0.03	Q				
0+35	0.0007	0.04	Q				
0+40	0.0011	0.05	Q				
0+45	0.0015	0.06	Q				
0+50	0.0020	0.07	Q				
0+55	0.0025	0.08	Q				
1+ 0	0.0031	0.08	Q				
1+ 5	0.0037	0.09	Q				
1+10	0.0043	0.09	Q				
1+15	0.0049	0.09	Q				
1+20	0.0056	0.10	Q				
1+25	0.0063	0.10	Q				
1+30	0.0070	0.10	Q				
1+35	0.0077	0.10	Q				
1+40	0.0084	0.11	Q				
1+45	0.0092	0.11	Q				
1+50	0.0099	0.11	Q				
1+55	0.0107	0.11	Q				
2+ 0	0.0115	0.11	Q				
2+ 5	0.0122	0.11	Q				
2+10	0.0130	0.12	Q				
2+15	0.0139	0.12	Q				
2+20	0.0147	0.12	Q				
2+25	0.0155	0.12	Q				
2+30	0.0163	0.12	Q				
2+35	0.0172	0.12	Q				
2+40	0.0181	0.12	Q				
2+45	0.0189	0.13	Q				
2+50	0.0198	0.13	Q				
2+55	0.0207	0.13	Q				
3+ 0	0.0216	0.13	Q				
3+ 5	0.0225	0.13	Q				
3+10	0.0234	0.13	Q				
3+15	0.0243	0.13	Q				
3+20	0.0252	0.13	Q				
3+25	0.0261	0.13	Q				
3+30	0.0270	0.14	Q				
3+35	0.0280	0.14	Q				
3+40	0.0289	0.14	Q				
3+45	0.0299	0.14	Q				
3+50	0.0308	0.14	Q				
3+55	0.0318	0.14	Q				
4+ 0	0.0328	0.14	Q				
4+ 5	0.0338	0.14	Q				
4+10	0.0347	0.14	Q				
4+15	0.0357	0.14	Q				
4+20	0.0367	0.14	Q				
4+25	0.0377	0.15	Q				
4+30	0.0387	0.15	Q				
4+35	0.0398	0.15	Q				
4+40	0.0408	0.15	Q				
4+45	0.0418	0.15	Q				
4+50	0.0428	0.15	Q				

4+55	0.0439	0.15	Q				
5+ 0	0.0449	0.15	Q				
5+ 5	0.0460	0.15	Q				
5+10	0.0471	0.15	Q				
5+15	0.0481	0.16	Q				
5+20	0.0492	0.16	Q				
5+25	0.0503	0.16	Q				
5+30	0.0514	0.16	QV				
5+35	0.0525	0.16	QV				
5+40	0.0536	0.16	QV				
5+45	0.0547	0.16	QV				
5+50	0.0558	0.16	QV				
5+55	0.0569	0.16	QV				
6+ 0	0.0581	0.16	QV				
6+ 5	0.0592	0.17	QV				
6+10	0.0603	0.17	QV				
6+15	0.0615	0.17	QV				
6+20	0.0627	0.17	QV				
6+25	0.0638	0.17	QV				
6+30	0.0650	0.17	QV				
6+35	0.0662	0.17	QV				
6+40	0.0674	0.17	QV				
6+45	0.0686	0.17	QV				
6+50	0.0698	0.17	QV				
6+55	0.0710	0.18	QV				
7+ 0	0.0722	0.18	QV				
7+ 5	0.0734	0.18	QV				
7+10	0.0747	0.18	QV				
7+15	0.0759	0.18	QV				
7+20	0.0772	0.18	QV				
7+25	0.0784	0.18	QV				
7+30	0.0797	0.18	QV				
7+35	0.0810	0.19	QV				
7+40	0.0823	0.19	QV				
7+45	0.0836	0.19	QV				
7+50	0.0849	0.19	QV				
7+55	0.0862	0.19	QV				
8+ 0	0.0875	0.19	QV				
8+ 5	0.0889	0.19	QV				
8+10	0.0902	0.20	QV				
8+15	0.0916	0.20	QV				
8+20	0.0930	0.20	QV				
8+25	0.0944	0.20	QV				
8+30	0.0957	0.20	QV				
8+35	0.0972	0.20	QV				
8+40	0.0986	0.21	QV				
8+45	0.1000	0.21	QV				
8+50	0.1014	0.21	QV				
8+55	0.1029	0.21	Q V				
9+ 0	0.1044	0.21	Q V				
9+ 5	0.1058	0.21	Q V				
9+10	0.1073	0.22	Q V				
9+15	0.1088	0.22	Q V				
9+20	0.1103	0.22	Q V				
9+25	0.1119	0.22	Q V				
9+30	0.1134	0.22	Q V				
9+35	0.1150	0.23	Q V				
9+40	0.1166	0.23	Q V				
9+45	0.1181	0.23	Q V				

9+50	0.1197	0.23	Q V	|	|	|	|
9+55	0.1214	0.23	Q V	|	|	|	|
10+ 0	0.1230	0.24	Q V	|	|	|	|
10+ 5	0.1246	0.24	Q V	|	|	|	|
10+10	0.1263	0.24	Q V	|	|	|	|
10+15	0.1280	0.24	Q V	|	|	|	|
10+20	0.1297	0.25	Q V	|	|	|	|
10+25	0.1314	0.25	Q V	|	|	|	|
10+30	0.1331	0.25	Q V	|	|	|	|
10+35	0.1349	0.25	Q V	|	|	|	|
10+40	0.1367	0.26	Q V	|	|	|	|
10+45	0.1385	0.26	Q V	|	|	|	|
10+50	0.1403	0.26	Q V	|	|	|	|
10+55	0.1421	0.27	Q V	|	|	|	|
11+ 0	0.1440	0.27	Q V	|	|	|	|
11+ 5	0.1458	0.27	Q V	|	|	|	|
11+10	0.1477	0.28	Q V	|	|	|	|
11+15	0.1497	0.28	Q V	|	|	|	|
11+20	0.1516	0.28	Q V	|	|	|	|
11+25	0.1536	0.29	Q V	|	|	|	|
11+30	0.1556	0.29	Q V	|	|	|	|
11+35	0.1576	0.29	Q V	|	|	|	|
11+40	0.1596	0.30	Q V	|	|	|	|
11+45	0.1617	0.30	Q V	|	|	|	|
11+50	0.1638	0.30	Q V	|	|	|	|
11+55	0.1659	0.31	Q V	|	|	|	|
12+ 0	0.1681	0.31	Q V	|	|	|	|
12+ 5	0.1703	0.32	Q V	|	|	|	|
12+10	0.1725	0.32	Q V	|	|	|	|
12+15	0.1747	0.33	Q V	|	|	|	|
12+20	0.1770	0.33	Q V	|	|	|	|
12+25	0.1794	0.34	Q V	|	|	|	|
12+30	0.1817	0.35	Q V	|	|	|	|
12+35	0.1842	0.35	Q V	|	|	|	|
12+40	0.1867	0.36	Q V	|	|	|	|
12+45	0.1892	0.37	Q V	|	|	|	|
12+50	0.1918	0.38	Q V	|	|	|	|
12+55	0.1944	0.38	Q V	|	|	|	|
13+ 0	0.1971	0.39	Q V	|	|	|	|
13+ 5	0.1999	0.40	Q V	|	|	|	|
13+10	0.2027	0.41	Q V	|	|	|	|
13+15	0.2055	0.41	Q V	|	|	|	|
13+20	0.2084	0.42	Q V	|	|	|	|
13+25	0.2114	0.43	Q V	|	|	|	|
13+30	0.2144	0.44	Q V	|	|	|	|
13+35	0.2175	0.45	Q V	|	|	|	|
13+40	0.2206	0.46	Q V	|	|	|	|
13+45	0.2239	0.47	Q V	|	|	|	|
13+50	0.2272	0.48	Q V	|	|	|	|
13+55	0.2306	0.49	Q V	|	|	|	|
14+ 0	0.2340	0.50	Q V	|	|	|	|
14+ 5	0.2376	0.52	Q V	|	|	|	|
14+10	0.2412	0.53	Q V	|	|	|	|
14+15	0.2449	0.54	Q V	|	|	|	|
14+20	0.2488	0.56	Q V	|	|	|	|
14+25	0.2527	0.57	Q V	|	|	|	|
14+30	0.2568	0.59	Q V	|	|	|	|
14+35	0.2610	0.61	Q V	|	|	|	|
14+40	0.2653	0.63	Q V	|	|	|	|



14+45	0.2698	0.65	
14+50	0.2744	0.67	
14+55	0.2792	0.70	
15+ 0	0.2842	0.72	
15+ 5	0.2894	0.75	
15+10	0.2948	0.79	
15+15	0.3004	0.82	
15+20	0.3064	0.86	
15+25	0.3126	0.91	
15+30	0.3194	0.98	
15+35	0.3267	1.06	
15+40	0.3347	1.16	
15+45	0.3437	1.31	
15+50	0.3542	1.53	
15+55	0.3670	1.86	
16+ 0	0.3832	2.36	
16+ 5	0.4081	3.62	
16+10	0.4462	5.53	
16+15	0.4981	7.54	
16+20	0.5660	9.86	
16+25	0.6588	13.48	
16+30	0.7872	18.64	
16+35	0.9321	21.03	
16+40	1.0556	17.93	
16+45	1.1553	14.48	
16+50	1.2371	11.88	
16+55	1.3029	9.55	
17+ 0	1.3585	8.07	
17+ 5	1.4070	7.06	
17+10	1.4506	6.33	
17+15	1.4889	5.56	
17+20	1.5234	5.01	
17+25	1.5552	4.61	
17+30	1.5831	4.05	
17+35	1.6092	3.79	
17+40	1.6328	3.42	
17+45	1.6551	3.24	
17+50	1.6758	3.01	
17+55	1.6955	2.86	
18+ 0	1.7135	2.61	
18+ 5	1.7304	2.45	
18+10	1.7453	2.18	
18+15	1.7593	2.02	
18+20	1.7726	1.93	
18+25	1.7853	1.85	
18+30	1.7973	1.74	
18+35	1.8086	1.64	
18+40	1.8194	1.57	
18+45	1.8297	1.49	
18+50	1.8392	1.38	
18+55	1.8479	1.27	
19+ 0	1.8564	1.24	
19+ 5	1.8647	1.20	
19+10	1.8724	1.12	
19+15	1.8795	1.02	
19+20	1.8863	1.00	
19+25	1.8930	0.96	
19+30	1.8992	0.90	
19+35	1.9047	0.80	

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19+40       1.9100      0.77  |Q        |          |          |      V  |
19+45       1.9151      0.74  Q        |          |          |      V  |
19+50       1.9198      0.69  Q        |          |          |      V  |
19+55       1.9239      0.59  Q        |          |          |      V  |
20+ 0       1.9278      0.57  Q        |          |          |      V  |
20+ 5       1.9317      0.56  Q        |          |          |       V |
20+10       1.9355      0.56  Q        |          |          |       V |
20+15       1.9394      0.57  Q        |          |          |       V |
20+20       1.9434      0.57  Q        |          |          |       V |
20+25       1.9472      0.56  Q        |          |          |       V |
20+30       1.9510      0.55  Q        |          |          |       V |
20+35       1.9548      0.55  Q        |          |          |       V |
20+40       1.9585      0.54  Q        |          |          |       V |
20+45       1.9621      0.52  Q        |          |          |       V |
20+50       1.9655      0.50  Q        |          |          |       V |
20+55       1.9685      0.43  Q        |          |          |       V |
21+ 0       1.9712      0.39  Q        |          |          |       V |
21+ 5       1.9738      0.38  Q        |          |          |       V |
21+10       1.9763      0.37  Q        |          |          |       V |
21+15       1.9788      0.36  Q        |          |          |       V |
21+20       1.9812      0.34  Q        |          |          |        V|
21+25       1.9833      0.31  Q        |          |          |        V|
21+30       1.9849      0.22  Q        |          |          |        V|
21+35       1.9863      0.21  Q        |          |          |        V|
21+40       1.9878      0.21  Q        |          |          |        V|
21+45       1.9891      0.20  Q        |          |          |        V|
21+50       1.9905      0.20  Q        |          |          |        V|
21+55       1.9918      0.19  Q        |          |          |        V|
22+ 0       1.9931      0.19  Q        |          |          |        V|
22+ 5       1.9944      0.19  Q        |          |          |        V|
22+10       1.9957      0.18  Q        |          |          |        V|
22+15       1.9969      0.18  Q        |          |          |        V|
22+20       1.9982      0.18  Q        |          |          |        V|
22+25       1.9994      0.18  Q        |          |          |        V|
22+30       2.0006      0.17  Q        |          |          |        V|
22+35       2.0017      0.17  Q        |          |          |        V|
22+40       2.0029      0.17  Q        |          |          |        V|
22+45       2.0040      0.17  Q        |          |          |        V|
22+50       2.0052      0.16  Q        |          |          |        V|
22+55       2.0063      0.16  Q        |          |          |        V|
23+ 0       2.0074      0.16  Q        |          |          |        V|
23+ 5       2.0085      0.16  Q        |          |          |        V|
23+10       2.0095      0.16  Q        |          |          |        V|
23+15       2.0106      0.15  Q        |          |          |        V|
23+20       2.0116      0.15  Q        |          |          |        V|
23+25       2.0127      0.15  Q        |          |          |        V|
23+30       2.0137      0.15  Q        |          |          |        V|
23+35       2.0147      0.15  Q        |          |          |        V|
23+40       2.0157      0.15  Q        |          |          |        V|
23+45       2.0167      0.14  Q        |          |          |        V|
23+50       2.0177      0.14  Q        |          |          |        V|
23+55       2.0186      0.14  Q        |          |          |        V|
24+ 0       2.0196      0.14  Q        |          |          |        V|
24+ 5       2.0205      0.14  Q        |          |          |        V|
24+10       2.0215      0.13  Q        |          |          |        V|
24+15       2.0224      0.13  Q        |          |          |        V|
24+20       2.0232      0.12  Q        |          |          |        V|
24+25       2.0240      0.12  Q        |          |          |        V|
24+30       2.0247      0.10  Q        |          |          |        V|
```

24+35	2.0253	0.09	Q	|	|	|	V|
24+40	2.0259	0.08	Q	|	|	|	V|
24+45	2.0263	0.07	Q	|	|	|	V|
24+50	2.0267	0.06	Q	|	|	|	V|
24+55	2.0271	0.05	Q	|	|	|	V|
25+ 0	2.0274	0.05	Q	|	|	|	V|
25+ 5	2.0277	0.04	Q	|	|	|	V|
25+10	2.0280	0.04	Q	|	|	|	V|
25+15	2.0282	0.04	Q	|	|	|	V|
25+20	2.0284	0.03	Q	|	|	|	V|
25+25	2.0287	0.03	Q	|	|	|	V|
25+30	2.0288	0.03	Q	|	|	|	V|
25+35	2.0290	0.03	Q	|	|	|	V|
25+40	2.0292	0.02	Q	|	|	|	V|
25+45	2.0293	0.02	Q	|	|	|	V|
25+50	2.0295	0.02	Q	|	|	|	V|
25+55	2.0296	0.02	Q	|	|	|	V|
26+ 0	2.0297	0.02	Q	|	|	|	V|
26+ 5	2.0298	0.02	Q	|	|	|	V|
26+10	2.0299	0.01	Q	|	|	|	V|
26+15	2.0300	0.01	Q	|	|	|	V|
26+20	2.0301	0.01	Q	|	|	|	V|
26+25	2.0302	0.01	Q	|	|	|	V|
26+30	2.0303	0.01	Q	|	|	|	V|
26+35	2.0303	0.01	Q	|	|	|	V|
26+40	2.0304	0.01	Q	|	|	|	V|
26+45	2.0305	0.01	Q	|	|	|	V|
26+50	2.0305	0.01	Q	|	|	|	V|
26+55	2.0306	0.01	Q	|	|	|	V|
27+ 0	2.0306	0.01	Q	|	|	|	V|
27+ 5	2.0307	0.01	Q	|	|	|	V|
27+10	2.0307	0.01	Q	|	|	|	V|
27+15	2.0307	0.01	Q	|	|	|	V|
27+20	2.0308	0.00	Q	|	|	|	V|
27+25	2.0308	0.00	Q	|	|	|	V|
27+30	2.0308	0.00	Q	|	|	|	V|
27+35	2.0309	0.00	Q	|	|	|	V|
27+40	2.0309	0.00	Q	|	|	|	V|
27+45	2.0309	0.00	Q	|	|	|	V|
27+50	2.0309	0.00	Q	|	|	|	V|
27+55	2.0309	0.00	Q	|	|	|	V|
28+ 0	2.0310	0.00	Q	|	|	|	V|
28+ 5	2.0310	0.00	Q	|	|	|	V|
28+10	2.0310	0.00	Q	|	|	|	V|
28+15	2.0310	0.00	Q	|	|	|	V|
28+20	2.0310	0.00	Q	|	|	|	V|
28+25	2.0310	0.00	Q	|	|	|	V|
28+30	2.0310	0.00	Q	|	|	|	V|
28+35	2.0310	0.00	Q	|	|	|	V|
28+40	2.0311	0.00	Q	|	|	|	V|
28+45	2.0311	0.00	Q	|	|	|	V|
28+50	2.0311	0.00	Q	|	|	|	V|
28+55	2.0311	0.00	Q	|	|	|	V|
29+ 0	2.0311	0.00	Q	|	|	|	V|
29+ 5	2.0311	0.00	Q	|	|	|	V|
29+10	2.0311	0.00	Q	|	|	|	V|
29+15	2.0311	0.00	Q	|	|	|	V|
29+20	2.0311	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 15
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
197.08	1	1.27
Rainfall data for year 100		
197.08	6	1.83
Rainfall data for year 100		
197.08	24	2.43

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	197.08	1.000	0.360	0.743	0.267

Area-averaged adjusted loss rate Fm (In/Hr) = 0.267

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
146.43	0.743	62.0	80.6	2.41	0.359
50.65	0.257	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.499
Area-averaged low loss fraction, Yb = 0.501
User entry of time of concentration = 1.580 (hours)
++
Watershed area = 197.08(Ac.)
Catchment Lag time = 1.264 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 6.5928
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.267(In/Hr)
Average low loss rate fraction (Yb) = 0.501 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.589(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.430(In)

Rainfall depth area reduction factors:
Using a total area of 197.08(Ac.) (Ref: fig. E-4)

5-minute factor = 0.991 Adjusted rainfall = 0.597(In)
30-minute factor = 0.991 Adjusted rainfall = 1.022(In)
1-hour factor = 0.991 Adjusted rainfall = 1.258(In)
3-hour factor = 0.999 Adjusted rainfall = 1.587(In)
6-hour factor = 0.999 Adjusted rainfall = 1.829(In)
24-hour factor = 1.000 Adjusted rainfall = 2.429(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 2383.44 (CFS))	
1	0.290	6.914
2	0.873	13.896
3	1.769	21.353
4	2.888	26.671
5	4.358	35.027
6	6.021	39.643
7	8.099	49.525
8	10.487	56.931
9	14.365	92.421
10	18.927	108.725
11	25.386	153.956
12	31.921	155.768
13	37.643	136.374

14	42.909	125.514
15	47.181	101.822
16	51.127	94.041
17	54.566	81.977
18	57.602	72.349
19	60.135	60.375
20	62.411	54.240
21	64.464	48.948
22	66.321	44.247
23	68.057	41.368
24	69.684	38.779
25	71.249	37.323
26	72.623	32.747
27	73.926	31.035
28	75.109	28.214
29	76.261	27.459
30	77.374	26.521
31	78.429	25.152
32	79.313	21.061
33	80.183	20.742
34	81.053	20.742
35	81.864	19.308
36	82.577	17.002
37	83.289	16.971
38	84.001	16.965
39	84.667	15.883
40	85.300	15.085
41	85.933	15.085
42	86.561	14.981
43	87.116	13.208
44	87.643	12.571
45	88.170	12.571
46	88.682	12.184
47	89.094	9.827
48	89.490	9.428
49	89.885	9.428
50	90.274	9.272
51	90.645	8.827
52	91.014	8.800
53	91.383	8.800
54	91.730	8.277
55	92.047	7.547
56	92.363	7.543
57	92.680	7.538
58	92.980	7.157
59	93.270	6.914
60	93.560	6.914
61	93.847	6.829
62	94.086	5.697
63	94.310	5.343
64	94.534	5.343
65	94.758	5.343
66	94.982	5.343
67	95.206	5.343
68	95.431	5.343
69	95.640	4.995
70	95.813	4.127
71	95.985	4.086
72	96.156	4.086

73	96.327	4.086
74	96.499	4.086
75	96.670	4.086
76	96.841	4.069
77	96.978	3.272
78	97.097	2.828
79	97.216	2.828
80	97.334	2.828
81	97.453	2.828
82	97.572	2.828
83	97.690	2.828
84	97.800	2.620
85	97.871	1.684
86	97.937	1.571
87	98.003	1.571
88	98.069	1.571
89	98.135	1.571
90	98.201	1.571
91	98.267	1.571
92	98.339	1.726
93	98.418	1.886
94	98.497	1.886
95	98.576	1.886
96	98.655	1.886
97	98.734	1.886
98	98.814	1.886
99	98.893	1.886
100	98.972	1.886
101	99.051	1.886
102	99.130	1.886
103	99.209	1.886
104	99.288	1.886
105	99.367	1.886
106	99.447	1.886
107	99.513	1.579
108	99.555	0.996
109	99.596	0.982
110	99.637	0.982
111	99.678	0.982
112	99.719	0.982
113	99.761	0.982
114	99.802	0.982
115	99.843	0.982
116	99.884	0.982
117	99.925	0.982
118	99.967	0.982
119	100.000	0.796

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5971	0.5971
2	0.7351	0.1380
3	0.8301	0.0951
4	0.9050	0.0748
5	0.9676	0.0627
6	1.0220	0.0544
7	1.0704	0.0484
8	1.1142	0.0438
9	1.1542	0.0401

10	1.1913	0.0371
11	1.2258	0.0346
12	1.2583	0.0324
13	1.2797	0.0215
14	1.2999	0.0202
15	1.3190	0.0191
16	1.3371	0.0181
17	1.3543	0.0172
18	1.3708	0.0165
19	1.3865	0.0157
20	1.4017	0.0151
21	1.4162	0.0145
22	1.4302	0.0140
23	1.4437	0.0135
24	1.4567	0.0130
25	1.4693	0.0126
26	1.4815	0.0122
27	1.4934	0.0119
28	1.5049	0.0115
29	1.5161	0.0112
30	1.5270	0.0109
31	1.5376	0.0106
32	1.5480	0.0103
33	1.5581	0.0101
34	1.5679	0.0099
35	1.5776	0.0096
36	1.5870	0.0094
37	1.5959	0.0089
38	1.6046	0.0087
39	1.6132	0.0086
40	1.6216	0.0084
41	1.6298	0.0082
42	1.6378	0.0081
43	1.6457	0.0079
44	1.6535	0.0078
45	1.6611	0.0076
46	1.6686	0.0075
47	1.6760	0.0074
48	1.6832	0.0072
49	1.6903	0.0071
50	1.6973	0.0070
51	1.7042	0.0069
52	1.7110	0.0068
53	1.7177	0.0067
54	1.7243	0.0066
55	1.7308	0.0065
56	1.7372	0.0064
57	1.7435	0.0063
58	1.7497	0.0062
59	1.7558	0.0061
60	1.7619	0.0061
61	1.7679	0.0060
62	1.7737	0.0059
63	1.7796	0.0058
64	1.7853	0.0057
65	1.7910	0.0057
66	1.7966	0.0056
67	1.8021	0.0055
68	1.8076	0.0055

69	1.8130	0.0054
70	1.8184	0.0053
71	1.8236	0.0053
72	1.8289	0.0052
73	1.8340	0.0052
74	1.8392	0.0051
75	1.8442	0.0051
76	1.8492	0.0050
77	1.8542	0.0050
78	1.8591	0.0049
79	1.8640	0.0049
80	1.8688	0.0048
81	1.8735	0.0048
82	1.8782	0.0047
83	1.8829	0.0047
84	1.8875	0.0046
85	1.8921	0.0046
86	1.8967	0.0045
87	1.9012	0.0045
88	1.9056	0.0045
89	1.9100	0.0044
90	1.9144	0.0044
91	1.9187	0.0043
92	1.9230	0.0043
93	1.9273	0.0043
94	1.9315	0.0042
95	1.9357	0.0042
96	1.9399	0.0042
97	1.9440	0.0041
98	1.9481	0.0041
99	1.9521	0.0041
100	1.9562	0.0040
101	1.9602	0.0040
102	1.9641	0.0040
103	1.9680	0.0039
104	1.9719	0.0039
105	1.9758	0.0039
106	1.9796	0.0038
107	1.9835	0.0038
108	1.9872	0.0038
109	1.9910	0.0038
110	1.9947	0.0037
111	1.9984	0.0037
112	2.0021	0.0037
113	2.0058	0.0036
114	2.0094	0.0036
115	2.0130	0.0036
116	2.0165	0.0036
117	2.0201	0.0035
118	2.0236	0.0035
119	2.0271	0.0035
120	2.0306	0.0035
121	2.0340	0.0035
122	2.0375	0.0034
123	2.0409	0.0034
124	2.0443	0.0034
125	2.0476	0.0034
126	2.0510	0.0033
127	2.0543	0.0033

128	2.0576	0.0033
129	2.0609	0.0033
130	2.0642	0.0033
131	2.0674	0.0032
132	2.0706	0.0032
133	2.0738	0.0032
134	2.0770	0.0032
135	2.0802	0.0032
136	2.0833	0.0031
137	2.0865	0.0031
138	2.0896	0.0031
139	2.0927	0.0031
140	2.0957	0.0031
141	2.0988	0.0031
142	2.1018	0.0030
143	2.1049	0.0030
144	2.1079	0.0030
145	2.1108	0.0030
146	2.1138	0.0030
147	2.1168	0.0030
148	2.1197	0.0029
149	2.1226	0.0029
150	2.1256	0.0029
151	2.1285	0.0029
152	2.1313	0.0029
153	2.1342	0.0029
154	2.1370	0.0028
155	2.1399	0.0028
156	2.1427	0.0028
157	2.1455	0.0028
158	2.1483	0.0028
159	2.1511	0.0028
160	2.1538	0.0028
161	2.1566	0.0028
162	2.1593	0.0027
163	2.1621	0.0027
164	2.1648	0.0027
165	2.1675	0.0027
166	2.1701	0.0027
167	2.1728	0.0027
168	2.1755	0.0027
169	2.1781	0.0026
170	2.1808	0.0026
171	2.1834	0.0026
172	2.1860	0.0026
173	2.1886	0.0026
174	2.1912	0.0026
175	2.1937	0.0026
176	2.1963	0.0026
177	2.1989	0.0026
178	2.2014	0.0025
179	2.2039	0.0025
180	2.2064	0.0025
181	2.2089	0.0025
182	2.2114	0.0025
183	2.2139	0.0025
184	2.2164	0.0025
185	2.2189	0.0025
186	2.2213	0.0025

187	2.2237	0.0024
188	2.2262	0.0024
189	2.2286	0.0024
190	2.2310	0.0024
191	2.2334	0.0024
192	2.2358	0.0024
193	2.2382	0.0024
194	2.2405	0.0024
195	2.2429	0.0024
196	2.2453	0.0024
197	2.2476	0.0023
198	2.2499	0.0023
199	2.2523	0.0023
200	2.2546	0.0023
201	2.2569	0.0023
202	2.2592	0.0023
203	2.2615	0.0023
204	2.2637	0.0023
205	2.2660	0.0023
206	2.2683	0.0023
207	2.2705	0.0023
208	2.2728	0.0022
209	2.2750	0.0022
210	2.2772	0.0022
211	2.2794	0.0022
212	2.2816	0.0022
213	2.2838	0.0022
214	2.2860	0.0022
215	2.2882	0.0022
216	2.2904	0.0022
217	2.2926	0.0022
218	2.2947	0.0022
219	2.2969	0.0022
220	2.2990	0.0021
221	2.3011	0.0021
222	2.3033	0.0021
223	2.3054	0.0021
224	2.3075	0.0021
225	2.3096	0.0021
226	2.3117	0.0021
227	2.3138	0.0021
228	2.3159	0.0021
229	2.3180	0.0021
230	2.3200	0.0021
231	2.3221	0.0021
232	2.3242	0.0021
233	2.3262	0.0020
234	2.3282	0.0020
235	2.3303	0.0020
236	2.3323	0.0020
237	2.3343	0.0020
238	2.3363	0.0020
239	2.3384	0.0020
240	2.3404	0.0020
241	2.3423	0.0020
242	2.3443	0.0020
243	2.3463	0.0020
244	2.3483	0.0020
245	2.3503	0.0020

246	2.3522	0.0020
247	2.3542	0.0020
248	2.3561	0.0019
249	2.3581	0.0019
250	2.3600	0.0019
251	2.3619	0.0019
252	2.3639	0.0019
253	2.3658	0.0019
254	2.3677	0.0019
255	2.3696	0.0019
256	2.3715	0.0019
257	2.3734	0.0019
258	2.3753	0.0019
259	2.3772	0.0019
260	2.3790	0.0019
261	2.3809	0.0019
262	2.3828	0.0019
263	2.3846	0.0019
264	2.3865	0.0019
265	2.3883	0.0018
266	2.3902	0.0018
267	2.3920	0.0018
268	2.3939	0.0018
269	2.3957	0.0018
270	2.3975	0.0018
271	2.3993	0.0018
272	2.4011	0.0018
273	2.4029	0.0018
274	2.4047	0.0018
275	2.4065	0.0018
276	2.4083	0.0018
277	2.4101	0.0018
278	2.4119	0.0018
279	2.4137	0.0018
280	2.4154	0.0018
281	2.4172	0.0018
282	2.4189	0.0018
283	2.4207	0.0018
284	2.4225	0.0017
285	2.4242	0.0017
286	2.4259	0.0017
287	2.4277	0.0017
288	2.4294	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0009	0.0009
2	0.0017	0.0009	0.0009
3	0.0017	0.0009	0.0009
4	0.0017	0.0009	0.0009
5	0.0018	0.0009	0.0009
6	0.0018	0.0009	0.0009
7	0.0018	0.0009	0.0009
8	0.0018	0.0009	0.0009
9	0.0018	0.0009	0.0009
10	0.0018	0.0009	0.0009
11	0.0018	0.0009	0.0009

12	0.0018	0.0009	0.0009
13	0.0018	0.0009	0.0009
14	0.0018	0.0009	0.0009
15	0.0018	0.0009	0.0009
16	0.0018	0.0009	0.0009
17	0.0019	0.0009	0.0009
18	0.0019	0.0009	0.0009
19	0.0019	0.0009	0.0009
20	0.0019	0.0009	0.0009
21	0.0019	0.0009	0.0009
22	0.0019	0.0009	0.0009
23	0.0019	0.0010	0.0010
24	0.0019	0.0010	0.0010
25	0.0019	0.0010	0.0010
26	0.0019	0.0010	0.0010
27	0.0019	0.0010	0.0010
28	0.0019	0.0010	0.0010
29	0.0020	0.0010	0.0010
30	0.0020	0.0010	0.0010
31	0.0020	0.0010	0.0010
32	0.0020	0.0010	0.0010
33	0.0020	0.0010	0.0010
34	0.0020	0.0010	0.0010
35	0.0020	0.0010	0.0010
36	0.0020	0.0010	0.0010
37	0.0020	0.0010	0.0010
38	0.0020	0.0010	0.0010
39	0.0021	0.0010	0.0010
40	0.0021	0.0010	0.0010
41	0.0021	0.0010	0.0010
42	0.0021	0.0010	0.0010
43	0.0021	0.0011	0.0011
44	0.0021	0.0011	0.0011
45	0.0021	0.0011	0.0011
46	0.0021	0.0011	0.0011
47	0.0022	0.0011	0.0011
48	0.0022	0.0011	0.0011
49	0.0022	0.0011	0.0011
50	0.0022	0.0011	0.0011
51	0.0022	0.0011	0.0011
52	0.0022	0.0011	0.0011
53	0.0022	0.0011	0.0011
54	0.0022	0.0011	0.0011
55	0.0023	0.0011	0.0011
56	0.0023	0.0011	0.0011
57	0.0023	0.0011	0.0011
58	0.0023	0.0011	0.0011
59	0.0023	0.0012	0.0012
60	0.0023	0.0012	0.0012
61	0.0023	0.0012	0.0012
62	0.0023	0.0012	0.0012
63	0.0024	0.0012	0.0012
64	0.0024	0.0012	0.0012
65	0.0024	0.0012	0.0012
66	0.0024	0.0012	0.0012
67	0.0024	0.0012	0.0012
68	0.0024	0.0012	0.0012
69	0.0025	0.0012	0.0012
70	0.0025	0.0012	0.0012

71	0.0025	0.0012	0.0012
72	0.0025	0.0012	0.0012
73	0.0025	0.0013	0.0013
74	0.0025	0.0013	0.0013
75	0.0026	0.0013	0.0013
76	0.0026	0.0013	0.0013
77	0.0026	0.0013	0.0013
78	0.0026	0.0013	0.0013
79	0.0026	0.0013	0.0013
80	0.0026	0.0013	0.0013
81	0.0027	0.0013	0.0013
82	0.0027	0.0013	0.0013
83	0.0027	0.0014	0.0013
84	0.0027	0.0014	0.0014
85	0.0027	0.0014	0.0014
86	0.0028	0.0014	0.0014
87	0.0028	0.0014	0.0014
88	0.0028	0.0014	0.0014
89	0.0028	0.0014	0.0014
90	0.0028	0.0014	0.0014
91	0.0029	0.0014	0.0014
92	0.0029	0.0014	0.0014
93	0.0029	0.0015	0.0015
94	0.0029	0.0015	0.0015
95	0.0030	0.0015	0.0015
96	0.0030	0.0015	0.0015
97	0.0030	0.0015	0.0015
98	0.0030	0.0015	0.0015
99	0.0031	0.0015	0.0015
100	0.0031	0.0015	0.0015
101	0.0031	0.0016	0.0016
102	0.0031	0.0016	0.0016
103	0.0032	0.0016	0.0016
104	0.0032	0.0016	0.0016
105	0.0032	0.0016	0.0016
106	0.0032	0.0016	0.0016
107	0.0033	0.0016	0.0016
108	0.0033	0.0017	0.0016
109	0.0033	0.0017	0.0017
110	0.0034	0.0017	0.0017
111	0.0034	0.0017	0.0017
112	0.0034	0.0017	0.0017
113	0.0035	0.0017	0.0017
114	0.0035	0.0018	0.0017
115	0.0035	0.0018	0.0018
116	0.0036	0.0018	0.0018
117	0.0036	0.0018	0.0018
118	0.0036	0.0018	0.0018
119	0.0037	0.0019	0.0018
120	0.0037	0.0019	0.0019
121	0.0038	0.0019	0.0019
122	0.0038	0.0019	0.0019
123	0.0039	0.0019	0.0019
124	0.0039	0.0020	0.0019
125	0.0040	0.0020	0.0020
126	0.0040	0.0020	0.0020
127	0.0041	0.0020	0.0020
128	0.0041	0.0020	0.0020
129	0.0042	0.0021	0.0021

130	0.0042	0.0021	0.0021
131	0.0043	0.0021	0.0021
132	0.0043	0.0022	0.0021
133	0.0044	0.0022	0.0022
134	0.0044	0.0022	0.0022
135	0.0045	0.0023	0.0022
136	0.0045	0.0023	0.0023
137	0.0046	0.0023	0.0023
138	0.0047	0.0023	0.0023
139	0.0048	0.0024	0.0024
140	0.0048	0.0024	0.0024
141	0.0049	0.0025	0.0025
142	0.0050	0.0025	0.0025
143	0.0051	0.0025	0.0025
144	0.0051	0.0026	0.0026
145	0.0052	0.0026	0.0026
146	0.0053	0.0026	0.0026
147	0.0054	0.0027	0.0027
148	0.0055	0.0027	0.0027
149	0.0056	0.0028	0.0028
150	0.0057	0.0028	0.0028
151	0.0058	0.0029	0.0029
152	0.0059	0.0030	0.0029
153	0.0061	0.0030	0.0030
154	0.0061	0.0031	0.0031
155	0.0063	0.0032	0.0031
156	0.0064	0.0032	0.0032
157	0.0066	0.0033	0.0033
158	0.0067	0.0033	0.0033
159	0.0069	0.0035	0.0034
160	0.0070	0.0035	0.0035
161	0.0072	0.0036	0.0036
162	0.0074	0.0037	0.0037
163	0.0076	0.0038	0.0038
164	0.0078	0.0039	0.0039
165	0.0081	0.0040	0.0040
166	0.0082	0.0041	0.0041
167	0.0086	0.0043	0.0043
168	0.0087	0.0044	0.0044
169	0.0094	0.0047	0.0047
170	0.0096	0.0048	0.0048
171	0.0101	0.0051	0.0050
172	0.0103	0.0052	0.0052
173	0.0109	0.0055	0.0054
174	0.0112	0.0056	0.0056
175	0.0119	0.0059	0.0059
176	0.0122	0.0061	0.0061
177	0.0130	0.0065	0.0065
178	0.0135	0.0068	0.0067
179	0.0145	0.0073	0.0073
180	0.0151	0.0076	0.0075
181	0.0165	0.0082	0.0082
182	0.0172	0.0086	0.0086
183	0.0191	0.0096	0.0095
184	0.0202	0.0101	0.0101
185	0.0324	0.0162	0.0162
186	0.0346	0.0173	0.0173
187	0.0401	0.0201	0.0200
188	0.0438	0.0219	0.0218

189	0.0544	0.0223	0.0321
190	0.0627	0.0223	0.0404
191	0.0951	0.0223	0.0728
192	0.1380	0.0223	0.1157
193	0.5971	0.0223	0.5748
194	0.0748	0.0223	0.0526
195	0.0484	0.0223	0.0261
196	0.0371	0.0186	0.0185
197	0.0215	0.0107	0.0107
198	0.0181	0.0091	0.0090
199	0.0157	0.0079	0.0079
200	0.0140	0.0070	0.0070
201	0.0126	0.0063	0.0063
202	0.0115	0.0058	0.0058
203	0.0106	0.0053	0.0053
204	0.0099	0.0049	0.0049
205	0.0089	0.0045	0.0045
206	0.0084	0.0042	0.0042
207	0.0079	0.0040	0.0039
208	0.0075	0.0037	0.0037
209	0.0071	0.0036	0.0036
210	0.0068	0.0034	0.0034
211	0.0065	0.0032	0.0032
212	0.0062	0.0031	0.0031
213	0.0060	0.0030	0.0030
214	0.0057	0.0029	0.0029
215	0.0055	0.0028	0.0028
216	0.0053	0.0027	0.0027
217	0.0052	0.0026	0.0026
218	0.0050	0.0025	0.0025
219	0.0049	0.0024	0.0024
220	0.0047	0.0024	0.0024
221	0.0046	0.0023	0.0023
222	0.0045	0.0022	0.0022
223	0.0043	0.0022	0.0022
224	0.0042	0.0021	0.0021
225	0.0041	0.0021	0.0021
226	0.0040	0.0020	0.0020
227	0.0039	0.0020	0.0020
228	0.0038	0.0019	0.0019
229	0.0038	0.0019	0.0019
230	0.0037	0.0018	0.0018
231	0.0036	0.0018	0.0018
232	0.0035	0.0018	0.0018
233	0.0035	0.0017	0.0017
234	0.0034	0.0017	0.0017
235	0.0033	0.0017	0.0017
236	0.0033	0.0016	0.0016
237	0.0032	0.0016	0.0016
238	0.0031	0.0016	0.0016
239	0.0031	0.0015	0.0015
240	0.0030	0.0015	0.0015
241	0.0030	0.0015	0.0015
242	0.0029	0.0015	0.0015
243	0.0029	0.0014	0.0014
244	0.0028	0.0014	0.0014
245	0.0028	0.0014	0.0014
246	0.0028	0.0014	0.0014
247	0.0027	0.0014	0.0014

248	0.0027	0.0013	0.0013
249	0.0026	0.0013	0.0013
250	0.0026	0.0013	0.0013
251	0.0026	0.0013	0.0013
252	0.0025	0.0013	0.0013
253	0.0025	0.0013	0.0013
254	0.0025	0.0012	0.0012
255	0.0024	0.0012	0.0012
256	0.0024	0.0012	0.0012
257	0.0024	0.0012	0.0012
258	0.0024	0.0012	0.0012
259	0.0023	0.0012	0.0012
260	0.0023	0.0011	0.0011
261	0.0023	0.0011	0.0011
262	0.0022	0.0011	0.0011
263	0.0022	0.0011	0.0011
264	0.0022	0.0011	0.0011
265	0.0022	0.0011	0.0011
266	0.0021	0.0011	0.0011
267	0.0021	0.0011	0.0011
268	0.0021	0.0011	0.0010
269	0.0021	0.0010	0.0010
270	0.0021	0.0010	0.0010
271	0.0020	0.0010	0.0010
272	0.0020	0.0010	0.0010
273	0.0020	0.0010	0.0010
274	0.0020	0.0010	0.0010
275	0.0020	0.0010	0.0010
276	0.0019	0.0010	0.0010
277	0.0019	0.0010	0.0010
278	0.0019	0.0010	0.0009
279	0.0019	0.0009	0.0009
280	0.0019	0.0009	0.0009
281	0.0018	0.0009	0.0009
282	0.0018	0.0009	0.0009
283	0.0018	0.0009	0.0009
284	0.0018	0.0009	0.0009
285	0.0018	0.0009	0.0009
286	0.0018	0.0009	0.0009
287	0.0018	0.0009	0.0009
288	0.0017	0.0009	0.0009

Total soil rain loss = 0.84(In)
Total effective rainfall = 1.59(In)
Peak flow rate in flood hydrograph = 146.52(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|
0+15	0.0004	0.04	Q	|	|	|	|

0+20	0.0008	0.06	Q	|	|	|	|
0+25	0.0014	0.09	Q	|	|	|	|
0+30	0.0023	0.12	Q	|	|	|	|
0+35	0.0035	0.17	Q	|	|	|	|
0+40	0.0050	0.22	Q	|	|	|	|
0+45	0.0070	0.30	Q	|	|	|	|
0+50	0.0097	0.39	Q	|	|	|	|
0+55	0.0134	0.53	Q	|	|	|	|
1+ 0	0.0180	0.67	Q	|	|	|	|
1+ 5	0.0234	0.79	Q	|	|	|	|
1+10	0.0295	0.90	Q	|	|	|	|
1+15	0.0364	0.99	Q	|	|	|	|
1+20	0.0438	1.07	Q	|	|	|	|
1+25	0.0517	1.15	Q	|	|	|	|
1+30	0.0601	1.22	Q	|	|	|	|
1+35	0.0688	1.27	Q	|	|	|	|
1+40	0.0780	1.33	Q	|	|	|	|
1+45	0.0874	1.37	Q	|	|	|	|
1+50	0.0972	1.42	Q	|	|	|	|
1+55	0.1073	1.46	Q	|	|	|	|
2+ 0	0.1176	1.50	Q	|	|	|	|
2+ 5	0.1282	1.54	Q	|	|	|	|
2+10	0.1391	1.57	Q	|	|	|	|
2+15	0.1502	1.61	Q	|	|	|	|
2+20	0.1614	1.64	Q	|	|	|	|
2+25	0.1730	1.67	Q	|	|	|	|
2+30	0.1847	1.70	Q	|	|	|	|
2+35	0.1966	1.73	Q	|	|	|	|
2+40	0.2087	1.76	Q	|	|	|	|
2+45	0.2210	1.78	Q	|	|	|	|
2+50	0.2334	1.81	Q	|	|	|	|
2+55	0.2461	1.83	Q	|	|	|	|
3+ 0	0.2589	1.86	Q	|	|	|	|
3+ 5	0.2718	1.88	Q	|	|	|	|
3+10	0.2849	1.90	Q	|	|	|	|
3+15	0.2982	1.93	Q	|	|	|	|
3+20	0.3116	1.95	Q	|	|	|	|
3+25	0.3252	1.97	Q	|	|	|	|
3+30	0.3390	1.99	Q	|	|	|	|
3+35	0.3528	2.01	Q	|	|	|	|
3+40	0.3669	2.04	Q	|	|	|	|
3+45	0.3810	2.06	Q	|	|	|	|
3+50	0.3953	2.08	Q	|	|	|	|
3+55	0.4097	2.10	Q	|	|	|	|
4+ 0	0.4243	2.11	Q	|	|	|	|
4+ 5	0.4390	2.13	Q	|	|	|	|
4+10	0.4538	2.15	Q	|	|	|	|
4+15	0.4688	2.17	Q	|	|	|	|
4+20	0.4838	2.19	Q	|	|	|	|
4+25	0.4990	2.21	Q	|	|	|	|
4+30	0.5144	2.23	Q	|	|	|	|
4+35	0.5298	2.24	Q	|	|	|	|
4+40	0.5454	2.26	Q	|	|	|	|
4+45	0.5611	2.28	Q	|	|	|	|
4+50	0.5769	2.30	Q	|	|	|	|
4+55	0.5929	2.32	Q	|	|	|	|
5+ 0	0.6090	2.33	Q	|	|	|	|
5+ 5	0.6252	2.35	Q	|	|	|	|
5+10	0.6415	2.37	Q	|	|	|	|

5+15	0.6579	2.39	QV				
5+20	0.6745	2.41	QV				
5+25	0.6912	2.42	QV				
5+30	0.7080	2.44	QV				
5+35	0.7249	2.46	QV				
5+40	0.7420	2.48	QV				
5+45	0.7592	2.50	QV				
5+50	0.7765	2.51	QV				
5+55	0.7939	2.53	QV				
6+ 0	0.8115	2.55	QV				
6+ 5	0.8292	2.57	QV				
6+10	0.8470	2.59	QV				
6+15	0.8649	2.61	QV				
6+20	0.8830	2.62	QV				
6+25	0.9012	2.64	QV				
6+30	0.9195	2.66	QV				
6+35	0.9380	2.68	QV				
6+40	0.9566	2.70	QV				
6+45	0.9753	2.72	QV				
6+50	0.9941	2.74	QV				
6+55	1.0131	2.76	QV				
7+ 0	1.0322	2.78	QV				
7+ 5	1.0515	2.79	QV				
7+10	1.0708	2.81	QV				
7+15	1.0903	2.83	QV				
7+20	1.1100	2.85	QV				
7+25	1.1298	2.87	QV				
7+30	1.1497	2.89	QV				
7+35	1.1698	2.91	QV				
7+40	1.1900	2.93	QV				
7+45	1.2103	2.96	QV				
7+50	1.2308	2.98	QV				
7+55	1.2515	3.00	QV				
8+ 0	1.2723	3.02	QV				
8+ 5	1.2933	3.04	QV				
8+10	1.3144	3.07	Q V				
8+15	1.3357	3.09	Q V				
8+20	1.3571	3.11	Q V				
8+25	1.3788	3.14	Q V				
8+30	1.4005	3.16	Q V				
8+35	1.4225	3.19	Q V				
8+40	1.4446	3.21	Q V				
8+45	1.4669	3.24	Q V				
8+50	1.4894	3.27	Q V				
8+55	1.5121	3.29	Q V				
9+ 0	1.5350	3.32	Q V				
9+ 5	1.5580	3.35	Q V				
9+10	1.5812	3.37	Q V				
9+15	1.6047	3.40	Q V				
9+20	1.6283	3.43	Q V				
9+25	1.6521	3.46	Q V				
9+30	1.6761	3.49	Q V				
9+35	1.7003	3.52	Q V				
9+40	1.7247	3.55	Q V				
9+45	1.7494	3.58	Q V				
9+50	1.7742	3.61	Q V				
9+55	1.7993	3.64	Q V				
10+ 0	1.8246	3.67	Q V				
10+ 5	1.8501	3.71	Q V				

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10+10       1.8759      3.74  Q V       |          |          |          |
10+15       1.9019      3.77  Q V       |          |          |          |
10+20       1.9281      3.81  Q V       |          |          |          |
10+25       1.9545      3.84  Q V       |          |          |          |
10+30       1.9813      3.88  Q  V      |          |          |          |
10+35       2.0082      3.92  Q  V      |          |          |          |
10+40       2.0355      3.95  Q  V      |          |          |          |
10+45       2.0630      3.99  Q  V      |          |          |          |
10+50       2.0907      4.03  Q  V      |          |          |          |
10+55       2.1188      4.07  Q  V      |          |          |          |
11+ 0       2.1471      4.11  Q  V      |          |          |          |
11+ 5       2.1757      4.16  Q  V      |          |          |          |
11+10       2.2047      4.20  Q  V      |          |          |          |
11+15       2.2339      4.24  Q  V      |          |          |          |
11+20       2.2635      4.29  Q  V      |          |          |          |
11+25       2.2933      4.34  Q  V      |          |          |          |
11+30       2.3235      4.39  Q  V      |          |          |          |
11+35       2.3541      4.43  Q  V      |          |          |          |
11+40       2.3850      4.48  Q  V      |          |          |          |
11+45       2.4162      4.54  Q  V      |          |          |          |
11+50       2.4478      4.59  Q  V      |          |          |          |
11+55       2.4798      4.65  Q  V      |          |          |          |
12+ 0       2.5122      4.70  Q  V      |          |          |          |
12+ 5       2.5450      4.76  Q  V      |          |          |          |
12+10       2.5781      4.82  Q  V      |          |          |          |
12+15       2.6118      4.88  Q  V      |          |          |          |
12+20       2.6458      4.94  Q   V     |          |          |          |
12+25       2.6803      5.01  |Q  V     |          |          |          |
12+30       2.7152      5.08  |Q  V     |          |          |          |
12+35       2.7507      5.15  |Q  V     |          |          |          |
12+40       2.7866      5.22  |Q  V     |          |          |          |
12+45       2.8230      5.29  |Q  V     |          |          |          |
12+50       2.8600      5.37  |Q  V     |          |          |          |
12+55       2.8975      5.45  |Q  V     |          |          |          |
13+ 0       2.9356      5.53  |Q  V     |          |          |          |
13+ 5       2.9742      5.61  |Q  V     |          |          |          |
13+10       3.0135      5.70  |Q  V     |          |          |          |
13+15       3.0534      5.79  |Q  V     |          |          |          |
13+20       3.0939      5.89  |Q  V     |          |          |          |
13+25       3.1351      5.99  |Q  V     |          |          |          |
13+30       3.1771      6.09  |Q  V     |          |          |          |
13+35       3.2197      6.19  |Q  V     |          |          |          |
13+40       3.2632      6.31  |Q  V     |          |          |          |
13+45       3.3074      6.42  |Q   V    |          |          |          |
13+50       3.3525      6.54  |Q   V    |          |          |          |
13+55       3.3984      6.67  |Q   V    |          |          |          |
14+ 0       3.4453      6.80  |Q   V    |          |          |          |
14+ 5       3.4931      6.95  |Q   V    |          |          |          |
14+10       3.5420      7.09  |Q   V    |          |          |          |
14+15       3.5919      7.25  |Q   V    |          |          |          |
14+20       3.6430      7.42  |Q   V    |          |          |          |
14+25       3.6954      7.60  |Q   V    |          |          |          |
14+30       3.7490      7.79  |Q   V    |          |          |          |
14+35       3.8040      7.99  |Q   V    |          |          |          |
14+40       3.8605      8.20  |Q   V    |          |          |          |
14+45       3.9186      8.44  |Q   V    |          |          |          |
14+50       3.9784      8.69  |Q    V   |          |          |          |
14+55       4.0402      8.97  |Q    V   |          |          |          |
15+ 0       4.1040      9.26  |Q    V   |          |          |          |
```

15+ 5	4.1699	9.58	
15+10	4.2382	9.92	
15+15	4.3090	10.28	
15+20	4.3826	10.68	
15+25	4.4594	11.15	
15+30	4.5400	11.70	
15+35	4.6250	12.35	
15+40	4.7153	13.10	
15+45	4.8120	14.05	
15+50	4.9168	15.21	
15+55	5.0329	16.86	
16+ 0	5.1656	19.26	
16+ 5	5.3430	25.77	
16+10	5.5678	32.64	
16+15	5.8438	40.08	
16+20	6.1649	46.62	
16+25	6.5425	54.83	
16+30	6.9668	61.61	
16+35	7.4627	72.01	
16+40	8.0320	82.66	
16+45	8.7698	107.13	
16+50	9.6084	121.77	
16+55	10.6175	146.52	
17+ 0	11.6237	146.10	
17+ 5	12.5373	132.66	
17+10	13.3789	122.20	
17+15	14.1062	105.60	
17+20	14.7743	97.02	
17+25	15.3719	86.76	
17+30	15.9087	77.95	
17+35	16.3816	68.66	
17+40	16.8138	62.76	
17+45	17.2116	57.76	
17+50	17.5795	53.43	
17+55	17.9259	50.30	
18+ 0	18.2527	47.45	
18+ 5	18.5638	45.17	
18+10	18.8498	41.52	
18+15	19.1212	39.41	
18+20	19.3756	36.94	
18+25	19.6207	35.58	
18+30	19.8557	34.13	
18+35	20.0790	32.41	
18+40	20.2824	29.54	
18+45	20.4798	28.66	
18+50	20.6723	27.95	
18+55	20.8549	26.51	
19+ 0	21.0256	24.80	
19+ 5	21.1928	24.27	
19+10	21.3565	23.77	
19+15	21.5132	22.75	
19+20	21.6642	21.92	
19+25	21.8121	21.48	
19+30	21.9561	20.92	
19+35	22.0908	19.56	
19+40	22.2205	18.82	
19+45	22.3470	18.37	
19+50	22.4686	17.66	
19+55	22.5793	16.07	

```
20+ 0      22.6862     15.53  |  Q      |         |         |   V     |
20+ 5      22.7913     15.25  |  Q      |         |         |   V     |
20+10      22.8939     14.91  | Q       |         |         |    V    |
20+15      22.9935     14.45  | Q       |         |         |    V    |
20+20      23.0913     14.21  | Q       |         |         |    V    |
20+25      23.1874     13.95  | Q       |         |         |    V    |
20+30      23.2798     13.42  | Q       |         |         |    V    |
20+35      23.3682     12.83  | Q       |         |         |    V    |
20+40      23.4550     12.61  | Q       |         |         |    V    |
20+45      23.5404     12.40  | Q       |         |         |     V   |
20+50      23.6231     12.00  | Q       |         |         |     V   |
20+55      23.7036     11.69  | Q       |         |         |     V   |
21+ 0      23.7826     11.47  | Q       |         |         |     V   |
21+ 5      23.8595     11.16  | Q       |         |         |     V   |
21+10      23.9309     10.37  | Q       |         |         |     V   |
21+15      23.9998     10.01  | Q       |         |         |     V   |
21+20      24.0677      9.86  |Q        |         |         |     V   |
21+25      24.1347      9.73  |Q        |         |         |     V   |
21+30      24.2008      9.60  |Q        |         |         |      V  |
21+35      24.2660      9.46  |Q        |         |         |      V  |
21+40      24.3299      9.28  |Q        |         |         |      V  |
21+45      24.3911      8.89  |Q        |         |         |      V  |
21+50      24.4482      8.29  |Q        |         |         |      V  |
21+55      24.5043      8.13  |Q        |         |         |      V  |
22+ 0      24.5595      8.02  |Q        |         |         |      V  |
22+ 5      24.6140      7.91  |Q        |         |         |      V  |
22+10      24.6677      7.80  |Q        |         |         |      V  |
22+15      24.7204      7.66  |Q        |         |         |      V  |
22+20      24.7718      7.46  |Q        |         |         |      V  |
22+25      24.8193      6.89  |Q        |         |         |      V  |
22+30      24.8642      6.52  |Q        |         |         |       V |
22+35      24.9084      6.41  |Q        |         |         |       V |
22+40      24.9519      6.32  |Q        |         |         |       V |
22+45      24.9947      6.22  |Q        |         |         |       V |
22+50      25.0369      6.12  |Q        |         |         |       V |
22+55      25.0780      5.98  |Q        |         |         |       V |
23+ 0      25.1173      5.70  |Q        |         |         |       V |
23+ 5      25.1524      5.10  |Q        |         |         |       V |
23+10      25.1864      4.94  Q        |         |         |       V |
23+15      25.2200      4.87  Q        |         |         |       V |
23+20      25.2532      4.82  Q        |         |         |       V |
23+25      25.2861      4.78  Q        |         |         |       V |
23+30      25.3187      4.74  Q        |         |         |       V |
23+35      25.3513      4.73  Q        |         |         |       V |
23+40      25.3843      4.79  Q        |         |         |       V |
23+45      25.4176      4.84  Q        |         |         |       V |
23+50      25.4508      4.81  Q        |         |         |       V |
23+55      25.4837      4.78  Q        |         |         |       V |
24+ 0      25.5163      4.74  Q        |         |         |        V|
24+ 5      25.5487      4.70  Q        |         |         |        V|
24+10      25.5807      4.65  Q        |         |         |        V|
24+15      25.6123      4.59  Q        |         |         |        V|
24+20      25.6434      4.52  Q        |         |         |        V|
24+25      25.6741      4.45  Q        |         |         |        V|
24+30      25.7041      4.37  Q        |         |         |        V|
24+35      25.7336      4.28  Q        |         |         |        V|
24+40      25.7623      4.17  Q        |         |         |        V|
24+45      25.7900      4.02  Q        |         |         |        V|
24+50      25.8163      3.82  Q        |         |         |        V|
```

24+55	25.8398	3.42	Q	|	|	|	V|
25+ 0	25.8598	2.91	Q	|	|	|	V|
25+ 5	25.8786	2.72	Q	|	|	|	V|
25+10	25.8963	2.57	Q	|	|	|	V|
25+15	25.9131	2.45	Q	|	|	|	V|
25+20	25.9292	2.33	Q	|	|	|	V|
25+25	25.9445	2.23	Q	|	|	|	V|
25+30	25.9592	2.13	Q	|	|	|	V|
25+35	25.9732	2.04	Q	|	|	|	V|
25+40	25.9867	1.95	Q	|	|	|	V|
25+45	25.9994	1.85	Q	|	|	|	V|
25+50	26.0112	1.72	Q	|	|	|	V|
25+55	26.0214	1.48	Q	|	|	|	V|
26+ 0	26.0281	0.97	Q	|	|	|	V|
26+ 5	26.0341	0.88	Q	|	|	|	V|
26+10	26.0398	0.82	Q	|	|	|	V|
26+15	26.0451	0.77	Q	|	|	|	V|
26+20	26.0501	0.73	Q	|	|	|	V|
26+25	26.0549	0.69	Q	|	|	|	V|
26+30	26.0594	0.66	Q	|	|	|	V|
26+35	26.0637	0.62	Q	|	|	|	V|
26+40	26.0678	0.59	Q	|	|	|	V|
26+45	26.0716	0.57	Q	|	|	|	V|
26+50	26.0753	0.54	Q	|	|	|	V|
26+55	26.0789	0.51	Q	|	|	|	V|
27+ 0	26.0823	0.49	Q	|	|	|	V|
27+ 5	26.0855	0.47	Q	|	|	|	V|
27+10	26.0886	0.45	Q	|	|	|	V|
27+15	26.0915	0.43	Q	|	|	|	V|
27+20	26.0943	0.41	Q	|	|	|	V|
27+25	26.0970	0.39	Q	|	|	|	V|
27+30	26.0995	0.37	Q	|	|	|	V|
27+35	26.1020	0.35	Q	|	|	|	V|
27+40	26.1043	0.34	Q	|	|	|	V|
27+45	26.1065	0.32	Q	|	|	|	V|
27+50	26.1086	0.31	Q	|	|	|	V|
27+55	26.1107	0.30	Q	|	|	|	V|
28+ 0	26.1126	0.28	Q	|	|	|	V|
28+ 5	26.1145	0.27	Q	|	|	|	V|
28+10	26.1163	0.26	Q	|	|	|	V|
28+15	26.1180	0.25	Q	|	|	|	V|
28+20	26.1197	0.24	Q	|	|	|	V|
28+25	26.1212	0.23	Q	|	|	|	V|
28+30	26.1227	0.22	Q	|	|	|	V|
28+35	26.1242	0.21	Q	|	|	|	V|
28+40	26.1256	0.20	Q	|	|	|	V|
28+45	26.1269	0.19	Q	|	|	|	V|
28+50	26.1281	0.18	Q	|	|	|	V|
28+55	26.1294	0.17	Q	|	|	|	V|
29+ 0	26.1305	0.17	Q	|	|	|	V|
29+ 5	26.1316	0.16	Q	|	|	|	V|
29+10	26.1326	0.15	Q	|	|	|	V|
29+15	26.1337	0.15	Q	|	|	|	V|
29+20	26.1346	0.14	Q	|	|	|	V|
29+25	26.1355	0.13	Q	|	|	|	V|
29+30	26.1364	0.13	Q	|	|	|	V|
29+35	26.1372	0.12	Q	|	|	|	V|
29+40	26.1380	0.12	Q	|	|	|	V|
29+45	26.1388	0.11	Q	|	|	|	V|

29+50	26.1395	0.11	Q	|	|	|	V|
29+55	26.1402	0.10	Q	|	|	|	V|
30+ 0	26.1409	0.10	Q	|	|	|	V|
30+ 5	26.1415	0.09	Q	|	|	|	V|
30+10	26.1421	0.09	Q	|	|	|	V|
30+15	26.1427	0.08	Q	|	|	|	V|
30+20	26.1432	0.08	Q	|	|	|	V|
30+25	26.1437	0.07	Q	|	|	|	V|
30+30	26.1442	0.07	Q	|	|	|	V|
30+35	26.1447	0.07	Q	|	|	|	V|
30+40	26.1451	0.06	Q	|	|	|	V|
30+45	26.1456	0.06	Q	|	|	|	V|
30+50	26.1460	0.06	Q	|	|	|	V|
30+55	26.1463	0.06	Q	|	|	|	V|
31+ 0	26.1467	0.05	Q	|	|	|	V|
31+ 5	26.1471	0.05	Q	|	|	|	V|
31+10	26.1474	0.05	Q	|	|	|	V|
31+15	26.1477	0.05	Q	|	|	|	V|
31+20	26.1480	0.05	Q	|	|	|	V|
31+25	26.1483	0.04	Q	|	|	|	V|
31+30	26.1486	0.04	Q	|	|	|	V|
31+35	26.1489	0.04	Q	|	|	|	V|
31+40	26.1491	0.04	Q	|	|	|	V|
31+45	26.1494	0.04	Q	|	|	|	V|
31+50	26.1496	0.03	Q	|	|	|	V|
31+55	26.1499	0.03	Q	|	|	|	V|
32+ 0	26.1501	0.03	Q	|	|	|	V|
32+ 5	26.1503	0.03	Q	|	|	|	V|
32+10	26.1504	0.03	Q	|	|	|	V|
32+15	26.1506	0.02	Q	|	|	|	V|
32+20	26.1508	0.02	Q	|	|	|	V|
32+25	26.1509	0.02	Q	|	|	|	V|
32+30	26.1510	0.02	Q	|	|	|	V|
32+35	26.1512	0.02	Q	|	|	|	V|
32+40	26.1513	0.02	Q	|	|	|	V|
32+45	26.1514	0.01	Q	|	|	|	V|
32+50	26.1514	0.01	Q	|	|	|	V|
32+55	26.1515	0.01	Q	|	|	|	V|
33+ 0	26.1516	0.01	Q	|	|	|	V|
33+ 5	26.1516	0.01	Q	|	|	|	V|
33+10	26.1517	0.01	Q	|	|	|	V|
33+15	26.1517	0.01	Q	|	|	|	V|
33+20	26.1518	0.01	Q	|	|	|	V|
33+25	26.1518	0.01	Q	|	|	|	V|
33+30	26.1519	0.00	Q	|	|	|	V|
33+35	26.1519	0.00	Q	|	|	|	V|
33+40	26.1519	0.00	Q	|	|	|	V|
33+45	26.1519	0.00	Q	|	|	|	V|
33+50	26.1519	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/07/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 16 (LINED EVAPORATION PONDS)
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
158.96	1	1.27
Rainfall data for year 100		
158.96	6	1.83
Rainfall data for year 100		
158.96	24	2.44

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
98.0	99.6	158.96	1.000	0.008	0.010	0.000

Area-averaged adjusted loss rate Fm (In/Hr) = 0.000

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1.59	0.010	98.0	99.6	0.04	0.981
157.37	0.990	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.907
Area-averaged low loss fraction, Yb = 0.093
Direct entry of lag time by user
++
Watershed area = 158.96(Ac.)
Catchment Lag time = 0.500 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.6667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.000(In/Hr)
Average low loss rate fraction (Yb) = 0.093 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.589(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.440(In)

Rainfall depth area reduction factors:
Using a total area of 158.96(Ac.) (Ref: fig. E-4)

5-minute factor = 0.993 Adjusted rainfall = 0.598(In)
30-minute factor = 0.993 Adjusted rainfall = 1.024(In)
1-hour factor = 0.993 Adjusted rainfall = 1.261(In)
3-hour factor = 0.999 Adjusted rainfall = 1.587(In)
6-hour factor = 1.000 Adjusted rainfall = 1.829(In)
24-hour factor = 1.000 Adjusted rainfall = 2.440(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1922.42 (CFS))	
1	0.775	14.899
2	3.367	49.823
3	7.746	84.186
4	16.033	159.321
5	30.950	286.761
6	44.554	261.530
7	54.263	186.635
8	61.150	132.407
9	66.275	98.524
10	70.479	80.822
11	73.950	66.724
12	76.896	56.631
13	79.400	48.141

14	81.550	41.332
15	83.400	35.565
16	85.100	32.681
17	86.667	30.118
18	88.033	26.273
19	89.200	22.428
20	90.192	19.064
21	91.133	18.103
22	92.000	16.661
23	92.792	15.219
24	93.533	14.258
25	94.183	12.496
26	94.750	10.894
27	95.317	10.894
28	95.817	9.612
29	96.250	8.330
30	96.683	8.330
31	97.050	7.049
32	97.350	5.767
33	97.650	5.767
34	97.883	4.486
35	98.050	3.204
36	98.217	3.204
37	98.400	3.524
38	98.600	3.845
39	98.800	3.845
40	99.000	3.845
41	99.200	3.845
42	99.400	3.845
43	99.552	2.924
44	99.656	2.003
45	99.760	2.003
46	99.865	2.003
47	100.000	1.001

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5981	0.5981
2	0.7364	0.1383
3	0.8316	0.0953
4	0.9066	0.0750
5	0.9694	0.0628
6	1.0239	0.0545
7	1.0723	0.0485
8	1.1162	0.0438
9	1.1563	0.0401
10	1.1934	0.0371
11	1.2281	0.0346
12	1.2605	0.0325
13	1.2819	0.0213
14	1.3020	0.0201
15	1.3210	0.0190
16	1.3390	0.0180
17	1.3561	0.0171
18	1.3725	0.0164
19	1.3881	0.0157
20	1.4032	0.0150
21	1.4176	0.0144
22	1.4315	0.0139

23	1.4449	0.0134
24	1.4579	0.0130
25	1.4704	0.0125
26	1.4826	0.0122
27	1.4944	0.0118
28	1.5058	0.0114
29	1.5169	0.0111
30	1.5278	0.0108
31	1.5383	0.0105
32	1.5486	0.0103
33	1.5586	0.0100
34	1.5684	0.0098
35	1.5780	0.0096
36	1.5873	0.0094
37	1.5963	0.0089
38	1.6050	0.0087
39	1.6135	0.0085
40	1.6219	0.0084
41	1.6301	0.0082
42	1.6382	0.0081
43	1.6461	0.0079
44	1.6538	0.0078
45	1.6615	0.0076
46	1.6689	0.0075
47	1.6763	0.0074
48	1.6835	0.0072
49	1.6906	0.0071
50	1.6976	0.0070
51	1.7045	0.0069
52	1.7113	0.0068
53	1.7180	0.0067
54	1.7246	0.0066
55	1.7311	0.0065
56	1.7375	0.0064
57	1.7438	0.0063
58	1.7500	0.0062
59	1.7561	0.0061
60	1.7621	0.0060
61	1.7681	0.0060
62	1.7740	0.0059
63	1.7798	0.0058
64	1.7856	0.0057
65	1.7912	0.0057
66	1.7968	0.0056
67	1.8024	0.0055
68	1.8078	0.0055
69	1.8132	0.0054
70	1.8186	0.0053
71	1.8239	0.0053
72	1.8291	0.0052
73	1.8343	0.0052
74	1.8395	0.0052
75	1.8447	0.0051
76	1.8498	0.0051
77	1.8548	0.0050
78	1.8598	0.0050
79	1.8647	0.0049
80	1.8696	0.0049
81	1.8744	0.0048

82	1.8792	0.0048
83	1.8839	0.0047
84	1.8886	0.0047
85	1.8933	0.0046
86	1.8979	0.0046
87	1.9024	0.0046
88	1.9070	0.0045
89	1.9114	0.0045
90	1.9159	0.0044
91	1.9203	0.0044
92	1.9246	0.0044
93	1.9290	0.0043
94	1.9333	0.0043
95	1.9375	0.0043
96	1.9417	0.0042
97	1.9459	0.0042
98	1.9501	0.0042
99	1.9542	0.0041
100	1.9583	0.0041
101	1.9623	0.0041
102	1.9663	0.0040
103	1.9703	0.0040
104	1.9743	0.0040
105	1.9782	0.0039
106	1.9821	0.0039
107	1.9860	0.0039
108	1.9898	0.0038
109	1.9936	0.0038
110	1.9974	0.0038
111	2.0012	0.0038
112	2.0049	0.0037
113	2.0086	0.0037
114	2.0123	0.0037
115	2.0160	0.0037
116	2.0196	0.0036
117	2.0232	0.0036
118	2.0268	0.0036
119	2.0303	0.0036
120	2.0339	0.0035
121	2.0374	0.0035
122	2.0409	0.0035
123	2.0443	0.0035
124	2.0478	0.0034
125	2.0512	0.0034
126	2.0546	0.0034
127	2.0580	0.0034
128	2.0613	0.0034
129	2.0646	0.0033
130	2.0680	0.0033
131	2.0713	0.0033
132	2.0745	0.0033
133	2.0778	0.0033
134	2.0810	0.0032
135	2.0842	0.0032
136	2.0874	0.0032
137	2.0906	0.0032
138	2.0938	0.0032
139	2.0969	0.0031
140	2.1000	0.0031

141	2.1031	0.0031
142	2.1062	0.0031
143	2.1093	0.0031
144	2.1124	0.0031
145	2.1154	0.0030
146	2.1184	0.0030
147	2.1214	0.0030
148	2.1244	0.0030
149	2.1274	0.0030
150	2.1304	0.0030
151	2.1333	0.0029
152	2.1362	0.0029
153	2.1391	0.0029
154	2.1420	0.0029
155	2.1449	0.0029
156	2.1478	0.0029
157	2.1506	0.0029
158	2.1535	0.0028
159	2.1563	0.0028
160	2.1591	0.0028
161	2.1619	0.0028
162	2.1647	0.0028
163	2.1675	0.0028
164	2.1702	0.0028
165	2.1730	0.0027
166	2.1757	0.0027
167	2.1784	0.0027
168	2.1811	0.0027
169	2.1838	0.0027
170	2.1865	0.0027
171	2.1891	0.0027
172	2.1918	0.0027
173	2.1944	0.0026
174	2.1971	0.0026
175	2.1997	0.0026
176	2.2023	0.0026
177	2.2049	0.0026
178	2.2075	0.0026
179	2.2100	0.0026
180	2.2126	0.0026
181	2.2151	0.0025
182	2.2177	0.0025
183	2.2202	0.0025
184	2.2227	0.0025
185	2.2252	0.0025
186	2.2277	0.0025
187	2.2302	0.0025
188	2.2327	0.0025
189	2.2351	0.0025
190	2.2376	0.0025
191	2.2400	0.0024
192	2.2425	0.0024
193	2.2449	0.0024
194	2.2473	0.0024
195	2.2497	0.0024
196	2.2521	0.0024
197	2.2545	0.0024
198	2.2568	0.0024
199	2.2592	0.0024

200	2.2616	0.0024
201	2.2639	0.0023
202	2.2662	0.0023
203	2.2686	0.0023
204	2.2709	0.0023
205	2.2732	0.0023
206	2.2755	0.0023
207	2.2778	0.0023
208	2.2801	0.0023
209	2.2823	0.0023
210	2.2846	0.0023
211	2.2868	0.0023
212	2.2891	0.0022
213	2.2913	0.0022
214	2.2936	0.0022
215	2.2958	0.0022
216	2.2980	0.0022
217	2.3002	0.0022
218	2.3024	0.0022
219	2.3046	0.0022
220	2.3068	0.0022
221	2.3089	0.0022
222	2.3111	0.0022
223	2.3133	0.0022
224	2.3154	0.0022
225	2.3176	0.0021
226	2.3197	0.0021
227	2.3218	0.0021
228	2.3240	0.0021
229	2.3261	0.0021
230	2.3282	0.0021
231	2.3303	0.0021
232	2.3324	0.0021
233	2.3344	0.0021
234	2.3365	0.0021
235	2.3386	0.0021
236	2.3407	0.0021
237	2.3427	0.0021
238	2.3448	0.0021
239	2.3468	0.0020
240	2.3488	0.0020
241	2.3509	0.0020
242	2.3529	0.0020
243	2.3549	0.0020
244	2.3569	0.0020
245	2.3589	0.0020
246	2.3609	0.0020
247	2.3629	0.0020
248	2.3649	0.0020
249	2.3669	0.0020
250	2.3689	0.0020
251	2.3708	0.0020
252	2.3728	0.0020
253	2.3747	0.0020
254	2.3767	0.0019
255	2.3786	0.0019
256	2.3806	0.0019
257	2.3825	0.0019
258	2.3844	0.0019

259	2.3863	0.0019
260	2.3882	0.0019
261	2.3901	0.0019
262	2.3920	0.0019
263	2.3939	0.0019
264	2.3958	0.0019
265	2.3977	0.0019
266	2.3996	0.0019
267	2.4014	0.0019
268	2.4033	0.0019
269	2.4052	0.0019
270	2.4070	0.0019
271	2.4089	0.0018
272	2.4107	0.0018
273	2.4126	0.0018
274	2.4144	0.0018
275	2.4162	0.0018
276	2.4180	0.0018
277	2.4199	0.0018
278	2.4217	0.0018
279	2.4235	0.0018
280	2.4253	0.0018
281	2.4271	0.0018
282	2.4289	0.0018
283	2.4307	0.0018
284	2.4324	0.0018
285	2.4342	0.0018
286	2.4360	0.0018
287	2.4378	0.0018
288	2.4395	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0000	0.0018
2	0.0018	0.0000	0.0018
3	0.0018	0.0000	0.0018
4	0.0018	0.0000	0.0018
5	0.0018	0.0000	0.0018
6	0.0018	0.0000	0.0018
7	0.0018	0.0000	0.0018
8	0.0018	0.0000	0.0018
9	0.0018	0.0000	0.0018
10	0.0018	0.0000	0.0018
11	0.0018	0.0000	0.0018
12	0.0018	0.0000	0.0018
13	0.0019	0.0000	0.0018
14	0.0019	0.0000	0.0019
15	0.0019	0.0000	0.0019
16	0.0019	0.0000	0.0019
17	0.0019	0.0000	0.0019
18	0.0019	0.0000	0.0019
19	0.0019	0.0000	0.0019
20	0.0019	0.0000	0.0019
21	0.0019	0.0000	0.0019
22	0.0019	0.0000	0.0019
23	0.0019	0.0000	0.0019
24	0.0019	0.0000	0.0019

25	0.0020	0.0000	0.0020
26	0.0020	0.0000	0.0020
27	0.0020	0.0000	0.0020
28	0.0020	0.0000	0.0020
29	0.0020	0.0000	0.0020
30	0.0020	0.0000	0.0020
31	0.0020	0.0000	0.0020
32	0.0020	0.0000	0.0020
33	0.0020	0.0000	0.0020
34	0.0020	0.0000	0.0020
35	0.0021	0.0000	0.0021
36	0.0021	0.0000	0.0021
37	0.0021	0.0000	0.0021
38	0.0021	0.0000	0.0021
39	0.0021	0.0000	0.0021
40	0.0021	0.0000	0.0021
41	0.0021	0.0000	0.0021
42	0.0021	0.0000	0.0021
43	0.0021	0.0000	0.0021
44	0.0022	0.0000	0.0021
45	0.0022	0.0000	0.0022
46	0.0022	0.0000	0.0022
47	0.0022	0.0000	0.0022
48	0.0022	0.0000	0.0022
49	0.0022	0.0000	0.0022
50	0.0022	0.0000	0.0022
51	0.0022	0.0000	0.0022
52	0.0022	0.0000	0.0022
53	0.0023	0.0000	0.0023
54	0.0023	0.0000	0.0023
55	0.0023	0.0000	0.0023
56	0.0023	0.0000	0.0023
57	0.0023	0.0000	0.0023
58	0.0023	0.0000	0.0023
59	0.0023	0.0000	0.0023
60	0.0024	0.0000	0.0023
61	0.0024	0.0000	0.0024
62	0.0024	0.0000	0.0024
63	0.0024	0.0000	0.0024
64	0.0024	0.0000	0.0024
65	0.0024	0.0000	0.0024
66	0.0024	0.0000	0.0024
67	0.0025	0.0000	0.0025
68	0.0025	0.0000	0.0025
69	0.0025	0.0000	0.0025
70	0.0025	0.0000	0.0025
71	0.0025	0.0000	0.0025
72	0.0025	0.0000	0.0025
73	0.0026	0.0000	0.0026
74	0.0026	0.0000	0.0026
75	0.0026	0.0000	0.0026
76	0.0026	0.0000	0.0026
77	0.0026	0.0000	0.0026
78	0.0026	0.0000	0.0026
79	0.0027	0.0000	0.0027
80	0.0027	0.0000	0.0027
81	0.0027	0.0000	0.0027
82	0.0027	0.0000	0.0027
83	0.0027	0.0000	0.0027

84	0.0028	0.0000	0.0027
85	0.0028	0.0000	0.0028
86	0.0028	0.0000	0.0028
87	0.0028	0.0000	0.0028
88	0.0028	0.0000	0.0028
89	0.0029	0.0000	0.0029
90	0.0029	0.0000	0.0029
91	0.0029	0.0000	0.0029
92	0.0029	0.0000	0.0029
93	0.0030	0.0000	0.0030
94	0.0030	0.0000	0.0030
95	0.0030	0.0000	0.0030
96	0.0030	0.0000	0.0030
97	0.0031	0.0000	0.0030
98	0.0031	0.0000	0.0031
99	0.0031	0.0000	0.0031
100	0.0031	0.0000	0.0031
101	0.0032	0.0000	0.0032
102	0.0032	0.0000	0.0032
103	0.0032	0.0000	0.0032
104	0.0032	0.0000	0.0032
105	0.0033	0.0000	0.0033
106	0.0033	0.0000	0.0033
107	0.0033	0.0000	0.0033
108	0.0034	0.0000	0.0033
109	0.0034	0.0000	0.0034
110	0.0034	0.0000	0.0034
111	0.0035	0.0000	0.0035
112	0.0035	0.0000	0.0035
113	0.0035	0.0000	0.0035
114	0.0036	0.0000	0.0035
115	0.0036	0.0000	0.0036
116	0.0036	0.0000	0.0036
117	0.0037	0.0000	0.0037
118	0.0037	0.0000	0.0037
119	0.0038	0.0000	0.0038
120	0.0038	0.0000	0.0038
121	0.0038	0.0000	0.0038
122	0.0039	0.0000	0.0039
123	0.0039	0.0000	0.0039
124	0.0040	0.0000	0.0040
125	0.0040	0.0000	0.0040
126	0.0041	0.0000	0.0040
127	0.0041	0.0000	0.0041
128	0.0042	0.0000	0.0041
129	0.0042	0.0000	0.0042
130	0.0043	0.0000	0.0042
131	0.0043	0.0000	0.0043
132	0.0044	0.0000	0.0044
133	0.0044	0.0000	0.0044
134	0.0045	0.0000	0.0045
135	0.0046	0.0000	0.0046
136	0.0046	0.0000	0.0046
137	0.0047	0.0000	0.0047
138	0.0047	0.0000	0.0047
139	0.0048	0.0000	0.0048
140	0.0049	0.0000	0.0049
141	0.0050	0.0000	0.0050
142	0.0050	0.0000	0.0050

143	0.0051	0.0000	0.0051
144	0.0052	0.0000	0.0052
145	0.0052	0.0000	0.0052
146	0.0053	0.0000	0.0053
147	0.0054	0.0000	0.0054
148	0.0055	0.0000	0.0055
149	0.0056	0.0000	0.0056
150	0.0057	0.0000	0.0057
151	0.0058	0.0000	0.0058
152	0.0059	0.0000	0.0059
153	0.0060	0.0000	0.0060
154	0.0061	0.0000	0.0061
155	0.0063	0.0000	0.0063
156	0.0064	0.0000	0.0064
157	0.0066	0.0000	0.0066
158	0.0067	0.0000	0.0067
159	0.0069	0.0000	0.0069
160	0.0070	0.0000	0.0070
161	0.0072	0.0000	0.0072
162	0.0074	0.0000	0.0074
163	0.0076	0.0000	0.0076
164	0.0078	0.0000	0.0078
165	0.0081	0.0000	0.0080
166	0.0082	0.0000	0.0082
167	0.0085	0.0000	0.0085
168	0.0087	0.0000	0.0087
169	0.0094	0.0000	0.0093
170	0.0096	0.0000	0.0096
171	0.0100	0.0000	0.0100
172	0.0103	0.0000	0.0103
173	0.0108	0.0000	0.0108
174	0.0111	0.0000	0.0111
175	0.0118	0.0000	0.0118
176	0.0122	0.0000	0.0121
177	0.0130	0.0000	0.0130
178	0.0134	0.0000	0.0134
179	0.0144	0.0000	0.0144
180	0.0150	0.0000	0.0150
181	0.0164	0.0000	0.0164
182	0.0171	0.0000	0.0171
183	0.0190	0.0000	0.0190
184	0.0201	0.0000	0.0201
185	0.0325	0.0000	0.0325
186	0.0346	0.0000	0.0346
187	0.0401	0.0000	0.0401
188	0.0438	0.0000	0.0438
189	0.0545	0.0000	0.0545
190	0.0628	0.0000	0.0628
191	0.0953	0.0000	0.0952
192	0.1383	0.0000	0.1382
193	0.5981	0.0000	0.5981
194	0.0750	0.0000	0.0750
195	0.0485	0.0000	0.0485
196	0.0371	0.0000	0.0371
197	0.0213	0.0000	0.0213
198	0.0180	0.0000	0.0180
199	0.0157	0.0000	0.0157
200	0.0139	0.0000	0.0139
201	0.0125	0.0000	0.0125

202	0.0114	0.0000	0.0114
203	0.0105	0.0000	0.0105
204	0.0098	0.0000	0.0098
205	0.0089	0.0000	0.0089
206	0.0084	0.0000	0.0084
207	0.0079	0.0000	0.0079
208	0.0075	0.0000	0.0075
209	0.0071	0.0000	0.0071
210	0.0068	0.0000	0.0068
211	0.0065	0.0000	0.0065
212	0.0062	0.0000	0.0062
213	0.0060	0.0000	0.0060
214	0.0057	0.0000	0.0057
215	0.0055	0.0000	0.0055
216	0.0053	0.0000	0.0053
217	0.0052	0.0000	0.0052
218	0.0051	0.0000	0.0051
219	0.0049	0.0000	0.0049
220	0.0048	0.0000	0.0048
221	0.0046	0.0000	0.0046
222	0.0045	0.0000	0.0045
223	0.0044	0.0000	0.0044
224	0.0043	0.0000	0.0043
225	0.0042	0.0000	0.0042
226	0.0041	0.0000	0.0041
227	0.0040	0.0000	0.0040
228	0.0039	0.0000	0.0039
229	0.0038	0.0000	0.0038
230	0.0037	0.0000	0.0037
231	0.0037	0.0000	0.0036
232	0.0036	0.0000	0.0036
233	0.0035	0.0000	0.0035
234	0.0034	0.0000	0.0034
235	0.0034	0.0000	0.0034
236	0.0033	0.0000	0.0033
237	0.0033	0.0000	0.0032
238	0.0032	0.0000	0.0032
239	0.0031	0.0000	0.0031
240	0.0031	0.0000	0.0031
241	0.0030	0.0000	0.0030
242	0.0030	0.0000	0.0030
243	0.0029	0.0000	0.0029
244	0.0029	0.0000	0.0029
245	0.0029	0.0000	0.0028
246	0.0028	0.0000	0.0028
247	0.0028	0.0000	0.0028
248	0.0027	0.0000	0.0027
249	0.0027	0.0000	0.0027
250	0.0027	0.0000	0.0026
251	0.0026	0.0000	0.0026
252	0.0026	0.0000	0.0026
253	0.0025	0.0000	0.0025
254	0.0025	0.0000	0.0025
255	0.0025	0.0000	0.0025
256	0.0025	0.0000	0.0024
257	0.0024	0.0000	0.0024
258	0.0024	0.0000	0.0024
259	0.0024	0.0000	0.0024
260	0.0023	0.0000	0.0023

261	0.0023	0.0000	0.0023
262	0.0023	0.0000	0.0023
263	0.0023	0.0000	0.0022
264	0.0022	0.0000	0.0022
265	0.0022	0.0000	0.0022
266	0.0022	0.0000	0.0022
267	0.0022	0.0000	0.0022
268	0.0021	0.0000	0.0021
269	0.0021	0.0000	0.0021
270	0.0021	0.0000	0.0021
271	0.0021	0.0000	0.0021
272	0.0021	0.0000	0.0020
273	0.0020	0.0000	0.0020
274	0.0020	0.0000	0.0020
275	0.0020	0.0000	0.0020
276	0.0020	0.0000	0.0020
277	0.0020	0.0000	0.0019
278	0.0019	0.0000	0.0019
279	0.0019	0.0000	0.0019
280	0.0019	0.0000	0.0019
281	0.0019	0.0000	0.0019
282	0.0019	0.0000	0.0019
283	0.0018	0.0000	0.0018
284	0.0018	0.0000	0.0018
285	0.0018	0.0000	0.0018
286	0.0018	0.0000	0.0018
287	0.0018	0.0000	0.0018
288	0.0018	0.0000	0.0018

Total soil rain loss = 0.00(In)
Total effective rainfall = 2.44(In)
Peak flow rate in flood hydrograph = 272.42(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

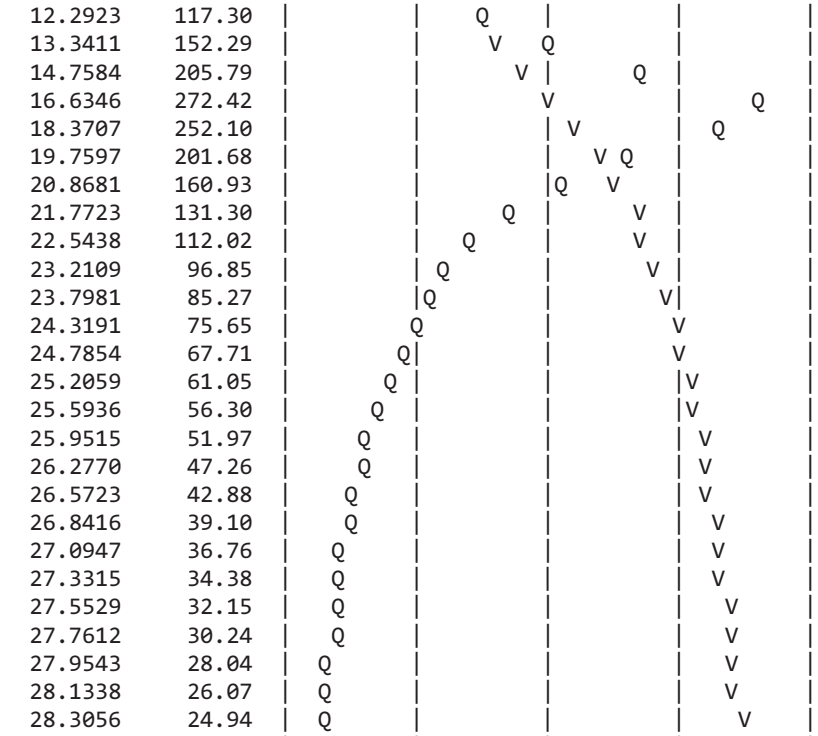
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0010	0.11	Q	|	|	|	|
0+15	0.0028	0.26	Q	|	|	|	|
0+20	0.0065	0.54	Q	|	|	|	|
0+25	0.0137	1.05	Q	|	|	|	|
0+30	0.0241	1.51	Q	|	|	|	|
0+35	0.0368	1.84	Q	|	|	|	|
0+40	0.0512	2.08	Q	|	|	|	|
0+45	0.0668	2.27	Q	|	|	|	|
0+50	0.0834	2.42	Q	|	|	|	|
0+55	0.1010	2.54	Q	|	|	|	|
1+ 0	0.1193	2.66	Q	|	|	|	|
1+ 5	0.1382	2.75	Q	|	|	|	|
1+10	0.1577	2.84	Q	|	|	|	|
1+15	0.1778	2.91	Q	|	|	|	|
1+20	0.1983	2.98	Q	|	|	|	|

1+25	0.2193	3.05	Q				
1+30	0.2407	3.11	Q				
1+35	0.2624	3.16	Q				
1+40	0.2845	3.21	Q				
1+45	0.3069	3.25	Q				
1+50	0.3296	3.30	Q				
1+55	0.3526	3.34	Q				
2+ 0	0.3758	3.38	Q				
2+ 5	0.3993	3.41	Q				
2+10	0.4231	3.45	Q				
2+15	0.4471	3.48	Q				
2+20	0.4713	3.52	Q				
2+25	0.4957	3.55	Q				
2+30	0.5204	3.58	Q				
2+35	0.5452	3.61	Q				
2+40	0.5703	3.64	Q				
2+45	0.5955	3.66	Q				
2+50	0.6209	3.69	Q				
2+55	0.6465	3.71	Q				
3+ 0	0.6722	3.73	Q				
3+ 5	0.6981	3.76	Q				
3+10	0.7241	3.78	Q				
3+15	0.7504	3.81	Q				
3+20	0.7768	3.84	Q				
3+25	0.8034	3.86	Q				
3+30	0.8302	3.89	QV				
3+35	0.8571	3.91	QV				
3+40	0.8842	3.93	QV				
3+45	0.9115	3.96	QV				
3+50	0.9389	3.98	QV				
3+55	0.9665	4.00	QV				
4+ 0	0.9942	4.03	QV				
4+ 5	1.0221	4.05	QV				
4+10	1.0501	4.07	QV				
4+15	1.0782	4.09	QV				
4+20	1.1065	4.11	QV				
4+25	1.1350	4.13	QV				
4+30	1.1636	4.16	QV				
4+35	1.1924	4.18	QV				
4+40	1.2213	4.20	QV				
4+45	1.2504	4.22	QV				
4+50	1.2797	4.25	QV				
4+55	1.3091	4.27	QV				
5+ 0	1.3387	4.30	QV				
5+ 5	1.3684	4.32	QV				
5+10	1.3983	4.34	QV				
5+15	1.4284	4.37	QV				
5+20	1.4587	4.39	QV				
5+25	1.4891	4.42	QV				
5+30	1.5198	4.45	QV				
5+35	1.5506	4.47	QV				
5+40	1.5816	4.50	QV				
5+45	1.6127	4.53	Q V				
5+50	1.6441	4.55	Q V				
5+55	1.6756	4.58	Q V				
6+ 0	1.7074	4.61	Q V				
6+ 5	1.7393	4.64	Q V				
6+10	1.7715	4.67	Q V				
6+15	1.8038	4.70	Q V				

6+20	1.8364	4.73	Q V	|	|	|	|
6+25	1.8691	4.76	Q V	|	|	|	|
6+30	1.9021	4.79	Q V	|	|	|	|
6+35	1.9353	4.82	Q V	|	|	|	|
6+40	1.9687	4.85	Q V	|	|	|	|
6+45	2.0023	4.88	Q V	|	|	|	|
6+50	2.0362	4.91	Q V	|	|	|	|
6+55	2.0703	4.95	Q V	|	|	|	|
7+ 0	2.1046	4.98	Q V	|	|	|	|
7+ 5	2.1391	5.02	Q V	|	|	|	|
7+10	2.1739	5.05	Q V	|	|	|	|
7+15	2.2089	5.09	Q V	|	|	|	|
7+20	2.2442	5.12	Q V	|	|	|	|
7+25	2.2797	5.16	Q V	|	|	|	|
7+30	2.3155	5.19	Q V	|	|	|	|
7+35	2.3515	5.23	Q V	|	|	|	|
7+40	2.3878	5.27	Q V	|	|	|	|
7+45	2.4244	5.31	Q V	|	|	|	|
7+50	2.4612	5.35	Q V	|	|	|	|
7+55	2.4983	5.39	Q V	|	|	|	|
8+ 0	2.5357	5.43	Q V	|	|	|	|
8+ 5	2.5734	5.47	Q V	|	|	|	|
8+10	2.6113	5.51	Q V	|	|	|	|
8+15	2.6496	5.56	Q V	|	|	|	|
8+20	2.6882	5.60	Q V	|	|	|	|
8+25	2.7270	5.64	Q V	|	|	|	|
8+30	2.7662	5.69	Q V	|	|	|	|
8+35	2.8057	5.74	Q V	|	|	|	|
8+40	2.8456	5.78	Q V	|	|	|	|
8+45	2.8857	5.83	Q V	|	|	|	|
8+50	2.9262	5.88	Q V	|	|	|	|
8+55	2.9670	5.93	Q V	|	|	|	|
9+ 0	3.0082	5.98	Q V	|	|	|	|
9+ 5	3.0498	6.03	Q V	|	|	|	|
9+10	3.0917	6.08	Q V	|	|	|	|
9+15	3.1339	6.14	Q V	|	|	|	|
9+20	3.1766	6.19	Q V	|	|	|	|
9+25	3.2196	6.25	Q V	|	|	|	|
9+30	3.2630	6.31	Q V	|	|	|	|
9+35	3.3069	6.36	Q V	|	|	|	|
9+40	3.3511	6.42	Q V	|	|	|	|
9+45	3.3958	6.48	Q V	|	|	|	|
9+50	3.4408	6.55	Q V	|	|	|	|
9+55	3.4864	6.61	Q V	|	|	|	|
10+ 0	3.5323	6.68	Q V	|	|	|	|
10+ 5	3.5788	6.74	Q V	|	|	|	|
10+10	3.6257	6.81	Q V	|	|	|	|
10+15	3.6731	6.88	Q V	|	|	|	|
10+20	3.7209	6.95	Q V	|	|	|	|
10+25	3.7693	7.02	Q V	|	|	|	|
10+30	3.8182	7.10	Q V	|	|	|	|
10+35	3.8676	7.17	Q V	|	|	|	|
10+40	3.9175	7.25	Q V	|	|	|	|
10+45	3.9680	7.33	Q V	|	|	|	|
10+50	4.0191	7.42	Q V	|	|	|	|
10+55	4.0708	7.50	|Q V	|	|	|	|
11+ 0	4.1230	7.59	|Q V	|	|	|	|
11+ 5	4.1759	7.68	|Q V	|	|	|	|
11+10	4.2294	7.77	|Q V	|	|	|	|

```
11+15       4.2835      7.86  |Q   V    |          |          |          |
11+20       4.3383      7.96  |Q   V    |          |          |          |
11+25       4.3938      8.06  |Q   V    |          |          |          |
11+30       4.4500      8.16  |Q   V    |          |          |          |
11+35       4.5069      8.26  |Q   V    |          |          |          |
11+40       4.5646      8.37  |Q   V    |          |          |          |
11+45       4.6230      8.49  |Q   V    |          |          |          |
11+50       4.6822      8.60  |Q   V    |          |          |          |
11+55       4.7423      8.72  |Q   V    |          |          |          |
12+ 0       4.8032      8.84  |Q   V    |          |          |          |
12+ 5       4.8649      8.97  |Q    V   |          |          |          |
12+10       4.9276      9.09  |Q    V   |          |          |          |
12+15       4.9911      9.22  |Q    V   |          |          |          |
12+20       5.0554      9.35  |Q    V   |          |          |          |
12+25       5.1207      9.47  |Q    V   |          |          |          |
12+30       5.1868      9.60  |Q    V   |          |          |          |
12+35       5.2538      9.74  |Q    V   |          |          |          |
12+40       5.3219      9.89  |Q    V   |          |          |          |
12+45       5.3911     10.05  |Q    V   |          |          |          |
12+50       5.4614     10.21  |Q    V   |          |          |          |
12+55       5.5329     10.39  |Q    V   |          |          |          |
13+ 0       5.6057     10.57  |Q    V   |          |          |          |
13+ 5       5.6798     10.76  |Q     V  |          |          |          |
13+10       5.7553     10.96  |Q     V  |          |          |          |
13+15       5.8322     11.17  |Q     V  |          |          |          |
13+20       5.9106     11.39  |Q     V  |          |          |          |
13+25       5.9906     11.62  |Q     V  |          |          |          |
13+30       6.0723     11.86  |Q     V  |          |          |          |
13+35       6.1557     12.11  |Q     V  |          |          |          |
13+40       6.2410     12.38  |Q     V  |          |          |          |
13+45       6.3282     12.66  |Q     V  |          |          |          |
13+50       6.4174     12.95  |Q     V  |          |          |          |
13+55       6.5088     13.27  |Q      V |          |          |          |
14+ 0       6.6024     13.60  |Q      V |          |          |          |
14+ 5       6.6985     13.96  |Q      V |          |          |          |
14+10       6.7973     14.34  |Q      V |          |          |          |
14+15       6.8989     14.76  |Q      V |          |          |          |
14+20       7.0037     15.22  | Q     V |          |          |          |
14+25       7.1121     15.74  | Q     V |          |          |          |
14+30       7.2244     16.29  | Q     V |          |          |          |
14+35       7.3405     16.87  | Q      V|          |          |          |
14+40       7.4608     17.47  | Q      V|          |          |          |
14+45       7.5856     18.12  | Q      V|          |          |          |
14+50       7.7152     18.81  | Q      V|          |          |          |
14+55       7.8499     19.57  | Q      V|          |          |          |
15+ 0       7.9903     20.39  | Q      V|          |          |          |
15+ 5       8.1371     21.30  | Q       V          |          |          |
15+10       8.2907     22.31  | Q       V          |          |          |
15+15       8.4521     23.44  |  Q      V          |          |          |
15+20       8.6222     24.70  |  Q      V          |          |          |
15+25       8.8034     26.30  |  Q      V          |          |          |
15+30       8.9993     28.45  |  Q      |V         |          |          |
15+35       9.2147     31.27  |   Q     |V         |          |          |
15+40       9.4574     35.24  |   Q     |V         |          |          |
15+45       9.7406     41.12  |    Q    | V        |          |          |
15+50      10.0692     47.72  |     Q   | V        |          |          |
15+55      10.4498     55.27  |      Q  | V        |          |          |
16+ 0      10.8979     65.05  |       Q |  V       |          |          |
16+ 5      11.4844     85.16  |         |Q  V      |          |          |
```

16+10	12.2923	117.30	
16+15	13.3411	152.29	
16+20	14.7584	205.79	
16+25	16.6346	272.42	
16+30	18.3707	252.10	
16+35	19.7597	201.68	
16+40	20.8681	160.93	
16+45	21.7723	131.30	
16+50	22.5438	112.02	
16+55	23.2109	96.85	
17+ 0	23.7981	85.27	
17+ 5	24.3191	75.65	
17+10	24.7854	67.71	
17+15	25.2059	61.05	
17+20	25.5936	56.30	
17+25	25.9515	51.97	
17+30	26.2770	47.26	
17+35	26.5723	42.88	
17+40	26.8416	39.10	
17+45	27.0947	36.76	
17+50	27.3315	34.38	
17+55	27.5529	32.15	
18+ 0	27.7612	30.24	
18+ 5	27.9543	28.04	
18+10	28.1338	26.07	
18+15	28.3056	24.94	
18+20	28.4658	23.25	
18+25	28.6151	21.68	
18+30	28.7581	20.77	
18+35	28.8908	19.26	
18+40	29.0136	17.84	
18+45	29.1312	17.07	
18+50	29.2396	15.74	
18+55	29.3398	14.55	
19+ 0	29.4370	14.11	
19+ 5	29.5327	13.90	
19+10	29.6271	13.71	
19+15	29.7190	13.35	
19+20	29.8084	12.98	
19+25	29.8950	12.57	
19+30	29.9783	12.09	
19+35	30.0551	11.15	
19+40	30.1257	10.25	
19+45	30.1934	9.83	
19+50	30.2579	9.38	
19+55	30.3162	8.46	
20+ 0	30.3686	7.62	
20+ 5	30.4192	7.35	
20+10	30.4683	7.12	
20+15	30.5160	6.93	
20+20	30.5627	6.77	
20+25	30.6082	6.62	
20+30	30.6528	6.48	
20+35	30.6965	6.34	
20+40	30.7393	6.22	
20+45	30.7814	6.10	
20+50	30.8226	5.99	
20+55	30.8631	5.88	
21+ 0	30.9029	5.78	

21+ 5	30.9420	5.68	Q	|	|	|	V |
21+10	30.9805	5.59	Q	|	|	|	V |
21+15	31.0183	5.50	Q	|	|	|	V |
21+20	31.0556	5.41	Q	|	|	|	V |
21+25	31.0923	5.33	Q	|	|	|	V |
21+30	31.1284	5.25	Q	|	|	|	V |
21+35	31.1640	5.17	Q	|	|	|	V |
21+40	31.1991	5.10	Q	|	|	|	V |
21+45	31.2337	5.02	Q	|	|	|	V |
21+50	31.2679	4.95	Q	|	|	|	V |
21+55	31.3015	4.89	Q	|	|	|	V |
22+ 0	31.3347	4.82	Q	|	|	|	V |
22+ 5	31.3675	4.76	Q	|	|	|	V |
22+10	31.3998	4.70	Q	|	|	|	V |
22+15	31.4317	4.64	Q	|	|	|	V |
22+20	31.4633	4.58	Q	|	|	|	V|
22+25	31.4944	4.52	Q	|	|	|	V|
22+30	31.5252	4.47	Q	|	|	|	V|
22+35	31.5556	4.41	Q	|	|	|	V|
22+40	31.5856	4.36	Q	|	|	|	V|
22+45	31.6153	4.31	Q	|	|	|	V|
22+50	31.6447	4.26	Q	|	|	|	V|
22+55	31.6737	4.22	Q	|	|	|	V|
23+ 0	31.7024	4.17	Q	|	|	|	V|
23+ 5	31.7308	4.12	Q	|	|	|	V|
23+10	31.7589	4.08	Q	|	|	|	V|
23+15	31.7867	4.04	Q	|	|	|	V|
23+20	31.8142	3.99	Q	|	|	|	V|
23+25	31.8415	3.95	Q	|	|	|	V|
23+30	31.8684	3.91	Q	|	|	|	V|
23+35	31.8951	3.87	Q	|	|	|	V|
23+40	31.9215	3.84	Q	|	|	|	V|
23+45	31.9476	3.80	Q	|	|	|	V|
23+50	31.9736	3.76	Q	|	|	|	V|
23+55	31.9992	3.73	Q	|	|	|	V|
24+ 0	32.0246	3.69	Q	|	|	|	V|
24+ 5	32.0496	3.63	Q	|	|	|	V|
24+10	32.0738	3.51	Q	|	|	|	V|
24+15	32.0967	3.33	Q	|	|	|	V|
24+20	32.1175	3.02	Q	|	|	|	V|
24+25	32.1347	2.49	Q	|	|	|	V|
24+30	32.1486	2.01	Q	|	|	|	V|
24+35	32.1600	1.67	Q	|	|	|	V|
24+40	32.1698	1.42	Q	|	|	|	V|
24+45	32.1783	1.23	Q	|	|	|	V|
24+50	32.1857	1.08	Q	|	|	|	V|
24+55	32.1923	0.95	Q	|	|	|	V|
25+ 0	32.1981	0.85	Q	|	|	|	V|
25+ 5	32.2033	0.75	Q	|	|	|	V|
25+10	32.2080	0.67	Q	|	|	|	V|
25+15	32.2122	0.61	Q	|	|	|	V|
25+20	32.2159	0.54	Q	|	|	|	V|
25+25	32.2193	0.49	Q	|	|	|	V|
25+30	32.2223	0.44	Q	|	|	|	V|
25+35	32.2250	0.39	Q	|	|	|	V|
25+40	32.2274	0.36	Q	|	|	|	V|
25+45	32.2296	0.32	Q	|	|	|	V|
25+50	32.2316	0.29	Q	|	|	|	V|
25+55	32.2334	0.26	Q	|	|	|	V|

26+ 0	32.2350	0.23	Q	|	|	|	V|
26+ 5	32.2364	0.21	Q	|	|	|	V|
26+10	32.2377	0.19	Q	|	|	|	V|
26+15	32.2388	0.17	Q	|	|	|	V|
26+20	32.2399	0.15	Q	|	|	|	V|
26+25	32.2408	0.13	Q	|	|	|	V|
26+30	32.2416	0.12	Q	|	|	|	V|
26+35	32.2423	0.10	Q	|	|	|	V|
26+40	32.2429	0.09	Q	|	|	|	V|
26+45	32.2435	0.08	Q	|	|	|	V|
26+50	32.2440	0.07	Q	|	|	|	V|
26+55	32.2444	0.07	Q	|	|	|	V|
27+ 0	32.2448	0.06	Q	|	|	|	V|
27+ 5	32.2452	0.05	Q	|	|	|	V|
27+10	32.2455	0.05	Q	|	|	|	V|
27+15	32.2458	0.04	Q	|	|	|	V|
27+20	32.2460	0.03	Q	|	|	|	V|
27+25	32.2462	0.02	Q	|	|	|	V|
27+30	32.2463	0.02	Q	|	|	|	V|
27+35	32.2464	0.01	Q	|	|	|	V|
27+40	32.2464	0.01	Q	|	|	|	V|
27+45	32.2465	0.01	Q	|	|	|	V|
27+50	32.2465	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 17
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
148.48	1	1.30
Rainfall data for year 100		
148.48	6	1.83
Rainfall data for year 100		
148.48	24	2.43

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
74.0	90.2	148.48	1.000	0.189	0.993	0.187

Area-averaged adjusted loss rate Fm (In/Hr) = 0.187

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
147.44	0.993	74.0	90.2	1.09	0.611
1.04	0.007	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.613
Area-averaged low loss fraction, Yb = 0.387
User entry of time of concentration = 0.750 (hours)
++
Watershed area = 148.48(Ac.)
Catchment Lag time = 0.600 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 13.8889
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.187(In/Hr)
Average low loss rate fraction (Yb) = 0.387 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.617(In)
Computed peak 30-minute rainfall = 1.056(In)
Specified peak 1-hour rainfall = 1.300(In)
Computed peak 3-hour rainfall = 1.603(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.430(In)

Rainfall depth area reduction factors:
Using a total area of 148.48(Ac.) (Ref: fig. E-4)

5-minute factor = 0.993 Adjusted rainfall = 0.613(In)
30-minute factor = 0.993 Adjusted rainfall = 1.049(In)
1-hour factor = 0.993 Adjusted rainfall = 1.291(In)
3-hour factor = 0.999 Adjusted rainfall = 1.602(In)
6-hour factor = 1.000 Adjusted rainfall = 1.829(In)
24-hour factor = 1.000 Adjusted rainfall = 2.430(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1795.68 (CFS))	
1	0.617	11.073
2	2.522	34.218
3	5.666	56.454
4	10.371	84.487
5	19.167	157.940
6	32.302	235.873
7	43.643	203.640
8	52.133	152.463
9	58.624	116.550
10	63.463	86.901
11	67.393	70.570
12	70.808	61.322
13	73.696	51.845

14	76.186	44.722
15	78.443	40.532
16	80.317	33.639
17	82.043	31.005
18	83.550	27.055
19	84.967	25.439
20	86.296	23.863
21	87.478	21.229
22	88.567	19.553
23	89.450	15.862
24	90.273	14.784
25	91.056	14.046
26	91.798	13.328
27	92.467	12.011
28	93.106	11.472
29	93.714	10.924
30	94.231	9.278
31	94.703	8.480
32	95.175	8.480
33	95.627	8.120
34	95.997	6.644
35	96.358	6.484
36	96.719	6.484
37	97.025	5.487
38	97.275	4.489
39	97.525	4.489
40	97.766	4.330
41	97.925	2.853
42	98.064	2.494
43	98.203	2.494
44	98.351	2.654
45	98.517	2.983
46	98.683	2.993
47	98.850	2.993
48	99.017	2.993
49	99.183	2.993
50	99.350	2.993
51	99.502	2.735
52	99.595	1.673
53	99.682	1.559
54	99.769	1.559
55	99.856	1.559
56	99.943	1.559
57	100.000	1.029

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6126	0.6126
2	0.7542	0.1416
3	0.8517	0.0975
4	0.9285	0.0768
5	0.9928	0.0643
6	1.0486	0.0558
7	1.0982	0.0496
8	1.1431	0.0449
9	1.1842	0.0411
10	1.2222	0.0380
11	1.2577	0.0355
12	1.2910	0.0333

13	1.3114	0.0205
14	1.3306	0.0192
15	1.3488	0.0182
16	1.3660	0.0172
17	1.3824	0.0164
18	1.3980	0.0156
19	1.4129	0.0149
20	1.4272	0.0143
21	1.4409	0.0137
22	1.4542	0.0132
23	1.4669	0.0128
24	1.4792	0.0123
25	1.4911	0.0119
26	1.5027	0.0115
27	1.5138	0.0112
28	1.5247	0.0109
29	1.5352	0.0105
30	1.5455	0.0103
31	1.5555	0.0100
32	1.5652	0.0097
33	1.5747	0.0095
34	1.5840	0.0093
35	1.5930	0.0090
36	1.6018	0.0088
37	1.6103	0.0084
38	1.6185	0.0082
39	1.6266	0.0081
40	1.6345	0.0079
41	1.6422	0.0077
42	1.6498	0.0076
43	1.6573	0.0074
44	1.6646	0.0073
45	1.6717	0.0072
46	1.6788	0.0070
47	1.6857	0.0069
48	1.6925	0.0068
49	1.6992	0.0067
50	1.7058	0.0066
51	1.7123	0.0065
52	1.7187	0.0064
53	1.7249	0.0063
54	1.7311	0.0062
55	1.7372	0.0061
56	1.7432	0.0060
57	1.7491	0.0059
58	1.7550	0.0058
59	1.7607	0.0058
60	1.7664	0.0057
61	1.7720	0.0056
62	1.7775	0.0055
63	1.7830	0.0055
64	1.7884	0.0054
65	1.7937	0.0053
66	1.7989	0.0053
67	1.8041	0.0052
68	1.8092	0.0051
69	1.8143	0.0051
70	1.8193	0.0050
71	1.8243	0.0049

72	1.8292	0.0049
73	1.8343	0.0052
74	1.8394	0.0051
75	1.8445	0.0051
76	1.8495	0.0050
77	1.8545	0.0050
78	1.8594	0.0049
79	1.8642	0.0049
80	1.8690	0.0048
81	1.8738	0.0048
82	1.8785	0.0047
83	1.8832	0.0047
84	1.8878	0.0046
85	1.8924	0.0046
86	1.8969	0.0045
87	1.9014	0.0045
88	1.9059	0.0045
89	1.9103	0.0044
90	1.9147	0.0044
91	1.9190	0.0043
92	1.9233	0.0043
93	1.9276	0.0043
94	1.9318	0.0042
95	1.9360	0.0042
96	1.9401	0.0042
97	1.9443	0.0041
98	1.9483	0.0041
99	1.9524	0.0041
100	1.9564	0.0040
101	1.9604	0.0040
102	1.9644	0.0040
103	1.9683	0.0039
104	1.9722	0.0039
105	1.9761	0.0039
106	1.9799	0.0038
107	1.9837	0.0038
108	1.9875	0.0038
109	1.9912	0.0038
110	1.9950	0.0037
111	1.9987	0.0037
112	2.0023	0.0037
113	2.0060	0.0036
114	2.0096	0.0036
115	2.0132	0.0036
116	2.0168	0.0036
117	2.0203	0.0035
118	2.0239	0.0035
119	2.0274	0.0035
120	2.0308	0.0035
121	2.0343	0.0035
122	2.0377	0.0034
123	2.0411	0.0034
124	2.0445	0.0034
125	2.0479	0.0034
126	2.0512	0.0033
127	2.0545	0.0033
128	2.0579	0.0033
129	2.0611	0.0033
130	2.0644	0.0033

131	2.0676	0.0032
132	2.0709	0.0032
133	2.0741	0.0032
134	2.0772	0.0032
135	2.0804	0.0032
136	2.0836	0.0031
137	2.0867	0.0031
138	2.0898	0.0031
139	2.0929	0.0031
140	2.0960	0.0031
141	2.0990	0.0031
142	2.1021	0.0030
143	2.1051	0.0030
144	2.1081	0.0030
145	2.1111	0.0030
146	2.1140	0.0030
147	2.1170	0.0030
148	2.1199	0.0029
149	2.1229	0.0029
150	2.1258	0.0029
151	2.1287	0.0029
152	2.1315	0.0029
153	2.1344	0.0029
154	2.1373	0.0028
155	2.1401	0.0028
156	2.1429	0.0028
157	2.1457	0.0028
158	2.1485	0.0028
159	2.1513	0.0028
160	2.1541	0.0028
161	2.1568	0.0027
162	2.1595	0.0027
163	2.1623	0.0027
164	2.1650	0.0027
165	2.1677	0.0027
166	2.1704	0.0027
167	2.1730	0.0027
168	2.1757	0.0027
169	2.1783	0.0026
170	2.1810	0.0026
171	2.1836	0.0026
172	2.1862	0.0026
173	2.1888	0.0026
174	2.1914	0.0026
175	2.1939	0.0026
176	2.1965	0.0026
177	2.1991	0.0025
178	2.2016	0.0025
179	2.2041	0.0025
180	2.2066	0.0025
181	2.2091	0.0025
182	2.2116	0.0025
183	2.2141	0.0025
184	2.2166	0.0025
185	2.2190	0.0025
186	2.2215	0.0025
187	2.2239	0.0024
188	2.2264	0.0024
189	2.2288	0.0024

190	2.2312	0.0024
191	2.2336	0.0024
192	2.2360	0.0024
193	2.2384	0.0024
194	2.2407	0.0024
195	2.2431	0.0024
196	2.2454	0.0024
197	2.2478	0.0023
198	2.2501	0.0023
199	2.2524	0.0023
200	2.2548	0.0023
201	2.2571	0.0023
202	2.2594	0.0023
203	2.2616	0.0023
204	2.2639	0.0023
205	2.2662	0.0023
206	2.2684	0.0023
207	2.2707	0.0023
208	2.2729	0.0022
209	2.2752	0.0022
210	2.2774	0.0022
211	2.2796	0.0022
212	2.2818	0.0022
213	2.2840	0.0022
214	2.2862	0.0022
215	2.2884	0.0022
216	2.2906	0.0022
217	2.2927	0.0022
218	2.2949	0.0022
219	2.2970	0.0022
220	2.2992	0.0021
221	2.3013	0.0021
222	2.3035	0.0021
223	2.3056	0.0021
224	2.3077	0.0021
225	2.3098	0.0021
226	2.3119	0.0021
227	2.3140	0.0021
228	2.3161	0.0021
229	2.3181	0.0021
230	2.3202	0.0021
231	2.3223	0.0021
232	2.3243	0.0021
233	2.3264	0.0020
234	2.3284	0.0020
235	2.3305	0.0020
236	2.3325	0.0020
237	2.3345	0.0020
238	2.3365	0.0020
239	2.3385	0.0020
240	2.3405	0.0020
241	2.3425	0.0020
242	2.3445	0.0020
243	2.3465	0.0020
244	2.3485	0.0020
245	2.3504	0.0020
246	2.3524	0.0020
247	2.3543	0.0020
248	2.3563	0.0019

249	2.3582	0.0019
250	2.3602	0.0019
251	2.3621	0.0019
252	2.3640	0.0019
253	2.3659	0.0019
254	2.3679	0.0019
255	2.3698	0.0019
256	2.3717	0.0019
257	2.3736	0.0019
258	2.3754	0.0019
259	2.3773	0.0019
260	2.3792	0.0019
261	2.3811	0.0019
262	2.3829	0.0019
263	2.3848	0.0019
264	2.3866	0.0019
265	2.3885	0.0018
266	2.3903	0.0018
267	2.3922	0.0018
268	2.3940	0.0018
269	2.3958	0.0018
270	2.3977	0.0018
271	2.3995	0.0018
272	2.4013	0.0018
273	2.4031	0.0018
274	2.4049	0.0018
275	2.4067	0.0018
276	2.4085	0.0018
277	2.4103	0.0018
278	2.4120	0.0018
279	2.4138	0.0018
280	2.4156	0.0018
281	2.4173	0.0018
282	2.4191	0.0018
283	2.4209	0.0018
284	2.4226	0.0017
285	2.4243	0.0017
286	2.4261	0.0017
287	2.4278	0.0017
288	2.4295	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0007	0.0011
2	0.0017	0.0007	0.0011
3	0.0017	0.0007	0.0011
4	0.0017	0.0007	0.0011
5	0.0018	0.0007	0.0011
6	0.0018	0.0007	0.0011
7	0.0018	0.0007	0.0011
8	0.0018	0.0007	0.0011
9	0.0018	0.0007	0.0011
10	0.0018	0.0007	0.0011
11	0.0018	0.0007	0.0011
12	0.0018	0.0007	0.0011
13	0.0018	0.0007	0.0011
14	0.0018	0.0007	0.0011

15	0.0018	0.0007	0.0011
16	0.0018	0.0007	0.0011
17	0.0019	0.0007	0.0011
18	0.0019	0.0007	0.0011
19	0.0019	0.0007	0.0011
20	0.0019	0.0007	0.0011
21	0.0019	0.0007	0.0012
22	0.0019	0.0007	0.0012
23	0.0019	0.0007	0.0012
24	0.0019	0.0007	0.0012
25	0.0019	0.0007	0.0012
26	0.0019	0.0007	0.0012
27	0.0019	0.0008	0.0012
28	0.0019	0.0008	0.0012
29	0.0020	0.0008	0.0012
30	0.0020	0.0008	0.0012
31	0.0020	0.0008	0.0012
32	0.0020	0.0008	0.0012
33	0.0020	0.0008	0.0012
34	0.0020	0.0008	0.0012
35	0.0020	0.0008	0.0012
36	0.0020	0.0008	0.0012
37	0.0020	0.0008	0.0013
38	0.0020	0.0008	0.0013
39	0.0021	0.0008	0.0013
40	0.0021	0.0008	0.0013
41	0.0021	0.0008	0.0013
42	0.0021	0.0008	0.0013
43	0.0021	0.0008	0.0013
44	0.0021	0.0008	0.0013
45	0.0021	0.0008	0.0013
46	0.0021	0.0008	0.0013
47	0.0022	0.0008	0.0013
48	0.0022	0.0008	0.0013
49	0.0022	0.0008	0.0013
50	0.0022	0.0008	0.0013
51	0.0022	0.0009	0.0013
52	0.0022	0.0009	0.0014
53	0.0022	0.0009	0.0014
54	0.0022	0.0009	0.0014
55	0.0023	0.0009	0.0014
56	0.0023	0.0009	0.0014
57	0.0023	0.0009	0.0014
58	0.0023	0.0009	0.0014
59	0.0023	0.0009	0.0014
60	0.0023	0.0009	0.0014
61	0.0023	0.0009	0.0014
62	0.0023	0.0009	0.0014
63	0.0024	0.0009	0.0014
64	0.0024	0.0009	0.0015
65	0.0024	0.0009	0.0015
66	0.0024	0.0009	0.0015
67	0.0024	0.0009	0.0015
68	0.0024	0.0009	0.0015
69	0.0025	0.0009	0.0015
70	0.0025	0.0010	0.0015
71	0.0025	0.0010	0.0015
72	0.0025	0.0010	0.0015
73	0.0025	0.0010	0.0015

74	0.0025	0.0010	0.0015
75	0.0025	0.0010	0.0016
76	0.0026	0.0010	0.0016
77	0.0026	0.0010	0.0016
78	0.0026	0.0010	0.0016
79	0.0026	0.0010	0.0016
80	0.0026	0.0010	0.0016
81	0.0027	0.0010	0.0016
82	0.0027	0.0010	0.0016
83	0.0027	0.0010	0.0017
84	0.0027	0.0010	0.0017
85	0.0027	0.0011	0.0017
86	0.0027	0.0011	0.0017
87	0.0028	0.0011	0.0017
88	0.0028	0.0011	0.0017
89	0.0028	0.0011	0.0017
90	0.0028	0.0011	0.0017
91	0.0029	0.0011	0.0018
92	0.0029	0.0011	0.0018
93	0.0029	0.0011	0.0018
94	0.0029	0.0011	0.0018
95	0.0030	0.0011	0.0018
96	0.0030	0.0012	0.0018
97	0.0030	0.0012	0.0018
98	0.0030	0.0012	0.0019
99	0.0031	0.0012	0.0019
100	0.0031	0.0012	0.0019
101	0.0031	0.0012	0.0019
102	0.0031	0.0012	0.0019
103	0.0032	0.0012	0.0019
104	0.0032	0.0012	0.0020
105	0.0032	0.0012	0.0020
106	0.0032	0.0013	0.0020
107	0.0033	0.0013	0.0020
108	0.0033	0.0013	0.0020
109	0.0033	0.0013	0.0020
110	0.0034	0.0013	0.0021
111	0.0034	0.0013	0.0021
112	0.0034	0.0013	0.0021
113	0.0035	0.0013	0.0021
114	0.0035	0.0014	0.0021
115	0.0035	0.0014	0.0022
116	0.0036	0.0014	0.0022
117	0.0036	0.0014	0.0022
118	0.0036	0.0014	0.0022
119	0.0037	0.0014	0.0023
120	0.0037	0.0014	0.0023
121	0.0038	0.0015	0.0023
122	0.0038	0.0015	0.0023
123	0.0039	0.0015	0.0024
124	0.0039	0.0015	0.0024
125	0.0040	0.0015	0.0024
126	0.0040	0.0015	0.0024
127	0.0041	0.0016	0.0025
128	0.0041	0.0016	0.0025
129	0.0042	0.0016	0.0025
130	0.0042	0.0016	0.0026
131	0.0043	0.0017	0.0026
132	0.0043	0.0017	0.0026

133	0.0044	0.0017	0.0027
134	0.0044	0.0017	0.0027
135	0.0045	0.0017	0.0028
136	0.0045	0.0018	0.0028
137	0.0046	0.0018	0.0028
138	0.0047	0.0018	0.0029
139	0.0048	0.0018	0.0029
140	0.0048	0.0019	0.0029
141	0.0049	0.0019	0.0030
142	0.0050	0.0019	0.0030
143	0.0051	0.0020	0.0031
144	0.0051	0.0020	0.0031
145	0.0049	0.0019	0.0030
146	0.0049	0.0019	0.0030
147	0.0051	0.0020	0.0031
148	0.0051	0.0020	0.0031
149	0.0053	0.0020	0.0032
150	0.0053	0.0021	0.0033
151	0.0055	0.0021	0.0033
152	0.0055	0.0021	0.0034
153	0.0057	0.0022	0.0035
154	0.0058	0.0022	0.0035
155	0.0059	0.0023	0.0036
156	0.0060	0.0023	0.0037
157	0.0062	0.0024	0.0038
158	0.0063	0.0024	0.0038
159	0.0065	0.0025	0.0040
160	0.0066	0.0025	0.0040
161	0.0068	0.0026	0.0042
162	0.0069	0.0027	0.0042
163	0.0072	0.0028	0.0044
164	0.0073	0.0028	0.0045
165	0.0076	0.0029	0.0047
166	0.0077	0.0030	0.0047
167	0.0081	0.0031	0.0049
168	0.0082	0.0032	0.0051
169	0.0088	0.0034	0.0054
170	0.0090	0.0035	0.0055
171	0.0095	0.0037	0.0058
172	0.0097	0.0038	0.0060
173	0.0103	0.0040	0.0063
174	0.0105	0.0041	0.0065
175	0.0112	0.0043	0.0069
176	0.0115	0.0045	0.0071
177	0.0123	0.0048	0.0075
178	0.0128	0.0049	0.0078
179	0.0137	0.0053	0.0084
180	0.0143	0.0055	0.0088
181	0.0156	0.0060	0.0096
182	0.0164	0.0063	0.0100
183	0.0182	0.0070	0.0111
184	0.0192	0.0074	0.0118
185	0.0333	0.0129	0.0204
186	0.0355	0.0137	0.0217
187	0.0411	0.0156	0.0255
188	0.0449	0.0156	0.0293
189	0.0558	0.0156	0.0402
190	0.0643	0.0156	0.0487
191	0.0975	0.0156	0.0819

192	0.1416	0.0156	0.1260
193	0.6126	0.0156	0.5970
194	0.0768	0.0156	0.0612
195	0.0496	0.0156	0.0340
196	0.0380	0.0147	0.0233
197	0.0205	0.0079	0.0125
198	0.0172	0.0067	0.0105
199	0.0149	0.0058	0.0091
200	0.0132	0.0051	0.0081
201	0.0119	0.0046	0.0073
202	0.0109	0.0042	0.0066
203	0.0100	0.0039	0.0061
204	0.0093	0.0036	0.0057
205	0.0084	0.0033	0.0052
206	0.0079	0.0031	0.0048
207	0.0074	0.0029	0.0046
208	0.0070	0.0027	0.0043
209	0.0067	0.0026	0.0041
210	0.0064	0.0025	0.0039
211	0.0061	0.0024	0.0037
212	0.0058	0.0023	0.0036
213	0.0056	0.0022	0.0034
214	0.0054	0.0021	0.0033
215	0.0052	0.0020	0.0032
216	0.0050	0.0019	0.0031
217	0.0052	0.0020	0.0032
218	0.0050	0.0019	0.0031
219	0.0049	0.0019	0.0030
220	0.0047	0.0018	0.0029
221	0.0046	0.0018	0.0028
222	0.0045	0.0017	0.0027
223	0.0043	0.0017	0.0027
224	0.0042	0.0016	0.0026
225	0.0041	0.0016	0.0025
226	0.0040	0.0016	0.0025
227	0.0039	0.0015	0.0024
228	0.0038	0.0015	0.0024
229	0.0038	0.0015	0.0023
230	0.0037	0.0014	0.0023
231	0.0036	0.0014	0.0022
232	0.0035	0.0014	0.0022
233	0.0035	0.0013	0.0021
234	0.0034	0.0013	0.0021
235	0.0033	0.0013	0.0020
236	0.0033	0.0013	0.0020
237	0.0032	0.0012	0.0020
238	0.0031	0.0012	0.0019
239	0.0031	0.0012	0.0019
240	0.0030	0.0012	0.0019
241	0.0030	0.0012	0.0018
242	0.0029	0.0011	0.0018
243	0.0029	0.0011	0.0018
244	0.0028	0.0011	0.0017
245	0.0028	0.0011	0.0017
246	0.0028	0.0011	0.0017
247	0.0027	0.0011	0.0017
248	0.0027	0.0010	0.0016
249	0.0026	0.0010	0.0016
250	0.0026	0.0010	0.0016

251	0.0026	0.0010	0.0016
252	0.0025	0.0010	0.0016
253	0.0025	0.0010	0.0015
254	0.0025	0.0010	0.0015
255	0.0024	0.0009	0.0015
256	0.0024	0.0009	0.0015
257	0.0024	0.0009	0.0015
258	0.0024	0.0009	0.0014
259	0.0023	0.0009	0.0014
260	0.0023	0.0009	0.0014
261	0.0023	0.0009	0.0014
262	0.0022	0.0009	0.0014
263	0.0022	0.0009	0.0014
264	0.0022	0.0008	0.0013
265	0.0022	0.0008	0.0013
266	0.0021	0.0008	0.0013
267	0.0021	0.0008	0.0013
268	0.0021	0.0008	0.0013
269	0.0021	0.0008	0.0013
270	0.0021	0.0008	0.0013
271	0.0020	0.0008	0.0012
272	0.0020	0.0008	0.0012
273	0.0020	0.0008	0.0012
274	0.0020	0.0008	0.0012
275	0.0020	0.0008	0.0012
276	0.0019	0.0007	0.0012
277	0.0019	0.0007	0.0012
278	0.0019	0.0007	0.0012
279	0.0019	0.0007	0.0012
280	0.0019	0.0007	0.0011
281	0.0018	0.0007	0.0011
282	0.0018	0.0007	0.0011
283	0.0018	0.0007	0.0011
284	0.0018	0.0007	0.0011
285	0.0018	0.0007	0.0011
286	0.0018	0.0007	0.0011
287	0.0018	0.0007	0.0011
288	0.0017	0.0007	0.0011

Total soil rain loss = 0.62(In)
Total effective rainfall = 1.81(In)
Peak flow rate in flood hydrograph = 211.40(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0004	0.05	Q	|	|	|	|
0+15	0.0012	0.11	Q	|	|	|	|
0+20	0.0025	0.20	Q	|	|	|	|
0+25	0.0050	0.37	Q	|	|	|	|
0+30	0.0093	0.62	Q	|	|	|	|

0+35	0.0151	0.84	Q				
0+40	0.0219	1.00	Q				
0+45	0.0297	1.13	Q				
0+50	0.0382	1.23	Q				
0+55	0.0471	1.31	Q				
1+ 0	0.0566	1.38	Q				
1+ 5	0.0665	1.44	Q				
1+10	0.0768	1.49	Q				
1+15	0.0874	1.54	Q				
1+20	0.0983	1.58	Q				
1+25	0.1094	1.62	Q				
1+30	0.1208	1.66	Q				
1+35	0.1325	1.69	Q				
1+40	0.1444	1.72	Q				
1+45	0.1564	1.75	Q				
1+50	0.1687	1.78	Q				
1+55	0.1812	1.81	Q				
2+ 0	0.1938	1.83	Q				
2+ 5	0.2066	1.85	Q				
2+10	0.2195	1.88	Q				
2+15	0.2326	1.90	Q				
2+20	0.2458	1.92	Q				
2+25	0.2591	1.94	Q				
2+30	0.2726	1.96	Q				
2+35	0.2862	1.98	Q				
2+40	0.3000	1.99	Q				
2+45	0.3138	2.01	Q				
2+50	0.3278	2.03	Q				
2+55	0.3419	2.05	Q				
3+ 0	0.3561	2.06	Q				
3+ 5	0.3704	2.08	Q				
3+10	0.3848	2.09	Q				
3+15	0.3994	2.11	Q				
3+20	0.4140	2.12	Q				
3+25	0.4287	2.14	Q				
3+30	0.4435	2.15	Q				
3+35	0.4584	2.16	Q				
3+40	0.4734	2.18	Q				
3+45	0.4885	2.19	Q				
3+50	0.5037	2.21	Q				
3+55	0.5190	2.22	Q				
4+ 0	0.5343	2.23	Q				
4+ 5	0.5498	2.25	Q				
4+10	0.5654	2.26	QV				
4+15	0.5811	2.28	QV				
4+20	0.5969	2.29	QV				
4+25	0.6128	2.31	QV				
4+30	0.6288	2.32	QV				
4+35	0.6449	2.33	QV				
4+40	0.6610	2.35	QV				
4+45	0.6773	2.36	QV				
4+50	0.6937	2.38	QV				
4+55	0.7101	2.39	QV				
5+ 0	0.7267	2.40	QV				
5+ 5	0.7433	2.42	QV				
5+10	0.7600	2.43	QV				
5+15	0.7769	2.44	QV				
5+20	0.7938	2.46	QV				
5+25	0.8108	2.47	QV				

5+30	0.8279	2.49	QV				
5+35	0.8452	2.50	QV				
5+40	0.8625	2.52	QV				
5+45	0.8799	2.53	QV				
5+50	0.8974	2.55	QV				
5+55	0.9151	2.56	QV				
6+ 0	0.9328	2.58	QV				
6+ 5	0.9507	2.59	QV				
6+10	0.9686	2.61	QV				
6+15	0.9867	2.62	QV				
6+20	1.0049	2.64	QV				
6+25	1.0232	2.66	QV				
6+30	1.0416	2.67	QV				
6+35	1.0602	2.69	QV				
6+40	1.0788	2.71	QV				
6+45	1.0976	2.73	QV				
6+50	1.1165	2.75	QV				
6+55	1.1355	2.76	Q V				
7+ 0	1.1547	2.78	Q V				
7+ 5	1.1740	2.80	Q V				
7+10	1.1934	2.82	Q V				
7+15	1.2129	2.84	Q V				
7+20	1.2326	2.86	Q V				
7+25	1.2525	2.88	Q V				
7+30	1.2724	2.90	Q V				
7+35	1.2925	2.92	Q V				
7+40	1.3128	2.94	Q V				
7+45	1.3332	2.96	Q V				
7+50	1.3537	2.98	Q V				
7+55	1.3744	3.01	Q V				
8+ 0	1.3953	3.03	Q V				
8+ 5	1.4163	3.05	Q V				
8+10	1.4375	3.07	Q V				
8+15	1.4588	3.10	Q V				
8+20	1.4803	3.12	Q V				
8+25	1.5020	3.15	Q V				
8+30	1.5239	3.17	Q V				
8+35	1.5459	3.20	Q V				
8+40	1.5681	3.22	Q V				
8+45	1.5905	3.25	Q V				
8+50	1.6130	3.28	Q V				
8+55	1.6358	3.30	Q V				
9+ 0	1.6587	3.33	Q V				
9+ 5	1.6819	3.36	Q V				
9+10	1.7052	3.39	Q V				
9+15	1.7287	3.42	Q V				
9+20	1.7525	3.45	Q V				
9+25	1.7764	3.48	Q V				
9+30	1.8006	3.51	Q V				
9+35	1.8250	3.54	Q V				
9+40	1.8496	3.58	Q V				
9+45	1.8745	3.61	Q V				
9+50	1.8996	3.64	Q V				
9+55	1.9249	3.68	Q V				
10+ 0	1.9505	3.71	Q V				
10+ 5	1.9763	3.75	Q V				
10+10	2.0024	3.79	Q V				
10+15	2.0287	3.82	Q V				
10+20	2.0553	3.86	Q V				

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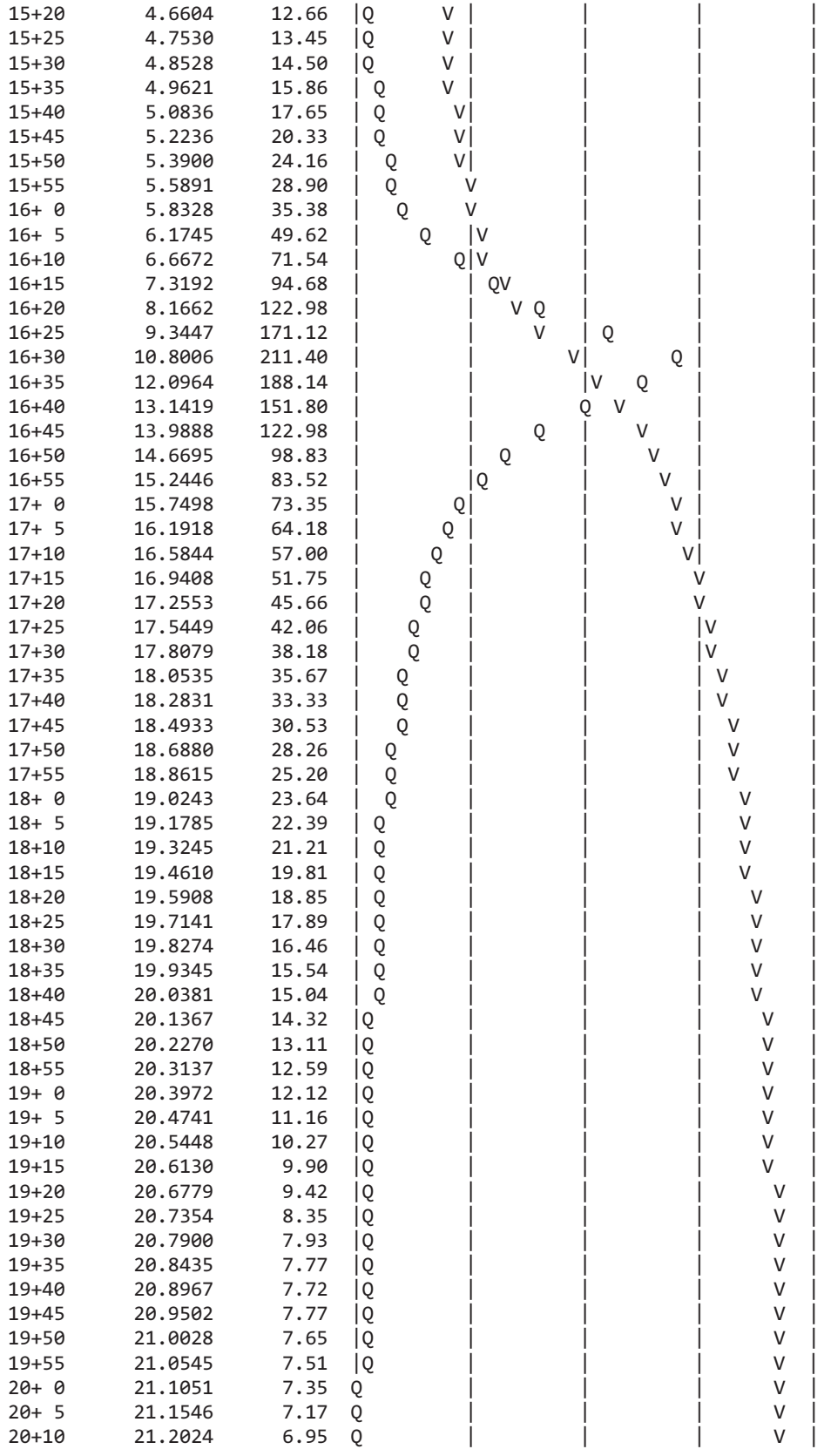
10+25       2.0822      3.90  Q  V      |          |          |          |
10+30       2.1094      3.94  Q  V      |          |          |          |
10+35       2.1368      3.99  Q  V      |          |          |          |
10+40       2.1646      4.03  Q  V      |          |          |          |
10+45       2.1926      4.07  Q  V      |          |          |          |
10+50       2.2210      4.12  Q  V      |          |          |          |
10+55       2.2497      4.16  Q   V     |          |          |          |
11+ 0       2.2787      4.21  Q   V     |          |          |          |
11+ 5       2.3080      4.26  Q   V     |          |          |          |
11+10       2.3377      4.31  Q   V     |          |          |          |
11+15       2.3677      4.36  Q   V     |          |          |          |
11+20       2.3981      4.41  Q   V     |          |          |          |
11+25       2.4289      4.47  Q   V     |          |          |          |
11+30       2.4600      4.52  Q   V     |          |          |          |
11+35       2.4916      4.58  Q   V     |          |          |          |
11+40       2.5235      4.64  Q   V     |          |          |          |
11+45       2.5559      4.70  Q   V     |          |          |          |
11+50       2.5887      4.76  Q   V     |          |          |          |
11+55       2.6219      4.83  Q   V     |          |          |          |
12+ 0       2.6556      4.89  Q   V     |          |          |          |
12+ 5       2.6898      4.96  Q   V     |          |          |          |
12+10       2.7244      5.02  Q   V     |          |          |          |
12+15       2.7594      5.08  Q   V     |          |          |          |
12+20       2.7948      5.14  Q    V    |          |          |          |
12+25       2.8305      5.19  Q    V    |          |          |          |
12+30       2.8665      5.22  Q    V    |          |          |          |
12+35       2.9027      5.26  Q    V    |          |          |          |
12+40       2.9393      5.31  Q    V    |          |          |          |
12+45       2.9763      5.38  Q    V    |          |          |          |
12+50       3.0138      5.45  Q    V    |          |          |          |
12+55       3.0519      5.53  Q    V    |          |          |          |
13+ 0       3.0906      5.61  Q    V    |          |          |          |
13+ 5       3.1298      5.70  Q    V    |          |          |          |
13+10       3.1698      5.80  Q    V    |          |          |          |
13+15       3.2104      5.90  Q    V    |          |          |          |
13+20       3.2518      6.01  Q    V    |          |          |          |
13+25       3.2940      6.12  Q    V    |          |          |          |
13+30       3.3370      6.24  Q    V    |          |          |          |
13+35       3.3809      6.37  Q     V   |          |          |          |
13+40       3.4257      6.50  Q     V   |          |          |          |
13+45       3.4714      6.64  Q     V   |          |          |          |
13+50       3.5182      6.79  Q     V   |          |          |          |
13+55       3.5661      6.95  Q     V   |          |          |          |
14+ 0       3.6152      7.12  Q     V   |          |          |          |
14+ 5       3.6654      7.30  Q     V   |          |          |          |
14+10       3.7170      7.49  Q     V   |          |          |          |
14+15       3.7700      7.70  |Q    V   |          |          |          |
14+20       3.8246      7.93  |Q    V   |          |          |          |
14+25       3.8809      8.18  |Q    V   |          |          |          |
14+30       3.9392      8.46  |Q     V  |          |          |          |
14+35       3.9994      8.75  |Q     V  |          |          |          |
14+40       4.0618      9.06  |Q     V  |          |          |          |
14+45       4.1264      9.38  |Q     V  |          |          |          |
14+50       4.1935      9.73  |Q     V  |          |          |          |
14+55       4.2631     10.11  |Q     V  |          |          |          |
15+ 0       4.3356     10.53  |Q     V  |          |          |          |
15+ 5       4.4112     10.98  |Q     V  |          |          |          |
15+10       4.4903     11.48  |Q      V |          |          |          |
15+15       4.5732     12.04  |Q      V |          |          |          |
```

15+20	4.6604	12.66	
15+25	4.7530	13.45	
15+30	4.8528	14.50	
15+35	4.9621	15.86	
15+40	5.0836	17.65	
15+45	5.2236	20.33	
15+50	5.3900	24.16	
15+55	5.5891	28.90	
16+ 0	5.8328	35.38	
16+ 5	6.1745	49.62	
16+10	6.6672	71.54	
16+15	7.3192	94.68	
16+20	8.1662	122.98	
16+25	9.3447	171.12	
16+30	10.8006	211.40	
16+35	12.0964	188.14	
16+40	13.1419	151.80	
16+45	13.9888	122.98	
16+50	14.6695	98.83	
16+55	15.2446	83.52	
17+ 0	15.7498	73.35	
17+ 5	16.1918	64.18	
17+10	16.5844	57.00	
17+15	16.9408	51.75	
17+20	17.2553	45.66	
17+25	17.5449	42.06	
17+30	17.8079	38.18	
17+35	18.0535	35.67	
17+40	18.2831	33.33	
17+45	18.4933	30.53	
17+50	18.6880	28.26	
17+55	18.8615	25.20	
18+ 0	19.0243	23.64	
18+ 5	19.1785	22.39	
18+10	19.3245	21.21	
18+15	19.4610	19.81	
18+20	19.5908	18.85	
18+25	19.7141	17.89	
18+30	19.8274	16.46	
18+35	19.9345	15.54	
18+40	20.0381	15.04	
18+45	20.1367	14.32	
18+50	20.2270	13.11	
18+55	20.3137	12.59	
19+ 0	20.3972	12.12	
19+ 5	20.4741	11.16	
19+10	20.5448	10.27	
19+15	20.6130	9.90	
19+20	20.6779	9.42	
19+25	20.7354	8.35	
19+30	20.7900	7.93	
19+35	20.8435	7.77	
19+40	20.8967	7.72	
19+45	20.9502	7.77	
19+50	21.0028	7.65	
19+55	21.0545	7.51	
20+ 0	21.1051	7.35	
20+ 5	21.1546	7.17	
20+10	21.2024	6.95	

20+15	21.2475	6.54	Q	|	|	|	V |
20+20	21.2872	5.77	Q	|	|	|	V |
20+25	21.3252	5.52	Q	|	|	|	V |
20+30	21.3620	5.34	Q	|	|	|	V |
20+35	21.3976	5.16	Q	|	|	|	V |
20+40	21.4316	4.94	Q	|	|	|	V |
20+45	21.4621	4.43	Q	|	|	|	V |
20+50	21.4877	3.72	Q	|	|	|	V |
20+55	21.5124	3.58	Q	|	|	|	V |
21+ 0	21.5363	3.48	Q	|	|	|	V |
21+ 5	21.5597	3.39	Q	|	|	|	V |
21+10	21.5826	3.33	Q	|	|	|	V |
21+15	21.6051	3.26	Q	|	|	|	V |
21+20	21.6271	3.20	Q	|	|	|	V |
21+25	21.6488	3.15	Q	|	|	|	V |
21+30	21.6701	3.09	Q	|	|	|	V |
21+35	21.6910	3.04	Q	|	|	|	V |
21+40	21.7116	2.99	Q	|	|	|	V |
21+45	21.7319	2.95	Q	|	|	|	V |
21+50	21.7519	2.90	Q	|	|	|	V |
21+55	21.7716	2.86	Q	|	|	|	V |
22+ 0	21.7910	2.82	Q	|	|	|	V|
22+ 5	21.8101	2.78	Q	|	|	|	V|
22+10	21.8290	2.74	Q	|	|	|	V|
22+15	21.8476	2.70	Q	|	|	|	V|
22+20	21.8660	2.67	Q	|	|	|	V|
22+25	21.8841	2.63	Q	|	|	|	V|
22+30	21.9020	2.60	Q	|	|	|	V|
22+35	21.9197	2.57	Q	|	|	|	V|
22+40	21.9371	2.54	Q	|	|	|	V|
22+45	21.9544	2.50	Q	|	|	|	V|
22+50	21.9714	2.47	Q	|	|	|	V|
22+55	21.9883	2.45	Q	|	|	|	V|
23+ 0	22.0049	2.42	Q	|	|	|	V|
23+ 5	22.0214	2.39	Q	|	|	|	V|
23+10	22.0377	2.36	Q	|	|	|	V|
23+15	22.0537	2.34	Q	|	|	|	V|
23+20	22.0697	2.31	Q	|	|	|	V|
23+25	22.0854	2.29	Q	|	|	|	V|
23+30	22.1010	2.26	Q	|	|	|	V|
23+35	22.1164	2.24	Q	|	|	|	V|
23+40	22.1317	2.22	Q	|	|	|	V|
23+45	22.1468	2.19	Q	|	|	|	V|
23+50	22.1617	2.17	Q	|	|	|	V|
23+55	22.1765	2.15	Q	|	|	|	V|
24+ 0	22.1912	2.13	Q	|	|	|	V|
24+ 5	22.2056	2.10	Q	|	|	|	V|
24+10	22.2197	2.04	Q	|	|	|	V|
24+15	22.2332	1.96	Q	|	|	|	V|
24+20	22.2459	1.85	Q	|	|	|	V|
24+25	22.2574	1.67	Q	|	|	|	V|
24+30	22.2671	1.40	Q	|	|	|	V|
24+35	22.2752	1.18	Q	|	|	|	V|
24+40	22.2821	1.00	Q	|	|	|	V|
24+45	22.2881	0.87	Q	|	|	|	V|
24+50	22.2934	0.77	Q	|	|	|	V|
24+55	22.2982	0.69	Q	|	|	|	V|
25+ 0	22.3024	0.62	Q	|	|	|	V|
25+ 5	22.3063	0.56	Q	|	|	|	V|

25+10	22.3097	0.50	Q	|	|	|	V|
25+15	22.3129	0.46	Q	|	|	|	V|
25+20	22.3158	0.42	Q	|	|	|	V|
25+25	22.3184	0.38	Q	|	|	|	V|
25+30	22.3208	0.35	Q	|	|	|	V|
25+35	22.3230	0.32	Q	|	|	|	V|
25+40	22.3250	0.29	Q	|	|	|	V|
25+45	22.3268	0.26	Q	|	|	|	V|
25+50	22.3284	0.24	Q	|	|	|	V|
25+55	22.3300	0.22	Q	|	|	|	V|
26+ 0	22.3314	0.20	Q	|	|	|	V|
26+ 5	22.3327	0.19	Q	|	|	|	V|
26+10	22.3339	0.17	Q	|	|	|	V|
26+15	22.3349	0.16	Q	|	|	|	V|
26+20	22.3359	0.14	Q	|	|	|	V|
26+25	22.3368	0.13	Q	|	|	|	V|
26+30	22.3377	0.12	Q	|	|	|	V|
26+35	22.3384	0.11	Q	|	|	|	V|
26+40	22.3391	0.10	Q	|	|	|	V|
26+45	22.3397	0.09	Q	|	|	|	V|
26+50	22.3403	0.08	Q	|	|	|	V|
26+55	22.3408	0.08	Q	|	|	|	V|
27+ 0	22.3413	0.07	Q	|	|	|	V|
27+ 5	22.3417	0.06	Q	|	|	|	V|
27+10	22.3421	0.06	Q	|	|	|	V|
27+15	22.3424	0.05	Q	|	|	|	V|
27+20	22.3427	0.05	Q	|	|	|	V|
27+25	22.3430	0.04	Q	|	|	|	V|
27+30	22.3433	0.04	Q	|	|	|	V|
27+35	22.3436	0.04	Q	|	|	|	V|
27+40	22.3438	0.03	Q	|	|	|	V|
27+45	22.3440	0.03	Q	|	|	|	V|
27+50	22.3442	0.03	Q	|	|	|	V|
27+55	22.3443	0.02	Q	|	|	|	V|
28+ 0	22.3445	0.02	Q	|	|	|	V|
28+ 5	22.3446	0.02	Q	|	|	|	V|
28+10	22.3447	0.01	Q	|	|	|	V|
28+15	22.3447	0.01	Q	|	|	|	V|
28+20	22.3448	0.01	Q	|	|	|	V|
28+25	22.3448	0.01	Q	|	|	|	V|
28+30	22.3448	0.00	Q	|	|	|	V|
28+35	22.3449	0.00	Q	|	|	|	V|
28+40	22.3449	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 18
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
48.06	1	1.33
Rainfall data for year 100		
48.06	6	1.84
Rainfall data for year 100		
48.06	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	48.06	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
48.06	1.000	62.0	80.6	2.41	0.366

Area-averaged catchment yield fraction, Y = 0.366
Area-averaged low loss fraction, Yb = 0.634
User entry of time of concentration = 0.550 (hours)
++
Watershed area = 48.06(Ac.)
Catchment Lag time = 0.440 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 18.9394
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.634 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.631(In)
Computed peak 30-minute rainfall = 1.080(In)
Specified peak 1-hour rainfall = 1.330(In)
Computed peak 3-hour rainfall = 1.623(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 48.06(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998 Adjusted rainfall = 0.630(In)
30-minute factor = 0.998 Adjusted rainfall = 1.078(In)
1-hour factor = 0.998 Adjusted rainfall = 1.327(In)
3-hour factor = 1.000 Adjusted rainfall = 1.622(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 581.23 (CFS))	
1	0.921	5.353
2	4.123	18.613
3	9.982	34.053
4	22.704	73.940
5	39.759	99.132
6	52.073	71.571
7	60.464	48.769
8	66.368	34.317
9	71.070	27.328
10	74.853	21.989
11	78.043	18.543
12	80.647	15.133
13	82.868	12.912
14	84.841	11.466

15	86.629	10.391
16	88.180	9.016
17	89.450	7.382
18	90.560	6.449
19	91.601	6.051
20	92.526	5.377
21	93.383	4.984
22	94.143	4.417
23	94.789	3.751
24	95.428	3.717
25	95.964	3.116
26	96.457	2.862
27	96.922	2.704
28	97.275	2.052
29	97.616	1.981
30	97.887	1.576
31	98.077	1.102
32	98.268	1.112
33	98.486	1.270
34	98.714	1.321
35	98.941	1.321
36	99.168	1.321
37	99.395	1.320
38	99.564	0.980
39	99.682	0.688
40	99.801	0.688
41	99.919	0.688
42	100.000	0.471

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6297	0.6297
2	0.7752	0.1455
3	0.8755	0.1003
4	0.9544	0.0789
5	1.0205	0.0661
6	1.0779	0.0574
7	1.1289	0.0510
8	1.1750	0.0461
9	1.2173	0.0423
10	1.2564	0.0391
11	1.2928	0.0364
12	1.3270	0.0342
13	1.3466	0.0196
14	1.3650	0.0184
15	1.3823	0.0173
16	1.3987	0.0164
17	1.4143	0.0156
18	1.4292	0.0149
19	1.4434	0.0142
20	1.4570	0.0136
21	1.4701	0.0131
22	1.4826	0.0126
23	1.4947	0.0121
24	1.5064	0.0117
25	1.5177	0.0113
26	1.5286	0.0109
27	1.5392	0.0106
28	1.5495	0.0103

29	1.5595	0.0100
30	1.5692	0.0097
31	1.5786	0.0094
32	1.5878	0.0092
33	1.5968	0.0090
34	1.6055	0.0087
35	1.6141	0.0085
36	1.6224	0.0083
37	1.6305	0.0081
38	1.6384	0.0079
39	1.6461	0.0077
40	1.6537	0.0076
41	1.6611	0.0074
42	1.6684	0.0073
43	1.6755	0.0071
44	1.6825	0.0070
45	1.6894	0.0069
46	1.6962	0.0067
47	1.7028	0.0066
48	1.7093	0.0065
49	1.7157	0.0064
50	1.7220	0.0063
51	1.7282	0.0062
52	1.7343	0.0061
53	1.7403	0.0060
54	1.7462	0.0059
55	1.7520	0.0058
56	1.7578	0.0057
57	1.7634	0.0057
58	1.7690	0.0056
59	1.7745	0.0055
60	1.7799	0.0054
61	1.7852	0.0053
62	1.7905	0.0053
63	1.7957	0.0052
64	1.8008	0.0051
65	1.8059	0.0051
66	1.8109	0.0050
67	1.8159	0.0049
68	1.8208	0.0049
69	1.8256	0.0048
70	1.8303	0.0048
71	1.8351	0.0047
72	1.8397	0.0047
73	1.8452	0.0055
74	1.8506	0.0054
75	1.8560	0.0054
76	1.8613	0.0053
77	1.8665	0.0052
78	1.8717	0.0052
79	1.8769	0.0051
80	1.8819	0.0051
81	1.8870	0.0050
82	1.8920	0.0050
83	1.8969	0.0049
84	1.9018	0.0049
85	1.9067	0.0049
86	1.9115	0.0048
87	1.9163	0.0048

88	1.9210	0.0047
89	1.9257	0.0047
90	1.9303	0.0046
91	1.9349	0.0046
92	1.9395	0.0046
93	1.9440	0.0045
94	1.9485	0.0045
95	1.9529	0.0044
96	1.9573	0.0044
97	1.9617	0.0044
98	1.9660	0.0043
99	1.9703	0.0043
100	1.9746	0.0043
101	1.9788	0.0042
102	1.9830	0.0042
103	1.9872	0.0042
104	1.9914	0.0041
105	1.9955	0.0041
106	1.9995	0.0041
107	2.0036	0.0040
108	2.0076	0.0040
109	2.0116	0.0040
110	2.0156	0.0040
111	2.0195	0.0039
112	2.0234	0.0039
113	2.0273	0.0039
114	2.0311	0.0039
115	2.0350	0.0038
116	2.0387	0.0038
117	2.0425	0.0038
118	2.0463	0.0037
119	2.0500	0.0037
120	2.0537	0.0037
121	2.0574	0.0037
122	2.0610	0.0037
123	2.0646	0.0036
124	2.0682	0.0036
125	2.0718	0.0036
126	2.0754	0.0036
127	2.0789	0.0035
128	2.0824	0.0035
129	2.0859	0.0035
130	2.0894	0.0035
131	2.0929	0.0035
132	2.0963	0.0034
133	2.0997	0.0034
134	2.1031	0.0034
135	2.1065	0.0034
136	2.1098	0.0034
137	2.1131	0.0033
138	2.1165	0.0033
139	2.1197	0.0033
140	2.1230	0.0033
141	2.1263	0.0033
142	2.1295	0.0032
143	2.1327	0.0032
144	2.1359	0.0032
145	2.1391	0.0032
146	2.1423	0.0032

147	2.1454	0.0032
148	2.1486	0.0031
149	2.1517	0.0031
150	2.1548	0.0031
151	2.1579	0.0031
152	2.1610	0.0031
153	2.1640	0.0031
154	2.1671	0.0030
155	2.1701	0.0030
156	2.1731	0.0030
157	2.1761	0.0030
158	2.1791	0.0030
159	2.1820	0.0030
160	2.1850	0.0029
161	2.1879	0.0029
162	2.1908	0.0029
163	2.1937	0.0029
164	2.1966	0.0029
165	2.1995	0.0029
166	2.2024	0.0029
167	2.2052	0.0029
168	2.2080	0.0028
169	2.2109	0.0028
170	2.2137	0.0028
171	2.2165	0.0028
172	2.2193	0.0028
173	2.2220	0.0028
174	2.2248	0.0028
175	2.2275	0.0027
176	2.2303	0.0027
177	2.2330	0.0027
178	2.2357	0.0027
179	2.2384	0.0027
180	2.2411	0.0027
181	2.2438	0.0027
182	2.2464	0.0027
183	2.2491	0.0027
184	2.2517	0.0026
185	2.2544	0.0026
186	2.2570	0.0026
187	2.2596	0.0026
188	2.2622	0.0026
189	2.2648	0.0026
190	2.2674	0.0026
191	2.2699	0.0026
192	2.2725	0.0026
193	2.2750	0.0025
194	2.2776	0.0025
195	2.2801	0.0025
196	2.2826	0.0025
197	2.2851	0.0025
198	2.2876	0.0025
199	2.2901	0.0025
200	2.2925	0.0025
201	2.2950	0.0025
202	2.2975	0.0025
203	2.2999	0.0024
204	2.3023	0.0024
205	2.3048	0.0024

206	2.3072	0.0024
207	2.3096	0.0024
208	2.3120	0.0024
209	2.3144	0.0024
210	2.3168	0.0024
211	2.3191	0.0024
212	2.3215	0.0024
213	2.3238	0.0024
214	2.3262	0.0023
215	2.3285	0.0023
216	2.3309	0.0023
217	2.3332	0.0023
218	2.3355	0.0023
219	2.3378	0.0023
220	2.3401	0.0023
221	2.3424	0.0023
222	2.3447	0.0023
223	2.3469	0.0023
224	2.3492	0.0023
225	2.3514	0.0023
226	2.3537	0.0022
227	2.3559	0.0022
228	2.3582	0.0022
229	2.3604	0.0022
230	2.3626	0.0022
231	2.3648	0.0022
232	2.3670	0.0022
233	2.3692	0.0022
234	2.3714	0.0022
235	2.3736	0.0022
236	2.3757	0.0022
237	2.3779	0.0022
238	2.3801	0.0022
239	2.3822	0.0022
240	2.3844	0.0021
241	2.3865	0.0021
242	2.3886	0.0021
243	2.3907	0.0021
244	2.3929	0.0021
245	2.3950	0.0021
246	2.3971	0.0021
247	2.3992	0.0021
248	2.4013	0.0021
249	2.4033	0.0021
250	2.4054	0.0021
251	2.4075	0.0021
252	2.4095	0.0021
253	2.4116	0.0021
254	2.4137	0.0020
255	2.4157	0.0020
256	2.4177	0.0020
257	2.4198	0.0020
258	2.4218	0.0020
259	2.4238	0.0020
260	2.4258	0.0020
261	2.4278	0.0020
262	2.4298	0.0020
263	2.4318	0.0020
264	2.4338	0.0020

265	2.4358	0.0020
266	2.4378	0.0020
267	2.4397	0.0020
268	2.4417	0.0020
269	2.4437	0.0020
270	2.4456	0.0020
271	2.4476	0.0019
272	2.4495	0.0019
273	2.4514	0.0019
274	2.4534	0.0019
275	2.4553	0.0019
276	2.4572	0.0019
277	2.4591	0.0019
278	2.4610	0.0019
279	2.4630	0.0019
280	2.4649	0.0019
281	2.4667	0.0019
282	2.4686	0.0019
283	2.4705	0.0019
284	2.4724	0.0019
285	2.4743	0.0019
286	2.4761	0.0019
287	2.4780	0.0019
288	2.4799	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0020	0.0012	0.0007
14	0.0020	0.0012	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0021	0.0013	0.0008
26	0.0021	0.0013	0.0008
27	0.0021	0.0013	0.0008
28	0.0021	0.0013	0.0008
29	0.0021	0.0013	0.0008
30	0.0021	0.0013	0.0008

31	0.0021	0.0013	0.0008
32	0.0021	0.0014	0.0008
33	0.0021	0.0014	0.0008
34	0.0022	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0022	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0023	0.0014	0.0008
44	0.0023	0.0014	0.0008
45	0.0023	0.0014	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0009
50	0.0023	0.0015	0.0009
51	0.0024	0.0015	0.0009
52	0.0024	0.0015	0.0009
53	0.0024	0.0015	0.0009
54	0.0024	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0024	0.0015	0.0009
57	0.0024	0.0015	0.0009
58	0.0024	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0025	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0026	0.0016	0.0009
66	0.0026	0.0016	0.0009
67	0.0026	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0017	0.0010
70	0.0026	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0027	0.0017	0.0010
73	0.0027	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0028	0.0018	0.0010
78	0.0028	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0029	0.0018	0.0010
83	0.0029	0.0018	0.0011
84	0.0029	0.0018	0.0011
85	0.0029	0.0019	0.0011
86	0.0029	0.0019	0.0011
87	0.0030	0.0019	0.0011
88	0.0030	0.0019	0.0011
89	0.0030	0.0019	0.0011

90	0.0030	0.0019	0.0011
91	0.0031	0.0019	0.0011
92	0.0031	0.0019	0.0011
93	0.0031	0.0020	0.0011
94	0.0031	0.0020	0.0011
95	0.0032	0.0020	0.0012
96	0.0032	0.0020	0.0012
97	0.0032	0.0020	0.0012
98	0.0032	0.0020	0.0012
99	0.0033	0.0021	0.0012
100	0.0033	0.0021	0.0012
101	0.0033	0.0021	0.0012
102	0.0033	0.0021	0.0012
103	0.0034	0.0021	0.0012
104	0.0034	0.0022	0.0012
105	0.0034	0.0022	0.0013
106	0.0035	0.0022	0.0013
107	0.0035	0.0022	0.0013
108	0.0035	0.0022	0.0013
109	0.0036	0.0023	0.0013
110	0.0036	0.0023	0.0013
111	0.0036	0.0023	0.0013
112	0.0037	0.0023	0.0013
113	0.0037	0.0023	0.0014
114	0.0037	0.0024	0.0014
115	0.0038	0.0024	0.0014
116	0.0038	0.0024	0.0014
117	0.0039	0.0024	0.0014
118	0.0039	0.0025	0.0014
119	0.0039	0.0025	0.0014
120	0.0040	0.0025	0.0014
121	0.0040	0.0025	0.0015
122	0.0040	0.0026	0.0015
123	0.0041	0.0026	0.0015
124	0.0041	0.0026	0.0015
125	0.0042	0.0027	0.0015
126	0.0042	0.0027	0.0015
127	0.0043	0.0027	0.0016
128	0.0043	0.0028	0.0016
129	0.0044	0.0028	0.0016
130	0.0044	0.0028	0.0016
131	0.0045	0.0029	0.0017
132	0.0046	0.0029	0.0017
133	0.0046	0.0029	0.0017
134	0.0047	0.0030	0.0017
135	0.0048	0.0030	0.0017
136	0.0048	0.0031	0.0018
137	0.0049	0.0031	0.0018
138	0.0049	0.0031	0.0018
139	0.0050	0.0032	0.0018
140	0.0051	0.0032	0.0019
141	0.0052	0.0033	0.0019
142	0.0052	0.0033	0.0019
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0047	0.0030	0.0017
146	0.0047	0.0030	0.0017
147	0.0048	0.0031	0.0018
148	0.0049	0.0031	0.0018

149	0.0050	0.0032	0.0018
150	0.0051	0.0032	0.0019
151	0.0052	0.0033	0.0019
152	0.0053	0.0033	0.0019
153	0.0054	0.0034	0.0020
154	0.0055	0.0035	0.0020
155	0.0057	0.0036	0.0021
156	0.0057	0.0036	0.0021
157	0.0059	0.0037	0.0022
158	0.0060	0.0038	0.0022
159	0.0062	0.0039	0.0023
160	0.0063	0.0040	0.0023
161	0.0065	0.0041	0.0024
162	0.0066	0.0042	0.0024
163	0.0069	0.0044	0.0025
164	0.0070	0.0044	0.0026
165	0.0073	0.0046	0.0027
166	0.0074	0.0047	0.0027
167	0.0077	0.0049	0.0028
168	0.0079	0.0050	0.0029
169	0.0083	0.0053	0.0030
170	0.0085	0.0054	0.0031
171	0.0090	0.0057	0.0033
172	0.0092	0.0058	0.0034
173	0.0097	0.0062	0.0035
174	0.0100	0.0063	0.0036
175	0.0106	0.0067	0.0039
176	0.0109	0.0069	0.0040
177	0.0117	0.0074	0.0043
178	0.0121	0.0077	0.0044
179	0.0131	0.0083	0.0048
180	0.0136	0.0086	0.0050
181	0.0149	0.0094	0.0054
182	0.0156	0.0099	0.0057
183	0.0173	0.0110	0.0063
184	0.0184	0.0117	0.0067
185	0.0342	0.0217	0.0125
186	0.0364	0.0231	0.0133
187	0.0423	0.0268	0.0155
188	0.0461	0.0293	0.0169
189	0.0574	0.0300	0.0274
190	0.0661	0.0300	0.0361
191	0.1003	0.0300	0.0703
192	0.1455	0.0300	0.1156
193	0.6297	0.0300	0.5997
194	0.0789	0.0300	0.0490
195	0.0510	0.0300	0.0211
196	0.0391	0.0248	0.0143
197	0.0196	0.0124	0.0072
198	0.0164	0.0104	0.0060
199	0.0142	0.0090	0.0052
200	0.0126	0.0080	0.0046
201	0.0113	0.0072	0.0041
202	0.0103	0.0065	0.0038
203	0.0094	0.0060	0.0035
204	0.0087	0.0055	0.0032
205	0.0081	0.0051	0.0030
206	0.0076	0.0048	0.0028
207	0.0071	0.0045	0.0026

208	0.0067	0.0043	0.0025
209	0.0064	0.0041	0.0023
210	0.0061	0.0039	0.0022
211	0.0058	0.0037	0.0021
212	0.0056	0.0035	0.0020
213	0.0053	0.0034	0.0020
214	0.0051	0.0033	0.0019
215	0.0049	0.0031	0.0018
216	0.0048	0.0030	0.0017
217	0.0055	0.0035	0.0020
218	0.0053	0.0034	0.0019
219	0.0051	0.0033	0.0019
220	0.0050	0.0032	0.0018
221	0.0049	0.0031	0.0018
222	0.0047	0.0030	0.0017
223	0.0046	0.0029	0.0017
224	0.0045	0.0028	0.0016
225	0.0044	0.0028	0.0016
226	0.0043	0.0027	0.0016
227	0.0042	0.0026	0.0015
228	0.0041	0.0026	0.0015
229	0.0040	0.0025	0.0015
230	0.0039	0.0025	0.0014
231	0.0038	0.0024	0.0014
232	0.0037	0.0024	0.0014
233	0.0037	0.0023	0.0013
234	0.0036	0.0023	0.0013
235	0.0035	0.0022	0.0013
236	0.0035	0.0022	0.0013
237	0.0034	0.0022	0.0012
238	0.0034	0.0021	0.0012
239	0.0033	0.0021	0.0012
240	0.0032	0.0021	0.0012
241	0.0032	0.0020	0.0012
242	0.0031	0.0020	0.0011
243	0.0031	0.0020	0.0011
244	0.0030	0.0019	0.0011
245	0.0030	0.0019	0.0011
246	0.0029	0.0019	0.0011
247	0.0029	0.0018	0.0011
248	0.0029	0.0018	0.0010
249	0.0028	0.0018	0.0010
250	0.0028	0.0018	0.0010
251	0.0027	0.0017	0.0010
252	0.0027	0.0017	0.0010
253	0.0027	0.0017	0.0010
254	0.0026	0.0017	0.0010
255	0.0026	0.0017	0.0010
256	0.0026	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0025	0.0016	0.0009
259	0.0025	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0024	0.0015	0.0009
262	0.0024	0.0015	0.0009
263	0.0024	0.0015	0.0009
264	0.0023	0.0015	0.0009
265	0.0023	0.0015	0.0008
266	0.0023	0.0015	0.0008

267	0.0023	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0022	0.0014	0.0008
270	0.0022	0.0014	0.0008
271	0.0022	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0021	0.0014	0.0008
274	0.0021	0.0013	0.0008
275	0.0021	0.0013	0.0008
276	0.0021	0.0013	0.0008
277	0.0021	0.0013	0.0008
278	0.0020	0.0013	0.0007
279	0.0020	0.0013	0.0007
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0019	0.0012	0.0007
288	0.0019	0.0012	0.0007

Total soil rain loss = 1.07(In)
Total effective rainfall = 1.41(In)
Peak flow rate in flood hydrograph = 79.26(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0004	0.04	Q	|	|	|	|
0+20	0.0010	0.09	Q	|	|	|	|
0+25	0.0021	0.16	Q	|	|	|	|
0+30	0.0035	0.21	Q	|	|	|	|
0+35	0.0052	0.24	Q	|	|	|	|
0+40	0.0070	0.26	Q	|	|	|	|
0+45	0.0090	0.28	Q	|	|	|	|
0+50	0.0110	0.30	Q	|	|	|	|
0+55	0.0132	0.31	Q	|	|	|	|
1+ 0	0.0155	0.33	Q	|	|	|	|
1+ 5	0.0178	0.34	Q	|	|	|	|
1+10	0.0202	0.35	Q	|	|	|	|
1+15	0.0226	0.35	Q	|	|	|	|
1+20	0.0251	0.36	Q	|	|	|	|
1+25	0.0276	0.37	Q	|	|	|	|
1+30	0.0302	0.37	Q	|	|	|	|
1+35	0.0328	0.38	Q	|	|	|	|
1+40	0.0355	0.39	Q	|	|	|	|
1+45	0.0381	0.39	Q	|	|	|	|
1+50	0.0409	0.39	Q	|	|	|	|

1+55	0.0436	0.40	Q				
2+ 0	0.0464	0.40	Q				
2+ 5	0.0492	0.41	Q				
2+10	0.0520	0.41	Q				
2+15	0.0549	0.42	Q				
2+20	0.0578	0.42	Q				
2+25	0.0607	0.42	Q				
2+30	0.0636	0.42	Q				
2+35	0.0665	0.43	Q				
2+40	0.0695	0.43	Q				
2+45	0.0725	0.43	Q				
2+50	0.0755	0.44	Q				
2+55	0.0785	0.44	Q				
3+ 0	0.0816	0.44	Q				
3+ 5	0.0846	0.44	Q				
3+10	0.0877	0.45	Q				
3+15	0.0908	0.45	Q				
3+20	0.0939	0.45	Q				
3+25	0.0971	0.46	Q				
3+30	0.1002	0.46	Q				
3+35	0.1034	0.46	Q				
3+40	0.1066	0.46	Q				
3+45	0.1098	0.47	Q				
3+50	0.1130	0.47	Q				
3+55	0.1162	0.47	Q				
4+ 0	0.1195	0.47	Q				
4+ 5	0.1228	0.47	Q				
4+10	0.1260	0.48	Q				
4+15	0.1294	0.48	Q				
4+20	0.1327	0.48	Q				
4+25	0.1360	0.48	Q				
4+30	0.1394	0.49	Q				
4+35	0.1427	0.49	QV				
4+40	0.1461	0.49	QV				
4+45	0.1496	0.50	QV				
4+50	0.1530	0.50	QV				
4+55	0.1564	0.50	QV				
5+ 0	0.1599	0.50	QV				
5+ 5	0.1634	0.51	QV				
5+10	0.1669	0.51	QV				
5+15	0.1704	0.51	QV				
5+20	0.1740	0.52	QV				
5+25	0.1776	0.52	QV				
5+30	0.1811	0.52	QV				
5+35	0.1848	0.52	QV				
5+40	0.1884	0.53	QV				
5+45	0.1920	0.53	QV				
5+50	0.1957	0.53	QV				
5+55	0.1994	0.54	QV				
6+ 0	0.2031	0.54	QV				
6+ 5	0.2069	0.54	QV				
6+10	0.2107	0.55	QV				
6+15	0.2145	0.55	QV				
6+20	0.2183	0.55	QV				
6+25	0.2221	0.56	QV				
6+30	0.2260	0.56	QV				
6+35	0.2299	0.56	QV				
6+40	0.2338	0.57	QV				
6+45	0.2377	0.57	QV				

6+50	0.2417	0.58	QV				
6+55	0.2457	0.58	QV				
7+ 0	0.2497	0.58	QV				
7+ 5	0.2538	0.59	QV				
7+10	0.2578	0.59	QV				
7+15	0.2619	0.60	QV				
7+20	0.2661	0.60	QV				
7+25	0.2702	0.60	QV				
7+30	0.2744	0.61	QV				
7+35	0.2786	0.61	QV				
7+40	0.2829	0.62	Q V				
7+45	0.2872	0.62	Q V				
7+50	0.2915	0.63	Q V				
7+55	0.2958	0.63	Q V				
8+ 0	0.3002	0.64	Q V				
8+ 5	0.3046	0.64	Q V				
8+10	0.3091	0.65	Q V				
8+15	0.3136	0.65	Q V				
8+20	0.3181	0.66	Q V				
8+25	0.3226	0.66	Q V				
8+30	0.3272	0.67	Q V				
8+35	0.3319	0.67	Q V				
8+40	0.3365	0.68	Q V				
8+45	0.3412	0.68	Q V				
8+50	0.3460	0.69	Q V				
8+55	0.3508	0.69	Q V				
9+ 0	0.3556	0.70	Q V				
9+ 5	0.3604	0.71	Q V				
9+10	0.3654	0.71	Q V				
9+15	0.3703	0.72	Q V				
9+20	0.3753	0.73	Q V				
9+25	0.3803	0.73	Q V				
9+30	0.3854	0.74	Q V				
9+35	0.3906	0.75	Q V				
9+40	0.3957	0.75	Q V				
9+45	0.4010	0.76	Q V				
9+50	0.4062	0.77	Q V				
9+55	0.4116	0.77	Q V				
10+ 0	0.4170	0.78	Q V				
10+ 5	0.4224	0.79	Q V				
10+10	0.4279	0.80	Q V				
10+15	0.4334	0.81	Q V				
10+20	0.4390	0.81	Q V				
10+25	0.4447	0.82	Q V				
10+30	0.4504	0.83	Q V				
10+35	0.4562	0.84	Q V				
10+40	0.4621	0.85	Q V				
10+45	0.4680	0.86	Q V				
10+50	0.4740	0.87	Q V				
10+55	0.4800	0.88	Q V				
11+ 0	0.4861	0.89	Q V				
11+ 5	0.4923	0.90	Q V				
11+10	0.4986	0.91	Q V				
11+15	0.5049	0.92	Q V				
11+20	0.5113	0.93	Q V				
11+25	0.5178	0.94	Q V				
11+30	0.5244	0.96	Q V				
11+35	0.5311	0.97	Q V				
11+40	0.5378	0.98	Q V				

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11+45       0.5447      0.99  Q  V      |          |          |          |
11+50       0.5516      1.01  Q  V      |          |          |          |
11+55       0.5587      1.02  Q  V      |          |          |          |
12+ 0       0.5658      1.04  Q   V      |          |          |          |
12+ 5       0.5730      1.05  Q   V      |          |          |          |
12+10       0.5803      1.06  Q   V      |          |          |          |
12+15       0.5876      1.06  Q   V      |          |          |          |
12+20       0.5949      1.06  Q   V      |          |          |          |
12+25       0.6021      1.04  Q   V      |          |          |          |
12+30       0.6092      1.03  Q   V      |          |          |          |
12+35       0.6163      1.04  Q   V      |          |          |          |
12+40       0.6235      1.04  Q   V      |          |          |          |
12+45       0.6307      1.05  Q   V      |          |          |          |
12+50       0.6381      1.06  Q   V      |          |          |          |
12+55       0.6455      1.08  Q   V      |          |          |          |
13+ 0       0.6530      1.09  Q   V      |          |          |          |
13+ 5       0.6606      1.11  Q   V      |          |          |          |
13+10       0.6684      1.13  Q   V      |          |          |          |
13+15       0.6763      1.15  Q   V      |          |          |          |
13+20       0.6843      1.17  Q   V      |          |          |          |
13+25       0.6925      1.19  Q   V      |          |          |          |
13+30       0.7009      1.21  Q   V      |          |          |          |
13+35       0.7094      1.24  Q    V     |          |          |          |
13+40       0.7181      1.27  Q    V     |          |          |          |
13+45       0.7270      1.29  Q    V     |          |          |          |
13+50       0.7362      1.32  Q    V     |          |          |          |
13+55       0.7455      1.36  Q    V     |          |          |          |
14+ 0       0.7551      1.39  Q    V     |          |          |          |
14+ 5       0.7649      1.43  Q    V     |          |          |          |
14+10       0.7750      1.47  Q    V     |          |          |          |
14+15       0.7855      1.51  Q    V     |          |          |          |
14+20       0.7962      1.56  Q    V     |          |          |          |
14+25       0.8073      1.61  Q    V     |          |          |          |
14+30       0.8187      1.66  Q    V     |          |          |          |
14+35       0.8306      1.72  Q    V     |          |          |          |
14+40       0.8429      1.79  Q    V     |          |          |          |
14+45       0.8557      1.85  Q     V    |          |          |          |
14+50       0.8689      1.93  Q     V    |          |          |          |
14+55       0.8828      2.01  |Q    V    |          |          |          |
15+ 0       0.8972      2.10  |Q    V    |          |          |          |
15+ 5       0.9123      2.20  |Q    V    |          |          |          |
15+10       0.9282      2.31  |Q    V    |          |          |          |
15+15       0.9449      2.43  |Q    V    |          |          |          |
15+20       0.9626      2.57  |Q    V    |          |          |          |
15+25       0.9816      2.76  |Q    V    |          |          |          |
15+30       1.0026      3.04  |Q     V   |          |          |          |
15+35       1.0262      3.43  |Q     V   |          |          |          |
15+40       1.0543      4.08  | Q    V   |          |          |          |
15+45       1.0886      4.98  | Q    V   |          |          |          |
15+50       1.1299      6.00  |  Q   V   |          |          |          |
15+55       1.1811      7.43  |  Q    V  |          |          |          |
16+ 0       1.2498      9.97  |   Q   V  |          |          |          |
16+ 5       1.3648     16.70  |       QV |          |          |          |
16+10       1.5630     28.78  |          |V  Q      |          |          |
16+15       1.8591     43.00  |          |  V       |Q         |          |
16+20       2.3235     67.43  |          |     V    |          |  Q       |
16+25       2.8694     79.26  |          |          V          |        Q |
16+30       3.2888     60.89  |          |          |  V       Q          |
16+35       3.5957     44.57  |          |          | Q  V     |          |
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16+40       3.8264     33.50  |          |     Q    |      V  |          |
16+45       4.0135     27.15  |          |  Q       |       V |          |
16+50       4.1679     22.43  |          |Q         |        V|          |
16+55       4.2997     19.14  |        Q |          |         V          |
17+ 0       4.4114     16.21  |       Q  |          |          |V        |
17+ 5       4.5089     14.15  |      Q   |          |          |V        |
17+10       4.5961     12.66  |     Q    |          |          | V       |
17+15       4.6749     11.44  |    Q     |          |          |  V      |
17+20       4.7445     10.11  |    Q     |          |          |  V      |
17+25       4.8048      8.75  |   Q      |          |          |  V      |
17+30       4.8589      7.85  |  Q       |          |          |   V     |
17+35       4.9091      7.29  |  Q       |          |          |   V     |
17+40       4.9548      6.63  |  Q       |          |          |    V    |
17+45       4.9970      6.13  |  Q       |          |          |    V    |
17+50       5.0353      5.57  | Q        |          |          |    V    |
17+55       5.0697      4.99  | Q        |          |          |    V    |
18+ 0       5.1024      4.75  | Q        |          |          |     V   |
18+ 5       5.1316      4.24  | Q        |          |          |     V   |
18+10       5.1586      3.93  |Q         |          |          |     V   |
18+15       5.1839      3.67  |Q         |          |          |     V   |
18+20       5.2058      3.18  |Q         |          |          |     V   |
18+25       5.2266      3.02  |Q         |          |          |     V   |
18+30       5.2451      2.68  |Q         |          |          |      V  |
18+35       5.2613      2.35  |Q         |          |          |      V  |
18+40       5.2772      2.31  |Q         |          |          |      V  |
18+45       5.2934      2.36  |Q         |          |          |      V  |
18+50       5.3096      2.35  |Q         |          |          |      V  |
18+55       5.3254      2.30  |Q         |          |          |      V  |
19+ 0       5.3408      2.23  |Q         |          |          |      V  |
19+ 5       5.3555      2.14  |Q         |          |          |      V  |
19+10       5.3684      1.87  Q          |          |          |      V  |
19+15       5.3796      1.63  Q          |          |          |       V |
19+20       5.3904      1.56  Q          |          |          |       V |
19+25       5.4005      1.48  Q          |          |          |       V |
19+30       5.4093      1.27  Q          |          |          |       V |
19+35       5.4159      0.96  Q          |          |          |       V |
19+40       5.4221      0.91  Q          |          |          |       V |
19+45       5.4282      0.88  Q          |          |          |       V |
19+50       5.4340      0.85  Q          |          |          |       V |
19+55       5.4398      0.83  Q          |          |          |       V |
20+ 0       5.4454      0.82  Q          |          |          |       V |
20+ 5       5.4509      0.80  Q          |          |          |       V |
20+10       5.4563      0.78  Q          |          |          |       V |
20+15       5.4616      0.77  Q          |          |          |       V |
20+20       5.4667      0.75  Q          |          |          |       V |
20+25       5.4718      0.74  Q          |          |          |       V |
20+30       5.4768      0.72  Q          |          |          |       V |
20+35       5.4817      0.71  Q          |          |          |       V |
20+40       5.4865      0.70  Q          |          |          |       V |
20+45       5.4912      0.69  Q          |          |          |       V |
20+50       5.4959      0.68  Q          |          |          |       V |
20+55       5.5005      0.66  Q          |          |          |       V |
21+ 0       5.5050      0.65  Q          |          |          |       V |
21+ 5       5.5094      0.64  Q          |          |          |       V |
21+10       5.5138      0.63  Q          |          |          |       V |
21+15       5.5181      0.63  Q          |          |          |        V|
21+20       5.5223      0.62  Q          |          |          |        V|
21+25       5.5265      0.61  Q          |          |          |        V|
21+30       5.5306      0.60  Q          |          |          |        V|
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21+35	5.5347	0.59	Q	|	|	|	V|
21+40	5.5387	0.58	Q	|	|	|	V|
21+45	5.5427	0.57	Q	|	|	|	V|
21+50	5.5466	0.57	Q	|	|	|	V|
21+55	5.5504	0.56	Q	|	|	|	V|
22+ 0	5.5542	0.55	Q	|	|	|	V|
22+ 5	5.5580	0.55	Q	|	|	|	V|
22+10	5.5617	0.54	Q	|	|	|	V|
22+15	5.5653	0.53	Q	|	|	|	V|
22+20	5.5690	0.53	Q	|	|	|	V|
22+25	5.5725	0.52	Q	|	|	|	V|
22+30	5.5761	0.51	Q	|	|	|	V|
22+35	5.5796	0.51	Q	|	|	|	V|
22+40	5.5830	0.50	Q	|	|	|	V|
22+45	5.5864	0.50	Q	|	|	|	V|
22+50	5.5898	0.49	Q	|	|	|	V|
22+55	5.5931	0.49	Q	|	|	|	V|
23+ 0	5.5965	0.48	Q	|	|	|	V|
23+ 5	5.5997	0.48	Q	|	|	|	V|
23+10	5.6030	0.47	Q	|	|	|	V|
23+15	5.6062	0.47	Q	|	|	|	V|
23+20	5.6093	0.46	Q	|	|	|	V|
23+25	5.6125	0.46	Q	|	|	|	V|
23+30	5.6156	0.45	Q	|	|	|	V|
23+35	5.6187	0.45	Q	|	|	|	V|
23+40	5.6217	0.44	Q	|	|	|	V|
23+45	5.6247	0.44	Q	|	|	|	V|
23+50	5.6277	0.43	Q	|	|	|	V|
23+55	5.6307	0.43	Q	|	|	|	V|
24+ 0	5.6336	0.43	Q	|	|	|	V|
24+ 5	5.6365	0.42	Q	|	|	|	V|
24+10	5.6393	0.40	Q	|	|	|	V|
24+15	5.6419	0.38	Q	|	|	|	V|
24+20	5.6441	0.32	Q	|	|	|	V|
24+25	5.6459	0.25	Q	|	|	|	V|
24+30	5.6472	0.20	Q	|	|	|	V|
24+35	5.6484	0.17	Q	|	|	|	V|
24+40	5.6494	0.14	Q	|	|	|	V|
24+45	5.6502	0.12	Q	|	|	|	V|
24+50	5.6510	0.11	Q	|	|	|	V|
24+55	5.6516	0.09	Q	|	|	|	V|
25+ 0	5.6522	0.08	Q	|	|	|	V|
25+ 5	5.6527	0.07	Q	|	|	|	V|
25+10	5.6531	0.06	Q	|	|	|	V|
25+15	5.6535	0.06	Q	|	|	|	V|
25+20	5.6539	0.05	Q	|	|	|	V|
25+25	5.6542	0.04	Q	|	|	|	V|
25+30	5.6544	0.04	Q	|	|	|	V|
25+35	5.6547	0.04	Q	|	|	|	V|
25+40	5.6549	0.03	Q	|	|	|	V|
25+45	5.6551	0.03	Q	|	|	|	V|
25+50	5.6553	0.02	Q	|	|	|	V|
25+55	5.6554	0.02	Q	|	|	|	V|
26+ 0	5.6555	0.02	Q	|	|	|	V|
26+ 5	5.6557	0.02	Q	|	|	|	V|
26+10	5.6558	0.01	Q	|	|	|	V|
26+15	5.6558	0.01	Q	|	|	|	V|
26+20	5.6559	0.01	Q	|	|	|	V|
26+25	5.6560	0.01	Q	|	|	|	V|

26+30	5.6561	0.01	Q	|	|	|	V|
26+35	5.6561	0.01	Q	|	|	|	V|
26+40	5.6562	0.01	Q	|	|	|	V|
26+45	5.6562	0.01	Q	|	|	|	V|
26+50	5.6562	0.01	Q	|	|	|	V|
26+55	5.6563	0.00	Q	|	|	|	V|
27+ 0	5.6563	0.00	Q	|	|	|	V|
27+ 5	5.6563	0.00	Q	|	|	|	V|
27+10	5.6563	0.00	Q	|	|	|	V|
27+15	5.6563	0.00	Q	|	|	|	V|
27+20	5.6563	0.00	Q	|	|	|	V|
27+25	5.6563	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 19
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
7.87	1	1.35
Rainfall data for year 100		
7.87	6	1.84
Rainfall data for year 100		
7.87	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	7.87	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
7.87	1.000	62.0	80.6	2.41	0.366

Area-averaged catchment yield fraction, Y = 0.366
Area-averaged low loss fraction, Yb = 0.634
User entry of time of concentration = 0.580 (hours)
++
Watershed area = 7.87(Ac.)
Catchment Lag time = 0.464 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 17.9598
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.634 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.641(In)
Computed peak 30-minute rainfall = 1.097(In)
Specified peak 1-hour rainfall = 1.350(In)
Computed peak 3-hour rainfall = 1.632(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 7.87(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.640(In)
30-minute factor = 1.000 Adjusted rainfall = 1.096(In)
1-hour factor = 1.000 Adjusted rainfall = 1.350(In)
3-hour factor = 1.000 Adjusted rainfall = 1.632(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 95.18 (CFS))	
1	0.857	0.815
2	3.791	2.793
3	8.920	4.881
4	19.662	10.225
5	36.203	15.743
6	49.017	12.197
7	58.041	8.589
8	64.275	5.933
9	69.111	4.603
10	73.109	3.805
11	76.367	3.101
12	79.157	2.655
13	81.486	2.216
14	83.485	1.903

15	85.300	1.728
16	86.956	1.576
17	88.391	1.366
18	89.558	1.110
19	90.606	0.998
20	91.593	0.940
21	92.472	0.836
22	93.290	0.779
23	94.033	0.707
24	94.650	0.588
25	95.260	0.581
26	95.807	0.520
27	96.274	0.445
28	96.739	0.443
29	97.113	0.356
30	97.437	0.308
31	97.750	0.298
32	97.957	0.198
33	98.137	0.171
34	98.323	0.177
35	98.535	0.202
36	98.751	0.205
37	98.966	0.205
38	99.182	0.205
39	99.397	0.205
40	99.559	0.154
41	99.671	0.107
42	99.783	0.107
43	99.896	0.107
44	100.000	0.099

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6404	0.6404
2	0.7884	0.1480
3	0.8903	0.1020
4	0.9706	0.0803
5	1.0378	0.0672
6	1.0961	0.0583
7	1.1480	0.0519
8	1.1949	0.0469
9	1.2379	0.0430
10	1.2777	0.0398
11	1.3147	0.0371
12	1.3495	0.0348
13	1.3683	0.0188
14	1.3860	0.0177
15	1.4027	0.0167
16	1.4184	0.0158
17	1.4334	0.0150
18	1.4476	0.0143
19	1.4612	0.0136
20	1.4743	0.0130
21	1.4868	0.0125
22	1.4988	0.0120
23	1.5104	0.0116
24	1.5216	0.0112
25	1.5323	0.0108
26	1.5428	0.0104

27	1.5529	0.0101
28	1.5627	0.0098
29	1.5722	0.0095
30	1.5815	0.0093
31	1.5905	0.0090
32	1.5993	0.0088
33	1.6078	0.0085
34	1.6161	0.0083
35	1.6243	0.0081
36	1.6322	0.0079
37	1.6399	0.0077
38	1.6475	0.0076
39	1.6549	0.0074
40	1.6622	0.0073
41	1.6693	0.0071
42	1.6763	0.0070
43	1.6831	0.0068
44	1.6898	0.0067
45	1.6964	0.0066
46	1.7028	0.0065
47	1.7092	0.0063
48	1.7154	0.0062
49	1.7215	0.0061
50	1.7276	0.0060
51	1.7335	0.0059
52	1.7393	0.0058
53	1.7450	0.0057
54	1.7507	0.0056
55	1.7563	0.0056
56	1.7617	0.0055
57	1.7671	0.0054
58	1.7725	0.0053
59	1.7777	0.0052
60	1.7829	0.0052
61	1.7880	0.0051
62	1.7930	0.0050
63	1.7980	0.0050
64	1.8029	0.0049
65	1.8077	0.0048
66	1.8125	0.0048
67	1.8172	0.0047
68	1.8219	0.0047
69	1.8265	0.0046
70	1.8310	0.0045
71	1.8355	0.0045
72	1.8400	0.0044
73	1.8454	0.0055
74	1.8508	0.0054
75	1.8562	0.0054
76	1.8615	0.0053
77	1.8667	0.0052
78	1.8719	0.0052
79	1.8771	0.0051
80	1.8822	0.0051
81	1.8872	0.0050
82	1.8922	0.0050
83	1.8972	0.0049
84	1.9021	0.0049
85	1.9069	0.0049

86	1.9117	0.0048
87	1.9165	0.0048
88	1.9212	0.0047
89	1.9259	0.0047
90	1.9305	0.0046
91	1.9351	0.0046
92	1.9397	0.0046
93	1.9442	0.0045
94	1.9487	0.0045
95	1.9531	0.0044
96	1.9575	0.0044
97	1.9619	0.0044
98	1.9662	0.0043
99	1.9706	0.0043
100	1.9748	0.0043
101	1.9791	0.0042
102	1.9833	0.0042
103	1.9874	0.0042
104	1.9916	0.0041
105	1.9957	0.0041
106	1.9998	0.0041
107	2.0038	0.0040
108	2.0078	0.0040
109	2.0118	0.0040
110	2.0158	0.0040
111	2.0197	0.0039
112	2.0236	0.0039
113	2.0275	0.0039
114	2.0313	0.0039
115	2.0352	0.0038
116	2.0390	0.0038
117	2.0427	0.0038
118	2.0465	0.0037
119	2.0502	0.0037
120	2.0539	0.0037
121	2.0576	0.0037
122	2.0612	0.0036
123	2.0648	0.0036
124	2.0684	0.0036
125	2.0720	0.0036
126	2.0756	0.0036
127	2.0791	0.0035
128	2.0826	0.0035
129	2.0861	0.0035
130	2.0896	0.0035
131	2.0930	0.0035
132	2.0965	0.0034
133	2.0999	0.0034
134	2.1033	0.0034
135	2.1066	0.0034
136	2.1100	0.0034
137	2.1133	0.0033
138	2.1166	0.0033
139	2.1199	0.0033
140	2.1232	0.0033
141	2.1265	0.0033
142	2.1297	0.0032
143	2.1329	0.0032
144	2.1361	0.0032

145	2.1393	0.0032
146	2.1425	0.0032
147	2.1456	0.0032
148	2.1488	0.0031
149	2.1519	0.0031
150	2.1550	0.0031
151	2.1581	0.0031
152	2.1611	0.0031
153	2.1642	0.0031
154	2.1672	0.0030
155	2.1703	0.0030
156	2.1733	0.0030
157	2.1763	0.0030
158	2.1792	0.0030
159	2.1822	0.0030
160	2.1851	0.0029
161	2.1881	0.0029
162	2.1910	0.0029
163	2.1939	0.0029
164	2.1968	0.0029
165	2.1997	0.0029
166	2.2025	0.0029
167	2.2054	0.0029
168	2.2082	0.0028
169	2.2110	0.0028
170	2.2139	0.0028
171	2.2167	0.0028
172	2.2194	0.0028
173	2.2222	0.0028
174	2.2250	0.0028
175	2.2277	0.0027
176	2.2305	0.0027
177	2.2332	0.0027
178	2.2359	0.0027
179	2.2386	0.0027
180	2.2413	0.0027
181	2.2439	0.0027
182	2.2466	0.0027
183	2.2493	0.0027
184	2.2519	0.0026
185	2.2545	0.0026
186	2.2572	0.0026
187	2.2598	0.0026
188	2.2624	0.0026
189	2.2649	0.0026
190	2.2675	0.0026
191	2.2701	0.0026
192	2.2726	0.0026
193	2.2752	0.0025
194	2.2777	0.0025
195	2.2802	0.0025
196	2.2827	0.0025
197	2.2853	0.0025
198	2.2877	0.0025
199	2.2902	0.0025
200	2.2927	0.0025
201	2.2952	0.0025
202	2.2976	0.0025
203	2.3001	0.0024

204	2.3025	0.0024
205	2.3049	0.0024
206	2.3073	0.0024
207	2.3097	0.0024
208	2.3121	0.0024
209	2.3145	0.0024
210	2.3169	0.0024
211	2.3193	0.0024
212	2.3216	0.0024
213	2.3240	0.0024
214	2.3263	0.0023
215	2.3287	0.0023
216	2.3310	0.0023
217	2.3333	0.0023
218	2.3356	0.0023
219	2.3379	0.0023
220	2.3402	0.0023
221	2.3425	0.0023
222	2.3448	0.0023
223	2.3471	0.0023
224	2.3493	0.0023
225	2.3516	0.0023
226	2.3538	0.0022
227	2.3561	0.0022
228	2.3583	0.0022
229	2.3605	0.0022
230	2.3627	0.0022
231	2.3650	0.0022
232	2.3672	0.0022
233	2.3694	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3759	0.0022
237	2.3781	0.0022
238	2.3802	0.0022
239	2.3824	0.0021
240	2.3845	0.0021
241	2.3866	0.0021
242	2.3888	0.0021
243	2.3909	0.0021
244	2.3930	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4014	0.0021
249	2.4035	0.0021
250	2.4056	0.0021
251	2.4076	0.0021
252	2.4097	0.0021
253	2.4117	0.0021
254	2.4138	0.0020
255	2.4158	0.0020
256	2.4179	0.0020
257	2.4199	0.0020
258	2.4219	0.0020
259	2.4239	0.0020
260	2.4260	0.0020
261	2.4280	0.0020
262	2.4300	0.0020

263	2.4320	0.0020
264	2.4339	0.0020
265	2.4359	0.0020
266	2.4379	0.0020
267	2.4399	0.0020
268	2.4418	0.0020
269	2.4438	0.0020
270	2.4457	0.0020
271	2.4477	0.0019
272	2.4496	0.0019
273	2.4516	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4574	0.0019
277	2.4593	0.0019
278	2.4612	0.0019
279	2.4631	0.0019
280	2.4650	0.0019
281	2.4669	0.0019
282	2.4688	0.0019
283	2.4706	0.0019
284	2.4725	0.0019
285	2.4744	0.0019
286	2.4763	0.0019
287	2.4781	0.0019
288	2.4800	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0020	0.0012	0.0007
14	0.0020	0.0012	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0021	0.0013	0.0008
26	0.0021	0.0013	0.0008
27	0.0021	0.0013	0.0008
28	0.0021	0.0013	0.0008

29	0.0021	0.0013	0.0008
30	0.0021	0.0013	0.0008
31	0.0021	0.0013	0.0008
32	0.0021	0.0014	0.0008
33	0.0021	0.0014	0.0008
34	0.0021	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0022	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0023	0.0014	0.0008
44	0.0023	0.0014	0.0008
45	0.0023	0.0014	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0009
50	0.0023	0.0015	0.0009
51	0.0024	0.0015	0.0009
52	0.0024	0.0015	0.0009
53	0.0024	0.0015	0.0009
54	0.0024	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0024	0.0015	0.0009
57	0.0024	0.0015	0.0009
58	0.0024	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0025	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0026	0.0016	0.0009
66	0.0026	0.0016	0.0009
67	0.0026	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0017	0.0010
70	0.0026	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0027	0.0017	0.0010
73	0.0027	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0028	0.0018	0.0010
78	0.0028	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0029	0.0018	0.0010
83	0.0029	0.0018	0.0011
84	0.0029	0.0018	0.0011
85	0.0029	0.0019	0.0011
86	0.0029	0.0019	0.0011
87	0.0030	0.0019	0.0011

88	0.0030	0.0019	0.0011
89	0.0030	0.0019	0.0011
90	0.0030	0.0019	0.0011
91	0.0031	0.0019	0.0011
92	0.0031	0.0019	0.0011
93	0.0031	0.0020	0.0011
94	0.0031	0.0020	0.0011
95	0.0032	0.0020	0.0012
96	0.0032	0.0020	0.0012
97	0.0032	0.0020	0.0012
98	0.0032	0.0020	0.0012
99	0.0033	0.0021	0.0012
100	0.0033	0.0021	0.0012
101	0.0033	0.0021	0.0012
102	0.0033	0.0021	0.0012
103	0.0034	0.0021	0.0012
104	0.0034	0.0022	0.0012
105	0.0034	0.0022	0.0013
106	0.0035	0.0022	0.0013
107	0.0035	0.0022	0.0013
108	0.0035	0.0022	0.0013
109	0.0036	0.0023	0.0013
110	0.0036	0.0023	0.0013
111	0.0036	0.0023	0.0013
112	0.0036	0.0023	0.0013
113	0.0037	0.0023	0.0014
114	0.0037	0.0024	0.0014
115	0.0038	0.0024	0.0014
116	0.0038	0.0024	0.0014
117	0.0039	0.0024	0.0014
118	0.0039	0.0025	0.0014
119	0.0039	0.0025	0.0014
120	0.0040	0.0025	0.0014
121	0.0040	0.0025	0.0015
122	0.0040	0.0026	0.0015
123	0.0041	0.0026	0.0015
124	0.0041	0.0026	0.0015
125	0.0042	0.0027	0.0015
126	0.0042	0.0027	0.0015
127	0.0043	0.0027	0.0016
128	0.0043	0.0028	0.0016
129	0.0044	0.0028	0.0016
130	0.0044	0.0028	0.0016
131	0.0045	0.0029	0.0017
132	0.0046	0.0029	0.0017
133	0.0046	0.0029	0.0017
134	0.0047	0.0030	0.0017
135	0.0048	0.0030	0.0017
136	0.0048	0.0031	0.0018
137	0.0049	0.0031	0.0018
138	0.0049	0.0031	0.0018
139	0.0050	0.0032	0.0018
140	0.0051	0.0032	0.0019
141	0.0052	0.0033	0.0019
142	0.0052	0.0033	0.0019
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0044	0.0028	0.0016
146	0.0045	0.0029	0.0016

147	0.0046	0.0029	0.0017
148	0.0047	0.0030	0.0017
149	0.0048	0.0030	0.0017
150	0.0048	0.0031	0.0018
151	0.0050	0.0032	0.0018
152	0.0050	0.0032	0.0018
153	0.0052	0.0033	0.0019
154	0.0052	0.0033	0.0019
155	0.0054	0.0034	0.0020
156	0.0055	0.0035	0.0020
157	0.0056	0.0036	0.0021
158	0.0057	0.0036	0.0021
159	0.0059	0.0038	0.0022
160	0.0060	0.0038	0.0022
161	0.0062	0.0040	0.0023
162	0.0063	0.0040	0.0023
163	0.0066	0.0042	0.0024
164	0.0067	0.0043	0.0025
165	0.0070	0.0044	0.0025
166	0.0071	0.0045	0.0026
167	0.0074	0.0047	0.0027
168	0.0076	0.0048	0.0028
169	0.0079	0.0050	0.0029
170	0.0081	0.0052	0.0030
171	0.0085	0.0054	0.0031
172	0.0088	0.0056	0.0032
173	0.0093	0.0059	0.0034
174	0.0095	0.0060	0.0035
175	0.0101	0.0064	0.0037
176	0.0104	0.0066	0.0038
177	0.0112	0.0071	0.0041
178	0.0116	0.0073	0.0042
179	0.0125	0.0079	0.0046
180	0.0130	0.0083	0.0048
181	0.0143	0.0090	0.0052
182	0.0150	0.0095	0.0055
183	0.0167	0.0106	0.0061
184	0.0177	0.0112	0.0065
185	0.0348	0.0221	0.0127
186	0.0371	0.0235	0.0135
187	0.0430	0.0273	0.0157
188	0.0469	0.0298	0.0172
189	0.0583	0.0300	0.0284
190	0.0672	0.0300	0.0372
191	0.1020	0.0300	0.0720
192	0.1480	0.0300	0.1181
193	0.6404	0.0300	0.6104
194	0.0803	0.0300	0.0503
195	0.0519	0.0300	0.0219
196	0.0398	0.0252	0.0145
197	0.0188	0.0119	0.0069
198	0.0158	0.0100	0.0058
199	0.0136	0.0086	0.0050
200	0.0120	0.0076	0.0044
201	0.0108	0.0068	0.0039
202	0.0098	0.0062	0.0036
203	0.0090	0.0057	0.0033
204	0.0083	0.0053	0.0030
205	0.0077	0.0049	0.0028

206	0.0073	0.0046	0.0027
207	0.0068	0.0043	0.0025
208	0.0065	0.0041	0.0024
209	0.0061	0.0039	0.0022
210	0.0058	0.0037	0.0021
211	0.0056	0.0035	0.0020
212	0.0053	0.0034	0.0019
213	0.0051	0.0032	0.0019
214	0.0049	0.0031	0.0018
215	0.0047	0.0030	0.0017
216	0.0045	0.0029	0.0017
217	0.0055	0.0035	0.0020
218	0.0053	0.0034	0.0019
219	0.0051	0.0033	0.0019
220	0.0050	0.0032	0.0018
221	0.0049	0.0031	0.0018
222	0.0047	0.0030	0.0017
223	0.0046	0.0029	0.0017
224	0.0045	0.0028	0.0016
225	0.0044	0.0028	0.0016
226	0.0043	0.0027	0.0016
227	0.0042	0.0026	0.0015
228	0.0041	0.0026	0.0015
229	0.0040	0.0025	0.0015
230	0.0039	0.0025	0.0014
231	0.0038	0.0024	0.0014
232	0.0037	0.0024	0.0014
233	0.0037	0.0023	0.0013
234	0.0036	0.0023	0.0013
235	0.0035	0.0022	0.0013
236	0.0035	0.0022	0.0013
237	0.0034	0.0022	0.0012
238	0.0034	0.0021	0.0012
239	0.0033	0.0021	0.0012
240	0.0032	0.0021	0.0012
241	0.0032	0.0020	0.0012
242	0.0031	0.0020	0.0011
243	0.0031	0.0020	0.0011
244	0.0030	0.0019	0.0011
245	0.0030	0.0019	0.0011
246	0.0029	0.0019	0.0011
247	0.0029	0.0018	0.0011
248	0.0029	0.0018	0.0010
249	0.0028	0.0018	0.0010
250	0.0028	0.0018	0.0010
251	0.0027	0.0017	0.0010
252	0.0027	0.0017	0.0010
253	0.0027	0.0017	0.0010
254	0.0026	0.0017	0.0010
255	0.0026	0.0017	0.0010
256	0.0026	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0025	0.0016	0.0009
259	0.0025	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0024	0.0015	0.0009
262	0.0024	0.0015	0.0009
263	0.0024	0.0015	0.0009
264	0.0023	0.0015	0.0009

265	0.0023	0.0015	0.0008
266	0.0023	0.0015	0.0008
267	0.0023	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0022	0.0014	0.0008
270	0.0022	0.0014	0.0008
271	0.0022	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0021	0.0014	0.0008
274	0.0021	0.0013	0.0008
275	0.0021	0.0013	0.0008
276	0.0021	0.0013	0.0008
277	0.0021	0.0013	0.0008
278	0.0020	0.0013	0.0007
279	0.0020	0.0013	0.0007
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0019	0.0012	0.0007
288	0.0019	0.0012	0.0007

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.43(In)
Peak flow rate in flood hydrograph = 12.94(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0001	0.01	Q				
0+25	0.0003	0.02	Q				
0+30	0.0005	0.03	Q				
0+35	0.0008	0.04	Q				
0+40	0.0011	0.04	Q				
0+45	0.0014	0.05	Q				
0+50	0.0017	0.05	Q				
0+55	0.0021	0.05	Q				
1+ 0	0.0024	0.05	Q				
1+ 5	0.0028	0.05	Q				
1+10	0.0032	0.06	Q				
1+15	0.0036	0.06	Q				
1+20	0.0040	0.06	Q				
1+25	0.0044	0.06	Q				
1+30	0.0048	0.06	Q				
1+35	0.0052	0.06	Q				
1+40	0.0057	0.06	Q				

1+45	0.0061	0.06	Q				
1+50	0.0065	0.06	Q				
1+55	0.0070	0.06	Q				
2+ 0	0.0074	0.07	Q				
2+ 5	0.0079	0.07	Q				
2+10	0.0083	0.07	Q				
2+15	0.0088	0.07	Q				
2+20	0.0093	0.07	Q				
2+25	0.0098	0.07	Q				
2+30	0.0102	0.07	Q				
2+35	0.0107	0.07	Q				
2+40	0.0112	0.07	Q				
2+45	0.0117	0.07	Q				
2+50	0.0122	0.07	Q				
2+55	0.0127	0.07	Q				
3+ 0	0.0132	0.07	Q				
3+ 5	0.0137	0.07	Q				
3+10	0.0142	0.07	Q				
3+15	0.0147	0.07	Q				
3+20	0.0152	0.07	Q				
3+25	0.0157	0.07	Q				
3+30	0.0162	0.07	Q				
3+35	0.0167	0.08	Q				
3+40	0.0172	0.08	Q				
3+45	0.0178	0.08	Q				
3+50	0.0183	0.08	Q				
3+55	0.0188	0.08	Q				
4+ 0	0.0193	0.08	Q				
4+ 5	0.0199	0.08	Q				
4+10	0.0204	0.08	Q				
4+15	0.0210	0.08	Q				
4+20	0.0215	0.08	Q				
4+25	0.0220	0.08	Q				
4+30	0.0226	0.08	Q				
4+35	0.0231	0.08	Q				
4+40	0.0237	0.08	QV				
4+45	0.0243	0.08	QV				
4+50	0.0248	0.08	QV				
4+55	0.0254	0.08	QV				
5+ 0	0.0259	0.08	QV				
5+ 5	0.0265	0.08	QV				
5+10	0.0271	0.08	QV				
5+15	0.0277	0.08	QV				
5+20	0.0282	0.08	QV				
5+25	0.0288	0.08	QV				
5+30	0.0294	0.09	QV				
5+35	0.0300	0.09	QV				
5+40	0.0306	0.09	QV				
5+45	0.0312	0.09	QV				
5+50	0.0318	0.09	QV				
5+55	0.0324	0.09	QV				
6+ 0	0.0330	0.09	QV				
6+ 5	0.0336	0.09	QV				
6+10	0.0342	0.09	QV				
6+15	0.0349	0.09	QV				
6+20	0.0355	0.09	QV				
6+25	0.0361	0.09	QV				
6+30	0.0367	0.09	QV				
6+35	0.0374	0.09	QV				

6+40	0.0380	0.09	QV	|	|	|	|
6+45	0.0387	0.09	QV	|	|	|	|
6+50	0.0393	0.09	QV	|	|	|	|
6+55	0.0400	0.09	QV	|	|	|	|
7+ 0	0.0406	0.10	QV	|	|	|	|
7+ 5	0.0413	0.10	QV	|	|	|	|
7+10	0.0419	0.10	QV	|	|	|	|
7+15	0.0426	0.10	QV	|	|	|	|
7+20	0.0433	0.10	QV	|	|	|	|
7+25	0.0440	0.10	QV	|	|	|	|
7+30	0.0446	0.10	QV	|	|	|	|
7+35	0.0453	0.10	QV	|	|	|	|
7+40	0.0460	0.10	QV	|	|	|	|
7+45	0.0467	0.10	Q V	|	|	|	|
7+50	0.0474	0.10	Q V	|	|	|	|
7+55	0.0481	0.10	Q V	|	|	|	|
8+ 0	0.0489	0.10	Q V	|	|	|	|
8+ 5	0.0496	0.10	Q V	|	|	|	|
8+10	0.0503	0.11	Q V	|	|	|	|
8+15	0.0510	0.11	Q V	|	|	|	|
8+20	0.0518	0.11	Q V	|	|	|	|
8+25	0.0525	0.11	Q V	|	|	|	|
8+30	0.0533	0.11	Q V	|	|	|	|
8+35	0.0540	0.11	Q V	|	|	|	|
8+40	0.0548	0.11	Q V	|	|	|	|
8+45	0.0556	0.11	Q V	|	|	|	|
8+50	0.0563	0.11	Q V	|	|	|	|
8+55	0.0571	0.11	Q V	|	|	|	|
9+ 0	0.0579	0.11	Q V	|	|	|	|
9+ 5	0.0587	0.12	Q V	|	|	|	|
9+10	0.0595	0.12	Q V	|	|	|	|
9+15	0.0603	0.12	Q V	|	|	|	|
9+20	0.0611	0.12	Q V	|	|	|	|
9+25	0.0619	0.12	Q V	|	|	|	|
9+30	0.0628	0.12	Q V	|	|	|	|
9+35	0.0636	0.12	Q V	|	|	|	|
9+40	0.0644	0.12	Q V	|	|	|	|
9+45	0.0653	0.12	Q V	|	|	|	|
9+50	0.0662	0.13	Q V	|	|	|	|
9+55	0.0670	0.13	Q V	|	|	|	|
10+ 0	0.0679	0.13	Q V	|	|	|	|
10+ 5	0.0688	0.13	Q V	|	|	|	|
10+10	0.0697	0.13	Q V	|	|	|	|
10+15	0.0706	0.13	Q V	|	|	|	|
10+20	0.0715	0.13	Q V	|	|	|	|
10+25	0.0724	0.13	Q V	|	|	|	|
10+30	0.0734	0.14	Q V	|	|	|	|
10+35	0.0743	0.14	Q V	|	|	|	|
10+40	0.0753	0.14	Q V	|	|	|	|
10+45	0.0762	0.14	Q V	|	|	|	|
10+50	0.0772	0.14	Q V	|	|	|	|
10+55	0.0782	0.14	Q V	|	|	|	|
11+ 0	0.0792	0.14	Q V	|	|	|	|
11+ 5	0.0802	0.15	Q V	|	|	|	|
11+10	0.0812	0.15	Q V	|	|	|	|
11+15	0.0823	0.15	Q V	|	|	|	|
11+20	0.0833	0.15	Q V	|	|	|	|
11+25	0.0844	0.15	Q V	|	|	|	|
11+30	0.0854	0.16	Q V	|	|	|	|

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11+35       0.0865      0.16  Q  V      |          |          |          |
11+40       0.0876      0.16  Q  V      |          |          |          |
11+45       0.0887      0.16  Q  V      |          |          |          |
11+50       0.0899      0.16  Q  V      |          |          |          |
11+55       0.0910      0.17  Q  V      |          |          |          |
12+ 0       0.0922      0.17  Q  V      |          |          |          |
12+ 5       0.0933      0.17  Q  V      |          |          |          |
12+10       0.0945      0.17  Q   V     |          |          |          |
12+15       0.0957      0.17  Q   V     |          |          |          |
12+20       0.0969      0.17  Q   V     |          |          |          |
12+25       0.0981      0.17  Q   V     |          |          |          |
12+30       0.0992      0.17  Q   V     |          |          |          |
12+35       0.1003      0.16  Q   V     |          |          |          |
12+40       0.1015      0.17  Q   V     |          |          |          |
12+45       0.1026      0.17  Q   V     |          |          |          |
12+50       0.1038      0.17  Q   V     |          |          |          |
12+55       0.1049      0.17  Q   V     |          |          |          |
13+ 0       0.1061      0.17  Q   V     |          |          |          |
13+ 5       0.1073      0.17  Q   V     |          |          |          |
13+10       0.1085      0.18  Q   V     |          |          |          |
13+15       0.1098      0.18  Q   V     |          |          |          |
13+20       0.1110      0.18  Q   V     |          |          |          |
13+25       0.1123      0.19  Q   V     |          |          |          |
13+30       0.1136      0.19  Q   V     |          |          |          |
13+35       0.1149      0.19  Q   V     |          |          |          |
13+40       0.1163      0.20  Q   V     |          |          |          |
13+45       0.1177      0.20  Q    V    |          |          |          |
13+50       0.1191      0.21  Q    V    |          |          |          |
13+55       0.1206      0.21  Q    V    |          |          |          |
14+ 0       0.1221      0.22  Q    V    |          |          |          |
14+ 5       0.1236      0.22  Q    V    |          |          |          |
14+10       0.1252      0.23  Q    V    |          |          |          |
14+15       0.1268      0.24  Q    V    |          |          |          |
14+20       0.1285      0.24  Q    V    |          |          |          |
14+25       0.1302      0.25  Q    V    |          |          |          |
14+30       0.1319      0.26  Q    V    |          |          |          |
14+35       0.1338      0.27  Q    V    |          |          |          |
14+40       0.1357      0.28  Q    V    |          |          |          |
14+45       0.1377      0.29  Q    V    |          |          |          |
14+50       0.1397      0.30  Q    V    |          |          |          |
14+55       0.1418      0.31  Q     V   |          |          |          |
15+ 0       0.1441      0.32  Q     V   |          |          |          |
15+ 5       0.1464      0.34  Q     V   |          |          |          |
15+10       0.1489      0.36  Q     V   |          |          |          |
15+15       0.1514      0.37  Q     V   |          |          |          |
15+20       0.1542      0.40  Q     V   |          |          |          |
15+25       0.1571      0.43  Q     V   |          |          |          |
15+30       0.1603      0.47  Q     V   |          |          |          |
15+35       0.1640      0.53  |Q     V   |          |          |          |
15+40       0.1683      0.63  |Q     V   |          |          |          |
15+45       0.1737      0.78  |Q     V   |          |          |          |
15+50       0.1802      0.95  |Q     V   |          |          |          |
15+55       0.1884      1.18  | Q     V  |          |          |          |
16+ 0       0.1992      1.58  |  Q    V  |          |          |          |
16+ 5       0.2173      2.62  |    Q   V|          |          |          |
16+10       0.2480      4.46  |       Q V          |          |          |
16+15       0.2930      6.54  |         | VQ       |          |          |
16+20       0.3625     10.09  |         |    V    Q          |          |
16+25       0.4516     12.94  |         |        V|    Q     |          |
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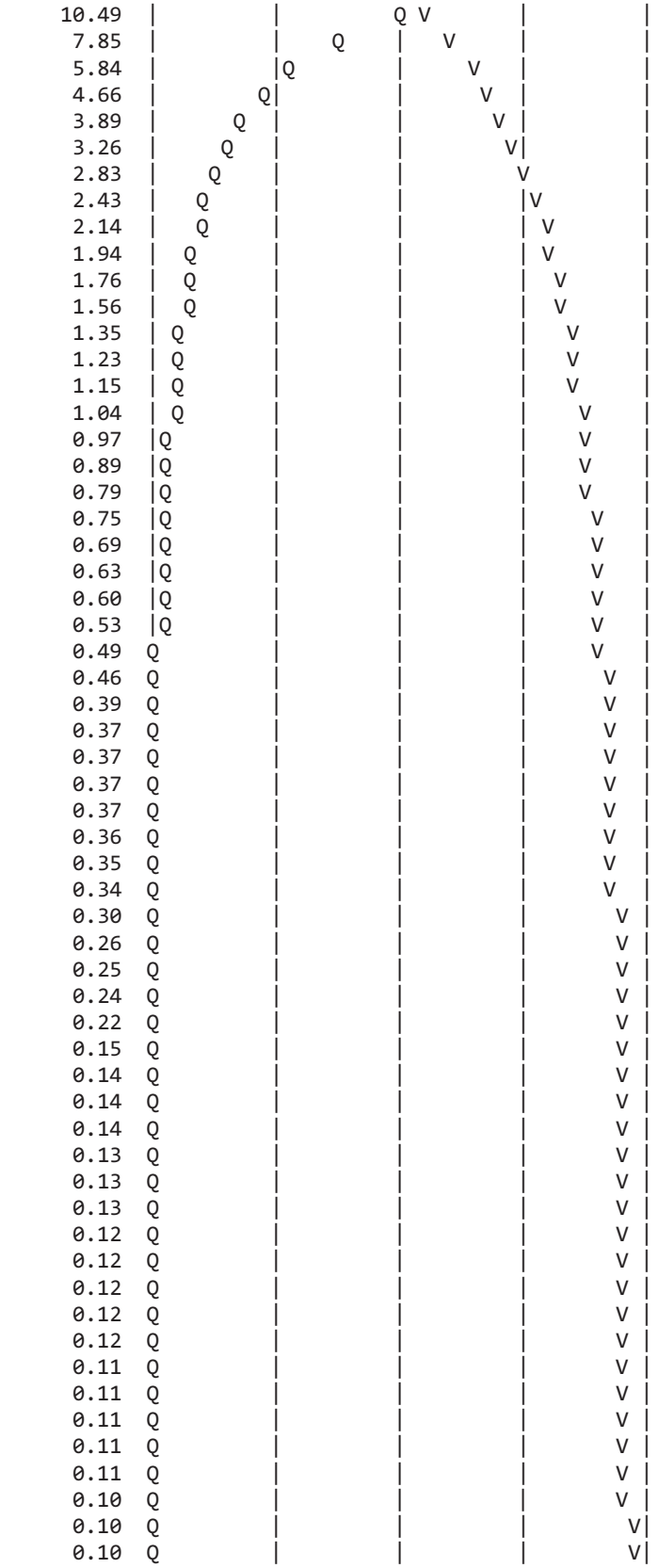
16+30	0.5239	10.49	
16+35	0.5780	7.85	
16+40	0.6182	5.84	
16+45	0.6503	4.66	
16+50	0.6771	3.89	
16+55	0.6996	3.26	
17+ 0	0.7191	2.83	
17+ 5	0.7358	2.43	
17+10	0.7506	2.14	
17+15	0.7639	1.94	
17+20	0.7761	1.76	
17+25	0.7868	1.56	
17+30	0.7961	1.35	
17+35	0.8046	1.23	
17+40	0.8125	1.15	
17+45	0.8197	1.04	
17+50	0.8264	0.97	
17+55	0.8325	0.89	
18+ 0	0.8379	0.79	
18+ 5	0.8431	0.75	
18+10	0.8479	0.69	
18+15	0.8522	0.63	
18+20	0.8564	0.60	
18+25	0.8600	0.53	
18+30	0.8634	0.49	
18+35	0.8666	0.46	
18+40	0.8693	0.39	
18+45	0.8718	0.37	
18+50	0.8743	0.37	
18+55	0.8769	0.37	
19+ 0	0.8795	0.37	
19+ 5	0.8819	0.36	
19+10	0.8844	0.35	
19+15	0.8867	0.34	
19+20	0.8887	0.30	
19+25	0.8905	0.26	
19+30	0.8922	0.25	
19+35	0.8938	0.24	
19+40	0.8953	0.22	
19+45	0.8964	0.15	
19+50	0.8974	0.14	
19+55	0.8983	0.14	
20+ 0	0.8993	0.14	
20+ 5	0.9002	0.13	
20+10	0.9011	0.13	
20+15	0.9019	0.13	
20+20	0.9028	0.12	
20+25	0.9036	0.12	
20+30	0.9045	0.12	
20+35	0.9053	0.12	
20+40	0.9061	0.12	
20+45	0.9068	0.11	
20+50	0.9076	0.11	
20+55	0.9084	0.11	
21+ 0	0.9091	0.11	
21+ 5	0.9098	0.11	
21+10	0.9106	0.10	
21+15	0.9113	0.10	
21+20	0.9120	0.10	

21+25	0.9127	0.10	Q	|	|	|	V|
21+30	0.9133	0.10	Q	|	|	|	V|
21+35	0.9140	0.10	Q	|	|	|	V|
21+40	0.9147	0.10	Q	|	|	|	V|
21+45	0.9153	0.09	Q	|	|	|	V|
21+50	0.9160	0.09	Q	|	|	|	V|
21+55	0.9166	0.09	Q	|	|	|	V|
22+ 0	0.9172	0.09	Q	|	|	|	V|
22+ 5	0.9178	0.09	Q	|	|	|	V|
22+10	0.9185	0.09	Q	|	|	|	V|
22+15	0.9191	0.09	Q	|	|	|	V|
22+20	0.9197	0.09	Q	|	|	|	V|
22+25	0.9202	0.09	Q	|	|	|	V|
22+30	0.9208	0.08	Q	|	|	|	V|
22+35	0.9214	0.08	Q	|	|	|	V|
22+40	0.9220	0.08	Q	|	|	|	V|
22+45	0.9225	0.08	Q	|	|	|	V|
22+50	0.9231	0.08	Q	|	|	|	V|
22+55	0.9236	0.08	Q	|	|	|	V|
23+ 0	0.9242	0.08	Q	|	|	|	V|
23+ 5	0.9247	0.08	Q	|	|	|	V|
23+10	0.9253	0.08	Q	|	|	|	V|
23+15	0.9258	0.08	Q	|	|	|	V|
23+20	0.9263	0.08	Q	|	|	|	V|
23+25	0.9268	0.08	Q	|	|	|	V|
23+30	0.9273	0.07	Q	|	|	|	V|
23+35	0.9278	0.07	Q	|	|	|	V|
23+40	0.9283	0.07	Q	|	|	|	V|
23+45	0.9288	0.07	Q	|	|	|	V|
23+50	0.9293	0.07	Q	|	|	|	V|
23+55	0.9298	0.07	Q	|	|	|	V|
24+ 0	0.9303	0.07	Q	|	|	|	V|
24+ 5	0.9308	0.07	Q	|	|	|	V|
24+10	0.9312	0.07	Q	|	|	|	V|
24+15	0.9317	0.06	Q	|	|	|	V|
24+20	0.9320	0.06	Q	|	|	|	V|
24+25	0.9323	0.04	Q	|	|	|	V|
24+30	0.9326	0.04	Q	|	|	|	V|
24+35	0.9328	0.03	Q	|	|	|	V|
24+40	0.9330	0.02	Q	|	|	|	V|
24+45	0.9331	0.02	Q	|	|	|	V|
24+50	0.9332	0.02	Q	|	|	|	V|
24+55	0.9334	0.02	Q	|	|	|	V|
25+ 0	0.9335	0.01	Q	|	|	|	V|
25+ 5	0.9335	0.01	Q	|	|	|	V|
25+10	0.9336	0.01	Q	|	|	|	V|
25+15	0.9337	0.01	Q	|	|	|	V|
25+20	0.9338	0.01	Q	|	|	|	V|
25+25	0.9338	0.01	Q	|	|	|	V|
25+30	0.9339	0.01	Q	|	|	|	V|
25+35	0.9339	0.01	Q	|	|	|	V|
25+40	0.9339	0.01	Q	|	|	|	V|
25+45	0.9340	0.01	Q	|	|	|	V|
25+50	0.9340	0.00	Q	|	|	|	V|
25+55	0.9340	0.00	Q	|	|	|	V|
26+ 0	0.9341	0.00	Q	|	|	|	V|
26+ 5	0.9341	0.00	Q	|	|	|	V|
26+10	0.9341	0.00	Q	|	|	|	V|
26+15	0.9341	0.00	Q	|	|	|	V|

26+20	0.9341	0.00	Q	|	|	|	V|
26+25	0.9342	0.00	Q	|	|	|	V|
26+30	0.9342	0.00	Q	|	|	|	V|
26+35	0.9342	0.00	Q	|	|	|	V|
26+40	0.9342	0.00	Q	|	|	|	V|
26+45	0.9342	0.00	Q	|	|	|	V|
26+50	0.9342	0.00	Q	|	|	|	V|
26+55	0.9342	0.00	Q	|	|	|	V|
27+ 0	0.9342	0.00	Q	|	|	|	V|
27+ 5	0.9342	0.00	Q	|	|	|	V|
27+10	0.9342	0.00	Q	|	|	|	V|
27+15	0.9342	0.00	Q	|	|	|	V|
27+20	0.9342	0.00	Q	|	|	|	V|
27+25	0.9342	0.00	Q	|	|	|	V|
27+30	0.9342	0.00	Q	|	|	|	V|
27+35	0.9342	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 20
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
24.41	1	1.36
Rainfall data for year 100		
24.41	6	1.84
Rainfall data for year 100		
24.41	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
58.4	77.7	24.41	1.000	0.408	1.000	0.408

Area-averaged adjusted loss rate Fm (In/Hr) = 0.408

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
24.41	1.000	58.4	77.7	2.87	0.307

Area-averaged catchment yield fraction, Y = 0.307
Area-averaged low loss fraction, Yb = 0.693
User entry of time of concentration = 0.820 (hours)
++
Watershed area = 24.41(Ac.)
Catchment Lag time = 0.656 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 12.7033
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.408(In/Hr)
Average low loss rate fraction (Yb) = 0.693 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 24.41(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.645(In)
30-minute factor = 0.999 Adjusted rainfall = 1.103(In)
1-hour factor = 0.999 Adjusted rainfall = 1.358(In)
3-hour factor = 1.000 Adjusted rainfall = 1.637(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 295.21 (CFS))	
1	0.559	1.650
2	2.202	4.849
3	4.877	7.898
4	8.647	11.128
5	15.101	19.053
6	26.035	32.278
7	37.764	34.624
8	46.963	27.158
9	54.130	21.159
10	59.630	16.234
11	63.906	12.625
12	67.461	10.495
13	70.599	9.262
14	73.291	7.948

15	75.616	6.863
16	77.764	6.343
17	79.568	5.324
18	81.232	4.913
19	82.681	4.278
20	84.045	4.027
21	85.300	3.704
22	86.507	3.563
23	87.566	3.126
24	88.563	2.945
25	89.374	2.392
26	90.132	2.237
27	90.852	2.126
28	91.553	2.070
29	92.178	1.846
30	92.782	1.783
31	93.348	1.670
32	93.890	1.601
33	94.337	1.320
34	94.769	1.275
35	95.201	1.275
36	95.616	1.225
37	95.955	1.002
38	96.286	0.975
39	96.616	0.975
40	96.925	0.914
41	97.161	0.694
42	97.389	0.675
43	97.618	0.675
44	97.821	0.601
45	97.953	0.388
46	98.080	0.375
47	98.207	0.375
48	98.342	0.397
49	98.493	0.448
50	98.646	0.450
51	98.798	0.450
52	98.951	0.450
53	99.103	0.450
54	99.255	0.450
55	99.408	0.450
56	99.531	0.363
57	99.611	0.236
58	99.690	0.234
59	99.770	0.234
60	99.849	0.234
61	99.928	0.234
62	100.000	0.211

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6446	0.6446
2	0.7936	0.1490
3	0.8962	0.1026
4	0.9770	0.0808
5	1.0447	0.0676
6	1.1034	0.0587
7	1.1556	0.0522
8	1.2029	0.0472

9	1.2461	0.0433
10	1.2861	0.0400
11	1.3234	0.0373
12	1.3584	0.0350
13	1.3770	0.0186
14	1.3944	0.0174
15	1.4108	0.0164
16	1.4264	0.0155
17	1.4411	0.0147
18	1.4552	0.0140
19	1.4686	0.0134
20	1.4814	0.0128
21	1.4937	0.0123
22	1.5055	0.0118
23	1.5169	0.0114
24	1.5279	0.0110
25	1.5385	0.0106
26	1.5488	0.0103
27	1.5588	0.0099
28	1.5684	0.0096
29	1.5778	0.0094
30	1.5869	0.0091
31	1.5957	0.0089
32	1.6043	0.0086
33	1.6127	0.0084
34	1.6209	0.0082
35	1.6289	0.0080
36	1.6367	0.0078
37	1.6443	0.0076
38	1.6517	0.0074
39	1.6590	0.0073
40	1.6661	0.0071
41	1.6730	0.0070
42	1.6798	0.0068
43	1.6865	0.0067
44	1.6931	0.0066
45	1.6995	0.0064
46	1.7058	0.0063
47	1.7120	0.0062
48	1.7181	0.0061
49	1.7241	0.0060
50	1.7300	0.0059
51	1.7358	0.0058
52	1.7415	0.0057
53	1.7471	0.0056
54	1.7526	0.0055
55	1.7581	0.0054
56	1.7634	0.0054
57	1.7687	0.0053
58	1.7739	0.0052
59	1.7790	0.0051
60	1.7841	0.0051
61	1.7891	0.0050
62	1.7940	0.0049
63	1.7989	0.0049
64	1.8036	0.0048
65	1.8084	0.0047
66	1.8130	0.0047
67	1.8176	0.0046

68	1.8222	0.0046
69	1.8267	0.0045
70	1.8311	0.0044
71	1.8355	0.0044
72	1.8399	0.0043
73	1.8453	0.0055
74	1.8507	0.0054
75	1.8561	0.0054
76	1.8614	0.0053
77	1.8667	0.0052
78	1.8718	0.0052
79	1.8770	0.0051
80	1.8821	0.0051
81	1.8871	0.0050
82	1.8921	0.0050
83	1.8971	0.0049
84	1.9020	0.0049
85	1.9068	0.0049
86	1.9116	0.0048
87	1.9164	0.0048
88	1.9211	0.0047
89	1.9258	0.0047
90	1.9304	0.0046
91	1.9350	0.0046
92	1.9396	0.0046
93	1.9441	0.0045
94	1.9486	0.0045
95	1.9530	0.0044
96	1.9574	0.0044
97	1.9618	0.0044
98	1.9662	0.0043
99	1.9705	0.0043
100	1.9747	0.0043
101	1.9790	0.0042
102	1.9832	0.0042
103	1.9873	0.0042
104	1.9915	0.0041
105	1.9956	0.0041
106	1.9997	0.0041
107	2.0037	0.0040
108	2.0077	0.0040
109	2.0117	0.0040
110	2.0157	0.0040
111	2.0196	0.0039
112	2.0235	0.0039
113	2.0274	0.0039
114	2.0312	0.0039
115	2.0351	0.0038
116	2.0389	0.0038
117	2.0426	0.0038
118	2.0464	0.0037
119	2.0501	0.0037
120	2.0538	0.0037
121	2.0575	0.0037
122	2.0611	0.0036
123	2.0648	0.0036
124	2.0684	0.0036
125	2.0719	0.0036
126	2.0755	0.0036

127	2.0790	0.0035
128	2.0826	0.0035
129	2.0860	0.0035
130	2.0895	0.0035
131	2.0930	0.0035
132	2.0964	0.0034
133	2.0998	0.0034
134	2.1032	0.0034
135	2.1066	0.0034
136	2.1099	0.0034
137	2.1133	0.0033
138	2.1166	0.0033
139	2.1199	0.0033
140	2.1231	0.0033
141	2.1264	0.0033
142	2.1296	0.0032
143	2.1328	0.0032
144	2.1361	0.0032
145	2.1392	0.0032
146	2.1424	0.0032
147	2.1456	0.0032
148	2.1487	0.0031
149	2.1518	0.0031
150	2.1549	0.0031
151	2.1580	0.0031
152	2.1611	0.0031
153	2.1641	0.0031
154	2.1672	0.0030
155	2.1702	0.0030
156	2.1732	0.0030
157	2.1762	0.0030
158	2.1792	0.0030
159	2.1821	0.0030
160	2.1851	0.0029
161	2.1880	0.0029
162	2.1909	0.0029
163	2.1938	0.0029
164	2.1967	0.0029
165	2.1996	0.0029
166	2.2025	0.0029
167	2.2053	0.0029
168	2.2081	0.0028
169	2.2110	0.0028
170	2.2138	0.0028
171	2.2166	0.0028
172	2.2194	0.0028
173	2.2221	0.0028
174	2.2249	0.0028
175	2.2276	0.0027
176	2.2304	0.0027
177	2.2331	0.0027
178	2.2358	0.0027
179	2.2385	0.0027
180	2.2412	0.0027
181	2.2439	0.0027
182	2.2465	0.0027
183	2.2492	0.0027
184	2.2518	0.0026
185	2.2545	0.0026

186	2.2571	0.0026
187	2.2597	0.0026
188	2.2623	0.0026
189	2.2649	0.0026
190	2.2675	0.0026
191	2.2700	0.0026
192	2.2726	0.0026
193	2.2751	0.0025
194	2.2776	0.0025
195	2.2802	0.0025
196	2.2827	0.0025
197	2.2852	0.0025
198	2.2877	0.0025
199	2.2902	0.0025
200	2.2926	0.0025
201	2.2951	0.0025
202	2.2976	0.0025
203	2.3000	0.0024
204	2.3024	0.0024
205	2.3049	0.0024
206	2.3073	0.0024
207	2.3097	0.0024
208	2.3121	0.0024
209	2.3145	0.0024
210	2.3169	0.0024
211	2.3192	0.0024
212	2.3216	0.0024
213	2.3239	0.0024
214	2.3263	0.0023
215	2.3286	0.0023
216	2.3309	0.0023
217	2.3333	0.0023
218	2.3356	0.0023
219	2.3379	0.0023
220	2.3402	0.0023
221	2.3425	0.0023
222	2.3447	0.0023
223	2.3470	0.0023
224	2.3493	0.0023
225	2.3515	0.0023
226	2.3538	0.0022
227	2.3560	0.0022
228	2.3582	0.0022
229	2.3605	0.0022
230	2.3627	0.0022
231	2.3649	0.0022
232	2.3671	0.0022
233	2.3693	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3758	0.0022
237	2.3780	0.0022
238	2.3801	0.0022
239	2.3823	0.0022
240	2.3844	0.0021
241	2.3866	0.0021
242	2.3887	0.0021
243	2.3908	0.0021
244	2.3929	0.0021

245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4013	0.0021
249	2.4034	0.0021
250	2.4055	0.0021
251	2.4076	0.0021
252	2.4096	0.0021
253	2.4117	0.0021
254	2.4137	0.0020
255	2.4158	0.0020
256	2.4178	0.0020
257	2.4198	0.0020
258	2.4219	0.0020
259	2.4239	0.0020
260	2.4259	0.0020
261	2.4279	0.0020
262	2.4299	0.0020
263	2.4319	0.0020
264	2.4339	0.0020
265	2.4359	0.0020
266	2.4378	0.0020
267	2.4398	0.0020
268	2.4418	0.0020
269	2.4437	0.0020
270	2.4457	0.0020
271	2.4476	0.0019
272	2.4496	0.0019
273	2.4515	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4573	0.0019
277	2.4592	0.0019
278	2.4611	0.0019
279	2.4630	0.0019
280	2.4649	0.0019
281	2.4668	0.0019
282	2.4687	0.0019
283	2.4706	0.0019
284	2.4725	0.0019
285	2.4743	0.0019
286	2.4762	0.0019
287	2.4781	0.0019
288	2.4799	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0013	0.0006
2	0.0019	0.0013	0.0006
3	0.0019	0.0013	0.0006
4	0.0019	0.0013	0.0006
5	0.0019	0.0013	0.0006
6	0.0019	0.0013	0.0006
7	0.0019	0.0013	0.0006
8	0.0019	0.0013	0.0006
9	0.0019	0.0013	0.0006
10	0.0019	0.0013	0.0006

11	0.0019	0.0013	0.0006
12	0.0019	0.0013	0.0006
13	0.0020	0.0014	0.0006
14	0.0020	0.0014	0.0006
15	0.0020	0.0014	0.0006
16	0.0020	0.0014	0.0006
17	0.0020	0.0014	0.0006
18	0.0020	0.0014	0.0006
19	0.0020	0.0014	0.0006
20	0.0020	0.0014	0.0006
21	0.0020	0.0014	0.0006
22	0.0020	0.0014	0.0006
23	0.0020	0.0014	0.0006
24	0.0020	0.0014	0.0006
25	0.0021	0.0014	0.0006
26	0.0021	0.0014	0.0006
27	0.0021	0.0014	0.0006
28	0.0021	0.0014	0.0006
29	0.0021	0.0015	0.0006
30	0.0021	0.0015	0.0006
31	0.0021	0.0015	0.0007
32	0.0021	0.0015	0.0007
33	0.0021	0.0015	0.0007
34	0.0022	0.0015	0.0007
35	0.0022	0.0015	0.0007
36	0.0022	0.0015	0.0007
37	0.0022	0.0015	0.0007
38	0.0022	0.0015	0.0007
39	0.0022	0.0015	0.0007
40	0.0022	0.0015	0.0007
41	0.0022	0.0015	0.0007
42	0.0022	0.0016	0.0007
43	0.0023	0.0016	0.0007
44	0.0023	0.0016	0.0007
45	0.0023	0.0016	0.0007
46	0.0023	0.0016	0.0007
47	0.0023	0.0016	0.0007
48	0.0023	0.0016	0.0007
49	0.0023	0.0016	0.0007
50	0.0023	0.0016	0.0007
51	0.0024	0.0016	0.0007
52	0.0024	0.0016	0.0007
53	0.0024	0.0016	0.0007
54	0.0024	0.0017	0.0007
55	0.0024	0.0017	0.0007
56	0.0024	0.0017	0.0007
57	0.0024	0.0017	0.0007
58	0.0024	0.0017	0.0008
59	0.0025	0.0017	0.0008
60	0.0025	0.0017	0.0008
61	0.0025	0.0017	0.0008
62	0.0025	0.0017	0.0008
63	0.0025	0.0017	0.0008
64	0.0025	0.0018	0.0008
65	0.0026	0.0018	0.0008
66	0.0026	0.0018	0.0008
67	0.0026	0.0018	0.0008
68	0.0026	0.0018	0.0008
69	0.0026	0.0018	0.0008

70	0.0026	0.0018	0.0008
71	0.0027	0.0018	0.0008
72	0.0027	0.0018	0.0008
73	0.0027	0.0019	0.0008
74	0.0027	0.0019	0.0008
75	0.0027	0.0019	0.0008
76	0.0027	0.0019	0.0008
77	0.0028	0.0019	0.0008
78	0.0028	0.0019	0.0009
79	0.0028	0.0019	0.0009
80	0.0028	0.0019	0.0009
81	0.0028	0.0020	0.0009
82	0.0029	0.0020	0.0009
83	0.0029	0.0020	0.0009
84	0.0029	0.0020	0.0009
85	0.0029	0.0020	0.0009
86	0.0029	0.0020	0.0009
87	0.0030	0.0021	0.0009
88	0.0030	0.0021	0.0009
89	0.0030	0.0021	0.0009
90	0.0030	0.0021	0.0009
91	0.0031	0.0021	0.0009
92	0.0031	0.0021	0.0009
93	0.0031	0.0021	0.0010
94	0.0031	0.0022	0.0010
95	0.0032	0.0022	0.0010
96	0.0032	0.0022	0.0010
97	0.0032	0.0022	0.0010
98	0.0032	0.0022	0.0010
99	0.0033	0.0023	0.0010
100	0.0033	0.0023	0.0010
101	0.0033	0.0023	0.0010
102	0.0033	0.0023	0.0010
103	0.0034	0.0023	0.0010
104	0.0034	0.0023	0.0010
105	0.0034	0.0024	0.0011
106	0.0035	0.0024	0.0011
107	0.0035	0.0024	0.0011
108	0.0035	0.0024	0.0011
109	0.0036	0.0025	0.0011
110	0.0036	0.0025	0.0011
111	0.0036	0.0025	0.0011
112	0.0036	0.0025	0.0011
113	0.0037	0.0026	0.0011
114	0.0037	0.0026	0.0011
115	0.0038	0.0026	0.0012
116	0.0038	0.0026	0.0012
117	0.0039	0.0027	0.0012
118	0.0039	0.0027	0.0012
119	0.0039	0.0027	0.0012
120	0.0040	0.0027	0.0012
121	0.0040	0.0028	0.0012
122	0.0040	0.0028	0.0012
123	0.0041	0.0028	0.0013
124	0.0041	0.0029	0.0013
125	0.0042	0.0029	0.0013
126	0.0042	0.0029	0.0013
127	0.0043	0.0030	0.0013
128	0.0043	0.0030	0.0013

129	0.0044	0.0031	0.0014
130	0.0044	0.0031	0.0014
131	0.0045	0.0031	0.0014
132	0.0046	0.0032	0.0014
133	0.0046	0.0032	0.0014
134	0.0047	0.0032	0.0014
135	0.0048	0.0033	0.0015
136	0.0048	0.0033	0.0015
137	0.0049	0.0034	0.0015
138	0.0049	0.0034	0.0015
139	0.0050	0.0035	0.0015
140	0.0051	0.0035	0.0016
141	0.0052	0.0036	0.0016
142	0.0052	0.0036	0.0016
143	0.0054	0.0037	0.0016
144	0.0054	0.0038	0.0017
145	0.0043	0.0030	0.0013
146	0.0044	0.0030	0.0013
147	0.0045	0.0031	0.0014
148	0.0046	0.0032	0.0014
149	0.0047	0.0032	0.0014
150	0.0047	0.0033	0.0015
151	0.0049	0.0034	0.0015
152	0.0049	0.0034	0.0015
153	0.0051	0.0035	0.0016
154	0.0051	0.0036	0.0016
155	0.0053	0.0037	0.0016
156	0.0054	0.0037	0.0016
157	0.0055	0.0038	0.0017
158	0.0056	0.0039	0.0017
159	0.0058	0.0040	0.0018
160	0.0059	0.0041	0.0018
161	0.0061	0.0042	0.0019
162	0.0062	0.0043	0.0019
163	0.0064	0.0045	0.0020
164	0.0066	0.0045	0.0020
165	0.0068	0.0047	0.0021
166	0.0070	0.0048	0.0021
167	0.0073	0.0050	0.0022
168	0.0074	0.0051	0.0023
169	0.0078	0.0054	0.0024
170	0.0080	0.0055	0.0025
171	0.0084	0.0058	0.0026
172	0.0086	0.0060	0.0026
173	0.0091	0.0063	0.0028
174	0.0094	0.0065	0.0029
175	0.0099	0.0069	0.0031
176	0.0103	0.0071	0.0032
177	0.0110	0.0076	0.0034
178	0.0114	0.0079	0.0035
179	0.0123	0.0085	0.0038
180	0.0128	0.0089	0.0039
181	0.0140	0.0097	0.0043
182	0.0147	0.0102	0.0045
183	0.0164	0.0114	0.0050
184	0.0174	0.0121	0.0053
185	0.0350	0.0243	0.0107
186	0.0373	0.0258	0.0115
187	0.0433	0.0300	0.0133

188	0.0472	0.0327	0.0145
189	0.0587	0.0340	0.0247
190	0.0676	0.0340	0.0336
191	0.1026	0.0340	0.0686
192	0.1490	0.0340	0.1150
193	0.6446	0.0340	0.6106
194	0.0808	0.0340	0.0468
195	0.0522	0.0340	0.0182
196	0.0400	0.0277	0.0123
197	0.0186	0.0129	0.0057
198	0.0155	0.0108	0.0048
199	0.0134	0.0093	0.0041
200	0.0118	0.0082	0.0036
201	0.0106	0.0074	0.0033
202	0.0096	0.0067	0.0030
203	0.0089	0.0061	0.0027
204	0.0082	0.0057	0.0025
205	0.0076	0.0053	0.0023
206	0.0071	0.0049	0.0022
207	0.0067	0.0046	0.0021
208	0.0063	0.0044	0.0019
209	0.0060	0.0042	0.0018
210	0.0057	0.0039	0.0018
211	0.0054	0.0038	0.0017
212	0.0052	0.0036	0.0016
213	0.0050	0.0035	0.0015
214	0.0048	0.0033	0.0015
215	0.0046	0.0032	0.0014
216	0.0044	0.0031	0.0014
217	0.0055	0.0038	0.0017
218	0.0053	0.0037	0.0016
219	0.0051	0.0036	0.0016
220	0.0050	0.0035	0.0015
221	0.0049	0.0034	0.0015
222	0.0047	0.0033	0.0015
223	0.0046	0.0032	0.0014
224	0.0045	0.0031	0.0014
225	0.0044	0.0030	0.0013
226	0.0043	0.0030	0.0013
227	0.0042	0.0029	0.0013
228	0.0041	0.0028	0.0013
229	0.0040	0.0028	0.0012
230	0.0039	0.0027	0.0012
231	0.0038	0.0026	0.0012
232	0.0037	0.0026	0.0012
233	0.0037	0.0025	0.0011
234	0.0036	0.0025	0.0011
235	0.0035	0.0025	0.0011
236	0.0035	0.0024	0.0011
237	0.0034	0.0024	0.0010
238	0.0034	0.0023	0.0010
239	0.0033	0.0023	0.0010
240	0.0032	0.0022	0.0010
241	0.0032	0.0022	0.0010
242	0.0031	0.0022	0.0010
243	0.0031	0.0021	0.0009
244	0.0030	0.0021	0.0009
245	0.0030	0.0021	0.0009
246	0.0029	0.0020	0.0009

247	0.0029	0.0020	0.0009
248	0.0029	0.0020	0.0009
249	0.0028	0.0020	0.0009
250	0.0028	0.0019	0.0009
251	0.0027	0.0019	0.0008
252	0.0027	0.0019	0.0008
253	0.0027	0.0019	0.0008
254	0.0026	0.0018	0.0008
255	0.0026	0.0018	0.0008
256	0.0026	0.0018	0.0008
257	0.0025	0.0018	0.0008
258	0.0025	0.0017	0.0008
259	0.0025	0.0017	0.0008
260	0.0025	0.0017	0.0008
261	0.0024	0.0017	0.0007
262	0.0024	0.0017	0.0007
263	0.0024	0.0016	0.0007
264	0.0023	0.0016	0.0007
265	0.0023	0.0016	0.0007
266	0.0023	0.0016	0.0007
267	0.0023	0.0016	0.0007
268	0.0022	0.0016	0.0007
269	0.0022	0.0015	0.0007
270	0.0022	0.0015	0.0007
271	0.0022	0.0015	0.0007
272	0.0022	0.0015	0.0007
273	0.0021	0.0015	0.0007
274	0.0021	0.0015	0.0006
275	0.0021	0.0015	0.0006
276	0.0021	0.0014	0.0006
277	0.0021	0.0014	0.0006
278	0.0020	0.0014	0.0006
279	0.0020	0.0014	0.0006
280	0.0020	0.0014	0.0006
281	0.0020	0.0014	0.0006
282	0.0020	0.0014	0.0006
283	0.0019	0.0013	0.0006
284	0.0019	0.0013	0.0006
285	0.0019	0.0013	0.0006
286	0.0019	0.0013	0.0006
287	0.0019	0.0013	0.0006
288	0.0019	0.0013	0.0006

Total soil rain loss = 1.16(In)
Total effective rainfall = 1.32(In)
Peak flow rate in flood hydrograph = 29.32(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0000	0.00	Q	|	|	|	|

0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0004	0.03	Q				
0+30	0.0007	0.04	Q				
0+35	0.0011	0.06	Q				
0+40	0.0017	0.08	Q				
0+45	0.0023	0.09	Q				
0+50	0.0030	0.10	Q				
0+55	0.0037	0.11	Q				
1+ 0	0.0045	0.12	Q				
1+ 5	0.0054	0.12	Q				
1+10	0.0063	0.13	Q				
1+15	0.0072	0.13	Q				
1+20	0.0081	0.14	Q				
1+25	0.0090	0.14	Q				
1+30	0.0100	0.14	Q				
1+35	0.0110	0.15	Q				
1+40	0.0120	0.15	Q				
1+45	0.0131	0.15	Q				
1+50	0.0141	0.15	Q				
1+55	0.0152	0.16	Q				
2+ 0	0.0163	0.16	Q				
2+ 5	0.0174	0.16	Q				
2+10	0.0185	0.16	Q				
2+15	0.0197	0.16	Q				
2+20	0.0208	0.17	Q				
2+25	0.0220	0.17	Q				
2+30	0.0231	0.17	Q				
2+35	0.0243	0.17	Q				
2+40	0.0255	0.17	Q				
2+45	0.0267	0.17	Q				
2+50	0.0279	0.18	Q				
2+55	0.0292	0.18	Q				
3+ 0	0.0304	0.18	Q				
3+ 5	0.0316	0.18	Q				
3+10	0.0329	0.18	Q				
3+15	0.0342	0.18	Q				
3+20	0.0354	0.19	Q				
3+25	0.0367	0.19	Q				
3+30	0.0380	0.19	Q				
3+35	0.0393	0.19	Q				
3+40	0.0406	0.19	Q				
3+45	0.0420	0.19	Q				
3+50	0.0433	0.19	Q				
3+55	0.0446	0.19	Q				
4+ 0	0.0460	0.20	Q				
4+ 5	0.0473	0.20	Q				
4+10	0.0487	0.20	Q				
4+15	0.0500	0.20	Q				
4+20	0.0514	0.20	Q				
4+25	0.0528	0.20	Q				
4+30	0.0542	0.20	Q				
4+35	0.0556	0.20	Q				
4+40	0.0570	0.21	Q				
4+45	0.0585	0.21	Q				
4+50	0.0599	0.21	Q				
4+55	0.0613	0.21	Q				
5+ 0	0.0628	0.21	Q				
5+ 5	0.0642	0.21	Q				

5+10	0.0657	0.21	Q	|	|	|	|
5+15	0.0672	0.21	Q	|	|	|	|
5+20	0.0687	0.22	QV	|	|	|	|
5+25	0.0702	0.22	QV	|	|	|	|
5+30	0.0717	0.22	QV	|	|	|	|
5+35	0.0732	0.22	QV	|	|	|	|
5+40	0.0747	0.22	QV	|	|	|	|
5+45	0.0762	0.22	QV	|	|	|	|
5+50	0.0777	0.22	QV	|	|	|	|
5+55	0.0793	0.22	QV	|	|	|	|
6+ 0	0.0808	0.23	QV	|	|	|	|
6+ 5	0.0824	0.23	QV	|	|	|	|
6+10	0.0840	0.23	QV	|	|	|	|
6+15	0.0856	0.23	QV	|	|	|	|
6+20	0.0872	0.23	QV	|	|	|	|
6+25	0.0888	0.23	QV	|	|	|	|
6+30	0.0904	0.23	QV	|	|	|	|
6+35	0.0920	0.24	QV	|	|	|	|
6+40	0.0936	0.24	QV	|	|	|	|
6+45	0.0953	0.24	QV	|	|	|	|
6+50	0.0969	0.24	QV	|	|	|	|
6+55	0.0986	0.24	QV	|	|	|	|
7+ 0	0.1003	0.24	QV	|	|	|	|
7+ 5	0.1020	0.24	QV	|	|	|	|
7+10	0.1037	0.25	QV	|	|	|	|
7+15	0.1054	0.25	QV	|	|	|	|
7+20	0.1071	0.25	QV	|	|	|	|
7+25	0.1088	0.25	QV	|	|	|	|
7+30	0.1106	0.25	QV	|	|	|	|
7+35	0.1123	0.26	QV	|	|	|	|
7+40	0.1141	0.26	QV	|	|	|	|
7+45	0.1159	0.26	QV	|	|	|	|
7+50	0.1177	0.26	QV	|	|	|	|
7+55	0.1195	0.26	QV	|	|	|	|
8+ 0	0.1213	0.26	QV	|	|	|	|
8+ 5	0.1231	0.27	QV	|	|	|	|
8+10	0.1250	0.27	QV	|	|	|	|
8+15	0.1268	0.27	QV	|	|	|	|
8+20	0.1287	0.27	QV	|	|	|	|
8+25	0.1306	0.27	QV	|	|	|	|
8+30	0.1325	0.28	QV	|	|	|	|
8+35	0.1344	0.28	QV	|	|	|	|
8+40	0.1364	0.28	Q V	|	|	|	|
8+45	0.1383	0.28	Q V	|	|	|	|
8+50	0.1403	0.29	Q V	|	|	|	|
8+55	0.1423	0.29	Q V	|	|	|	|
9+ 0	0.1443	0.29	Q V	|	|	|	|
9+ 5	0.1463	0.29	Q V	|	|	|	|
9+10	0.1483	0.30	Q V	|	|	|	|
9+15	0.1504	0.30	Q V	|	|	|	|
9+20	0.1524	0.30	Q V	|	|	|	|
9+25	0.1545	0.30	Q V	|	|	|	|
9+30	0.1566	0.31	Q V	|	|	|	|
9+35	0.1588	0.31	Q V	|	|	|	|
9+40	0.1609	0.31	Q V	|	|	|	|
9+45	0.1631	0.31	Q V	|	|	|	|
9+50	0.1653	0.32	Q V	|	|	|	|
9+55	0.1675	0.32	Q V	|	|	|	|
10+ 0	0.1697	0.32	Q V	|	|	|	|

10+ 5	0.1719	0.33	Q V	|	|	|	|
10+10	0.1742	0.33	Q V	|	|	|	|
10+15	0.1765	0.33	Q V	|	|	|	|
10+20	0.1788	0.34	Q V	|	|	|	|
10+25	0.1811	0.34	Q V	|	|	|	|
10+30	0.1835	0.34	Q V	|	|	|	|
10+35	0.1859	0.35	Q V	|	|	|	|
10+40	0.1883	0.35	Q V	|	|	|	|
10+45	0.1907	0.35	Q V	|	|	|	|
10+50	0.1932	0.36	Q V	|	|	|	|
10+55	0.1957	0.36	Q V	|	|	|	|
11+ 0	0.1982	0.37	Q V	|	|	|	|
11+ 5	0.2007	0.37	Q V	|	|	|	|
11+10	0.2033	0.37	Q V	|	|	|	|
11+15	0.2059	0.38	Q V	|	|	|	|
11+20	0.2085	0.38	Q V	|	|	|	|
11+25	0.2112	0.39	Q V	|	|	|	|
11+30	0.2139	0.39	Q V	|	|	|	|
11+35	0.2166	0.40	Q V	|	|	|	|
11+40	0.2194	0.40	Q V	|	|	|	|
11+45	0.2222	0.41	Q V	|	|	|	|
11+50	0.2250	0.41	Q V	|	|	|	|
11+55	0.2279	0.42	Q V	|	|	|	|
12+ 0	0.2308	0.42	Q V	|	|	|	|
12+ 5	0.2337	0.43	Q V	|	|	|	|
12+10	0.2367	0.43	Q V	|	|	|	|
12+15	0.2397	0.44	Q V	|	|	|	|
12+20	0.2427	0.44	Q V	|	|	|	|
12+25	0.2457	0.44	Q V	|	|	|	|
12+30	0.2487	0.43	Q V	|	|	|	|
12+35	0.2516	0.43	Q V	|	|	|	|
12+40	0.2545	0.42	Q V	|	|	|	|
12+45	0.2574	0.42	Q V	|	|	|	|
12+50	0.2604	0.42	Q V	|	|	|	|
12+55	0.2633	0.43	Q V	|	|	|	|
13+ 0	0.2662	0.43	Q V	|	|	|	|
13+ 5	0.2692	0.43	Q V	|	|	|	|
13+10	0.2722	0.44	Q V	|	|	|	|
13+15	0.2753	0.44	Q V	|	|	|	|
13+20	0.2784	0.45	Q V	|	|	|	|
13+25	0.2815	0.46	Q V	|	|	|	|
13+30	0.2847	0.46	Q V	|	|	|	|
13+35	0.2880	0.47	Q V	|	|	|	|
13+40	0.2913	0.48	Q V	|	|	|	|
13+45	0.2947	0.49	Q V	|	|	|	|
13+50	0.2982	0.50	Q V	|	|	|	|
13+55	0.3017	0.51	Q V	|	|	|	|
14+ 0	0.3053	0.52	Q V	|	|	|	|
14+ 5	0.3090	0.54	Q V	|	|	|	|
14+10	0.3128	0.55	Q V	|	|	|	|
14+15	0.3166	0.56	Q V	|	|	|	|
14+20	0.3206	0.58	Q V	|	|	|	|
14+25	0.3247	0.60	Q V	|	|	|	|
14+30	0.3289	0.61	Q V	|	|	|	|
14+35	0.3333	0.63	Q V	|	|	|	|
14+40	0.3378	0.65	Q V	|	|	|	|
14+45	0.3424	0.68	Q V	|	|	|	|
14+50	0.3473	0.70	Q V	|	|	|	|
14+55	0.3523	0.73	Q V	|	|	|	|

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15+ 0       0.3575      0.75  |Q   V    |          |          |          |
15+ 5       0.3629      0.79  |Q   V    |          |          |          |
15+10       0.3685      0.82  |Q   V    |          |          |          |
15+15       0.3745      0.86  |Q   V    |          |          |          |
15+20       0.3807      0.91  |Q   V    |          |          |          |
15+25       0.3873      0.96  |Q   V    |          |          |          |
15+30       0.3945      1.04  |Q   V    |          |          |          |
15+35       0.4024      1.15  |Q   V    |          |          |          |
15+40       0.4113      1.28  |Q    V   |          |          |          |
15+45       0.4215      1.49  |Q    V   |          |          |          |
15+50       0.4341      1.82  | Q   V   |          |          |          |
15+55       0.4499      2.30  |  Q  V   |          |          |          |
16+ 0       0.4707      3.02  |   Q V   |          |          |          |
16+ 5       0.5044      4.89  |     QV  |          |          |          |
16+10       0.5584      7.84  |       V Q          |          |          |
16+15       0.6339     10.97  |        V|   Q      |          |          |
16+20       0.7346     14.62  |         V        Q|          |          |
16+25       0.8779     20.80  |          |  V       |       Q  |          |
16+30       1.0753     28.67  |          |    V     |          |        Q |
16+35       1.2772     29.32  |          |       V  |          |         Q|
16+40       1.4424     23.98  |          |          |V         |Q         |
16+45       1.5752     19.28  |          |          |  V Q     |          |
16+50       1.6809     15.35  |          |         Q|   V      |          |
16+55       1.7664     12.41  |          |     Q    |     V    |          |
17+ 0       1.8390     10.54  |          |   Q      |      V   |          |
17+ 5       1.9031      9.30  |          | Q        |       V  |          |
17+10       1.9591      8.14  |          Q          |        V |          |
17+15       2.0086      7.18  |         Q|          |        V |          |
17+20       2.0539      6.57  |        Q |          |         V          |
17+25       2.0934      5.75  |       Q  |          |          |V         |
17+30       2.1298      5.28  |       Q  |          |          |V         |
17+35       2.1625      4.75  |      Q   |          |          | V        |
17+40       2.1931      4.45  |     Q    |          |          | V        |
17+45       2.2215      4.13  |     Q    |          |          |  V       |
17+50       2.2484      3.90  |     Q    |          |          |  V       |
17+55       2.2727      3.52  |    Q     |          |          |  V       |
18+ 0       2.2953      3.28  |    Q     |          |          |   V      |
18+ 5       2.3150      2.87  |  Q       |          |          |   V      |
18+10       2.3336      2.69  |  Q       |          |          |   V      |
18+15       2.3512      2.56  |  Q       |          |          |   V      |
18+20       2.3681      2.46  |  Q       |          |          |    V     |
18+25       2.3838      2.27  |  Q       |          |          |    V     |
18+30       2.3988      2.19  | Q        |          |          |    V     |
18+35       2.4131      2.07  | Q        |          |          |    V     |
18+40       2.4267      1.98  | Q        |          |          |     V    |
18+45       2.4390      1.78  | Q        |          |          |     V    |
18+50       2.4508      1.71  | Q        |          |          |     V    |
18+55       2.4622      1.67  | Q        |          |          |     V    |
19+ 0       2.4732      1.59  | Q        |          |          |     V    |
19+ 5       2.4831      1.43  |Q         |          |          |     V    |
19+10       2.4926      1.38  |Q         |          |          |      V   |
19+15       2.5018      1.34  |Q         |          |          |      V   |
19+20       2.5104      1.26  |Q         |          |          |      V   |
19+25       2.5180      1.10  |Q         |          |          |      V   |
19+30       2.5253      1.06  |Q         |          |          |      V   |
19+35       2.5324      1.02  |Q         |          |          |      V   |
19+40       2.5389      0.94  |Q         |          |          |      V   |
19+45       2.5444      0.80  |Q         |          |          |      V   |
19+50       2.5497      0.78  |Q         |          |          |      V   |
```

19+55	2.5550	0.77	|Q	|	|	|	V |
20+ 0	2.5604	0.78	|Q	|	|	|	V |
20+ 5	2.5658	0.80	|Q	|	|	|	V |
20+10	2.5713	0.79	|Q	|	|	|	V |
20+15	2.5767	0.78	|Q	|	|	|	V |
20+20	2.5820	0.77	|Q	|	|	|	V |
20+25	2.5872	0.76	|Q	|	|	|	V |
20+30	2.5923	0.74	Q	|	|	|	V |
20+35	2.5973	0.72	Q	|	|	|	V |
20+40	2.6017	0.64	Q	|	|	|	V |
20+45	2.6055	0.55	Q	|	|	|	V |
20+50	2.6091	0.53	Q	|	|	|	V |
20+55	2.6127	0.52	Q	|	|	|	V |
21+ 0	2.6162	0.51	Q	|	|	|	V |
21+ 5	2.6196	0.48	Q	|	|	|	V |
21+10	2.6226	0.44	Q	|	|	|	V |
21+15	2.6247	0.31	Q	|	|	|	V |
21+20	2.6267	0.29	Q	|	|	|	V|
21+25	2.6287	0.28	Q	|	|	|	V|
21+30	2.6306	0.28	Q	|	|	|	V|
21+35	2.6325	0.27	Q	|	|	|	V|
21+40	2.6343	0.27	Q	|	|	|	V|
21+45	2.6362	0.26	Q	|	|	|	V|
21+50	2.6379	0.26	Q	|	|	|	V|
21+55	2.6397	0.26	Q	|	|	|	V|
22+ 0	2.6414	0.25	Q	|	|	|	V|
22+ 5	2.6432	0.25	Q	|	|	|	V|
22+10	2.6448	0.24	Q	|	|	|	V|
22+15	2.6465	0.24	Q	|	|	|	V|
22+20	2.6481	0.24	Q	|	|	|	V|
22+25	2.6498	0.24	Q	|	|	|	V|
22+30	2.6514	0.23	Q	|	|	|	V|
22+35	2.6530	0.23	Q	|	|	|	V|
22+40	2.6545	0.23	Q	|	|	|	V|
22+45	2.6561	0.22	Q	|	|	|	V|
22+50	2.6576	0.22	Q	|	|	|	V|
22+55	2.6591	0.22	Q	|	|	|	V|
23+ 0	2.6606	0.22	Q	|	|	|	V|
23+ 5	2.6621	0.21	Q	|	|	|	V|
23+10	2.6635	0.21	Q	|	|	|	V|
23+15	2.6650	0.21	Q	|	|	|	V|
23+20	2.6664	0.21	Q	|	|	|	V|
23+25	2.6678	0.20	Q	|	|	|	V|
23+30	2.6692	0.20	Q	|	|	|	V|
23+35	2.6706	0.20	Q	|	|	|	V|
23+40	2.6719	0.20	Q	|	|	|	V|
23+45	2.6733	0.20	Q	|	|	|	V|
23+50	2.6746	0.19	Q	|	|	|	V|
23+55	2.6759	0.19	Q	|	|	|	V|
24+ 0	2.6772	0.19	Q	|	|	|	V|
24+ 5	2.6785	0.19	Q	|	|	|	V|
24+10	2.6798	0.18	Q	|	|	|	V|
24+15	2.6810	0.18	Q	|	|	|	V|
24+20	2.6822	0.17	Q	|	|	|	V|
24+25	2.6833	0.16	Q	|	|	|	V|
24+30	2.6842	0.14	Q	|	|	|	V|
24+35	2.6850	0.12	Q	|	|	|	V|
24+40	2.6857	0.10	Q	|	|	|	V|
24+45	2.6863	0.09	Q	|	|	|	V|

24+50	2.6868	0.08	Q	|	|	|	V|
24+55	2.6873	0.07	Q	|	|	|	V|
25+ 0	2.6877	0.06	Q	|	|	|	V|
25+ 5	2.6881	0.06	Q	|	|	|	V|
25+10	2.6884	0.05	Q	|	|	|	V|
25+15	2.6887	0.05	Q	|	|	|	V|
25+20	2.6890	0.04	Q	|	|	|	V|
25+25	2.6893	0.04	Q	|	|	|	V|
25+30	2.6895	0.04	Q	|	|	|	V|
25+35	2.6898	0.03	Q	|	|	|	V|
25+40	2.6900	0.03	Q	|	|	|	V|
25+45	2.6902	0.03	Q	|	|	|	V|
25+50	2.6903	0.03	Q	|	|	|	V|
25+55	2.6905	0.02	Q	|	|	|	V|
26+ 0	2.6906	0.02	Q	|	|	|	V|
26+ 5	2.6908	0.02	Q	|	|	|	V|
26+10	2.6909	0.02	Q	|	|	|	V|
26+15	2.6910	0.02	Q	|	|	|	V|
26+20	2.6911	0.02	Q	|	|	|	V|
26+25	2.6912	0.01	Q	|	|	|	V|
26+30	2.6913	0.01	Q	|	|	|	V|
26+35	2.6914	0.01	Q	|	|	|	V|
26+40	2.6915	0.01	Q	|	|	|	V|
26+45	2.6916	0.01	Q	|	|	|	V|
26+50	2.6916	0.01	Q	|	|	|	V|
26+55	2.6917	0.01	Q	|	|	|	V|
27+ 0	2.6917	0.01	Q	|	|	|	V|
27+ 5	2.6918	0.01	Q	|	|	|	V|
27+10	2.6918	0.01	Q	|	|	|	V|
27+15	2.6919	0.01	Q	|	|	|	V|
27+20	2.6919	0.01	Q	|	|	|	V|
27+25	2.6920	0.01	Q	|	|	|	V|
27+30	2.6920	0.00	Q	|	|	|	V|
27+35	2.6920	0.00	Q	|	|	|	V|
27+40	2.6920	0.00	Q	|	|	|	V|
27+45	2.6921	0.00	Q	|	|	|	V|
27+50	2.6921	0.00	Q	|	|	|	V|
27+55	2.6921	0.00	Q	|	|	|	V|
28+ 0	2.6921	0.00	Q	|	|	|	V|
28+ 5	2.6922	0.00	Q	|	|	|	V|
28+10	2.6922	0.00	Q	|	|	|	V|
28+15	2.6922	0.00	Q	|	|	|	V|
28+20	2.6922	0.00	Q	|	|	|	V|
28+25	2.6922	0.00	Q	|	|	|	V|
28+30	2.6922	0.00	Q	|	|	|	V|
28+35	2.6922	0.00	Q	|	|	|	V|
28+40	2.6922	0.00	Q	|	|	|	V|
28+45	2.6922	0.00	Q	|	|	|	V|
28+50	2.6922	0.00	Q	|	|	|	V|
28+55	2.6922	0.00	Q	|	|	|	V|
29+ 0	2.6922	0.00	Q	|	|	|	V|
29+ 5	2.6922	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 21
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
9.89	1	1.36
Rainfall data for year 100		
9.89	6	1.84
Rainfall data for year 100		
9.89	24	2.47

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
61.6	80.3	9.89	1.000	0.365	1.000	0.365

Area-averaged adjusted loss rate Fm (In/Hr) = 0.365

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
9.89	1.000	61.6	80.3	2.46	0.357

Area-averaged catchment yield fraction, Y = 0.357
Area-averaged low loss fraction, Yb = 0.643
User entry of time of concentration = 0.810 (hours)
++
Watershed area = 9.89(Ac.)
Catchment Lag time = 0.648 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 12.8601
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.365(In/Hr)
Average low loss rate fraction (Yb) = 0.643 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.470(In)

Rainfall depth area reduction factors:
Using a total area of 9.89(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.645(In)
30-minute factor = 1.000 Adjusted rainfall = 1.104(In)
1-hour factor = 1.000 Adjusted rainfall = 1.359(In)
3-hour factor = 1.000 Adjusted rainfall = 1.637(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.470(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 119.61 (CFS))	
1	0.566	0.677
2	2.242	2.005
3	4.977	3.271
4	8.848	4.630
5	15.585	8.058
6	26.897	13.530
7	38.600	13.997
8	47.690	10.872
9	54.786	8.488
10	60.177	6.448
11	64.400	5.051
12	67.926	4.217
13	71.046	3.732
14	73.699	3.172

15	76.010	2.765
16	78.141	2.549
17	79.909	2.115
18	81.568	1.983
19	82.994	1.707
20	84.359	1.632
21	85.609	1.494
22	86.804	1.430
23	87.848	1.249
24	88.819	1.161
25	89.604	0.939
26	90.362	0.907
27	91.084	0.864
28	91.773	0.824
29	92.393	0.741
30	92.992	0.717
31	93.558	0.678
32	94.072	0.615
33	94.510	0.524
34	94.948	0.523
35	95.385	0.523
36	95.770	0.460
37	96.104	0.400
38	96.439	0.400
39	96.772	0.399
40	97.044	0.325
41	97.275	0.277
42	97.506	0.277
43	97.735	0.274
44	97.894	0.190
45	98.023	0.154
46	98.151	0.154
47	98.281	0.156
48	98.430	0.178
49	98.585	0.185
50	98.739	0.185
51	98.893	0.185
52	99.048	0.185
53	99.202	0.185
54	99.356	0.185
55	99.499	0.170
56	99.586	0.104
57	99.666	0.096
58	99.747	0.096
59	99.827	0.096
60	99.907	0.096
61	100.000	0.048

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6450	0.6450
2	0.7941	0.1491
3	0.8968	0.1027
4	0.9777	0.0808
5	1.0454	0.0677
6	1.1042	0.0588
7	1.1564	0.0523
8	1.2037	0.0473
9	1.2470	0.0433

10	1.2870	0.0400
11	1.3243	0.0373
12	1.3594	0.0350
13	1.3779	0.0185
14	1.3953	0.0174
15	1.4116	0.0164
16	1.4271	0.0155
17	1.4418	0.0147
18	1.4558	0.0140
19	1.4692	0.0134
20	1.4820	0.0128
21	1.4943	0.0123
22	1.5061	0.0118
23	1.5174	0.0114
24	1.5284	0.0110
25	1.5390	0.0106
26	1.5492	0.0102
27	1.5591	0.0099
28	1.5687	0.0096
29	1.5781	0.0093
30	1.5872	0.0091
31	1.5960	0.0088
32	1.6046	0.0086
33	1.6129	0.0084
34	1.6211	0.0082
35	1.6291	0.0080
36	1.6368	0.0078
37	1.6444	0.0076
38	1.6518	0.0074
39	1.6591	0.0073
40	1.6662	0.0071
41	1.6732	0.0070
42	1.6800	0.0068
43	1.6867	0.0067
44	1.6932	0.0066
45	1.6997	0.0064
46	1.7060	0.0063
47	1.7122	0.0062
48	1.7183	0.0061
49	1.7243	0.0060
50	1.7301	0.0059
51	1.7359	0.0058
52	1.7416	0.0057
53	1.7472	0.0056
54	1.7528	0.0055
55	1.7582	0.0054
56	1.7635	0.0054
57	1.7688	0.0053
58	1.7740	0.0052
59	1.7791	0.0051
60	1.7842	0.0051
61	1.7892	0.0050
62	1.7941	0.0049
63	1.7989	0.0049
64	1.8037	0.0048
65	1.8085	0.0047
66	1.8131	0.0047
67	1.8177	0.0046
68	1.8223	0.0045

69	1.8268	0.0045
70	1.8312	0.0044
71	1.8356	0.0044
72	1.8399	0.0043
73	1.8453	0.0054
74	1.8507	0.0053
75	1.8560	0.0053
76	1.8612	0.0052
77	1.8664	0.0052
78	1.8715	0.0051
79	1.8766	0.0051
80	1.8816	0.0050
81	1.8866	0.0050
82	1.8915	0.0049
83	1.8964	0.0049
84	1.9012	0.0048
85	1.9060	0.0048
86	1.9107	0.0047
87	1.9154	0.0047
88	1.9201	0.0047
89	1.9247	0.0046
90	1.9293	0.0046
91	1.9338	0.0045
92	1.9383	0.0045
93	1.9427	0.0045
94	1.9472	0.0044
95	1.9515	0.0044
96	1.9559	0.0043
97	1.9602	0.0043
98	1.9645	0.0043
99	1.9687	0.0042
100	1.9729	0.0042
101	1.9771	0.0042
102	1.9812	0.0041
103	1.9853	0.0041
104	1.9894	0.0041
105	1.9935	0.0040
106	1.9975	0.0040
107	2.0015	0.0040
108	2.0054	0.0040
109	2.0094	0.0039
110	2.0133	0.0039
111	2.0171	0.0039
112	2.0210	0.0038
113	2.0248	0.0038
114	2.0286	0.0038
115	2.0324	0.0038
116	2.0361	0.0037
117	2.0398	0.0037
118	2.0435	0.0037
119	2.0472	0.0037
120	2.0508	0.0036
121	2.0544	0.0036
122	2.0580	0.0036
123	2.0616	0.0036
124	2.0652	0.0035
125	2.0687	0.0035
126	2.0722	0.0035
127	2.0757	0.0035

128	2.0791	0.0035
129	2.0826	0.0034
130	2.0860	0.0034
131	2.0894	0.0034
132	2.0928	0.0034
133	2.0961	0.0034
134	2.0995	0.0033
135	2.1028	0.0033
136	2.1061	0.0033
137	2.1094	0.0033
138	2.1126	0.0033
139	2.1159	0.0032
140	2.1191	0.0032
141	2.1223	0.0032
142	2.1255	0.0032
143	2.1287	0.0032
144	2.1318	0.0032
145	2.1349	0.0031
146	2.1381	0.0031
147	2.1412	0.0031
148	2.1443	0.0031
149	2.1473	0.0031
150	2.1504	0.0031
151	2.1534	0.0030
152	2.1564	0.0030
153	2.1594	0.0030
154	2.1624	0.0030
155	2.1654	0.0030
156	2.1684	0.0030
157	2.1713	0.0029
158	2.1742	0.0029
159	2.1772	0.0029
160	2.1801	0.0029
161	2.1829	0.0029
162	2.1858	0.0029
163	2.1887	0.0029
164	2.1915	0.0028
165	2.1944	0.0028
166	2.1972	0.0028
167	2.2000	0.0028
168	2.2028	0.0028
169	2.2055	0.0028
170	2.2083	0.0028
171	2.2111	0.0028
172	2.2138	0.0027
173	2.2165	0.0027
174	2.2192	0.0027
175	2.2220	0.0027
176	2.2246	0.0027
177	2.2273	0.0027
178	2.2300	0.0027
179	2.2326	0.0027
180	2.2353	0.0026
181	2.2379	0.0026
182	2.2405	0.0026
183	2.2431	0.0026
184	2.2457	0.0026
185	2.2483	0.0026
186	2.2509	0.0026

187	2.2535	0.0026
188	2.2560	0.0026
189	2.2586	0.0025
190	2.2611	0.0025
191	2.2636	0.0025
192	2.2661	0.0025
193	2.2686	0.0025
194	2.2711	0.0025
195	2.2736	0.0025
196	2.2761	0.0025
197	2.2786	0.0025
198	2.2810	0.0025
199	2.2834	0.0024
200	2.2859	0.0024
201	2.2883	0.0024
202	2.2907	0.0024
203	2.2931	0.0024
204	2.2955	0.0024
205	2.2979	0.0024
206	2.3003	0.0024
207	2.3026	0.0024
208	2.3050	0.0024
209	2.3073	0.0023
210	2.3097	0.0023
211	2.3120	0.0023
212	2.3143	0.0023
213	2.3167	0.0023
214	2.3190	0.0023
215	2.3213	0.0023
216	2.3236	0.0023
217	2.3258	0.0023
218	2.3281	0.0023
219	2.3304	0.0023
220	2.3326	0.0023
221	2.3349	0.0022
222	2.3371	0.0022
223	2.3393	0.0022
224	2.3416	0.0022
225	2.3438	0.0022
226	2.3460	0.0022
227	2.3482	0.0022
228	2.3504	0.0022
229	2.3526	0.0022
230	2.3548	0.0022
231	2.3569	0.0022
232	2.3591	0.0022
233	2.3612	0.0022
234	2.3634	0.0021
235	2.3655	0.0021
236	2.3677	0.0021
237	2.3698	0.0021
238	2.3719	0.0021
239	2.3740	0.0021
240	2.3761	0.0021
241	2.3782	0.0021
242	2.3803	0.0021
243	2.3824	0.0021
244	2.3845	0.0021
245	2.3866	0.0021

246	2.3886	0.0021
247	2.3907	0.0021
248	2.3927	0.0021
249	2.3948	0.0020
250	2.3968	0.0020
251	2.3989	0.0020
252	2.4009	0.0020
253	2.4029	0.0020
254	2.4049	0.0020
255	2.4069	0.0020
256	2.4089	0.0020
257	2.4109	0.0020
258	2.4129	0.0020
259	2.4149	0.0020
260	2.4169	0.0020
261	2.4189	0.0020
262	2.4208	0.0020
263	2.4228	0.0020
264	2.4247	0.0020
265	2.4267	0.0019
266	2.4286	0.0019
267	2.4306	0.0019
268	2.4325	0.0019
269	2.4344	0.0019
270	2.4363	0.0019
271	2.4383	0.0019
272	2.4402	0.0019
273	2.4421	0.0019
274	2.4440	0.0019
275	2.4459	0.0019
276	2.4477	0.0019
277	2.4496	0.0019
278	2.4515	0.0019
279	2.4534	0.0019
280	2.4552	0.0019
281	2.4571	0.0019
282	2.4589	0.0019
283	2.4608	0.0018
284	2.4626	0.0018
285	2.4645	0.0018
286	2.4663	0.0018
287	2.4681	0.0018
288	2.4700	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0012	0.0007
2	0.0018	0.0012	0.0007
3	0.0018	0.0012	0.0007
4	0.0018	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007

12	0.0019	0.0012	0.0007
13	0.0019	0.0012	0.0007
14	0.0019	0.0012	0.0007
15	0.0019	0.0012	0.0007
16	0.0019	0.0012	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0020	0.0013	0.0007
26	0.0020	0.0013	0.0007
27	0.0020	0.0013	0.0007
28	0.0021	0.0013	0.0007
29	0.0021	0.0013	0.0007
30	0.0021	0.0013	0.0007
31	0.0021	0.0013	0.0007
32	0.0021	0.0013	0.0007
33	0.0021	0.0014	0.0008
34	0.0021	0.0014	0.0008
35	0.0021	0.0014	0.0008
36	0.0021	0.0014	0.0008
37	0.0021	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0022	0.0014	0.0008
44	0.0022	0.0014	0.0008
45	0.0022	0.0014	0.0008
46	0.0022	0.0014	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0008
50	0.0023	0.0015	0.0008
51	0.0023	0.0015	0.0008
52	0.0023	0.0015	0.0008
53	0.0023	0.0015	0.0008
54	0.0023	0.0015	0.0008
55	0.0024	0.0015	0.0008
56	0.0024	0.0015	0.0008
57	0.0024	0.0015	0.0009
58	0.0024	0.0015	0.0009
59	0.0024	0.0016	0.0009
60	0.0024	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0025	0.0016	0.0009
66	0.0025	0.0016	0.0009
67	0.0025	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0017	0.0009
70	0.0026	0.0017	0.0009

71	0.0026	0.0017	0.0009
72	0.0026	0.0017	0.0009
73	0.0026	0.0017	0.0009
74	0.0027	0.0017	0.0009
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0027	0.0017	0.0010
78	0.0027	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0028	0.0018	0.0010
83	0.0028	0.0018	0.0010
84	0.0028	0.0018	0.0010
85	0.0029	0.0018	0.0010
86	0.0029	0.0019	0.0010
87	0.0029	0.0019	0.0010
88	0.0029	0.0019	0.0010
89	0.0030	0.0019	0.0011
90	0.0030	0.0019	0.0011
91	0.0030	0.0019	0.0011
92	0.0030	0.0019	0.0011
93	0.0031	0.0020	0.0011
94	0.0031	0.0020	0.0011
95	0.0031	0.0020	0.0011
96	0.0031	0.0020	0.0011
97	0.0032	0.0020	0.0011
98	0.0032	0.0020	0.0011
99	0.0032	0.0021	0.0011
100	0.0032	0.0021	0.0012
101	0.0033	0.0021	0.0012
102	0.0033	0.0021	0.0012
103	0.0033	0.0021	0.0012
104	0.0033	0.0021	0.0012
105	0.0034	0.0022	0.0012
106	0.0034	0.0022	0.0012
107	0.0034	0.0022	0.0012
108	0.0035	0.0022	0.0012
109	0.0035	0.0023	0.0013
110	0.0035	0.0023	0.0013
111	0.0036	0.0023	0.0013
112	0.0036	0.0023	0.0013
113	0.0036	0.0023	0.0013
114	0.0037	0.0024	0.0013
115	0.0037	0.0024	0.0013
116	0.0037	0.0024	0.0013
117	0.0038	0.0024	0.0014
118	0.0038	0.0025	0.0014
119	0.0039	0.0025	0.0014
120	0.0039	0.0025	0.0014
121	0.0040	0.0025	0.0014
122	0.0040	0.0026	0.0014
123	0.0040	0.0026	0.0014
124	0.0041	0.0026	0.0015
125	0.0041	0.0027	0.0015
126	0.0042	0.0027	0.0015
127	0.0042	0.0027	0.0015
128	0.0043	0.0027	0.0015
129	0.0043	0.0028	0.0016

130	0.0044	0.0028	0.0016
131	0.0045	0.0029	0.0016
132	0.0045	0.0029	0.0016
133	0.0046	0.0029	0.0016
134	0.0046	0.0030	0.0016
135	0.0047	0.0030	0.0017
136	0.0047	0.0030	0.0017
137	0.0048	0.0031	0.0017
138	0.0049	0.0031	0.0017
139	0.0050	0.0032	0.0018
140	0.0050	0.0032	0.0018
141	0.0051	0.0033	0.0018
142	0.0052	0.0033	0.0018
143	0.0053	0.0034	0.0019
144	0.0053	0.0034	0.0019
145	0.0043	0.0028	0.0016
146	0.0044	0.0028	0.0016
147	0.0045	0.0029	0.0016
148	0.0045	0.0029	0.0016
149	0.0047	0.0030	0.0017
150	0.0047	0.0030	0.0017
151	0.0049	0.0031	0.0017
152	0.0049	0.0032	0.0018
153	0.0051	0.0032	0.0018
154	0.0051	0.0033	0.0018
155	0.0053	0.0034	0.0019
156	0.0054	0.0034	0.0019
157	0.0055	0.0035	0.0020
158	0.0056	0.0036	0.0020
159	0.0058	0.0037	0.0021
160	0.0059	0.0038	0.0021
161	0.0061	0.0039	0.0022
162	0.0062	0.0040	0.0022
163	0.0064	0.0041	0.0023
164	0.0066	0.0042	0.0023
165	0.0068	0.0044	0.0024
166	0.0070	0.0045	0.0025
167	0.0073	0.0047	0.0026
168	0.0074	0.0048	0.0027
169	0.0078	0.0050	0.0028
170	0.0080	0.0051	0.0028
171	0.0084	0.0054	0.0030
172	0.0086	0.0055	0.0031
173	0.0091	0.0058	0.0032
174	0.0093	0.0060	0.0033
175	0.0099	0.0064	0.0035
176	0.0102	0.0066	0.0037
177	0.0110	0.0070	0.0039
178	0.0114	0.0073	0.0041
179	0.0123	0.0079	0.0044
180	0.0128	0.0082	0.0046
181	0.0140	0.0090	0.0050
182	0.0147	0.0094	0.0053
183	0.0164	0.0105	0.0059
184	0.0174	0.0112	0.0062
185	0.0350	0.0225	0.0125
186	0.0373	0.0240	0.0133
187	0.0433	0.0278	0.0155
188	0.0473	0.0304	0.0169

189	0.0588	0.0304	0.0284
190	0.0677	0.0304	0.0373
191	0.1027	0.0304	0.0723
192	0.1491	0.0304	0.1187
193	0.6450	0.0304	0.6146
194	0.0808	0.0304	0.0504
195	0.0523	0.0304	0.0218
196	0.0400	0.0257	0.0143
197	0.0185	0.0119	0.0066
198	0.0155	0.0100	0.0055
199	0.0134	0.0086	0.0048
200	0.0118	0.0076	0.0042
201	0.0106	0.0068	0.0038
202	0.0096	0.0062	0.0034
203	0.0088	0.0057	0.0032
204	0.0082	0.0052	0.0029
205	0.0076	0.0049	0.0027
206	0.0071	0.0046	0.0025
207	0.0067	0.0043	0.0024
208	0.0063	0.0041	0.0023
209	0.0060	0.0038	0.0021
210	0.0057	0.0037	0.0020
211	0.0054	0.0035	0.0019
212	0.0052	0.0033	0.0019
213	0.0050	0.0032	0.0018
214	0.0048	0.0031	0.0017
215	0.0046	0.0030	0.0016
216	0.0044	0.0029	0.0016
217	0.0054	0.0035	0.0019
218	0.0052	0.0034	0.0019
219	0.0051	0.0033	0.0018
220	0.0049	0.0032	0.0018
221	0.0048	0.0031	0.0017
222	0.0047	0.0030	0.0017
223	0.0045	0.0029	0.0016
224	0.0044	0.0028	0.0016
225	0.0043	0.0028	0.0015
226	0.0042	0.0027	0.0015
227	0.0041	0.0026	0.0015
228	0.0040	0.0026	0.0014
229	0.0039	0.0025	0.0014
230	0.0038	0.0025	0.0014
231	0.0038	0.0024	0.0013
232	0.0037	0.0024	0.0013
233	0.0036	0.0023	0.0013
234	0.0035	0.0023	0.0013
235	0.0035	0.0022	0.0012
236	0.0034	0.0022	0.0012
237	0.0034	0.0022	0.0012
238	0.0033	0.0021	0.0012
239	0.0032	0.0021	0.0012
240	0.0032	0.0020	0.0011
241	0.0031	0.0020	0.0011
242	0.0031	0.0020	0.0011
243	0.0030	0.0020	0.0011
244	0.0030	0.0019	0.0011
245	0.0029	0.0019	0.0011
246	0.0029	0.0019	0.0010
247	0.0029	0.0018	0.0010

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      248              0.0028          0.0018              0.0010
      249              0.0028          0.0018              0.0010
      250              0.0027          0.0018              0.0010
      251              0.0027          0.0017              0.0010
      252              0.0027          0.0017              0.0010
      253              0.0026          0.0017              0.0009
      254              0.0026          0.0017              0.0009
      255              0.0026          0.0016              0.0009
      256              0.0025          0.0016              0.0009
      257              0.0025          0.0016              0.0009
      258              0.0025          0.0016              0.0009
      259              0.0024          0.0016              0.0009
      260              0.0024          0.0016              0.0009
      261              0.0024          0.0015              0.0009
      262              0.0024          0.0015              0.0008
      263              0.0023          0.0015              0.0008
      264              0.0023          0.0015              0.0008
      265              0.0023          0.0015              0.0008
      266              0.0023          0.0014              0.0008
      267              0.0022          0.0014              0.0008
      268              0.0022          0.0014              0.0008
      269              0.0022          0.0014              0.0008
      270              0.0022          0.0014              0.0008
      271              0.0021          0.0014              0.0008
      272              0.0021          0.0014              0.0008
      273              0.0021          0.0013              0.0008
      274              0.0021          0.0013              0.0007
      275              0.0021          0.0013              0.0007
      276              0.0020          0.0013              0.0007
      277              0.0020          0.0013              0.0007
      278              0.0020          0.0013              0.0007
      279              0.0020          0.0013              0.0007
      280              0.0020          0.0013              0.0007
      281              0.0019          0.0013              0.0007
      282              0.0019          0.0012              0.0007
      283              0.0019          0.0012              0.0007
      284              0.0019          0.0012              0.0007
      285              0.0019          0.0012              0.0007
      286              0.0019          0.0012              0.0007
      287              0.0018          0.0012              0.0007
      288              0.0018          0.0012              0.0007
      ------------------------------------------------------------------------
      ------------------------------------------------------------------------
      Total soil rain loss =      1.06(In)
      Total effective rainfall =      1.41(In)
      Peak flow rate in flood hydrograph =     12.19(CFS)
      ------------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
----------------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q         |         |         |         |
  0+10       0.0000      0.00  Q         |         |         |         |
  0+15       0.0000      0.00  Q         |         |         |         |
```

0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.02	Q				
0+35	0.0005	0.03	Q				
0+40	0.0008	0.04	Q				
0+45	0.0011	0.04	Q				
0+50	0.0014	0.05	Q				
0+55	0.0018	0.05	Q				
1+ 0	0.0021	0.05	Q				
1+ 5	0.0025	0.06	Q				
1+10	0.0029	0.06	Q				
1+15	0.0034	0.06	Q				
1+20	0.0038	0.06	Q				
1+25	0.0042	0.06	Q				
1+30	0.0047	0.07	Q				
1+35	0.0051	0.07	Q				
1+40	0.0056	0.07	Q				
1+45	0.0061	0.07	Q				
1+50	0.0066	0.07	Q				
1+55	0.0071	0.07	Q				
2+ 0	0.0076	0.07	Q				
2+ 5	0.0081	0.07	Q				
2+10	0.0086	0.08	Q				
2+15	0.0092	0.08	Q				
2+20	0.0097	0.08	Q				
2+25	0.0102	0.08	Q				
2+30	0.0108	0.08	Q				
2+35	0.0113	0.08	Q				
2+40	0.0119	0.08	Q				
2+45	0.0124	0.08	Q				
2+50	0.0130	0.08	Q				
2+55	0.0136	0.08	Q				
3+ 0	0.0142	0.08	Q				
3+ 5	0.0147	0.08	Q				
3+10	0.0153	0.08	Q				
3+15	0.0159	0.09	Q				
3+20	0.0165	0.09	Q				
3+25	0.0171	0.09	Q				
3+30	0.0177	0.09	Q				
3+35	0.0183	0.09	Q				
3+40	0.0189	0.09	Q				
3+45	0.0195	0.09	Q				
3+50	0.0201	0.09	Q				
3+55	0.0208	0.09	Q				
4+ 0	0.0214	0.09	Q				
4+ 5	0.0220	0.09	Q				
4+10	0.0226	0.09	Q				
4+15	0.0233	0.09	Q				
4+20	0.0239	0.09	Q				
4+25	0.0246	0.09	Q				
4+30	0.0252	0.09	Q				
4+35	0.0259	0.09	Q				
4+40	0.0265	0.10	Q				
4+45	0.0272	0.10	Q				
4+50	0.0278	0.10	Q				
4+55	0.0285	0.10	Q				
5+ 0	0.0292	0.10	QV				
5+ 5	0.0299	0.10	QV				
5+10	0.0305	0.10	QV				

5+15	0.0312	0.10	QV				
5+20	0.0319	0.10	QV				
5+25	0.0326	0.10	QV				
5+30	0.0333	0.10	QV				
5+35	0.0340	0.10	QV				
5+40	0.0347	0.10	QV				
5+45	0.0354	0.10	QV				
5+50	0.0361	0.10	QV				
5+55	0.0368	0.10	QV				
6+ 0	0.0376	0.10	QV				
6+ 5	0.0383	0.11	QV				
6+10	0.0390	0.11	QV				
6+15	0.0398	0.11	QV				
6+20	0.0405	0.11	QV				
6+25	0.0412	0.11	QV				
6+30	0.0420	0.11	QV				
6+35	0.0427	0.11	QV				
6+40	0.0435	0.11	QV				
6+45	0.0443	0.11	QV				
6+50	0.0450	0.11	QV				
6+55	0.0458	0.11	QV				
7+ 0	0.0466	0.11	QV				
7+ 5	0.0474	0.11	QV				
7+10	0.0482	0.11	QV				
7+15	0.0489	0.12	QV				
7+20	0.0497	0.12	QV				
7+25	0.0506	0.12	QV				
7+30	0.0514	0.12	QV				
7+35	0.0522	0.12	QV				
7+40	0.0530	0.12	QV				
7+45	0.0538	0.12	QV				
7+50	0.0547	0.12	QV				
7+55	0.0555	0.12	QV				
8+ 0	0.0563	0.12	QV				
8+ 5	0.0572	0.12	QV				
8+10	0.0581	0.12	QV				
8+15	0.0589	0.13	Q V				
8+20	0.0598	0.13	Q V				
8+25	0.0607	0.13	Q V				
8+30	0.0616	0.13	Q V				
8+35	0.0624	0.13	Q V				
8+40	0.0633	0.13	Q V				
8+45	0.0643	0.13	Q V				
8+50	0.0652	0.13	Q V				
8+55	0.0661	0.13	Q V				
9+ 0	0.0670	0.13	Q V				
9+ 5	0.0680	0.14	Q V				
9+10	0.0689	0.14	Q V				
9+15	0.0698	0.14	Q V				
9+20	0.0708	0.14	Q V				
9+25	0.0718	0.14	Q V				
9+30	0.0728	0.14	Q V				
9+35	0.0737	0.14	Q V				
9+40	0.0747	0.14	Q V				
9+45	0.0757	0.15	Q V				
9+50	0.0768	0.15	Q V				
9+55	0.0778	0.15	Q V				
10+ 0	0.0788	0.15	Q V				
10+ 5	0.0799	0.15	Q V				

10+10	0.0809	0.15	Q V	|	|	|	|
10+15	0.0820	0.15	Q V	|	|	|	|
10+20	0.0831	0.16	Q V	|	|	|	|
10+25	0.0841	0.16	Q V	|	|	|	|
10+30	0.0852	0.16	Q V	|	|	|	|
10+35	0.0863	0.16	Q V	|	|	|	|
10+40	0.0875	0.16	Q V	|	|	|	|
10+45	0.0886	0.16	Q V	|	|	|	|
10+50	0.0897	0.17	Q V	|	|	|	|
10+55	0.0909	0.17	Q V	|	|	|	|
11+ 0	0.0921	0.17	Q V	|	|	|	|
11+ 5	0.0932	0.17	Q V	|	|	|	|
11+10	0.0944	0.17	Q V	|	|	|	|
11+15	0.0957	0.18	Q V	|	|	|	|
11+20	0.0969	0.18	Q V	|	|	|	|
11+25	0.0981	0.18	Q V	|	|	|	|
11+30	0.0994	0.18	Q V	|	|	|	|
11+35	0.1006	0.18	Q V	|	|	|	|
11+40	0.1019	0.19	Q V	|	|	|	|
11+45	0.1032	0.19	Q V	|	|	|	|
11+50	0.1045	0.19	Q V	|	|	|	|
11+55	0.1059	0.19	Q V	|	|	|	|
12+ 0	0.1072	0.20	Q V	|	|	|	|
12+ 5	0.1086	0.20	Q V	|	|	|	|
12+10	0.1100	0.20	Q V	|	|	|	|
12+15	0.1114	0.20	Q V	|	|	|	|
12+20	0.1128	0.20	Q V	|	|	|	|
12+25	0.1142	0.20	Q V	|	|	|	|
12+30	0.1156	0.20	Q V	|	|	|	|
12+35	0.1170	0.20	Q V	|	|	|	|
12+40	0.1183	0.20	Q V	|	|	|	|
12+45	0.1197	0.20	Q V	|	|	|	|
12+50	0.1210	0.20	Q V	|	|	|	|
12+55	0.1224	0.20	Q V	|	|	|	|
13+ 0	0.1238	0.20	Q V	|	|	|	|
13+ 5	0.1252	0.20	Q V	|	|	|	|
13+10	0.1266	0.21	Q V	|	|	|	|
13+15	0.1281	0.21	Q V	|	|	|	|
13+20	0.1295	0.21	Q V	|	|	|	|
13+25	0.1310	0.22	Q V	|	|	|	|
13+30	0.1325	0.22	Q V	|	|	|	|
13+35	0.1340	0.22	Q V	|	|	|	|
13+40	0.1356	0.23	Q V	|	|	|	|
13+45	0.1372	0.23	Q V	|	|	|	|
13+50	0.1388	0.24	Q V	|	|	|	|
13+55	0.1405	0.24	Q V	|	|	|	|
14+ 0	0.1422	0.25	Q V	|	|	|	|
14+ 5	0.1439	0.25	Q V	|	|	|	|
14+10	0.1457	0.26	Q V	|	|	|	|
14+15	0.1475	0.27	Q V	|	|	|	|
14+20	0.1494	0.27	Q V	|	|	|	|
14+25	0.1514	0.28	Q V	|	|	|	|
14+30	0.1534	0.29	Q V	|	|	|	|
14+35	0.1554	0.30	Q V	|	|	|	|
14+40	0.1575	0.31	Q V	|	|	|	|
14+45	0.1597	0.32	Q V	|	|	|	|
14+50	0.1620	0.33	Q V	|	|	|	|
14+55	0.1644	0.34	Q V	|	|	|	|
15+ 0	0.1668	0.36	Q V	|	|	|	|

```
15+ 5       0.1694      0.37  Q    V    |          |          |          |
15+10       0.1720      0.39  Q    V    |          |          |          |
15+15       0.1748      0.41  Q     V   |          |          |          |
15+20       0.1778      0.43  Q     V   |          |          |          |
15+25       0.1809      0.45  Q     V   |          |          |          |
15+30       0.1843      0.49  Q     V   |          |          |          |
15+35       0.1881      0.54  |Q    V   |          |          |          |
15+40       0.1922      0.61  |Q    V   |          |          |          |
15+45       0.1971      0.71  |Q    V   |          |          |          |
15+50       0.2031      0.87  |Q    V   |          |          |          |
15+55       0.2106      1.09  | Q    V  |          |          |          |
16+ 0       0.2203      1.41  | Q    V  |          |          |          |
16+ 5       0.2355      2.21  |   Q   V |          |          |          |
16+10       0.2593      3.46  |     Q V |          |          |          |
16+15       0.2923      4.79  |        QV          |          |          |
16+20       0.3360      6.34  |         |VQ        |          |          |
16+25       0.3978      8.98  |         |  V   Q   |          |          |
16+30       0.4818     12.19  |         |     V    |   Q      |          |
16+35       0.5656     12.17  |         |        V |   Q      |          |
16+40       0.6340      9.92  |         |        Q |V         |          |
16+45       0.6891      8.01  |         |     Q    |  V       |          |
16+50       0.7330      6.37  |         | Q        |    V     |          |
16+55       0.7687      5.19  |         Q          |     V    |          |
17+ 0       0.7991      4.42  |       Q |          |      V   |          |
17+ 5       0.8261      3.91  |      Q  |          |       V  |          |
17+10       0.8496      3.41  |     Q   |          |        V |          |
17+15       0.8704      3.03  |     Q   |          |        V |          |
17+20       0.8895      2.77  |    Q    |          |         V          |
17+25       0.9061      2.41  |   Q     |          |          |V         |
17+30       0.9215      2.24  |   Q     |          |          |V         |
17+35       0.9353      2.01  |   Q     |          |          | V        |
17+40       0.9484      1.89  |  Q      |          |          | V        |
17+45       0.9604      1.75  |  Q      |          |          |  V       |
17+50       0.9718      1.65  |  Q      |          |          |  V       |
17+55       0.9820      1.49  | Q       |          |          |  V       |
18+ 0       0.9915      1.38  | Q       |          |          |   V      |
18+ 5       0.9999      1.21  | Q       |          |          |   V      |
18+10       1.0078      1.15  | Q       |          |          |   V      |
18+15       1.0154      1.10  | Q       |          |          |   V      |
18+20       1.0225      1.04  | Q       |          |          |    V     |
18+25       1.0292      0.97  |Q        |          |          |    V     |
18+30       1.0357      0.93  |Q        |          |          |    V     |
18+35       1.0418      0.89  |Q        |          |          |    V     |
18+40       1.0475      0.83  |Q        |          |          |     V    |
18+45       1.0527      0.76  |Q        |          |          |     V    |
18+50       1.0578      0.74  |Q        |          |          |     V    |
18+55       1.0628      0.72  |Q        |          |          |     V    |
19+ 0       1.0674      0.66  |Q        |          |          |     V    |
19+ 5       1.0716      0.61  |Q        |          |          |     V    |
19+10       1.0757      0.60  |Q        |          |          |     V    |
19+15       1.0797      0.58  |Q        |          |          |      V   |
19+20       1.0833      0.52  |Q        |          |          |      V   |
19+25       1.0865      0.48  Q         |          |          |      V   |
19+30       1.0897      0.46  Q         |          |          |      V   |
19+35       1.0927      0.44  Q         |          |          |      V   |
19+40       1.0954      0.38  Q         |          |          |      V   |
19+45       1.0978      0.35  Q         |          |          |      V   |
19+50       1.1002      0.35  Q         |          |          |      V   |
19+55       1.1025      0.34  Q         |          |          |      V   |
```

20+ 0	1.1049	0.35	Q	|	|	|	V |
20+ 5	1.1074	0.35	Q	|	|	|	V |
20+10	1.1098	0.35	Q	|	|	|	V |
20+15	1.1121	0.34	Q	|	|	|	V |
20+20	1.1145	0.34	Q	|	|	|	V |
20+25	1.1168	0.33	Q	|	|	|	V |
20+30	1.1190	0.32	Q	|	|	|	V |
20+35	1.1210	0.30	Q	|	|	|	V |
20+40	1.1228	0.25	Q	|	|	|	V |
20+45	1.1244	0.24	Q	|	|	|	V |
20+50	1.1261	0.23	Q	|	|	|	V |
20+55	1.1276	0.23	Q	|	|	|	V |
21+ 0	1.1291	0.21	Q	|	|	|	V |
21+ 5	1.1303	0.18	Q	|	|	|	V |
21+10	1.1313	0.14	Q	|	|	|	V |
21+15	1.1322	0.14	Q	|	|	|	V |
21+20	1.1331	0.13	Q	|	|	|	V |
21+25	1.1340	0.13	Q	|	|	|	V |
21+30	1.1349	0.13	Q	|	|	|	V|
21+35	1.1358	0.13	Q	|	|	|	V|
21+40	1.1366	0.12	Q	|	|	|	V|
21+45	1.1375	0.12	Q	|	|	|	V|
21+50	1.1383	0.12	Q	|	|	|	V|
21+55	1.1391	0.12	Q	|	|	|	V|
22+ 0	1.1399	0.12	Q	|	|	|	V|
22+ 5	1.1407	0.11	Q	|	|	|	V|
22+10	1.1415	0.11	Q	|	|	|	V|
22+15	1.1423	0.11	Q	|	|	|	V|
22+20	1.1430	0.11	Q	|	|	|	V|
22+25	1.1438	0.11	Q	|	|	|	V|
22+30	1.1445	0.11	Q	|	|	|	V|
22+35	1.1452	0.11	Q	|	|	|	V|
22+40	1.1460	0.10	Q	|	|	|	V|
22+45	1.1467	0.10	Q	|	|	|	V|
22+50	1.1474	0.10	Q	|	|	|	V|
22+55	1.1481	0.10	Q	|	|	|	V|
23+ 0	1.1488	0.10	Q	|	|	|	V|
23+ 5	1.1494	0.10	Q	|	|	|	V|
23+10	1.1501	0.10	Q	|	|	|	V|
23+15	1.1508	0.10	Q	|	|	|	V|
23+20	1.1514	0.10	Q	|	|	|	V|
23+25	1.1521	0.09	Q	|	|	|	V|
23+30	1.1527	0.09	Q	|	|	|	V|
23+35	1.1534	0.09	Q	|	|	|	V|
23+40	1.1540	0.09	Q	|	|	|	V|
23+45	1.1546	0.09	Q	|	|	|	V|
23+50	1.1553	0.09	Q	|	|	|	V|
23+55	1.1559	0.09	Q	|	|	|	V|
24+ 0	1.1565	0.09	Q	|	|	|	V|
24+ 5	1.1571	0.09	Q	|	|	|	V|
24+10	1.1576	0.08	Q	|	|	|	V|
24+15	1.1582	0.08	Q	|	|	|	V|
24+20	1.1587	0.08	Q	|	|	|	V|
24+25	1.1592	0.07	Q	|	|	|	V|
24+30	1.1597	0.06	Q	|	|	|	V|
24+35	1.1600	0.05	Q	|	|	|	V|
24+40	1.1603	0.05	Q	|	|	|	V|
24+45	1.1606	0.04	Q	|	|	|	V|
24+50	1.1609	0.03	Q	|	|	|	V|

24+55	1.1611	0.03	Q	|	|	|	V|
25+ 0	1.1613	0.03	Q	|	|	|	V|
25+ 5	1.1614	0.03	Q	|	|	|	V|
25+10	1.1616	0.02	Q	|	|	|	V|
25+15	1.1617	0.02	Q	|	|	|	V|
25+20	1.1619	0.02	Q	|	|	|	V|
25+25	1.1620	0.02	Q	|	|	|	V|
25+30	1.1621	0.02	Q	|	|	|	V|
25+35	1.1622	0.01	Q	|	|	|	V|
25+40	1.1623	0.01	Q	|	|	|	V|
25+45	1.1624	0.01	Q	|	|	|	V|
25+50	1.1625	0.01	Q	|	|	|	V|
25+55	1.1625	0.01	Q	|	|	|	V|
26+ 0	1.1626	0.01	Q	|	|	|	V|
26+ 5	1.1627	0.01	Q	|	|	|	V|
26+10	1.1627	0.01	Q	|	|	|	V|
26+15	1.1628	0.01	Q	|	|	|	V|
26+20	1.1628	0.01	Q	|	|	|	V|
26+25	1.1629	0.01	Q	|	|	|	V|
26+30	1.1629	0.01	Q	|	|	|	V|
26+35	1.1629	0.01	Q	|	|	|	V|
26+40	1.1630	0.01	Q	|	|	|	V|
26+45	1.1630	0.00	Q	|	|	|	V|
26+50	1.1630	0.00	Q	|	|	|	V|
26+55	1.1631	0.00	Q	|	|	|	V|
27+ 0	1.1631	0.00	Q	|	|	|	V|
27+ 5	1.1631	0.00	Q	|	|	|	V|
27+10	1.1631	0.00	Q	|	|	|	V|
27+15	1.1632	0.00	Q	|	|	|	V|
27+20	1.1632	0.00	Q	|	|	|	V|
27+25	1.1632	0.00	Q	|	|	|	V|
27+30	1.1632	0.00	Q	|	|	|	V|
27+35	1.1632	0.00	Q	|	|	|	V|
27+40	1.1632	0.00	Q	|	|	|	V|
27+45	1.1632	0.00	Q	|	|	|	V|
27+50	1.1632	0.00	Q	|	|	|	V|
27+55	1.1633	0.00	Q	|	|	|	V|
28+ 0	1.1633	0.00	Q	|	|	|	V|
28+ 5	1.1633	0.00	Q	|	|	|	V|
28+10	1.1633	0.00	Q	|	|	|	V|
28+15	1.1633	0.00	Q	|	|	|	V|
28+20	1.1633	0.00	Q	|	|	|	V|
28+25	1.1633	0.00	Q	|	|	|	V|
28+30	1.1633	0.00	Q	|	|	|	V|
28+35	1.1633	0.00	Q	|	|	|	V|
28+40	1.1633	0.00	Q	|	|	|	V|
28+45	1.1633	0.00	Q	|	|	|	V|
28+50	1.1633	0.00	Q	|	|	|	V|
28+55	1.1633	0.00	Q	|	|	|	V|
29+ 0	1.1633	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 22
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.73	1	1.36
Rainfall data for year 100		
3.73	6	1.84
Rainfall data for year 100		
3.73	24	2.47

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	3.73	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.73	1.000	62.0	80.6	2.41	0.364

Area-averaged catchment yield fraction, Y = 0.364
Area-averaged low loss fraction, Yb = 0.636
User entry of time of concentration = 0.390 (hours)
++
Watershed area = 3.73(Ac.)
Catchment Lag time = 0.312 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 26.7094
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.636 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.470(In)

Rainfall depth area reduction factors:
Using a total area of 3.73(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.645(In)
30-minute factor = 1.000 Adjusted rainfall = 1.104(In)
1-hour factor = 1.000 Adjusted rainfall = 1.360(In)
3-hour factor = 1.000 Adjusted rainfall = 1.637(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.470(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 45.11 (CFS))	
1	1.482	0.669
2	7.420	2.679
3	23.386	7.202
4	45.504	9.977
5	59.274	6.211
6	67.621	3.765
7	73.654	2.722
8	78.228	2.063
9	81.762	1.594
10	84.638	1.298
11	87.117	1.118
12	89.115	0.901
13	90.695	0.713
14	92.107	0.637

15	93.340	0.557
16	94.376	0.467
17	95.282	0.409
18	96.053	0.348
19	96.739	0.309
20	97.275	0.242
21	97.738	0.209
22	98.043	0.137
23	98.317	0.124
24	98.632	0.142
25	98.953	0.145
26	99.273	0.145
27	99.545	0.123
28	99.716	0.077
29	99.883	0.075
30	100.000	0.053

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6452	0.6452
2	0.7944	0.1491
3	0.8971	0.1027
4	0.9780	0.0809
5	1.0457	0.0677
6	1.1045	0.0588
7	1.1567	0.0523
8	1.2040	0.0473
9	1.2473	0.0433
10	1.2874	0.0401
11	1.3247	0.0373
12	1.3598	0.0350
13	1.3783	0.0185
14	1.3956	0.0174
15	1.4120	0.0164
16	1.4274	0.0155
17	1.4421	0.0147
18	1.4561	0.0140
19	1.4695	0.0134
20	1.4822	0.0128
21	1.4945	0.0123
22	1.5063	0.0118
23	1.5176	0.0113
24	1.5286	0.0109
25	1.5392	0.0106
26	1.5494	0.0102
27	1.5593	0.0099
28	1.5689	0.0096
29	1.5782	0.0093
30	1.5873	0.0091
31	1.5961	0.0088
32	1.6047	0.0086
33	1.6130	0.0084
34	1.6212	0.0082
35	1.6291	0.0080
36	1.6369	0.0078
37	1.6445	0.0076
38	1.6519	0.0074
39	1.6592	0.0073
40	1.6663	0.0071

41	1.6732	0.0070
42	1.6800	0.0068
43	1.6867	0.0067
44	1.6933	0.0066
45	1.6997	0.0064
46	1.7060	0.0063
47	1.7122	0.0062
48	1.7183	0.0061
49	1.7243	0.0060
50	1.7302	0.0059
51	1.7360	0.0058
52	1.7417	0.0057
53	1.7473	0.0056
54	1.7528	0.0055
55	1.7582	0.0054
56	1.7636	0.0054
57	1.7689	0.0053
58	1.7741	0.0052
59	1.7792	0.0051
60	1.7842	0.0051
61	1.7892	0.0050
62	1.7941	0.0049
63	1.7990	0.0048
64	1.8038	0.0048
65	1.8085	0.0047
66	1.8132	0.0047
67	1.8178	0.0046
68	1.8223	0.0045
69	1.8268	0.0045
70	1.8313	0.0044
71	1.8356	0.0044
72	1.8400	0.0043
73	1.8454	0.0054
74	1.8507	0.0053
75	1.8560	0.0053
76	1.8612	0.0052
77	1.8664	0.0052
78	1.8715	0.0051
79	1.8766	0.0051
80	1.8816	0.0050
81	1.8866	0.0050
82	1.8915	0.0049
83	1.8964	0.0049
84	1.9012	0.0048
85	1.9060	0.0048
86	1.9107	0.0047
87	1.9154	0.0047
88	1.9201	0.0047
89	1.9247	0.0046
90	1.9293	0.0046
91	1.9338	0.0045
92	1.9383	0.0045
93	1.9428	0.0045
94	1.9472	0.0044
95	1.9516	0.0044
96	1.9559	0.0043
97	1.9602	0.0043
98	1.9645	0.0043
99	1.9687	0.0042

100	1.9730	0.0042
101	1.9771	0.0042
102	1.9813	0.0041
103	1.9854	0.0041
104	1.9895	0.0041
105	1.9935	0.0040
106	1.9975	0.0040
107	2.0015	0.0040
108	2.0055	0.0040
109	2.0094	0.0039
110	2.0133	0.0039
111	2.0172	0.0039
112	2.0210	0.0038
113	2.0248	0.0038
114	2.0286	0.0038
115	2.0324	0.0038
116	2.0361	0.0037
117	2.0399	0.0037
118	2.0435	0.0037
119	2.0472	0.0037
120	2.0509	0.0036
121	2.0545	0.0036
122	2.0581	0.0036
123	2.0616	0.0036
124	2.0652	0.0035
125	2.0687	0.0035
126	2.0722	0.0035
127	2.0757	0.0035
128	2.0792	0.0035
129	2.0826	0.0034
130	2.0860	0.0034
131	2.0894	0.0034
132	2.0928	0.0034
133	2.0962	0.0034
134	2.0995	0.0033
135	2.1028	0.0033
136	2.1061	0.0033
137	2.1094	0.0033
138	2.1127	0.0033
139	2.1159	0.0032
140	2.1191	0.0032
141	2.1223	0.0032
142	2.1255	0.0032
143	2.1287	0.0032
144	2.1318	0.0032
145	2.1350	0.0031
146	2.1381	0.0031
147	2.1412	0.0031
148	2.1443	0.0031
149	2.1473	0.0031
150	2.1504	0.0031
151	2.1534	0.0030
152	2.1565	0.0030
153	2.1595	0.0030
154	2.1625	0.0030
155	2.1654	0.0030
156	2.1684	0.0030
157	2.1713	0.0029
158	2.1743	0.0029

159	2.1772	0.0029
160	2.1801	0.0029
161	2.1830	0.0029
162	2.1858	0.0029
163	2.1887	0.0029
164	2.1915	0.0028
165	2.1944	0.0028
166	2.1972	0.0028
167	2.2000	0.0028
168	2.2028	0.0028
169	2.2056	0.0028
170	2.2083	0.0028
171	2.2111	0.0028
172	2.2138	0.0027
173	2.2166	0.0027
174	2.2193	0.0027
175	2.2220	0.0027
176	2.2247	0.0027
177	2.2273	0.0027
178	2.2300	0.0027
179	2.2327	0.0027
180	2.2353	0.0026
181	2.2379	0.0026
182	2.2406	0.0026
183	2.2432	0.0026
184	2.2458	0.0026
185	2.2484	0.0026
186	2.2509	0.0026
187	2.2535	0.0026
188	2.2561	0.0026
189	2.2586	0.0025
190	2.2611	0.0025
191	2.2637	0.0025
192	2.2662	0.0025
193	2.2687	0.0025
194	2.2712	0.0025
195	2.2736	0.0025
196	2.2761	0.0025
197	2.2786	0.0025
198	2.2810	0.0025
199	2.2835	0.0024
200	2.2859	0.0024
201	2.2883	0.0024
202	2.2907	0.0024
203	2.2931	0.0024
204	2.2955	0.0024
205	2.2979	0.0024
206	2.3003	0.0024
207	2.3027	0.0024
208	2.3050	0.0024
209	2.3074	0.0023
210	2.3097	0.0023
211	2.3120	0.0023
212	2.3144	0.0023
213	2.3167	0.0023
214	2.3190	0.0023
215	2.3213	0.0023
216	2.3236	0.0023
217	2.3259	0.0023

218	2.3281	0.0023
219	2.3304	0.0023
220	2.3327	0.0023
221	2.3349	0.0022
222	2.3371	0.0022
223	2.3394	0.0022
224	2.3416	0.0022
225	2.3438	0.0022
226	2.3460	0.0022
227	2.3482	0.0022
228	2.3504	0.0022
229	2.3526	0.0022
230	2.3548	0.0022
231	2.3570	0.0022
232	2.3591	0.0022
233	2.3613	0.0022
234	2.3634	0.0021
235	2.3656	0.0021
236	2.3677	0.0021
237	2.3698	0.0021
238	2.3719	0.0021
239	2.3741	0.0021
240	2.3762	0.0021
241	2.3783	0.0021
242	2.3804	0.0021
243	2.3824	0.0021
244	2.3845	0.0021
245	2.3866	0.0021
246	2.3887	0.0021
247	2.3907	0.0021
248	2.3928	0.0021
249	2.3948	0.0020
250	2.3969	0.0020
251	2.3989	0.0020
252	2.4009	0.0020
253	2.4029	0.0020
254	2.4050	0.0020
255	2.4070	0.0020
256	2.4090	0.0020
257	2.4110	0.0020
258	2.4129	0.0020
259	2.4149	0.0020
260	2.4169	0.0020
261	2.4189	0.0020
262	2.4208	0.0020
263	2.4228	0.0020
264	2.4248	0.0020
265	2.4267	0.0019
266	2.4286	0.0019
267	2.4306	0.0019
268	2.4325	0.0019
269	2.4344	0.0019
270	2.4364	0.0019
271	2.4383	0.0019
272	2.4402	0.0019
273	2.4421	0.0019
274	2.4440	0.0019
275	2.4459	0.0019
276	2.4478	0.0019

277	2.4496	0.0019
278	2.4515	0.0019
279	2.4534	0.0019
280	2.4553	0.0019
281	2.4571	0.0019
282	2.4590	0.0019
283	2.4608	0.0018
284	2.4627	0.0018
285	2.4645	0.0018
286	2.4663	0.0018
287	2.4682	0.0018
288	2.4700	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0012	0.0007
2	0.0018	0.0012	0.0007
3	0.0018	0.0012	0.0007
4	0.0018	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0019	0.0012	0.0007
14	0.0019	0.0012	0.0007
15	0.0019	0.0012	0.0007
16	0.0019	0.0012	0.0007
17	0.0020	0.0012	0.0007
18	0.0020	0.0012	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0020	0.0013	0.0007
26	0.0020	0.0013	0.0007
27	0.0020	0.0013	0.0007
28	0.0021	0.0013	0.0007
29	0.0021	0.0013	0.0008
30	0.0021	0.0013	0.0008
31	0.0021	0.0013	0.0008
32	0.0021	0.0013	0.0008
33	0.0021	0.0013	0.0008
34	0.0021	0.0013	0.0008
35	0.0021	0.0014	0.0008
36	0.0021	0.0014	0.0008
37	0.0021	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008

43	0.0022	0.0014	0.0008
44	0.0022	0.0014	0.0008
45	0.0022	0.0014	0.0008
46	0.0022	0.0014	0.0008
47	0.0023	0.0014	0.0008
48	0.0023	0.0014	0.0008
49	0.0023	0.0015	0.0008
50	0.0023	0.0015	0.0008
51	0.0023	0.0015	0.0008
52	0.0023	0.0015	0.0008
53	0.0023	0.0015	0.0009
54	0.0023	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0024	0.0015	0.0009
57	0.0024	0.0015	0.0009
58	0.0024	0.0015	0.0009
59	0.0024	0.0015	0.0009
60	0.0024	0.0015	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0025	0.0016	0.0009
66	0.0025	0.0016	0.0009
67	0.0025	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0016	0.0009
70	0.0026	0.0016	0.0009
71	0.0026	0.0017	0.0010
72	0.0026	0.0017	0.0010
73	0.0026	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0027	0.0017	0.0010
78	0.0027	0.0017	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0028	0.0018	0.0010
83	0.0028	0.0018	0.0010
84	0.0028	0.0018	0.0010
85	0.0029	0.0018	0.0010
86	0.0029	0.0018	0.0011
87	0.0029	0.0019	0.0011
88	0.0029	0.0019	0.0011
89	0.0030	0.0019	0.0011
90	0.0030	0.0019	0.0011
91	0.0030	0.0019	0.0011
92	0.0030	0.0019	0.0011
93	0.0031	0.0019	0.0011
94	0.0031	0.0020	0.0011
95	0.0031	0.0020	0.0011
96	0.0031	0.0020	0.0011
97	0.0032	0.0020	0.0011
98	0.0032	0.0020	0.0012
99	0.0032	0.0020	0.0012
100	0.0032	0.0020	0.0012
101	0.0033	0.0021	0.0012

102	0.0033	0.0021	0.0012
103	0.0033	0.0021	0.0012
104	0.0033	0.0021	0.0012
105	0.0034	0.0021	0.0012
106	0.0034	0.0022	0.0012
107	0.0034	0.0022	0.0013
108	0.0035	0.0022	0.0013
109	0.0035	0.0022	0.0013
110	0.0035	0.0022	0.0013
111	0.0036	0.0023	0.0013
112	0.0036	0.0023	0.0013
113	0.0036	0.0023	0.0013
114	0.0037	0.0023	0.0013
115	0.0037	0.0024	0.0014
116	0.0037	0.0024	0.0014
117	0.0038	0.0024	0.0014
118	0.0038	0.0024	0.0014
119	0.0039	0.0025	0.0014
120	0.0039	0.0025	0.0014
121	0.0040	0.0025	0.0014
122	0.0040	0.0025	0.0015
123	0.0040	0.0026	0.0015
124	0.0041	0.0026	0.0015
125	0.0041	0.0026	0.0015
126	0.0042	0.0027	0.0015
127	0.0042	0.0027	0.0015
128	0.0043	0.0027	0.0016
129	0.0043	0.0028	0.0016
130	0.0044	0.0028	0.0016
131	0.0045	0.0028	0.0016
132	0.0045	0.0029	0.0016
133	0.0046	0.0029	0.0017
134	0.0046	0.0029	0.0017
135	0.0047	0.0030	0.0017
136	0.0047	0.0030	0.0017
137	0.0048	0.0031	0.0018
138	0.0049	0.0031	0.0018
139	0.0050	0.0032	0.0018
140	0.0050	0.0032	0.0018
141	0.0051	0.0033	0.0019
142	0.0052	0.0033	0.0019
143	0.0053	0.0034	0.0019
144	0.0053	0.0034	0.0019
145	0.0043	0.0028	0.0016
146	0.0044	0.0028	0.0016
147	0.0045	0.0029	0.0016
148	0.0045	0.0029	0.0017
149	0.0047	0.0030	0.0017
150	0.0047	0.0030	0.0017
151	0.0048	0.0031	0.0018
152	0.0049	0.0031	0.0018
153	0.0051	0.0032	0.0018
154	0.0051	0.0033	0.0019
155	0.0053	0.0034	0.0019
156	0.0054	0.0034	0.0019
157	0.0055	0.0035	0.0020
158	0.0056	0.0036	0.0020
159	0.0058	0.0037	0.0021
160	0.0059	0.0037	0.0021

161	0.0061	0.0039	0.0022
162	0.0062	0.0039	0.0023
163	0.0064	0.0041	0.0023
164	0.0066	0.0042	0.0024
165	0.0068	0.0043	0.0025
166	0.0070	0.0044	0.0025
167	0.0073	0.0046	0.0026
168	0.0074	0.0047	0.0027
169	0.0078	0.0049	0.0028
170	0.0080	0.0051	0.0029
171	0.0084	0.0053	0.0030
172	0.0086	0.0055	0.0031
173	0.0091	0.0058	0.0033
174	0.0093	0.0059	0.0034
175	0.0099	0.0063	0.0036
176	0.0102	0.0065	0.0037
177	0.0109	0.0070	0.0040
178	0.0113	0.0072	0.0041
179	0.0123	0.0078	0.0045
180	0.0128	0.0081	0.0047
181	0.0140	0.0089	0.0051
182	0.0147	0.0093	0.0053
183	0.0164	0.0104	0.0060
184	0.0174	0.0110	0.0063
185	0.0350	0.0223	0.0128
186	0.0373	0.0237	0.0136
187	0.0433	0.0275	0.0158
188	0.0473	0.0300	0.0173
189	0.0588	0.0300	0.0288
190	0.0677	0.0300	0.0377
191	0.1027	0.0300	0.0728
192	0.1491	0.0300	0.1192
193	0.6452	0.0300	0.6153
194	0.0809	0.0300	0.0509
195	0.0523	0.0300	0.0223
196	0.0401	0.0255	0.0146
197	0.0185	0.0118	0.0067
198	0.0155	0.0098	0.0056
199	0.0134	0.0085	0.0049
200	0.0118	0.0075	0.0043
201	0.0106	0.0067	0.0039
202	0.0096	0.0061	0.0035
203	0.0088	0.0056	0.0032
204	0.0082	0.0052	0.0030
205	0.0076	0.0048	0.0028
206	0.0071	0.0045	0.0026
207	0.0067	0.0042	0.0024
208	0.0063	0.0040	0.0023
209	0.0060	0.0038	0.0022
210	0.0057	0.0036	0.0021
211	0.0054	0.0035	0.0020
212	0.0052	0.0033	0.0019
213	0.0050	0.0032	0.0018
214	0.0048	0.0030	0.0017
215	0.0046	0.0029	0.0017
216	0.0044	0.0028	0.0016
217	0.0054	0.0034	0.0020
218	0.0052	0.0033	0.0019
219	0.0051	0.0032	0.0018

220	0.0049	0.0031	0.0018
221	0.0048	0.0030	0.0017
222	0.0047	0.0030	0.0017
223	0.0045	0.0029	0.0017
224	0.0044	0.0028	0.0016
225	0.0043	0.0027	0.0016
226	0.0042	0.0027	0.0015
227	0.0041	0.0026	0.0015
228	0.0040	0.0026	0.0015
229	0.0039	0.0025	0.0014
230	0.0038	0.0024	0.0014
231	0.0038	0.0024	0.0014
232	0.0037	0.0023	0.0013
233	0.0036	0.0023	0.0013
234	0.0035	0.0023	0.0013
235	0.0035	0.0022	0.0013
236	0.0034	0.0022	0.0012
237	0.0034	0.0021	0.0012
238	0.0033	0.0021	0.0012
239	0.0032	0.0021	0.0012
240	0.0032	0.0020	0.0012
241	0.0031	0.0020	0.0011
242	0.0031	0.0020	0.0011
243	0.0030	0.0019	0.0011
244	0.0030	0.0019	0.0011
245	0.0029	0.0019	0.0011
246	0.0029	0.0018	0.0011
247	0.0029	0.0018	0.0010
248	0.0028	0.0018	0.0010
249	0.0028	0.0018	0.0010
250	0.0027	0.0017	0.0010
251	0.0027	0.0017	0.0010
252	0.0027	0.0017	0.0010
253	0.0026	0.0017	0.0010
254	0.0026	0.0017	0.0009
255	0.0026	0.0016	0.0009
256	0.0025	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0025	0.0016	0.0009
259	0.0024	0.0016	0.0009
260	0.0024	0.0015	0.0009
261	0.0024	0.0015	0.0009
262	0.0024	0.0015	0.0009
263	0.0023	0.0015	0.0008
264	0.0023	0.0015	0.0008
265	0.0023	0.0015	0.0008
266	0.0023	0.0014	0.0008
267	0.0022	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0022	0.0014	0.0008
270	0.0022	0.0014	0.0008
271	0.0021	0.0014	0.0008
272	0.0021	0.0013	0.0008
273	0.0021	0.0013	0.0008
274	0.0021	0.0013	0.0008
275	0.0021	0.0013	0.0008
276	0.0020	0.0013	0.0007
277	0.0020	0.0013	0.0007
278	0.0020	0.0013	0.0007

279	0.0020	0.0013	0.0007
280	0.0020	0.0012	0.0007
281	0.0019	0.0012	0.0007
282	0.0019	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0018	0.0012	0.0007
288	0.0018	0.0012	0.0007

Total soil rain loss = 1.04(In)
Total effective rainfall = 1.43(In)
Peak flow rate in flood hydrograph = 7.85(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.02	Q				
0+30	0.0004	0.02	Q				
0+35	0.0006	0.02	Q				
0+40	0.0007	0.02	Q				
0+45	0.0009	0.02	Q				
0+50	0.0011	0.03	Q				
0+55	0.0013	0.03	Q				
1+ 0	0.0015	0.03	Q				
1+ 5	0.0017	0.03	Q				
1+10	0.0019	0.03	Q				
1+15	0.0021	0.03	Q				
1+20	0.0023	0.03	Q				
1+25	0.0025	0.03	Q				
1+30	0.0027	0.03	Q				
1+35	0.0029	0.03	Q				
1+40	0.0031	0.03	Q				
1+45	0.0033	0.03	Q				
1+50	0.0035	0.03	Q				
1+55	0.0037	0.03	Q				
2+ 0	0.0040	0.03	Q				
2+ 5	0.0042	0.03	Q				
2+10	0.0044	0.03	Q				
2+15	0.0046	0.03	Q				
2+20	0.0049	0.03	Q				
2+25	0.0051	0.03	Q				
2+30	0.0053	0.03	Q				
2+35	0.0055	0.03	Q				
2+40	0.0058	0.03	Q				
2+45	0.0060	0.03	Q				
2+50	0.0062	0.03	Q				

2+55	0.0065	0.03	Q				
3+ 0	0.0067	0.03	Q				
3+ 5	0.0070	0.03	Q				
3+10	0.0072	0.03	Q				
3+15	0.0074	0.03	Q				
3+20	0.0077	0.03	Q				
3+25	0.0079	0.04	Q				
3+30	0.0082	0.04	Q				
3+35	0.0084	0.04	Q				
3+40	0.0086	0.04	Q				
3+45	0.0089	0.04	Q				
3+50	0.0091	0.04	Q				
3+55	0.0094	0.04	Q				
4+ 0	0.0096	0.04	Q				
4+ 5	0.0099	0.04	Q				
4+10	0.0101	0.04	Q				
4+15	0.0104	0.04	Q				
4+20	0.0106	0.04	Q				
4+25	0.0109	0.04	Q				
4+30	0.0112	0.04	QV				
4+35	0.0114	0.04	QV				
4+40	0.0117	0.04	QV				
4+45	0.0119	0.04	QV				
4+50	0.0122	0.04	QV				
4+55	0.0125	0.04	QV				
5+ 0	0.0127	0.04	QV				
5+ 5	0.0130	0.04	QV				
5+10	0.0133	0.04	QV				
5+15	0.0136	0.04	QV				
5+20	0.0138	0.04	QV				
5+25	0.0141	0.04	QV				
5+30	0.0144	0.04	QV				
5+35	0.0147	0.04	QV				
5+40	0.0149	0.04	QV				
5+45	0.0152	0.04	QV				
5+50	0.0155	0.04	QV				
5+55	0.0158	0.04	QV				
6+ 0	0.0161	0.04	QV				
6+ 5	0.0164	0.04	QV				
6+10	0.0166	0.04	QV				
6+15	0.0169	0.04	QV				
6+20	0.0172	0.04	QV				
6+25	0.0175	0.04	QV				
6+30	0.0178	0.04	QV				
6+35	0.0181	0.04	QV				
6+40	0.0184	0.04	QV				
6+45	0.0187	0.04	QV				
6+50	0.0190	0.04	QV				
6+55	0.0194	0.04	QV				
7+ 0	0.0197	0.05	QV				
7+ 5	0.0200	0.05	QV				
7+10	0.0203	0.05	QV				
7+15	0.0206	0.05	QV				
7+20	0.0209	0.05	QV				
7+25	0.0212	0.05	QV				
7+30	0.0216	0.05	QV				
7+35	0.0219	0.05	QV				
7+40	0.0222	0.05	Q V				
7+45	0.0226	0.05	Q V				

7+50	0.0229	0.05	Q V	|	|	|	|
7+55	0.0232	0.05	Q V	|	|	|	|
8+ 0	0.0236	0.05	Q V	|	|	|	|
8+ 5	0.0239	0.05	Q V	|	|	|	|
8+10	0.0242	0.05	Q V	|	|	|	|
8+15	0.0246	0.05	Q V	|	|	|	|
8+20	0.0249	0.05	Q V	|	|	|	|
8+25	0.0253	0.05	Q V	|	|	|	|
8+30	0.0257	0.05	Q V	|	|	|	|
8+35	0.0260	0.05	Q V	|	|	|	|
8+40	0.0264	0.05	Q V	|	|	|	|
8+45	0.0267	0.05	Q V	|	|	|	|
8+50	0.0271	0.05	Q V	|	|	|	|
8+55	0.0275	0.05	Q V	|	|	|	|
9+ 0	0.0278	0.05	Q V	|	|	|	|
9+ 5	0.0282	0.05	Q V	|	|	|	|
9+10	0.0286	0.06	Q V	|	|	|	|
9+15	0.0290	0.06	Q V	|	|	|	|
9+20	0.0294	0.06	Q V	|	|	|	|
9+25	0.0298	0.06	Q V	|	|	|	|
9+30	0.0302	0.06	Q V	|	|	|	|
9+35	0.0306	0.06	Q V	|	|	|	|
9+40	0.0310	0.06	Q V	|	|	|	|
9+45	0.0314	0.06	Q V	|	|	|	|
9+50	0.0318	0.06	Q V	|	|	|	|
9+55	0.0322	0.06	Q V	|	|	|	|
10+ 0	0.0326	0.06	Q V	|	|	|	|
10+ 5	0.0330	0.06	Q V	|	|	|	|
10+10	0.0335	0.06	Q V	|	|	|	|
10+15	0.0339	0.06	Q V	|	|	|	|
10+20	0.0343	0.06	Q V	|	|	|	|
10+25	0.0348	0.06	Q V	|	|	|	|
10+30	0.0352	0.06	Q V	|	|	|	|
10+35	0.0357	0.07	Q V	|	|	|	|
10+40	0.0361	0.07	Q V	|	|	|	|
10+45	0.0366	0.07	Q V	|	|	|	|
10+50	0.0371	0.07	Q V	|	|	|	|
10+55	0.0375	0.07	Q V	|	|	|	|
11+ 0	0.0380	0.07	Q V	|	|	|	|
11+ 5	0.0385	0.07	Q V	|	|	|	|
11+10	0.0390	0.07	Q V	|	|	|	|
11+15	0.0395	0.07	Q V	|	|	|	|
11+20	0.0400	0.07	Q V	|	|	|	|
11+25	0.0405	0.07	Q V	|	|	|	|
11+30	0.0410	0.07	Q V	|	|	|	|
11+35	0.0415	0.08	Q V	|	|	|	|
11+40	0.0420	0.08	Q V	|	|	|	|
11+45	0.0426	0.08	Q V	|	|	|	|
11+50	0.0431	0.08	Q V	|	|	|	|
11+55	0.0437	0.08	Q V	|	|	|	|
12+ 0	0.0442	0.08	Q V	|	|	|	|
12+ 5	0.0448	0.08	Q V	|	|	|	|
12+10	0.0454	0.08	Q V	|	|	|	|
12+15	0.0459	0.08	Q V	|	|	|	|
12+20	0.0465	0.08	Q V	|	|	|	|
12+25	0.0470	0.08	Q V	|	|	|	|
12+30	0.0475	0.08	Q V	|	|	|	|
12+35	0.0480	0.08	Q V	|	|	|	|
12+40	0.0486	0.08	Q V	|	|	|	|

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12+45       0.0491      0.08  Q   V     |          |          |          |
12+50       0.0497      0.08  Q   V     |          |          |          |
12+55       0.0502      0.08  Q   V     |          |          |          |
13+ 0       0.0508      0.08  Q   V     |          |          |          |
13+ 5       0.0513      0.08  Q   V     |          |          |          |
13+10       0.0519      0.08  Q   V     |          |          |          |
13+15       0.0525      0.09  Q   V     |          |          |          |
13+20       0.0531      0.09  Q   V     |          |          |          |
13+25       0.0537      0.09  Q   V     |          |          |          |
13+30       0.0543      0.09  Q   V     |          |          |          |
13+35       0.0550      0.09  Q   V     |          |          |          |
13+40       0.0556      0.10  Q    V    |          |          |          |
13+45       0.0563      0.10  Q    V    |          |          |          |
13+50       0.0570      0.10  Q    V    |          |          |          |
13+55       0.0577      0.10  Q    V    |          |          |          |
14+ 0       0.0584      0.11  Q    V    |          |          |          |
14+ 5       0.0592      0.11  Q    V    |          |          |          |
14+10       0.0599      0.11  Q    V    |          |          |          |
14+15       0.0607      0.12  Q    V    |          |          |          |
14+20       0.0616      0.12  Q    V    |          |          |          |
14+25       0.0624      0.12  Q    V    |          |          |          |
14+30       0.0633      0.13  Q    V    |          |          |          |
14+35       0.0642      0.13  Q    V    |          |          |          |
14+40       0.0651      0.14  Q    V    |          |          |          |
14+45       0.0661      0.14  Q    V    |          |          |          |
14+50       0.0671      0.15  Q     V   |          |          |          |
14+55       0.0682      0.16  Q     V   |          |          |          |
15+ 0       0.0694      0.16  Q     V   |          |          |          |
15+ 5       0.0705      0.17  Q     V   |          |          |          |
15+10       0.0718      0.18  Q     V   |          |          |          |
15+15       0.0731      0.19  Q     V   |          |          |          |
15+20       0.0745      0.21  Q     V   |          |          |          |
15+25       0.0761      0.22  Q     V   |          |          |          |
15+30       0.0778      0.26  |Q     V  |          |          |          |
15+35       0.0800      0.32  |Q     V  |          |          |          |
15+40       0.0828      0.40  |Q     V  |          |          |          |
15+45       0.0861      0.48  |Q     V  |          |          |          |
15+50       0.0902      0.59  | Q     V |          |          |          |
15+55       0.0955      0.77  |  Q    V |          |          |          |
16+ 0       0.1031      1.11  |   Q    V|          |          |          |
16+ 5       0.1170      2.01  |       Q V          |          |          |
16+10       0.1428      3.76  |          | V  Q    |          |          |
16+15       0.1881      6.56  |          |     V   |     Q    |          |
16+20       0.2421      7.85  |          |         |V         |Q         |
16+25       0.2792      5.39  |          |         |Q   V     |          |
16+30       0.3042      3.62  |          |   Q     |      V   |          |
16+35       0.3229      2.72  |         Q          |        V|          |
16+40       0.3374      2.11  |       Q |          |         V          |
16+45       0.3490      1.68  |     Q   |          |         |V         |
16+50       0.3586      1.40  |    Q    |          |         | V        |
16+55       0.3669      1.20  |   Q     |          |         |  V       |
17+ 0       0.3738      1.00  |   Q     |          |         |  V       |
17+ 5       0.3796      0.84  |  Q      |          |         |   V      |
17+10       0.3847      0.75  | Q       |          |         |   V      |
17+15       0.3892      0.66  | Q       |          |         |    V     |
17+20       0.3932      0.57  | Q       |          |         |    V     |
17+25       0.3967      0.51  | Q       |          |         |    V     |
17+30       0.3998      0.45  |Q        |          |         |     V    |
17+35       0.4025      0.40  |Q        |          |         |     V    |
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17+40       0.4049      0.34  |Q        |         |         |     V   |
17+45       0.4069      0.30  |Q        |         |         |     V   |
17+50       0.4086      0.24  Q         |         |         |     V   |
17+55       0.4102      0.23  Q         |         |         |      V  |
18+ 0       0.4117      0.23  Q         |         |         |      V  |
18+ 5       0.4133      0.22  Q         |         |         |      V  |
18+10       0.4147      0.21  Q         |         |         |      V  |
18+15       0.4161      0.19  Q         |         |         |      V  |
18+20       0.4172      0.16  Q         |         |         |      V  |
18+25       0.4182      0.15  Q         |         |         |      V  |
18+30       0.4191      0.13  Q         |         |         |      V  |
18+35       0.4197      0.09  Q         |         |         |      V  |
18+40       0.4203      0.09  Q         |         |         |      V  |
18+45       0.4208      0.08  Q         |         |         |       V |
18+50       0.4214      0.08  Q         |         |         |       V |
18+55       0.4219      0.08  Q         |         |         |       V |
19+ 0       0.4224      0.08  Q         |         |         |       V |
19+ 5       0.4230      0.07  Q         |         |         |       V |
19+10       0.4234      0.07  Q         |         |         |       V |
19+15       0.4239      0.07  Q         |         |         |       V |
19+20       0.4244      0.07  Q         |         |         |       V |
19+25       0.4249      0.07  Q         |         |         |       V |
19+30       0.4253      0.07  Q         |         |         |       V |
19+35       0.4258      0.06  Q         |         |         |       V |
19+40       0.4262      0.06  Q         |         |         |       V |
19+45       0.4266      0.06  Q         |         |         |       V |
19+50       0.4270      0.06  Q         |         |         |       V |
19+55       0.4275      0.06  Q         |         |         |       V |
20+ 0       0.4279      0.06  Q         |         |         |       V |
20+ 5       0.4282      0.06  Q         |         |         |       V |
20+10       0.4286      0.06  Q         |         |         |       V |
20+15       0.4290      0.06  Q         |         |         |       V |
20+20       0.4294      0.05  Q         |         |         |       V |
20+25       0.4298      0.05  Q         |         |         |       V |
20+30       0.4301      0.05  Q         |         |         |       V |
20+35       0.4305      0.05  Q         |         |         |       V |
20+40       0.4308      0.05  Q         |         |         |       V |
20+45       0.4312      0.05  Q         |         |         |       V |
20+50       0.4315      0.05  Q         |         |         |       V |
20+55       0.4318      0.05  Q         |         |         |        V|
21+ 0       0.4322      0.05  Q         |         |         |        V|
21+ 5       0.4325      0.05  Q         |         |         |        V|
21+10       0.4328      0.05  Q         |         |         |        V|
21+15       0.4331      0.05  Q         |         |         |        V|
21+20       0.4334      0.05  Q         |         |         |        V|
21+25       0.4337      0.04  Q         |         |         |        V|
21+30       0.4340      0.04  Q         |         |         |        V|
21+35       0.4343      0.04  Q         |         |         |        V|
21+40       0.4346      0.04  Q         |         |         |        V|
21+45       0.4349      0.04  Q         |         |         |        V|
21+50       0.4352      0.04  Q         |         |         |        V|
21+55       0.4355      0.04  Q         |         |         |        V|
22+ 0       0.4358      0.04  Q         |         |         |        V|
22+ 5       0.4361      0.04  Q         |         |         |        V|
22+10       0.4363      0.04  Q         |         |         |        V|
22+15       0.4366      0.04  Q         |         |         |        V|
22+20       0.4369      0.04  Q         |         |         |        V|
22+25       0.4371      0.04  Q         |         |         |        V|
22+30       0.4374      0.04  Q         |         |         |        V|
```

22+35	0.4376	0.04	Q	|	|	|	V|
22+40	0.4379	0.04	Q	|	|	|	V|
22+45	0.4381	0.04	Q	|	|	|	V|
22+50	0.4384	0.04	Q	|	|	|	V|
22+55	0.4386	0.04	Q	|	|	|	V|
23+ 0	0.4389	0.04	Q	|	|	|	V|
23+ 5	0.4391	0.04	Q	|	|	|	V|
23+10	0.4394	0.03	Q	|	|	|	V|
23+15	0.4396	0.03	Q	|	|	|	V|
23+20	0.4398	0.03	Q	|	|	|	V|
23+25	0.4401	0.03	Q	|	|	|	V|
23+30	0.4403	0.03	Q	|	|	|	V|
23+35	0.4405	0.03	Q	|	|	|	V|
23+40	0.4408	0.03	Q	|	|	|	V|
23+45	0.4410	0.03	Q	|	|	|	V|
23+50	0.4412	0.03	Q	|	|	|	V|
23+55	0.4414	0.03	Q	|	|	|	V|
24+ 0	0.4416	0.03	Q	|	|	|	V|
24+ 5	0.4419	0.03	Q	|	|	|	V|
24+10	0.4421	0.03	Q	|	|	|	V|
24+15	0.4422	0.02	Q	|	|	|	V|
24+20	0.4423	0.02	Q	|	|	|	V|
24+25	0.4424	0.01	Q	|	|	|	V|
24+30	0.4425	0.01	Q	|	|	|	V|
24+35	0.4426	0.01	Q	|	|	|	V|
24+40	0.4426	0.01	Q	|	|	|	V|
24+45	0.4426	0.01	Q	|	|	|	V|
24+50	0.4427	0.00	Q	|	|	|	V|
24+55	0.4427	0.00	Q	|	|	|	V|
25+ 0	0.4427	0.00	Q	|	|	|	V|
25+ 5	0.4427	0.00	Q	|	|	|	V|
25+10	0.4428	0.00	Q	|	|	|	V|
25+15	0.4428	0.00	Q	|	|	|	V|
25+20	0.4428	0.00	Q	|	|	|	V|
25+25	0.4428	0.00	Q	|	|	|	V|
25+30	0.4428	0.00	Q	|	|	|	V|
25+35	0.4428	0.00	Q	|	|	|	V|
25+40	0.4428	0.00	Q	|	|	|	V|
25+45	0.4428	0.00	Q	|	|	|	V|
25+50	0.4428	0.00	Q	|	|	|	V|
25+55	0.4428	0.00	Q	|	|	|	V|
26+ 0	0.4428	0.00	Q	|	|	|	V|
26+ 5	0.4428	0.00	Q	|	|	|	V|
26+10	0.4428	0.00	Q	|	|	|	V|
26+15	0.4428	0.00	Q	|	|	|	V|
26+20	0.4428	0.00	Q	|	|	|	V|
26+25	0.4428	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 23
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
69.41	1	1.36
Rainfall data for year 100		
69.41	6	1.84
Rainfall data for year 100		
69.41	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
60.2	79.2	69.41	1.000	0.384	1.000	0.384

Area-averaged adjusted loss rate Fm (In/Hr) = 0.384

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
69.41	1.000	60.2	79.2	2.63	0.336

Area-averaged catchment yield fraction, Y = 0.336
Area-averaged low loss fraction, Yb = 0.664
User entry of time of concentration = 1.280 (hours)
++
Watershed area = 69.41(Ac.)
Catchment Lag time = 1.024 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 8.1380
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.384(In/Hr)
Average low loss rate fraction (Yb) = 0.664 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 69.41(Ac.) (Ref: fig. E-4)

5-minute factor = 0.997 Adjusted rainfall = 0.643(In)
30-minute factor = 0.997 Adjusted rainfall = 1.101(In)
1-hour factor = 0.997 Adjusted rainfall = 1.356(In)
3-hour factor = 1.000 Adjusted rainfall = 1.636(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 839.43 (CFS))	
1	0.358	3.006
2	1.144	6.600
3	2.418	10.692
4	4.065	13.830
5	6.137	17.389
6	8.739	21.842
7	12.380	30.561
8	17.723	44.848
9	25.333	63.887
10	33.246	66.425
11	40.190	58.290
12	45.896	47.892
13	50.857	41.642
14	55.112	35.719

15	58.612	29.386
16	61.618	25.225
17	64.192	21.615
18	66.498	19.351
19	68.615	17.770
20	70.586	16.547
21	72.366	14.943
22	73.969	13.461
23	75.427	12.231
24	76.829	11.771
25	78.170	11.256
26	79.293	9.425
27	80.367	9.017
28	81.429	8.916
29	82.349	7.722
30	83.228	7.378
31	84.103	7.346
32	84.909	6.771
33	85.691	6.558
34	86.469	6.534
35	87.161	5.808
36	87.812	5.465
37	88.462	5.452
38	89.011	4.609
39	89.499	4.099
40	89.987	4.098
41	90.457	3.945
42	90.913	3.826
43	91.368	3.826
44	91.792	3.557
45	92.183	3.279
46	92.573	3.279
47	92.950	3.163
48	93.308	3.007
49	93.667	3.006
50	93.995	2.760
51	94.273	2.331
52	94.550	2.323
53	94.826	2.323
54	95.103	2.323
55	95.380	2.323
56	95.640	2.187
57	95.855	1.800
58	96.066	1.776
59	96.278	1.776
60	96.490	1.776
61	96.701	1.776
62	96.902	1.690
63	97.055	1.283
64	97.202	1.230
65	97.348	1.230
66	97.495	1.230
67	97.641	1.230
68	97.782	1.182
69	97.875	0.776
70	97.956	0.683
71	98.037	0.683
72	98.119	0.683
73	98.200	0.683

74	98.282	0.688
75	98.375	0.784
76	98.473	0.820
77	98.571	0.820
78	98.668	0.820
79	98.766	0.820
80	98.864	0.820
81	98.961	0.820
82	99.059	0.820
83	99.157	0.820
84	99.254	0.820
85	99.352	0.820
86	99.450	0.820
87	99.525	0.630
88	99.575	0.427
89	99.626	0.427
90	99.677	0.427
91	99.728	0.427
92	99.779	0.427
93	99.830	0.427
94	99.881	0.427
95	99.932	0.427
96	100.000	0.213

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6432	0.6432
2	0.7919	0.1487
3	0.8943	0.1024
4	0.9750	0.0806
5	1.0425	0.0675
6	1.1011	0.0586
7	1.1532	0.0521
8	1.2003	0.0471
9	1.2435	0.0432
10	1.2834	0.0399
11	1.3206	0.0372
12	1.3556	0.0349
13	1.3743	0.0187
14	1.3918	0.0176
15	1.4084	0.0165
16	1.4241	0.0157
17	1.4389	0.0149
18	1.4531	0.0142
19	1.4666	0.0135
20	1.4795	0.0129
21	1.4920	0.0124
22	1.5039	0.0119
23	1.5154	0.0115
24	1.5265	0.0111
25	1.5372	0.0107
26	1.5475	0.0104
27	1.5576	0.0100
28	1.5673	0.0097
29	1.5768	0.0094
30	1.5860	0.0092
31	1.5949	0.0089
32	1.6036	0.0087
33	1.6121	0.0085

34	1.6203	0.0083
35	1.6284	0.0081
36	1.6363	0.0079
37	1.6439	0.0076
38	1.6513	0.0074
39	1.6585	0.0073
40	1.6657	0.0071
41	1.6726	0.0070
42	1.6794	0.0068
43	1.6861	0.0067
44	1.6927	0.0066
45	1.6991	0.0064
46	1.7055	0.0063
47	1.7117	0.0062
48	1.7178	0.0061
49	1.7238	0.0060
50	1.7297	0.0059
51	1.7355	0.0058
52	1.7412	0.0057
53	1.7468	0.0056
54	1.7523	0.0055
55	1.7578	0.0054
56	1.7631	0.0054
57	1.7684	0.0053
58	1.7736	0.0052
59	1.7787	0.0051
60	1.7838	0.0051
61	1.7888	0.0050
62	1.7937	0.0049
63	1.7986	0.0049
64	1.8033	0.0048
65	1.8081	0.0047
66	1.8127	0.0047
67	1.8174	0.0046
68	1.8219	0.0046
69	1.8264	0.0045
70	1.8309	0.0044
71	1.8353	0.0044
72	1.8396	0.0043
73	1.8451	0.0055
74	1.8505	0.0054
75	1.8558	0.0054
76	1.8612	0.0053
77	1.8664	0.0052
78	1.8716	0.0052
79	1.8767	0.0051
80	1.8818	0.0051
81	1.8869	0.0050
82	1.8919	0.0050
83	1.8968	0.0049
84	1.9017	0.0049
85	1.9066	0.0049
86	1.9114	0.0048
87	1.9161	0.0048
88	1.9209	0.0047
89	1.9255	0.0047
90	1.9302	0.0046
91	1.9348	0.0046
92	1.9393	0.0046

93	1.9439	0.0045
94	1.9484	0.0045
95	1.9528	0.0044
96	1.9572	0.0044
97	1.9616	0.0044
98	1.9659	0.0043
99	1.9702	0.0043
100	1.9745	0.0043
101	1.9787	0.0042
102	1.9829	0.0042
103	1.9871	0.0042
104	1.9912	0.0041
105	1.9954	0.0041
106	1.9994	0.0041
107	2.0035	0.0040
108	2.0075	0.0040
109	2.0115	0.0040
110	2.0155	0.0040
111	2.0194	0.0039
112	2.0233	0.0039
113	2.0272	0.0039
114	2.0310	0.0039
115	2.0348	0.0038
116	2.0386	0.0038
117	2.0424	0.0038
118	2.0462	0.0037
119	2.0499	0.0037
120	2.0536	0.0037
121	2.0573	0.0037
122	2.0609	0.0037
123	2.0645	0.0036
124	2.0681	0.0036
125	2.0717	0.0036
126	2.0753	0.0036
127	2.0788	0.0035
128	2.0823	0.0035
129	2.0858	0.0035
130	2.0893	0.0035
131	2.0927	0.0035
132	2.0962	0.0034
133	2.0996	0.0034
134	2.1030	0.0034
135	2.1064	0.0034
136	2.1097	0.0034
137	2.1130	0.0033
138	2.1163	0.0033
139	2.1196	0.0033
140	2.1229	0.0033
141	2.1262	0.0033
142	2.1294	0.0032
143	2.1326	0.0032
144	2.1358	0.0032
145	2.1390	0.0032
146	2.1422	0.0032
147	2.1453	0.0032
148	2.1485	0.0031
149	2.1516	0.0031
150	2.1547	0.0031
151	2.1578	0.0031

152	2.1609	0.0031
153	2.1639	0.0031
154	2.1670	0.0030
155	2.1700	0.0030
156	2.1730	0.0030
157	2.1760	0.0030
158	2.1790	0.0030
159	2.1819	0.0030
160	2.1849	0.0029
161	2.1878	0.0029
162	2.1907	0.0029
163	2.1936	0.0029
164	2.1965	0.0029
165	2.1994	0.0029
166	2.2023	0.0029
167	2.2051	0.0029
168	2.2080	0.0028
169	2.2108	0.0028
170	2.2136	0.0028
171	2.2164	0.0028
172	2.2192	0.0028
173	2.2219	0.0028
174	2.2247	0.0028
175	2.2275	0.0027
176	2.2302	0.0027
177	2.2329	0.0027
178	2.2356	0.0027
179	2.2383	0.0027
180	2.2410	0.0027
181	2.2437	0.0027
182	2.2464	0.0027
183	2.2490	0.0027
184	2.2516	0.0026
185	2.2543	0.0026
186	2.2569	0.0026
187	2.2595	0.0026
188	2.2621	0.0026
189	2.2647	0.0026
190	2.2673	0.0026
191	2.2698	0.0026
192	2.2724	0.0026
193	2.2749	0.0025
194	2.2775	0.0025
195	2.2800	0.0025
196	2.2825	0.0025
197	2.2850	0.0025
198	2.2875	0.0025
199	2.2900	0.0025
200	2.2925	0.0025
201	2.2949	0.0025
202	2.2974	0.0025
203	2.2998	0.0024
204	2.3023	0.0024
205	2.3047	0.0024
206	2.3071	0.0024
207	2.3095	0.0024
208	2.3119	0.0024
209	2.3143	0.0024
210	2.3167	0.0024

211	2.3190	0.0024
212	2.3214	0.0024
213	2.3238	0.0024
214	2.3261	0.0023
215	2.3284	0.0023
216	2.3308	0.0023
217	2.3331	0.0023
218	2.3354	0.0023
219	2.3377	0.0023
220	2.3400	0.0023
221	2.3423	0.0023
222	2.3446	0.0023
223	2.3468	0.0023
224	2.3491	0.0023
225	2.3514	0.0023
226	2.3536	0.0022
227	2.3559	0.0022
228	2.3581	0.0022
229	2.3603	0.0022
230	2.3625	0.0022
231	2.3647	0.0022
232	2.3669	0.0022
233	2.3691	0.0022
234	2.3713	0.0022
235	2.3735	0.0022
236	2.3757	0.0022
237	2.3778	0.0022
238	2.3800	0.0022
239	2.3821	0.0022
240	2.3843	0.0021
241	2.3864	0.0021
242	2.3885	0.0021
243	2.3907	0.0021
244	2.3928	0.0021
245	2.3949	0.0021
246	2.3970	0.0021
247	2.3991	0.0021
248	2.4012	0.0021
249	2.4033	0.0021
250	2.4053	0.0021
251	2.4074	0.0021
252	2.4095	0.0021
253	2.4115	0.0021
254	2.4136	0.0021
255	2.4156	0.0020
256	2.4177	0.0020
257	2.4197	0.0020
258	2.4217	0.0020
259	2.4237	0.0020
260	2.4257	0.0020
261	2.4278	0.0020
262	2.4298	0.0020
263	2.4317	0.0020
264	2.4337	0.0020
265	2.4357	0.0020
266	2.4377	0.0020
267	2.4397	0.0020
268	2.4416	0.0020
269	2.4436	0.0020

270	2.4455	0.0020
271	2.4475	0.0019
272	2.4494	0.0019
273	2.4514	0.0019
274	2.4533	0.0019
275	2.4552	0.0019
276	2.4572	0.0019
277	2.4591	0.0019
278	2.4610	0.0019
279	2.4629	0.0019
280	2.4648	0.0019
281	2.4667	0.0019
282	2.4686	0.0019
283	2.4704	0.0019
284	2.4723	0.0019
285	2.4742	0.0019
286	2.4761	0.0019
287	2.4779	0.0019
288	2.4798	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0006
2	0.0019	0.0012	0.0006
3	0.0019	0.0012	0.0006
4	0.0019	0.0012	0.0006
5	0.0019	0.0013	0.0006
6	0.0019	0.0013	0.0006
7	0.0019	0.0013	0.0006
8	0.0019	0.0013	0.0006
9	0.0019	0.0013	0.0006
10	0.0019	0.0013	0.0006
11	0.0019	0.0013	0.0006
12	0.0019	0.0013	0.0007
13	0.0020	0.0013	0.0007
14	0.0020	0.0013	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0014	0.0007
24	0.0021	0.0014	0.0007
25	0.0021	0.0014	0.0007
26	0.0021	0.0014	0.0007
27	0.0021	0.0014	0.0007
28	0.0021	0.0014	0.0007
29	0.0021	0.0014	0.0007
30	0.0021	0.0014	0.0007
31	0.0021	0.0014	0.0007
32	0.0021	0.0014	0.0007
33	0.0021	0.0014	0.0007
34	0.0022	0.0014	0.0007
35	0.0022	0.0014	0.0007

36	0.0022	0.0014	0.0007
37	0.0022	0.0015	0.0007
38	0.0022	0.0015	0.0007
39	0.0022	0.0015	0.0007
40	0.0022	0.0015	0.0007
41	0.0022	0.0015	0.0007
42	0.0022	0.0015	0.0008
43	0.0023	0.0015	0.0008
44	0.0023	0.0015	0.0008
45	0.0023	0.0015	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0008
50	0.0023	0.0016	0.0008
51	0.0024	0.0016	0.0008
52	0.0024	0.0016	0.0008
53	0.0024	0.0016	0.0008
54	0.0024	0.0016	0.0008
55	0.0024	0.0016	0.0008
56	0.0024	0.0016	0.0008
57	0.0024	0.0016	0.0008
58	0.0024	0.0016	0.0008
59	0.0025	0.0016	0.0008
60	0.0025	0.0016	0.0008
61	0.0025	0.0017	0.0008
62	0.0025	0.0017	0.0008
63	0.0025	0.0017	0.0008
64	0.0025	0.0017	0.0009
65	0.0026	0.0017	0.0009
66	0.0026	0.0017	0.0009
67	0.0026	0.0017	0.0009
68	0.0026	0.0017	0.0009
69	0.0026	0.0017	0.0009
70	0.0026	0.0017	0.0009
71	0.0027	0.0018	0.0009
72	0.0027	0.0018	0.0009
73	0.0027	0.0018	0.0009
74	0.0027	0.0018	0.0009
75	0.0027	0.0018	0.0009
76	0.0027	0.0018	0.0009
77	0.0028	0.0018	0.0009
78	0.0028	0.0018	0.0009
79	0.0028	0.0019	0.0009
80	0.0028	0.0019	0.0009
81	0.0028	0.0019	0.0010
82	0.0029	0.0019	0.0010
83	0.0029	0.0019	0.0010
84	0.0029	0.0019	0.0010
85	0.0029	0.0019	0.0010
86	0.0029	0.0019	0.0010
87	0.0030	0.0020	0.0010
88	0.0030	0.0020	0.0010
89	0.0030	0.0020	0.0010
90	0.0030	0.0020	0.0010
91	0.0031	0.0020	0.0010
92	0.0031	0.0020	0.0010
93	0.0031	0.0021	0.0010
94	0.0031	0.0021	0.0010

95	0.0032	0.0021	0.0011
96	0.0032	0.0021	0.0011
97	0.0032	0.0021	0.0011
98	0.0032	0.0021	0.0011
99	0.0033	0.0022	0.0011
100	0.0033	0.0022	0.0011
101	0.0033	0.0022	0.0011
102	0.0033	0.0022	0.0011
103	0.0034	0.0022	0.0011
104	0.0034	0.0023	0.0011
105	0.0034	0.0023	0.0012
106	0.0035	0.0023	0.0012
107	0.0035	0.0023	0.0012
108	0.0035	0.0023	0.0012
109	0.0036	0.0024	0.0012
110	0.0036	0.0024	0.0012
111	0.0036	0.0024	0.0012
112	0.0037	0.0024	0.0012
113	0.0037	0.0025	0.0012
114	0.0037	0.0025	0.0012
115	0.0038	0.0025	0.0013
116	0.0038	0.0025	0.0013
117	0.0039	0.0026	0.0013
118	0.0039	0.0026	0.0013
119	0.0039	0.0026	0.0013
120	0.0040	0.0026	0.0013
121	0.0040	0.0027	0.0013
122	0.0040	0.0027	0.0014
123	0.0041	0.0027	0.0014
124	0.0041	0.0028	0.0014
125	0.0042	0.0028	0.0014
126	0.0042	0.0028	0.0014
127	0.0043	0.0029	0.0014
128	0.0043	0.0029	0.0015
129	0.0044	0.0029	0.0015
130	0.0044	0.0030	0.0015
131	0.0045	0.0030	0.0015
132	0.0046	0.0030	0.0015
133	0.0046	0.0031	0.0016
134	0.0047	0.0031	0.0016
135	0.0048	0.0032	0.0016
136	0.0048	0.0032	0.0016
137	0.0049	0.0033	0.0016
138	0.0049	0.0033	0.0017
139	0.0050	0.0034	0.0017
140	0.0051	0.0034	0.0017
141	0.0052	0.0035	0.0017
142	0.0052	0.0035	0.0018
143	0.0054	0.0036	0.0018
144	0.0054	0.0036	0.0018
145	0.0043	0.0029	0.0015
146	0.0044	0.0029	0.0015
147	0.0045	0.0030	0.0015
148	0.0046	0.0030	0.0015
149	0.0047	0.0031	0.0016
150	0.0047	0.0031	0.0016
151	0.0049	0.0032	0.0016
152	0.0049	0.0033	0.0017
153	0.0051	0.0034	0.0017

154	0.0051	0.0034	0.0017
155	0.0053	0.0035	0.0018
156	0.0054	0.0036	0.0018
157	0.0055	0.0037	0.0019
158	0.0056	0.0037	0.0019
159	0.0058	0.0039	0.0019
160	0.0059	0.0039	0.0020
161	0.0061	0.0041	0.0020
162	0.0062	0.0041	0.0021
163	0.0064	0.0043	0.0022
164	0.0066	0.0044	0.0022
165	0.0068	0.0045	0.0023
166	0.0070	0.0046	0.0023
167	0.0073	0.0048	0.0024
168	0.0074	0.0049	0.0025
169	0.0079	0.0052	0.0026
170	0.0081	0.0054	0.0027
171	0.0085	0.0056	0.0028
172	0.0087	0.0058	0.0029
173	0.0092	0.0061	0.0031
174	0.0094	0.0063	0.0032
175	0.0100	0.0067	0.0034
176	0.0104	0.0069	0.0035
177	0.0111	0.0074	0.0037
178	0.0115	0.0076	0.0039
179	0.0124	0.0083	0.0042
180	0.0129	0.0086	0.0043
181	0.0142	0.0094	0.0048
182	0.0149	0.0099	0.0050
183	0.0165	0.0110	0.0056
184	0.0176	0.0117	0.0059
185	0.0349	0.0232	0.0117
186	0.0372	0.0247	0.0125
187	0.0432	0.0287	0.0145
188	0.0471	0.0313	0.0158
189	0.0586	0.0320	0.0266
190	0.0675	0.0320	0.0355
191	0.1024	0.0320	0.0704
192	0.1487	0.0320	0.1167
193	0.6432	0.0320	0.6112
194	0.0806	0.0320	0.0486
195	0.0521	0.0320	0.0201
196	0.0399	0.0265	0.0134
197	0.0187	0.0124	0.0063
198	0.0157	0.0104	0.0053
199	0.0135	0.0090	0.0045
200	0.0119	0.0079	0.0040
201	0.0107	0.0071	0.0036
202	0.0097	0.0065	0.0033
203	0.0089	0.0059	0.0030
204	0.0083	0.0055	0.0028
205	0.0076	0.0050	0.0025
206	0.0071	0.0047	0.0024
207	0.0067	0.0044	0.0022
208	0.0063	0.0042	0.0021
209	0.0060	0.0040	0.0020
210	0.0057	0.0038	0.0019
211	0.0054	0.0036	0.0018
212	0.0052	0.0035	0.0017

213	0.0050	0.0033	0.0017
214	0.0048	0.0032	0.0016
215	0.0046	0.0031	0.0015
216	0.0044	0.0030	0.0015
217	0.0055	0.0036	0.0018
218	0.0053	0.0035	0.0018
219	0.0051	0.0034	0.0017
220	0.0050	0.0033	0.0017
221	0.0049	0.0032	0.0016
222	0.0047	0.0031	0.0016
223	0.0046	0.0031	0.0015
224	0.0045	0.0030	0.0015
225	0.0044	0.0029	0.0015
226	0.0043	0.0028	0.0014
227	0.0042	0.0028	0.0014
228	0.0041	0.0027	0.0014
229	0.0040	0.0027	0.0013
230	0.0039	0.0026	0.0013
231	0.0038	0.0025	0.0013
232	0.0037	0.0025	0.0013
233	0.0037	0.0024	0.0012
234	0.0036	0.0024	0.0012
235	0.0035	0.0024	0.0012
236	0.0035	0.0023	0.0012
237	0.0034	0.0023	0.0011
238	0.0034	0.0022	0.0011
239	0.0033	0.0022	0.0011
240	0.0032	0.0022	0.0011
241	0.0032	0.0021	0.0011
242	0.0031	0.0021	0.0011
243	0.0031	0.0021	0.0010
244	0.0030	0.0020	0.0010
245	0.0030	0.0020	0.0010
246	0.0029	0.0020	0.0010
247	0.0029	0.0019	0.0010
248	0.0029	0.0019	0.0010
249	0.0028	0.0019	0.0009
250	0.0028	0.0019	0.0009
251	0.0027	0.0018	0.0009
252	0.0027	0.0018	0.0009
253	0.0027	0.0018	0.0009
254	0.0026	0.0018	0.0009
255	0.0026	0.0017	0.0009
256	0.0026	0.0017	0.0009
257	0.0025	0.0017	0.0009
258	0.0025	0.0017	0.0008
259	0.0025	0.0017	0.0008
260	0.0025	0.0016	0.0008
261	0.0024	0.0016	0.0008
262	0.0024	0.0016	0.0008
263	0.0024	0.0016	0.0008
264	0.0023	0.0016	0.0008
265	0.0023	0.0015	0.0008
266	0.0023	0.0015	0.0008
267	0.0023	0.0015	0.0008
268	0.0022	0.0015	0.0008
269	0.0022	0.0015	0.0007
270	0.0022	0.0015	0.0007
271	0.0022	0.0014	0.0007

272	0.0022	0.0014	0.0007
273	0.0021	0.0014	0.0007
274	0.0021	0.0014	0.0007
275	0.0021	0.0014	0.0007
276	0.0021	0.0014	0.0007
277	0.0021	0.0014	0.0007
278	0.0020	0.0014	0.0007
279	0.0020	0.0013	0.0007
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0013	0.0007
283	0.0019	0.0013	0.0007
284	0.0019	0.0013	0.0006
285	0.0019	0.0013	0.0006
286	0.0019	0.0013	0.0006
287	0.0019	0.0013	0.0006
288	0.0019	0.0012	0.0006

Total soil rain loss = 1.11(In)
Total effective rainfall = 1.37(In)
Peak flow rate in flood hydrograph = 60.22(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	17.5	35.0	52.5	70.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0001	0.01	Q	|	|	|	|
0+20	0.0003	0.02	Q	|	|	|	|
0+25	0.0005	0.03	Q	|	|	|	|
0+30	0.0008	0.05	Q	|	|	|	|
0+35	0.0013	0.07	Q	|	|	|	|
0+40	0.0019	0.09	Q	|	|	|	|
0+45	0.0028	0.13	Q	|	|	|	|
0+50	0.0040	0.18	Q	|	|	|	|
0+55	0.0055	0.21	Q	|	|	|	|
1+ 0	0.0072	0.24	Q	|	|	|	|
1+ 5	0.0090	0.27	Q	|	|	|	|
1+10	0.0111	0.29	Q	|	|	|	|
1+15	0.0132	0.31	Q	|	|	|	|
1+20	0.0155	0.33	Q	|	|	|	|
1+25	0.0179	0.35	Q	|	|	|	|
1+30	0.0203	0.36	Q	|	|	|	|
1+35	0.0229	0.37	Q	|	|	|	|
1+40	0.0255	0.38	Q	|	|	|	|
1+45	0.0283	0.39	Q	|	|	|	|
1+50	0.0310	0.40	Q	|	|	|	|
1+55	0.0339	0.41	Q	|	|	|	|
2+ 0	0.0368	0.42	Q	|	|	|	|
2+ 5	0.0398	0.43	Q	|	|	|	|
2+10	0.0428	0.44	Q	|	|	|	|
2+15	0.0459	0.45	Q	|	|	|	|

2+20	0.0490	0.45	Q				
2+25	0.0522	0.46	Q				
2+30	0.0554	0.47	Q				
2+35	0.0587	0.47	Q				
2+40	0.0620	0.48	Q				
2+45	0.0653	0.49	Q				
2+50	0.0687	0.49	Q				
2+55	0.0722	0.50	Q				
3+ 0	0.0756	0.51	Q				
3+ 5	0.0792	0.51	Q				
3+10	0.0827	0.52	Q				
3+15	0.0863	0.52	Q				
3+20	0.0899	0.53	Q				
3+25	0.0936	0.53	Q				
3+30	0.0973	0.54	Q				
3+35	0.1010	0.54	Q				
3+40	0.1048	0.55	Q				
3+45	0.1085	0.55	Q				
3+50	0.1124	0.56	Q				
3+55	0.1162	0.56	Q				
4+ 0	0.1201	0.56	Q				
4+ 5	0.1240	0.57	Q				
4+10	0.1280	0.57	Q				
4+15	0.1320	0.58	Q				
4+20	0.1360	0.58	Q				
4+25	0.1400	0.59	Q				
4+30	0.1441	0.59	Q				
4+35	0.1482	0.60	Q				
4+40	0.1523	0.60	Q				
4+45	0.1565	0.60	Q				
4+50	0.1607	0.61	Q				
4+55	0.1649	0.61	Q				
5+ 0	0.1692	0.62	Q				
5+ 5	0.1734	0.62	Q				
5+10	0.1778	0.63	Q				
5+15	0.1821	0.63	Q				
5+20	0.1865	0.63	Q				
5+25	0.1909	0.64	Q				
5+30	0.1953	0.64	Q				
5+35	0.1998	0.65	QV				
5+40	0.2042	0.65	QV				
5+45	0.2088	0.66	QV				
5+50	0.2133	0.66	QV				
5+55	0.2179	0.66	QV				
6+ 0	0.2225	0.67	QV				
6+ 5	0.2271	0.67	QV				
6+10	0.2318	0.68	QV				
6+15	0.2365	0.68	QV				
6+20	0.2412	0.69	QV				
6+25	0.2460	0.69	QV				
6+30	0.2508	0.70	QV				
6+35	0.2556	0.70	QV				
6+40	0.2604	0.71	QV				
6+45	0.2653	0.71	QV				
6+50	0.2703	0.72	QV				
6+55	0.2752	0.72	QV				
7+ 0	0.2802	0.73	QV				
7+ 5	0.2852	0.73	QV				
7+10	0.2903	0.74	QV				

7+15	0.2954	0.74	QV				
7+20	0.3005	0.75	QV				
7+25	0.3057	0.75	QV				
7+30	0.3109	0.76	QV				
7+35	0.3162	0.76	QV				
7+40	0.3214	0.77	QV				
7+45	0.3268	0.77	QV				
7+50	0.3321	0.78	QV				
7+55	0.3375	0.78	QV				
8+ 0	0.3430	0.79	QV				
8+ 5	0.3484	0.79	QV				
8+10	0.3539	0.80	QV				
8+15	0.3595	0.81	QV				
8+20	0.3651	0.81	QV				
8+25	0.3707	0.82	QV				
8+30	0.3764	0.82	QV				
8+35	0.3821	0.83	QV				
8+40	0.3879	0.84	QV				
8+45	0.3937	0.84	QV				
8+50	0.3995	0.85	Q V				
8+55	0.4054	0.86	Q V				
9+ 0	0.4114	0.86	Q V				
9+ 5	0.4173	0.87	Q V				
9+10	0.4234	0.88	Q V				
9+15	0.4295	0.88	Q V				
9+20	0.4356	0.89	Q V				
9+25	0.4418	0.90	Q V				
9+30	0.4480	0.91	Q V				
9+35	0.4543	0.91	Q V				
9+40	0.4606	0.92	Q V				
9+45	0.4670	0.93	Q V				
9+50	0.4735	0.94	Q V				
9+55	0.4800	0.95	Q V				
10+ 0	0.4866	0.95	Q V				
10+ 5	0.4932	0.96	Q V				
10+10	0.4999	0.97	Q V				
10+15	0.5066	0.98	Q V				
10+20	0.5135	0.99	Q V				
10+25	0.5203	1.00	Q V				
10+30	0.5273	1.01	Q V				
10+35	0.5343	1.02	Q V				
10+40	0.5414	1.03	Q V				
10+45	0.5485	1.04	Q V				
10+50	0.5558	1.05	Q V				
10+55	0.5631	1.06	Q V				
11+ 0	0.5704	1.07	Q V				
11+ 5	0.5779	1.08	Q V				
11+10	0.5854	1.09	Q V				
11+15	0.5930	1.11	Q V				
11+20	0.6007	1.12	Q V				
11+25	0.6085	1.13	Q V				
11+30	0.6164	1.14	Q V				
11+35	0.6244	1.16	Q V				
11+40	0.6324	1.17	Q V				
11+45	0.6406	1.18	Q V				
11+50	0.6488	1.20	Q V				
11+55	0.6572	1.21	Q V				
12+ 0	0.6656	1.23	Q V				
12+ 5	0.6742	1.24	Q V				

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12+10       0.6828      1.26  Q  V      |          |          |          |
12+15       0.6916      1.27  Q  V      |          |          |          |
12+20       0.7004      1.28  Q  V      |          |          |          |
12+25       0.7093      1.29  Q  V      |          |          |          |
12+30       0.7182      1.30  Q  V      |          |          |          |
12+35       0.7272      1.31  Q  V      |          |          |          |
12+40       0.7362      1.31  Q  V      |          |          |          |
12+45       0.7451      1.30  Q  V      |          |          |          |
12+50       0.7541      1.29  Q  V      |          |          |          |
12+55       0.7629      1.29  Q  V      |          |          |          |
13+ 0       0.7718      1.29  Q  V      |          |          |          |
13+ 5       0.7807      1.30  Q  V      |          |          |          |
13+10       0.7897      1.30  Q  V      |          |          |          |
13+15       0.7988      1.31  Q   V     |          |          |          |
13+20       0.8079      1.33  Q   V     |          |          |          |
13+25       0.8171      1.34  Q   V     |          |          |          |
13+30       0.8265      1.36  Q   V     |          |          |          |
13+35       0.8360      1.38  Q   V     |          |          |          |
13+40       0.8456      1.40  Q   V     |          |          |          |
13+45       0.8553      1.42  Q   V     |          |          |          |
13+50       0.8653      1.44  Q   V     |          |          |          |
13+55       0.8754      1.47  Q   V     |          |          |          |
14+ 0       0.8857      1.49  Q   V     |          |          |          |
14+ 5       0.8962      1.52  Q   V     |          |          |          |
14+10       0.9069      1.56  Q   V     |          |          |          |
14+15       0.9178      1.59  Q   V     |          |          |          |
14+20       0.9290      1.63  Q   V     |          |          |          |
14+25       0.9405      1.66  Q   V     |          |          |          |
14+30       0.9522      1.71  Q   V     |          |          |          |
14+35       0.9643      1.75 |Q  V      |          |          |          |
14+40       0.9767      1.80 |Q  V      |          |          |          |
14+45       0.9895      1.85 |Q  V      |          |          |          |
14+50       1.0026      1.91 |Q   V     |          |          |          |
14+55       1.0162      1.97 |Q   V     |          |          |          |
15+ 0       1.0303      2.04 |Q   V     |          |          |          |
15+ 5       1.0449      2.12 |Q   V     |          |          |          |
15+10       1.0600      2.20 |Q   V     |          |          |          |
15+15       1.0757      2.28 |Q   V     |          |          |          |
15+20       1.0921      2.38 |Q   V     |          |          |          |
15+25       1.1094      2.50 |Q   V     |          |          |          |
15+30       1.1277      2.66 |Q   V     |          |          |          |
15+35       1.1473      2.86 |Q   V     |          |          |          |
15+40       1.1686      3.09 |Q   V     |          |          |          |
15+45       1.1921      3.41 |Q    V    |          |          |          |
15+50       1.2185      3.83 | Q   V    |          |          |          |
15+55       1.2495      4.51 | Q   V    |          |          |          |
16+ 0       1.2882      5.62 |  Q  V    |          |          |          |
16+ 5       1.3482      8.72 |   Q V    |          |          |          |
16+10       1.4332     12.34 |      Q   |          |          |          |
16+15       1.5452     16.27 |      V Q |          |          |          |
16+20       1.6818     19.84 |       V |Q         |          |          |
16+25       1.8472     24.01 |        V|  Q       |          |          |
16+30       2.0487     29.25 |         V     Q    |          |          |
16+35       2.3058     37.34 |         |V         |Q         |          |
16+40       2.6372     48.13 |         |  V       |      Q   |          |
16+45       3.0478     59.61 |         |    V     |          |   Q      |
16+50       3.4625     60.22 |         |      V   |          |   Q      |
16+55       3.8333     53.83 |         |        V |          Q          |
17+ 0       4.1496     45.94 |         |          V     Q    |          |
```

17+ 5	4.4269	40.26	| | | VQ | |
17+10	4.6676	34.95	| | Q| V | |
17+15	4.8725	29.75	| Q | V | |
17+20	5.0518	26.03	| Q | V | |
17+25	5.2098	22.93	| Q | V | |
17+30	5.3530	20.79	|Q | V | |
17+35	5.4851	19.18	| Q | V | |
17+40	5.6079	17.83	| Q | V | |
17+45	5.7204	16.34	| Q| | V | |
17+50	5.8236	14.99	| Q | | V| |
17+55	5.9191	13.87	| Q | | V| |
18+ 0	6.0099	13.19	| Q | | V |
18+ 5	6.0958	12.46	| Q | | V |
18+10	6.1724	11.12	| Q | | |V |
18+15	6.2453	10.59	| Q | | |V |
18+20	6.3157	10.22	| Q | | |V |
18+25	6.3800	9.33	| Q | | | V |
18+30	6.4415	8.94	| Q | | | V |
18+35	6.5016	8.72	| Q | | | V |
18+40	6.5583	8.24	| Q | | | V |
18+45	6.6132	7.97	| Q | | | V |
18+50	6.6668	7.77	| Q | | | V |
18+55	6.7164	7.21	| Q | | | V |
19+ 0	6.7637	6.86	| Q | | | V |
19+ 5	6.8095	6.65	| Q | | | V |
19+10	6.8510	6.02	| Q | | | V |
19+15	6.8896	5.62	| Q | | | V |
19+20	6.9276	5.51	| Q | | | V |
19+25	6.9643	5.33	| Q | | | V |
19+30	7.0000	5.18	| Q | | | V |
19+35	7.0349	5.08	| Q | | | V |
19+40	7.0682	4.84	| Q | | | V |
19+45	7.0999	4.60	| Q | | | V |
19+50	7.1311	4.52	| Q | | | V |
19+55	7.1612	4.38	| Q | | | V |
20+ 0	7.1902	4.21	| Q | | | V |
20+ 5	7.2186	4.12	| Q | | | V |
20+10	7.2453	3.88	| Q | | | V |
20+15	7.2700	3.58	| Q | | | V |
20+20	7.2942	3.51	| Q | | | V |
20+25	7.3180	3.47	|Q | | | V |
20+30	7.3416	3.41	|Q | | | V |
20+35	7.3646	3.34	|Q | | | V |
20+40	7.3865	3.19	|Q | | | V |
20+45	7.4066	2.92	|Q | | | V |
20+50	7.4263	2.85	|Q | | | V |
20+55	7.4456	2.81	|Q | | | V |
21+ 0	7.4647	2.77	|Q | | | V |
21+ 5	7.4833	2.70	|Q | | | V |
21+10	7.5011	2.58	|Q | | | V |
21+15	7.5169	2.30	|Q | | | V |
21+20	7.5322	2.22	|Q | | | V |
21+25	7.5472	2.18	|Q | | | V |
21+30	7.5620	2.14	|Q | | | V |
21+35	7.5764	2.09	|Q | | | V |
21+40	7.5901	1.99	|Q | | | V |
21+45	7.6020	1.72	Q | | | V |
21+50	7.6132	1.63	Q | | | V |
21+55	7.6243	1.61	Q | | | V |

22+ 0	7.6353	1.59	Q	|	|	|	V |
22+ 5	7.6462	1.58	Q	|	|	|	V |
22+10	7.6571	1.59	Q	|	|	|	V |
22+15	7.6683	1.63	Q	|	|	|	V |
22+20	7.6797	1.65	Q	|	|	|	V |
22+25	7.6910	1.64	Q	|	|	|	V |
22+30	7.7022	1.63	Q	|	|	|	V |
22+35	7.7133	1.61	Q	|	|	|	V |
22+40	7.7243	1.60	Q	|	|	|	V |
22+45	7.7352	1.58	Q	|	|	|	V |
22+50	7.7460	1.57	Q	|	|	|	V|
22+55	7.7567	1.55	Q	|	|	|	V|
23+ 0	7.7672	1.53	Q	|	|	|	V|
23+ 5	7.7775	1.50	Q	|	|	|	V|
23+10	7.7875	1.45	Q	|	|	|	V|
23+15	7.7965	1.30	Q	|	|	|	V|
23+20	7.8045	1.16	Q	|	|	|	V|
23+25	7.8123	1.14	Q	|	|	|	V|
23+30	7.8200	1.12	Q	|	|	|	V|
23+35	7.8276	1.10	Q	|	|	|	V|
23+40	7.8350	1.08	Q	|	|	|	V|
23+45	7.8423	1.06	Q	|	|	|	V|
23+50	7.8494	1.03	Q	|	|	|	V|
23+55	7.8562	0.98	Q	|	|	|	V|
24+ 0	7.8619	0.82	Q	|	|	|	V|
24+ 5	7.8665	0.67	Q	|	|	|	V|
24+10	7.8710	0.65	Q	|	|	|	V|
24+15	7.8753	0.63	Q	|	|	|	V|
24+20	7.8795	0.61	Q	|	|	|	V|
24+25	7.8836	0.59	Q	|	|	|	V|
24+30	7.8875	0.57	Q	|	|	|	V|
24+35	7.8912	0.54	Q	|	|	|	V|
24+40	7.8947	0.51	Q	|	|	|	V|
24+45	7.8979	0.46	Q	|	|	|	V|
24+50	7.9008	0.42	Q	|	|	|	V|
24+55	7.9034	0.38	Q	|	|	|	V|
25+ 0	7.9058	0.34	Q	|	|	|	V|
25+ 5	7.9079	0.31	Q	|	|	|	V|
25+10	7.9099	0.29	Q	|	|	|	V|
25+15	7.9117	0.27	Q	|	|	|	V|
25+20	7.9134	0.25	Q	|	|	|	V|
25+25	7.9150	0.23	Q	|	|	|	V|
25+30	7.9165	0.22	Q	|	|	|	V|
25+35	7.9179	0.20	Q	|	|	|	V|
25+40	7.9192	0.19	Q	|	|	|	V|
25+45	7.9204	0.18	Q	|	|	|	V|
25+50	7.9216	0.17	Q	|	|	|	V|
25+55	7.9227	0.16	Q	|	|	|	V|
26+ 0	7.9237	0.15	Q	|	|	|	V|
26+ 5	7.9247	0.14	Q	|	|	|	V|
26+10	7.9256	0.13	Q	|	|	|	V|
26+15	7.9265	0.13	Q	|	|	|	V|
26+20	7.9273	0.12	Q	|	|	|	V|
26+25	7.9281	0.11	Q	|	|	|	V|
26+30	7.9289	0.11	Q	|	|	|	V|
26+35	7.9296	0.10	Q	|	|	|	V|
26+40	7.9302	0.10	Q	|	|	|	V|
26+45	7.9309	0.09	Q	|	|	|	V|
26+50	7.9314	0.09	Q	|	|	|	V|

26+55	7.9320	0.08	Q	|	|	|	V|
27+ 0	7.9325	0.08	Q	|	|	|	V|
27+ 5	7.9330	0.07	Q	|	|	|	V|
27+10	7.9335	0.07	Q	|	|	|	V|
27+15	7.9340	0.07	Q	|	|	|	V|
27+20	7.9344	0.06	Q	|	|	|	V|
27+25	7.9348	0.06	Q	|	|	|	V|
27+30	7.9352	0.06	Q	|	|	|	V|
27+35	7.9356	0.05	Q	|	|	|	V|
27+40	7.9359	0.05	Q	|	|	|	V|
27+45	7.9363	0.05	Q	|	|	|	V|
27+50	7.9366	0.05	Q	|	|	|	V|
27+55	7.9369	0.04	Q	|	|	|	V|
28+ 0	7.9372	0.04	Q	|	|	|	V|
28+ 5	7.9374	0.04	Q	|	|	|	V|
28+10	7.9377	0.04	Q	|	|	|	V|
28+15	7.9379	0.03	Q	|	|	|	V|
28+20	7.9382	0.03	Q	|	|	|	V|
28+25	7.9384	0.03	Q	|	|	|	V|
28+30	7.9386	0.03	Q	|	|	|	V|
28+35	7.9388	0.03	Q	|	|	|	V|
28+40	7.9390	0.03	Q	|	|	|	V|
28+45	7.9391	0.02	Q	|	|	|	V|
28+50	7.9393	0.02	Q	|	|	|	V|
28+55	7.9394	0.02	Q	|	|	|	V|
29+ 0	7.9396	0.02	Q	|	|	|	V|
29+ 5	7.9397	0.02	Q	|	|	|	V|
29+10	7.9398	0.02	Q	|	|	|	V|
29+15	7.9400	0.02	Q	|	|	|	V|
29+20	7.9401	0.02	Q	|	|	|	V|
29+25	7.9402	0.02	Q	|	|	|	V|
29+30	7.9403	0.01	Q	|	|	|	V|
29+35	7.9404	0.01	Q	|	|	|	V|
29+40	7.9405	0.01	Q	|	|	|	V|
29+45	7.9406	0.01	Q	|	|	|	V|
29+50	7.9406	0.01	Q	|	|	|	V|
29+55	7.9407	0.01	Q	|	|	|	V|
30+ 0	7.9408	0.01	Q	|	|	|	V|
30+ 5	7.9409	0.01	Q	|	|	|	V|
30+10	7.9409	0.01	Q	|	|	|	V|
30+15	7.9410	0.01	Q	|	|	|	V|
30+20	7.9410	0.01	Q	|	|	|	V|
30+25	7.9411	0.01	Q	|	|	|	V|
30+30	7.9411	0.01	Q	|	|	|	V|
30+35	7.9412	0.01	Q	|	|	|	V|
30+40	7.9412	0.01	Q	|	|	|	V|
30+45	7.9413	0.01	Q	|	|	|	V|
30+50	7.9413	0.00	Q	|	|	|	V|
30+55	7.9413	0.00	Q	|	|	|	V|
31+ 0	7.9414	0.00	Q	|	|	|	V|
31+ 5	7.9414	0.00	Q	|	|	|	V|
31+10	7.9414	0.00	Q	|	|	|	V|
31+15	7.9414	0.00	Q	|	|	|	V|
31+20	7.9414	0.00	Q	|	|	|	V|
31+25	7.9414	0.00	Q	|	|	|	V|
31+30	7.9414	0.00	Q	|	|	|	V|
31+35	7.9415	0.00	Q	|	|	|	V|
31+40	7.9415	0.00	Q	|	|	|	V|
31+45	7.9415	0.00	Q	|	|	|	V|

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   31+50       7.9415      0.00  Q         |         |         |        V|
   31+55       7.9415      0.00  Q         |         |         |        V|
-----------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 24
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
293.06	1	1.35
Rainfall data for year 100		
293.06	6	1.84
Rainfall data for year 100		
293.06	24	2.49

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
60.0	79.0	293.06	1.000	0.387	0.999	0.386

Area-averaged adjusted loss rate Fm (In/Hr) = 0.386

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
292.77	0.999	60.0	79.0	2.66	0.334
0.29	0.001	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.334
Area-averaged low loss fraction, Yb = 0.666
User entry of time of concentration = 2.190 (hours)
++
Watershed area = 293.06(Ac.)
Catchment Lag time = 1.752 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 4.7565
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.386(In/Hr)
Average low loss rate fraction (Yb) = 0.666 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.641(In)
Computed peak 30-minute rainfall = 1.097(In)
Specified peak 1-hour rainfall = 1.350(In)
Computed peak 3-hour rainfall = 1.632(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.490(In)

Rainfall depth area reduction factors:
Using a total area of 293.06(Ac.) (Ref: fig. E-4)

5-minute factor = 0.986 Adjusted rainfall = 0.632(In)
30-minute factor = 0.986 Adjusted rainfall = 1.081(In)
1-hour factor = 0.986 Adjusted rainfall = 1.331(In)
3-hour factor = 0.998 Adjusted rainfall = 1.629(In)
6-hour factor = 0.999 Adjusted rainfall = 1.838(In)
24-hour factor = 1.000 Adjusted rainfall = 2.489(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 3544.19 (CFS))	
1	0.209	7.417
2	0.628	14.835
3	1.073	15.768
4	1.797	25.662
5	2.596	28.321
6	3.500	32.054
7	4.667	41.366
8	5.850	41.907
9	7.284	50.846
10	8.883	56.642
11	10.653	62.745
12	13.508	101.173
13	16.552	107.890

14	20.271	131.829
15	25.124	171.990
16	29.973	171.862
17	34.280	152.655
18	38.352	144.303
19	42.236	137.661
20	45.361	110.745
21	48.405	107.890
22	51.177	98.255
23	53.651	87.667
24	56.085	86.273
25	58.049	69.607
26	59.875	64.734
27	61.613	61.588
28	63.111	53.072
29	64.594	52.562
30	65.943	47.840
31	67.199	44.505
32	68.443	44.069
33	69.600	41.040
34	70.742	40.459
35	71.817	38.102
36	72.771	33.806
37	73.720	33.628
38	74.593	30.939
39	75.430	29.670
40	76.261	29.443
41	77.063	28.440
42	77.862	28.321
43	78.584	25.571
44	79.212	22.259
45	79.839	22.252
46	80.467	22.252
47	81.095	22.252
48	81.695	21.272
49	82.214	18.393
50	82.728	18.206
51	83.242	18.206
52	83.755	18.206
53	84.264	18.011
54	84.729	16.501
55	85.186	16.184
56	85.642	16.184
57	86.099	16.184
58	86.554	16.138
59	86.960	14.384
60	87.341	13.486
61	87.721	13.486
62	88.102	13.486
63	88.482	13.486
64	88.822	12.035
65	89.108	10.123
66	89.393	10.115
67	89.678	10.115
68	89.964	10.115
69	90.245	9.962
70	90.512	9.477
71	90.779	9.440
72	91.045	9.440

73	91.311	9.440
74	91.574	9.324
75	91.809	8.322
76	92.037	8.092
77	92.266	8.092
78	92.494	8.092
79	92.722	8.083
80	92.938	7.655
81	93.147	7.417
82	93.357	7.417
83	93.566	7.417
84	93.775	7.417
85	93.965	6.729
86	94.127	5.739
87	94.289	5.732
88	94.450	5.732
89	94.612	5.732
90	94.774	5.732
91	94.936	5.732
92	95.097	5.732
93	95.259	5.732
94	95.421	5.732
95	95.580	5.628
96	95.710	4.632
97	95.834	4.383
98	95.958	4.383
99	96.081	4.383
100	96.205	4.383
101	96.329	4.383
102	96.452	4.383
103	96.576	4.383
104	96.700	4.383
105	96.823	4.383
106	96.932	3.861
107	97.018	3.044
108	97.104	3.034
109	97.189	3.034
110	97.275	3.034
111	97.361	3.034
112	97.446	3.034
113	97.532	3.034
114	97.617	3.034
115	97.703	3.034
116	97.786	2.943
117	97.841	1.955
118	97.889	1.686
119	97.936	1.686
120	97.984	1.686
121	98.032	1.686
122	98.079	1.686
123	98.127	1.686
124	98.174	1.686
125	98.222	1.686
126	98.269	1.686
127	98.320	1.809
128	98.377	2.019
129	98.434	2.023
130	98.492	2.023
131	98.549	2.023

132	98.606	2.023
133	98.663	2.023
134	98.720	2.023
135	98.777	2.023
136	98.834	2.023
137	98.891	2.023
138	98.948	2.023
139	99.005	2.023
140	99.062	2.023
141	99.119	2.023
142	99.176	2.023
143	99.234	2.023
144	99.291	2.023
145	99.348	2.023
146	99.405	2.023
147	99.462	2.023
148	99.509	1.687
149	99.540	1.067
150	99.569	1.054
151	99.599	1.054
152	99.629	1.054
153	99.659	1.054
154	99.688	1.054
155	99.718	1.054
156	99.748	1.054
157	99.777	1.054
158	99.807	1.054
159	99.837	1.054
160	99.867	1.054
161	99.896	1.054
162	99.926	1.054
163	99.956	1.054
164	100.000	0.527

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6318	0.6318
2	0.7778	0.1460
3	0.8784	0.1006
4	0.9576	0.0792
5	1.0239	0.0663
6	1.0815	0.0576
7	1.1327	0.0512
8	1.1790	0.0463
9	1.2214	0.0424
10	1.2606	0.0392
11	1.2971	0.0366
12	1.3315	0.0343
13	1.3512	0.0197
14	1.3697	0.0185
15	1.3872	0.0175
16	1.4038	0.0166
17	1.4195	0.0157
18	1.4345	0.0150
19	1.4488	0.0143
20	1.4625	0.0137
21	1.4757	0.0132
22	1.4884	0.0127
23	1.5006	0.0122

24	1.5124	0.0118
25	1.5238	0.0114
26	1.5348	0.0110
27	1.5455	0.0107
28	1.5559	0.0104
29	1.5659	0.0101
30	1.5757	0.0098
31	1.5853	0.0095
32	1.5945	0.0093
33	1.6036	0.0090
34	1.6124	0.0088
35	1.6210	0.0086
36	1.6294	0.0084
37	1.6372	0.0078
38	1.6448	0.0076
39	1.6523	0.0075
40	1.6596	0.0073
41	1.6667	0.0071
42	1.6737	0.0070
43	1.6806	0.0069
44	1.6873	0.0067
45	1.6939	0.0066
46	1.7004	0.0065
47	1.7068	0.0064
48	1.7131	0.0063
49	1.7192	0.0062
50	1.7253	0.0061
51	1.7312	0.0060
52	1.7371	0.0059
53	1.7429	0.0058
54	1.7486	0.0057
55	1.7541	0.0056
56	1.7597	0.0055
57	1.7651	0.0054
58	1.7704	0.0053
59	1.7757	0.0053
60	1.7809	0.0052
61	1.7860	0.0051
62	1.7911	0.0051
63	1.7961	0.0050
64	1.8010	0.0049
65	1.8059	0.0049
66	1.8107	0.0048
67	1.8154	0.0047
68	1.8201	0.0047
69	1.8248	0.0046
70	1.8293	0.0046
71	1.8338	0.0045
72	1.8383	0.0045
73	1.8439	0.0056
74	1.8494	0.0055
75	1.8548	0.0054
76	1.8602	0.0054
77	1.8655	0.0053
78	1.8708	0.0053
79	1.8760	0.0052
80	1.8811	0.0052
81	1.8863	0.0051
82	1.8913	0.0051

83	1.8964	0.0050
84	1.9013	0.0050
85	1.9062	0.0049
86	1.9111	0.0049
87	1.9160	0.0048
88	1.9208	0.0048
89	1.9255	0.0048
90	1.9302	0.0047
91	1.9349	0.0047
92	1.9395	0.0046
93	1.9441	0.0046
94	1.9487	0.0046
95	1.9532	0.0045
96	1.9576	0.0045
97	1.9621	0.0044
98	1.9665	0.0044
99	1.9709	0.0044
100	1.9752	0.0043
101	1.9795	0.0043
102	1.9838	0.0043
103	1.9880	0.0042
104	1.9922	0.0042
105	1.9964	0.0042
106	2.0005	0.0041
107	2.0046	0.0041
108	2.0087	0.0041
109	2.0128	0.0041
110	2.0168	0.0040
111	2.0208	0.0040
112	2.0247	0.0040
113	2.0287	0.0039
114	2.0326	0.0039
115	2.0365	0.0039
116	2.0403	0.0039
117	2.0442	0.0038
118	2.0480	0.0038
119	2.0518	0.0038
120	2.0555	0.0038
121	2.0592	0.0037
122	2.0630	0.0037
123	2.0666	0.0037
124	2.0703	0.0037
125	2.0739	0.0036
126	2.0776	0.0036
127	2.0811	0.0036
128	2.0847	0.0036
129	2.0883	0.0035
130	2.0918	0.0035
131	2.0953	0.0035
132	2.0988	0.0035
133	2.1023	0.0035
134	2.1057	0.0034
135	2.1091	0.0034
136	2.1125	0.0034
137	2.1159	0.0034
138	2.1193	0.0034
139	2.1226	0.0033
140	2.1260	0.0033
141	2.1293	0.0033

142	2.1326	0.0033
143	2.1358	0.0033
144	2.1391	0.0033
145	2.1423	0.0032
146	2.1456	0.0032
147	2.1488	0.0032
148	2.1519	0.0032
149	2.1551	0.0032
150	2.1583	0.0032
151	2.1614	0.0031
152	2.1645	0.0031
153	2.1676	0.0031
154	2.1707	0.0031
155	2.1738	0.0031
156	2.1769	0.0031
157	2.1799	0.0030
158	2.1829	0.0030
159	2.1859	0.0030
160	2.1889	0.0030
161	2.1919	0.0030
162	2.1949	0.0030
163	2.1978	0.0030
164	2.2008	0.0029
165	2.2037	0.0029
166	2.2066	0.0029
167	2.2095	0.0029
168	2.2124	0.0029
169	2.2153	0.0029
170	2.2181	0.0029
171	2.2210	0.0028
172	2.2238	0.0028
173	2.2266	0.0028
174	2.2294	0.0028
175	2.2322	0.0028
176	2.2350	0.0028
177	2.2378	0.0028
178	2.2406	0.0028
179	2.2433	0.0027
180	2.2460	0.0027
181	2.2488	0.0027
182	2.2515	0.0027
183	2.2542	0.0027
184	2.2569	0.0027
185	2.2595	0.0027
186	2.2622	0.0027
187	2.2648	0.0027
188	2.2675	0.0026
189	2.2701	0.0026
190	2.2727	0.0026
191	2.2753	0.0026
192	2.2779	0.0026
193	2.2805	0.0026
194	2.2831	0.0026
195	2.2857	0.0026
196	2.2882	0.0026
197	2.2908	0.0025
198	2.2933	0.0025
199	2.2959	0.0025
200	2.2984	0.0025

201	2.3009	0.0025
202	2.3034	0.0025
203	2.3059	0.0025
204	2.3083	0.0025
205	2.3108	0.0025
206	2.3133	0.0025
207	2.3157	0.0025
208	2.3182	0.0024
209	2.3206	0.0024
210	2.3230	0.0024
211	2.3254	0.0024
212	2.3278	0.0024
213	2.3302	0.0024
214	2.3326	0.0024
215	2.3350	0.0024
216	2.3374	0.0024
217	2.3397	0.0024
218	2.3421	0.0024
219	2.3444	0.0023
220	2.3468	0.0023
221	2.3491	0.0023
222	2.3514	0.0023
223	2.3537	0.0023
224	2.3560	0.0023
225	2.3583	0.0023
226	2.3606	0.0023
227	2.3629	0.0023
228	2.3652	0.0023
229	2.3674	0.0023
230	2.3697	0.0023
231	2.3719	0.0022
232	2.3742	0.0022
233	2.3764	0.0022
234	2.3786	0.0022
235	2.3808	0.0022
236	2.3831	0.0022
237	2.3853	0.0022
238	2.3875	0.0022
239	2.3896	0.0022
240	2.3918	0.0022
241	2.3940	0.0022
242	2.3962	0.0022
243	2.3983	0.0022
244	2.4005	0.0022
245	2.4026	0.0021
246	2.4048	0.0021
247	2.4069	0.0021
248	2.4090	0.0021
249	2.4112	0.0021
250	2.4133	0.0021
251	2.4154	0.0021
252	2.4175	0.0021
253	2.4196	0.0021
254	2.4217	0.0021
255	2.4237	0.0021
256	2.4258	0.0021
257	2.4279	0.0021
258	2.4299	0.0021
259	2.4320	0.0021

260	2.4340	0.0020
261	2.4361	0.0020
262	2.4381	0.0020
263	2.4402	0.0020
264	2.4422	0.0020
265	2.4442	0.0020
266	2.4462	0.0020
267	2.4482	0.0020
268	2.4502	0.0020
269	2.4522	0.0020
270	2.4542	0.0020
271	2.4562	0.0020
272	2.4582	0.0020
273	2.4602	0.0020
274	2.4621	0.0020
275	2.4641	0.0020
276	2.4660	0.0020
277	2.4680	0.0020
278	2.4699	0.0019
279	2.4719	0.0019
280	2.4738	0.0019
281	2.4757	0.0019
282	2.4777	0.0019
283	2.4796	0.0019
284	2.4815	0.0019
285	2.4834	0.0019
286	2.4853	0.0019
287	2.4872	0.0019
288	2.4891	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0013	0.0006
2	0.0019	0.0013	0.0006
3	0.0019	0.0013	0.0006
4	0.0019	0.0013	0.0006
5	0.0019	0.0013	0.0006
6	0.0019	0.0013	0.0006
7	0.0019	0.0013	0.0006
8	0.0019	0.0013	0.0007
9	0.0020	0.0013	0.0007
10	0.0020	0.0013	0.0007
11	0.0020	0.0013	0.0007
12	0.0020	0.0013	0.0007
13	0.0020	0.0013	0.0007
14	0.0020	0.0013	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0014	0.0007
19	0.0020	0.0014	0.0007
20	0.0020	0.0014	0.0007
21	0.0021	0.0014	0.0007
22	0.0021	0.0014	0.0007
23	0.0021	0.0014	0.0007
24	0.0021	0.0014	0.0007
25	0.0021	0.0014	0.0007

26	0.0021	0.0014	0.0007
27	0.0021	0.0014	0.0007
28	0.0021	0.0014	0.0007
29	0.0021	0.0014	0.0007
30	0.0021	0.0014	0.0007
31	0.0022	0.0014	0.0007
32	0.0022	0.0014	0.0007
33	0.0022	0.0015	0.0007
34	0.0022	0.0015	0.0007
35	0.0022	0.0015	0.0007
36	0.0022	0.0015	0.0007
37	0.0022	0.0015	0.0007
38	0.0022	0.0015	0.0007
39	0.0022	0.0015	0.0008
40	0.0023	0.0015	0.0008
41	0.0023	0.0015	0.0008
42	0.0023	0.0015	0.0008
43	0.0023	0.0015	0.0008
44	0.0023	0.0015	0.0008
45	0.0023	0.0015	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0016	0.0008
48	0.0024	0.0016	0.0008
49	0.0024	0.0016	0.0008
50	0.0024	0.0016	0.0008
51	0.0024	0.0016	0.0008
52	0.0024	0.0016	0.0008
53	0.0024	0.0016	0.0008
54	0.0024	0.0016	0.0008
55	0.0025	0.0016	0.0008
56	0.0025	0.0016	0.0008
57	0.0025	0.0017	0.0008
58	0.0025	0.0017	0.0008
59	0.0025	0.0017	0.0008
60	0.0025	0.0017	0.0008
61	0.0025	0.0017	0.0008
62	0.0025	0.0017	0.0009
63	0.0026	0.0017	0.0009
64	0.0026	0.0017	0.0009
65	0.0026	0.0017	0.0009
66	0.0026	0.0017	0.0009
67	0.0026	0.0018	0.0009
68	0.0026	0.0018	0.0009
69	0.0027	0.0018	0.0009
70	0.0027	0.0018	0.0009
71	0.0027	0.0018	0.0009
72	0.0027	0.0018	0.0009
73	0.0027	0.0018	0.0009
74	0.0027	0.0018	0.0009
75	0.0028	0.0018	0.0009
76	0.0028	0.0019	0.0009
77	0.0028	0.0019	0.0009
78	0.0028	0.0019	0.0009
79	0.0028	0.0019	0.0010
80	0.0029	0.0019	0.0010
81	0.0029	0.0019	0.0010
82	0.0029	0.0019	0.0010
83	0.0029	0.0019	0.0010
84	0.0029	0.0020	0.0010

85	0.0030	0.0020	0.0010
86	0.0030	0.0020	0.0010
87	0.0030	0.0020	0.0010
88	0.0030	0.0020	0.0010
89	0.0031	0.0020	0.0010
90	0.0031	0.0020	0.0010
91	0.0031	0.0021	0.0010
92	0.0031	0.0021	0.0010
93	0.0032	0.0021	0.0011
94	0.0032	0.0021	0.0011
95	0.0032	0.0021	0.0011
96	0.0032	0.0021	0.0011
97	0.0033	0.0022	0.0011
98	0.0033	0.0022	0.0011
99	0.0033	0.0022	0.0011
100	0.0033	0.0022	0.0011
101	0.0034	0.0022	0.0011
102	0.0034	0.0023	0.0011
103	0.0034	0.0023	0.0011
104	0.0034	0.0023	0.0012
105	0.0035	0.0023	0.0012
106	0.0035	0.0023	0.0012
107	0.0035	0.0024	0.0012
108	0.0036	0.0024	0.0012
109	0.0036	0.0024	0.0012
110	0.0036	0.0024	0.0012
111	0.0037	0.0025	0.0012
112	0.0037	0.0025	0.0012
113	0.0038	0.0025	0.0013
114	0.0038	0.0025	0.0013
115	0.0038	0.0026	0.0013
116	0.0039	0.0026	0.0013
117	0.0039	0.0026	0.0013
118	0.0039	0.0026	0.0013
119	0.0040	0.0027	0.0013
120	0.0040	0.0027	0.0013
121	0.0041	0.0027	0.0014
122	0.0041	0.0027	0.0014
123	0.0042	0.0028	0.0014
124	0.0042	0.0028	0.0014
125	0.0043	0.0028	0.0014
126	0.0043	0.0029	0.0014
127	0.0044	0.0029	0.0015
128	0.0044	0.0029	0.0015
129	0.0045	0.0030	0.0015
130	0.0045	0.0030	0.0015
131	0.0046	0.0031	0.0015
132	0.0046	0.0031	0.0015
133	0.0047	0.0031	0.0016
134	0.0048	0.0032	0.0016
135	0.0048	0.0032	0.0016
136	0.0049	0.0032	0.0016
137	0.0050	0.0033	0.0017
138	0.0050	0.0033	0.0017
139	0.0051	0.0034	0.0017
140	0.0052	0.0034	0.0017
141	0.0053	0.0035	0.0018
142	0.0053	0.0035	0.0018
143	0.0054	0.0036	0.0018

144	0.0055	0.0037	0.0018
145	0.0045	0.0030	0.0015
146	0.0045	0.0030	0.0015
147	0.0046	0.0031	0.0015
148	0.0047	0.0031	0.0016
149	0.0048	0.0032	0.0016
150	0.0049	0.0032	0.0016
151	0.0050	0.0033	0.0017
152	0.0051	0.0034	0.0017
153	0.0052	0.0035	0.0017
154	0.0053	0.0035	0.0018
155	0.0054	0.0036	0.0018
156	0.0055	0.0037	0.0018
157	0.0057	0.0038	0.0019
158	0.0058	0.0038	0.0019
159	0.0060	0.0040	0.0020
160	0.0061	0.0040	0.0020
161	0.0063	0.0042	0.0021
162	0.0064	0.0042	0.0021
163	0.0066	0.0044	0.0022
164	0.0067	0.0045	0.0023
165	0.0070	0.0047	0.0023
166	0.0071	0.0048	0.0024
167	0.0075	0.0050	0.0025
168	0.0076	0.0051	0.0025
169	0.0084	0.0056	0.0028
170	0.0086	0.0057	0.0029
171	0.0090	0.0060	0.0030
172	0.0093	0.0062	0.0031
173	0.0098	0.0065	0.0033
174	0.0101	0.0067	0.0034
175	0.0107	0.0071	0.0036
176	0.0110	0.0073	0.0037
177	0.0118	0.0078	0.0039
178	0.0122	0.0081	0.0041
179	0.0132	0.0088	0.0044
180	0.0137	0.0091	0.0046
181	0.0150	0.0100	0.0050
182	0.0157	0.0105	0.0053
183	0.0175	0.0116	0.0058
184	0.0185	0.0123	0.0062
185	0.0343	0.0228	0.0115
186	0.0366	0.0243	0.0122
187	0.0424	0.0282	0.0142
188	0.0463	0.0308	0.0155
189	0.0576	0.0322	0.0254
190	0.0663	0.0322	0.0341
191	0.1006	0.0322	0.0684
192	0.1460	0.0322	0.1138
193	0.6318	0.0322	0.5996
194	0.0792	0.0322	0.0470
195	0.0512	0.0322	0.0190
196	0.0392	0.0261	0.0131
197	0.0197	0.0131	0.0066
198	0.0166	0.0110	0.0055
199	0.0143	0.0095	0.0048
200	0.0127	0.0084	0.0042
201	0.0114	0.0076	0.0038
202	0.0104	0.0069	0.0035

203	0.0095	0.0063	0.0032
204	0.0088	0.0059	0.0029
205	0.0078	0.0052	0.0026
206	0.0073	0.0049	0.0024
207	0.0069	0.0046	0.0023
208	0.0065	0.0043	0.0022
209	0.0062	0.0041	0.0021
210	0.0059	0.0039	0.0020
211	0.0056	0.0037	0.0019
212	0.0053	0.0036	0.0018
213	0.0051	0.0034	0.0017
214	0.0049	0.0033	0.0016
215	0.0047	0.0032	0.0016
216	0.0046	0.0030	0.0015
217	0.0056	0.0037	0.0019
218	0.0054	0.0036	0.0018
219	0.0052	0.0035	0.0017
220	0.0051	0.0034	0.0017
221	0.0049	0.0033	0.0016
222	0.0048	0.0032	0.0016
223	0.0047	0.0031	0.0016
224	0.0046	0.0030	0.0015
225	0.0044	0.0030	0.0015
226	0.0043	0.0029	0.0014
227	0.0042	0.0028	0.0014
228	0.0041	0.0028	0.0014
229	0.0041	0.0027	0.0014
230	0.0040	0.0026	0.0013
231	0.0039	0.0026	0.0013
232	0.0038	0.0025	0.0013
233	0.0037	0.0025	0.0012
234	0.0037	0.0024	0.0012
235	0.0036	0.0024	0.0012
236	0.0035	0.0023	0.0012
237	0.0035	0.0023	0.0012
238	0.0034	0.0023	0.0011
239	0.0033	0.0022	0.0011
240	0.0033	0.0022	0.0011
241	0.0032	0.0022	0.0011
242	0.0032	0.0021	0.0011
243	0.0031	0.0021	0.0010
244	0.0031	0.0021	0.0010
245	0.0030	0.0020	0.0010
246	0.0030	0.0020	0.0010
247	0.0030	0.0020	0.0010
248	0.0029	0.0019	0.0010
249	0.0029	0.0019	0.0010
250	0.0028	0.0019	0.0009
251	0.0028	0.0019	0.0009
252	0.0028	0.0018	0.0009
253	0.0027	0.0018	0.0009
254	0.0027	0.0018	0.0009
255	0.0027	0.0018	0.0009
256	0.0026	0.0017	0.0009
257	0.0026	0.0017	0.0009
258	0.0026	0.0017	0.0009
259	0.0025	0.0017	0.0008
260	0.0025	0.0017	0.0008
261	0.0025	0.0016	0.0008

262	0.0024	0.0016	0.0008
263	0.0024	0.0016	0.0008
264	0.0024	0.0016	0.0008
265	0.0024	0.0016	0.0008
266	0.0023	0.0016	0.0008
267	0.0023	0.0015	0.0008
268	0.0023	0.0015	0.0008
269	0.0023	0.0015	0.0008
270	0.0022	0.0015	0.0007
271	0.0022	0.0015	0.0007
272	0.0022	0.0015	0.0007
273	0.0022	0.0014	0.0007
274	0.0022	0.0014	0.0007
275	0.0021	0.0014	0.0007
276	0.0021	0.0014	0.0007
277	0.0021	0.0014	0.0007
278	0.0021	0.0014	0.0007
279	0.0021	0.0014	0.0007
280	0.0020	0.0014	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0013	0.0007
283	0.0020	0.0013	0.0007
284	0.0020	0.0013	0.0007
285	0.0020	0.0013	0.0007
286	0.0019	0.0013	0.0006
287	0.0019	0.0013	0.0006
288	0.0019	0.0013	0.0006

Total soil rain loss = 1.13(In)
Total effective rainfall = 1.36(In)
Peak flow rate in flood hydrograph = 163.10(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0003	0.02	Q	|	|	|	|
0+20	0.0006	0.04	Q	|	|	|	|
0+25	0.0010	0.06	Q	|	|	|	|
0+30	0.0015	0.08	Q	|	|	|	|
0+35	0.0022	0.11	Q	|	|	|	|
0+40	0.0032	0.13	Q	|	|	|	|
0+45	0.0043	0.17	Q	|	|	|	|
0+50	0.0057	0.20	Q	|	|	|	|
0+55	0.0073	0.24	Q	|	|	|	|
1+ 0	0.0095	0.31	Q	|	|	|	|
1+ 5	0.0121	0.38	Q	|	|	|	|
1+10	0.0152	0.46	Q	|	|	|	|
1+15	0.0192	0.57	Q	|	|	|	|
1+20	0.0239	0.68	Q	|	|	|	|
1+25	0.0293	0.78	Q	|	|	|	|

1+30	0.0353	0.88	Q				
1+35	0.0420	0.97	Q				
1+40	0.0491	1.04	Q				
1+45	0.0568	1.11	Q				
1+50	0.0649	1.18	Q				
1+55	0.0735	1.24	Q				
2+ 0	0.0824	1.30	Q				
2+ 5	0.0917	1.35	Q				
2+10	0.1014	1.40	Q				
2+15	0.1113	1.44	Q				
2+20	0.1215	1.48	Q				
2+25	0.1320	1.52	Q				
2+30	0.1427	1.56	Q				
2+35	0.1537	1.59	Q				
2+40	0.1649	1.63	Q				
2+45	0.1764	1.66	Q				
2+50	0.1880	1.69	Q				
2+55	0.1999	1.73	Q				
3+ 0	0.2120	1.76	Q				
3+ 5	0.2243	1.78	Q				
3+10	0.2368	1.81	Q				
3+15	0.2494	1.84	Q				
3+20	0.2623	1.87	Q				
3+25	0.2753	1.89	Q				
3+30	0.2885	1.92	Q				
3+35	0.3019	1.94	Q				
3+40	0.3155	1.97	Q				
3+45	0.3292	1.99	Q				
3+50	0.3431	2.01	Q				
3+55	0.3571	2.04	Q				
4+ 0	0.3713	2.06	Q				
4+ 5	0.3856	2.08	Q				
4+10	0.4001	2.10	Q				
4+15	0.4148	2.13	Q				
4+20	0.4295	2.15	Q				
4+25	0.4445	2.17	Q				
4+30	0.4596	2.19	Q				
4+35	0.4748	2.21	Q				
4+40	0.4902	2.23	Q				
4+45	0.5057	2.25	Q				
4+50	0.5214	2.28	Q				
4+55	0.5372	2.30	Q				
5+ 0	0.5531	2.32	Q				
5+ 5	0.5692	2.34	Q				
5+10	0.5855	2.36	Q				
5+15	0.6018	2.38	Q				
5+20	0.6184	2.40	Q				
5+25	0.6350	2.42	Q				
5+30	0.6518	2.44	Q				
5+35	0.6687	2.46	Q				
5+40	0.6857	2.47	Q				
5+45	0.7029	2.49	Q				
5+50	0.7202	2.51	Q				
5+55	0.7377	2.53	Q				
6+ 0	0.7553	2.55	Q				
6+ 5	0.7730	2.57	Q				
6+10	0.7908	2.59	Q				
6+15	0.8088	2.61	Q				
6+20	0.8270	2.63	Q				

6+25	0.8453	2.65	QV				
6+30	0.8637	2.67	QV				
6+35	0.8822	2.69	QV				
6+40	0.9009	2.71	QV				
6+45	0.9197	2.73	QV				
6+50	0.9387	2.76	QV				
6+55	0.9578	2.78	QV				
7+ 0	0.9771	2.80	QV				
7+ 5	0.9965	2.82	QV				
7+10	1.0161	2.84	QV				
7+15	1.0358	2.86	QV				
7+20	1.0556	2.88	QV				
7+25	1.0756	2.90	QV				
7+30	1.0958	2.92	QV				
7+35	1.1160	2.95	QV				
7+40	1.1365	2.97	QV				
7+45	1.1571	2.99	QV				
7+50	1.1778	3.01	QV				
7+55	1.1988	3.04	QV				
8+ 0	1.2198	3.06	QV				
8+ 5	1.2411	3.08	QV				
8+10	1.2625	3.11	QV				
8+15	1.2840	3.13	QV				
8+20	1.3057	3.15	QV				
8+25	1.3276	3.18	QV				
8+30	1.3497	3.20	QV				
8+35	1.3719	3.23	QV				
8+40	1.3943	3.25	QV				
8+45	1.4169	3.28	QV				
8+50	1.4396	3.30	QV				
8+55	1.4625	3.33	QV				
9+ 0	1.4856	3.36	QV				
9+ 5	1.5089	3.38	QV				
9+10	1.5324	3.41	QV				
9+15	1.5561	3.44	QV				
9+20	1.5799	3.46	QV				
9+25	1.6040	3.49	QV				
9+30	1.6282	3.52	QV				
9+35	1.6527	3.55	QV				
9+40	1.6773	3.58	Q V				
9+45	1.7022	3.61	Q V				
9+50	1.7272	3.64	Q V				
9+55	1.7525	3.67	Q V				
10+ 0	1.7780	3.70	Q V				
10+ 5	1.8037	3.73	Q V				
10+10	1.8296	3.76	Q V				
10+15	1.8558	3.80	Q V				
10+20	1.8822	3.83	Q V				
10+25	1.9088	3.86	Q V				
10+30	1.9356	3.90	Q V				
10+35	1.9627	3.94	Q V				
10+40	1.9901	3.97	Q V				
10+45	2.0177	4.01	Q V				
10+50	2.0456	4.05	Q V				
10+55	2.0737	4.09	Q V				
11+ 0	2.1021	4.13	Q V				
11+ 5	2.1308	4.17	Q V				
11+10	2.1598	4.21	Q V				
11+15	2.1890	4.25	Q V				

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11+20       2.2186      4.29  Q V       |          |          |          |
11+25       2.2485      4.34  Q V       |          |          |          |
11+30       2.2787      4.38  Q V       |          |          |          |
11+35       2.3092      4.43  Q V       |          |          |          |
11+40       2.3400      4.48  Q V       |          |          |          |
11+45       2.3711      4.52  Q V       |          |          |          |
11+50       2.4027      4.57  Q V       |          |          |          |
11+55       2.4345      4.63  Q V       |          |          |          |
12+ 0       2.4667      4.68  Q V       |          |          |          |
12+ 5       2.4993      4.73  Q  V      |          |          |          |
12+10       2.5322      4.78  Q  V      |          |          |          |
12+15       2.5655      4.83  Q  V      |          |          |          |
12+20       2.5991      4.88  Q  V      |          |          |          |
12+25       2.6330      4.93  Q  V      |          |          |          |
12+30       2.6672      4.97  Q  V      |          |          |          |
12+35       2.7018      5.02  |Q V      |          |          |          |
12+40       2.7367      5.07  |Q V      |          |          |          |
12+45       2.7720      5.11  |Q V      |          |          |          |
12+50       2.8075      5.16  |Q V      |          |          |          |
12+55       2.8433      5.21  |Q V      |          |          |          |
13+ 0       2.8794      5.24  |Q V      |          |          |          |
13+ 5       2.9157      5.27  |Q V      |          |          |          |
13+10       2.9522      5.29  |Q V      |          |          |          |
13+15       2.9887      5.31  |Q V      |          |          |          |
13+20       3.0253      5.32  |Q V      |          |          |          |
13+25       3.0621      5.34  |Q V      |          |          |          |
13+30       3.0991      5.37  |Q V      |          |          |          |
13+35       3.1363      5.40  |Q V      |          |          |          |
13+40       3.1738      5.45  |Q V      |          |          |          |
13+45       3.2116      5.50  |Q V      |          |          |          |
13+50       3.2499      5.55  |Q V      |          |          |          |
13+55       3.2886      5.61  |Q V      |          |          |          |
14+ 0       3.3277      5.68  |Q  V     |          |          |          |
14+ 5       3.3674      5.76  |Q  V     |          |          |          |
14+10       3.4076      5.85  |Q  V     |          |          |          |
14+15       3.4486      5.94  |Q  V     |          |          |          |
14+20       3.4902      6.04  |Q  V     |          |          |          |
14+25       3.5326      6.15  |Q  V     |          |          |          |
14+30       3.5758      6.27  |Q  V     |          |          |          |
14+35       3.6199      6.40  |Q  V     |          |          |          |
14+40       3.6649      6.54  |Q  V     |          |          |          |
14+45       3.7109      6.69  |Q  V     |          |          |          |
14+50       3.7581      6.84  |Q  V     |          |          |          |
14+55       3.8064      7.02  |Q  V     |          |          |          |
15+ 0       3.8560      7.21  |Q  V     |          |          |          |
15+ 5       3.9071      7.41  |Q  V     |          |          |          |
15+10       3.9597      7.64  |Q  V     |          |          |          |
15+15       4.0141      7.89  |Q  V     |          |          |          |
15+20       4.0703      8.16  |Q  V     |          |          |          |
15+25       4.1288      8.49  |Q  V     |          |          |          |
15+30       4.1899      8.88  |Q   V    |          |          |          |
15+35       4.2541      9.32  |Q   V    |          |          |          |
15+40       4.3219      9.84  |Q   V    |          |          |          |
15+45       4.3941     10.49  | Q  V    |          |          |          |
15+50       4.4723     11.34  | Q  V    |          |          |          |
15+55       4.5591     12.61  | Q  V    |          |          |          |
16+ 0       4.6598     14.62  | Q  V    |          |          |          |
16+ 5       4.8030     20.80  |   QV    |          |          |          |
16+10       4.9889     27.00  |    QV   |          |          |          |
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16+15	5.1961	30.08	Q				
16+20	5.4563	37.77	VQ				
16+25	5.7444	41.84	V Q				
16+30	6.0660	46.70	V Q				
16+35	6.4418	54.56	V Q				
16+40	6.8441	58.43	V Q				
16+45	7.3047	66.87	V Q				
16+50	7.8208	74.93	V Q				
16+55	8.4055	84.90	V Q				
17+ 0	9.1713	111.19	V	Q			
17+ 5	10.0075	121.42	V	Q			
17+10	10.9704	139.82	V	Q			
17+15	12.0937	163.10	V			Q	
17+20	13.2066	161.60	V			Q	
17+25	14.2291	148.46	V		Q		
17+30	15.1935	140.03	V	Q			
17+35	16.1001	131.63	V	Q			
17+40	16.8812	113.42	V Q				
17+45	17.6249	107.99	Q				
17+50	18.3101	99.48	Q	V			
17+55	18.9346	90.68	Q	V			
18+ 0	19.5298	86.43	Q	V			
18+ 5	20.0450	74.80	Q	V			
18+10	20.5249	69.69	Q	V			
18+15	20.9780	65.79	Q	V			
18+20	21.3879	59.51	Q	V			
18+25	21.7843	57.56	Q	V			
18+30	22.1541	53.68	Q	V			
18+35	22.5035	50.74	Q	V			
18+40	22.8439	49.42	Q	V			
18+45	23.1665	46.85	Q	V			
18+50	23.4797	45.47	Q	V			
18+55	23.7768	43.14	Q	V			
19+ 0	24.0520	39.96	Q	V			
19+ 5	24.3204	38.98	Q	V			
19+10	24.5744	36.87	Q	V			
19+15	24.8198	35.63	Q	V			
19+20	25.0606	34.97	Q	V			
19+25	25.2939	33.87	Q	V			
19+30	25.5215	33.05	Q	V			
19+35	25.7340	30.86	Q	V			
19+40	25.9308	28.56	Q	V			
19+45	26.1246	28.15	Q	V			
19+50	26.3160	27.78	Q	V			
19+55	26.5041	27.31	Q	V			
20+ 0	26.6848	26.25	Q	V			
20+ 5	26.8523	24.31	Q	V			
20+10	27.0168	23.90	Q	V			
20+15	27.1797	23.64	Q	V			
20+20	27.3404	23.35	Q	V			
20+25	27.4981	22.89	Q	V			
20+30	27.6483	21.81	Q	V			
20+35	27.7956	21.39	Q	V			
20+40	27.9413	21.16	Q	V			
20+45	28.0850	20.87	Q	V			
20+50	28.2259	20.46	Q	V			
20+55	28.3580	19.18	Q	V			
21+ 0	28.4849	18.42	Q	V			
21+ 5	28.6101	18.18	Q	V			

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21+10      28.7335     17.91  |  Q      |         |         |   V     |
21+15      28.8541     17.52  |  Q      |         |         |   V     |
21+20      28.9667     16.35  |  Q      |         |         |   V     |
21+25      29.0704     15.05  |  Q      |         |         |    V    |
21+30      29.1726     14.84  | Q       |         |         |    V    |
21+35      29.2738     14.69  | Q       |         |         |    V    |
21+40      29.3738     14.53  | Q       |         |         |    V    |
21+45      29.4722     14.28  | Q       |         |         |    V    |
21+50      29.5679     13.89  | Q       |         |         |    V    |
21+55      29.6625     13.74  | Q       |         |         |    V    |
22+ 0      29.7563     13.61  | Q       |         |         |    V    |
22+ 5      29.8489     13.45  | Q       |         |         |    V    |
22+10      29.9397     13.18  | Q       |         |         |     V   |
22+15      30.0256     12.48  | Q       |         |         |     V   |
22+20      30.1097     12.22  | Q       |         |         |     V   |
22+25      30.1931     12.10  | Q       |         |         |     V   |
22+30      30.2756     11.98  | Q       |         |         |     V   |
22+35      30.3571     11.84  | Q       |         |         |     V   |
22+40      30.4362     11.48  | Q       |         |         |     V   |
22+45      30.5135     11.23  | Q       |         |         |     V   |
22+50      30.5901     11.12  | Q       |         |         |     V   |
22+55      30.6657     10.98  | Q       |         |         |     V   |
23+ 0      30.7400     10.78  | Q       |         |         |      V  |
23+ 5      30.8103     10.21  | Q       |         |         |      V  |
23+10      30.8759      9.53  |Q        |         |         |      V  |
23+15      30.9408      9.42  |Q        |         |         |      V  |
23+20      31.0051      9.34  |Q        |         |         |      V  |
23+25      31.0690      9.27  |Q        |         |         |      V  |
23+30      31.1323      9.20  |Q        |         |         |      V  |
23+35      31.1953      9.14  |Q        |         |         |      V  |
23+40      31.2577      9.06  |Q        |         |         |      V  |
23+45      31.3194      8.97  |Q        |         |         |      V  |
23+50      31.3803      8.84  |Q        |         |         |      V  |
23+55      31.4396      8.61  |Q        |         |         |      V  |
24+ 0      31.4943      7.94  |Q        |         |         |      V  |
24+ 5      31.5473      7.70  |Q        |         |         |       V |
24+10      31.5997      7.61  |Q        |         |         |       V |
24+15      31.6516      7.54  |Q        |         |         |       V |
24+20      31.7030      7.46  |Q        |         |         |       V |
24+25      31.7539      7.39  |Q        |         |         |       V |
24+30      31.8043      7.31  |Q        |         |         |       V |
24+35      31.8539      7.21  |Q        |         |         |       V |
24+40      31.9027      7.09  |Q        |         |         |       V |
24+45      31.9503      6.91  |Q        |         |         |       V |
24+50      31.9946      6.44  |Q        |         |         |       V |
24+55      32.0349      5.85  |Q        |         |         |       V |
25+ 0      32.0742      5.70  |Q        |         |         |       V |
25+ 5      32.1126      5.58  |Q        |         |         |       V |
25+10      32.1501      5.44  |Q        |         |         |       V |
25+15      32.1865      5.29  |Q        |         |         |       V |
25+20      32.2219      5.13  |Q        |         |         |       V |
25+25      32.2562      4.98  Q        |         |         |       V |
25+30      32.2894      4.83  Q        |         |         |       V |
25+35      32.3214      4.63  Q        |         |         |       V |
25+40      32.3514      4.36  Q        |         |         |       V |
25+45      32.3766      3.65  Q        |         |         |        V|
25+50      32.3998      3.37  Q        |         |         |        V|
25+55      32.4223      3.27  Q        |         |         |        V|
26+ 0      32.4442      3.18  Q        |         |         |        V|
```

26+ 5	32.4657	3.12	Q	|	|	|	V|
26+10	32.4868	3.06	Q	|	|	|	V|
26+15	32.5075	3.01	Q	|	|	|	V|
26+20	32.5280	2.97	Q	|	|	|	V|
26+25	32.5483	2.94	Q	|	|	|	V|
26+30	32.5684	2.92	Q	|	|	|	V|
26+35	32.5889	2.98	Q	|	|	|	V|
26+40	32.6100	3.07	Q	|	|	|	V|
26+45	32.6309	3.04	Q	|	|	|	V|
26+50	32.6516	3.01	Q	|	|	|	V|
26+55	32.6721	2.97	Q	|	|	|	V|
27+ 0	32.6924	2.94	Q	|	|	|	V|
27+ 5	32.7124	2.91	Q	|	|	|	V|
27+10	32.7322	2.88	Q	|	|	|	V|
27+15	32.7519	2.85	Q	|	|	|	V|
27+20	32.7713	2.82	Q	|	|	|	V|
27+25	32.7905	2.79	Q	|	|	|	V|
27+30	32.8095	2.76	Q	|	|	|	V|
27+35	32.8283	2.73	Q	|	|	|	V|
27+40	32.8469	2.70	Q	|	|	|	V|
27+45	32.8653	2.67	Q	|	|	|	V|
27+50	32.8835	2.64	Q	|	|	|	V|
27+55	32.9015	2.61	Q	|	|	|	V|
28+ 0	32.9192	2.57	Q	|	|	|	V|
28+ 5	32.9365	2.52	Q	|	|	|	V|
28+10	32.9535	2.46	Q	|	|	|	V|
28+15	32.9697	2.36	Q	|	|	|	V|
28+20	32.9840	2.07	Q	|	|	|	V|
28+25	32.9955	1.66	Q	|	|	|	V|
28+30	33.0065	1.60	Q	|	|	|	V|
28+35	33.0173	1.57	Q	|	|	|	V|
28+40	33.0280	1.54	Q	|	|	|	V|
28+45	33.0385	1.52	Q	|	|	|	V|
28+50	33.0488	1.50	Q	|	|	|	V|
28+55	33.0590	1.48	Q	|	|	|	V|
29+ 0	33.0690	1.46	Q	|	|	|	V|
29+ 5	33.0788	1.43	Q	|	|	|	V|
29+10	33.0885	1.40	Q	|	|	|	V|
29+15	33.0980	1.38	Q	|	|	|	V|
29+20	33.1072	1.34	Q	|	|	|	V|
29+25	33.1162	1.30	Q	|	|	|	V|
29+30	33.1247	1.24	Q	|	|	|	V|
29+35	33.1326	1.14	Q	|	|	|	V|
29+40	33.1377	0.75	Q	|	|	|	V|
29+45	33.1405	0.40	Q	|	|	|	V|
29+50	33.1430	0.36	Q	|	|	|	V|
29+55	33.1453	0.34	Q	|	|	|	V|
30+ 0	33.1475	0.32	Q	|	|	|	V|
30+ 5	33.1496	0.30	Q	|	|	|	V|
30+10	33.1516	0.29	Q	|	|	|	V|
30+15	33.1535	0.28	Q	|	|	|	V|
30+20	33.1554	0.27	Q	|	|	|	V|
30+25	33.1572	0.26	Q	|	|	|	V|
30+30	33.1589	0.25	Q	|	|	|	V|
30+35	33.1605	0.24	Q	|	|	|	V|
30+40	33.1621	0.23	Q	|	|	|	V|
30+45	33.1637	0.22	Q	|	|	|	V|
30+50	33.1651	0.21	Q	|	|	|	V|
30+55	33.1666	0.21	Q	|	|	|	V|

31+ 0	33.1679	0.20	Q	|	|	|	V|
31+ 5	33.1693	0.19	Q	|	|	|	V|
31+10	33.1705	0.19	Q	|	|	|	V|
31+15	33.1718	0.18	Q	|	|	|	V|
31+20	33.1730	0.17	Q	|	|	|	V|
31+25	33.1741	0.17	Q	|	|	|	V|
31+30	33.1753	0.16	Q	|	|	|	V|
31+35	33.1763	0.16	Q	|	|	|	V|
31+40	33.1774	0.15	Q	|	|	|	V|
31+45	33.1784	0.15	Q	|	|	|	V|
31+50	33.1794	0.14	Q	|	|	|	V|
31+55	33.1803	0.13	Q	|	|	|	V|
32+ 0	33.1812	0.13	Q	|	|	|	V|
32+ 5	33.1821	0.13	Q	|	|	|	V|
32+10	33.1829	0.12	Q	|	|	|	V|
32+15	33.1837	0.12	Q	|	|	|	V|
32+20	33.1845	0.11	Q	|	|	|	V|
32+25	33.1852	0.11	Q	|	|	|	V|
32+30	33.1859	0.10	Q	|	|	|	V|
32+35	33.1866	0.10	Q	|	|	|	V|
32+40	33.1873	0.10	Q	|	|	|	V|
32+45	33.1879	0.09	Q	|	|	|	V|
32+50	33.1885	0.09	Q	|	|	|	V|
32+55	33.1891	0.09	Q	|	|	|	V|
33+ 0	33.1897	0.08	Q	|	|	|	V|
33+ 5	33.1903	0.08	Q	|	|	|	V|
33+10	33.1908	0.08	Q	|	|	|	V|
33+15	33.1913	0.07	Q	|	|	|	V|
33+20	33.1918	0.07	Q	|	|	|	V|
33+25	33.1923	0.07	Q	|	|	|	V|
33+30	33.1927	0.07	Q	|	|	|	V|
33+35	33.1932	0.06	Q	|	|	|	V|
33+40	33.1936	0.06	Q	|	|	|	V|
33+45	33.1940	0.06	Q	|	|	|	V|
33+50	33.1944	0.06	Q	|	|	|	V|
33+55	33.1948	0.06	Q	|	|	|	V|
34+ 0	33.1952	0.05	Q	|	|	|	V|
34+ 5	33.1955	0.05	Q	|	|	|	V|
34+10	33.1959	0.05	Q	|	|	|	V|
34+15	33.1962	0.05	Q	|	|	|	V|
34+20	33.1965	0.05	Q	|	|	|	V|
34+25	33.1968	0.05	Q	|	|	|	V|
34+30	33.1972	0.04	Q	|	|	|	V|
34+35	33.1975	0.04	Q	|	|	|	V|
34+40	33.1977	0.04	Q	|	|	|	V|
34+45	33.1980	0.04	Q	|	|	|	V|
34+50	33.1983	0.04	Q	|	|	|	V|
34+55	33.1985	0.04	Q	|	|	|	V|
35+ 0	33.1988	0.03	Q	|	|	|	V|
35+ 5	33.1990	0.03	Q	|	|	|	V|
35+10	33.1992	0.03	Q	|	|	|	V|
35+15	33.1994	0.03	Q	|	|	|	V|
35+20	33.1996	0.03	Q	|	|	|	V|
35+25	33.1998	0.03	Q	|	|	|	V|
35+30	33.2000	0.03	Q	|	|	|	V|
35+35	33.2001	0.02	Q	|	|	|	V|
35+40	33.2003	0.02	Q	|	|	|	V|
35+45	33.2004	0.02	Q	|	|	|	V|
35+50	33.2006	0.02	Q	|	|	|	V|

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   35+55      33.2007      0.02  Q         |         |         |        V|
   36+ 0      33.2008      0.02  Q         |         |         |        V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 25
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
279.91	1	1.36
Rainfall data for year 100		
279.91	6	1.83
Rainfall data for year 100		
279.91	24	2.51

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
61.5	80.2	279.91	1.000	0.366	0.999	0.366

Area-averaged adjusted loss rate Fm (In/Hr) = 0.366

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
279.63	0.999	61.5	80.2	2.47	0.361
0.28	0.001	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.362
Area-averaged low loss fraction, Yb = 0.638
User entry of time of concentration = 2.170 (hours)
++
Watershed area = 279.91(Ac.)
Catchment Lag time = 1.736 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 4.8003
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.366(In/Hr)
Average low loss rate fraction (Yb) = 0.638 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.631(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.510(In)

Rainfall depth area reduction factors:
Using a total area of 279.91(Ac.) (Ref: fig. E-4)

5-minute factor = 0.987 Adjusted rainfall = 0.637(In)
30-minute factor = 0.987 Adjusted rainfall = 1.090(In)
1-hour factor = 0.987 Adjusted rainfall = 1.342(In)
3-hour factor = 0.998 Adjusted rainfall = 1.629(In)
6-hour factor = 0.999 Adjusted rainfall = 1.828(In)
24-hour factor = 1.000 Adjusted rainfall = 2.509(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 3385.16 (CFS))	
1	0.211	7.150
2	0.634	14.300
3	1.086	15.319
4	1.823	24.928
5	2.629	27.300
6	3.556	31.377
7	4.738	40.018
8	5.936	40.552
9	7.410	49.885
10	9.023	54.599
11	10.884	63.023
12	13.830	99.724
13	16.902	103.999

14	20.860	133.963
15	25.775	166.386
16	30.633	164.468
17	34.900	144.413
18	39.009	139.098
19	42.809	128.639
20	45.908	104.911
21	48.972	103.724
22	51.667	91.248
23	54.164	84.499
24	56.556	80.984
25	58.461	64.500
26	60.305	62.399
27	61.989	57.008
28	63.487	50.709
29	64.970	50.205
30	66.285	44.517
31	67.552	42.900
32	68.787	41.797
33	69.942	39.119
34	71.092	38.928
35	72.122	34.859
36	73.082	32.500
37	74.025	31.923
38	74.882	29.005
39	75.727	28.600
40	76.555	28.025
41	77.361	27.302
42	78.158	26.969
43	78.830	22.739
44	79.463	21.450
45	80.097	21.450
46	80.731	21.450
47	81.363	21.418
48	81.926	19.033
49	82.444	17.550
50	82.962	17.550
51	83.481	17.550
52	83.999	17.550
53	84.493	16.725
54	84.954	15.606
55	85.415	15.600
56	85.876	15.600
57	86.337	15.600
58	86.778	14.941
59	87.165	13.108
60	87.549	13.000
61	87.933	13.000
62	88.318	13.000
63	88.689	12.587
64	88.989	10.150
65	89.277	9.750
66	89.565	9.750
67	89.853	9.750
68	90.140	9.721
69	90.414	9.261
70	90.683	9.100
71	90.952	9.100
72	91.220	9.100

73	91.489	9.095
74	91.735	8.341
75	91.966	7.800
76	92.196	7.800
77	92.427	7.800
78	92.657	7.800
79	92.880	7.548
80	93.091	7.155
81	93.303	7.150
82	93.514	7.150
83	93.725	7.150
84	93.925	6.783
85	94.091	5.612
86	94.254	5.525
87	94.418	5.525
88	94.581	5.525
89	94.744	5.525
90	94.907	5.525
91	95.071	5.525
92	95.234	5.525
93	95.397	5.525
94	95.559	5.482
95	95.694	4.585
96	95.819	4.225
97	95.944	4.225
98	96.069	4.225
99	96.194	4.225
100	96.318	4.225
101	96.443	4.225
102	96.568	4.225
103	96.693	4.225
104	96.818	4.225
105	96.929	3.766
106	97.016	2.942
107	97.102	2.925
108	97.189	2.925
109	97.275	2.925
110	97.361	2.925
111	97.448	2.925
112	97.534	2.925
113	97.621	2.925
114	97.707	2.925
115	97.790	2.808
116	97.844	1.841
117	97.892	1.625
118	97.940	1.625
119	97.988	1.625
120	98.036	1.625
121	98.084	1.625
122	98.132	1.625
123	98.180	1.625
124	98.228	1.625
125	98.276	1.625
126	98.329	1.790
127	98.387	1.950
128	98.444	1.950
129	98.502	1.950
130	98.560	1.950
131	98.617	1.950

132	98.675	1.950
133	98.732	1.950
134	98.790	1.950
135	98.848	1.950
136	98.905	1.950
137	98.963	1.950
138	99.021	1.950
139	99.078	1.950
140	99.136	1.950
141	99.193	1.950
142	99.251	1.950
143	99.309	1.950
144	99.366	1.950
145	99.424	1.950
146	99.481	1.936
147	99.520	1.333
148	99.550	1.016
149	99.580	1.016
150	99.610	1.016
151	99.640	1.016
152	99.670	1.016
153	99.700	1.016
154	99.730	1.016
155	99.760	1.016
156	99.790	1.016
157	99.820	1.016
158	99.850	1.016
159	99.880	1.016
160	99.910	1.016
161	99.940	1.016
162	99.970	1.016
163	100.000	1.005

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6369	0.6369
2	0.7841	0.1472
3	0.8855	0.1014
4	0.9653	0.0798
5	1.0321	0.0668
6	1.0902	0.0580
7	1.1418	0.0516
8	1.1884	0.0467
9	1.2312	0.0427
10	1.2707	0.0395
11	1.3076	0.0369
12	1.3422	0.0346
13	1.3612	0.0191
14	1.3791	0.0179
15	1.3960	0.0169
16	1.4119	0.0160
17	1.4271	0.0152
18	1.4415	0.0144
19	1.4553	0.0138
20	1.4685	0.0132
21	1.4812	0.0127
22	1.4934	0.0122
23	1.5052	0.0117
24	1.5165	0.0113

25	1.5274	0.0109
26	1.5380	0.0106
27	1.5483	0.0103
28	1.5582	0.0100
29	1.5679	0.0097
30	1.5773	0.0094
31	1.5864	0.0091
32	1.5953	0.0089
33	1.6040	0.0087
34	1.6124	0.0085
35	1.6207	0.0083
36	1.6288	0.0081
37	1.6362	0.0075
38	1.6435	0.0073
39	1.6507	0.0071
40	1.6576	0.0070
41	1.6645	0.0068
42	1.6712	0.0067
43	1.6778	0.0066
44	1.6842	0.0064
45	1.6905	0.0063
46	1.6967	0.0062
47	1.7028	0.0061
48	1.7088	0.0060
49	1.7147	0.0059
50	1.7205	0.0058
51	1.7262	0.0057
52	1.7318	0.0056
53	1.7373	0.0055
54	1.7427	0.0054
55	1.7481	0.0053
56	1.7533	0.0053
57	1.7585	0.0052
58	1.7636	0.0051
59	1.7687	0.0050
60	1.7736	0.0050
61	1.7785	0.0049
62	1.7834	0.0048
63	1.7881	0.0048
64	1.7928	0.0047
65	1.7975	0.0046
66	1.8021	0.0046
67	1.8066	0.0045
68	1.8110	0.0045
69	1.8155	0.0044
70	1.8198	0.0044
71	1.8241	0.0043
72	1.8284	0.0043
73	1.8342	0.0058
74	1.8399	0.0057
75	1.8455	0.0056
76	1.8511	0.0056
77	1.8566	0.0055
78	1.8621	0.0055
79	1.8675	0.0054
80	1.8729	0.0054
81	1.8782	0.0053
82	1.8835	0.0053
83	1.8887	0.0052

84	1.8939	0.0052
85	1.8990	0.0051
86	1.9041	0.0051
87	1.9091	0.0050
88	1.9141	0.0050
89	1.9191	0.0049
90	1.9240	0.0049
91	1.9288	0.0049
92	1.9336	0.0048
93	1.9384	0.0048
94	1.9432	0.0047
95	1.9479	0.0047
96	1.9525	0.0047
97	1.9571	0.0046
98	1.9617	0.0046
99	1.9663	0.0046
100	1.9708	0.0045
101	1.9753	0.0045
102	1.9797	0.0044
103	1.9841	0.0044
104	1.9885	0.0044
105	1.9929	0.0043
106	1.9972	0.0043
107	2.0015	0.0043
108	2.0057	0.0043
109	2.0100	0.0042
110	2.0142	0.0042
111	2.0183	0.0042
112	2.0225	0.0041
113	2.0266	0.0041
114	2.0306	0.0041
115	2.0347	0.0041
116	2.0387	0.0040
117	2.0427	0.0040
118	2.0467	0.0040
119	2.0506	0.0039
120	2.0546	0.0039
121	2.0585	0.0039
122	2.0623	0.0039
123	2.0662	0.0038
124	2.0700	0.0038
125	2.0738	0.0038
126	2.0776	0.0038
127	2.0813	0.0038
128	2.0851	0.0037
129	2.0888	0.0037
130	2.0925	0.0037
131	2.0961	0.0037
132	2.0998	0.0036
133	2.1034	0.0036
134	2.1070	0.0036
135	2.1106	0.0036
136	2.1141	0.0036
137	2.1177	0.0035
138	2.1212	0.0035
139	2.1247	0.0035
140	2.1282	0.0035
141	2.1316	0.0035
142	2.1351	0.0034

143	2.1385	0.0034
144	2.1419	0.0034
145	2.1453	0.0034
146	2.1486	0.0034
147	2.1520	0.0034
148	2.1553	0.0033
149	2.1586	0.0033
150	2.1619	0.0033
151	2.1652	0.0033
152	2.1685	0.0033
153	2.1717	0.0032
154	2.1750	0.0032
155	2.1782	0.0032
156	2.1814	0.0032
157	2.1846	0.0032
158	2.1877	0.0032
159	2.1909	0.0032
160	2.1940	0.0031
161	2.1972	0.0031
162	2.2003	0.0031
163	2.2034	0.0031
164	2.2064	0.0031
165	2.2095	0.0031
166	2.2125	0.0031
167	2.2156	0.0030
168	2.2186	0.0030
169	2.2216	0.0030
170	2.2246	0.0030
171	2.2276	0.0030
172	2.2306	0.0030
173	2.2335	0.0030
174	2.2365	0.0029
175	2.2394	0.0029
176	2.2423	0.0029
177	2.2452	0.0029
178	2.2481	0.0029
179	2.2510	0.0029
180	2.2538	0.0029
181	2.2567	0.0029
182	2.2595	0.0028
183	2.2624	0.0028
184	2.2652	0.0028
185	2.2680	0.0028
186	2.2708	0.0028
187	2.2735	0.0028
188	2.2763	0.0028
189	2.2791	0.0028
190	2.2818	0.0027
191	2.2846	0.0027
192	2.2873	0.0027
193	2.2900	0.0027
194	2.2927	0.0027
195	2.2954	0.0027
196	2.2981	0.0027
197	2.3007	0.0027
198	2.3034	0.0027
199	2.3061	0.0027
200	2.3087	0.0026
201	2.3113	0.0026

202	2.3140	0.0026
203	2.3166	0.0026
204	2.3192	0.0026
205	2.3218	0.0026
206	2.3243	0.0026
207	2.3269	0.0026
208	2.3295	0.0026
209	2.3320	0.0026
210	2.3346	0.0025
211	2.3371	0.0025
212	2.3396	0.0025
213	2.3421	0.0025
214	2.3446	0.0025
215	2.3471	0.0025
216	2.3496	0.0025
217	2.3521	0.0025
218	2.3546	0.0025
219	2.3570	0.0025
220	2.3595	0.0025
221	2.3619	0.0024
222	2.3644	0.0024
223	2.3668	0.0024
224	2.3692	0.0024
225	2.3716	0.0024
226	2.3740	0.0024
227	2.3764	0.0024
228	2.3788	0.0024
229	2.3812	0.0024
230	2.3836	0.0024
231	2.3859	0.0024
232	2.3883	0.0024
233	2.3906	0.0023
234	2.3930	0.0023
235	2.3953	0.0023
236	2.3976	0.0023
237	2.3999	0.0023
238	2.4022	0.0023
239	2.4045	0.0023
240	2.4068	0.0023
241	2.4091	0.0023
242	2.4114	0.0023
243	2.4137	0.0023
244	2.4159	0.0023
245	2.4182	0.0023
246	2.4204	0.0022
247	2.4227	0.0022
248	2.4249	0.0022
249	2.4271	0.0022
250	2.4294	0.0022
251	2.4316	0.0022
252	2.4338	0.0022
253	2.4360	0.0022
254	2.4382	0.0022
255	2.4404	0.0022
256	2.4426	0.0022
257	2.4447	0.0022
258	2.4469	0.0022
259	2.4491	0.0022
260	2.4512	0.0022

261	2.4534	0.0021
262	2.4555	0.0021
263	2.4576	0.0021
264	2.4598	0.0021
265	2.4619	0.0021
266	2.4640	0.0021
267	2.4661	0.0021
268	2.4682	0.0021
269	2.4703	0.0021
270	2.4724	0.0021
271	2.4745	0.0021
272	2.4766	0.0021
273	2.4787	0.0021
274	2.4807	0.0021
275	2.4828	0.0021
276	2.4849	0.0021
277	2.4869	0.0021
278	2.4890	0.0020
279	2.4910	0.0020
280	2.4930	0.0020
281	2.4951	0.0020
282	2.4971	0.0020
283	2.4991	0.0020
284	2.5011	0.0020
285	2.5031	0.0020
286	2.5051	0.0020
287	2.5071	0.0020
288	2.5091	0.0020

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0020	0.0013	0.0007
2	0.0020	0.0013	0.0007
3	0.0020	0.0013	0.0007
4	0.0020	0.0013	0.0007
5	0.0020	0.0013	0.0007
6	0.0020	0.0013	0.0007
7	0.0020	0.0013	0.0007
8	0.0020	0.0013	0.0007
9	0.0021	0.0013	0.0007
10	0.0021	0.0013	0.0007
11	0.0021	0.0013	0.0008
12	0.0021	0.0013	0.0008
13	0.0021	0.0013	0.0008
14	0.0021	0.0013	0.0008
15	0.0021	0.0013	0.0008
16	0.0021	0.0014	0.0008
17	0.0021	0.0014	0.0008
18	0.0021	0.0014	0.0008
19	0.0021	0.0014	0.0008
20	0.0022	0.0014	0.0008
21	0.0022	0.0014	0.0008
22	0.0022	0.0014	0.0008
23	0.0022	0.0014	0.0008
24	0.0022	0.0014	0.0008
25	0.0022	0.0014	0.0008
26	0.0022	0.0014	0.0008

27	0.0022	0.0014	0.0008
28	0.0022	0.0014	0.0008
29	0.0022	0.0014	0.0008
30	0.0023	0.0014	0.0008
31	0.0023	0.0014	0.0008
32	0.0023	0.0015	0.0008
33	0.0023	0.0015	0.0008
34	0.0023	0.0015	0.0008
35	0.0023	0.0015	0.0008
36	0.0023	0.0015	0.0008
37	0.0023	0.0015	0.0008
38	0.0023	0.0015	0.0008
39	0.0024	0.0015	0.0009
40	0.0024	0.0015	0.0009
41	0.0024	0.0015	0.0009
42	0.0024	0.0015	0.0009
43	0.0024	0.0015	0.0009
44	0.0024	0.0015	0.0009
45	0.0024	0.0016	0.0009
46	0.0024	0.0016	0.0009
47	0.0025	0.0016	0.0009
48	0.0025	0.0016	0.0009
49	0.0025	0.0016	0.0009
50	0.0025	0.0016	0.0009
51	0.0025	0.0016	0.0009
52	0.0025	0.0016	0.0009
53	0.0025	0.0016	0.0009
54	0.0026	0.0016	0.0009
55	0.0026	0.0016	0.0009
56	0.0026	0.0016	0.0009
57	0.0026	0.0017	0.0009
58	0.0026	0.0017	0.0009
59	0.0026	0.0017	0.0010
60	0.0026	0.0017	0.0010
61	0.0027	0.0017	0.0010
62	0.0027	0.0017	0.0010
63	0.0027	0.0017	0.0010
64	0.0027	0.0017	0.0010
65	0.0027	0.0017	0.0010
66	0.0027	0.0017	0.0010
67	0.0028	0.0018	0.0010
68	0.0028	0.0018	0.0010
69	0.0028	0.0018	0.0010
70	0.0028	0.0018	0.0010
71	0.0028	0.0018	0.0010
72	0.0028	0.0018	0.0010
73	0.0029	0.0018	0.0010
74	0.0029	0.0018	0.0010
75	0.0029	0.0019	0.0010
76	0.0029	0.0019	0.0011
77	0.0029	0.0019	0.0011
78	0.0030	0.0019	0.0011
79	0.0030	0.0019	0.0011
80	0.0030	0.0019	0.0011
81	0.0030	0.0019	0.0011
82	0.0030	0.0019	0.0011
83	0.0031	0.0020	0.0011
84	0.0031	0.0020	0.0011
85	0.0031	0.0020	0.0011

86	0.0031	0.0020	0.0011
87	0.0032	0.0020	0.0011
88	0.0032	0.0020	0.0011
89	0.0032	0.0020	0.0012
90	0.0032	0.0021	0.0012
91	0.0032	0.0021	0.0012
92	0.0033	0.0021	0.0012
93	0.0033	0.0021	0.0012
94	0.0033	0.0021	0.0012
95	0.0034	0.0021	0.0012
96	0.0034	0.0022	0.0012
97	0.0034	0.0022	0.0012
98	0.0034	0.0022	0.0012
99	0.0035	0.0022	0.0013
100	0.0035	0.0022	0.0013
101	0.0035	0.0022	0.0013
102	0.0035	0.0023	0.0013
103	0.0036	0.0023	0.0013
104	0.0036	0.0023	0.0013
105	0.0036	0.0023	0.0013
106	0.0037	0.0023	0.0013
107	0.0037	0.0024	0.0013
108	0.0037	0.0024	0.0013
109	0.0038	0.0024	0.0014
110	0.0038	0.0024	0.0014
111	0.0038	0.0025	0.0014
112	0.0039	0.0025	0.0014
113	0.0039	0.0025	0.0014
114	0.0039	0.0025	0.0014
115	0.0040	0.0026	0.0014
116	0.0040	0.0026	0.0015
117	0.0041	0.0026	0.0015
118	0.0041	0.0026	0.0015
119	0.0042	0.0027	0.0015
120	0.0042	0.0027	0.0015
121	0.0043	0.0027	0.0015
122	0.0043	0.0027	0.0016
123	0.0043	0.0028	0.0016
124	0.0044	0.0028	0.0016
125	0.0044	0.0028	0.0016
126	0.0045	0.0029	0.0016
127	0.0046	0.0029	0.0016
128	0.0046	0.0029	0.0017
129	0.0047	0.0030	0.0017
130	0.0047	0.0030	0.0017
131	0.0048	0.0031	0.0017
132	0.0048	0.0031	0.0017
133	0.0049	0.0031	0.0018
134	0.0049	0.0032	0.0018
135	0.0050	0.0032	0.0018
136	0.0051	0.0032	0.0018
137	0.0052	0.0033	0.0019
138	0.0052	0.0033	0.0019
139	0.0053	0.0034	0.0019
140	0.0054	0.0034	0.0019
141	0.0055	0.0035	0.0020
142	0.0055	0.0035	0.0020
143	0.0056	0.0036	0.0020
144	0.0057	0.0036	0.0021

145	0.0043	0.0027	0.0015
146	0.0043	0.0028	0.0016
147	0.0044	0.0028	0.0016
148	0.0045	0.0029	0.0016
149	0.0046	0.0029	0.0017
150	0.0046	0.0030	0.0017
151	0.0048	0.0030	0.0017
152	0.0048	0.0031	0.0017
153	0.0050	0.0032	0.0018
154	0.0050	0.0032	0.0018
155	0.0052	0.0033	0.0019
156	0.0053	0.0034	0.0019
157	0.0054	0.0035	0.0020
158	0.0055	0.0035	0.0020
159	0.0057	0.0036	0.0021
160	0.0058	0.0037	0.0021
161	0.0060	0.0038	0.0022
162	0.0061	0.0039	0.0022
163	0.0063	0.0040	0.0023
164	0.0064	0.0041	0.0023
165	0.0067	0.0043	0.0024
166	0.0068	0.0044	0.0025
167	0.0071	0.0046	0.0026
168	0.0073	0.0047	0.0026
169	0.0081	0.0051	0.0029
170	0.0083	0.0053	0.0030
171	0.0087	0.0055	0.0031
172	0.0089	0.0057	0.0032
173	0.0094	0.0060	0.0034
174	0.0097	0.0062	0.0035
175	0.0103	0.0065	0.0037
176	0.0106	0.0068	0.0038
177	0.0113	0.0072	0.0041
178	0.0117	0.0075	0.0042
179	0.0127	0.0081	0.0046
180	0.0132	0.0084	0.0048
181	0.0144	0.0092	0.0052
182	0.0152	0.0097	0.0055
183	0.0169	0.0108	0.0061
184	0.0179	0.0114	0.0065
185	0.0346	0.0221	0.0125
186	0.0369	0.0235	0.0133
187	0.0427	0.0273	0.0155
188	0.0467	0.0298	0.0169
189	0.0580	0.0305	0.0275
190	0.0668	0.0305	0.0363
191	0.1014	0.0305	0.0709
192	0.1472	0.0305	0.1167
193	0.6369	0.0305	0.6064
194	0.0798	0.0305	0.0493
195	0.0516	0.0305	0.0211
196	0.0395	0.0252	0.0143
197	0.0191	0.0122	0.0069
198	0.0160	0.0102	0.0058
199	0.0138	0.0088	0.0050
200	0.0122	0.0078	0.0044
201	0.0109	0.0070	0.0040
202	0.0100	0.0064	0.0036
203	0.0091	0.0058	0.0033

204	0.0085	0.0054	0.0031
205	0.0075	0.0048	0.0027
206	0.0070	0.0045	0.0025
207	0.0066	0.0042	0.0024
208	0.0062	0.0040	0.0022
209	0.0059	0.0038	0.0021
210	0.0056	0.0036	0.0020
211	0.0053	0.0034	0.0019
212	0.0051	0.0033	0.0018
213	0.0049	0.0031	0.0018
214	0.0047	0.0030	0.0017
215	0.0045	0.0029	0.0016
216	0.0044	0.0028	0.0016
217	0.0058	0.0037	0.0021
218	0.0056	0.0036	0.0020
219	0.0054	0.0035	0.0020
220	0.0053	0.0034	0.0019
221	0.0051	0.0033	0.0019
222	0.0050	0.0032	0.0018
223	0.0049	0.0031	0.0018
224	0.0047	0.0030	0.0017
225	0.0046	0.0030	0.0017
226	0.0045	0.0029	0.0016
227	0.0044	0.0028	0.0016
228	0.0043	0.0028	0.0016
229	0.0042	0.0027	0.0015
230	0.0041	0.0026	0.0015
231	0.0041	0.0026	0.0015
232	0.0040	0.0025	0.0014
233	0.0039	0.0025	0.0014
234	0.0038	0.0024	0.0014
235	0.0038	0.0024	0.0014
236	0.0037	0.0024	0.0013
237	0.0036	0.0023	0.0013
238	0.0036	0.0023	0.0013
239	0.0035	0.0022	0.0013
240	0.0034	0.0022	0.0012
241	0.0034	0.0022	0.0012
242	0.0033	0.0021	0.0012
243	0.0033	0.0021	0.0012
244	0.0032	0.0021	0.0012
245	0.0032	0.0020	0.0012
246	0.0031	0.0020	0.0011
247	0.0031	0.0020	0.0011
248	0.0031	0.0019	0.0011
249	0.0030	0.0019	0.0011
250	0.0030	0.0019	0.0011
251	0.0029	0.0019	0.0011
252	0.0029	0.0018	0.0010
253	0.0029	0.0018	0.0010
254	0.0028	0.0018	0.0010
255	0.0028	0.0018	0.0010
256	0.0027	0.0018	0.0010
257	0.0027	0.0017	0.0010
258	0.0027	0.0017	0.0010
259	0.0027	0.0017	0.0010
260	0.0026	0.0017	0.0009
261	0.0026	0.0017	0.0009
262	0.0026	0.0016	0.0009

263	0.0025	0.0016	0.0009
264	0.0025	0.0016	0.0009
265	0.0025	0.0016	0.0009
266	0.0025	0.0016	0.0009
267	0.0024	0.0015	0.0009
268	0.0024	0.0015	0.0009
269	0.0024	0.0015	0.0009
270	0.0024	0.0015	0.0009
271	0.0023	0.0015	0.0008
272	0.0023	0.0015	0.0008
273	0.0023	0.0015	0.0008
274	0.0023	0.0014	0.0008
275	0.0022	0.0014	0.0008
276	0.0022	0.0014	0.0008
277	0.0022	0.0014	0.0008
278	0.0022	0.0014	0.0008
279	0.0022	0.0014	0.0008
280	0.0021	0.0014	0.0008
281	0.0021	0.0014	0.0008
282	0.0021	0.0013	0.0008
283	0.0021	0.0013	0.0008
284	0.0021	0.0013	0.0007
285	0.0021	0.0013	0.0007
286	0.0020	0.0013	0.0007
287	0.0020	0.0013	0.0007
288	0.0020	0.0013	0.0007

Total soil rain loss = 1.09(In)
Total effective rainfall = 1.42(In)
Peak flow rate in flood hydrograph = 161.32(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

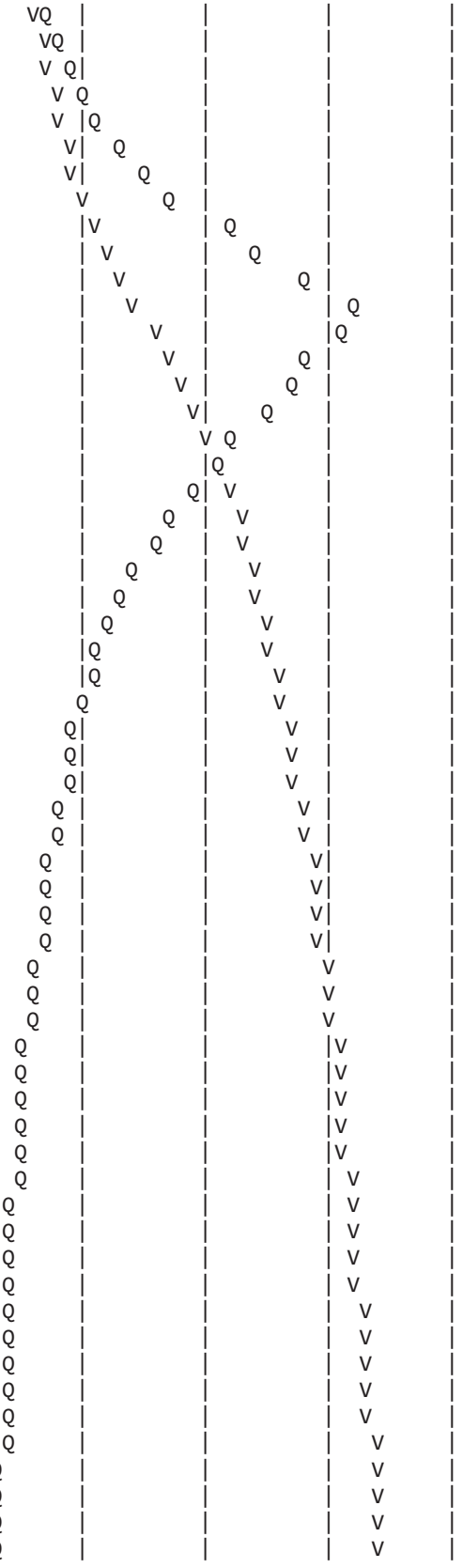
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0003	0.03	Q	|	|	|	|
0+20	0.0006	0.04	Q	|	|	|	|
0+25	0.0011	0.06	Q	|	|	|	|
0+30	0.0017	0.09	Q	|	|	|	|
0+35	0.0025	0.12	Q	|	|	|	|
0+40	0.0035	0.15	Q	|	|	|	|
0+45	0.0047	0.18	Q	|	|	|	|
0+50	0.0063	0.22	Q	|	|	|	|
0+55	0.0081	0.27	Q	|	|	|	|
1+ 0	0.0105	0.34	Q	|	|	|	|
1+ 5	0.0134	0.42	Q	|	|	|	|
1+10	0.0169	0.52	Q	|	|	|	|
1+15	0.0213	0.64	Q	|	|	|	|
1+20	0.0265	0.76	Q	|	|	|	|
1+25	0.0325	0.87	Q	|	|	|	|
1+30	0.0392	0.97	Q	|	|	|	|

1+35	0.0465	1.07	Q				
1+40	0.0544	1.15	Q				
1+45	0.0629	1.23	Q				
1+50	0.0718	1.30	Q				
1+55	0.0812	1.36	Q				
2+ 0	0.0910	1.43	Q				
2+ 5	0.1012	1.48	Q				
2+10	0.1118	1.53	Q				
2+15	0.1226	1.58	Q				
2+20	0.1338	1.62	Q				
2+25	0.1453	1.66	Q				
2+30	0.1570	1.70	Q				
2+35	0.1690	1.74	Q				
2+40	0.1813	1.78	Q				
2+45	0.1938	1.82	Q				
2+50	0.2065	1.85	Q				
2+55	0.2195	1.89	Q				
3+ 0	0.2327	1.92	Q				
3+ 5	0.2461	1.95	Q				
3+10	0.2597	1.98	Q				
3+15	0.2736	2.01	Q				
3+20	0.2876	2.04	Q				
3+25	0.3018	2.07	Q				
3+30	0.3162	2.09	Q				
3+35	0.3309	2.12	Q				
3+40	0.3456	2.15	Q				
3+45	0.3606	2.17	Q				
3+50	0.3757	2.20	Q				
3+55	0.3910	2.22	Q				
4+ 0	0.4065	2.25	Q				
4+ 5	0.4221	2.27	Q				
4+10	0.4379	2.29	Q				
4+15	0.4539	2.32	Q				
4+20	0.4700	2.34	Q				
4+25	0.4863	2.36	Q				
4+30	0.5027	2.39	Q				
4+35	0.5193	2.41	Q				
4+40	0.5361	2.43	Q				
4+45	0.5530	2.46	Q				
4+50	0.5700	2.48	Q				
4+55	0.5873	2.50	Q				
5+ 0	0.6046	2.52	Q				
5+ 5	0.6222	2.54	Q				
5+10	0.6398	2.57	Q				
5+15	0.6577	2.59	Q				
5+20	0.6756	2.61	Q				
5+25	0.6938	2.63	Q				
5+30	0.7120	2.65	Q				
5+35	0.7304	2.67	Q				
5+40	0.7490	2.69	Q				
5+45	0.7676	2.71	Q				
5+50	0.7865	2.73	Q				
5+55	0.8055	2.76	Q				
6+ 0	0.8246	2.78	Q				
6+ 5	0.8439	2.80	QV				
6+10	0.8633	2.82	QV				
6+15	0.8829	2.84	QV				
6+20	0.9026	2.86	QV				
6+25	0.9225	2.88	QV				

6+30	0.9425	2.91	QV				
6+35	0.9627	2.93	QV				
6+40	0.9830	2.95	QV				
6+45	1.0034	2.97	QV				
6+50	1.0241	3.00	QV				
6+55	1.0449	3.02	QV				
7+ 0	1.0658	3.04	QV				
7+ 5	1.0869	3.06	QV				
7+10	1.1081	3.08	QV				
7+15	1.1295	3.11	QV				
7+20	1.1511	3.13	QV				
7+25	1.1728	3.15	QV				
7+30	1.1947	3.18	QV				
7+35	1.2167	3.20	QV				
7+40	1.2389	3.22	QV				
7+45	1.2613	3.25	QV				
7+50	1.2838	3.27	QV				
7+55	1.3065	3.30	QV				
8+ 0	1.3294	3.32	QV				
8+ 5	1.3525	3.35	QV				
8+10	1.3757	3.37	QV				
8+15	1.3991	3.40	QV				
8+20	1.4226	3.42	QV				
8+25	1.4464	3.45	QV				
8+30	1.4703	3.47	QV				
8+35	1.4944	3.50	QV				
8+40	1.5187	3.53	QV				
8+45	1.5432	3.56	QV				
8+50	1.5679	3.58	QV				
8+55	1.5927	3.61	QV				
9+ 0	1.6178	3.64	QV				
9+ 5	1.6431	3.67	QV				
9+10	1.6685	3.70	Q V				
9+15	1.6942	3.72	Q V				
9+20	1.7200	3.75	Q V				
9+25	1.7461	3.79	Q V				
9+30	1.7724	3.82	Q V				
9+35	1.7989	3.85	Q V				
9+40	1.8256	3.88	Q V				
9+45	1.8525	3.91	Q V				
9+50	1.8797	3.94	Q V				
9+55	1.9070	3.97	Q V				
10+ 0	1.9346	4.01	Q V				
10+ 5	1.9625	4.04	Q V				
10+10	1.9905	4.08	Q V				
10+15	2.0189	4.11	Q V				
10+20	2.0474	4.15	Q V				
10+25	2.0762	4.18	Q V				
10+30	2.1053	4.22	Q V				
10+35	2.1346	4.26	Q V				
10+40	2.1643	4.30	Q V				
10+45	2.1941	4.34	Q V				
10+50	2.2243	4.38	Q V				
10+55	2.2547	4.42	Q V				
11+ 0	2.2855	4.46	Q V				
11+ 5	2.3165	4.51	Q V				
11+10	2.3479	4.55	Q V				
11+15	2.3795	4.60	Q V				
11+20	2.4115	4.64	Q V				

```
11+25       2.4438      4.69  Q V       |          |          |          |
11+30       2.4764      4.74  Q V       |          |          |          |
11+35       2.5094      4.79  Q  V      |          |          |          |
11+40       2.5427      4.84  Q  V      |          |          |          |
11+45       2.5764      4.89  Q  V      |          |          |          |
11+50       2.6105      4.94  Q  V      |          |          |          |
11+55       2.6449      5.00  Q  V      |          |          |          |
12+ 0       2.6797      5.06  |Q V      |          |          |          |
12+ 5       2.7149      5.11  |Q V      |          |          |          |
12+10       2.7504      5.16  |Q V      |          |          |          |
12+15       2.7863      5.21  |Q V      |          |          |          |
12+20       2.8225      5.26  |Q V      |          |          |          |
12+25       2.8591      5.31  |Q V      |          |          |          |
12+30       2.8959      5.35  |Q V      |          |          |          |
12+35       2.9331      5.40  |Q V      |          |          |          |
12+40       2.9706      5.44  |Q V      |          |          |          |
12+45       3.0083      5.48  |Q V      |          |          |          |
12+50       3.0464      5.52  |Q V      |          |          |          |
12+55       3.0846      5.56  |Q V      |          |          |          |
13+ 0       3.1231      5.58  |Q V      |          |          |          |
13+ 5       3.1616      5.60  |Q V      |          |          |          |
13+10       3.2002      5.60  |Q V      |          |          |          |
13+15       3.2387      5.59  |Q V      |          |          |          |
13+20       3.2771      5.57  |Q V      |          |          |          |
13+25       3.3155      5.58  |Q V      |          |          |          |
13+30       3.3539      5.58  |Q  V     |          |          |          |
13+35       3.3925      5.60  |Q  V     |          |          |          |
13+40       3.4312      5.63  |Q  V     |          |          |          |
13+45       3.4702      5.66  |Q  V     |          |          |          |
13+50       3.5096      5.71  |Q  V     |          |          |          |
13+55       3.5492      5.76  |Q  V     |          |          |          |
14+ 0       3.5893      5.81  |Q  V     |          |          |          |
14+ 5       3.6298      5.89  |Q  V     |          |          |          |
14+10       3.6709      5.96  |Q  V     |          |          |          |
14+15       3.7125      6.05  |Q  V     |          |          |          |
14+20       3.7549      6.15  |Q  V     |          |          |          |
14+25       3.7979      6.25  |Q  V     |          |          |          |
14+30       3.8417      6.36  |Q  V     |          |          |          |
14+35       3.8864      6.49  |Q  V     |          |          |          |
14+40       3.9320      6.62  |Q  V     |          |          |          |
14+45       3.9786      6.76  |Q  V     |          |          |          |
14+50       4.0262      6.92  |Q  V     |          |          |          |
14+55       4.0750      7.08  |Q  V     |          |          |          |
15+ 0       4.1251      7.27  |Q  V     |          |          |          |
15+ 5       4.1766      7.48  |Q   V    |          |          |          |
15+10       4.2296      7.70  |Q   V    |          |          |          |
15+15       4.2844      7.95  |Q   V    |          |          |          |
15+20       4.3410      8.22  |Q   V    |          |          |          |
15+25       4.3999      8.55  |Q   V    |          |          |          |
15+30       4.4615      8.95  |Q   V    |          |          |          |
15+35       4.5262      9.40  |Q   V    |          |          |          |
15+40       4.5947      9.94  |Q   V    |          |          |          |
15+45       4.6678     10.62  | Q  V    |          |          |          |
15+50       4.7470     11.50  | Q  V    |          |          |          |
15+55       4.8351     12.79  | Q  V    |          |          |          |
16+ 0       4.9371     14.82  | Q  V    |          |          |          |
16+ 5       5.0812     20.91  |   Q V   |          |          |          |
16+10       5.2675     27.05  |    QV   |          |          |          |
16+15       5.4757     30.24  |     Q   |          |          |          |
```

16+20	5.7368	37.90	
16+25	6.0255	41.92	
16+30	6.3497	47.08	
16+35	6.7268	54.76	
16+40	7.1317	58.79	
16+45	7.5973	67.61	
16+50	8.1165	75.39	
16+55	8.7131	86.62	
17+ 0	9.4857	112.19	
17+ 5	10.3207	121.23	
17+10	11.3016	142.44	
17+15	12.4127	161.32	
17+20	13.5044	158.52	
17+25	14.5014	144.77	
17+30	15.4495	137.66	
17+35	16.3259	127.26	
17+40	17.0877	110.61	
17+45	17.8175	105.97	
17+50	18.4785	95.97	
17+55	19.0916	89.03	
18+ 0	19.6680	83.68	
18+ 5	20.1648	72.15	
18+10	20.6364	68.47	
18+15	21.0735	63.46	
18+20	21.4752	58.33	
18+25	21.8636	56.39	
18+30	22.2220	52.05	
18+35	22.5664	50.00	
18+40	22.8993	48.35	
18+45	23.2156	45.92	
18+50	23.5234	44.69	
18+55	23.8092	41.50	
19+ 0	24.0802	39.35	
19+ 5	24.3433	38.20	
19+10	24.5913	36.02	
19+15	24.8340	35.24	
19+20	25.0711	34.42	
19+25	25.3012	33.41	
19+30	25.5247	32.45	
19+35	25.7282	29.56	
19+40	25.9237	28.38	
19+45	26.1166	28.01	
19+50	26.3067	27.60	
19+55	26.4930	27.06	
20+ 0	26.6673	25.31	
20+ 5	26.8337	24.15	
20+10	26.9980	23.87	
20+15	27.1605	23.59	
20+20	27.3208	23.27	
20+25	27.4757	22.50	
20+30	27.6247	21.63	
20+35	27.7720	21.39	
20+40	27.9175	21.13	
20+45	28.0607	20.79	
20+50	28.1987	20.04	
20+55	28.3279	18.76	
21+ 0	28.4548	18.43	
21+ 5	28.5800	18.18	
21+10	28.7029	17.84	

```
21+15      28.8213     17.19  |  Q      |         |         |   V     |
21+20      28.9285     15.56  |  Q      |         |         |   V     |
21+25      29.0326     15.11  |  Q      |         |         |    V    |
21+30      29.1354     14.94  | Q       |         |         |    V    |
21+35      29.2372     14.77  | Q       |         |         |    V    |
21+40      29.3376     14.59  | Q       |         |         |    V    |
21+45      29.4354     14.20  | Q       |         |         |    V    |
21+50      29.5316     13.97  | Q       |         |         |    V    |
21+55      29.6270     13.85  | Q       |         |         |    V    |
22+ 0      29.7213     13.69  | Q       |         |         |    V    |
22+ 5      29.8142     13.49  | Q       |         |         |    V    |
22+10      29.9030     12.89  | Q       |         |         |     V   |
22+15      29.9888     12.46  | Q       |         |         |     V   |
22+20      30.0737     12.33  | Q       |         |         |     V   |
22+25      30.1578     12.21  | Q       |         |         |     V   |
22+30      30.2409     12.07  | Q       |         |         |     V   |
22+35      30.3222     11.80  | Q       |         |         |     V   |
22+40      30.4011     11.46  | Q       |         |         |     V   |
22+45      30.4792     11.34  | Q       |         |         |     V   |
22+50      30.5564     11.21  | Q       |         |         |     V   |
22+55      30.6323     11.02  | Q       |         |         |     V   |
23+ 0      30.7054     10.61  | Q       |         |         |      V  |
23+ 5      30.7730      9.82  |Q        |         |         |      V  |
23+10      30.8395      9.65  |Q        |         |         |      V  |
23+15      30.9053      9.56  |Q        |         |         |      V  |
23+20      30.9707      9.49  |Q        |         |         |      V  |
23+25      31.0355      9.42  |Q        |         |         |      V  |
23+30      31.0999      9.35  |Q        |         |         |      V  |
23+35      31.1637      9.27  |Q        |         |         |      V  |
23+40      31.2270      9.18  |Q        |         |         |      V  |
23+45      31.2893      9.05  |Q        |         |         |      V  |
23+50      31.3503      8.86  |Q        |         |         |      V  |
23+55      31.4070      8.23  |Q        |         |         |      V  |
24+ 0      31.4615      7.92  |Q        |         |         |      V  |
24+ 5      31.5155      7.83  |Q        |         |         |       V |
24+10      31.5689      7.75  |Q        |         |         |       V |
24+15      31.6218      7.68  |Q        |         |         |       V |
24+20      31.6742      7.61  |Q        |         |         |       V |
24+25      31.7260      7.52  |Q        |         |         |       V |
24+30      31.7771      7.43  |Q        |         |         |       V |
24+35      31.8274      7.30  |Q        |         |         |       V |
24+40      31.8764      7.12  |Q        |         |         |       V |
24+45      31.9224      6.68  |Q        |         |         |       V |
24+50      31.9644      6.08  |Q        |         |         |       V |
24+55      32.0053      5.95  |Q        |         |         |       V |
25+ 0      32.0453      5.81  |Q        |         |         |       V |
25+ 5      32.0845      5.68  |Q        |         |         |       V |
25+10      32.1226      5.54  |Q        |         |         |       V |
25+15      32.1596      5.37  |Q        |         |         |       V |
25+20      32.1954      5.19  |Q        |         |         |       V |
25+25      32.2300      5.02  |Q        |         |         |       V |
25+30      32.2631      4.81  Q        |         |         |       V |
25+35      32.2941      4.50  Q        |         |         |       V |
25+40      32.3202      3.79  Q        |         |         |       V |
25+45      32.3444      3.52  Q        |         |         |        V|
25+50      32.3679      3.41  Q        |         |         |        V|
25+55      32.3908      3.32  Q        |         |         |        V|
26+ 0      32.4131      3.24  Q        |         |         |        V|
26+ 5      32.4350      3.18  Q        |         |         |        V|
```

26+10	32.4565	3.12	Q	|	|	|	V|
26+15	32.4777	3.07	Q	|	|	|	V|
26+20	32.4986	3.04	Q	|	|	|	V|
26+25	32.5194	3.02	Q	|	|	|	V|
26+30	32.5407	3.09	Q	|	|	|	V|
26+35	32.5623	3.15	Q	|	|	|	V|
26+40	32.5838	3.11	Q	|	|	|	V|
26+45	32.6050	3.08	Q	|	|	|	V|
26+50	32.6259	3.04	Q	|	|	|	V|
26+55	32.6466	3.00	Q	|	|	|	V|
27+ 0	32.6671	2.97	Q	|	|	|	V|
27+ 5	32.6873	2.93	Q	|	|	|	V|
27+10	32.7073	2.90	Q	|	|	|	V|
27+15	32.7270	2.87	Q	|	|	|	V|
27+20	32.7466	2.84	Q	|	|	|	V|
27+25	32.7659	2.81	Q	|	|	|	V|
27+30	32.7850	2.77	Q	|	|	|	V|
27+35	32.8039	2.74	Q	|	|	|	V|
27+40	32.8225	2.71	Q	|	|	|	V|
27+45	32.8409	2.67	Q	|	|	|	V|
27+50	32.8591	2.63	Q	|	|	|	V|
27+55	32.8769	2.59	Q	|	|	|	V|
28+ 0	32.8944	2.54	Q	|	|	|	V|
28+ 5	32.9114	2.46	Q	|	|	|	V|
28+10	32.9275	2.34	Q	|	|	|	V|
28+15	32.9408	1.92	Q	|	|	|	V|
28+20	32.9523	1.68	Q	|	|	|	V|
28+25	32.9636	1.63	Q	|	|	|	V|
28+30	32.9746	1.60	Q	|	|	|	V|
28+35	32.9854	1.57	Q	|	|	|	V|
28+40	32.9961	1.55	Q	|	|	|	V|
28+45	33.0066	1.53	Q	|	|	|	V|
28+50	33.0170	1.51	Q	|	|	|	V|
28+55	33.0272	1.48	Q	|	|	|	V|
29+ 0	33.0373	1.46	Q	|	|	|	V|
29+ 5	33.0471	1.43	Q	|	|	|	V|
29+10	33.0568	1.40	Q	|	|	|	V|
29+15	33.0662	1.37	Q	|	|	|	V|
29+20	33.0754	1.34	Q	|	|	|	V|
29+25	33.0843	1.29	Q	|	|	|	V|
29+30	33.0926	1.21	Q	|	|	|	V|
29+35	33.1000	1.07	Q	|	|	|	V|
29+40	33.1032	0.46	Q	|	|	|	V|
29+45	33.1059	0.40	Q	|	|	|	V|
29+50	33.1084	0.37	Q	|	|	|	V|
29+55	33.1108	0.34	Q	|	|	|	V|
30+ 0	33.1131	0.33	Q	|	|	|	V|
30+ 5	33.1153	0.32	Q	|	|	|	V|
30+10	33.1173	0.30	Q	|	|	|	V|
30+15	33.1194	0.29	Q	|	|	|	V|
30+20	33.1213	0.28	Q	|	|	|	V|
30+25	33.1232	0.27	Q	|	|	|	V|
30+30	33.1250	0.26	Q	|	|	|	V|
30+35	33.1267	0.25	Q	|	|	|	V|
30+40	33.1284	0.24	Q	|	|	|	V|
30+45	33.1300	0.23	Q	|	|	|	V|
30+50	33.1315	0.23	Q	|	|	|	V|
30+55	33.1330	0.22	Q	|	|	|	V|
31+ 0	33.1345	0.21	Q	|	|	|	V|

31+ 5	33.1359	0.20	Q				V
31+10	33.1372	0.20	Q				V
31+15	33.1386	0.19	Q				V
31+20	33.1398	0.18	Q				V
31+25	33.1411	0.18	Q				V
31+30	33.1422	0.17	Q				V
31+35	33.1434	0.17	Q				V
31+40	33.1445	0.16	Q				V
31+45	33.1456	0.15	Q				V
31+50	33.1466	0.15	Q				V
31+55	33.1476	0.14	Q				V
32+ 0	33.1485	0.14	Q				V
32+ 5	33.1494	0.13	Q				V
32+10	33.1503	0.13	Q				V
32+15	33.1512	0.12	Q				V
32+20	33.1520	0.12	Q				V
32+25	33.1528	0.11	Q				V
32+30	33.1535	0.11	Q				V
32+35	33.1543	0.11	Q				V
32+40	33.1550	0.10	Q				V
32+45	33.1556	0.10	Q				V
32+50	33.1563	0.09	Q				V
32+55	33.1569	0.09	Q				V
33+ 0	33.1575	0.09	Q				V
33+ 5	33.1581	0.08	Q				V
33+10	33.1587	0.08	Q				V
33+15	33.1592	0.08	Q				V
33+20	33.1597	0.08	Q				V
33+25	33.1602	0.07	Q				V
33+30	33.1607	0.07	Q				V
33+35	33.1612	0.07	Q				V
33+40	33.1616	0.07	Q				V
33+45	33.1621	0.06	Q				V
33+50	33.1625	0.06	Q				V
33+55	33.1629	0.06	Q				V
34+ 0	33.1633	0.06	Q				V
34+ 5	33.1637	0.06	Q				V
34+10	33.1641	0.05	Q				V
34+15	33.1644	0.05	Q				V
34+20	33.1648	0.05	Q				V
34+25	33.1651	0.05	Q				V
34+30	33.1654	0.05	Q				V
34+35	33.1657	0.05	Q				V
34+40	33.1660	0.04	Q				V
34+45	33.1663	0.04	Q				V
34+50	33.1666	0.04	Q				V
34+55	33.1669	0.04	Q				V
35+ 0	33.1671	0.04	Q				V
35+ 5	33.1674	0.03	Q				V
35+10	33.1676	0.03	Q				V
35+15	33.1678	0.03	Q				V
35+20	33.1680	0.03	Q				V
35+25	33.1682	0.03	Q				V
35+30	33.1684	0.03	Q				V
35+35	33.1686	0.02	Q				V
35+40	33.1687	0.02	Q				V
35+45	33.1689	0.02	Q				V
35+50	33.1690	0.02	Q				V
35+55	33.1691	0.02	Q				V

```
   36+ 0      33.1692      0.02  Q         |         |         |        V|
-----------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 26
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
342.06	1	1.39
Rainfall data for year 100		
342.06	6	1.82
Rainfall data for year 100		
342.06	24	2.52

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
61.9	80.5	342.06	1.000	0.361	0.997	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
341.03	0.997	61.9	80.5	2.42	0.369
1.03	0.003	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.371
Area-averaged low loss fraction, Yb = 0.629
User entry of time of concentration = 2.190 (hours)
++
Watershed area = 342.06(Ac.)
Catchment Lag time = 1.752 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 4.7565
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.629 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.640(In)
Specified peak 6-hour rainfall = 1.820(In)
Specified peak 24-hour rainfall = 2.520(In)

Rainfall depth area reduction factors:
Using a total area of 342.06(Ac.) (Ref: fig. E-4)

5-minute factor = 0.984 Adjusted rainfall = 0.649(In)
30-minute factor = 0.984 Adjusted rainfall = 1.111(In)
1-hour factor = 0.984 Adjusted rainfall = 1.368(In)
3-hour factor = 0.998 Adjusted rainfall = 1.636(In)
6-hour factor = 0.999 Adjusted rainfall = 1.818(In)
24-hour factor = 1.000 Adjusted rainfall = 2.519(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 4136.79 (CFS))	
1	0.209	8.658
2	0.628	17.315
3	1.073	18.404
4	1.797	29.952
5	2.596	33.057
6	3.500	37.413
7	4.667	48.282
8	5.850	48.914
9	7.284	59.347
10	8.883	66.113
11	10.653	73.236
12	13.508	118.089
13	16.552	125.930

14	20.271	153.871
15	25.124	200.747
16	29.973	200.598
17	34.280	178.180
18	38.352	168.431
19	42.236	160.678
20	45.361	129.262
21	48.405	125.930
22	51.177	114.684
23	53.651	102.325
24	56.085	100.697
25	58.049	81.246
26	59.875	75.558
27	61.613	71.886
28	63.111	61.946
29	64.594	61.351
30	65.943	55.839
31	67.199	51.946
32	68.443	51.438
33	69.600	47.902
34	70.742	47.224
35	71.817	44.473
36	72.771	39.459
37	73.720	39.251
38	74.593	36.112
39	75.430	34.631
40	76.261	34.366
41	77.063	33.195
42	77.862	33.057
43	78.584	29.847
44	79.212	25.981
45	79.839	25.973
46	80.467	25.973
47	81.095	25.973
48	81.695	24.829
49	82.214	21.469
50	82.728	21.251
51	83.242	21.251
52	83.755	21.251
53	84.264	21.022
54	84.729	19.260
55	85.186	18.889
56	85.642	18.889
57	86.099	18.889
58	86.554	18.836
59	86.960	16.789
60	87.341	15.741
61	87.721	15.741
62	88.102	15.741
63	88.482	15.741
64	88.822	14.047
65	89.108	11.816
66	89.393	11.806
67	89.678	11.806
68	89.964	11.806
69	90.245	11.628
70	90.512	11.061
71	90.779	11.019
72	91.045	11.019

73	91.311	11.019
74	91.574	10.883
75	91.809	9.713
76	92.037	9.445
77	92.266	9.445
78	92.494	9.445
79	92.722	9.435
80	92.938	8.935
81	93.147	8.658
82	93.357	8.658
83	93.566	8.658
84	93.775	8.658
85	93.965	7.854
86	94.127	6.699
87	94.289	6.690
88	94.450	6.690
89	94.612	6.690
90	94.774	6.690
91	94.936	6.690
92	95.097	6.690
93	95.259	6.690
94	95.421	6.690
95	95.580	6.569
96	95.710	5.407
97	95.834	5.116
98	95.958	5.116
99	96.081	5.116
100	96.205	5.116
101	96.329	5.116
102	96.452	5.116
103	96.576	5.116
104	96.700	5.116
105	96.823	5.116
106	96.932	4.506
107	97.018	3.553
108	97.104	3.542
109	97.189	3.542
110	97.275	3.542
111	97.361	3.542
112	97.446	3.542
113	97.532	3.542
114	97.617	3.542
115	97.703	3.542
116	97.786	3.435
117	97.841	2.282
118	97.889	1.968
119	97.936	1.968
120	97.984	1.968
121	98.032	1.968
122	98.079	1.968
123	98.127	1.968
124	98.174	1.968
125	98.222	1.968
126	98.269	1.968
127	98.320	2.112
128	98.377	2.357
129	98.434	2.361
130	98.492	2.361
131	98.549	2.361

132	98.606	2.361
133	98.663	2.361
134	98.720	2.361
135	98.777	2.361
136	98.834	2.361
137	98.891	2.361
138	98.948	2.361
139	99.005	2.361
140	99.062	2.361
141	99.119	2.361
142	99.176	2.361
143	99.234	2.361
144	99.291	2.361
145	99.348	2.361
146	99.405	2.361
147	99.462	2.361
148	99.509	1.970
149	99.540	1.246
150	99.569	1.230
151	99.599	1.230
152	99.629	1.230
153	99.659	1.230
154	99.688	1.230
155	99.718	1.230
156	99.748	1.230
157	99.777	1.230
158	99.807	1.230
159	99.837	1.230
160	99.867	1.230
161	99.896	1.230
162	99.926	1.230
163	99.956	1.230
164	100.000	0.615

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6490	0.6490
2	0.7990	0.1500
3	0.9024	0.1033
4	0.9837	0.0813
5	1.0518	0.0681
6	1.1109	0.0591
7	1.1635	0.0526
8	1.2111	0.0476
9	1.2546	0.0436
10	1.2949	0.0403
11	1.3325	0.0376
12	1.3677	0.0352
13	1.3857	0.0180
14	1.4026	0.0169
15	1.4185	0.0159
16	1.4335	0.0150
17	1.4478	0.0143
18	1.4613	0.0136
19	1.4743	0.0130
20	1.4867	0.0124
21	1.4986	0.0119
22	1.5100	0.0114
23	1.5210	0.0110

24	1.5316	0.0106
25	1.5419	0.0102
26	1.5518	0.0099
27	1.5614	0.0096
28	1.5707	0.0093
29	1.5797	0.0090
30	1.5885	0.0088
31	1.5970	0.0085
32	1.6053	0.0083
33	1.6134	0.0081
34	1.6213	0.0079
35	1.6289	0.0077
36	1.6365	0.0075
37	1.6433	0.0068
38	1.6499	0.0067
39	1.6565	0.0065
40	1.6628	0.0064
41	1.6691	0.0062
42	1.6752	0.0061
43	1.6812	0.0060
44	1.6871	0.0059
45	1.6928	0.0058
46	1.6985	0.0057
47	1.7041	0.0056
48	1.7095	0.0055
49	1.7149	0.0054
50	1.7201	0.0053
51	1.7253	0.0052
52	1.7304	0.0051
53	1.7354	0.0050
54	1.7404	0.0049
55	1.7452	0.0049
56	1.7500	0.0048
57	1.7547	0.0047
58	1.7593	0.0046
59	1.7639	0.0046
60	1.7684	0.0045
61	1.7729	0.0044
62	1.7772	0.0044
63	1.7816	0.0043
64	1.7858	0.0043
65	1.7900	0.0042
66	1.7942	0.0042
67	1.7983	0.0041
68	1.8023	0.0040
69	1.8063	0.0040
70	1.8103	0.0040
71	1.8142	0.0039
72	1.8181	0.0039
73	1.8240	0.0059
74	1.8298	0.0058
75	1.8356	0.0058
76	1.8413	0.0057
77	1.8470	0.0057
78	1.8526	0.0056
79	1.8582	0.0056
80	1.8637	0.0055
81	1.8691	0.0055
82	1.8745	0.0054

83	1.8799	0.0054
84	1.8852	0.0053
85	1.8904	0.0053
86	1.8956	0.0052
87	1.9008	0.0052
88	1.9059	0.0051
89	1.9110	0.0051
90	1.9160	0.0050
91	1.9210	0.0050
92	1.9260	0.0049
93	1.9309	0.0049
94	1.9357	0.0049
95	1.9405	0.0048
96	1.9453	0.0048
97	1.9501	0.0047
98	1.9548	0.0047
99	1.9595	0.0047
100	1.9641	0.0046
101	1.9687	0.0046
102	1.9733	0.0046
103	1.9778	0.0045
104	1.9823	0.0045
105	1.9868	0.0045
106	1.9912	0.0044
107	1.9956	0.0044
108	2.0000	0.0044
109	2.0043	0.0043
110	2.0086	0.0043
111	2.0129	0.0043
112	2.0172	0.0043
113	2.0214	0.0042
114	2.0256	0.0042
115	2.0297	0.0042
116	2.0339	0.0041
117	2.0380	0.0041
118	2.0421	0.0041
119	2.0461	0.0041
120	2.0502	0.0040
121	2.0542	0.0040
122	2.0581	0.0040
123	2.0621	0.0040
124	2.0660	0.0039
125	2.0699	0.0039
126	2.0738	0.0039
127	2.0777	0.0039
128	2.0815	0.0038
129	2.0853	0.0038
130	2.0891	0.0038
131	2.0929	0.0038
132	2.0966	0.0037
133	2.1004	0.0037
134	2.1041	0.0037
135	2.1077	0.0037
136	2.1114	0.0037
137	2.1150	0.0036
138	2.1187	0.0036
139	2.1223	0.0036
140	2.1259	0.0036
141	2.1294	0.0036

142	2.1330	0.0035
143	2.1365	0.0035
144	2.1400	0.0035
145	2.1435	0.0035
146	2.1469	0.0035
147	2.1504	0.0034
148	2.1538	0.0034
149	2.1572	0.0034
150	2.1606	0.0034
151	2.1640	0.0034
152	2.1674	0.0034
153	2.1707	0.0033
154	2.1740	0.0033
155	2.1774	0.0033
156	2.1807	0.0033
157	2.1839	0.0033
158	2.1872	0.0033
159	2.1904	0.0032
160	2.1937	0.0032
161	2.1969	0.0032
162	2.2001	0.0032
163	2.2033	0.0032
164	2.2065	0.0032
165	2.2096	0.0032
166	2.2128	0.0031
167	2.2159	0.0031
168	2.2190	0.0031
169	2.2221	0.0031
170	2.2252	0.0031
171	2.2283	0.0031
172	2.2313	0.0031
173	2.2344	0.0030
174	2.2374	0.0030
175	2.2404	0.0030
176	2.2434	0.0030
177	2.2464	0.0030
178	2.2494	0.0030
179	2.2523	0.0030
180	2.2553	0.0030
181	2.2582	0.0029
182	2.2612	0.0029
183	2.2641	0.0029
184	2.2670	0.0029
185	2.2699	0.0029
186	2.2728	0.0029
187	2.2756	0.0029
188	2.2785	0.0029
189	2.2813	0.0028
190	2.2842	0.0028
191	2.2870	0.0028
192	2.2898	0.0028
193	2.2926	0.0028
194	2.2954	0.0028
195	2.2982	0.0028
196	2.3009	0.0028
197	2.3037	0.0028
198	2.3064	0.0027
199	2.3092	0.0027
200	2.3119	0.0027

201	2.3146	0.0027
202	2.3173	0.0027
203	2.3200	0.0027
204	2.3227	0.0027
205	2.3254	0.0027
206	2.3280	0.0027
207	2.3307	0.0027
208	2.3333	0.0026
209	2.3359	0.0026
210	2.3386	0.0026
211	2.3412	0.0026
212	2.3438	0.0026
213	2.3464	0.0026
214	2.3490	0.0026
215	2.3516	0.0026
216	2.3541	0.0026
217	2.3567	0.0026
218	2.3592	0.0025
219	2.3618	0.0025
220	2.3643	0.0025
221	2.3668	0.0025
222	2.3693	0.0025
223	2.3718	0.0025
224	2.3743	0.0025
225	2.3768	0.0025
226	2.3793	0.0025
227	2.3818	0.0025
228	2.3842	0.0025
229	2.3867	0.0025
230	2.3892	0.0024
231	2.3916	0.0024
232	2.3940	0.0024
233	2.3964	0.0024
234	2.3989	0.0024
235	2.4013	0.0024
236	2.4037	0.0024
237	2.4061	0.0024
238	2.4084	0.0024
239	2.4108	0.0024
240	2.4132	0.0024
241	2.4155	0.0024
242	2.4179	0.0024
243	2.4202	0.0023
244	2.4226	0.0023
245	2.4249	0.0023
246	2.4272	0.0023
247	2.4296	0.0023
248	2.4319	0.0023
249	2.4342	0.0023
250	2.4365	0.0023
251	2.4388	0.0023
252	2.4410	0.0023
253	2.4433	0.0023
254	2.4456	0.0023
255	2.4478	0.0023
256	2.4501	0.0023
257	2.4523	0.0022
258	2.4546	0.0022
259	2.4568	0.0022

260	2.4590	0.0022
261	2.4613	0.0022
262	2.4635	0.0022
263	2.4657	0.0022
264	2.4679	0.0022
265	2.4701	0.0022
266	2.4723	0.0022
267	2.4745	0.0022
268	2.4766	0.0022
269	2.4788	0.0022
270	2.4810	0.0022
271	2.4831	0.0022
272	2.4853	0.0022
273	2.4874	0.0021
274	2.4896	0.0021
275	2.4917	0.0021
276	2.4938	0.0021
277	2.4960	0.0021
278	2.4981	0.0021
279	2.5002	0.0021
280	2.5023	0.0021
281	2.5044	0.0021
282	2.5065	0.0021
283	2.5086	0.0021
284	2.5106	0.0021
285	2.5127	0.0021
286	2.5148	0.0021
287	2.5169	0.0021
288	2.5189	0.0021

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0021	0.0013	0.0008
2	0.0021	0.0013	0.0008
3	0.0021	0.0013	0.0008
4	0.0021	0.0013	0.0008
5	0.0021	0.0013	0.0008
6	0.0021	0.0013	0.0008
7	0.0021	0.0013	0.0008
8	0.0021	0.0013	0.0008
9	0.0021	0.0013	0.0008
10	0.0021	0.0013	0.0008
11	0.0021	0.0014	0.0008
12	0.0022	0.0014	0.0008
13	0.0022	0.0014	0.0008
14	0.0022	0.0014	0.0008
15	0.0022	0.0014	0.0008
16	0.0022	0.0014	0.0008
17	0.0022	0.0014	0.0008
18	0.0022	0.0014	0.0008
19	0.0022	0.0014	0.0008
20	0.0022	0.0014	0.0008
21	0.0022	0.0014	0.0008
22	0.0022	0.0014	0.0008
23	0.0023	0.0014	0.0008
24	0.0023	0.0014	0.0008
25	0.0023	0.0014	0.0008

26	0.0023	0.0014	0.0008
27	0.0023	0.0014	0.0009
28	0.0023	0.0015	0.0009
29	0.0023	0.0015	0.0009
30	0.0023	0.0015	0.0009
31	0.0023	0.0015	0.0009
32	0.0024	0.0015	0.0009
33	0.0024	0.0015	0.0009
34	0.0024	0.0015	0.0009
35	0.0024	0.0015	0.0009
36	0.0024	0.0015	0.0009
37	0.0024	0.0015	0.0009
38	0.0024	0.0015	0.0009
39	0.0024	0.0015	0.0009
40	0.0024	0.0015	0.0009
41	0.0025	0.0015	0.0009
42	0.0025	0.0016	0.0009
43	0.0025	0.0016	0.0009
44	0.0025	0.0016	0.0009
45	0.0025	0.0016	0.0009
46	0.0025	0.0016	0.0009
47	0.0025	0.0016	0.0009
48	0.0025	0.0016	0.0009
49	0.0026	0.0016	0.0010
50	0.0026	0.0016	0.0010
51	0.0026	0.0016	0.0010
52	0.0026	0.0016	0.0010
53	0.0026	0.0017	0.0010
54	0.0026	0.0017	0.0010
55	0.0027	0.0017	0.0010
56	0.0027	0.0017	0.0010
57	0.0027	0.0017	0.0010
58	0.0027	0.0017	0.0010
59	0.0027	0.0017	0.0010
60	0.0027	0.0017	0.0010
61	0.0027	0.0017	0.0010
62	0.0028	0.0017	0.0010
63	0.0028	0.0017	0.0010
64	0.0028	0.0018	0.0010
65	0.0028	0.0018	0.0010
66	0.0028	0.0018	0.0010
67	0.0028	0.0018	0.0011
68	0.0029	0.0018	0.0011
69	0.0029	0.0018	0.0011
70	0.0029	0.0018	0.0011
71	0.0029	0.0018	0.0011
72	0.0029	0.0018	0.0011
73	0.0030	0.0019	0.0011
74	0.0030	0.0019	0.0011
75	0.0030	0.0019	0.0011
76	0.0030	0.0019	0.0011
77	0.0030	0.0019	0.0011
78	0.0030	0.0019	0.0011
79	0.0031	0.0019	0.0011
80	0.0031	0.0019	0.0011
81	0.0031	0.0020	0.0012
82	0.0031	0.0020	0.0012
83	0.0032	0.0020	0.0012
84	0.0032	0.0020	0.0012

85	0.0032	0.0020	0.0012
86	0.0032	0.0020	0.0012
87	0.0032	0.0020	0.0012
88	0.0033	0.0021	0.0012
89	0.0033	0.0021	0.0012
90	0.0033	0.0021	0.0012
91	0.0033	0.0021	0.0012
92	0.0034	0.0021	0.0012
93	0.0034	0.0021	0.0013
94	0.0034	0.0021	0.0013
95	0.0034	0.0022	0.0013
96	0.0035	0.0022	0.0013
97	0.0035	0.0022	0.0013
98	0.0035	0.0022	0.0013
99	0.0036	0.0022	0.0013
100	0.0036	0.0023	0.0013
101	0.0036	0.0023	0.0013
102	0.0036	0.0023	0.0014
103	0.0037	0.0023	0.0014
104	0.0037	0.0023	0.0014
105	0.0037	0.0024	0.0014
106	0.0038	0.0024	0.0014
107	0.0038	0.0024	0.0014
108	0.0038	0.0024	0.0014
109	0.0039	0.0024	0.0014
110	0.0039	0.0025	0.0014
111	0.0040	0.0025	0.0015
112	0.0040	0.0025	0.0015
113	0.0040	0.0025	0.0015
114	0.0041	0.0026	0.0015
115	0.0041	0.0026	0.0015
116	0.0041	0.0026	0.0015
117	0.0042	0.0026	0.0016
118	0.0042	0.0027	0.0016
119	0.0043	0.0027	0.0016
120	0.0043	0.0027	0.0016
121	0.0044	0.0027	0.0016
122	0.0044	0.0028	0.0016
123	0.0045	0.0028	0.0017
124	0.0045	0.0028	0.0017
125	0.0046	0.0029	0.0017
126	0.0046	0.0029	0.0017
127	0.0047	0.0029	0.0017
128	0.0047	0.0030	0.0017
129	0.0048	0.0030	0.0018
130	0.0048	0.0030	0.0018
131	0.0049	0.0031	0.0018
132	0.0049	0.0031	0.0018
133	0.0050	0.0032	0.0019
134	0.0051	0.0032	0.0019
135	0.0052	0.0032	0.0019
136	0.0052	0.0033	0.0019
137	0.0053	0.0033	0.0020
138	0.0054	0.0034	0.0020
139	0.0055	0.0034	0.0020
140	0.0055	0.0035	0.0020
141	0.0056	0.0035	0.0021
142	0.0057	0.0036	0.0021
143	0.0058	0.0036	0.0021

144	0.0058	0.0037	0.0022
145	0.0039	0.0024	0.0014
146	0.0039	0.0025	0.0014
147	0.0040	0.0025	0.0015
148	0.0040	0.0025	0.0015
149	0.0042	0.0026	0.0015
150	0.0042	0.0026	0.0016
151	0.0043	0.0027	0.0016
152	0.0044	0.0028	0.0016
153	0.0045	0.0028	0.0017
154	0.0046	0.0029	0.0017
155	0.0047	0.0030	0.0017
156	0.0048	0.0030	0.0018
157	0.0049	0.0031	0.0018
158	0.0050	0.0032	0.0019
159	0.0052	0.0033	0.0019
160	0.0053	0.0033	0.0020
161	0.0055	0.0034	0.0020
162	0.0056	0.0035	0.0021
163	0.0058	0.0036	0.0021
164	0.0059	0.0037	0.0022
165	0.0061	0.0038	0.0023
166	0.0062	0.0039	0.0023
167	0.0065	0.0041	0.0024
168	0.0067	0.0042	0.0025
169	0.0075	0.0047	0.0028
170	0.0077	0.0048	0.0029
171	0.0081	0.0051	0.0030
172	0.0083	0.0052	0.0031
173	0.0088	0.0055	0.0033
174	0.0090	0.0057	0.0033
175	0.0096	0.0060	0.0036
176	0.0099	0.0062	0.0037
177	0.0106	0.0067	0.0039
178	0.0110	0.0069	0.0041
179	0.0119	0.0075	0.0044
180	0.0124	0.0078	0.0046
181	0.0136	0.0085	0.0050
182	0.0143	0.0090	0.0053
183	0.0159	0.0100	0.0059
184	0.0169	0.0106	0.0063
185	0.0352	0.0222	0.0131
186	0.0376	0.0236	0.0139
187	0.0436	0.0274	0.0162
188	0.0476	0.0299	0.0176
189	0.0591	0.0300	0.0291
190	0.0681	0.0300	0.0381
191	0.1033	0.0300	0.0734
192	0.1500	0.0300	0.1200
193	0.6490	0.0300	0.6190
194	0.0813	0.0300	0.0513
195	0.0526	0.0300	0.0226
196	0.0403	0.0253	0.0149
197	0.0180	0.0113	0.0067
198	0.0150	0.0095	0.0056
199	0.0130	0.0082	0.0048
200	0.0114	0.0072	0.0042
201	0.0102	0.0064	0.0038
202	0.0093	0.0059	0.0034

203	0.0085	0.0054	0.0032
204	0.0079	0.0050	0.0029
205	0.0068	0.0043	0.0025
206	0.0064	0.0040	0.0024
207	0.0060	0.0038	0.0022
208	0.0057	0.0036	0.0021
209	0.0054	0.0034	0.0020
210	0.0051	0.0032	0.0019
211	0.0049	0.0031	0.0018
212	0.0046	0.0029	0.0017
213	0.0044	0.0028	0.0016
214	0.0043	0.0027	0.0016
215	0.0041	0.0026	0.0015
216	0.0040	0.0025	0.0015
217	0.0059	0.0037	0.0022
218	0.0057	0.0036	0.0021
219	0.0056	0.0035	0.0021
220	0.0054	0.0034	0.0020
221	0.0053	0.0033	0.0019
222	0.0051	0.0032	0.0019
223	0.0050	0.0031	0.0018
224	0.0049	0.0031	0.0018
225	0.0047	0.0030	0.0018
226	0.0046	0.0029	0.0017
227	0.0045	0.0029	0.0017
228	0.0044	0.0028	0.0016
229	0.0043	0.0027	0.0016
230	0.0043	0.0027	0.0016
231	0.0042	0.0026	0.0015
232	0.0041	0.0026	0.0015
233	0.0040	0.0025	0.0015
234	0.0039	0.0025	0.0015
235	0.0039	0.0024	0.0014
236	0.0038	0.0024	0.0014
237	0.0037	0.0023	0.0014
238	0.0037	0.0023	0.0014
239	0.0036	0.0023	0.0013
240	0.0035	0.0022	0.0013
241	0.0035	0.0022	0.0013
242	0.0034	0.0022	0.0013
243	0.0034	0.0021	0.0013
244	0.0033	0.0021	0.0012
245	0.0033	0.0021	0.0012
246	0.0032	0.0020	0.0012
247	0.0032	0.0020	0.0012
248	0.0031	0.0020	0.0012
249	0.0031	0.0020	0.0011
250	0.0031	0.0019	0.0011
251	0.0030	0.0019	0.0011
252	0.0030	0.0019	0.0011
253	0.0029	0.0019	0.0011
254	0.0029	0.0018	0.0011
255	0.0029	0.0018	0.0011
256	0.0028	0.0018	0.0011
257	0.0028	0.0018	0.0010
258	0.0028	0.0017	0.0010
259	0.0027	0.0017	0.0010
260	0.0027	0.0017	0.0010
261	0.0027	0.0017	0.0010

262	0.0026	0.0017	0.0010
263	0.0026	0.0016	0.0010
264	0.0026	0.0016	0.0010
265	0.0026	0.0016	0.0009
266	0.0025	0.0016	0.0009
267	0.0025	0.0016	0.0009
268	0.0025	0.0016	0.0009
269	0.0025	0.0015	0.0009
270	0.0024	0.0015	0.0009
271	0.0024	0.0015	0.0009
272	0.0024	0.0015	0.0009
273	0.0024	0.0015	0.0009
274	0.0023	0.0015	0.0009
275	0.0023	0.0015	0.0009
276	0.0023	0.0014	0.0009
277	0.0023	0.0014	0.0008
278	0.0023	0.0014	0.0008
279	0.0022	0.0014	0.0008
280	0.0022	0.0014	0.0008
281	0.0022	0.0014	0.0008
282	0.0022	0.0014	0.0008
283	0.0022	0.0014	0.0008
284	0.0021	0.0013	0.0008
285	0.0021	0.0013	0.0008
286	0.0021	0.0013	0.0008
287	0.0021	0.0013	0.0008
288	0.0021	0.0013	0.0008

Total soil rain loss = 1.06(In)
Total effective rainfall = 1.46(In)
Peak flow rate in flood hydrograph = 200.00(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|
0+15	0.0004	0.03	Q	|	|	|	|
0+20	0.0008	0.06	Q	|	|	|	|
0+25	0.0014	0.08	Q	|	|	|	|
0+30	0.0021	0.11	Q	|	|	|	|
0+35	0.0032	0.15	Q	|	|	|	|
0+40	0.0045	0.19	Q	|	|	|	|
0+45	0.0061	0.23	Q	|	|	|	|
0+50	0.0080	0.28	Q	|	|	|	|
0+55	0.0104	0.34	Q	|	|	|	|
1+ 0	0.0133	0.43	Q	|	|	|	|
1+ 5	0.0170	0.53	Q	|	|	|	|
1+10	0.0215	0.65	Q	|	|	|	|
1+15	0.0270	0.81	Q	|	|	|	|
1+20	0.0337	0.96	Q	|	|	|	|
1+25	0.0413	1.10	Q	|	|	|	|

1+30	0.0498	1.24	Q				
1+35	0.0592	1.36	Q				
1+40	0.0693	1.47	Q				
1+45	0.0801	1.57	Q				
1+50	0.0915	1.66	Q				
1+55	0.1036	1.75	Q				
2+ 0	0.1162	1.83	Q				
2+ 5	0.1293	1.90	Q				
2+10	0.1429	1.97	Q				
2+15	0.1569	2.03	Q				
2+20	0.1712	2.09	Q				
2+25	0.1860	2.14	Q				
2+30	0.2011	2.20	Q				
2+35	0.2166	2.24	Q				
2+40	0.2324	2.29	Q				
2+45	0.2485	2.34	Q				
2+50	0.2649	2.39	Q				
2+55	0.2817	2.43	Q				
3+ 0	0.2987	2.47	Q				
3+ 5	0.3160	2.51	Q				
3+10	0.3336	2.55	Q				
3+15	0.3514	2.59	Q				
3+20	0.3695	2.63	Q				
3+25	0.3878	2.66	Q				
3+30	0.4064	2.70	Q				
3+35	0.4253	2.74	Q				
3+40	0.4443	2.77	Q				
3+45	0.4636	2.80	Q				
3+50	0.4831	2.83	Q				
3+55	0.5029	2.87	Q				
4+ 0	0.5229	2.90	Q				
4+ 5	0.5430	2.93	Q				
4+10	0.5634	2.96	Q				
4+15	0.5840	2.99	Q				
4+20	0.6048	3.02	Q				
4+25	0.6258	3.05	Q				
4+30	0.6470	3.08	Q				
4+35	0.6684	3.11	Q				
4+40	0.6900	3.14	Q				
4+45	0.7118	3.17	Q				
4+50	0.7339	3.20	Q				
4+55	0.7561	3.23	Q				
5+ 0	0.7785	3.25	Q				
5+ 5	0.8011	3.28	Q				
5+10	0.8239	3.31	Q				
5+15	0.8469	3.34	Q				
5+20	0.8701	3.37	Q				
5+25	0.8935	3.39	Q				
5+30	0.9171	3.42	Q				
5+35	0.9408	3.45	Q				
5+40	0.9647	3.47	Q				
5+45	0.9889	3.50	Q				
5+50	1.0132	3.53	Q				
5+55	1.0377	3.56	QV				
6+ 0	1.0623	3.58	QV				
6+ 5	1.0872	3.61	QV				
6+10	1.1123	3.64	QV				
6+15	1.1375	3.67	QV				
6+20	1.1630	3.69	QV				

6+25	1.1886	3.72	QV				
6+30	1.2144	3.75	QV				
6+35	1.2404	3.78	QV				
6+40	1.2667	3.81	QV				
6+45	1.2931	3.83	QV				
6+50	1.3197	3.86	QV				
6+55	1.3465	3.89	QV				
7+ 0	1.3735	3.92	QV				
7+ 5	1.4007	3.95	QV				
7+10	1.4281	3.98	QV				
7+15	1.4557	4.01	QV				
7+20	1.4835	4.04	QV				
7+25	1.5115	4.07	QV				
7+30	1.5397	4.10	QV				
7+35	1.5681	4.13	QV				
7+40	1.5967	4.16	QV				
7+45	1.6256	4.19	QV				
7+50	1.6546	4.22	QV				
7+55	1.6839	4.25	QV				
8+ 0	1.7134	4.28	QV				
8+ 5	1.7431	4.31	QV				
8+10	1.7730	4.35	QV				
8+15	1.8032	4.38	QV				
8+20	1.8335	4.41	QV				
8+25	1.8641	4.44	QV				
8+30	1.8950	4.48	QV				
8+35	1.9260	4.51	QV				
8+40	1.9574	4.55	QV				
8+45	1.9889	4.58	QV				
8+50	2.0207	4.62	QV				
8+55	2.0527	4.65	QV				
9+ 0	2.0850	4.69	Q V				
9+ 5	2.1176	4.72	Q V				
9+10	2.1504	4.76	Q V				
9+15	2.1834	4.80	Q V				
9+20	2.2167	4.84	Q V				
9+25	2.2503	4.87	Q V				
9+30	2.2841	4.91	Q V				
9+35	2.3182	4.95	Q V				
9+40	2.3526	4.99	Q V				
9+45	2.3873	5.04	|QV				
9+50	2.4223	5.08	|QV				
9+55	2.4575	5.12	|QV				
10+ 0	2.4931	5.16	|QV				
10+ 5	2.5289	5.20	|QV				
10+10	2.5650	5.25	|QV				
10+15	2.6015	5.29	|QV				
10+20	2.6382	5.34	|QV				
10+25	2.6753	5.38	|QV				
10+30	2.7127	5.43	|QV				
10+35	2.7505	5.48	|QV				
10+40	2.7886	5.53	|QV				
10+45	2.8270	5.58	|QV				
10+50	2.8658	5.63	|QV				
10+55	2.9049	5.69	|QV				
11+ 0	2.9445	5.74	|QV				
11+ 5	2.9844	5.79	|QV				
11+10	3.0247	5.85	|QV				
11+15	3.0654	5.91	|QV				

11+20	3.1065	5.97	QV				
11+25	3.1480	6.03	Q V				
11+30	3.1899	6.09	Q V				
11+35	3.2323	6.15	Q V				
11+40	3.2751	6.22	Q V				
11+45	3.3184	6.28	Q V				
11+50	3.3621	6.35	Q V				
11+55	3.4063	6.42	Q V				
12+ 0	3.4510	6.49	Q V				
12+ 5	3.4962	6.56	Q V				
12+10	3.5418	6.62	Q V				
12+15	3.5878	6.68	Q V				
12+20	3.6342	6.74	Q V				
12+25	3.6810	6.79	Q V				
12+30	3.7281	6.84	Q V				
12+35	3.7755	6.89	Q V				
12+40	3.8233	6.94	Q V				
12+45	3.8713	6.98	Q V				
12+50	3.9197	7.01	Q V				
12+55	3.9682	7.05	Q V				
13+ 0	4.0168	7.05	Q V				
13+ 5	4.0653	7.05	Q V				
13+10	4.1137	7.03	Q V				
13+15	4.1617	6.97	Q V				
13+20	4.2093	6.91	Q V				
13+25	4.2566	6.87	Q V				
13+30	4.3038	6.85	Q V				
13+35	4.3508	6.83	Q V				
13+40	4.3978	6.83	Q V				
13+45	4.4450	6.85	Q V				
13+50	4.4923	6.87	Q V				
13+55	4.5399	6.91	Q V				
14+ 0	4.5878	6.95	Q V				
14+ 5	4.6361	7.02	Q V				
14+10	4.6849	7.09	Q V				
14+15	4.7344	7.18	Q V				
14+20	4.7845	7.28	Q V				
14+25	4.8353	7.38	Q V				
14+30	4.8870	7.50	Q V				
14+35	4.9396	7.64	Q V				
14+40	4.9932	7.78	Q V				
14+45	5.0479	7.94	Q V				
14+50	5.1038	8.11	Q V				
14+55	5.1610	8.30	Q V				
15+ 0	5.2196	8.52	Q V				
15+ 5	5.2799	8.75	Q V				
15+10	5.3420	9.01	Q V				
15+15	5.4061	9.31	Q V				
15+20	5.4724	9.63	Q V				
15+25	5.5414	10.02	Q V				
15+30	5.6137	10.51	Q V				
15+35	5.6898	11.05	Q V				
15+40	5.7706	11.72	Q V				
15+45	5.8571	12.56	Q V				
15+50	5.9512	13.66	Q V				
15+55	6.0564	15.28	Q V				
16+ 0	6.1791	17.81	Q V				
16+ 5	6.3537	25.36	QV				
16+10	6.5806	32.95	Q				

16+15	6.8343	36.84	VQ				
16+20	7.1531	46.30	V Q				
16+25	7.5073	51.42	V Q				
16+30	7.9035	57.53	V Q				
16+35	8.3671	67.31	V Q				
16+40	8.8654	72.35	V Q				
16+45	9.4360	82.86	V Q				
16+50	10.0760	92.92	V Q				
16+55	10.8011	105.29	V Q				
17+ 0	11.7457	137.16	V Q				
17+ 5	12.7767	149.70	V Q				
17+10	13.9611	171.98	V Q				
17+15	15.3385	200.00	V Q				
17+20	16.7033	198.17	V Q				
17+25	17.9588	182.30	V Q				
17+30	19.1429	171.93	V Q				
17+35	20.2551	161.48	V Q				
17+40	21.2144	139.30	V Q				
17+45	22.1266	132.45	V Q				
17+50	22.9664	121.94	V Q				
17+55	23.7316	111.11	V Q				
18+ 0	24.4601	105.78	V Q				
18+ 5	25.0912	91.63	V Q				
18+10	25.6787	85.32	V Q				
18+15	26.2330	80.47	V Q				
18+20	26.7344	72.80	V Q				
18+25	27.2189	70.36	V Q				
18+30	27.6709	65.62	V Q				
18+35	28.0980	62.02	V Q				
18+40	28.5138	60.37	V Q				
18+45	28.9080	57.24	V Q				
18+50	29.2905	55.54	V Q				
18+55	29.6535	52.71	V Q				
19+ 0	29.9902	48.88	V Q				
19+ 5	30.3187	47.70	V Q				
19+10	30.6298	45.18	V Q				
19+15	30.9308	43.71	V Q				
19+20	31.2266	42.95	V Q				
19+25	31.5135	41.64	V Q				
19+30	31.7937	40.69	V Q				
19+35	32.0559	38.07	V Q				
19+40	32.2992	35.33	V Q				
19+45	32.5391	34.83	V Q				
19+50	32.7759	34.39	V Q				
19+55	33.0088	33.82	V Q				
20+ 0	33.2331	32.56	V Q				
20+ 5	33.4413	30.24	V Q				
20+10	33.6461	29.73	V Q				
20+15	33.8487	29.42	V Q				
20+20	34.0488	29.06	V Q				
20+25	34.2452	28.52	V Q				
20+30	34.4326	27.21	V Q				
20+35	34.6165	26.70	V Q				
20+40	34.7984	26.41	V Q				
20+45	34.9778	26.05	V Q				
20+50	35.1538	25.55	V Q				
20+55	35.3191	24.01	V Q				
21+ 0	35.4781	23.08	V Q				
21+ 5	35.6349	22.77	V Q				

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21+10      35.7894     22.43  |   Q     |         |         |   V     |
21+15      35.9406     21.95  |   Q     |         |         |   V     |
21+20      36.0820     20.54  |   Q     |         |         |   V     |
21+25      36.2126     18.97  |  Q      |         |         |   V     |
21+30      36.3415     18.71  |  Q      |         |         |    V    |
21+35      36.4689     18.51  |  Q      |         |         |    V    |
21+40      36.5950     18.31  |  Q      |         |         |    V    |
21+45      36.7190     18.01  |  Q      |         |         |    V    |
21+50      36.8398     17.53  |  Q      |         |         |    V    |
21+55      36.9593     17.35  |  Q      |         |         |    V    |
22+ 0      37.0776     17.19  |  Q      |         |         |    V    |
22+ 5      37.1946     16.98  |  Q      |         |         |    V    |
22+10      37.3093     16.65  |  Q      |         |         |    V    |
22+15      37.4181     15.80  |  Q      |         |         |     V   |
22+20      37.5247     15.48  |  Q      |         |         |     V   |
22+25      37.6304     15.34  |  Q      |         |         |     V   |
22+30      37.7350     15.18  |  Q      |         |         |     V   |
22+35      37.8383     15.00  |  Q      |         |         |     V   |
22+40      37.9386     14.56  | Q       |         |         |     V   |
22+45      38.0368     14.26  | Q       |         |         |     V   |
22+50      38.1340     14.12  | Q       |         |         |     V   |
22+55      38.2301     13.94  | Q       |         |         |     V   |
23+ 0      38.3244     13.70  | Q       |         |         |     V   |
23+ 5      38.4139     13.00  | Q       |         |         |      V  |
23+10      38.4978     12.18  | Q       |         |         |      V  |
23+15      38.5808     12.04  | Q       |         |         |      V  |
23+20      38.6630     11.94  | Q       |         |         |      V  |
23+25      38.7446     11.84  | Q       |         |         |      V  |
23+30      38.8255     11.76  | Q       |         |         |      V  |
23+35      38.9060     11.67  | Q       |         |         |      V  |
23+40      38.9857     11.58  | Q       |         |         |      V  |
23+45      39.0646     11.46  | Q       |         |         |      V  |
23+50      39.1424     11.30  | Q       |         |         |      V  |
23+55      39.2183     11.01  | Q       |         |         |      V  |
24+ 0      39.2885     10.20  | Q       |         |         |      V  |
24+ 5      39.3567      9.90  |Q        |         |         |      V  |
24+10      39.4242      9.79  |Q        |         |         |       V |
24+15      39.4909      9.69  |Q        |         |         |       V |
24+20      39.5570      9.60  |Q        |         |         |       V |
24+25      39.6224      9.50  |Q        |         |         |       V |
24+30      39.6871      9.39  |Q        |         |         |       V |
24+35      39.7509      9.26  |Q        |         |         |       V |
24+40      39.8136      9.10  |Q        |         |         |       V |
24+45      39.8747      8.87  |Q        |         |         |       V |
24+50      39.9318      8.29  |Q        |         |         |       V |
24+55      39.9839      7.57  |Q        |         |         |       V |
25+ 0      40.0347      7.38  |Q        |         |         |       V |
25+ 5      40.0843      7.20  |Q        |         |         |       V |
25+10      40.1327      7.02  |Q        |         |         |       V |
25+15      40.1796      6.81  |Q        |         |         |       V |
25+20      40.2250      6.60  |Q        |         |         |       V |
25+25      40.2690      6.39  |Q        |         |         |       V |
25+30      40.3115      6.17  |Q        |         |         |       V |
25+35      40.3523      5.92  |Q        |         |         |       V |
25+40      40.3907      5.57  |Q        |         |         |       V |
25+45      40.4231      4.70  Q         |         |         |       V |
25+50      40.4530      4.34  Q         |         |         |        V|
25+55      40.4819      4.21  Q         |         |         |        V|
26+ 0      40.5101      4.09  Q         |         |         |        V|
```

26+ 5	40.5377	4.01	Q	|	|	|	V|
26+10	40.5648	3.93	Q	|	|	|	V|
26+15	40.5914	3.86	Q	|	|	|	V|
26+20	40.6176	3.81	Q	|	|	|	V|
26+25	40.6435	3.76	Q	|	|	|	V|
26+30	40.6692	3.73	Q	|	|	|	V|
26+35	40.6953	3.80	Q	|	|	|	V|
26+40	40.7222	3.90	Q	|	|	|	V|
26+45	40.7488	3.86	Q	|	|	|	V|
26+50	40.7751	3.82	Q	|	|	|	V|
26+55	40.8011	3.77	Q	|	|	|	V|
27+ 0	40.8268	3.73	Q	|	|	|	V|
27+ 5	40.8522	3.69	Q	|	|	|	V|
27+10	40.8773	3.65	Q	|	|	|	V|
27+15	40.9022	3.61	Q	|	|	|	V|
27+20	40.9268	3.57	Q	|	|	|	V|
27+25	40.9511	3.53	Q	|	|	|	V|
27+30	40.9751	3.49	Q	|	|	|	V|
27+35	40.9989	3.45	Q	|	|	|	V|
27+40	41.0224	3.42	Q	|	|	|	V|
27+45	41.0457	3.37	Q	|	|	|	V|
27+50	41.0686	3.33	Q	|	|	|	V|
27+55	41.0912	3.28	Q	|	|	|	V|
28+ 0	41.1134	3.23	Q	|	|	|	V|
28+ 5	41.1353	3.17	Q	|	|	|	V|
28+10	41.1566	3.09	Q	|	|	|	V|
28+15	41.1770	2.97	Q	|	|	|	V|
28+20	41.1950	2.61	Q	|	|	|	V|
28+25	41.2095	2.12	Q	|	|	|	V|
28+30	41.2236	2.04	Q	|	|	|	V|
28+35	41.2373	1.99	Q	|	|	|	V|
28+40	41.2508	1.96	Q	|	|	|	V|
28+45	41.2641	1.93	Q	|	|	|	V|
28+50	41.2772	1.90	Q	|	|	|	V|
28+55	41.2901	1.87	Q	|	|	|	V|
29+ 0	41.3028	1.84	Q	|	|	|	V|
29+ 5	41.3152	1.81	Q	|	|	|	V|
29+10	41.3274	1.77	Q	|	|	|	V|
29+15	41.3394	1.74	Q	|	|	|	V|
29+20	41.3511	1.69	Q	|	|	|	V|
29+25	41.3624	1.64	Q	|	|	|	V|
29+30	41.3731	1.56	Q	|	|	|	V|
29+35	41.3830	1.43	Q	|	|	|	V|
29+40	41.3896	0.96	Q	|	|	|	V|
29+45	41.3933	0.54	Q	|	|	|	V|
29+50	41.3967	0.48	Q	|	|	|	V|
29+55	41.3998	0.45	Q	|	|	|	V|
30+ 0	41.4027	0.43	Q	|	|	|	V|
30+ 5	41.4056	0.41	Q	|	|	|	V|
30+10	41.4083	0.39	Q	|	|	|	V|
30+15	41.4109	0.38	Q	|	|	|	V|
30+20	41.4134	0.37	Q	|	|	|	V|
30+25	41.4159	0.35	Q	|	|	|	V|
30+30	41.4182	0.34	Q	|	|	|	V|
30+35	41.4205	0.33	Q	|	|	|	V|
30+40	41.4227	0.32	Q	|	|	|	V|
30+45	41.4248	0.31	Q	|	|	|	V|
30+50	41.4268	0.30	Q	|	|	|	V|
30+55	41.4288	0.29	Q	|	|	|	V|

31+ 0	41.4307	0.28	Q	|	|	|	V|
31+ 5	41.4325	0.27	Q	|	|	|	V|
31+10	41.4343	0.26	Q	|	|	|	V|
31+15	41.4360	0.25	Q	|	|	|	V|
31+20	41.4377	0.24	Q	|	|	|	V|
31+25	41.4393	0.23	Q	|	|	|	V|
31+30	41.4409	0.23	Q	|	|	|	V|
31+35	41.4424	0.22	Q	|	|	|	V|
31+40	41.4438	0.21	Q	|	|	|	V|
31+45	41.4452	0.20	Q	|	|	|	V|
31+50	41.4466	0.20	Q	|	|	|	V|
31+55	41.4479	0.19	Q	|	|	|	V|
32+ 0	41.4492	0.18	Q	|	|	|	V|
32+ 5	41.4504	0.18	Q	|	|	|	V|
32+10	41.4515	0.17	Q	|	|	|	V|
32+15	41.4527	0.16	Q	|	|	|	V|
32+20	41.4538	0.16	Q	|	|	|	V|
32+25	41.4548	0.15	Q	|	|	|	V|
32+30	41.4558	0.15	Q	|	|	|	V|
32+35	41.4568	0.14	Q	|	|	|	V|
32+40	41.4577	0.14	Q	|	|	|	V|
32+45	41.4586	0.13	Q	|	|	|	V|
32+50	41.4595	0.12	Q	|	|	|	V|
32+55	41.4603	0.12	Q	|	|	|	V|
33+ 0	41.4611	0.12	Q	|	|	|	V|
33+ 5	41.4619	0.11	Q	|	|	|	V|
33+10	41.4626	0.11	Q	|	|	|	V|
33+15	41.4633	0.10	Q	|	|	|	V|
33+20	41.4640	0.10	Q	|	|	|	V|
33+25	41.4647	0.10	Q	|	|	|	V|
33+30	41.4653	0.09	Q	|	|	|	V|
33+35	41.4659	0.09	Q	|	|	|	V|
33+40	41.4665	0.09	Q	|	|	|	V|
33+45	41.4671	0.08	Q	|	|	|	V|
33+50	41.4677	0.08	Q	|	|	|	V|
33+55	41.4682	0.08	Q	|	|	|	V|
34+ 0	41.4687	0.08	Q	|	|	|	V|
34+ 5	41.4692	0.07	Q	|	|	|	V|
34+10	41.4697	0.07	Q	|	|	|	V|
34+15	41.4702	0.07	Q	|	|	|	V|
34+20	41.4707	0.07	Q	|	|	|	V|
34+25	41.4711	0.06	Q	|	|	|	V|
34+30	41.4715	0.06	Q	|	|	|	V|
34+35	41.4720	0.06	Q	|	|	|	V|
34+40	41.4724	0.06	Q	|	|	|	V|
34+45	41.4727	0.06	Q	|	|	|	V|
34+50	41.4731	0.05	Q	|	|	|	V|
34+55	41.4735	0.05	Q	|	|	|	V|
35+ 0	41.4738	0.05	Q	|	|	|	V|
35+ 5	41.4741	0.05	Q	|	|	|	V|
35+10	41.4744	0.04	Q	|	|	|	V|
35+15	41.4747	0.04	Q	|	|	|	V|
35+20	41.4750	0.04	Q	|	|	|	V|
35+25	41.4752	0.04	Q	|	|	|	V|
35+30	41.4755	0.04	Q	|	|	|	V|
35+35	41.4757	0.03	Q	|	|	|	V|
35+40	41.4759	0.03	Q	|	|	|	V|
35+45	41.4761	0.03	Q	|	|	|	V|
35+50	41.4763	0.03	Q	|	|	|	V|

```
   35+55      41.4765      0.03  Q         |         |         |        V|
   36+ 0      41.4767      0.02  Q         |         |         |        V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 27
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
6.15	1	1.38
Rainfall data for year 100		
6.15	6	1.82
Rainfall data for year 100		
6.15	24	2.51

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	6.15	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
6.15	1.000	62.0	80.6	2.41	0.370

Area-averaged catchment yield fraction, Y = 0.370
Area-averaged low loss fraction, Yb = 0.630
User entry of time of concentration = 0.470 (hours)
++
Watershed area = 6.15(Ac.)
Catchment Lag time = 0.376 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 22.1631
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.630 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.655(In)
Computed peak 30-minute rainfall = 1.121(In)
Specified peak 1-hour rainfall = 1.380(In)
Computed peak 3-hour rainfall = 1.635(In)
Specified peak 6-hour rainfall = 1.820(In)
Specified peak 24-hour rainfall = 2.510(In)

Rainfall depth area reduction factors:
Using a total area of 6.15(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.655(In)
30-minute factor = 1.000 Adjusted rainfall = 1.121(In)
1-hour factor = 1.000 Adjusted rainfall = 1.380(In)
3-hour factor = 1.000 Adjusted rainfall = 1.635(In)
6-hour factor = 1.000 Adjusted rainfall = 1.820(In)
24-hour factor = 1.000 Adjusted rainfall = 2.510(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 74.38 (CFS))	
1	1.144	0.851
2	5.352	3.130
3	14.320	6.670
4	33.220	14.057
5	49.513	12.118
6	59.996	7.797
7	66.895	5.131
8	72.193	3.940
9	76.330	3.077
10	79.692	2.501
11	82.427	2.034
12	84.758	1.734
13	86.834	1.544
14	88.588	1.305

15	89.977	1.033
16	91.234	0.935
17	92.353	0.832
18	93.366	0.753
19	94.240	0.651
20	94.994	0.561
21	95.705	0.529
22	96.289	0.435
23	96.848	0.416
24	97.275	0.317
25	97.671	0.294
26	97.952	0.209
27	98.173	0.165
28	98.414	0.179
29	98.680	0.198
30	98.946	0.198
31	99.212	0.198
32	99.467	0.190
33	99.627	0.119
34	99.765	0.103
35	99.904	0.103
36	100.000	0.071

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6546	0.6546
2	0.8060	0.1513
3	0.9102	0.1042
4	0.9922	0.0820
5	1.0609	0.0687
6	1.1206	0.0596
7	1.1736	0.0530
8	1.2216	0.0480
9	1.2655	0.0439
10	1.3062	0.0406
11	1.3441	0.0379
12	1.3796	0.0355
13	1.3968	0.0172
14	1.4129	0.0161
15	1.4281	0.0152
16	1.4424	0.0143
17	1.4560	0.0136
18	1.4689	0.0129
19	1.4812	0.0123
20	1.4930	0.0118
21	1.5044	0.0113
22	1.5152	0.0109
23	1.5257	0.0105
24	1.5357	0.0101
25	1.5455	0.0097
26	1.5549	0.0094
27	1.5640	0.0091
28	1.5728	0.0088
29	1.5814	0.0086
30	1.5897	0.0083
31	1.5978	0.0081
32	1.6056	0.0079
33	1.6133	0.0077
34	1.6208	0.0075

35	1.6280	0.0073
36	1.6352	0.0071
37	1.6421	0.0069
38	1.6489	0.0068
39	1.6555	0.0066
40	1.6620	0.0065
41	1.6683	0.0064
42	1.6746	0.0062
43	1.6807	0.0061
44	1.6866	0.0060
45	1.6925	0.0059
46	1.6983	0.0058
47	1.7039	0.0057
48	1.7095	0.0056
49	1.7149	0.0055
50	1.7203	0.0054
51	1.7255	0.0053
52	1.7307	0.0052
53	1.7358	0.0051
54	1.7409	0.0050
55	1.7458	0.0049
56	1.7507	0.0049
57	1.7555	0.0048
58	1.7602	0.0047
59	1.7648	0.0047
60	1.7694	0.0046
61	1.7739	0.0045
62	1.7784	0.0045
63	1.7828	0.0044
64	1.7871	0.0043
65	1.7914	0.0043
66	1.7957	0.0042
67	1.7998	0.0042
68	1.8040	0.0041
69	1.8080	0.0041
70	1.8121	0.0040
71	1.8160	0.0040
72	1.8200	0.0039
73	1.8258	0.0058
74	1.8316	0.0058
75	1.8373	0.0057
76	1.8429	0.0057
77	1.8485	0.0056
78	1.8541	0.0055
79	1.8595	0.0055
80	1.8650	0.0054
81	1.8704	0.0054
82	1.8757	0.0053
83	1.8810	0.0053
84	1.8862	0.0052
85	1.8914	0.0052
86	1.8965	0.0051
87	1.9016	0.0051
88	1.9067	0.0050
89	1.9117	0.0050
90	1.9166	0.0050
91	1.9215	0.0049
92	1.9264	0.0049
93	1.9312	0.0048

94	1.9360	0.0048
95	1.9408	0.0048
96	1.9455	0.0047
97	1.9502	0.0047
98	1.9548	0.0046
99	1.9594	0.0046
100	1.9640	0.0046
101	1.9686	0.0045
102	1.9731	0.0045
103	1.9775	0.0045
104	1.9820	0.0044
105	1.9864	0.0044
106	1.9907	0.0044
107	1.9951	0.0043
108	1.9994	0.0043
109	2.0037	0.0043
110	2.0079	0.0042
111	2.0121	0.0042
112	2.0163	0.0042
113	2.0205	0.0042
114	2.0246	0.0041
115	2.0287	0.0041
116	2.0328	0.0041
117	2.0368	0.0041
118	2.0409	0.0040
119	2.0449	0.0040
120	2.0488	0.0040
121	2.0528	0.0039
122	2.0567	0.0039
123	2.0606	0.0039
124	2.0645	0.0039
125	2.0683	0.0038
126	2.0721	0.0038
127	2.0759	0.0038
128	2.0797	0.0038
129	2.0835	0.0038
130	2.0872	0.0037
131	2.0909	0.0037
132	2.0946	0.0037
133	2.0983	0.0037
134	2.1019	0.0036
135	2.1056	0.0036
136	2.1092	0.0036
137	2.1128	0.0036
138	2.1163	0.0036
139	2.1199	0.0035
140	2.1234	0.0035
141	2.1269	0.0035
142	2.1304	0.0035
143	2.1339	0.0035
144	2.1373	0.0035
145	2.1407	0.0034
146	2.1442	0.0034
147	2.1475	0.0034
148	2.1509	0.0034
149	2.1543	0.0034
150	2.1576	0.0033
151	2.1610	0.0033
152	2.1643	0.0033

153	2.1676	0.0033
154	2.1708	0.0033
155	2.1741	0.0033
156	2.1773	0.0032
157	2.1806	0.0032
158	2.1838	0.0032
159	2.1870	0.0032
160	2.1902	0.0032
161	2.1933	0.0032
162	2.1965	0.0032
163	2.1996	0.0031
164	2.2027	0.0031
165	2.2058	0.0031
166	2.2089	0.0031
167	2.2120	0.0031
168	2.2151	0.0031
169	2.2181	0.0031
170	2.2212	0.0030
171	2.2242	0.0030
172	2.2272	0.0030
173	2.2302	0.0030
174	2.2332	0.0030
175	2.2362	0.0030
176	2.2391	0.0030
177	2.2421	0.0029
178	2.2450	0.0029
179	2.2479	0.0029
180	2.2508	0.0029
181	2.2537	0.0029
182	2.2566	0.0029
183	2.2595	0.0029
184	2.2623	0.0029
185	2.2652	0.0028
186	2.2680	0.0028
187	2.2708	0.0028
188	2.2736	0.0028
189	2.2764	0.0028
190	2.2792	0.0028
191	2.2820	0.0028
192	2.2847	0.0028
193	2.2875	0.0028
194	2.2902	0.0027
195	2.2930	0.0027
196	2.2957	0.0027
197	2.2984	0.0027
198	2.3011	0.0027
199	2.3038	0.0027
200	2.3065	0.0027
201	2.3091	0.0027
202	2.3118	0.0027
203	2.3145	0.0026
204	2.3171	0.0026
205	2.3197	0.0026
206	2.3223	0.0026
207	2.3249	0.0026
208	2.3275	0.0026
209	2.3301	0.0026
210	2.3327	0.0026
211	2.3353	0.0026

212	2.3379	0.0026
213	2.3404	0.0026
214	2.3429	0.0025
215	2.3455	0.0025
216	2.3480	0.0025
217	2.3505	0.0025
218	2.3530	0.0025
219	2.3555	0.0025
220	2.3580	0.0025
221	2.3605	0.0025
222	2.3630	0.0025
223	2.3654	0.0025
224	2.3679	0.0025
225	2.3703	0.0024
226	2.3728	0.0024
227	2.3752	0.0024
228	2.3776	0.0024
229	2.3800	0.0024
230	2.3824	0.0024
231	2.3848	0.0024
232	2.3872	0.0024
233	2.3896	0.0024
234	2.3920	0.0024
235	2.3944	0.0024
236	2.3967	0.0024
237	2.3991	0.0024
238	2.4014	0.0023
239	2.4037	0.0023
240	2.4061	0.0023
241	2.4084	0.0023
242	2.4107	0.0023
243	2.4130	0.0023
244	2.4153	0.0023
245	2.4176	0.0023
246	2.4199	0.0023
247	2.4222	0.0023
248	2.4244	0.0023
249	2.4267	0.0023
250	2.4290	0.0023
251	2.4312	0.0022
252	2.4335	0.0022
253	2.4357	0.0022
254	2.4379	0.0022
255	2.4401	0.0022
256	2.4424	0.0022
257	2.4446	0.0022
258	2.4468	0.0022
259	2.4490	0.0022
260	2.4512	0.0022
261	2.4533	0.0022
262	2.4555	0.0022
263	2.4577	0.0022
264	2.4598	0.0022
265	2.4620	0.0022
266	2.4642	0.0022
267	2.4663	0.0021
268	2.4684	0.0021
269	2.4706	0.0021
270	2.4727	0.0021

271	2.4748	0.0021
272	2.4769	0.0021
273	2.4790	0.0021
274	2.4811	0.0021
275	2.4832	0.0021
276	2.4853	0.0021
277	2.4874	0.0021
278	2.4895	0.0021
279	2.4916	0.0021
280	2.4936	0.0021
281	2.4957	0.0021
282	2.4978	0.0021
283	2.4998	0.0021
284	2.5019	0.0020
285	2.5039	0.0020
286	2.5059	0.0020
287	2.5080	0.0020
288	2.5100	0.0020

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0020	0.0013	0.0007
2	0.0020	0.0013	0.0008
3	0.0020	0.0013	0.0008
4	0.0020	0.0013	0.0008
5	0.0021	0.0013	0.0008
6	0.0021	0.0013	0.0008
7	0.0021	0.0013	0.0008
8	0.0021	0.0013	0.0008
9	0.0021	0.0013	0.0008
10	0.0021	0.0013	0.0008
11	0.0021	0.0013	0.0008
12	0.0021	0.0013	0.0008
13	0.0021	0.0013	0.0008
14	0.0021	0.0013	0.0008
15	0.0021	0.0014	0.0008
16	0.0022	0.0014	0.0008
17	0.0022	0.0014	0.0008
18	0.0022	0.0014	0.0008
19	0.0022	0.0014	0.0008
20	0.0022	0.0014	0.0008
21	0.0022	0.0014	0.0008
22	0.0022	0.0014	0.0008
23	0.0022	0.0014	0.0008
24	0.0022	0.0014	0.0008
25	0.0022	0.0014	0.0008
26	0.0022	0.0014	0.0008
27	0.0023	0.0014	0.0008
28	0.0023	0.0014	0.0008
29	0.0023	0.0014	0.0008
30	0.0023	0.0014	0.0008
31	0.0023	0.0015	0.0009
32	0.0023	0.0015	0.0009
33	0.0023	0.0015	0.0009
34	0.0023	0.0015	0.0009
35	0.0024	0.0015	0.0009
36	0.0024	0.0015	0.0009

37	0.0024	0.0015	0.0009
38	0.0024	0.0015	0.0009
39	0.0024	0.0015	0.0009
40	0.0024	0.0015	0.0009
41	0.0024	0.0015	0.0009
42	0.0024	0.0015	0.0009
43	0.0024	0.0015	0.0009
44	0.0025	0.0015	0.0009
45	0.0025	0.0016	0.0009
46	0.0025	0.0016	0.0009
47	0.0025	0.0016	0.0009
48	0.0025	0.0016	0.0009
49	0.0025	0.0016	0.0009
50	0.0025	0.0016	0.0009
51	0.0026	0.0016	0.0009
52	0.0026	0.0016	0.0009
53	0.0026	0.0016	0.0010
54	0.0026	0.0016	0.0010
55	0.0026	0.0016	0.0010
56	0.0026	0.0017	0.0010
57	0.0026	0.0017	0.0010
58	0.0026	0.0017	0.0010
59	0.0027	0.0017	0.0010
60	0.0027	0.0017	0.0010
61	0.0027	0.0017	0.0010
62	0.0027	0.0017	0.0010
63	0.0027	0.0017	0.0010
64	0.0027	0.0017	0.0010
65	0.0028	0.0017	0.0010
66	0.0028	0.0017	0.0010
67	0.0028	0.0018	0.0010
68	0.0028	0.0018	0.0010
69	0.0028	0.0018	0.0010
70	0.0028	0.0018	0.0011
71	0.0029	0.0018	0.0011
72	0.0029	0.0018	0.0011
73	0.0029	0.0018	0.0011
74	0.0029	0.0018	0.0011
75	0.0029	0.0019	0.0011
76	0.0030	0.0019	0.0011
77	0.0030	0.0019	0.0011
78	0.0030	0.0019	0.0011
79	0.0030	0.0019	0.0011
80	0.0030	0.0019	0.0011
81	0.0031	0.0019	0.0011
82	0.0031	0.0019	0.0011
83	0.0031	0.0020	0.0011
84	0.0031	0.0020	0.0012
85	0.0032	0.0020	0.0012
86	0.0032	0.0020	0.0012
87	0.0032	0.0020	0.0012
88	0.0032	0.0020	0.0012
89	0.0032	0.0020	0.0012
90	0.0033	0.0021	0.0012
91	0.0033	0.0021	0.0012
92	0.0033	0.0021	0.0012
93	0.0033	0.0021	0.0012
94	0.0034	0.0021	0.0012
95	0.0034	0.0021	0.0013

96	0.0034	0.0022	0.0013
97	0.0035	0.0022	0.0013
98	0.0035	0.0022	0.0013
99	0.0035	0.0022	0.0013
100	0.0035	0.0022	0.0013
101	0.0036	0.0022	0.0013
102	0.0036	0.0023	0.0013
103	0.0036	0.0023	0.0013
104	0.0036	0.0023	0.0013
105	0.0037	0.0023	0.0014
106	0.0037	0.0023	0.0014
107	0.0038	0.0024	0.0014
108	0.0038	0.0024	0.0014
109	0.0038	0.0024	0.0014
110	0.0038	0.0024	0.0014
111	0.0039	0.0025	0.0014
112	0.0039	0.0025	0.0014
113	0.0040	0.0025	0.0015
114	0.0040	0.0025	0.0015
115	0.0041	0.0026	0.0015
116	0.0041	0.0026	0.0015
117	0.0041	0.0026	0.0015
118	0.0042	0.0026	0.0015
119	0.0042	0.0027	0.0016
120	0.0042	0.0027	0.0016
121	0.0043	0.0027	0.0016
122	0.0043	0.0027	0.0016
123	0.0044	0.0028	0.0016
124	0.0044	0.0028	0.0016
125	0.0045	0.0028	0.0017
126	0.0045	0.0029	0.0017
127	0.0046	0.0029	0.0017
128	0.0046	0.0029	0.0017
129	0.0047	0.0030	0.0017
130	0.0048	0.0030	0.0018
131	0.0048	0.0030	0.0018
132	0.0049	0.0031	0.0018
133	0.0050	0.0031	0.0018
134	0.0050	0.0032	0.0018
135	0.0051	0.0032	0.0019
136	0.0051	0.0032	0.0019
137	0.0052	0.0033	0.0019
138	0.0053	0.0033	0.0020
139	0.0054	0.0034	0.0020
140	0.0054	0.0034	0.0020
141	0.0055	0.0035	0.0020
142	0.0056	0.0035	0.0021
143	0.0057	0.0036	0.0021
144	0.0058	0.0036	0.0021
145	0.0039	0.0025	0.0015
146	0.0040	0.0025	0.0015
147	0.0041	0.0026	0.0015
148	0.0041	0.0026	0.0015
149	0.0042	0.0027	0.0016
150	0.0043	0.0027	0.0016
151	0.0044	0.0028	0.0016
152	0.0045	0.0028	0.0016
153	0.0046	0.0029	0.0017
154	0.0047	0.0029	0.0017

155	0.0048	0.0030	0.0018
156	0.0049	0.0031	0.0018
157	0.0050	0.0032	0.0019
158	0.0051	0.0032	0.0019
159	0.0053	0.0033	0.0019
160	0.0054	0.0034	0.0020
161	0.0056	0.0035	0.0021
162	0.0057	0.0036	0.0021
163	0.0059	0.0037	0.0022
164	0.0060	0.0038	0.0022
165	0.0062	0.0039	0.0023
166	0.0064	0.0040	0.0023
167	0.0066	0.0042	0.0025
168	0.0068	0.0043	0.0025
169	0.0071	0.0045	0.0026
170	0.0073	0.0046	0.0027
171	0.0077	0.0048	0.0028
172	0.0079	0.0050	0.0029
173	0.0083	0.0052	0.0031
174	0.0086	0.0054	0.0032
175	0.0091	0.0057	0.0034
176	0.0094	0.0059	0.0035
177	0.0101	0.0064	0.0037
178	0.0105	0.0066	0.0039
179	0.0113	0.0071	0.0042
180	0.0118	0.0074	0.0044
181	0.0129	0.0082	0.0048
182	0.0136	0.0086	0.0050
183	0.0152	0.0096	0.0056
184	0.0161	0.0102	0.0060
185	0.0355	0.0224	0.0131
186	0.0379	0.0239	0.0140
187	0.0439	0.0277	0.0162
188	0.0480	0.0300	0.0180
189	0.0596	0.0300	0.0297
190	0.0687	0.0300	0.0387
191	0.1042	0.0300	0.0743
192	0.1513	0.0300	0.1214
193	0.6546	0.0300	0.6247
194	0.0820	0.0300	0.0521
195	0.0530	0.0300	0.0231
196	0.0406	0.0256	0.0150
197	0.0172	0.0108	0.0064
198	0.0143	0.0090	0.0053
199	0.0123	0.0078	0.0046
200	0.0109	0.0068	0.0040
201	0.0097	0.0061	0.0036
202	0.0088	0.0056	0.0033
203	0.0081	0.0051	0.0030
204	0.0075	0.0047	0.0028
205	0.0069	0.0044	0.0026
206	0.0065	0.0041	0.0024
207	0.0061	0.0038	0.0023
208	0.0058	0.0036	0.0021
209	0.0055	0.0034	0.0020
210	0.0052	0.0033	0.0019
211	0.0049	0.0031	0.0018
212	0.0047	0.0030	0.0017
213	0.0045	0.0029	0.0017

214	0.0043	0.0027	0.0016
215	0.0042	0.0026	0.0015
216	0.0040	0.0025	0.0015
217	0.0058	0.0037	0.0022
218	0.0057	0.0036	0.0021
219	0.0055	0.0035	0.0020
220	0.0053	0.0034	0.0020
221	0.0052	0.0033	0.0019
222	0.0050	0.0032	0.0019
223	0.0049	0.0031	0.0018
224	0.0048	0.0030	0.0018
225	0.0047	0.0030	0.0017
226	0.0046	0.0029	0.0017
227	0.0045	0.0028	0.0017
228	0.0044	0.0028	0.0016
229	0.0043	0.0027	0.0016
230	0.0042	0.0026	0.0015
231	0.0041	0.0026	0.0015
232	0.0040	0.0025	0.0015
233	0.0039	0.0025	0.0015
234	0.0039	0.0024	0.0014
235	0.0038	0.0024	0.0014
236	0.0037	0.0024	0.0014
237	0.0037	0.0023	0.0014
238	0.0036	0.0023	0.0013
239	0.0035	0.0022	0.0013
240	0.0035	0.0022	0.0013
241	0.0034	0.0022	0.0013
242	0.0034	0.0021	0.0012
243	0.0033	0.0021	0.0012
244	0.0033	0.0021	0.0012
245	0.0032	0.0020	0.0012
246	0.0032	0.0020	0.0012
247	0.0031	0.0020	0.0012
248	0.0031	0.0019	0.0011
249	0.0031	0.0019	0.0011
250	0.0030	0.0019	0.0011
251	0.0030	0.0019	0.0011
252	0.0029	0.0018	0.0011
253	0.0029	0.0018	0.0011
254	0.0029	0.0018	0.0011
255	0.0028	0.0018	0.0010
256	0.0028	0.0018	0.0010
257	0.0028	0.0017	0.0010
258	0.0027	0.0017	0.0010
259	0.0027	0.0017	0.0010
260	0.0027	0.0017	0.0010
261	0.0026	0.0017	0.0010
262	0.0026	0.0016	0.0010
263	0.0026	0.0016	0.0010
264	0.0025	0.0016	0.0009
265	0.0025	0.0016	0.0009
266	0.0025	0.0016	0.0009
267	0.0025	0.0016	0.0009
268	0.0024	0.0015	0.0009
269	0.0024	0.0015	0.0009
270	0.0024	0.0015	0.0009
271	0.0024	0.0015	0.0009
272	0.0023	0.0015	0.0009

273	0.0023	0.0015	0.0009
274	0.0023	0.0014	0.0008
275	0.0023	0.0014	0.0008
276	0.0023	0.0014	0.0008
277	0.0022	0.0014	0.0008
278	0.0022	0.0014	0.0008
279	0.0022	0.0014	0.0008
280	0.0022	0.0014	0.0008
281	0.0022	0.0014	0.0008
282	0.0021	0.0013	0.0008
283	0.0021	0.0013	0.0008
284	0.0021	0.0013	0.0008
285	0.0021	0.0013	0.0008
286	0.0021	0.0013	0.0008
287	0.0021	0.0013	0.0008
288	0.0020	0.0013	0.0008

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.46(In)
Peak flow rate in flood hydrograph = 11.77(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.02	Q				
0+25	0.0004	0.03	Q				
0+30	0.0006	0.03	Q				
0+35	0.0009	0.04	Q				
0+40	0.0012	0.04	Q				
0+45	0.0015	0.04	Q				
0+50	0.0018	0.05	Q				
0+55	0.0021	0.05	Q				
1+ 0	0.0024	0.05	Q				
1+ 5	0.0028	0.05	Q				
1+10	0.0031	0.05	Q				
1+15	0.0035	0.05	Q				
1+20	0.0038	0.05	Q				
1+25	0.0042	0.05	Q				
1+30	0.0046	0.05	Q				
1+35	0.0050	0.06	Q				
1+40	0.0054	0.06	Q				
1+45	0.0057	0.06	Q				
1+50	0.0061	0.06	Q				
1+55	0.0065	0.06	Q				
2+ 0	0.0069	0.06	Q				
2+ 5	0.0073	0.06	Q				
2+10	0.0077	0.06	Q				
2+15	0.0082	0.06	Q				
2+20	0.0086	0.06	Q				

2+25	0.0090	0.06	Q				
2+30	0.0094	0.06	Q				
2+35	0.0098	0.06	Q				
2+40	0.0102	0.06	Q				
2+45	0.0107	0.06	Q				
2+50	0.0111	0.06	Q				
2+55	0.0115	0.06	Q				
3+ 0	0.0120	0.06	Q				
3+ 5	0.0124	0.06	Q				
3+10	0.0128	0.06	Q				
3+15	0.0133	0.06	Q				
3+20	0.0137	0.06	Q				
3+25	0.0142	0.06	Q				
3+30	0.0146	0.06	Q				
3+35	0.0150	0.07	Q				
3+40	0.0155	0.07	Q				
3+45	0.0160	0.07	Q				
3+50	0.0164	0.07	Q				
3+55	0.0169	0.07	Q				
4+ 0	0.0173	0.07	Q				
4+ 5	0.0178	0.07	Q				
4+10	0.0182	0.07	Q				
4+15	0.0187	0.07	QV				
4+20	0.0192	0.07	QV				
4+25	0.0197	0.07	QV				
4+30	0.0201	0.07	QV				
4+35	0.0206	0.07	QV				
4+40	0.0211	0.07	QV				
4+45	0.0216	0.07	QV				
4+50	0.0221	0.07	QV				
4+55	0.0225	0.07	QV				
5+ 0	0.0230	0.07	QV				
5+ 5	0.0235	0.07	QV				
5+10	0.0240	0.07	QV				
5+15	0.0245	0.07	QV				
5+20	0.0250	0.07	QV				
5+25	0.0255	0.07	QV				
5+30	0.0260	0.07	QV				
5+35	0.0265	0.07	QV				
5+40	0.0270	0.07	QV				
5+45	0.0276	0.07	QV				
5+50	0.0281	0.08	QV				
5+55	0.0286	0.08	QV				
6+ 0	0.0291	0.08	QV				
6+ 5	0.0297	0.08	QV				
6+10	0.0302	0.08	QV				
6+15	0.0307	0.08	QV				
6+20	0.0313	0.08	QV				
6+25	0.0318	0.08	QV				
6+30	0.0323	0.08	QV				
6+35	0.0329	0.08	QV				
6+40	0.0334	0.08	QV				
6+45	0.0340	0.08	QV				
6+50	0.0346	0.08	QV				
6+55	0.0351	0.08	QV				
7+ 0	0.0357	0.08	QV				
7+ 5	0.0363	0.08	QV				
7+10	0.0368	0.08	QV				
7+15	0.0374	0.08	Q V				

7+20	0.0380	0.08	Q V	|	|	|	|
7+25	0.0386	0.09	Q V	|	|	|	|
7+30	0.0392	0.09	Q V	|	|	|	|
7+35	0.0398	0.09	Q V	|	|	|	|
7+40	0.0404	0.09	Q V	|	|	|	|
7+45	0.0410	0.09	Q V	|	|	|	|
7+50	0.0416	0.09	Q V	|	|	|	|
7+55	0.0422	0.09	Q V	|	|	|	|
8+ 0	0.0428	0.09	Q V	|	|	|	|
8+ 5	0.0434	0.09	Q V	|	|	|	|
8+10	0.0440	0.09	Q V	|	|	|	|
8+15	0.0447	0.09	Q V	|	|	|	|
8+20	0.0453	0.09	Q V	|	|	|	|
8+25	0.0459	0.09	Q V	|	|	|	|
8+30	0.0466	0.09	Q V	|	|	|	|
8+35	0.0472	0.09	Q V	|	|	|	|
8+40	0.0479	0.10	Q V	|	|	|	|
8+45	0.0486	0.10	Q V	|	|	|	|
8+50	0.0492	0.10	Q V	|	|	|	|
8+55	0.0499	0.10	Q V	|	|	|	|
9+ 0	0.0506	0.10	Q V	|	|	|	|
9+ 5	0.0513	0.10	Q V	|	|	|	|
9+10	0.0519	0.10	Q V	|	|	|	|
9+15	0.0526	0.10	Q V	|	|	|	|
9+20	0.0533	0.10	Q V	|	|	|	|
9+25	0.0541	0.10	Q V	|	|	|	|
9+30	0.0548	0.10	Q V	|	|	|	|
9+35	0.0555	0.10	Q V	|	|	|	|
9+40	0.0562	0.11	Q V	|	|	|	|
9+45	0.0569	0.11	Q V	|	|	|	|
9+50	0.0577	0.11	Q V	|	|	|	|
9+55	0.0584	0.11	Q V	|	|	|	|
10+ 0	0.0592	0.11	Q V	|	|	|	|
10+ 5	0.0600	0.11	Q V	|	|	|	|
10+10	0.0607	0.11	Q V	|	|	|	|
10+15	0.0615	0.11	Q V	|	|	|	|
10+20	0.0623	0.11	Q V	|	|	|	|
10+25	0.0631	0.12	Q V	|	|	|	|
10+30	0.0639	0.12	Q V	|	|	|	|
10+35	0.0647	0.12	Q V	|	|	|	|
10+40	0.0655	0.12	Q V	|	|	|	|
10+45	0.0663	0.12	Q V	|	|	|	|
10+50	0.0672	0.12	Q V	|	|	|	|
10+55	0.0680	0.12	Q V	|	|	|	|
11+ 0	0.0689	0.12	Q V	|	|	|	|
11+ 5	0.0698	0.13	Q V	|	|	|	|
11+10	0.0706	0.13	Q V	|	|	|	|
11+15	0.0715	0.13	Q V	|	|	|	|
11+20	0.0724	0.13	Q V	|	|	|	|
11+25	0.0733	0.13	Q V	|	|	|	|
11+30	0.0743	0.13	Q V	|	|	|	|
11+35	0.0752	0.14	Q V	|	|	|	|
11+40	0.0761	0.14	Q V	|	|	|	|
11+45	0.0771	0.14	Q V	|	|	|	|
11+50	0.0781	0.14	Q V	|	|	|	|
11+55	0.0791	0.14	Q V	|	|	|	|
12+ 0	0.0801	0.15	Q V	|	|	|	|
12+ 5	0.0811	0.15	Q V	|	|	|	|
12+10	0.0821	0.15	Q V	|	|	|	|

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12+15       0.0831      0.14  Q   V     |          |          |          |
12+20       0.0840      0.14  Q   V     |          |          |          |
12+25       0.0849      0.13  Q   V     |          |          |          |
12+30       0.0857      0.13  Q   V     |          |          |          |
12+35       0.0866      0.12  Q   V     |          |          |          |
12+40       0.0874      0.12  Q   V     |          |          |          |
12+45       0.0883      0.12  Q   V     |          |          |          |
12+50       0.0891      0.12  Q   V     |          |          |          |
12+55       0.0900      0.12  Q   V     |          |          |          |
13+ 0       0.0909      0.13  Q   V     |          |          |          |
13+ 5       0.0917      0.13  Q   V     |          |          |          |
13+10       0.0926      0.13  Q   V     |          |          |          |
13+15       0.0935      0.13  Q    V    |          |          |          |
13+20       0.0944      0.13  Q    V    |          |          |          |
13+25       0.0954      0.13  Q    V    |          |          |          |
13+30       0.0963      0.14  Q    V    |          |          |          |
13+35       0.0973      0.14  Q    V    |          |          |          |
13+40       0.0983      0.14  Q    V    |          |          |          |
13+45       0.0993      0.15  Q    V    |          |          |          |
13+50       0.1003      0.15  Q    V    |          |          |          |
13+55       0.1014      0.15  Q    V    |          |          |          |
14+ 0       0.1025      0.16  Q    V    |          |          |          |
14+ 5       0.1036      0.16  Q    V    |          |          |          |
14+10       0.1047      0.17  Q    V    |          |          |          |
14+15       0.1059      0.17  Q    V    |          |          |          |
14+20       0.1071      0.18  Q    V    |          |          |          |
14+25       0.1084      0.18  Q    V    |          |          |          |
14+30       0.1097      0.19  Q    V    |          |          |          |
14+35       0.1111      0.20  Q    V    |          |          |          |
14+40       0.1125      0.20  Q     V   |          |          |          |
14+45       0.1139      0.21  Q     V   |          |          |          |
14+50       0.1154      0.22  Q     V   |          |          |          |
14+55       0.1170      0.23  Q     V   |          |          |          |
15+ 0       0.1187      0.24  Q     V   |          |          |          |
15+ 5       0.1204      0.25  Q     V   |          |          |          |
15+10       0.1223      0.27  Q     V   |          |          |          |
15+15       0.1242      0.28  Q     V   |          |          |          |
15+20       0.1263      0.30  Q     V   |          |          |          |
15+25       0.1286      0.33  Q     V   |          |          |          |
15+30       0.1311      0.37  Q      V  |          |          |          |
15+35       0.1342      0.44  Q      V  |          |          |          |
15+40       0.1382      0.57  |Q     V  |          |          |          |
15+45       0.1431      0.71  |Q     V  |          |          |          |
15+50       0.1491      0.88  |Q     V  |          |          |          |
15+55       0.1568      1.12  | Q     V |          |          |          |
16+ 0       0.1676      1.57  |  Q    V |          |          |          |
16+ 5       0.1862      2.71  |    Q   V|          |          |          |
16+10       0.2196      4.85  |        Q|V         |          |          |
16+15       0.2723      7.65  |         |   VQ     |          |          |
16+20       0.3534     11.77  |         |       V  |  Q       |          |
16+25       0.4240     10.24  |         |          Q V        |          |
16+30       0.4735      7.20  |         |   Q      |    V     |          |
16+35       0.5090      5.15  |         Q          |      V   |          |
16+40       0.5367      4.03  |       Q  |         |       V  |          |
16+45       0.5589      3.22  |     Q    |         |        V |          |
16+50       0.5772      2.66  |    Q     |         |         V          |
16+55       0.5925      2.23  |   Q      |         |         |V         |
17+ 0       0.6058      1.93  |  Q       |         |         | V        |
17+ 5       0.6175      1.70  |  Q       |         |         |  V       |
```

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17+10       0.6277      1.47  | Q       |         |         |  V      |
17+15       0.6362      1.24  | Q       |         |         |   V     |
17+20       0.6439      1.12  | Q       |         |         |   V     |
17+25       0.6509      1.01  | Q       |         |         |   V     |
17+30       0.6571      0.91  |Q        |         |         |    V    |
17+35       0.6627      0.81  |Q        |         |         |    V    |
17+40       0.6677      0.72  |Q        |         |         |    V    |
17+45       0.6723      0.67  |Q        |         |         |     V   |
17+50       0.6763      0.58  |Q        |         |         |     V   |
17+55       0.6800      0.54  |Q        |         |         |     V   |
18+ 0       0.6832      0.46  Q         |         |         |     V   |
18+ 5       0.6861      0.42  Q         |         |         |     V   |
18+10       0.6885      0.35  Q         |         |         |     V   |
18+15       0.6907      0.32  Q         |         |         |     V   |
18+20       0.6930      0.33  Q         |         |         |      V  |
18+25       0.6953      0.34  Q         |         |         |      V  |
18+30       0.6977      0.34  Q         |         |         |      V  |
18+35       0.6999      0.33  Q         |         |         |      V  |
18+40       0.7020      0.31  Q         |         |         |      V  |
18+45       0.7038      0.26  Q         |         |         |      V  |
18+50       0.7054      0.24  Q         |         |         |      V  |
18+55       0.7070      0.22  Q         |         |         |      V  |
19+ 0       0.7083      0.19  Q         |         |         |      V  |
19+ 5       0.7093      0.14  Q         |         |         |      V  |
19+10       0.7102      0.14  Q         |         |         |       V |
19+15       0.7111      0.13  Q         |         |         |       V |
19+20       0.7120      0.13  Q         |         |         |       V |
19+25       0.7129      0.12  Q         |         |         |       V |
19+30       0.7137      0.12  Q         |         |         |       V |
19+35       0.7145      0.12  Q         |         |         |       V |
19+40       0.7153      0.12  Q         |         |         |       V |
19+45       0.7161      0.11  Q         |         |         |       V |
19+50       0.7169      0.11  Q         |         |         |       V |
19+55       0.7177      0.11  Q         |         |         |       V |
20+ 0       0.7184      0.11  Q         |         |         |       V |
20+ 5       0.7191      0.11  Q         |         |         |       V |
20+10       0.7199      0.10  Q         |         |         |       V |
20+15       0.7206      0.10  Q         |         |         |       V |
20+20       0.7213      0.10  Q         |         |         |       V |
20+25       0.7219      0.10  Q         |         |         |       V |
20+30       0.7226      0.10  Q         |         |         |       V |
20+35       0.7233      0.10  Q         |         |         |       V |
20+40       0.7239      0.09  Q         |         |         |       V |
20+45       0.7246      0.09  Q         |         |         |       V |
20+50       0.7252      0.09  Q         |         |         |       V |
20+55       0.7258      0.09  Q         |         |         |       V |
21+ 0       0.7265      0.09  Q         |         |         |       V |
21+ 5       0.7271      0.09  Q         |         |         |       V |
21+10       0.7277      0.09  Q         |         |         |       V |
21+15       0.7282      0.09  Q         |         |         |        V|
21+20       0.7288      0.08  Q         |         |         |        V|
21+25       0.7294      0.08  Q         |         |         |        V|
21+30       0.7300      0.08  Q         |         |         |        V|
21+35       0.7305      0.08  Q         |         |         |        V|
21+40       0.7311      0.08  Q         |         |         |        V|
21+45       0.7316      0.08  Q         |         |         |        V|
21+50       0.7322      0.08  Q         |         |         |        V|
21+55       0.7327      0.08  Q         |         |         |        V|
22+ 0       0.7332      0.08  Q         |         |         |        V|
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22+ 5       0.7337      0.08  Q         |          |          |         V|
22+10       0.7342      0.07  Q         |          |          |         V|
22+15       0.7347      0.07  Q         |          |          |         V|
22+20       0.7352      0.07  Q         |          |          |         V|
22+25       0.7357      0.07  Q         |          |          |         V|
22+30       0.7362      0.07  Q         |          |          |         V|
22+35       0.7367      0.07  Q         |          |          |         V|
22+40       0.7372      0.07  Q         |          |          |         V|
22+45       0.7376      0.07  Q         |          |          |         V|
22+50       0.7381      0.07  Q         |          |          |         V|
22+55       0.7386      0.07  Q         |          |          |         V|
23+ 0       0.7390      0.07  Q         |          |          |         V|
23+ 5       0.7395      0.07  Q         |          |          |         V|
23+10       0.7399      0.07  Q         |          |          |         V|
23+15       0.7404      0.06  Q         |          |          |         V|
23+20       0.7408      0.06  Q         |          |          |         V|
23+25       0.7413      0.06  Q         |          |          |         V|
23+30       0.7417      0.06  Q         |          |          |         V|
23+35       0.7421      0.06  Q         |          |          |         V|
23+40       0.7425      0.06  Q         |          |          |         V|
23+45       0.7430      0.06  Q         |          |          |         V|
23+50       0.7434      0.06  Q         |          |          |         V|
23+55       0.7438      0.06  Q         |          |          |         V|
24+ 0       0.7442      0.06  Q         |          |          |         V|
24+ 5       0.7446      0.06  Q         |          |          |         V|
24+10       0.7450      0.06  Q         |          |          |         V|
24+15       0.7453      0.05  Q         |          |          |         V|
24+20       0.7456      0.04  Q         |          |          |         V|
24+25       0.7458      0.03  Q         |          |          |         V|
24+30       0.7460      0.02  Q         |          |          |         V|
24+35       0.7461      0.02  Q         |          |          |         V|
24+40       0.7462      0.02  Q         |          |          |         V|
24+45       0.7463      0.01  Q         |          |          |         V|
24+50       0.7464      0.01  Q         |          |          |         V|
24+55       0.7465      0.01  Q         |          |          |         V|
25+ 0       0.7465      0.01  Q         |          |          |         V|
25+ 5       0.7466      0.01  Q         |          |          |         V|
25+10       0.7466      0.01  Q         |          |          |         V|
25+15       0.7467      0.01  Q         |          |          |         V|
25+20       0.7467      0.01  Q         |          |          |         V|
25+25       0.7467      0.00  Q         |          |          |         V|
25+30       0.7468      0.00  Q         |          |          |         V|
25+35       0.7468      0.00  Q         |          |          |         V|
25+40       0.7468      0.00  Q         |          |          |         V|
25+45       0.7468      0.00  Q         |          |          |         V|
25+50       0.7468      0.00  Q         |          |          |         V|
25+55       0.7468      0.00  Q         |          |          |         V|
26+ 0       0.7469      0.00  Q         |          |          |         V|
26+ 5       0.7469      0.00  Q         |          |          |         V|
26+10       0.7469      0.00  Q         |          |          |         V|
26+15       0.7469      0.00  Q         |          |          |         V|
26+20       0.7469      0.00  Q         |          |          |         V|
26+25       0.7469      0.00  Q         |          |          |         V|
26+30       0.7469      0.00  Q         |          |          |         V|
26+35       0.7469      0.00  Q         |          |          |         V|
26+40       0.7469      0.00  Q         |          |          |         V|
26+45       0.7469      0.00  Q         |          |          |         V|
26+50       0.7469      0.00  Q         |          |          |         V|
26+55       0.7469      0.00  Q         |          |          |          V
```

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0

Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 28
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
61.39	1	1.39
Rainfall data for year 100		
61.39	6	1.81
Rainfall data for year 100		
61.39	24	2.53

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
58.5	77.8	61.39	1.000	0.407	0.998	0.406

Area-averaged adjusted loss rate Fm (In/Hr) = 0.406

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
61.27	0.998	58.5	77.8	2.85	0.315
0.12	0.002	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.316
Area-averaged low loss fraction, Yb = 0.684
User entry of time of concentration = 1.270 (hours)
++
Watershed area = 61.39(Ac.)
Catchment Lag time = 1.016 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 8.2021
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.406(In/Hr)
Average low loss rate fraction (Yb) = 0.684 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.634(In)
Specified peak 6-hour rainfall = 1.810(In)
Specified peak 24-hour rainfall = 2.530(In)

Rainfall depth area reduction factors:
Using a total area of 61.39(Ac.) (Ref: fig. E-4)

5-minute factor = 0.997 Adjusted rainfall = 0.658(In)
30-minute factor = 0.997 Adjusted rainfall = 1.126(In)
1-hour factor = 0.997 Adjusted rainfall = 1.386(In)
3-hour factor = 1.000 Adjusted rainfall = 1.634(In)
6-hour factor = 1.000 Adjusted rainfall = 1.810(In)
24-hour factor = 1.000 Adjusted rainfall = 2.530(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 742.44 (CFS))	
1	0.361	2.679
2	1.157	5.911
3	2.445	9.562
4	4.120	12.438
5	6.220	15.587
6	8.857	19.584
7	12.632	28.025
8	18.097	40.576
9	25.891	57.862
10	33.785	58.609
11	40.723	51.508
12	46.367	41.908
13	51.296	36.588

14	55.534	31.466
15	58.969	25.507
16	61.948	22.118
17	64.513	19.044
18	66.794	16.929
19	68.909	15.706
20	70.880	14.632
21	72.629	12.982
22	74.226	11.857
23	75.680	10.795
24	77.082	10.411
25	78.404	9.814
26	79.508	8.200
27	80.591	8.038
28	81.642	7.802
29	82.546	6.713
30	83.432	6.577
31	84.304	6.478
32	85.103	5.930
33	85.891	5.846
34	86.663	5.737
35	87.338	5.007
36	87.994	4.872
37	88.635	4.762
38	89.155	3.856
39	89.647	3.654
40	90.137	3.636
41	90.602	3.458
42	91.062	3.410
43	91.517	3.384
44	91.926	3.033
45	92.320	2.923
46	92.712	2.913
47	93.081	2.743
48	93.442	2.679
49	93.801	2.663
50	94.104	2.250
51	94.383	2.070
52	94.662	2.070
53	94.941	2.070
54	95.220	2.070
55	95.498	2.066
56	95.736	1.765
57	95.949	1.583
58	96.162	1.583
59	96.375	1.583
60	96.589	1.583
61	96.802	1.583
62	96.980	1.321
63	97.127	1.096
64	97.275	1.096
65	97.423	1.096
66	97.570	1.096
67	97.718	1.096
68	97.836	0.879
69	97.918	0.610
70	98.000	0.609
71	98.082	0.609
72	98.165	0.609

73	98.247	0.609
74	98.334	0.653
75	98.433	0.729
76	98.531	0.731
77	98.630	0.731
78	98.728	0.731
79	98.826	0.731
80	98.925	0.731
81	99.023	0.731
82	99.122	0.731
83	99.220	0.731
84	99.319	0.731
85	99.417	0.731
86	99.505	0.655
87	99.559	0.401
88	99.611	0.381
89	99.662	0.381
90	99.713	0.381
91	99.764	0.381
92	99.816	0.381
93	99.867	0.381
94	99.918	0.381
95	99.969	0.381
96	100.000	0.227

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6577	0.6577
2	0.8097	0.1520
3	0.9144	0.1047
4	0.9968	0.0824
5	1.0659	0.0690
6	1.1258	0.0599
7	1.1791	0.0533
8	1.2273	0.0482
9	1.2714	0.0441
10	1.3122	0.0408
11	1.3503	0.0381
12	1.3860	0.0357
13	1.4027	0.0167
14	1.4183	0.0156
15	1.4331	0.0147
16	1.4470	0.0139
17	1.4602	0.0132
18	1.4727	0.0125
19	1.4847	0.0120
20	1.4961	0.0114
21	1.5071	0.0110
22	1.5176	0.0105
23	1.5277	0.0101
24	1.5375	0.0098
25	1.5469	0.0094
26	1.5560	0.0091
27	1.5648	0.0088
28	1.5734	0.0085
29	1.5816	0.0083
30	1.5897	0.0080
31	1.5975	0.0078
32	1.6051	0.0076

33	1.6125	0.0074
34	1.6197	0.0072
35	1.6268	0.0070
36	1.6337	0.0069
37	1.6403	0.0066
38	1.6468	0.0065
39	1.6531	0.0063
40	1.6593	0.0062
41	1.6653	0.0061
42	1.6713	0.0059
43	1.6771	0.0058
44	1.6828	0.0057
45	1.6884	0.0056
46	1.6939	0.0055
47	1.6992	0.0054
48	1.7045	0.0053
49	1.7097	0.0052
50	1.7148	0.0051
51	1.7198	0.0050
52	1.7248	0.0049
53	1.7296	0.0049
54	1.7344	0.0048
55	1.7391	0.0047
56	1.7438	0.0046
57	1.7483	0.0046
58	1.7528	0.0045
59	1.7572	0.0044
60	1.7616	0.0044
61	1.7659	0.0043
62	1.7701	0.0042
63	1.7743	0.0042
64	1.7785	0.0041
65	1.7825	0.0041
66	1.7866	0.0040
67	1.7905	0.0040
68	1.7944	0.0039
69	1.7983	0.0039
70	1.8021	0.0038
71	1.8059	0.0038
72	1.8097	0.0037
73	1.8157	0.0060
74	1.8217	0.0060
75	1.8276	0.0059
76	1.8335	0.0059
77	1.8393	0.0058
78	1.8450	0.0057
79	1.8507	0.0057
80	1.8563	0.0056
81	1.8619	0.0056
82	1.8674	0.0055
83	1.8729	0.0055
84	1.8783	0.0054
85	1.8837	0.0054
86	1.8890	0.0053
87	1.8943	0.0053
88	1.8996	0.0052
89	1.9048	0.0052
90	1.9099	0.0052
91	1.9150	0.0051

92	1.9201	0.0051
93	1.9251	0.0050
94	1.9301	0.0050
95	1.9350	0.0049
96	1.9399	0.0049
97	1.9448	0.0049
98	1.9496	0.0048
99	1.9544	0.0048
100	1.9592	0.0048
101	1.9639	0.0047
102	1.9686	0.0047
103	1.9732	0.0046
104	1.9778	0.0046
105	1.9824	0.0046
106	1.9870	0.0045
107	1.9915	0.0045
108	1.9959	0.0045
109	2.0004	0.0045
110	2.0048	0.0044
111	2.0092	0.0044
112	2.0136	0.0044
113	2.0179	0.0043
114	2.0222	0.0043
115	2.0265	0.0043
116	2.0307	0.0042
117	2.0349	0.0042
118	2.0391	0.0042
119	2.0433	0.0042
120	2.0474	0.0041
121	2.0515	0.0041
122	2.0556	0.0041
123	2.0597	0.0041
124	2.0637	0.0040
125	2.0677	0.0040
126	2.0717	0.0040
127	2.0757	0.0040
128	2.0796	0.0039
129	2.0835	0.0039
130	2.0874	0.0039
131	2.0913	0.0039
132	2.0951	0.0038
133	2.0989	0.0038
134	2.1027	0.0038
135	2.1065	0.0038
136	2.1103	0.0038
137	2.1140	0.0037
138	2.1177	0.0037
139	2.1214	0.0037
140	2.1251	0.0037
141	2.1288	0.0037
142	2.1324	0.0036
143	2.1360	0.0036
144	2.1396	0.0036
145	2.1432	0.0036
146	2.1468	0.0036
147	2.1503	0.0035
148	2.1539	0.0035
149	2.1574	0.0035
150	2.1609	0.0035

151	2.1643	0.0035
152	2.1678	0.0035
153	2.1712	0.0034
154	2.1746	0.0034
155	2.1780	0.0034
156	2.1814	0.0034
157	2.1848	0.0034
158	2.1882	0.0034
159	2.1915	0.0033
160	2.1948	0.0033
161	2.1981	0.0033
162	2.2014	0.0033
163	2.2047	0.0033
164	2.2080	0.0033
165	2.2112	0.0032
166	2.2144	0.0032
167	2.2176	0.0032
168	2.2209	0.0032
169	2.2240	0.0032
170	2.2272	0.0032
171	2.2304	0.0032
172	2.2335	0.0031
173	2.2366	0.0031
174	2.2398	0.0031
175	2.2429	0.0031
176	2.2460	0.0031
177	2.2490	0.0031
178	2.2521	0.0031
179	2.2552	0.0031
180	2.2582	0.0030
181	2.2612	0.0030
182	2.2642	0.0030
183	2.2672	0.0030
184	2.2702	0.0030
185	2.2732	0.0030
186	2.2762	0.0030
187	2.2791	0.0030
188	2.2820	0.0029
189	2.2850	0.0029
190	2.2879	0.0029
191	2.2908	0.0029
192	2.2937	0.0029
193	2.2966	0.0029
194	2.2994	0.0029
195	2.3023	0.0029
196	2.3051	0.0028
197	2.3080	0.0028
198	2.3108	0.0028
199	2.3136	0.0028
200	2.3164	0.0028
201	2.3192	0.0028
202	2.3220	0.0028
203	2.3248	0.0028
204	2.3275	0.0028
205	2.3303	0.0028
206	2.3330	0.0027
207	2.3358	0.0027
208	2.3385	0.0027
209	2.3412	0.0027

210	2.3439	0.0027
211	2.3466	0.0027
212	2.3493	0.0027
213	2.3519	0.0027
214	2.3546	0.0027
215	2.3573	0.0027
216	2.3599	0.0026
217	2.3625	0.0026
218	2.3652	0.0026
219	2.3678	0.0026
220	2.3704	0.0026
221	2.3730	0.0026
222	2.3756	0.0026
223	2.3782	0.0026
224	2.3807	0.0026
225	2.3833	0.0026
226	2.3859	0.0026
227	2.3884	0.0025
228	2.3909	0.0025
229	2.3935	0.0025
230	2.3960	0.0025
231	2.3985	0.0025
232	2.4010	0.0025
233	2.4035	0.0025
234	2.4060	0.0025
235	2.4085	0.0025
236	2.4110	0.0025
237	2.4134	0.0025
238	2.4159	0.0025
239	2.4183	0.0024
240	2.4208	0.0024
241	2.4232	0.0024
242	2.4256	0.0024
243	2.4280	0.0024
244	2.4305	0.0024
245	2.4329	0.0024
246	2.4353	0.0024
247	2.4376	0.0024
248	2.4400	0.0024
249	2.4424	0.0024
250	2.4448	0.0024
251	2.4471	0.0024
252	2.4495	0.0024
253	2.4518	0.0023
254	2.4542	0.0023
255	2.4565	0.0023
256	2.4588	0.0023
257	2.4611	0.0023
258	2.4634	0.0023
259	2.4657	0.0023
260	2.4680	0.0023
261	2.4703	0.0023
262	2.4726	0.0023
263	2.4749	0.0023
264	2.4772	0.0023
265	2.4794	0.0023
266	2.4817	0.0023
267	2.4839	0.0023
268	2.4862	0.0022

269	2.4884	0.0022
270	2.4907	0.0022
271	2.4929	0.0022
272	2.4951	0.0022
273	2.4973	0.0022
274	2.4995	0.0022
275	2.5017	0.0022
276	2.5039	0.0022
277	2.5061	0.0022
278	2.5083	0.0022
279	2.5105	0.0022
280	2.5126	0.0022
281	2.5148	0.0022
282	2.5170	0.0022
283	2.5191	0.0022
284	2.5213	0.0021
285	2.5234	0.0021
286	2.5255	0.0021
287	2.5277	0.0021
288	2.5298	0.0021

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0021	0.0015	0.0007
2	0.0021	0.0015	0.0007
3	0.0021	0.0015	0.0007
4	0.0021	0.0015	0.0007
5	0.0022	0.0015	0.0007
6	0.0022	0.0015	0.0007
7	0.0022	0.0015	0.0007
8	0.0022	0.0015	0.0007
9	0.0022	0.0015	0.0007
10	0.0022	0.0015	0.0007
11	0.0022	0.0015	0.0007
12	0.0022	0.0015	0.0007
13	0.0022	0.0015	0.0007
14	0.0022	0.0015	0.0007
15	0.0023	0.0015	0.0007
16	0.0023	0.0015	0.0007
17	0.0023	0.0016	0.0007
18	0.0023	0.0016	0.0007
19	0.0023	0.0016	0.0007
20	0.0023	0.0016	0.0007
21	0.0023	0.0016	0.0007
22	0.0023	0.0016	0.0007
23	0.0023	0.0016	0.0007
24	0.0023	0.0016	0.0007
25	0.0024	0.0016	0.0007
26	0.0024	0.0016	0.0007
27	0.0024	0.0016	0.0008
28	0.0024	0.0016	0.0008
29	0.0024	0.0016	0.0008
30	0.0024	0.0016	0.0008
31	0.0024	0.0017	0.0008
32	0.0024	0.0017	0.0008
33	0.0024	0.0017	0.0008
34	0.0024	0.0017	0.0008

35	0.0025	0.0017	0.0008
36	0.0025	0.0017	0.0008
37	0.0025	0.0017	0.0008
38	0.0025	0.0017	0.0008
39	0.0025	0.0017	0.0008
40	0.0025	0.0017	0.0008
41	0.0025	0.0017	0.0008
42	0.0025	0.0017	0.0008
43	0.0026	0.0018	0.0008
44	0.0026	0.0018	0.0008
45	0.0026	0.0018	0.0008
46	0.0026	0.0018	0.0008
47	0.0026	0.0018	0.0008
48	0.0026	0.0018	0.0008
49	0.0026	0.0018	0.0008
50	0.0027	0.0018	0.0008
51	0.0027	0.0018	0.0008
52	0.0027	0.0018	0.0008
53	0.0027	0.0018	0.0009
54	0.0027	0.0019	0.0009
55	0.0027	0.0019	0.0009
56	0.0027	0.0019	0.0009
57	0.0028	0.0019	0.0009
58	0.0028	0.0019	0.0009
59	0.0028	0.0019	0.0009
60	0.0028	0.0019	0.0009
61	0.0028	0.0019	0.0009
62	0.0028	0.0019	0.0009
63	0.0029	0.0020	0.0009
64	0.0029	0.0020	0.0009
65	0.0029	0.0020	0.0009
66	0.0029	0.0020	0.0009
67	0.0029	0.0020	0.0009
68	0.0029	0.0020	0.0009
69	0.0030	0.0020	0.0009
70	0.0030	0.0020	0.0009
71	0.0030	0.0021	0.0009
72	0.0030	0.0021	0.0010
73	0.0030	0.0021	0.0010
74	0.0031	0.0021	0.0010
75	0.0031	0.0021	0.0010
76	0.0031	0.0021	0.0010
77	0.0031	0.0021	0.0010
78	0.0031	0.0021	0.0010
79	0.0032	0.0022	0.0010
80	0.0032	0.0022	0.0010
81	0.0032	0.0022	0.0010
82	0.0032	0.0022	0.0010
83	0.0032	0.0022	0.0010
84	0.0033	0.0022	0.0010
85	0.0033	0.0022	0.0010
86	0.0033	0.0023	0.0010
87	0.0033	0.0023	0.0011
88	0.0034	0.0023	0.0011
89	0.0034	0.0023	0.0011
90	0.0034	0.0023	0.0011
91	0.0034	0.0023	0.0011
92	0.0035	0.0024	0.0011
93	0.0035	0.0024	0.0011

94	0.0035	0.0024	0.0011
95	0.0035	0.0024	0.0011
96	0.0036	0.0024	0.0011
97	0.0036	0.0025	0.0011
98	0.0036	0.0025	0.0011
99	0.0037	0.0025	0.0012
100	0.0037	0.0025	0.0012
101	0.0037	0.0025	0.0012
102	0.0037	0.0026	0.0012
103	0.0038	0.0026	0.0012
104	0.0038	0.0026	0.0012
105	0.0038	0.0026	0.0012
106	0.0039	0.0026	0.0012
107	0.0039	0.0027	0.0012
108	0.0039	0.0027	0.0012
109	0.0040	0.0027	0.0013
110	0.0040	0.0027	0.0013
111	0.0041	0.0028	0.0013
112	0.0041	0.0028	0.0013
113	0.0041	0.0028	0.0013
114	0.0042	0.0028	0.0013
115	0.0042	0.0029	0.0013
116	0.0042	0.0029	0.0013
117	0.0043	0.0029	0.0014
118	0.0043	0.0030	0.0014
119	0.0044	0.0030	0.0014
120	0.0044	0.0030	0.0014
121	0.0045	0.0031	0.0014
122	0.0045	0.0031	0.0014
123	0.0046	0.0031	0.0014
124	0.0046	0.0032	0.0015
125	0.0047	0.0032	0.0015
126	0.0047	0.0032	0.0015
127	0.0048	0.0033	0.0015
128	0.0048	0.0033	0.0015
129	0.0049	0.0034	0.0016
130	0.0049	0.0034	0.0016
131	0.0050	0.0034	0.0016
132	0.0051	0.0035	0.0016
133	0.0052	0.0035	0.0016
134	0.0052	0.0036	0.0016
135	0.0053	0.0036	0.0017
136	0.0053	0.0036	0.0017
137	0.0054	0.0037	0.0017
138	0.0055	0.0037	0.0017
139	0.0056	0.0038	0.0018
140	0.0056	0.0039	0.0018
141	0.0057	0.0039	0.0018
142	0.0058	0.0040	0.0018
143	0.0059	0.0040	0.0019
144	0.0060	0.0041	0.0019
145	0.0037	0.0026	0.0012
146	0.0038	0.0026	0.0012
147	0.0039	0.0026	0.0012
148	0.0039	0.0027	0.0012
149	0.0040	0.0027	0.0013
150	0.0041	0.0028	0.0013
151	0.0042	0.0029	0.0013
152	0.0042	0.0029	0.0013

153	0.0044	0.0030	0.0014
154	0.0044	0.0030	0.0014
155	0.0046	0.0031	0.0014
156	0.0046	0.0032	0.0015
157	0.0048	0.0033	0.0015
158	0.0049	0.0033	0.0015
159	0.0050	0.0034	0.0016
160	0.0051	0.0035	0.0016
161	0.0053	0.0036	0.0017
162	0.0054	0.0037	0.0017
163	0.0056	0.0038	0.0018
164	0.0057	0.0039	0.0018
165	0.0059	0.0041	0.0019
166	0.0061	0.0041	0.0019
167	0.0063	0.0043	0.0020
168	0.0065	0.0044	0.0020
169	0.0069	0.0047	0.0022
170	0.0070	0.0048	0.0022
171	0.0074	0.0051	0.0023
172	0.0076	0.0052	0.0024
173	0.0080	0.0055	0.0025
174	0.0083	0.0057	0.0026
175	0.0088	0.0060	0.0028
176	0.0091	0.0062	0.0029
177	0.0098	0.0067	0.0031
178	0.0101	0.0069	0.0032
179	0.0110	0.0075	0.0035
180	0.0114	0.0078	0.0036
181	0.0125	0.0086	0.0040
182	0.0132	0.0090	0.0042
183	0.0147	0.0101	0.0047
184	0.0156	0.0107	0.0050
185	0.0357	0.0244	0.0113
186	0.0381	0.0260	0.0120
187	0.0441	0.0302	0.0140
188	0.0482	0.0329	0.0153
189	0.0599	0.0338	0.0261
190	0.0690	0.0338	0.0352
191	0.1047	0.0338	0.0709
192	0.1520	0.0338	0.1182
193	0.6577	0.0338	0.6238
194	0.0824	0.0338	0.0486
195	0.0533	0.0338	0.0194
196	0.0408	0.0279	0.0129
197	0.0167	0.0114	0.0053
198	0.0139	0.0095	0.0044
199	0.0120	0.0082	0.0038
200	0.0105	0.0072	0.0033
201	0.0094	0.0064	0.0030
202	0.0085	0.0058	0.0027
203	0.0078	0.0053	0.0025
204	0.0072	0.0049	0.0023
205	0.0066	0.0045	0.0021
206	0.0062	0.0042	0.0020
207	0.0058	0.0040	0.0018
208	0.0055	0.0038	0.0017
209	0.0052	0.0036	0.0016
210	0.0049	0.0034	0.0016
211	0.0047	0.0032	0.0015

212	0.0045	0.0031	0.0014
213	0.0043	0.0029	0.0014
214	0.0041	0.0028	0.0013
215	0.0040	0.0027	0.0013
216	0.0038	0.0026	0.0012
217	0.0060	0.0041	0.0019
218	0.0059	0.0040	0.0019
219	0.0057	0.0039	0.0018
220	0.0055	0.0038	0.0017
221	0.0054	0.0037	0.0017
222	0.0052	0.0036	0.0017
223	0.0051	0.0035	0.0016
224	0.0050	0.0034	0.0016
225	0.0049	0.0033	0.0015
226	0.0048	0.0032	0.0015
227	0.0046	0.0032	0.0015
228	0.0045	0.0031	0.0014
229	0.0045	0.0030	0.0014
230	0.0044	0.0030	0.0014
231	0.0043	0.0029	0.0014
232	0.0042	0.0029	0.0013
233	0.0041	0.0028	0.0013
234	0.0040	0.0028	0.0013
235	0.0040	0.0027	0.0013
236	0.0039	0.0027	0.0012
237	0.0038	0.0026	0.0012
238	0.0038	0.0026	0.0012
239	0.0037	0.0025	0.0012
240	0.0036	0.0025	0.0012
241	0.0036	0.0024	0.0011
242	0.0035	0.0024	0.0011
243	0.0035	0.0024	0.0011
244	0.0034	0.0023	0.0011
245	0.0034	0.0023	0.0011
246	0.0033	0.0023	0.0011
247	0.0033	0.0022	0.0010
248	0.0032	0.0022	0.0010
249	0.0032	0.0022	0.0010
250	0.0031	0.0021	0.0010
251	0.0031	0.0021	0.0010
252	0.0031	0.0021	0.0010
253	0.0030	0.0021	0.0010
254	0.0030	0.0020	0.0009
255	0.0030	0.0020	0.0009
256	0.0029	0.0020	0.0009
257	0.0029	0.0020	0.0009
258	0.0028	0.0019	0.0009
259	0.0028	0.0019	0.0009
260	0.0028	0.0019	0.0009
261	0.0028	0.0019	0.0009
262	0.0027	0.0019	0.0009
263	0.0027	0.0018	0.0009
264	0.0027	0.0018	0.0008
265	0.0026	0.0018	0.0008
266	0.0026	0.0018	0.0008
267	0.0026	0.0018	0.0008
268	0.0026	0.0017	0.0008
269	0.0025	0.0017	0.0008
270	0.0025	0.0017	0.0008

271	0.0025	0.0017	0.0008
272	0.0025	0.0017	0.0008
273	0.0024	0.0017	0.0008
274	0.0024	0.0016	0.0008
275	0.0024	0.0016	0.0008
276	0.0024	0.0016	0.0007
277	0.0023	0.0016	0.0007
278	0.0023	0.0016	0.0007
279	0.0023	0.0016	0.0007
280	0.0023	0.0016	0.0007
281	0.0023	0.0015	0.0007
282	0.0022	0.0015	0.0007
283	0.0022	0.0015	0.0007
284	0.0022	0.0015	0.0007
285	0.0022	0.0015	0.0007
286	0.0022	0.0015	0.0007
287	0.0022	0.0015	0.0007
288	0.0021	0.0015	0.0007

Total soil rain loss = 1.16(In)
Total effective rainfall = 1.37(In)
Peak flow rate in flood hydrograph = 54.11(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	15.0	30.0	45.0	60.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0001	0.01	Q	|	|	|	|
0+20	0.0003	0.02	Q	|	|	|	|
0+25	0.0005	0.03	Q	|	|	|	|
0+30	0.0008	0.04	Q	|	|	|	|
0+35	0.0012	0.06	Q	|	|	|	|
0+40	0.0019	0.09	Q	|	|	|	|
0+45	0.0028	0.13	Q	|	|	|	|
0+50	0.0039	0.17	Q	|	|	|	|
0+55	0.0053	0.21	Q	|	|	|	|
1+ 0	0.0070	0.23	Q	|	|	|	|
1+ 5	0.0088	0.26	Q	|	|	|	|
1+10	0.0107	0.28	Q	|	|	|	|
1+15	0.0128	0.30	Q	|	|	|	|
1+20	0.0150	0.32	Q	|	|	|	|
1+25	0.0172	0.33	Q	|	|	|	|
1+30	0.0196	0.34	Q	|	|	|	|
1+35	0.0220	0.36	Q	|	|	|	|
1+40	0.0246	0.37	Q	|	|	|	|
1+45	0.0272	0.38	Q	|	|	|	|
1+50	0.0298	0.39	Q	|	|	|	|
1+55	0.0326	0.40	Q	|	|	|	|
2+ 0	0.0353	0.40	Q	|	|	|	|
2+ 5	0.0382	0.41	Q	|	|	|	|
2+10	0.0411	0.42	Q	|	|	|	|

2+15	0.0440	0.43	Q				
2+20	0.0470	0.43	Q				
2+25	0.0500	0.44	Q				
2+30	0.0531	0.45	Q				
2+35	0.0562	0.45	Q				
2+40	0.0594	0.46	Q				
2+45	0.0626	0.46	Q				
2+50	0.0658	0.47	Q				
2+55	0.0691	0.48	Q				
3+ 0	0.0724	0.48	Q				
3+ 5	0.0758	0.49	Q				
3+10	0.0792	0.49	Q				
3+15	0.0826	0.50	Q				
3+20	0.0860	0.50	Q				
3+25	0.0895	0.51	Q				
3+30	0.0930	0.51	Q				
3+35	0.0966	0.52	Q				
3+40	0.1002	0.52	Q				
3+45	0.1038	0.52	Q				
3+50	0.1074	0.53	Q				
3+55	0.1111	0.53	Q				
4+ 0	0.1148	0.54	Q				
4+ 5	0.1185	0.54	Q				
4+10	0.1223	0.55	Q				
4+15	0.1261	0.55	Q				
4+20	0.1299	0.55	Q				
4+25	0.1337	0.56	Q				
4+30	0.1376	0.56	Q				
4+35	0.1415	0.57	Q				
4+40	0.1454	0.57	Q				
4+45	0.1494	0.57	Q				
4+50	0.1534	0.58	Q				
4+55	0.1574	0.58	Q				
5+ 0	0.1614	0.59	Q				
5+ 5	0.1655	0.59	Q				
5+10	0.1696	0.59	Q				
5+15	0.1737	0.60	Q				
5+20	0.1778	0.60	QV				
5+25	0.1820	0.61	QV				
5+30	0.1862	0.61	QV				
5+35	0.1904	0.61	QV				
5+40	0.1947	0.62	QV				
5+45	0.1990	0.62	QV				
5+50	0.2033	0.63	QV				
5+55	0.2076	0.63	QV				
6+ 0	0.2120	0.63	QV				
6+ 5	0.2164	0.64	QV				
6+10	0.2208	0.64	QV				
6+15	0.2252	0.65	QV				
6+20	0.2297	0.65	QV				
6+25	0.2342	0.65	QV				
6+30	0.2387	0.66	QV				
6+35	0.2433	0.66	QV				
6+40	0.2479	0.67	QV				
6+45	0.2525	0.67	QV				
6+50	0.2572	0.68	QV				
6+55	0.2619	0.68	QV				
7+ 0	0.2666	0.69	QV				
7+ 5	0.2713	0.69	QV				

7+10	0.2761	0.69	QV				
7+15	0.2809	0.70	QV				
7+20	0.2858	0.70	QV				
7+25	0.2907	0.71	QV				
7+30	0.2956	0.71	QV				
7+35	0.3005	0.72	QV				
7+40	0.3055	0.72	QV				
7+45	0.3105	0.73	QV				
7+50	0.3156	0.73	QV				
7+55	0.3207	0.74	QV				
8+ 0	0.3258	0.74	QV				
8+ 5	0.3310	0.75	QV				
8+10	0.3361	0.75	QV				
8+15	0.3414	0.76	QV				
8+20	0.3466	0.76	QV				
8+25	0.3519	0.77	Q V				
8+30	0.3573	0.78	Q V				
8+35	0.3627	0.78	Q V				
8+40	0.3681	0.79	Q V				
8+45	0.3735	0.79	Q V				
8+50	0.3790	0.80	Q V				
8+55	0.3846	0.80	Q V				
9+ 0	0.3902	0.81	Q V				
9+ 5	0.3958	0.82	Q V				
9+10	0.4015	0.82	Q V				
9+15	0.4072	0.83	Q V				
9+20	0.4129	0.84	Q V				
9+25	0.4187	0.84	Q V				
9+30	0.4246	0.85	Q V				
9+35	0.4305	0.86	Q V				
9+40	0.4364	0.86	Q V				
9+45	0.4424	0.87	Q V				
9+50	0.4485	0.88	Q V				
9+55	0.4546	0.89	Q V				
10+ 0	0.4607	0.89	Q V				
10+ 5	0.4669	0.90	Q V				
10+10	0.4732	0.91	Q V				
10+15	0.4795	0.92	Q V				
10+20	0.4859	0.93	Q V				
10+25	0.4923	0.93	Q V				
10+30	0.4988	0.94	Q V				
10+35	0.5054	0.95	Q V				
10+40	0.5120	0.96	Q V				
10+45	0.5187	0.97	Q V				
10+50	0.5254	0.98	Q V				
10+55	0.5322	0.99	Q V				
11+ 0	0.5391	1.00	Q V				
11+ 5	0.5461	1.01	Q V				
11+10	0.5531	1.02	Q V				
11+15	0.5602	1.03	Q V				
11+20	0.5674	1.04	Q V				
11+25	0.5746	1.05	Q V				
11+30	0.5820	1.06	Q V				
11+35	0.5894	1.08	Q V				
11+40	0.5969	1.09	Q V				
11+45	0.6044	1.10	Q V				
11+50	0.6121	1.11	Q V				
11+55	0.6199	1.13	Q V				
12+ 0	0.6277	1.14	Q V				

```
12+ 5       0.6357      1.15  Q  V      |          |          |          |
12+10       0.6437      1.16  Q  V      |          |          |          |
12+15       0.6517      1.17  Q  V      |          |          |          |
12+20       0.6598      1.18  Q  V      |          |          |          |
12+25       0.6680      1.18  Q  V      |          |          |          |
12+30       0.6761      1.18  Q  V      |          |          |          |
12+35       0.6842      1.18  Q  V      |          |          |          |
12+40       0.6922      1.16  Q  V      |          |          |          |
12+45       0.7000      1.14  Q  V      |          |          |          |
12+50       0.7077      1.11  Q   V     |          |          |          |
12+55       0.7151      1.09  Q   V     |          |          |          |
13+ 0       0.7225      1.07  Q   V     |          |          |          |
13+ 5       0.7298      1.06  Q   V     |          |          |          |
13+10       0.7371      1.05  Q   V     |          |          |          |
13+15       0.7443      1.05  Q   V     |          |          |          |
13+20       0.7516      1.05  Q   V     |          |          |          |
13+25       0.7589      1.06  Q   V     |          |          |          |
13+30       0.7662      1.06  Q   V     |          |          |          |
13+35       0.7736      1.07  Q   V     |          |          |          |
13+40       0.7810      1.08  Q   V     |          |          |          |
13+45       0.7886      1.09  Q   V     |          |          |          |
13+50       0.7962      1.11  Q   V     |          |          |          |
13+55       0.8039      1.12  Q   V     |          |          |          |
14+ 0       0.8118      1.14  Q   V     |          |          |          |
14+ 5       0.8198      1.16  Q   V     |          |          |          |
14+10       0.8279      1.18  Q   V     |          |          |          |
14+15       0.8361      1.20  Q   V     |          |          |          |
14+20       0.8446      1.22  Q   V     |          |          |          |
14+25       0.8532      1.25  Q   V     |          |          |          |
14+30       0.8620      1.28  Q   V     |          |          |          |
14+35       0.8711      1.31  Q   V     |          |          |          |
14+40       0.8803      1.35  Q    V    |          |          |          |
14+45       0.8899      1.39  Q    V    |          |          |          |
14+50       0.8997      1.43  Q    V    |          |          |          |
14+55       0.9098      1.47  Q    V    |          |          |          |
15+ 0       0.9203      1.52  |Q   V    |          |          |          |
15+ 5       0.9311      1.57  |Q   V    |          |          |          |
15+10       0.9424      1.63  |Q   V    |          |          |          |
15+15       0.9541      1.70  |Q   V    |          |          |          |
15+20       0.9663      1.77  |Q   V    |          |          |          |
15+25       0.9791      1.87  |Q   V    |          |          |          |
15+30       0.9928      1.99  |Q   V    |          |          |          |
15+35       1.0077      2.15  |Q   V    |          |          |          |
15+40       1.0239      2.35  |Q   V    |          |          |          |
15+45       1.0419      2.62  |Q   V    |          |          |          |
15+50       1.0625      2.99  |Q    V   |          |          |          |
15+55       1.0873      3.59  | Q   V   |          |          |          |
16+ 0       1.1190      4.60  |  Q  V   |          |          |          |
16+ 5       1.1701      7.43  |   Q V   |          |          |          |
16+10       1.2441     10.74  |      Q  |          |          |          |
16+15       1.3427     14.33  |      V Q|          |          |          |
16+20       1.4640     17.61  |       V |Q         |          |          |
16+25       1.6115     21.42  |        V|   Q      |          |          |
16+30       1.7922     26.24  |         V      Q  |          |          |
16+35       2.0261     33.96  |         |V         | Q        |          |
16+40       2.3266     43.63  |         |  V       |        Q |          |
16+45       2.6993     54.11  |         |    V     |          |     Q    |
16+50       3.0695     53.76  |         |      V   |          |    Q     |
16+55       3.3997     47.95  |         |        V |          |Q         |
```

17+ 0	3.6791	40.57	|V Q |
17+ 5	3.9239	35.55	| VQ |
17+10	4.1361	30.81	| Q V |
17+15	4.3147	25.94	| Q | V |
17+20	4.4716	22.77	| Q | V |
17+25	4.6098	20.07	| Q | V |
17+30	4.7345	18.11	| Q | V |
17+35	4.8500	16.77	|Q | V |
17+40	4.9571	15.56	| Q | V |
17+45	5.0543	14.11	| Q| V |
17+50	5.1440	13.01	| Q | V|
17+55	5.2269	12.04	| Q | V|
18+ 0	5.3057	11.44	| Q | V |
18+ 5	5.3796	10.73	| Q | V |
18+10	5.4453	9.55	| Q | |V |
18+15	5.5086	9.19	| Q | |V |
18+20	5.5692	8.79	| Q | |V |
18+25	5.6242	8.00	| Q | | V |
18+30	5.6776	7.75	| Q | | V |
18+35	5.7295	7.53	| Q | | V |
18+40	5.7784	7.10	| Q | | V |
18+45	5.8262	6.94	| Q | | V |
18+50	5.8726	6.74	| Q | | V |
18+55	5.9154	6.21	| Q | | V |
19+ 0	5.9566	5.99	| Q | | V |
19+ 5	5.9963	5.77	| Q | | V |
19+10	6.0317	5.14	| Q | | V |
19+15	6.0657	4.93	| Q | | V |
19+20	6.0990	4.83	| Q | | V |
19+25	6.1311	4.67	| Q | | V |
19+30	6.1625	4.57	| Q | | V |
19+35	6.1933	4.46	| Q | | V |
19+40	6.2222	4.20	| Q | | V |
19+45	6.2502	4.07	| Q | | V |
19+50	6.2777	3.99	| Q | | V |
19+55	6.3041	3.83	| Q | | V |
20+ 0	6.3298	3.73	| Q | | V |
20+ 5	6.3547	3.63	| Q | | V |
20+10	6.3776	3.32	| Q | | V |
20+15	6.3995	3.17	| Q | | V |
20+20	6.4210	3.12	| Q | | V |
20+25	6.4422	3.08	| Q | | V |
20+30	6.4631	3.03	| Q | | V |
20+35	6.4835	2.96	|Q | | V |
20+40	6.5023	2.73	|Q | | V |
20+45	6.5201	2.58	|Q | | V |
20+50	6.5377	2.55	|Q | | V |
20+55	6.5550	2.51	|Q | | V |
21+ 0	6.5720	2.47	|Q | | V |
21+ 5	6.5885	2.40	|Q | | V |
21+10	6.6036	2.19	|Q | | V |
21+15	6.6175	2.02	|Q | | V |
21+20	6.6312	1.99	|Q | | V |
21+25	6.6447	1.95	|Q | | V |
21+30	6.6579	1.91	|Q | | V |
21+35	6.6707	1.86	|Q | | V |
21+40	6.6823	1.68	|Q | | V |
21+45	6.6925	1.49	Q | | V |
21+50	6.7026	1.47	Q | | V |

21+55	6.7126	1.45	Q	|	|	|	V |
22+ 0	6.7226	1.44	Q	|	|	|	V |
22+ 5	6.7325	1.44	Q	|	|	|	V |
22+10	6.7426	1.47	Q	|	|	|	V |
22+15	6.7530	1.50	|Q	|	|	|	V |
22+20	6.7633	1.50	Q	|	|	|	V |
22+25	6.7735	1.49	Q	|	|	|	V |
22+30	6.7837	1.48	Q	|	|	|	V |
22+35	6.7938	1.47	Q	|	|	|	V |
22+40	6.8038	1.45	Q	|	|	|	V |
22+45	6.8138	1.44	Q	|	|	|	V |
22+50	6.8236	1.43	Q	|	|	|	V |
22+55	6.8333	1.41	Q	|	|	|	V|
23+ 0	6.8428	1.39	Q	|	|	|	V|
23+ 5	6.8522	1.35	Q	|	|	|	V|
23+10	6.8609	1.27	Q	|	|	|	V|
23+15	6.8684	1.09	Q	|	|	|	V|
23+20	6.8757	1.06	Q	|	|	|	V|
23+25	6.8829	1.04	Q	|	|	|	V|
23+30	6.8899	1.03	Q	|	|	|	V|
23+35	6.8969	1.01	Q	|	|	|	V|
23+40	6.9038	1.00	Q	|	|	|	V|
23+45	6.9105	0.98	Q	|	|	|	V|
23+50	6.9171	0.96	Q	|	|	|	V|
23+55	6.9234	0.91	Q	|	|	|	V|
24+ 0	6.9288	0.79	Q	|	|	|	V|
24+ 5	6.9332	0.63	Q	|	|	|	V|
24+10	6.9373	0.61	Q	|	|	|	V|
24+15	6.9414	0.59	Q	|	|	|	V|
24+20	6.9453	0.57	Q	|	|	|	V|
24+25	6.9491	0.55	Q	|	|	|	V|
24+30	6.9528	0.53	Q	|	|	|	V|
24+35	6.9563	0.51	Q	|	|	|	V|
24+40	6.9596	0.48	Q	|	|	|	V|
24+45	6.9626	0.43	Q	|	|	|	V|
24+50	6.9653	0.39	Q	|	|	|	V|
24+55	6.9677	0.35	Q	|	|	|	V|
25+ 0	6.9699	0.32	Q	|	|	|	V|
25+ 5	6.9719	0.29	Q	|	|	|	V|
25+10	6.9738	0.27	Q	|	|	|	V|
25+15	6.9755	0.25	Q	|	|	|	V|
25+20	6.9771	0.23	Q	|	|	|	V|
25+25	6.9786	0.22	Q	|	|	|	V|
25+30	6.9800	0.20	Q	|	|	|	V|
25+35	6.9813	0.19	Q	|	|	|	V|
25+40	6.9825	0.18	Q	|	|	|	V|
25+45	6.9836	0.17	Q	|	|	|	V|
25+50	6.9847	0.16	Q	|	|	|	V|
25+55	6.9858	0.15	Q	|	|	|	V|
26+ 0	6.9867	0.14	Q	|	|	|	V|
26+ 5	6.9876	0.13	Q	|	|	|	V|
26+10	6.9885	0.13	Q	|	|	|	V|
26+15	6.9893	0.12	Q	|	|	|	V|
26+20	6.9901	0.11	Q	|	|	|	V|
26+25	6.9908	0.11	Q	|	|	|	V|
26+30	6.9915	0.10	Q	|	|	|	V|
26+35	6.9922	0.10	Q	|	|	|	V|
26+40	6.9928	0.09	Q	|	|	|	V|
26+45	6.9934	0.09	Q	|	|	|	V|

26+50	6.9940	0.08	Q	|	|	|	V|
26+55	6.9945	0.08	Q	|	|	|	V|
27+ 0	6.9950	0.07	Q	|	|	|	V|
27+ 5	6.9955	0.07	Q	|	|	|	V|
27+10	6.9959	0.07	Q	|	|	|	V|
27+15	6.9963	0.06	Q	|	|	|	V|
27+20	6.9967	0.06	Q	|	|	|	V|
27+25	6.9971	0.06	Q	|	|	|	V|
27+30	6.9975	0.05	Q	|	|	|	V|
27+35	6.9978	0.05	Q	|	|	|	V|
27+40	6.9982	0.05	Q	|	|	|	V|
27+45	6.9985	0.05	Q	|	|	|	V|
27+50	6.9988	0.04	Q	|	|	|	V|
27+55	6.9991	0.04	Q	|	|	|	V|
28+ 0	6.9993	0.04	Q	|	|	|	V|
28+ 5	6.9996	0.04	Q	|	|	|	V|
28+10	6.9998	0.03	Q	|	|	|	V|
28+15	7.0000	0.03	Q	|	|	|	V|
28+20	7.0003	0.03	Q	|	|	|	V|
28+25	7.0005	0.03	Q	|	|	|	V|
28+30	7.0007	0.03	Q	|	|	|	V|
28+35	7.0008	0.03	Q	|	|	|	V|
28+40	7.0010	0.02	Q	|	|	|	V|
28+45	7.0012	0.02	Q	|	|	|	V|
28+50	7.0013	0.02	Q	|	|	|	V|
28+55	7.0015	0.02	Q	|	|	|	V|
29+ 0	7.0016	0.02	Q	|	|	|	V|
29+ 5	7.0017	0.02	Q	|	|	|	V|
29+10	7.0018	0.02	Q	|	|	|	V|
29+15	7.0019	0.02	Q	|	|	|	V|
29+20	7.0021	0.02	Q	|	|	|	V|
29+25	7.0022	0.01	Q	|	|	|	V|
29+30	7.0022	0.01	Q	|	|	|	V|
29+35	7.0023	0.01	Q	|	|	|	V|
29+40	7.0024	0.01	Q	|	|	|	V|
29+45	7.0025	0.01	Q	|	|	|	V|
29+50	7.0026	0.01	Q	|	|	|	V|
29+55	7.0026	0.01	Q	|	|	|	V|
30+ 0	7.0027	0.01	Q	|	|	|	V|
30+ 5	7.0028	0.01	Q	|	|	|	V|
30+10	7.0028	0.01	Q	|	|	|	V|
30+15	7.0029	0.01	Q	|	|	|	V|
30+20	7.0030	0.01	Q	|	|	|	V|
30+25	7.0030	0.01	Q	|	|	|	V|
30+30	7.0031	0.01	Q	|	|	|	V|
30+35	7.0031	0.01	Q	|	|	|	V|
30+40	7.0031	0.01	Q	|	|	|	V|
30+45	7.0032	0.01	Q	|	|	|	V|
30+50	7.0032	0.00	Q	|	|	|	V|
30+55	7.0032	0.00	Q	|	|	|	V|
31+ 0	7.0033	0.00	Q	|	|	|	V|
31+ 5	7.0033	0.00	Q	|	|	|	V|
31+10	7.0033	0.00	Q	|	|	|	V|
31+15	7.0033	0.00	Q	|	|	|	V|
31+20	7.0033	0.00	Q	|	|	|	V|
31+25	7.0033	0.00	Q	|	|	|	V|
31+30	7.0033	0.00	Q	|	|	|	V|
31+35	7.0034	0.00	Q	|	|	|	V|
31+40	7.0034	0.00	Q	|	|	|	V|

```
   31+45       7.0034      0.00  Q         |         |         |        V|
   31+50       7.0034      0.00  Q         |         |         |        V|
   31+55       7.0034      0.00  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 29
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
15.24	1	1.39
Rainfall data for year 100		
15.24	6	1.81
Rainfall data for year 100		
15.24	24	2.54

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
58.5	77.8	15.24	1.000	0.407	1.000	0.407

Area-averaged adjusted loss rate Fm (In/Hr) = 0.407

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
15.24	1.000	58.5	77.8	2.85	0.317

Area-averaged catchment yield fraction, Y = 0.317
Area-averaged low loss fraction, Yb = 0.683
User entry of time of concentration = 0.910 (hours)
++
Watershed area = 15.24(Ac.)
Catchment Lag time = 0.728 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 11.4469
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.407(In/Hr)
Average low loss rate fraction (Yb) = 0.683 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.634(In)
Specified peak 6-hour rainfall = 1.810(In)
Specified peak 24-hour rainfall = 2.540(In)

Rainfall depth area reduction factors:
Using a total area of 15.24(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.128(In)
1-hour factor = 0.999 Adjusted rainfall = 1.389(In)
3-hour factor = 1.000 Adjusted rainfall = 1.634(In)
6-hour factor = 1.000 Adjusted rainfall = 1.810(In)
24-hour factor = 1.000 Adjusted rainfall = 2.540(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 184.31 (CFS))	
1	0.504	0.928
2	1.888	2.552
3	4.113	4.099
4	7.200	5.690
5	11.703	8.299
6	19.434	14.249
7	30.497	20.391
8	40.432	18.311
9	48.223	14.359
10	54.525	11.614
11	59.451	9.080
12	63.371	7.225
13	66.675	6.088
14	69.586	5.367

15	72.187	4.793
16	74.416	4.107
17	76.424	3.702
18	78.296	3.451
19	79.853	2.869
20	81.348	2.755
21	82.643	2.387
22	83.878	2.275
23	85.025	2.115
24	86.124	2.025
25	87.136	1.865
26	88.052	1.688
27	88.896	1.555
28	89.587	1.275
29	90.266	1.250
30	90.910	1.188
31	91.543	1.166
32	92.108	1.041
33	92.656	1.010
34	93.173	0.953
35	93.676	0.928
36	94.116	0.811
37	94.506	0.717
38	94.895	0.717
39	95.284	0.717
40	95.651	0.677
41	95.954	0.557
42	96.251	0.549
43	96.549	0.549
44	96.842	0.540
45	97.069	0.419
46	97.275	0.380
47	97.481	0.380
48	97.687	0.380
49	97.852	0.303
50	97.966	0.211
51	98.081	0.211
52	98.195	0.211
53	98.314	0.218
54	98.449	0.250
55	98.586	0.253
56	98.724	0.253
57	98.861	0.253
58	98.998	0.253
59	99.136	0.253
60	99.273	0.253
61	99.410	0.253
62	99.524	0.210
63	99.596	0.133
64	99.668	0.132
65	99.740	0.132
66	99.811	0.132
67	99.883	0.132
68	99.954	0.132
69	100.000	0.084

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6591	0.6591

2	0.8114	0.1523
3	0.9164	0.1050
4	0.9990	0.0826
5	1.0682	0.0692
6	1.1282	0.0601
7	1.1816	0.0534
8	1.2299	0.0483
9	1.2742	0.0442
10	1.3151	0.0409
11	1.3532	0.0381
12	1.3890	0.0358
13	1.4056	0.0165
14	1.4210	0.0155
15	1.4356	0.0146
16	1.4494	0.0138
17	1.4624	0.0131
18	1.4749	0.0124
19	1.4867	0.0118
20	1.4980	0.0113
21	1.5089	0.0109
22	1.5193	0.0104
23	1.5293	0.0100
24	1.5390	0.0097
25	1.5483	0.0093
26	1.5573	0.0090
27	1.5660	0.0087
28	1.5745	0.0084
29	1.5827	0.0082
30	1.5906	0.0080
31	1.5984	0.0077
32	1.6059	0.0075
33	1.6132	0.0073
34	1.6204	0.0071
35	1.6273	0.0070
36	1.6341	0.0068
37	1.6407	0.0066
38	1.6472	0.0065
39	1.6535	0.0063
40	1.6597	0.0062
41	1.6657	0.0061
42	1.6717	0.0059
43	1.6775	0.0058
44	1.6832	0.0057
45	1.6888	0.0056
46	1.6942	0.0055
47	1.6996	0.0054
48	1.7049	0.0053
49	1.7101	0.0052
50	1.7152	0.0051
51	1.7202	0.0050
52	1.7251	0.0049
53	1.7300	0.0049
54	1.7348	0.0048
55	1.7395	0.0047
56	1.7441	0.0046
57	1.7486	0.0046
58	1.7531	0.0045
59	1.7576	0.0044
60	1.7619	0.0044

61	1.7662	0.0043
62	1.7705	0.0042
63	1.7746	0.0042
64	1.7788	0.0041
65	1.7828	0.0041
66	1.7868	0.0040
67	1.7908	0.0040
68	1.7947	0.0039
69	1.7986	0.0039
70	1.8024	0.0038
71	1.8062	0.0038
72	1.8099	0.0037
73	1.8160	0.0061
74	1.8221	0.0060
75	1.8281	0.0060
76	1.8340	0.0059
77	1.8399	0.0059
78	1.8457	0.0058
79	1.8514	0.0058
80	1.8571	0.0057
81	1.8628	0.0056
82	1.8684	0.0056
83	1.8739	0.0055
84	1.8794	0.0055
85	1.8849	0.0054
86	1.8903	0.0054
87	1.8956	0.0053
88	1.9009	0.0053
89	1.9062	0.0053
90	1.9114	0.0052
91	1.9165	0.0052
92	1.9217	0.0051
93	1.9268	0.0051
94	1.9318	0.0050
95	1.9368	0.0050
96	1.9418	0.0050
97	1.9467	0.0049
98	1.9516	0.0049
99	1.9564	0.0048
100	1.9612	0.0048
101	1.9660	0.0048
102	1.9708	0.0047
103	1.9755	0.0047
104	1.9801	0.0047
105	1.9848	0.0046
106	1.9894	0.0046
107	1.9939	0.0046
108	1.9985	0.0045
109	2.0030	0.0045
110	2.0075	0.0045
111	2.0119	0.0044
112	2.0163	0.0044
113	2.0207	0.0044
114	2.0251	0.0044
115	2.0294	0.0043
116	2.0337	0.0043
117	2.0380	0.0043
118	2.0422	0.0042
119	2.0464	0.0042

120	2.0506	0.0042
121	2.0548	0.0042
122	2.0589	0.0041
123	2.0630	0.0041
124	2.0671	0.0041
125	2.0712	0.0041
126	2.0752	0.0040
127	2.0792	0.0040
128	2.0832	0.0040
129	2.0872	0.0040
130	2.0911	0.0039
131	2.0951	0.0039
132	2.0990	0.0039
133	2.1028	0.0039
134	2.1067	0.0039
135	2.1105	0.0038
136	2.1143	0.0038
137	2.1181	0.0038
138	2.1219	0.0038
139	2.1256	0.0037
140	2.1294	0.0037
141	2.1331	0.0037
142	2.1368	0.0037
143	2.1404	0.0037
144	2.1441	0.0036
145	2.1477	0.0036
146	2.1513	0.0036
147	2.1549	0.0036
148	2.1585	0.0036
149	2.1620	0.0036
150	2.1656	0.0035
151	2.1691	0.0035
152	2.1726	0.0035
153	2.1761	0.0035
154	2.1796	0.0035
155	2.1830	0.0035
156	2.1864	0.0034
157	2.1899	0.0034
158	2.1933	0.0034
159	2.1967	0.0034
160	2.2000	0.0034
161	2.2034	0.0034
162	2.2067	0.0033
163	2.2100	0.0033
164	2.2133	0.0033
165	2.2166	0.0033
166	2.2199	0.0033
167	2.2232	0.0033
168	2.2264	0.0032
169	2.2296	0.0032
170	2.2329	0.0032
171	2.2361	0.0032
172	2.2393	0.0032
173	2.2424	0.0032
174	2.2456	0.0032
175	2.2487	0.0031
176	2.2519	0.0031
177	2.2550	0.0031
178	2.2581	0.0031

179	2.2612	0.0031
180	2.2643	0.0031
181	2.2673	0.0031
182	2.2704	0.0031
183	2.2734	0.0030
184	2.2765	0.0030
185	2.2795	0.0030
186	2.2825	0.0030
187	2.2855	0.0030
188	2.2885	0.0030
189	2.2914	0.0030
190	2.2944	0.0030
191	2.2974	0.0029
192	2.3003	0.0029
193	2.3032	0.0029
194	2.3061	0.0029
195	2.3090	0.0029
196	2.3119	0.0029
197	2.3148	0.0029
198	2.3177	0.0029
199	2.3205	0.0029
200	2.3234	0.0028
201	2.3262	0.0028
202	2.3290	0.0028
203	2.3318	0.0028
204	2.3346	0.0028
205	2.3374	0.0028
206	2.3402	0.0028
207	2.3430	0.0028
208	2.3457	0.0028
209	2.3485	0.0028
210	2.3512	0.0027
211	2.3540	0.0027
212	2.3567	0.0027
213	2.3594	0.0027
214	2.3621	0.0027
215	2.3648	0.0027
216	2.3675	0.0027
217	2.3701	0.0027
218	2.3728	0.0027
219	2.3755	0.0027
220	2.3781	0.0026
221	2.3808	0.0026
222	2.3834	0.0026
223	2.3860	0.0026
224	2.3886	0.0026
225	2.3912	0.0026
226	2.3938	0.0026
227	2.3964	0.0026
228	2.3990	0.0026
229	2.4015	0.0026
230	2.4041	0.0026
231	2.4066	0.0026
232	2.4092	0.0025
233	2.4117	0.0025
234	2.4143	0.0025
235	2.4168	0.0025
236	2.4193	0.0025
237	2.4218	0.0025

238	2.4243	0.0025
239	2.4268	0.0025
240	2.4292	0.0025
241	2.4317	0.0025
242	2.4342	0.0025
243	2.4366	0.0025
244	2.4391	0.0024
245	2.4415	0.0024
246	2.4439	0.0024
247	2.4464	0.0024
248	2.4488	0.0024
249	2.4512	0.0024
250	2.4536	0.0024
251	2.4560	0.0024
252	2.4584	0.0024
253	2.4608	0.0024
254	2.4631	0.0024
255	2.4655	0.0024
256	2.4679	0.0024
257	2.4702	0.0024
258	2.4726	0.0023
259	2.4749	0.0023
260	2.4772	0.0023
261	2.4796	0.0023
262	2.4819	0.0023
263	2.4842	0.0023
264	2.4865	0.0023
265	2.4888	0.0023
266	2.4911	0.0023
267	2.4934	0.0023
268	2.4957	0.0023
269	2.4979	0.0023
270	2.5002	0.0023
271	2.5025	0.0023
272	2.5047	0.0023
273	2.5070	0.0022
274	2.5092	0.0022
275	2.5114	0.0022
276	2.5137	0.0022
277	2.5159	0.0022
278	2.5181	0.0022
279	2.5203	0.0022
280	2.5225	0.0022
281	2.5247	0.0022
282	2.5269	0.0022
283	2.5291	0.0022
284	2.5313	0.0022
285	2.5335	0.0022
286	2.5356	0.0022
287	2.5378	0.0022
288	2.5400	0.0022

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0022	0.0015	0.0007
2	0.0022	0.0015	0.0007
3	0.0022	0.0015	0.0007

4	0.0022	0.0015	0.0007
5	0.0022	0.0015	0.0007
6	0.0022	0.0015	0.0007
7	0.0022	0.0015	0.0007
8	0.0022	0.0015	0.0007
9	0.0022	0.0015	0.0007
10	0.0022	0.0015	0.0007
11	0.0022	0.0015	0.0007
12	0.0023	0.0015	0.0007
13	0.0023	0.0015	0.0007
14	0.0023	0.0016	0.0007
15	0.0023	0.0016	0.0007
16	0.0023	0.0016	0.0007
17	0.0023	0.0016	0.0007
18	0.0023	0.0016	0.0007
19	0.0023	0.0016	0.0007
20	0.0023	0.0016	0.0007
21	0.0023	0.0016	0.0007
22	0.0024	0.0016	0.0007
23	0.0024	0.0016	0.0007
24	0.0024	0.0016	0.0008
25	0.0024	0.0016	0.0008
26	0.0024	0.0016	0.0008
27	0.0024	0.0016	0.0008
28	0.0024	0.0017	0.0008
29	0.0024	0.0017	0.0008
30	0.0024	0.0017	0.0008
31	0.0025	0.0017	0.0008
32	0.0025	0.0017	0.0008
33	0.0025	0.0017	0.0008
34	0.0025	0.0017	0.0008
35	0.0025	0.0017	0.0008
36	0.0025	0.0017	0.0008
37	0.0025	0.0017	0.0008
38	0.0025	0.0017	0.0008
39	0.0026	0.0017	0.0008
40	0.0026	0.0017	0.0008
41	0.0026	0.0018	0.0008
42	0.0026	0.0018	0.0008
43	0.0026	0.0018	0.0008
44	0.0026	0.0018	0.0008
45	0.0026	0.0018	0.0008
46	0.0026	0.0018	0.0008
47	0.0027	0.0018	0.0008
48	0.0027	0.0018	0.0008
49	0.0027	0.0018	0.0008
50	0.0027	0.0018	0.0009
51	0.0027	0.0019	0.0009
52	0.0027	0.0019	0.0009
53	0.0027	0.0019	0.0009
54	0.0028	0.0019	0.0009
55	0.0028	0.0019	0.0009
56	0.0028	0.0019	0.0009
57	0.0028	0.0019	0.0009
58	0.0028	0.0019	0.0009
59	0.0028	0.0019	0.0009
60	0.0028	0.0019	0.0009
61	0.0029	0.0020	0.0009
62	0.0029	0.0020	0.0009

63	0.0029	0.0020	0.0009
64	0.0029	0.0020	0.0009
65	0.0029	0.0020	0.0009
66	0.0029	0.0020	0.0009
67	0.0030	0.0020	0.0009
68	0.0030	0.0020	0.0009
69	0.0030	0.0021	0.0010
70	0.0030	0.0021	0.0010
71	0.0030	0.0021	0.0010
72	0.0031	0.0021	0.0010
73	0.0031	0.0021	0.0010
74	0.0031	0.0021	0.0010
75	0.0031	0.0021	0.0010
76	0.0031	0.0021	0.0010
77	0.0032	0.0022	0.0010
78	0.0032	0.0022	0.0010
79	0.0032	0.0022	0.0010
80	0.0032	0.0022	0.0010
81	0.0032	0.0022	0.0010
82	0.0033	0.0022	0.0010
83	0.0033	0.0022	0.0010
84	0.0033	0.0023	0.0010
85	0.0033	0.0023	0.0011
86	0.0034	0.0023	0.0011
87	0.0034	0.0023	0.0011
88	0.0034	0.0023	0.0011
89	0.0034	0.0023	0.0011
90	0.0035	0.0024	0.0011
91	0.0035	0.0024	0.0011
92	0.0035	0.0024	0.0011
93	0.0035	0.0024	0.0011
94	0.0036	0.0024	0.0011
95	0.0036	0.0025	0.0011
96	0.0036	0.0025	0.0011
97	0.0036	0.0025	0.0012
98	0.0037	0.0025	0.0012
99	0.0037	0.0025	0.0012
100	0.0037	0.0025	0.0012
101	0.0038	0.0026	0.0012
102	0.0038	0.0026	0.0012
103	0.0038	0.0026	0.0012
104	0.0039	0.0026	0.0012
105	0.0039	0.0027	0.0012
106	0.0039	0.0027	0.0012
107	0.0040	0.0027	0.0013
108	0.0040	0.0027	0.0013
109	0.0040	0.0028	0.0013
110	0.0041	0.0028	0.0013
111	0.0041	0.0028	0.0013
112	0.0041	0.0028	0.0013
113	0.0042	0.0029	0.0013
114	0.0042	0.0029	0.0013
115	0.0043	0.0029	0.0014
116	0.0043	0.0029	0.0014
117	0.0044	0.0030	0.0014
118	0.0044	0.0030	0.0014
119	0.0044	0.0030	0.0014
120	0.0045	0.0031	0.0014
121	0.0045	0.0031	0.0014

122	0.0046	0.0031	0.0014
123	0.0046	0.0032	0.0015
124	0.0047	0.0032	0.0015
125	0.0047	0.0032	0.0015
126	0.0048	0.0033	0.0015
127	0.0048	0.0033	0.0015
128	0.0049	0.0033	0.0015
129	0.0050	0.0034	0.0016
130	0.0050	0.0034	0.0016
131	0.0051	0.0035	0.0016
132	0.0051	0.0035	0.0016
133	0.0052	0.0036	0.0017
134	0.0053	0.0036	0.0017
135	0.0053	0.0037	0.0017
136	0.0054	0.0037	0.0017
137	0.0055	0.0038	0.0017
138	0.0055	0.0038	0.0018
139	0.0056	0.0039	0.0018
140	0.0057	0.0039	0.0018
141	0.0058	0.0040	0.0018
142	0.0059	0.0040	0.0019
143	0.0060	0.0041	0.0019
144	0.0060	0.0041	0.0019
145	0.0037	0.0025	0.0012
146	0.0038	0.0026	0.0012
147	0.0039	0.0026	0.0012
148	0.0039	0.0027	0.0012
149	0.0040	0.0027	0.0013
150	0.0041	0.0028	0.0013
151	0.0042	0.0029	0.0013
152	0.0042	0.0029	0.0013
153	0.0044	0.0030	0.0014
154	0.0044	0.0030	0.0014
155	0.0046	0.0031	0.0014
156	0.0046	0.0032	0.0015
157	0.0048	0.0033	0.0015
158	0.0049	0.0033	0.0015
159	0.0050	0.0034	0.0016
160	0.0051	0.0035	0.0016
161	0.0053	0.0036	0.0017
162	0.0054	0.0037	0.0017
163	0.0056	0.0038	0.0018
164	0.0057	0.0039	0.0018
165	0.0059	0.0041	0.0019
166	0.0061	0.0041	0.0019
167	0.0063	0.0043	0.0020
168	0.0065	0.0044	0.0020
169	0.0068	0.0046	0.0022
170	0.0070	0.0048	0.0022
171	0.0073	0.0050	0.0023
172	0.0075	0.0051	0.0024
173	0.0080	0.0054	0.0025
174	0.0082	0.0056	0.0026
175	0.0087	0.0060	0.0028
176	0.0090	0.0062	0.0029
177	0.0097	0.0066	0.0031
178	0.0100	0.0068	0.0032
179	0.0109	0.0074	0.0034
180	0.0113	0.0077	0.0036

181	0.0124	0.0085	0.0039
182	0.0131	0.0089	0.0041
183	0.0146	0.0100	0.0046
184	0.0155	0.0106	0.0049
185	0.0358	0.0245	0.0113
186	0.0381	0.0261	0.0121
187	0.0442	0.0302	0.0140
188	0.0483	0.0330	0.0153
189	0.0601	0.0339	0.0261
190	0.0692	0.0339	0.0353
191	0.1050	0.0339	0.0711
192	0.1523	0.0339	0.1184
193	0.6591	0.0339	0.6252
194	0.0826	0.0339	0.0487
195	0.0534	0.0339	0.0195
196	0.0409	0.0280	0.0130
197	0.0165	0.0113	0.0052
198	0.0138	0.0094	0.0044
199	0.0118	0.0081	0.0037
200	0.0104	0.0071	0.0033
201	0.0093	0.0064	0.0030
202	0.0084	0.0058	0.0027
203	0.0077	0.0053	0.0024
204	0.0071	0.0049	0.0023
205	0.0066	0.0045	0.0021
206	0.0062	0.0042	0.0020
207	0.0058	0.0040	0.0018
208	0.0055	0.0037	0.0017
209	0.0052	0.0035	0.0016
210	0.0049	0.0034	0.0016
211	0.0047	0.0032	0.0015
212	0.0045	0.0031	0.0014
213	0.0043	0.0029	0.0014
214	0.0041	0.0028	0.0013
215	0.0040	0.0027	0.0013
216	0.0038	0.0026	0.0012
217	0.0061	0.0042	0.0019
218	0.0059	0.0041	0.0019
219	0.0058	0.0039	0.0018
220	0.0056	0.0038	0.0018
221	0.0054	0.0037	0.0017
222	0.0053	0.0036	0.0017
223	0.0052	0.0035	0.0016
224	0.0050	0.0034	0.0016
225	0.0049	0.0034	0.0016
226	0.0048	0.0033	0.0015
227	0.0047	0.0032	0.0015
228	0.0046	0.0031	0.0015
229	0.0045	0.0031	0.0014
230	0.0044	0.0030	0.0014
231	0.0043	0.0030	0.0014
232	0.0042	0.0029	0.0013
233	0.0042	0.0028	0.0013
234	0.0041	0.0028	0.0013
235	0.0040	0.0027	0.0013
236	0.0039	0.0027	0.0012
237	0.0039	0.0026	0.0012
238	0.0038	0.0026	0.0012
239	0.0037	0.0026	0.0012

240	0.0037	0.0025	0.0012
241	0.0036	0.0025	0.0011
242	0.0036	0.0024	0.0011
243	0.0035	0.0024	0.0011
244	0.0035	0.0024	0.0011
245	0.0034	0.0023	0.0011
246	0.0034	0.0023	0.0011
247	0.0033	0.0023	0.0011
248	0.0033	0.0022	0.0010
249	0.0032	0.0022	0.0010
250	0.0032	0.0022	0.0010
251	0.0031	0.0022	0.0010
252	0.0031	0.0021	0.0010
253	0.0031	0.0021	0.0010
254	0.0030	0.0021	0.0010
255	0.0030	0.0020	0.0009
256	0.0030	0.0020	0.0009
257	0.0029	0.0020	0.0009
258	0.0029	0.0020	0.0009
259	0.0029	0.0020	0.0009
260	0.0028	0.0019	0.0009
261	0.0028	0.0019	0.0009
262	0.0028	0.0019	0.0009
263	0.0027	0.0019	0.0009
264	0.0027	0.0018	0.0009
265	0.0027	0.0018	0.0008
266	0.0026	0.0018	0.0008
267	0.0026	0.0018	0.0008
268	0.0026	0.0018	0.0008
269	0.0026	0.0018	0.0008
270	0.0025	0.0017	0.0008
271	0.0025	0.0017	0.0008
272	0.0025	0.0017	0.0008
273	0.0025	0.0017	0.0008
274	0.0024	0.0017	0.0008
275	0.0024	0.0017	0.0008
276	0.0024	0.0016	0.0008
277	0.0024	0.0016	0.0008
278	0.0024	0.0016	0.0007
279	0.0023	0.0016	0.0007
280	0.0023	0.0016	0.0007
281	0.0023	0.0016	0.0007
282	0.0023	0.0016	0.0007
283	0.0023	0.0015	0.0007
284	0.0022	0.0015	0.0007
285	0.0022	0.0015	0.0007
286	0.0022	0.0015	0.0007
287	0.0022	0.0015	0.0007
288	0.0022	0.0015	0.0007

Total soil rain loss = 1.17(In)
Total effective rainfall = 1.37(In)
Peak flow rate in flood hydrograph = 18.02(CFS)

++

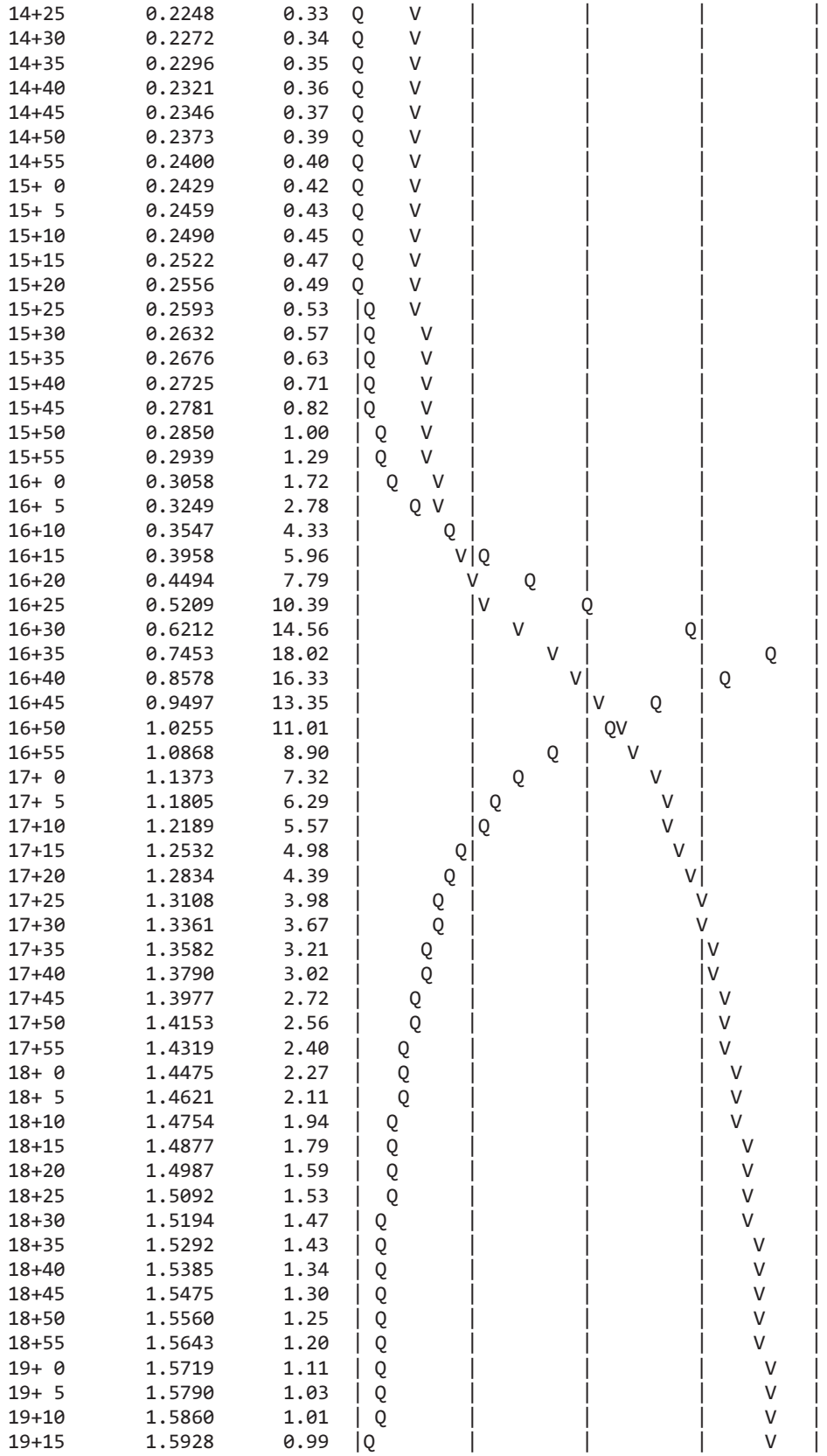
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0001	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0004	0.02	Q				
0+35	0.0007	0.04	Q				
0+40	0.0010	0.05	Q				
0+45	0.0014	0.06	Q				
0+50	0.0019	0.07	Q				
0+55	0.0024	0.08	Q				
1+ 0	0.0030	0.08	Q				
1+ 5	0.0036	0.09	Q				
1+10	0.0042	0.09	Q				
1+15	0.0048	0.09	Q				
1+20	0.0055	0.10	Q				
1+25	0.0062	0.10	Q				
1+30	0.0069	0.10	Q				
1+35	0.0076	0.10	Q				
1+40	0.0084	0.11	Q				
1+45	0.0091	0.11	Q				
1+50	0.0099	0.11	Q				
1+55	0.0106	0.11	Q				
2+ 0	0.0114	0.11	Q				
2+ 5	0.0122	0.12	Q				
2+10	0.0131	0.12	Q				
2+15	0.0139	0.12	Q				
2+20	0.0147	0.12	Q				
2+25	0.0156	0.12	Q				
2+30	0.0164	0.12	Q				
2+35	0.0173	0.13	Q				
2+40	0.0181	0.13	Q				
2+45	0.0190	0.13	Q				
2+50	0.0199	0.13	Q				
2+55	0.0208	0.13	Q				
3+ 0	0.0217	0.13	Q				
3+ 5	0.0226	0.13	Q				
3+10	0.0235	0.13	Q				
3+15	0.0245	0.13	Q				
3+20	0.0254	0.14	Q				
3+25	0.0263	0.14	Q				
3+30	0.0273	0.14	Q				
3+35	0.0282	0.14	Q				
3+40	0.0292	0.14	Q				
3+45	0.0302	0.14	Q				
3+50	0.0312	0.14	Q				
3+55	0.0321	0.14	Q				
4+ 0	0.0331	0.14	Q				
4+ 5	0.0341	0.14	Q				
4+10	0.0351	0.15	Q				
4+15	0.0361	0.15	Q				
4+20	0.0371	0.15	Q				
4+25	0.0382	0.15	Q				
4+30	0.0392	0.15	Q				

4+35	0.0402	0.15	Q				
4+40	0.0413	0.15	Q				
4+45	0.0423	0.15	Q				
4+50	0.0434	0.15	Q				
4+55	0.0444	0.15	QV				
5+ 0	0.0455	0.15	QV				
5+ 5	0.0465	0.16	QV				
5+10	0.0476	0.16	QV				
5+15	0.0487	0.16	QV				
5+20	0.0498	0.16	QV				
5+25	0.0509	0.16	QV				
5+30	0.0520	0.16	QV				
5+35	0.0531	0.16	QV				
5+40	0.0542	0.16	QV				
5+45	0.0553	0.16	QV				
5+50	0.0565	0.16	QV				
5+55	0.0576	0.17	QV				
6+ 0	0.0588	0.17	QV				
6+ 5	0.0599	0.17	QV				
6+10	0.0611	0.17	QV				
6+15	0.0622	0.17	QV				
6+20	0.0634	0.17	QV				
6+25	0.0646	0.17	QV				
6+30	0.0658	0.17	QV				
6+35	0.0669	0.17	QV				
6+40	0.0681	0.17	QV				
6+45	0.0694	0.18	QV				
6+50	0.0706	0.18	QV				
6+55	0.0718	0.18	QV				
7+ 0	0.0730	0.18	QV				
7+ 5	0.0742	0.18	QV				
7+10	0.0755	0.18	QV				
7+15	0.0767	0.18	QV				
7+20	0.0780	0.18	QV				
7+25	0.0793	0.18	QV				
7+30	0.0805	0.19	QV				
7+35	0.0818	0.19	QV				
7+40	0.0831	0.19	QV				
7+45	0.0844	0.19	QV				
7+50	0.0857	0.19	QV				
7+55	0.0871	0.19	QV				
8+ 0	0.0884	0.19	Q V				
8+ 5	0.0897	0.19	Q V				
8+10	0.0911	0.20	Q V				
8+15	0.0924	0.20	Q V				
8+20	0.0938	0.20	Q V				
8+25	0.0952	0.20	Q V				
8+30	0.0966	0.20	Q V				
8+35	0.0980	0.20	Q V				
8+40	0.0994	0.20	Q V				
8+45	0.1008	0.21	Q V				
8+50	0.1022	0.21	Q V				
8+55	0.1037	0.21	Q V				
9+ 0	0.1051	0.21	Q V				
9+ 5	0.1066	0.21	Q V				
9+10	0.1081	0.21	Q V				
9+15	0.1096	0.22	Q V				
9+20	0.1111	0.22	Q V				
9+25	0.1126	0.22	Q V				

9+30	0.1141	0.22	Q	V			
9+35	0.1156	0.22	Q	V			
9+40	0.1172	0.23	Q	V			
9+45	0.1188	0.23	Q	V			
9+50	0.1203	0.23	Q	V			
9+55	0.1219	0.23	Q	V			
10+ 0	0.1235	0.23	Q	V			
10+ 5	0.1252	0.24	Q	V			
10+10	0.1268	0.24	Q	V			
10+15	0.1284	0.24	Q	V			
10+20	0.1301	0.24	Q	V			
10+25	0.1318	0.24	Q	V			
10+30	0.1335	0.25	Q	V			
10+35	0.1352	0.25	Q	V			
10+40	0.1369	0.25	Q	V			
10+45	0.1387	0.25	Q	V			
10+50	0.1405	0.26	Q	V			
10+55	0.1423	0.26	Q	V			
11+ 0	0.1441	0.26	Q	V			
11+ 5	0.1459	0.27	Q	V			
11+10	0.1477	0.27	Q	V			
11+15	0.1496	0.27	Q	V			
11+20	0.1515	0.27	Q	V			
11+25	0.1534	0.28	Q	V			
11+30	0.1553	0.28	Q	V			
11+35	0.1573	0.28	Q	V			
11+40	0.1593	0.29	Q	V			
11+45	0.1613	0.29	Q	V			
11+50	0.1633	0.29	Q	V			
11+55	0.1653	0.30	Q	V			
12+ 0	0.1674	0.30	Q	V			
12+ 5	0.1695	0.30	Q	V			
12+10	0.1716	0.31	Q	V			
12+15	0.1737	0.31	Q	V			
12+20	0.1759	0.31	Q	V			
12+25	0.1780	0.31	Q	V			
12+30	0.1800	0.30	Q	V			
12+35	0.1820	0.29	Q	V			
12+40	0.1839	0.28	Q	V			
12+45	0.1858	0.27	Q	V			
12+50	0.1876	0.27	Q	V			
12+55	0.1894	0.26	Q	V			
13+ 0	0.1912	0.26	Q	V			
13+ 5	0.1930	0.26	Q	V			
13+10	0.1948	0.26	Q	V			
13+15	0.1966	0.26	Q	V			
13+20	0.1985	0.27	Q	V			
13+25	0.2003	0.27	Q	V			
13+30	0.2022	0.27	Q	V			
13+35	0.2041	0.27	Q	V			
13+40	0.2060	0.28	Q	V			
13+45	0.2079	0.28	Q	V			
13+50	0.2099	0.29	Q	V			
13+55	0.2119	0.29	Q	V			
14+ 0	0.2139	0.30	Q	V			
14+ 5	0.2160	0.30	Q	V			
14+10	0.2181	0.31	Q	V			
14+15	0.2203	0.32	Q	V			
14+20	0.2225	0.32	Q	V			



14+25	0.2248	0.33	
14+30	0.2272	0.34	
14+35	0.2296	0.35	
14+40	0.2321	0.36	
14+45	0.2346	0.37	
14+50	0.2373	0.39	
14+55	0.2400	0.40	
15+ 0	0.2429	0.42	
15+ 5	0.2459	0.43	
15+10	0.2490	0.45	
15+15	0.2522	0.47	
15+20	0.2556	0.49	
15+25	0.2593	0.53	
15+30	0.2632	0.57	
15+35	0.2676	0.63	
15+40	0.2725	0.71	
15+45	0.2781	0.82	
15+50	0.2850	1.00	
15+55	0.2939	1.29	
16+ 0	0.3058	1.72	
16+ 5	0.3249	2.78	
16+10	0.3547	4.33	
16+15	0.3958	5.96	
16+20	0.4494	7.79	
16+25	0.5209	10.39	
16+30	0.6212	14.56	
16+35	0.7453	18.02	
16+40	0.8578	16.33	
16+45	0.9497	13.35	
16+50	1.0255	11.01	
16+55	1.0868	8.90	
17+ 0	1.1373	7.32	
17+ 5	1.1805	6.29	
17+10	1.2189	5.57	
17+15	1.2532	4.98	
17+20	1.2834	4.39	
17+25	1.3108	3.98	
17+30	1.3361	3.67	
17+35	1.3582	3.21	
17+40	1.3790	3.02	
17+45	1.3977	2.72	
17+50	1.4153	2.56	
17+55	1.4319	2.40	
18+ 0	1.4475	2.27	
18+ 5	1.4621	2.11	
18+10	1.4754	1.94	
18+15	1.4877	1.79	
18+20	1.4987	1.59	
18+25	1.5092	1.53	
18+30	1.5194	1.47	
18+35	1.5292	1.43	
18+40	1.5385	1.34	
18+45	1.5475	1.30	
18+50	1.5560	1.25	
18+55	1.5643	1.20	
19+ 0	1.5719	1.11	
19+ 5	1.5790	1.03	
19+10	1.5860	1.01	
19+15	1.5928	0.99	

```
19+20       1.5993      0.94  |Q        |         |         |     V   |
19+25       1.6052      0.85  |Q        |         |         |     V   |
19+30       1.6109      0.83  |Q        |         |         |     V   |
19+35       1.6165      0.81  |Q        |         |         |      V  |
19+40       1.6218      0.78  |Q        |         |         |      V  |
19+45       1.6266      0.69  |Q        |         |         |      V  |
19+50       1.6311      0.65  |Q        |         |         |      V  |
19+55       1.6355      0.64  |Q        |         |         |      V  |
20+ 0       1.6397      0.61  |Q        |         |         |      V  |
20+ 5       1.6435      0.55  |Q        |         |         |      V  |
20+10       1.6468      0.49  Q        |         |         |      V  |
20+15       1.6501      0.48  Q        |         |         |      V  |
20+20       1.6534      0.47  Q        |         |         |      V  |
20+25       1.6566      0.48  Q        |         |         |      V  |
20+30       1.6600      0.49  Q        |         |         |       V |
20+35       1.6634      0.49  Q        |         |         |       V |
20+40       1.6667      0.49  Q        |         |         |       V |
20+45       1.6701      0.48  Q        |         |         |       V |
20+50       1.6733      0.47  Q        |         |         |       V |
20+55       1.6765      0.47  Q        |         |         |       V |
21+ 0       1.6797      0.46  Q        |         |         |       V |
21+ 5       1.6828      0.44  Q        |         |         |       V |
21+10       1.6855      0.40  Q        |         |         |       V |
21+15       1.6879      0.35  Q        |         |         |       V |
21+20       1.6903      0.34  Q        |         |         |       V |
21+25       1.6926      0.33  Q        |         |         |       V |
21+30       1.6948      0.33  Q        |         |         |       V |
21+35       1.6970      0.32  Q        |         |         |       V |
21+40       1.6991      0.30  Q        |         |         |       V |
21+45       1.7009      0.26  Q        |         |         |       V |
21+50       1.7023      0.20  Q        |         |         |        V|
21+55       1.7036      0.20  Q        |         |         |        V|
22+ 0       1.7049      0.19  Q        |         |         |        V|
22+ 5       1.7062      0.19  Q        |         |         |        V|
22+10       1.7075      0.18  Q        |         |         |        V|
22+15       1.7087      0.18  Q        |         |         |        V|
22+20       1.7100      0.18  Q        |         |         |        V|
22+25       1.7112      0.18  Q        |         |         |        V|
22+30       1.7124      0.17  Q        |         |         |        V|
22+35       1.7136      0.17  Q        |         |         |        V|
22+40       1.7147      0.17  Q        |         |         |        V|
22+45       1.7159      0.17  Q        |         |         |        V|
22+50       1.7171      0.17  Q        |         |         |        V|
22+55       1.7182      0.16  Q        |         |         |        V|
23+ 0       1.7193      0.16  Q        |         |         |        V|
23+ 5       1.7204      0.16  Q        |         |         |        V|
23+10       1.7215      0.16  Q        |         |         |        V|
23+15       1.7226      0.16  Q        |         |         |        V|
23+20       1.7237      0.16  Q        |         |         |        V|
23+25       1.7247      0.15  Q        |         |         |        V|
23+30       1.7258      0.15  Q        |         |         |        V|
23+35       1.7268      0.15  Q        |         |         |        V|
23+40       1.7279      0.15  Q        |         |         |        V|
23+45       1.7289      0.15  Q        |         |         |        V|
23+50       1.7299      0.15  Q        |         |         |        V|
23+55       1.7309      0.15  Q        |         |         |        V|
24+ 0       1.7319      0.14  Q        |         |         |        V|
24+ 5       1.7329      0.14  Q        |         |         |        V|
24+10       1.7338      0.14  Q        |         |         |        V|
```

24+15	1.7348	0.13	Q	|	|	|	V|
24+20	1.7357	0.13	Q	|	|	|	V|
24+25	1.7365	0.12	Q	|	|	|	V|
24+30	1.7373	0.11	Q	|	|	|	V|
24+35	1.7380	0.10	Q	|	|	|	V|
24+40	1.7385	0.08	Q	|	|	|	V|
24+45	1.7390	0.07	Q	|	|	|	V|
24+50	1.7395	0.06	Q	|	|	|	V|
24+55	1.7399	0.06	Q	|	|	|	V|
25+ 0	1.7402	0.05	Q	|	|	|	V|
25+ 5	1.7406	0.05	Q	|	|	|	V|
25+10	1.7409	0.04	Q	|	|	|	V|
25+15	1.7411	0.04	Q	|	|	|	V|
25+20	1.7414	0.04	Q	|	|	|	V|
25+25	1.7416	0.03	Q	|	|	|	V|
25+30	1.7418	0.03	Q	|	|	|	V|
25+35	1.7420	0.03	Q	|	|	|	V|
25+40	1.7422	0.03	Q	|	|	|	V|
25+45	1.7424	0.02	Q	|	|	|	V|
25+50	1.7425	0.02	Q	|	|	|	V|
25+55	1.7427	0.02	Q	|	|	|	V|
26+ 0	1.7428	0.02	Q	|	|	|	V|
26+ 5	1.7430	0.02	Q	|	|	|	V|
26+10	1.7431	0.02	Q	|	|	|	V|
26+15	1.7432	0.02	Q	|	|	|	V|
26+20	1.7433	0.01	Q	|	|	|	V|
26+25	1.7434	0.01	Q	|	|	|	V|
26+30	1.7435	0.01	Q	|	|	|	V|
26+35	1.7436	0.01	Q	|	|	|	V|
26+40	1.7436	0.01	Q	|	|	|	V|
26+45	1.7437	0.01	Q	|	|	|	V|
26+50	1.7438	0.01	Q	|	|	|	V|
26+55	1.7438	0.01	Q	|	|	|	V|
27+ 0	1.7439	0.01	Q	|	|	|	V|
27+ 5	1.7439	0.01	Q	|	|	|	V|
27+10	1.7440	0.01	Q	|	|	|	V|
27+15	1.7440	0.01	Q	|	|	|	V|
27+20	1.7441	0.01	Q	|	|	|	V|
27+25	1.7441	0.01	Q	|	|	|	V|
27+30	1.7441	0.01	Q	|	|	|	V|
27+35	1.7442	0.00	Q	|	|	|	V|
27+40	1.7442	0.00	Q	|	|	|	V|
27+45	1.7442	0.00	Q	|	|	|	V|
27+50	1.7443	0.00	Q	|	|	|	V|
27+55	1.7443	0.00	Q	|	|	|	V|
28+ 0	1.7443	0.00	Q	|	|	|	V|
28+ 5	1.7443	0.00	Q	|	|	|	V|
28+10	1.7443	0.00	Q	|	|	|	V|
28+15	1.7444	0.00	Q	|	|	|	V|
28+20	1.7444	0.00	Q	|	|	|	V|
28+25	1.7444	0.00	Q	|	|	|	V|
28+30	1.7444	0.00	Q	|	|	|	V|
28+35	1.7444	0.00	Q	|	|	|	V|
28+40	1.7444	0.00	Q	|	|	|	V|
28+45	1.7444	0.00	Q	|	|	|	V|
28+50	1.7445	0.00	Q	|	|	|	V|
28+55	1.7445	0.00	Q	|	|	|	V|
29+ 0	1.7445	0.00	Q	|	|	|	V|
29+ 5	1.7445	0.00	Q	|	|	|	V|

```
   29+10       1.7445      0.00  Q         |          |         |        V|
   29+15       1.7445      0.00  Q         |          |         |        V|
   29+20       1.7445      0.00  Q         |          |         |        V|
   29+25       1.7445      0.00  Q         |          |         |        V|
   29+30       1.7445      0.00  Q         |          |         |        V|
   29+35       1.7445      0.00  Q         |          |         |        V|
   29+40       1.7445      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 30
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
135.00	1	1.40
Rainfall data for year 100		
135.00	6	1.82
Rainfall data for year 100		
135.00	24	2.57

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
76.5	91.9	135.00	1.000	0.157	0.985	0.155

Area-averaged adjusted loss rate Fm (In/Hr) = 0.155

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
132.97	0.985	76.5	91.9	0.88	0.681
2.03	0.015	98.0	98.0	0.20	0.911

Area-averaged catchment yield fraction, Y = 0.684
Area-averaged low loss fraction, Yb = 0.316
User entry of time of concentration = 1.120 (hours)
++
Watershed area = 135.00(Ac.)
Catchment Lag time = 0.896 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 9.3006
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.155(In/Hr)
Average low loss rate fraction (Yb) = 0.316 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.644(In)
Specified peak 6-hour rainfall = 1.820(In)
Specified peak 24-hour rainfall = 2.570(In)

Rainfall depth area reduction factors:
Using a total area of 135.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.994 Adjusted rainfall = 0.660(In)
30-minute factor = 0.994 Adjusted rainfall = 1.130(In)
1-hour factor = 0.994 Adjusted rainfall = 1.391(In)
3-hour factor = 0.999 Adjusted rainfall = 1.643(In)
6-hour factor = 1.000 Adjusted rainfall = 1.819(In)
24-hour factor = 1.000 Adjusted rainfall = 2.570(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1632.66 (CFS))	
1	0.409	6.681
2	1.388	15.976
3	2.942	25.383
4	5.073	34.783
5	7.763	43.918
6	11.438	60.001
7	17.330	96.205
8	25.929	140.377
9	34.768	144.316
10	42.380	124.286
11	48.466	99.351
12	53.618	84.113
13	57.937	70.522

14	61.409	56.690
15	64.365	48.264
16	66.958	42.328
17	69.329	38.702
18	71.511	35.626
19	73.408	30.984
20	75.120	27.938
21	76.730	26.296
22	78.253	24.853
23	79.523	20.738
24	80.750	20.044
25	81.905	18.854
26	82.914	16.467
27	83.917	16.386
28	84.854	15.283
29	85.746	14.577
30	86.625	14.351
31	87.393	12.540
32	88.138	12.148
33	88.830	11.307
34	89.394	9.210
35	89.952	9.110
36	90.490	8.774
37	91.010	8.503
38	91.526	8.421
39	91.988	7.531
40	92.434	7.289
41	92.872	7.148
42	93.283	6.712
43	93.692	6.681
44	94.056	5.934
45	94.372	5.163
46	94.688	5.163
47	95.004	5.163
48	95.320	5.163
49	95.623	4.932
50	95.870	4.038
51	96.112	3.948
52	96.353	3.948
53	96.595	3.948
54	96.835	3.913
55	97.024	3.084
56	97.191	2.733
57	97.359	2.733
58	97.526	2.733
59	97.694	2.733
60	97.833	2.280
61	97.927	1.530
62	98.020	1.518
63	98.113	1.518
64	98.206	1.518
65	98.301	1.555
66	98.410	1.782
67	98.522	1.822
68	98.633	1.822
69	98.745	1.822
70	98.857	1.822
71	98.968	1.822
72	99.080	1.822

73	99.192	1.822
74	99.303	1.822
75	99.415	1.822
76	99.512	1.586
77	99.572	0.979
78	99.630	0.949
79	99.688	0.949
80	99.746	0.949
81	99.804	0.949
82	99.862	0.949
83	99.921	0.949
84	100.000	0.475

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6601	0.6601
2	0.8127	0.1526
3	0.9178	0.1051
4	1.0005	0.0827
5	1.0698	0.0693
6	1.1300	0.0601
7	1.1834	0.0535
8	1.2318	0.0484
9	1.2761	0.0443
10	1.3171	0.0410
11	1.3553	0.0382
12	1.3911	0.0358
13	1.4081	0.0170
14	1.4240	0.0159
15	1.4390	0.0150
16	1.4531	0.0141
17	1.4665	0.0134
18	1.4793	0.0128
19	1.4914	0.0122
20	1.5031	0.0116
21	1.5142	0.0111
22	1.5249	0.0107
23	1.5352	0.0103
24	1.5451	0.0099
25	1.5547	0.0096
26	1.5640	0.0093
27	1.5730	0.0090
28	1.5817	0.0087
29	1.5901	0.0084
30	1.5983	0.0082
31	1.6062	0.0080
32	1.6140	0.0077
33	1.6215	0.0075
34	1.6289	0.0073
35	1.6360	0.0072
36	1.6430	0.0070
37	1.6497	0.0066
38	1.6561	0.0065
39	1.6625	0.0063
40	1.6687	0.0062
41	1.6747	0.0061
42	1.6807	0.0059
43	1.6865	0.0058
44	1.6922	0.0057

45	1.6978	0.0056
46	1.7033	0.0055
47	1.7087	0.0054
48	1.7140	0.0053
49	1.7192	0.0052
50	1.7243	0.0051
51	1.7293	0.0050
52	1.7343	0.0049
53	1.7391	0.0049
54	1.7439	0.0048
55	1.7486	0.0047
56	1.7533	0.0046
57	1.7578	0.0046
58	1.7623	0.0045
59	1.7668	0.0044
60	1.7711	0.0044
61	1.7754	0.0043
62	1.7797	0.0042
63	1.7839	0.0042
64	1.7880	0.0041
65	1.7921	0.0041
66	1.7961	0.0040
67	1.8001	0.0040
68	1.8040	0.0039
69	1.8079	0.0039
70	1.8117	0.0038
71	1.8155	0.0038
72	1.8192	0.0037
73	1.8255	0.0063
74	1.8317	0.0062
75	1.8378	0.0061
76	1.8439	0.0061
77	1.8499	0.0060
78	1.8559	0.0060
79	1.8618	0.0059
80	1.8676	0.0058
81	1.8734	0.0058
82	1.8791	0.0057
83	1.8848	0.0057
84	1.8904	0.0056
85	1.8960	0.0056
86	1.9016	0.0055
87	1.9070	0.0055
88	1.9125	0.0054
89	1.9179	0.0054
90	1.9232	0.0053
91	1.9285	0.0053
92	1.9338	0.0053
93	1.9390	0.0052
94	1.9442	0.0052
95	1.9493	0.0051
96	1.9544	0.0051
97	1.9594	0.0051
98	1.9644	0.0050
99	1.9694	0.0050
100	1.9744	0.0049
101	1.9793	0.0049
102	1.9841	0.0049
103	1.9890	0.0048

104	1.9937	0.0048
105	1.9985	0.0048
106	2.0032	0.0047
107	2.0079	0.0047
108	2.0126	0.0047
109	2.0172	0.0046
110	2.0218	0.0046
111	2.0264	0.0046
112	2.0309	0.0045
113	2.0354	0.0045
114	2.0399	0.0045
115	2.0443	0.0044
116	2.0487	0.0044
117	2.0531	0.0044
118	2.0575	0.0044
119	2.0618	0.0043
120	2.0661	0.0043
121	2.0704	0.0043
122	2.0746	0.0042
123	2.0788	0.0042
124	2.0830	0.0042
125	2.0872	0.0042
126	2.0914	0.0041
127	2.0955	0.0041
128	2.0996	0.0041
129	2.1037	0.0041
130	2.1077	0.0041
131	2.1117	0.0040
132	2.1157	0.0040
133	2.1197	0.0040
134	2.1237	0.0040
135	2.1276	0.0039
136	2.1315	0.0039
137	2.1354	0.0039
138	2.1393	0.0039
139	2.1431	0.0039
140	2.1470	0.0038
141	2.1508	0.0038
142	2.1546	0.0038
143	2.1583	0.0038
144	2.1621	0.0037
145	2.1658	0.0037
146	2.1695	0.0037
147	2.1732	0.0037
148	2.1769	0.0037
149	2.1806	0.0037
150	2.1842	0.0036
151	2.1878	0.0036
152	2.1914	0.0036
153	2.1950	0.0036
154	2.1986	0.0036
155	2.2021	0.0035
156	2.2056	0.0035
157	2.2091	0.0035
158	2.2126	0.0035
159	2.2161	0.0035
160	2.2196	0.0035
161	2.2230	0.0034
162	2.2265	0.0034

163	2.2299	0.0034
164	2.2333	0.0034
165	2.2367	0.0034
166	2.2400	0.0034
167	2.2434	0.0034
168	2.2467	0.0033
169	2.2501	0.0033
170	2.2534	0.0033
171	2.2567	0.0033
172	2.2599	0.0033
173	2.2632	0.0033
174	2.2665	0.0033
175	2.2697	0.0032
176	2.2729	0.0032
177	2.2761	0.0032
178	2.2793	0.0032
179	2.2825	0.0032
180	2.2857	0.0032
181	2.2888	0.0032
182	2.2920	0.0031
183	2.2951	0.0031
184	2.2982	0.0031
185	2.3013	0.0031
186	2.3044	0.0031
187	2.3075	0.0031
188	2.3106	0.0031
189	2.3136	0.0031
190	2.3167	0.0030
191	2.3197	0.0030
192	2.3227	0.0030
193	2.3257	0.0030
194	2.3287	0.0030
195	2.3317	0.0030
196	2.3347	0.0030
197	2.3376	0.0030
198	2.3406	0.0030
199	2.3435	0.0029
200	2.3465	0.0029
201	2.3494	0.0029
202	2.3523	0.0029
203	2.3552	0.0029
204	2.3581	0.0029
205	2.3609	0.0029
206	2.3638	0.0029
207	2.3666	0.0029
208	2.3695	0.0028
209	2.3723	0.0028
210	2.3751	0.0028
211	2.3780	0.0028
212	2.3808	0.0028
213	2.3836	0.0028
214	2.3863	0.0028
215	2.3891	0.0028
216	2.3919	0.0028
217	2.3946	0.0028
218	2.3974	0.0027
219	2.4001	0.0027
220	2.4028	0.0027
221	2.4055	0.0027

222	2.4083	0.0027
223	2.4109	0.0027
224	2.4136	0.0027
225	2.4163	0.0027
226	2.4190	0.0027
227	2.4217	0.0027
228	2.4243	0.0027
229	2.4269	0.0026
230	2.4296	0.0026
231	2.4322	0.0026
232	2.4348	0.0026
233	2.4374	0.0026
234	2.4400	0.0026
235	2.4426	0.0026
236	2.4452	0.0026
237	2.4478	0.0026
238	2.4504	0.0026
239	2.4529	0.0026
240	2.4555	0.0026
241	2.4580	0.0025
242	2.4606	0.0025
243	2.4631	0.0025
244	2.4656	0.0025
245	2.4681	0.0025
246	2.4706	0.0025
247	2.4731	0.0025
248	2.4756	0.0025
249	2.4781	0.0025
250	2.4806	0.0025
251	2.4830	0.0025
252	2.4855	0.0025
253	2.4880	0.0025
254	2.4904	0.0024
255	2.4928	0.0024
256	2.4953	0.0024
257	2.4977	0.0024
258	2.5001	0.0024
259	2.5025	0.0024
260	2.5049	0.0024
261	2.5073	0.0024
262	2.5097	0.0024
263	2.5121	0.0024
264	2.5145	0.0024
265	2.5168	0.0024
266	2.5192	0.0024
267	2.5216	0.0024
268	2.5239	0.0023
269	2.5263	0.0023
270	2.5286	0.0023
271	2.5309	0.0023
272	2.5332	0.0023
273	2.5356	0.0023
274	2.5379	0.0023
275	2.5402	0.0023
276	2.5425	0.0023
277	2.5448	0.0023
278	2.5470	0.0023
279	2.5493	0.0023
280	2.5516	0.0023

281	2.5539	0.0023
282	2.5561	0.0023
283	2.5584	0.0023
284	2.5606	0.0022
285	2.5629	0.0022
286	2.5651	0.0022
287	2.5673	0.0022
288	2.5696	0.0022

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0022	0.0007	0.0015
2	0.0022	0.0007	0.0015
3	0.0022	0.0007	0.0015
4	0.0022	0.0007	0.0015
5	0.0023	0.0007	0.0015
6	0.0023	0.0007	0.0016
7	0.0023	0.0007	0.0016
8	0.0023	0.0007	0.0016
9	0.0023	0.0007	0.0016
10	0.0023	0.0007	0.0016
11	0.0023	0.0007	0.0016
12	0.0023	0.0007	0.0016
13	0.0023	0.0007	0.0016
14	0.0023	0.0007	0.0016
15	0.0024	0.0007	0.0016
16	0.0024	0.0007	0.0016
17	0.0024	0.0008	0.0016
18	0.0024	0.0008	0.0016
19	0.0024	0.0008	0.0016
20	0.0024	0.0008	0.0016
21	0.0024	0.0008	0.0017
22	0.0024	0.0008	0.0017
23	0.0024	0.0008	0.0017
24	0.0024	0.0008	0.0017
25	0.0025	0.0008	0.0017
26	0.0025	0.0008	0.0017
27	0.0025	0.0008	0.0017
28	0.0025	0.0008	0.0017
29	0.0025	0.0008	0.0017
30	0.0025	0.0008	0.0017
31	0.0025	0.0008	0.0017
32	0.0025	0.0008	0.0017
33	0.0026	0.0008	0.0017
34	0.0026	0.0008	0.0018
35	0.0026	0.0008	0.0018
36	0.0026	0.0008	0.0018
37	0.0026	0.0008	0.0018
38	0.0026	0.0008	0.0018
39	0.0026	0.0008	0.0018
40	0.0026	0.0008	0.0018
41	0.0027	0.0008	0.0018
42	0.0027	0.0008	0.0018
43	0.0027	0.0008	0.0018
44	0.0027	0.0008	0.0018
45	0.0027	0.0009	0.0019
46	0.0027	0.0009	0.0019

47	0.0027	0.0009	0.0019
48	0.0027	0.0009	0.0019
49	0.0028	0.0009	0.0019
50	0.0028	0.0009	0.0019
51	0.0028	0.0009	0.0019
52	0.0028	0.0009	0.0019
53	0.0028	0.0009	0.0019
54	0.0028	0.0009	0.0019
55	0.0029	0.0009	0.0020
56	0.0029	0.0009	0.0020
57	0.0029	0.0009	0.0020
58	0.0029	0.0009	0.0020
59	0.0029	0.0009	0.0020
60	0.0029	0.0009	0.0020
61	0.0030	0.0009	0.0020
62	0.0030	0.0009	0.0020
63	0.0030	0.0009	0.0020
64	0.0030	0.0009	0.0020
65	0.0030	0.0010	0.0021
66	0.0030	0.0010	0.0021
67	0.0031	0.0010	0.0021
68	0.0031	0.0010	0.0021
69	0.0031	0.0010	0.0021
70	0.0031	0.0010	0.0021
71	0.0031	0.0010	0.0021
72	0.0031	0.0010	0.0022
73	0.0032	0.0010	0.0022
74	0.0032	0.0010	0.0022
75	0.0032	0.0010	0.0022
76	0.0032	0.0010	0.0022
77	0.0033	0.0010	0.0022
78	0.0033	0.0010	0.0022
79	0.0033	0.0010	0.0023
80	0.0033	0.0010	0.0023
81	0.0033	0.0011	0.0023
82	0.0034	0.0011	0.0023
83	0.0034	0.0011	0.0023
84	0.0034	0.0011	0.0023
85	0.0034	0.0011	0.0023
86	0.0034	0.0011	0.0024
87	0.0035	0.0011	0.0024
88	0.0035	0.0011	0.0024
89	0.0035	0.0011	0.0024
90	0.0035	0.0011	0.0024
91	0.0036	0.0011	0.0025
92	0.0036	0.0011	0.0025
93	0.0036	0.0011	0.0025
94	0.0037	0.0012	0.0025
95	0.0037	0.0012	0.0025
96	0.0037	0.0012	0.0025
97	0.0037	0.0012	0.0026
98	0.0038	0.0012	0.0026
99	0.0038	0.0012	0.0026
100	0.0038	0.0012	0.0026
101	0.0039	0.0012	0.0026
102	0.0039	0.0012	0.0027
103	0.0039	0.0012	0.0027
104	0.0040	0.0013	0.0027
105	0.0040	0.0013	0.0027

106	0.0040	0.0013	0.0028
107	0.0041	0.0013	0.0028
108	0.0041	0.0013	0.0028
109	0.0041	0.0013	0.0028
110	0.0042	0.0013	0.0029
111	0.0042	0.0013	0.0029
112	0.0042	0.0013	0.0029
113	0.0043	0.0014	0.0029
114	0.0043	0.0014	0.0030
115	0.0044	0.0014	0.0030
116	0.0044	0.0014	0.0030
117	0.0045	0.0014	0.0031
118	0.0045	0.0014	0.0031
119	0.0046	0.0014	0.0031
120	0.0046	0.0015	0.0031
121	0.0047	0.0015	0.0032
122	0.0047	0.0015	0.0032
123	0.0048	0.0015	0.0033
124	0.0048	0.0015	0.0033
125	0.0049	0.0015	0.0033
126	0.0049	0.0015	0.0034
127	0.0050	0.0016	0.0034
128	0.0050	0.0016	0.0034
129	0.0051	0.0016	0.0035
130	0.0051	0.0016	0.0035
131	0.0052	0.0016	0.0036
132	0.0053	0.0017	0.0036
133	0.0053	0.0017	0.0037
134	0.0054	0.0017	0.0037
135	0.0055	0.0017	0.0038
136	0.0055	0.0017	0.0038
137	0.0056	0.0018	0.0039
138	0.0057	0.0018	0.0039
139	0.0058	0.0018	0.0040
140	0.0058	0.0018	0.0040
141	0.0060	0.0019	0.0041
142	0.0060	0.0019	0.0041
143	0.0061	0.0019	0.0042
144	0.0062	0.0020	0.0042
145	0.0037	0.0012	0.0026
146	0.0038	0.0012	0.0026
147	0.0039	0.0012	0.0027
148	0.0039	0.0012	0.0027
149	0.0040	0.0013	0.0028
150	0.0041	0.0013	0.0028
151	0.0042	0.0013	0.0029
152	0.0042	0.0013	0.0029
153	0.0044	0.0014	0.0030
154	0.0044	0.0014	0.0030
155	0.0046	0.0014	0.0031
156	0.0046	0.0015	0.0032
157	0.0048	0.0015	0.0033
158	0.0049	0.0015	0.0033
159	0.0050	0.0016	0.0034
160	0.0051	0.0016	0.0035
161	0.0053	0.0017	0.0036
162	0.0054	0.0017	0.0037
163	0.0056	0.0018	0.0038
164	0.0057	0.0018	0.0039

165	0.0059	0.0019	0.0041
166	0.0061	0.0019	0.0042
167	0.0063	0.0020	0.0043
168	0.0065	0.0020	0.0044
169	0.0070	0.0022	0.0048
170	0.0072	0.0023	0.0049
171	0.0075	0.0024	0.0052
172	0.0077	0.0024	0.0053
173	0.0082	0.0026	0.0056
174	0.0084	0.0027	0.0058
175	0.0090	0.0028	0.0061
176	0.0093	0.0029	0.0063
177	0.0099	0.0031	0.0068
178	0.0103	0.0033	0.0070
179	0.0111	0.0035	0.0076
180	0.0116	0.0037	0.0080
181	0.0128	0.0040	0.0087
182	0.0134	0.0042	0.0092
183	0.0150	0.0047	0.0102
184	0.0159	0.0050	0.0109
185	0.0358	0.0113	0.0245
186	0.0382	0.0121	0.0261
187	0.0443	0.0129	0.0314
188	0.0484	0.0129	0.0355
189	0.0601	0.0129	0.0473
190	0.0693	0.0129	0.0564
191	0.1051	0.0129	0.0922
192	0.1526	0.0129	0.1397
193	0.6601	0.0129	0.6472
194	0.0827	0.0129	0.0698
195	0.0535	0.0129	0.0406
196	0.0410	0.0129	0.0281
197	0.0170	0.0054	0.0116
198	0.0141	0.0045	0.0097
199	0.0122	0.0038	0.0083
200	0.0107	0.0034	0.0073
201	0.0096	0.0030	0.0066
202	0.0087	0.0027	0.0059
203	0.0080	0.0025	0.0054
204	0.0073	0.0023	0.0050
205	0.0066	0.0021	0.0045
206	0.0062	0.0020	0.0042
207	0.0058	0.0018	0.0040
208	0.0055	0.0017	0.0038
209	0.0052	0.0016	0.0036
210	0.0049	0.0016	0.0034
211	0.0047	0.0015	0.0032
212	0.0045	0.0014	0.0031
213	0.0043	0.0014	0.0029
214	0.0041	0.0013	0.0028
215	0.0040	0.0013	0.0027
216	0.0038	0.0012	0.0026
217	0.0063	0.0020	0.0043
218	0.0061	0.0019	0.0042
219	0.0059	0.0019	0.0040
220	0.0057	0.0018	0.0039
221	0.0056	0.0018	0.0038
222	0.0054	0.0017	0.0037
223	0.0053	0.0017	0.0036

224	0.0052	0.0016	0.0035
225	0.0051	0.0016	0.0035
226	0.0049	0.0016	0.0034
227	0.0048	0.0015	0.0033
228	0.0047	0.0015	0.0032
229	0.0046	0.0015	0.0032
230	0.0045	0.0014	0.0031
231	0.0044	0.0014	0.0030
232	0.0044	0.0014	0.0030
233	0.0043	0.0014	0.0029
234	0.0042	0.0013	0.0029
235	0.0041	0.0013	0.0028
236	0.0041	0.0013	0.0028
237	0.0040	0.0013	0.0027
238	0.0039	0.0012	0.0027
239	0.0039	0.0012	0.0026
240	0.0038	0.0012	0.0026
241	0.0037	0.0012	0.0026
242	0.0037	0.0012	0.0025
243	0.0036	0.0011	0.0025
244	0.0036	0.0011	0.0024
245	0.0035	0.0011	0.0024
246	0.0035	0.0011	0.0024
247	0.0034	0.0011	0.0023
248	0.0034	0.0011	0.0023
249	0.0033	0.0010	0.0023
250	0.0033	0.0010	0.0022
251	0.0032	0.0010	0.0022
252	0.0032	0.0010	0.0022
253	0.0032	0.0010	0.0022
254	0.0031	0.0010	0.0021
255	0.0031	0.0010	0.0021
256	0.0030	0.0010	0.0021
257	0.0030	0.0009	0.0021
258	0.0030	0.0009	0.0020
259	0.0029	0.0009	0.0020
260	0.0029	0.0009	0.0020
261	0.0029	0.0009	0.0020
262	0.0028	0.0009	0.0019
263	0.0028	0.0009	0.0019
264	0.0028	0.0009	0.0019
265	0.0028	0.0009	0.0019
266	0.0027	0.0009	0.0019
267	0.0027	0.0009	0.0018
268	0.0027	0.0008	0.0018
269	0.0026	0.0008	0.0018
270	0.0026	0.0008	0.0018
271	0.0026	0.0008	0.0018
272	0.0026	0.0008	0.0018
273	0.0025	0.0008	0.0017
274	0.0025	0.0008	0.0017
275	0.0025	0.0008	0.0017
276	0.0025	0.0008	0.0017
277	0.0025	0.0008	0.0017
278	0.0024	0.0008	0.0017
279	0.0024	0.0008	0.0016
280	0.0024	0.0008	0.0016
281	0.0024	0.0007	0.0016
282	0.0023	0.0007	0.0016

283	0.0023	0.0007	0.0016
284	0.0023	0.0007	0.0016
285	0.0023	0.0007	0.0016
286	0.0023	0.0007	0.0016
287	0.0023	0.0007	0.0015
288	0.0022	0.0007	0.0015

Total soil rain loss = 0.52(In)
Total effective rainfall = 2.05(In)
Peak flow rate in flood hydrograph = 153.30(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q				
0+10	0.0003	0.03	Q				
0+15	0.0008	0.07	Q				
0+20	0.0017	0.13	Q				
0+25	0.0030	0.19	Q				
0+30	0.0050	0.29	Q				
0+35	0.0080	0.43	Q				
0+40	0.0124	0.65	Q				
0+45	0.0184	0.87	Q				
0+50	0.0258	1.06	Q				
0+55	0.0342	1.22	Q				
1+ 0	0.0435	1.35	Q				
1+ 5	0.0536	1.46	Q				
1+10	0.0643	1.56	Q				
1+15	0.0755	1.64	Q				
1+20	0.0873	1.71	Q				
1+25	0.0995	1.77	Q				
1+30	0.1122	1.83	Q				
1+35	0.1252	1.89	Q				
1+40	0.1385	1.94	Q				
1+45	0.1522	1.99	Q				
1+50	0.1662	2.03	Q				
1+55	0.1805	2.07	Q				
2+ 0	0.1951	2.11	Q				
2+ 5	0.2099	2.15	Q				
2+10	0.2249	2.18	Q				
2+15	0.2402	2.22	Q				
2+20	0.2557	2.25	Q				
2+25	0.2714	2.28	Q				
2+30	0.2874	2.32	Q				
2+35	0.3035	2.34	Q				
2+40	0.3199	2.37	Q				
2+45	0.3364	2.40	Q				
2+50	0.3531	2.43	Q				
2+55	0.3700	2.45	Q				
3+ 0	0.3870	2.47	Q				
3+ 5	0.4042	2.50	Q				
3+10	0.4216	2.52	Q				

3+15	0.4391	2.55	Q				
3+20	0.4568	2.57	Q				
3+25	0.4747	2.59	Q				
3+30	0.4927	2.61	Q				
3+35	0.5108	2.63	Q				
3+40	0.5291	2.66	Q				
3+45	0.5475	2.68	Q				
3+50	0.5661	2.70	Q				
3+55	0.5848	2.72	QV				
4+ 0	0.6037	2.74	QV				
4+ 5	0.6227	2.76	QV				
4+10	0.6418	2.78	QV				
4+15	0.6611	2.80	QV				
4+20	0.6805	2.82	QV				
4+25	0.7000	2.84	QV				
4+30	0.7197	2.86	QV				
4+35	0.7395	2.88	QV				
4+40	0.7595	2.89	QV				
4+45	0.7795	2.91	QV				
4+50	0.7997	2.93	QV				
4+55	0.8201	2.95	QV				
5+ 0	0.8405	2.97	QV				
5+ 5	0.8611	2.99	QV				
5+10	0.8818	3.01	QV				
5+15	0.9026	3.02	QV				
5+20	0.9236	3.04	QV				
5+25	0.9446	3.06	QV				
5+30	0.9659	3.08	QV				
5+35	0.9872	3.10	QV				
5+40	1.0087	3.12	QV				
5+45	1.0303	3.14	QV				
5+50	1.0520	3.16	QV				
5+55	1.0739	3.18	QV				
6+ 0	1.0960	3.20	QV				
6+ 5	1.1181	3.22	QV				
6+10	1.1405	3.24	QV				
6+15	1.1629	3.26	Q V				
6+20	1.1855	3.28	Q V				
6+25	1.2083	3.30	Q V				
6+30	1.2312	3.32	Q V				
6+35	1.2542	3.35	Q V				
6+40	1.2774	3.37	Q V				
6+45	1.3008	3.39	Q V				
6+50	1.3242	3.41	Q V				
6+55	1.3479	3.43	Q V				
7+ 0	1.3717	3.45	Q V				
7+ 5	1.3956	3.48	Q V				
7+10	1.4197	3.50	Q V				
7+15	1.4439	3.52	Q V				
7+20	1.4683	3.54	Q V				
7+25	1.4929	3.56	Q V				
7+30	1.5176	3.59	Q V				
7+35	1.5424	3.61	Q V				
7+40	1.5674	3.63	Q V				
7+45	1.5926	3.66	Q V				
7+50	1.6180	3.68	Q V				
7+55	1.6435	3.71	Q V				
8+ 0	1.6692	3.73	Q V				
8+ 5	1.6951	3.76	Q V				

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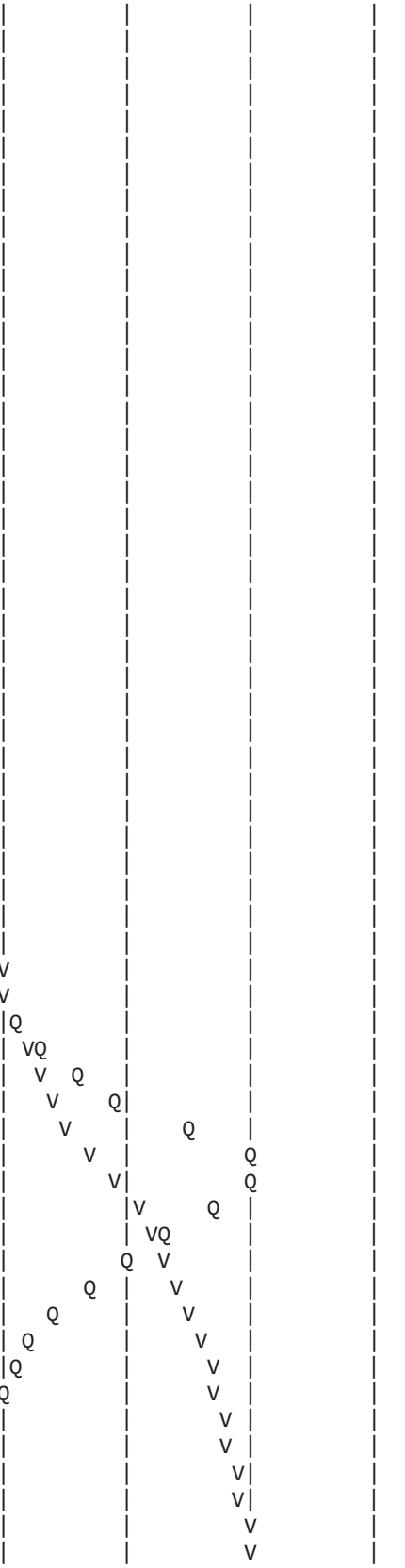
 8+10       1.7212      3.78  Q V       |          |          |          |
 8+15       1.7474      3.81  Q  V      |          |          |          |
 8+20       1.7738      3.84  Q  V      |          |          |          |
 8+25       1.8004      3.86  Q  V      |          |          |          |
 8+30       1.8272      3.89  Q  V      |          |          |          |
 8+35       1.8542      3.92  Q  V      |          |          |          |
 8+40       1.8814      3.95  Q  V      |          |          |          |
 8+45       1.9088      3.98  Q  V      |          |          |          |
 8+50       1.9364      4.01  Q  V      |          |          |          |
 8+55       1.9642      4.04  Q  V      |          |          |          |
 9+ 0       1.9923      4.07  Q  V      |          |          |          |
 9+ 5       2.0205      4.10  Q  V      |          |          |          |
 9+10       2.0490      4.13  Q  V      |          |          |          |
 9+15       2.0777      4.16  Q  V      |          |          |          |
 9+20       2.1066      4.20  Q  V      |          |          |          |
 9+25       2.1357      4.23  Q  V      |          |          |          |
 9+30       2.1651      4.27  Q  V      |          |          |          |
 9+35       2.1947      4.30  Q  V      |          |          |          |
 9+40       2.2246      4.34  Q  V      |          |          |          |
 9+45       2.2547      4.37  Q  V      |          |          |          |
 9+50       2.2851      4.41  Q  V      |          |          |          |
 9+55       2.3157      4.45  Q   V     |          |          |          |
10+ 0       2.3466      4.49  Q   V     |          |          |          |
10+ 5       2.3778      4.53  Q   V     |          |          |          |
10+10       2.4093      4.57  Q   V     |          |          |          |
10+15       2.4410      4.61  Q   V     |          |          |          |
10+20       2.4730      4.65  Q   V     |          |          |          |
10+25       2.5054      4.69  Q   V     |          |          |          |
10+30       2.5380      4.74  Q   V     |          |          |          |
10+35       2.5709      4.78  Q   V     |          |          |          |
10+40       2.6042      4.83  Q   V     |          |          |          |
10+45       2.6378      4.88  Q   V     |          |          |          |
10+50       2.6717      4.92  Q   V     |          |          |          |
10+55       2.7060      4.97  Q   V     |          |          |          |
11+ 0       2.7406      5.02  |Q  V     |          |          |          |
11+ 5       2.7755      5.08  |Q  V     |          |          |          |
11+10       2.8109      5.13  |Q  V     |          |          |          |
11+15       2.8466      5.18  |Q  V     |          |          |          |
11+20       2.8826      5.24  |Q   V    |          |          |          |
11+25       2.9191      5.30  |Q   V    |          |          |          |
11+30       2.9560      5.36  |Q   V    |          |          |          |
11+35       2.9933      5.42  |Q   V    |          |          |          |
11+40       3.0310      5.48  |Q   V    |          |          |          |
11+45       3.0692      5.54  |Q   V    |          |          |          |
11+50       3.1078      5.61  |Q   V    |          |          |          |
11+55       3.1469      5.67  |Q   V    |          |          |          |
12+ 0       3.1865      5.74  |Q   V    |          |          |          |
12+ 5       3.2265      5.80  |Q   V    |          |          |          |
12+10       3.2667      5.85  |Q   V    |          |          |          |
12+15       3.3072      5.88  |Q   V    |          |          |          |
12+20       3.3478      5.89  |Q   V    |          |          |          |
12+25       3.3884      5.90  |Q   V    |          |          |          |
12+30       3.4289      5.87  |Q   V    |          |          |          |
12+35       3.4687      5.78  |Q    V   |          |          |          |
12+40       3.5073      5.62  |Q    V   |          |          |          |
12+45       3.5448      5.44  |Q    V   |          |          |          |
12+50       3.5813      5.30  |Q    V   |          |          |          |
12+55       3.6172      5.21  |Q    V   |          |          |          |
13+ 0       3.6526      5.14  |Q    V   |          |          |          |
```

13+ 5	3.6878	5.10	
13+10	3.7228	5.09	
13+15	3.7578	5.09	
13+20	3.7930	5.10	
13+25	3.8283	5.13	
13+30	3.8638	5.16	
13+35	3.8997	5.20	
13+40	3.9359	5.26	
13+45	3.9725	5.32	
13+50	4.0096	5.39	
13+55	4.0473	5.47	
14+ 0	4.0856	5.56	
14+ 5	4.1245	5.65	
14+10	4.1642	5.76	
14+15	4.2047	5.88	
14+20	4.2461	6.01	
14+25	4.2884	6.15	
14+30	4.3319	6.31	
14+35	4.3765	6.48	
14+40	4.4225	6.68	
14+45	4.4699	6.89	
14+50	4.5190	7.12	
14+55	4.5697	7.36	
15+ 0	4.6222	7.63	
15+ 5	4.6768	7.92	
15+10	4.7335	8.24	
15+15	4.7926	8.59	
15+20	4.8545	8.98	
15+25	4.9199	9.50	
15+30	4.9901	10.19	
15+35	5.0666	11.10	
15+40	5.1510	12.26	
15+45	5.2457	13.75	
15+50	5.3543	15.76	
15+55	5.4836	18.79	
16+ 0	5.6446	23.37	
16+ 5	5.8694	32.63	
16+10	6.1714	43.86	
16+15	6.5531	55.42	
16+20	7.0177	67.45	
16+25	7.5703	80.24	
16+30	8.2456	98.05	
16+35	9.1123	125.85	
16+40	10.1675	153.21	
16+45	11.2233	153.30	
16+50	12.1650	136.73	
16+55	12.9652	116.19	
17+ 0	13.6581	100.62	
17+ 5	14.2543	86.56	
17+10	14.7607	73.53	
17+15	15.2053	64.56	
17+20	15.6038	57.87	
17+25	15.9689	53.01	
17+30	16.3050	48.80	
17+35	16.6086	44.08	
17+40	16.8879	40.56	
17+45	17.1494	37.97	
17+50	17.3944	35.57	
17+55	17.6146	31.97	

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18+ 0      17.8237     30.37  |     Q   |         |         |V        |
18+ 5      18.0208     28.62  |    Q    |         |         |V        |
18+10      18.2025     26.38  |    Q    |         |         |V        |
18+15      18.3783     25.53  |    Q    |         |         |V        |
18+20      18.5451     24.21  |   Q     |         |         | V       |
18+25      18.7045     23.15  |   Q     |         |         | V       |
18+30      18.8586     22.37  |   Q     |         |         | V       |
18+35      19.0020     20.83  |   Q     |         |         |  V      |
18+40      19.1407     20.13  |   Q     |         |         |  V      |
18+45      19.2729     19.20  |  Q      |         |         |  V      |
18+50      19.3945     17.66  |  Q      |         |         |  V      |
18+55      19.5134     17.27  |  Q      |         |         |  V      |
19+ 0      19.6290     16.78  |  Q      |         |         |   V     |
19+ 5      19.7414     16.32  |  Q      |         |         |   V     |
19+10      19.8512     15.95  |  Q      |         |         |   V     |
19+15      19.9555     15.15  |  Q      |         |         |   V     |
19+20      20.0569     14.72  | Q       |         |         |   V     |
19+25      20.1557     14.34  | Q       |         |         |    V    |
19+30      20.2508     13.81  | Q       |         |         |    V    |
19+35      20.3434     13.46  | Q       |         |         |    V    |
19+40      20.4311     12.72  | Q       |         |         |    V    |
19+45      20.5139     12.03  | Q       |         |         |    V    |
19+50      20.5952     11.81  | Q       |         |         |    V    |
19+55      20.6750     11.58  | Q       |         |         |    V    |
20+ 0      20.7530     11.33  | Q       |         |         |     V   |
20+ 5      20.8283     10.93  | Q       |         |         |     V   |
20+10      20.8986     10.20  | Q       |         |         |     V   |
20+15      20.9671      9.94  |Q        |         |         |     V   |
20+20      21.0342      9.75  |Q        |         |         |     V   |
20+25      21.0998      9.53  |Q        |         |         |     V   |
20+30      21.1636      9.25  |Q        |         |         |     V   |
20+35      21.2225      8.56  |Q        |         |         |     V   |
20+40      21.2788      8.16  |Q        |         |         |      V  |
20+45      21.3338      7.99  |Q        |         |         |      V  |
20+50      21.3875      7.81  |Q        |         |         |      V  |
20+55      21.4399      7.60  |Q        |         |         |      V  |
21+ 0      21.4891      7.14  |Q        |         |         |      V  |
21+ 5      21.5343      6.57  |Q        |         |         |      V  |
21+10      21.5787      6.44  |Q        |         |         |      V  |
21+15      21.6224      6.35  |Q        |         |         |      V  |
21+20      21.6657      6.29  |Q        |         |         |      V  |
21+25      21.7090      6.28  |Q        |         |         |      V  |
21+30      21.7528      6.36  |Q        |         |         |      V  |
21+35      21.7965      6.34  |Q        |         |         |      V  |
21+40      21.8398      6.28  |Q        |         |         |       V |
21+45      21.8826      6.22  |Q        |         |         |       V |
21+50      21.9249      6.14  |Q        |         |         |       V |
21+55      21.9666      6.07  |Q        |         |         |       V |
22+ 0      22.0078      5.98  |Q        |         |         |       V |
22+ 5      22.0484      5.89  |Q        |         |         |       V |
22+10      22.0883      5.79  |Q        |         |         |       V |
22+15      22.1272      5.65  |Q        |         |         |       V |
22+20      22.1641      5.36  |Q        |         |         |       V |
22+25      22.1978      4.89  Q        |         |         |       V |
22+30      22.2305      4.75  Q        |         |         |       V |
22+35      22.2626      4.65  Q        |         |         |       V |
22+40      22.2940      4.56  Q        |         |         |       V |
22+45      22.3248      4.47  Q        |         |         |       V |
22+50      22.3548      4.36  Q        |         |         |       V |
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22+55	22.3838	4.21	Q	|	|	|	V |
23+ 0	22.4100	3.80	Q	|	|	|	V |
23+ 5	22.4335	3.43	Q	|	|	|	V|
23+10	22.4565	3.34	Q	|	|	|	V|
23+15	22.4791	3.27	Q	|	|	|	V|
23+20	22.5012	3.22	Q	|	|	|	V|
23+25	22.5231	3.18	Q	|	|	|	V|
23+30	22.5448	3.14	Q	|	|	|	V|
23+35	22.5662	3.10	Q	|	|	|	V|
23+40	22.5873	3.07	Q	|	|	|	V|
23+45	22.6082	3.04	Q	|	|	|	V|
23+50	22.6289	3.01	Q	|	|	|	V|
23+55	22.6494	2.97	Q	|	|	|	V|
24+ 0	22.6697	2.95	Q	|	|	|	V|
24+ 5	22.6897	2.91	Q	|	|	|	V|
24+10	22.7094	2.86	Q	|	|	|	V|
24+15	22.7286	2.79	Q	|	|	|	V|
24+20	22.7473	2.71	Q	|	|	|	V|
24+25	22.7653	2.62	Q	|	|	|	V|
24+30	22.7825	2.50	Q	|	|	|	V|
24+35	22.7986	2.33	Q	|	|	|	V|
24+40	22.8131	2.10	Q	|	|	|	V|
24+45	22.8259	1.86	Q	|	|	|	V|
24+50	22.8373	1.66	Q	|	|	|	V|
24+55	22.8476	1.49	Q	|	|	|	V|
25+ 0	22.8569	1.35	Q	|	|	|	V|
25+ 5	22.8653	1.23	Q	|	|	|	V|
25+10	22.8731	1.13	Q	|	|	|	V|
25+15	22.8803	1.04	Q	|	|	|	V|
25+20	22.8869	0.97	Q	|	|	|	V|
25+25	22.8931	0.90	Q	|	|	|	V|
25+30	22.8989	0.84	Q	|	|	|	V|
25+35	22.9043	0.78	Q	|	|	|	V|
25+40	22.9093	0.73	Q	|	|	|	V|
25+45	22.9140	0.68	Q	|	|	|	V|
25+50	22.9184	0.64	Q	|	|	|	V|
25+55	22.9225	0.60	Q	|	|	|	V|
26+ 0	22.9264	0.56	Q	|	|	|	V|
26+ 5	22.9300	0.53	Q	|	|	|	V|
26+10	22.9335	0.50	Q	|	|	|	V|
26+15	22.9367	0.47	Q	|	|	|	V|
26+20	22.9397	0.44	Q	|	|	|	V|
26+25	22.9426	0.41	Q	|	|	|	V|
26+30	22.9453	0.39	Q	|	|	|	V|
26+35	22.9478	0.37	Q	|	|	|	V|
26+40	22.9501	0.34	Q	|	|	|	V|
26+45	22.9524	0.32	Q	|	|	|	V|
26+50	22.9545	0.31	Q	|	|	|	V|
26+55	22.9565	0.29	Q	|	|	|	V|
27+ 0	22.9583	0.27	Q	|	|	|	V|
27+ 5	22.9601	0.26	Q	|	|	|	V|
27+10	22.9618	0.24	Q	|	|	|	V|
27+15	22.9634	0.23	Q	|	|	|	V|
27+20	22.9648	0.21	Q	|	|	|	V|
27+25	22.9662	0.20	Q	|	|	|	V|
27+30	22.9675	0.19	Q	|	|	|	V|
27+35	22.9688	0.18	Q	|	|	|	V|
27+40	22.9699	0.17	Q	|	|	|	V|
27+45	22.9710	0.16	Q	|	|	|	V|

27+50	22.9720	0.15	Q	|	|	|	V|
27+55	22.9730	0.14	Q	|	|	|	V|
28+ 0	22.9739	0.13	Q	|	|	|	V|
28+ 5	22.9747	0.12	Q	|	|	|	V|
28+10	22.9755	0.11	Q	|	|	|	V|
28+15	22.9762	0.11	Q	|	|	|	V|
28+20	22.9769	0.10	Q	|	|	|	V|
28+25	22.9776	0.09	Q	|	|	|	V|
28+30	22.9782	0.09	Q	|	|	|	V|
28+35	22.9787	0.08	Q	|	|	|	V|
28+40	22.9792	0.08	Q	|	|	|	V|
28+45	22.9797	0.07	Q	|	|	|	V|
28+50	22.9802	0.07	Q	|	|	|	V|
28+55	22.9806	0.06	Q	|	|	|	V|
29+ 0	22.9810	0.06	Q	|	|	|	V|
29+ 5	22.9814	0.05	Q	|	|	|	V|
29+10	22.9818	0.05	Q	|	|	|	V|
29+15	22.9821	0.05	Q	|	|	|	V|
29+20	22.9824	0.05	Q	|	|	|	V|
29+25	22.9827	0.04	Q	|	|	|	V|
29+30	22.9830	0.04	Q	|	|	|	V|
29+35	22.9833	0.04	Q	|	|	|	V|
29+40	22.9835	0.03	Q	|	|	|	V|
29+45	22.9837	0.03	Q	|	|	|	V|
29+50	22.9839	0.03	Q	|	|	|	V|
29+55	22.9841	0.03	Q	|	|	|	V|
30+ 0	22.9842	0.02	Q	|	|	|	V|
30+ 5	22.9844	0.02	Q	|	|	|	V|
30+10	22.9845	0.02	Q	|	|	|	V|
30+15	22.9846	0.01	Q	|	|	|	V|
30+20	22.9847	0.01	Q	|	|	|	V|
30+25	22.9847	0.01	Q	|	|	|	V|
30+30	22.9848	0.01	Q	|	|	|	V|
30+35	22.9848	0.01	Q	|	|	|	V|
30+40	22.9849	0.01	Q	|	|	|	V|
30+45	22.9849	0.00	Q	|	|	|	V|
30+50	22.9849	0.00	Q	|	|	|	V|
30+55	22.9849	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 31
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
634.87	1	1.40
Rainfall data for year 100		
634.87	6	1.83
Rainfall data for year 100		
634.87	24	2.60

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	86.2	634.87	1.000	0.262	0.949	0.248

Area-averaged adjusted loss rate Fm (In/Hr) = 0.248

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
602.49	0.949	69.0	86.2	1.60	0.515
32.38	0.051	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.535
Area-averaged low loss fraction, Yb = 0.465
User entry of time of concentration = 2.040 (hours)
++
Watershed area = 634.87(Ac.)
Catchment Lag time = 1.632 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 5.1062
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.248(In/Hr)
Average low loss rate fraction (Yb) = 0.465 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.650(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.600(In)

Rainfall depth area reduction factors:
Using a total area of 634.87(Ac.) (Ref: fig. E-4)

5-minute factor = 0.970 Adjusted rainfall = 0.645(In)
30-minute factor = 0.970 Adjusted rainfall = 1.103(In)
1-hour factor = 0.970 Adjusted rainfall = 1.358(In)
3-hour factor = 0.996 Adjusted rainfall = 1.644(In)
6-hour factor = 0.998 Adjusted rainfall = 1.826(In)
24-hour factor = 0.999 Adjusted rainfall = 2.598(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 7677.96 (CFS))	
1	0.225	17.250
2	0.674	34.501
3	1.186	39.279
4	2.002	62.717
5	2.863	66.034
6	3.965	84.639
7	5.231	97.229
8	6.594	104.652
9	8.283	129.688
10	10.033	134.308
11	12.814	213.534
12	16.082	250.914
13	19.916	294.392

14	25.088	397.126
15	30.275	398.256
16	34.849	351.185
17	39.220	335.597
18	43.179	303.989
19	46.458	251.697
20	49.672	246.843
21	52.432	211.890
22	55.087	203.867
23	57.417	178.887
24	59.378	150.576
25	61.290	146.732
26	62.925	125.572
27	64.518	122.272
28	65.971	111.605
29	67.319	103.502
30	68.643	101.670
31	69.877	94.758
32	71.100	93.850
33	72.190	83.734
34	73.212	78.411
35	74.200	75.917
36	75.104	69.349
37	76.001	68.878
38	76.869	66.678
39	77.727	65.865
40	78.521	60.980
41	79.198	51.950
42	79.872	51.751
43	80.546	51.751
44	81.220	51.751
45	81.840	47.629
46	82.392	42.361
47	82.943	42.342
48	83.495	42.342
49	84.046	42.338
50	84.565	39.805
51	85.055	37.637
52	85.545	37.637
53	86.035	37.637
54	86.525	37.572
55	86.963	33.662
56	87.372	31.364
57	87.780	31.364
58	88.189	31.364
59	88.594	31.123
60	88.929	25.740
61	89.236	23.523
62	89.542	23.523
63	89.848	23.523
64	90.153	23.426
65	90.444	22.284
66	90.730	21.955
67	91.016	21.955
68	91.301	21.955
69	91.583	21.629
70	91.834	19.283
71	92.079	18.819
72	92.325	18.819

73	92.570	18.819
74	92.812	18.573
75	93.038	17.402
76	93.263	17.250
77	93.487	17.250
78	93.712	17.250
79	93.926	16.386
80	94.102	13.551
81	94.276	13.330
82	94.449	13.330
83	94.623	13.330
84	94.797	13.330
85	94.970	13.330
86	95.144	13.330
87	95.317	13.330
88	95.491	13.330
89	95.649	12.137
90	95.782	10.219
91	95.915	10.193
92	96.048	10.193
93	96.180	10.193
94	96.313	10.193
95	96.446	10.193
96	96.579	10.193
97	96.711	10.193
98	96.844	10.183
99	96.953	8.384
100	97.045	7.057
101	97.137	7.057
102	97.229	7.057
103	97.321	7.057
104	97.413	7.057
105	97.505	7.057
106	97.597	7.057
107	97.689	7.057
108	97.779	6.927
109	97.840	4.716
110	97.891	3.921
111	97.942	3.921
112	97.993	3.921
113	98.044	3.921
114	98.096	3.921
115	98.147	3.921
116	98.198	3.921
117	98.249	3.921
118	98.301	4.017
119	98.361	4.605
120	98.422	4.705
121	98.484	4.705
122	98.545	4.705
123	98.606	4.705
124	98.667	4.705
125	98.729	4.705
126	98.790	4.705
127	98.851	4.705
128	98.912	4.705
129	98.974	4.705
130	99.035	4.705
131	99.096	4.705

132	99.158	4.705
133	99.219	4.705
134	99.280	4.705
135	99.341	4.705
136	99.403	4.705
137	99.464	4.705
138	99.513	3.767
139	99.545	2.459
140	99.577	2.450
141	99.609	2.450
142	99.641	2.450
143	99.673	2.450
144	99.705	2.450
145	99.737	2.450
146	99.768	2.450
147	99.800	2.450
148	99.832	2.450
149	99.864	2.450
150	99.896	2.450
151	99.928	2.450
152	99.960	2.450
153	100.000	1.225

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6445	0.6445
2	0.7935	0.1490
3	0.8962	0.1026
4	0.9769	0.0808
5	1.0446	0.0676
6	1.1033	0.0587
7	1.1555	0.0522
8	1.2028	0.0472
9	1.2460	0.0433
10	1.2860	0.0400
11	1.3233	0.0373
12	1.3583	0.0350
13	1.3773	0.0190
14	1.3952	0.0178
15	1.4120	0.0168
16	1.4279	0.0159
17	1.4430	0.0151
18	1.4574	0.0144
19	1.4711	0.0137
20	1.4843	0.0132
21	1.4969	0.0126
22	1.5090	0.0121
23	1.5207	0.0117
24	1.5320	0.0113
25	1.5429	0.0109
26	1.5534	0.0105
27	1.5636	0.0102
28	1.5735	0.0099
29	1.5831	0.0096
30	1.5925	0.0093
31	1.6016	0.0091
32	1.6104	0.0088
33	1.6190	0.0086
34	1.6274	0.0084

35	1.6356	0.0082
36	1.6437	0.0080
37	1.6505	0.0069
38	1.6572	0.0067
39	1.6638	0.0066
40	1.6702	0.0064
41	1.6765	0.0063
42	1.6826	0.0062
43	1.6887	0.0060
44	1.6946	0.0059
45	1.7004	0.0058
46	1.7061	0.0057
47	1.7117	0.0056
48	1.7172	0.0055
49	1.7226	0.0054
50	1.7279	0.0053
51	1.7331	0.0052
52	1.7382	0.0051
53	1.7432	0.0050
54	1.7482	0.0050
55	1.7531	0.0049
56	1.7579	0.0048
57	1.7626	0.0047
58	1.7673	0.0047
59	1.7719	0.0046
60	1.7764	0.0045
61	1.7809	0.0045
62	1.7853	0.0044
63	1.7897	0.0043
64	1.7939	0.0043
65	1.7982	0.0042
66	1.8024	0.0042
67	1.8065	0.0041
68	1.8106	0.0041
69	1.8146	0.0040
70	1.8186	0.0040
71	1.8225	0.0039
72	1.8264	0.0039
73	1.8328	0.0064
74	1.8391	0.0063
75	1.8454	0.0063
76	1.8516	0.0062
77	1.8578	0.0062
78	1.8639	0.0061
79	1.8700	0.0060
80	1.8759	0.0060
81	1.8819	0.0059
82	1.8878	0.0059
83	1.8936	0.0058
84	1.8994	0.0058
85	1.9051	0.0057
86	1.9107	0.0057
87	1.9164	0.0056
88	1.9219	0.0056
89	1.9275	0.0055
90	1.9330	0.0055
91	1.9384	0.0054
92	1.9438	0.0054
93	1.9491	0.0053

94	1.9544	0.0053
95	1.9597	0.0053
96	1.9649	0.0052
97	1.9701	0.0052
98	1.9753	0.0051
99	1.9804	0.0051
100	1.9854	0.0051
101	1.9905	0.0050
102	1.9954	0.0050
103	2.0004	0.0050
104	2.0053	0.0049
105	2.0102	0.0049
106	2.0151	0.0048
107	2.0199	0.0048
108	2.0246	0.0048
109	2.0294	0.0047
110	2.0341	0.0047
111	2.0388	0.0047
112	2.0435	0.0047
113	2.0481	0.0046
114	2.0527	0.0046
115	2.0572	0.0046
116	2.0618	0.0045
117	2.0663	0.0045
118	2.0707	0.0045
119	2.0752	0.0044
120	2.0796	0.0044
121	2.0840	0.0044
122	2.0884	0.0044
123	2.0927	0.0043
124	2.0970	0.0043
125	2.1013	0.0043
126	2.1056	0.0043
127	2.1098	0.0042
128	2.1140	0.0042
129	2.1182	0.0042
130	2.1224	0.0042
131	2.1265	0.0041
132	2.1306	0.0041
133	2.1347	0.0041
134	2.1388	0.0041
135	2.1428	0.0040
136	2.1468	0.0040
137	2.1508	0.0040
138	2.1548	0.0040
139	2.1588	0.0040
140	2.1627	0.0039
141	2.1666	0.0039
142	2.1705	0.0039
143	2.1744	0.0039
144	2.1783	0.0039
145	2.1821	0.0038
146	2.1859	0.0038
147	2.1897	0.0038
148	2.1935	0.0038
149	2.1972	0.0038
150	2.2010	0.0037
151	2.2047	0.0037
152	2.2084	0.0037

153	2.2121	0.0037
154	2.2157	0.0037
155	2.2194	0.0036
156	2.2230	0.0036
157	2.2266	0.0036
158	2.2302	0.0036
159	2.2338	0.0036
160	2.2374	0.0036
161	2.2409	0.0035
162	2.2445	0.0035
163	2.2480	0.0035
164	2.2515	0.0035
165	2.2549	0.0035
166	2.2584	0.0035
167	2.2619	0.0035
168	2.2653	0.0034
169	2.2687	0.0034
170	2.2721	0.0034
171	2.2755	0.0034
172	2.2789	0.0034
173	2.2823	0.0034
174	2.2856	0.0033
175	2.2889	0.0033
176	2.2922	0.0033
177	2.2956	0.0033
178	2.2988	0.0033
179	2.3021	0.0033
180	2.3054	0.0033
181	2.3086	0.0032
182	2.3119	0.0032
183	2.3151	0.0032
184	2.3183	0.0032
185	2.3215	0.0032
186	2.3247	0.0032
187	2.3278	0.0032
188	2.3310	0.0032
189	2.3341	0.0031
190	2.3373	0.0031
191	2.3404	0.0031
192	2.3435	0.0031
193	2.3466	0.0031
194	2.3497	0.0031
195	2.3528	0.0031
196	2.3558	0.0031
197	2.3589	0.0030
198	2.3619	0.0030
199	2.3649	0.0030
200	2.3680	0.0030
201	2.3710	0.0030
202	2.3740	0.0030
203	2.3769	0.0030
204	2.3799	0.0030
205	2.3829	0.0030
206	2.3858	0.0029
207	2.3888	0.0029
208	2.3917	0.0029
209	2.3946	0.0029
210	2.3975	0.0029
211	2.4004	0.0029

212	2.4033	0.0029
213	2.4062	0.0029
214	2.4090	0.0029
215	2.4119	0.0029
216	2.4147	0.0028
217	2.4176	0.0028
218	2.4204	0.0028
219	2.4232	0.0028
220	2.4260	0.0028
221	2.4288	0.0028
222	2.4316	0.0028
223	2.4344	0.0028
224	2.4372	0.0028
225	2.4399	0.0028
226	2.4427	0.0028
227	2.4454	0.0027
228	2.4482	0.0027
229	2.4509	0.0027
230	2.4536	0.0027
231	2.4563	0.0027
232	2.4590	0.0027
233	2.4617	0.0027
234	2.4644	0.0027
235	2.4670	0.0027
236	2.4697	0.0027
237	2.4724	0.0027
238	2.4750	0.0026
239	2.4777	0.0026
240	2.4803	0.0026
241	2.4829	0.0026
242	2.4855	0.0026
243	2.4881	0.0026
244	2.4907	0.0026
245	2.4933	0.0026
246	2.4959	0.0026
247	2.4985	0.0026
248	2.5010	0.0026
249	2.5036	0.0026
250	2.5062	0.0026
251	2.5087	0.0025
252	2.5112	0.0025
253	2.5138	0.0025
254	2.5163	0.0025
255	2.5188	0.0025
256	2.5213	0.0025
257	2.5238	0.0025
258	2.5263	0.0025
259	2.5288	0.0025
260	2.5313	0.0025
261	2.5337	0.0025
262	2.5362	0.0025
263	2.5387	0.0025
264	2.5411	0.0025
265	2.5436	0.0024
266	2.5460	0.0024
267	2.5484	0.0024
268	2.5508	0.0024
269	2.5533	0.0024
270	2.5557	0.0024

271	2.5581	0.0024
272	2.5605	0.0024
273	2.5629	0.0024
274	2.5652	0.0024
275	2.5676	0.0024
276	2.5700	0.0024
277	2.5723	0.0024
278	2.5747	0.0024
279	2.5771	0.0024
280	2.5794	0.0023
281	2.5817	0.0023
282	2.5841	0.0023
283	2.5864	0.0023
284	2.5887	0.0023
285	2.5910	0.0023
286	2.5933	0.0023
287	2.5956	0.0023
288	2.5979	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0011	0.0012
2	0.0023	0.0011	0.0012
3	0.0023	0.0011	0.0012
4	0.0023	0.0011	0.0012
5	0.0023	0.0011	0.0012
6	0.0023	0.0011	0.0013
7	0.0024	0.0011	0.0013
8	0.0024	0.0011	0.0013
9	0.0024	0.0011	0.0013
10	0.0024	0.0011	0.0013
11	0.0024	0.0011	0.0013
12	0.0024	0.0011	0.0013
13	0.0024	0.0011	0.0013
14	0.0024	0.0011	0.0013
15	0.0024	0.0011	0.0013
16	0.0024	0.0011	0.0013
17	0.0025	0.0011	0.0013
18	0.0025	0.0011	0.0013
19	0.0025	0.0011	0.0013
20	0.0025	0.0012	0.0013
21	0.0025	0.0012	0.0013
22	0.0025	0.0012	0.0013
23	0.0025	0.0012	0.0013
24	0.0025	0.0012	0.0014
25	0.0025	0.0012	0.0014
26	0.0025	0.0012	0.0014
27	0.0026	0.0012	0.0014
28	0.0026	0.0012	0.0014
29	0.0026	0.0012	0.0014
30	0.0026	0.0012	0.0014
31	0.0026	0.0012	0.0014
32	0.0026	0.0012	0.0014
33	0.0026	0.0012	0.0014
34	0.0026	0.0012	0.0014
35	0.0027	0.0012	0.0014
36	0.0027	0.0012	0.0014

37	0.0027	0.0012	0.0014
38	0.0027	0.0012	0.0014
39	0.0027	0.0013	0.0014
40	0.0027	0.0013	0.0015
41	0.0027	0.0013	0.0015
42	0.0027	0.0013	0.0015
43	0.0028	0.0013	0.0015
44	0.0028	0.0013	0.0015
45	0.0028	0.0013	0.0015
46	0.0028	0.0013	0.0015
47	0.0028	0.0013	0.0015
48	0.0028	0.0013	0.0015
49	0.0028	0.0013	0.0015
50	0.0029	0.0013	0.0015
51	0.0029	0.0013	0.0015
52	0.0029	0.0013	0.0015
53	0.0029	0.0014	0.0016
54	0.0029	0.0014	0.0016
55	0.0029	0.0014	0.0016
56	0.0029	0.0014	0.0016
57	0.0030	0.0014	0.0016
58	0.0030	0.0014	0.0016
59	0.0030	0.0014	0.0016
60	0.0030	0.0014	0.0016
61	0.0030	0.0014	0.0016
62	0.0030	0.0014	0.0016
63	0.0031	0.0014	0.0016
64	0.0031	0.0014	0.0017
65	0.0031	0.0014	0.0017
66	0.0031	0.0015	0.0017
67	0.0031	0.0015	0.0017
68	0.0032	0.0015	0.0017
69	0.0032	0.0015	0.0017
70	0.0032	0.0015	0.0017
71	0.0032	0.0015	0.0017
72	0.0032	0.0015	0.0017
73	0.0033	0.0015	0.0017
74	0.0033	0.0015	0.0018
75	0.0033	0.0015	0.0018
76	0.0033	0.0015	0.0018
77	0.0033	0.0016	0.0018
78	0.0034	0.0016	0.0018
79	0.0034	0.0016	0.0018
80	0.0034	0.0016	0.0018
81	0.0034	0.0016	0.0018
82	0.0035	0.0016	0.0018
83	0.0035	0.0016	0.0019
84	0.0035	0.0016	0.0019
85	0.0035	0.0016	0.0019
86	0.0035	0.0016	0.0019
87	0.0036	0.0017	0.0019
88	0.0036	0.0017	0.0019
89	0.0036	0.0017	0.0019
90	0.0036	0.0017	0.0020
91	0.0037	0.0017	0.0020
92	0.0037	0.0017	0.0020
93	0.0037	0.0017	0.0020
94	0.0038	0.0017	0.0020
95	0.0038	0.0018	0.0020

96	0.0038	0.0018	0.0020
97	0.0039	0.0018	0.0021
98	0.0039	0.0018	0.0021
99	0.0039	0.0018	0.0021
100	0.0039	0.0018	0.0021
101	0.0040	0.0018	0.0021
102	0.0040	0.0019	0.0021
103	0.0040	0.0019	0.0022
104	0.0041	0.0019	0.0022
105	0.0041	0.0019	0.0022
106	0.0041	0.0019	0.0022
107	0.0042	0.0019	0.0022
108	0.0042	0.0020	0.0023
109	0.0043	0.0020	0.0023
110	0.0043	0.0020	0.0023
111	0.0043	0.0020	0.0023
112	0.0044	0.0020	0.0023
113	0.0044	0.0021	0.0024
114	0.0044	0.0021	0.0024
115	0.0045	0.0021	0.0024
116	0.0045	0.0021	0.0024
117	0.0046	0.0021	0.0025
118	0.0046	0.0021	0.0025
119	0.0047	0.0022	0.0025
120	0.0047	0.0022	0.0025
121	0.0048	0.0022	0.0026
122	0.0048	0.0022	0.0026
123	0.0049	0.0023	0.0026
124	0.0049	0.0023	0.0026
125	0.0050	0.0023	0.0027
126	0.0050	0.0023	0.0027
127	0.0051	0.0024	0.0027
128	0.0051	0.0024	0.0028
129	0.0052	0.0024	0.0028
130	0.0053	0.0024	0.0028
131	0.0053	0.0025	0.0029
132	0.0054	0.0025	0.0029
133	0.0055	0.0025	0.0029
134	0.0055	0.0026	0.0030
135	0.0056	0.0026	0.0030
136	0.0057	0.0026	0.0030
137	0.0058	0.0027	0.0031
138	0.0058	0.0027	0.0031
139	0.0059	0.0028	0.0032
140	0.0060	0.0028	0.0032
141	0.0061	0.0028	0.0033
142	0.0062	0.0029	0.0033
143	0.0063	0.0029	0.0034
144	0.0063	0.0030	0.0034
145	0.0039	0.0018	0.0021
146	0.0039	0.0018	0.0021
147	0.0040	0.0019	0.0022
148	0.0041	0.0019	0.0022
149	0.0042	0.0019	0.0022
150	0.0042	0.0020	0.0023
151	0.0043	0.0020	0.0023
152	0.0044	0.0020	0.0024
153	0.0045	0.0021	0.0024
154	0.0046	0.0021	0.0025

155	0.0047	0.0022	0.0025
156	0.0048	0.0022	0.0026
157	0.0050	0.0023	0.0027
158	0.0050	0.0023	0.0027
159	0.0052	0.0024	0.0028
160	0.0053	0.0025	0.0028
161	0.0055	0.0026	0.0029
162	0.0056	0.0026	0.0030
163	0.0058	0.0027	0.0031
164	0.0059	0.0027	0.0032
165	0.0062	0.0029	0.0033
166	0.0063	0.0029	0.0034
167	0.0066	0.0030	0.0035
168	0.0067	0.0031	0.0036
169	0.0080	0.0037	0.0043
170	0.0082	0.0038	0.0044
171	0.0086	0.0040	0.0046
172	0.0088	0.0041	0.0047
173	0.0093	0.0043	0.0050
174	0.0096	0.0045	0.0051
175	0.0102	0.0047	0.0055
176	0.0105	0.0049	0.0056
177	0.0113	0.0052	0.0060
178	0.0117	0.0054	0.0063
179	0.0126	0.0059	0.0068
180	0.0132	0.0061	0.0070
181	0.0144	0.0067	0.0077
182	0.0151	0.0070	0.0081
183	0.0168	0.0078	0.0090
184	0.0178	0.0083	0.0095
185	0.0350	0.0163	0.0187
186	0.0373	0.0173	0.0200
187	0.0433	0.0201	0.0232
188	0.0472	0.0207	0.0265
189	0.0587	0.0207	0.0380
190	0.0676	0.0207	0.0470
191	0.1026	0.0207	0.0820
192	0.1490	0.0207	0.1283
193	0.6445	0.0207	0.6239
194	0.0808	0.0207	0.0601
195	0.0522	0.0207	0.0315
196	0.0400	0.0186	0.0214
197	0.0190	0.0088	0.0102
198	0.0159	0.0074	0.0085
199	0.0137	0.0064	0.0074
200	0.0121	0.0056	0.0065
201	0.0109	0.0051	0.0058
202	0.0099	0.0046	0.0053
203	0.0091	0.0042	0.0049
204	0.0084	0.0039	0.0045
205	0.0069	0.0032	0.0037
206	0.0064	0.0030	0.0034
207	0.0060	0.0028	0.0032
208	0.0057	0.0026	0.0030
209	0.0054	0.0025	0.0029
210	0.0051	0.0024	0.0027
211	0.0049	0.0023	0.0026
212	0.0047	0.0022	0.0025
213	0.0045	0.0021	0.0024

214	0.0043	0.0020	0.0023
215	0.0041	0.0019	0.0022
216	0.0040	0.0018	0.0021
217	0.0064	0.0030	0.0034
218	0.0062	0.0029	0.0033
219	0.0060	0.0028	0.0032
220	0.0059	0.0027	0.0031
221	0.0057	0.0027	0.0031
222	0.0056	0.0026	0.0030
223	0.0054	0.0025	0.0029
224	0.0053	0.0025	0.0028
225	0.0052	0.0024	0.0028
226	0.0051	0.0024	0.0027
227	0.0050	0.0023	0.0027
228	0.0048	0.0023	0.0026
229	0.0047	0.0022	0.0025
230	0.0047	0.0022	0.0025
231	0.0046	0.0021	0.0024
232	0.0045	0.0021	0.0024
233	0.0044	0.0020	0.0024
234	0.0043	0.0020	0.0023
235	0.0042	0.0020	0.0023
236	0.0042	0.0019	0.0022
237	0.0041	0.0019	0.0022
238	0.0040	0.0019	0.0022
239	0.0040	0.0018	0.0021
240	0.0039	0.0018	0.0021
241	0.0038	0.0018	0.0021
242	0.0038	0.0018	0.0020
243	0.0037	0.0017	0.0020
244	0.0037	0.0017	0.0020
245	0.0036	0.0017	0.0019
246	0.0036	0.0017	0.0019
247	0.0035	0.0016	0.0019
248	0.0035	0.0016	0.0019
249	0.0034	0.0016	0.0018
250	0.0034	0.0016	0.0018
251	0.0033	0.0015	0.0018
252	0.0033	0.0015	0.0018
253	0.0032	0.0015	0.0017
254	0.0032	0.0015	0.0017
255	0.0032	0.0015	0.0017
256	0.0031	0.0015	0.0017
257	0.0031	0.0014	0.0017
258	0.0031	0.0014	0.0016
259	0.0030	0.0014	0.0016
260	0.0030	0.0014	0.0016
261	0.0030	0.0014	0.0016
262	0.0029	0.0014	0.0016
263	0.0029	0.0013	0.0016
264	0.0029	0.0013	0.0015
265	0.0028	0.0013	0.0015
266	0.0028	0.0013	0.0015
267	0.0028	0.0013	0.0015
268	0.0028	0.0013	0.0015
269	0.0027	0.0013	0.0015
270	0.0027	0.0013	0.0014
271	0.0027	0.0012	0.0014
272	0.0026	0.0012	0.0014

273	0.0026	0.0012	0.0014
274	0.0026	0.0012	0.0014
275	0.0026	0.0012	0.0014
276	0.0026	0.0012	0.0014
277	0.0025	0.0012	0.0014
278	0.0025	0.0012	0.0013
279	0.0025	0.0012	0.0013
280	0.0025	0.0011	0.0013
281	0.0024	0.0011	0.0013
282	0.0024	0.0011	0.0013
283	0.0024	0.0011	0.0013
284	0.0024	0.0011	0.0013
285	0.0024	0.0011	0.0013
286	0.0023	0.0011	0.0013
287	0.0023	0.0011	0.0012
288	0.0023	0.0011	0.0012

Total soil rain loss = 0.81(In)
Total effective rainfall = 1.78(In)
Peak flow rate in flood hydrograph = 427.00(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	125.0	250.0	375.0	500.0
0+ 5	0.0001	0.02	Q				
0+10	0.0006	0.06	Q				
0+15	0.0014	0.11	Q				
0+20	0.0027	0.19	Q				
0+25	0.0045	0.27	Q				
0+30	0.0071	0.38	Q				
0+35	0.0106	0.50	Q				
0+40	0.0149	0.63	Q				
0+45	0.0203	0.79	Q				
0+50	0.0269	0.96	Q				
0+55	0.0353	1.22	Q				
1+ 0	0.0459	1.54	Q				
1+ 5	0.0590	1.90	Q				
1+10	0.0756	2.40	Q				
1+15	0.0955	2.90	Q				
1+20	0.1186	3.34	Q				
1+25	0.1445	3.77	Q				
1+30	0.1731	4.16	Q				
1+35	0.2040	4.48	Q				
1+40	0.2371	4.80	Q				
1+45	0.2721	5.08	Q				
1+50	0.3090	5.35	Q				
1+55	0.3475	5.60	Q				
2+ 0	0.3875	5.80	Q				
2+ 5	0.4288	6.01	Q				
2+10	0.4714	6.19	Q				
2+15	0.5152	6.36	Q				
2+20	0.5602	6.53	Q				

2+25	0.6062	6.68	Q				
2+30	0.6532	6.83	Q				
2+35	0.7013	6.98	Q				
2+40	0.7503	7.12	Q				
2+45	0.8003	7.26	Q				
2+50	0.8512	7.38	Q				
2+55	0.9029	7.51	Q				
3+ 0	0.9554	7.62	Q				
3+ 5	1.0087	7.74	Q				
3+10	1.0628	7.86	Q				
3+15	1.1177	7.97	Q				
3+20	1.1734	8.08	Q				
3+25	1.2297	8.18	Q				
3+30	1.2868	8.28	Q				
3+35	1.3445	8.38	Q				
3+40	1.4029	8.48	Q				
3+45	1.4620	8.58	Q				
3+50	1.5218	8.67	Q				
3+55	1.5821	8.76	Q				
4+ 0	1.6431	8.85	Q				
4+ 5	1.7047	8.95	Q				
4+10	1.7669	9.04	Q				
4+15	1.8298	9.13	Q				
4+20	1.8933	9.21	Q				
4+25	1.9573	9.30	Q				
4+30	2.0220	9.39	Q				
4+35	2.0873	9.48	Q				
4+40	2.1532	9.56	Q				
4+45	2.2196	9.65	Q				
4+50	2.2866	9.73	Q				
4+55	2.3543	9.82	Q				
5+ 0	2.4224	9.90	QV				
5+ 5	2.4911	9.98	QV				
5+10	2.5604	10.05	QV				
5+15	2.6301	10.13	QV				
5+20	2.7005	10.21	QV				
5+25	2.7713	10.29	QV				
5+30	2.8428	10.37	QV				
5+35	2.9147	10.45	QV				
5+40	2.9872	10.53	QV				
5+45	3.0603	10.61	QV				
5+50	3.1339	10.69	QV				
5+55	3.2081	10.77	QV				
6+ 0	3.2828	10.85	QV				
6+ 5	3.3581	10.93	QV				
6+10	3.4339	11.01	QV				
6+15	3.5103	11.09	QV				
6+20	3.5872	11.17	QV				
6+25	3.6647	11.25	QV				
6+30	3.7428	11.34	QV				
6+35	3.8214	11.42	QV				
6+40	3.9006	11.50	QV				
6+45	3.9804	11.58	QV				
6+50	4.0607	11.66	QV				
6+55	4.1415	11.74	QV				
7+ 0	4.2230	11.83	QV				
7+ 5	4.3050	11.91	QV				
7+10	4.3877	12.00	QV				
7+15	4.4709	12.08	QV				

7+20	4.5547	12.17	QV				
7+25	4.6391	12.26	QV				
7+30	4.7241	12.34	Q V				
7+35	4.8098	12.43	Q V				
7+40	4.8960	12.52	QV				
7+45	4.9828	12.61	QV				
7+50	5.0703	12.70	QV				
7+55	5.1584	12.79	QV				
8+ 0	5.2471	12.88	QV				
8+ 5	5.3365	12.98	QV				
8+10	5.4265	13.07	QV				
8+15	5.5172	13.17	QV				
8+20	5.6085	13.26	QV				
8+25	5.7005	13.36	QV				
8+30	5.7932	13.45	QV				
8+35	5.8865	13.55	QV				
8+40	5.9805	13.65	QV				
8+45	6.0752	13.75	QV				
8+50	6.1707	13.86	QV				
8+55	6.2668	13.96	QV				
9+ 0	6.3637	14.07	QV				
9+ 5	6.4613	14.17	QV				
9+10	6.5596	14.28	QV				
9+15	6.6587	14.39	QV				
9+20	6.7585	14.49	QV				
9+25	6.8591	14.61	QV				
9+30	6.9605	14.72	QV				
9+35	7.0626	14.83	QV				
9+40	7.1656	14.95	Q V				
9+45	7.2694	15.07	Q V				
9+50	7.3740	15.19	Q V				
9+55	7.4795	15.31	Q V				
10+ 0	7.5858	15.44	Q V				
10+ 5	7.6931	15.57	Q V				
10+10	7.8012	15.70	Q V				
10+15	7.9103	15.84	Q V				
10+20	8.0202	15.97	Q V				
10+25	8.1312	16.11	Q V				
10+30	8.2431	16.25	Q V				
10+35	8.3561	16.40	Q V				
10+40	8.4700	16.54	Q V				
10+45	8.5850	16.69	Q V				
10+50	8.7010	16.85	Q V				
10+55	8.8181	17.00	Q V				
11+ 0	8.9363	17.16	Q V				
11+ 5	9.0557	17.33	Q V				
11+10	9.1762	17.50	Q V				
11+15	9.2978	17.67	Q V				
11+20	9.4207	17.84	Q V				
11+25	9.5448	18.02	Q V				
11+30	9.6701	18.20	Q V				
11+35	9.7968	18.38	Q V				
11+40	9.9247	18.57	Q V				
11+45	10.0539	18.77	Q V				
11+50	10.1845	18.96	Q V				
11+55	10.3165	19.17	Q V				
12+ 0	10.4500	19.38	Q V				
12+ 5	10.5847	19.57	Q V				
12+10	10.7207	19.74	Q V				

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12+15      10.8578     19.91  |Q  V     |          |          |          |
12+20      10.9959     20.05  |Q  V     |          |          |          |
12+25      11.1349     20.19  |Q  V     |          |          |          |
12+30      11.2749     20.32  |Q  V     |          |          |          |
12+35      11.4156     20.43  |Q  V     |          |          |          |
12+40      11.5570     20.53  |Q  V     |          |          |          |
12+45      11.6989     20.61  |Q  V     |          |          |          |
12+50      11.8414     20.68  |Q   V    |          |          |          |
12+55      11.9836     20.65  |Q   V    |          |          |          |
13+ 0      12.1253     20.58  |Q   V    |          |          |          |
13+ 5      12.2661     20.44  |Q   V    |          |          |          |
13+10      12.4050     20.17  |Q   V    |          |          |          |
13+15      12.5421     19.90  |Q   V    |          |          |          |
13+20      12.6777     19.70  |Q   V    |          |          |          |
13+25      12.8122     19.52  |Q   V    |          |          |          |
13+30      12.9457     19.39  |Q   V    |          |          |          |
13+35      13.0789     19.34  |Q   V    |          |          |          |
13+40      13.2119     19.31  |Q   V    |          |          |          |
13+45      13.3450     19.33  |Q   V    |          |          |          |
13+50      13.4784     19.37  |Q   V    |          |          |          |
13+55      13.6124     19.45  |Q   V    |          |          |          |
14+ 0      13.7473     19.59  |Q   V    |          |          |          |
14+ 5      13.8834     19.76  |Q   V    |          |          |          |
14+10      14.0209     19.97  |Q   V    |          |          |          |
14+15      14.1601     20.22  |Q    V   |          |          |          |
14+20      14.3013     20.50  |Q    V   |          |          |          |
14+25      14.4447     20.82  |Q    V   |          |          |          |
14+30      14.5906     21.18  |Q    V   |          |          |          |
14+35      14.7392     21.57  |Q    V   |          |          |          |
14+40      14.8907     22.00  |Q    V   |          |          |          |
14+45      15.0456     22.49  |Q    V   |          |          |          |
14+50      15.2041     23.02  |Q    V   |          |          |          |
14+55      15.3669     23.64  |Q    V   |          |          |          |
15+ 0      15.5344     24.33  |Q    V   |          |          |          |
15+ 5      15.7073     25.09  | Q   V   |          |          |          |
15+10      15.8861     25.98  | Q   V   |          |          |          |
15+15      16.0716     26.93  | Q   V   |          |          |          |
15+20      16.2641     27.94  | Q   V   |          |          |          |
15+25      16.4651     29.19  | Q   V   |          |          |          |
15+30      16.6764     30.68  | Q    V  |          |          |          |
15+35      16.8991     32.33  | Q    V  |          |          |          |
15+40      17.1359     34.38  | Q    V  |          |          |          |
15+45      17.3895     36.83  | Q    V  |          |          |          |
15+50      17.6647     39.96  |  Q   V  |          |          |          |
15+55      17.9691     44.20  |  Q   V  |          |          |          |
16+ 0      18.3160     50.37  |   Q  V  |          |          |          |
16+ 5      18.7756     66.72  |    Q V  |          |          |          |
16+10      19.3499     83.40  |     Q V |          |          |          |
16+15      20.0014     94.59  |      QV |          |          |          |
16+20      20.7975    115.60  |       VQ|          |          |          |
16+25      21.6712    126.85  |        VQ          |          |          |
16+30      22.6828    146.89  |        V|Q         |          |          |
16+35      23.8170    164.68  |         V  Q       |          |          |
16+40      25.0607    180.58  |         V   Q      |          |          |
16+45      26.4924    207.88  |         |V    Q    |          |          |
16+50      28.0678    228.74  |         |V      Q  |          |          |
16+55      30.0555    288.63  |         | V        |  Q       |          |
17+ 0      32.3046    326.56  |         |  V       |     Q    |          |
17+ 5      34.8241    365.83  |         |   V      |        Q |          |
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| | | |

22+ 5	85.0994	37.55	Q			V
22+10	85.3538	36.94	Q			V
22+15	85.6009	35.87	Q			V
22+20	85.8444	35.36	Q			V
22+25	86.0849	34.92	Q			V
22+30	86.3215	34.36	Q			V
22+35	86.5505	33.24	Q			V
22+40	86.7654	31.20	Q			V
22+45	86.9766	30.67	Q			V
22+50	87.1856	30.34	Q			V
22+55	87.3926	30.06	Q			V
23+ 0	87.5978	29.79	Q			V
23+ 5	87.8010	29.51	Q			V
23+10	88.0022	29.21	Q			V
23+15	88.2009	28.85	Q			V
23+20	88.3963	28.37	Q			V
23+25	88.5837	27.22	Q			V
23+30	88.7613	25.78	Q			V
23+35	88.9365	25.44	Q			V
23+40	89.1099	25.17	Q			V
23+45	89.2816	24.93	Q			V
23+50	89.4517	24.70	Q			V
23+55	89.6201	24.45	Q			V
24+ 0	89.7866	24.18	Q			V
24+ 5	89.9506	23.81	Q			V
24+10	90.1111	23.29	Q			V
24+15	90.2614	21.82	Q			V
24+20	90.4038	20.68	Q			V
24+25	90.5437	20.31	Q			V
24+30	90.6812	19.98	Q			V
24+35	90.8166	19.65	Q			V
24+40	90.9497	19.32	Q			V
24+45	91.0802	18.95	Q			V
24+50	91.2078	18.54	Q			V
24+55	91.3314	17.95	Q			V
25+ 0	91.4494	17.12	Q			V
25+ 5	91.5540	15.19	Q			V
25+10	91.6504	14.00	Q			V
25+15	91.7422	13.33	Q			V
25+20	91.8301	12.77	Q			V
25+25	91.9146	12.27	Q			V
25+30	91.9961	11.83	Q			V
25+35	92.0750	11.46	Q			V
25+40	92.1516	11.12	Q			V
25+45	92.2264	10.85	Q			V
25+50	92.3000	10.68	Q			V
25+55	92.3742	10.78	Q			V
26+ 0	92.4475	10.64	Q			V
26+ 5	92.5193	10.43	Q			V
26+10	92.5898	10.24	Q			V
26+15	92.6589	10.04	Q			V
26+20	92.7268	9.85	Q			V
26+25	92.7934	9.68	Q			V
26+30	92.8589	9.51	Q			V
26+35	92.9233	9.34	Q			V
26+40	92.9865	9.18	Q			V
26+45	93.0486	9.03	Q			V
26+50	93.1098	8.87	Q			V
26+55	93.1697	8.71	Q			V

27+ 0	93.2286	8.55	Q	|	|	|	V|
27+ 5	93.2863	8.38	Q	|	|	|	V|
27+10	93.3428	8.20	Q	|	|	|	V|
27+15	93.3979	7.99	Q	|	|	|	V|
27+20	93.4512	7.75	Q	|	|	|	V|
27+25	93.5024	7.43	Q	|	|	|	V|
27+30	93.5478	6.59	Q	|	|	|	V|
27+35	93.5865	5.62	Q	|	|	|	V|
27+40	93.6239	5.42	Q	|	|	|	V|
27+45	93.6602	5.27	Q	|	|	|	V|
27+50	93.6956	5.15	Q	|	|	|	V|
27+55	93.7304	5.05	Q	|	|	|	V|
28+ 0	93.7645	4.95	Q	|	|	|	V|
28+ 5	93.7979	4.84	Q	|	|	|	V|
28+10	93.8304	4.73	Q	|	|	|	V|
28+15	93.8621	4.61	Q	|	|	|	V|
28+20	93.8930	4.49	Q	|	|	|	V|
28+25	93.9230	4.35	Q	|	|	|	V|
28+30	93.9518	4.18	Q	|	|	|	V|
28+35	93.9792	3.97	Q	|	|	|	V|
28+40	94.0044	3.67	Q	|	|	|	V|
28+45	94.0230	2.70	Q	|	|	|	V|
28+50	94.0355	1.81	Q	|	|	|	V|
28+55	94.0469	1.66	Q	|	|	|	V|
29+ 0	94.0576	1.55	Q	|	|	|	V|
29+ 5	94.0678	1.48	Q	|	|	|	V|
29+10	94.0776	1.42	Q	|	|	|	V|
29+15	94.0870	1.37	Q	|	|	|	V|
29+20	94.0961	1.32	Q	|	|	|	V|
29+25	94.1049	1.27	Q	|	|	|	V|
29+30	94.1133	1.23	Q	|	|	|	V|
29+35	94.1215	1.18	Q	|	|	|	V|
29+40	94.1293	1.14	Q	|	|	|	V|
29+45	94.1369	1.10	Q	|	|	|	V|
29+50	94.1441	1.06	Q	|	|	|	V|
29+55	94.1512	1.02	Q	|	|	|	V|
30+ 0	94.1580	0.99	Q	|	|	|	V|
30+ 5	94.1646	0.95	Q	|	|	|	V|
30+10	94.1709	0.92	Q	|	|	|	V|
30+15	94.1770	0.89	Q	|	|	|	V|
30+20	94.1830	0.86	Q	|	|	|	V|
30+25	94.1887	0.83	Q	|	|	|	V|
30+30	94.1942	0.80	Q	|	|	|	V|
30+35	94.1995	0.77	Q	|	|	|	V|
30+40	94.2047	0.75	Q	|	|	|	V|
30+45	94.2097	0.73	Q	|	|	|	V|
30+50	94.2145	0.70	Q	|	|	|	V|
30+55	94.2192	0.68	Q	|	|	|	V|
31+ 0	94.2237	0.65	Q	|	|	|	V|
31+ 5	94.2280	0.63	Q	|	|	|	V|
31+10	94.2321	0.60	Q	|	|	|	V|
31+15	94.2361	0.58	Q	|	|	|	V|
31+20	94.2399	0.55	Q	|	|	|	V|
31+25	94.2436	0.53	Q	|	|	|	V|
31+30	94.2471	0.51	Q	|	|	|	V|
31+35	94.2506	0.50	Q	|	|	|	V|
31+40	94.2538	0.48	Q	|	|	|	V|
31+45	94.2570	0.46	Q	|	|	|	V|
31+50	94.2601	0.44	Q	|	|	|	V|

31+55	94.2630	0.42	Q	|	|	|	V|
32+ 0	94.2658	0.41	Q	|	|	|	V|
32+ 5	94.2685	0.39	Q	|	|	|	V|
32+10	94.2710	0.37	Q	|	|	|	V|
32+15	94.2735	0.36	Q	|	|	|	V|
32+20	94.2759	0.35	Q	|	|	|	V|
32+25	94.2782	0.33	Q	|	|	|	V|
32+30	94.2804	0.32	Q	|	|	|	V|
32+35	94.2825	0.31	Q	|	|	|	V|
32+40	94.2846	0.30	Q	|	|	|	V|
32+45	94.2866	0.29	Q	|	|	|	V|
32+50	94.2885	0.27	Q	|	|	|	V|
32+55	94.2903	0.26	Q	|	|	|	V|
33+ 0	94.2920	0.25	Q	|	|	|	V|
33+ 5	94.2937	0.24	Q	|	|	|	V|
33+10	94.2953	0.24	Q	|	|	|	V|
33+15	94.2969	0.23	Q	|	|	|	V|
33+20	94.2984	0.22	Q	|	|	|	V|
33+25	94.2999	0.21	Q	|	|	|	V|
33+30	94.3013	0.21	Q	|	|	|	V|
33+35	94.3027	0.20	Q	|	|	|	V|
33+40	94.3040	0.19	Q	|	|	|	V|
33+45	94.3053	0.19	Q	|	|	|	V|
33+50	94.3066	0.18	Q	|	|	|	V|
33+55	94.3078	0.17	Q	|	|	|	V|
34+ 0	94.3089	0.17	Q	|	|	|	V|
34+ 5	94.3100	0.16	Q	|	|	|	V|
34+10	94.3110	0.15	Q	|	|	|	V|
34+15	94.3120	0.14	Q	|	|	|	V|
34+20	94.3130	0.14	Q	|	|	|	V|
34+25	94.3139	0.13	Q	|	|	|	V|
34+30	94.3147	0.12	Q	|	|	|	V|
34+35	94.3155	0.12	Q	|	|	|	V|
34+40	94.3163	0.11	Q	|	|	|	V|
34+45	94.3170	0.10	Q	|	|	|	V|
34+50	94.3177	0.10	Q	|	|	|	V|
34+55	94.3183	0.09	Q	|	|	|	V|
35+ 0	94.3189	0.08	Q	|	|	|	V|
35+ 5	94.3194	0.08	Q	|	|	|	V|
35+10	94.3199	0.07	Q	|	|	|	V|
35+15	94.3203	0.06	Q	|	|	|	V|
35+20	94.3207	0.06	Q	|	|	|	V|
35+25	94.3211	0.05	Q	|	|	|	V|
35+30	94.3214	0.05	Q	|	|	|	V|
35+35	94.3217	0.04	Q	|	|	|	V|
35+40	94.3220	0.04	Q	|	|	|	V|
35+45	94.3222	0.04	Q	|	|	|	V|
35+50	94.3224	0.03	Q	|	|	|	V|
35+55	94.3226	0.03	Q	|	|	|	V|
36+ 0	94.3228	0.03	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 32
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
24.36	1	1.39
Rainfall data for year 100		
24.36	6	1.83
Rainfall data for year 100		
24.36	24	2.60

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
81.2	94.7	24.36	1.000	0.103	1.000	0.103

Area-averaged adjusted loss rate Fm (In/Hr) = 0.103

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
24.36	1.000	81.2	94.7	0.56	0.782

Area-averaged catchment yield fraction, Y = 0.782
Area-averaged low loss fraction, Yb = 0.218
User entry of time of concentration = 0.720 (hours)
++
Watershed area = 24.36(Ac.)
Catchment Lag time = 0.576 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 14.4676
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.103(In/Hr)
Average low loss rate fraction (Yb) = 0.218 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.645(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.600(In)

Rainfall depth area reduction factors:
Using a total area of 24.36(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.128(In)
1-hour factor = 0.999 Adjusted rainfall = 1.388(In)
3-hour factor = 1.000 Adjusted rainfall = 1.645(In)
6-hour factor = 1.000 Adjusted rainfall = 1.830(In)
24-hour factor = 1.000 Adjusted rainfall = 2.600(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 294.60 (CFS))	
1	0.647	1.907
2	2.689	6.014
3	6.076	9.979
4	11.365	15.581
5	21.451	29.715
6	35.172	40.423
7	46.175	32.414
8	54.374	24.156
9	60.455	17.913
10	65.097	13.675
11	68.935	11.308
12	72.260	9.796
13	75.027	8.152
14	77.504	7.299

15	79.591	6.147
16	81.466	5.523
17	83.081	4.759
18	84.599	4.471
19	85.994	4.112
20	87.269	3.756
21	88.417	3.380
22	89.363	2.788
23	90.223	2.533
24	91.039	2.405
25	91.812	2.276
26	92.508	2.052
27	93.169	1.948
28	93.797	1.849
29	94.319	1.539
30	94.811	1.449
31	95.303	1.449
32	95.748	1.312
33	96.125	1.110
34	96.501	1.108
35	96.866	1.075
36	97.145	0.821
37	97.405	0.767
38	97.666	0.767
39	97.870	0.602
40	98.015	0.426
41	98.159	0.426
42	98.308	0.438
43	98.478	0.502
44	98.652	0.511
45	98.826	0.511
46	98.999	0.511
47	99.173	0.511
48	99.347	0.511
49	99.504	0.465
50	99.601	0.284
51	99.691	0.266
52	99.782	0.266
53	99.872	0.266
54	100.000	0.133

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6588	0.6588
2	0.8111	0.1523
3	0.9160	0.1049
4	0.9986	0.0826
5	1.0677	0.0691
6	1.1277	0.0600
7	1.1811	0.0534
8	1.2294	0.0483
9	1.2736	0.0442
10	1.3145	0.0409
11	1.3526	0.0381
12	1.3884	0.0358
13	1.4057	0.0173
14	1.4219	0.0162
15	1.4371	0.0152
16	1.4515	0.0144

17	1.4651	0.0136
18	1.4781	0.0130
19	1.4905	0.0124
20	1.5023	0.0119
21	1.5137	0.0114
22	1.5246	0.0109
23	1.5351	0.0105
24	1.5452	0.0101
25	1.5550	0.0098
26	1.5645	0.0094
27	1.5736	0.0091
28	1.5825	0.0089
29	1.5911	0.0086
30	1.5994	0.0083
31	1.6075	0.0081
32	1.6154	0.0079
33	1.6231	0.0077
34	1.6306	0.0075
35	1.6379	0.0073
36	1.6451	0.0071
37	1.6520	0.0069
38	1.6588	0.0068
39	1.6654	0.0066
40	1.6719	0.0065
41	1.6783	0.0064
42	1.6845	0.0062
43	1.6906	0.0061
44	1.6966	0.0060
45	1.7024	0.0059
46	1.7082	0.0058
47	1.7138	0.0057
48	1.7194	0.0056
49	1.7248	0.0055
50	1.7302	0.0054
51	1.7355	0.0053
52	1.7407	0.0052
53	1.7458	0.0051
54	1.7508	0.0050
55	1.7557	0.0049
56	1.7606	0.0049
57	1.7654	0.0048
58	1.7701	0.0047
59	1.7747	0.0047
60	1.7793	0.0046
61	1.7839	0.0045
62	1.7883	0.0045
63	1.7927	0.0044
64	1.7971	0.0043
65	1.8013	0.0043
66	1.8056	0.0042
67	1.8097	0.0042
68	1.8139	0.0041
69	1.8179	0.0041
70	1.8220	0.0040
71	1.8259	0.0040
72	1.8299	0.0039
73	1.8363	0.0064
74	1.8426	0.0063
75	1.8489	0.0063

76	1.8551	0.0062
77	1.8613	0.0062
78	1.8673	0.0061
79	1.8734	0.0060
80	1.8794	0.0060
81	1.8853	0.0059
82	1.8912	0.0059
83	1.8970	0.0058
84	1.9027	0.0058
85	1.9085	0.0057
86	1.9141	0.0057
87	1.9197	0.0056
88	1.9253	0.0056
89	1.9308	0.0055
90	1.9363	0.0055
91	1.9417	0.0054
92	1.9471	0.0054
93	1.9524	0.0053
94	1.9577	0.0053
95	1.9630	0.0053
96	1.9682	0.0052
97	1.9734	0.0052
98	1.9785	0.0051
99	1.9836	0.0051
100	1.9887	0.0051
101	1.9937	0.0050
102	1.9987	0.0050
103	2.0036	0.0049
104	2.0085	0.0049
105	2.0134	0.0049
106	2.0183	0.0048
107	2.0231	0.0048
108	2.0278	0.0048
109	2.0326	0.0047
110	2.0373	0.0047
111	2.0420	0.0047
112	2.0466	0.0046
113	2.0512	0.0046
114	2.0558	0.0046
115	2.0604	0.0046
116	2.0649	0.0045
117	2.0694	0.0045
118	2.0739	0.0045
119	2.0783	0.0044
120	2.0827	0.0044
121	2.0871	0.0044
122	2.0914	0.0044
123	2.0958	0.0043
124	2.1001	0.0043
125	2.1044	0.0043
126	2.1086	0.0043
127	2.1128	0.0042
128	2.1170	0.0042
129	2.1212	0.0042
130	2.1254	0.0042
131	2.1295	0.0041
132	2.1336	0.0041
133	2.1377	0.0041
134	2.1418	0.0041

135	2.1458	0.0040
136	2.1498	0.0040
137	2.1538	0.0040
138	2.1578	0.0040
139	2.1617	0.0040
140	2.1657	0.0039
141	2.1696	0.0039
142	2.1735	0.0039
143	2.1773	0.0039
144	2.1812	0.0038
145	2.1850	0.0038
146	2.1888	0.0038
147	2.1926	0.0038
148	2.1964	0.0038
149	2.2001	0.0038
150	2.2038	0.0037
151	2.2076	0.0037
152	2.2113	0.0037
153	2.2149	0.0037
154	2.2186	0.0037
155	2.2222	0.0036
156	2.2259	0.0036
157	2.2295	0.0036
158	2.2330	0.0036
159	2.2366	0.0036
160	2.2402	0.0036
161	2.2437	0.0035
162	2.2472	0.0035
163	2.2507	0.0035
164	2.2542	0.0035
165	2.2577	0.0035
166	2.2612	0.0035
167	2.2646	0.0034
168	2.2680	0.0034
169	2.2715	0.0034
170	2.2749	0.0034
171	2.2782	0.0034
172	2.2816	0.0034
173	2.2850	0.0034
174	2.2883	0.0033
175	2.2916	0.0033
176	2.2949	0.0033
177	2.2982	0.0033
178	2.3015	0.0033
179	2.3048	0.0033
180	2.3080	0.0033
181	2.3113	0.0032
182	2.3145	0.0032
183	2.3177	0.0032
184	2.3209	0.0032
185	2.3241	0.0032
186	2.3273	0.0032
187	2.3305	0.0032
188	2.3336	0.0032
189	2.3367	0.0031
190	2.3399	0.0031
191	2.3430	0.0031
192	2.3461	0.0031
193	2.3492	0.0031

194	2.3523	0.0031
195	2.3553	0.0031
196	2.3584	0.0031
197	2.3614	0.0030
198	2.3645	0.0030
199	2.3675	0.0030
200	2.3705	0.0030
201	2.3735	0.0030
202	2.3765	0.0030
203	2.3794	0.0030
204	2.3824	0.0030
205	2.3854	0.0030
206	2.3883	0.0029
207	2.3912	0.0029
208	2.3942	0.0029
209	2.3971	0.0029
210	2.4000	0.0029
211	2.4029	0.0029
212	2.4057	0.0029
213	2.4086	0.0029
214	2.4115	0.0029
215	2.4143	0.0029
216	2.4172	0.0028
217	2.4200	0.0028
218	2.4228	0.0028
219	2.4256	0.0028
220	2.4284	0.0028
221	2.4312	0.0028
222	2.4340	0.0028
223	2.4368	0.0028
224	2.4395	0.0028
225	2.4423	0.0028
226	2.4450	0.0027
227	2.4478	0.0027
228	2.4505	0.0027
229	2.4532	0.0027
230	2.4559	0.0027
231	2.4586	0.0027
232	2.4613	0.0027
233	2.4640	0.0027
234	2.4667	0.0027
235	2.4693	0.0027
236	2.4720	0.0027
237	2.4747	0.0026
238	2.4773	0.0026
239	2.4799	0.0026
240	2.4826	0.0026
241	2.4852	0.0026
242	2.4878	0.0026
243	2.4904	0.0026
244	2.4930	0.0026
245	2.4956	0.0026
246	2.4981	0.0026
247	2.5007	0.0026
248	2.5033	0.0026
249	2.5058	0.0026
250	2.5084	0.0025
251	2.5109	0.0025
252	2.5134	0.0025

253	2.5160	0.0025
254	2.5185	0.0025
255	2.5210	0.0025
256	2.5235	0.0025
257	2.5260	0.0025
258	2.5285	0.0025
259	2.5309	0.0025
260	2.5334	0.0025
261	2.5359	0.0025
262	2.5383	0.0025
263	2.5408	0.0025
264	2.5432	0.0024
265	2.5457	0.0024
266	2.5481	0.0024
267	2.5505	0.0024
268	2.5529	0.0024
269	2.5553	0.0024
270	2.5578	0.0024
271	2.5601	0.0024
272	2.5625	0.0024
273	2.5649	0.0024
274	2.5673	0.0024
275	2.5697	0.0024
276	2.5720	0.0024
277	2.5744	0.0024
278	2.5767	0.0024
279	2.5791	0.0023
280	2.5814	0.0023
281	2.5838	0.0023
282	2.5861	0.0023
283	2.5884	0.0023
284	2.5907	0.0023
285	2.5930	0.0023
286	2.5953	0.0023
287	2.5976	0.0023
288	2.5999	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0005	0.0018
2	0.0023	0.0005	0.0018
3	0.0023	0.0005	0.0018
4	0.0023	0.0005	0.0018
5	0.0023	0.0005	0.0018
6	0.0023	0.0005	0.0018
7	0.0023	0.0005	0.0018
8	0.0024	0.0005	0.0018
9	0.0024	0.0005	0.0018
10	0.0024	0.0005	0.0019
11	0.0024	0.0005	0.0019
12	0.0024	0.0005	0.0019
13	0.0024	0.0005	0.0019
14	0.0024	0.0005	0.0019
15	0.0024	0.0005	0.0019
16	0.0024	0.0005	0.0019
17	0.0024	0.0005	0.0019
18	0.0025	0.0005	0.0019

19	0.0025	0.0005	0.0019
20	0.0025	0.0005	0.0019
21	0.0025	0.0005	0.0019
22	0.0025	0.0005	0.0020
23	0.0025	0.0005	0.0020
24	0.0025	0.0005	0.0020
25	0.0025	0.0006	0.0020
26	0.0025	0.0006	0.0020
27	0.0026	0.0006	0.0020
28	0.0026	0.0006	0.0020
29	0.0026	0.0006	0.0020
30	0.0026	0.0006	0.0020
31	0.0026	0.0006	0.0020
32	0.0026	0.0006	0.0020
33	0.0026	0.0006	0.0021
34	0.0026	0.0006	0.0021
35	0.0026	0.0006	0.0021
36	0.0027	0.0006	0.0021
37	0.0027	0.0006	0.0021
38	0.0027	0.0006	0.0021
39	0.0027	0.0006	0.0021
40	0.0027	0.0006	0.0021
41	0.0027	0.0006	0.0021
42	0.0027	0.0006	0.0021
43	0.0028	0.0006	0.0022
44	0.0028	0.0006	0.0022
45	0.0028	0.0006	0.0022
46	0.0028	0.0006	0.0022
47	0.0028	0.0006	0.0022
48	0.0028	0.0006	0.0022
49	0.0028	0.0006	0.0022
50	0.0029	0.0006	0.0022
51	0.0029	0.0006	0.0022
52	0.0029	0.0006	0.0023
53	0.0029	0.0006	0.0023
54	0.0029	0.0006	0.0023
55	0.0029	0.0006	0.0023
56	0.0029	0.0006	0.0023
57	0.0030	0.0006	0.0023
58	0.0030	0.0006	0.0023
59	0.0030	0.0007	0.0023
60	0.0030	0.0007	0.0024
61	0.0030	0.0007	0.0024
62	0.0030	0.0007	0.0024
63	0.0031	0.0007	0.0024
64	0.0031	0.0007	0.0024
65	0.0031	0.0007	0.0024
66	0.0031	0.0007	0.0024
67	0.0031	0.0007	0.0025
68	0.0032	0.0007	0.0025
69	0.0032	0.0007	0.0025
70	0.0032	0.0007	0.0025
71	0.0032	0.0007	0.0025
72	0.0032	0.0007	0.0025
73	0.0033	0.0007	0.0025
74	0.0033	0.0007	0.0026
75	0.0033	0.0007	0.0026
76	0.0033	0.0007	0.0026
77	0.0033	0.0007	0.0026

78	0.0034	0.0007	0.0026
79	0.0034	0.0007	0.0026
80	0.0034	0.0007	0.0027
81	0.0034	0.0007	0.0027
82	0.0034	0.0008	0.0027
83	0.0035	0.0008	0.0027
84	0.0035	0.0008	0.0027
85	0.0035	0.0008	0.0028
86	0.0035	0.0008	0.0028
87	0.0036	0.0008	0.0028
88	0.0036	0.0008	0.0028
89	0.0036	0.0008	0.0028
90	0.0036	0.0008	0.0028
91	0.0037	0.0008	0.0029
92	0.0037	0.0008	0.0029
93	0.0037	0.0008	0.0029
94	0.0038	0.0008	0.0029
95	0.0038	0.0008	0.0030
96	0.0038	0.0008	0.0030
97	0.0038	0.0008	0.0030
98	0.0039	0.0008	0.0030
99	0.0039	0.0009	0.0031
100	0.0039	0.0009	0.0031
101	0.0040	0.0009	0.0031
102	0.0040	0.0009	0.0031
103	0.0040	0.0009	0.0032
104	0.0041	0.0009	0.0032
105	0.0041	0.0009	0.0032
106	0.0041	0.0009	0.0032
107	0.0042	0.0009	0.0033
108	0.0042	0.0009	0.0033
109	0.0043	0.0009	0.0033
110	0.0043	0.0009	0.0033
111	0.0043	0.0009	0.0034
112	0.0044	0.0009	0.0034
113	0.0044	0.0010	0.0034
114	0.0044	0.0010	0.0035
115	0.0045	0.0010	0.0035
116	0.0045	0.0010	0.0035
117	0.0046	0.0010	0.0036
118	0.0046	0.0010	0.0036
119	0.0047	0.0010	0.0037
120	0.0047	0.0010	0.0037
121	0.0048	0.0010	0.0037
122	0.0048	0.0010	0.0038
123	0.0049	0.0011	0.0038
124	0.0049	0.0011	0.0038
125	0.0050	0.0011	0.0039
126	0.0050	0.0011	0.0039
127	0.0051	0.0011	0.0040
128	0.0051	0.0011	0.0040
129	0.0052	0.0011	0.0041
130	0.0053	0.0011	0.0041
131	0.0053	0.0012	0.0042
132	0.0054	0.0012	0.0042
133	0.0055	0.0012	0.0043
134	0.0055	0.0012	0.0043
135	0.0056	0.0012	0.0044
136	0.0057	0.0012	0.0044

137	0.0058	0.0013	0.0045
138	0.0058	0.0013	0.0045
139	0.0059	0.0013	0.0046
140	0.0060	0.0013	0.0047
141	0.0061	0.0013	0.0048
142	0.0062	0.0013	0.0048
143	0.0063	0.0014	0.0049
144	0.0063	0.0014	0.0050
145	0.0039	0.0009	0.0031
146	0.0040	0.0009	0.0031
147	0.0041	0.0009	0.0032
148	0.0041	0.0009	0.0032
149	0.0042	0.0009	0.0033
150	0.0043	0.0009	0.0034
151	0.0044	0.0010	0.0034
152	0.0045	0.0010	0.0035
153	0.0046	0.0010	0.0036
154	0.0047	0.0010	0.0036
155	0.0048	0.0010	0.0037
156	0.0049	0.0011	0.0038
157	0.0050	0.0011	0.0039
158	0.0051	0.0011	0.0040
159	0.0053	0.0011	0.0041
160	0.0054	0.0012	0.0042
161	0.0056	0.0012	0.0043
162	0.0057	0.0012	0.0044
163	0.0059	0.0013	0.0046
164	0.0060	0.0013	0.0047
165	0.0062	0.0014	0.0049
166	0.0064	0.0014	0.0050
167	0.0066	0.0014	0.0052
168	0.0068	0.0015	0.0053
169	0.0071	0.0016	0.0056
170	0.0073	0.0016	0.0057
171	0.0077	0.0017	0.0060
172	0.0079	0.0017	0.0062
173	0.0083	0.0018	0.0065
174	0.0086	0.0019	0.0067
175	0.0091	0.0020	0.0071
176	0.0094	0.0021	0.0074
177	0.0101	0.0022	0.0079
178	0.0105	0.0023	0.0082
179	0.0114	0.0025	0.0089
180	0.0119	0.0026	0.0093
181	0.0130	0.0028	0.0102
182	0.0136	0.0030	0.0107
183	0.0152	0.0033	0.0119
184	0.0162	0.0035	0.0126
185	0.0358	0.0078	0.0280
186	0.0381	0.0083	0.0298
187	0.0442	0.0086	0.0356
188	0.0483	0.0086	0.0397
189	0.0600	0.0086	0.0514
190	0.0691	0.0086	0.0605
191	0.1049	0.0086	0.0963
192	0.1523	0.0086	0.1437
193	0.6588	0.0086	0.6502
194	0.0826	0.0086	0.0739
195	0.0534	0.0086	0.0448

196	0.0409	0.0086	0.0323
197	0.0173	0.0038	0.0135
198	0.0144	0.0031	0.0113
199	0.0124	0.0027	0.0097
200	0.0109	0.0024	0.0085
201	0.0098	0.0021	0.0076
202	0.0089	0.0019	0.0069
203	0.0081	0.0018	0.0063
204	0.0075	0.0016	0.0059
205	0.0069	0.0015	0.0054
206	0.0065	0.0014	0.0051
207	0.0061	0.0013	0.0048
208	0.0058	0.0013	0.0045
209	0.0055	0.0012	0.0043
210	0.0052	0.0011	0.0041
211	0.0049	0.0011	0.0039
212	0.0047	0.0010	0.0037
213	0.0045	0.0010	0.0035
214	0.0043	0.0009	0.0034
215	0.0042	0.0009	0.0033
216	0.0040	0.0009	0.0031
217	0.0064	0.0014	0.0050
218	0.0062	0.0014	0.0049
219	0.0060	0.0013	0.0047
220	0.0059	0.0013	0.0046
221	0.0057	0.0012	0.0045
222	0.0056	0.0012	0.0044
223	0.0054	0.0012	0.0042
224	0.0053	0.0012	0.0041
225	0.0052	0.0011	0.0040
226	0.0051	0.0011	0.0040
227	0.0049	0.0011	0.0039
228	0.0048	0.0011	0.0038
229	0.0047	0.0010	0.0037
230	0.0046	0.0010	0.0036
231	0.0046	0.0010	0.0036
232	0.0045	0.0010	0.0035
233	0.0044	0.0010	0.0034
234	0.0043	0.0009	0.0034
235	0.0042	0.0009	0.0033
236	0.0042	0.0009	0.0032
237	0.0041	0.0009	0.0032
238	0.0040	0.0009	0.0031
239	0.0040	0.0009	0.0031
240	0.0039	0.0008	0.0030
241	0.0038	0.0008	0.0030
242	0.0038	0.0008	0.0029
243	0.0037	0.0008	0.0029
244	0.0037	0.0008	0.0029
245	0.0036	0.0008	0.0028
246	0.0036	0.0008	0.0028
247	0.0035	0.0008	0.0027
248	0.0035	0.0008	0.0027
249	0.0034	0.0007	0.0027
250	0.0034	0.0007	0.0026
251	0.0033	0.0007	0.0026
252	0.0033	0.0007	0.0026
253	0.0032	0.0007	0.0025
254	0.0032	0.0007	0.0025

255	0.0032	0.0007	0.0025
256	0.0031	0.0007	0.0024
257	0.0031	0.0007	0.0024
258	0.0031	0.0007	0.0024
259	0.0030	0.0007	0.0024
260	0.0030	0.0007	0.0023
261	0.0030	0.0006	0.0023
262	0.0029	0.0006	0.0023
263	0.0029	0.0006	0.0023
264	0.0029	0.0006	0.0022
265	0.0028	0.0006	0.0022
266	0.0028	0.0006	0.0022
267	0.0028	0.0006	0.0022
268	0.0027	0.0006	0.0021
269	0.0027	0.0006	0.0021
270	0.0027	0.0006	0.0021
271	0.0027	0.0006	0.0021
272	0.0026	0.0006	0.0021
273	0.0026	0.0006	0.0020
274	0.0026	0.0006	0.0020
275	0.0026	0.0006	0.0020
276	0.0025	0.0006	0.0020
277	0.0025	0.0006	0.0020
278	0.0025	0.0005	0.0020
279	0.0025	0.0005	0.0019
280	0.0025	0.0005	0.0019
281	0.0024	0.0005	0.0019
282	0.0024	0.0005	0.0019
283	0.0024	0.0005	0.0019
284	0.0024	0.0005	0.0019
285	0.0024	0.0005	0.0018
286	0.0023	0.0005	0.0018
287	0.0023	0.0005	0.0018
288	0.0023	0.0005	0.0018

Total soil rain loss = 0.37(In)
Total effective rainfall = 2.23(In)
Peak flow rate in flood hydrograph = 40.15(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

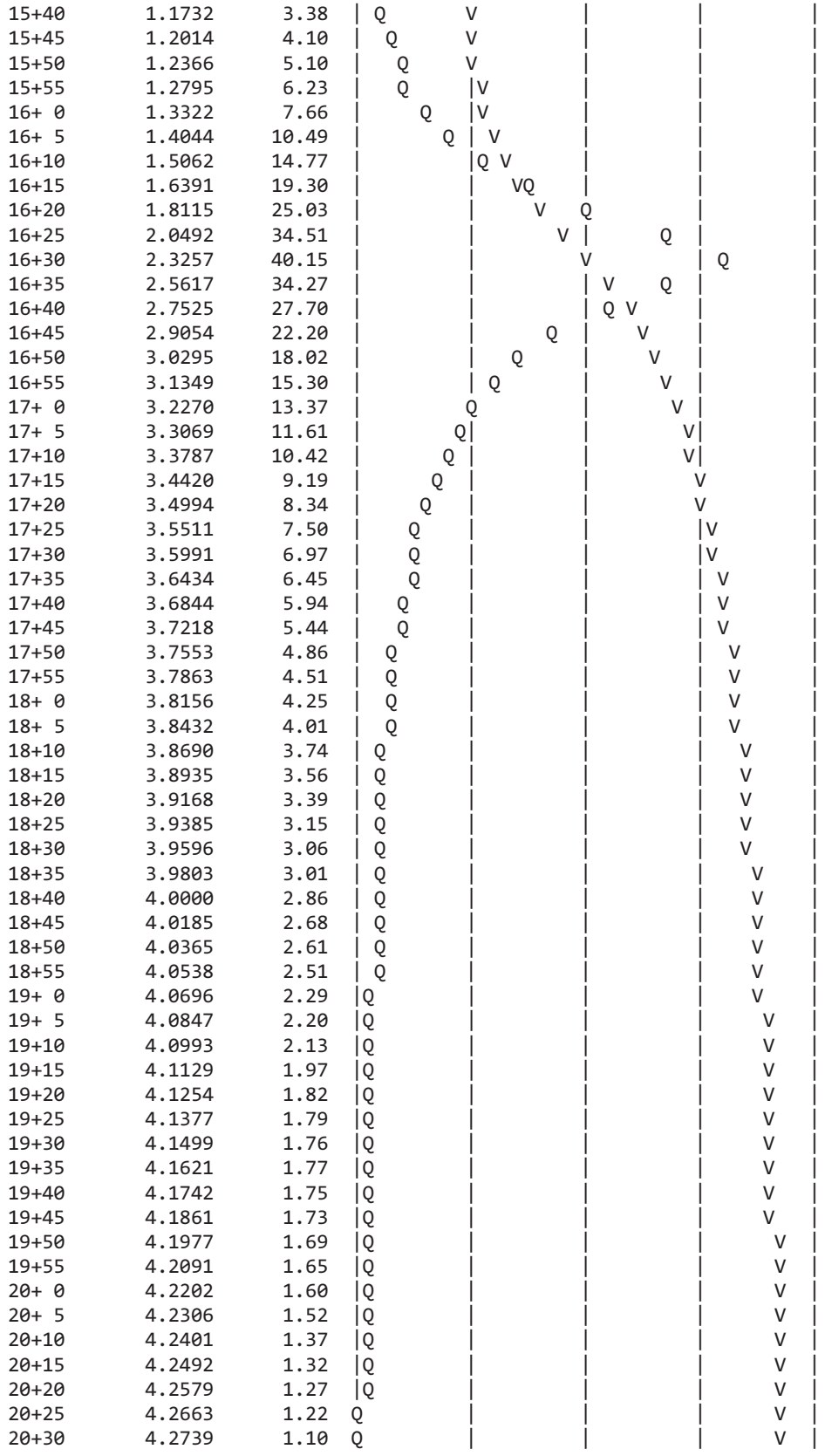
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0003	0.03	Q	|	|	|	|
0+20	0.0008	0.06	Q	|	|	|	|
0+25	0.0015	0.11	Q	|	|	|	|
0+30	0.0028	0.19	Q	|	|	|	|
0+35	0.0045	0.25	Q	|	|	|	|
0+40	0.0065	0.29	Q	|	|	|	|
0+45	0.0087	0.32	Q	|	|	|	|
0+50	0.0111	0.35	Q	|	|	|	|

0+55	0.0137	0.37	Q				
1+ 0	0.0163	0.39	Q				
1+ 5	0.0191	0.41	Q				
1+10	0.0220	0.42	Q				
1+15	0.0250	0.43	Q				
1+20	0.0281	0.44	Q				
1+25	0.0312	0.45	Q				
1+30	0.0344	0.46	Q				
1+35	0.0377	0.47	Q				
1+40	0.0410	0.48	Q				
1+45	0.0443	0.49	Q				
1+50	0.0478	0.50	Q				
1+55	0.0512	0.50	Q				
2+ 0	0.0548	0.51	Q				
2+ 5	0.0583	0.52	Q				
2+10	0.0619	0.52	Q				
2+15	0.0656	0.53	Q				
2+20	0.0692	0.53	Q				
2+25	0.0729	0.54	Q				
2+30	0.0767	0.54	Q				
2+35	0.0805	0.55	Q				
2+40	0.0843	0.55	Q				
2+45	0.0881	0.56	Q				
2+50	0.0920	0.56	Q				
2+55	0.0959	0.57	Q				
3+ 0	0.0998	0.57	Q				
3+ 5	0.1038	0.57	Q				
3+10	0.1078	0.58	Q				
3+15	0.1118	0.58	Q				
3+20	0.1158	0.59	QV				
3+25	0.1199	0.59	QV				
3+30	0.1240	0.59	QV				
3+35	0.1281	0.60	QV				
3+40	0.1322	0.60	QV				
3+45	0.1364	0.60	QV				
3+50	0.1406	0.61	QV				
3+55	0.1448	0.61	QV				
4+ 0	0.1490	0.62	QV				
4+ 5	0.1533	0.62	QV				
4+10	0.1576	0.62	QV				
4+15	0.1619	0.63	QV				
4+20	0.1662	0.63	QV				
4+25	0.1706	0.63	QV				
4+30	0.1750	0.64	QV				
4+35	0.1794	0.64	QV				
4+40	0.1838	0.64	QV				
4+45	0.1883	0.65	QV				
4+50	0.1928	0.65	QV				
4+55	0.1973	0.65	QV				
5+ 0	0.2018	0.66	QV				
5+ 5	0.2064	0.66	QV				
5+10	0.2109	0.66	QV				
5+15	0.2155	0.67	QV				
5+20	0.2202	0.67	QV				
5+25	0.2248	0.68	QV				
5+30	0.2295	0.68	Q V				
5+35	0.2342	0.68	Q V				
5+40	0.2389	0.69	Q V				
5+45	0.2437	0.69	Q V				

5+50	0.2485	0.69	Q V	|	|	|	|
5+55	0.2533	0.70	Q V	|	|	|	|
6+ 0	0.2581	0.70	Q V	|	|	|	|
6+ 5	0.2630	0.71	Q V	|	|	|	|
6+10	0.2679	0.71	Q V	|	|	|	|
6+15	0.2728	0.71	Q V	|	|	|	|
6+20	0.2777	0.72	Q V	|	|	|	|
6+25	0.2827	0.72	Q V	|	|	|	|
6+30	0.2877	0.73	Q V	|	|	|	|
6+35	0.2928	0.73	Q V	|	|	|	|
6+40	0.2978	0.74	Q V	|	|	|	|
6+45	0.3029	0.74	Q V	|	|	|	|
6+50	0.3081	0.75	Q V	|	|	|	|
6+55	0.3132	0.75	Q V	|	|	|	|
7+ 0	0.3184	0.75	Q V	|	|	|	|
7+ 5	0.3237	0.76	Q V	|	|	|	|
7+10	0.3289	0.76	Q V	|	|	|	|
7+15	0.3342	0.77	Q V	|	|	|	|
7+20	0.3395	0.77	Q V	|	|	|	|
7+25	0.3449	0.78	Q V	|	|	|	|
7+30	0.3503	0.78	Q V	|	|	|	|
7+35	0.3558	0.79	Q V	|	|	|	|
7+40	0.3612	0.80	Q V	|	|	|	|
7+45	0.3668	0.80	Q V	|	|	|	|
7+50	0.3723	0.81	Q V	|	|	|	|
7+55	0.3779	0.81	Q V	|	|	|	|
8+ 0	0.3835	0.82	Q V	|	|	|	|
8+ 5	0.3892	0.82	Q V	|	|	|	|
8+10	0.3949	0.83	Q V	|	|	|	|
8+15	0.4007	0.84	Q V	|	|	|	|
8+20	0.4065	0.84	Q V	|	|	|	|
8+25	0.4123	0.85	Q V	|	|	|	|
8+30	0.4182	0.85	Q V	|	|	|	|
8+35	0.4241	0.86	Q V	|	|	|	|
8+40	0.4301	0.87	Q V	|	|	|	|
8+45	0.4361	0.87	Q V	|	|	|	|
8+50	0.4422	0.88	Q V	|	|	|	|
8+55	0.4483	0.89	Q V	|	|	|	|
9+ 0	0.4544	0.89	Q V	|	|	|	|
9+ 5	0.4606	0.90	Q V	|	|	|	|
9+10	0.4669	0.91	Q V	|	|	|	|
9+15	0.4732	0.92	Q V	|	|	|	|
9+20	0.4796	0.92	Q V	|	|	|	|
9+25	0.4860	0.93	Q V	|	|	|	|
9+30	0.4925	0.94	Q V	|	|	|	|
9+35	0.4990	0.95	Q V	|	|	|	|
9+40	0.5056	0.96	Q V	|	|	|	|
9+45	0.5122	0.96	Q V	|	|	|	|
9+50	0.5189	0.97	Q V	|	|	|	|
9+55	0.5257	0.98	Q V	|	|	|	|
10+ 0	0.5325	0.99	Q V	|	|	|	|
10+ 5	0.5394	1.00	Q V	|	|	|	|
10+10	0.5463	1.01	Q V	|	|	|	|
10+15	0.5533	1.02	Q V	|	|	|	|
10+20	0.5604	1.03	Q V	|	|	|	|
10+25	0.5676	1.04	Q V	|	|	|	|
10+30	0.5748	1.05	Q V	|	|	|	|
10+35	0.5821	1.06	Q V	|	|	|	|
10+40	0.5895	1.07	Q V	|	|	|	|

```
10+45       0.5969      1.08  Q    V    |          |          |          |
10+50       0.6044      1.09  Q    V    |          |          |          |
10+55       0.6120      1.10  Q    V    |          |          |          |
11+ 0       0.6197      1.12  Q    V    |          |          |          |
11+ 5       0.6275      1.13  Q    V    |          |          |          |
11+10       0.6353      1.14  Q    V    |          |          |          |
11+15       0.6433      1.15  Q    V    |          |          |          |
11+20       0.6513      1.17  Q    V    |          |          |          |
11+25       0.6594      1.18  Q    V    |          |          |          |
11+30       0.6676      1.19  Q    V    |          |          |          |
11+35       0.6760      1.21  Q    V    |          |          |          |
11+40       0.6844      1.22  Q     V   |          |          |          |
11+45       0.6929      1.24  Q     V   |          |          |          |
11+50       0.7015      1.25  |Q    V   |          |          |          |
11+55       0.7103      1.27  |Q    V   |          |          |          |
12+ 0       0.7191      1.29  |Q    V   |          |          |          |
12+ 5       0.7281      1.30  |Q    V   |          |          |          |
12+10       0.7370      1.30  |Q    V   |          |          |          |
12+15       0.7460      1.30  |Q    V   |          |          |          |
12+20       0.7549      1.29  |Q    V   |          |          |          |
12+25       0.7635      1.25  Q     V   |          |          |          |
12+30       0.7717      1.19  Q     V   |          |          |          |
12+35       0.7795      1.14  Q     V   |          |          |          |
12+40       0.7872      1.11  Q     V   |          |          |          |
12+45       0.7947      1.09  Q      V  |          |          |          |
12+50       0.8021      1.08  Q      V  |          |          |          |
12+55       0.8096      1.08  Q      V  |          |          |          |
13+ 0       0.8170      1.08  Q      V  |          |          |          |
13+ 5       0.8245      1.08  Q      V  |          |          |          |
13+10       0.8320      1.09  Q      V  |          |          |          |
13+15       0.8395      1.10  Q      V  |          |          |          |
13+20       0.8471      1.11  Q      V  |          |          |          |
13+25       0.8549      1.12  Q      V  |          |          |          |
13+30       0.8627      1.14  Q      V  |          |          |          |
13+35       0.8706      1.15  Q      V  |          |          |          |
13+40       0.8787      1.17  Q      V  |          |          |          |
13+45       0.8868      1.19  Q      V  |          |          |          |
13+50       0.8952      1.21  Q      V  |          |          |          |
13+55       0.9037      1.24  Q      V  |          |          |          |
14+ 0       0.9124      1.26  |Q      V |          |          |          |
14+ 5       0.9213      1.29  |Q      V |          |          |          |
14+10       0.9304      1.32  |Q      V |          |          |          |
14+15       0.9398      1.36  |Q      V |          |          |          |
14+20       0.9494      1.39  |Q      V |          |          |          |
14+25       0.9593      1.43  |Q      V |          |          |          |
14+30       0.9694      1.48  |Q      V |          |          |          |
14+35       0.9800      1.53  |Q      V |          |          |          |
14+40       0.9908      1.58  |Q      V |          |          |          |
14+45       1.0021      1.63  |Q      V |          |          |          |
14+50       1.0137      1.69  |Q      V |          |          |          |
14+55       1.0258      1.76  |Q       V|          |          |          |
15+ 0       1.0385      1.83  |Q       V|          |          |          |
15+ 5       1.0516      1.91  |Q       V|          |          |          |
15+10       1.0654      2.00  |Q       V|          |          |          |
15+15       1.0800      2.11  |Q       V|          |          |          |
15+20       1.0953      2.22  |Q       V|          |          |          |
15+25       1.1116      2.38  |Q       V|          |          |          |
15+30       1.1296      2.61  | Q      V|          |          |          |
15+35       1.1499      2.93  | Q       V          |          |          |
```

15+40	1.1732	3.38	
15+45	1.2014	4.10	
15+50	1.2366	5.10	
15+55	1.2795	6.23	
16+ 0	1.3322	7.66	
16+ 5	1.4044	10.49	
16+10	1.5062	14.77	
16+15	1.6391	19.30	
16+20	1.8115	25.03	
16+25	2.0492	34.51	
16+30	2.3257	40.15	
16+35	2.5617	34.27	
16+40	2.7525	27.70	
16+45	2.9054	22.20	
16+50	3.0295	18.02	
16+55	3.1349	15.30	
17+ 0	3.2270	13.37	
17+ 5	3.3069	11.61	
17+10	3.3787	10.42	
17+15	3.4420	9.19	
17+20	3.4994	8.34	
17+25	3.5511	7.50	
17+30	3.5991	6.97	
17+35	3.6434	6.45	
17+40	3.6844	5.94	
17+45	3.7218	5.44	
17+50	3.7553	4.86	
17+55	3.7863	4.51	
18+ 0	3.8156	4.25	
18+ 5	3.8432	4.01	
18+10	3.8690	3.74	
18+15	3.8935	3.56	
18+20	3.9168	3.39	
18+25	3.9385	3.15	
18+30	3.9596	3.06	
18+35	3.9803	3.01	
18+40	4.0000	2.86	
18+45	4.0185	2.68	
18+50	4.0365	2.61	
18+55	4.0538	2.51	
19+ 0	4.0696	2.29	
19+ 5	4.0847	2.20	
19+10	4.0993	2.13	
19+15	4.1129	1.97	
19+20	4.1254	1.82	
19+25	4.1377	1.79	
19+30	4.1499	1.76	
19+35	4.1621	1.77	
19+40	4.1742	1.75	
19+45	4.1861	1.73	
19+50	4.1977	1.69	
19+55	4.2091	1.65	
20+ 0	4.2202	1.60	
20+ 5	4.2306	1.52	
20+10	4.2401	1.37	
20+15	4.2492	1.32	
20+20	4.2579	1.27	
20+25	4.2663	1.22	
20+30	4.2739	1.10	

20+35	4.2807	0.99	Q	|	|	|	V |
20+40	4.2873	0.96	Q	|	|	|	V |
20+45	4.2938	0.94	Q	|	|	|	V |
20+50	4.3001	0.92	Q	|	|	|	V |
20+55	4.3063	0.90	Q	|	|	|	V |
21+ 0	4.3124	0.89	Q	|	|	|	V |
21+ 5	4.3184	0.87	Q	|	|	|	V |
21+10	4.3243	0.86	Q	|	|	|	V |
21+15	4.3302	0.85	Q	|	|	|	V |
21+20	4.3359	0.83	Q	|	|	|	V |
21+25	4.3416	0.82	Q	|	|	|	V |
21+30	4.3472	0.81	Q	|	|	|	V |
21+35	4.3527	0.80	Q	|	|	|	V |
21+40	4.3581	0.79	Q	|	|	|	V |
21+45	4.3635	0.78	Q	|	|	|	V |
21+50	4.3688	0.77	Q	|	|	|	V |
21+55	4.3740	0.76	Q	|	|	|	V |
22+ 0	4.3792	0.75	Q	|	|	|	V |
22+ 5	4.3843	0.74	Q	|	|	|	V |
22+10	4.3893	0.73	Q	|	|	|	V |
22+15	4.3943	0.73	Q	|	|	|	V |
22+20	4.3993	0.72	Q	|	|	|	V |
22+25	4.4042	0.71	Q	|	|	|	V |
22+30	4.4090	0.70	Q	|	|	|	V |
22+35	4.4137	0.69	Q	|	|	|	V |
22+40	4.4185	0.68	Q	|	|	|	V|
22+45	4.4231	0.68	Q	|	|	|	V|
22+50	4.4277	0.67	Q	|	|	|	V|
22+55	4.4323	0.66	Q	|	|	|	V|
23+ 0	4.4368	0.65	Q	|	|	|	V|
23+ 5	4.4413	0.65	Q	|	|	|	V|
23+10	4.4457	0.64	Q	|	|	|	V|
23+15	4.4501	0.63	Q	|	|	|	V|
23+20	4.4544	0.63	Q	|	|	|	V|
23+25	4.4587	0.62	Q	|	|	|	V|
23+30	4.4629	0.62	Q	|	|	|	V|
23+35	4.4671	0.61	Q	|	|	|	V|
23+40	4.4713	0.60	Q	|	|	|	V|
23+45	4.4754	0.60	Q	|	|	|	V|
23+50	4.4795	0.59	Q	|	|	|	V|
23+55	4.4835	0.59	Q	|	|	|	V|
24+ 0	4.4875	0.58	Q	|	|	|	V|
24+ 5	4.4915	0.57	Q	|	|	|	V|
24+10	4.4953	0.56	Q	|	|	|	V|
24+15	4.4990	0.53	Q	|	|	|	V|
24+20	4.5025	0.50	Q	|	|	|	V|
24+25	4.5055	0.45	Q	|	|	|	V|
24+30	4.5081	0.37	Q	|	|	|	V|
24+35	4.5102	0.31	Q	|	|	|	V|
24+40	4.5120	0.26	Q	|	|	|	V|
24+45	4.5136	0.23	Q	|	|	|	V|
24+50	4.5149	0.20	Q	|	|	|	V|
24+55	4.5162	0.18	Q	|	|	|	V|
25+ 0	4.5173	0.16	Q	|	|	|	V|
25+ 5	4.5183	0.14	Q	|	|	|	V|
25+10	4.5192	0.13	Q	|	|	|	V|
25+15	4.5200	0.12	Q	|	|	|	V|
25+20	4.5207	0.11	Q	|	|	|	V|
25+25	4.5214	0.10	Q	|	|	|	V|

25+30	4.5220	0.09	Q	|	|	|	V|
25+35	4.5226	0.08	Q	|	|	|	V|
25+40	4.5231	0.07	Q	|	|	|	V|
25+45	4.5235	0.07	Q	|	|	|	V|
25+50	4.5239	0.06	Q	|	|	|	V|
25+55	4.5243	0.06	Q	|	|	|	V|
26+ 0	4.5247	0.05	Q	|	|	|	V|
26+ 5	4.5250	0.05	Q	|	|	|	V|
26+10	4.5253	0.04	Q	|	|	|	V|
26+15	4.5256	0.04	Q	|	|	|	V|
26+20	4.5258	0.03	Q	|	|	|	V|
26+25	4.5260	0.03	Q	|	|	|	V|
26+30	4.5262	0.03	Q	|	|	|	V|
26+35	4.5264	0.03	Q	|	|	|	V|
26+40	4.5266	0.02	Q	|	|	|	V|
26+45	4.5267	0.02	Q	|	|	|	V|
26+50	4.5268	0.02	Q	|	|	|	V|
26+55	4.5270	0.02	Q	|	|	|	V|
27+ 0	4.5271	0.02	Q	|	|	|	V|
27+ 5	4.5272	0.01	Q	|	|	|	V|
27+10	4.5273	0.01	Q	|	|	|	V|
27+15	4.5273	0.01	Q	|	|	|	V|
27+20	4.5274	0.01	Q	|	|	|	V|
27+25	4.5275	0.01	Q	|	|	|	V|
27+30	4.5275	0.01	Q	|	|	|	V|
27+35	4.5276	0.01	Q	|	|	|	V|
27+40	4.5276	0.01	Q	|	|	|	V|
27+45	4.5277	0.01	Q	|	|	|	V|
27+50	4.5277	0.00	Q	|	|	|	V|
27+55	4.5277	0.00	Q	|	|	|	V|
28+ 0	4.5278	0.00	Q	|	|	|	V|
28+ 5	4.5278	0.00	Q	|	|	|	V|
28+10	4.5278	0.00	Q	|	|	|	V|
28+15	4.5278	0.00	Q	|	|	|	V|
28+20	4.5278	0.00	Q	|	|	|	V|
28+25	4.5278	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 33
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
30.86	1	1.39
Rainfall data for year 100		
30.86	6	1.83
Rainfall data for year 100		
30.86	24	2.60

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
81.1	94.7	30.86	1.000	0.105	1.000	0.105

Area-averaged adjusted loss rate Fm (In/Hr) = 0.105

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
30.86	1.000	81.1	94.7	0.56	0.780

Area-averaged catchment yield fraction, Y = 0.780
Area-averaged low loss fraction, Yb = 0.220
User entry of time of concentration = 0.800 (hours)
++
Watershed area = 30.86(Ac.)
Catchment Lag time = 0.640 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 13.0208
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.105(In/Hr)
Average low loss rate fraction (Yb) = 0.220 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.645(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.600(In)

Rainfall depth area reduction factors:
Using a total area of 30.86(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.127(In)
1-hour factor = 0.999 Adjusted rainfall = 1.388(In)
3-hour factor = 1.000 Adjusted rainfall = 1.645(In)
6-hour factor = 1.000 Adjusted rainfall = 1.830(In)
24-hour factor = 1.000 Adjusted rainfall = 2.600(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 373.21 (CFS))	
1	0.574	2.141
2	2.285	6.385
3	5.081	10.437
4	9.063	14.861
5	16.100	26.262
6	27.770	43.555
7	39.438	43.544
8	48.420	33.523
9	55.437	26.190
10	60.725	19.734
11	64.896	15.566
12	68.395	13.061
13	71.492	11.558
14	74.107	9.760

15	76.410	8.596
16	78.510	7.837
17	80.259	6.528
18	81.897	6.112
19	83.316	5.294
20	84.672	5.062
21	85.925	4.677
22	87.094	4.364
23	88.137	3.893
24	89.059	3.440
25	89.841	2.916
26	90.594	2.811
27	91.322	2.719
28	91.987	2.483
29	92.611	2.329
30	93.201	2.200
31	93.769	2.119
32	94.245	1.778
33	94.688	1.652
34	95.131	1.652
35	95.563	1.615
36	95.918	1.324
37	96.257	1.263
38	96.595	1.263
39	96.915	1.194
40	97.158	0.906
41	97.392	0.875
42	97.627	0.875
43	97.831	0.762
44	97.964	0.497
45	98.094	0.486
46	98.224	0.486
47	98.366	0.527
48	98.522	0.583
49	98.678	0.583
50	98.834	0.583
51	98.991	0.583
52	99.147	0.583
53	99.303	0.583
54	99.457	0.575
55	99.560	0.384
56	99.642	0.304
57	99.723	0.304
58	99.804	0.304
59	99.886	0.304
60	100.000	0.152

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6586	0.6586
2	0.8109	0.1522
3	0.9157	0.1049
4	0.9983	0.0825
5	1.0674	0.0691
6	1.1274	0.0600
7	1.1808	0.0534
8	1.2290	0.0483
9	1.2732	0.0442
10	1.3141	0.0409

11	1.3522	0.0381
12	1.3880	0.0358
13	1.4053	0.0173
14	1.4215	0.0162
15	1.4367	0.0152
16	1.4511	0.0144
17	1.4648	0.0137
18	1.4778	0.0130
19	1.4902	0.0124
20	1.5021	0.0119
21	1.5135	0.0114
22	1.5244	0.0109
23	1.5349	0.0105
24	1.5450	0.0101
25	1.5548	0.0098
26	1.5643	0.0095
27	1.5734	0.0092
28	1.5823	0.0089
29	1.5909	0.0086
30	1.5993	0.0084
31	1.6074	0.0081
32	1.6153	0.0079
33	1.6230	0.0077
34	1.6305	0.0075
35	1.6379	0.0073
36	1.6450	0.0072
37	1.6519	0.0069
38	1.6587	0.0068
39	1.6654	0.0066
40	1.6718	0.0065
41	1.6782	0.0064
42	1.6844	0.0062
43	1.6905	0.0061
44	1.6965	0.0060
45	1.7024	0.0059
46	1.7081	0.0058
47	1.7138	0.0057
48	1.7193	0.0056
49	1.7248	0.0055
50	1.7301	0.0054
51	1.7354	0.0053
52	1.7406	0.0052
53	1.7457	0.0051
54	1.7507	0.0050
55	1.7557	0.0049
56	1.7605	0.0049
57	1.7653	0.0048
58	1.7700	0.0047
59	1.7747	0.0047
60	1.7793	0.0046
61	1.7838	0.0045
62	1.7883	0.0045
63	1.7927	0.0044
64	1.7970	0.0043
65	1.8013	0.0043
66	1.8055	0.0042
67	1.8097	0.0042
68	1.8138	0.0041
69	1.8179	0.0041

70	1.8219	0.0040
71	1.8259	0.0040
72	1.8298	0.0039
73	1.8362	0.0064
74	1.8426	0.0063
75	1.8488	0.0063
76	1.8551	0.0062
77	1.8612	0.0062
78	1.8673	0.0061
79	1.8733	0.0060
80	1.8793	0.0060
81	1.8853	0.0059
82	1.8911	0.0059
83	1.8969	0.0058
84	1.9027	0.0058
85	1.9084	0.0057
86	1.9141	0.0057
87	1.9197	0.0056
88	1.9253	0.0056
89	1.9308	0.0055
90	1.9363	0.0055
91	1.9417	0.0054
92	1.9471	0.0054
93	1.9524	0.0053
94	1.9577	0.0053
95	1.9630	0.0053
96	1.9682	0.0052
97	1.9734	0.0052
98	1.9785	0.0051
99	1.9836	0.0051
100	1.9886	0.0051
101	1.9937	0.0050
102	1.9987	0.0050
103	2.0036	0.0049
104	2.0085	0.0049
105	2.0134	0.0049
106	2.0182	0.0048
107	2.0230	0.0048
108	2.0278	0.0048
109	2.0325	0.0047
110	2.0373	0.0047
111	2.0419	0.0047
112	2.0466	0.0046
113	2.0512	0.0046
114	2.0558	0.0046
115	2.0603	0.0046
116	2.0649	0.0045
117	2.0694	0.0045
118	2.0738	0.0045
119	2.0783	0.0044
120	2.0827	0.0044
121	2.0871	0.0044
122	2.0914	0.0044
123	2.0957	0.0043
124	2.1000	0.0043
125	2.1043	0.0043
126	2.1086	0.0043
127	2.1128	0.0042
128	2.1170	0.0042

129	2.1212	0.0042
130	2.1253	0.0042
131	2.1295	0.0041
132	2.1336	0.0041
133	2.1377	0.0041
134	2.1417	0.0041
135	2.1458	0.0040
136	2.1498	0.0040
137	2.1538	0.0040
138	2.1577	0.0040
139	2.1617	0.0040
140	2.1656	0.0039
141	2.1695	0.0039
142	2.1734	0.0039
143	2.1773	0.0039
144	2.1811	0.0038
145	2.1850	0.0038
146	2.1888	0.0038
147	2.1926	0.0038
148	2.1963	0.0038
149	2.2001	0.0038
150	2.2038	0.0037
151	2.2075	0.0037
152	2.2112	0.0037
153	2.2149	0.0037
154	2.2186	0.0037
155	2.2222	0.0036
156	2.2258	0.0036
157	2.2294	0.0036
158	2.2330	0.0036
159	2.2366	0.0036
160	2.2401	0.0036
161	2.2437	0.0035
162	2.2472	0.0035
163	2.2507	0.0035
164	2.2542	0.0035
165	2.2577	0.0035
166	2.2611	0.0035
167	2.2646	0.0034
168	2.2680	0.0034
169	2.2714	0.0034
170	2.2748	0.0034
171	2.2782	0.0034
172	2.2816	0.0034
173	2.2849	0.0034
174	2.2883	0.0033
175	2.2916	0.0033
176	2.2949	0.0033
177	2.2982	0.0033
178	2.3015	0.0033
179	2.3048	0.0033
180	2.3080	0.0033
181	2.3113	0.0032
182	2.3145	0.0032
183	2.3177	0.0032
184	2.3209	0.0032
185	2.3241	0.0032
186	2.3273	0.0032
187	2.3304	0.0032

188	2.3336	0.0032
189	2.3367	0.0031
190	2.3398	0.0031
191	2.3430	0.0031
192	2.3461	0.0031
193	2.3492	0.0031
194	2.3522	0.0031
195	2.3553	0.0031
196	2.3584	0.0031
197	2.3614	0.0030
198	2.3644	0.0030
199	2.3674	0.0030
200	2.3705	0.0030
201	2.3735	0.0030
202	2.3764	0.0030
203	2.3794	0.0030
204	2.3824	0.0030
205	2.3853	0.0030
206	2.3883	0.0029
207	2.3912	0.0029
208	2.3941	0.0029
209	2.3970	0.0029
210	2.3999	0.0029
211	2.4028	0.0029
212	2.4057	0.0029
213	2.4086	0.0029
214	2.4114	0.0029
215	2.4143	0.0029
216	2.4171	0.0028
217	2.4200	0.0028
218	2.4228	0.0028
219	2.4256	0.0028
220	2.4284	0.0028
221	2.4312	0.0028
222	2.4340	0.0028
223	2.4367	0.0028
224	2.4395	0.0028
225	2.4423	0.0028
226	2.4450	0.0027
227	2.4477	0.0027
228	2.4505	0.0027
229	2.4532	0.0027
230	2.4559	0.0027
231	2.4586	0.0027
232	2.4613	0.0027
233	2.4640	0.0027
234	2.4667	0.0027
235	2.4693	0.0027
236	2.4720	0.0027
237	2.4746	0.0026
238	2.4773	0.0026
239	2.4799	0.0026
240	2.4825	0.0026
241	2.4851	0.0026
242	2.4878	0.0026
243	2.4904	0.0026
244	2.4929	0.0026
245	2.4955	0.0026
246	2.4981	0.0026

247	2.5007	0.0026
248	2.5032	0.0026
249	2.5058	0.0026
250	2.5083	0.0025
251	2.5109	0.0025
252	2.5134	0.0025
253	2.5159	0.0025
254	2.5184	0.0025
255	2.5210	0.0025
256	2.5235	0.0025
257	2.5260	0.0025
258	2.5284	0.0025
259	2.5309	0.0025
260	2.5334	0.0025
261	2.5359	0.0025
262	2.5383	0.0025
263	2.5408	0.0025
264	2.5432	0.0024
265	2.5456	0.0024
266	2.5481	0.0024
267	2.5505	0.0024
268	2.5529	0.0024
269	2.5553	0.0024
270	2.5577	0.0024
271	2.5601	0.0024
272	2.5625	0.0024
273	2.5649	0.0024
274	2.5673	0.0024
275	2.5696	0.0024
276	2.5720	0.0024
277	2.5744	0.0024
278	2.5767	0.0024
279	2.5791	0.0023
280	2.5814	0.0023
281	2.5837	0.0023
282	2.5861	0.0023
283	2.5884	0.0023
284	2.5907	0.0023
285	2.5930	0.0023
286	2.5953	0.0023
287	2.5976	0.0023
288	2.5999	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0005	0.0018
2	0.0023	0.0005	0.0018
3	0.0023	0.0005	0.0018
4	0.0023	0.0005	0.0018
5	0.0023	0.0005	0.0018
6	0.0023	0.0005	0.0018
7	0.0023	0.0005	0.0018
8	0.0024	0.0005	0.0018
9	0.0024	0.0005	0.0018
10	0.0024	0.0005	0.0018
11	0.0024	0.0005	0.0019
12	0.0024	0.0005	0.0019

13	0.0024	0.0005	0.0019
14	0.0024	0.0005	0.0019
15	0.0024	0.0005	0.0019
16	0.0024	0.0005	0.0019
17	0.0024	0.0005	0.0019
18	0.0025	0.0005	0.0019
19	0.0025	0.0005	0.0019
20	0.0025	0.0005	0.0019
21	0.0025	0.0005	0.0019
22	0.0025	0.0005	0.0019
23	0.0025	0.0006	0.0020
24	0.0025	0.0006	0.0020
25	0.0025	0.0006	0.0020
26	0.0025	0.0006	0.0020
27	0.0026	0.0006	0.0020
28	0.0026	0.0006	0.0020
29	0.0026	0.0006	0.0020
30	0.0026	0.0006	0.0020
31	0.0026	0.0006	0.0020
32	0.0026	0.0006	0.0020
33	0.0026	0.0006	0.0020
34	0.0026	0.0006	0.0021
35	0.0026	0.0006	0.0021
36	0.0027	0.0006	0.0021
37	0.0027	0.0006	0.0021
38	0.0027	0.0006	0.0021
39	0.0027	0.0006	0.0021
40	0.0027	0.0006	0.0021
41	0.0027	0.0006	0.0021
42	0.0027	0.0006	0.0021
43	0.0028	0.0006	0.0021
44	0.0028	0.0006	0.0022
45	0.0028	0.0006	0.0022
46	0.0028	0.0006	0.0022
47	0.0028	0.0006	0.0022
48	0.0028	0.0006	0.0022
49	0.0028	0.0006	0.0022
50	0.0029	0.0006	0.0022
51	0.0029	0.0006	0.0022
52	0.0029	0.0006	0.0022
53	0.0029	0.0006	0.0023
54	0.0029	0.0006	0.0023
55	0.0029	0.0006	0.0023
56	0.0029	0.0006	0.0023
57	0.0030	0.0007	0.0023
58	0.0030	0.0007	0.0023
59	0.0030	0.0007	0.0023
60	0.0030	0.0007	0.0023
61	0.0030	0.0007	0.0024
62	0.0030	0.0007	0.0024
63	0.0031	0.0007	0.0024
64	0.0031	0.0007	0.0024
65	0.0031	0.0007	0.0024
66	0.0031	0.0007	0.0024
67	0.0031	0.0007	0.0024
68	0.0032	0.0007	0.0025
69	0.0032	0.0007	0.0025
70	0.0032	0.0007	0.0025
71	0.0032	0.0007	0.0025

72	0.0032	0.0007	0.0025
73	0.0033	0.0007	0.0025
74	0.0033	0.0007	0.0025
75	0.0033	0.0007	0.0026
76	0.0033	0.0007	0.0026
77	0.0033	0.0007	0.0026
78	0.0034	0.0007	0.0026
79	0.0034	0.0007	0.0026
80	0.0034	0.0007	0.0026
81	0.0034	0.0008	0.0027
82	0.0034	0.0008	0.0027
83	0.0035	0.0008	0.0027
84	0.0035	0.0008	0.0027
85	0.0035	0.0008	0.0027
86	0.0035	0.0008	0.0028
87	0.0036	0.0008	0.0028
88	0.0036	0.0008	0.0028
89	0.0036	0.0008	0.0028
90	0.0036	0.0008	0.0028
91	0.0037	0.0008	0.0029
92	0.0037	0.0008	0.0029
93	0.0037	0.0008	0.0029
94	0.0038	0.0008	0.0029
95	0.0038	0.0008	0.0030
96	0.0038	0.0008	0.0030
97	0.0038	0.0008	0.0030
98	0.0039	0.0009	0.0030
99	0.0039	0.0009	0.0030
100	0.0039	0.0009	0.0031
101	0.0040	0.0009	0.0031
102	0.0040	0.0009	0.0031
103	0.0040	0.0009	0.0031
104	0.0041	0.0009	0.0032
105	0.0041	0.0009	0.0032
106	0.0041	0.0009	0.0032
107	0.0042	0.0009	0.0033
108	0.0042	0.0009	0.0033
109	0.0043	0.0009	0.0033
110	0.0043	0.0009	0.0033
111	0.0043	0.0010	0.0034
112	0.0044	0.0010	0.0034
113	0.0044	0.0010	0.0034
114	0.0044	0.0010	0.0035
115	0.0045	0.0010	0.0035
116	0.0045	0.0010	0.0035
117	0.0046	0.0010	0.0036
118	0.0046	0.0010	0.0036
119	0.0047	0.0010	0.0036
120	0.0047	0.0010	0.0037
121	0.0048	0.0011	0.0037
122	0.0048	0.0011	0.0037
123	0.0049	0.0011	0.0038
124	0.0049	0.0011	0.0038
125	0.0050	0.0011	0.0039
126	0.0050	0.0011	0.0039
127	0.0051	0.0011	0.0040
128	0.0051	0.0011	0.0040
129	0.0052	0.0011	0.0041
130	0.0053	0.0012	0.0041

131	0.0053	0.0012	0.0042
132	0.0054	0.0012	0.0042
133	0.0055	0.0012	0.0043
134	0.0055	0.0012	0.0043
135	0.0056	0.0012	0.0044
136	0.0057	0.0012	0.0044
137	0.0058	0.0013	0.0045
138	0.0058	0.0013	0.0045
139	0.0059	0.0013	0.0046
140	0.0060	0.0013	0.0047
141	0.0061	0.0013	0.0048
142	0.0062	0.0014	0.0048
143	0.0063	0.0014	0.0049
144	0.0063	0.0014	0.0049
145	0.0039	0.0009	0.0031
146	0.0040	0.0009	0.0031
147	0.0041	0.0009	0.0032
148	0.0041	0.0009	0.0032
149	0.0042	0.0009	0.0033
150	0.0043	0.0009	0.0033
151	0.0044	0.0010	0.0034
152	0.0045	0.0010	0.0035
153	0.0046	0.0010	0.0036
154	0.0047	0.0010	0.0036
155	0.0048	0.0011	0.0037
156	0.0049	0.0011	0.0038
157	0.0050	0.0011	0.0039
158	0.0051	0.0011	0.0040
159	0.0053	0.0012	0.0041
160	0.0054	0.0012	0.0042
161	0.0056	0.0012	0.0043
162	0.0057	0.0012	0.0044
163	0.0059	0.0013	0.0046
164	0.0060	0.0013	0.0047
165	0.0062	0.0014	0.0049
166	0.0064	0.0014	0.0050
167	0.0066	0.0015	0.0052
168	0.0068	0.0015	0.0053
169	0.0072	0.0016	0.0056
170	0.0073	0.0016	0.0057
171	0.0077	0.0017	0.0060
172	0.0079	0.0017	0.0062
173	0.0084	0.0018	0.0065
174	0.0086	0.0019	0.0067
175	0.0092	0.0020	0.0071
176	0.0095	0.0021	0.0074
177	0.0101	0.0022	0.0079
178	0.0105	0.0023	0.0082
179	0.0114	0.0025	0.0089
180	0.0119	0.0026	0.0093
181	0.0130	0.0029	0.0101
182	0.0137	0.0030	0.0107
183	0.0152	0.0034	0.0119
184	0.0162	0.0036	0.0126
185	0.0358	0.0079	0.0279
186	0.0381	0.0084	0.0297
187	0.0442	0.0087	0.0355
188	0.0483	0.0087	0.0395
189	0.0600	0.0087	0.0513

190	0.0691	0.0087	0.0604
191	0.1049	0.0087	0.0962
192	0.1522	0.0087	0.1435
193	0.6586	0.0087	0.6499
194	0.0825	0.0087	0.0738
195	0.0534	0.0087	0.0446
196	0.0409	0.0087	0.0322
197	0.0173	0.0038	0.0135
198	0.0144	0.0032	0.0112
199	0.0124	0.0027	0.0097
200	0.0109	0.0024	0.0085
201	0.0098	0.0022	0.0076
202	0.0089	0.0020	0.0069
203	0.0081	0.0018	0.0063
204	0.0075	0.0017	0.0059
205	0.0069	0.0015	0.0054
206	0.0065	0.0014	0.0051
207	0.0061	0.0013	0.0048
208	0.0058	0.0013	0.0045
209	0.0055	0.0012	0.0043
210	0.0052	0.0011	0.0040
211	0.0049	0.0011	0.0039
212	0.0047	0.0010	0.0037
213	0.0045	0.0010	0.0035
214	0.0043	0.0010	0.0034
215	0.0042	0.0009	0.0033
216	0.0040	0.0009	0.0031
217	0.0064	0.0014	0.0050
218	0.0062	0.0014	0.0048
219	0.0060	0.0013	0.0047
220	0.0059	0.0013	0.0046
221	0.0057	0.0013	0.0045
222	0.0056	0.0012	0.0043
223	0.0054	0.0012	0.0042
224	0.0053	0.0012	0.0041
225	0.0052	0.0011	0.0040
226	0.0051	0.0011	0.0039
227	0.0049	0.0011	0.0039
228	0.0048	0.0011	0.0038
229	0.0047	0.0010	0.0037
230	0.0046	0.0010	0.0036
231	0.0046	0.0010	0.0036
232	0.0045	0.0010	0.0035
233	0.0044	0.0010	0.0034
234	0.0043	0.0009	0.0034
235	0.0042	0.0009	0.0033
236	0.0042	0.0009	0.0032
237	0.0041	0.0009	0.0032
238	0.0040	0.0009	0.0031
239	0.0040	0.0009	0.0031
240	0.0039	0.0009	0.0030
241	0.0038	0.0008	0.0030
242	0.0038	0.0008	0.0029
243	0.0037	0.0008	0.0029
244	0.0037	0.0008	0.0029
245	0.0036	0.0008	0.0028
246	0.0036	0.0008	0.0028
247	0.0035	0.0008	0.0027
248	0.0035	0.0008	0.0027

249	0.0034	0.0008	0.0027
250	0.0034	0.0007	0.0026
251	0.0033	0.0007	0.0026
252	0.0033	0.0007	0.0026
253	0.0032	0.0007	0.0025
254	0.0032	0.0007	0.0025
255	0.0032	0.0007	0.0025
256	0.0031	0.0007	0.0024
257	0.0031	0.0007	0.0024
258	0.0031	0.0007	0.0024
259	0.0030	0.0007	0.0024
260	0.0030	0.0007	0.0023
261	0.0030	0.0007	0.0023
262	0.0029	0.0006	0.0023
263	0.0029	0.0006	0.0023
264	0.0029	0.0006	0.0022
265	0.0028	0.0006	0.0022
266	0.0028	0.0006	0.0022
267	0.0028	0.0006	0.0022
268	0.0027	0.0006	0.0021
269	0.0027	0.0006	0.0021
270	0.0027	0.0006	0.0021
271	0.0027	0.0006	0.0021
272	0.0026	0.0006	0.0021
273	0.0026	0.0006	0.0020
274	0.0026	0.0006	0.0020
275	0.0026	0.0006	0.0020
276	0.0025	0.0006	0.0020
277	0.0025	0.0006	0.0020
278	0.0025	0.0006	0.0020
279	0.0025	0.0005	0.0019
280	0.0025	0.0005	0.0019
281	0.0024	0.0005	0.0019
282	0.0024	0.0005	0.0019
283	0.0024	0.0005	0.0019
284	0.0024	0.0005	0.0019
285	0.0024	0.0005	0.0018
286	0.0023	0.0005	0.0018
287	0.0023	0.0005	0.0018
288	0.0023	0.0005	0.0018

Total soil rain loss = 0.37(In)
Total effective rainfall = 2.23(In)
Peak flow rate in flood hydrograph = 45.87(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

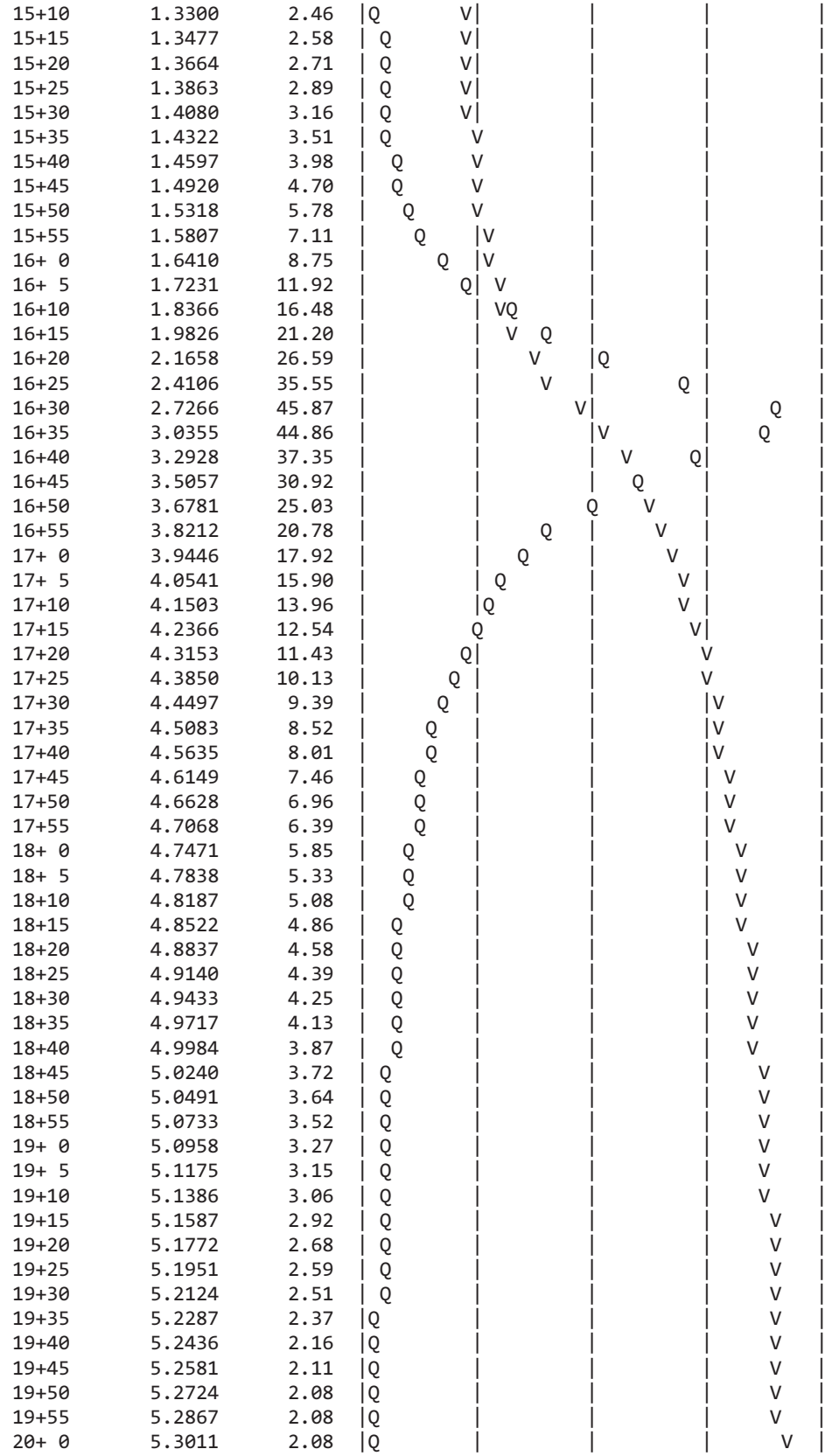
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0004	0.03	Q	|	|	|	|
0+20	0.0008	0.06	Q	|	|	|	|

0+25	0.0015	0.11	Q				
0+30	0.0028	0.19	Q				
0+35	0.0046	0.26	Q				
0+40	0.0069	0.33	Q				
0+45	0.0094	0.37	Q				
0+50	0.0123	0.41	Q				
0+55	0.0153	0.44	Q				
1+ 0	0.0185	0.46	Q				
1+ 5	0.0218	0.49	Q				
1+10	0.0253	0.51	Q				
1+15	0.0289	0.52	Q				
1+20	0.0326	0.54	Q				
1+25	0.0365	0.55	Q				
1+30	0.0404	0.57	Q				
1+35	0.0443	0.58	Q				
1+40	0.0484	0.59	Q				
1+45	0.0525	0.60	Q				
1+50	0.0568	0.61	Q				
1+55	0.0610	0.62	Q				
2+ 0	0.0654	0.63	Q				
2+ 5	0.0697	0.64	Q				
2+10	0.0742	0.64	Q				
2+15	0.0787	0.65	Q				
2+20	0.0832	0.66	Q				
2+25	0.0878	0.67	Q				
2+30	0.0925	0.67	Q				
2+35	0.0971	0.68	Q				
2+40	0.1019	0.69	Q				
2+45	0.1066	0.69	Q				
2+50	0.1115	0.70	Q				
2+55	0.1163	0.70	Q				
3+ 0	0.1212	0.71	Q				
3+ 5	0.1261	0.72	Q				
3+10	0.1311	0.72	Q				
3+15	0.1361	0.73	Q				
3+20	0.1411	0.73	Q				
3+25	0.1462	0.74	QV				
3+30	0.1513	0.74	QV				
3+35	0.1564	0.75	QV				
3+40	0.1616	0.75	QV				
3+45	0.1668	0.75	QV				
3+50	0.1720	0.76	QV				
3+55	0.1773	0.76	QV				
4+ 0	0.1826	0.77	QV				
4+ 5	0.1879	0.77	QV				
4+10	0.1933	0.78	QV				
4+15	0.1987	0.78	QV				
4+20	0.2041	0.79	QV				
4+25	0.2096	0.79	QV				
4+30	0.2151	0.80	QV				
4+35	0.2206	0.80	QV				
4+40	0.2262	0.81	QV				
4+45	0.2317	0.81	QV				
4+50	0.2374	0.82	QV				
4+55	0.2430	0.82	QV				
5+ 0	0.2487	0.83	QV				
5+ 5	0.2544	0.83	QV				
5+10	0.2602	0.83	QV				
5+15	0.2660	0.84	QV				

```
 5+20       0.2718      0.84  QV        |          |          |          |
 5+25       0.2776      0.85  QV        |          |          |          |
 5+30       0.2835      0.85  QV        |          |          |          |
 5+35       0.2894      0.86  Q V       |          |          |          |
 5+40       0.2953      0.86  Q V       |          |          |          |
 5+45       0.3013      0.87  Q V       |          |          |          |
 5+50       0.3073      0.87  Q V       |          |          |          |
 5+55       0.3133      0.88  Q V       |          |          |          |
 6+ 0       0.3194      0.88  Q V       |          |          |          |
 6+ 5       0.3255      0.89  Q V       |          |          |          |
 6+10       0.3317      0.89  Q V       |          |          |          |
 6+15       0.3378      0.90  Q V       |          |          |          |
 6+20       0.3441      0.90  Q V       |          |          |          |
 6+25       0.3503      0.91  Q V       |          |          |          |
 6+30       0.3566      0.91  Q V       |          |          |          |
 6+35       0.3629      0.92  Q V       |          |          |          |
 6+40       0.3693      0.92  Q V       |          |          |          |
 6+45       0.3757      0.93  Q V       |          |          |          |
 6+50       0.3821      0.94  Q V       |          |          |          |
 6+55       0.3886      0.94  Q V       |          |          |          |
 7+ 0       0.3952      0.95  Q V       |          |          |          |
 7+ 5       0.4017      0.95  Q V       |          |          |          |
 7+10       0.4083      0.96  Q V       |          |          |          |
 7+15       0.4150      0.97  Q V       |          |          |          |
 7+20       0.4217      0.97  Q V       |          |          |          |
 7+25       0.4284      0.98  Q V       |          |          |          |
 7+30       0.4352      0.98  Q  V      |          |          |          |
 7+35       0.4420      0.99  Q  V      |          |          |          |
 7+40       0.4489      1.00  Q  V      |          |          |          |
 7+45       0.4558      1.00  Q  V      |          |          |          |
 7+50       0.4628      1.01  Q  V      |          |          |          |
 7+55       0.4698      1.02  Q  V      |          |          |          |
 8+ 0       0.4769      1.03  Q  V      |          |          |          |
 8+ 5       0.4840      1.03  Q  V      |          |          |          |
 8+10       0.4911      1.04  Q  V      |          |          |          |
 8+15       0.4983      1.05  Q  V      |          |          |          |
 8+20       0.5056      1.06  Q  V      |          |          |          |
 8+25       0.5129      1.06  Q  V      |          |          |          |
 8+30       0.5203      1.07  Q  V      |          |          |          |
 8+35       0.5277      1.08  Q  V      |          |          |          |
 8+40       0.5352      1.09  Q  V      |          |          |          |
 8+45       0.5428      1.10  Q  V      |          |          |          |
 8+50       0.5504      1.10  Q  V      |          |          |          |
 8+55       0.5580      1.11  Q  V      |          |          |          |
 9+ 0       0.5658      1.12  Q  V      |          |          |          |
 9+ 5       0.5735      1.13  Q   V     |          |          |          |
 9+10       0.5814      1.14  Q   V     |          |          |          |
 9+15       0.5893      1.15  Q   V     |          |          |          |
 9+20       0.5973      1.16  Q   V     |          |          |          |
 9+25       0.6053      1.17  Q   V     |          |          |          |
 9+30       0.6134      1.18  Q   V     |          |          |          |
 9+35       0.6216      1.19  Q   V     |          |          |          |
 9+40       0.6298      1.20  Q   V     |          |          |          |
 9+45       0.6381      1.21  Q   V     |          |          |          |
 9+50       0.6465      1.22  Q   V     |          |          |          |
 9+55       0.6550      1.23  Q   V     |          |          |          |
10+ 0       0.6635      1.24  Q   V     |          |          |          |
10+ 5       0.6722      1.25  |Q  V     |          |          |          |
10+10       0.6809      1.26  |Q  V     |          |          |          |
```

```
10+15       0.6897      1.28  |Q  V     |          |          |          |
10+20       0.6985      1.29  |Q  V     |          |          |          |
10+25       0.7075      1.30  |Q  V     |          |          |          |
10+30       0.7165      1.31  |Q   V    |          |          |          |
10+35       0.7256      1.33  |Q   V    |          |          |          |
10+40       0.7349      1.34  |Q   V    |          |          |          |
10+45       0.7442      1.35  |Q   V    |          |          |          |
10+50       0.7536      1.37  |Q   V    |          |          |          |
10+55       0.7631      1.38  |Q   V    |          |          |          |
11+ 0       0.7727      1.39  |Q   V    |          |          |          |
11+ 5       0.7824      1.41  |Q   V    |          |          |          |
11+10       0.7922      1.43  |Q   V    |          |          |          |
11+15       0.8021      1.44  |Q   V    |          |          |          |
11+20       0.8122      1.46  |Q   V    |          |          |          |
11+25       0.8223      1.47  |Q   V    |          |          |          |
11+30       0.8326      1.49  |Q   V    |          |          |          |
11+35       0.8430      1.51  |Q   V    |          |          |          |
11+40       0.8535      1.53  |Q   V    |          |          |          |
11+45       0.8641      1.54  |Q    V   |          |          |          |
11+50       0.8749      1.56  |Q    V   |          |          |          |
11+55       0.8858      1.58  |Q    V   |          |          |          |
12+ 0       0.8968      1.60  |Q    V   |          |          |          |
12+ 5       0.9080      1.62  |Q    V   |          |          |          |
12+10       0.9192      1.63  |Q    V   |          |          |          |
12+15       0.9305      1.63  |Q    V   |          |          |          |
12+20       0.9416      1.62  |Q    V   |          |          |          |
12+25       0.9526      1.59  |Q    V   |          |          |          |
12+30       0.9632      1.53  |Q    V   |          |          |          |
12+35       0.9733      1.47  |Q    V   |          |          |          |
12+40       0.9831      1.42  |Q    V   |          |          |          |
12+45       0.9927      1.39  |Q    V   |          |          |          |
12+50       1.0022      1.38  |Q     V  |          |          |          |
12+55       1.0116      1.37  |Q     V  |          |          |          |
13+ 0       1.0210      1.37  |Q     V  |          |          |          |
13+ 5       1.0305      1.37  |Q     V  |          |          |          |
13+10       1.0399      1.37  |Q     V  |          |          |          |
13+15       1.0495      1.38  |Q     V  |          |          |          |
13+20       1.0591      1.39  |Q     V  |          |          |          |
13+25       1.0688      1.41  |Q     V  |          |          |          |
13+30       1.0786      1.43  |Q     V  |          |          |          |
13+35       1.0886      1.45  |Q     V  |          |          |          |
13+40       1.0987      1.47  |Q     V  |          |          |          |
13+45       1.1089      1.49  |Q     V  |          |          |          |
13+50       1.1194      1.52  |Q     V  |          |          |          |
13+55       1.1300      1.54  |Q     V  |          |          |          |
14+ 0       1.1408      1.58  |Q     V  |          |          |          |
14+ 5       1.1519      1.61  |Q      V |          |          |          |
14+10       1.1633      1.65  |Q      V |          |          |          |
14+15       1.1749      1.69  |Q      V |          |          |          |
14+20       1.1868      1.73  |Q      V |          |          |          |
14+25       1.1991      1.78  |Q      V |          |          |          |
14+30       1.2117      1.83  |Q      V |          |          |          |
14+35       1.2247      1.89  |Q      V |          |          |          |
14+40       1.2381      1.95  |Q      V |          |          |          |
14+45       1.2520      2.02  |Q      V |          |          |          |
14+50       1.2664      2.09  |Q      V |          |          |          |
14+55       1.2813      2.17  |Q      V |          |          |          |
15+ 0       1.2969      2.25  |Q       V|          |          |          |
15+ 5       1.3130      2.35  |Q       V|          |          |          |
```



15+10	1.3300	2.46	
15+15	1.3477	2.58	
15+20	1.3664	2.71	
15+25	1.3863	2.89	
15+30	1.4080	3.16	
15+35	1.4322	3.51	
15+40	1.4597	3.98	
15+45	1.4920	4.70	
15+50	1.5318	5.78	
15+55	1.5807	7.11	
16+ 0	1.6410	8.75	
16+ 5	1.7231	11.92	
16+10	1.8366	16.48	
16+15	1.9826	21.20	
16+20	2.1658	26.59	
16+25	2.4106	35.55	
16+30	2.7266	45.87	
16+35	3.0355	44.86	
16+40	3.2928	37.35	
16+45	3.5057	30.92	
16+50	3.6781	25.03	
16+55	3.8212	20.78	
17+ 0	3.9446	17.92	
17+ 5	4.0541	15.90	
17+10	4.1503	13.96	
17+15	4.2366	12.54	
17+20	4.3153	11.43	
17+25	4.3850	10.13	
17+30	4.4497	9.39	
17+35	4.5083	8.52	
17+40	4.5635	8.01	
17+45	4.6149	7.46	
17+50	4.6628	6.96	
17+55	4.7068	6.39	
18+ 0	4.7471	5.85	
18+ 5	4.7838	5.33	
18+10	4.8187	5.08	
18+15	4.8522	4.86	
18+20	4.8837	4.58	
18+25	4.9140	4.39	
18+30	4.9433	4.25	
18+35	4.9717	4.13	
18+40	4.9984	3.87	
18+45	5.0240	3.72	
18+50	5.0491	3.64	
18+55	5.0733	3.52	
19+ 0	5.0958	3.27	
19+ 5	5.1175	3.15	
19+10	5.1386	3.06	
19+15	5.1587	2.92	
19+20	5.1772	2.68	
19+25	5.1951	2.59	
19+30	5.2124	2.51	
19+35	5.2287	2.37	
19+40	5.2436	2.16	
19+45	5.2581	2.11	
19+50	5.2724	2.08	
19+55	5.2867	2.08	
20+ 0	5.3011	2.08	

20+ 5	5.3152	2.05	|Q	|	|	|	V |
20+10	5.3292	2.02	|Q	|	|	|	V |
20+15	5.3428	1.99	|Q	|	|	|	V |
20+20	5.3563	1.95	|Q	|	|	|	V |
20+25	5.3693	1.90	|Q	|	|	|	V |
20+30	5.3820	1.83	|Q	|	|	|	V |
20+35	5.3935	1.67	|Q	|	|	|	V |
20+40	5.4043	1.57	|Q	|	|	|	V |
20+45	5.4148	1.53	|Q	|	|	|	V |
20+50	5.4250	1.48	|Q	|	|	|	V |
20+55	5.4348	1.42	|Q	|	|	|	V |
21+ 0	5.4437	1.29	|Q	|	|	|	V |
21+ 5	5.4517	1.16	Q	|	|	|	V |
21+10	5.4595	1.13	Q	|	|	|	V |
21+15	5.4670	1.10	Q	|	|	|	V |
21+20	5.4745	1.08	Q	|	|	|	V |
21+25	5.4818	1.06	Q	|	|	|	V |
21+30	5.4891	1.05	Q	|	|	|	V |
21+35	5.4962	1.03	Q	|	|	|	V |
21+40	5.5032	1.02	Q	|	|	|	V |
21+45	5.5101	1.00	Q	|	|	|	V |
21+50	5.5169	0.99	Q	|	|	|	V |
21+55	5.5236	0.98	Q	|	|	|	V |
22+ 0	5.5303	0.96	Q	|	|	|	V |
22+ 5	5.5368	0.95	Q	|	|	|	V |
22+10	5.5433	0.94	Q	|	|	|	V |
22+15	5.5497	0.93	Q	|	|	|	V |
22+20	5.5560	0.92	Q	|	|	|	V |
22+25	5.5623	0.91	Q	|	|	|	V |
22+30	5.5685	0.90	Q	|	|	|	V |
22+35	5.5746	0.89	Q	|	|	|	V |
22+40	5.5807	0.88	Q	|	|	|	V |
22+45	5.5866	0.87	Q	|	|	|	V|
22+50	5.5926	0.86	Q	|	|	|	V|
22+55	5.5984	0.85	Q	|	|	|	V|
23+ 0	5.6042	0.84	Q	|	|	|	V|
23+ 5	5.6099	0.83	Q	|	|	|	V|
23+10	5.6156	0.82	Q	|	|	|	V|
23+15	5.6212	0.81	Q	|	|	|	V|
23+20	5.6268	0.81	Q	|	|	|	V|
23+25	5.6323	0.80	Q	|	|	|	V|
23+30	5.6377	0.79	Q	|	|	|	V|
23+35	5.6431	0.78	Q	|	|	|	V|
23+40	5.6484	0.77	Q	|	|	|	V|
23+45	5.6537	0.77	Q	|	|	|	V|
23+50	5.6589	0.76	Q	|	|	|	V|
23+55	5.6641	0.75	Q	|	|	|	V|
24+ 0	5.6692	0.75	Q	|	|	|	V|
24+ 5	5.6743	0.73	Q	|	|	|	V|
24+10	5.6792	0.72	Q	|	|	|	V|
24+15	5.6840	0.69	Q	|	|	|	V|
24+20	5.6885	0.66	Q	|	|	|	V|
24+25	5.6927	0.61	Q	|	|	|	V|
24+30	5.6963	0.52	Q	|	|	|	V|
24+35	5.6994	0.44	Q	|	|	|	V|
24+40	5.7020	0.38	Q	|	|	|	V|
24+45	5.7042	0.33	Q	|	|	|	V|
24+50	5.7062	0.29	Q	|	|	|	V|
24+55	5.7080	0.26	Q	|	|	|	V|

25+ 0	5.7096	0.23	Q	|	|	|	V|
25+ 5	5.7110	0.21	Q	|	|	|	V|
25+10	5.7124	0.19	Q	|	|	|	V|
25+15	5.7136	0.17	Q	|	|	|	V|
25+20	5.7147	0.16	Q	|	|	|	V|
25+25	5.7157	0.15	Q	|	|	|	V|
25+30	5.7166	0.13	Q	|	|	|	V|
25+35	5.7174	0.12	Q	|	|	|	V|
25+40	5.7182	0.11	Q	|	|	|	V|
25+45	5.7189	0.10	Q	|	|	|	V|
25+50	5.7196	0.09	Q	|	|	|	V|
25+55	5.7202	0.09	Q	|	|	|	V|
26+ 0	5.7207	0.08	Q	|	|	|	V|
26+ 5	5.7212	0.07	Q	|	|	|	V|
26+10	5.7217	0.07	Q	|	|	|	V|
26+15	5.7221	0.06	Q	|	|	|	V|
26+20	5.7225	0.06	Q	|	|	|	V|
26+25	5.7229	0.05	Q	|	|	|	V|
26+30	5.7233	0.05	Q	|	|	|	V|
26+35	5.7236	0.04	Q	|	|	|	V|
26+40	5.7238	0.04	Q	|	|	|	V|
26+45	5.7241	0.04	Q	|	|	|	V|
26+50	5.7244	0.03	Q	|	|	|	V|
26+55	5.7246	0.03	Q	|	|	|	V|
27+ 0	5.7248	0.03	Q	|	|	|	V|
27+ 5	5.7249	0.03	Q	|	|	|	V|
27+10	5.7251	0.02	Q	|	|	|	V|
27+15	5.7253	0.02	Q	|	|	|	V|
27+20	5.7254	0.02	Q	|	|	|	V|
27+25	5.7255	0.02	Q	|	|	|	V|
27+30	5.7256	0.02	Q	|	|	|	V|
27+35	5.7257	0.01	Q	|	|	|	V|
27+40	5.7258	0.01	Q	|	|	|	V|
27+45	5.7259	0.01	Q	|	|	|	V|
27+50	5.7260	0.01	Q	|	|	|	V|
27+55	5.7261	0.01	Q	|	|	|	V|
28+ 0	5.7261	0.01	Q	|	|	|	V|
28+ 5	5.7262	0.01	Q	|	|	|	V|
28+10	5.7263	0.01	Q	|	|	|	V|
28+15	5.7263	0.01	Q	|	|	|	V|
28+20	5.7263	0.01	Q	|	|	|	V|
28+25	5.7264	0.00	Q	|	|	|	V|
28+30	5.7264	0.00	Q	|	|	|	V|
28+35	5.7264	0.00	Q	|	|	|	V|
28+40	5.7264	0.00	Q	|	|	|	V|
28+45	5.7264	0.00	Q	|	|	|	V|
28+50	5.7264	0.00	Q	|	|	|	V|
28+55	5.7264	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 34
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
107.23	1	1.40
Rainfall data for year 100		
107.23	6	1.84
Rainfall data for year 100		
107.23	24	2.61

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
82.0	95.2	107.23	1.000	0.094	0.969	0.091

Area-averaged adjusted loss rate Fm (In/Hr) = 0.091

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
103.91	0.969	82.0	95.2	0.50	0.801
3.32	0.031	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.804
Area-averaged low loss fraction, Yb = 0.196
User entry of time of concentration = 1.220 (hours)
++
Watershed area = 107.23(Ac.)
Catchment Lag time = 0.976 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 8.5383
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.091(In/Hr)
Average low loss rate fraction (Yb) = 0.196 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.655(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.610(In)

Rainfall depth area reduction factors:
Using a total area of 107.23(Ac.) (Ref: fig. E-4)

5-minute factor = 0.995 Adjusted rainfall = 0.661(In)
30-minute factor = 0.995 Adjusted rainfall = 1.131(In)
1-hour factor = 0.995 Adjusted rainfall = 1.393(In)
3-hour factor = 0.999 Adjusted rainfall = 1.654(In)
6-hour factor = 1.000 Adjusted rainfall = 1.839(In)
24-hour factor = 1.000 Adjusted rainfall = 2.610(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1296.81 (CFS))	
1	0.376	4.872
2	1.225	11.016
3	2.588	17.671
4	4.411	23.646
5	6.668	29.261
6	9.506	36.804
7	14.019	58.532
8	20.242	80.694
9	28.783	110.772
10	36.533	100.498
11	43.320	88.018
12	48.799	71.049
13	53.499	60.945

14	57.544	52.465
15	60.801	42.235
16	63.591	36.179
17	66.090	32.413
18	68.328	29.012
19	70.410	27.003
20	72.299	24.499
21	73.981	21.810
22	75.509	19.814
23	76.975	19.010
24	78.358	17.941
25	79.513	14.974
26	80.640	14.616
27	81.724	14.058
28	82.659	12.123
29	83.581	11.958
30	84.476	11.614
31	85.300	10.682
32	86.120	10.630
33	86.896	10.074
34	87.583	8.896
35	88.266	8.858
36	88.885	8.031
37	89.399	6.664
38	89.911	6.644
39	90.408	6.449
40	90.887	6.202
41	91.365	6.201
42	91.808	5.751
43	92.218	5.315
44	92.628	5.313
45	93.018	5.059
46	93.394	4.872
47	93.768	4.859
48	94.089	4.163
49	94.380	3.765
50	94.670	3.765
51	94.960	3.765
52	95.250	3.765
53	95.538	3.726
54	95.777	3.098
55	95.999	2.879
56	96.221	2.879
57	96.443	2.879
58	96.665	2.879
59	96.880	2.793
60	97.044	2.132
61	97.198	1.993
62	97.352	1.993
63	97.506	1.993
64	97.659	1.993
65	97.801	1.842
66	97.893	1.184
67	97.978	1.107
68	98.063	1.107
69	98.149	1.107
70	98.234	1.107
71	98.324	1.166
72	98.426	1.321

73	98.528	1.329
74	98.631	1.329
75	98.733	1.329
76	98.836	1.329
77	98.938	1.329
78	99.041	1.329
79	99.143	1.329
80	99.245	1.329
81	99.348	1.329
82	99.450	1.329
83	99.528	1.000
84	99.581	0.692
85	99.634	0.692
86	99.688	0.692
87	99.741	0.692
88	99.794	0.692
89	99.848	0.692
90	99.901	0.692
91	99.954	0.692
92	100.000	0.591

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6610	0.6610
2	0.8138	0.1528
3	0.9190	0.1053
4	1.0019	0.0828
5	1.0712	0.0694
6	1.1314	0.0602
7	1.1850	0.0536
8	1.2334	0.0484
9	1.2778	0.0444
10	1.3188	0.0410
11	1.3571	0.0383
12	1.3930	0.0359
13	1.4105	0.0176
14	1.4270	0.0165
15	1.4425	0.0155
16	1.4571	0.0146
17	1.4710	0.0139
18	1.4842	0.0132
19	1.4969	0.0126
20	1.5089	0.0121
21	1.5205	0.0116
22	1.5316	0.0111
23	1.5423	0.0107
24	1.5526	0.0103
25	1.5626	0.0100
26	1.5722	0.0096
27	1.5815	0.0093
28	1.5905	0.0090
29	1.5993	0.0088
30	1.6078	0.0085
31	1.6161	0.0083
32	1.6241	0.0081
33	1.6320	0.0078
34	1.6396	0.0076
35	1.6471	0.0075
36	1.6543	0.0073

37	1.6613	0.0069
38	1.6681	0.0068
39	1.6747	0.0066
40	1.6812	0.0065
41	1.6876	0.0064
42	1.6938	0.0062
43	1.6999	0.0061
44	1.7059	0.0060
45	1.7118	0.0059
46	1.7176	0.0058
47	1.7232	0.0057
48	1.7288	0.0056
49	1.7342	0.0055
50	1.7396	0.0054
51	1.7449	0.0053
52	1.7501	0.0052
53	1.7552	0.0051
54	1.7602	0.0050
55	1.7651	0.0049
56	1.7700	0.0049
57	1.7748	0.0048
58	1.7795	0.0047
59	1.7842	0.0047
60	1.7888	0.0046
61	1.7933	0.0045
62	1.7978	0.0045
63	1.8022	0.0044
64	1.8065	0.0043
65	1.8108	0.0043
66	1.8151	0.0042
67	1.8192	0.0042
68	1.8234	0.0041
69	1.8274	0.0041
70	1.8315	0.0040
71	1.8355	0.0040
72	1.8394	0.0039
73	1.8458	0.0064
74	1.8521	0.0063
75	1.8584	0.0063
76	1.8646	0.0062
77	1.8708	0.0062
78	1.8769	0.0061
79	1.8830	0.0060
80	1.8889	0.0060
81	1.8949	0.0059
82	1.9007	0.0059
83	1.9066	0.0058
84	1.9123	0.0058
85	1.9181	0.0057
86	1.9237	0.0057
87	1.9293	0.0056
88	1.9349	0.0056
89	1.9404	0.0055
90	1.9459	0.0055
91	1.9513	0.0054
92	1.9567	0.0054
93	1.9621	0.0053
94	1.9674	0.0053
95	1.9726	0.0053

96	1.9779	0.0052
97	1.9830	0.0052
98	1.9882	0.0051
99	1.9933	0.0051
100	1.9983	0.0051
101	2.0034	0.0050
102	2.0084	0.0050
103	2.0133	0.0049
104	2.0182	0.0049
105	2.0231	0.0049
106	2.0279	0.0048
107	2.0327	0.0048
108	2.0375	0.0048
109	2.0423	0.0047
110	2.0470	0.0047
111	2.0517	0.0047
112	2.0563	0.0046
113	2.0609	0.0046
114	2.0655	0.0046
115	2.0701	0.0046
116	2.0746	0.0045
117	2.0791	0.0045
118	2.0836	0.0045
119	2.0880	0.0044
120	2.0924	0.0044
121	2.0968	0.0044
122	2.1012	0.0044
123	2.1055	0.0043
124	2.1098	0.0043
125	2.1141	0.0043
126	2.1183	0.0043
127	2.1226	0.0042
128	2.1268	0.0042
129	2.1310	0.0042
130	2.1351	0.0042
131	2.1392	0.0041
132	2.1433	0.0041
133	2.1474	0.0041
134	2.1515	0.0041
135	2.1555	0.0040
136	2.1596	0.0040
137	2.1635	0.0040
138	2.1675	0.0040
139	2.1715	0.0040
140	2.1754	0.0039
141	2.1793	0.0039
142	2.1832	0.0039
143	2.1871	0.0039
144	2.1909	0.0038
145	2.1948	0.0038
146	2.1986	0.0038
147	2.2024	0.0038
148	2.2061	0.0038
149	2.2099	0.0038
150	2.2136	0.0037
151	2.2173	0.0037
152	2.2210	0.0037
153	2.2247	0.0037
154	2.2284	0.0037

155	2.2320	0.0036
156	2.2356	0.0036
157	2.2392	0.0036
158	2.2428	0.0036
159	2.2464	0.0036
160	2.2499	0.0036
161	2.2535	0.0035
162	2.2570	0.0035
163	2.2605	0.0035
164	2.2640	0.0035
165	2.2675	0.0035
166	2.2709	0.0035
167	2.2744	0.0034
168	2.2778	0.0034
169	2.2812	0.0034
170	2.2846	0.0034
171	2.2880	0.0034
172	2.2914	0.0034
173	2.2947	0.0034
174	2.2981	0.0033
175	2.3014	0.0033
176	2.3047	0.0033
177	2.3080	0.0033
178	2.3113	0.0033
179	2.3146	0.0033
180	2.3178	0.0033
181	2.3211	0.0032
182	2.3243	0.0032
183	2.3275	0.0032
184	2.3307	0.0032
185	2.3339	0.0032
186	2.3371	0.0032
187	2.3402	0.0032
188	2.3434	0.0032
189	2.3465	0.0031
190	2.3497	0.0031
191	2.3528	0.0031
192	2.3559	0.0031
193	2.3590	0.0031
194	2.3620	0.0031
195	2.3651	0.0031
196	2.3682	0.0031
197	2.3712	0.0030
198	2.3742	0.0030
199	2.3773	0.0030
200	2.3803	0.0030
201	2.3833	0.0030
202	2.3862	0.0030
203	2.3892	0.0030
204	2.3922	0.0030
205	2.3951	0.0030
206	2.3981	0.0029
207	2.4010	0.0029
208	2.4039	0.0029
209	2.4068	0.0029
210	2.4097	0.0029
211	2.4126	0.0029
212	2.4155	0.0029
213	2.4184	0.0029

214	2.4212	0.0029
215	2.4241	0.0028
216	2.4269	0.0028
217	2.4298	0.0028
218	2.4326	0.0028
219	2.4354	0.0028
220	2.4382	0.0028
221	2.4410	0.0028
222	2.4438	0.0028
223	2.4465	0.0028
224	2.4493	0.0028
225	2.4521	0.0028
226	2.4548	0.0027
227	2.4575	0.0027
228	2.4603	0.0027
229	2.4630	0.0027
230	2.4657	0.0027
231	2.4684	0.0027
232	2.4711	0.0027
233	2.4738	0.0027
234	2.4764	0.0027
235	2.4791	0.0027
236	2.4818	0.0027
237	2.4844	0.0026
238	2.4871	0.0026
239	2.4897	0.0026
240	2.4923	0.0026
241	2.4949	0.0026
242	2.4975	0.0026
243	2.5001	0.0026
244	2.5027	0.0026
245	2.5053	0.0026
246	2.5079	0.0026
247	2.5105	0.0026
248	2.5130	0.0026
249	2.5156	0.0026
250	2.5181	0.0025
251	2.5207	0.0025
252	2.5232	0.0025
253	2.5257	0.0025
254	2.5282	0.0025
255	2.5307	0.0025
256	2.5332	0.0025
257	2.5357	0.0025
258	2.5382	0.0025
259	2.5407	0.0025
260	2.5432	0.0025
261	2.5456	0.0025
262	2.5481	0.0025
263	2.5505	0.0025
264	2.5530	0.0024
265	2.5554	0.0024
266	2.5578	0.0024
267	2.5603	0.0024
268	2.5627	0.0024
269	2.5651	0.0024
270	2.5675	0.0024
271	2.5699	0.0024
272	2.5723	0.0024

273	2.5747	0.0024
274	2.5770	0.0024
275	2.5794	0.0024
276	2.5818	0.0024
277	2.5841	0.0024
278	2.5865	0.0024
279	2.5888	0.0023
280	2.5912	0.0023
281	2.5935	0.0023
282	2.5958	0.0023
283	2.5981	0.0023
284	2.6005	0.0023
285	2.6028	0.0023
286	2.6051	0.0023
287	2.6074	0.0023
288	2.6097	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0004	0.0018
2	0.0023	0.0004	0.0018
3	0.0023	0.0005	0.0019
4	0.0023	0.0005	0.0019
5	0.0023	0.0005	0.0019
6	0.0023	0.0005	0.0019
7	0.0023	0.0005	0.0019
8	0.0024	0.0005	0.0019
9	0.0024	0.0005	0.0019
10	0.0024	0.0005	0.0019
11	0.0024	0.0005	0.0019
12	0.0024	0.0005	0.0019
13	0.0024	0.0005	0.0019
14	0.0024	0.0005	0.0019
15	0.0024	0.0005	0.0019
16	0.0024	0.0005	0.0020
17	0.0024	0.0005	0.0020
18	0.0025	0.0005	0.0020
19	0.0025	0.0005	0.0020
20	0.0025	0.0005	0.0020
21	0.0025	0.0005	0.0020
22	0.0025	0.0005	0.0020
23	0.0025	0.0005	0.0020
24	0.0025	0.0005	0.0020
25	0.0025	0.0005	0.0020
26	0.0025	0.0005	0.0020
27	0.0026	0.0005	0.0021
28	0.0026	0.0005	0.0021
29	0.0026	0.0005	0.0021
30	0.0026	0.0005	0.0021
31	0.0026	0.0005	0.0021
32	0.0026	0.0005	0.0021
33	0.0026	0.0005	0.0021
34	0.0026	0.0005	0.0021
35	0.0026	0.0005	0.0021
36	0.0027	0.0005	0.0021
37	0.0027	0.0005	0.0022
38	0.0027	0.0005	0.0022

39	0.0027	0.0005	0.0022
40	0.0027	0.0005	0.0022
41	0.0027	0.0005	0.0022
42	0.0027	0.0005	0.0022
43	0.0028	0.0005	0.0022
44	0.0028	0.0005	0.0022
45	0.0028	0.0005	0.0022
46	0.0028	0.0005	0.0022
47	0.0028	0.0006	0.0023
48	0.0028	0.0006	0.0023
49	0.0028	0.0006	0.0023
50	0.0028	0.0006	0.0023
51	0.0029	0.0006	0.0023
52	0.0029	0.0006	0.0023
53	0.0029	0.0006	0.0023
54	0.0029	0.0006	0.0023
55	0.0029	0.0006	0.0024
56	0.0029	0.0006	0.0024
57	0.0030	0.0006	0.0024
58	0.0030	0.0006	0.0024
59	0.0030	0.0006	0.0024
60	0.0030	0.0006	0.0024
61	0.0030	0.0006	0.0024
62	0.0030	0.0006	0.0024
63	0.0031	0.0006	0.0025
64	0.0031	0.0006	0.0025
65	0.0031	0.0006	0.0025
66	0.0031	0.0006	0.0025
67	0.0031	0.0006	0.0025
68	0.0032	0.0006	0.0025
69	0.0032	0.0006	0.0026
70	0.0032	0.0006	0.0026
71	0.0032	0.0006	0.0026
72	0.0032	0.0006	0.0026
73	0.0033	0.0006	0.0026
74	0.0033	0.0006	0.0026
75	0.0033	0.0006	0.0027
76	0.0033	0.0006	0.0027
77	0.0033	0.0007	0.0027
78	0.0034	0.0007	0.0027
79	0.0034	0.0007	0.0027
80	0.0034	0.0007	0.0027
81	0.0034	0.0007	0.0028
82	0.0034	0.0007	0.0028
83	0.0035	0.0007	0.0028
84	0.0035	0.0007	0.0028
85	0.0035	0.0007	0.0028
86	0.0035	0.0007	0.0028
87	0.0036	0.0007	0.0029
88	0.0036	0.0007	0.0029
89	0.0036	0.0007	0.0029
90	0.0036	0.0007	0.0029
91	0.0037	0.0007	0.0030
92	0.0037	0.0007	0.0030
93	0.0037	0.0007	0.0030
94	0.0038	0.0007	0.0030
95	0.0038	0.0007	0.0030
96	0.0038	0.0007	0.0031
97	0.0038	0.0008	0.0031

98	0.0039	0.0008	0.0031
99	0.0039	0.0008	0.0031
100	0.0039	0.0008	0.0032
101	0.0040	0.0008	0.0032
102	0.0040	0.0008	0.0032
103	0.0040	0.0008	0.0032
104	0.0041	0.0008	0.0033
105	0.0041	0.0008	0.0033
106	0.0041	0.0008	0.0033
107	0.0042	0.0008	0.0034
108	0.0042	0.0008	0.0034
109	0.0043	0.0008	0.0034
110	0.0043	0.0008	0.0034
111	0.0043	0.0008	0.0035
112	0.0044	0.0009	0.0035
113	0.0044	0.0009	0.0035
114	0.0044	0.0009	0.0036
115	0.0045	0.0009	0.0036
116	0.0045	0.0009	0.0036
117	0.0046	0.0009	0.0037
118	0.0046	0.0009	0.0037
119	0.0047	0.0009	0.0038
120	0.0047	0.0009	0.0038
121	0.0048	0.0009	0.0038
122	0.0048	0.0009	0.0039
123	0.0049	0.0010	0.0039
124	0.0049	0.0010	0.0040
125	0.0050	0.0010	0.0040
126	0.0050	0.0010	0.0040
127	0.0051	0.0010	0.0041
128	0.0051	0.0010	0.0041
129	0.0052	0.0010	0.0042
130	0.0053	0.0010	0.0042
131	0.0053	0.0010	0.0043
132	0.0054	0.0011	0.0043
133	0.0055	0.0011	0.0044
134	0.0055	0.0011	0.0044
135	0.0056	0.0011	0.0045
136	0.0057	0.0011	0.0046
137	0.0058	0.0011	0.0046
138	0.0058	0.0011	0.0047
139	0.0059	0.0012	0.0048
140	0.0060	0.0012	0.0048
141	0.0061	0.0012	0.0049
142	0.0062	0.0012	0.0050
143	0.0063	0.0012	0.0051
144	0.0063	0.0012	0.0051
145	0.0039	0.0008	0.0032
146	0.0040	0.0008	0.0032
147	0.0041	0.0008	0.0033
148	0.0041	0.0008	0.0033
149	0.0042	0.0008	0.0034
150	0.0043	0.0008	0.0034
151	0.0044	0.0009	0.0035
152	0.0045	0.0009	0.0036
153	0.0046	0.0009	0.0037
154	0.0047	0.0009	0.0037
155	0.0048	0.0009	0.0039
156	0.0049	0.0010	0.0039

157	0.0050	0.0010	0.0040
158	0.0051	0.0010	0.0041
159	0.0053	0.0010	0.0042
160	0.0054	0.0011	0.0043
161	0.0056	0.0011	0.0045
162	0.0057	0.0011	0.0045
163	0.0059	0.0012	0.0047
164	0.0060	0.0012	0.0048
165	0.0062	0.0012	0.0050
166	0.0064	0.0012	0.0051
167	0.0066	0.0013	0.0053
168	0.0068	0.0013	0.0055
169	0.0073	0.0014	0.0059
170	0.0075	0.0015	0.0060
171	0.0078	0.0015	0.0063
172	0.0081	0.0016	0.0065
173	0.0085	0.0017	0.0068
174	0.0088	0.0017	0.0070
175	0.0093	0.0018	0.0075
176	0.0096	0.0019	0.0077
177	0.0103	0.0020	0.0083
178	0.0107	0.0021	0.0086
179	0.0116	0.0023	0.0093
180	0.0121	0.0024	0.0097
181	0.0132	0.0026	0.0106
182	0.0139	0.0027	0.0112
183	0.0155	0.0030	0.0125
184	0.0165	0.0032	0.0132
185	0.0359	0.0070	0.0289
186	0.0383	0.0075	0.0308
187	0.0444	0.0076	0.0368
188	0.0484	0.0076	0.0408
189	0.0602	0.0076	0.0526
190	0.0694	0.0076	0.0618
191	0.1053	0.0076	0.0976
192	0.1528	0.0076	0.1452
193	0.6610	0.0076	0.6534
194	0.0828	0.0076	0.0752
195	0.0536	0.0076	0.0459
196	0.0410	0.0076	0.0334
197	0.0176	0.0034	0.0141
198	0.0146	0.0029	0.0118
199	0.0126	0.0025	0.0101
200	0.0111	0.0022	0.0089
201	0.0100	0.0020	0.0080
202	0.0090	0.0018	0.0073
203	0.0083	0.0016	0.0067
204	0.0076	0.0015	0.0061
205	0.0069	0.0014	0.0056
206	0.0065	0.0013	0.0052
207	0.0061	0.0012	0.0049
208	0.0058	0.0011	0.0046
209	0.0055	0.0011	0.0044
210	0.0052	0.0010	0.0042
211	0.0049	0.0010	0.0040
212	0.0047	0.0009	0.0038
213	0.0045	0.0009	0.0036
214	0.0043	0.0009	0.0035
215	0.0042	0.0008	0.0034

216	0.0040	0.0008	0.0032
217	0.0064	0.0013	0.0052
218	0.0062	0.0012	0.0050
219	0.0060	0.0012	0.0049
220	0.0059	0.0012	0.0047
221	0.0057	0.0011	0.0046
222	0.0056	0.0011	0.0045
223	0.0054	0.0011	0.0044
224	0.0053	0.0010	0.0043
225	0.0052	0.0010	0.0042
226	0.0051	0.0010	0.0041
227	0.0049	0.0010	0.0040
228	0.0048	0.0009	0.0039
229	0.0047	0.0009	0.0038
230	0.0046	0.0009	0.0037
231	0.0046	0.0009	0.0037
232	0.0045	0.0009	0.0036
233	0.0044	0.0009	0.0035
234	0.0043	0.0008	0.0035
235	0.0042	0.0008	0.0034
236	0.0042	0.0008	0.0033
237	0.0041	0.0008	0.0033
238	0.0040	0.0008	0.0032
239	0.0040	0.0008	0.0032
240	0.0039	0.0008	0.0031
241	0.0038	0.0008	0.0031
242	0.0038	0.0007	0.0030
243	0.0037	0.0007	0.0030
244	0.0037	0.0007	0.0029
245	0.0036	0.0007	0.0029
246	0.0036	0.0007	0.0029
247	0.0035	0.0007	0.0028
248	0.0035	0.0007	0.0028
249	0.0034	0.0007	0.0027
250	0.0034	0.0007	0.0027
251	0.0033	0.0007	0.0027
252	0.0033	0.0006	0.0026
253	0.0032	0.0006	0.0026
254	0.0032	0.0006	0.0026
255	0.0032	0.0006	0.0025
256	0.0031	0.0006	0.0025
257	0.0031	0.0006	0.0025
258	0.0031	0.0006	0.0025
259	0.0030	0.0006	0.0024
260	0.0030	0.0006	0.0024
261	0.0030	0.0006	0.0024
262	0.0029	0.0006	0.0023
263	0.0029	0.0006	0.0023
264	0.0029	0.0006	0.0023
265	0.0028	0.0006	0.0023
266	0.0028	0.0005	0.0023
267	0.0028	0.0005	0.0022
268	0.0027	0.0005	0.0022
269	0.0027	0.0005	0.0022
270	0.0027	0.0005	0.0022
271	0.0027	0.0005	0.0021
272	0.0026	0.0005	0.0021
273	0.0026	0.0005	0.0021
274	0.0026	0.0005	0.0021

275	0.0026	0.0005	0.0021
276	0.0025	0.0005	0.0020
277	0.0025	0.0005	0.0020
278	0.0025	0.0005	0.0020
279	0.0025	0.0005	0.0020
280	0.0025	0.0005	0.0020
281	0.0024	0.0005	0.0020
282	0.0024	0.0005	0.0019
283	0.0024	0.0005	0.0019
284	0.0024	0.0005	0.0019
285	0.0024	0.0005	0.0019
286	0.0023	0.0005	0.0019
287	0.0023	0.0005	0.0019
288	0.0023	0.0005	0.0019

Total soil rain loss = 0.33(In)
Total effective rainfall = 2.28(In)
Peak flow rate in flood hydrograph = 123.15(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0003	0.03	Q	|	|	|	|
0+15	0.0007	0.06	Q	|	|	|	|
0+20	0.0014	0.11	Q	|	|	|	|
0+25	0.0025	0.16	Q	|	|	|	|
0+30	0.0041	0.23	Q	|	|	|	|
0+35	0.0064	0.34	Q	|	|	|	|
0+40	0.0098	0.49	Q	|	|	|	|
0+45	0.0145	0.69	Q	|	|	|	|
0+50	0.0206	0.88	Q	|	|	|	|
0+55	0.0278	1.05	Q	|	|	|	|
1+ 0	0.0359	1.18	Q	|	|	|	|
1+ 5	0.0448	1.30	Q	|	|	|	|
1+10	0.0545	1.40	Q	|	|	|	|
1+15	0.0647	1.48	Q	|	|	|	|
1+20	0.0754	1.55	Q	|	|	|	|
1+25	0.0865	1.62	Q	|	|	|	|
1+30	0.0981	1.68	Q	|	|	|	|
1+35	0.1101	1.74	Q	|	|	|	|
1+40	0.1224	1.79	Q	|	|	|	|
1+45	0.1350	1.84	Q	|	|	|	|
1+50	0.1480	1.88	Q	|	|	|	|
1+55	0.1612	1.92	Q	|	|	|	|
2+ 0	0.1748	1.96	Q	|	|	|	|
2+ 5	0.1885	2.00	Q	|	|	|	|
2+10	0.2025	2.04	Q	|	|	|	|
2+15	0.2168	2.07	Q	|	|	|	|
2+20	0.2313	2.10	Q	|	|	|	|
2+25	0.2460	2.13	Q	|	|	|	|
2+30	0.2608	2.16	Q	|	|	|	|

2+35	0.2759	2.19	Q				
2+40	0.2912	2.22	Q				
2+45	0.3067	2.25	Q				
2+50	0.3224	2.27	Q				
2+55	0.3382	2.30	Q				
3+ 0	0.3542	2.33	Q				
3+ 5	0.3704	2.35	Q				
3+10	0.3867	2.37	Q				
3+15	0.4032	2.39	Q				
3+20	0.4199	2.42	Q				
3+25	0.4367	2.44	Q				
3+30	0.4536	2.46	Q				
3+35	0.4707	2.48	Q				
3+40	0.4879	2.50	Q				
3+45	0.5053	2.52	Q				
3+50	0.5228	2.54	QV				
3+55	0.5405	2.56	QV				
4+ 0	0.5583	2.58	QV				
4+ 5	0.5762	2.60	QV				
4+10	0.5943	2.62	QV				
4+15	0.6125	2.64	QV				
4+20	0.6308	2.66	QV				
4+25	0.6493	2.68	QV				
4+30	0.6679	2.70	QV				
4+35	0.6866	2.72	QV				
4+40	0.7055	2.74	QV				
4+45	0.7245	2.76	QV				
4+50	0.7436	2.78	QV				
4+55	0.7628	2.80	QV				
5+ 0	0.7822	2.81	QV				
5+ 5	0.8017	2.83	QV				
5+10	0.8213	2.85	QV				
5+15	0.8411	2.87	QV				
5+20	0.8610	2.89	QV				
5+25	0.8810	2.91	QV				
5+30	0.9011	2.92	QV				
5+35	0.9214	2.94	QV				
5+40	0.9417	2.96	QV				
5+45	0.9622	2.98	QV				
5+50	0.9829	2.99	QV				
5+55	1.0036	3.01	QV				
6+ 0	1.0245	3.03	Q V				
6+ 5	1.0455	3.05	Q V				
6+10	1.0667	3.07	Q V				
6+15	1.0879	3.09	Q V				
6+20	1.1094	3.11	Q V				
6+25	1.1309	3.13	Q V				
6+30	1.1526	3.15	Q V				
6+35	1.1745	3.17	Q V				
6+40	1.1965	3.19	Q V				
6+45	1.2186	3.21	Q V				
6+50	1.2409	3.24	Q V				
6+55	1.2633	3.26	Q V				
7+ 0	1.2859	3.28	Q V				
7+ 5	1.3086	3.30	Q V				
7+10	1.3315	3.32	Q V				
7+15	1.3545	3.34	Q V				
7+20	1.3777	3.37	Q V				
7+25	1.4011	3.39	Q V				

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 7+30       1.4245      3.41  Q V       |          |          |          |
 7+35       1.4482      3.43  Q V       |          |          |          |
 7+40       1.4720      3.46  Q V       |          |          |          |
 7+45       1.4960      3.48  Q V       |          |          |          |
 7+50       1.5201      3.50  Q V       |          |          |          |
 7+55       1.5444      3.53  Q  V      |          |          |          |
 8+ 0       1.5688      3.55  Q  V      |          |          |          |
 8+ 5       1.5934      3.57  Q  V      |          |          |          |
 8+10       1.6182      3.60  Q  V      |          |          |          |
 8+15       1.6431      3.62  Q  V      |          |          |          |
 8+20       1.6682      3.65  Q  V      |          |          |          |
 8+25       1.6935      3.67  Q  V      |          |          |          |
 8+30       1.7190      3.70  Q  V      |          |          |          |
 8+35       1.7447      3.73  Q  V      |          |          |          |
 8+40       1.7705      3.75  Q  V      |          |          |          |
 8+45       1.7965      3.78  Q  V      |          |          |          |
 8+50       1.8228      3.81  Q  V      |          |          |          |
 8+55       1.8492      3.84  Q  V      |          |          |          |
 9+ 0       1.8758      3.86  Q  V      |          |          |          |
 9+ 5       1.9026      3.89  Q  V      |          |          |          |
 9+10       1.9296      3.92  Q  V      |          |          |          |
 9+15       1.9569      3.95  Q  V      |          |          |          |
 9+20       1.9843      3.99  Q  V      |          |          |          |
 9+25       2.0120      4.02  Q  V      |          |          |          |
 9+30       2.0399      4.05  Q   V     |          |          |          |
 9+35       2.0680      4.08  Q   V     |          |          |          |
 9+40       2.0963      4.12  Q   V     |          |          |          |
 9+45       2.1249      4.15  Q   V     |          |          |          |
 9+50       2.1537      4.18  Q   V     |          |          |          |
 9+55       2.1828      4.22  Q   V     |          |          |          |
10+ 0       2.2121      4.26  Q   V     |          |          |          |
10+ 5       2.2417      4.29  Q   V     |          |          |          |
10+10       2.2715      4.33  Q   V     |          |          |          |
10+15       2.3016      4.37  Q   V     |          |          |          |
10+20       2.3319      4.41  Q   V     |          |          |          |
10+25       2.3626      4.45  Q   V     |          |          |          |
10+30       2.3935      4.49  Q   V     |          |          |          |
10+35       2.4247      4.53  Q   V     |          |          |          |
10+40       2.4562      4.57  Q   V     |          |          |          |
10+45       2.4880      4.62  Q   V     |          |          |          |
10+50       2.5201      4.66  Q   V     |          |          |          |
10+55       2.5525      4.71  Q    V    |          |          |          |
11+ 0       2.5853      4.76  Q    V    |          |          |          |
11+ 5       2.6184      4.80  Q    V    |          |          |          |
11+10       2.6518      4.85  Q    V    |          |          |          |
11+15       2.6856      4.90  Q    V    |          |          |          |
11+20       2.7197      4.96  Q    V    |          |          |          |
11+25       2.7542      5.01  |Q   V    |          |          |          |
11+30       2.7891      5.06  |Q   V    |          |          |          |
11+35       2.8244      5.12  |Q   V    |          |          |          |
11+40       2.8600      5.18  |Q   V    |          |          |          |
11+45       2.8961      5.24  |Q   V    |          |          |          |
11+50       2.9326      5.30  |Q   V    |          |          |          |
11+55       2.9695      5.36  |Q   V    |          |          |          |
12+ 0       3.0068      5.42  |Q   V    |          |          |          |
12+ 5       3.0446      5.48  |Q   V    |          |          |          |
12+10       3.0826      5.53  |Q    V   |          |          |          |
12+15       3.1209      5.56  |Q    V   |          |          |          |
12+20       3.1593      5.58  |Q    V   |          |          |          |
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12+25       3.1979      5.60  |Q    V   |          |          |          |
12+30       3.2364      5.59  |Q    V   |          |          |          |
12+35       3.2746      5.55  |Q    V   |          |          |          |
12+40       3.3122      5.46  |Q    V   |          |          |          |
12+45       3.3488      5.31  |Q    V   |          |          |          |
12+50       3.3846      5.19  |Q    V   |          |          |          |
12+55       3.4196      5.08  |Q    V   |          |          |          |
13+ 0       3.4541      5.02  |Q    V   |          |          |          |
13+ 5       3.4883      4.97  Q     V   |          |          |          |
13+10       3.5224      4.94  Q     V   |          |          |          |
13+15       3.5564      4.94  Q     V   |          |          |          |
13+20       3.5905      4.95  Q      V  |          |          |          |
13+25       3.6247      4.97  Q      V  |          |          |          |
13+30       3.6592      5.00  |Q     V  |          |          |          |
13+35       3.6939      5.04  |Q     V  |          |          |          |
13+40       3.7290      5.09  |Q     V  |          |          |          |
13+45       3.7644      5.14  |Q     V  |          |          |          |
13+50       3.8002      5.21  |Q     V  |          |          |          |
13+55       3.8366      5.28  |Q     V  |          |          |          |
14+ 0       3.8735      5.36  |Q     V  |          |          |          |
14+ 5       3.9110      5.45  |Q     V  |          |          |          |
14+10       3.9492      5.55  |Q     V  |          |          |          |
14+15       3.9882      5.65  |Q     V  |          |          |          |
14+20       4.0279      5.77  |Q     V  |          |          |          |
14+25       4.0686      5.90  |Q     V  |          |          |          |
14+30       4.1102      6.04  |Q      V |          |          |          |
14+35       4.1528      6.20  |Q      V |          |          |          |
14+40       4.1967      6.37  |Q      V |          |          |          |
14+45       4.2418      6.56  |Q      V |          |          |          |
14+50       4.2884      6.76  |Q      V |          |          |          |
14+55       4.3365      6.98  |Q      V |          |          |          |
15+ 0       4.3862      7.22  |Q      V |          |          |          |
15+ 5       4.4377      7.48  |Q      V |          |          |          |
15+10       4.4912      7.76  |Q      V |          |          |          |
15+15       4.5468      8.08  |Q      V |          |          |          |
15+20       4.6049      8.43  |Q       V|          |          |          |
15+25       4.6661      8.89  |Q       V|          |          |          |
15+30       4.7314      9.48  |Q       V|          |          |          |
15+35       4.8020     10.26  | Q      V|          |          |          |
15+40       4.8793     11.22  | Q      V|          |          |          |
15+45       4.9649     12.43  | Q      V|          |          |          |
15+50       5.0612     13.98  | Q      V|          |          |          |
15+55       5.1730     16.25  |  Q      V          |          |          |
16+ 0       5.3075     19.52  |  Q      V          |          |          |
16+ 5       5.4902     26.53  |    Q    V          |          |          |
16+10       5.7284     34.58  |     Q   |V         |          |          |
16+15       6.0254     43.13  |       Q |V         |          |          |
16+20       6.3791     51.35  |         Q V        |          |          |
16+25       6.7921     59.96  |         |Q V       |          |          |
16+30       7.2771     70.43  |         |   Q      |          |          |
16+35       7.8883     88.74  |         |    V Q   |          |          |
16+40       8.6173    105.85  |         |     V    |Q         |          |
16+45       9.4654    123.15  |         |       V  |   Q      |          |
16+50      10.2588    115.20  |         |          V  Q       |          |
16+55      10.9733    103.75  |         |          QV         |          |
17+ 0      11.5881     89.27  |         |       Q  | V        |          |
17+ 5      12.1274     78.31  |         |    Q     |  V       |          |
17+10      12.6008     68.73  |         |  Q       |   V      |          |
17+15      13.0070     58.98  |         |Q         |    V     |          |
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17+20      13.3674     52.33  |         Q          |     V    |          |
17+25      13.6946     47.51  |        Q|          |     V    |          |
17+30      13.9933     43.38  |       Q |          |      V   |          |
17+35      14.2709     40.31  |       Q |          |       V  |          |
17+40      14.5269     37.17  |      Q  |          |       V  |          |
17+45      14.7619     34.13  |     Q   |          |       V  |          |
17+50      14.9803     31.70  |     Q   |          |        V|          |
17+55      15.1870     30.01  |     Q   |          |        V|          |
18+ 0      15.3813     28.22  |    Q    |          |         V          |
18+ 5      15.5576     25.60  |    Q    |          |         V          |
18+10      15.7264     24.51  |   Q     |          |         V          |
18+15      15.8874     23.37  |   Q     |          |          |V        |
18+20      16.0363     21.62  |   Q     |          |          |V        |
18+25      16.1804     20.93  |   Q     |          |          |V        |
18+30      16.3194     20.18  |   Q     |          |          | V       |
18+35      16.4518     19.22  |  Q      |          |          | V       |
18+40      16.5811     18.78  |  Q      |          |          | V       |
18+45      16.7058     18.11  |  Q      |          |          | V       |
18+50      16.8237     17.12  |  Q      |          |          |  V      |
18+55      16.9387     16.70  |  Q      |          |          |  V      |
19+ 0      17.0478     15.83  |  Q      |          |          |  V      |
19+ 5      17.1493     14.74  | Q       |          |          |  V      |
19+10      17.2487     14.43  | Q       |          |          |  V      |
19+15      17.3455     14.06  | Q       |          |          |   V     |
19+20      17.4396     13.66  | Q       |          |          |   V     |
19+25      17.5318     13.39  | Q       |          |          |   V     |
19+30      17.6205     12.87  | Q       |          |          |   V     |
19+35      17.7058     12.39  | Q       |          |          |   V     |
19+40      17.7894     12.15  | Q       |          |          |   V     |
19+45      17.8705     11.77  | Q       |          |          |    V    |
19+50      17.9492     11.43  | Q       |          |          |    V    |
19+55      18.0261     11.15  | Q       |          |          |    V    |
20+ 0      18.0985     10.52  | Q       |          |          |    V    |
20+ 5      18.1680     10.09  | Q       |          |          |    V    |
20+10      18.2362      9.91  |Q        |          |          |    V    |
20+15      18.3033      9.74  |Q        |          |          |    V    |
20+20      18.3691      9.55  |Q        |          |          |     V   |
20+25      18.4332      9.31  |Q        |          |          |     V   |
20+30      18.4936      8.77  |Q        |          |          |     V   |
20+35      18.5519      8.47  |Q        |          |          |     V   |
20+40      18.6092      8.31  |Q        |          |          |     V   |
20+45      18.6654      8.16  |Q        |          |          |     V   |
20+50      18.7204      7.99  |Q        |          |          |     V   |
20+55      18.7737      7.73  |Q        |          |          |     V   |
21+ 0      18.8232      7.19  |Q        |          |          |     V   |
21+ 5      18.8710      6.95  |Q        |          |          |      V  |
21+10      18.9179      6.81  |Q        |          |          |      V  |
21+15      18.9639      6.67  |Q        |          |          |      V  |
21+20      19.0088      6.52  |Q        |          |          |      V  |
21+25      19.0519      6.27  |Q        |          |          |      V  |
21+30      19.0917      5.77  |Q        |          |          |      V  |
21+35      19.1303      5.61  |Q        |          |          |      V  |
21+40      19.1684      5.53  |Q        |          |          |      V  |
21+45      19.2061      5.47  |Q        |          |          |      V  |
21+50      19.2435      5.43  |Q        |          |          |      V  |
21+55      19.2809      5.43  |Q        |          |          |      V  |
22+ 0      19.3186      5.48  |Q        |          |          |      V  |
22+ 5      19.3561      5.44  |Q        |          |          |       V |
22+10      19.3933      5.40  |Q        |          |          |       V |
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22+15      19.4301      5.34  |Q        |          |          |       V |
22+20      19.4665      5.28  |Q        |          |          |       V |
22+25      19.5024      5.22  |Q        |          |          |       V |
22+30      19.5380      5.16  |Q        |          |          |       V |
22+35      19.5730      5.09  |Q        |          |          |       V |
22+40      19.6075      5.01  |Q        |          |          |       V |
22+45      19.6414      4.92  Q         |          |          |       V |
22+50      19.6745      4.81  Q         |          |          |       V |
22+55      19.7056      4.51  Q         |          |          |       V |
23+ 0      19.7348      4.24  Q         |          |          |       V |
23+ 5      19.7634      4.15  Q         |          |          |       V |
23+10      19.7915      4.08  Q         |          |          |       V |
23+15      19.8191      4.01  Q         |          |          |       V |
23+20      19.8462      3.95  Q         |          |          |       V |
23+25      19.8729      3.88  Q         |          |          |        V|
23+30      19.8991      3.80  Q         |          |          |        V|
23+35      19.9245      3.69  Q         |          |          |        V|
23+40      19.9487      3.51  Q         |          |          |        V|
23+45      19.9699      3.09  Q         |          |          |        V|
23+50      19.9907      3.01  Q         |          |          |        V|
23+55      20.0110      2.95  Q         |          |          |        V|
24+ 0      20.0310      2.90  Q         |          |          |        V|
24+ 5      20.0507      2.86  Q         |          |          |        V|
24+10      20.0700      2.81  Q         |          |          |        V|
24+15      20.0890      2.75  Q         |          |          |        V|
24+20      20.1074      2.67  Q         |          |          |        V|
24+25      20.1252      2.59  Q         |          |          |        V|
24+30      20.1424      2.50  Q         |          |          |        V|
24+35      20.1588      2.37  Q         |          |          |        V|
24+40      20.1739      2.20  Q         |          |          |        V|
24+45      20.1875      1.97  Q         |          |          |        V|
24+50      20.1997      1.77  Q         |          |          |        V|
24+55      20.2106      1.59  Q         |          |          |        V|
25+ 0      20.2206      1.45  Q         |          |          |        V|
25+ 5      20.2297      1.32  Q         |          |          |        V|
25+10      20.2380      1.21  Q         |          |          |        V|
25+15      20.2458      1.12  Q         |          |          |        V|
25+20      20.2530      1.04  Q         |          |          |        V|
25+25      20.2597      0.98  Q         |          |          |        V|
25+30      20.2660      0.91  Q         |          |          |        V|
25+35      20.2719      0.85  Q         |          |          |        V|
25+40      20.2774      0.80  Q         |          |          |        V|
25+45      20.2826      0.75  Q         |          |          |        V|
25+50      20.2874      0.71  Q         |          |          |        V|
25+55      20.2920      0.67  Q         |          |          |        V|
26+ 0      20.2963      0.63  Q         |          |          |        V|
26+ 5      20.3004      0.59  Q         |          |          |        V|
26+10      20.3042      0.56  Q         |          |          |        V|
26+15      20.3079      0.53  Q         |          |          |        V|
26+20      20.3113      0.50  Q         |          |          |        V|
26+25      20.3146      0.47  Q         |          |          |        V|
26+30      20.3176      0.45  Q         |          |          |        V|
26+35      20.3205      0.42  Q         |          |          |        V|
26+40      20.3233      0.40  Q         |          |          |        V|
26+45      20.3258      0.37  Q         |          |          |        V|
26+50      20.3283      0.35  Q         |          |          |        V|
26+55      20.3306      0.33  Q         |          |          |        V|
27+ 0      20.3328      0.32  Q         |          |          |        V|
27+ 5      20.3348      0.30  Q         |          |          |        V|
```

27+10	20.3368	0.29	Q	|	|	|	V|
27+15	20.3387	0.27	Q	|	|	|	V|
27+20	20.3404	0.26	Q	|	|	|	V|
27+25	20.3421	0.24	Q	|	|	|	V|
27+30	20.3437	0.23	Q	|	|	|	V|
27+35	20.3452	0.22	Q	|	|	|	V|
27+40	20.3466	0.21	Q	|	|	|	V|
27+45	20.3479	0.19	Q	|	|	|	V|
27+50	20.3492	0.18	Q	|	|	|	V|
27+55	20.3504	0.17	Q	|	|	|	V|
28+ 0	20.3515	0.16	Q	|	|	|	V|
28+ 5	20.3526	0.16	Q	|	|	|	V|
28+10	20.3536	0.15	Q	|	|	|	V|
28+15	20.3546	0.14	Q	|	|	|	V|
28+20	20.3555	0.13	Q	|	|	|	V|
28+25	20.3563	0.12	Q	|	|	|	V|
28+30	20.3571	0.12	Q	|	|	|	V|
28+35	20.3578	0.11	Q	|	|	|	V|
28+40	20.3586	0.10	Q	|	|	|	V|
28+45	20.3592	0.10	Q	|	|	|	V|
28+50	20.3598	0.09	Q	|	|	|	V|
28+55	20.3604	0.08	Q	|	|	|	V|
29+ 0	20.3610	0.08	Q	|	|	|	V|
29+ 5	20.3615	0.08	Q	|	|	|	V|
29+10	20.3620	0.07	Q	|	|	|	V|
29+15	20.3624	0.07	Q	|	|	|	V|
29+20	20.3629	0.06	Q	|	|	|	V|
29+25	20.3633	0.06	Q	|	|	|	V|
29+30	20.3637	0.06	Q	|	|	|	V|
29+35	20.3640	0.05	Q	|	|	|	V|
29+40	20.3644	0.05	Q	|	|	|	V|
29+45	20.3647	0.05	Q	|	|	|	V|
29+50	20.3650	0.05	Q	|	|	|	V|
29+55	20.3653	0.04	Q	|	|	|	V|
30+ 0	20.3656	0.04	Q	|	|	|	V|
30+ 5	20.3658	0.04	Q	|	|	|	V|
30+10	20.3661	0.03	Q	|	|	|	V|
30+15	20.3663	0.03	Q	|	|	|	V|
30+20	20.3665	0.03	Q	|	|	|	V|
30+25	20.3667	0.03	Q	|	|	|	V|
30+30	20.3669	0.02	Q	|	|	|	V|
30+35	20.3670	0.02	Q	|	|	|	V|
30+40	20.3671	0.02	Q	|	|	|	V|
30+45	20.3673	0.02	Q	|	|	|	V|
30+50	20.3673	0.01	Q	|	|	|	V|
30+55	20.3674	0.01	Q	|	|	|	V|
31+ 0	20.3675	0.01	Q	|	|	|	V|
31+ 5	20.3676	0.01	Q	|	|	|	V|
31+10	20.3676	0.01	Q	|	|	|	V|
31+15	20.3677	0.01	Q	|	|	|	V|
31+20	20.3677	0.00	Q	|	|	|	V|
31+25	20.3677	0.00	Q	|	|	|	V|
31+30	20.3677	0.00	Q	|	|	|	V|
31+35	20.3677	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 35
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
33.10	1	1.39
Rainfall data for year 100		
33.10	6	1.84
Rainfall data for year 100		
33.10	24	2.62

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
82.9	95.7	33.10	1.000	0.084	1.000	0.084

Area-averaged adjusted loss rate Fm (In/Hr) = 0.084

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
33.10	1.000	82.9	95.7	0.44	0.822

Area-averaged catchment yield fraction, Y = 0.822
Area-averaged low loss fraction, Yb = 0.178
User entry of time of concentration = 0.640 (hours)
++
Watershed area = 33.10(Ac.)
Catchment Lag time = 0.512 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.2760
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.084(In/Hr)
Average low loss rate fraction (Yb) = 0.178 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.651(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.620(In)

Rainfall depth area reduction factors:
Using a total area of 33.10(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998 Adjusted rainfall = 0.659(In)
30-minute factor = 0.998 Adjusted rainfall = 1.127(In)
1-hour factor = 0.998 Adjusted rainfall = 1.388(In)
3-hour factor = 1.000 Adjusted rainfall = 1.650(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.620(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 400.30 (CFS))	
1	0.751	3.007
2	3.242	9.970
3	7.438	16.798
4	15.051	30.475
5	29.290	56.998
6	43.043	55.055
7	52.984	39.794
8	60.115	28.545
9	65.345	20.936
10	69.600	17.033
11	73.168	14.281
12	76.128	11.849
13	78.731	10.422
14	80.898	8.673

15	82.788	7.567
16	84.506	6.876
17	86.080	6.300
18	87.486	5.631
19	88.736	5.002
20	89.743	4.031
21	90.685	3.771
22	91.580	3.584
23	92.378	3.194
24	93.129	3.007
25	93.831	2.808
26	94.411	2.323
27	94.965	2.215
28	95.510	2.183
29	95.961	1.803
30	96.384	1.694
31	96.802	1.674
32	97.129	1.308
33	97.421	1.173
34	97.712	1.161
35	97.915	0.815
36	98.078	0.652
37	98.241	0.653
38	98.424	0.733
39	98.620	0.782
40	98.815	0.782
41	99.010	0.782
42	99.205	0.782
43	99.401	0.782
44	99.550	0.598
45	99.652	0.407
46	99.753	0.407
47	99.855	0.407
48	100.000	0.204

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6585	0.6585
2	0.8108	0.1522
3	0.9156	0.1049
4	0.9982	0.0825
5	1.0673	0.0691
6	1.1273	0.0600
7	1.1806	0.0534
8	1.2289	0.0483
9	1.2731	0.0442
10	1.3140	0.0409
11	1.3521	0.0381
12	1.3878	0.0358
13	1.4055	0.0176
14	1.4220	0.0165
15	1.4376	0.0156
16	1.4523	0.0147
17	1.4662	0.0140
18	1.4795	0.0133
19	1.4922	0.0127
20	1.5043	0.0121
21	1.5159	0.0116
22	1.5271	0.0112

23	1.5379	0.0107
24	1.5482	0.0104
25	1.5582	0.0100
26	1.5679	0.0097
27	1.5773	0.0094
28	1.5863	0.0091
29	1.5951	0.0088
30	1.6037	0.0086
31	1.6120	0.0083
32	1.6201	0.0081
33	1.6280	0.0079
34	1.6357	0.0077
35	1.6432	0.0075
36	1.6505	0.0073
37	1.6576	0.0071
38	1.6645	0.0069
39	1.6713	0.0068
40	1.6780	0.0066
41	1.6845	0.0065
42	1.6908	0.0064
43	1.6971	0.0062
44	1.7032	0.0061
45	1.7092	0.0060
46	1.7151	0.0059
47	1.7209	0.0058
48	1.7266	0.0057
49	1.7322	0.0056
50	1.7377	0.0055
51	1.7431	0.0054
52	1.7484	0.0053
53	1.7536	0.0052
54	1.7587	0.0051
55	1.7638	0.0051
56	1.7688	0.0050
57	1.7737	0.0049
58	1.7785	0.0048
59	1.7833	0.0048
60	1.7880	0.0047
61	1.7926	0.0046
62	1.7972	0.0046
63	1.8017	0.0045
64	1.8062	0.0045
65	1.8106	0.0044
66	1.8149	0.0043
67	1.8192	0.0043
68	1.8234	0.0042
69	1.8276	0.0042
70	1.8317	0.0041
71	1.8358	0.0041
72	1.8398	0.0040
73	1.8463	0.0065
74	1.8527	0.0064
75	1.8591	0.0064
76	1.8653	0.0063
77	1.8716	0.0062
78	1.8777	0.0062
79	1.8839	0.0061
80	1.8899	0.0061
81	1.8959	0.0060

82	1.9018	0.0059
83	1.9077	0.0059
84	1.9136	0.0058
85	1.9193	0.0058
86	1.9251	0.0057
87	1.9308	0.0057
88	1.9364	0.0056
89	1.9420	0.0056
90	1.9475	0.0055
91	1.9530	0.0055
92	1.9585	0.0054
93	1.9639	0.0054
94	1.9692	0.0054
95	1.9746	0.0053
96	1.9798	0.0053
97	1.9851	0.0052
98	1.9903	0.0052
99	1.9954	0.0052
100	2.0006	0.0051
101	2.0056	0.0051
102	2.0107	0.0050
103	2.0157	0.0050
104	2.0207	0.0050
105	2.0256	0.0049
106	2.0305	0.0049
107	2.0354	0.0049
108	2.0402	0.0048
109	2.0450	0.0048
110	2.0498	0.0048
111	2.0545	0.0047
112	2.0592	0.0047
113	2.0639	0.0047
114	2.0685	0.0046
115	2.0731	0.0046
116	2.0777	0.0046
117	2.0823	0.0046
118	2.0868	0.0045
119	2.0913	0.0045
120	2.0957	0.0045
121	2.1002	0.0044
122	2.1046	0.0044
123	2.1090	0.0044
124	2.1133	0.0044
125	2.1177	0.0043
126	2.1220	0.0043
127	2.1263	0.0043
128	2.1305	0.0043
129	2.1348	0.0042
130	2.1390	0.0042
131	2.1431	0.0042
132	2.1473	0.0042
133	2.1514	0.0041
134	2.1556	0.0041
135	2.1596	0.0041
136	2.1637	0.0041
137	2.1678	0.0040
138	2.1718	0.0040
139	2.1758	0.0040
140	2.1798	0.0040

141	2.1837	0.0040
142	2.1877	0.0039
143	2.1916	0.0039
144	2.1955	0.0039
145	2.1994	0.0039
146	2.2032	0.0039
147	2.2070	0.0038
148	2.2109	0.0038
149	2.2147	0.0038
150	2.2184	0.0038
151	2.2222	0.0038
152	2.2259	0.0037
153	2.2297	0.0037
154	2.2334	0.0037
155	2.2371	0.0037
156	2.2407	0.0037
157	2.2444	0.0037
158	2.2480	0.0036
159	2.2516	0.0036
160	2.2553	0.0036
161	2.2588	0.0036
162	2.2624	0.0036
163	2.2660	0.0036
164	2.2695	0.0035
165	2.2730	0.0035
166	2.2765	0.0035
167	2.2800	0.0035
168	2.2835	0.0035
169	2.2869	0.0035
170	2.2904	0.0034
171	2.2938	0.0034
172	2.2972	0.0034
173	2.3006	0.0034
174	2.3040	0.0034
175	2.3074	0.0034
176	2.3107	0.0034
177	2.3141	0.0033
178	2.3174	0.0033
179	2.3207	0.0033
180	2.3240	0.0033
181	2.3273	0.0033
182	2.3306	0.0033
183	2.3338	0.0033
184	2.3371	0.0032
185	2.3403	0.0032
186	2.3435	0.0032
187	2.3467	0.0032
188	2.3499	0.0032
189	2.3531	0.0032
190	2.3563	0.0032
191	2.3594	0.0032
192	2.3626	0.0031
193	2.3657	0.0031
194	2.3688	0.0031
195	2.3719	0.0031
196	2.3750	0.0031
197	2.3781	0.0031
198	2.3812	0.0031
199	2.3842	0.0031

200	2.3873	0.0030
201	2.3903	0.0030
202	2.3934	0.0030
203	2.3964	0.0030
204	2.3994	0.0030
205	2.4024	0.0030
206	2.4053	0.0030
207	2.4083	0.0030
208	2.4113	0.0030
209	2.4142	0.0030
210	2.4172	0.0029
211	2.4201	0.0029
212	2.4230	0.0029
213	2.4259	0.0029
214	2.4288	0.0029
215	2.4317	0.0029
216	2.4346	0.0029
217	2.4375	0.0029
218	2.4403	0.0029
219	2.4432	0.0028
220	2.4460	0.0028
221	2.4488	0.0028
222	2.4517	0.0028
223	2.4545	0.0028
224	2.4573	0.0028
225	2.4601	0.0028
226	2.4629	0.0028
227	2.4656	0.0028
228	2.4684	0.0028
229	2.4711	0.0028
230	2.4739	0.0027
231	2.4766	0.0027
232	2.4794	0.0027
233	2.4821	0.0027
234	2.4848	0.0027
235	2.4875	0.0027
236	2.4902	0.0027
237	2.4929	0.0027
238	2.4956	0.0027
239	2.4982	0.0027
240	2.5009	0.0027
241	2.5035	0.0027
242	2.5062	0.0026
243	2.5088	0.0026
244	2.5114	0.0026
245	2.5141	0.0026
246	2.5167	0.0026
247	2.5193	0.0026
248	2.5219	0.0026
249	2.5245	0.0026
250	2.5271	0.0026
251	2.5296	0.0026
252	2.5322	0.0026
253	2.5348	0.0026
254	2.5373	0.0026
255	2.5398	0.0025
256	2.5424	0.0025
257	2.5449	0.0025
258	2.5474	0.0025

259	2.5499	0.0025
260	2.5525	0.0025
261	2.5550	0.0025
262	2.5574	0.0025
263	2.5599	0.0025
264	2.5624	0.0025
265	2.5649	0.0025
266	2.5673	0.0025
267	2.5698	0.0025
268	2.5723	0.0025
269	2.5747	0.0024
270	2.5771	0.0024
271	2.5796	0.0024
272	2.5820	0.0024
273	2.5844	0.0024
274	2.5868	0.0024
275	2.5892	0.0024
276	2.5916	0.0024
277	2.5940	0.0024
278	2.5964	0.0024
279	2.5988	0.0024
280	2.6011	0.0024
281	2.6035	0.0024
282	2.6059	0.0024
283	2.6082	0.0024
284	2.6106	0.0023
285	2.6129	0.0023
286	2.6152	0.0023
287	2.6176	0.0023
288	2.6199	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0004	0.0019
2	0.0023	0.0004	0.0019
3	0.0023	0.0004	0.0019
4	0.0023	0.0004	0.0019
5	0.0024	0.0004	0.0019
6	0.0024	0.0004	0.0019
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0020
9	0.0024	0.0004	0.0020
10	0.0024	0.0004	0.0020
11	0.0024	0.0004	0.0020
12	0.0024	0.0004	0.0020
13	0.0024	0.0004	0.0020
14	0.0024	0.0004	0.0020
15	0.0025	0.0004	0.0020
16	0.0025	0.0004	0.0020
17	0.0025	0.0004	0.0020
18	0.0025	0.0004	0.0020
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0021
21	0.0025	0.0004	0.0021
22	0.0025	0.0005	0.0021
23	0.0025	0.0005	0.0021
24	0.0026	0.0005	0.0021

25	0.0026	0.0005	0.0021
26	0.0026	0.0005	0.0021
27	0.0026	0.0005	0.0021
28	0.0026	0.0005	0.0021
29	0.0026	0.0005	0.0021
30	0.0026	0.0005	0.0022
31	0.0026	0.0005	0.0022
32	0.0026	0.0005	0.0022
33	0.0027	0.0005	0.0022
34	0.0027	0.0005	0.0022
35	0.0027	0.0005	0.0022
36	0.0027	0.0005	0.0022
37	0.0027	0.0005	0.0022
38	0.0027	0.0005	0.0022
39	0.0027	0.0005	0.0022
40	0.0027	0.0005	0.0023
41	0.0028	0.0005	0.0023
42	0.0028	0.0005	0.0023
43	0.0028	0.0005	0.0023
44	0.0028	0.0005	0.0023
45	0.0028	0.0005	0.0023
46	0.0028	0.0005	0.0023
47	0.0028	0.0005	0.0023
48	0.0029	0.0005	0.0023
49	0.0029	0.0005	0.0024
50	0.0029	0.0005	0.0024
51	0.0029	0.0005	0.0024
52	0.0029	0.0005	0.0024
53	0.0029	0.0005	0.0024
54	0.0030	0.0005	0.0024
55	0.0030	0.0005	0.0024
56	0.0030	0.0005	0.0025
57	0.0030	0.0005	0.0025
58	0.0030	0.0005	0.0025
59	0.0030	0.0005	0.0025
60	0.0030	0.0005	0.0025
61	0.0031	0.0005	0.0025
62	0.0031	0.0006	0.0025
63	0.0031	0.0006	0.0026
64	0.0031	0.0006	0.0026
65	0.0031	0.0006	0.0026
66	0.0032	0.0006	0.0026
67	0.0032	0.0006	0.0026
68	0.0032	0.0006	0.0026
69	0.0032	0.0006	0.0026
70	0.0032	0.0006	0.0027
71	0.0033	0.0006	0.0027
72	0.0033	0.0006	0.0027
73	0.0033	0.0006	0.0027
74	0.0033	0.0006	0.0027
75	0.0033	0.0006	0.0027
76	0.0034	0.0006	0.0028
77	0.0034	0.0006	0.0028
78	0.0034	0.0006	0.0028
79	0.0034	0.0006	0.0028
80	0.0034	0.0006	0.0028
81	0.0035	0.0006	0.0029
82	0.0035	0.0006	0.0029
83	0.0035	0.0006	0.0029

84	0.0035	0.0006	0.0029
85	0.0036	0.0006	0.0029
86	0.0036	0.0006	0.0029
87	0.0036	0.0006	0.0030
88	0.0036	0.0006	0.0030
89	0.0037	0.0007	0.0030
90	0.0037	0.0007	0.0030
91	0.0037	0.0007	0.0031
92	0.0037	0.0007	0.0031
93	0.0038	0.0007	0.0031
94	0.0038	0.0007	0.0031
95	0.0038	0.0007	0.0032
96	0.0039	0.0007	0.0032
97	0.0039	0.0007	0.0032
98	0.0039	0.0007	0.0032
99	0.0040	0.0007	0.0033
100	0.0040	0.0007	0.0033
101	0.0040	0.0007	0.0033
102	0.0040	0.0007	0.0033
103	0.0041	0.0007	0.0034
104	0.0041	0.0007	0.0034
105	0.0042	0.0007	0.0034
106	0.0042	0.0007	0.0034
107	0.0042	0.0008	0.0035
108	0.0043	0.0008	0.0035
109	0.0043	0.0008	0.0035
110	0.0043	0.0008	0.0036
111	0.0044	0.0008	0.0036
112	0.0044	0.0008	0.0036
113	0.0045	0.0008	0.0037
114	0.0045	0.0008	0.0037
115	0.0046	0.0008	0.0037
116	0.0046	0.0008	0.0038
117	0.0046	0.0008	0.0038
118	0.0047	0.0008	0.0038
119	0.0047	0.0008	0.0039
120	0.0048	0.0009	0.0039
121	0.0048	0.0009	0.0040
122	0.0049	0.0009	0.0040
123	0.0049	0.0009	0.0041
124	0.0050	0.0009	0.0041
125	0.0050	0.0009	0.0041
126	0.0051	0.0009	0.0042
127	0.0052	0.0009	0.0042
128	0.0052	0.0009	0.0043
129	0.0053	0.0009	0.0043
130	0.0053	0.0009	0.0044
131	0.0054	0.0010	0.0044
132	0.0054	0.0010	0.0045
133	0.0055	0.0010	0.0046
134	0.0056	0.0010	0.0046
135	0.0057	0.0010	0.0047
136	0.0057	0.0010	0.0047
137	0.0058	0.0010	0.0048
138	0.0059	0.0011	0.0048
139	0.0060	0.0011	0.0049
140	0.0061	0.0011	0.0050
141	0.0062	0.0011	0.0051
142	0.0062	0.0011	0.0051

143	0.0064	0.0011	0.0052
144	0.0064	0.0011	0.0053
145	0.0040	0.0007	0.0033
146	0.0041	0.0007	0.0033
147	0.0042	0.0007	0.0034
148	0.0042	0.0008	0.0035
149	0.0043	0.0008	0.0036
150	0.0044	0.0008	0.0036
151	0.0045	0.0008	0.0037
152	0.0046	0.0008	0.0038
153	0.0047	0.0008	0.0039
154	0.0048	0.0009	0.0039
155	0.0049	0.0009	0.0040
156	0.0050	0.0009	0.0041
157	0.0051	0.0009	0.0042
158	0.0052	0.0009	0.0043
159	0.0054	0.0010	0.0044
160	0.0055	0.0010	0.0045
161	0.0057	0.0010	0.0047
162	0.0058	0.0010	0.0048
163	0.0060	0.0011	0.0049
164	0.0061	0.0011	0.0050
165	0.0064	0.0011	0.0052
166	0.0065	0.0012	0.0053
167	0.0068	0.0012	0.0056
168	0.0069	0.0012	0.0057
169	0.0073	0.0013	0.0060
170	0.0075	0.0013	0.0062
171	0.0079	0.0014	0.0065
172	0.0081	0.0014	0.0067
173	0.0086	0.0015	0.0070
174	0.0088	0.0016	0.0072
175	0.0094	0.0017	0.0077
176	0.0097	0.0017	0.0079
177	0.0104	0.0018	0.0085
178	0.0107	0.0019	0.0088
179	0.0116	0.0021	0.0096
180	0.0121	0.0022	0.0100
181	0.0133	0.0024	0.0109
182	0.0140	0.0025	0.0115
183	0.0156	0.0028	0.0128
184	0.0165	0.0029	0.0136
185	0.0358	0.0064	0.0294
186	0.0381	0.0068	0.0313
187	0.0442	0.0070	0.0372
188	0.0483	0.0070	0.0413
189	0.0600	0.0070	0.0530
190	0.0691	0.0070	0.0621
191	0.1049	0.0070	0.0979
192	0.1522	0.0070	0.1452
193	0.6585	0.0070	0.6516
194	0.0825	0.0070	0.0756
195	0.0534	0.0070	0.0464
196	0.0409	0.0070	0.0339
197	0.0176	0.0031	0.0145
198	0.0147	0.0026	0.0121
199	0.0127	0.0023	0.0104
200	0.0112	0.0020	0.0092
201	0.0100	0.0018	0.0082

202	0.0091	0.0016	0.0075
203	0.0083	0.0015	0.0068
204	0.0077	0.0014	0.0063
205	0.0071	0.0013	0.0058
206	0.0066	0.0012	0.0055
207	0.0062	0.0011	0.0051
208	0.0059	0.0011	0.0048
209	0.0056	0.0010	0.0046
210	0.0053	0.0009	0.0044
211	0.0051	0.0009	0.0042
212	0.0048	0.0009	0.0040
213	0.0046	0.0008	0.0038
214	0.0045	0.0008	0.0037
215	0.0043	0.0008	0.0035
216	0.0041	0.0007	0.0034
217	0.0065	0.0012	0.0053
218	0.0063	0.0011	0.0052
219	0.0061	0.0011	0.0050
220	0.0059	0.0011	0.0049
221	0.0058	0.0010	0.0048
222	0.0056	0.0010	0.0046
223	0.0055	0.0010	0.0045
224	0.0054	0.0010	0.0044
225	0.0052	0.0009	0.0043
226	0.0051	0.0009	0.0042
227	0.0050	0.0009	0.0041
228	0.0049	0.0009	0.0040
229	0.0048	0.0009	0.0039
230	0.0047	0.0008	0.0039
231	0.0046	0.0008	0.0038
232	0.0045	0.0008	0.0037
233	0.0044	0.0008	0.0036
234	0.0044	0.0008	0.0036
235	0.0043	0.0008	0.0035
236	0.0042	0.0008	0.0035
237	0.0041	0.0007	0.0034
238	0.0041	0.0007	0.0033
239	0.0040	0.0007	0.0033
240	0.0039	0.0007	0.0032
241	0.0039	0.0007	0.0032
242	0.0038	0.0007	0.0031
243	0.0038	0.0007	0.0031
244	0.0037	0.0007	0.0030
245	0.0037	0.0007	0.0030
246	0.0036	0.0006	0.0030
247	0.0036	0.0006	0.0029
248	0.0035	0.0006	0.0029
249	0.0035	0.0006	0.0028
250	0.0034	0.0006	0.0028
251	0.0034	0.0006	0.0028
252	0.0033	0.0006	0.0027
253	0.0033	0.0006	0.0027
254	0.0032	0.0006	0.0027
255	0.0032	0.0006	0.0026
256	0.0032	0.0006	0.0026
257	0.0031	0.0006	0.0026
258	0.0031	0.0006	0.0025
259	0.0031	0.0005	0.0025
260	0.0030	0.0005	0.0025

261	0.0030	0.0005	0.0025
262	0.0030	0.0005	0.0024
263	0.0029	0.0005	0.0024
264	0.0029	0.0005	0.0024
265	0.0029	0.0005	0.0024
266	0.0028	0.0005	0.0023
267	0.0028	0.0005	0.0023
268	0.0028	0.0005	0.0023
269	0.0028	0.0005	0.0023
270	0.0027	0.0005	0.0022
271	0.0027	0.0005	0.0022
272	0.0027	0.0005	0.0022
273	0.0027	0.0005	0.0022
274	0.0026	0.0005	0.0022
275	0.0026	0.0005	0.0021
276	0.0026	0.0005	0.0021
277	0.0026	0.0005	0.0021
278	0.0025	0.0005	0.0021
279	0.0025	0.0004	0.0021
280	0.0025	0.0004	0.0020
281	0.0025	0.0004	0.0020
282	0.0025	0.0004	0.0020
283	0.0024	0.0004	0.0020
284	0.0024	0.0004	0.0020
285	0.0024	0.0004	0.0020
286	0.0024	0.0004	0.0019
287	0.0024	0.0004	0.0019
288	0.0023	0.0004	0.0019

Total soil rain loss = 0.30(In)
Total effective rainfall = 2.32(In)
Peak flow rate in flood hydrograph = 58.05(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	15.0	30.0	45.0	60.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|
0+15	0.0006	0.06	Q	|	|	|	|
0+20	0.0014	0.12	Q	|	|	|	|
0+25	0.0029	0.22	Q	|	|	|	|
0+30	0.0052	0.33	Q	|	|	|	|
0+35	0.0080	0.41	Q	|	|	|	|
0+40	0.0112	0.46	Q	|	|	|	|
0+45	0.0147	0.51	Q	|	|	|	|
0+50	0.0184	0.54	Q	|	|	|	|
0+55	0.0223	0.57	Q	|	|	|	|
1+ 0	0.0264	0.59	Q	|	|	|	|
1+ 5	0.0307	0.62	Q	|	|	|	|
1+10	0.0350	0.64	Q	|	|	|	|
1+15	0.0395	0.65	Q	|	|	|	|
1+20	0.0441	0.67	Q	|	|	|	|

1+25	0.0488	0.68	Q				
1+30	0.0536	0.70	Q				
1+35	0.0585	0.71	Q				
1+40	0.0635	0.72	Q				
1+45	0.0685	0.73	Q				
1+50	0.0736	0.74	Q				
1+55	0.0787	0.75	Q				
2+ 0	0.0840	0.76	Q				
2+ 5	0.0892	0.77	Q				
2+10	0.0946	0.77	Q				
2+15	0.0999	0.78	Q				
2+20	0.1054	0.79	Q				
2+25	0.1109	0.80	Q				
2+30	0.1164	0.80	Q				
2+35	0.1220	0.81	Q				
2+40	0.1276	0.82	Q				
2+45	0.1332	0.82	Q				
2+50	0.1389	0.83	Q				
2+55	0.1447	0.83	Q				
3+ 0	0.1504	0.84	Q				
3+ 5	0.1562	0.84	Q				
3+10	0.1621	0.85	QV				
3+15	0.1679	0.85	QV				
3+20	0.1738	0.86	QV				
3+25	0.1798	0.86	QV				
3+30	0.1858	0.87	QV				
3+35	0.1918	0.87	QV				
3+40	0.1979	0.88	QV				
3+45	0.2040	0.89	QV				
3+50	0.2101	0.89	QV				
3+55	0.2163	0.90	QV				
4+ 0	0.2225	0.90	QV				
4+ 5	0.2287	0.90	QV				
4+10	0.2349	0.91	QV				
4+15	0.2412	0.91	QV				
4+20	0.2476	0.92	QV				
4+25	0.2539	0.92	QV				
4+30	0.2603	0.93	QV				
4+35	0.2667	0.93	QV				
4+40	0.2732	0.94	QV				
4+45	0.2797	0.94	QV				
4+50	0.2862	0.95	QV				
4+55	0.2927	0.95	QV				
5+ 0	0.2993	0.96	QV				
5+ 5	0.3059	0.96	QV				
5+10	0.3126	0.97	QV				
5+15	0.3193	0.97	Q V				
5+20	0.3260	0.98	Q V				
5+25	0.3328	0.98	Q V				
5+30	0.3396	0.99	Q V				
5+35	0.3464	0.99	Q V				
5+40	0.3533	1.00	Q V				
5+45	0.3602	1.00	Q V				
5+50	0.3672	1.01	Q V				
5+55	0.3742	1.02	Q V				
6+ 0	0.3812	1.02	Q V				
6+ 5	0.3883	1.03	Q V				
6+10	0.3954	1.03	Q V				
6+15	0.4026	1.04	Q V				

6+20	0.4098	1.05	Q V	|	|	|	|
6+25	0.4170	1.05	Q V	|	|	|	|
6+30	0.4243	1.06	Q V	|	|	|	|
6+35	0.4317	1.07	Q V	|	|	|	|
6+40	0.4390	1.07	Q V	|	|	|	|
6+45	0.4465	1.08	Q V	|	|	|	|
6+50	0.4539	1.09	Q V	|	|	|	|
6+55	0.4615	1.09	Q V	|	|	|	|
7+ 0	0.4690	1.10	Q V	|	|	|	|
7+ 5	0.4766	1.11	Q V	|	|	|	|
7+10	0.4843	1.11	Q V	|	|	|	|
7+15	0.4920	1.12	Q V	|	|	|	|
7+20	0.4998	1.13	Q V	|	|	|	|
7+25	0.5076	1.14	Q V	|	|	|	|
7+30	0.5155	1.14	Q V	|	|	|	|
7+35	0.5234	1.15	Q V	|	|	|	|
7+40	0.5314	1.16	Q V	|	|	|	|
7+45	0.5394	1.17	Q V	|	|	|	|
7+50	0.5475	1.17	Q V	|	|	|	|
7+55	0.5556	1.18	Q V	|	|	|	|
8+ 0	0.5638	1.19	Q V	|	|	|	|
8+ 5	0.5721	1.20	Q V	|	|	|	|
8+10	0.5804	1.21	Q V	|	|	|	|
8+15	0.5888	1.22	Q V	|	|	|	|
8+20	0.5973	1.23	Q V	|	|	|	|
8+25	0.6058	1.24	Q V	|	|	|	|
8+30	0.6143	1.24	Q V	|	|	|	|
8+35	0.6230	1.25	Q V	|	|	|	|
8+40	0.6317	1.26	Q V	|	|	|	|
8+45	0.6404	1.27	Q V	|	|	|	|
8+50	0.6493	1.28	Q V	|	|	|	|
8+55	0.6582	1.29	Q V	|	|	|	|
9+ 0	0.6672	1.30	Q V	|	|	|	|
9+ 5	0.6762	1.31	Q V	|	|	|	|
9+10	0.6853	1.33	Q V	|	|	|	|
9+15	0.6945	1.34	Q V	|	|	|	|
9+20	0.7038	1.35	Q V	|	|	|	|
9+25	0.7132	1.36	Q V	|	|	|	|
9+30	0.7226	1.37	Q V	|	|	|	|
9+35	0.7321	1.38	Q V	|	|	|	|
9+40	0.7417	1.39	Q V	|	|	|	|
9+45	0.7514	1.41	Q V	|	|	|	|
9+50	0.7612	1.42	Q V	|	|	|	|
9+55	0.7711	1.43	Q V	|	|	|	|
10+ 0	0.7810	1.45	Q V	|	|	|	|
10+ 5	0.7911	1.46	Q V	|	|	|	|
10+10	0.8012	1.47	Q V	|	|	|	|
10+15	0.8114	1.49	Q V	|	|	|	|
10+20	0.8218	1.50	|Q V	|	|	|	|
10+25	0.8322	1.52	|Q V	|	|	|	|
10+30	0.8428	1.53	|Q V	|	|	|	|
10+35	0.8534	1.55	|Q V	|	|	|	|
10+40	0.8642	1.56	|Q V	|	|	|	|
10+45	0.8750	1.58	|Q V	|	|	|	|
10+50	0.8860	1.59	|Q V	|	|	|	|
10+55	0.8971	1.61	|Q V	|	|	|	|
11+ 0	0.9083	1.63	|Q V	|	|	|	|
11+ 5	0.9197	1.65	|Q V	|	|	|	|
11+10	0.9312	1.67	|Q V	|	|	|	|

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11+15       0.9428      1.68  |Q   V    |          |          |          |
11+20       0.9545      1.70  |Q   V    |          |          |          |
11+25       0.9664      1.72  |Q    V   |          |          |          |
11+30       0.9784      1.74  |Q    V   |          |          |          |
11+35       0.9905      1.77  |Q    V   |          |          |          |
11+40       1.0028      1.79  |Q    V   |          |          |          |
11+45       1.0153      1.81  |Q    V   |          |          |          |
11+50       1.0279      1.83  |Q    V   |          |          |          |
11+55       1.0407      1.86  |Q    V   |          |          |          |
12+ 0       1.0536      1.88  |Q    V   |          |          |          |
12+ 5       1.0667      1.90  |Q    V   |          |          |          |
12+10       1.0798      1.90  |Q    V   |          |          |          |
12+15       1.0929      1.90  |Q    V   |          |          |          |
12+20       1.1057      1.86  |Q    V   |          |          |          |
12+25       1.1179      1.77  |Q     V  |          |          |          |
12+30       1.1295      1.68  |Q     V  |          |          |          |
12+35       1.1407      1.63  |Q     V  |          |          |          |
12+40       1.1516      1.59  |Q     V  |          |          |          |
12+45       1.1625      1.58  |Q     V  |          |          |          |
12+50       1.1733      1.57  |Q     V  |          |          |          |
12+55       1.1841      1.57  |Q     V  |          |          |          |
13+ 0       1.1949      1.57  |Q     V  |          |          |          |
13+ 5       1.2057      1.58  |Q     V  |          |          |          |
13+10       1.2167      1.59  |Q     V  |          |          |          |
13+15       1.2277      1.60  |Q     V  |          |          |          |
13+20       1.2389      1.62  |Q     V  |          |          |          |
13+25       1.2502      1.64  |Q     V  |          |          |          |
13+30       1.2617      1.67  |Q     V  |          |          |          |
13+35       1.2734      1.69  |Q     V  |          |          |          |
13+40       1.2852      1.72  |Q      V |          |          |          |
13+45       1.2973      1.76  |Q      V |          |          |          |
13+50       1.3097      1.79  |Q      V |          |          |          |
13+55       1.3223      1.83  |Q      V |          |          |          |
14+ 0       1.3351      1.87  |Q      V |          |          |          |
14+ 5       1.3483      1.92  |Q      V |          |          |          |
14+10       1.3619      1.96  |Q      V |          |          |          |
14+15       1.3758      2.02  |Q      V |          |          |          |
14+20       1.3901      2.08  |Q      V |          |          |          |
14+25       1.4048      2.14  |Q      V |          |          |          |
14+30       1.4200      2.21  |Q      V |          |          |          |
14+35       1.4357      2.28  |Q      V |          |          |          |
14+40       1.4520      2.36  |Q       V|          |          |          |
14+45       1.4689      2.45  |Q       V|          |          |          |
14+50       1.4864      2.54  |Q       V|          |          |          |
14+55       1.5046      2.65  |Q       V|          |          |          |
15+ 0       1.5237      2.76  |Q       V|          |          |          |
15+ 5       1.5436      2.89  |Q       V|          |          |          |
15+10       1.5645      3.03  | Q      V|          |          |          |
15+15       1.5865      3.19  | Q      V|          |          |          |
15+20       1.6097      3.37  | Q       V          |          |          |
15+25       1.6346      3.62  | Q       V          |          |          |
15+30       1.6622      4.00  | Q       V          |          |          |
15+35       1.6934      4.54  |  Q      V          |          |          |
15+40       1.7302      5.34  |  Q      V          |          |          |
15+45       1.7760      6.65  |   Q     |V         |          |          |
15+50       1.8322      8.16  |    Q    |V         |          |          |
15+55       1.9001      9.85  |     Q   |V         |          |          |
16+ 0       1.9830     12.04  |       Q | V        |          |          |
16+ 5       2.0966     16.50  |         Q  V       |          |          |
```

16+10	2.2589	23.57	| | VQ | | |
16+15	2.4741	31.25	| | V Q | |
16+20	2.7668	42.49	| | V | Q |
16+25	3.1665	58.05	| | V| | Q |
16+30	3.5482	55.41	| | | V | Q |
16+35	3.8522	44.15	| | | V Q| |
16+40	4.0921	34.83	| | | Q V | |
16+45	4.2828	27.69	| | Q | V | |
16+50	4.4421	23.13	| | Q | V | |
16+55	4.5785	19.80	| Q | V | |
17+ 0	4.6960	17.06	|Q | V| |
17+ 5	4.8002	15.13	| Q | V |
17+10	4.8914	13.24	| Q | V |
17+15	4.9731	11.87	| Q | | |V |
17+20	5.0478	10.84	| Q | | |V |
17+25	5.1163	9.94	| Q | | | V |
17+30	5.1786	9.05	| Q | | | V |
17+35	5.2351	8.21	| Q | | | V |
17+40	5.2852	7.27	| Q | | | V |
17+45	5.3319	6.78	| Q | | | V |
17+50	5.3757	6.36	| Q | | | V |
17+55	5.4161	5.87	| Q | | | V |
18+ 0	5.4541	5.51	| Q | | | V |
18+ 5	5.4896	5.16	| Q | | | V |
18+10	5.5219	4.69	| Q | | | V |
18+15	5.5526	4.47	| Q | | | V |
18+20	5.5823	4.31	| Q | | | V |
18+25	5.6101	4.04	| Q | | | V |
18+30	5.6371	3.92	| Q | | | V |
18+35	5.6634	3.82	| Q | | | V |
18+40	5.6876	3.52	| Q | | | V |
18+45	5.7106	3.34	| Q | | | V |
18+50	5.7328	3.23	| Q | | | V |
18+55	5.7531	2.94	|Q | | | V |
19+ 0	5.7722	2.78	|Q | | | V |
19+ 5	5.7910	2.73	|Q | | | V |
19+10	5.8098	2.72	|Q | | | V |
19+15	5.8284	2.71	|Q | | | V |
19+20	5.8467	2.66	|Q | | | V |
19+25	5.8646	2.60	|Q | | | V |
19+30	5.8821	2.53	|Q | | | V |
19+35	5.8990	2.45	|Q | | | V |
19+40	5.9145	2.26	|Q | | | V |
19+45	5.9288	2.07	|Q | | | V |
19+50	5.9426	2.00	|Q | | | V |
19+55	5.9557	1.91	|Q | | | V |
20+ 0	5.9676	1.72	|Q | | | V |
20+ 5	5.9782	1.55	|Q | | | V |
20+10	5.9885	1.50	Q | | | V |
20+15	5.9986	1.46	Q | | | V |
20+20	6.0084	1.43	Q | | | V |
20+25	6.0181	1.40	Q | | | V |
20+30	6.0276	1.38	Q | | | V |
20+35	6.0369	1.36	Q | | | V |
20+40	6.0461	1.33	Q | | | V |
20+45	6.0552	1.31	Q | | | V |
20+50	6.0640	1.29	Q | | | V |
20+55	6.0728	1.27	Q | | | V |
21+ 0	6.0814	1.25	Q | | | V |

21+ 5	6.0899	1.23	Q	|	|	|	V |
21+10	6.0983	1.22	Q	|	|	|	V |
21+15	6.1066	1.20	Q	|	|	|	V |
21+20	6.1147	1.18	Q	|	|	|	V |
21+25	6.1228	1.17	Q	|	|	|	V |
21+30	6.1307	1.15	Q	|	|	|	V |
21+35	6.1386	1.14	Q	|	|	|	V |
21+40	6.1463	1.12	Q	|	|	|	V |
21+45	6.1539	1.11	Q	|	|	|	V |
21+50	6.1615	1.10	Q	|	|	|	V |
21+55	6.1690	1.08	Q	|	|	|	V |
22+ 0	6.1763	1.07	Q	|	|	|	V |
22+ 5	6.1836	1.06	Q	|	|	|	V |
22+10	6.1908	1.04	Q	|	|	|	V |
22+15	6.1979	1.03	Q	|	|	|	V |
22+20	6.2049	1.02	Q	|	|	|	V |
22+25	6.2119	1.01	Q	|	|	|	V |
22+30	6.2187	1.00	Q	|	|	|	V |
22+35	6.2255	0.98	Q	|	|	|	V|
22+40	6.2322	0.97	Q	|	|	|	V|
22+45	6.2388	0.96	Q	|	|	|	V|
22+50	6.2454	0.95	Q	|	|	|	V|
22+55	6.2519	0.94	Q	|	|	|	V|
23+ 0	6.2583	0.93	Q	|	|	|	V|
23+ 5	6.2647	0.92	Q	|	|	|	V|
23+10	6.2710	0.91	Q	|	|	|	V|
23+15	6.2772	0.91	Q	|	|	|	V|
23+20	6.2834	0.90	Q	|	|	|	V|
23+25	6.2895	0.89	Q	|	|	|	V|
23+30	6.2956	0.88	Q	|	|	|	V|
23+35	6.3016	0.87	Q	|	|	|	V|
23+40	6.3075	0.86	Q	|	|	|	V|
23+45	6.3134	0.85	Q	|	|	|	V|
23+50	6.3192	0.85	Q	|	|	|	V|
23+55	6.3250	0.84	Q	|	|	|	V|
24+ 0	6.3307	0.83	Q	|	|	|	V|
24+ 5	6.3364	0.82	Q	|	|	|	V|
24+10	6.3418	0.79	Q	|	|	|	V|
24+15	6.3470	0.75	Q	|	|	|	V|
24+20	6.3518	0.69	Q	|	|	|	V|
24+25	6.3558	0.58	Q	|	|	|	V|
24+30	6.3590	0.47	Q	|	|	|	V|
24+35	6.3616	0.39	Q	|	|	|	V|
24+40	6.3639	0.33	Q	|	|	|	V|
24+45	6.3659	0.29	Q	|	|	|	V|
24+50	6.3676	0.25	Q	|	|	|	V|
24+55	6.3691	0.22	Q	|	|	|	V|
25+ 0	6.3705	0.20	Q	|	|	|	V|
25+ 5	6.3717	0.18	Q	|	|	|	V|
25+10	6.3728	0.16	Q	|	|	|	V|
25+15	6.3737	0.14	Q	|	|	|	V|
25+20	6.3746	0.13	Q	|	|	|	V|
25+25	6.3754	0.11	Q	|	|	|	V|
25+30	6.3761	0.10	Q	|	|	|	V|
25+35	6.3767	0.09	Q	|	|	|	V|
25+40	6.3773	0.08	Q	|	|	|	V|
25+45	6.3778	0.08	Q	|	|	|	V|
25+50	6.3783	0.07	Q	|	|	|	V|
25+55	6.3787	0.06	Q	|	|	|	V|

26+ 0	6.3791	0.06	Q	|	|	|	V|
26+ 5	6.3795	0.05	Q	|	|	|	V|
26+10	6.3798	0.04	Q	|	|	|	V|
26+15	6.3801	0.04	Q	|	|	|	V|
26+20	6.3803	0.04	Q	|	|	|	V|
26+25	6.3805	0.03	Q	|	|	|	V|
26+30	6.3807	0.03	Q	|	|	|	V|
26+35	6.3809	0.03	Q	|	|	|	V|
26+40	6.3810	0.02	Q	|	|	|	V|
26+45	6.3812	0.02	Q	|	|	|	V|
26+50	6.3813	0.02	Q	|	|	|	V|
26+55	6.3814	0.02	Q	|	|	|	V|
27+ 0	6.3815	0.01	Q	|	|	|	V|
27+ 5	6.3816	0.01	Q	|	|	|	V|
27+10	6.3817	0.01	Q	|	|	|	V|
27+15	6.3818	0.01	Q	|	|	|	V|
27+20	6.3818	0.01	Q	|	|	|	V|
27+25	6.3819	0.01	Q	|	|	|	V|
27+30	6.3819	0.01	Q	|	|	|	V|
27+35	6.3819	0.00	Q	|	|	|	V|
27+40	6.3819	0.00	Q	|	|	|	V|
27+45	6.3820	0.00	Q	|	|	|	V|
27+50	6.3820	0.00	Q	|	|	|	V|
27+55	6.3820	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 36
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.57	1	1.39
Rainfall data for year 100		
3.57	6	1.84
Rainfall data for year 100		
3.57	24	2.62

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	3.57	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.57	1.000	84.0	96.4	0.37	0.847

Area-averaged catchment yield fraction, Y = 0.847
Area-averaged low loss fraction, Yb = 0.153
User entry of time of concentration = 0.290 (hours)
++
Watershed area = 3.57(Ac.)
Catchment Lag time = 0.232 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 35.9195
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.153 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.651(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.620(In)

Rainfall depth area reduction factors:
Using a total area of 3.57(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.651(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.620(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 43.17 (CFS))	
1	2.324	1.003
2	14.291	5.167
3	42.610	12.227
4	61.158	8.008
5	71.110	4.297
6	77.762	2.872
7	82.485	2.039
8	86.128	1.573
9	88.974	1.229
10	91.100	0.918
11	92.881	0.769
12	94.341	0.630
13	95.534	0.515
14	96.507	0.420

15	97.275	0.332
16	97.854	0.250
17	98.230	0.162
18	98.643	0.178
19	99.074	0.186
20	99.478	0.174
21	99.727	0.108
22	100.000	0.054

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6595	0.6595
2	0.8119	0.1524
3	0.9169	0.1050
4	0.9996	0.0826
5	1.0688	0.0692
6	1.1288	0.0601
7	1.1823	0.0534
8	1.2306	0.0483
9	1.2749	0.0443
10	1.3158	0.0409
11	1.3540	0.0382
12	1.3898	0.0358
13	1.4073	0.0175
14	1.4237	0.0164
15	1.4392	0.0155
16	1.4538	0.0146
17	1.4677	0.0139
18	1.4809	0.0132
19	1.4935	0.0126
20	1.5056	0.0120
21	1.5171	0.0116
22	1.5282	0.0111
23	1.5389	0.0107
24	1.5492	0.0103
25	1.5591	0.0099
26	1.5687	0.0096
27	1.5780	0.0093
28	1.5870	0.0090
29	1.5958	0.0087
30	1.6043	0.0085
31	1.6126	0.0083
32	1.6206	0.0080
33	1.6284	0.0078
34	1.6361	0.0076
35	1.6435	0.0074
36	1.6508	0.0073
37	1.6579	0.0071
38	1.6648	0.0069
39	1.6716	0.0068
40	1.6782	0.0066
41	1.6847	0.0065
42	1.6911	0.0064
43	1.6973	0.0062
44	1.7035	0.0061
45	1.7095	0.0060
46	1.7154	0.0059
47	1.7211	0.0058
48	1.7268	0.0057

49	1.7324	0.0056
50	1.7379	0.0055
51	1.7433	0.0054
52	1.7486	0.0053
53	1.7538	0.0052
54	1.7590	0.0051
55	1.7640	0.0051
56	1.7690	0.0050
57	1.7739	0.0049
58	1.7787	0.0048
59	1.7835	0.0048
60	1.7882	0.0047
61	1.7928	0.0046
62	1.7974	0.0046
63	1.8019	0.0045
64	1.8064	0.0044
65	1.8108	0.0044
66	1.8151	0.0043
67	1.8194	0.0043
68	1.8236	0.0042
69	1.8278	0.0042
70	1.8319	0.0041
71	1.8360	0.0041
72	1.8400	0.0040
73	1.8465	0.0065
74	1.8529	0.0064
75	1.8592	0.0064
76	1.8655	0.0063
77	1.8717	0.0062
78	1.8779	0.0062
79	1.8840	0.0061
80	1.8901	0.0061
81	1.8961	0.0060
82	1.9020	0.0059
83	1.9079	0.0059
84	1.9137	0.0058
85	1.9195	0.0058
86	1.9252	0.0057
87	1.9309	0.0057
88	1.9366	0.0056
89	1.9421	0.0056
90	1.9477	0.0055
91	1.9532	0.0055
92	1.9586	0.0054
93	1.9640	0.0054
94	1.9694	0.0054
95	1.9747	0.0053
96	1.9800	0.0053
97	1.9852	0.0052
98	1.9904	0.0052
99	1.9956	0.0052
100	2.0007	0.0051
101	2.0058	0.0051
102	2.0108	0.0050
103	2.0158	0.0050
104	2.0208	0.0050
105	2.0258	0.0049
106	2.0307	0.0049
107	2.0355	0.0049

108	2.0404	0.0048
109	2.0452	0.0048
110	2.0499	0.0048
111	2.0547	0.0047
112	2.0594	0.0047
113	2.0640	0.0047
114	2.0687	0.0046
115	2.0733	0.0046
116	2.0779	0.0046
117	2.0824	0.0046
118	2.0869	0.0045
119	2.0914	0.0045
120	2.0959	0.0045
121	2.1003	0.0044
122	2.1047	0.0044
123	2.1091	0.0044
124	2.1135	0.0044
125	2.1178	0.0043
126	2.1221	0.0043
127	2.1264	0.0043
128	2.1307	0.0043
129	2.1349	0.0042
130	2.1391	0.0042
131	2.1433	0.0042
132	2.1474	0.0042
133	2.1516	0.0041
134	2.1557	0.0041
135	2.1598	0.0041
136	2.1639	0.0041
137	2.1679	0.0040
138	2.1719	0.0040
139	2.1759	0.0040
140	2.1799	0.0040
141	2.1839	0.0040
142	2.1878	0.0039
143	2.1917	0.0039
144	2.1956	0.0039
145	2.1995	0.0039
146	2.2033	0.0039
147	2.2072	0.0038
148	2.2110	0.0038
149	2.2148	0.0038
150	2.2186	0.0038
151	2.2223	0.0038
152	2.2261	0.0037
153	2.2298	0.0037
154	2.2335	0.0037
155	2.2372	0.0037
156	2.2409	0.0037
157	2.2445	0.0037
158	2.2482	0.0036
159	2.2518	0.0036
160	2.2554	0.0036
161	2.2590	0.0036
162	2.2625	0.0036
163	2.2661	0.0036
164	2.2696	0.0035
165	2.2732	0.0035
166	2.2767	0.0035

167	2.2801	0.0035
168	2.2836	0.0035
169	2.2871	0.0035
170	2.2905	0.0034
171	2.2939	0.0034
172	2.2974	0.0034
173	2.3008	0.0034
174	2.3041	0.0034
175	2.3075	0.0034
176	2.3109	0.0034
177	2.3142	0.0033
178	2.3175	0.0033
179	2.3208	0.0033
180	2.3241	0.0033
181	2.3274	0.0033
182	2.3307	0.0033
183	2.3340	0.0033
184	2.3372	0.0032
185	2.3404	0.0032
186	2.3436	0.0032
187	2.3469	0.0032
188	2.3500	0.0032
189	2.3532	0.0032
190	2.3564	0.0032
191	2.3596	0.0032
192	2.3627	0.0031
193	2.3658	0.0031
194	2.3689	0.0031
195	2.3721	0.0031
196	2.3751	0.0031
197	2.3782	0.0031
198	2.3813	0.0031
199	2.3844	0.0031
200	2.3874	0.0030
201	2.3904	0.0030
202	2.3935	0.0030
203	2.3965	0.0030
204	2.3995	0.0030
205	2.4025	0.0030
206	2.4055	0.0030
207	2.4084	0.0030
208	2.4114	0.0030
209	2.4144	0.0030
210	2.4173	0.0029
211	2.4202	0.0029
212	2.4231	0.0029
213	2.4260	0.0029
214	2.4289	0.0029
215	2.4318	0.0029
216	2.4347	0.0029
217	2.4376	0.0029
218	2.4404	0.0029
219	2.4433	0.0028
220	2.4461	0.0028
221	2.4490	0.0028
222	2.4518	0.0028
223	2.4546	0.0028
224	2.4574	0.0028
225	2.4602	0.0028

226	2.4630	0.0028
227	2.4657	0.0028
228	2.4685	0.0028
229	2.4713	0.0028
230	2.4740	0.0027
231	2.4767	0.0027
232	2.4795	0.0027
233	2.4822	0.0027
234	2.4849	0.0027
235	2.4876	0.0027
236	2.4903	0.0027
237	2.4930	0.0027
238	2.4957	0.0027
239	2.4983	0.0027
240	2.5010	0.0027
241	2.5037	0.0027
242	2.5063	0.0026
243	2.5089	0.0026
244	2.5116	0.0026
245	2.5142	0.0026
246	2.5168	0.0026
247	2.5194	0.0026
248	2.5220	0.0026
249	2.5246	0.0026
250	2.5272	0.0026
251	2.5297	0.0026
252	2.5323	0.0026
253	2.5349	0.0026
254	2.5374	0.0026
255	2.5400	0.0025
256	2.5425	0.0025
257	2.5450	0.0025
258	2.5475	0.0025
259	2.5500	0.0025
260	2.5526	0.0025
261	2.5551	0.0025
262	2.5575	0.0025
263	2.5600	0.0025
264	2.5625	0.0025
265	2.5650	0.0025
266	2.5674	0.0025
267	2.5699	0.0025
268	2.5724	0.0025
269	2.5748	0.0024
270	2.5772	0.0024
271	2.5797	0.0024
272	2.5821	0.0024
273	2.5845	0.0024
274	2.5869	0.0024
275	2.5893	0.0024
276	2.5917	0.0024
277	2.5941	0.0024
278	2.5965	0.0024
279	2.5989	0.0024
280	2.6012	0.0024
281	2.6036	0.0024
282	2.6060	0.0024
283	2.6083	0.0024
284	2.6107	0.0023

285	2.6130	0.0023
286	2.6153	0.0023
287	2.6177	0.0023
288	2.6200	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0004	0.0020
2	0.0023	0.0004	0.0020
3	0.0023	0.0004	0.0020
4	0.0023	0.0004	0.0020
5	0.0024	0.0004	0.0020
6	0.0024	0.0004	0.0020
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0020
9	0.0024	0.0004	0.0020
10	0.0024	0.0004	0.0020
11	0.0024	0.0004	0.0020
12	0.0024	0.0004	0.0021
13	0.0024	0.0004	0.0021
14	0.0024	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0021
17	0.0025	0.0004	0.0021
18	0.0025	0.0004	0.0021
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0021
21	0.0025	0.0004	0.0021
22	0.0025	0.0004	0.0021
23	0.0025	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0026	0.0004	0.0022
28	0.0026	0.0004	0.0022
29	0.0026	0.0004	0.0022
30	0.0026	0.0004	0.0022
31	0.0026	0.0004	0.0022
32	0.0026	0.0004	0.0022
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0027	0.0004	0.0023
36	0.0027	0.0004	0.0023
37	0.0027	0.0004	0.0023
38	0.0027	0.0004	0.0023
39	0.0027	0.0004	0.0023
40	0.0027	0.0004	0.0023
41	0.0028	0.0004	0.0023
42	0.0028	0.0004	0.0023
43	0.0028	0.0004	0.0024
44	0.0028	0.0004	0.0024
45	0.0028	0.0004	0.0024
46	0.0028	0.0004	0.0024
47	0.0028	0.0004	0.0024
48	0.0029	0.0004	0.0024
49	0.0029	0.0004	0.0024
50	0.0029	0.0004	0.0024

51	0.0029	0.0004	0.0025
52	0.0029	0.0004	0.0025
53	0.0029	0.0004	0.0025
54	0.0030	0.0005	0.0025
55	0.0030	0.0005	0.0025
56	0.0030	0.0005	0.0025
57	0.0030	0.0005	0.0025
58	0.0030	0.0005	0.0026
59	0.0030	0.0005	0.0026
60	0.0030	0.0005	0.0026
61	0.0031	0.0005	0.0026
62	0.0031	0.0005	0.0026
63	0.0031	0.0005	0.0026
64	0.0031	0.0005	0.0026
65	0.0031	0.0005	0.0027
66	0.0032	0.0005	0.0027
67	0.0032	0.0005	0.0027
68	0.0032	0.0005	0.0027
69	0.0032	0.0005	0.0027
70	0.0032	0.0005	0.0027
71	0.0033	0.0005	0.0028
72	0.0033	0.0005	0.0028
73	0.0033	0.0005	0.0028
74	0.0033	0.0005	0.0028
75	0.0033	0.0005	0.0028
76	0.0034	0.0005	0.0028
77	0.0034	0.0005	0.0029
78	0.0034	0.0005	0.0029
79	0.0034	0.0005	0.0029
80	0.0034	0.0005	0.0029
81	0.0035	0.0005	0.0029
82	0.0035	0.0005	0.0030
83	0.0035	0.0005	0.0030
84	0.0035	0.0005	0.0030
85	0.0036	0.0005	0.0030
86	0.0036	0.0005	0.0030
87	0.0036	0.0006	0.0031
88	0.0036	0.0006	0.0031
89	0.0037	0.0006	0.0031
90	0.0037	0.0006	0.0031
91	0.0037	0.0006	0.0032
92	0.0037	0.0006	0.0032
93	0.0038	0.0006	0.0032
94	0.0038	0.0006	0.0032
95	0.0038	0.0006	0.0033
96	0.0039	0.0006	0.0033
97	0.0039	0.0006	0.0033
98	0.0039	0.0006	0.0033
99	0.0040	0.0006	0.0034
100	0.0040	0.0006	0.0034
101	0.0040	0.0006	0.0034
102	0.0040	0.0006	0.0034
103	0.0041	0.0006	0.0035
104	0.0041	0.0006	0.0035
105	0.0042	0.0006	0.0035
106	0.0042	0.0006	0.0035
107	0.0042	0.0006	0.0036
108	0.0043	0.0007	0.0036
109	0.0043	0.0007	0.0036

110	0.0043	0.0007	0.0037
111	0.0044	0.0007	0.0037
112	0.0044	0.0007	0.0037
113	0.0045	0.0007	0.0038
114	0.0045	0.0007	0.0038
115	0.0046	0.0007	0.0039
116	0.0046	0.0007	0.0039
117	0.0046	0.0007	0.0039
118	0.0047	0.0007	0.0040
119	0.0047	0.0007	0.0040
120	0.0048	0.0007	0.0040
121	0.0048	0.0007	0.0041
122	0.0049	0.0007	0.0041
123	0.0049	0.0008	0.0042
124	0.0050	0.0008	0.0042
125	0.0050	0.0008	0.0043
126	0.0051	0.0008	0.0043
127	0.0052	0.0008	0.0044
128	0.0052	0.0008	0.0044
129	0.0053	0.0008	0.0045
130	0.0053	0.0008	0.0045
131	0.0054	0.0008	0.0046
132	0.0054	0.0008	0.0046
133	0.0055	0.0008	0.0047
134	0.0056	0.0009	0.0047
135	0.0057	0.0009	0.0048
136	0.0057	0.0009	0.0049
137	0.0058	0.0009	0.0049
138	0.0059	0.0009	0.0050
139	0.0060	0.0009	0.0051
140	0.0061	0.0009	0.0051
141	0.0062	0.0009	0.0052
142	0.0062	0.0010	0.0053
143	0.0064	0.0010	0.0054
144	0.0064	0.0010	0.0054
145	0.0040	0.0006	0.0034
146	0.0041	0.0006	0.0034
147	0.0042	0.0006	0.0035
148	0.0042	0.0006	0.0036
149	0.0043	0.0007	0.0037
150	0.0044	0.0007	0.0037
151	0.0045	0.0007	0.0038
152	0.0046	0.0007	0.0039
153	0.0047	0.0007	0.0040
154	0.0048	0.0007	0.0040
155	0.0049	0.0008	0.0042
156	0.0050	0.0008	0.0042
157	0.0051	0.0008	0.0044
158	0.0052	0.0008	0.0044
159	0.0054	0.0008	0.0046
160	0.0055	0.0008	0.0046
161	0.0057	0.0009	0.0048
162	0.0058	0.0009	0.0049
163	0.0060	0.0009	0.0051
164	0.0061	0.0009	0.0052
165	0.0064	0.0010	0.0054
166	0.0065	0.0010	0.0055
167	0.0068	0.0010	0.0057
168	0.0069	0.0011	0.0059

169	0.0073	0.0011	0.0062
170	0.0074	0.0011	0.0063
171	0.0078	0.0012	0.0066
172	0.0080	0.0012	0.0068
173	0.0085	0.0013	0.0072
174	0.0087	0.0013	0.0074
175	0.0093	0.0014	0.0079
176	0.0096	0.0015	0.0081
177	0.0103	0.0016	0.0087
178	0.0107	0.0016	0.0090
179	0.0116	0.0018	0.0098
180	0.0120	0.0018	0.0102
181	0.0132	0.0020	0.0112
182	0.0139	0.0021	0.0118
183	0.0155	0.0024	0.0131
184	0.0164	0.0025	0.0139
185	0.0358	0.0055	0.0303
186	0.0382	0.0058	0.0323
187	0.0443	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0542
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6595	0.0059	0.6535
194	0.0826	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0175	0.0027	0.0149
198	0.0146	0.0022	0.0124
199	0.0126	0.0019	0.0107
200	0.0111	0.0017	0.0094
201	0.0099	0.0015	0.0084
202	0.0090	0.0014	0.0076
203	0.0083	0.0013	0.0070
204	0.0076	0.0012	0.0065
205	0.0071	0.0011	0.0060
206	0.0066	0.0010	0.0056
207	0.0062	0.0010	0.0053
208	0.0059	0.0009	0.0050
209	0.0056	0.0009	0.0047
210	0.0053	0.0008	0.0045
211	0.0051	0.0008	0.0043
212	0.0048	0.0007	0.0041
213	0.0046	0.0007	0.0039
214	0.0044	0.0007	0.0038
215	0.0043	0.0007	0.0036
216	0.0041	0.0006	0.0035
217	0.0065	0.0010	0.0055
218	0.0063	0.0010	0.0053
219	0.0061	0.0009	0.0052
220	0.0059	0.0009	0.0050
221	0.0058	0.0009	0.0049
222	0.0056	0.0009	0.0048
223	0.0055	0.0008	0.0047
224	0.0054	0.0008	0.0045
225	0.0052	0.0008	0.0044
226	0.0051	0.0008	0.0043
227	0.0050	0.0008	0.0042

228	0.0049	0.0007	0.0042
229	0.0048	0.0007	0.0041
230	0.0047	0.0007	0.0040
231	0.0046	0.0007	0.0039
232	0.0045	0.0007	0.0038
233	0.0044	0.0007	0.0038
234	0.0044	0.0007	0.0037
235	0.0043	0.0007	0.0036
236	0.0042	0.0006	0.0036
237	0.0041	0.0006	0.0035
238	0.0041	0.0006	0.0034
239	0.0040	0.0006	0.0034
240	0.0039	0.0006	0.0033
241	0.0039	0.0006	0.0033
242	0.0038	0.0006	0.0032
243	0.0038	0.0006	0.0032
244	0.0037	0.0006	0.0031
245	0.0037	0.0006	0.0031
246	0.0036	0.0006	0.0031
247	0.0036	0.0005	0.0030
248	0.0035	0.0005	0.0030
249	0.0035	0.0005	0.0029
250	0.0034	0.0005	0.0029
251	0.0034	0.0005	0.0029
252	0.0033	0.0005	0.0028
253	0.0033	0.0005	0.0028
254	0.0032	0.0005	0.0027
255	0.0032	0.0005	0.0027
256	0.0032	0.0005	0.0027
257	0.0031	0.0005	0.0027
258	0.0031	0.0005	0.0026
259	0.0031	0.0005	0.0026
260	0.0030	0.0005	0.0026
261	0.0030	0.0005	0.0025
262	0.0030	0.0005	0.0025
263	0.0029	0.0004	0.0025
264	0.0029	0.0004	0.0025
265	0.0029	0.0004	0.0024
266	0.0028	0.0004	0.0024
267	0.0028	0.0004	0.0024
268	0.0028	0.0004	0.0024
269	0.0028	0.0004	0.0023
270	0.0027	0.0004	0.0023
271	0.0027	0.0004	0.0023
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0022
274	0.0026	0.0004	0.0022
275	0.0026	0.0004	0.0022
276	0.0026	0.0004	0.0022
277	0.0026	0.0004	0.0022
278	0.0025	0.0004	0.0021
279	0.0025	0.0004	0.0021
280	0.0025	0.0004	0.0021
281	0.0025	0.0004	0.0021
282	0.0025	0.0004	0.0021
283	0.0024	0.0004	0.0021
284	0.0024	0.0004	0.0020
285	0.0024	0.0004	0.0020
286	0.0024	0.0004	0.0020

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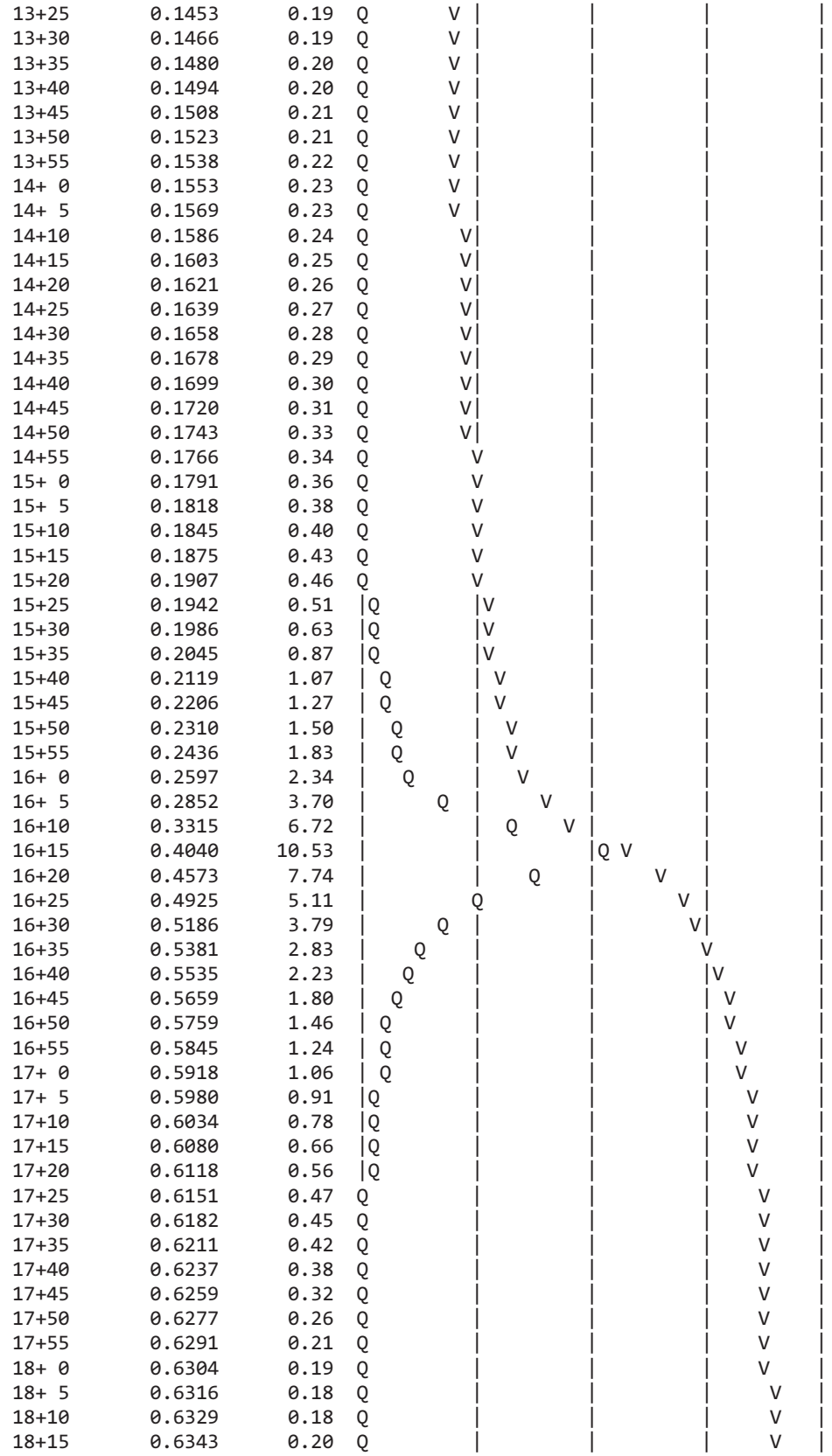
     287             0.0024          0.0004             0.0020
     288             0.0023          0.0004             0.0020
     ---------------------------------------------------------------------
     ---------------------------------------------------------------------
     Total soil rain loss =      0.26(In)
     Total effective rainfall =      2.36(In)
     Peak flow rate in flood hydrograph =     10.53(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                       24 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q         |         |         |         |
  0+10       0.0001      0.01  Q         |         |         |         |
  0+15       0.0003      0.04  Q         |         |         |         |
  0+20       0.0007      0.05  Q         |         |         |         |
  0+25       0.0011      0.06  Q         |         |         |         |
  0+30       0.0016      0.07  Q         |         |         |         |
  0+35       0.0021      0.07  Q         |         |         |         |
  0+40       0.0026      0.07  Q         |         |         |         |
  0+45       0.0031      0.08  Q         |         |         |         |
  0+50       0.0037      0.08  Q         |         |         |         |
  0+55       0.0042      0.08  Q         |         |         |         |
  1+ 0       0.0048      0.08  Q         |         |         |         |
  1+ 5       0.0054      0.08  Q         |         |         |         |
  1+10       0.0059      0.09  Q         |         |         |         |
  1+15       0.0065      0.09  Q         |         |         |         |
  1+20       0.0071      0.09  Q         |         |         |         |
  1+25       0.0077      0.09  Q         |         |         |         |
  1+30       0.0083      0.09  Q         |         |         |         |
  1+35       0.0090      0.09  Q         |         |         |         |
  1+40       0.0096      0.09  Q         |         |         |         |
  1+45       0.0102      0.09  Q         |         |         |         |
  1+50       0.0108      0.09  Q         |         |         |         |
  1+55       0.0115      0.09  Q         |         |         |         |
  2+ 0       0.0121      0.09  Q         |         |         |         |
  2+ 5       0.0127      0.09  Q         |         |         |         |
  2+10       0.0134      0.09  Q         |         |         |         |
  2+15       0.0140      0.09  Q         |         |         |         |
  2+20       0.0146      0.09  Q         |         |         |         |
  2+25       0.0153      0.09  Q         |         |         |         |
  2+30       0.0159      0.09  Q         |         |         |         |
  2+35       0.0166      0.09  Q         |         |         |         |
  2+40       0.0172      0.09  Q         |         |         |         |
  2+45       0.0179      0.10  QV        |         |         |         |
  2+50       0.0186      0.10  QV        |         |         |         |
  2+55       0.0192      0.10  QV        |         |         |         |
  3+ 0       0.0199      0.10  QV        |         |         |         |
  3+ 5       0.0205      0.10  QV        |         |         |         |
  3+10       0.0212      0.10  QV        |         |         |         |
  3+15       0.0219      0.10  QV        |         |         |         |
  3+20       0.0226      0.10  QV        |         |         |         |
  3+25       0.0233      0.10  QV        |         |         |         |
  3+30       0.0239      0.10  QV        |         |         |         |
```

3+35	0.0246	0.10	QV				
3+40	0.0253	0.10	QV				
3+45	0.0260	0.10	QV				
3+50	0.0267	0.10	QV				
3+55	0.0274	0.10	QV				
4+ 0	0.0281	0.10	QV				
4+ 5	0.0288	0.10	QV				
4+10	0.0295	0.10	QV				
4+15	0.0303	0.10	QV				
4+20	0.0310	0.10	QV				
4+25	0.0317	0.11	QV				
4+30	0.0324	0.11	QV				
4+35	0.0332	0.11	QV				
4+40	0.0339	0.11	QV				
4+45	0.0346	0.11	QV				
4+50	0.0354	0.11	Q V				
4+55	0.0361	0.11	Q V				
5+ 0	0.0369	0.11	Q V				
5+ 5	0.0376	0.11	Q V				
5+10	0.0384	0.11	Q V				
5+15	0.0391	0.11	Q V				
5+20	0.0399	0.11	Q V				
5+25	0.0407	0.11	Q V				
5+30	0.0415	0.11	Q V				
5+35	0.0422	0.11	Q V				
5+40	0.0430	0.11	Q V				
5+45	0.0438	0.11	Q V				
5+50	0.0446	0.12	Q V				
5+55	0.0454	0.12	Q V				
6+ 0	0.0462	0.12	Q V				
6+ 5	0.0470	0.12	Q V				
6+10	0.0478	0.12	Q V				
6+15	0.0487	0.12	Q V				
6+20	0.0495	0.12	Q V				
6+25	0.0503	0.12	Q V				
6+30	0.0511	0.12	Q V				
6+35	0.0520	0.12	Q V				
6+40	0.0528	0.12	Q V				
6+45	0.0537	0.12	Q V				
6+50	0.0545	0.12	Q V				
6+55	0.0554	0.13	Q V				
7+ 0	0.0563	0.13	Q V				
7+ 5	0.0571	0.13	Q V				
7+10	0.0580	0.13	Q V				
7+15	0.0589	0.13	Q V				
7+20	0.0598	0.13	Q V				
7+25	0.0607	0.13	Q V				
7+30	0.0616	0.13	Q V				
7+35	0.0625	0.13	Q V				
7+40	0.0634	0.13	Q V				
7+45	0.0643	0.13	Q V				
7+50	0.0653	0.13	Q V				
7+55	0.0662	0.14	Q V				
8+ 0	0.0671	0.14	Q V				
8+ 5	0.0681	0.14	Q V				
8+10	0.0690	0.14	Q V				
8+15	0.0700	0.14	Q V				
8+20	0.0710	0.14	Q V				
8+25	0.0720	0.14	Q V				

8+30	0.0729	0.14	Q	V				
8+35	0.0739	0.14	Q	V				
8+40	0.0749	0.15	Q	V				
8+45	0.0760	0.15	Q	V				
8+50	0.0770	0.15	Q	V				
8+55	0.0780	0.15	Q	V				
9+ 0	0.0790	0.15	Q	V				
9+ 5	0.0801	0.15	Q	V				
9+10	0.0811	0.15	Q	V				
9+15	0.0822	0.15	Q	V				
9+20	0.0833	0.16	Q	V				
9+25	0.0844	0.16	Q	V				
9+30	0.0854	0.16	Q	V				
9+35	0.0865	0.16	Q	V				
9+40	0.0877	0.16	Q	V				
9+45	0.0888	0.16	Q	V				
9+50	0.0899	0.16	Q	V				
9+55	0.0911	0.17	Q	V				
10+ 0	0.0922	0.17	Q	V				
10+ 5	0.0934	0.17	Q	V				
10+10	0.0946	0.17	Q	V				
10+15	0.0957	0.17	Q	V				
10+20	0.0969	0.17	Q	V				
10+25	0.0982	0.18	Q	V				
10+30	0.0994	0.18	Q	V				
10+35	0.1006	0.18	Q	V				
10+40	0.1019	0.18	Q	V				
10+45	0.1031	0.18	Q	V				
10+50	0.1044	0.19	Q	V				
10+55	0.1057	0.19	Q	V				
11+ 0	0.1070	0.19	Q	V				
11+ 5	0.1084	0.19	Q	V				
11+10	0.1097	0.19	Q	V				
11+15	0.1111	0.20	Q	V				
11+20	0.1124	0.20	Q	V				
11+25	0.1138	0.20	Q	V				
11+30	0.1152	0.20	Q	V				
11+35	0.1167	0.21	Q	V				
11+40	0.1181	0.21	Q	V				
11+45	0.1196	0.21	Q	V				
11+50	0.1211	0.22	Q	V				
11+55	0.1226	0.22	Q	V				
12+ 0	0.1241	0.22	Q	V				
12+ 5	0.1256	0.22	Q	V				
12+10	0.1271	0.22	Q	V				
12+15	0.1284	0.19	Q	V				
12+20	0.1297	0.18	Q	V				
12+25	0.1308	0.17	Q	V				
12+30	0.1320	0.17	Q	V				
12+35	0.1332	0.17	Q	V				
12+40	0.1343	0.17	Q	V				
12+45	0.1355	0.17	Q	V				
12+50	0.1366	0.17	Q	V				
12+55	0.1378	0.17	Q	V				
13+ 0	0.1390	0.17	Q	V				
13+ 5	0.1402	0.18	Q	V				
13+10	0.1414	0.18	Q	V				
13+15	0.1427	0.18	Q	V				
13+20	0.1440	0.19	Q	V				



13+25	0.1453	0.19	
13+30	0.1466	0.19	
13+35	0.1480	0.20	
13+40	0.1494	0.20	
13+45	0.1508	0.21	
13+50	0.1523	0.21	
13+55	0.1538	0.22	
14+ 0	0.1553	0.23	
14+ 5	0.1569	0.23	
14+10	0.1586	0.24	
14+15	0.1603	0.25	
14+20	0.1621	0.26	
14+25	0.1639	0.27	
14+30	0.1658	0.28	
14+35	0.1678	0.29	
14+40	0.1699	0.30	
14+45	0.1720	0.31	
14+50	0.1743	0.33	
14+55	0.1766	0.34	
15+ 0	0.1791	0.36	
15+ 5	0.1818	0.38	
15+10	0.1845	0.40	
15+15	0.1875	0.43	
15+20	0.1907	0.46	
15+25	0.1942	0.51	
15+30	0.1986	0.63	
15+35	0.2045	0.87	
15+40	0.2119	1.07	
15+45	0.2206	1.27	
15+50	0.2310	1.50	
15+55	0.2436	1.83	
16+ 0	0.2597	2.34	
16+ 5	0.2852	3.70	
16+10	0.3315	6.72	
16+15	0.4040	10.53	
16+20	0.4573	7.74	
16+25	0.4925	5.11	
16+30	0.5186	3.79	
16+35	0.5381	2.83	
16+40	0.5535	2.23	
16+45	0.5659	1.80	
16+50	0.5759	1.46	
16+55	0.5845	1.24	
17+ 0	0.5918	1.06	
17+ 5	0.5980	0.91	
17+10	0.6034	0.78	
17+15	0.6080	0.66	
17+20	0.6118	0.56	
17+25	0.6151	0.47	
17+30	0.6182	0.45	
17+35	0.6211	0.42	
17+40	0.6237	0.38	
17+45	0.6259	0.32	
17+50	0.6277	0.26	
17+55	0.6291	0.21	
18+ 0	0.6304	0.19	
18+ 5	0.6316	0.18	
18+10	0.6329	0.18	
18+15	0.6343	0.20	

18+20	0.6357	0.21	Q	|	|	|	V |
18+25	0.6372	0.21	Q	|	|	|	V |
18+30	0.6387	0.21	Q	|	|	|	V |
18+35	0.6401	0.21	Q	|	|	|	V |
18+40	0.6415	0.21	Q	|	|	|	V |
18+45	0.6429	0.20	Q	|	|	|	V |
18+50	0.6443	0.20	Q	|	|	|	V |
18+55	0.6457	0.20	Q	|	|	|	V |
19+ 0	0.6470	0.19	Q	|	|	|	V |
19+ 5	0.6483	0.19	Q	|	|	|	V |
19+10	0.6496	0.19	Q	|	|	|	V |
19+15	0.6508	0.18	Q	|	|	|	V |
19+20	0.6521	0.18	Q	|	|	|	V |
19+25	0.6533	0.18	Q	|	|	|	V |
19+30	0.6545	0.17	Q	|	|	|	V |
19+35	0.6556	0.17	Q	|	|	|	V |
19+40	0.6568	0.17	Q	|	|	|	V |
19+45	0.6579	0.16	Q	|	|	|	V |
19+50	0.6590	0.16	Q	|	|	|	V |
19+55	0.6601	0.16	Q	|	|	|	V |
20+ 0	0.6611	0.15	Q	|	|	|	V |
20+ 5	0.6622	0.15	Q	|	|	|	V |
20+10	0.6632	0.15	Q	|	|	|	V |
20+15	0.6642	0.15	Q	|	|	|	V |
20+20	0.6652	0.14	Q	|	|	|	V |
20+25	0.6662	0.14	Q	|	|	|	V |
20+30	0.6672	0.14	Q	|	|	|	V |
20+35	0.6681	0.14	Q	|	|	|	V |
20+40	0.6691	0.14	Q	|	|	|	V |
20+45	0.6700	0.13	Q	|	|	|	V |
20+50	0.6709	0.13	Q	|	|	|	V |
20+55	0.6718	0.13	Q	|	|	|	V |
21+ 0	0.6727	0.13	Q	|	|	|	V |
21+ 5	0.6736	0.13	Q	|	|	|	V |
21+10	0.6744	0.13	Q	|	|	|	V |
21+15	0.6753	0.12	Q	|	|	|	V |
21+20	0.6761	0.12	Q	|	|	|	V |
21+25	0.6769	0.12	Q	|	|	|	V |
21+30	0.6778	0.12	Q	|	|	|	V |
21+35	0.6786	0.12	Q	|	|	|	V |
21+40	0.6794	0.12	Q	|	|	|	V |
21+45	0.6802	0.11	Q	|	|	|	V |
21+50	0.6809	0.11	Q	|	|	|	V |
21+55	0.6817	0.11	Q	|	|	|	V |
22+ 0	0.6825	0.11	Q	|	|	|	V |
22+ 5	0.6832	0.11	Q	|	|	|	V |
22+10	0.6840	0.11	Q	|	|	|	V|
22+15	0.6847	0.11	Q	|	|	|	V|
22+20	0.6854	0.11	Q	|	|	|	V|
22+25	0.6862	0.11	Q	|	|	|	V|
22+30	0.6869	0.10	Q	|	|	|	V|
22+35	0.6876	0.10	Q	|	|	|	V|
22+40	0.6883	0.10	Q	|	|	|	V|
22+45	0.6890	0.10	Q	|	|	|	V|
22+50	0.6897	0.10	Q	|	|	|	V|
22+55	0.6904	0.10	Q	|	|	|	V|
23+ 0	0.6910	0.10	Q	|	|	|	V|
23+ 5	0.6917	0.10	Q	|	|	|	V|
23+10	0.6924	0.10	Q	|	|	|	V|

23+15	0.6930	0.10	Q	|	|	|	V|
23+20	0.6937	0.09	Q	|	|	|	V|
23+25	0.6943	0.09	Q	|	|	|	V|
23+30	0.6950	0.09	Q	|	|	|	V|
23+35	0.6956	0.09	Q	|	|	|	V|
23+40	0.6962	0.09	Q	|	|	|	V|
23+45	0.6968	0.09	Q	|	|	|	V|
23+50	0.6975	0.09	Q	|	|	|	V|
23+55	0.6981	0.09	Q	|	|	|	V|
24+ 0	0.6987	0.09	Q	|	|	|	V|
24+ 5	0.6993	0.09	Q	|	|	|	V|
24+10	0.6998	0.07	Q	|	|	|	V|
24+15	0.7001	0.05	Q	|	|	|	V|
24+20	0.7004	0.03	Q	|	|	|	V|
24+25	0.7005	0.03	Q	|	|	|	V|
24+30	0.7007	0.02	Q	|	|	|	V|
24+35	0.7008	0.02	Q	|	|	|	V|
24+40	0.7009	0.01	Q	|	|	|	V|
24+45	0.7009	0.01	Q	|	|	|	V|
24+50	0.7010	0.01	Q	|	|	|	V|
24+55	0.7010	0.01	Q	|	|	|	V|
25+ 0	0.7011	0.00	Q	|	|	|	V|
25+ 5	0.7011	0.00	Q	|	|	|	V|
25+10	0.7011	0.00	Q	|	|	|	V|
25+15	0.7011	0.00	Q	|	|	|	V|
25+20	0.7011	0.00	Q	|	|	|	V|
25+25	0.7011	0.00	Q	|	|	|	V|
25+30	0.7011	0.00	Q	|	|	|	V|
25+35	0.7011	0.00	Q	|	|	|	V|
25+40	0.7012	0.00	Q	|	|	|	V|
25+45	0.7012	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 37
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
10.24	1	1.39
Rainfall data for year 100		
10.24	6	1.85
Rainfall data for year 100		
10.24	24	2.63

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	10.42	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
10.42	1.000	84.0	96.4	0.37	0.848

Area-averaged catchment yield fraction, Y = 0.848
Area-averaged low loss fraction, Yb = 0.152
User entry of time of concentration = 0.460 (hours)
++
Watershed area = 10.42(Ac.)
Catchment Lag time = 0.368 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 22.6449
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.152 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.656(In)
Specified peak 6-hour rainfall = 1.850(In)
Specified peak 24-hour rainfall = 2.630(In)

Rainfall depth area reduction factors:
Using a total area of 10.24(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.128(In)
1-hour factor = 1.000 Adjusted rainfall = 1.389(In)
3-hour factor = 1.000 Adjusted rainfall = 1.656(In)
6-hour factor = 1.000 Adjusted rainfall = 1.850(In)
24-hour factor = 1.000 Adjusted rainfall = 2.630(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 126.02 (CFS))	
1	1.178	1.485
2	5.552	5.511
3	15.131	12.072
4	34.714	24.677
5	50.752	20.211
6	60.938	12.836
7	67.717	8.543
8	72.933	6.573
9	77.018	5.148
10	80.296	4.130
11	82.979	3.382
12	85.300	2.924
13	87.341	2.572
14	89.028	2.126

15	90.382	1.706
16	91.629	1.571
17	92.726	1.382
18	93.724	1.257
19	94.544	1.033
20	95.312	0.968
21	95.970	0.829
22	96.559	0.742
23	97.071	0.645
24	97.479	0.514
25	97.840	0.456
26	98.074	0.295
27	98.307	0.293
28	98.573	0.335
29	98.845	0.342
30	99.116	0.342
31	99.388	0.342
32	99.583	0.247
33	99.725	0.178
34	99.866	0.178
35	100.000	0.169

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6593	0.6593
2	0.8116	0.1524
3	0.9166	0.1050
4	0.9992	0.0826
5	1.0684	0.0692
6	1.1285	0.0601
7	1.1819	0.0534
8	1.2302	0.0483
9	1.2745	0.0442
10	1.3154	0.0409
11	1.3535	0.0382
12	1.3893	0.0358
13	1.4072	0.0179
14	1.4240	0.0168
15	1.4398	0.0158
16	1.4548	0.0149
17	1.4689	0.0142
18	1.4824	0.0135
19	1.4953	0.0129
20	1.5076	0.0123
21	1.5194	0.0118
22	1.5308	0.0113
23	1.5417	0.0109
24	1.5522	0.0105
25	1.5624	0.0102
26	1.5722	0.0098
27	1.5817	0.0095
28	1.5910	0.0092
29	1.5999	0.0090
30	1.6086	0.0087
31	1.6171	0.0085
32	1.6253	0.0082
33	1.6333	0.0080
34	1.6411	0.0078
35	1.6488	0.0076

36	1.6562	0.0074
37	1.6635	0.0073
38	1.6706	0.0071
39	1.6775	0.0069
40	1.6843	0.0068
41	1.6909	0.0067
42	1.6975	0.0065
43	1.7038	0.0064
44	1.7101	0.0063
45	1.7163	0.0061
46	1.7223	0.0060
47	1.7282	0.0059
48	1.7340	0.0058
49	1.7397	0.0057
50	1.7454	0.0056
51	1.7509	0.0055
52	1.7563	0.0054
53	1.7617	0.0053
54	1.7669	0.0053
55	1.7721	0.0052
56	1.7772	0.0051
57	1.7822	0.0050
58	1.7872	0.0050
59	1.7921	0.0049
60	1.7969	0.0048
61	1.8016	0.0047
62	1.8063	0.0047
63	1.8109	0.0046
64	1.8155	0.0046
65	1.8200	0.0045
66	1.8244	0.0044
67	1.8288	0.0044
68	1.8331	0.0043
69	1.8374	0.0043
70	1.8416	0.0042
71	1.8458	0.0042
72	1.8499	0.0041
73	1.8564	0.0065
74	1.8628	0.0064
75	1.8692	0.0064
76	1.8755	0.0063
77	1.8817	0.0062
78	1.8879	0.0062
79	1.8940	0.0061
80	1.9001	0.0061
81	1.9061	0.0060
82	1.9120	0.0059
83	1.9179	0.0059
84	1.9237	0.0058
85	1.9295	0.0058
86	1.9353	0.0057
87	1.9410	0.0057
88	1.9466	0.0056
89	1.9522	0.0056
90	1.9577	0.0055
91	1.9632	0.0055
92	1.9687	0.0055
93	1.9741	0.0054
94	1.9795	0.0054

95	1.9848	0.0053
96	1.9901	0.0053
97	1.9953	0.0052
98	2.0005	0.0052
99	2.0057	0.0052
100	2.0108	0.0051
101	2.0159	0.0051
102	2.0209	0.0050
103	2.0259	0.0050
104	2.0309	0.0050
105	2.0358	0.0049
106	2.0407	0.0049
107	2.0456	0.0049
108	2.0504	0.0048
109	2.0552	0.0048
110	2.0600	0.0048
111	2.0647	0.0047
112	2.0695	0.0047
113	2.0741	0.0047
114	2.0788	0.0046
115	2.0834	0.0046
116	2.0880	0.0046
117	2.0925	0.0046
118	2.0970	0.0045
119	2.1015	0.0045
120	2.1060	0.0045
121	2.1104	0.0044
122	2.1149	0.0044
123	2.1192	0.0044
124	2.1236	0.0044
125	2.1279	0.0043
126	2.1322	0.0043
127	2.1365	0.0043
128	2.1408	0.0043
129	2.1450	0.0042
130	2.1492	0.0042
131	2.1534	0.0042
132	2.1576	0.0042
133	2.1617	0.0041
134	2.1658	0.0041
135	2.1699	0.0041
136	2.1740	0.0041
137	2.1780	0.0040
138	2.1820	0.0040
139	2.1860	0.0040
140	2.1900	0.0040
141	2.1940	0.0040
142	2.1979	0.0039
143	2.2018	0.0039
144	2.2057	0.0039
145	2.2096	0.0039
146	2.2135	0.0039
147	2.2173	0.0038
148	2.2211	0.0038
149	2.2249	0.0038
150	2.2287	0.0038
151	2.2325	0.0038
152	2.2362	0.0037
153	2.2399	0.0037

154	2.2436	0.0037
155	2.2473	0.0037
156	2.2510	0.0037
157	2.2547	0.0037
158	2.2583	0.0036
159	2.2619	0.0036
160	2.2655	0.0036
161	2.2691	0.0036
162	2.2727	0.0036
163	2.2762	0.0036
164	2.2798	0.0035
165	2.2833	0.0035
166	2.2868	0.0035
167	2.2903	0.0035
168	2.2937	0.0035
169	2.2972	0.0035
170	2.3006	0.0034
171	2.3041	0.0034
172	2.3075	0.0034
173	2.3109	0.0034
174	2.3143	0.0034
175	2.3176	0.0034
176	2.3210	0.0034
177	2.3243	0.0033
178	2.3276	0.0033
179	2.3310	0.0033
180	2.3343	0.0033
181	2.3375	0.0033
182	2.3408	0.0033
183	2.3441	0.0033
184	2.3473	0.0032
185	2.3505	0.0032
186	2.3538	0.0032
187	2.3570	0.0032
188	2.3602	0.0032
189	2.3633	0.0032
190	2.3665	0.0032
191	2.3697	0.0032
192	2.3728	0.0031
193	2.3759	0.0031
194	2.3790	0.0031
195	2.3822	0.0031
196	2.3852	0.0031
197	2.3883	0.0031
198	2.3914	0.0031
199	2.3945	0.0031
200	2.3975	0.0030
201	2.4005	0.0030
202	2.4036	0.0030
203	2.4066	0.0030
204	2.4096	0.0030
205	2.4126	0.0030
206	2.4156	0.0030
207	2.4185	0.0030
208	2.4215	0.0030
209	2.4244	0.0029
210	2.4274	0.0029
211	2.4303	0.0029
212	2.4332	0.0029

213	2.4361	0.0029
214	2.4390	0.0029
215	2.4419	0.0029
216	2.4448	0.0029
217	2.4477	0.0029
218	2.4505	0.0029
219	2.4534	0.0028
220	2.4562	0.0028
221	2.4590	0.0028
222	2.4619	0.0028
223	2.4647	0.0028
224	2.4675	0.0028
225	2.4703	0.0028
226	2.4730	0.0028
227	2.4758	0.0028
228	2.4786	0.0028
229	2.4813	0.0028
230	2.4841	0.0027
231	2.4868	0.0027
232	2.4895	0.0027
233	2.4923	0.0027
234	2.4950	0.0027
235	2.4977	0.0027
236	2.5004	0.0027
237	2.5030	0.0027
238	2.5057	0.0027
239	2.5084	0.0027
240	2.5111	0.0027
241	2.5137	0.0027
242	2.5163	0.0026
243	2.5190	0.0026
244	2.5216	0.0026
245	2.5242	0.0026
246	2.5268	0.0026
247	2.5294	0.0026
248	2.5320	0.0026
249	2.5346	0.0026
250	2.5372	0.0026
251	2.5398	0.0026
252	2.5423	0.0026
253	2.5449	0.0026
254	2.5474	0.0025
255	2.5500	0.0025
256	2.5525	0.0025
257	2.5550	0.0025
258	2.5576	0.0025
259	2.5601	0.0025
260	2.5626	0.0025
261	2.5651	0.0025
262	2.5676	0.0025
263	2.5701	0.0025
264	2.5725	0.0025
265	2.5750	0.0025
266	2.5775	0.0025
267	2.5799	0.0025
268	2.5824	0.0024
269	2.5848	0.0024
270	2.5872	0.0024
271	2.5897	0.0024

272	2.5921	0.0024
273	2.5945	0.0024
274	2.5969	0.0024
275	2.5993	0.0024
276	2.6017	0.0024
277	2.6041	0.0024
278	2.6065	0.0024
279	2.6089	0.0024
280	2.6112	0.0024
281	2.6136	0.0024
282	2.6160	0.0024
283	2.6183	0.0024
284	2.6206	0.0023
285	2.6230	0.0023
286	2.6253	0.0023
287	2.6276	0.0023
288	2.6300	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0004	0.0020
2	0.0023	0.0004	0.0020
3	0.0023	0.0004	0.0020
4	0.0023	0.0004	0.0020
5	0.0024	0.0004	0.0020
6	0.0024	0.0004	0.0020
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0020
9	0.0024	0.0004	0.0020
10	0.0024	0.0004	0.0020
11	0.0024	0.0004	0.0020
12	0.0024	0.0004	0.0021
13	0.0024	0.0004	0.0021
14	0.0024	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0021
17	0.0025	0.0004	0.0021
18	0.0025	0.0004	0.0021
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0021
21	0.0025	0.0004	0.0021
22	0.0025	0.0004	0.0021
23	0.0025	0.0004	0.0022
24	0.0025	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0026	0.0004	0.0022
28	0.0026	0.0004	0.0022
29	0.0026	0.0004	0.0022
30	0.0026	0.0004	0.0022
31	0.0026	0.0004	0.0022
32	0.0026	0.0004	0.0022
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0027	0.0004	0.0023
36	0.0027	0.0004	0.0023
37	0.0027	0.0004	0.0023

38	0.0027	0.0004	0.0023
39	0.0027	0.0004	0.0023
40	0.0027	0.0004	0.0023
41	0.0028	0.0004	0.0023
42	0.0028	0.0004	0.0024
43	0.0028	0.0004	0.0024
44	0.0028	0.0004	0.0024
45	0.0028	0.0004	0.0024
46	0.0028	0.0004	0.0024
47	0.0028	0.0004	0.0024
48	0.0029	0.0004	0.0024
49	0.0029	0.0004	0.0024
50	0.0029	0.0004	0.0024
51	0.0029	0.0004	0.0025
52	0.0029	0.0004	0.0025
53	0.0029	0.0004	0.0025
54	0.0029	0.0004	0.0025
55	0.0030	0.0005	0.0025
56	0.0030	0.0005	0.0025
57	0.0030	0.0005	0.0025
58	0.0030	0.0005	0.0026
59	0.0030	0.0005	0.0026
60	0.0030	0.0005	0.0026
61	0.0031	0.0005	0.0026
62	0.0031	0.0005	0.0026
63	0.0031	0.0005	0.0026
64	0.0031	0.0005	0.0026
65	0.0031	0.0005	0.0027
66	0.0032	0.0005	0.0027
67	0.0032	0.0005	0.0027
68	0.0032	0.0005	0.0027
69	0.0032	0.0005	0.0027
70	0.0032	0.0005	0.0027
71	0.0033	0.0005	0.0028
72	0.0033	0.0005	0.0028
73	0.0033	0.0005	0.0028
74	0.0033	0.0005	0.0028
75	0.0033	0.0005	0.0028
76	0.0034	0.0005	0.0028
77	0.0034	0.0005	0.0029
78	0.0034	0.0005	0.0029
79	0.0034	0.0005	0.0029
80	0.0034	0.0005	0.0029
81	0.0035	0.0005	0.0029
82	0.0035	0.0005	0.0030
83	0.0035	0.0005	0.0030
84	0.0035	0.0005	0.0030
85	0.0036	0.0005	0.0030
86	0.0036	0.0005	0.0030
87	0.0036	0.0006	0.0031
88	0.0036	0.0006	0.0031
89	0.0037	0.0006	0.0031
90	0.0037	0.0006	0.0031
91	0.0037	0.0006	0.0032
92	0.0037	0.0006	0.0032
93	0.0038	0.0006	0.0032
94	0.0038	0.0006	0.0032
95	0.0038	0.0006	0.0033
96	0.0039	0.0006	0.0033

97	0.0039	0.0006	0.0033
98	0.0039	0.0006	0.0033
99	0.0040	0.0006	0.0034
100	0.0040	0.0006	0.0034
101	0.0040	0.0006	0.0034
102	0.0040	0.0006	0.0034
103	0.0041	0.0006	0.0035
104	0.0041	0.0006	0.0035
105	0.0042	0.0006	0.0035
106	0.0042	0.0006	0.0035
107	0.0042	0.0006	0.0036
108	0.0043	0.0006	0.0036
109	0.0043	0.0007	0.0037
110	0.0043	0.0007	0.0037
111	0.0044	0.0007	0.0037
112	0.0044	0.0007	0.0037
113	0.0045	0.0007	0.0038
114	0.0045	0.0007	0.0038
115	0.0046	0.0007	0.0039
116	0.0046	0.0007	0.0039
117	0.0046	0.0007	0.0039
118	0.0047	0.0007	0.0040
119	0.0047	0.0007	0.0040
120	0.0048	0.0007	0.0040
121	0.0048	0.0007	0.0041
122	0.0049	0.0007	0.0041
123	0.0049	0.0008	0.0042
124	0.0050	0.0008	0.0042
125	0.0050	0.0008	0.0043
126	0.0051	0.0008	0.0043
127	0.0052	0.0008	0.0044
128	0.0052	0.0008	0.0044
129	0.0053	0.0008	0.0045
130	0.0053	0.0008	0.0045
131	0.0054	0.0008	0.0046
132	0.0055	0.0008	0.0046
133	0.0055	0.0008	0.0047
134	0.0056	0.0009	0.0047
135	0.0057	0.0009	0.0048
136	0.0057	0.0009	0.0049
137	0.0058	0.0009	0.0049
138	0.0059	0.0009	0.0050
139	0.0060	0.0009	0.0051
140	0.0061	0.0009	0.0051
141	0.0062	0.0009	0.0052
142	0.0062	0.0009	0.0053
143	0.0064	0.0010	0.0054
144	0.0064	0.0010	0.0054
145	0.0041	0.0006	0.0035
146	0.0042	0.0006	0.0035
147	0.0043	0.0007	0.0036
148	0.0043	0.0007	0.0037
149	0.0044	0.0007	0.0038
150	0.0045	0.0007	0.0038
151	0.0046	0.0007	0.0039
152	0.0047	0.0007	0.0040
153	0.0048	0.0007	0.0041
154	0.0049	0.0007	0.0041
155	0.0050	0.0008	0.0043

156	0.0051	0.0008	0.0043
157	0.0053	0.0008	0.0045
158	0.0053	0.0008	0.0045
159	0.0055	0.0008	0.0047
160	0.0056	0.0009	0.0048
161	0.0058	0.0009	0.0049
162	0.0059	0.0009	0.0050
163	0.0061	0.0009	0.0052
164	0.0063	0.0010	0.0053
165	0.0065	0.0010	0.0055
166	0.0067	0.0010	0.0056
167	0.0069	0.0011	0.0059
168	0.0071	0.0011	0.0060
169	0.0074	0.0011	0.0063
170	0.0076	0.0012	0.0065
171	0.0080	0.0012	0.0068
172	0.0082	0.0013	0.0070
173	0.0087	0.0013	0.0074
174	0.0090	0.0014	0.0076
175	0.0095	0.0014	0.0081
176	0.0098	0.0015	0.0083
177	0.0105	0.0016	0.0089
178	0.0109	0.0017	0.0093
179	0.0118	0.0018	0.0100
180	0.0123	0.0019	0.0104
181	0.0135	0.0021	0.0114
182	0.0142	0.0022	0.0120
183	0.0158	0.0024	0.0134
184	0.0168	0.0026	0.0142
185	0.0358	0.0055	0.0303
186	0.0382	0.0058	0.0323
187	0.0442	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0542
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6593	0.0059	0.6533
194	0.0826	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0179	0.0027	0.0152
198	0.0149	0.0023	0.0127
199	0.0129	0.0020	0.0109
200	0.0113	0.0017	0.0096
201	0.0102	0.0015	0.0086
202	0.0092	0.0014	0.0078
203	0.0085	0.0013	0.0072
204	0.0078	0.0012	0.0066
205	0.0073	0.0011	0.0062
206	0.0068	0.0010	0.0058
207	0.0064	0.0010	0.0054
208	0.0060	0.0009	0.0051
209	0.0057	0.0009	0.0048
210	0.0054	0.0008	0.0046
211	0.0052	0.0008	0.0044
212	0.0050	0.0008	0.0042
213	0.0047	0.0007	0.0040
214	0.0046	0.0007	0.0039

215	0.0044	0.0007	0.0037
216	0.0042	0.0006	0.0036
217	0.0065	0.0010	0.0055
218	0.0063	0.0010	0.0053
219	0.0061	0.0009	0.0052
220	0.0059	0.0009	0.0050
221	0.0058	0.0009	0.0049
222	0.0056	0.0009	0.0048
223	0.0055	0.0008	0.0047
224	0.0054	0.0008	0.0045
225	0.0052	0.0008	0.0044
226	0.0051	0.0008	0.0043
227	0.0050	0.0008	0.0042
228	0.0049	0.0007	0.0042
229	0.0048	0.0007	0.0041
230	0.0047	0.0007	0.0040
231	0.0046	0.0007	0.0039
232	0.0045	0.0007	0.0038
233	0.0044	0.0007	0.0038
234	0.0044	0.0007	0.0037
235	0.0043	0.0007	0.0036
236	0.0042	0.0006	0.0036
237	0.0041	0.0006	0.0035
238	0.0041	0.0006	0.0034
239	0.0040	0.0006	0.0034
240	0.0039	0.0006	0.0033
241	0.0039	0.0006	0.0033
242	0.0038	0.0006	0.0032
243	0.0038	0.0006	0.0032
244	0.0037	0.0006	0.0031
245	0.0037	0.0006	0.0031
246	0.0036	0.0005	0.0031
247	0.0036	0.0005	0.0030
248	0.0035	0.0005	0.0030
249	0.0035	0.0005	0.0029
250	0.0034	0.0005	0.0029
251	0.0034	0.0005	0.0029
252	0.0033	0.0005	0.0028
253	0.0033	0.0005	0.0028
254	0.0032	0.0005	0.0028
255	0.0032	0.0005	0.0027
256	0.0032	0.0005	0.0027
257	0.0031	0.0005	0.0027
258	0.0031	0.0005	0.0026
259	0.0031	0.0005	0.0026
260	0.0030	0.0005	0.0026
261	0.0030	0.0005	0.0025
262	0.0030	0.0005	0.0025
263	0.0029	0.0004	0.0025
264	0.0029	0.0004	0.0025
265	0.0029	0.0004	0.0024
266	0.0028	0.0004	0.0024
267	0.0028	0.0004	0.0024
268	0.0028	0.0004	0.0024
269	0.0028	0.0004	0.0023
270	0.0027	0.0004	0.0023
271	0.0027	0.0004	0.0023
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0022

274	0.0026	0.0004	0.0022
275	0.0026	0.0004	0.0022
276	0.0026	0.0004	0.0022
277	0.0026	0.0004	0.0022
278	0.0025	0.0004	0.0021
279	0.0025	0.0004	0.0021
280	0.0025	0.0004	0.0021
281	0.0025	0.0004	0.0021
282	0.0024	0.0004	0.0021
283	0.0024	0.0004	0.0021
284	0.0024	0.0004	0.0020
285	0.0024	0.0004	0.0020
286	0.0024	0.0004	0.0020
287	0.0024	0.0004	0.0020
288	0.0023	0.0004	0.0020

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.37(In)
Peak flow rate in flood hydrograph = 23.25(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0004	0.04	Q				
0+20	0.0010	0.09	Q				
0+25	0.0018	0.13	Q				
0+30	0.0029	0.15	Q				
0+35	0.0041	0.17	Q				
0+40	0.0053	0.18	Q				
0+45	0.0066	0.19	Q				
0+50	0.0080	0.20	Q				
0+55	0.0095	0.21	Q				
1+ 0	0.0110	0.22	Q				
1+ 5	0.0125	0.22	Q				
1+10	0.0141	0.23	Q				
1+15	0.0157	0.23	Q				
1+20	0.0173	0.24	Q				
1+25	0.0190	0.24	Q				
1+30	0.0206	0.24	Q				
1+35	0.0223	0.25	Q				
1+40	0.0241	0.25	Q				
1+45	0.0258	0.25	Q				
1+50	0.0275	0.25	Q				
1+55	0.0293	0.26	Q				
2+ 0	0.0311	0.26	Q				
2+ 5	0.0329	0.26	Q				
2+10	0.0347	0.26	Q				
2+15	0.0365	0.26	Q				
2+20	0.0384	0.27	Q				
2+25	0.0402	0.27	Q				

2+30	0.0421	0.27	Q				
2+35	0.0439	0.27	Q				
2+40	0.0458	0.27	Q				
2+45	0.0477	0.28	Q				
2+50	0.0496	0.28	Q				
2+55	0.0515	0.28	QV				
3+ 0	0.0534	0.28	QV				
3+ 5	0.0554	0.28	QV				
3+10	0.0573	0.28	QV				
3+15	0.0593	0.28	QV				
3+20	0.0612	0.28	QV				
3+25	0.0632	0.29	QV				
3+30	0.0652	0.29	QV				
3+35	0.0672	0.29	QV				
3+40	0.0692	0.29	QV				
3+45	0.0712	0.29	QV				
3+50	0.0732	0.29	QV				
3+55	0.0752	0.29	QV				
4+ 0	0.0773	0.30	QV				
4+ 5	0.0793	0.30	QV				
4+10	0.0814	0.30	QV				
4+15	0.0834	0.30	QV				
4+20	0.0855	0.30	QV				
4+25	0.0876	0.30	QV				
4+30	0.0897	0.30	QV				
4+35	0.0918	0.31	QV				
4+40	0.0939	0.31	QV				
4+45	0.0961	0.31	QV				
4+50	0.0982	0.31	QV				
4+55	0.1004	0.31	QV				
5+ 0	0.1025	0.31	QV				
5+ 5	0.1047	0.32	Q V				
5+10	0.1069	0.32	Q V				
5+15	0.1091	0.32	Q V				
5+20	0.1113	0.32	Q V				
5+25	0.1136	0.32	Q V				
5+30	0.1158	0.33	Q V				
5+35	0.1181	0.33	Q V				
5+40	0.1203	0.33	Q V				
5+45	0.1226	0.33	Q V				
5+50	0.1249	0.33	Q V				
5+55	0.1272	0.33	Q V				
6+ 0	0.1295	0.34	Q V				
6+ 5	0.1318	0.34	Q V				
6+10	0.1342	0.34	Q V				
6+15	0.1366	0.34	Q V				
6+20	0.1389	0.34	Q V				
6+25	0.1413	0.35	Q V				
6+30	0.1437	0.35	Q V				
6+35	0.1461	0.35	Q V				
6+40	0.1486	0.35	Q V				
6+45	0.1510	0.36	Q V				
6+50	0.1535	0.36	Q V				
6+55	0.1560	0.36	Q V				
7+ 0	0.1585	0.36	Q V				
7+ 5	0.1610	0.36	Q V				
7+10	0.1635	0.37	Q V				
7+15	0.1661	0.37	Q V				
7+20	0.1686	0.37	Q V				

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 7+25       0.1712      0.37  Q  V      |          |          |          |
 7+30       0.1738      0.38  Q  V      |          |          |          |
 7+35       0.1764      0.38  Q  V      |          |          |          |
 7+40       0.1791      0.38  Q  V      |          |          |          |
 7+45       0.1817      0.39  Q  V      |          |          |          |
 7+50       0.1844      0.39  Q  V      |          |          |          |
 7+55       0.1871      0.39  Q  V      |          |          |          |
 8+ 0       0.1898      0.39  Q  V      |          |          |          |
 8+ 5       0.1925      0.40  Q  V      |          |          |          |
 8+10       0.1953      0.40  Q  V      |          |          |          |
 8+15       0.1980      0.40  Q  V      |          |          |          |
 8+20       0.2008      0.41  Q  V      |          |          |          |
 8+25       0.2036      0.41  Q  V      |          |          |          |
 8+30       0.2065      0.41  Q   V     |          |          |          |
 8+35       0.2093      0.41  Q   V     |          |          |          |
 8+40       0.2122      0.42  Q   V     |          |          |          |
 8+45       0.2151      0.42  Q   V     |          |          |          |
 8+50       0.2180      0.42  Q   V     |          |          |          |
 8+55       0.2210      0.43  Q   V     |          |          |          |
 9+ 0       0.2240      0.43  Q   V     |          |          |          |
 9+ 5       0.2270      0.44  Q   V     |          |          |          |
 9+10       0.2300      0.44  Q   V     |          |          |          |
 9+15       0.2330      0.44  Q   V     |          |          |          |
 9+20       0.2361      0.45  Q   V     |          |          |          |
 9+25       0.2392      0.45  Q   V     |          |          |          |
 9+30       0.2424      0.45  Q   V     |          |          |          |
 9+35       0.2455      0.46  Q   V     |          |          |          |
 9+40       0.2487      0.46  Q   V     |          |          |          |
 9+45       0.2519      0.47  Q   V     |          |          |          |
 9+50       0.2552      0.47  Q   V     |          |          |          |
 9+55       0.2584      0.48  Q    V    |          |          |          |
10+ 0       0.2617      0.48  Q    V    |          |          |          |
10+ 5       0.2651      0.48  Q    V    |          |          |          |
10+10       0.2684      0.49  Q    V    |          |          |          |
10+15       0.2718      0.49  Q    V    |          |          |          |
10+20       0.2753      0.50  Q    V    |          |          |          |
10+25       0.2788      0.50  Q    V    |          |          |          |
10+30       0.2823      0.51  Q    V    |          |          |          |
10+35       0.2858      0.51  Q    V    |          |          |          |
10+40       0.2894      0.52  Q    V    |          |          |          |
10+45       0.2930      0.53  Q    V    |          |          |          |
10+50       0.2967      0.53  Q    V    |          |          |          |
10+55       0.3004      0.54  Q    V    |          |          |          |
11+ 0       0.3041      0.54  Q    V    |          |          |          |
11+ 5       0.3079      0.55  Q    V    |          |          |          |
11+10       0.3117      0.56  Q     V   |          |          |          |
11+15       0.3156      0.56  Q     V   |          |          |          |
11+20       0.3195      0.57  Q     V   |          |          |          |
11+25       0.3235      0.58  Q     V   |          |          |          |
11+30       0.3275      0.58  Q     V   |          |          |          |
11+35       0.3315      0.59  Q     V   |          |          |          |
11+40       0.3357      0.60  Q     V   |          |          |          |
11+45       0.3398      0.61  Q     V   |          |          |          |
11+50       0.3440      0.61  Q     V   |          |          |          |
11+55       0.3483      0.62  Q     V   |          |          |          |
12+ 0       0.3527      0.63  Q     V   |          |          |          |
12+ 5       0.3570      0.64  Q     V   |          |          |          |
12+10       0.3614      0.63  Q      V  |          |          |          |
12+15       0.3657      0.62  Q      V  |          |          |          |
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12+20       0.3696      0.58  Q      V  |          |          |          |
12+25       0.3734      0.54  Q      V  |          |          |          |
12+30       0.3770      0.53  Q      V  |          |          |          |
12+35       0.3805      0.52  Q      V  |          |          |          |
12+40       0.3841      0.51  Q      V  |          |          |          |
12+45       0.3876      0.51  Q      V  |          |          |          |
12+50       0.3911      0.51  Q      V  |          |          |          |
12+55       0.3946      0.51  Q      V  |          |          |          |
13+ 0       0.3982      0.52  Q      V  |          |          |          |
13+ 5       0.4018      0.52  Q      V  |          |          |          |
13+10       0.4054      0.53  Q      V  |          |          |          |
13+15       0.4091      0.54  Q      V  |          |          |          |
13+20       0.4129      0.54  Q       V |          |          |          |
13+25       0.4167      0.55  Q       V |          |          |          |
13+30       0.4206      0.56  Q       V |          |          |          |
13+35       0.4245      0.57  Q       V |          |          |          |
13+40       0.4286      0.59  Q       V |          |          |          |
13+45       0.4327      0.60  Q       V |          |          |          |
13+50       0.4369      0.61  Q       V |          |          |          |
13+55       0.4413      0.63  Q       V |          |          |          |
14+ 0       0.4457      0.65  Q       V |          |          |          |
14+ 5       0.4503      0.66  Q       V |          |          |          |
14+10       0.4550      0.68  Q       V |          |          |          |
14+15       0.4598      0.70  Q       V |          |          |          |
14+20       0.4648      0.72  Q        V|          |          |          |
14+25       0.4700      0.75  Q        V|          |          |          |
14+30       0.4753      0.77  |Q       V|          |          |          |
14+35       0.4808      0.80  |Q       V|          |          |          |
14+40       0.4865      0.83  |Q       V|          |          |          |
14+45       0.4925      0.87  |Q       V|          |          |          |
14+50       0.4987      0.90  |Q       V|          |          |          |
14+55       0.5052      0.94  |Q       V|          |          |          |
15+ 0       0.5120      0.99  |Q       V|          |          |          |
15+ 5       0.5192      1.04  |Q        V          |          |          |
15+10       0.5267      1.09  |Q        V          |          |          |
15+15       0.5347      1.16  |Q        V          |          |          |
15+20       0.5431      1.23  |Q        V          |          |          |
15+25       0.5523      1.34  |Q        V          |          |          |
15+30       0.5628      1.51  | Q       V          |          |          |
15+35       0.5752      1.81  | Q       |V         |          |          |
15+40       0.5913      2.33  |  Q      |V         |          |          |
15+45       0.6109      2.86  |  Q      |V         |          |          |
15+50       0.6344      3.41  |   Q     | V        |          |          |
15+55       0.6625      4.07  |    Q    | V        |          |          |
16+ 0       0.6972      5.04  |     Q   |  V       |          |          |
16+ 5       0.7465      7.17  |        Q|   V      |          |          |
16+10       0.8227     11.06  |         |   QV     |          |          |
16+15       0.9343     16.20  |         |       V |Q         |          |
16+20       1.0945     23.25  |         |         |V         |Q         |
16+25       1.2318     19.95  |         |         |  V  Q    |          |
16+30       1.3326     14.63  |         |        Q|    V     |          |
16+35       1.4087     11.04  |         |   Q     |      V   |          |
16+40       1.4693      8.81  |         |Q        |       V  |          |
16+45       1.5185      7.15  |        Q|         |        V |          |
16+50       1.5596      5.96  |      Q  |         |         V          |
16+55       1.5946      5.08  |     Q   |         |         |V         |
17+ 0       1.6253      4.46  |    Q    |         |         |V         |
17+ 5       1.6525      3.95  |    Q    |         |         | V        |
17+10       1.6761      3.43  |   Q     |         |         | V        |
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17+15       1.6966      2.98  |  Q      |         |         | V       |
17+20       1.7153      2.72  |  Q      |         |         |  V      |
17+25       1.7322      2.45  |  Q      |         |         |  V      |
17+30       1.7476      2.23  | Q       |         |         |  V      |
17+35       1.7613      1.98  | Q       |         |         |   V     |
17+40       1.7739      1.83  | Q       |         |         |   V     |
17+45       1.7853      1.65  | Q       |         |         |   V     |
17+50       1.7957      1.51  | Q       |         |         |   V     |
17+55       1.8051      1.37  |Q        |         |         |    V    |
18+ 0       1.8135      1.22  |Q        |         |         |    V    |
18+ 5       1.8212      1.12  |Q        |         |         |    V    |
18+10       1.8280      0.99  |Q        |         |         |    V    |
18+15       1.8347      0.97  |Q        |         |         |    V    |
18+20       1.8416      1.01  |Q        |         |         |    V    |
18+25       1.8486      1.02  |Q        |         |         |    V    |
18+30       1.8555      1.00  |Q        |         |         |     V   |
18+35       1.8622      0.97  |Q        |         |         |     V   |
18+40       1.8683      0.89  |Q        |         |         |     V   |
18+45       1.8740      0.82  |Q        |         |         |     V   |
18+50       1.8794      0.78  |Q        |         |         |     V   |
18+55       1.8845      0.74  Q         |         |         |     V   |
19+ 0       1.8887      0.62  Q         |         |         |     V   |
19+ 5       1.8928      0.59  Q         |         |         |     V   |
19+10       1.8968      0.58  Q         |         |         |     V   |
19+15       1.9006      0.56  Q         |         |         |     V   |
19+20       1.9044      0.55  Q         |         |         |      V  |
19+25       1.9081      0.54  Q         |         |         |      V  |
19+30       1.9117      0.53  Q         |         |         |      V  |
19+35       1.9153      0.52  Q         |         |         |      V  |
19+40       1.9188      0.51  Q         |         |         |      V  |
19+45       1.9222      0.50  Q         |         |         |      V  |
19+50       1.9256      0.49  Q         |         |         |      V  |
19+55       1.9289      0.48  Q         |         |         |      V  |
20+ 0       1.9321      0.47  Q         |         |         |      V  |
20+ 5       1.9353      0.46  Q         |         |         |      V  |
20+10       1.9385      0.46  Q         |         |         |      V  |
20+15       1.9416      0.45  Q         |         |         |      V  |
20+20       1.9446      0.44  Q         |         |         |      V  |
20+25       1.9476      0.43  Q         |         |         |      V  |
20+30       1.9505      0.43  Q         |         |         |      V  |
20+35       1.9534      0.42  Q         |         |         |      V  |
20+40       1.9563      0.42  Q         |         |         |       V |
20+45       1.9591      0.41  Q         |         |         |       V |
20+50       1.9619      0.40  Q         |         |         |       V |
20+55       1.9646      0.40  Q         |         |         |       V |
21+ 0       1.9673      0.39  Q         |         |         |       V |
21+ 5       1.9700      0.39  Q         |         |         |       V |
21+10       1.9726      0.38  Q         |         |         |       V |
21+15       1.9752      0.38  Q         |         |         |       V |
21+20       1.9777      0.37  Q         |         |         |       V |
21+25       1.9803      0.37  Q         |         |         |       V |
21+30       1.9827      0.36  Q         |         |         |       V |
21+35       1.9852      0.36  Q         |         |         |       V |
21+40       1.9876      0.35  Q         |         |         |       V |
21+45       1.9900      0.35  Q         |         |         |       V |
21+50       1.9924      0.34  Q         |         |         |       V |
21+55       1.9947      0.34  Q         |         |         |       V |
22+ 0       1.9970      0.33  Q         |         |         |       V |
22+ 5       1.9993      0.33  Q         |         |         |       V |
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   22+10       2.0015      0.33  Q         |          |          |       V |
   22+15       2.0038      0.32  Q         |          |          |       V |
   22+20       2.0060      0.32  Q         |          |          |       V |
   22+25       2.0081      0.32  Q         |          |          |        V|
   22+30       2.0103      0.31  Q         |          |          |        V|
   22+35       2.0124      0.31  Q         |          |          |        V|
   22+40       2.0145      0.31  Q         |          |          |        V|
   22+45       2.0166      0.30  Q         |          |          |        V|
   22+50       2.0187      0.30  Q         |          |          |        V|
   22+55       2.0207      0.30  Q         |          |          |        V|
   23+ 0       2.0228      0.29  Q         |          |          |        V|
   23+ 5       2.0248      0.29  Q         |          |          |        V|
   23+10       2.0268      0.29  Q         |          |          |        V|
   23+15       2.0287      0.29  Q         |          |          |        V|
   23+20       2.0307      0.28  Q         |          |          |        V|
   23+25       2.0326      0.28  Q         |          |          |        V|
   23+30       2.0345      0.28  Q         |          |          |        V|
   23+35       2.0364      0.28  Q         |          |          |        V|
   23+40       2.0383      0.27  Q         |          |          |        V|
   23+45       2.0402      0.27  Q         |          |          |        V|
   23+50       2.0420      0.27  Q         |          |          |        V|
   23+55       2.0438      0.27  Q         |          |          |        V|
   24+ 0       2.0457      0.26  Q         |          |          |        V|
   24+ 5       2.0474      0.26  Q         |          |          |        V|
   24+10       2.0491      0.25  Q         |          |          |        V|
   24+15       2.0506      0.22  Q         |          |          |        V|
   24+20       2.0518      0.17  Q         |          |          |        V|
   24+25       2.0527      0.13  Q         |          |          |        V|
   24+30       2.0534      0.10  Q         |          |          |        V|
   24+35       2.0540      0.08  Q         |          |          |        V|
   24+40       2.0545      0.07  Q         |          |          |        V|
   24+45       2.0549      0.06  Q         |          |          |        V|
   24+50       2.0552      0.05  Q         |          |          |        V|
   24+55       2.0556      0.04  Q         |          |          |        V|
   25+ 0       2.0558      0.04  Q         |          |          |        V|
   25+ 5       2.0560      0.03  Q         |          |          |        V|
   25+10       2.0562      0.03  Q         |          |          |        V|
   25+15       2.0564      0.03  Q         |          |          |        V|
   25+20       2.0566      0.02  Q         |          |          |        V|
   25+25       2.0567      0.02  Q         |          |          |        V|
   25+30       2.0568      0.02  Q         |          |          |        V|
   25+35       2.0569      0.01  Q         |          |          |        V|
   25+40       2.0570      0.01  Q         |          |          |        V|
   25+45       2.0571      0.01  Q         |          |          |        V|
   25+50       2.0571      0.01  Q         |          |          |        V|
   25+55       2.0572      0.01  Q         |          |          |        V|
   26+ 0       2.0572      0.01  Q         |          |          |        V|
   26+ 5       2.0573      0.01  Q         |          |          |        V|
   26+10       2.0573      0.00  Q         |          |          |        V|
   26+15       2.0573      0.00  Q         |          |          |        V|
   26+20       2.0574      0.00  Q         |          |          |        V|
   26+25       2.0574      0.00  Q         |          |          |        V|
   26+30       2.0574      0.00  Q         |          |          |        V|
   26+35       2.0574      0.00  Q         |          |          |        V|
   26+40       2.0574      0.00  Q         |          |          |        V|
   26+45       2.0574      0.00  Q         |          |          |        V|
   26+50       2.0574      0.00  Q         |          |          |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0

Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 38
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DAT: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
12.30	1	1.39
Rainfall data for year 100		
12.30	6	1.85
Rainfall data for year 100		
12.30	24	2.64

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	12.30	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
12.30	1.000	84.0	96.4	0.37	0.848

Area-averaged catchment yield fraction, Y = 0.848
Area-averaged low loss fraction, Yb = 0.152
User entry of time of concentration = 0.520 (hours)
++
Watershed area = 12.30(Ac.)
Catchment Lag time = 0.416 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.0321
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.152 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.656(In)
Specified peak 6-hour rainfall = 1.850(In)
Specified peak 24-hour rainfall = 2.640(In)

Rainfall depth area reduction factors:
Using a total area of 12.30(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.128(In)
1-hour factor = 0.999 Adjusted rainfall = 1.389(In)
3-hour factor = 1.000 Adjusted rainfall = 1.656(In)
6-hour factor = 1.000 Adjusted rainfall = 1.850(In)
24-hour factor = 1.000 Adjusted rainfall = 2.640(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 148.75 (CFS))	
1	0.995	1.480
2	4.516	5.238
3	11.300	10.092
4	26.240	22.223
5	43.399	25.525
6	55.091	17.392
7	62.875	11.579
8	68.500	8.369
9	73.033	6.742
10	76.661	5.397
11	79.664	4.468
12	82.167	3.722
13	84.311	3.189
14	86.250	2.884

15	87.937	2.510
16	89.330	2.072
17	90.508	1.752
18	91.609	1.638
19	92.585	1.452
20	93.487	1.342
21	94.262	1.153
22	94.943	1.013
23	95.601	0.979
24	96.140	0.800
25	96.660	0.775
26	97.095	0.646
27	97.455	0.536
28	97.792	0.501
29	98.009	0.323
30	98.210	0.298
31	98.432	0.331
32	98.672	0.358
33	98.913	0.358
34	99.153	0.358
35	99.393	0.357
36	99.570	0.263
37	99.695	0.186
38	99.820	0.186
39	100.000	0.093

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6592	0.6592
2	0.8116	0.1524
3	0.9165	0.1050
4	0.9991	0.0826
5	1.0683	0.0692
6	1.1284	0.0601
7	1.1818	0.0534
8	1.2301	0.0483
9	1.2743	0.0442
10	1.3153	0.0409
11	1.3534	0.0381
12	1.3892	0.0358
13	1.4071	0.0179
14	1.4239	0.0168
15	1.4397	0.0158
16	1.4546	0.0149
17	1.4688	0.0142
18	1.4823	0.0135
19	1.4952	0.0129
20	1.5075	0.0123
21	1.5193	0.0118
22	1.5307	0.0114
23	1.5416	0.0109
24	1.5521	0.0105
25	1.5623	0.0102
26	1.5722	0.0098
27	1.5817	0.0095
28	1.5909	0.0092
29	1.5999	0.0090
30	1.6086	0.0087
31	1.6170	0.0085

32	1.6253	0.0082
33	1.6333	0.0080
34	1.6411	0.0078
35	1.6487	0.0076
36	1.6562	0.0074
37	1.6634	0.0073
38	1.6705	0.0071
39	1.6775	0.0069
40	1.6843	0.0068
41	1.6909	0.0067
42	1.6974	0.0065
43	1.7038	0.0064
44	1.7101	0.0063
45	1.7162	0.0061
46	1.7223	0.0060
47	1.7282	0.0059
48	1.7340	0.0058
49	1.7397	0.0057
50	1.7453	0.0056
51	1.7509	0.0055
52	1.7563	0.0054
53	1.7616	0.0053
54	1.7669	0.0053
55	1.7721	0.0052
56	1.7772	0.0051
57	1.7822	0.0050
58	1.7872	0.0050
59	1.7921	0.0049
60	1.7969	0.0048
61	1.8016	0.0047
62	1.8063	0.0047
63	1.8109	0.0046
64	1.8155	0.0046
65	1.8200	0.0045
66	1.8244	0.0044
67	1.8288	0.0044
68	1.8331	0.0043
69	1.8374	0.0043
70	1.8416	0.0042
71	1.8458	0.0042
72	1.8499	0.0041
73	1.8565	0.0066
74	1.8630	0.0065
75	1.8694	0.0064
76	1.8758	0.0064
77	1.8821	0.0063
78	1.8883	0.0062
79	1.8945	0.0062
80	1.9006	0.0061
81	1.9067	0.0061
82	1.9127	0.0060
83	1.9186	0.0060
84	1.9245	0.0059
85	1.9304	0.0059
86	1.9362	0.0058
87	1.9419	0.0058
88	1.9477	0.0057
89	1.9533	0.0057
90	1.9589	0.0056

91	1.9645	0.0056
92	1.9700	0.0055
93	1.9755	0.0055
94	1.9809	0.0054
95	1.9863	0.0054
96	1.9916	0.0053
97	1.9969	0.0053
98	2.0022	0.0053
99	2.0074	0.0052
100	2.0126	0.0052
101	2.0177	0.0051
102	2.0228	0.0051
103	2.0279	0.0051
104	2.0329	0.0050
105	2.0379	0.0050
106	2.0429	0.0050
107	2.0478	0.0049
108	2.0527	0.0049
109	2.0576	0.0049
110	2.0624	0.0048
111	2.0672	0.0048
112	2.0719	0.0048
113	2.0767	0.0047
114	2.0814	0.0047
115	2.0860	0.0047
116	2.0907	0.0046
117	2.0953	0.0046
118	2.0999	0.0046
119	2.1044	0.0046
120	2.1089	0.0045
121	2.1134	0.0045
122	2.1179	0.0045
123	2.1223	0.0044
124	2.1268	0.0044
125	2.1311	0.0044
126	2.1355	0.0044
127	2.1398	0.0043
128	2.1441	0.0043
129	2.1484	0.0043
130	2.1527	0.0043
131	2.1569	0.0042
132	2.1611	0.0042
133	2.1653	0.0042
134	2.1695	0.0042
135	2.1736	0.0041
136	2.1778	0.0041
137	2.1818	0.0041
138	2.1859	0.0041
139	2.1900	0.0041
140	2.1940	0.0040
141	2.1980	0.0040
142	2.2020	0.0040
143	2.2060	0.0040
144	2.2099	0.0039
145	2.2138	0.0039
146	2.2178	0.0039
147	2.2216	0.0039
148	2.2255	0.0039
149	2.2294	0.0038

150	2.2332	0.0038
151	2.2370	0.0038
152	2.2408	0.0038
153	2.2446	0.0038
154	2.2483	0.0038
155	2.2520	0.0037
156	2.2558	0.0037
157	2.2595	0.0037
158	2.2631	0.0037
159	2.2668	0.0037
160	2.2705	0.0036
161	2.2741	0.0036
162	2.2777	0.0036
163	2.2813	0.0036
164	2.2849	0.0036
165	2.2885	0.0036
166	2.2920	0.0035
167	2.2955	0.0035
168	2.2991	0.0035
169	2.3026	0.0035
170	2.3060	0.0035
171	2.3095	0.0035
172	2.3130	0.0035
173	2.3164	0.0034
174	2.3198	0.0034
175	2.3233	0.0034
176	2.3267	0.0034
177	2.3300	0.0034
178	2.3334	0.0034
179	2.3368	0.0034
180	2.3401	0.0033
181	2.3434	0.0033
182	2.3467	0.0033
183	2.3501	0.0033
184	2.3533	0.0033
185	2.3566	0.0033
186	2.3599	0.0033
187	2.3631	0.0032
188	2.3664	0.0032
189	2.3696	0.0032
190	2.3728	0.0032
191	2.3760	0.0032
192	2.3792	0.0032
193	2.3823	0.0032
194	2.3855	0.0032
195	2.3887	0.0031
196	2.3918	0.0031
197	2.3949	0.0031
198	2.3980	0.0031
199	2.4011	0.0031
200	2.4042	0.0031
201	2.4073	0.0031
202	2.4104	0.0031
203	2.4134	0.0031
204	2.4165	0.0030
205	2.4195	0.0030
206	2.4225	0.0030
207	2.4255	0.0030
208	2.4285	0.0030

209	2.4315	0.0030
210	2.4345	0.0030
211	2.4375	0.0030
212	2.4404	0.0030
213	2.4434	0.0029
214	2.4463	0.0029
215	2.4492	0.0029
216	2.4522	0.0029
217	2.4551	0.0029
218	2.4580	0.0029
219	2.4608	0.0029
220	2.4637	0.0029
221	2.4666	0.0029
222	2.4694	0.0029
223	2.4723	0.0028
224	2.4751	0.0028
225	2.4780	0.0028
226	2.4808	0.0028
227	2.4836	0.0028
228	2.4864	0.0028
229	2.4892	0.0028
230	2.4920	0.0028
231	2.4948	0.0028
232	2.4975	0.0028
233	2.5003	0.0028
234	2.5030	0.0027
235	2.5058	0.0027
236	2.5085	0.0027
237	2.5112	0.0027
238	2.5139	0.0027
239	2.5166	0.0027
240	2.5193	0.0027
241	2.5220	0.0027
242	2.5247	0.0027
243	2.5274	0.0027
244	2.5300	0.0027
245	2.5327	0.0027
246	2.5353	0.0026
247	2.5380	0.0026
248	2.5406	0.0026
249	2.5432	0.0026
250	2.5459	0.0026
251	2.5485	0.0026
252	2.5511	0.0026
253	2.5537	0.0026
254	2.5562	0.0026
255	2.5588	0.0026
256	2.5614	0.0026
257	2.5640	0.0026
258	2.5665	0.0026
259	2.5691	0.0025
260	2.5716	0.0025
261	2.5741	0.0025
262	2.5767	0.0025
263	2.5792	0.0025
264	2.5817	0.0025
265	2.5842	0.0025
266	2.5867	0.0025
267	2.5892	0.0025

268	2.5917	0.0025
269	2.5941	0.0025
270	2.5966	0.0025
271	2.5991	0.0025
272	2.6015	0.0025
273	2.6040	0.0025
274	2.6064	0.0024
275	2.6089	0.0024
276	2.6113	0.0024
277	2.6137	0.0024
278	2.6161	0.0024
279	2.6185	0.0024
280	2.6210	0.0024
281	2.6233	0.0024
282	2.6257	0.0024
283	2.6281	0.0024
284	2.6305	0.0024
285	2.6329	0.0024
286	2.6352	0.0024
287	2.6376	0.0024
288	2.6400	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0020
2	0.0024	0.0004	0.0020
3	0.0024	0.0004	0.0020
4	0.0024	0.0004	0.0020
5	0.0024	0.0004	0.0020
6	0.0024	0.0004	0.0020
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0021
9	0.0024	0.0004	0.0021
10	0.0024	0.0004	0.0021
11	0.0025	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0021
14	0.0025	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0021
17	0.0025	0.0004	0.0021
18	0.0025	0.0004	0.0021
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0026	0.0004	0.0022
28	0.0026	0.0004	0.0022
29	0.0026	0.0004	0.0022
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0027	0.0004	0.0023
33	0.0027	0.0004	0.0023

34	0.0027	0.0004	0.0023
35	0.0027	0.0004	0.0023
36	0.0027	0.0004	0.0023
37	0.0027	0.0004	0.0023
38	0.0028	0.0004	0.0023
39	0.0028	0.0004	0.0024
40	0.0028	0.0004	0.0024
41	0.0028	0.0004	0.0024
42	0.0028	0.0004	0.0024
43	0.0028	0.0004	0.0024
44	0.0028	0.0004	0.0024
45	0.0029	0.0004	0.0024
46	0.0029	0.0004	0.0024
47	0.0029	0.0004	0.0024
48	0.0029	0.0004	0.0025
49	0.0029	0.0004	0.0025
50	0.0029	0.0004	0.0025
51	0.0029	0.0004	0.0025
52	0.0030	0.0004	0.0025
53	0.0030	0.0005	0.0025
54	0.0030	0.0005	0.0025
55	0.0030	0.0005	0.0026
56	0.0030	0.0005	0.0026
57	0.0030	0.0005	0.0026
58	0.0031	0.0005	0.0026
59	0.0031	0.0005	0.0026
60	0.0031	0.0005	0.0026
61	0.0031	0.0005	0.0026
62	0.0031	0.0005	0.0027
63	0.0031	0.0005	0.0027
64	0.0032	0.0005	0.0027
65	0.0032	0.0005	0.0027
66	0.0032	0.0005	0.0027
67	0.0032	0.0005	0.0027
68	0.0032	0.0005	0.0027
69	0.0033	0.0005	0.0028
70	0.0033	0.0005	0.0028
71	0.0033	0.0005	0.0028
72	0.0033	0.0005	0.0028
73	0.0033	0.0005	0.0028
74	0.0034	0.0005	0.0028
75	0.0034	0.0005	0.0029
76	0.0034	0.0005	0.0029
77	0.0034	0.0005	0.0029
78	0.0034	0.0005	0.0029
79	0.0035	0.0005	0.0029
80	0.0035	0.0005	0.0030
81	0.0035	0.0005	0.0030
82	0.0035	0.0005	0.0030
83	0.0036	0.0005	0.0030
84	0.0036	0.0005	0.0030
85	0.0036	0.0005	0.0031
86	0.0036	0.0006	0.0031
87	0.0037	0.0006	0.0031
88	0.0037	0.0006	0.0031
89	0.0037	0.0006	0.0032
90	0.0037	0.0006	0.0032
91	0.0038	0.0006	0.0032
92	0.0038	0.0006	0.0032

93	0.0038	0.0006	0.0032
94	0.0038	0.0006	0.0033
95	0.0039	0.0006	0.0033
96	0.0039	0.0006	0.0033
97	0.0039	0.0006	0.0033
98	0.0040	0.0006	0.0034
99	0.0040	0.0006	0.0034
100	0.0040	0.0006	0.0034
101	0.0041	0.0006	0.0035
102	0.0041	0.0006	0.0035
103	0.0041	0.0006	0.0035
104	0.0042	0.0006	0.0035
105	0.0042	0.0006	0.0036
106	0.0042	0.0006	0.0036
107	0.0043	0.0007	0.0036
108	0.0043	0.0007	0.0037
109	0.0044	0.0007	0.0037
110	0.0044	0.0007	0.0037
111	0.0044	0.0007	0.0038
112	0.0045	0.0007	0.0038
113	0.0045	0.0007	0.0038
114	0.0046	0.0007	0.0039
115	0.0046	0.0007	0.0039
116	0.0046	0.0007	0.0039
117	0.0047	0.0007	0.0040
118	0.0047	0.0007	0.0040
119	0.0048	0.0007	0.0041
120	0.0048	0.0007	0.0041
121	0.0049	0.0007	0.0041
122	0.0049	0.0007	0.0042
123	0.0050	0.0008	0.0042
124	0.0050	0.0008	0.0043
125	0.0051	0.0008	0.0043
126	0.0051	0.0008	0.0044
127	0.0052	0.0008	0.0044
128	0.0053	0.0008	0.0045
129	0.0053	0.0008	0.0045
130	0.0054	0.0008	0.0046
131	0.0055	0.0008	0.0046
132	0.0055	0.0008	0.0047
133	0.0056	0.0009	0.0048
134	0.0057	0.0009	0.0048
135	0.0058	0.0009	0.0049
136	0.0058	0.0009	0.0049
137	0.0059	0.0009	0.0050
138	0.0060	0.0009	0.0051
139	0.0061	0.0009	0.0051
140	0.0061	0.0009	0.0052
141	0.0062	0.0009	0.0053
142	0.0063	0.0010	0.0053
143	0.0064	0.0010	0.0055
144	0.0065	0.0010	0.0055
145	0.0041	0.0006	0.0035
146	0.0042	0.0006	0.0035
147	0.0043	0.0006	0.0036
148	0.0043	0.0007	0.0037
149	0.0044	0.0007	0.0038
150	0.0045	0.0007	0.0038
151	0.0046	0.0007	0.0039

152	0.0047	0.0007	0.0040
153	0.0048	0.0007	0.0041
154	0.0049	0.0007	0.0041
155	0.0050	0.0008	0.0043
156	0.0051	0.0008	0.0043
157	0.0053	0.0008	0.0045
158	0.0053	0.0008	0.0045
159	0.0055	0.0008	0.0047
160	0.0056	0.0009	0.0048
161	0.0058	0.0009	0.0049
162	0.0059	0.0009	0.0050
163	0.0061	0.0009	0.0052
164	0.0063	0.0010	0.0053
165	0.0065	0.0010	0.0055
166	0.0067	0.0010	0.0056
167	0.0069	0.0011	0.0059
168	0.0071	0.0011	0.0060
169	0.0074	0.0011	0.0063
170	0.0076	0.0012	0.0065
171	0.0080	0.0012	0.0068
172	0.0082	0.0012	0.0070
173	0.0087	0.0013	0.0074
174	0.0090	0.0014	0.0076
175	0.0095	0.0014	0.0081
176	0.0098	0.0015	0.0083
177	0.0105	0.0016	0.0089
178	0.0109	0.0017	0.0093
179	0.0118	0.0018	0.0100
180	0.0123	0.0019	0.0105
181	0.0135	0.0020	0.0114
182	0.0142	0.0022	0.0120
183	0.0158	0.0024	0.0134
184	0.0168	0.0025	0.0142
185	0.0358	0.0054	0.0304
186	0.0381	0.0058	0.0324
187	0.0442	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0541
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6592	0.0059	0.6533
194	0.0826	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0179	0.0027	0.0152
198	0.0149	0.0023	0.0127
199	0.0129	0.0020	0.0109
200	0.0114	0.0017	0.0096
201	0.0102	0.0015	0.0086
202	0.0092	0.0014	0.0078
203	0.0085	0.0013	0.0072
204	0.0078	0.0012	0.0066
205	0.0073	0.0011	0.0062
206	0.0068	0.0010	0.0058
207	0.0064	0.0010	0.0054
208	0.0060	0.0009	0.0051
209	0.0057	0.0009	0.0048
210	0.0054	0.0008	0.0046

211	0.0052	0.0008	0.0044
212	0.0050	0.0008	0.0042
213	0.0047	0.0007	0.0040
214	0.0046	0.0007	0.0039
215	0.0044	0.0007	0.0037
216	0.0042	0.0006	0.0036
217	0.0066	0.0010	0.0056
218	0.0064	0.0010	0.0054
219	0.0062	0.0009	0.0052
220	0.0060	0.0009	0.0051
221	0.0059	0.0009	0.0050
222	0.0057	0.0009	0.0048
223	0.0056	0.0008	0.0047
224	0.0054	0.0008	0.0046
225	0.0053	0.0008	0.0045
226	0.0052	0.0008	0.0044
227	0.0051	0.0008	0.0043
228	0.0050	0.0008	0.0042
229	0.0049	0.0007	0.0041
230	0.0048	0.0007	0.0040
231	0.0047	0.0007	0.0040
232	0.0046	0.0007	0.0039
233	0.0045	0.0007	0.0038
234	0.0044	0.0007	0.0037
235	0.0043	0.0007	0.0037
236	0.0043	0.0006	0.0036
237	0.0042	0.0006	0.0036
238	0.0041	0.0006	0.0035
239	0.0041	0.0006	0.0034
240	0.0040	0.0006	0.0034
241	0.0039	0.0006	0.0033
242	0.0039	0.0006	0.0033
243	0.0038	0.0006	0.0032
244	0.0038	0.0006	0.0032
245	0.0037	0.0006	0.0031
246	0.0036	0.0006	0.0031
247	0.0036	0.0005	0.0031
248	0.0035	0.0005	0.0030
249	0.0035	0.0005	0.0030
250	0.0035	0.0005	0.0029
251	0.0034	0.0005	0.0029
252	0.0034	0.0005	0.0029
253	0.0033	0.0005	0.0028
254	0.0033	0.0005	0.0028
255	0.0032	0.0005	0.0028
256	0.0032	0.0005	0.0027
257	0.0032	0.0005	0.0027
258	0.0031	0.0005	0.0027
259	0.0031	0.0005	0.0026
260	0.0031	0.0005	0.0026
261	0.0030	0.0005	0.0026
262	0.0030	0.0005	0.0025
263	0.0030	0.0005	0.0025
264	0.0029	0.0004	0.0025
265	0.0029	0.0004	0.0025
266	0.0029	0.0004	0.0024
267	0.0028	0.0004	0.0024
268	0.0028	0.0004	0.0024
269	0.0028	0.0004	0.0024

270	0.0028	0.0004	0.0023
271	0.0027	0.0004	0.0023
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0023
274	0.0027	0.0004	0.0023
275	0.0026	0.0004	0.0022
276	0.0026	0.0004	0.0022
277	0.0026	0.0004	0.0022
278	0.0026	0.0004	0.0022
279	0.0025	0.0004	0.0022
280	0.0025	0.0004	0.0021
281	0.0025	0.0004	0.0021
282	0.0025	0.0004	0.0021
283	0.0025	0.0004	0.0021
284	0.0024	0.0004	0.0021
285	0.0024	0.0004	0.0021
286	0.0024	0.0004	0.0020
287	0.0024	0.0004	0.0020
288	0.0024	0.0004	0.0020

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.38(In)
Peak flow rate in flood hydrograph = 24.50(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0003	0.03	Q	|	|	|	|
0+20	0.0009	0.08	Q	|	|	|	|
0+25	0.0018	0.13	Q	|	|	|	|
0+30	0.0029	0.16	Q	|	|	|	|
0+35	0.0042	0.19	Q	|	|	|	|
0+40	0.0056	0.21	Q	|	|	|	|
0+45	0.0071	0.22	Q	|	|	|	|
0+50	0.0087	0.23	Q	|	|	|	|
0+55	0.0104	0.24	Q	|	|	|	|
1+ 0	0.0121	0.25	Q	|	|	|	|
1+ 5	0.0139	0.26	Q	|	|	|	|
1+10	0.0157	0.26	Q	|	|	|	|
1+15	0.0176	0.27	Q	|	|	|	|
1+20	0.0195	0.28	Q	|	|	|	|
1+25	0.0214	0.28	Q	|	|	|	|
1+30	0.0234	0.28	Q	|	|	|	|
1+35	0.0253	0.29	Q	|	|	|	|
1+40	0.0274	0.29	Q	|	|	|	|
1+45	0.0294	0.30	Q	|	|	|	|
1+50	0.0315	0.30	Q	|	|	|	|
1+55	0.0335	0.30	Q	|	|	|	|
2+ 0	0.0356	0.31	Q	|	|	|	|
2+ 5	0.0378	0.31	Q	|	|	|	|

2+10	0.0399	0.31	Q	|	|	|	|
2+15	0.0421	0.31	Q	|	|	|	|
2+20	0.0442	0.32	Q	|	|	|	|
2+25	0.0464	0.32	Q	|	|	|	|
2+30	0.0486	0.32	Q	|	|	|	|
2+35	0.0508	0.32	Q	|	|	|	|
2+40	0.0531	0.32	Q	|	|	|	|
2+45	0.0553	0.33	Q	|	|	|	|
2+50	0.0576	0.33	Q	|	|	|	|
2+55	0.0598	0.33	Q	|	|	|	|
3+ 0	0.0621	0.33	QV	|	|	|	|
3+ 5	0.0644	0.33	QV	|	|	|	|
3+10	0.0667	0.34	QV	|	|	|	|
3+15	0.0691	0.34	QV	|	|	|	|
3+20	0.0714	0.34	QV	|	|	|	|
3+25	0.0738	0.34	QV	|	|	|	|
3+30	0.0761	0.34	QV	|	|	|	|
3+35	0.0785	0.34	QV	|	|	|	|
3+40	0.0809	0.35	QV	|	|	|	|
3+45	0.0833	0.35	QV	|	|	|	|
3+50	0.0857	0.35	QV	|	|	|	|
3+55	0.0881	0.35	QV	|	|	|	|
4+ 0	0.0905	0.35	QV	|	|	|	|
4+ 5	0.0930	0.35	QV	|	|	|	|
4+10	0.0954	0.36	QV	|	|	|	|
4+15	0.0979	0.36	QV	|	|	|	|
4+20	0.1003	0.36	QV	|	|	|	|
4+25	0.1028	0.36	QV	|	|	|	|
4+30	0.1053	0.36	QV	|	|	|	|
4+35	0.1079	0.37	QV	|	|	|	|
4+40	0.1104	0.37	QV	|	|	|	|
4+45	0.1129	0.37	QV	|	|	|	|
4+50	0.1155	0.37	QV	|	|	|	|
4+55	0.1180	0.37	QV	|	|	|	|
5+ 0	0.1206	0.37	QV	|	|	|	|
5+ 5	0.1232	0.38	Q V	|	|	|	|
5+10	0.1258	0.38	Q V	|	|	|	|
5+15	0.1285	0.38	Q V	|	|	|	|
5+20	0.1311	0.38	Q V	|	|	|	|
5+25	0.1337	0.39	Q V	|	|	|	|
5+30	0.1364	0.39	Q V	|	|	|	|
5+35	0.1391	0.39	Q V	|	|	|	|
5+40	0.1418	0.39	Q V	|	|	|	|
5+45	0.1445	0.39	Q V	|	|	|	|
5+50	0.1472	0.40	Q V	|	|	|	|
5+55	0.1500	0.40	Q V	|	|	|	|
6+ 0	0.1527	0.40	Q V	|	|	|	|
6+ 5	0.1555	0.40	Q V	|	|	|	|
6+10	0.1583	0.41	Q V	|	|	|	|
6+15	0.1611	0.41	Q V	|	|	|	|
6+20	0.1639	0.41	Q V	|	|	|	|
6+25	0.1668	0.41	Q V	|	|	|	|
6+30	0.1696	0.42	Q V	|	|	|	|
6+35	0.1725	0.42	Q V	|	|	|	|
6+40	0.1754	0.42	Q V	|	|	|	|
6+45	0.1783	0.42	Q V	|	|	|	|
6+50	0.1813	0.43	Q V	|	|	|	|
6+55	0.1842	0.43	Q V	|	|	|	|
7+ 0	0.1872	0.43	Q V	|	|	|	|

7+ 5	0.1902	0.43	Q	V				
7+10	0.1932	0.44	Q	V				
7+15	0.1962	0.44	Q	V				
7+20	0.1993	0.44	Q	V				
7+25	0.2023	0.45	Q	V				
7+30	0.2054	0.45	Q	V				
7+35	0.2085	0.45	Q	V				
7+40	0.2117	0.45	Q	V				
7+45	0.2148	0.46	Q	V				
7+50	0.2180	0.46	Q	V				
7+55	0.2212	0.46	Q	V				
8+ 0	0.2244	0.47	Q	V				
8+ 5	0.2277	0.47	Q	V				
8+10	0.2309	0.47	Q	V				
8+15	0.2342	0.48	Q	V				
8+20	0.2375	0.48	Q	V				
8+25	0.2409	0.49	Q	V				
8+30	0.2443	0.49	Q	V				
8+35	0.2477	0.49	Q	V				
8+40	0.2511	0.50	Q	V				
8+45	0.2545	0.50	Q	V				
8+50	0.2580	0.50	Q	V				
8+55	0.2615	0.51	Q	V				
9+ 0	0.2650	0.51	Q	V				
9+ 5	0.2686	0.52	Q	V				
9+10	0.2722	0.52	Q	V				
9+15	0.2758	0.53	Q	V				
9+20	0.2794	0.53	Q	V				
9+25	0.2831	0.53	Q	V				
9+30	0.2868	0.54	Q	V				
9+35	0.2906	0.54	Q	V				
9+40	0.2944	0.55	Q	V				
9+45	0.2982	0.55	Q	V				
9+50	0.3020	0.56	Q	V				
9+55	0.3059	0.56	Q	V				
10+ 0	0.3098	0.57	Q	V				
10+ 5	0.3138	0.57	Q	V				
10+10	0.3178	0.58	Q	V				
10+15	0.3218	0.59	Q	V				
10+20	0.3259	0.59	Q	V				
10+25	0.3300	0.60	Q	V				
10+30	0.3342	0.60	Q	V				
10+35	0.3384	0.61	Q	V				
10+40	0.3426	0.62	Q	V				
10+45	0.3469	0.62	Q	V				
10+50	0.3512	0.63	Q	V				
10+55	0.3556	0.64	Q	V				
11+ 0	0.3600	0.64	Q	V				
11+ 5	0.3645	0.65	Q	V				
11+10	0.3690	0.66	Q	V				
11+15	0.3736	0.67	Q	V				
11+20	0.3783	0.67	Q	V				
11+25	0.3829	0.68	Q	V				
11+30	0.3877	0.69	Q	V				
11+35	0.3925	0.70	Q	V				
11+40	0.3974	0.71	Q	V				
11+45	0.4023	0.72	Q	V				
11+50	0.4073	0.72	Q	V				
11+55	0.4123	0.73	Q	V				

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12+ 0       0.4175      0.74  Q     V   |          |          |          |
12+ 5       0.4226      0.75  |Q    V   |          |          |          |
12+10       0.4278      0.75  |Q     V  |          |          |          |
12+15       0.4329      0.74  Q      V  |          |          |          |
12+20       0.4377      0.70  Q      V  |          |          |          |
12+25       0.4423      0.66  Q      V  |          |          |          |
12+30       0.4467      0.63  Q      V  |          |          |          |
12+35       0.4509      0.62  Q      V  |          |          |          |
12+40       0.4551      0.61  Q      V  |          |          |          |
12+45       0.4593      0.61  Q      V  |          |          |          |
12+50       0.4635      0.61  Q      V  |          |          |          |
12+55       0.4677      0.61  Q      V  |          |          |          |
13+ 0       0.4719      0.61  Q      V  |          |          |          |
13+ 5       0.4762      0.62  Q      V  |          |          |          |
13+10       0.4805      0.62  Q      V  |          |          |          |
13+15       0.4848      0.63  Q      V  |          |          |          |
13+20       0.4892      0.64  Q       V |          |          |          |
13+25       0.4937      0.65  Q       V |          |          |          |
13+30       0.4983      0.66  Q       V |          |          |          |
13+35       0.5029      0.67  Q       V |          |          |          |
13+40       0.5076      0.69  Q       V |          |          |          |
13+45       0.5124      0.70  Q       V |          |          |          |
13+50       0.5174      0.72  Q       V |          |          |          |
13+55       0.5224      0.73  Q       V |          |          |          |
14+ 0       0.5276      0.75  |Q      V |          |          |          |
14+ 5       0.5329      0.77  |Q      V |          |          |          |
14+10       0.5384      0.79  |Q      V |          |          |          |
14+15       0.5440      0.81  |Q      V |          |          |          |
14+20       0.5498      0.84  |Q       V|          |          |          |
14+25       0.5557      0.87  |Q       V|          |          |          |
14+30       0.5619      0.90  |Q       V|          |          |          |
14+35       0.5683      0.93  |Q       V|          |          |          |
14+40       0.5749      0.96  |Q       V|          |          |          |
14+45       0.5818      1.00  |Q       V|          |          |          |
14+50       0.5890      1.04  |Q       V|          |          |          |
14+55       0.5964      1.08  |Q       V|          |          |          |
15+ 0       0.6042      1.13  |Q       V|          |          |          |
15+ 5       0.6124      1.19  |Q        V          |          |          |
15+10       0.6210      1.25  |Q        V          |          |          |
15+15       0.6301      1.32  |Q        V          |          |          |
15+20       0.6398      1.40  |Q        V          |          |          |
15+25       0.6502      1.52  | Q       V          |          |          |
15+30       0.6619      1.70  | Q       V          |          |          |
15+35       0.6756      1.98  | Q       |V         |          |          |
15+40       0.6926      2.47  |  Q      |V         |          |          |
15+45       0.7138      3.08  |   Q     |V         |          |          |
15+50       0.7393      3.70  |   Q     | V        |          |          |
15+55       0.7698      4.42  |    Q    | V        |          |          |
16+ 0       0.8071      5.43  |      Q  |  V       |          |          |
16+ 5       0.8593      7.58  |         Q   V      |          |          |
16+10       0.9372     11.31  |         |    Q     |          |          |
16+15       1.0460     15.80  |         |      V   |Q         |          |
16+20       1.2062     23.25  |         |        V |          |Q         |
16+25       1.3749     24.50  |         |          | V        | Q        |
16+30       1.5043     18.79  |         |          |   VQ     |          |
16+35       1.6023     14.23  |         |       Q  |     V    |          |
16+40       1.6792     11.16  |         |   Q      |      V   |          |
16+45       1.7423      9.17  |         | Q        |       V  |          |
16+50       1.7949      7.63  |         Q          |        V |          |
```

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16+55       1.8397      6.52  |       Q |          |          V          |
17+ 0       1.8786      5.64  |      Q  |          |          V          |
17+ 5       1.9128      4.97  |     Q   |          |          |V         |
17+10       1.9437      4.48  |    Q    |          |          |V         |
17+15       1.9711      3.99  |    Q    |          |          | V        |
17+20       1.9953      3.50  |   Q     |          |          | V        |
17+25       2.0168      3.13  |   Q     |          |          |  V       |
17+30       2.0367      2.89  |  Q      |          |          |  V       |
17+35       2.0548      2.63  |  Q      |          |          |  V       |
17+40       2.0715      2.43  |  Q      |          |          |   V      |
17+45       2.0867      2.20  | Q       |          |          |   V      |
17+50       2.1005      2.01  | Q       |          |          |   V      |
17+55       2.1134      1.88  | Q       |          |          |   V      |
18+ 0       2.1251      1.69  | Q       |          |          |   V      |
18+ 5       2.1360      1.59  | Q       |          |          |    V     |
18+10       2.1460      1.45  |Q        |          |          |    V     |
18+15       2.1552      1.33  |Q        |          |          |    V     |
18+20       2.1640      1.29  |Q        |          |          |    V     |
18+25       2.1722      1.19  |Q        |          |          |    V     |
18+30       2.1802      1.16  |Q        |          |          |    V     |
18+35       2.1883      1.17  |Q        |          |          |    V     |
18+40       2.1963      1.17  |Q        |          |          |     V    |
18+45       2.2042      1.14  |Q        |          |          |     V    |
18+50       2.2119      1.11  |Q        |          |          |     V    |
18+55       2.2193      1.08  |Q        |          |          |     V    |
19+ 0       2.2260      0.98  |Q        |          |          |     V    |
19+ 5       2.2322      0.90  |Q        |          |          |     V    |
19+10       2.2381      0.86  |Q        |          |          |     V    |
19+15       2.2434      0.77  |Q        |          |          |     V    |
19+20       2.2481      0.69  Q         |          |          |     V    |
19+25       2.2527      0.66  Q         |          |          |      V   |
19+30       2.2571      0.64  Q         |          |          |      V   |
19+35       2.2615      0.63  Q         |          |          |      V   |
19+40       2.2657      0.62  Q         |          |          |      V   |
19+45       2.2699      0.60  Q         |          |          |      V   |
19+50       2.2739      0.59  Q         |          |          |      V   |
19+55       2.2780      0.58  Q         |          |          |      V   |
20+ 0       2.2819      0.57  Q         |          |          |      V   |
20+ 5       2.2858      0.56  Q         |          |          |      V   |
20+10       2.2896      0.55  Q         |          |          |      V   |
20+15       2.2933      0.54  Q         |          |          |      V   |
20+20       2.2970      0.53  Q         |          |          |      V   |
20+25       2.3006      0.53  Q         |          |          |      V   |
20+30       2.3042      0.52  Q         |          |          |      V   |
20+35       2.3077      0.51  Q         |          |          |      V   |
20+40       2.3112      0.50  Q         |          |          |      V   |
20+45       2.3146      0.49  Q         |          |          |       V  |
20+50       2.3179      0.49  Q         |          |          |       V  |
20+55       2.3212      0.48  Q         |          |          |       V  |
21+ 0       2.3245      0.47  Q         |          |          |       V  |
21+ 5       2.3277      0.47  Q         |          |          |       V  |
21+10       2.3309      0.46  Q         |          |          |       V  |
21+15       2.3340      0.45  Q         |          |          |       V  |
21+20       2.3371      0.45  Q         |          |          |       V  |
21+25       2.3402      0.44  Q         |          |          |       V  |
21+30       2.3432      0.44  Q         |          |          |       V  |
21+35       2.3461      0.43  Q         |          |          |       V  |
21+40       2.3491      0.43  Q         |          |          |       V  |
21+45       2.3520      0.42  Q         |          |          |       V  |
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21+50	2.3548	0.41	Q	|	|	|	V |
21+55	2.3576	0.41	Q	|	|	|	V |
22+ 0	2.3604	0.40	Q	|	|	|	V |
22+ 5	2.3632	0.40	Q	|	|	|	V |
22+10	2.3659	0.40	Q	|	|	|	V |
22+15	2.3686	0.39	Q	|	|	|	V |
22+20	2.3713	0.39	Q	|	|	|	V |
22+25	2.3739	0.38	Q	|	|	|	V |
22+30	2.3765	0.38	Q	|	|	|	V|
22+35	2.3791	0.37	Q	|	|	|	V|
22+40	2.3816	0.37	Q	|	|	|	V|
22+45	2.3842	0.37	Q	|	|	|	V|
22+50	2.3866	0.36	Q	|	|	|	V|
22+55	2.3891	0.36	Q	|	|	|	V|
23+ 0	2.3916	0.36	Q	|	|	|	V|
23+ 5	2.3940	0.35	Q	|	|	|	V|
23+10	2.3964	0.35	Q	|	|	|	V|
23+15	2.3988	0.34	Q	|	|	|	V|
23+20	2.4011	0.34	Q	|	|	|	V|
23+25	2.4034	0.34	Q	|	|	|	V|
23+30	2.4058	0.34	Q	|	|	|	V|
23+35	2.4080	0.33	Q	|	|	|	V|
23+40	2.4103	0.33	Q	|	|	|	V|
23+45	2.4126	0.33	Q	|	|	|	V|
23+50	2.4148	0.32	Q	|	|	|	V|
23+55	2.4170	0.32	Q	|	|	|	V|
24+ 0	2.4192	0.32	Q	|	|	|	V|
24+ 5	2.4213	0.31	Q	|	|	|	V|
24+10	2.4234	0.30	Q	|	|	|	V|
24+15	2.4253	0.28	Q	|	|	|	V|
24+20	2.4269	0.23	Q	|	|	|	V|
24+25	2.4281	0.18	Q	|	|	|	V|
24+30	2.4291	0.14	Q	|	|	|	V|
24+35	2.4299	0.12	Q	|	|	|	V|
24+40	2.4306	0.10	Q	|	|	|	V|
24+45	2.4312	0.09	Q	|	|	|	V|
24+50	2.4317	0.07	Q	|	|	|	V|
24+55	2.4321	0.06	Q	|	|	|	V|
25+ 0	2.4325	0.06	Q	|	|	|	V|
25+ 5	2.4328	0.05	Q	|	|	|	V|
25+10	2.4331	0.04	Q	|	|	|	V|
25+15	2.4334	0.04	Q	|	|	|	V|
25+20	2.4336	0.03	Q	|	|	|	V|
25+25	2.4338	0.03	Q	|	|	|	V|
25+30	2.4340	0.03	Q	|	|	|	V|
25+35	2.4342	0.02	Q	|	|	|	V|
25+40	2.4343	0.02	Q	|	|	|	V|
25+45	2.4344	0.02	Q	|	|	|	V|
25+50	2.4345	0.02	Q	|	|	|	V|
25+55	2.4346	0.01	Q	|	|	|	V|
26+ 0	2.4347	0.01	Q	|	|	|	V|
26+ 5	2.4348	0.01	Q	|	|	|	V|
26+10	2.4348	0.01	Q	|	|	|	V|
26+15	2.4349	0.01	Q	|	|	|	V|
26+20	2.4349	0.01	Q	|	|	|	V|
26+25	2.4350	0.01	Q	|	|	|	V|
26+30	2.4350	0.01	Q	|	|	|	V|
26+35	2.4350	0.00	Q	|	|	|	V|
26+40	2.4351	0.00	Q	|	|	|	V|

```
   26+45       2.4351      0.00  Q         |          |         |        V|
   26+50       2.4351      0.00  Q         |          |         |        V|
   26+55       2.4351      0.00  Q         |          |         |        V|
   27+ 0       2.4351      0.00  Q         |          |         |        V|
   27+ 5       2.4351      0.00  Q         |          |         |        V|
   27+10       2.4351      0.00  Q         |          |         |        V|
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 39
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
277.99	1	1.40
Rainfall data for year 100		
277.99	6	1.86
Rainfall data for year 100		
277.99	24	2.65

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
83.2	95.9	277.99	1.000	0.080	0.929	0.075

Area-averaged adjusted loss rate Fm (In/Hr) = 0.075

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
258.25	0.929	83.2	95.9	0.43	0.830
19.74	0.071	98.0	98.0	0.20	0.913

Area-averaged catchment yield fraction, Y = 0.836
Area-averaged low loss fraction, Yb = 0.164
User entry of time of concentration = 1.450 (hours)
++
Watershed area = 277.99(Ac.)
Catchment Lag time = 1.160 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.1839
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.075(In/Hr)
Average low loss rate fraction (Yb) = 0.164 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.666(In)
Specified peak 6-hour rainfall = 1.860(In)
Specified peak 24-hour rainfall = 2.650(In)

Rainfall depth area reduction factors:
Using a total area of 277.99(Ac.) (Ref: fig. E-4)

5-minute factor = 0.987 Adjusted rainfall = 0.656(In)
30-minute factor = 0.987 Adjusted rainfall = 1.122(In)
1-hour factor = 0.987 Adjusted rainfall = 1.382(In)
3-hour factor = 0.998 Adjusted rainfall = 1.664(In)
6-hour factor = 0.999 Adjusted rainfall = 1.858(In)
24-hour factor = 1.000 Adjusted rainfall = 2.649(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 3361.94 (CFS))	
1	0.316	10.627
2	0.968	21.907
3	2.017	35.285
4	3.302	43.187
5	5.017	57.671
6	6.991	66.362
7	9.391	80.695
8	12.983	120.739
9	17.705	158.745
10	24.385	224.593
11	31.552	240.953
12	37.818	210.668
13	43.446	189.201

14	48.066	155.324
15	52.167	137.855
16	55.846	123.691
17	58.817	99.897
18	61.483	89.613
19	63.766	76.745
20	65.879	71.067
21	67.778	63.833
22	69.569	60.209
23	71.272	57.267
24	72.764	50.161
25	74.166	47.117
26	75.441	42.883
27	76.682	41.725
28	77.886	40.474
29	78.926	34.948
30	79.874	31.880
31	80.822	31.880
32	81.731	30.540
33	82.516	26.381
34	83.291	26.084
35	84.066	26.026
36	84.783	24.113
37	85.472	23.186
38	86.162	23.186
39	86.822	22.184
40	87.401	19.473
41	87.976	19.322
42	88.546	19.182
43	89.019	15.886
44	89.450	14.491
45	89.881	14.491
46	90.304	14.212
47	90.707	13.553
48	91.109	13.525
49	91.509	13.449
50	91.869	12.094
51	92.214	11.593
52	92.559	11.593
53	92.894	11.284
54	93.211	10.646
55	93.527	10.627
56	93.839	10.503
57	94.100	8.770
58	94.345	8.212
59	94.589	8.212
60	94.833	8.212
61	95.077	8.212
62	95.322	8.212
63	95.562	8.086
64	95.761	6.675
65	95.947	6.279
66	96.134	6.279
67	96.321	6.279
68	96.508	6.279
69	96.695	6.279
70	96.877	6.125
71	97.016	4.695
72	97.146	4.347

73	97.275	4.347
74	97.404	4.347
75	97.534	4.347
76	97.663	4.347
77	97.787	4.160
78	97.868	2.718
79	97.939	2.415
80	98.011	2.415
81	98.083	2.415
82	98.155	2.415
83	98.227	2.415
84	98.300	2.471
85	98.384	2.833
86	98.471	2.898
87	98.557	2.898
88	98.643	2.898
89	98.729	2.898
90	98.816	2.898
91	98.902	2.898
92	98.988	2.898
93	99.074	2.898
94	99.160	2.898
95	99.247	2.898
96	99.333	2.898
97	99.419	2.898
98	99.499	2.680
99	99.548	1.644
100	99.592	1.509
101	99.637	1.509
102	99.682	1.509
103	99.727	1.509
104	99.772	1.509
105	99.817	1.509
106	99.862	1.509
107	99.907	1.509
108	99.952	1.509
109	100.000	0.755

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6557	0.6557
2	0.8072	0.1516
3	0.9116	0.1044
4	0.9938	0.0822
5	1.0626	0.0688
6	1.1223	0.0597
7	1.1755	0.0531
8	1.2235	0.0480
9	1.2675	0.0440
10	1.3082	0.0407
11	1.3462	0.0379
12	1.3818	0.0356
13	1.4006	0.0188
14	1.4182	0.0177
15	1.4349	0.0166
16	1.4506	0.0157
17	1.4655	0.0149
18	1.4798	0.0142
19	1.4933	0.0136

20	1.5063	0.0130
21	1.5188	0.0125
22	1.5308	0.0120
23	1.5423	0.0115
24	1.5535	0.0111
25	1.5642	0.0108
26	1.5746	0.0104
27	1.5847	0.0101
28	1.5945	0.0098
29	1.6040	0.0095
30	1.6132	0.0092
31	1.6221	0.0090
32	1.6309	0.0087
33	1.6394	0.0085
34	1.6477	0.0083
35	1.6558	0.0081
36	1.6637	0.0079
37	1.6710	0.0073
38	1.6781	0.0071
39	1.6851	0.0070
40	1.6919	0.0068
41	1.6986	0.0067
42	1.7051	0.0065
43	1.7115	0.0064
44	1.7178	0.0063
45	1.7240	0.0062
46	1.7301	0.0061
47	1.7360	0.0060
48	1.7419	0.0058
49	1.7476	0.0057
50	1.7533	0.0056
51	1.7588	0.0056
52	1.7643	0.0055
53	1.7697	0.0054
54	1.7749	0.0053
55	1.7801	0.0052
56	1.7853	0.0051
57	1.7903	0.0051
58	1.7953	0.0050
59	1.8002	0.0049
60	1.8051	0.0048
61	1.8098	0.0048
62	1.8145	0.0047
63	1.8192	0.0046
64	1.8238	0.0046
65	1.8283	0.0045
66	1.8327	0.0045
67	1.8371	0.0044
68	1.8415	0.0044
69	1.8458	0.0043
70	1.8500	0.0042
71	1.8542	0.0042
72	1.8584	0.0041
73	1.8650	0.0066
74	1.8715	0.0065
75	1.8779	0.0064
76	1.8843	0.0064
77	1.8906	0.0063
78	1.8968	0.0062

79	1.9030	0.0062
80	1.9091	0.0061
81	1.9152	0.0061
82	1.9212	0.0060
83	1.9272	0.0060
84	1.9331	0.0059
85	1.9390	0.0059
86	1.9448	0.0058
87	1.9505	0.0058
88	1.9562	0.0057
89	1.9619	0.0057
90	1.9675	0.0056
91	1.9731	0.0056
92	1.9786	0.0055
93	1.9841	0.0055
94	1.9895	0.0054
95	1.9949	0.0054
96	2.0003	0.0053
97	2.0056	0.0053
98	2.0108	0.0053
99	2.0161	0.0052
100	2.0212	0.0052
101	2.0264	0.0051
102	2.0315	0.0051
103	2.0366	0.0051
104	2.0416	0.0050
105	2.0466	0.0050
106	2.0516	0.0050
107	2.0565	0.0049
108	2.0614	0.0049
109	2.0663	0.0049
110	2.0711	0.0048
111	2.0759	0.0048
112	2.0807	0.0048
113	2.0854	0.0047
114	2.0901	0.0047
115	2.0948	0.0047
116	2.0994	0.0046
117	2.1040	0.0046
118	2.1086	0.0046
119	2.1132	0.0046
120	2.1177	0.0045
121	2.1222	0.0045
122	2.1267	0.0045
123	2.1311	0.0044
124	2.1355	0.0044
125	2.1399	0.0044
126	2.1443	0.0044
127	2.1486	0.0043
128	2.1530	0.0043
129	2.1572	0.0043
130	2.1615	0.0043
131	2.1657	0.0042
132	2.1700	0.0042
133	2.1742	0.0042
134	2.1783	0.0042
135	2.1825	0.0041
136	2.1866	0.0041
137	2.1907	0.0041

138	2.1948	0.0041
139	2.1988	0.0041
140	2.2029	0.0040
141	2.2069	0.0040
142	2.2109	0.0040
143	2.2148	0.0040
144	2.2188	0.0040
145	2.2227	0.0039
146	2.2266	0.0039
147	2.2305	0.0039
148	2.2344	0.0039
149	2.2382	0.0039
150	2.2421	0.0038
151	2.2459	0.0038
152	2.2497	0.0038
153	2.2535	0.0038
154	2.2572	0.0038
155	2.2609	0.0037
156	2.2647	0.0037
157	2.2684	0.0037
158	2.2721	0.0037
159	2.2757	0.0037
160	2.2794	0.0037
161	2.2830	0.0036
162	2.2866	0.0036
163	2.2902	0.0036
164	2.2938	0.0036
165	2.2974	0.0036
166	2.3009	0.0036
167	2.3045	0.0035
168	2.3080	0.0035
169	2.3115	0.0035
170	2.3150	0.0035
171	2.3185	0.0035
172	2.3219	0.0035
173	2.3254	0.0034
174	2.3288	0.0034
175	2.3322	0.0034
176	2.3356	0.0034
177	2.3390	0.0034
178	2.3424	0.0034
179	2.3457	0.0034
180	2.3491	0.0033
181	2.3524	0.0033
182	2.3557	0.0033
183	2.3590	0.0033
184	2.3623	0.0033
185	2.3656	0.0033
186	2.3689	0.0033
187	2.3721	0.0033
188	2.3753	0.0032
189	2.3786	0.0032
190	2.3818	0.0032
191	2.3850	0.0032
192	2.3882	0.0032
193	2.3913	0.0032
194	2.3945	0.0032
195	2.3977	0.0032
196	2.4008	0.0031

197	2.4039	0.0031
198	2.4070	0.0031
199	2.4101	0.0031
200	2.4132	0.0031
201	2.4163	0.0031
202	2.4194	0.0031
203	2.4224	0.0031
204	2.4255	0.0030
205	2.4285	0.0030
206	2.4315	0.0030
207	2.4346	0.0030
208	2.4376	0.0030
209	2.4405	0.0030
210	2.4435	0.0030
211	2.4465	0.0030
212	2.4495	0.0030
213	2.4524	0.0029
214	2.4553	0.0029
215	2.4583	0.0029
216	2.4612	0.0029
217	2.4641	0.0029
218	2.4670	0.0029
219	2.4699	0.0029
220	2.4728	0.0029
221	2.4756	0.0029
222	2.4785	0.0029
223	2.4813	0.0029
224	2.4842	0.0028
225	2.4870	0.0028
226	2.4898	0.0028
227	2.4927	0.0028
228	2.4955	0.0028
229	2.4983	0.0028
230	2.5010	0.0028
231	2.5038	0.0028
232	2.5066	0.0028
233	2.5093	0.0028
234	2.5121	0.0027
235	2.5148	0.0027
236	2.5176	0.0027
237	2.5203	0.0027
238	2.5230	0.0027
239	2.5257	0.0027
240	2.5284	0.0027
241	2.5311	0.0027
242	2.5338	0.0027
243	2.5364	0.0027
244	2.5391	0.0027
245	2.5418	0.0027
246	2.5444	0.0026
247	2.5471	0.0026
248	2.5497	0.0026
249	2.5523	0.0026
250	2.5549	0.0026
251	2.5575	0.0026
252	2.5601	0.0026
253	2.5627	0.0026
254	2.5653	0.0026
255	2.5679	0.0026

256	2.5705	0.0026
257	2.5730	0.0026
258	2.5756	0.0026
259	2.5781	0.0025
260	2.5807	0.0025
261	2.5832	0.0025
262	2.5858	0.0025
263	2.5883	0.0025
264	2.5908	0.0025
265	2.5933	0.0025
266	2.5958	0.0025
267	2.5983	0.0025
268	2.6008	0.0025
269	2.6032	0.0025
270	2.6057	0.0025
271	2.6082	0.0025
272	2.6106	0.0025
273	2.6131	0.0025
274	2.6155	0.0024
275	2.6180	0.0024
276	2.6204	0.0024
277	2.6228	0.0024
278	2.6252	0.0024
279	2.6277	0.0024
280	2.6301	0.0024
281	2.6325	0.0024
282	2.6349	0.0024
283	2.6372	0.0024
284	2.6396	0.0024
285	2.6420	0.0024
286	2.6444	0.0024
287	2.6467	0.0024
288	2.6491	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0020
2	0.0024	0.0004	0.0020
3	0.0024	0.0004	0.0020
4	0.0024	0.0004	0.0020
5	0.0024	0.0004	0.0020
6	0.0024	0.0004	0.0020
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0020
9	0.0024	0.0004	0.0020
10	0.0024	0.0004	0.0020
11	0.0025	0.0004	0.0020
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0021
14	0.0025	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0021
17	0.0025	0.0004	0.0021
18	0.0025	0.0004	0.0021
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0021
21	0.0026	0.0004	0.0021

22	0.0026	0.0004	0.0021
23	0.0026	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0026	0.0004	0.0022
28	0.0026	0.0004	0.0022
29	0.0026	0.0004	0.0022
30	0.0027	0.0004	0.0022
31	0.0027	0.0004	0.0022
32	0.0027	0.0004	0.0022
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0027	0.0004	0.0023
36	0.0027	0.0004	0.0023
37	0.0027	0.0005	0.0023
38	0.0028	0.0005	0.0023
39	0.0028	0.0005	0.0023
40	0.0028	0.0005	0.0023
41	0.0028	0.0005	0.0023
42	0.0028	0.0005	0.0024
43	0.0028	0.0005	0.0024
44	0.0028	0.0005	0.0024
45	0.0029	0.0005	0.0024
46	0.0029	0.0005	0.0024
47	0.0029	0.0005	0.0024
48	0.0029	0.0005	0.0024
49	0.0029	0.0005	0.0024
50	0.0029	0.0005	0.0024
51	0.0029	0.0005	0.0025
52	0.0030	0.0005	0.0025
53	0.0030	0.0005	0.0025
54	0.0030	0.0005	0.0025
55	0.0030	0.0005	0.0025
56	0.0030	0.0005	0.0025
57	0.0030	0.0005	0.0025
58	0.0031	0.0005	0.0026
59	0.0031	0.0005	0.0026
60	0.0031	0.0005	0.0026
61	0.0031	0.0005	0.0026
62	0.0031	0.0005	0.0026
63	0.0032	0.0005	0.0026
64	0.0032	0.0005	0.0026
65	0.0032	0.0005	0.0027
66	0.0032	0.0005	0.0027
67	0.0032	0.0005	0.0027
68	0.0032	0.0005	0.0027
69	0.0033	0.0005	0.0027
70	0.0033	0.0005	0.0027
71	0.0033	0.0005	0.0028
72	0.0033	0.0005	0.0028
73	0.0033	0.0005	0.0028
74	0.0034	0.0006	0.0028
75	0.0034	0.0006	0.0028
76	0.0034	0.0006	0.0028
77	0.0034	0.0006	0.0029
78	0.0034	0.0006	0.0029
79	0.0035	0.0006	0.0029
80	0.0035	0.0006	0.0029

81	0.0035	0.0006	0.0029
82	0.0035	0.0006	0.0030
83	0.0036	0.0006	0.0030
84	0.0036	0.0006	0.0030
85	0.0036	0.0006	0.0030
86	0.0036	0.0006	0.0030
87	0.0037	0.0006	0.0031
88	0.0037	0.0006	0.0031
89	0.0037	0.0006	0.0031
90	0.0037	0.0006	0.0031
91	0.0038	0.0006	0.0032
92	0.0038	0.0006	0.0032
93	0.0038	0.0006	0.0032
94	0.0039	0.0006	0.0032
95	0.0039	0.0006	0.0033
96	0.0039	0.0006	0.0033
97	0.0040	0.0006	0.0033
98	0.0040	0.0007	0.0033
99	0.0040	0.0007	0.0034
100	0.0040	0.0007	0.0034
101	0.0041	0.0007	0.0034
102	0.0041	0.0007	0.0034
103	0.0041	0.0007	0.0035
104	0.0042	0.0007	0.0035
105	0.0042	0.0007	0.0035
106	0.0042	0.0007	0.0035
107	0.0043	0.0007	0.0036
108	0.0043	0.0007	0.0036
109	0.0044	0.0007	0.0036
110	0.0044	0.0007	0.0037
111	0.0044	0.0007	0.0037
112	0.0045	0.0007	0.0037
113	0.0045	0.0007	0.0038
114	0.0046	0.0007	0.0038
115	0.0046	0.0008	0.0039
116	0.0046	0.0008	0.0039
117	0.0047	0.0008	0.0039
118	0.0047	0.0008	0.0040
119	0.0048	0.0008	0.0040
120	0.0048	0.0008	0.0040
121	0.0049	0.0008	0.0041
122	0.0049	0.0008	0.0041
123	0.0050	0.0008	0.0042
124	0.0050	0.0008	0.0042
125	0.0051	0.0008	0.0043
126	0.0051	0.0008	0.0043
127	0.0052	0.0009	0.0044
128	0.0053	0.0009	0.0044
129	0.0053	0.0009	0.0045
130	0.0054	0.0009	0.0045
131	0.0055	0.0009	0.0046
132	0.0055	0.0009	0.0046
133	0.0056	0.0009	0.0047
134	0.0057	0.0009	0.0047
135	0.0058	0.0009	0.0048
136	0.0058	0.0010	0.0049
137	0.0059	0.0010	0.0049
138	0.0060	0.0010	0.0050
139	0.0061	0.0010	0.0051

140	0.0061	0.0010	0.0051
141	0.0062	0.0010	0.0052
142	0.0063	0.0010	0.0053
143	0.0064	0.0011	0.0054
144	0.0065	0.0011	0.0054
145	0.0041	0.0007	0.0035
146	0.0042	0.0007	0.0035
147	0.0043	0.0007	0.0036
148	0.0044	0.0007	0.0036
149	0.0045	0.0007	0.0037
150	0.0045	0.0007	0.0038
151	0.0046	0.0008	0.0039
152	0.0047	0.0008	0.0039
153	0.0048	0.0008	0.0040
154	0.0049	0.0008	0.0041
155	0.0051	0.0008	0.0042
156	0.0051	0.0008	0.0043
157	0.0053	0.0009	0.0044
158	0.0054	0.0009	0.0045
159	0.0056	0.0009	0.0046
160	0.0056	0.0009	0.0047
161	0.0058	0.0010	0.0049
162	0.0060	0.0010	0.0050
163	0.0062	0.0010	0.0052
164	0.0063	0.0010	0.0053
165	0.0065	0.0011	0.0055
166	0.0067	0.0011	0.0056
167	0.0070	0.0011	0.0058
168	0.0071	0.0012	0.0060
169	0.0079	0.0013	0.0066
170	0.0081	0.0013	0.0068
171	0.0085	0.0014	0.0071
172	0.0087	0.0014	0.0073
173	0.0092	0.0015	0.0077
174	0.0095	0.0016	0.0079
175	0.0101	0.0017	0.0084
176	0.0104	0.0017	0.0087
177	0.0111	0.0018	0.0093
178	0.0115	0.0019	0.0097
179	0.0125	0.0020	0.0104
180	0.0130	0.0021	0.0109
181	0.0142	0.0023	0.0119
182	0.0149	0.0024	0.0125
183	0.0166	0.0027	0.0139
184	0.0177	0.0029	0.0148
185	0.0356	0.0058	0.0298
186	0.0379	0.0062	0.0317
187	0.0440	0.0062	0.0378
188	0.0480	0.0062	0.0418
189	0.0597	0.0062	0.0535
190	0.0688	0.0062	0.0626
191	0.1044	0.0062	0.0982
192	0.1516	0.0062	0.1453
193	0.6557	0.0062	0.6494
194	0.0822	0.0062	0.0760
195	0.0531	0.0062	0.0469
196	0.0407	0.0062	0.0345
197	0.0188	0.0031	0.0157
198	0.0157	0.0026	0.0132

199	0.0136	0.0022	0.0114
200	0.0120	0.0020	0.0100
201	0.0108	0.0018	0.0090
202	0.0098	0.0016	0.0082
203	0.0090	0.0015	0.0075
204	0.0083	0.0014	0.0069
205	0.0073	0.0012	0.0061
206	0.0068	0.0011	0.0057
207	0.0064	0.0011	0.0054
208	0.0061	0.0010	0.0051
209	0.0057	0.0009	0.0048
210	0.0055	0.0009	0.0046
211	0.0052	0.0009	0.0044
212	0.0050	0.0008	0.0042
213	0.0048	0.0008	0.0040
214	0.0046	0.0008	0.0038
215	0.0044	0.0007	0.0037
216	0.0042	0.0007	0.0036
217	0.0066	0.0011	0.0055
218	0.0064	0.0010	0.0053
219	0.0062	0.0010	0.0052
220	0.0060	0.0010	0.0050
221	0.0059	0.0010	0.0049
222	0.0057	0.0009	0.0048
223	0.0056	0.0009	0.0047
224	0.0054	0.0009	0.0045
225	0.0053	0.0009	0.0044
226	0.0052	0.0009	0.0043
227	0.0051	0.0008	0.0042
228	0.0050	0.0008	0.0042
229	0.0049	0.0008	0.0041
230	0.0048	0.0008	0.0040
231	0.0047	0.0008	0.0039
232	0.0046	0.0008	0.0038
233	0.0045	0.0007	0.0038
234	0.0044	0.0007	0.0037
235	0.0043	0.0007	0.0036
236	0.0043	0.0007	0.0036
237	0.0042	0.0007	0.0035
238	0.0041	0.0007	0.0034
239	0.0041	0.0007	0.0034
240	0.0040	0.0007	0.0033
241	0.0039	0.0006	0.0033
242	0.0039	0.0006	0.0032
243	0.0038	0.0006	0.0032
244	0.0038	0.0006	0.0031
245	0.0037	0.0006	0.0031
246	0.0037	0.0006	0.0031
247	0.0036	0.0006	0.0030
248	0.0036	0.0006	0.0030
249	0.0035	0.0006	0.0029
250	0.0035	0.0006	0.0029
251	0.0034	0.0006	0.0029
252	0.0034	0.0006	0.0028
253	0.0033	0.0005	0.0028
254	0.0033	0.0005	0.0028
255	0.0033	0.0005	0.0027
256	0.0032	0.0005	0.0027
257	0.0032	0.0005	0.0027

258	0.0031	0.0005	0.0026
259	0.0031	0.0005	0.0026
260	0.0031	0.0005	0.0026
261	0.0030	0.0005	0.0025
262	0.0030	0.0005	0.0025
263	0.0030	0.0005	0.0025
264	0.0029	0.0005	0.0025
265	0.0029	0.0005	0.0024
266	0.0029	0.0005	0.0024
267	0.0029	0.0005	0.0024
268	0.0028	0.0005	0.0024
269	0.0028	0.0005	0.0023
270	0.0028	0.0005	0.0023
271	0.0027	0.0004	0.0023
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0022
274	0.0027	0.0004	0.0022
275	0.0026	0.0004	0.0022
276	0.0026	0.0004	0.0022
277	0.0026	0.0004	0.0022
278	0.0026	0.0004	0.0021
279	0.0025	0.0004	0.0021
280	0.0025	0.0004	0.0021
281	0.0025	0.0004	0.0021
282	0.0025	0.0004	0.0021
283	0.0025	0.0004	0.0021
284	0.0024	0.0004	0.0020
285	0.0024	0.0004	0.0020
286	0.0024	0.0004	0.0020
287	0.0024	0.0004	0.0020
288	0.0024	0.0004	0.0020

Total soil rain loss = 0.28(In)
Total effective rainfall = 2.37(In)
Peak flow rate in flood hydrograph = 278.92(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0006	0.06	Q	|	|	|	|
0+15	0.0015	0.13	Q	|	|	|	|
0+20	0.0030	0.22	Q	|	|	|	|
0+25	0.0053	0.33	Q	|	|	|	|
0+30	0.0085	0.47	Q	|	|	|	|
0+35	0.0128	0.63	Q	|	|	|	|
0+40	0.0188	0.87	Q	|	|	|	|
0+45	0.0269	1.18	Q	|	|	|	|
0+50	0.0382	1.63	Q	|	|	|	|
0+55	0.0527	2.11	Q	|	|	|	|
1+ 0	0.0701	2.53	Q	|	|	|	|
1+ 5	0.0902	2.91	Q	|	|	|	|

1+10	0.1125	3.23	Q	|	|	|	|
1+15	0.1367	3.52	Q	|	|	|	|
1+20	0.1627	3.77	Q	|	|	|	|
1+25	0.1901	3.99	Q	|	|	|	|
1+30	0.2189	4.18	Q	|	|	|	|
1+35	0.2488	4.35	Q	|	|	|	|
1+40	0.2798	4.50	Q	|	|	|	|
1+45	0.3118	4.65	Q	|	|	|	|
1+50	0.3448	4.78	Q	|	|	|	|
1+55	0.3787	4.92	Q	|	|	|	|
2+ 0	0.4133	5.04	Q	|	|	|	|
2+ 5	0.4488	5.15	Q	|	|	|	|
2+10	0.4850	5.26	Q	|	|	|	|
2+15	0.5219	5.36	Q	|	|	|	|
2+20	0.5595	5.46	Q	|	|	|	|
2+25	0.5978	5.55	Q	|	|	|	|
2+30	0.6366	5.64	Q	|	|	|	|
2+35	0.6760	5.73	Q	|	|	|	|
2+40	0.7161	5.81	Q	|	|	|	|
2+45	0.7566	5.89	Q	|	|	|	|
2+50	0.7977	5.96	Q	|	|	|	|
2+55	0.8393	6.04	Q	|	|	|	|
3+ 0	0.8814	6.12	Q	|	|	|	|
3+ 5	0.9240	6.19	Q	|	|	|	|
3+10	0.9672	6.26	Q	|	|	|	|
3+15	1.0108	6.33	Q	|	|	|	|
3+20	1.0548	6.40	Q	|	|	|	|
3+25	1.0994	6.47	Q	|	|	|	|
3+30	1.1444	6.53	Q	|	|	|	|
3+35	1.1898	6.59	Q	|	|	|	|
3+40	1.2356	6.65	Q	|	|	|	|
3+45	1.2818	6.71	Q	|	|	|	|
3+50	1.3284	6.77	Q	|	|	|	|
3+55	1.3755	6.83	QV	|	|	|	|
4+ 0	1.4229	6.89	QV	|	|	|	|
4+ 5	1.4707	6.94	QV	|	|	|	|
4+10	1.5189	7.00	QV	|	|	|	|
4+15	1.5675	7.06	QV	|	|	|	|
4+20	1.6165	7.11	QV	|	|	|	|
4+25	1.6659	7.17	QV	|	|	|	|
4+30	1.7157	7.23	QV	|	|	|	|
4+35	1.7658	7.28	QV	|	|	|	|
4+40	1.8163	7.34	QV	|	|	|	|
4+45	1.8672	7.39	QV	|	|	|	|
4+50	1.9185	7.44	QV	|	|	|	|
4+55	1.9701	7.50	QV	|	|	|	|
5+ 0	2.0221	7.55	|Q	|	|	|	|
5+ 5	2.0745	7.60	|Q	|	|	|	|
5+10	2.1272	7.66	|Q	|	|	|	|
5+15	2.1804	7.71	|Q	|	|	|	|
5+20	2.2339	7.77	|Q	|	|	|	|
5+25	2.2877	7.82	|Q	|	|	|	|
5+30	2.3419	7.87	|Q	|	|	|	|
5+35	2.3965	7.93	|Q	|	|	|	|
5+40	2.4515	7.98	|Q	|	|	|	|
5+45	2.5068	8.03	|Q	|	|	|	|
5+50	2.5625	8.09	|Q	|	|	|	|
5+55	2.6186	8.14	|Q	|	|	|	|
6+ 0	2.6750	8.19	|Q	|	|	|	|

6+ 5	2.7318	8.25	Q				
6+10	2.7890	8.30	QV				
6+15	2.8465	8.36	QV				
6+20	2.9045	8.41	QV				
6+25	2.9628	8.47	QV				
6+30	3.0214	8.52	QV				
6+35	3.0805	8.57	QV				
6+40	3.1399	8.63	QV				
6+45	3.1997	8.68	QV				
6+50	3.2599	8.74	QV				
6+55	3.3204	8.79	QV				
7+ 0	3.3814	8.85	QV				
7+ 5	3.4427	8.91	QV				
7+10	3.5045	8.97	QV				
7+15	3.5666	9.03	QV				
7+20	3.6292	9.09	QV				
7+25	3.6922	9.15	QV				
7+30	3.7557	9.21	QV				
7+35	3.8196	9.28	QV				
7+40	3.8839	9.34	QV				
7+45	3.9487	9.41	QV				
7+50	4.0139	9.47	QV				
7+55	4.0796	9.54	QV				
8+ 0	4.1458	9.61	Q V				
8+ 5	4.2124	9.68	Q V				
8+10	4.2795	9.75	Q V				
8+15	4.3471	9.81	Q V				
8+20	4.4152	9.88	Q V				
8+25	4.4837	9.95	Q V				
8+30	4.5528	10.03	Q V				
8+35	4.6223	10.10	Q V				
8+40	4.6924	10.17	Q V				
8+45	4.7629	10.25	Q V				
8+50	4.8341	10.32	Q V				
8+55	4.9057	10.40	Q V				
9+ 0	4.9779	10.48	Q V				
9+ 5	5.0506	10.56	Q V				
9+10	5.1239	10.64	Q V				
9+15	5.1977	10.72	Q V				
9+20	5.2721	10.80	Q V				
9+25	5.3470	10.88	Q V				
9+30	5.4225	10.97	Q V				
9+35	5.4987	11.05	Q V				
9+40	5.5754	11.14	Q V				
9+45	5.6528	11.23	Q V				
9+50	5.7308	11.32	Q V				
9+55	5.8094	11.42	Q V				
10+ 0	5.8887	11.51	Q V				
10+ 5	5.9686	11.61	Q V				
10+10	6.0492	11.71	Q V				
10+15	6.1305	11.81	Q V				
10+20	6.2126	11.91	Q V				
10+25	6.2953	12.02	Q V				
10+30	6.3788	12.12	Q V				
10+35	6.4631	12.23	Q V				
10+40	6.5481	12.35	Q V				
10+45	6.6339	12.46	Q V				
10+50	6.7205	12.58	Q V				
10+55	6.8080	12.70	Q V				

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11+ 0       6.8962     12.82  |Q   V    |          |          |          |
11+ 5       6.9854     12.94  |Q   V    |          |          |          |
11+10       7.0754     13.07  |Q   V    |          |          |          |
11+15       7.1664     13.20  |Q   V    |          |          |          |
11+20       7.2583     13.34  |Q   V    |          |          |          |
11+25       7.3511     13.48  |Q   V    |          |          |          |
11+30       7.4449     13.62  |Q   V    |          |          |          |
11+35       7.5397     13.76  |Q   V    |          |          |          |
11+40       7.6355     13.91  |Q   V    |          |          |          |
11+45       7.7324     14.07  |Q   V    |          |          |          |
11+50       7.8303     14.22  |Q   V    |          |          |          |
11+55       7.9294     14.39  |Q   V    |          |          |          |
12+ 0       8.0296     14.55  |Q   V    |          |          |          |
12+ 5       8.1309     14.70  |Q   V    |          |          |          |
12+10       8.2330     14.83  |Q    V   |          |          |          |
12+15       8.3359     14.94  |Q    V   |          |          |          |
12+20       8.4394     15.03  | Q   V   |          |          |          |
12+25       8.5434     15.10  | Q   V   |          |          |          |
12+30       8.6478     15.16  | Q   V   |          |          |          |
12+35       8.7523     15.18  | Q   V   |          |          |          |
12+40       8.8566     15.14  | Q   V   |          |          |          |
12+45       8.9600     15.01  | Q   V   |          |          |          |
12+50       9.0616     14.75  |Q    V   |          |          |          |
12+55       9.1612     14.46  |Q    V   |          |          |          |
13+ 0       9.2592     14.23  |Q    V   |          |          |          |
13+ 5       9.3560     14.05  |Q    V   |          |          |          |
13+10       9.4520     13.95  |Q    V   |          |          |          |
13+15       9.5476     13.88  |Q    V   |          |          |          |
13+20       9.6430     13.85  |Q     V  |          |          |          |
13+25       9.7385     13.87  |Q     V  |          |          |          |
13+30       9.8344     13.92  |Q     V  |          |          |          |
13+35       9.9309     14.01  |Q     V  |          |          |          |
13+40      10.0280     14.11  |Q     V  |          |          |          |
13+45      10.1261     14.24  |Q     V  |          |          |          |
13+50      10.2252     14.39  |Q     V  |          |          |          |
13+55      10.3255     14.55  |Q     V  |          |          |          |
14+ 0      10.4270     14.75  |Q     V  |          |          |          |
14+ 5      10.5301     14.96  |Q     V  |          |          |          |
14+10      10.6348     15.21  | Q    V  |          |          |          |
14+15      10.7414     15.48  | Q    V  |          |          |          |
14+20      10.8500     15.77  | Q    V  |          |          |          |
14+25      10.9609     16.10  | Q     V |          |          |          |
14+30      11.0742     16.46  | Q     V |          |          |          |
14+35      11.1903     16.85  | Q     V |          |          |          |
14+40      11.3093     17.29  | Q     V |          |          |          |
14+45      11.4318     17.78  | Q     V |          |          |          |
14+50      11.5580     18.33  | Q     V |          |          |          |
14+55      11.6884     18.93  | Q     V |          |          |          |
15+ 0      11.8232     19.57  | Q     V |          |          |          |
15+ 5      11.9627     20.26  | Q     V |          |          |          |
15+10      12.1073     20.99  | Q     V |          |          |          |
15+15      12.2573     21.79  | Q     V |          |          |          |
15+20      12.4135     22.68  |  Q     V|          |          |          |
15+25      12.5773     23.79  |  Q     V|          |          |          |
15+30      12.7506     25.16  |  Q     V|          |          |          |
15+35      12.9358     26.89  |  Q     V|          |          |          |
15+40      13.1353     28.96  |  Q     V|          |          |          |
15+45      13.3527     31.57  |   Q    V|          |          |          |
15+50      13.5920     34.75  |   Q    V|          |          |          |
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15+55	13.8604	38.97	Q	V			
16+ 0	14.1709	45.08	Q	V			
16+ 5	14.5740	58.53	Q	V			
16+10	15.0833	73.95	Q	V			
16+15	15.7107	91.10		VQ			
16+20	16.4385	105.69		V Q			
16+25	17.2919	123.91		V Q			
16+30	18.2563	140.03		V Q			
16+35	19.3646	160.93		V	Q		
16+40	20.7178	196.48		V	Q		
16+45	22.3007	229.83		V		Q	
16+50	24.1718	271.69		V		Q	
16+55	26.0928	278.92		V		Q	
17+ 0	27.8519	255.42		V		Q	
17+ 5	29.4592	233.38		V	Q		
17+10	30.8636	203.93		V Q			
17+15	32.1277	183.54		VQ			
17+20	33.2689	165.70		Q V			
17+25	34.2605	143.98		Q	V		
17+30	35.1617	130.86		Q	V		
17+35	35.9721	117.66		Q	V		
17+40	36.7243	109.23		Q	V		
17+45	37.4192	100.89		Q	V		
17+50	38.0729	94.92		Q	V		
17+55	38.6900	89.60		Q	V		
18+ 0	39.2575	82.40		Q	V		
18+ 5	39.7928	77.72		Q	V		
18+10	40.2946	72.86		Q	V		
18+15	40.7756	69.85		Q	V		
18+20	41.2358	66.81		Q	V		
18+25	41.6607	61.70		Q	V		
18+30	42.0623	58.32		Q	V		
18+35	42.4530	56.72		Q	V		
18+40	42.8281	54.47		Q	V		
18+45	43.1799	51.08		Q	V		
18+50	43.5249	50.09		Q	V		
18+55	43.8640	49.24		Q	V		
19+ 0	44.1905	47.40		Q	V		
19+ 5	44.5083	46.16		Q	V		
19+10	44.8202	45.29		Q	V		
19+15	45.1217	43.77		Q	V		
19+20	45.4069	41.42		Q	V		
19+25	45.6854	40.43		Q	V		
19+30	45.9561	39.31		Q	V		
19+35	46.2080	36.57		Q	V		
19+40	46.4493	35.05		Q	V		
19+45	46.6861	34.38		Q	V		
19+50	46.9175	33.60		Q	V		
19+55	47.1428	32.71		Q	V		
20+ 0	47.3643	32.16		Q	V		
20+ 5	47.5813	31.51		Q	V		
20+10	47.7892	30.19		Q	V		
20+15	47.9916	29.39		Q	V		
20+20	48.1906	28.89		Q	V		
20+25	48.3849	28.21		Q	V		
20+30	48.5734	27.38		Q	V		
20+35	48.7585	26.87		Q	V		
20+40	48.9391	26.22		Q	V		
20+45	49.1095	24.74		Q	V		

20+50	49.2747	23.99	Q				V
20+55	49.4372	23.61	Q				V
21+ 0	49.5973	23.25	Q				V
21+ 5	49.7552	22.91	Q				V
21+10	49.9104	22.54	Q				V
21+15	50.0619	22.01	Q				V
21+20	50.2052	20.81	Q				V
21+25	50.3445	20.22	Q				V
21+30	50.4815	19.90	Q				V
21+35	50.6164	19.59	Q				V
21+40	50.7492	19.28	Q				V
21+45	50.8796	18.93	Q				V
21+50	51.0064	18.41	Q				V
21+55	51.1250	17.23	Q				V
22+ 0	51.2401	16.70	Q				V
22+ 5	51.3531	16.41	Q				V
22+10	51.4643	16.14	Q				V
22+15	51.5736	15.87	Q				V
22+20	51.6807	15.56	Q				V
22+25	51.7846	15.08	Q				V
22+30	51.8809	13.98	Q				V
22+35	51.9744	13.57	Q				V
22+40	52.0665	13.38	Q				V
22+45	52.1576	13.22	Q				V
22+50	52.2479	13.11	Q				V
22+55	52.3376	13.02	Q				V
23+ 0	52.4270	12.99	Q				V
23+ 5	52.5174	13.12	Q				V
23+10	52.6074	13.07	Q				V
23+15	52.6967	12.98	Q				V
23+20	52.7854	12.87	Q				V
23+25	52.8733	12.77	Q				V
23+30	52.9605	12.65	Q				V
23+35	53.0468	12.53	Q				V
23+40	53.1322	12.40	Q				V
23+45	53.2166	12.26	Q				V
23+50	53.3001	12.12	Q				V
23+55	53.3825	11.96	Q				V
24+ 0	53.4636	11.78	Q				V
24+ 5	53.5431	11.54	Q				V
24+10	53.6196	11.11	Q				V
24+15	53.6901	10.25	Q				V
24+20	53.7583	9.90	Q				V
24+25	53.8247	9.63	Q				V
24+30	53.8891	9.35	Q				V
24+35	53.9515	9.06	Q				V
24+40	54.0113	8.69	Q				V
24+45	54.0681	8.24	Q				V
24+50	54.1207	7.65	Q				V
24+55	54.1689	7.00	Q				V
25+ 0	54.2127	6.35	Q				V
25+ 5	54.2495	5.34	Q				V
25+10	54.2801	4.45	Q				V
25+15	54.3080	4.05	Q				V
25+20	54.3335	3.71	Q				V
25+25	54.3573	3.45	Q				V
25+30	54.3795	3.23	Q				V
25+35	54.4004	3.03	Q				V
25+40	54.4201	2.86	Q				V

25+45	54.4387	2.70	Q	|	|	|	V|
25+50	54.4562	2.55	Q	|	|	|	V|
25+55	54.4728	2.41	Q	|	|	|	V|
26+ 0	54.4885	2.28	Q	|	|	|	V|
26+ 5	54.5035	2.17	Q	|	|	|	V|
26+10	54.5176	2.06	Q	|	|	|	V|
26+15	54.5311	1.96	Q	|	|	|	V|
26+20	54.5439	1.85	Q	|	|	|	V|
26+25	54.5560	1.77	Q	|	|	|	V|
26+30	54.5676	1.68	Q	|	|	|	V|
26+35	54.5787	1.60	Q	|	|	|	V|
26+40	54.5892	1.53	Q	|	|	|	V|
26+45	54.5993	1.46	Q	|	|	|	V|
26+50	54.6089	1.40	Q	|	|	|	V|
26+55	54.6181	1.33	Q	|	|	|	V|
27+ 0	54.6268	1.27	Q	|	|	|	V|
27+ 5	54.6352	1.21	Q	|	|	|	V|
27+10	54.6431	1.15	Q	|	|	|	V|
27+15	54.6507	1.10	Q	|	|	|	V|
27+20	54.6579	1.05	Q	|	|	|	V|
27+25	54.6647	1.00	Q	|	|	|	V|
27+30	54.6712	0.95	Q	|	|	|	V|
27+35	54.6775	0.90	Q	|	|	|	V|
27+40	54.6834	0.87	Q	|	|	|	V|
27+45	54.6891	0.83	Q	|	|	|	V|
27+50	54.6946	0.79	Q	|	|	|	V|
27+55	54.6998	0.76	Q	|	|	|	V|
28+ 0	54.7048	0.72	Q	|	|	|	V|
28+ 5	54.7095	0.69	Q	|	|	|	V|
28+10	54.7140	0.66	Q	|	|	|	V|
28+15	54.7183	0.63	Q	|	|	|	V|
28+20	54.7224	0.60	Q	|	|	|	V|
28+25	54.7264	0.57	Q	|	|	|	V|
28+30	54.7301	0.54	Q	|	|	|	V|
28+35	54.7336	0.52	Q	|	|	|	V|
28+40	54.7370	0.49	Q	|	|	|	V|
28+45	54.7402	0.47	Q	|	|	|	V|
28+50	54.7433	0.45	Q	|	|	|	V|
28+55	54.7462	0.43	Q	|	|	|	V|
29+ 0	54.7490	0.40	Q	|	|	|	V|
29+ 5	54.7517	0.38	Q	|	|	|	V|
29+10	54.7542	0.36	Q	|	|	|	V|
29+15	54.7565	0.35	Q	|	|	|	V|
29+20	54.7588	0.33	Q	|	|	|	V|
29+25	54.7610	0.31	Q	|	|	|	V|
29+30	54.7630	0.30	Q	|	|	|	V|
29+35	54.7650	0.28	Q	|	|	|	V|
29+40	54.7668	0.27	Q	|	|	|	V|
29+45	54.7686	0.25	Q	|	|	|	V|
29+50	54.7702	0.24	Q	|	|	|	V|
29+55	54.7718	0.23	Q	|	|	|	V|
30+ 0	54.7732	0.22	Q	|	|	|	V|
30+ 5	54.7747	0.21	Q	|	|	|	V|
30+10	54.7760	0.19	Q	|	|	|	V|
30+15	54.7773	0.18	Q	|	|	|	V|
30+20	54.7785	0.17	Q	|	|	|	V|
30+25	54.7796	0.16	Q	|	|	|	V|
30+30	54.7807	0.16	Q	|	|	|	V|
30+35	54.7817	0.15	Q	|	|	|	V|

30+40	54.7827	0.15	Q	|	|	|	V|
30+45	54.7837	0.14	Q	|	|	|	V|
30+50	54.7846	0.13	Q	|	|	|	V|
30+55	54.7855	0.13	Q	|	|	|	V|
31+ 0	54.7863	0.12	Q	|	|	|	V|
31+ 5	54.7871	0.11	Q	|	|	|	V|
31+10	54.7879	0.11	Q	|	|	|	V|
31+15	54.7886	0.10	Q	|	|	|	V|
31+20	54.7892	0.09	Q	|	|	|	V|
31+25	54.7898	0.09	Q	|	|	|	V|
31+30	54.7904	0.08	Q	|	|	|	V|
31+35	54.7909	0.08	Q	|	|	|	V|
31+40	54.7914	0.07	Q	|	|	|	V|
31+45	54.7918	0.06	Q	|	|	|	V|
31+50	54.7922	0.06	Q	|	|	|	V|
31+55	54.7926	0.05	Q	|	|	|	V|
32+ 0	54.7929	0.04	Q	|	|	|	V|
32+ 5	54.7931	0.04	Q	|	|	|	V|
32+10	54.7934	0.03	Q	|	|	|	V|
32+15	54.7936	0.03	Q	|	|	|	V|
32+20	54.7937	0.03	Q	|	|	|	V|
32+25	54.7939	0.02	Q	|	|	|	V|
32+30	54.7940	0.02	Q	|	|	|	V|
32+35	54.7941	0.02	Q	|	|	|	V|
32+40	54.7942	0.01	Q	|	|	|	V|
32+45	54.7943	0.01	Q	|	|	|	V|
32+50	54.7944	0.01	Q	|	|	|	V|
32+55	54.7944	0.00	Q	|	|	|	V|
33+ 0	54.7944	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 40
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.40	1	1.40
Rainfall data for year 100		
3.40	6	1.86
Rainfall data for year 100		
3.40	24	2.65

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	3.40	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.40	1.000	84.0	96.4	0.37	0.849

Area-averaged catchment yield fraction, Y = 0.849
Area-averaged low loss fraction, Yb = 0.151
User entry of time of concentration = 0.280 (hours)
++
Watershed area = 3.40(Ac.)
Catchment Lag time = 0.224 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 37.2024
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.151 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.666(In)
Specified peak 6-hour rainfall = 1.860(In)
Specified peak 24-hour rainfall = 2.650(In)

Rainfall depth area reduction factors:
Using a total area of 3.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.664(In)
30-minute factor = 1.000 Adjusted rainfall = 1.137(In)
1-hour factor = 1.000 Adjusted rainfall = 1.400(In)
3-hour factor = 1.000 Adjusted rainfall = 1.666(In)
6-hour factor = 1.000 Adjusted rainfall = 1.860(In)
24-hour factor = 1.000 Adjusted rainfall = 2.650(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 41.12 (CFS))	
1	2.453	1.009
2	15.615	5.412
3	44.808	12.004
4	62.667	7.344
5	72.342	3.978
6	78.814	2.661
7	83.398	1.885
8	86.976	1.471
9	89.667	1.106
10	91.740	0.852
11	93.476	0.714
12	94.846	0.564
13	95.989	0.470
14	96.911	0.379

15	97.603	0.284
16	98.066	0.191
17	98.467	0.165
18	98.913	0.183
19	99.355	0.182
20	99.659	0.125
21	100.000	0.062

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6642	0.6642
2	0.8177	0.1535
3	0.9235	0.1058
4	1.0068	0.0832
5	1.0765	0.0697
6	1.1370	0.0605
7	1.1908	0.0538
8	1.2395	0.0487
9	1.2840	0.0446
10	1.3253	0.0412
11	1.3637	0.0384
12	1.3998	0.0361
13	1.4177	0.0179
14	1.4344	0.0168
15	1.4502	0.0158
16	1.4652	0.0149
17	1.4793	0.0142
18	1.4928	0.0135
19	1.5057	0.0129
20	1.5180	0.0123
21	1.5298	0.0118
22	1.5411	0.0113
23	1.5520	0.0109
24	1.5625	0.0105
25	1.5727	0.0102
26	1.5825	0.0098
27	1.5920	0.0095
28	1.6012	0.0092
29	1.6102	0.0089
30	1.6189	0.0087
31	1.6273	0.0084
32	1.6355	0.0082
33	1.6435	0.0080
34	1.6513	0.0078
35	1.6589	0.0076
36	1.6664	0.0074
37	1.6736	0.0073
38	1.6807	0.0071
39	1.6877	0.0069
40	1.6944	0.0068
41	1.7011	0.0066
42	1.7076	0.0065
43	1.7140	0.0064
44	1.7203	0.0063
45	1.7264	0.0061
46	1.7324	0.0060
47	1.7383	0.0059
48	1.7442	0.0058
49	1.7499	0.0057

50	1.7555	0.0056
51	1.7610	0.0055
52	1.7664	0.0054
53	1.7718	0.0053
54	1.7770	0.0053
55	1.7822	0.0052
56	1.7873	0.0051
57	1.7923	0.0050
58	1.7973	0.0049
59	1.8022	0.0049
60	1.8070	0.0048
61	1.8117	0.0047
62	1.8164	0.0047
63	1.8210	0.0046
64	1.8256	0.0046
65	1.8301	0.0045
66	1.8345	0.0044
67	1.8389	0.0044
68	1.8432	0.0043
69	1.8475	0.0043
70	1.8517	0.0042
71	1.8559	0.0042
72	1.8600	0.0041
73	1.8665	0.0066
74	1.8730	0.0065
75	1.8795	0.0064
76	1.8858	0.0064
77	1.8921	0.0063
78	1.8984	0.0062
79	1.9046	0.0062
80	1.9107	0.0061
81	1.9168	0.0061
82	1.9228	0.0060
83	1.9287	0.0060
84	1.9347	0.0059
85	1.9405	0.0059
86	1.9463	0.0058
87	1.9521	0.0058
88	1.9578	0.0057
89	1.9634	0.0057
90	1.9690	0.0056
91	1.9746	0.0056
92	1.9801	0.0055
93	1.9856	0.0055
94	1.9910	0.0054
95	1.9964	0.0054
96	2.0018	0.0053
97	2.0071	0.0053
98	2.0123	0.0053
99	2.0175	0.0052
100	2.0227	0.0052
101	2.0279	0.0051
102	2.0330	0.0051
103	2.0381	0.0051
104	2.0431	0.0050
105	2.0481	0.0050
106	2.0531	0.0050
107	2.0580	0.0049
108	2.0629	0.0049

109	2.0677	0.0049
110	2.0726	0.0048
111	2.0774	0.0048
112	2.0821	0.0048
113	2.0869	0.0047
114	2.0916	0.0047
115	2.0962	0.0047
116	2.1009	0.0046
117	2.1055	0.0046
118	2.1101	0.0046
119	2.1146	0.0046
120	2.1191	0.0045
121	2.1236	0.0045
122	2.1281	0.0045
123	2.1325	0.0044
124	2.1369	0.0044
125	2.1413	0.0044
126	2.1457	0.0044
127	2.1500	0.0043
128	2.1543	0.0043
129	2.1586	0.0043
130	2.1629	0.0043
131	2.1671	0.0042
132	2.1713	0.0042
133	2.1755	0.0042
134	2.1797	0.0042
135	2.1838	0.0041
136	2.1880	0.0041
137	2.1920	0.0041
138	2.1961	0.0041
139	2.2002	0.0041
140	2.2042	0.0040
141	2.2082	0.0040
142	2.2122	0.0040
143	2.2162	0.0040
144	2.2201	0.0039
145	2.2240	0.0039
146	2.2280	0.0039
147	2.2318	0.0039
148	2.2357	0.0039
149	2.2396	0.0038
150	2.2434	0.0038
151	2.2472	0.0038
152	2.2510	0.0038
153	2.2548	0.0038
154	2.2585	0.0038
155	2.2622	0.0037
156	2.2660	0.0037
157	2.2697	0.0037
158	2.2733	0.0037
159	2.2770	0.0037
160	2.2807	0.0036
161	2.2843	0.0036
162	2.2879	0.0036
163	2.2915	0.0036
164	2.2951	0.0036
165	2.2986	0.0036
166	2.3022	0.0035
167	2.3057	0.0035

168	2.3093	0.0035
169	2.3128	0.0035
170	2.3162	0.0035
171	2.3197	0.0035
172	2.3232	0.0035
173	2.3266	0.0034
174	2.3300	0.0034
175	2.3334	0.0034
176	2.3368	0.0034
177	2.3402	0.0034
178	2.3436	0.0034
179	2.3470	0.0034
180	2.3503	0.0033
181	2.3536	0.0033
182	2.3569	0.0033
183	2.3602	0.0033
184	2.3635	0.0033
185	2.3668	0.0033
186	2.3701	0.0033
187	2.3733	0.0032
188	2.3765	0.0032
189	2.3798	0.0032
190	2.3830	0.0032
191	2.3862	0.0032
192	2.3893	0.0032
193	2.3925	0.0032
194	2.3957	0.0032
195	2.3988	0.0031
196	2.4020	0.0031
197	2.4051	0.0031
198	2.4082	0.0031
199	2.4113	0.0031
200	2.4144	0.0031
201	2.4175	0.0031
202	2.4205	0.0031
203	2.4236	0.0031
204	2.4266	0.0030
205	2.4297	0.0030
206	2.4327	0.0030
207	2.4357	0.0030
208	2.4387	0.0030
209	2.4417	0.0030
210	2.4447	0.0030
211	2.4476	0.0030
212	2.4506	0.0030
213	2.4535	0.0029
214	2.4565	0.0029
215	2.4594	0.0029
216	2.4623	0.0029
217	2.4652	0.0029
218	2.4681	0.0029
219	2.4710	0.0029
220	2.4739	0.0029
221	2.4767	0.0029
222	2.4796	0.0029
223	2.4824	0.0028
224	2.4853	0.0028
225	2.4881	0.0028
226	2.4909	0.0028

227	2.4937	0.0028
228	2.4965	0.0028
229	2.4993	0.0028
230	2.5021	0.0028
231	2.5049	0.0028
232	2.5076	0.0028
233	2.5104	0.0028
234	2.5131	0.0027
235	2.5159	0.0027
236	2.5186	0.0027
237	2.5213	0.0027
238	2.5240	0.0027
239	2.5267	0.0027
240	2.5294	0.0027
241	2.5321	0.0027
242	2.5348	0.0027
243	2.5375	0.0027
244	2.5401	0.0027
245	2.5428	0.0027
246	2.5454	0.0026
247	2.5481	0.0026
248	2.5507	0.0026
249	2.5533	0.0026
250	2.5559	0.0026
251	2.5586	0.0026
252	2.5612	0.0026
253	2.5637	0.0026
254	2.5663	0.0026
255	2.5689	0.0026
256	2.5715	0.0026
257	2.5740	0.0026
258	2.5766	0.0026
259	2.5791	0.0025
260	2.5817	0.0025
261	2.5842	0.0025
262	2.5867	0.0025
263	2.5892	0.0025
264	2.5918	0.0025
265	2.5943	0.0025
266	2.5968	0.0025
267	2.5992	0.0025
268	2.6017	0.0025
269	2.6042	0.0025
270	2.6067	0.0025
271	2.6091	0.0025
272	2.6116	0.0025
273	2.6140	0.0024
274	2.6165	0.0024
275	2.6189	0.0024
276	2.6213	0.0024
277	2.6238	0.0024
278	2.6262	0.0024
279	2.6286	0.0024
280	2.6310	0.0024
281	2.6334	0.0024
282	2.6358	0.0024
283	2.6382	0.0024
284	2.6405	0.0024
285	2.6429	0.0024

286	2.6453	0.0024
287	2.6476	0.0024
288	2.6500	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0020
2	0.0024	0.0004	0.0020
3	0.0024	0.0004	0.0020
4	0.0024	0.0004	0.0020
5	0.0024	0.0004	0.0020
6	0.0024	0.0004	0.0020
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0021
9	0.0024	0.0004	0.0021
10	0.0024	0.0004	0.0021
11	0.0024	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0021
14	0.0025	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0021
17	0.0025	0.0004	0.0021
18	0.0025	0.0004	0.0021
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0026	0.0004	0.0022
28	0.0026	0.0004	0.0022
29	0.0026	0.0004	0.0022
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0027	0.0004	0.0023
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0027	0.0004	0.0023
36	0.0027	0.0004	0.0023
37	0.0027	0.0004	0.0023
38	0.0028	0.0004	0.0023
39	0.0028	0.0004	0.0024
40	0.0028	0.0004	0.0024
41	0.0028	0.0004	0.0024
42	0.0028	0.0004	0.0024
43	0.0028	0.0004	0.0024
44	0.0028	0.0004	0.0024
45	0.0029	0.0004	0.0024
46	0.0029	0.0004	0.0024
47	0.0029	0.0004	0.0024
48	0.0029	0.0004	0.0025
49	0.0029	0.0004	0.0025
50	0.0029	0.0004	0.0025
51	0.0029	0.0004	0.0025

52	0.0030	0.0004	0.0025
53	0.0030	0.0005	0.0025
54	0.0030	0.0005	0.0025
55	0.0030	0.0005	0.0026
56	0.0030	0.0005	0.0026
57	0.0030	0.0005	0.0026
58	0.0031	0.0005	0.0026
59	0.0031	0.0005	0.0026
60	0.0031	0.0005	0.0026
61	0.0031	0.0005	0.0026
62	0.0031	0.0005	0.0027
63	0.0031	0.0005	0.0027
64	0.0032	0.0005	0.0027
65	0.0032	0.0005	0.0027
66	0.0032	0.0005	0.0027
67	0.0032	0.0005	0.0027
68	0.0032	0.0005	0.0027
69	0.0033	0.0005	0.0028
70	0.0033	0.0005	0.0028
71	0.0033	0.0005	0.0028
72	0.0033	0.0005	0.0028
73	0.0033	0.0005	0.0028
74	0.0034	0.0005	0.0028
75	0.0034	0.0005	0.0029
76	0.0034	0.0005	0.0029
77	0.0034	0.0005	0.0029
78	0.0034	0.0005	0.0029
79	0.0035	0.0005	0.0029
80	0.0035	0.0005	0.0030
81	0.0035	0.0005	0.0030
82	0.0035	0.0005	0.0030
83	0.0036	0.0005	0.0030
84	0.0036	0.0005	0.0030
85	0.0036	0.0005	0.0031
86	0.0036	0.0005	0.0031
87	0.0037	0.0006	0.0031
88	0.0037	0.0006	0.0031
89	0.0037	0.0006	0.0032
90	0.0037	0.0006	0.0032
91	0.0038	0.0006	0.0032
92	0.0038	0.0006	0.0032
93	0.0038	0.0006	0.0032
94	0.0038	0.0006	0.0033
95	0.0039	0.0006	0.0033
96	0.0039	0.0006	0.0033
97	0.0039	0.0006	0.0034
98	0.0040	0.0006	0.0034
99	0.0040	0.0006	0.0034
100	0.0040	0.0006	0.0034
101	0.0041	0.0006	0.0035
102	0.0041	0.0006	0.0035
103	0.0041	0.0006	0.0035
104	0.0042	0.0006	0.0035
105	0.0042	0.0006	0.0036
106	0.0042	0.0006	0.0036
107	0.0043	0.0006	0.0036
108	0.0043	0.0007	0.0037
109	0.0044	0.0007	0.0037
110	0.0044	0.0007	0.0037

111	0.0044	0.0007	0.0038
112	0.0045	0.0007	0.0038
113	0.0045	0.0007	0.0038
114	0.0046	0.0007	0.0039
115	0.0046	0.0007	0.0039
116	0.0046	0.0007	0.0039
117	0.0047	0.0007	0.0040
118	0.0047	0.0007	0.0040
119	0.0048	0.0007	0.0041
120	0.0048	0.0007	0.0041
121	0.0049	0.0007	0.0042
122	0.0049	0.0007	0.0042
123	0.0050	0.0008	0.0042
124	0.0050	0.0008	0.0043
125	0.0051	0.0008	0.0043
126	0.0051	0.0008	0.0044
127	0.0052	0.0008	0.0044
128	0.0053	0.0008	0.0045
129	0.0053	0.0008	0.0045
130	0.0054	0.0008	0.0046
131	0.0055	0.0008	0.0046
132	0.0055	0.0008	0.0047
133	0.0056	0.0008	0.0048
134	0.0057	0.0009	0.0048
135	0.0058	0.0009	0.0049
136	0.0058	0.0009	0.0049
137	0.0059	0.0009	0.0050
138	0.0060	0.0009	0.0051
139	0.0061	0.0009	0.0052
140	0.0061	0.0009	0.0052
141	0.0062	0.0009	0.0053
142	0.0063	0.0010	0.0054
143	0.0064	0.0010	0.0055
144	0.0065	0.0010	0.0055
145	0.0041	0.0006	0.0035
146	0.0042	0.0006	0.0035
147	0.0043	0.0006	0.0036
148	0.0043	0.0007	0.0037
149	0.0044	0.0007	0.0038
150	0.0045	0.0007	0.0038
151	0.0046	0.0007	0.0039
152	0.0047	0.0007	0.0040
153	0.0048	0.0007	0.0041
154	0.0049	0.0007	0.0041
155	0.0050	0.0008	0.0043
156	0.0051	0.0008	0.0043
157	0.0053	0.0008	0.0045
158	0.0053	0.0008	0.0045
159	0.0055	0.0008	0.0047
160	0.0056	0.0008	0.0048
161	0.0058	0.0009	0.0049
162	0.0059	0.0009	0.0050
163	0.0061	0.0009	0.0052
164	0.0063	0.0009	0.0053
165	0.0065	0.0010	0.0055
166	0.0066	0.0010	0.0056
167	0.0069	0.0010	0.0059
168	0.0071	0.0011	0.0060
169	0.0074	0.0011	0.0063

170	0.0076	0.0012	0.0065
171	0.0080	0.0012	0.0068
172	0.0082	0.0012	0.0070
173	0.0087	0.0013	0.0074
174	0.0089	0.0014	0.0076
175	0.0095	0.0014	0.0081
176	0.0098	0.0015	0.0083
177	0.0105	0.0016	0.0089
178	0.0109	0.0017	0.0093
179	0.0118	0.0018	0.0100
180	0.0123	0.0019	0.0104
181	0.0135	0.0020	0.0114
182	0.0142	0.0021	0.0120
183	0.0158	0.0024	0.0134
184	0.0168	0.0025	0.0142
185	0.0361	0.0055	0.0306
186	0.0384	0.0058	0.0326
187	0.0446	0.0059	0.0387
188	0.0487	0.0059	0.0428
189	0.0605	0.0059	0.0546
190	0.0697	0.0059	0.0638
191	0.1058	0.0059	0.0999
192	0.1535	0.0059	0.1476
193	0.6642	0.0059	0.6583
194	0.0832	0.0059	0.0773
195	0.0538	0.0059	0.0479
196	0.0412	0.0059	0.0353
197	0.0179	0.0027	0.0152
198	0.0149	0.0023	0.0127
199	0.0129	0.0019	0.0109
200	0.0113	0.0017	0.0096
201	0.0102	0.0015	0.0086
202	0.0092	0.0014	0.0078
203	0.0084	0.0013	0.0072
204	0.0078	0.0012	0.0066
205	0.0073	0.0011	0.0062
206	0.0068	0.0010	0.0058
207	0.0064	0.0010	0.0054
208	0.0060	0.0009	0.0051
209	0.0057	0.0009	0.0048
210	0.0054	0.0008	0.0046
211	0.0052	0.0008	0.0044
212	0.0049	0.0007	0.0042
213	0.0047	0.0007	0.0040
214	0.0046	0.0007	0.0039
215	0.0044	0.0007	0.0037
216	0.0042	0.0006	0.0036
217	0.0066	0.0010	0.0056
218	0.0064	0.0010	0.0054
219	0.0062	0.0009	0.0052
220	0.0060	0.0009	0.0051
221	0.0059	0.0009	0.0050
222	0.0057	0.0009	0.0048
223	0.0056	0.0008	0.0047
224	0.0054	0.0008	0.0046
225	0.0053	0.0008	0.0045
226	0.0052	0.0008	0.0044
227	0.0051	0.0008	0.0043
228	0.0050	0.0008	0.0042

229	0.0049	0.0007	0.0041
230	0.0048	0.0007	0.0040
231	0.0047	0.0007	0.0040
232	0.0046	0.0007	0.0039
233	0.0045	0.0007	0.0038
234	0.0044	0.0007	0.0037
235	0.0043	0.0007	0.0037
236	0.0043	0.0006	0.0036
237	0.0042	0.0006	0.0036
238	0.0041	0.0006	0.0035
239	0.0041	0.0006	0.0034
240	0.0040	0.0006	0.0034
241	0.0039	0.0006	0.0033
242	0.0039	0.0006	0.0033
243	0.0038	0.0006	0.0032
244	0.0038	0.0006	0.0032
245	0.0037	0.0006	0.0031
246	0.0036	0.0006	0.0031
247	0.0036	0.0005	0.0031
248	0.0035	0.0005	0.0030
249	0.0035	0.0005	0.0030
250	0.0035	0.0005	0.0029
251	0.0034	0.0005	0.0029
252	0.0034	0.0005	0.0029
253	0.0033	0.0005	0.0028
254	0.0033	0.0005	0.0028
255	0.0032	0.0005	0.0028
256	0.0032	0.0005	0.0027
257	0.0032	0.0005	0.0027
258	0.0031	0.0005	0.0027
259	0.0031	0.0005	0.0026
260	0.0031	0.0005	0.0026
261	0.0030	0.0005	0.0026
262	0.0030	0.0005	0.0025
263	0.0030	0.0004	0.0025
264	0.0029	0.0004	0.0025
265	0.0029	0.0004	0.0025
266	0.0029	0.0004	0.0024
267	0.0028	0.0004	0.0024
268	0.0028	0.0004	0.0024
269	0.0028	0.0004	0.0024
270	0.0028	0.0004	0.0023
271	0.0027	0.0004	0.0023
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0023
274	0.0027	0.0004	0.0023
275	0.0026	0.0004	0.0022
276	0.0026	0.0004	0.0022
277	0.0026	0.0004	0.0022
278	0.0026	0.0004	0.0022
279	0.0025	0.0004	0.0022
280	0.0025	0.0004	0.0021
281	0.0025	0.0004	0.0021
282	0.0025	0.0004	0.0021
283	0.0025	0.0004	0.0021
284	0.0024	0.0004	0.0021
285	0.0024	0.0004	0.0021
286	0.0024	0.0004	0.0020
287	0.0024	0.0004	0.0020

288 0.0024 0.0004 0.0020

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.39(In)
Peak flow rate in flood hydrograph = 10.31(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0004	0.04	Q				
0+20	0.0007	0.05	Q				
0+25	0.0011	0.06	Q				
0+30	0.0016	0.07	Q				
0+35	0.0021	0.07	Q				
0+40	0.0025	0.07	Q				
0+45	0.0031	0.08	Q				
0+50	0.0036	0.08	Q				
0+55	0.0041	0.08	Q				
1+ 0	0.0047	0.08	Q				
1+ 5	0.0053	0.08	Q				
1+10	0.0058	0.08	Q				
1+15	0.0064	0.08	Q				
1+20	0.0070	0.08	Q				
1+25	0.0076	0.08	Q				
1+30	0.0082	0.09	Q				
1+35	0.0087	0.09	Q				
1+40	0.0093	0.09	Q				
1+45	0.0099	0.09	Q				
1+50	0.0106	0.09	Q				
1+55	0.0112	0.09	Q				
2+ 0	0.0118	0.09	Q				
2+ 5	0.0124	0.09	Q				
2+10	0.0130	0.09	Q				
2+15	0.0136	0.09	Q				
2+20	0.0142	0.09	Q				
2+25	0.0149	0.09	Q				
2+30	0.0155	0.09	Q				
2+35	0.0161	0.09	Q				
2+40	0.0167	0.09	Q				
2+45	0.0174	0.09	QV				
2+50	0.0180	0.09	QV				
2+55	0.0187	0.09	QV				
3+ 0	0.0193	0.09	QV				
3+ 5	0.0199	0.09	QV				
3+10	0.0206	0.09	QV				
3+15	0.0212	0.09	QV				
3+20	0.0219	0.10	QV				
3+25	0.0226	0.10	QV				
3+30	0.0232	0.10	QV				
3+35	0.0239	0.10	QV				

3+40	0.0246	0.10	QV				
3+45	0.0252	0.10	QV				
3+50	0.0259	0.10	QV				
3+55	0.0266	0.10	QV				
4+ 0	0.0273	0.10	QV				
4+ 5	0.0280	0.10	QV				
4+10	0.0286	0.10	QV				
4+15	0.0293	0.10	QV				
4+20	0.0300	0.10	QV				
4+25	0.0307	0.10	QV				
4+30	0.0314	0.10	QV				
4+35	0.0321	0.10	QV				
4+40	0.0328	0.10	QV				
4+45	0.0336	0.10	QV				
4+50	0.0343	0.10	Q V				
4+55	0.0350	0.10	Q V				
5+ 0	0.0357	0.11	Q V				
5+ 5	0.0365	0.11	Q V				
5+10	0.0372	0.11	Q V				
5+15	0.0379	0.11	Q V				
5+20	0.0387	0.11	Q V				
5+25	0.0394	0.11	Q V				
5+30	0.0402	0.11	Q V				
5+35	0.0409	0.11	Q V				
5+40	0.0417	0.11	Q V				
5+45	0.0424	0.11	Q V				
5+50	0.0432	0.11	Q V				
5+55	0.0440	0.11	Q V				
6+ 0	0.0448	0.11	Q V				
6+ 5	0.0455	0.11	Q V				
6+10	0.0463	0.11	Q V				
6+15	0.0471	0.11	Q V				
6+20	0.0479	0.12	Q V				
6+25	0.0487	0.12	Q V				
6+30	0.0495	0.12	Q V				
6+35	0.0503	0.12	Q V				
6+40	0.0512	0.12	Q V				
6+45	0.0520	0.12	Q V				
6+50	0.0528	0.12	Q V				
6+55	0.0536	0.12	Q V				
7+ 0	0.0545	0.12	Q V				
7+ 5	0.0553	0.12	Q V				
7+10	0.0562	0.12	Q V				
7+15	0.0570	0.12	Q V				
7+20	0.0579	0.13	Q V				
7+25	0.0588	0.13	Q V				
7+30	0.0596	0.13	Q V				
7+35	0.0605	0.13	Q V				
7+40	0.0614	0.13	Q V				
7+45	0.0623	0.13	Q V				
7+50	0.0632	0.13	Q V				
7+55	0.0641	0.13	Q V				
8+ 0	0.0650	0.13	Q V				
8+ 5	0.0659	0.13	Q V				
8+10	0.0668	0.13	Q V				
8+15	0.0678	0.14	Q V				
8+20	0.0687	0.14	Q V				
8+25	0.0697	0.14	Q V				
8+30	0.0706	0.14	Q V				

8+35	0.0716	0.14	Q	V				
8+40	0.0725	0.14	Q	V				
8+45	0.0735	0.14	Q	V				
8+50	0.0745	0.14	Q	V				
8+55	0.0755	0.14	Q	V				
9+ 0	0.0765	0.15	Q	V				
9+ 5	0.0775	0.15	Q	V				
9+10	0.0785	0.15	Q	V				
9+15	0.0796	0.15	Q	V				
9+20	0.0806	0.15	Q	V				
9+25	0.0816	0.15	Q	V				
9+30	0.0827	0.15	Q	V				
9+35	0.0838	0.15	Q	V				
9+40	0.0848	0.16	Q	V				
9+45	0.0859	0.16	Q	V				
9+50	0.0870	0.16	Q	V				
9+55	0.0881	0.16	Q	V				
10+ 0	0.0892	0.16	Q	V				
10+ 5	0.0904	0.16	Q	V				
10+10	0.0915	0.17	Q	V				
10+15	0.0927	0.17	Q	V				
10+20	0.0938	0.17	Q	V				
10+25	0.0950	0.17	Q	V				
10+30	0.0962	0.17	Q	V				
10+35	0.0974	0.17	Q	V				
10+40	0.0986	0.18	Q	V				
10+45	0.0998	0.18	Q	V				
10+50	0.1011	0.18	Q	V				
10+55	0.1023	0.18	Q	V				
11+ 0	0.1036	0.18	Q	V				
11+ 5	0.1049	0.19	Q	V				
11+10	0.1062	0.19	Q	V				
11+15	0.1075	0.19	Q	V				
11+20	0.1088	0.19	Q	V				
11+25	0.1101	0.20	Q	V				
11+30	0.1115	0.20	Q	V				
11+35	0.1129	0.20	Q	V				
11+40	0.1143	0.20	Q	V				
11+45	0.1157	0.21	Q	V				
11+50	0.1171	0.21	Q	V				
11+55	0.1186	0.21	Q	V				
12+ 0	0.1201	0.21	Q	V				
12+ 5	0.1216	0.22	Q	V				
12+10	0.1230	0.21	Q	V				
12+15	0.1243	0.18	Q	V				
12+20	0.1255	0.17	Q	V				
12+25	0.1266	0.17	Q	V				
12+30	0.1277	0.16	Q	V				
12+35	0.1289	0.16	Q	V				
12+40	0.1300	0.16	Q	V				
12+45	0.1311	0.16	Q	V				
12+50	0.1322	0.16	Q	V				
12+55	0.1334	0.17	Q	V				
13+ 0	0.1345	0.17	Q	V				
13+ 5	0.1357	0.17	Q	V				
13+10	0.1369	0.17	Q	V				
13+15	0.1381	0.18	Q	V				
13+20	0.1394	0.18	Q	V				
13+25	0.1407	0.19	Q	V				

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13+30       0.1420      0.19  Q       V |          |          |          |
13+35       0.1433      0.19  Q       V |          |          |          |
13+40       0.1447      0.20  Q       V |          |          |          |
13+45       0.1461      0.20  Q       V |          |          |          |
13+50       0.1475      0.21  Q       V |          |          |          |
13+55       0.1490      0.22  Q       V |          |          |          |
14+ 0       0.1505      0.22  Q       V |          |          |          |
14+ 5       0.1521      0.23  Q        V|          |          |          |
14+10       0.1537      0.24  Q        V|          |          |          |
14+15       0.1554      0.24  Q        V|          |          |          |
14+20       0.1571      0.25  Q        V|          |          |          |
14+25       0.1589      0.26  Q        V|          |          |          |
14+30       0.1608      0.27  Q        V|          |          |          |
14+35       0.1627      0.28  Q        V|          |          |          |
14+40       0.1647      0.29  Q        V|          |          |          |
14+45       0.1669      0.31  Q        V|          |          |          |
14+50       0.1691      0.32  Q         V          |          |          |
14+55       0.1714      0.34  Q         V          |          |          |
15+ 0       0.1738      0.35  Q         V          |          |          |
15+ 5       0.1764      0.37  Q         V          |          |          |
15+10       0.1791      0.40  Q         V          |          |          |
15+15       0.1821      0.42  Q         V          |          |          |
15+20       0.1852      0.45  Q         V          |          |          |
15+25       0.1886      0.50  |Q        |V          |          |          |
15+30       0.1929      0.62  |Q        |V          |          |          |
15+35       0.1988      0.85  |Q        |V          |          |          |
15+40       0.2060      1.05  | Q       | V         |          |          |
15+45       0.2146      1.24  | Q       | V         |          |          |
15+50       0.2247      1.47  | Q       |  V        |          |          |
15+55       0.2370      1.79  |  Q      |   V       |          |          |
16+ 0       0.2528      2.30  |   Q     |   V       |          |          |
16+ 5       0.2781      3.66  |      Q  |     V     |          |          |
16+10       0.3248      6.78  |         |  Q     V  |          |          |
16+15       0.3958     10.31  |         |         Q  V          |          |
16+20       0.4458      7.26  |         |   Q       |     V    |          |
16+25       0.4790      4.82  |        Q|           |       V  |          |
16+30       0.5035      3.57  |      Q  |           |        V |          |
16+35       0.5218      2.65  |    Q    |           |         V          |
16+40       0.5362      2.10  |   Q     |           |          |V         |
16+45       0.5478      1.68  |  Q      |           |          | V        |
16+50       0.5572      1.37  | Q       |           |          | V        |
16+55       0.5653      1.17  | Q       |           |          |  V       |
17+ 0       0.5721      0.98  |Q        |           |          |  V       |
17+ 5       0.5779      0.85  |Q        |           |          |   V      |
17+10       0.5828      0.72  |Q        |           |          |   V      |
17+15       0.5870      0.61  |Q        |           |          |   V      |
17+20       0.5905      0.51  |Q        |           |          |   V      |
17+25       0.5936      0.45  Q         |           |          |    V     |
17+30       0.5966      0.43  Q         |           |          |    V     |
17+35       0.5993      0.40  Q         |           |          |    V     |
17+40       0.6016      0.33  Q         |           |          |    V     |
17+45       0.6035      0.27  Q         |           |          |    V     |
17+50       0.6049      0.21  Q         |           |          |    V     |
17+55       0.6063      0.19  Q         |           |          |    V     |
18+ 0       0.6075      0.18  Q         |           |          |    V     |
18+ 5       0.6087      0.17  Q         |           |          |     V    |
18+10       0.6099      0.18  Q         |           |          |     V    |
18+15       0.6113      0.20  Q         |           |          |     V    |
18+20       0.6127      0.20  Q         |           |          |     V    |
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18+25	0.6141	0.21	Q	|	|	|	V |
18+30	0.6155	0.20	Q	|	|	|	V |
18+35	0.6169	0.20	Q	|	|	|	V |
18+40	0.6183	0.20	Q	|	|	|	V |
18+45	0.6196	0.20	Q	|	|	|	V |
18+50	0.6209	0.19	Q	|	|	|	V |
18+55	0.6222	0.19	Q	|	|	|	V |
19+ 0	0.6235	0.19	Q	|	|	|	V |
19+ 5	0.6248	0.18	Q	|	|	|	V |
19+10	0.6260	0.18	Q	|	|	|	V |
19+15	0.6272	0.18	Q	|	|	|	V |
19+20	0.6284	0.17	Q	|	|	|	V |
19+25	0.6296	0.17	Q	|	|	|	V |
19+30	0.6307	0.17	Q	|	|	|	V |
19+35	0.6319	0.16	Q	|	|	|	V |
19+40	0.6330	0.16	Q	|	|	|	V |
19+45	0.6340	0.16	Q	|	|	|	V |
19+50	0.6351	0.15	Q	|	|	|	V |
19+55	0.6361	0.15	Q	|	|	|	V |
20+ 0	0.6372	0.15	Q	|	|	|	V |
20+ 5	0.6382	0.15	Q	|	|	|	V |
20+10	0.6392	0.14	Q	|	|	|	V |
20+15	0.6402	0.14	Q	|	|	|	V |
20+20	0.6411	0.14	Q	|	|	|	V |
20+25	0.6421	0.14	Q	|	|	|	V |
20+30	0.6430	0.14	Q	|	|	|	V |
20+35	0.6439	0.13	Q	|	|	|	V |
20+40	0.6448	0.13	Q	|	|	|	V |
20+45	0.6457	0.13	Q	|	|	|	V |
20+50	0.6466	0.13	Q	|	|	|	V |
20+55	0.6474	0.13	Q	|	|	|	V |
21+ 0	0.6483	0.12	Q	|	|	|	V |
21+ 5	0.6491	0.12	Q	|	|	|	V |
21+10	0.6500	0.12	Q	|	|	|	V |
21+15	0.6508	0.12	Q	|	|	|	V |
21+20	0.6516	0.12	Q	|	|	|	V |
21+25	0.6524	0.12	Q	|	|	|	V |
21+30	0.6532	0.11	Q	|	|	|	V |
21+35	0.6540	0.11	Q	|	|	|	V |
21+40	0.6547	0.11	Q	|	|	|	V |
21+45	0.6555	0.11	Q	|	|	|	V |
21+50	0.6563	0.11	Q	|	|	|	V |
21+55	0.6570	0.11	Q	|	|	|	V |
22+ 0	0.6577	0.11	Q	|	|	|	V |
22+ 5	0.6585	0.11	Q	|	|	|	V |
22+10	0.6592	0.10	Q	|	|	|	V|
22+15	0.6599	0.10	Q	|	|	|	V|
22+20	0.6606	0.10	Q	|	|	|	V|
22+25	0.6613	0.10	Q	|	|	|	V|
22+30	0.6620	0.10	Q	|	|	|	V|
22+35	0.6627	0.10	Q	|	|	|	V|
22+40	0.6633	0.10	Q	|	|	|	V|
22+45	0.6640	0.10	Q	|	|	|	V|
22+50	0.6647	0.10	Q	|	|	|	V|
22+55	0.6653	0.10	Q	|	|	|	V|
23+ 0	0.6660	0.09	Q	|	|	|	V|
23+ 5	0.6666	0.09	Q	|	|	|	V|
23+10	0.6673	0.09	Q	|	|	|	V|
23+15	0.6679	0.09	Q	|	|	|	V|

23+20	0.6685	0.09	Q	|	|	|	V|
23+25	0.6692	0.09	Q	|	|	|	V|
23+30	0.6698	0.09	Q	|	|	|	V|
23+35	0.6704	0.09	Q	|	|	|	V|
23+40	0.6710	0.09	Q	|	|	|	V|
23+45	0.6716	0.09	Q	|	|	|	V|
23+50	0.6722	0.09	Q	|	|	|	V|
23+55	0.6728	0.09	Q	|	|	|	V|
24+ 0	0.6734	0.09	Q	|	|	|	V|
24+ 5	0.6739	0.08	Q	|	|	|	V|
24+10	0.6744	0.07	Q	|	|	|	V|
24+15	0.6747	0.05	Q	|	|	|	V|
24+20	0.6750	0.03	Q	|	|	|	V|
24+25	0.6751	0.02	Q	|	|	|	V|
24+30	0.6752	0.02	Q	|	|	|	V|
24+35	0.6753	0.01	Q	|	|	|	V|
24+40	0.6754	0.01	Q	|	|	|	V|
24+45	0.6755	0.01	Q	|	|	|	V|
24+50	0.6755	0.01	Q	|	|	|	V|
24+55	0.6756	0.01	Q	|	|	|	V|
25+ 0	0.6756	0.00	Q	|	|	|	V|
25+ 5	0.6756	0.00	Q	|	|	|	V|
25+10	0.6756	0.00	Q	|	|	|	V|
25+15	0.6756	0.00	Q	|	|	|	V|
25+20	0.6756	0.00	Q	|	|	|	V|
25+25	0.6757	0.00	Q	|	|	|	V|
25+30	0.6757	0.00	Q	|	|	|	V|
25+35	0.6757	0.00	Q	|	|	|	V|
25+40	0.6757	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 41
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
2.26	1	1.39
Rainfall data for year 100		
2.26	6	1.86
Rainfall data for year 100		
2.26	24	2.65

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	2.26	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
2.26	1.000	84.0	96.4	0.37	0.849

Area-averaged catchment yield fraction, Y = 0.849
Area-averaged low loss fraction, Yb = 0.151
User entry of time of concentration = 0.260 (hours)
++
Watershed area = 2.26(Ac.)
Catchment Lag time = 0.208 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 40.0641
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.151 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.662(In)
Specified peak 6-hour rainfall = 1.860(In)
Specified peak 24-hour rainfall = 2.650(In)

Rainfall depth area reduction factors:
Using a total area of 2.26(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.662(In)
6-hour factor = 1.000 Adjusted rainfall = 1.860(In)
24-hour factor = 1.000 Adjusted rainfall = 2.650(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 27.33 (CFS))	
1	2.755	0.753
2	18.770	4.377
3	49.245	8.329
4	65.688	4.494
5	74.847	2.503
6	80.916	1.659
7	85.280	1.193
8	88.633	0.916
9	91.058	0.663
10	93.036	0.541
11	94.603	0.428
12	95.871	0.346
13	96.878	0.275
14	97.624	0.204

15	98.109	0.133
16	98.552	0.121
17	99.033	0.131
18	99.481	0.123
19	99.757	0.075
20	100.000	0.066

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6595	0.6595
2	0.8119	0.1524
3	0.9170	0.1050
4	0.9996	0.0827
5	1.0688	0.0692
6	1.1289	0.0601
7	1.1823	0.0534
8	1.2307	0.0483
9	1.2749	0.0443
10	1.3159	0.0409
11	1.3540	0.0382
12	1.3899	0.0358
13	1.4081	0.0182
14	1.4251	0.0171
15	1.4412	0.0161
16	1.4564	0.0152
17	1.4709	0.0144
18	1.4846	0.0137
19	1.4977	0.0131
20	1.5103	0.0125
21	1.5223	0.0120
22	1.5339	0.0116
23	1.5450	0.0111
24	1.5557	0.0107
25	1.5661	0.0104
26	1.5761	0.0100
27	1.5858	0.0097
28	1.5952	0.0094
29	1.6043	0.0091
30	1.6132	0.0089
31	1.6218	0.0086
32	1.6302	0.0084
33	1.6384	0.0082
34	1.6464	0.0080
35	1.6542	0.0078
36	1.6618	0.0076
37	1.6692	0.0074
38	1.6764	0.0073
39	1.6835	0.0071
40	1.6905	0.0069
41	1.6973	0.0068
42	1.7039	0.0067
43	1.7105	0.0065
44	1.7169	0.0064
45	1.7232	0.0063
46	1.7293	0.0062
47	1.7354	0.0061
48	1.7413	0.0059
49	1.7472	0.0058
50	1.7529	0.0057

51	1.7586	0.0057
52	1.7641	0.0056
53	1.7696	0.0055
54	1.7750	0.0054
55	1.7803	0.0053
56	1.7855	0.0052
57	1.7907	0.0051
58	1.7957	0.0051
59	1.8007	0.0050
60	1.8057	0.0049
61	1.8105	0.0049
62	1.8153	0.0048
63	1.8200	0.0047
64	1.8247	0.0047
65	1.8293	0.0046
66	1.8339	0.0045
67	1.8384	0.0045
68	1.8428	0.0044
69	1.8472	0.0044
70	1.8515	0.0043
71	1.8558	0.0043
72	1.8600	0.0042
73	1.8665	0.0066
74	1.8730	0.0065
75	1.8795	0.0064
76	1.8858	0.0064
77	1.8921	0.0063
78	1.8984	0.0062
79	1.9046	0.0062
80	1.9107	0.0061
81	1.9168	0.0061
82	1.9228	0.0060
83	1.9288	0.0060
84	1.9347	0.0059
85	1.9405	0.0059
86	1.9463	0.0058
87	1.9521	0.0058
88	1.9578	0.0057
89	1.9634	0.0057
90	1.9690	0.0056
91	1.9746	0.0056
92	1.9801	0.0055
93	1.9856	0.0055
94	1.9910	0.0054
95	1.9964	0.0054
96	2.0018	0.0053
97	2.0071	0.0053
98	2.0123	0.0053
99	2.0176	0.0052
100	2.0227	0.0052
101	2.0279	0.0051
102	2.0330	0.0051
103	2.0381	0.0051
104	2.0431	0.0050
105	2.0481	0.0050
106	2.0531	0.0050
107	2.0580	0.0049
108	2.0629	0.0049
109	2.0677	0.0049

110	2.0726	0.0048
111	2.0774	0.0048
112	2.0821	0.0048
113	2.0869	0.0047
114	2.0916	0.0047
115	2.0962	0.0047
116	2.1009	0.0046
117	2.1055	0.0046
118	2.1101	0.0046
119	2.1146	0.0046
120	2.1191	0.0045
121	2.1236	0.0045
122	2.1281	0.0045
123	2.1325	0.0044
124	2.1370	0.0044
125	2.1413	0.0044
126	2.1457	0.0044
127	2.1500	0.0043
128	2.1543	0.0043
129	2.1586	0.0043
130	2.1629	0.0043
131	2.1671	0.0042
132	2.1713	0.0042
133	2.1755	0.0042
134	2.1797	0.0042
135	2.1838	0.0041
136	2.1880	0.0041
137	2.1921	0.0041
138	2.1961	0.0041
139	2.2002	0.0041
140	2.2042	0.0040
141	2.2082	0.0040
142	2.2122	0.0040
143	2.2162	0.0040
144	2.2201	0.0039
145	2.2241	0.0039
146	2.2280	0.0039
147	2.2318	0.0039
148	2.2357	0.0039
149	2.2396	0.0038
150	2.2434	0.0038
151	2.2472	0.0038
152	2.2510	0.0038
153	2.2548	0.0038
154	2.2585	0.0038
155	2.2622	0.0037
156	2.2660	0.0037
157	2.2697	0.0037
158	2.2734	0.0037
159	2.2770	0.0037
160	2.2807	0.0036
161	2.2843	0.0036
162	2.2879	0.0036
163	2.2915	0.0036
164	2.2951	0.0036
165	2.2987	0.0036
166	2.3022	0.0035
167	2.3057	0.0035
168	2.3093	0.0035

169	2.3128	0.0035
170	2.3162	0.0035
171	2.3197	0.0035
172	2.3232	0.0035
173	2.3266	0.0034
174	2.3300	0.0034
175	2.3335	0.0034
176	2.3369	0.0034
177	2.3402	0.0034
178	2.3436	0.0034
179	2.3470	0.0034
180	2.3503	0.0033
181	2.3536	0.0033
182	2.3569	0.0033
183	2.3602	0.0033
184	2.3635	0.0033
185	2.3668	0.0033
186	2.3701	0.0033
187	2.3733	0.0032
188	2.3765	0.0032
189	2.3798	0.0032
190	2.3830	0.0032
191	2.3862	0.0032
192	2.3894	0.0032
193	2.3925	0.0032
194	2.3957	0.0032
195	2.3988	0.0031
196	2.4020	0.0031
197	2.4051	0.0031
198	2.4082	0.0031
199	2.4113	0.0031
200	2.4144	0.0031
201	2.4175	0.0031
202	2.4205	0.0031
203	2.4236	0.0031
204	2.4266	0.0030
205	2.4297	0.0030
206	2.4327	0.0030
207	2.4357	0.0030
208	2.4387	0.0030
209	2.4417	0.0030
210	2.4447	0.0030
211	2.4476	0.0030
212	2.4506	0.0030
213	2.4535	0.0029
214	2.4565	0.0029
215	2.4594	0.0029
216	2.4623	0.0029
217	2.4652	0.0029
218	2.4681	0.0029
219	2.4710	0.0029
220	2.4739	0.0029
221	2.4767	0.0029
222	2.4796	0.0029
223	2.4824	0.0028
224	2.4853	0.0028
225	2.4881	0.0028
226	2.4909	0.0028
227	2.4937	0.0028

228	2.4965	0.0028
229	2.4993	0.0028
230	2.5021	0.0028
231	2.5049	0.0028
232	2.5076	0.0028
233	2.5104	0.0028
234	2.5131	0.0027
235	2.5159	0.0027
236	2.5186	0.0027
237	2.5213	0.0027
238	2.5240	0.0027
239	2.5268	0.0027
240	2.5294	0.0027
241	2.5321	0.0027
242	2.5348	0.0027
243	2.5375	0.0027
244	2.5401	0.0027
245	2.5428	0.0027
246	2.5454	0.0026
247	2.5481	0.0026
248	2.5507	0.0026
249	2.5533	0.0026
250	2.5560	0.0026
251	2.5586	0.0026
252	2.5612	0.0026
253	2.5638	0.0026
254	2.5663	0.0026
255	2.5689	0.0026
256	2.5715	0.0026
257	2.5740	0.0026
258	2.5766	0.0026
259	2.5791	0.0025
260	2.5817	0.0025
261	2.5842	0.0025
262	2.5867	0.0025
263	2.5893	0.0025
264	2.5918	0.0025
265	2.5943	0.0025
266	2.5968	0.0025
267	2.5993	0.0025
268	2.6017	0.0025
269	2.6042	0.0025
270	2.6067	0.0025
271	2.6091	0.0025
272	2.6116	0.0025
273	2.6140	0.0024
274	2.6165	0.0024
275	2.6189	0.0024
276	2.6213	0.0024
277	2.6238	0.0024
278	2.6262	0.0024
279	2.6286	0.0024
280	2.6310	0.0024
281	2.6334	0.0024
282	2.6358	0.0024
283	2.6382	0.0024
284	2.6405	0.0024
285	2.6429	0.0024
286	2.6453	0.0024

287	2.6476	0.0024
288	2.6500	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0020
2	0.0024	0.0004	0.0020
3	0.0024	0.0004	0.0020
4	0.0024	0.0004	0.0020
5	0.0024	0.0004	0.0020
6	0.0024	0.0004	0.0020
7	0.0024	0.0004	0.0020
8	0.0024	0.0004	0.0021
9	0.0024	0.0004	0.0021
10	0.0024	0.0004	0.0021
11	0.0024	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0021
14	0.0025	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0021
17	0.0025	0.0004	0.0021
18	0.0025	0.0004	0.0021
19	0.0025	0.0004	0.0021
20	0.0025	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0026	0.0004	0.0022
28	0.0026	0.0004	0.0022
29	0.0026	0.0004	0.0022
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0027	0.0004	0.0023
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0027	0.0004	0.0023
36	0.0027	0.0004	0.0023
37	0.0027	0.0004	0.0023
38	0.0028	0.0004	0.0023
39	0.0028	0.0004	0.0024
40	0.0028	0.0004	0.0024
41	0.0028	0.0004	0.0024
42	0.0028	0.0004	0.0024
43	0.0028	0.0004	0.0024
44	0.0028	0.0004	0.0024
45	0.0029	0.0004	0.0024
46	0.0029	0.0004	0.0024
47	0.0029	0.0004	0.0024
48	0.0029	0.0004	0.0025
49	0.0029	0.0004	0.0025
50	0.0029	0.0004	0.0025
51	0.0029	0.0004	0.0025
52	0.0030	0.0004	0.0025

53	0.0030	0.0005	0.0025
54	0.0030	0.0005	0.0025
55	0.0030	0.0005	0.0026
56	0.0030	0.0005	0.0026
57	0.0030	0.0005	0.0026
58	0.0031	0.0005	0.0026
59	0.0031	0.0005	0.0026
60	0.0031	0.0005	0.0026
61	0.0031	0.0005	0.0026
62	0.0031	0.0005	0.0027
63	0.0031	0.0005	0.0027
64	0.0032	0.0005	0.0027
65	0.0032	0.0005	0.0027
66	0.0032	0.0005	0.0027
67	0.0032	0.0005	0.0027
68	0.0032	0.0005	0.0027
69	0.0033	0.0005	0.0028
70	0.0033	0.0005	0.0028
71	0.0033	0.0005	0.0028
72	0.0033	0.0005	0.0028
73	0.0033	0.0005	0.0028
74	0.0034	0.0005	0.0028
75	0.0034	0.0005	0.0029
76	0.0034	0.0005	0.0029
77	0.0034	0.0005	0.0029
78	0.0034	0.0005	0.0029
79	0.0035	0.0005	0.0029
80	0.0035	0.0005	0.0030
81	0.0035	0.0005	0.0030
82	0.0035	0.0005	0.0030
83	0.0036	0.0005	0.0030
84	0.0036	0.0005	0.0030
85	0.0036	0.0005	0.0031
86	0.0036	0.0005	0.0031
87	0.0037	0.0006	0.0031
88	0.0037	0.0006	0.0031
89	0.0037	0.0006	0.0032
90	0.0037	0.0006	0.0032
91	0.0038	0.0006	0.0032
92	0.0038	0.0006	0.0032
93	0.0038	0.0006	0.0032
94	0.0038	0.0006	0.0033
95	0.0039	0.0006	0.0033
96	0.0039	0.0006	0.0033
97	0.0039	0.0006	0.0034
98	0.0040	0.0006	0.0034
99	0.0040	0.0006	0.0034
100	0.0040	0.0006	0.0034
101	0.0041	0.0006	0.0035
102	0.0041	0.0006	0.0035
103	0.0041	0.0006	0.0035
104	0.0042	0.0006	0.0035
105	0.0042	0.0006	0.0036
106	0.0042	0.0006	0.0036
107	0.0043	0.0006	0.0036
108	0.0043	0.0007	0.0037
109	0.0044	0.0007	0.0037
110	0.0044	0.0007	0.0037
111	0.0044	0.0007	0.0038

112	0.0045	0.0007	0.0038
113	0.0045	0.0007	0.0038
114	0.0046	0.0007	0.0039
115	0.0046	0.0007	0.0039
116	0.0046	0.0007	0.0039
117	0.0047	0.0007	0.0040
118	0.0047	0.0007	0.0040
119	0.0048	0.0007	0.0041
120	0.0048	0.0007	0.0041
121	0.0049	0.0007	0.0042
122	0.0049	0.0007	0.0042
123	0.0050	0.0008	0.0042
124	0.0050	0.0008	0.0043
125	0.0051	0.0008	0.0043
126	0.0051	0.0008	0.0044
127	0.0052	0.0008	0.0044
128	0.0053	0.0008	0.0045
129	0.0053	0.0008	0.0045
130	0.0054	0.0008	0.0046
131	0.0055	0.0008	0.0046
132	0.0055	0.0008	0.0047
133	0.0056	0.0008	0.0048
134	0.0057	0.0009	0.0048
135	0.0058	0.0009	0.0049
136	0.0058	0.0009	0.0049
137	0.0059	0.0009	0.0050
138	0.0060	0.0009	0.0051
139	0.0061	0.0009	0.0052
140	0.0061	0.0009	0.0052
141	0.0062	0.0009	0.0053
142	0.0063	0.0010	0.0054
143	0.0064	0.0010	0.0055
144	0.0065	0.0010	0.0055
145	0.0042	0.0006	0.0036
146	0.0043	0.0006	0.0036
147	0.0044	0.0007	0.0037
148	0.0044	0.0007	0.0038
149	0.0045	0.0007	0.0039
150	0.0046	0.0007	0.0039
151	0.0047	0.0007	0.0040
152	0.0048	0.0007	0.0041
153	0.0049	0.0007	0.0042
154	0.0050	0.0008	0.0042
155	0.0051	0.0008	0.0044
156	0.0052	0.0008	0.0044
157	0.0054	0.0008	0.0046
158	0.0055	0.0008	0.0046
159	0.0057	0.0009	0.0048
160	0.0057	0.0009	0.0049
161	0.0059	0.0009	0.0050
162	0.0061	0.0009	0.0051
163	0.0063	0.0010	0.0053
164	0.0064	0.0010	0.0054
165	0.0067	0.0010	0.0057
166	0.0068	0.0010	0.0058
167	0.0071	0.0011	0.0060
168	0.0073	0.0011	0.0062
169	0.0076	0.0011	0.0064
170	0.0078	0.0012	0.0066

171	0.0082	0.0012	0.0069
172	0.0084	0.0013	0.0071
173	0.0089	0.0013	0.0075
174	0.0091	0.0014	0.0077
175	0.0097	0.0015	0.0082
176	0.0100	0.0015	0.0085
177	0.0107	0.0016	0.0091
178	0.0111	0.0017	0.0094
179	0.0120	0.0018	0.0102
180	0.0125	0.0019	0.0106
181	0.0137	0.0021	0.0117
182	0.0144	0.0022	0.0122
183	0.0161	0.0024	0.0136
184	0.0171	0.0026	0.0145
185	0.0358	0.0054	0.0304
186	0.0382	0.0058	0.0324
187	0.0443	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0542
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6595	0.0059	0.6536
194	0.0827	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0182	0.0028	0.0155
198	0.0152	0.0023	0.0129
199	0.0131	0.0020	0.0111
200	0.0116	0.0017	0.0098
201	0.0104	0.0016	0.0088
202	0.0094	0.0014	0.0080
203	0.0086	0.0013	0.0073
204	0.0080	0.0012	0.0068
205	0.0074	0.0011	0.0063
206	0.0069	0.0011	0.0059
207	0.0065	0.0010	0.0055
208	0.0062	0.0009	0.0052
209	0.0058	0.0009	0.0050
210	0.0056	0.0008	0.0047
211	0.0053	0.0008	0.0045
212	0.0051	0.0008	0.0043
213	0.0049	0.0007	0.0041
214	0.0047	0.0007	0.0040
215	0.0045	0.0007	0.0038
216	0.0043	0.0007	0.0037
217	0.0066	0.0010	0.0056
218	0.0064	0.0010	0.0054
219	0.0062	0.0009	0.0052
220	0.0060	0.0009	0.0051
221	0.0059	0.0009	0.0050
222	0.0057	0.0009	0.0048
223	0.0056	0.0008	0.0047
224	0.0054	0.0008	0.0046
225	0.0053	0.0008	0.0045
226	0.0052	0.0008	0.0044
227	0.0051	0.0008	0.0043
228	0.0050	0.0008	0.0042
229	0.0049	0.0007	0.0041

230	0.0048	0.0007	0.0040
231	0.0047	0.0007	0.0040
232	0.0046	0.0007	0.0039
233	0.0045	0.0007	0.0038
234	0.0044	0.0007	0.0037
235	0.0043	0.0007	0.0037
236	0.0043	0.0006	0.0036
237	0.0042	0.0006	0.0036
238	0.0041	0.0006	0.0035
239	0.0041	0.0006	0.0034
240	0.0040	0.0006	0.0034
241	0.0039	0.0006	0.0033
242	0.0039	0.0006	0.0033
243	0.0038	0.0006	0.0032
244	0.0038	0.0006	0.0032
245	0.0037	0.0006	0.0031
246	0.0036	0.0006	0.0031
247	0.0036	0.0005	0.0031
248	0.0035	0.0005	0.0030
249	0.0035	0.0005	0.0030
250	0.0035	0.0005	0.0029
251	0.0034	0.0005	0.0029
252	0.0034	0.0005	0.0029
253	0.0033	0.0005	0.0028
254	0.0033	0.0005	0.0028
255	0.0032	0.0005	0.0028
256	0.0032	0.0005	0.0027
257	0.0032	0.0005	0.0027
258	0.0031	0.0005	0.0027
259	0.0031	0.0005	0.0026
260	0.0031	0.0005	0.0026
261	0.0030	0.0005	0.0026
262	0.0030	0.0005	0.0025
263	0.0030	0.0004	0.0025
264	0.0029	0.0004	0.0025
265	0.0029	0.0004	0.0025
266	0.0029	0.0004	0.0024
267	0.0028	0.0004	0.0024
268	0.0028	0.0004	0.0024
269	0.0028	0.0004	0.0024
270	0.0028	0.0004	0.0023
271	0.0027	0.0004	0.0023
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0023
274	0.0027	0.0004	0.0023
275	0.0026	0.0004	0.0022
276	0.0026	0.0004	0.0022
277	0.0026	0.0004	0.0022
278	0.0026	0.0004	0.0022
279	0.0025	0.0004	0.0022
280	0.0025	0.0004	0.0021
281	0.0025	0.0004	0.0021
282	0.0025	0.0004	0.0021
283	0.0025	0.0004	0.0021
284	0.0024	0.0004	0.0021
285	0.0024	0.0004	0.0021
286	0.0024	0.0004	0.0020
287	0.0024	0.0004	0.0020
288	0.0024	0.0004	0.0020

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.39(In)
Peak flow rate in flood hydrograph = 7.00(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0005	0.04	Q				
0+25	0.0008	0.04	Q				
0+30	0.0011	0.04	Q				
0+35	0.0014	0.05	Q				
0+40	0.0018	0.05	Q				
0+45	0.0021	0.05	Q				
0+50	0.0025	0.05	Q				
0+55	0.0028	0.05	Q				
1+ 0	0.0032	0.05	Q				
1+ 5	0.0036	0.05	Q				
1+10	0.0040	0.06	Q				
1+15	0.0044	0.06	Q				
1+20	0.0047	0.06	Q				
1+25	0.0051	0.06	Q				
1+30	0.0055	0.06	Q				
1+35	0.0059	0.06	Q				
1+40	0.0063	0.06	Q				
1+45	0.0067	0.06	Q				
1+50	0.0071	0.06	Q				
1+55	0.0075	0.06	Q				
2+ 0	0.0079	0.06	Q				
2+ 5	0.0083	0.06	Q				
2+10	0.0088	0.06	Q				
2+15	0.0092	0.06	Q				
2+20	0.0096	0.06	Q				
2+25	0.0100	0.06	Q				
2+30	0.0104	0.06	Q				
2+35	0.0108	0.06	Q				
2+40	0.0113	0.06	QV				
2+45	0.0117	0.06	QV				
2+50	0.0121	0.06	QV				
2+55	0.0125	0.06	QV				
3+ 0	0.0130	0.06	QV				
3+ 5	0.0134	0.06	QV				
3+10	0.0138	0.06	QV				
3+15	0.0143	0.06	QV				
3+20	0.0147	0.06	QV				
3+25	0.0151	0.06	QV				
3+30	0.0156	0.06	QV				
3+35	0.0160	0.06	QV				
3+40	0.0165	0.06	QV				

3+45	0.0169	0.07	QV				
3+50	0.0174	0.07	QV				
3+55	0.0178	0.07	QV				
4+ 0	0.0183	0.07	QV				
4+ 5	0.0187	0.07	QV				
4+10	0.0192	0.07	QV				
4+15	0.0196	0.07	QV				
4+20	0.0201	0.07	QV				
4+25	0.0206	0.07	QV				
4+30	0.0210	0.07	QV				
4+35	0.0215	0.07	QV				
4+40	0.0220	0.07	QV				
4+45	0.0225	0.07	QV				
4+50	0.0229	0.07	Q V				
4+55	0.0234	0.07	Q V				
5+ 0	0.0239	0.07	Q V				
5+ 5	0.0244	0.07	Q V				
5+10	0.0249	0.07	Q V				
5+15	0.0254	0.07	Q V				
5+20	0.0259	0.07	Q V				
5+25	0.0264	0.07	Q V				
5+30	0.0269	0.07	Q V				
5+35	0.0274	0.07	Q V				
5+40	0.0279	0.07	Q V				
5+45	0.0284	0.07	Q V				
5+50	0.0289	0.07	Q V				
5+55	0.0294	0.07	Q V				
6+ 0	0.0299	0.08	Q V				
6+ 5	0.0305	0.08	Q V				
6+10	0.0310	0.08	Q V				
6+15	0.0315	0.08	Q V				
6+20	0.0320	0.08	Q V				
6+25	0.0326	0.08	Q V				
6+30	0.0331	0.08	Q V				
6+35	0.0337	0.08	Q V				
6+40	0.0342	0.08	Q V				
6+45	0.0348	0.08	Q V				
6+50	0.0353	0.08	Q V				
6+55	0.0359	0.08	Q V				
7+ 0	0.0364	0.08	Q V				
7+ 5	0.0370	0.08	Q V				
7+10	0.0375	0.08	Q V				
7+15	0.0381	0.08	Q V				
7+20	0.0387	0.08	Q V				
7+25	0.0393	0.08	Q V				
7+30	0.0399	0.08	Q V				
7+35	0.0404	0.09	Q V				
7+40	0.0410	0.09	Q V				
7+45	0.0416	0.09	Q V				
7+50	0.0422	0.09	Q V				
7+55	0.0428	0.09	Q V				
8+ 0	0.0434	0.09	Q V				
8+ 5	0.0440	0.09	Q V				
8+10	0.0447	0.09	Q V				
8+15	0.0453	0.09	Q V				
8+20	0.0459	0.09	Q V				
8+25	0.0465	0.09	Q V				
8+30	0.0472	0.09	Q V				
8+35	0.0478	0.09	Q V				

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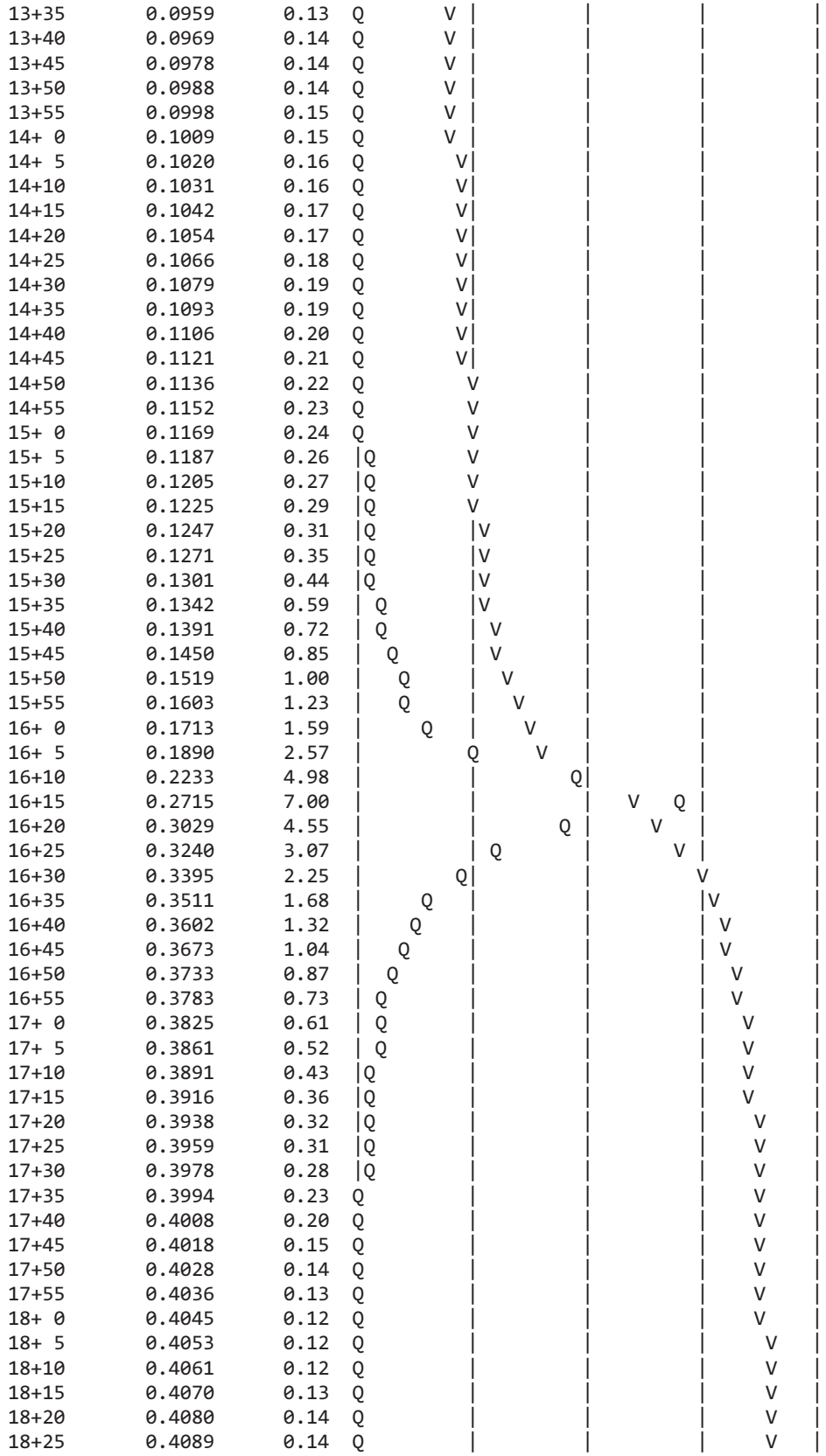
 8+40       0.0485      0.09  Q   V     |          |          |          |
 8+45       0.0491      0.09  Q   V     |          |          |          |
 8+50       0.0498      0.10  Q   V     |          |          |          |
 8+55       0.0504      0.10  Q   V     |          |          |          |
 9+ 0       0.0511      0.10  Q   V     |          |          |          |
 9+ 5       0.0518      0.10  Q   V     |          |          |          |
 9+10       0.0525      0.10  Q   V     |          |          |          |
 9+15       0.0532      0.10  Q   V     |          |          |          |
 9+20       0.0538      0.10  Q   V     |          |          |          |
 9+25       0.0545      0.10  Q   V     |          |          |          |
 9+30       0.0552      0.10  Q   V     |          |          |          |
 9+35       0.0560      0.10  Q   V     |          |          |          |
 9+40       0.0567      0.10  Q    V    |          |          |          |
 9+45       0.0574      0.11  Q    V    |          |          |          |
 9+50       0.0581      0.11  Q    V    |          |          |          |
 9+55       0.0589      0.11  Q    V    |          |          |          |
10+ 0       0.0596      0.11  Q    V    |          |          |          |
10+ 5       0.0604      0.11  Q    V    |          |          |          |
10+10       0.0611      0.11  Q    V    |          |          |          |
10+15       0.0619      0.11  Q    V    |          |          |          |
10+20       0.0627      0.11  Q    V    |          |          |          |
10+25       0.0635      0.11  Q    V    |          |          |          |
10+30       0.0642      0.12  Q    V    |          |          |          |
10+35       0.0651      0.12  Q    V    |          |          |          |
10+40       0.0659      0.12  Q    V    |          |          |          |
10+45       0.0667      0.12  Q    V    |          |          |          |
10+50       0.0675      0.12  Q     V   |          |          |          |
10+55       0.0683      0.12  Q     V   |          |          |          |
11+ 0       0.0692      0.12  Q     V   |          |          |          |
11+ 5       0.0700      0.12  Q     V   |          |          |          |
11+10       0.0709      0.13  Q     V   |          |          |          |
11+15       0.0718      0.13  Q     V   |          |          |          |
11+20       0.0727      0.13  Q     V   |          |          |          |
11+25       0.0736      0.13  Q     V   |          |          |          |
11+30       0.0745      0.13  Q     V   |          |          |          |
11+35       0.0754      0.13  Q     V   |          |          |          |
11+40       0.0763      0.14  Q     V   |          |          |          |
11+45       0.0773      0.14  Q     V   |          |          |          |
11+50       0.0783      0.14  Q     V   |          |          |          |
11+55       0.0792      0.14  Q      V  |          |          |          |
12+ 0       0.0802      0.14  Q      V  |          |          |          |
12+ 5       0.0812      0.14  Q      V  |          |          |          |
12+10       0.0822      0.14  Q      V  |          |          |          |
12+15       0.0830      0.12  Q      V  |          |          |          |
12+20       0.0838      0.12  Q      V  |          |          |          |
12+25       0.0846      0.11  Q      V  |          |          |          |
12+30       0.0853      0.11  Q      V  |          |          |          |
12+35       0.0861      0.11  Q      V  |          |          |          |
12+40       0.0868      0.11  Q      V  |          |          |          |
12+45       0.0876      0.11  Q      V  |          |          |          |
12+50       0.0884      0.11  Q      V  |          |          |          |
12+55       0.0891      0.11  Q      V  |          |          |          |
13+ 0       0.0899      0.11  Q       V |          |          |          |
13+ 5       0.0907      0.12  Q       V |          |          |          |
13+10       0.0916      0.12  Q       V |          |          |          |
13+15       0.0924      0.12  Q       V |          |          |          |
13+20       0.0933      0.12  Q       V |          |          |          |
13+25       0.0941      0.13  Q       V |          |          |          |
13+30       0.0950      0.13  Q       V |          |          |          |
```



13+35	0.0959	0.13	Q V | | | |
13+40	0.0969	0.14	Q V | | | |
13+45	0.0978	0.14	Q V | | | |
13+50	0.0988	0.14	Q V | | | |
13+55	0.0998	0.15	Q V | | | |
14+ 0	0.1009	0.15	Q V | | | |
14+ 5	0.1020	0.16	Q V| | | |
14+10	0.1031	0.16	Q V| | | |
14+15	0.1042	0.17	Q V| | | |
14+20	0.1054	0.17	Q V| | | |
14+25	0.1066	0.18	Q V| | | |
14+30	0.1079	0.19	Q V| | | |
14+35	0.1093	0.19	Q V| | | |
14+40	0.1106	0.20	Q V| | | |
14+45	0.1121	0.21	Q V| | | |
14+50	0.1136	0.22	Q V | | |
14+55	0.1152	0.23	Q V | | |
15+ 0	0.1169	0.24	Q V | | |
15+ 5	0.1187	0.26	|Q V | | |
15+10	0.1205	0.27	|Q V | | |
15+15	0.1225	0.29	|Q V | | |
15+20	0.1247	0.31	|Q |V | | |
15+25	0.1271	0.35	|Q |V | | |
15+30	0.1301	0.44	|Q |V | | |
15+35	0.1342	0.59	| Q |V | | |
15+40	0.1391	0.72	| Q | V | | |
15+45	0.1450	0.85	| Q | V | | |
15+50	0.1519	1.00	| Q | V | | |
15+55	0.1603	1.23	| Q | V | | |
16+ 0	0.1713	1.59	| Q | V | | |
16+ 5	0.1890	2.57	| Q V | | |
16+10	0.2233	4.98	| | Q| | |
16+15	0.2715	7.00	| | | V Q | |
16+20	0.3029	4.55	| | Q | V | |
16+25	0.3240	3.07	| Q | V | |
16+30	0.3395	2.25	| Q| | V |
16+35	0.3511	1.68	| Q | | V |
16+40	0.3602	1.32	| Q | | | V |
16+45	0.3673	1.04	| Q | | | V |
16+50	0.3733	0.87	| Q | | | | V |
16+55	0.3783	0.73	| Q | | | | V |
17+ 0	0.3825	0.61	| Q | | | | V |
17+ 5	0.3861	0.52	| Q | | | | V |
17+10	0.3891	0.43	|Q | | | | V |
17+15	0.3916	0.36	|Q | | | | V |
17+20	0.3938	0.32	|Q | | | | V |
17+25	0.3959	0.31	|Q | | | | V |
17+30	0.3978	0.28	|Q | | | | V |
17+35	0.3994	0.23	Q | | | | V |
17+40	0.4008	0.20	Q | | | | V |
17+45	0.4018	0.15	Q | | | | V |
17+50	0.4028	0.14	Q | | | | V |
17+55	0.4036	0.13	Q | | | | V |
18+ 0	0.4045	0.12	Q | | | | V |
18+ 5	0.4053	0.12	Q | | | | V |
18+10	0.4061	0.12	Q | | | | V |
18+15	0.4070	0.13	Q | | | | V |
18+20	0.4080	0.14	Q | | | | V |
18+25	0.4089	0.14	Q | | | | V |

18+30	0.4098	0.14	Q	|	|	|	V |
18+35	0.4108	0.13	Q	|	|	|	V |
18+40	0.4117	0.13	Q	|	|	|	V |
18+45	0.4126	0.13	Q	|	|	|	V |
18+50	0.4135	0.13	Q	|	|	|	V |
18+55	0.4143	0.13	Q	|	|	|	V |
19+ 0	0.4152	0.12	Q	|	|	|	V |
19+ 5	0.4160	0.12	Q	|	|	|	V |
19+10	0.4169	0.12	Q	|	|	|	V |
19+15	0.4177	0.12	Q	|	|	|	V |
19+20	0.4184	0.11	Q	|	|	|	V |
19+25	0.4192	0.11	Q	|	|	|	V |
19+30	0.4200	0.11	Q	|	|	|	V |
19+35	0.4207	0.11	Q	|	|	|	V |
19+40	0.4215	0.11	Q	|	|	|	V |
19+45	0.4222	0.10	Q	|	|	|	V |
19+50	0.4229	0.10	Q	|	|	|	V |
19+55	0.4236	0.10	Q	|	|	|	V |
20+ 0	0.4242	0.10	Q	|	|	|	V |
20+ 5	0.4249	0.10	Q	|	|	|	V |
20+10	0.4256	0.10	Q	|	|	|	V |
20+15	0.4262	0.09	Q	|	|	|	V |
20+20	0.4269	0.09	Q	|	|	|	V |
20+25	0.4275	0.09	Q	|	|	|	V |
20+30	0.4281	0.09	Q	|	|	|	V |
20+35	0.4287	0.09	Q	|	|	|	V |
20+40	0.4293	0.09	Q	|	|	|	V |
20+45	0.4299	0.09	Q	|	|	|	V |
20+50	0.4305	0.08	Q	|	|	|	V |
20+55	0.4311	0.08	Q	|	|	|	V |
21+ 0	0.4316	0.08	Q	|	|	|	V |
21+ 5	0.4322	0.08	Q	|	|	|	V |
21+10	0.4327	0.08	Q	|	|	|	V |
21+15	0.4333	0.08	Q	|	|	|	V |
21+20	0.4338	0.08	Q	|	|	|	V |
21+25	0.4343	0.08	Q	|	|	|	V |
21+30	0.4349	0.08	Q	|	|	|	V |
21+35	0.4354	0.08	Q	|	|	|	V |
21+40	0.4359	0.07	Q	|	|	|	V |
21+45	0.4364	0.07	Q	|	|	|	V |
21+50	0.4369	0.07	Q	|	|	|	V |
21+55	0.4374	0.07	Q	|	|	|	V |
22+ 0	0.4379	0.07	Q	|	|	|	V |
22+ 5	0.4384	0.07	Q	|	|	|	V |
22+10	0.4388	0.07	Q	|	|	|	V|
22+15	0.4393	0.07	Q	|	|	|	V|
22+20	0.4398	0.07	Q	|	|	|	V|
22+25	0.4403	0.07	Q	|	|	|	V|
22+30	0.4407	0.07	Q	|	|	|	V|
22+35	0.4412	0.07	Q	|	|	|	V|
22+40	0.4416	0.07	Q	|	|	|	V|
22+45	0.4421	0.06	Q	|	|	|	V|
22+50	0.4425	0.06	Q	|	|	|	V|
22+55	0.4429	0.06	Q	|	|	|	V|
23+ 0	0.4434	0.06	Q	|	|	|	V|
23+ 5	0.4438	0.06	Q	|	|	|	V|
23+10	0.4442	0.06	Q	|	|	|	V|
23+15	0.4446	0.06	Q	|	|	|	V|
23+20	0.4451	0.06	Q	|	|	|	V|

23+25	0.4455	0.06	Q	|	|	|	V|
23+30	0.4459	0.06	Q	|	|	|	V|
23+35	0.4463	0.06	Q	|	|	|	V|
23+40	0.4467	0.06	Q	|	|	|	V|
23+45	0.4471	0.06	Q	|	|	|	V|
23+50	0.4475	0.06	Q	|	|	|	V|
23+55	0.4479	0.06	Q	|	|	|	V|
24+ 0	0.4483	0.06	Q	|	|	|	V|
24+ 5	0.4486	0.05	Q	|	|	|	V|
24+10	0.4490	0.05	Q	|	|	|	V|
24+15	0.4492	0.03	Q	|	|	|	V|
24+20	0.4493	0.02	Q	|	|	|	V|
24+25	0.4494	0.01	Q	|	|	|	V|
24+30	0.4495	0.01	Q	|	|	|	V|
24+35	0.4495	0.01	Q	|	|	|	V|
24+40	0.4496	0.01	Q	|	|	|	V|
24+45	0.4496	0.01	Q	|	|	|	V|
24+50	0.4496	0.00	Q	|	|	|	V|
24+55	0.4496	0.00	Q	|	|	|	V|
25+ 0	0.4497	0.00	Q	|	|	|	V|
25+ 5	0.4497	0.00	Q	|	|	|	V|
25+10	0.4497	0.00	Q	|	|	|	V|
25+15	0.4497	0.00	Q	|	|	|	V|
25+20	0.4497	0.00	Q	|	|	|	V|
25+25	0.4497	0.00	Q	|	|	|	V|
25+30	0.4497	0.00	Q	|	|	|	V|
25+35	0.4497	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 42
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
124.33	1	1.39
Rainfall data for year 100		
124.33	6	1.87
Rainfall data for year 100		
124.33	24	2.67

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	124.33	1.000	0.071	0.971	0.069

Area-averaged adjusted loss rate Fm (In/Hr) = 0.069

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
120.72	0.971	84.0	96.4	0.37	0.850
3.61	0.029	98.0	98.0	0.20	0.914

Area-averaged catchment yield fraction, Y = 0.852
Area-averaged low loss fraction, Yb = 0.148
User entry of time of concentration = 0.970 (hours)
++
Watershed area = 124.33(Ac.)
Catchment Lag time = 0.776 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 10.7388
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.069(In/Hr)
Average low loss rate fraction (Yb) = 0.148 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.670(In)

Rainfall depth area reduction factors:
Using a total area of 124.33(Ac.) (Ref: fig. E-4)

5-minute factor = 0.994 Adjusted rainfall = 0.656(In)
30-minute factor = 0.994 Adjusted rainfall = 1.122(In)
1-hour factor = 0.994 Adjusted rainfall = 1.382(In)
3-hour factor = 0.999 Adjusted rainfall = 1.666(In)
6-hour factor = 1.000 Adjusted rainfall = 1.869(In)
24-hour factor = 1.000 Adjusted rainfall = 2.670(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1503.62 (CFS))	
1	0.473	7.105
2	1.718	18.723
3	3.704	29.870
4	6.443	41.183
5	10.130	55.439
6	16.367	93.784
7	25.977	144.497
8	36.043	151.352
9	44.394	125.560
10	50.987	99.137
11	56.434	81.893
12	60.673	63.739
13	64.172	52.611

14	67.173	45.131
15	69.871	40.569
16	72.287	36.320
17	74.374	31.390
18	76.263	28.400
19	78.049	26.853
20	79.542	22.446
21	80.959	21.310
22	82.236	19.195
23	83.395	17.439
24	84.522	16.937
25	85.558	15.577
26	86.575	15.303
27	87.466	13.395
28	88.325	12.911
29	89.063	11.103
30	89.708	9.688
31	90.340	9.513
32	90.943	9.065
33	91.538	8.935
34	92.068	7.977
35	92.583	7.749
36	93.074	7.378
37	93.547	7.105
38	93.989	6.648
39	94.357	5.540
40	94.722	5.490
41	95.087	5.490
42	95.452	5.484
43	95.766	4.726
44	96.046	4.198
45	96.325	4.198
46	96.604	4.198
47	96.875	4.073
48	97.082	3.109
49	97.275	2.906
50	97.468	2.906
51	97.662	2.906
52	97.828	2.509
53	97.938	1.645
54	98.045	1.615
55	98.153	1.615
56	98.260	1.617
57	98.381	1.815
58	98.510	1.938
59	98.639	1.938
60	98.768	1.938
61	98.896	1.938
62	99.025	1.938
63	99.154	1.938
64	99.283	1.938
65	99.412	1.938
66	99.520	1.629
67	99.588	1.025
68	99.655	1.009
69	99.723	1.009
70	99.790	1.009
71	99.857	1.009
72	99.924	1.009

73	100.000	0.505

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6557	0.6557
2	0.8073	0.1516
3	0.9117	0.1044
4	0.9939	0.0822
5	1.0627	0.0688
6	1.1225	0.0597
7	1.1756	0.0531
8	1.2236	0.0480
9	1.2676	0.0440
10	1.3083	0.0407
11	1.3463	0.0379
12	1.3819	0.0356
13	1.4009	0.0190
14	1.4186	0.0178
15	1.4354	0.0168
16	1.4512	0.0159
17	1.4663	0.0151
18	1.4806	0.0143
19	1.4943	0.0137
20	1.5074	0.0131
21	1.5200	0.0126
22	1.5321	0.0121
23	1.5437	0.0116
24	1.5549	0.0112
25	1.5658	0.0108
26	1.5763	0.0105
27	1.5864	0.0102
28	1.5963	0.0099
29	1.6058	0.0096
30	1.6151	0.0093
31	1.6242	0.0090
32	1.6330	0.0088
33	1.6415	0.0086
34	1.6499	0.0084
35	1.6581	0.0082
36	1.6660	0.0080
37	1.6736	0.0076
38	1.6811	0.0074
39	1.6883	0.0073
40	1.6954	0.0071
41	1.7024	0.0070
42	1.7092	0.0068
43	1.7159	0.0067
44	1.7225	0.0066
45	1.7289	0.0064
46	1.7352	0.0063
47	1.7415	0.0062
48	1.7476	0.0061
49	1.7536	0.0060
50	1.7594	0.0059
51	1.7652	0.0058
52	1.7709	0.0057
53	1.7766	0.0056
54	1.7821	0.0055
55	1.7875	0.0054

56	1.7929	0.0054
57	1.7981	0.0053
58	1.8033	0.0052
59	1.8085	0.0051
60	1.8135	0.0051
61	1.8185	0.0050
62	1.8234	0.0049
63	1.8283	0.0049
64	1.8331	0.0048
65	1.8378	0.0047
66	1.8425	0.0047
67	1.8471	0.0046
68	1.8516	0.0045
69	1.8561	0.0045
70	1.8605	0.0044
71	1.8649	0.0044
72	1.8693	0.0043
73	1.8759	0.0066
74	1.8825	0.0066
75	1.8890	0.0065
76	1.8954	0.0064
77	1.9018	0.0064
78	1.9081	0.0063
79	1.9144	0.0063
80	1.9206	0.0062
81	1.9267	0.0061
82	1.9328	0.0061
83	1.9389	0.0060
84	1.9448	0.0060
85	1.9508	0.0059
86	1.9566	0.0059
87	1.9625	0.0058
88	1.9682	0.0058
89	1.9740	0.0057
90	1.9796	0.0057
91	1.9853	0.0056
92	1.9909	0.0056
93	1.9964	0.0055
94	2.0019	0.0055
95	2.0073	0.0055
96	2.0128	0.0054
97	2.0181	0.0054
98	2.0235	0.0053
99	2.0287	0.0053
100	2.0340	0.0052
101	2.0392	0.0052
102	2.0444	0.0052
103	2.0495	0.0051
104	2.0546	0.0051
105	2.0597	0.0051
106	2.0647	0.0050
107	2.0697	0.0050
108	2.0746	0.0050
109	2.0796	0.0049
110	2.0844	0.0049
111	2.0893	0.0049
112	2.0941	0.0048
113	2.0989	0.0048
114	2.1037	0.0048

115	2.1084	0.0047
116	2.1131	0.0047
117	2.1178	0.0047
118	2.1224	0.0046
119	2.1270	0.0046
120	2.1316	0.0046
121	2.1361	0.0046
122	2.1407	0.0045
123	2.1452	0.0045
124	2.1496	0.0045
125	2.1541	0.0044
126	2.1585	0.0044
127	2.1629	0.0044
128	2.1672	0.0044
129	2.1716	0.0043
130	2.1759	0.0043
131	2.1802	0.0043
132	2.1845	0.0043
133	2.1887	0.0042
134	2.1929	0.0042
135	2.1971	0.0042
136	2.2013	0.0042
137	2.2054	0.0041
138	2.2096	0.0041
139	2.2137	0.0041
140	2.2178	0.0041
141	2.2218	0.0041
142	2.2259	0.0040
143	2.2299	0.0040
144	2.2339	0.0040
145	2.2378	0.0040
146	2.2418	0.0040
147	2.2457	0.0039
148	2.2497	0.0039
149	2.2536	0.0039
150	2.2574	0.0039
151	2.2613	0.0039
152	2.2651	0.0038
153	2.2690	0.0038
154	2.2728	0.0038
155	2.2765	0.0038
156	2.2803	0.0038
157	2.2841	0.0037
158	2.2878	0.0037
159	2.2915	0.0037
160	2.2952	0.0037
161	2.2989	0.0037
162	2.3025	0.0037
163	2.3062	0.0036
164	2.3098	0.0036
165	2.3134	0.0036
166	2.3170	0.0036
167	2.3206	0.0036
168	2.3242	0.0036
169	2.3277	0.0035
170	2.3313	0.0035
171	2.3348	0.0035
172	2.3383	0.0035
173	2.3418	0.0035

174	2.3452	0.0035
175	2.3487	0.0035
176	2.3521	0.0034
177	2.3556	0.0034
178	2.3590	0.0034
179	2.3624	0.0034
180	2.3658	0.0034
181	2.3691	0.0034
182	2.3725	0.0034
183	2.3758	0.0033
184	2.3792	0.0033
185	2.3825	0.0033
186	2.3858	0.0033
187	2.3891	0.0033
188	2.3924	0.0033
189	2.3956	0.0033
190	2.3989	0.0033
191	2.4021	0.0032
192	2.4053	0.0032
193	2.4086	0.0032
194	2.4118	0.0032
195	2.4149	0.0032
196	2.4181	0.0032
197	2.4213	0.0032
198	2.4244	0.0032
199	2.4276	0.0031
200	2.4307	0.0031
201	2.4338	0.0031
202	2.4369	0.0031
203	2.4400	0.0031
204	2.4431	0.0031
205	2.4462	0.0031
206	2.4493	0.0031
207	2.4523	0.0031
208	2.4553	0.0030
209	2.4584	0.0030
210	2.4614	0.0030
211	2.4644	0.0030
212	2.4674	0.0030
213	2.4704	0.0030
214	2.4734	0.0030
215	2.4763	0.0030
216	2.4793	0.0030
217	2.4822	0.0029
218	2.4852	0.0029
219	2.4881	0.0029
220	2.4910	0.0029
221	2.4939	0.0029
222	2.4968	0.0029
223	2.4997	0.0029
224	2.5026	0.0029
225	2.5054	0.0029
226	2.5083	0.0029
227	2.5111	0.0028
228	2.5140	0.0028
229	2.5168	0.0028
230	2.5196	0.0028
231	2.5224	0.0028
232	2.5252	0.0028

233	2.5280	0.0028	
234	2.5308	0.0028	
235	2.5336	0.0028	
236	2.5364	0.0028	
237	2.5391	0.0028	
238	2.5419	0.0027	
239	2.5446	0.0027	
240	2.5474	0.0027	
241	2.5501	0.0027	
242	2.5528	0.0027	
243	2.5555	0.0027	
244	2.5582	0.0027	
245	2.5609	0.0027	
246	2.5636	0.0027	
247	2.5662	0.0027	
248	2.5689	0.0027	
249	2.5716	0.0027	
250	2.5742	0.0027	
251	2.5769	0.0026	
252	2.5795	0.0026	
253	2.5821	0.0026	
254	2.5847	0.0026	
255	2.5874	0.0026	
256	2.5900	0.0026	
257	2.5926	0.0026	
258	2.5952	0.0026	
259	2.5977	0.0026	
260	2.6003	0.0026	
261	2.6029	0.0026	
262	2.6054	0.0026	
263	2.6080	0.0026	
264	2.6105	0.0025	
265	2.6131	0.0025	
266	2.6156	0.0025	
267	2.6181	0.0025	
268	2.6206	0.0025	
269	2.6232	0.0025	
270	2.6257	0.0025	
271	2.6282	0.0025	
272	2.6306	0.0025	
273	2.6331	0.0025	
274	2.6356	0.0025	
275	2.6381	0.0025	
276	2.6405	0.0025	
277	2.6430	0.0025	
278	2.6454	0.0024	
279	2.6479	0.0024	
280	2.6503	0.0024	
281	2.6528	0.0024	
282	2.6552	0.0024	
283	2.6576	0.0024	
284	2.6600	0.0024	
285	2.6624	0.0024	
286	2.6648	0.0024	
287	2.6672	0.0024	
288	2.6696	0.0024	

Unit Period	Unit Rainfall	Unit Soil-Loss	Effective Rainfall

(number)	(In)	(In)	(In)
1	0.0024	0.0004	0.0020
2	0.0024	0.0004	0.0020
3	0.0024	0.0004	0.0020
4	0.0024	0.0004	0.0021
5	0.0024	0.0004	0.0021
6	0.0024	0.0004	0.0021
7	0.0024	0.0004	0.0021
8	0.0024	0.0004	0.0021
9	0.0025	0.0004	0.0021
10	0.0025	0.0004	0.0021
11	0.0025	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0021
14	0.0025	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0022
17	0.0025	0.0004	0.0022
18	0.0026	0.0004	0.0022
19	0.0026	0.0004	0.0022
20	0.0026	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0023
27	0.0027	0.0004	0.0023
28	0.0027	0.0004	0.0023
29	0.0027	0.0004	0.0023
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0027	0.0004	0.0023
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0028	0.0004	0.0023
36	0.0028	0.0004	0.0024
37	0.0028	0.0004	0.0024
38	0.0028	0.0004	0.0024
39	0.0028	0.0004	0.0024
40	0.0028	0.0004	0.0024
41	0.0028	0.0004	0.0024
42	0.0028	0.0004	0.0024
43	0.0029	0.0004	0.0024
44	0.0029	0.0004	0.0024
45	0.0029	0.0004	0.0025
46	0.0029	0.0004	0.0025
47	0.0029	0.0004	0.0025
48	0.0029	0.0004	0.0025
49	0.0030	0.0004	0.0025
50	0.0030	0.0004	0.0025
51	0.0030	0.0004	0.0025
52	0.0030	0.0004	0.0026
53	0.0030	0.0004	0.0026
54	0.0030	0.0004	0.0026
55	0.0031	0.0005	0.0026
56	0.0031	0.0005	0.0026
57	0.0031	0.0005	0.0026

58	0.0031	0.0005	0.0026
59	0.0031	0.0005	0.0027
60	0.0031	0.0005	0.0027
61	0.0032	0.0005	0.0027
62	0.0032	0.0005	0.0027
63	0.0032	0.0005	0.0027
64	0.0032	0.0005	0.0027
65	0.0032	0.0005	0.0027
66	0.0032	0.0005	0.0028
67	0.0033	0.0005	0.0028
68	0.0033	0.0005	0.0028
69	0.0033	0.0005	0.0028
70	0.0033	0.0005	0.0028
71	0.0033	0.0005	0.0028
72	0.0034	0.0005	0.0029
73	0.0034	0.0005	0.0029
74	0.0034	0.0005	0.0029
75	0.0034	0.0005	0.0029
76	0.0034	0.0005	0.0029
77	0.0035	0.0005	0.0030
78	0.0035	0.0005	0.0030
79	0.0035	0.0005	0.0030
80	0.0035	0.0005	0.0030
81	0.0036	0.0005	0.0030
82	0.0036	0.0005	0.0030
83	0.0036	0.0005	0.0031
84	0.0036	0.0005	0.0031
85	0.0037	0.0005	0.0031
86	0.0037	0.0005	0.0031
87	0.0037	0.0006	0.0032
88	0.0037	0.0006	0.0032
89	0.0038	0.0006	0.0032
90	0.0038	0.0006	0.0032
91	0.0038	0.0006	0.0033
92	0.0038	0.0006	0.0033
93	0.0039	0.0006	0.0033
94	0.0039	0.0006	0.0033
95	0.0039	0.0006	0.0034
96	0.0040	0.0006	0.0034
97	0.0040	0.0006	0.0034
98	0.0040	0.0006	0.0034
99	0.0041	0.0006	0.0035
100	0.0041	0.0006	0.0035
101	0.0041	0.0006	0.0035
102	0.0041	0.0006	0.0035
103	0.0042	0.0006	0.0036
104	0.0042	0.0006	0.0036
105	0.0043	0.0006	0.0036
106	0.0043	0.0006	0.0037
107	0.0043	0.0006	0.0037
108	0.0044	0.0006	0.0037
109	0.0044	0.0007	0.0038
110	0.0044	0.0007	0.0038
111	0.0045	0.0007	0.0038
112	0.0045	0.0007	0.0039
113	0.0046	0.0007	0.0039
114	0.0046	0.0007	0.0039
115	0.0047	0.0007	0.0040
116	0.0047	0.0007	0.0040

117	0.0048	0.0007	0.0041
118	0.0048	0.0007	0.0041
119	0.0049	0.0007	0.0041
120	0.0049	0.0007	0.0042
121	0.0050	0.0007	0.0042
122	0.0050	0.0007	0.0042
123	0.0051	0.0008	0.0043
124	0.0051	0.0008	0.0043
125	0.0052	0.0008	0.0044
126	0.0052	0.0008	0.0044
127	0.0053	0.0008	0.0045
128	0.0053	0.0008	0.0045
129	0.0054	0.0008	0.0046
130	0.0055	0.0008	0.0046
131	0.0055	0.0008	0.0047
132	0.0056	0.0008	0.0048
133	0.0057	0.0008	0.0048
134	0.0057	0.0008	0.0049
135	0.0058	0.0009	0.0050
136	0.0059	0.0009	0.0050
137	0.0060	0.0009	0.0051
138	0.0060	0.0009	0.0051
139	0.0061	0.0009	0.0052
140	0.0062	0.0009	0.0053
141	0.0063	0.0009	0.0054
142	0.0064	0.0009	0.0054
143	0.0065	0.0010	0.0055
144	0.0066	0.0010	0.0056
145	0.0043	0.0006	0.0037
146	0.0044	0.0007	0.0037
147	0.0045	0.0007	0.0038
148	0.0045	0.0007	0.0039
149	0.0047	0.0007	0.0040
150	0.0047	0.0007	0.0040
151	0.0049	0.0007	0.0041
152	0.0049	0.0007	0.0042
153	0.0051	0.0008	0.0043
154	0.0051	0.0008	0.0044
155	0.0053	0.0008	0.0045
156	0.0054	0.0008	0.0046
157	0.0055	0.0008	0.0047
158	0.0056	0.0008	0.0048
159	0.0058	0.0009	0.0049
160	0.0059	0.0009	0.0050
161	0.0061	0.0009	0.0052
162	0.0062	0.0009	0.0053
163	0.0064	0.0010	0.0055
164	0.0066	0.0010	0.0056
165	0.0068	0.0010	0.0058
166	0.0070	0.0010	0.0059
167	0.0073	0.0011	0.0062
168	0.0074	0.0011	0.0063
169	0.0080	0.0012	0.0068
170	0.0082	0.0012	0.0069
171	0.0086	0.0013	0.0073
172	0.0088	0.0013	0.0075
173	0.0093	0.0014	0.0079
174	0.0096	0.0014	0.0081
175	0.0102	0.0015	0.0087

176	0.0105	0.0016	0.0089
177	0.0112	0.0017	0.0096
178	0.0116	0.0017	0.0099
179	0.0126	0.0019	0.0107
180	0.0131	0.0019	0.0112
181	0.0143	0.0021	0.0122
182	0.0151	0.0022	0.0128
183	0.0168	0.0025	0.0143
184	0.0178	0.0026	0.0151
185	0.0356	0.0053	0.0303
186	0.0379	0.0056	0.0323
187	0.0440	0.0057	0.0383
188	0.0480	0.0057	0.0423
189	0.0597	0.0057	0.0540
190	0.0688	0.0057	0.0631
191	0.1044	0.0057	0.0987
192	0.1516	0.0057	0.1458
193	0.6557	0.0057	0.6500
194	0.0822	0.0057	0.0764
195	0.0531	0.0057	0.0474
196	0.0407	0.0057	0.0350
197	0.0190	0.0028	0.0161
198	0.0159	0.0024	0.0135
199	0.0137	0.0020	0.0117
200	0.0121	0.0018	0.0103
201	0.0108	0.0016	0.0092
202	0.0099	0.0015	0.0084
203	0.0090	0.0013	0.0077
204	0.0084	0.0012	0.0071
205	0.0076	0.0011	0.0065
206	0.0071	0.0011	0.0061
207	0.0067	0.0010	0.0057
208	0.0063	0.0009	0.0054
209	0.0060	0.0009	0.0051
210	0.0057	0.0008	0.0049
211	0.0054	0.0008	0.0046
212	0.0052	0.0008	0.0044
213	0.0050	0.0007	0.0042
214	0.0048	0.0007	0.0041
215	0.0046	0.0007	0.0039
216	0.0044	0.0007	0.0038
217	0.0066	0.0010	0.0057
218	0.0064	0.0010	0.0055
219	0.0063	0.0009	0.0053
220	0.0061	0.0009	0.0052
221	0.0059	0.0009	0.0050
222	0.0058	0.0009	0.0049
223	0.0056	0.0008	0.0048
224	0.0055	0.0008	0.0047
225	0.0054	0.0008	0.0046
226	0.0052	0.0008	0.0045
227	0.0051	0.0008	0.0044
228	0.0050	0.0007	0.0043
229	0.0049	0.0007	0.0042
230	0.0048	0.0007	0.0041
231	0.0047	0.0007	0.0040
232	0.0046	0.0007	0.0040
233	0.0046	0.0007	0.0039
234	0.0045	0.0007	0.0038

235	0.0044	0.0007	0.0037
236	0.0043	0.0006	0.0037
237	0.0042	0.0006	0.0036
238	0.0042	0.0006	0.0036
239	0.0041	0.0006	0.0035
240	0.0040	0.0006	0.0034
241	0.0040	0.0006	0.0034
242	0.0039	0.0006	0.0033
243	0.0039	0.0006	0.0033
244	0.0038	0.0006	0.0032
245	0.0037	0.0006	0.0032
246	0.0037	0.0005	0.0031
247	0.0036	0.0005	0.0031
248	0.0036	0.0005	0.0031
249	0.0035	0.0005	0.0030
250	0.0035	0.0005	0.0030
251	0.0035	0.0005	0.0029
252	0.0034	0.0005	0.0029
253	0.0034	0.0005	0.0029
254	0.0033	0.0005	0.0028
255	0.0033	0.0005	0.0028
256	0.0033	0.0005	0.0028
257	0.0032	0.0005	0.0027
258	0.0032	0.0005	0.0027
259	0.0031	0.0005	0.0027
260	0.0031	0.0005	0.0026
261	0.0031	0.0005	0.0026
262	0.0030	0.0005	0.0026
263	0.0030	0.0004	0.0026
264	0.0030	0.0004	0.0025
265	0.0029	0.0004	0.0025
266	0.0029	0.0004	0.0025
267	0.0029	0.0004	0.0025
268	0.0029	0.0004	0.0024
269	0.0028	0.0004	0.0024
270	0.0028	0.0004	0.0024
271	0.0028	0.0004	0.0024
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0023
274	0.0027	0.0004	0.0023
275	0.0027	0.0004	0.0023
276	0.0027	0.0004	0.0023
277	0.0026	0.0004	0.0022
278	0.0026	0.0004	0.0022
279	0.0026	0.0004	0.0022
280	0.0026	0.0004	0.0022
281	0.0025	0.0004	0.0022
282	0.0025	0.0004	0.0021
283	0.0025	0.0004	0.0021
284	0.0025	0.0004	0.0021
285	0.0025	0.0004	0.0021
286	0.0024	0.0004	0.0021
287	0.0024	0.0004	0.0021
288	0.0024	0.0004	0.0020

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.41(In)
Peak flow rate in flood hydrograph = 163.96(CFS)

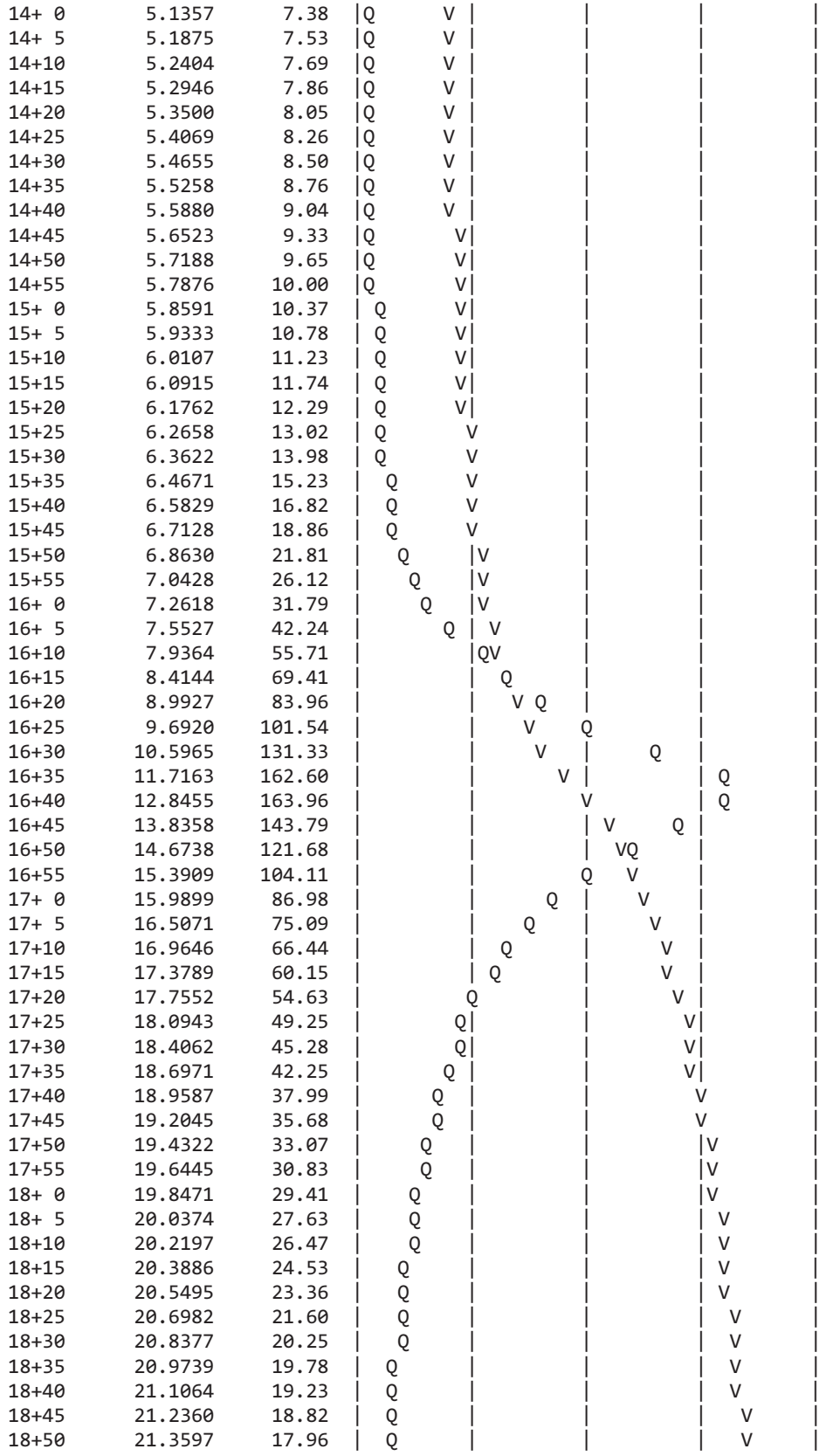
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q				
0+10	0.0005	0.05	Q				
0+15	0.0012	0.11	Q				
0+20	0.0026	0.20	Q				
0+25	0.0047	0.31	Q				
0+30	0.0082	0.50	Q				
0+35	0.0137	0.80	Q				
0+40	0.0213	1.11	Q				
0+45	0.0308	1.37	Q				
0+50	0.0416	1.57	Q				
0+55	0.0536	1.75	Q				
1+ 0	0.0666	1.88	Q				
1+ 5	0.0804	2.00	Q				
1+10	0.0948	2.10	Q				
1+15	0.1099	2.19	Q				
1+20	0.1255	2.27	Q				
1+25	0.1416	2.34	Q				
1+30	0.1582	2.41	Q				
1+35	0.1753	2.47	Q				
1+40	0.1927	2.53	Q				
1+45	0.2105	2.58	Q				
1+50	0.2287	2.63	Q				
1+55	0.2471	2.68	Q				
2+ 0	0.2659	2.73	Q				
2+ 5	0.2850	2.77	Q				
2+10	0.3043	2.81	Q				
2+15	0.3240	2.85	Q				
2+20	0.3439	2.89	Q				
2+25	0.3640	2.92	Q				
2+30	0.3843	2.96	Q				
2+35	0.4049	2.99	Q				
2+40	0.4257	3.02	Q				
2+45	0.4467	3.05	Q				
2+50	0.4680	3.08	Q				
2+55	0.4894	3.11	Q				
3+ 0	0.5110	3.14	Q				
3+ 5	0.5328	3.17	Q				
3+10	0.5548	3.19	Q				
3+15	0.5770	3.22	Q				
3+20	0.5993	3.25	Q				
3+25	0.6219	3.27	Q				
3+30	0.6446	3.30	QV				
3+35	0.6675	3.32	QV				
3+40	0.6905	3.35	QV				
3+45	0.7137	3.37	QV				
3+50	0.7371	3.40	QV				
3+55	0.7607	3.42	QV				
4+ 0	0.7844	3.44	QV				
4+ 5	0.8083	3.46	QV				

4+10	0.8323	3.49	QV	|	|	|	|
4+15	0.8564	3.51	QV	|	|	|	|
4+20	0.8808	3.53	QV	|	|	|	|
4+25	0.9052	3.55	QV	|	|	|	|
4+30	0.9298	3.57	QV	|	|	|	|
4+35	0.9546	3.59	QV	|	|	|	|
4+40	0.9795	3.62	QV	|	|	|	|
4+45	1.0046	3.64	QV	|	|	|	|
4+50	1.0298	3.66	QV	|	|	|	|
4+55	1.0551	3.68	QV	|	|	|	|
5+ 0	1.0806	3.71	QV	|	|	|	|
5+ 5	1.1063	3.73	QV	|	|	|	|
5+10	1.1322	3.75	QV	|	|	|	|
5+15	1.1582	3.78	QV	|	|	|	|
5+20	1.1843	3.80	QV	|	|	|	|
5+25	1.2107	3.82	QV	|	|	|	|
5+30	1.2372	3.85	QV	|	|	|	|
5+35	1.2638	3.87	Q V	|	|	|	|
5+40	1.2906	3.89	Q V	|	|	|	|
5+45	1.3176	3.92	Q V	|	|	|	|
5+50	1.3447	3.94	Q V	|	|	|	|
5+55	1.3720	3.96	Q V	|	|	|	|
6+ 0	1.3995	3.99	Q V	|	|	|	|
6+ 5	1.4271	4.01	Q V	|	|	|	|
6+10	1.4549	4.03	Q V	|	|	|	|
6+15	1.4828	4.06	Q V	|	|	|	|
6+20	1.5109	4.08	Q V	|	|	|	|
6+25	1.5392	4.10	Q V	|	|	|	|
6+30	1.5676	4.13	Q V	|	|	|	|
6+35	1.5962	4.15	Q V	|	|	|	|
6+40	1.6250	4.18	Q V	|	|	|	|
6+45	1.6539	4.20	Q V	|	|	|	|
6+50	1.6830	4.23	Q V	|	|	|	|
6+55	1.7123	4.25	Q V	|	|	|	|
7+ 0	1.7418	4.28	Q V	|	|	|	|
7+ 5	1.7714	4.31	Q V	|	|	|	|
7+10	1.8013	4.33	Q V	|	|	|	|
7+15	1.8313	4.36	Q V	|	|	|	|
7+20	1.8615	4.39	Q V	|	|	|	|
7+25	1.8919	4.42	Q V	|	|	|	|
7+30	1.9225	4.44	Q V	|	|	|	|
7+35	1.9533	4.47	Q V	|	|	|	|
7+40	1.9843	4.50	Q V	|	|	|	|
7+45	2.0155	4.53	Q V	|	|	|	|
7+50	2.0469	4.56	Q V	|	|	|	|
7+55	2.0786	4.59	Q V	|	|	|	|
8+ 0	2.1104	4.62	Q V	|	|	|	|
8+ 5	2.1425	4.66	Q V	|	|	|	|
8+10	2.1748	4.69	Q V	|	|	|	|
8+15	2.2073	4.72	Q V	|	|	|	|
8+20	2.2401	4.75	Q V	|	|	|	|
8+25	2.2730	4.79	Q V	|	|	|	|
8+30	2.3063	4.82	Q V	|	|	|	|
8+35	2.3397	4.86	Q V	|	|	|	|
8+40	2.3734	4.89	Q V	|	|	|	|
8+45	2.4074	4.93	Q V	|	|	|	|
8+50	2.4416	4.97	Q V	|	|	|	|
8+55	2.4761	5.01	|Q V	|	|	|	|
9+ 0	2.5108	5.04	|Q V	|	|	|	|

9+ 5	2.5458	5.08	Q V	|	|	|	|
9+10	2.5811	5.12	Q V	|	|	|	|
9+15	2.6167	5.16	Q V	|	|	|	|
9+20	2.6525	5.20	Q V	|	|	|	|
9+25	2.6886	5.25	Q V	|	|	|	|
9+30	2.7251	5.29	Q V	|	|	|	|
9+35	2.7618	5.33	Q V	|	|	|	|
9+40	2.7989	5.38	Q V	|	|	|	|
9+45	2.8362	5.42	Q V	|	|	|	|
9+50	2.8739	5.47	Q V	|	|	|	|
9+55	2.9119	5.52	Q V	|	|	|	|
10+ 0	2.9502	5.57	Q V	|	|	|	|
10+ 5	2.9889	5.62	Q V	|	|	|	|
10+10	3.0279	5.67	Q V	|	|	|	|
10+15	3.0673	5.72	Q V	|	|	|	|
10+20	3.1071	5.77	Q V	|	|	|	|
10+25	3.1472	5.83	Q V	|	|	|	|
10+30	3.1877	5.88	Q V	|	|	|	|
10+35	3.2286	5.94	Q V	|	|	|	|
10+40	3.2698	5.99	Q V	|	|	|	|
10+45	3.3115	6.05	Q V	|	|	|	|
10+50	3.3536	6.11	Q V	|	|	|	|
10+55	3.3962	6.18	Q V	|	|	|	|
11+ 0	3.4391	6.24	Q V	|	|	|	|
11+ 5	3.4826	6.30	Q V	|	|	|	|
11+10	3.5264	6.37	Q V	|	|	|	|
11+15	3.5708	6.44	Q V	|	|	|	|
11+20	3.6156	6.51	Q V	|	|	|	|
11+25	3.6609	6.58	Q V	|	|	|	|
11+30	3.7068	6.65	Q V	|	|	|	|
11+35	3.7531	6.73	Q V	|	|	|	|
11+40	3.8000	6.81	Q V	|	|	|	|
11+45	3.8475	6.89	Q V	|	|	|	|
11+50	3.8955	6.97	Q V	|	|	|	|
11+55	3.9441	7.06	Q V	|	|	|	|
12+ 0	3.9933	7.14	Q V	|	|	|	|
12+ 5	4.0430	7.22	Q V	|	|	|	|
12+10	4.0931	7.27	Q V	|	|	|	|
12+15	4.1434	7.31	Q V	|	|	|	|
12+20	4.1938	7.32	Q V	|	|	|	|
12+25	4.2442	7.31	Q V	|	|	|	|
12+30	4.2939	7.22	Q V	|	|	|	|
12+35	4.3424	7.03	Q V	|	|	|	|
12+40	4.3894	6.83	Q V	|	|	|	|
12+45	4.4354	6.68	Q V	|	|	|	|
12+50	4.4808	6.58	Q V	|	|	|	|
12+55	4.5257	6.52	Q V	|	|	|	|
13+ 0	4.5705	6.50	Q V	|	|	|	|
13+ 5	4.6152	6.50	Q V	|	|	|	|
13+10	4.6602	6.52	Q V	|	|	|	|
13+15	4.7053	6.56	Q V	|	|	|	|
13+20	4.7508	6.60	Q V	|	|	|	|
13+25	4.7967	6.66	Q V	|	|	|	|
13+30	4.8431	6.73	Q V	|	|	|	|
13+35	4.8900	6.81	Q V	|	|	|	|
13+40	4.9376	6.91	Q V	|	|	|	|
13+45	4.9858	7.01	Q V	|	|	|	|
13+50	5.0349	7.12	Q V	|	|	|	|
13+55	5.0848	7.25	Q V	|	|	|	|

14+ 0	5.1357	7.38	
14+ 5	5.1875	7.53	
14+10	5.2404	7.69	
14+15	5.2946	7.86	
14+20	5.3500	8.05	
14+25	5.4069	8.26	
14+30	5.4655	8.50	
14+35	5.5258	8.76	
14+40	5.5880	9.04	
14+45	5.6523	9.33	
14+50	5.7188	9.65	
14+55	5.7876	10.00	
15+ 0	5.8591	10.37	
15+ 5	5.9333	10.78	
15+10	6.0107	11.23	
15+15	6.0915	11.74	
15+20	6.1762	12.29	
15+25	6.2658	13.02	
15+30	6.3622	13.98	
15+35	6.4671	15.23	
15+40	6.5829	16.82	
15+45	6.7128	18.86	
15+50	6.8630	21.81	
15+55	7.0428	26.12	
16+ 0	7.2618	31.79	
16+ 5	7.5527	42.24	
16+10	7.9364	55.71	
16+15	8.4144	69.41	
16+20	8.9927	83.96	
16+25	9.6920	101.54	
16+30	10.5965	131.33	
16+35	11.7163	162.60	
16+40	12.8455	163.96	
16+45	13.8358	143.79	
16+50	14.6738	121.68	
16+55	15.3909	104.11	
17+ 0	15.9899	86.98	
17+ 5	16.5071	75.09	
17+10	16.9646	66.44	
17+15	17.3789	60.15	
17+20	17.7552	54.63	
17+25	18.0943	49.25	
17+30	18.4062	45.28	
17+35	18.6971	42.25	
17+40	18.9587	37.99	
17+45	19.2045	35.68	
17+50	19.4322	33.07	
17+55	19.6445	30.83	
18+ 0	19.8471	29.41	
18+ 5	20.0374	27.63	
18+10	20.2197	26.47	
18+15	20.3886	24.53	
18+20	20.5495	23.36	
18+25	20.6982	21.60	
18+30	20.8377	20.25	
18+35	20.9739	19.78	
18+40	21.1064	19.23	
18+45	21.2360	18.82	
18+50	21.3597	17.96	

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18+55      21.4800     17.47  |  Q      |         |         |   V     |
19+ 0      21.5964     16.90  |  Q      |         |         |   V     |
19+ 5      21.7089     16.34  |  Q      |         |         |   V     |
19+10      21.8168     15.67  |  Q      |         |         |   V     |
19+15      21.9180     14.70  | Q       |         |         |    V    |
19+20      22.0169     14.35  | Q       |         |         |    V    |
19+25      22.1135     14.03  | Q       |         |         |    V    |
19+30      22.2076     13.66  | Q       |         |         |    V    |
19+35      22.2965     12.92  | Q       |         |         |    V    |
19+40      22.3814     12.33  | Q       |         |         |    V    |
19+45      22.4643     12.03  | Q       |         |         |     V   |
19+50      22.5451     11.73  | Q       |         |         |     V   |
19+55      22.6230     11.32  | Q       |         |         |     V   |
20+ 0      22.6953     10.49  | Q       |         |         |     V   |
20+ 5      22.7650     10.12  | Q       |         |         |     V   |
20+10      22.8330      9.88  |Q        |         |         |     V   |
20+15      22.8992      9.61  |Q        |         |         |     V   |
20+20      22.9620      9.12  |Q        |         |         |     V   |
20+25      23.0201      8.44  |Q        |         |         |     V   |
20+30      23.0769      8.25  |Q        |         |         |      V  |
20+35      23.1328      8.12  |Q        |         |         |      V  |
20+40      23.1882      8.03  |Q        |         |         |      V  |
20+45      23.2437      8.07  |Q        |         |         |      V  |
20+50      23.2991      8.05  |Q        |         |         |      V  |
20+55      23.3539      7.95  |Q        |         |         |      V  |
21+ 0      23.4079      7.85  |Q        |         |         |      V  |
21+ 5      23.4612      7.73  |Q        |         |         |      V  |
21+10      23.5136      7.62  |Q        |         |         |      V  |
21+15      23.5652      7.49  |Q        |         |         |      V  |
21+20      23.6158      7.34  |Q        |         |         |      V  |
21+25      23.6651      7.16  |Q        |         |         |      V  |
21+30      23.7118      6.78  |Q        |         |         |       V |
21+35      23.7550      6.28  |Q        |         |         |       V |
21+40      23.7971      6.11  |Q        |         |         |       V |
21+45      23.8383      5.97  |Q        |         |         |       V |
21+50      23.8785      5.84  |Q        |         |         |       V |
21+55      23.9177      5.69  |Q        |         |         |       V |
22+ 0      23.9556      5.51  |Q        |         |         |       V |
22+ 5      23.9905      5.05  |Q        |         |         |       V |
22+10      24.0224      4.63  Q        |         |         |       V |
22+15      24.0535      4.52  Q        |         |         |       V |
22+20      24.0840      4.43  Q        |         |         |       V |
22+25      24.1140      4.35  Q        |         |         |       V |
22+30      24.1435      4.29  Q        |         |         |       V |
22+35      24.1727      4.23  Q        |         |         |       V |
22+40      24.2014      4.18  Q        |         |         |       V |
22+45      24.2298      4.12  Q        |         |         |       V |
22+50      24.2579      4.07  Q        |         |         |       V |
22+55      24.2856      4.03  Q        |         |         |       V |
23+ 0      24.3130      3.98  Q        |         |         |       V |
23+ 5      24.3401      3.94  Q        |         |         |        V|
23+10      24.3670      3.89  Q        |         |         |        V|
23+15      24.3935      3.85  Q        |         |         |        V|
23+20      24.4198      3.81  Q        |         |         |        V|
23+25      24.4458      3.77  Q        |         |         |        V|
23+30      24.4715      3.74  Q        |         |         |        V|
23+35      24.4970      3.70  Q        |         |         |        V|
23+40      24.5222      3.66  Q        |         |         |        V|
23+45      24.5472      3.63  Q        |         |         |        V|
```

23+50	24.5719	3.59	Q	|	|	|	V|
23+55	24.5964	3.56	Q	|	|	|	V|
24+ 0	24.6207	3.52	Q	|	|	|	V|
24+ 5	24.6446	3.48	Q	|	|	|	V|
24+10	24.6680	3.40	Q	|	|	|	V|
24+15	24.6908	3.31	Q	|	|	|	V|
24+20	24.7129	3.20	Q	|	|	|	V|
24+25	24.7339	3.05	Q	|	|	|	V|
24+30	24.7534	2.84	Q	|	|	|	V|
24+35	24.7708	2.52	Q	|	|	|	V|
24+40	24.7858	2.19	Q	|	|	|	V|
24+45	24.7990	1.91	Q	|	|	|	V|
24+50	24.8107	1.69	Q	|	|	|	V|
24+55	24.8211	1.51	Q	|	|	|	V|
25+ 0	24.8305	1.37	Q	|	|	|	V|
25+ 5	24.8391	1.25	Q	|	|	|	V|
25+10	24.8470	1.15	Q	|	|	|	V|
25+15	24.8543	1.05	Q	|	|	|	V|
25+20	24.8609	0.97	Q	|	|	|	V|
25+25	24.8671	0.90	Q	|	|	|	V|
25+30	24.8728	0.83	Q	|	|	|	V|
25+35	24.8781	0.77	Q	|	|	|	V|
25+40	24.8830	0.71	Q	|	|	|	V|
25+45	24.8876	0.66	Q	|	|	|	V|
25+50	24.8919	0.62	Q	|	|	|	V|
25+55	24.8959	0.58	Q	|	|	|	V|
26+ 0	24.8996	0.54	Q	|	|	|	V|
26+ 5	24.9030	0.50	Q	|	|	|	V|
26+10	24.9062	0.47	Q	|	|	|	V|
26+15	24.9092	0.43	Q	|	|	|	V|
26+20	24.9120	0.40	Q	|	|	|	V|
26+25	24.9146	0.38	Q	|	|	|	V|
26+30	24.9171	0.36	Q	|	|	|	V|
26+35	24.9194	0.33	Q	|	|	|	V|
26+40	24.9215	0.31	Q	|	|	|	V|
26+45	24.9235	0.29	Q	|	|	|	V|
26+50	24.9254	0.27	Q	|	|	|	V|
26+55	24.9271	0.25	Q	|	|	|	V|
27+ 0	24.9287	0.24	Q	|	|	|	V|
27+ 5	24.9302	0.22	Q	|	|	|	V|
27+10	24.9316	0.20	Q	|	|	|	V|
27+15	24.9330	0.19	Q	|	|	|	V|
27+20	24.9342	0.18	Q	|	|	|	V|
27+25	24.9353	0.17	Q	|	|	|	V|
27+30	24.9364	0.15	Q	|	|	|	V|
27+35	24.9373	0.14	Q	|	|	|	V|
27+40	24.9383	0.13	Q	|	|	|	V|
27+45	24.9391	0.12	Q	|	|	|	V|
27+50	24.9399	0.11	Q	|	|	|	V|
27+55	24.9406	0.10	Q	|	|	|	V|
28+ 0	24.9412	0.10	Q	|	|	|	V|
28+ 5	24.9419	0.09	Q	|	|	|	V|
28+10	24.9424	0.08	Q	|	|	|	V|
28+15	24.9430	0.08	Q	|	|	|	V|
28+20	24.9434	0.07	Q	|	|	|	V|
28+25	24.9439	0.07	Q	|	|	|	V|
28+30	24.9443	0.06	Q	|	|	|	V|
28+35	24.9447	0.06	Q	|	|	|	V|
28+40	24.9451	0.06	Q	|	|	|	V|

28+45	24.9455	0.05	Q	|	|	|	V|
28+50	24.9458	0.05	Q	|	|	|	V|
28+55	24.9461	0.04	Q	|	|	|	V|
29+ 0	24.9463	0.04	Q	|	|	|	V|
29+ 5	24.9466	0.03	Q	|	|	|	V|
29+10	24.9468	0.03	Q	|	|	|	V|
29+15	24.9469	0.03	Q	|	|	|	V|
29+20	24.9471	0.02	Q	|	|	|	V|
29+25	24.9472	0.02	Q	|	|	|	V|
29+30	24.9473	0.01	Q	|	|	|	V|
29+35	24.9474	0.01	Q	|	|	|	V|
29+40	24.9475	0.01	Q	|	|	|	V|
29+45	24.9475	0.01	Q	|	|	|	V|
29+50	24.9475	0.01	Q	|	|	|	V|
29+55	24.9476	0.00	Q	|	|	|	V|
30+ 0	24.9476	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 43
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
6.95	1	1.39
Rainfall data for year 100		
6.95	6	1.87
Rainfall data for year 100		
6.95	24	2.67

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	6.95	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
6.95	1.000	84.0	96.4	0.37	0.850

Area-averaged catchment yield fraction, Y = 0.850
Area-averaged low loss fraction, Yb = 0.150
User entry of time of concentration = 0.460 (hours)
++
Watershed area = 6.95(Ac.)
Catchment Lag time = 0.368 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 22.6449
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.150 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.670(In)

Rainfall depth area reduction factors:
Using a total area of 6.95(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.667(In)
6-hour factor = 1.000 Adjusted rainfall = 1.870(In)
24-hour factor = 1.000 Adjusted rainfall = 2.670(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 84.05 (CFS))	
1	1.178	0.990
2	5.552	3.676
3	15.131	8.052
4	34.714	16.459
5	50.752	13.481
6	60.938	8.561
7	67.717	5.698
8	72.933	4.384
9	77.018	3.434
10	80.296	2.755
11	82.979	2.256
12	85.300	1.950
13	87.341	1.716
14	89.028	1.418

15	90.382	1.138
16	91.629	1.048
17	92.726	0.922
18	93.724	0.839
19	94.544	0.689
20	95.312	0.646
21	95.970	0.553
22	96.559	0.495
23	97.071	0.430
24	97.479	0.343
25	97.840	0.304
26	98.074	0.197
27	98.307	0.195
28	98.573	0.224
29	98.845	0.228
30	99.116	0.228
31	99.388	0.228
32	99.583	0.164
33	99.725	0.119
34	99.866	0.119
35	100.000	0.112

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6594	0.6594
2	0.8118	0.1524
3	0.9168	0.1050
4	0.9994	0.0826
5	1.0686	0.0692
6	1.1287	0.0601
7	1.1821	0.0534
8	1.2304	0.0483
9	1.2747	0.0443
10	1.3156	0.0409
11	1.3537	0.0382
12	1.3895	0.0358
13	1.4081	0.0186
14	1.4255	0.0174
15	1.4419	0.0164
16	1.4574	0.0155
17	1.4722	0.0147
18	1.4862	0.0140
19	1.4996	0.0134
20	1.5124	0.0128
21	1.5247	0.0123
22	1.5365	0.0118
23	1.5478	0.0114
24	1.5588	0.0110
25	1.5694	0.0106
26	1.5796	0.0102
27	1.5895	0.0099
28	1.5991	0.0096
29	1.6085	0.0093
30	1.6175	0.0091
31	1.6264	0.0088
32	1.6350	0.0086
33	1.6433	0.0084
34	1.6515	0.0082
35	1.6594	0.0080

36	1.6672	0.0078
37	1.6748	0.0076
38	1.6822	0.0074
39	1.6894	0.0073
40	1.6965	0.0071
41	1.7035	0.0070
42	1.7103	0.0068
43	1.7170	0.0067
44	1.7235	0.0065
45	1.7299	0.0064
46	1.7363	0.0063
47	1.7425	0.0062
48	1.7485	0.0061
49	1.7545	0.0060
50	1.7604	0.0059
51	1.7662	0.0058
52	1.7719	0.0057
53	1.7775	0.0056
54	1.7830	0.0055
55	1.7884	0.0054
56	1.7937	0.0053
57	1.7990	0.0053
58	1.8042	0.0052
59	1.8093	0.0051
60	1.8144	0.0050
61	1.8193	0.0050
62	1.8242	0.0049
63	1.8291	0.0048
64	1.8338	0.0048
65	1.8386	0.0047
66	1.8432	0.0047
67	1.8478	0.0046
68	1.8523	0.0045
69	1.8568	0.0045
70	1.8613	0.0044
71	1.8656	0.0044
72	1.8700	0.0043
73	1.8766	0.0066
74	1.8832	0.0066
75	1.8897	0.0065
76	1.8961	0.0064
77	1.9025	0.0064
78	1.9088	0.0063
79	1.9151	0.0063
80	1.9213	0.0062
81	1.9274	0.0061
82	1.9335	0.0061
83	1.9395	0.0060
84	1.9455	0.0060
85	1.9514	0.0059
86	1.9573	0.0059
87	1.9631	0.0058
88	1.9689	0.0058
89	1.9746	0.0057
90	1.9803	0.0057
91	1.9859	0.0056
92	1.9915	0.0056
93	1.9970	0.0055
94	2.0025	0.0055

95	2.0080	0.0055
96	2.0134	0.0054
97	2.0188	0.0054
98	2.0241	0.0053
99	2.0294	0.0053
100	2.0346	0.0052
101	2.0398	0.0052
102	2.0450	0.0052
103	2.0501	0.0051
104	2.0552	0.0051
105	2.0603	0.0051
106	2.0653	0.0050
107	2.0703	0.0050
108	2.0753	0.0050
109	2.0802	0.0049
110	2.0851	0.0049
111	2.0899	0.0049
112	2.0947	0.0048
113	2.0995	0.0048
114	2.1043	0.0048
115	2.1090	0.0047
116	2.1137	0.0047
117	2.1184	0.0047
118	2.1230	0.0046
119	2.1276	0.0046
120	2.1322	0.0046
121	2.1367	0.0046
122	2.1413	0.0045
123	2.1458	0.0045
124	2.1502	0.0045
125	2.1547	0.0044
126	2.1591	0.0044
127	2.1635	0.0044
128	2.1678	0.0044
129	2.1722	0.0043
130	2.1765	0.0043
131	2.1808	0.0043
132	2.1851	0.0043
133	2.1893	0.0042
134	2.1935	0.0042
135	2.1977	0.0042
136	2.2019	0.0042
137	2.2060	0.0041
138	2.2101	0.0041
139	2.2143	0.0041
140	2.2183	0.0041
141	2.2224	0.0041
142	2.2264	0.0040
143	2.2304	0.0040
144	2.2344	0.0040
145	2.2384	0.0040
146	2.2424	0.0040
147	2.2463	0.0039
148	2.2502	0.0039
149	2.2541	0.0039
150	2.2580	0.0039
151	2.2619	0.0039
152	2.2657	0.0038
153	2.2695	0.0038

154	2.2733	0.0038
155	2.2771	0.0038
156	2.2809	0.0038
157	2.2846	0.0037
158	2.2883	0.0037
159	2.2921	0.0037
160	2.2958	0.0037
161	2.2994	0.0037
162	2.3031	0.0037
163	2.3067	0.0036
164	2.3104	0.0036
165	2.3140	0.0036
166	2.3176	0.0036
167	2.3211	0.0036
168	2.3247	0.0036
169	2.3283	0.0035
170	2.3318	0.0035
171	2.3353	0.0035
172	2.3388	0.0035
173	2.3423	0.0035
174	2.3458	0.0035
175	2.3492	0.0035
176	2.3527	0.0034
177	2.3561	0.0034
178	2.3595	0.0034
179	2.3629	0.0034
180	2.3663	0.0034
181	2.3697	0.0034
182	2.3730	0.0034
183	2.3764	0.0033
184	2.3797	0.0033
185	2.3830	0.0033
186	2.3863	0.0033
187	2.3896	0.0033
188	2.3929	0.0033
189	2.3961	0.0033
190	2.3994	0.0033
191	2.4026	0.0032
192	2.4058	0.0032
193	2.4091	0.0032
194	2.4123	0.0032
195	2.4154	0.0032
196	2.4186	0.0032
197	2.4218	0.0032
198	2.4249	0.0032
199	2.4281	0.0031
200	2.4312	0.0031
201	2.4343	0.0031
202	2.4374	0.0031
203	2.4405	0.0031
204	2.4436	0.0031
205	2.4467	0.0031
206	2.4497	0.0031
207	2.4528	0.0030
208	2.4558	0.0030
209	2.4589	0.0030
210	2.4619	0.0030
211	2.4649	0.0030
212	2.4679	0.0030

213	2.4709	0.0030
214	2.4738	0.0030
215	2.4768	0.0030
216	2.4798	0.0030
217	2.4827	0.0029
218	2.4856	0.0029
219	2.4886	0.0029
220	2.4915	0.0029
221	2.4944	0.0029
222	2.4973	0.0029
223	2.5002	0.0029
224	2.5030	0.0029
225	2.5059	0.0029
226	2.5088	0.0029
227	2.5116	0.0028
228	2.5144	0.0028
229	2.5173	0.0028
230	2.5201	0.0028
231	2.5229	0.0028
232	2.5257	0.0028
233	2.5285	0.0028
234	2.5313	0.0028
235	2.5341	0.0028
236	2.5368	0.0028
237	2.5396	0.0028
238	2.5423	0.0027
239	2.5451	0.0027
240	2.5478	0.0027
241	2.5505	0.0027
242	2.5532	0.0027
243	2.5559	0.0027
244	2.5586	0.0027
245	2.5613	0.0027
246	2.5640	0.0027
247	2.5667	0.0027
248	2.5694	0.0027
249	2.5720	0.0027
250	2.5747	0.0026
251	2.5773	0.0026
252	2.5799	0.0026
253	2.5826	0.0026
254	2.5852	0.0026
255	2.5878	0.0026
256	2.5904	0.0026
257	2.5930	0.0026
258	2.5956	0.0026
259	2.5982	0.0026
260	2.6007	0.0026
261	2.6033	0.0026
262	2.6059	0.0026
263	2.6084	0.0026
264	2.6110	0.0025
265	2.6135	0.0025
266	2.6160	0.0025
267	2.6185	0.0025
268	2.6211	0.0025
269	2.6236	0.0025
270	2.6261	0.0025
271	2.6286	0.0025

272	2.6311	0.0025
273	2.6335	0.0025
274	2.6360	0.0025
275	2.6385	0.0025
276	2.6409	0.0025
277	2.6434	0.0025
278	2.6458	0.0024
279	2.6483	0.0024
280	2.6507	0.0024
281	2.6532	0.0024
282	2.6556	0.0024
283	2.6580	0.0024
284	2.6604	0.0024
285	2.6628	0.0024
286	2.6652	0.0024
287	2.6676	0.0024
288	2.6700	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0020
2	0.0024	0.0004	0.0020
3	0.0024	0.0004	0.0020
4	0.0024	0.0004	0.0020
5	0.0024	0.0004	0.0021
6	0.0024	0.0004	0.0021
7	0.0024	0.0004	0.0021
8	0.0024	0.0004	0.0021
9	0.0025	0.0004	0.0021
10	0.0025	0.0004	0.0021
11	0.0025	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0021
14	0.0025	0.0004	0.0021
15	0.0025	0.0004	0.0021
16	0.0025	0.0004	0.0022
17	0.0025	0.0004	0.0022
18	0.0026	0.0004	0.0022
19	0.0026	0.0004	0.0022
20	0.0026	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0022
24	0.0026	0.0004	0.0022
25	0.0026	0.0004	0.0022
26	0.0026	0.0004	0.0022
27	0.0027	0.0004	0.0023
28	0.0027	0.0004	0.0023
29	0.0027	0.0004	0.0023
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0027	0.0004	0.0023
33	0.0027	0.0004	0.0023
34	0.0027	0.0004	0.0023
35	0.0028	0.0004	0.0023
36	0.0028	0.0004	0.0024
37	0.0028	0.0004	0.0024

38	0.0028	0.0004	0.0024
39	0.0028	0.0004	0.0024
40	0.0028	0.0004	0.0024
41	0.0028	0.0004	0.0024
42	0.0028	0.0004	0.0024
43	0.0029	0.0004	0.0024
44	0.0029	0.0004	0.0024
45	0.0029	0.0004	0.0025
46	0.0029	0.0004	0.0025
47	0.0029	0.0004	0.0025
48	0.0029	0.0004	0.0025
49	0.0030	0.0004	0.0025
50	0.0030	0.0004	0.0025
51	0.0030	0.0004	0.0025
52	0.0030	0.0005	0.0025
53	0.0030	0.0005	0.0026
54	0.0030	0.0005	0.0026
55	0.0030	0.0005	0.0026
56	0.0031	0.0005	0.0026
57	0.0031	0.0005	0.0026
58	0.0031	0.0005	0.0026
59	0.0031	0.0005	0.0026
60	0.0031	0.0005	0.0027
61	0.0032	0.0005	0.0027
62	0.0032	0.0005	0.0027
63	0.0032	0.0005	0.0027
64	0.0032	0.0005	0.0027
65	0.0032	0.0005	0.0027
66	0.0032	0.0005	0.0028
67	0.0033	0.0005	0.0028
68	0.0033	0.0005	0.0028
69	0.0033	0.0005	0.0028
70	0.0033	0.0005	0.0028
71	0.0033	0.0005	0.0028
72	0.0034	0.0005	0.0029
73	0.0034	0.0005	0.0029
74	0.0034	0.0005	0.0029
75	0.0034	0.0005	0.0029
76	0.0034	0.0005	0.0029
77	0.0035	0.0005	0.0029
78	0.0035	0.0005	0.0030
79	0.0035	0.0005	0.0030
80	0.0035	0.0005	0.0030
81	0.0036	0.0005	0.0030
82	0.0036	0.0005	0.0030
83	0.0036	0.0005	0.0031
84	0.0036	0.0005	0.0031
85	0.0037	0.0006	0.0031
86	0.0037	0.0006	0.0031
87	0.0037	0.0006	0.0032
88	0.0037	0.0006	0.0032
89	0.0038	0.0006	0.0032
90	0.0038	0.0006	0.0032
91	0.0038	0.0006	0.0032
92	0.0038	0.0006	0.0033
93	0.0039	0.0006	0.0033
94	0.0039	0.0006	0.0033
95	0.0039	0.0006	0.0033
96	0.0040	0.0006	0.0034

97	0.0040	0.0006	0.0034
98	0.0040	0.0006	0.0034
99	0.0041	0.0006	0.0035
100	0.0041	0.0006	0.0035
101	0.0041	0.0006	0.0035
102	0.0041	0.0006	0.0035
103	0.0042	0.0006	0.0036
104	0.0042	0.0006	0.0036
105	0.0043	0.0006	0.0036
106	0.0043	0.0006	0.0036
107	0.0043	0.0007	0.0037
108	0.0044	0.0007	0.0037
109	0.0044	0.0007	0.0038
110	0.0044	0.0007	0.0038
111	0.0045	0.0007	0.0038
112	0.0045	0.0007	0.0038
113	0.0046	0.0007	0.0039
114	0.0046	0.0007	0.0039
115	0.0047	0.0007	0.0040
116	0.0047	0.0007	0.0040
117	0.0048	0.0007	0.0040
118	0.0048	0.0007	0.0041
119	0.0049	0.0007	0.0041
120	0.0049	0.0007	0.0042
121	0.0050	0.0007	0.0042
122	0.0050	0.0007	0.0042
123	0.0051	0.0008	0.0043
124	0.0051	0.0008	0.0043
125	0.0052	0.0008	0.0044
126	0.0052	0.0008	0.0044
127	0.0053	0.0008	0.0045
128	0.0053	0.0008	0.0045
129	0.0054	0.0008	0.0046
130	0.0055	0.0008	0.0046
131	0.0055	0.0008	0.0047
132	0.0056	0.0008	0.0047
133	0.0057	0.0009	0.0048
134	0.0057	0.0009	0.0049
135	0.0058	0.0009	0.0049
136	0.0059	0.0009	0.0050
137	0.0060	0.0009	0.0051
138	0.0060	0.0009	0.0051
139	0.0061	0.0009	0.0052
140	0.0062	0.0009	0.0053
141	0.0063	0.0009	0.0054
142	0.0064	0.0010	0.0054
143	0.0065	0.0010	0.0055
144	0.0066	0.0010	0.0056
145	0.0043	0.0006	0.0037
146	0.0044	0.0007	0.0037
147	0.0045	0.0007	0.0038
148	0.0045	0.0007	0.0039
149	0.0047	0.0007	0.0040
150	0.0047	0.0007	0.0040
151	0.0048	0.0007	0.0041
152	0.0049	0.0007	0.0042
153	0.0050	0.0008	0.0043
154	0.0051	0.0008	0.0043
155	0.0053	0.0008	0.0045

156	0.0053	0.0008	0.0045
157	0.0055	0.0008	0.0047
158	0.0056	0.0008	0.0048
159	0.0058	0.0009	0.0049
160	0.0059	0.0009	0.0050
161	0.0061	0.0009	0.0052
162	0.0062	0.0009	0.0053
163	0.0064	0.0010	0.0055
164	0.0065	0.0010	0.0056
165	0.0068	0.0010	0.0058
166	0.0070	0.0010	0.0059
167	0.0073	0.0011	0.0062
168	0.0074	0.0011	0.0063
169	0.0078	0.0012	0.0066
170	0.0080	0.0012	0.0068
171	0.0084	0.0013	0.0071
172	0.0086	0.0013	0.0073
173	0.0091	0.0014	0.0077
174	0.0093	0.0014	0.0079
175	0.0099	0.0015	0.0084
176	0.0102	0.0015	0.0087
177	0.0110	0.0016	0.0093
178	0.0114	0.0017	0.0097
179	0.0123	0.0018	0.0104
180	0.0128	0.0019	0.0109
181	0.0140	0.0021	0.0119
182	0.0147	0.0022	0.0125
183	0.0164	0.0025	0.0139
184	0.0174	0.0026	0.0148
185	0.0358	0.0054	0.0304
186	0.0382	0.0057	0.0324
187	0.0443	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0542
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6594	0.0059	0.6534
194	0.0826	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0186	0.0028	0.0158
198	0.0155	0.0023	0.0132
199	0.0134	0.0020	0.0114
200	0.0118	0.0018	0.0100
201	0.0106	0.0016	0.0090
202	0.0096	0.0014	0.0082
203	0.0088	0.0013	0.0075
204	0.0082	0.0012	0.0069
205	0.0076	0.0011	0.0064
206	0.0071	0.0011	0.0060
207	0.0067	0.0010	0.0057
208	0.0063	0.0009	0.0054
209	0.0060	0.0009	0.0051
210	0.0057	0.0009	0.0048
211	0.0054	0.0008	0.0046
212	0.0052	0.0008	0.0044
213	0.0050	0.0007	0.0042
214	0.0048	0.0007	0.0041

215	0.0046	0.0007	0.0039
216	0.0044	0.0007	0.0038
217	0.0066	0.0010	0.0056
218	0.0064	0.0010	0.0055
219	0.0063	0.0009	0.0053
220	0.0061	0.0009	0.0052
221	0.0059	0.0009	0.0050
222	0.0058	0.0009	0.0049
223	0.0056	0.0008	0.0048
224	0.0055	0.0008	0.0047
225	0.0054	0.0008	0.0046
226	0.0052	0.0008	0.0045
227	0.0051	0.0008	0.0044
228	0.0050	0.0008	0.0043
229	0.0049	0.0007	0.0042
230	0.0048	0.0007	0.0041
231	0.0047	0.0007	0.0040
232	0.0046	0.0007	0.0039
233	0.0046	0.0007	0.0039
234	0.0045	0.0007	0.0038
235	0.0044	0.0007	0.0037
236	0.0043	0.0006	0.0037
237	0.0042	0.0006	0.0036
238	0.0042	0.0006	0.0035
239	0.0041	0.0006	0.0035
240	0.0040	0.0006	0.0034
241	0.0040	0.0006	0.0034
242	0.0039	0.0006	0.0033
243	0.0039	0.0006	0.0033
244	0.0038	0.0006	0.0032
245	0.0037	0.0006	0.0032
246	0.0037	0.0006	0.0031
247	0.0036	0.0005	0.0031
248	0.0036	0.0005	0.0031
249	0.0035	0.0005	0.0030
250	0.0035	0.0005	0.0030
251	0.0035	0.0005	0.0029
252	0.0034	0.0005	0.0029
253	0.0034	0.0005	0.0029
254	0.0033	0.0005	0.0028
255	0.0033	0.0005	0.0028
256	0.0033	0.0005	0.0028
257	0.0032	0.0005	0.0027
258	0.0032	0.0005	0.0027
259	0.0031	0.0005	0.0027
260	0.0031	0.0005	0.0026
261	0.0031	0.0005	0.0026
262	0.0030	0.0005	0.0026
263	0.0030	0.0005	0.0026
264	0.0030	0.0004	0.0025
265	0.0029	0.0004	0.0025
266	0.0029	0.0004	0.0025
267	0.0029	0.0004	0.0025
268	0.0029	0.0004	0.0024
269	0.0028	0.0004	0.0024
270	0.0028	0.0004	0.0024
271	0.0028	0.0004	0.0024
272	0.0027	0.0004	0.0023
273	0.0027	0.0004	0.0023

274	0.0027	0.0004	0.0023
275	0.0027	0.0004	0.0023
276	0.0026	0.0004	0.0023
277	0.0026	0.0004	0.0022
278	0.0026	0.0004	0.0022
279	0.0026	0.0004	0.0022
280	0.0026	0.0004	0.0022
281	0.0025	0.0004	0.0022
282	0.0025	0.0004	0.0021
283	0.0025	0.0004	0.0021
284	0.0025	0.0004	0.0021
285	0.0025	0.0004	0.0021
286	0.0024	0.0004	0.0021
287	0.0024	0.0004	0.0021
288	0.0024	0.0004	0.0020

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.41(In)
Peak flow rate in flood hydrograph = 15.52(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0007	0.06	Q				
0+25	0.0013	0.09	Q				
0+30	0.0020	0.10	Q				
0+35	0.0028	0.12	Q				
0+40	0.0036	0.13	Q				
0+45	0.0046	0.13	Q				
0+50	0.0055	0.14	Q				
0+55	0.0065	0.14	Q				
1+ 0	0.0075	0.15	Q				
1+ 5	0.0086	0.15	Q				
1+10	0.0097	0.16	Q				
1+15	0.0108	0.16	Q				
1+20	0.0119	0.16	Q				
1+25	0.0130	0.16	Q				
1+30	0.0142	0.17	Q				
1+35	0.0153	0.17	Q				
1+40	0.0165	0.17	Q				
1+45	0.0177	0.17	Q				
1+50	0.0189	0.17	Q				
1+55	0.0201	0.18	Q				
2+ 0	0.0214	0.18	Q				
2+ 5	0.0226	0.18	Q				
2+10	0.0238	0.18	Q				
2+15	0.0251	0.18	Q				
2+20	0.0263	0.18	Q				
2+25	0.0276	0.18	Q				

2+30	0.0289	0.19	Q				
2+35	0.0302	0.19	Q				
2+40	0.0315	0.19	Q				
2+45	0.0328	0.19	Q				
2+50	0.0341	0.19	Q				
2+55	0.0354	0.19	QV				
3+ 0	0.0367	0.19	QV				
3+ 5	0.0380	0.19	QV				
3+10	0.0394	0.19	QV				
3+15	0.0407	0.19	QV				
3+20	0.0421	0.20	QV				
3+25	0.0434	0.20	QV				
3+30	0.0448	0.20	QV				
3+35	0.0461	0.20	QV				
3+40	0.0475	0.20	QV				
3+45	0.0489	0.20	QV				
3+50	0.0503	0.20	QV				
3+55	0.0517	0.20	QV				
4+ 0	0.0531	0.20	QV				
4+ 5	0.0545	0.20	QV				
4+10	0.0559	0.21	QV				
4+15	0.0573	0.21	QV				
4+20	0.0587	0.21	QV				
4+25	0.0602	0.21	QV				
4+30	0.0616	0.21	QV				
4+35	0.0631	0.21	QV				
4+40	0.0645	0.21	QV				
4+45	0.0660	0.21	QV				
4+50	0.0675	0.21	QV				
4+55	0.0689	0.21	QV				
5+ 0	0.0704	0.22	Q V				
5+ 5	0.0719	0.22	Q V				
5+10	0.0734	0.22	Q V				
5+15	0.0749	0.22	Q V				
5+20	0.0765	0.22	Q V				
5+25	0.0780	0.22	Q V				
5+30	0.0795	0.22	Q V				
5+35	0.0811	0.22	Q V				
5+40	0.0826	0.23	Q V				
5+45	0.0842	0.23	Q V				
5+50	0.0858	0.23	Q V				
5+55	0.0873	0.23	Q V				
6+ 0	0.0889	0.23	Q V				
6+ 5	0.0905	0.23	Q V				
6+10	0.0921	0.23	Q V				
6+15	0.0938	0.24	Q V				
6+20	0.0954	0.24	Q V				
6+25	0.0970	0.24	Q V				
6+30	0.0987	0.24	Q V				
6+35	0.1003	0.24	Q V				
6+40	0.1020	0.24	Q V				
6+45	0.1037	0.24	Q V				
6+50	0.1054	0.25	Q V				
6+55	0.1071	0.25	Q V				
7+ 0	0.1088	0.25	Q V				
7+ 5	0.1105	0.25	Q V				
7+10	0.1123	0.25	Q V				
7+15	0.1140	0.25	Q V				
7+20	0.1158	0.26	Q V				

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 7+25       0.1175      0.26  Q  V      |          |          |          |
 7+30       0.1193      0.26  Q  V      |          |          |          |
 7+35       0.1211      0.26  Q  V      |          |          |          |
 7+40       0.1229      0.26  Q  V      |          |          |          |
 7+45       0.1247      0.26  Q  V      |          |          |          |
 7+50       0.1266      0.27  Q  V      |          |          |          |
 7+55       0.1284      0.27  Q  V      |          |          |          |
 8+ 0       0.1303      0.27  Q  V      |          |          |          |
 8+ 5       0.1322      0.27  Q  V      |          |          |          |
 8+10       0.1340      0.27  Q  V      |          |          |          |
 8+15       0.1359      0.28  Q  V      |          |          |          |
 8+20       0.1379      0.28  Q  V      |          |          |          |
 8+25       0.1398      0.28  Q   V     |          |          |          |
 8+30       0.1417      0.28  Q   V     |          |          |          |
 8+35       0.1437      0.28  Q   V     |          |          |          |
 8+40       0.1457      0.29  Q   V     |          |          |          |
 8+45       0.1477      0.29  Q   V     |          |          |          |
 8+50       0.1497      0.29  Q   V     |          |          |          |
 8+55       0.1517      0.29  Q   V     |          |          |          |
 9+ 0       0.1537      0.30  Q   V     |          |          |          |
 9+ 5       0.1558      0.30  Q   V     |          |          |          |
 9+10       0.1578      0.30  Q   V     |          |          |          |
 9+15       0.1599      0.30  Q   V     |          |          |          |
 9+20       0.1620      0.31  Q   V     |          |          |          |
 9+25       0.1642      0.31  Q   V     |          |          |          |
 9+30       0.1663      0.31  Q   V     |          |          |          |
 9+35       0.1685      0.31  Q   V     |          |          |          |
 9+40       0.1707      0.32  Q   V     |          |          |          |
 9+45       0.1729      0.32  Q   V     |          |          |          |
 9+50       0.1751      0.32  Q    V    |          |          |          |
 9+55       0.1773      0.33  Q    V    |          |          |          |
10+ 0       0.1796      0.33  Q    V    |          |          |          |
10+ 5       0.1819      0.33  Q    V    |          |          |          |
10+10       0.1842      0.34  Q    V    |          |          |          |
10+15       0.1865      0.34  Q    V    |          |          |          |
10+20       0.1889      0.34  Q    V    |          |          |          |
10+25       0.1913      0.35  Q    V    |          |          |          |
10+30       0.1937      0.35  Q    V    |          |          |          |
10+35       0.1961      0.35  Q    V    |          |          |          |
10+40       0.1985      0.36  Q    V    |          |          |          |
10+45       0.2010      0.36  Q    V    |          |          |          |
10+50       0.2035      0.36  Q    V    |          |          |          |
10+55       0.2061      0.37  Q    V    |          |          |          |
11+ 0       0.2086      0.37  Q    V    |          |          |          |
11+ 5       0.2112      0.38  Q     V   |          |          |          |
11+10       0.2138      0.38  Q     V   |          |          |          |
11+15       0.2165      0.38  Q     V   |          |          |          |
11+20       0.2192      0.39  Q     V   |          |          |          |
11+25       0.2219      0.39  Q     V   |          |          |          |
11+30       0.2246      0.40  Q     V   |          |          |          |
11+35       0.2274      0.40  Q     V   |          |          |          |
11+40       0.2302      0.41  Q     V   |          |          |          |
11+45       0.2331      0.41  Q     V   |          |          |          |
11+50       0.2360      0.42  Q     V   |          |          |          |
11+55       0.2389      0.43  Q     V   |          |          |          |
12+ 0       0.2419      0.43  Q     V   |          |          |          |
12+ 5       0.2449      0.44  Q      V  |          |          |          |
12+10       0.2479      0.43  Q      V  |          |          |          |
12+15       0.2508      0.42  Q      V  |          |          |          |
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12+20       0.2535      0.40  Q      V  |          |          |          |
12+25       0.2561      0.38  Q      V  |          |          |          |
12+30       0.2586      0.36  Q      V  |          |          |          |
12+35       0.2611      0.36  Q      V  |          |          |          |
12+40       0.2635      0.36  Q      V  |          |          |          |
12+45       0.2660      0.36  Q      V  |          |          |          |
12+50       0.2684      0.36  Q      V  |          |          |          |
12+55       0.2709      0.36  Q      V  |          |          |          |
13+ 0       0.2734      0.36  Q      V  |          |          |          |
13+ 5       0.2759      0.36  Q      V  |          |          |          |
13+10       0.2784      0.37  Q      V  |          |          |          |
13+15       0.2810      0.37  Q       V |          |          |          |
13+20       0.2836      0.38  Q       V |          |          |          |
13+25       0.2863      0.39  Q       V |          |          |          |
13+30       0.2890      0.39  Q       V |          |          |          |
13+35       0.2918      0.40  Q       V |          |          |          |
13+40       0.2946      0.41  Q       V |          |          |          |
13+45       0.2975      0.42  Q       V |          |          |          |
13+50       0.3004      0.43  Q       V |          |          |          |
13+55       0.3035      0.44  Q       V |          |          |          |
14+ 0       0.3066      0.45  Q       V |          |          |          |
14+ 5       0.3098      0.46  Q       V |          |          |          |
14+10       0.3130      0.48  Q       V |          |          |          |
14+15       0.3164      0.49  Q        V|          |          |          |
14+20       0.3199      0.51  |Q       V|          |          |          |
14+25       0.3235      0.52  |Q       V|          |          |          |
14+30       0.3272      0.54  |Q       V|          |          |          |
14+35       0.3311      0.56  |Q       V|          |          |          |
14+40       0.3351      0.58  |Q       V|          |          |          |
14+45       0.3392      0.60  |Q       V|          |          |          |
14+50       0.3436      0.63  |Q       V|          |          |          |
14+55       0.3481      0.66  |Q       V|          |          |          |
15+ 0       0.3528      0.69  |Q        V          |          |          |
15+ 5       0.3578      0.72  |Q        V          |          |          |
15+10       0.3631      0.76  |Q        V          |          |          |
15+15       0.3686      0.81  |Q        V          |          |          |
15+20       0.3745      0.86  |Q        V          |          |          |
15+25       0.3809      0.93  |Q        V          |          |          |
15+30       0.3881      1.05  | Q       |V          |          |          |
15+35       0.3966      1.24  | Q       |V          |          |          |
15+40       0.4075      1.58  |  Q      |V          |          |          |
15+45       0.4208      1.93  |  Q      | V         |          |          |
15+50       0.4366      2.29  |   Q     | V         |          |          |
15+55       0.4554      2.73  |    Q    |  V        |          |          |
16+ 0       0.4786      3.37  |     Q   |  V        |          |          |
16+ 5       0.5116      4.79  |        Q|   V       |          |          |
16+10       0.5624      7.39  |         |   Q V     |          |          |
16+15       0.6369     10.82  |         |       V  |Q         |          |
16+20       0.7438     15.52  |         |          |V         |Q         |
16+25       0.8355     13.31  |         |          |  V  Q    |          |
16+30       0.9028      9.77  |         |        Q|    V     |          |
16+35       0.9536      7.38  |         |   Q      |      V   |          |
16+40       0.9942      5.89  |         |Q         |       V  |          |
16+45       1.0272      4.79  |        Q|          |        V |          |
16+50       1.0547      4.00  |       Q |          |         V          |
16+55       1.0783      3.42  |     Q   |          |         V          |
17+ 0       1.0990      3.00  |     Q   |          |         |V         |
17+ 5       1.1173      2.66  |    Q    |          |         | V        |
17+10       1.1332      2.32  |   Q     |          |         | V        |
```

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17+15       1.1471      2.01  |   Q     |         |         | V       |
17+20       1.1597      1.84  |  Q      |         |         |  V      |
17+25       1.1712      1.66  |  Q      |         |         |  V      |
17+30       1.1816      1.51  |  Q      |         |         |  V      |
17+35       1.1908      1.35  | Q       |         |         |   V     |
17+40       1.1994      1.24  | Q       |         |         |   V     |
17+45       1.2072      1.12  | Q       |         |         |   V     |
17+50       1.2142      1.03  | Q       |         |         |   V     |
17+55       1.2207      0.93  |Q        |         |         |    V    |
18+ 0       1.2264      0.83  |Q        |         |         |    V    |
18+ 5       1.2317      0.76  |Q        |         |         |    V    |
18+10       1.2363      0.68  |Q        |         |         |    V    |
18+15       1.2409      0.66  |Q        |         |         |    V    |
18+20       1.2456      0.69  |Q        |         |         |    V    |
18+25       1.2504      0.69  |Q        |         |         |    V    |
18+30       1.2551      0.68  |Q        |         |         |     V   |
18+35       1.2597      0.66  |Q        |         |         |     V   |
18+40       1.2638      0.61  |Q        |         |         |     V   |
18+45       1.2677      0.56  |Q        |         |         |     V   |
18+50       1.2714      0.54  |Q        |         |         |     V   |
18+55       1.2748      0.51  |Q        |         |         |     V   |
19+ 0       1.2778      0.42  Q         |         |         |     V   |
19+ 5       1.2806      0.41  Q         |         |         |     V   |
19+10       1.2833      0.40  Q         |         |         |     V   |
19+15       1.2859      0.38  Q         |         |         |     V   |
19+20       1.2885      0.38  Q         |         |         |     V   |
19+25       1.2911      0.37  Q         |         |         |      V  |
19+30       1.2935      0.36  Q         |         |         |      V  |
19+35       1.2960      0.35  Q         |         |         |      V  |
19+40       1.2984      0.35  Q         |         |         |      V  |
19+45       1.3007      0.34  Q         |         |         |      V  |
19+50       1.3030      0.34  Q         |         |         |      V  |
19+55       1.3053      0.33  Q         |         |         |      V  |
20+ 0       1.3075      0.32  Q         |         |         |      V  |
20+ 5       1.3097      0.32  Q         |         |         |      V  |
20+10       1.3119      0.31  Q         |         |         |      V  |
20+15       1.3140      0.31  Q         |         |         |      V  |
20+20       1.3161      0.30  Q         |         |         |      V  |
20+25       1.3181      0.30  Q         |         |         |      V  |
20+30       1.3202      0.29  Q         |         |         |      V  |
20+35       1.3222      0.29  Q         |         |         |      V  |
20+40       1.3241      0.28  Q         |         |         |       V |
20+45       1.3260      0.28  Q         |         |         |       V |
20+50       1.3279      0.28  Q         |         |         |       V |
20+55       1.3298      0.27  Q         |         |         |       V |
21+ 0       1.3317      0.27  Q         |         |         |       V |
21+ 5       1.3335      0.26  Q         |         |         |       V |
21+10       1.3353      0.26  Q         |         |         |       V |
21+15       1.3371      0.26  Q         |         |         |       V |
21+20       1.3388      0.25  Q         |         |         |       V |
21+25       1.3405      0.25  Q         |         |         |       V |
21+30       1.3423      0.25  Q         |         |         |       V |
21+35       1.3439      0.24  Q         |         |         |       V |
21+40       1.3456      0.24  Q         |         |         |       V |
21+45       1.3472      0.24  Q         |         |         |       V |
21+50       1.3489      0.24  Q         |         |         |       V |
21+55       1.3505      0.23  Q         |         |         |       V |
22+ 0       1.3520      0.23  Q         |         |         |       V |
22+ 5       1.3536      0.23  Q         |         |         |       V |
```

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   22+10       1.3551      0.22  Q         |          |          |       V |
   22+15       1.3567      0.22  Q         |          |          |       V |
   22+20       1.3582      0.22  Q         |          |          |       V |
   22+25       1.3597      0.22  Q         |          |          |        V|
   22+30       1.3612      0.21  Q         |          |          |        V|
   22+35       1.3626      0.21  Q         |          |          |        V|
   22+40       1.3641      0.21  Q         |          |          |        V|
   22+45       1.3655      0.21  Q         |          |          |        V|
   22+50       1.3669      0.21  Q         |          |          |        V|
   22+55       1.3683      0.20  Q         |          |          |        V|
   23+ 0       1.3697      0.20  Q         |          |          |        V|
   23+ 5       1.3711      0.20  Q         |          |          |        V|
   23+10       1.3725      0.20  Q         |          |          |        V|
   23+15       1.3738      0.20  Q         |          |          |        V|
   23+20       1.3752      0.19  Q         |          |          |        V|
   23+25       1.3765      0.19  Q         |          |          |        V|
   23+30       1.3778      0.19  Q         |          |          |        V|
   23+35       1.3791      0.19  Q         |          |          |        V|
   23+40       1.3804      0.19  Q         |          |          |        V|
   23+45       1.3817      0.19  Q         |          |          |        V|
   23+50       1.3829      0.18  Q         |          |          |        V|
   23+55       1.3842      0.18  Q         |          |          |        V|
   24+ 0       1.3854      0.18  Q         |          |          |        V|
   24+ 5       1.3867      0.18  Q         |          |          |        V|
   24+10       1.3878      0.17  Q         |          |          |        V|
   24+15       1.3889      0.15  Q         |          |          |        V|
   24+20       1.3897      0.12  Q         |          |          |        V|
   24+25       1.3903      0.09  Q         |          |          |        V|
   24+30       1.3908      0.07  Q         |          |          |        V|
   24+35       1.3912      0.06  Q         |          |          |        V|
   24+40       1.3915      0.05  Q         |          |          |        V|
   24+45       1.3918      0.04  Q         |          |          |        V|
   24+50       1.3920      0.04  Q         |          |          |        V|
   24+55       1.3922      0.03  Q         |          |          |        V|
   25+ 0       1.3924      0.03  Q         |          |          |        V|
   25+ 5       1.3926      0.02  Q         |          |          |        V|
   25+10       1.3927      0.02  Q         |          |          |        V|
   25+15       1.3928      0.02  Q         |          |          |        V|
   25+20       1.3929      0.02  Q         |          |          |        V|
   25+25       1.3930      0.01  Q         |          |          |        V|
   25+30       1.3931      0.01  Q         |          |          |        V|
   25+35       1.3932      0.01  Q         |          |          |        V|
   25+40       1.3932      0.01  Q         |          |          |        V|
   25+45       1.3933      0.01  Q         |          |          |        V|
   25+50       1.3933      0.01  Q         |          |          |        V|
   25+55       1.3934      0.01  Q         |          |          |        V|
   26+ 0       1.3934      0.00  Q         |          |          |        V|
   26+ 5       1.3934      0.00  Q         |          |          |        V|
   26+10       1.3934      0.00  Q         |          |          |        V|
   26+15       1.3935      0.00  Q         |          |          |        V|
   26+20       1.3935      0.00  Q         |          |          |        V|
   26+25       1.3935      0.00  Q         |          |          |        V|
   26+30       1.3935      0.00  Q         |          |          |        V|
   26+35       1.3935      0.00  Q         |          |          |        V|
   26+40       1.3935      0.00  Q         |          |          |        V|
   26+45       1.3935      0.00  Q         |          |          |        V|
   26+50       1.3935      0.00  Q         |          |          |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0

Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 44
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
6.47	1	1.39
Rainfall data for year 100		
6.47	6	1.87
Rainfall data for year 100		
6.47	24	2.68

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	6.47	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
6.47	1.000	84.0	96.4	0.37	0.850

Area-averaged catchment yield fraction, Y = 0.850
Area-averaged low loss fraction, Yb = 0.150
User entry of time of concentration = 0.410 (hours)
++
Watershed area = 6.47(Ac.)
Catchment Lag time = 0.328 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 25.4065
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.150 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.680(In)

Rainfall depth area reduction factors:
Using a total area of 6.47(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.667(In)
6-hour factor = 1.000 Adjusted rainfall = 1.870(In)
24-hour factor = 1.000 Adjusted rainfall = 2.680(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 78.25 (CFS))	
1	1.380	1.080
2	6.762	4.211
3	20.568	10.803
4	42.363	17.054
5	56.880	11.359
6	65.684	6.889
7	71.945	4.899
8	76.690	3.713
9	80.400	2.903
10	83.363	2.319
11	85.903	1.988
12	88.065	1.691
13	89.753	1.321
14	91.202	1.134

15	92.480	1.000
16	93.619	0.891
17	94.553	0.731
18	95.408	0.669
19	96.121	0.557
20	96.771	0.509
21	97.275	0.395
22	97.720	0.348
23	98.016	0.232
24	98.274	0.202
25	98.570	0.231
26	98.874	0.239
27	99.179	0.239
28	99.469	0.227
29	99.651	0.142
30	99.809	0.124
31	100.000	0.062

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6594	0.6594
2	0.8118	0.1524
3	0.9168	0.1050
4	0.9994	0.0826
5	1.0686	0.0692
6	1.1287	0.0601
7	1.1821	0.0534
8	1.2304	0.0483
9	1.2747	0.0443
10	1.3156	0.0409
11	1.3538	0.0382
12	1.3896	0.0358
13	1.4081	0.0186
14	1.4256	0.0174
15	1.4420	0.0164
16	1.4575	0.0155
17	1.4722	0.0147
18	1.4862	0.0140
19	1.4996	0.0134
20	1.5124	0.0128
21	1.5247	0.0123
22	1.5365	0.0118
23	1.5478	0.0114
24	1.5588	0.0110
25	1.5694	0.0106
26	1.5796	0.0102
27	1.5895	0.0099
28	1.5992	0.0096
29	1.6085	0.0093
30	1.6176	0.0091
31	1.6264	0.0088
32	1.6350	0.0086
33	1.6433	0.0084
34	1.6515	0.0082
35	1.6594	0.0080
36	1.6672	0.0078
37	1.6748	0.0076
38	1.6822	0.0074
39	1.6894	0.0073

40	1.6965	0.0071
41	1.7035	0.0070
42	1.7103	0.0068
43	1.7170	0.0067
44	1.7235	0.0065
45	1.7300	0.0064
46	1.7363	0.0063
47	1.7425	0.0062
48	1.7485	0.0061
49	1.7545	0.0060
50	1.7604	0.0059
51	1.7662	0.0058
52	1.7719	0.0057
53	1.7775	0.0056
54	1.7830	0.0055
55	1.7884	0.0054
56	1.7937	0.0053
57	1.7990	0.0053
58	1.8042	0.0052
59	1.8093	0.0051
60	1.8144	0.0050
61	1.8193	0.0050
62	1.8242	0.0049
63	1.8291	0.0048
64	1.8338	0.0048
65	1.8386	0.0047
66	1.8432	0.0047
67	1.8478	0.0046
68	1.8523	0.0045
69	1.8568	0.0045
70	1.8613	0.0044
71	1.8656	0.0044
72	1.8700	0.0043
73	1.8767	0.0067
74	1.8833	0.0066
75	1.8899	0.0066
76	1.8964	0.0065
77	1.9028	0.0064
78	1.9092	0.0064
79	1.9156	0.0063
80	1.9218	0.0063
81	1.9280	0.0062
82	1.9342	0.0062
83	1.9403	0.0061
84	1.9463	0.0060
85	1.9523	0.0060
86	1.9582	0.0059
87	1.9641	0.0059
88	1.9700	0.0058
89	1.9757	0.0058
90	1.9815	0.0057
91	1.9872	0.0057
92	1.9928	0.0056
93	1.9984	0.0056
94	2.0040	0.0056
95	2.0095	0.0055
96	2.0150	0.0055
97	2.0204	0.0054
98	2.0258	0.0054

99	2.0311	0.0053
100	2.0364	0.0053
101	2.0417	0.0053
102	2.0469	0.0052
103	2.0521	0.0052
104	2.0573	0.0052
105	2.0624	0.0051
106	2.0675	0.0051
107	2.0725	0.0050
108	2.0775	0.0050
109	2.0825	0.0050
110	2.0874	0.0049
111	2.0924	0.0049
112	2.0972	0.0049
113	2.1021	0.0048
114	2.1069	0.0048
115	2.1117	0.0048
116	2.1164	0.0048
117	2.1212	0.0047
118	2.1258	0.0047
119	2.1305	0.0047
120	2.1351	0.0046
121	2.1397	0.0046
122	2.1443	0.0046
123	2.1489	0.0045
124	2.1534	0.0045
125	2.1579	0.0045
126	2.1624	0.0045
127	2.1668	0.0044
128	2.1712	0.0044
129	2.1756	0.0044
130	2.1800	0.0044
131	2.1843	0.0043
132	2.1886	0.0043
133	2.1929	0.0043
134	2.1972	0.0043
135	2.2014	0.0042
136	2.2057	0.0042
137	2.2099	0.0042
138	2.2140	0.0042
139	2.2182	0.0042
140	2.2223	0.0041
141	2.2264	0.0041
142	2.2305	0.0041
143	2.2346	0.0041
144	2.2386	0.0040
145	2.2427	0.0040
146	2.2467	0.0040
147	2.2506	0.0040
148	2.2546	0.0040
149	2.2586	0.0039
150	2.2625	0.0039
151	2.2664	0.0039
152	2.2703	0.0039
153	2.2741	0.0039
154	2.2780	0.0038
155	2.2818	0.0038
156	2.2856	0.0038
157	2.2894	0.0038

158	2.2932	0.0038
159	2.2970	0.0038
160	2.3007	0.0037
161	2.3044	0.0037
162	2.3081	0.0037
163	2.3118	0.0037
164	2.3155	0.0037
165	2.3192	0.0037
166	2.3228	0.0036
167	2.3264	0.0036
168	2.3300	0.0036
169	2.3336	0.0036
170	2.3372	0.0036
171	2.3408	0.0036
172	2.3443	0.0035
173	2.3478	0.0035
174	2.3514	0.0035
175	2.3549	0.0035
176	2.3583	0.0035
177	2.3618	0.0035
178	2.3653	0.0035
179	2.3687	0.0034
180	2.3721	0.0034
181	2.3756	0.0034
182	2.3790	0.0034
183	2.3823	0.0034
184	2.3857	0.0034
185	2.3891	0.0034
186	2.3924	0.0033
187	2.3958	0.0033
188	2.3991	0.0033
189	2.4024	0.0033
190	2.4057	0.0033
191	2.4090	0.0033
192	2.4122	0.0033
193	2.4155	0.0033
194	2.4187	0.0032
195	2.4219	0.0032
196	2.4252	0.0032
197	2.4284	0.0032
198	2.4316	0.0032
199	2.4347	0.0032
200	2.4379	0.0032
201	2.4411	0.0032
202	2.4442	0.0031
203	2.4474	0.0031
204	2.4505	0.0031
205	2.4536	0.0031
206	2.4567	0.0031
207	2.4598	0.0031
208	2.4629	0.0031
209	2.4659	0.0031
210	2.4690	0.0031
211	2.4720	0.0030
212	2.4751	0.0030
213	2.4781	0.0030
214	2.4811	0.0030
215	2.4841	0.0030
216	2.4871	0.0030

217	2.4901	0.0030
218	2.4931	0.0030
219	2.4960	0.0030
220	2.4990	0.0030
221	2.5019	0.0029
222	2.5049	0.0029
223	2.5078	0.0029
224	2.5107	0.0029
225	2.5136	0.0029
226	2.5165	0.0029
227	2.5194	0.0029
228	2.5223	0.0029
229	2.5251	0.0029
230	2.5280	0.0029
231	2.5308	0.0028
232	2.5337	0.0028
233	2.5365	0.0028
234	2.5393	0.0028
235	2.5422	0.0028
236	2.5450	0.0028
237	2.5478	0.0028
238	2.5505	0.0028
239	2.5533	0.0028
240	2.5561	0.0028
241	2.5588	0.0028
242	2.5616	0.0028
243	2.5643	0.0027
244	2.5671	0.0027
245	2.5698	0.0027
246	2.5725	0.0027
247	2.5752	0.0027
248	2.5779	0.0027
249	2.5806	0.0027
250	2.5833	0.0027
251	2.5860	0.0027
252	2.5887	0.0027
253	2.5913	0.0027
254	2.5940	0.0027
255	2.5966	0.0026
256	2.5993	0.0026
257	2.6019	0.0026
258	2.6045	0.0026
259	2.6071	0.0026
260	2.6098	0.0026
261	2.6124	0.0026
262	2.6150	0.0026
263	2.6175	0.0026
264	2.6201	0.0026
265	2.6227	0.0026
266	2.6253	0.0026
267	2.6278	0.0026
268	2.6304	0.0026
269	2.6329	0.0025
270	2.6355	0.0025
271	2.6380	0.0025
272	2.6405	0.0025
273	2.6430	0.0025
274	2.6455	0.0025
275	2.6480	0.0025

276	2.6505	0.0025
277	2.6530	0.0025
278	2.6555	0.0025
279	2.6580	0.0025
280	2.6605	0.0025
281	2.6629	0.0025
282	2.6654	0.0025
283	2.6678	0.0025
284	2.6703	0.0024
285	2.6727	0.0024
286	2.6751	0.0024
287	2.6776	0.0024
288	2.6800	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0021
2	0.0024	0.0004	0.0021
3	0.0024	0.0004	0.0021
4	0.0024	0.0004	0.0021
5	0.0025	0.0004	0.0021
6	0.0025	0.0004	0.0021
7	0.0025	0.0004	0.0021
8	0.0025	0.0004	0.0021
9	0.0025	0.0004	0.0021
10	0.0025	0.0004	0.0021
11	0.0025	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0022
14	0.0025	0.0004	0.0022
15	0.0026	0.0004	0.0022
16	0.0026	0.0004	0.0022
17	0.0026	0.0004	0.0022
18	0.0026	0.0004	0.0022
19	0.0026	0.0004	0.0022
20	0.0026	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0023
24	0.0027	0.0004	0.0023
25	0.0027	0.0004	0.0023
26	0.0027	0.0004	0.0023
27	0.0027	0.0004	0.0023
28	0.0027	0.0004	0.0023
29	0.0027	0.0004	0.0023
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0028	0.0004	0.0023
33	0.0028	0.0004	0.0024
34	0.0028	0.0004	0.0024
35	0.0028	0.0004	0.0024
36	0.0028	0.0004	0.0024
37	0.0028	0.0004	0.0024
38	0.0028	0.0004	0.0024
39	0.0028	0.0004	0.0024
40	0.0029	0.0004	0.0024
41	0.0029	0.0004	0.0024

42	0.0029	0.0004	0.0025
43	0.0029	0.0004	0.0025
44	0.0029	0.0004	0.0025
45	0.0029	0.0004	0.0025
46	0.0029	0.0004	0.0025
47	0.0030	0.0004	0.0025
48	0.0030	0.0004	0.0025
49	0.0030	0.0004	0.0025
50	0.0030	0.0004	0.0026
51	0.0030	0.0005	0.0026
52	0.0030	0.0005	0.0026
53	0.0031	0.0005	0.0026
54	0.0031	0.0005	0.0026
55	0.0031	0.0005	0.0026
56	0.0031	0.0005	0.0026
57	0.0031	0.0005	0.0027
58	0.0031	0.0005	0.0027
59	0.0032	0.0005	0.0027
60	0.0032	0.0005	0.0027
61	0.0032	0.0005	0.0027
62	0.0032	0.0005	0.0027
63	0.0032	0.0005	0.0027
64	0.0032	0.0005	0.0028
65	0.0033	0.0005	0.0028
66	0.0033	0.0005	0.0028
67	0.0033	0.0005	0.0028
68	0.0033	0.0005	0.0028
69	0.0033	0.0005	0.0028
70	0.0034	0.0005	0.0029
71	0.0034	0.0005	0.0029
72	0.0034	0.0005	0.0029
73	0.0034	0.0005	0.0029
74	0.0034	0.0005	0.0029
75	0.0035	0.0005	0.0030
76	0.0035	0.0005	0.0030
77	0.0035	0.0005	0.0030
78	0.0035	0.0005	0.0030
79	0.0036	0.0005	0.0030
80	0.0036	0.0005	0.0030
81	0.0036	0.0005	0.0031
82	0.0036	0.0005	0.0031
83	0.0037	0.0005	0.0031
84	0.0037	0.0006	0.0031
85	0.0037	0.0006	0.0032
86	0.0037	0.0006	0.0032
87	0.0038	0.0006	0.0032
88	0.0038	0.0006	0.0032
89	0.0038	0.0006	0.0032
90	0.0038	0.0006	0.0033
91	0.0039	0.0006	0.0033
92	0.0039	0.0006	0.0033
93	0.0039	0.0006	0.0033
94	0.0039	0.0006	0.0034
95	0.0040	0.0006	0.0034
96	0.0040	0.0006	0.0034
97	0.0040	0.0006	0.0034
98	0.0041	0.0006	0.0035
99	0.0041	0.0006	0.0035
100	0.0041	0.0006	0.0035

101	0.0042	0.0006	0.0036
102	0.0042	0.0006	0.0036
103	0.0042	0.0006	0.0036
104	0.0043	0.0006	0.0036
105	0.0043	0.0006	0.0037
106	0.0043	0.0007	0.0037
107	0.0044	0.0007	0.0037
108	0.0044	0.0007	0.0038
109	0.0045	0.0007	0.0038
110	0.0045	0.0007	0.0038
111	0.0045	0.0007	0.0039
112	0.0046	0.0007	0.0039
113	0.0046	0.0007	0.0039
114	0.0047	0.0007	0.0040
115	0.0047	0.0007	0.0040
116	0.0048	0.0007	0.0040
117	0.0048	0.0007	0.0041
118	0.0048	0.0007	0.0041
119	0.0049	0.0007	0.0042
120	0.0049	0.0007	0.0042
121	0.0050	0.0008	0.0043
122	0.0050	0.0008	0.0043
123	0.0051	0.0008	0.0044
124	0.0052	0.0008	0.0044
125	0.0052	0.0008	0.0044
126	0.0053	0.0008	0.0045
127	0.0053	0.0008	0.0045
128	0.0054	0.0008	0.0046
129	0.0055	0.0008	0.0047
130	0.0055	0.0008	0.0047
131	0.0056	0.0008	0.0048
132	0.0056	0.0008	0.0048
133	0.0057	0.0009	0.0049
134	0.0058	0.0009	0.0049
135	0.0059	0.0009	0.0050
136	0.0059	0.0009	0.0050
137	0.0060	0.0009	0.0051
138	0.0061	0.0009	0.0052
139	0.0062	0.0009	0.0053
140	0.0063	0.0009	0.0053
141	0.0064	0.0010	0.0054
142	0.0064	0.0010	0.0055
143	0.0066	0.0010	0.0056
144	0.0066	0.0010	0.0056
145	0.0043	0.0006	0.0037
146	0.0044	0.0007	0.0037
147	0.0045	0.0007	0.0038
148	0.0045	0.0007	0.0039
149	0.0047	0.0007	0.0040
150	0.0047	0.0007	0.0040
151	0.0048	0.0007	0.0041
152	0.0049	0.0007	0.0042
153	0.0050	0.0008	0.0043
154	0.0051	0.0008	0.0043
155	0.0053	0.0008	0.0045
156	0.0053	0.0008	0.0045
157	0.0055	0.0008	0.0047
158	0.0056	0.0008	0.0048
159	0.0058	0.0009	0.0049

160	0.0059	0.0009	0.0050
161	0.0061	0.0009	0.0052
162	0.0062	0.0009	0.0053
163	0.0064	0.0010	0.0055
164	0.0065	0.0010	0.0056
165	0.0068	0.0010	0.0058
166	0.0070	0.0010	0.0059
167	0.0073	0.0011	0.0062
168	0.0074	0.0011	0.0063
169	0.0078	0.0012	0.0066
170	0.0080	0.0012	0.0068
171	0.0084	0.0013	0.0071
172	0.0086	0.0013	0.0073
173	0.0091	0.0014	0.0077
174	0.0093	0.0014	0.0079
175	0.0099	0.0015	0.0084
176	0.0102	0.0015	0.0087
177	0.0110	0.0016	0.0093
178	0.0114	0.0017	0.0097
179	0.0123	0.0018	0.0104
180	0.0128	0.0019	0.0109
181	0.0140	0.0021	0.0119
182	0.0147	0.0022	0.0125
183	0.0164	0.0025	0.0139
184	0.0174	0.0026	0.0148
185	0.0358	0.0054	0.0304
186	0.0382	0.0057	0.0324
187	0.0443	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0542
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6594	0.0059	0.6535
194	0.0826	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0186	0.0028	0.0158
198	0.0155	0.0023	0.0132
199	0.0134	0.0020	0.0114
200	0.0118	0.0018	0.0100
201	0.0106	0.0016	0.0090
202	0.0096	0.0014	0.0082
203	0.0088	0.0013	0.0075
204	0.0082	0.0012	0.0069
205	0.0076	0.0011	0.0064
206	0.0071	0.0011	0.0060
207	0.0067	0.0010	0.0057
208	0.0063	0.0009	0.0054
209	0.0060	0.0009	0.0051
210	0.0057	0.0009	0.0048
211	0.0054	0.0008	0.0046
212	0.0052	0.0008	0.0044
213	0.0050	0.0007	0.0042
214	0.0048	0.0007	0.0041
215	0.0046	0.0007	0.0039
216	0.0044	0.0007	0.0038
217	0.0067	0.0010	0.0057
218	0.0065	0.0010	0.0055

219	0.0063	0.0009	0.0054
220	0.0062	0.0009	0.0052
221	0.0060	0.0009	0.0051
222	0.0058	0.0009	0.0050
223	0.0057	0.0009	0.0048
224	0.0056	0.0008	0.0047
225	0.0054	0.0008	0.0046
226	0.0053	0.0008	0.0045
227	0.0052	0.0008	0.0044
228	0.0051	0.0008	0.0043
229	0.0050	0.0007	0.0042
230	0.0049	0.0007	0.0041
231	0.0048	0.0007	0.0041
232	0.0047	0.0007	0.0040
233	0.0046	0.0007	0.0039
234	0.0045	0.0007	0.0038
235	0.0044	0.0007	0.0038
236	0.0044	0.0007	0.0037
237	0.0043	0.0006	0.0036
238	0.0042	0.0006	0.0036
239	0.0042	0.0006	0.0035
240	0.0041	0.0006	0.0035
241	0.0040	0.0006	0.0034
242	0.0040	0.0006	0.0034
243	0.0039	0.0006	0.0033
244	0.0038	0.0006	0.0033
245	0.0038	0.0006	0.0032
246	0.0037	0.0006	0.0032
247	0.0037	0.0006	0.0031
248	0.0036	0.0005	0.0031
249	0.0036	0.0005	0.0031
250	0.0035	0.0005	0.0030
251	0.0035	0.0005	0.0030
252	0.0035	0.0005	0.0029
253	0.0034	0.0005	0.0029
254	0.0034	0.0005	0.0029
255	0.0033	0.0005	0.0028
256	0.0033	0.0005	0.0028
257	0.0033	0.0005	0.0028
258	0.0032	0.0005	0.0027
259	0.0032	0.0005	0.0027
260	0.0031	0.0005	0.0027
261	0.0031	0.0005	0.0026
262	0.0031	0.0005	0.0026
263	0.0030	0.0005	0.0026
264	0.0030	0.0005	0.0026
265	0.0030	0.0004	0.0025
266	0.0030	0.0004	0.0025
267	0.0029	0.0004	0.0025
268	0.0029	0.0004	0.0025
269	0.0029	0.0004	0.0024
270	0.0028	0.0004	0.0024
271	0.0028	0.0004	0.0024
272	0.0028	0.0004	0.0024
273	0.0028	0.0004	0.0023
274	0.0027	0.0004	0.0023
275	0.0027	0.0004	0.0023
276	0.0027	0.0004	0.0023
277	0.0027	0.0004	0.0023

278	0.0026	0.0004	0.0022
279	0.0026	0.0004	0.0022
280	0.0026	0.0004	0.0022
281	0.0026	0.0004	0.0022
282	0.0026	0.0004	0.0022
283	0.0025	0.0004	0.0022
284	0.0025	0.0004	0.0021
285	0.0025	0.0004	0.0021
286	0.0025	0.0004	0.0021
287	0.0025	0.0004	0.0021
288	0.0024	0.0004	0.0021

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.42(In)
Peak flow rate in flood hydrograph = 15.50(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0003	0.03	Q	|	|	|	|
0+20	0.0008	0.07	Q	|	|	|	|
0+25	0.0014	0.09	Q	|	|	|	|
0+30	0.0022	0.11	Q	|	|	|	|
0+35	0.0030	0.12	Q	|	|	|	|
0+40	0.0038	0.13	Q	|	|	|	|
0+45	0.0047	0.13	Q	|	|	|	|
0+50	0.0057	0.14	Q	|	|	|	|
0+55	0.0066	0.14	Q	|	|	|	|
1+ 0	0.0076	0.15	Q	|	|	|	|
1+ 5	0.0087	0.15	Q	|	|	|	|
1+10	0.0097	0.15	Q	|	|	|	|
1+15	0.0108	0.15	Q	|	|	|	|
1+20	0.0119	0.16	Q	|	|	|	|
1+25	0.0130	0.16	Q	|	|	|	|
1+30	0.0141	0.16	Q	|	|	|	|
1+35	0.0152	0.16	Q	|	|	|	|
1+40	0.0163	0.16	Q	|	|	|	|
1+45	0.0175	0.17	Q	|	|	|	|
1+50	0.0186	0.17	Q	|	|	|	|
1+55	0.0198	0.17	Q	|	|	|	|
2+ 0	0.0209	0.17	Q	|	|	|	|
2+ 5	0.0221	0.17	Q	|	|	|	|
2+10	0.0233	0.17	Q	|	|	|	|
2+15	0.0245	0.17	Q	|	|	|	|
2+20	0.0257	0.17	Q	|	|	|	|
2+25	0.0269	0.18	Q	|	|	|	|
2+30	0.0281	0.18	Q	|	|	|	|
2+35	0.0293	0.18	Q	|	|	|	|
2+40	0.0306	0.18	Q	|	|	|	|
2+45	0.0318	0.18	Q	|	|	|	|

2+50	0.0331	0.18	QV				
2+55	0.0343	0.18	QV				
3+ 0	0.0355	0.18	QV				
3+ 5	0.0368	0.18	QV				
3+10	0.0381	0.18	QV				
3+15	0.0393	0.18	QV				
3+20	0.0406	0.19	QV				
3+25	0.0419	0.19	QV				
3+30	0.0432	0.19	QV				
3+35	0.0445	0.19	QV				
3+40	0.0458	0.19	QV				
3+45	0.0471	0.19	QV				
3+50	0.0484	0.19	QV				
3+55	0.0497	0.19	QV				
4+ 0	0.0510	0.19	QV				
4+ 5	0.0524	0.19	QV				
4+10	0.0537	0.19	QV				
4+15	0.0550	0.20	QV				
4+20	0.0564	0.20	QV				
4+25	0.0577	0.20	QV				
4+30	0.0591	0.20	QV				
4+35	0.0605	0.20	QV				
4+40	0.0619	0.20	QV				
4+45	0.0632	0.20	QV				
4+50	0.0646	0.20	QV				
4+55	0.0660	0.20	Q V				
5+ 0	0.0674	0.20	Q V				
5+ 5	0.0689	0.21	Q V				
5+10	0.0703	0.21	Q V				
5+15	0.0717	0.21	Q V				
5+20	0.0732	0.21	Q V				
5+25	0.0746	0.21	Q V				
5+30	0.0761	0.21	Q V				
5+35	0.0775	0.21	Q V				
5+40	0.0790	0.21	Q V				
5+45	0.0805	0.21	Q V				
5+50	0.0820	0.22	Q V				
5+55	0.0835	0.22	Q V				
6+ 0	0.0850	0.22	Q V				
6+ 5	0.0865	0.22	Q V				
6+10	0.0880	0.22	Q V				
6+15	0.0895	0.22	Q V				
6+20	0.0911	0.22	Q V				
6+25	0.0926	0.23	Q V				
6+30	0.0942	0.23	Q V				
6+35	0.0958	0.23	Q V				
6+40	0.0973	0.23	Q V				
6+45	0.0989	0.23	Q V				
6+50	0.1005	0.23	Q V				
6+55	0.1022	0.23	Q V				
7+ 0	0.1038	0.24	Q V				
7+ 5	0.1054	0.24	Q V				
7+10	0.1070	0.24	Q V				
7+15	0.1087	0.24	Q V				
7+20	0.1104	0.24	Q V				
7+25	0.1120	0.24	Q V				
7+30	0.1137	0.25	Q V				
7+35	0.1154	0.25	Q V				
7+40	0.1171	0.25	Q V				

7+45	0.1189	0.25	Q	V				
7+50	0.1206	0.25	Q	V				
7+55	0.1223	0.25	Q	V				
8+ 0	0.1241	0.26	Q	V				
8+ 5	0.1259	0.26	Q	V				
8+10	0.1277	0.26	Q	V				
8+15	0.1295	0.26	Q	V				
8+20	0.1313	0.26	Q	V				
8+25	0.1331	0.27	Q	V				
8+30	0.1349	0.27	Q	V				
8+35	0.1368	0.27	Q	V				
8+40	0.1387	0.27	Q	V				
8+45	0.1406	0.27	Q	V				
8+50	0.1425	0.28	Q	V				
8+55	0.1444	0.28	Q	V				
9+ 0	0.1463	0.28	Q	V				
9+ 5	0.1483	0.28	Q	V				
9+10	0.1502	0.29	Q	V				
9+15	0.1522	0.29	Q	V				
9+20	0.1542	0.29	Q	V				
9+25	0.1562	0.29	Q	V				
9+30	0.1582	0.30	Q	V				
9+35	0.1603	0.30	Q	V				
9+40	0.1624	0.30	Q	V				
9+45	0.1644	0.30	Q	V				
9+50	0.1666	0.31	Q	V				
9+55	0.1687	0.31	Q	V				
10+ 0	0.1708	0.31	Q	V				
10+ 5	0.1730	0.31	Q	V				
10+10	0.1752	0.32	Q	V				
10+15	0.1774	0.32	Q	V				
10+20	0.1796	0.32	Q	V				
10+25	0.1819	0.33	Q	V				
10+30	0.1841	0.33	Q	V				
10+35	0.1864	0.33	Q	V				
10+40	0.1888	0.34	Q	V				
10+45	0.1911	0.34	Q	V				
10+50	0.1935	0.34	Q	V				
10+55	0.1959	0.35	Q	V				
11+ 0	0.1983	0.35	Q	V				
11+ 5	0.2008	0.36	Q	V				
11+10	0.2033	0.36	Q	V				
11+15	0.2058	0.36	Q	V				
11+20	0.2083	0.37	Q	V				
11+25	0.2109	0.37	Q	V				
11+30	0.2135	0.38	Q	V				
11+35	0.2161	0.38	Q	V				
11+40	0.2188	0.39	Q	V				
11+45	0.2215	0.39	Q	V				
11+50	0.2243	0.40	Q	V				
11+55	0.2270	0.40	Q	V				
12+ 0	0.2299	0.41	Q	V				
12+ 5	0.2327	0.41	Q	V				
12+10	0.2355	0.41	Q	V				
12+15	0.2382	0.39	Q	V				
12+20	0.2407	0.36	Q	V				
12+25	0.2431	0.35	Q	V				
12+30	0.2454	0.34	Q	V				
12+35	0.2477	0.33	Q	V				

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12+40       0.2500      0.33  Q      V  |          |          |          |
12+45       0.2523      0.33  Q      V  |          |          |          |
12+50       0.2546      0.33  Q      V  |          |          |          |
12+55       0.2568      0.33  Q      V  |          |          |          |
13+ 0       0.2592      0.34  Q      V  |          |          |          |
13+ 5       0.2615      0.34  Q       V |          |          |          |
13+10       0.2639      0.34  Q       V |          |          |          |
13+15       0.2663      0.35  Q       V |          |          |          |
13+20       0.2687      0.36  Q       V |          |          |          |
13+25       0.2712      0.36  Q       V |          |          |          |
13+30       0.2738      0.37  Q       V |          |          |          |
13+35       0.2764      0.38  Q       V |          |          |          |
13+40       0.2790      0.39  Q       V |          |          |          |
13+45       0.2817      0.39  Q       V |          |          |          |
13+50       0.2845      0.40  Q       V |          |          |          |
13+55       0.2874      0.41  Q       V |          |          |          |
14+ 0       0.2903      0.43  Q       V |          |          |          |
14+ 5       0.2933      0.44  Q        V|          |          |          |
14+10       0.2964      0.45  Q        V|          |          |          |
14+15       0.2996      0.46  Q        V|          |          |          |
14+20       0.3029      0.48  Q        V|          |          |          |
14+25       0.3063      0.49  Q        V|          |          |          |
14+30       0.3098      0.51  |Q       V|          |          |          |
14+35       0.3135      0.53  |Q       V|          |          |          |
14+40       0.3173      0.55  |Q       V|          |          |          |
14+45       0.3212      0.57  |Q       V|          |          |          |
14+50       0.3253      0.60  |Q        V          |          |          |
14+55       0.3297      0.63  |Q        V          |          |          |
15+ 0       0.3342      0.66  |Q        V          |          |          |
15+ 5       0.3389      0.69  |Q        V          |          |          |
15+10       0.3440      0.73  |Q        V          |          |          |
15+15       0.3493      0.77  |Q        V          |          |          |
15+20       0.3549      0.82  |Q        V          |          |          |
15+25       0.3611      0.89  |Q        |V         |          |          |
15+30       0.3681      1.02  | Q       |V         |          |          |
15+35       0.3767      1.25  | Q       |V         |          |          |
15+40       0.3878      1.60  |  Q      |V         |          |          |
15+45       0.4011      1.93  |  Q      | V        |          |          |
15+50       0.4169      2.29  |   Q     | V        |          |          |
15+55       0.4357      2.73  |    Q    |  V       |          |          |
16+ 0       0.4591      3.40  |     Q   |   V      |          |          |
16+ 5       0.4932      4.94  |        Q|    V     |          |          |
16+10       0.5473      7.86  |         |    QV    |          |          |
16+15       0.6319     12.28  |         |        V|   Q      |          |
16+20       0.7386     15.50  |         |         | V        Q          |
16+25       0.8189     11.65  |         |         |  Q V     |          |
16+30       0.8763      8.34  |         |     Q   |     V    |          |
16+35       0.9207      6.45  |         | Q       |       V  |          |
16+40       0.9557      5.08  |         Q         |        V|          |
16+45       0.9842      4.13  |       Q |         |         V          |
16+50       1.0080      3.46  |     Q   |         |         V          |
16+55       1.0286      3.00  |    Q    |         |         |V         |
17+ 0       1.0465      2.60  |    Q    |         |         | V        |
17+ 5       1.0618      2.21  |   Q     |         |         | V        |
17+10       1.0752      1.95  |  Q      |         |         |  V       |
17+15       1.0872      1.75  |  Q      |         |         |  V       |
17+20       1.0981      1.57  |  Q      |         |         |  V       |
17+25       1.1076      1.39  | Q       |         |         |   V      |
17+30       1.1163      1.26  | Q       |         |         |   V      |
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17+35       1.1241      1.13  | Q       |         |         |   V     |
17+40       1.1312      1.03  | Q       |         |         |   V     |
17+45       1.1374      0.90  |Q        |         |         |   V     |
17+50       1.1430      0.82  |Q        |         |         |    V    |
17+55       1.1479      0.71  |Q        |         |         |    V    |
18+ 0       1.1524      0.65  |Q        |         |         |    V    |
18+ 5       1.1568      0.64  |Q        |         |         |    V    |
18+10       1.1611      0.63  |Q        |         |         |    V    |
18+15       1.1654      0.62  |Q        |         |         |    V    |
18+20       1.1696      0.61  |Q        |         |         |    V    |
18+25       1.1735      0.56  |Q        |         |         |     V   |
18+30       1.1771      0.53  |Q        |         |         |     V   |
18+35       1.1803      0.47  Q        |         |         |     V   |
18+40       1.1832      0.42  Q        |         |         |     V   |
18+45       1.1860      0.40  Q        |         |         |     V   |
18+50       1.1887      0.39  Q        |         |         |     V   |
18+55       1.1913      0.38  Q        |         |         |     V   |
19+ 0       1.1939      0.38  Q        |         |         |     V   |
19+ 5       1.1964      0.37  Q        |         |         |     V   |
19+10       1.1989      0.36  Q        |         |         |     V   |
19+15       1.2014      0.35  Q        |         |         |     V   |
19+20       1.2037      0.35  Q        |         |         |      V  |
19+25       1.2061      0.34  Q        |         |         |      V  |
19+30       1.2084      0.33  Q        |         |         |      V  |
19+35       1.2107      0.33  Q        |         |         |      V  |
19+40       1.2129      0.32  Q        |         |         |      V  |
19+45       1.2151      0.32  Q        |         |         |      V  |
19+50       1.2172      0.31  Q        |         |         |      V  |
19+55       1.2193      0.31  Q        |         |         |      V  |
20+ 0       1.2214      0.30  Q        |         |         |      V  |
20+ 5       1.2234      0.30  Q        |         |         |      V  |
20+10       1.2254      0.29  Q        |         |         |      V  |
20+15       1.2274      0.29  Q        |         |         |      V  |
20+20       1.2293      0.28  Q        |         |         |      V  |
20+25       1.2312      0.28  Q        |         |         |      V  |
20+30       1.2331      0.27  Q        |         |         |      V  |
20+35       1.2350      0.27  Q        |         |         |      V  |
20+40       1.2368      0.26  Q        |         |         |       V |
20+45       1.2386      0.26  Q        |         |         |       V |
20+50       1.2404      0.26  Q        |         |         |       V |
20+55       1.2421      0.25  Q        |         |         |       V |
21+ 0       1.2438      0.25  Q        |         |         |       V |
21+ 5       1.2455      0.25  Q        |         |         |       V |
21+10       1.2472      0.24  Q        |         |         |       V |
21+15       1.2489      0.24  Q        |         |         |       V |
21+20       1.2505      0.24  Q        |         |         |       V |
21+25       1.2521      0.23  Q        |         |         |       V |
21+30       1.2537      0.23  Q        |         |         |       V |
21+35       1.2553      0.23  Q        |         |         |       V |
21+40       1.2568      0.22  Q        |         |         |       V |
21+45       1.2583      0.22  Q        |         |         |       V |
21+50       1.2598      0.22  Q        |         |         |       V |
21+55       1.2613      0.22  Q        |         |         |       V |
22+ 0       1.2628      0.21  Q        |         |         |       V |
22+ 5       1.2643      0.21  Q        |         |         |       V |
22+10       1.2657      0.21  Q        |         |         |       V |
22+15       1.2671      0.21  Q        |         |         |       V |
22+20       1.2686      0.21  Q        |         |         |        V|
22+25       1.2700      0.20  Q        |         |         |        V|
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22+30	1.2713	0.20	Q	|	|	|	V|
22+35	1.2727	0.20	Q	|	|	|	V|
22+40	1.2741	0.20	Q	|	|	|	V|
22+45	1.2754	0.19	Q	|	|	|	V|
22+50	1.2767	0.19	Q	|	|	|	V|
22+55	1.2780	0.19	Q	|	|	|	V|
23+ 0	1.2793	0.19	Q	|	|	|	V|
23+ 5	1.2806	0.19	Q	|	|	|	V|
23+10	1.2819	0.19	Q	|	|	|	V|
23+15	1.2832	0.18	Q	|	|	|	V|
23+20	1.2844	0.18	Q	|	|	|	V|
23+25	1.2857	0.18	Q	|	|	|	V|
23+30	1.2869	0.18	Q	|	|	|	V|
23+35	1.2881	0.18	Q	|	|	|	V|
23+40	1.2893	0.18	Q	|	|	|	V|
23+45	1.2905	0.17	Q	|	|	|	V|
23+50	1.2917	0.17	Q	|	|	|	V|
23+55	1.2929	0.17	Q	|	|	|	V|
24+ 0	1.2941	0.17	Q	|	|	|	V|
24+ 5	1.2952	0.17	Q	|	|	|	V|
24+10	1.2963	0.16	Q	|	|	|	V|
24+15	1.2972	0.13	Q	|	|	|	V|
24+20	1.2979	0.10	Q	|	|	|	V|
24+25	1.2984	0.07	Q	|	|	|	V|
24+30	1.2988	0.06	Q	|	|	|	V|
24+35	1.2991	0.05	Q	|	|	|	V|
24+40	1.2994	0.04	Q	|	|	|	V|
24+45	1.2996	0.03	Q	|	|	|	V|
24+50	1.2998	0.03	Q	|	|	|	V|
24+55	1.2999	0.02	Q	|	|	|	V|
25+ 0	1.3001	0.02	Q	|	|	|	V|
25+ 5	1.3002	0.02	Q	|	|	|	V|
25+10	1.3003	0.01	Q	|	|	|	V|
25+15	1.3004	0.01	Q	|	|	|	V|
25+20	1.3004	0.01	Q	|	|	|	V|
25+25	1.3005	0.01	Q	|	|	|	V|
25+30	1.3006	0.01	Q	|	|	|	V|
25+35	1.3006	0.01	Q	|	|	|	V|
25+40	1.3006	0.01	Q	|	|	|	V|
25+45	1.3007	0.00	Q	|	|	|	V|
25+50	1.3007	0.00	Q	|	|	|	V|
25+55	1.3007	0.00	Q	|	|	|	V|
26+ 0	1.3007	0.00	Q	|	|	|	V|
26+ 5	1.3008	0.00	Q	|	|	|	V|
26+10	1.3008	0.00	Q	|	|	|	V|
26+15	1.3008	0.00	Q	|	|	|	V|
26+20	1.3008	0.00	Q	|	|	|	V|
26+25	1.3008	0.00	Q	|	|	|	V|
26+30	1.3008	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 45
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.49	1	1.39
Rainfall data for year 100		
3.49	6	1.87
Rainfall data for year 100		
3.49	24	2.68

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	3.49	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.49	1.000	84.0	96.4	0.37	0.850

Area-averaged catchment yield fraction, Y = 0.850
Area-averaged low loss fraction, Yb = 0.150
User entry of time of concentration = 0.270 (hours)
++
Watershed area = 3.49(Ac.)
Catchment Lag time = 0.216 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 38.5802
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.071(In/Hr)
Average low loss rate fraction (Yb) = 0.150 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.680(In)

Rainfall depth area reduction factors:
Using a total area of 3.49(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.667(In)
6-hour factor = 1.000 Adjusted rainfall = 1.870(In)
24-hour factor = 1.000 Adjusted rainfall = 2.680(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 42.21 (CFS))	
1	2.595	1.095
2	17.110	6.126
3	47.025	12.626
4	64.168	7.235
5	73.585	3.975
6	79.873	2.654
7	84.321	1.877
8	87.824	1.479
9	90.350	1.066
10	92.386	0.859
11	94.047	0.701
12	95.367	0.557
13	96.438	0.452
14	97.275	0.353

15	97.884	0.257
16	98.288	0.170
17	98.739	0.190
18	99.202	0.195
19	99.584	0.161
20	99.827	0.103
21	100.000	0.073

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6595	0.6595
2	0.8119	0.1524
3	0.9169	0.1050
4	0.9996	0.0826
5	1.0688	0.0692
6	1.1288	0.0601
7	1.1823	0.0534
8	1.2306	0.0483
9	1.2749	0.0443
10	1.3158	0.0409
11	1.3540	0.0382
12	1.3898	0.0358
13	1.4083	0.0186
14	1.4257	0.0174
15	1.4421	0.0164
16	1.4576	0.0155
17	1.4723	0.0147
18	1.4863	0.0140
19	1.4997	0.0134
20	1.5125	0.0128
21	1.5248	0.0123
22	1.5366	0.0118
23	1.5480	0.0114
24	1.5589	0.0110
25	1.5695	0.0106
26	1.5797	0.0102
27	1.5896	0.0099
28	1.5992	0.0096
29	1.6086	0.0093
30	1.6176	0.0091
31	1.6264	0.0088
32	1.6350	0.0086
33	1.6434	0.0084
34	1.6515	0.0081
35	1.6595	0.0080
36	1.6672	0.0078
37	1.6748	0.0076
38	1.6822	0.0074
39	1.6895	0.0073
40	1.6966	0.0071
41	1.7035	0.0070
42	1.7103	0.0068
43	1.7170	0.0067
44	1.7236	0.0065
45	1.7300	0.0064
46	1.7363	0.0063
47	1.7425	0.0062
48	1.7486	0.0061
49	1.7545	0.0060

50	1.7604	0.0059
51	1.7662	0.0058
52	1.7719	0.0057
53	1.7775	0.0056
54	1.7830	0.0055
55	1.7884	0.0054
56	1.7938	0.0053
57	1.7990	0.0053
58	1.8042	0.0052
59	1.8093	0.0051
60	1.8144	0.0050
61	1.8193	0.0050
62	1.8243	0.0049
63	1.8291	0.0048
64	1.8339	0.0048
65	1.8386	0.0047
66	1.8432	0.0047
67	1.8478	0.0046
68	1.8524	0.0045
69	1.8568	0.0045
70	1.8613	0.0044
71	1.8657	0.0044
72	1.8700	0.0043
73	1.8767	0.0067
74	1.8833	0.0066
75	1.8899	0.0066
76	1.8964	0.0065
77	1.9029	0.0064
78	1.9092	0.0064
79	1.9156	0.0063
80	1.9218	0.0063
81	1.9280	0.0062
82	1.9342	0.0062
83	1.9403	0.0061
84	1.9463	0.0060
85	1.9523	0.0060
86	1.9583	0.0059
87	1.9641	0.0059
88	1.9700	0.0058
89	1.9758	0.0058
90	1.9815	0.0057
91	1.9872	0.0057
92	1.9928	0.0056
93	1.9984	0.0056
94	2.0040	0.0056
95	2.0095	0.0055
96	2.0150	0.0055
97	2.0204	0.0054
98	2.0258	0.0054
99	2.0311	0.0053
100	2.0364	0.0053
101	2.0417	0.0053
102	2.0469	0.0052
103	2.0521	0.0052
104	2.0573	0.0052
105	2.0624	0.0051
106	2.0675	0.0051
107	2.0725	0.0050
108	2.0775	0.0050

109	2.0825	0.0050
110	2.0875	0.0049
111	2.0924	0.0049
112	2.0973	0.0049
113	2.1021	0.0048
114	2.1069	0.0048
115	2.1117	0.0048
116	2.1164	0.0048
117	2.1212	0.0047
118	2.1259	0.0047
119	2.1305	0.0047
120	2.1352	0.0046
121	2.1398	0.0046
122	2.1443	0.0046
123	2.1489	0.0045
124	2.1534	0.0045
125	2.1579	0.0045
126	2.1624	0.0045
127	2.1668	0.0044
128	2.1712	0.0044
129	2.1756	0.0044
130	2.1800	0.0044
131	2.1843	0.0043
132	2.1886	0.0043
133	2.1929	0.0043
134	2.1972	0.0043
135	2.2014	0.0042
136	2.2057	0.0042
137	2.2099	0.0042
138	2.2140	0.0042
139	2.2182	0.0042
140	2.2223	0.0041
141	2.2264	0.0041
142	2.2305	0.0041
143	2.2346	0.0041
144	2.2386	0.0040
145	2.2427	0.0040
146	2.2467	0.0040
147	2.2507	0.0040
148	2.2546	0.0040
149	2.2586	0.0039
150	2.2625	0.0039
151	2.2664	0.0039
152	2.2703	0.0039
153	2.2742	0.0039
154	2.2780	0.0038
155	2.2818	0.0038
156	2.2856	0.0038
157	2.2894	0.0038
158	2.2932	0.0038
159	2.2970	0.0038
160	2.3007	0.0037
161	2.3044	0.0037
162	2.3082	0.0037
163	2.3118	0.0037
164	2.3155	0.0037
165	2.3192	0.0037
166	2.3228	0.0036
167	2.3264	0.0036

168	2.3300	0.0036
169	2.3336	0.0036
170	2.3372	0.0036
171	2.3408	0.0036
172	2.3443	0.0035
173	2.3479	0.0035
174	2.3514	0.0035
175	2.3549	0.0035
176	2.3584	0.0035
177	2.3618	0.0035
178	2.3653	0.0035
179	2.3687	0.0034
180	2.3722	0.0034
181	2.3756	0.0034
182	2.3790	0.0034
183	2.3824	0.0034
184	2.3857	0.0034
185	2.3891	0.0034
186	2.3924	0.0033
187	2.3958	0.0033
188	2.3991	0.0033
189	2.4024	0.0033
190	2.4057	0.0033
191	2.4090	0.0033
192	2.4122	0.0033
193	2.4155	0.0033
194	2.4187	0.0032
195	2.4220	0.0032
196	2.4252	0.0032
197	2.4284	0.0032
198	2.4316	0.0032
199	2.4348	0.0032
200	2.4379	0.0032
201	2.4411	0.0032
202	2.4442	0.0031
203	2.4474	0.0031
204	2.4505	0.0031
205	2.4536	0.0031
206	2.4567	0.0031
207	2.4598	0.0031
208	2.4629	0.0031
209	2.4660	0.0031
210	2.4690	0.0031
211	2.4721	0.0030
212	2.4751	0.0030
213	2.4781	0.0030
214	2.4811	0.0030
215	2.4841	0.0030
216	2.4871	0.0030
217	2.4901	0.0030
218	2.4931	0.0030
219	2.4961	0.0030
220	2.4990	0.0030
221	2.5019	0.0029
222	2.5049	0.0029
223	2.5078	0.0029
224	2.5107	0.0029
225	2.5136	0.0029
226	2.5165	0.0029

227	2.5194	0.0029
228	2.5223	0.0029
229	2.5252	0.0029
230	2.5280	0.0029
231	2.5309	0.0028
232	2.5337	0.0028
233	2.5365	0.0028
234	2.5394	0.0028
235	2.5422	0.0028
236	2.5450	0.0028
237	2.5478	0.0028
238	2.5505	0.0028
239	2.5533	0.0028
240	2.5561	0.0028
241	2.5589	0.0028
242	2.5616	0.0028
243	2.5644	0.0027
244	2.5671	0.0027
245	2.5698	0.0027
246	2.5725	0.0027
247	2.5752	0.0027
248	2.5779	0.0027
249	2.5806	0.0027
250	2.5833	0.0027
251	2.5860	0.0027
252	2.5887	0.0027
253	2.5913	0.0027
254	2.5940	0.0027
255	2.5966	0.0026
256	2.5993	0.0026
257	2.6019	0.0026
258	2.6045	0.0026
259	2.6072	0.0026
260	2.6098	0.0026
261	2.6124	0.0026
262	2.6150	0.0026
263	2.6176	0.0026
264	2.6201	0.0026
265	2.6227	0.0026
266	2.6253	0.0026
267	2.6278	0.0026
268	2.6304	0.0026
269	2.6329	0.0025
270	2.6355	0.0025
271	2.6380	0.0025
272	2.6405	0.0025
273	2.6430	0.0025
274	2.6455	0.0025
275	2.6480	0.0025
276	2.6505	0.0025
277	2.6530	0.0025
278	2.6555	0.0025
279	2.6580	0.0025
280	2.6605	0.0025
281	2.6629	0.0025
282	2.6654	0.0025
283	2.6678	0.0025
284	2.6703	0.0024
285	2.6727	0.0024

286	2.6751	0.0024	
287	2.6776	0.0024	
288	2.6800	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0004	0.0021
2	0.0024	0.0004	0.0021
3	0.0024	0.0004	0.0021
4	0.0024	0.0004	0.0021
5	0.0025	0.0004	0.0021
6	0.0025	0.0004	0.0021
7	0.0025	0.0004	0.0021
8	0.0025	0.0004	0.0021
9	0.0025	0.0004	0.0021
10	0.0025	0.0004	0.0021
11	0.0025	0.0004	0.0021
12	0.0025	0.0004	0.0021
13	0.0025	0.0004	0.0022
14	0.0025	0.0004	0.0022
15	0.0026	0.0004	0.0022
16	0.0026	0.0004	0.0022
17	0.0026	0.0004	0.0022
18	0.0026	0.0004	0.0022
19	0.0026	0.0004	0.0022
20	0.0026	0.0004	0.0022
21	0.0026	0.0004	0.0022
22	0.0026	0.0004	0.0022
23	0.0026	0.0004	0.0023
24	0.0027	0.0004	0.0023
25	0.0027	0.0004	0.0023
26	0.0027	0.0004	0.0023
27	0.0027	0.0004	0.0023
28	0.0027	0.0004	0.0023
29	0.0027	0.0004	0.0023
30	0.0027	0.0004	0.0023
31	0.0027	0.0004	0.0023
32	0.0028	0.0004	0.0023
33	0.0028	0.0004	0.0024
34	0.0028	0.0004	0.0024
35	0.0028	0.0004	0.0024
36	0.0028	0.0004	0.0024
37	0.0028	0.0004	0.0024
38	0.0028	0.0004	0.0024
39	0.0028	0.0004	0.0024
40	0.0029	0.0004	0.0024
41	0.0029	0.0004	0.0024
42	0.0029	0.0004	0.0025
43	0.0029	0.0004	0.0025
44	0.0029	0.0004	0.0025
45	0.0029	0.0004	0.0025
46	0.0029	0.0004	0.0025
47	0.0030	0.0004	0.0025
48	0.0030	0.0004	0.0025
49	0.0030	0.0004	0.0025
50	0.0030	0.0004	0.0026
51	0.0030	0.0005	0.0026

52	0.0030	0.0005	0.0026
53	0.0031	0.0005	0.0026
54	0.0031	0.0005	0.0026
55	0.0031	0.0005	0.0026
56	0.0031	0.0005	0.0026
57	0.0031	0.0005	0.0027
58	0.0031	0.0005	0.0027
59	0.0032	0.0005	0.0027
60	0.0032	0.0005	0.0027
61	0.0032	0.0005	0.0027
62	0.0032	0.0005	0.0027
63	0.0032	0.0005	0.0027
64	0.0032	0.0005	0.0028
65	0.0033	0.0005	0.0028
66	0.0033	0.0005	0.0028
67	0.0033	0.0005	0.0028
68	0.0033	0.0005	0.0028
69	0.0033	0.0005	0.0028
70	0.0034	0.0005	0.0029
71	0.0034	0.0005	0.0029
72	0.0034	0.0005	0.0029
73	0.0034	0.0005	0.0029
74	0.0034	0.0005	0.0029
75	0.0035	0.0005	0.0030
76	0.0035	0.0005	0.0030
77	0.0035	0.0005	0.0030
78	0.0035	0.0005	0.0030
79	0.0036	0.0005	0.0030
80	0.0036	0.0005	0.0030
81	0.0036	0.0005	0.0031
82	0.0036	0.0005	0.0031
83	0.0037	0.0005	0.0031
84	0.0037	0.0006	0.0031
85	0.0037	0.0006	0.0032
86	0.0037	0.0006	0.0032
87	0.0038	0.0006	0.0032
88	0.0038	0.0006	0.0032
89	0.0038	0.0006	0.0032
90	0.0038	0.0006	0.0033
91	0.0039	0.0006	0.0033
92	0.0039	0.0006	0.0033
93	0.0039	0.0006	0.0033
94	0.0039	0.0006	0.0034
95	0.0040	0.0006	0.0034
96	0.0040	0.0006	0.0034
97	0.0040	0.0006	0.0034
98	0.0041	0.0006	0.0035
99	0.0041	0.0006	0.0035
100	0.0041	0.0006	0.0035
101	0.0042	0.0006	0.0036
102	0.0042	0.0006	0.0036
103	0.0042	0.0006	0.0036
104	0.0043	0.0006	0.0036
105	0.0043	0.0006	0.0037
106	0.0043	0.0007	0.0037
107	0.0044	0.0007	0.0037
108	0.0044	0.0007	0.0038
109	0.0045	0.0007	0.0038
110	0.0045	0.0007	0.0038

111	0.0045	0.0007	0.0039
112	0.0046	0.0007	0.0039
113	0.0046	0.0007	0.0039
114	0.0047	0.0007	0.0040
115	0.0047	0.0007	0.0040
116	0.0048	0.0007	0.0040
117	0.0048	0.0007	0.0041
118	0.0048	0.0007	0.0041
119	0.0049	0.0007	0.0042
120	0.0049	0.0007	0.0042
121	0.0050	0.0008	0.0043
122	0.0050	0.0008	0.0043
123	0.0051	0.0008	0.0044
124	0.0052	0.0008	0.0044
125	0.0052	0.0008	0.0044
126	0.0053	0.0008	0.0045
127	0.0053	0.0008	0.0045
128	0.0054	0.0008	0.0046
129	0.0055	0.0008	0.0047
130	0.0055	0.0008	0.0047
131	0.0056	0.0008	0.0048
132	0.0056	0.0008	0.0048
133	0.0057	0.0009	0.0049
134	0.0058	0.0009	0.0049
135	0.0059	0.0009	0.0050
136	0.0059	0.0009	0.0050
137	0.0060	0.0009	0.0051
138	0.0061	0.0009	0.0052
139	0.0062	0.0009	0.0053
140	0.0063	0.0009	0.0053
141	0.0064	0.0010	0.0054
142	0.0064	0.0010	0.0055
143	0.0066	0.0010	0.0056
144	0.0066	0.0010	0.0056
145	0.0043	0.0006	0.0037
146	0.0044	0.0007	0.0037
147	0.0045	0.0007	0.0038
148	0.0045	0.0007	0.0039
149	0.0047	0.0007	0.0040
150	0.0047	0.0007	0.0040
151	0.0048	0.0007	0.0041
152	0.0049	0.0007	0.0042
153	0.0050	0.0008	0.0043
154	0.0051	0.0008	0.0043
155	0.0053	0.0008	0.0045
156	0.0053	0.0008	0.0045
157	0.0055	0.0008	0.0047
158	0.0056	0.0008	0.0048
159	0.0058	0.0009	0.0049
160	0.0059	0.0009	0.0050
161	0.0061	0.0009	0.0052
162	0.0062	0.0009	0.0053
163	0.0064	0.0010	0.0055
164	0.0065	0.0010	0.0056
165	0.0068	0.0010	0.0058
166	0.0070	0.0010	0.0059
167	0.0073	0.0011	0.0062
168	0.0074	0.0011	0.0063
169	0.0078	0.0012	0.0066

170	0.0080	0.0012	0.0068
171	0.0084	0.0013	0.0071
172	0.0086	0.0013	0.0073
173	0.0091	0.0014	0.0077
174	0.0093	0.0014	0.0079
175	0.0099	0.0015	0.0084
176	0.0102	0.0015	0.0087
177	0.0110	0.0016	0.0093
178	0.0114	0.0017	0.0097
179	0.0123	0.0018	0.0104
180	0.0128	0.0019	0.0109
181	0.0140	0.0021	0.0119
182	0.0147	0.0022	0.0125
183	0.0164	0.0025	0.0139
184	0.0174	0.0026	0.0148
185	0.0358	0.0054	0.0304
186	0.0382	0.0057	0.0325
187	0.0443	0.0059	0.0383
188	0.0483	0.0059	0.0424
189	0.0601	0.0059	0.0542
190	0.0692	0.0059	0.0633
191	0.1050	0.0059	0.0991
192	0.1524	0.0059	0.1465
193	0.6595	0.0059	0.6535
194	0.0826	0.0059	0.0767
195	0.0534	0.0059	0.0475
196	0.0409	0.0059	0.0350
197	0.0186	0.0028	0.0158
198	0.0155	0.0023	0.0132
199	0.0134	0.0020	0.0114
200	0.0118	0.0018	0.0100
201	0.0106	0.0016	0.0090
202	0.0096	0.0014	0.0082
203	0.0088	0.0013	0.0075
204	0.0081	0.0012	0.0069
205	0.0076	0.0011	0.0064
206	0.0071	0.0011	0.0060
207	0.0067	0.0010	0.0057
208	0.0063	0.0009	0.0054
209	0.0060	0.0009	0.0051
210	0.0057	0.0009	0.0048
211	0.0054	0.0008	0.0046
212	0.0052	0.0008	0.0044
213	0.0050	0.0007	0.0042
214	0.0048	0.0007	0.0041
215	0.0046	0.0007	0.0039
216	0.0044	0.0007	0.0038
217	0.0067	0.0010	0.0057
218	0.0065	0.0010	0.0055
219	0.0063	0.0009	0.0054
220	0.0062	0.0009	0.0052
221	0.0060	0.0009	0.0051
222	0.0058	0.0009	0.0050
223	0.0057	0.0009	0.0048
224	0.0056	0.0008	0.0047
225	0.0054	0.0008	0.0046
226	0.0053	0.0008	0.0045
227	0.0052	0.0008	0.0044
228	0.0051	0.0008	0.0043

229	0.0050	0.0007	0.0042
230	0.0049	0.0007	0.0041
231	0.0048	0.0007	0.0041
232	0.0047	0.0007	0.0040
233	0.0046	0.0007	0.0039
234	0.0045	0.0007	0.0038
235	0.0044	0.0007	0.0038
236	0.0044	0.0007	0.0037
237	0.0043	0.0006	0.0036
238	0.0042	0.0006	0.0036
239	0.0042	0.0006	0.0035
240	0.0041	0.0006	0.0035
241	0.0040	0.0006	0.0034
242	0.0040	0.0006	0.0034
243	0.0039	0.0006	0.0033
244	0.0038	0.0006	0.0033
245	0.0038	0.0006	0.0032
246	0.0037	0.0006	0.0032
247	0.0037	0.0006	0.0031
248	0.0036	0.0005	0.0031
249	0.0036	0.0005	0.0031
250	0.0035	0.0005	0.0030
251	0.0035	0.0005	0.0030
252	0.0035	0.0005	0.0029
253	0.0034	0.0005	0.0029
254	0.0034	0.0005	0.0029
255	0.0033	0.0005	0.0028
256	0.0033	0.0005	0.0028
257	0.0033	0.0005	0.0028
258	0.0032	0.0005	0.0027
259	0.0032	0.0005	0.0027
260	0.0031	0.0005	0.0027
261	0.0031	0.0005	0.0026
262	0.0031	0.0005	0.0026
263	0.0030	0.0005	0.0026
264	0.0030	0.0005	0.0026
265	0.0030	0.0004	0.0025
266	0.0030	0.0004	0.0025
267	0.0029	0.0004	0.0025
268	0.0029	0.0004	0.0025
269	0.0029	0.0004	0.0024
270	0.0028	0.0004	0.0024
271	0.0028	0.0004	0.0024
272	0.0028	0.0004	0.0024
273	0.0028	0.0004	0.0023
274	0.0027	0.0004	0.0023
275	0.0027	0.0004	0.0023
276	0.0027	0.0004	0.0023
277	0.0027	0.0004	0.0023
278	0.0026	0.0004	0.0022
279	0.0026	0.0004	0.0022
280	0.0026	0.0004	0.0022
281	0.0026	0.0004	0.0022
282	0.0026	0.0004	0.0022
283	0.0025	0.0004	0.0022
284	0.0025	0.0004	0.0021
285	0.0025	0.0004	0.0021
286	0.0025	0.0004	0.0021
287	0.0025	0.0004	0.0021

288 0.0024 0.0004 0.0021

Total soil rain loss = 0.26(In)
Total effective rainfall = 2.42(In)
Peak flow rate in flood hydrograph = 10.68(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0004	0.04	Q				
0+20	0.0008	0.06	Q				
0+25	0.0012	0.06	Q				
0+30	0.0017	0.07	Q				
0+35	0.0022	0.07	Q				
0+40	0.0028	0.08	Q				
0+45	0.0033	0.08	Q				
0+50	0.0039	0.08	Q				
0+55	0.0044	0.08	Q				
1+ 0	0.0050	0.09	Q				
1+ 5	0.0056	0.09	Q				
1+10	0.0062	0.09	Q				
1+15	0.0068	0.09	Q				
1+20	0.0075	0.09	Q				
1+25	0.0081	0.09	Q				
1+30	0.0087	0.09	Q				
1+35	0.0093	0.09	Q				
1+40	0.0100	0.09	Q				
1+45	0.0106	0.09	Q				
1+50	0.0112	0.09	Q				
1+55	0.0119	0.09	Q				
2+ 0	0.0125	0.09	Q				
2+ 5	0.0132	0.09	Q				
2+10	0.0138	0.09	Q				
2+15	0.0145	0.10	Q				
2+20	0.0151	0.10	Q				
2+25	0.0158	0.10	Q				
2+30	0.0165	0.10	Q				
2+35	0.0171	0.10	Q				
2+40	0.0178	0.10	QV				
2+45	0.0185	0.10	QV				
2+50	0.0192	0.10	QV				
2+55	0.0198	0.10	QV				
3+ 0	0.0205	0.10	QV				
3+ 5	0.0212	0.10	QV				
3+10	0.0219	0.10	QV				
3+15	0.0226	0.10	QV				
3+20	0.0233	0.10	QV				
3+25	0.0240	0.10	QV				
3+30	0.0247	0.10	QV				
3+35	0.0254	0.10	QV				

3+40	0.0261	0.10	QV				
3+45	0.0268	0.10	QV				
3+50	0.0275	0.10	QV				
3+55	0.0282	0.10	QV				
4+ 0	0.0289	0.10	QV				
4+ 5	0.0297	0.11	QV				
4+10	0.0304	0.11	QV				
4+15	0.0311	0.11	QV				
4+20	0.0319	0.11	QV				
4+25	0.0326	0.11	QV				
4+30	0.0334	0.11	QV				
4+35	0.0341	0.11	QV				
4+40	0.0349	0.11	QV				
4+45	0.0356	0.11	Q V				
4+50	0.0364	0.11	Q V				
4+55	0.0371	0.11	Q V				
5+ 0	0.0379	0.11	Q V				
5+ 5	0.0387	0.11	Q V				
5+10	0.0395	0.11	Q V				
5+15	0.0402	0.11	Q V				
5+20	0.0410	0.11	Q V				
5+25	0.0418	0.11	Q V				
5+30	0.0426	0.12	Q V				
5+35	0.0434	0.12	Q V				
5+40	0.0442	0.12	Q V				
5+45	0.0450	0.12	Q V				
5+50	0.0458	0.12	Q V				
5+55	0.0466	0.12	Q V				
6+ 0	0.0475	0.12	Q V				
6+ 5	0.0483	0.12	Q V				
6+10	0.0491	0.12	Q V				
6+15	0.0500	0.12	Q V				
6+20	0.0508	0.12	Q V				
6+25	0.0516	0.12	Q V				
6+30	0.0525	0.12	Q V				
6+35	0.0534	0.12	Q V				
6+40	0.0542	0.13	Q V				
6+45	0.0551	0.13	Q V				
6+50	0.0560	0.13	Q V				
6+55	0.0568	0.13	Q V				
7+ 0	0.0577	0.13	Q V				
7+ 5	0.0586	0.13	Q V				
7+10	0.0595	0.13	Q V				
7+15	0.0604	0.13	Q V				
7+20	0.0613	0.13	Q V				
7+25	0.0623	0.13	Q V				
7+30	0.0632	0.13	Q V				
7+35	0.0641	0.13	Q V				
7+40	0.0650	0.14	Q V				
7+45	0.0660	0.14	Q V				
7+50	0.0669	0.14	Q V				
7+55	0.0679	0.14	Q V				
8+ 0	0.0689	0.14	Q V				
8+ 5	0.0698	0.14	Q V				
8+10	0.0708	0.14	Q V				
8+15	0.0718	0.14	Q V				
8+20	0.0728	0.14	Q V				
8+25	0.0738	0.15	Q V				
8+30	0.0748	0.15	Q V				

8+35	0.0758	0.15	Q	V	|	|	|	|
8+40	0.0768	0.15	Q	V	|	|	|	|
8+45	0.0779	0.15	Q	V	|	|	|	|
8+50	0.0789	0.15	Q	V	|	|	|	|
8+55	0.0800	0.15	Q	V	|	|	|	|
9+ 0	0.0810	0.15	Q	V	|	|	|	|
9+ 5	0.0821	0.16	Q	V	|	|	|	|
9+10	0.0832	0.16	Q	V	|	|	|	|
9+15	0.0843	0.16	Q	V	|	|	|	|
9+20	0.0853	0.16	Q	V	|	|	|	|
9+25	0.0865	0.16	Q	V	|	|	|	|
9+30	0.0876	0.16	Q	V	|	|	|	|
9+35	0.0887	0.16	Q	V	|	|	|	|
9+40	0.0898	0.16	Q	V	|	|	|	|
9+45	0.0910	0.17	Q	V	|	|	|	|
9+50	0.0921	0.17	Q	V	|	|	|	|
9+55	0.0933	0.17	Q	V	|	|	|	|
10+ 0	0.0945	0.17	Q	V	|	|	|	|
10+ 5	0.0957	0.17	Q	V	|	|	|	|
10+10	0.0969	0.17	Q	V	|	|	|	|
10+15	0.0981	0.18	Q	V	|	|	|	|
10+20	0.0993	0.18	Q	V	|	|	|	|
10+25	0.1006	0.18	Q	V	|	|	|	|
10+30	0.1018	0.18	Q	V	|	|	|	|
10+35	0.1031	0.18	Q	V	|	|	|	|
10+40	0.1044	0.19	Q	V	|	|	|	|
10+45	0.1057	0.19	Q	V	|	|	|	|
10+50	0.1070	0.19	Q	V	|	|	|	|
10+55	0.1083	0.19	Q	V	|	|	|	|
11+ 0	0.1096	0.19	Q	V	|	|	|	|
11+ 5	0.1110	0.20	Q	V	|	|	|	|
11+10	0.1123	0.20	Q	V	|	|	|	|
11+15	0.1137	0.20	Q	V	|	|	|	|
11+20	0.1151	0.20	Q	V	|	|	|	|
11+25	0.1166	0.21	Q	V	|	|	|	|
11+30	0.1180	0.21	Q	V	|	|	|	|
11+35	0.1195	0.21	Q	V	|	|	|	|
11+40	0.1209	0.21	Q	V	|	|	|	|
11+45	0.1224	0.22	Q	V	|	|	|	|
11+50	0.1239	0.22	Q	V	|	|	|	|
11+55	0.1255	0.22	Q	V	|	|	|	|
12+ 0	0.1270	0.23	Q	V	|	|	|	|
12+ 5	0.1286	0.23	Q	V	|	|	|	|
12+10	0.1301	0.22	Q	V	|	|	|	|
12+15	0.1314	0.20	Q	V	|	|	|	|
12+20	0.1327	0.18	Q	V	|	|	|	|
12+25	0.1339	0.18	Q	V	|	|	|	|
12+30	0.1351	0.18	Q	V	|	|	|	|
12+35	0.1363	0.17	Q	V	|	|	|	|
12+40	0.1375	0.17	Q	V	|	|	|	|
12+45	0.1388	0.18	Q	V	|	|	|	|
12+50	0.1400	0.18	Q	V	|	|	|	|
12+55	0.1412	0.18	Q	V	|	|	|	|
13+ 0	0.1425	0.18	Q	V	|	|	|	|
13+ 5	0.1437	0.18	Q	V	|	|	|	|
13+10	0.1450	0.19	Q	V	|	|	|	|
13+15	0.1464	0.19	Q	V	|	|	|	|
13+20	0.1477	0.20	Q	V	|	|	|	|
13+25	0.1491	0.20	Q	V	|	|	|	|

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13+30       0.1505      0.20  Q       V |          |          |          |
13+35       0.1519      0.21  Q       V |          |          |          |
13+40       0.1534      0.21  Q       V |          |          |          |
13+45       0.1549      0.22  Q       V |          |          |          |
13+50       0.1565      0.23  Q       V |          |          |          |
13+55       0.1581      0.23  Q        V|          |          |          |
14+ 0       0.1597      0.24  Q        V|          |          |          |
14+ 5       0.1614      0.25  Q        V|          |          |          |
14+10       0.1632      0.25  Q        V|          |          |          |
14+15       0.1650      0.26  Q        V|          |          |          |
14+20       0.1669      0.27  Q        V|          |          |          |
14+25       0.1688      0.28  Q        V|          |          |          |
14+30       0.1708      0.29  Q        V|          |          |          |
14+35       0.1729      0.30  Q        V|          |          |          |
14+40       0.1751      0.32  Q        V|          |          |          |
14+45       0.1774      0.33  Q         V          |          |          |
14+50       0.1798      0.35  Q         V          |          |          |
14+55       0.1823      0.36  Q         V          |          |          |
15+ 0       0.1849      0.38  Q         V          |          |          |
15+ 5       0.1877      0.40  Q         V          |          |          |
15+10       0.1906      0.43  Q         V          |          |          |
15+15       0.1938      0.46  Q         |V         |          |          |
15+20       0.1971      0.49  Q         |V         |          |          |
15+25       0.2009      0.54  |Q        |V         |          |          |
15+30       0.2055      0.67  |Q        |V         |          |          |
15+35       0.2117      0.90  |Q        | V        |          |          |
15+40       0.2193      1.10  | Q       | V        |          |          |
15+45       0.2282      1.29  | Q       | V        |          |          |
15+50       0.2387      1.53  |  Q      |  V       |          |          |
15+55       0.2515      1.86  |  Q      |   V      |          |          |
16+ 0       0.2680      2.40  |   Q     |    V     |          |          |
16+ 5       0.2945      3.85  |      Q  |     V    |          |          |
16+10       0.3447      7.29  |         |   Q    V |          |          |
16+15       0.4183     10.68  |         |         |Q V       |          |
16+20       0.4680      7.21  |         |   Q     |     V    |          |
16+25       0.5012      4.82  |        Q|         |       V  |          |
16+30       0.5257      3.56  |      Q  |         |        V |          |
16+35       0.5440      2.65  |    Q    |         |         V          |
16+40       0.5585      2.11  |   Q     |         |         |V         |
16+45       0.5700      1.66  |  Q      |         |         | V        |
16+50       0.5795      1.39  | Q       |         |         |  V       |
16+55       0.5876      1.17  | Q       |         |         |  V       |
17+ 0       0.5944      0.99  |Q        |         |         |  V       |
17+ 5       0.6002      0.84  |Q        |         |         |   V      |
17+10       0.6051      0.71  |Q        |         |         |   V      |
17+15       0.6093      0.60  |Q        |         |         |   V      |
17+20       0.6128      0.51  |Q        |         |         |   V      |
17+25       0.6161      0.48  Q         |         |         |    V     |
17+30       0.6192      0.45  Q         |         |         |    V     |
17+35       0.6219      0.40  Q         |         |         |    V     |
17+40       0.6242      0.33  Q         |         |         |    V     |
17+45       0.6262      0.29  Q         |         |         |    V     |
17+50       0.6277      0.22  Q         |         |         |    V     |
17+55       0.6292      0.21  Q         |         |         |    V     |
18+ 0       0.6305      0.19  Q         |         |         |    V     |
18+ 5       0.6318      0.19  Q         |         |         |    V     |
18+10       0.6331      0.19  Q         |         |         |     V    |
18+15       0.6345      0.21  Q         |         |         |     V    |
18+20       0.6360      0.22  Q         |         |         |     V    |
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18+25	0.6375	0.22	Q	|	|	|	V |
18+30	0.6390	0.22	Q	|	|	|	V |
18+35	0.6405	0.21	Q	|	|	|	V |
18+40	0.6419	0.21	Q	|	|	|	V |
18+45	0.6434	0.21	Q	|	|	|	V |
18+50	0.6448	0.20	Q	|	|	|	V |
18+55	0.6461	0.20	Q	|	|	|	V |
19+ 0	0.6475	0.20	Q	|	|	|	V |
19+ 5	0.6488	0.19	Q	|	|	|	V |
19+10	0.6501	0.19	Q	|	|	|	V |
19+15	0.6514	0.19	Q	|	|	|	V |
19+20	0.6526	0.18	Q	|	|	|	V |
19+25	0.6539	0.18	Q	|	|	|	V |
19+30	0.6551	0.17	Q	|	|	|	V |
19+35	0.6563	0.17	Q	|	|	|	V |
19+40	0.6574	0.17	Q	|	|	|	V |
19+45	0.6586	0.17	Q	|	|	|	V |
19+50	0.6597	0.16	Q	|	|	|	V |
19+55	0.6608	0.16	Q	|	|	|	V |
20+ 0	0.6619	0.16	Q	|	|	|	V |
20+ 5	0.6629	0.15	Q	|	|	|	V |
20+10	0.6640	0.15	Q	|	|	|	V |
20+15	0.6650	0.15	Q	|	|	|	V |
20+20	0.6660	0.15	Q	|	|	|	V |
20+25	0.6670	0.14	Q	|	|	|	V |
20+30	0.6680	0.14	Q	|	|	|	V |
20+35	0.6690	0.14	Q	|	|	|	V |
20+40	0.6699	0.14	Q	|	|	|	V |
20+45	0.6709	0.14	Q	|	|	|	V |
20+50	0.6718	0.13	Q	|	|	|	V |
20+55	0.6727	0.13	Q	|	|	|	V |
21+ 0	0.6736	0.13	Q	|	|	|	V |
21+ 5	0.6745	0.13	Q	|	|	|	V |
21+10	0.6754	0.13	Q	|	|	|	V |
21+15	0.6762	0.13	Q	|	|	|	V |
21+20	0.6771	0.12	Q	|	|	|	V |
21+25	0.6779	0.12	Q	|	|	|	V |
21+30	0.6788	0.12	Q	|	|	|	V |
21+35	0.6796	0.12	Q	|	|	|	V |
21+40	0.6804	0.12	Q	|	|	|	V |
21+45	0.6812	0.12	Q	|	|	|	V |
21+50	0.6820	0.12	Q	|	|	|	V |
21+55	0.6828	0.11	Q	|	|	|	V |
22+ 0	0.6836	0.11	Q	|	|	|	V |
22+ 5	0.6843	0.11	Q	|	|	|	V |
22+10	0.6851	0.11	Q	|	|	|	V|
22+15	0.6858	0.11	Q	|	|	|	V|
22+20	0.6866	0.11	Q	|	|	|	V|
22+25	0.6873	0.11	Q	|	|	|	V|
22+30	0.6881	0.11	Q	|	|	|	V|
22+35	0.6888	0.10	Q	|	|	|	V|
22+40	0.6895	0.10	Q	|	|	|	V|
22+45	0.6902	0.10	Q	|	|	|	V|
22+50	0.6909	0.10	Q	|	|	|	V|
22+55	0.6916	0.10	Q	|	|	|	V|
23+ 0	0.6923	0.10	Q	|	|	|	V|
23+ 5	0.6930	0.10	Q	|	|	|	V|
23+10	0.6936	0.10	Q	|	|	|	V|
23+15	0.6943	0.10	Q	|	|	|	V|

23+20	0.6950	0.10	Q	|	|	|	V|
23+25	0.6956	0.10	Q	|	|	|	V|
23+30	0.6963	0.09	Q	|	|	|	V|
23+35	0.6969	0.09	Q	|	|	|	V|
23+40	0.6976	0.09	Q	|	|	|	V|
23+45	0.6982	0.09	Q	|	|	|	V|
23+50	0.6988	0.09	Q	|	|	|	V|
23+55	0.6995	0.09	Q	|	|	|	V|
24+ 0	0.7001	0.09	Q	|	|	|	V|
24+ 5	0.7007	0.09	Q	|	|	|	V|
24+10	0.7012	0.07	Q	|	|	|	V|
24+15	0.7015	0.05	Q	|	|	|	V|
24+20	0.7017	0.03	Q	|	|	|	V|
24+25	0.7019	0.02	Q	|	|	|	V|
24+30	0.7020	0.02	Q	|	|	|	V|
24+35	0.7021	0.01	Q	|	|	|	V|
24+40	0.7022	0.01	Q	|	|	|	V|
24+45	0.7023	0.01	Q	|	|	|	V|
24+50	0.7023	0.01	Q	|	|	|	V|
24+55	0.7023	0.01	Q	|	|	|	V|
25+ 0	0.7024	0.00	Q	|	|	|	V|
25+ 5	0.7024	0.00	Q	|	|	|	V|
25+10	0.7024	0.00	Q	|	|	|	V|
25+15	0.7024	0.00	Q	|	|	|	V|
25+20	0.7024	0.00	Q	|	|	|	V|
25+25	0.7024	0.00	Q	|	|	|	V|
25+30	0.7024	0.00	Q	|	|	|	V|
25+35	0.7024	0.00	Q	|	|	|	V|
25+40	0.7024	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 46
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3782.66	1	1.29
Rainfall data for year 100		
3782.66	6	2.16
Rainfall data for year 100		
3782.66	24	3.27

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
87.0	97.4	3782.66	1.000	0.051	0.981	0.050

Area-averaged adjusted loss rate Fm (In/Hr) = 0.050

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3709.28	0.981	87.0	97.4	0.27	0.908
73.38	0.019	98.0	98.0	0.20	0.929

Area-averaged catchment yield fraction, Y = 0.909
Area-averaged low loss fraction, Yb = 0.091
++
Watercourse length = 35115.00(Ft.)
Length from concentration point to centroid = 20362.00(Ft.)
Elevation difference along watercourse = 2044.90(Ft.)
Mannings friction factor along watercourse = 0.030
Watershed area = 3782.66(Ac.)
Catchment Lag time = 0.832 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 10.0169
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.050(In/Hr)
Average low loss rate fraction (Yb) = 0.091 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.170
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.830

Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.770(In)
Specified peak 6-hour rainfall = 2.160(In)
Specified peak 24-hour rainfall = 3.270(In)

Rainfall depth area reduction factors:
Using a total area of 3782.66(Ac.) (Ref: fig. E-4)

5-minute factor = 0.831 Adjusted rainfall = 0.509(In)
30-minute factor = 0.831 Adjusted rainfall = 0.871(In)
1-hour factor = 0.831 Adjusted rainfall = 1.072(In)
3-hour factor = 0.978 Adjusted rainfall = 1.730(In)
6-hour factor = 0.989 Adjusted rainfall = 2.135(In)
24-hour factor = 0.995 Adjusted rainfall = 3.254(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 45746.54 (CFS))	
1	0.474	216.686
2	1.623	525.660
3	3.400	813.175
4	5.787	1091.995
5	8.853	1402.404

6	13.492	2122.091
7	20.491	3201.751
8	29.652	4190.896
9	38.141	3883.423
10	46.231	3700.946
11	52.842	3024.301
12	57.803	2269.453
13	61.701	1783.477
14	64.962	1491.412
15	67.802	1299.220
16	70.337	1159.998
17	72.634	1050.683
18	74.667	929.813
19	76.472	826.111
20	78.199	790.060
21	79.714	692.687
22	81.056	614.223
23	82.364	598.309
24	83.492	515.984
25	84.594	504.189
26	85.620	469.420
27	86.582	439.909
28	87.520	428.964
29	88.338	374.133
30	89.139	366.478
31	89.834	317.956
32	90.442	278.059
33	91.040	273.799
34	91.593	253.124
35	92.141	250.318
36	92.643	229.951
37	93.110	213.723
38	93.569	209.826
39	93.988	191.503
40	94.401	189.046
41	94.752	160.618
42	95.055	138.663
43	95.358	138.663
44	95.661	138.663
45	95.964	138.571
46	96.227	120.334
47	96.461	106.678
48	96.694	106.678
49	96.927	106.678
50	97.160	106.559
51	97.350	87.195
52	97.510	73.135
53	97.670	73.135
54	97.830	73.135
55	97.990	73.011
56	98.112	56.145
57	98.209	44.266
58	98.306	44.266
59	98.403	44.266
60	98.499	44.289
61	98.602	46.943
62	98.709	48.757
63	98.815	48.757
64	98.922	48.757

65	99.028	48.747
66	99.133	47.816
67	99.236	47.199
68	99.339	47.199
69	99.442	47.199
70	99.547	47.641
71	99.617	32.275
72	99.669	23.771
73	99.721	23.771
74	99.773	23.771
75	99.825	23.771
76	99.877	23.771
77	99.929	23.771
78	100.000	11.886

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5086	0.5086
2	0.6262	0.1176
3	0.7071	0.0810
4	0.7709	0.0637
5	0.8243	0.0534
6	0.8706	0.0463
7	0.9118	0.0412
8	0.9491	0.0373
9	0.9832	0.0341
10	1.0148	0.0316
11	1.0442	0.0294
12	1.0718	0.0276
13	1.1099	0.0381
14	1.1463	0.0364
15	1.1814	0.0350
16	1.2151	0.0337
17	1.2476	0.0325
18	1.2791	0.0315
19	1.3096	0.0305
20	1.3392	0.0296
21	1.3680	0.0288
22	1.3960	0.0280
23	1.4234	0.0273
24	1.4500	0.0267
25	1.4761	0.0260
26	1.5015	0.0255
27	1.5264	0.0249
28	1.5508	0.0244
29	1.5747	0.0239
30	1.5982	0.0234
31	1.6212	0.0230
32	1.6438	0.0226
33	1.6660	0.0222
34	1.6878	0.0218
35	1.7093	0.0215
36	1.7304	0.0211
37	1.7448	0.0144
38	1.7590	0.0142
39	1.7729	0.0139
40	1.7866	0.0137
41	1.8000	0.0134
42	1.8132	0.0132

43	1.8262	0.0130
44	1.8390	0.0128
45	1.8516	0.0126
46	1.8640	0.0124
47	1.8762	0.0122
48	1.8882	0.0120
49	1.9000	0.0118
50	1.9117	0.0117
51	1.9232	0.0115
52	1.9346	0.0114
53	1.9458	0.0112
54	1.9568	0.0111
55	1.9678	0.0109
56	1.9785	0.0108
57	1.9892	0.0106
58	1.9997	0.0105
59	2.0101	0.0104
60	2.0204	0.0103
61	2.0305	0.0102
62	2.0406	0.0100
63	2.0505	0.0099
64	2.0603	0.0098
65	2.0700	0.0097
66	2.0796	0.0096
67	2.0891	0.0095
68	2.0986	0.0094
69	2.1079	0.0093
70	2.1171	0.0092
71	2.1262	0.0091
72	2.1353	0.0090
73	2.1442	0.0090
74	2.1531	0.0089
75	2.1619	0.0088
76	2.1706	0.0087
77	2.1793	0.0086
78	2.1878	0.0086
79	2.1963	0.0085
80	2.2047	0.0084
81	2.2131	0.0083
82	2.2213	0.0083
83	2.2295	0.0082
84	2.2377	0.0081
85	2.2457	0.0081
86	2.2537	0.0080
87	2.2616	0.0079
88	2.2695	0.0079
89	2.2773	0.0078
90	2.2851	0.0077
91	2.2928	0.0077
92	2.3004	0.0076
93	2.3080	0.0076
94	2.3155	0.0075
95	2.3229	0.0075
96	2.3303	0.0074
97	2.3377	0.0074
98	2.3450	0.0073
99	2.3522	0.0072
100	2.3594	0.0072
101	2.3666	0.0071

102	2.3737	0.0071
103	2.3807	0.0070
104	2.3877	0.0070
105	2.3947	0.0070
106	2.4016	0.0069
107	2.4084	0.0069
108	2.4152	0.0068
109	2.4220	0.0068
110	2.4288	0.0067
111	2.4354	0.0067
112	2.4421	0.0066
113	2.4487	0.0066
114	2.4553	0.0066
115	2.4618	0.0065
116	2.4683	0.0065
117	2.4747	0.0064
118	2.4811	0.0064
119	2.4875	0.0064
120	2.4938	0.0063
121	2.5001	0.0063
122	2.5064	0.0063
123	2.5126	0.0062
124	2.5188	0.0062
125	2.5250	0.0062
126	2.5311	0.0061
127	2.5372	0.0061
128	2.5432	0.0061
129	2.5492	0.0060
130	2.5552	0.0060
131	2.5612	0.0060
132	2.5671	0.0059
133	2.5730	0.0059
134	2.5789	0.0059
135	2.5847	0.0058
136	2.5905	0.0058
137	2.5963	0.0058
138	2.6020	0.0057
139	2.6077	0.0057
140	2.6134	0.0057
141	2.6191	0.0057
142	2.6247	0.0056
143	2.6303	0.0056
144	2.6359	0.0056
145	2.6415	0.0055
146	2.6470	0.0055
147	2.6525	0.0055
148	2.6579	0.0055
149	2.6634	0.0054
150	2.6688	0.0054
151	2.6742	0.0054
152	2.6796	0.0054
153	2.6849	0.0053
154	2.6902	0.0053
155	2.6955	0.0053
156	2.7008	0.0053
157	2.7061	0.0052
158	2.7113	0.0052
159	2.7165	0.0052
160	2.7217	0.0052

161	2.7268	0.0052
162	2.7320	0.0051
163	2.7371	0.0051
164	2.7422	0.0051
165	2.7472	0.0051
166	2.7523	0.0050
167	2.7573	0.0050
168	2.7623	0.0050
169	2.7673	0.0050
170	2.7723	0.0050
171	2.7772	0.0049
172	2.7821	0.0049
173	2.7871	0.0049
174	2.7919	0.0049
175	2.7968	0.0049
176	2.8016	0.0048
177	2.8065	0.0048
178	2.8113	0.0048
179	2.8161	0.0048
180	2.8208	0.0048
181	2.8256	0.0048
182	2.8303	0.0047
183	2.8351	0.0047
184	2.8398	0.0047
185	2.8444	0.0047
186	2.8491	0.0047
187	2.8537	0.0046
188	2.8584	0.0046
189	2.8630	0.0046
190	2.8676	0.0046
191	2.8722	0.0046
192	2.8767	0.0046
193	2.8813	0.0045
194	2.8858	0.0045
195	2.8903	0.0045
196	2.8948	0.0045
197	2.8993	0.0045
198	2.9037	0.0045
199	2.9082	0.0044
200	2.9126	0.0044
201	2.9170	0.0044
202	2.9214	0.0044
203	2.9258	0.0044
204	2.9302	0.0044
205	2.9346	0.0044
206	2.9389	0.0043
207	2.9432	0.0043
208	2.9476	0.0043
209	2.9519	0.0043
210	2.9561	0.0043
211	2.9604	0.0043
212	2.9647	0.0043
213	2.9689	0.0042
214	2.9731	0.0042
215	2.9773	0.0042
216	2.9816	0.0042
217	2.9857	0.0042
218	2.9899	0.0042
219	2.9941	0.0042

220	2.9982	0.0041
221	3.0024	0.0041
222	3.0065	0.0041
223	3.0106	0.0041
224	3.0147	0.0041
225	3.0188	0.0041
226	3.0228	0.0041
227	3.0269	0.0041
228	3.0309	0.0040
229	3.0350	0.0040
230	3.0390	0.0040
231	3.0430	0.0040
232	3.0470	0.0040
233	3.0510	0.0040
234	3.0550	0.0040
235	3.0589	0.0040
236	3.0629	0.0039
237	3.0668	0.0039
238	3.0707	0.0039
239	3.0747	0.0039
240	3.0786	0.0039
241	3.0825	0.0039
242	3.0863	0.0039
243	3.0902	0.0039
244	3.0941	0.0039
245	3.0979	0.0038
246	3.1017	0.0038
247	3.1056	0.0038
248	3.1094	0.0038
249	3.1132	0.0038
250	3.1170	0.0038
251	3.1208	0.0038
252	3.1245	0.0038
253	3.1283	0.0038
254	3.1321	0.0038
255	3.1358	0.0037
256	3.1395	0.0037
257	3.1433	0.0037
258	3.1470	0.0037
259	3.1507	0.0037
260	3.1544	0.0037
261	3.1580	0.0037
262	3.1617	0.0037
263	3.1654	0.0037
264	3.1690	0.0037
265	3.1727	0.0036
266	3.1763	0.0036
267	3.1799	0.0036
268	3.1835	0.0036
269	3.1872	0.0036
270	3.1907	0.0036
271	3.1943	0.0036
272	3.1979	0.0036
273	3.2015	0.0036
274	3.2050	0.0036
275	3.2086	0.0036
276	3.2121	0.0035
277	3.2157	0.0035
278	3.2192	0.0035

279	3.2227	0.0035
280	3.2262	0.0035
281	3.2297	0.0035
282	3.2332	0.0035
283	3.2367	0.0035
284	3.2401	0.0035
285	3.2436	0.0035
286	3.2471	0.0035
287	3.2505	0.0034
288	3.2539	0.0034

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0034	0.0003	0.0031
2	0.0034	0.0003	0.0031
3	0.0035	0.0003	0.0031
4	0.0035	0.0003	0.0032
5	0.0035	0.0003	0.0032
6	0.0035	0.0003	0.0032
7	0.0035	0.0003	0.0032
8	0.0035	0.0003	0.0032
9	0.0035	0.0003	0.0032
10	0.0036	0.0003	0.0032
11	0.0036	0.0003	0.0032
12	0.0036	0.0003	0.0033
13	0.0036	0.0003	0.0033
14	0.0036	0.0003	0.0033
15	0.0036	0.0003	0.0033
16	0.0036	0.0003	0.0033
17	0.0037	0.0003	0.0033
18	0.0037	0.0003	0.0033
19	0.0037	0.0003	0.0033
20	0.0037	0.0003	0.0034
21	0.0037	0.0003	0.0034
22	0.0037	0.0003	0.0034
23	0.0037	0.0003	0.0034
24	0.0038	0.0003	0.0034
25	0.0038	0.0003	0.0034
26	0.0038	0.0003	0.0034
27	0.0038	0.0003	0.0035
28	0.0038	0.0003	0.0035
29	0.0038	0.0004	0.0035
30	0.0038	0.0004	0.0035
31	0.0039	0.0004	0.0035
32	0.0039	0.0004	0.0035
33	0.0039	0.0004	0.0035
34	0.0039	0.0004	0.0036
35	0.0039	0.0004	0.0036
36	0.0039	0.0004	0.0036
37	0.0040	0.0004	0.0036
38	0.0040	0.0004	0.0036
39	0.0040	0.0004	0.0036
40	0.0040	0.0004	0.0037
41	0.0040	0.0004	0.0037
42	0.0041	0.0004	0.0037
43	0.0041	0.0004	0.0037
44	0.0041	0.0004	0.0037

45	0.0041	0.0004	0.0037
46	0.0041	0.0004	0.0038
47	0.0042	0.0004	0.0038
48	0.0042	0.0004	0.0038
49	0.0042	0.0004	0.0038
50	0.0042	0.0004	0.0038
51	0.0042	0.0004	0.0039
52	0.0043	0.0004	0.0039
53	0.0043	0.0004	0.0039
54	0.0043	0.0004	0.0039
55	0.0043	0.0004	0.0039
56	0.0043	0.0004	0.0039
57	0.0044	0.0004	0.0040
58	0.0044	0.0004	0.0040
59	0.0044	0.0004	0.0040
60	0.0044	0.0004	0.0040
61	0.0045	0.0004	0.0041
62	0.0045	0.0004	0.0041
63	0.0045	0.0004	0.0041
64	0.0045	0.0004	0.0041
65	0.0046	0.0004	0.0041
66	0.0046	0.0004	0.0042
67	0.0046	0.0004	0.0042
68	0.0046	0.0004	0.0042
69	0.0047	0.0004	0.0042
70	0.0047	0.0004	0.0043
71	0.0047	0.0004	0.0043
72	0.0047	0.0004	0.0043
73	0.0048	0.0004	0.0043
74	0.0048	0.0004	0.0044
75	0.0048	0.0004	0.0044
76	0.0048	0.0004	0.0044
77	0.0049	0.0004	0.0044
78	0.0049	0.0004	0.0045
79	0.0049	0.0005	0.0045
80	0.0050	0.0005	0.0045
81	0.0050	0.0005	0.0045
82	0.0050	0.0005	0.0046
83	0.0051	0.0005	0.0046
84	0.0051	0.0005	0.0046
85	0.0051	0.0005	0.0047
86	0.0052	0.0005	0.0047
87	0.0052	0.0005	0.0047
88	0.0052	0.0005	0.0047
89	0.0053	0.0005	0.0048
90	0.0053	0.0005	0.0048
91	0.0053	0.0005	0.0049
92	0.0054	0.0005	0.0049
93	0.0054	0.0005	0.0049
94	0.0054	0.0005	0.0049
95	0.0055	0.0005	0.0050
96	0.0055	0.0005	0.0050
97	0.0056	0.0005	0.0051
98	0.0056	0.0005	0.0051
99	0.0057	0.0005	0.0051
100	0.0057	0.0005	0.0052
101	0.0057	0.0005	0.0052
102	0.0058	0.0005	0.0052
103	0.0058	0.0005	0.0053

104	0.0059	0.0005	0.0053
105	0.0059	0.0005	0.0054
106	0.0060	0.0005	0.0054
107	0.0060	0.0005	0.0055
108	0.0061	0.0006	0.0055
109	0.0061	0.0006	0.0056
110	0.0062	0.0006	0.0056
111	0.0062	0.0006	0.0057
112	0.0063	0.0006	0.0057
113	0.0063	0.0006	0.0058
114	0.0064	0.0006	0.0058
115	0.0064	0.0006	0.0059
116	0.0065	0.0006	0.0059
117	0.0066	0.0006	0.0060
118	0.0066	0.0006	0.0060
119	0.0067	0.0006	0.0061
120	0.0067	0.0006	0.0061
121	0.0068	0.0006	0.0062
122	0.0069	0.0006	0.0062
123	0.0070	0.0006	0.0063
124	0.0070	0.0006	0.0064
125	0.0071	0.0006	0.0064
126	0.0071	0.0007	0.0065
127	0.0072	0.0007	0.0066
128	0.0073	0.0007	0.0066
129	0.0074	0.0007	0.0067
130	0.0075	0.0007	0.0068
131	0.0076	0.0007	0.0069
132	0.0076	0.0007	0.0069
133	0.0077	0.0007	0.0070
134	0.0078	0.0007	0.0071
135	0.0079	0.0007	0.0072
136	0.0080	0.0007	0.0073
137	0.0081	0.0007	0.0074
138	0.0082	0.0007	0.0074
139	0.0083	0.0008	0.0076
140	0.0084	0.0008	0.0076
141	0.0086	0.0008	0.0078
142	0.0086	0.0008	0.0079
143	0.0088	0.0008	0.0080
144	0.0089	0.0008	0.0081
145	0.0090	0.0008	0.0082
146	0.0091	0.0008	0.0083
147	0.0093	0.0009	0.0085
148	0.0094	0.0009	0.0085
149	0.0096	0.0009	0.0087
150	0.0097	0.0009	0.0088
151	0.0099	0.0009	0.0090
152	0.0100	0.0009	0.0091
153	0.0103	0.0009	0.0093
154	0.0104	0.0009	0.0094
155	0.0106	0.0010	0.0097
156	0.0108	0.0010	0.0098
157	0.0111	0.0010	0.0101
158	0.0112	0.0010	0.0102
159	0.0115	0.0011	0.0105
160	0.0117	0.0011	0.0106
161	0.0120	0.0011	0.0109
162	0.0122	0.0011	0.0111

163	0.0126	0.0011	0.0114
164	0.0128	0.0012	0.0116
165	0.0132	0.0012	0.0120
166	0.0134	0.0012	0.0122
167	0.0139	0.0013	0.0126
168	0.0142	0.0013	0.0129
169	0.0211	0.0019	0.0192
170	0.0215	0.0020	0.0195
171	0.0222	0.0020	0.0202
172	0.0226	0.0021	0.0205
173	0.0234	0.0021	0.0213
174	0.0239	0.0022	0.0217
175	0.0249	0.0023	0.0226
176	0.0255	0.0023	0.0231
177	0.0267	0.0024	0.0242
178	0.0273	0.0025	0.0248
179	0.0288	0.0026	0.0262
180	0.0296	0.0027	0.0269
181	0.0315	0.0029	0.0286
182	0.0325	0.0030	0.0296
183	0.0350	0.0032	0.0318
184	0.0364	0.0033	0.0331
185	0.0276	0.0025	0.0251
186	0.0294	0.0027	0.0267
187	0.0341	0.0031	0.0310
188	0.0373	0.0034	0.0339
189	0.0463	0.0042	0.0421
190	0.0534	0.0042	0.0492
191	0.0810	0.0042	0.0768
192	0.1176	0.0042	0.1134
193	0.5086	0.0042	0.5044
194	0.0637	0.0042	0.0595
195	0.0412	0.0038	0.0374
196	0.0316	0.0029	0.0287
197	0.0381	0.0035	0.0346
198	0.0337	0.0031	0.0306
199	0.0305	0.0028	0.0277
200	0.0280	0.0026	0.0255
201	0.0260	0.0024	0.0237
202	0.0244	0.0022	0.0222
203	0.0230	0.0021	0.0209
204	0.0218	0.0020	0.0198
205	0.0144	0.0013	0.0131
206	0.0137	0.0012	0.0124
207	0.0130	0.0012	0.0118
208	0.0124	0.0011	0.0113
209	0.0118	0.0011	0.0108
210	0.0114	0.0010	0.0103
211	0.0109	0.0010	0.0099
212	0.0105	0.0010	0.0096
213	0.0102	0.0009	0.0092
214	0.0098	0.0009	0.0089
215	0.0095	0.0009	0.0086
216	0.0092	0.0008	0.0084
217	0.0090	0.0008	0.0082
218	0.0087	0.0008	0.0079
219	0.0085	0.0008	0.0077
220	0.0083	0.0008	0.0075
221	0.0081	0.0007	0.0073

222	0.0079	0.0007	0.0072
223	0.0077	0.0007	0.0070
224	0.0075	0.0007	0.0068
225	0.0074	0.0007	0.0067
226	0.0072	0.0007	0.0065
227	0.0070	0.0006	0.0064
228	0.0069	0.0006	0.0063
229	0.0068	0.0006	0.0062
230	0.0066	0.0006	0.0060
231	0.0065	0.0006	0.0059
232	0.0064	0.0006	0.0058
233	0.0063	0.0006	0.0057
234	0.0062	0.0006	0.0056
235	0.0061	0.0006	0.0055
236	0.0060	0.0005	0.0054
237	0.0059	0.0005	0.0054
238	0.0058	0.0005	0.0053
239	0.0057	0.0005	0.0052
240	0.0056	0.0005	0.0051
241	0.0055	0.0005	0.0050
242	0.0055	0.0005	0.0050
243	0.0054	0.0005	0.0049
244	0.0053	0.0005	0.0048
245	0.0052	0.0005	0.0048
246	0.0052	0.0005	0.0047
247	0.0051	0.0005	0.0046
248	0.0050	0.0005	0.0046
249	0.0050	0.0005	0.0045
250	0.0049	0.0004	0.0045
251	0.0049	0.0004	0.0044
252	0.0048	0.0004	0.0044
253	0.0048	0.0004	0.0043
254	0.0047	0.0004	0.0043
255	0.0046	0.0004	0.0042
256	0.0046	0.0004	0.0042
257	0.0045	0.0004	0.0041
258	0.0045	0.0004	0.0041
259	0.0044	0.0004	0.0040
260	0.0044	0.0004	0.0040
261	0.0044	0.0004	0.0040
262	0.0043	0.0004	0.0039
263	0.0043	0.0004	0.0039
264	0.0042	0.0004	0.0038
265	0.0042	0.0004	0.0038
266	0.0041	0.0004	0.0038
267	0.0041	0.0004	0.0037
268	0.0041	0.0004	0.0037
269	0.0040	0.0004	0.0037
270	0.0040	0.0004	0.0036
271	0.0040	0.0004	0.0036
272	0.0039	0.0004	0.0036
273	0.0039	0.0004	0.0035
274	0.0039	0.0004	0.0035
275	0.0038	0.0003	0.0035
276	0.0038	0.0003	0.0034
277	0.0038	0.0003	0.0034
278	0.0037	0.0003	0.0034
279	0.0037	0.0003	0.0034
280	0.0037	0.0003	0.0033

281	0.0036	0.0003	0.0033
282	0.0036	0.0003	0.0033
283	0.0036	0.0003	0.0033
284	0.0036	0.0003	0.0032
285	0.0035	0.0003	0.0032
286	0.0035	0.0003	0.0032
287	0.0035	0.0003	0.0032
288	0.0035	0.0003	0.0031

Total soil rain loss = 0.24(In)
Total effective rainfall = 3.01(In)
Peak flow rate in flood hydrograph = 3931.07(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1000.0	2000.0	3000.0	4000.0
0+ 5	0.0047	0.68	Q				
0+10	0.0206	2.32	Q				
0+15	0.0542	4.87	Q				
0+20	0.1113	8.30	Q				
0+25	0.1988	12.70	Q				
0+30	0.3322	19.38	Q				
0+35	0.5350	29.44	Q				
0+40	0.8287	42.64	Q				
0+45	1.2069	54.92	Q				
0+50	1.6661	66.67	Q				
0+55	2.1919	76.36	Q				
1+ 0	2.7686	83.73	Q				
1+ 5	3.3857	89.61	Q				
1+10	4.0372	94.60	Q				
1+15	4.7190	99.01	Q				
1+20	5.4284	103.00	VQ				
1+25	6.1631	106.67	VQ				
1+30	6.9205	109.98	VQ				
1+35	7.6986	112.98	VQ				
1+40	8.4966	115.88	VQ				
1+45	9.3126	118.48	VQ				
1+50	10.1450	120.86	VQ				
1+55	10.9934	123.19	VQ				
2+ 0	11.8563	125.29	VQ				
2+ 5	12.7333	127.35	VQ				
2+10	13.6239	129.32	VQ				
2+15	14.5275	131.20	VQ				
2+20	15.4440	133.06	VQ				
2+25	16.3721	134.76	VQ				
2+30	17.3118	136.45	VQ				
2+35	18.2621	137.99	VQ				
2+40	19.2223	139.42	VQ				
2+45	20.1923	140.84	VQ				
2+50	21.1717	142.21	VQ				
2+55	22.1605	143.57	VQ				
3+ 0	23.1583	144.89	VQ				

3+ 5	24.1649	146.16	Q			
3+10	25.1802	147.42	Q			
3+15	26.2039	148.64	Q			
3+20	27.2360	149.86	Q			
3+25	28.2759	151.00	Q			
3+30	29.3233	152.08	Q			
3+35	30.3781	153.16	Q			
3+40	31.4406	154.26	Q			
3+45	32.5106	155.36	Q			
3+50	33.5878	156.42	Q			
3+55	34.6721	157.44	Q			
4+ 0	35.7636	158.47	Q			
4+ 5	36.8621	159.51	Q			
4+10	37.9679	160.56	Q			
4+15	39.0806	161.56	Q			
4+20	40.1999	162.52	Q			
4+25	41.3258	163.49	Q			
4+30	42.4586	164.47	Q			
4+35	43.5981	165.46	Q			
4+40	44.7441	166.41	Q			
4+45	45.8965	167.32	Q			
4+50	47.0552	168.25	Q			
4+55	48.2204	169.19	QV			
5+ 0	49.3922	170.14	QV			
5+ 5	50.5706	171.10	QV			
5+10	51.7557	172.08	QV			
5+15	52.9477	173.07	QV			
5+20	54.1466	174.08	QV			
5+25	55.3524	175.09	QV			
5+30	56.5653	176.11	QV			
5+35	57.7853	177.14	QV			
5+40	59.0125	178.19	QV			
5+45	60.2470	179.24	QV			
5+50	61.4888	180.31	QV			
5+55	62.7377	181.34	QV			
6+ 0	63.9936	182.36	QV			
6+ 5	65.2566	183.39	QV			
6+10	66.5267	184.43	QV			
6+15	67.8042	185.48	QV			
6+20	69.0890	186.55	QV			
6+25	70.3812	187.63	QV			
6+30	71.6808	188.69	Q V			
6+35	72.9874	189.73	Q V			
6+40	74.3013	190.78	Q V			
6+45	75.6226	191.84	Q V			
6+50	76.9512	192.92	Q V			
6+55	78.2874	194.01	Q V			
7+ 0	79.6312	195.12	Q V			
7+ 5	80.9827	196.24	Q V			
7+10	82.3422	197.39	Q V			
7+15	83.7095	198.54	Q V			
7+20	85.0850	199.72	Q V			
7+25	86.4686	200.90	QV			
7+30	87.8606	202.12	QV			
7+35	89.2610	203.34	QV			
7+40	90.6700	204.59	QV			
7+45	92.0877	205.85	QV			
7+50	93.5142	207.13	QV			
7+55	94.9497	208.43	Q V			

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 8+ 0      96.3943    209.76  | Q V     |         |         |         |
 8+ 5      97.8482    211.10  | Q V     |         |         |         |
 8+10      99.3114    212.47  | Q V     |         |         |         |
 8+15     100.7842    213.85  | Q V     |         |         |         |
 8+20     102.2668    215.26  | Q V     |         |         |         |
 8+25     103.7591    216.69  | Q V     |         |         |         |
 8+30     105.2615    218.15  | Q V     |         |         |         |
 8+35     106.7741    219.63  | Q V     |         |         |         |
 8+40     108.2971    221.14  | Q V     |         |         |         |
 8+45     109.8306    222.66  | Q V     |         |         |         |
 8+50     111.3748    224.22  | Q V     |         |         |         |
 8+55     112.9300    225.80  | Q V     |         |         |         |
 9+ 0     114.4962    227.42  | Q V     |         |         |         |
 9+ 5     116.0737    229.06  | Q V     |         |         |         |
 9+10     117.6628    230.73  | Q V     |         |         |         |
 9+15     119.2635    232.43  | Q  V    |         |         |         |
 9+20     120.8762    234.16  | Q  V    |         |         |         |
 9+25     122.5010    235.92  | Q  V    |         |         |         |
 9+30     124.1382    237.72  | Q  V    |         |         |         |
 9+35     125.7880    239.55  | Q  V    |         |         |         |
 9+40     127.4507    241.42  | Q  V    |         |         |         |
 9+45     129.1264    243.31  | Q  V    |         |         |         |
 9+50     130.8155    245.26  | Q  V    |         |         |         |
 9+55     132.5182    247.23  | Q  V    |         |         |         |
10+ 0     134.2348    249.25  | Q  V    |         |         |         |
10+ 5     135.9656    251.31  | Q  V    |         |         |         |
10+10     137.7109    253.41  | Q  V    |         |         |         |
10+15     139.4709    255.55  | Q  V    |         |         |         |
10+20     141.2460    257.75  | Q  V    |         |         |         |
10+25     143.0365    259.98  | Q   V   |         |         |         |
10+30     144.8427    262.27  | Q   V   |         |         |         |
10+35     146.6651    264.60  | Q   V   |         |         |         |
10+40     148.5039    266.99  | Q   V   |         |         |         |
10+45     150.3594    269.43  | Q   V   |         |         |         |
10+50     152.2323    271.93  | Q   V   |         |         |         |
10+55     154.1226    274.48  | Q   V   |         |         |         |
11+ 0     156.0311    277.10  | Q   V   |         |         |         |
11+ 5     157.9579    279.77  | Q   V   |         |         |         |
11+10     159.9037    282.53  | Q   V   |         |         |         |
11+15     161.8687    285.33  | Q   V   |         |         |         |
11+20     163.8537    288.22  | Q   V   |         |         |         |
11+25     165.8589    291.16  | Q   V   |         |         |         |
11+30     167.8851    294.20  | Q    V  |         |         |         |
11+35     169.9326    297.30  | Q    V  |         |         |         |
11+40     172.0022    300.50  |  Q   V  |         |         |         |
11+45     174.0943    303.77  |  Q   V  |         |         |         |
11+50     176.2097    307.15  |  Q   V  |         |         |         |
11+55     178.3488    310.60  |  Q   V  |         |         |         |
12+ 0     180.5125    314.17  |  Q   V  |         |         |         |
12+ 5     182.7014    317.82  |  Q   V  |         |         |         |
12+10     184.9162    321.60  |  Q   V  |         |         |         |
12+15     187.1577    325.46  |  Q   V  |         |         |         |
12+20     189.4266    329.46  |  Q   V  |         |         |         |
12+25     191.7238    333.55  |  Q    V |         |         |         |
12+30     194.0502    337.79  |  Q    V |         |         |         |
12+35     196.4064    342.12  |  Q    V |         |         |         |
12+40     198.7935    346.61  |  Q    V |         |         |         |
12+45     201.2124    351.23  |  Q    V |         |         |         |
12+50     203.6645    356.04  |  Q    V |         |         |         |
```

12+55	206.1508	361.01	Q V				
13+ 0	208.6728	366.19	Q V				
13+ 5	211.2317	371.55	Q V				
13+10	213.8291	377.15	Q V				
13+15	216.4663	382.93	Q V				
13+20	219.1452	388.98	Q V				
13+25	221.8673	395.24	Q V				
13+30	224.6345	401.80	Q V				
13+35	227.4486	408.60	Q V				
13+40	230.3119	415.75	Q V				
13+45	233.2264	423.18	Q V				
13+50	236.1947	431.00	Q V				
13+55	239.2192	439.15	Q V				
14+ 0	242.3029	447.76	Q V				
14+ 5	245.4573	458.01	Q V				
14+10	248.6983	470.60	Q V				
14+15	252.0410	485.36	Q V				
14+20	255.5012	502.42	Q V				
14+25	259.0957	521.91	Q V				
14+30	262.8590	546.44	Q V				
14+35	266.8402	578.06	Q V				
14+40	271.0865	616.57	Q V				
14+45	275.5935	654.42	Q V				
14+50	280.3638	692.64	Q V				
14+55	285.3794	728.27	Q V				
15+ 0	290.6221	761.23	Q V				
15+ 5	296.0832	792.96	Q V				
15+10	301.7655	825.07	Q V				
15+15	307.6754	858.11	Q V				
15+20	313.8258	893.05	Q V				
15+25	320.2153	927.74	Q V				
15+30	326.8404	961.97	Q V				
15+35	333.7021	996.32	Q V				
15+40	340.8139	1032.62	Q V				
15+45	348.1914	1071.23	Q V				
15+50	355.8393	1110.47	Q V				
15+55	363.7728	1151.95	Q V				
16+ 0	372.0876	1207.31	Q V				
16+ 5	381.5742	1377.45	Q V				
16+10	392.6073	1602.00	Q				
16+15	405.2281	1832.53	VQ				
16+20	419.5759	2083.31	V Q				
16+25	435.9768	2381.41	V Q				
16+30	455.7650	2873.24	V Q				
16+35	479.6894	3473.83	V Q				
16+40	506.7629	3931.07	V Q				
16+45	532.6586	3760.05	V Q				
16+50	557.2534	3571.17	V Q				
16+55	578.9624	3152.15	V Q				
17+ 0	597.6472	2713.04	V Q				
17+ 5	614.2043	2404.08	QV				
17+10	629.3334	2196.74	Q V				
17+15	643.3830	2040.01	Q V				
17+20	656.5287	1908.75	Q V				
17+25	668.8631	1790.95	Q V				
17+30	680.3592	1669.24	Q V				
17+35	691.0666	1554.70	Q V				
17+40	701.1574	1465.18	Q V				
17+45	710.5017	1356.80	Q V				

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17+50     719.1918   1261.81  |          | Q        |          V          |
17+55     727.4539   1199.66  |          |Q         |          V          |
18+ 0     735.1641   1119.52  |          |Q         |          |V         |
18+ 5     742.5566   1073.40  |          Q          |          |V         |
18+10     749.5933   1021.72  |          Q          |          |V         |
18+15     756.3070    974.84  |         Q|          |          |V         |
18+20     762.7554    936.31  |         Q|          |          | V        |
18+25     768.8304    882.09  |        Q |          |          | V        |
18+30     774.6716    848.14  |        Q |          |          | V        |
18+35     780.1784    799.58  |       Q  |          |          | V        |
18+40     785.3960    757.60  |       Q  |          |          |  V       |
18+45     790.4427    732.79  |       Q  |          |          |  V       |
18+50     795.2886    703.62  |       Q  |          |          |  V       |
18+55     799.9852    681.95  |      Q   |          |          |  V       |
19+ 0     804.4894    654.02  |      Q   |          |          |  V       |
19+ 5     808.8205    628.87  |      Q   |          |          |   V      |
19+10     813.0192    609.66  |      Q   |          |          |   V      |
19+15     817.0507    585.37  |     Q    |          |          |   V      |
19+20     820.9570    567.20  |     Q    |          |          |   V      |
19+25     824.6709    539.25  |     Q    |          |          |   V      |
19+30     828.2237    515.87  |     Q    |          |          |   V      |
19+35     831.6907    503.40  |     Q    |          |          |    V     |
19+40     835.0778    491.81  |    Q     |          |          |    V     |
19+45     838.3798    479.45  |    Q     |          |          |    V     |
19+50     841.5465    459.80  |    Q     |          |          |    V     |
19+55     844.5979    443.08  |    Q     |          |          |    V     |
20+ 0     847.5812    433.16  |    Q     |          |          |    V     |
20+ 5     850.4983    423.57  |    Q     |          |          |    V     |
20+10     853.3432    413.07  |    Q     |          |          |    V     |
20+15     856.0622    394.80  |   Q      |          |          |     V    |
20+20     858.6780    379.82  |   Q      |          |          |     V    |
20+25     861.2380    371.72  |   Q      |          |          |     V    |
20+30     863.7437    363.82  |   Q      |          |          |     V    |
20+35     866.1891    355.08  |   Q      |          |          |     V    |
20+40     868.5276    339.55  |   Q      |          |          |     V    |
20+45     870.7808    327.16  |   Q      |          |          |     V    |
20+50     872.9902    320.80  |   Q      |          |          |     V    |
20+55     875.1609    315.19  |   Q      |          |          |     V    |
21+ 0     877.2950    309.88  |   Q      |          |          |      V   |
21+ 5     879.4009    305.77  |   Q      |          |          |      V   |
21+10     881.4765    301.38  |   Q      |          |          |      V   |
21+15     883.5187    296.53  | Q        |          |          |      V   |
21+20     885.5288    291.87  | Q        |          |          |      V   |
21+25     887.5069    287.22  | Q        |          |          |      V   |
21+30     889.4507    282.24  | Q        |          |          |      V   |
21+35     891.3609    277.36  | Q        |          |          |      V   |
21+40     893.2397    272.79  | Q        |          |          |      V   |
21+45     895.0848    267.91  | Q        |          |          |      V   |
21+50     896.8931    262.57  | Q        |          |          |      V   |
21+55     898.6210    250.88  | Q        |          |          |      V   |
22+ 0     900.2926    242.72  | Q        |          |          |      V   |
22+ 5     901.9362    238.65  | Q        |          |          |       V  |
22+10     903.5535    234.84  | Q        |          |          |       V  |
22+15     905.1438    230.91  | Q        |          |          |       V  |
22+20     906.7048    226.65  | Q        |          |          |       V  |
22+25     908.2320    221.76  | Q        |          |          |       V  |
22+30     909.6915    211.92  | Q        |          |          |       V  |
22+35     911.0884    202.82  | Q        |          |          |       V  |
22+40     912.4614    199.37  |Q         |          |          |       V  |
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22+45     913.8139    196.37  |Q        |         |         |       V |
22+50     915.1463    193.48  |Q        |         |         |       V |
22+55     916.4598    190.72  |Q        |         |         |       V |
23+ 0     917.7557    188.16  |Q        |         |         |       V |
23+ 5     919.0347    185.72  |Q        |         |         |       V |
23+10     920.2977    183.38  |Q        |         |         |       V |
23+15     921.5452    181.13  |Q        |         |         |       V |
23+20     922.7777    178.97  |Q        |         |         |       V |
23+25     923.9959    176.88  |Q        |         |         |       V |
23+30     925.2006    174.92  |Q        |         |         |        V|
23+35     926.3927    173.10  |Q        |         |         |        V|
23+40     927.5727    171.33  |Q        |         |         |        V|
23+45     928.7408    169.61  |Q        |         |         |        V|
23+50     929.8975    167.95  |Q        |         |         |        V|
23+55     931.0430    166.32  |Q        |         |         |        V|
24+ 0     932.1776    164.74  |Q        |         |         |        V|
24+ 5     933.2969    162.53  |Q        |         |         |        V|
24+10     934.3947    159.40  |Q        |         |         |        V|
24+15     935.4651    155.42  |Q        |         |         |        V|
24+20     936.5024    150.62  |Q        |         |         |        V|
24+25     937.5005    144.92  |Q        |         |         |        V|
24+30     938.4442    137.03  |Q        |         |         |        V|
24+35     939.3110    125.86  |Q        |         |         |        V|
24+40     940.0803    111.70  |Q        |         |         |        V|
24+45     940.7595     98.62  Q        |         |         |        V|
24+50     941.3533     86.22  Q        |         |         |        V|
24+55     941.8770     76.03  Q        |         |         |        V|
25+ 0     942.3472     68.28  Q        |         |         |        V|
25+ 5     942.7749     62.10  Q        |         |         |        V|
25+10     943.1668     56.90  Q        |         |         |        V|
25+15     943.5272     52.33  Q        |         |         |        V|
25+20     943.8595     48.25  Q        |         |         |        V|
25+25     944.1662     44.54  Q        |         |         |        V|
25+30     944.4502     41.24  Q        |         |         |        V|
25+35     944.7139     38.29  Q        |         |         |        V|
25+40     944.9583     35.48  Q        |         |         |        V|
25+45     945.1856     33.01  Q        |         |         |        V|
25+50     945.3977     30.79  Q        |         |         |        V|
25+55     945.5950     28.65  Q        |         |         |        V|
26+ 0     945.7795     26.79  Q        |         |         |        V|
26+ 5     945.9516     24.98  Q        |         |         |        V|
26+10     946.1120     23.29  Q        |         |         |        V|
26+15     946.2615     21.71  Q        |         |         |        V|
26+20     946.4005     20.19  Q        |         |         |        V|
26+25     946.5303     18.84  Q        |         |         |        V|
26+30     946.6510     17.53  Q        |         |         |        V|
26+35     946.7639     16.39  Q        |         |         |        V|
26+40     946.8698     15.38  Q        |         |         |        V|
26+45     946.9689     14.39  Q        |         |         |        V|
26+50     947.0616     13.47  Q        |         |         |        V|
26+55     947.1483     12.58  Q        |         |         |        V|
27+ 0     947.2292     11.75  Q        |         |         |        V|
27+ 5     947.3048     10.98  Q        |         |         |        V|
27+10     947.3753     10.23  Q        |         |         |        V|
27+15     947.4410      9.55  Q        |         |         |        V|
27+20     947.5022      8.88  Q        |         |         |        V|
27+25     947.5593      8.30  Q        |         |         |        V|
27+30     947.6130      7.80  Q        |         |         |        V|
27+35     947.6633      7.30  Q        |         |         |        V|
```

27+40	947.7101	6.80	Q	|	|	|	V|
27+45	947.7536	6.32	Q	|	|	|	V|
27+50	947.7942	5.89	Q	|	|	|	V|
27+55	947.8321	5.51	Q	|	|	|	V|
28+ 0	947.8674	5.13	Q	|	|	|	V|
28+ 5	947.9001	4.75	Q	|	|	|	V|
28+10	947.9303	4.38	Q	|	|	|	V|
28+15	947.9584	4.07	Q	|	|	|	V|
28+20	947.9846	3.81	Q	|	|	|	V|
28+25	948.0091	3.55	Q	|	|	|	V|
28+30	948.0318	3.30	Q	|	|	|	V|
28+35	948.0527	3.04	Q	|	|	|	V|
28+40	948.0723	2.84	Q	|	|	|	V|
28+45	948.0907	2.68	Q	|	|	|	V|
28+50	948.1081	2.52	Q	|	|	|	V|
28+55	948.1244	2.36	Q	|	|	|	V|
29+ 0	948.1396	2.21	Q	|	|	|	V|
29+ 5	948.1536	2.04	Q	|	|	|	V|
29+10	948.1665	1.87	Q	|	|	|	V|
29+15	948.1783	1.71	Q	|	|	|	V|
29+20	948.1889	1.54	Q	|	|	|	V|
29+25	948.1984	1.38	Q	|	|	|	V|
29+30	948.2068	1.22	Q	|	|	|	V|
29+35	948.2142	1.06	Q	|	|	|	V|
29+40	948.2204	0.91	Q	|	|	|	V|
29+45	948.2256	0.75	Q	|	|	|	V|
29+50	948.2297	0.60	Q	|	|	|	V|
29+55	948.2331	0.50	Q	|	|	|	V|
30+ 0	948.2360	0.42	Q	|	|	|	V|
30+ 5	948.2384	0.34	Q	|	|	|	V|
30+10	948.2402	0.26	Q	|	|	|	V|
30+15	948.2415	0.19	Q	|	|	|	V|
30+20	948.2422	0.11	Q	|	|	|	V|
30+25	948.2425	0.04	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 47
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3500.82	1	1.29
Rainfall data for year 100		
3500.82	6	2.07
Rainfall data for year 100		
3500.82	24	3.03

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
68.3	85.6	3500.82	1.000	0.272	0.980	0.267

Area-averaged adjusted loss rate Fm (In/Hr) = 0.267

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3429.05	0.980	68.3	85.6	1.68	0.547
71.77	0.020	98.0	98.0	0.20	0.923

Area-averaged catchment yield fraction, Y = 0.555
Area-averaged low loss fraction, Yb = 0.445
++
Watercourse length = 38102.00(Ft.)
Length from concentration point to centroid = 19862.00(Ft.)
Elevation difference along watercourse = 2190.20(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 3500.82(Ac.)
Catchment Lag time = 0.994 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 8.3819
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.267(In/Hr)
Average low loss rate fraction (Yb) = 0.445 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.070
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.930

Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.724(In)
Specified peak 6-hour rainfall = 2.070(In)
Specified peak 24-hour rainfall = 3.030(In)

Rainfall depth area reduction factors:
Using a total area of 3500.82(Ac.) (Ref: fig. E-4)

5-minute factor = 0.840 Adjusted rainfall = 0.514(In)
30-minute factor = 0.840 Adjusted rainfall = 0.880(In)
1-hour factor = 0.840 Adjusted rainfall = 1.084(In)
3-hour factor = 0.979 Adjusted rainfall = 1.688(In)
6-hour factor = 0.989 Adjusted rainfall = 2.048(In)
24-hour factor = 0.996 Adjusted rainfall = 3.016(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 42338.04 (CFS))	
1	0.380	160.948
2	1.222	356.405
3	2.556	564.927
4	4.309	742.077
5	6.480	918.954

6	9.191	1147.876
7	13.270	1727.137
8	18.948	2403.919
9	26.917	3373.882
10	34.549	3231.299
11	41.468	2929.399
12	47.495	2551.811
13	52.539	2135.534
14	56.769	1790.580
15	60.125	1420.941
16	63.022	1226.597
17	65.590	1087.093
18	67.855	959.246
19	69.952	887.854
20	71.903	825.896
21	73.622	727.891
22	75.186	662.094
23	76.654	621.320
24	78.073	600.720
25	79.299	519.118
26	80.412	471.416
27	81.523	470.372
28	82.507	416.539
29	83.419	386.246
30	84.330	385.556
31	85.171	356.225
32	85.976	340.680
33	86.778	339.640
34	87.493	302.464
35	88.163	283.900
36	88.830	282.375
37	89.387	235.824
38	89.892	213.919
39	90.397	213.479
40	90.873	201.885
41	91.338	196.743
42	91.801	195.901
43	92.218	176.475
44	92.615	168.353
45	93.012	167.802
46	93.382	156.590
47	93.741	152.170
48	94.097	150.738
49	94.392	124.821
50	94.664	115.192
51	94.936	115.192
52	95.208	115.192
53	95.480	115.192
54	95.749	113.873
55	95.973	94.638
56	96.181	88.293
57	96.390	88.293
58	96.598	88.293
59	96.807	88.293
60	97.011	86.634
61	97.169	66.721
62	97.313	60.897
63	97.457	60.897
64	97.600	60.897

65	97.744	60.897
66	97.884	58.999
67	97.978	39.926
68	98.061	34.991
69	98.143	34.991
70	98.226	34.991
71	98.309	34.991
72	98.392	35.479
73	98.486	39.647
74	98.582	40.598
75	98.678	40.598
76	98.774	40.598
77	98.870	40.598
78	98.965	40.547
79	99.060	40.175
80	99.155	40.101
81	99.250	40.101
82	99.344	40.101
83	99.439	40.101
84	99.528	37.856
85	99.583	23.123
86	99.632	20.627
87	99.681	20.627
88	99.729	20.627
89	99.778	20.627
90	99.827	20.627
91	99.875	20.627
92	99.924	20.627
93	99.973	20.627
94	100.000	11.493

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5143	0.5143
2	0.6331	0.1189
3	0.7150	0.0819
4	0.7795	0.0645
5	0.8334	0.0540
6	0.8803	0.0469
7	0.9220	0.0417
8	0.9596	0.0377
9	0.9942	0.0345
10	1.0261	0.0319
11	1.0558	0.0298
12	1.0838	0.0279
13	1.1193	0.0356
14	1.1533	0.0340
15	1.1859	0.0326
16	1.2172	0.0313
17	1.2473	0.0301
18	1.2764	0.0291
19	1.3046	0.0282
20	1.3319	0.0273
21	1.3584	0.0265
22	1.3841	0.0257
23	1.4092	0.0251
24	1.4336	0.0244
25	1.4574	0.0238
26	1.4806	0.0233

27	1.5033	0.0227
28	1.5256	0.0222
29	1.5473	0.0218
30	1.5686	0.0213
31	1.5895	0.0209
32	1.6100	0.0205
33	1.6302	0.0201
34	1.6499	0.0198
35	1.6693	0.0194
36	1.6884	0.0191
37	1.7013	0.0129
38	1.7140	0.0127
39	1.7265	0.0124
40	1.7387	0.0122
41	1.7507	0.0120
42	1.7624	0.0118
43	1.7740	0.0116
44	1.7854	0.0114
45	1.7966	0.0112
46	1.8076	0.0110
47	1.8185	0.0109
48	1.8292	0.0107
49	1.8397	0.0105
50	1.8501	0.0104
51	1.8603	0.0102
52	1.8704	0.0101
53	1.8803	0.0099
54	1.8902	0.0098
55	1.8998	0.0097
56	1.9094	0.0096
57	1.9188	0.0094
58	1.9281	0.0093
59	1.9373	0.0092
60	1.9464	0.0091
61	1.9554	0.0090
62	1.9643	0.0089
63	1.9730	0.0088
64	1.9817	0.0087
65	1.9903	0.0086
66	1.9987	0.0085
67	2.0071	0.0084
68	2.0154	0.0083
69	2.0236	0.0082
70	2.0317	0.0081
71	2.0398	0.0080
72	2.0477	0.0080
73	2.0557	0.0079
74	2.0635	0.0078
75	2.0712	0.0078
76	2.0789	0.0077
77	2.0865	0.0076
78	2.0941	0.0075
79	2.1015	0.0075
80	2.1089	0.0074
81	2.1163	0.0073
82	2.1235	0.0073
83	2.1307	0.0072
84	2.1379	0.0071
85	2.1449	0.0071

86	2.1520	0.0070
87	2.1589	0.0070
88	2.1658	0.0069
89	2.1727	0.0068
90	2.1795	0.0068
91	2.1862	0.0067
92	2.1929	0.0067
93	2.1995	0.0066
94	2.2061	0.0066
95	2.2127	0.0065
96	2.2191	0.0065
97	2.2256	0.0064
98	2.2320	0.0064
99	2.2383	0.0063
100	2.2446	0.0063
101	2.2508	0.0062
102	2.2570	0.0062
103	2.2632	0.0062
104	2.2693	0.0061
105	2.2754	0.0061
106	2.2814	0.0060
107	2.2874	0.0060
108	2.2934	0.0060
109	2.2993	0.0059
110	2.3052	0.0059
111	2.3110	0.0058
112	2.3168	0.0058
113	2.3226	0.0058
114	2.3283	0.0057
115	2.3340	0.0057
116	2.3396	0.0057
117	2.3453	0.0056
118	2.3508	0.0056
119	2.3564	0.0055
120	2.3619	0.0055
121	2.3674	0.0055
122	2.3728	0.0055
123	2.3783	0.0054
124	2.3836	0.0054
125	2.3890	0.0054
126	2.3943	0.0053
127	2.3996	0.0053
128	2.4049	0.0053
129	2.4101	0.0052
130	2.4153	0.0052
131	2.4205	0.0052
132	2.4256	0.0051
133	2.4308	0.0051
134	2.4359	0.0051
135	2.4409	0.0051
136	2.4460	0.0050
137	2.4510	0.0050
138	2.4560	0.0050
139	2.4609	0.0050
140	2.4659	0.0049
141	2.4708	0.0049
142	2.4756	0.0049
143	2.4805	0.0049
144	2.4853	0.0048

145	2.4902	0.0048
146	2.4949	0.0048
147	2.4997	0.0048
148	2.5044	0.0047
149	2.5092	0.0047
150	2.5139	0.0047
151	2.5185	0.0047
152	2.5232	0.0046
153	2.5278	0.0046
154	2.5324	0.0046
155	2.5370	0.0046
156	2.5416	0.0046
157	2.5461	0.0045
158	2.5506	0.0045
159	2.5551	0.0045
160	2.5596	0.0045
161	2.5641	0.0045
162	2.5685	0.0044
163	2.5729	0.0044
164	2.5773	0.0044
165	2.5817	0.0044
166	2.5861	0.0044
167	2.5904	0.0043
168	2.5947	0.0043
169	2.5990	0.0043
170	2.6033	0.0043
171	2.6076	0.0043
172	2.6118	0.0043
173	2.6161	0.0042
174	2.6203	0.0042
175	2.6245	0.0042
176	2.6287	0.0042
177	2.6328	0.0042
178	2.6370	0.0041
179	2.6411	0.0041
180	2.6452	0.0041
181	2.6493	0.0041
182	2.6534	0.0041
183	2.6575	0.0041
184	2.6615	0.0040
185	2.6656	0.0040
186	2.6696	0.0040
187	2.6736	0.0040
188	2.6776	0.0040
189	2.6815	0.0040
190	2.6855	0.0040
191	2.6894	0.0039
192	2.6934	0.0039
193	2.6973	0.0039
194	2.7012	0.0039
195	2.7051	0.0039
196	2.7089	0.0039
197	2.7128	0.0039
198	2.7166	0.0038
199	2.7204	0.0038
200	2.7243	0.0038
201	2.7281	0.0038
202	2.7318	0.0038
203	2.7356	0.0038

204	2.7394	0.0038
205	2.7431	0.0037
206	2.7469	0.0037
207	2.7506	0.0037
208	2.7543	0.0037
209	2.7580	0.0037
210	2.7617	0.0037
211	2.7653	0.0037
212	2.7690	0.0037
213	2.7726	0.0036
214	2.7763	0.0036
215	2.7799	0.0036
216	2.7835	0.0036
217	2.7871	0.0036
218	2.7907	0.0036
219	2.7942	0.0036
220	2.7978	0.0036
221	2.8013	0.0035
222	2.8049	0.0035
223	2.8084	0.0035
224	2.8119	0.0035
225	2.8154	0.0035
226	2.8189	0.0035
227	2.8224	0.0035
228	2.8258	0.0035
229	2.8293	0.0035
230	2.8328	0.0034
231	2.8362	0.0034
232	2.8396	0.0034
233	2.8430	0.0034
234	2.8464	0.0034
235	2.8498	0.0034
236	2.8532	0.0034
237	2.8566	0.0034
238	2.8599	0.0034
239	2.8633	0.0034
240	2.8666	0.0033
241	2.8700	0.0033
242	2.8733	0.0033
243	2.8766	0.0033
244	2.8799	0.0033
245	2.8832	0.0033
246	2.8865	0.0033
247	2.8898	0.0033
248	2.8930	0.0033
249	2.8963	0.0033
250	2.8995	0.0032
251	2.9028	0.0032
252	2.9060	0.0032
253	2.9092	0.0032
254	2.9124	0.0032
255	2.9156	0.0032
256	2.9188	0.0032
257	2.9220	0.0032
258	2.9252	0.0032
259	2.9283	0.0032
260	2.9315	0.0032
261	2.9346	0.0031
262	2.9378	0.0031

263	2.9409	0.0031
264	2.9440	0.0031
265	2.9471	0.0031
266	2.9502	0.0031
267	2.9533	0.0031
268	2.9564	0.0031
269	2.9595	0.0031
270	2.9625	0.0031
271	2.9656	0.0031
272	2.9687	0.0031
273	2.9717	0.0030
274	2.9747	0.0030
275	2.9778	0.0030
276	2.9808	0.0030
277	2.9838	0.0030
278	2.9868	0.0030
279	2.9898	0.0030
280	2.9928	0.0030
281	2.9958	0.0030
282	2.9988	0.0030
283	3.0017	0.0030
284	3.0047	0.0030
285	3.0076	0.0030
286	3.0106	0.0029
287	3.0135	0.0029
288	3.0165	0.0029

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0029	0.0013	0.0016
2	0.0029	0.0013	0.0016
3	0.0030	0.0013	0.0016
4	0.0030	0.0013	0.0016
5	0.0030	0.0013	0.0017
6	0.0030	0.0013	0.0017
7	0.0030	0.0013	0.0017
8	0.0030	0.0013	0.0017
9	0.0030	0.0013	0.0017
10	0.0030	0.0013	0.0017
11	0.0030	0.0014	0.0017
12	0.0031	0.0014	0.0017
13	0.0031	0.0014	0.0017
14	0.0031	0.0014	0.0017
15	0.0031	0.0014	0.0017
16	0.0031	0.0014	0.0017
17	0.0031	0.0014	0.0017
18	0.0031	0.0014	0.0017
19	0.0031	0.0014	0.0017
20	0.0032	0.0014	0.0018
21	0.0032	0.0014	0.0018
22	0.0032	0.0014	0.0018
23	0.0032	0.0014	0.0018
24	0.0032	0.0014	0.0018
25	0.0032	0.0014	0.0018
26	0.0032	0.0014	0.0018
27	0.0033	0.0014	0.0018
28	0.0033	0.0015	0.0018

29	0.0033	0.0015	0.0018
30	0.0033	0.0015	0.0018
31	0.0033	0.0015	0.0018
32	0.0033	0.0015	0.0018
33	0.0033	0.0015	0.0019
34	0.0034	0.0015	0.0019
35	0.0034	0.0015	0.0019
36	0.0034	0.0015	0.0019
37	0.0034	0.0015	0.0019
38	0.0034	0.0015	0.0019
39	0.0034	0.0015	0.0019
40	0.0034	0.0015	0.0019
41	0.0035	0.0015	0.0019
42	0.0035	0.0015	0.0019
43	0.0035	0.0016	0.0019
44	0.0035	0.0016	0.0019
45	0.0035	0.0016	0.0020
46	0.0035	0.0016	0.0020
47	0.0036	0.0016	0.0020
48	0.0036	0.0016	0.0020
49	0.0036	0.0016	0.0020
50	0.0036	0.0016	0.0020
51	0.0036	0.0016	0.0020
52	0.0037	0.0016	0.0020
53	0.0037	0.0016	0.0020
54	0.0037	0.0016	0.0020
55	0.0037	0.0017	0.0021
56	0.0037	0.0017	0.0021
57	0.0038	0.0017	0.0021
58	0.0038	0.0017	0.0021
59	0.0038	0.0017	0.0021
60	0.0038	0.0017	0.0021
61	0.0038	0.0017	0.0021
62	0.0039	0.0017	0.0021
63	0.0039	0.0017	0.0022
64	0.0039	0.0017	0.0022
65	0.0039	0.0017	0.0022
66	0.0039	0.0018	0.0022
67	0.0040	0.0018	0.0022
68	0.0040	0.0018	0.0022
69	0.0040	0.0018	0.0022
70	0.0040	0.0018	0.0022
71	0.0041	0.0018	0.0023
72	0.0041	0.0018	0.0023
73	0.0041	0.0018	0.0023
74	0.0041	0.0018	0.0023
75	0.0042	0.0019	0.0023
76	0.0042	0.0019	0.0023
77	0.0042	0.0019	0.0023
78	0.0042	0.0019	0.0023
79	0.0043	0.0019	0.0024
80	0.0043	0.0019	0.0024
81	0.0043	0.0019	0.0024
82	0.0043	0.0019	0.0024
83	0.0044	0.0020	0.0024
84	0.0044	0.0020	0.0024
85	0.0044	0.0020	0.0025
86	0.0045	0.0020	0.0025
87	0.0045	0.0020	0.0025

88	0.0045	0.0020	0.0025
89	0.0046	0.0020	0.0025
90	0.0046	0.0020	0.0025
91	0.0046	0.0021	0.0026
92	0.0046	0.0021	0.0026
93	0.0047	0.0021	0.0026
94	0.0047	0.0021	0.0026
95	0.0048	0.0021	0.0026
96	0.0048	0.0021	0.0027
97	0.0048	0.0022	0.0027
98	0.0049	0.0022	0.0027
99	0.0049	0.0022	0.0027
100	0.0049	0.0022	0.0027
101	0.0050	0.0022	0.0028
102	0.0050	0.0022	0.0028
103	0.0051	0.0023	0.0028
104	0.0051	0.0023	0.0028
105	0.0051	0.0023	0.0029
106	0.0052	0.0023	0.0029
107	0.0052	0.0023	0.0029
108	0.0053	0.0023	0.0029
109	0.0053	0.0024	0.0030
110	0.0054	0.0024	0.0030
111	0.0054	0.0024	0.0030
112	0.0055	0.0024	0.0030
113	0.0055	0.0025	0.0031
114	0.0055	0.0025	0.0031
115	0.0056	0.0025	0.0031
116	0.0057	0.0025	0.0031
117	0.0057	0.0025	0.0032
118	0.0058	0.0026	0.0032
119	0.0058	0.0026	0.0032
120	0.0059	0.0026	0.0033
121	0.0060	0.0026	0.0033
122	0.0060	0.0027	0.0033
123	0.0061	0.0027	0.0034
124	0.0061	0.0027	0.0034
125	0.0062	0.0028	0.0034
126	0.0062	0.0028	0.0035
127	0.0063	0.0028	0.0035
128	0.0064	0.0028	0.0035
129	0.0065	0.0029	0.0036
130	0.0065	0.0029	0.0036
131	0.0066	0.0030	0.0037
132	0.0067	0.0030	0.0037
133	0.0068	0.0030	0.0038
134	0.0068	0.0030	0.0038
135	0.0070	0.0031	0.0039
136	0.0070	0.0031	0.0039
137	0.0071	0.0032	0.0040
138	0.0072	0.0032	0.0040
139	0.0073	0.0033	0.0041
140	0.0074	0.0033	0.0041
141	0.0075	0.0034	0.0042
142	0.0076	0.0034	0.0042
143	0.0078	0.0035	0.0043
144	0.0078	0.0035	0.0043
145	0.0080	0.0035	0.0044
146	0.0080	0.0036	0.0045

147	0.0082	0.0037	0.0046
148	0.0083	0.0037	0.0046
149	0.0085	0.0038	0.0047
150	0.0086	0.0038	0.0048
151	0.0088	0.0039	0.0049
152	0.0089	0.0039	0.0049
153	0.0091	0.0040	0.0050
154	0.0092	0.0041	0.0051
155	0.0094	0.0042	0.0052
156	0.0096	0.0043	0.0053
157	0.0098	0.0044	0.0054
158	0.0099	0.0044	0.0055
159	0.0102	0.0046	0.0057
160	0.0104	0.0046	0.0058
161	0.0107	0.0048	0.0059
162	0.0109	0.0048	0.0060
163	0.0112	0.0050	0.0062
164	0.0114	0.0051	0.0063
165	0.0118	0.0052	0.0065
166	0.0120	0.0053	0.0067
167	0.0124	0.0055	0.0069
168	0.0127	0.0056	0.0070
169	0.0191	0.0085	0.0106
170	0.0194	0.0086	0.0108
171	0.0201	0.0090	0.0112
172	0.0205	0.0091	0.0114
173	0.0213	0.0095	0.0118
174	0.0218	0.0097	0.0121
175	0.0227	0.0101	0.0126
176	0.0233	0.0103	0.0129
177	0.0244	0.0109	0.0135
178	0.0251	0.0112	0.0139
179	0.0265	0.0118	0.0147
180	0.0273	0.0121	0.0151
181	0.0291	0.0130	0.0162
182	0.0301	0.0134	0.0167
183	0.0326	0.0145	0.0181
184	0.0340	0.0151	0.0189
185	0.0279	0.0124	0.0155
186	0.0298	0.0132	0.0165
187	0.0345	0.0154	0.0192
188	0.0377	0.0168	0.0209
189	0.0469	0.0209	0.0260
190	0.0540	0.0222	0.0317
191	0.0819	0.0222	0.0597
192	0.1189	0.0222	0.0966
193	0.5143	0.0222	0.4920
194	0.0645	0.0222	0.0422
195	0.0417	0.0185	0.0231
196	0.0319	0.0142	0.0177
197	0.0356	0.0158	0.0197
198	0.0313	0.0139	0.0174
199	0.0282	0.0125	0.0156
200	0.0257	0.0115	0.0143
201	0.0238	0.0106	0.0132
202	0.0222	0.0099	0.0123
203	0.0209	0.0093	0.0116
204	0.0198	0.0088	0.0110
205	0.0129	0.0058	0.0072

206	0.0122	0.0054	0.0068
207	0.0116	0.0052	0.0064
208	0.0110	0.0049	0.0061
209	0.0105	0.0047	0.0058
210	0.0101	0.0045	0.0056
211	0.0097	0.0043	0.0054
212	0.0093	0.0041	0.0052
213	0.0090	0.0040	0.0050
214	0.0087	0.0039	0.0048
215	0.0084	0.0037	0.0047
216	0.0081	0.0036	0.0045
217	0.0079	0.0035	0.0044
218	0.0077	0.0034	0.0043
219	0.0075	0.0033	0.0041
220	0.0073	0.0032	0.0040
221	0.0071	0.0032	0.0039
222	0.0069	0.0031	0.0038
223	0.0067	0.0030	0.0037
224	0.0066	0.0029	0.0037
225	0.0064	0.0029	0.0036
226	0.0063	0.0028	0.0035
227	0.0062	0.0027	0.0034
228	0.0060	0.0027	0.0033
229	0.0059	0.0026	0.0033
230	0.0058	0.0026	0.0032
231	0.0057	0.0025	0.0032
232	0.0056	0.0025	0.0031
233	0.0055	0.0024	0.0030
234	0.0054	0.0024	0.0030
235	0.0053	0.0024	0.0029
236	0.0052	0.0023	0.0029
237	0.0051	0.0023	0.0028
238	0.0050	0.0022	0.0028
239	0.0050	0.0022	0.0028
240	0.0049	0.0022	0.0027
241	0.0048	0.0021	0.0027
242	0.0047	0.0021	0.0026
243	0.0047	0.0021	0.0026
244	0.0046	0.0020	0.0026
245	0.0045	0.0020	0.0025
246	0.0045	0.0020	0.0025
247	0.0044	0.0020	0.0025
248	0.0044	0.0019	0.0024
249	0.0043	0.0019	0.0024
250	0.0043	0.0019	0.0024
251	0.0042	0.0019	0.0023
252	0.0041	0.0018	0.0023
253	0.0041	0.0018	0.0023
254	0.0040	0.0018	0.0022
255	0.0040	0.0018	0.0022
256	0.0040	0.0018	0.0022
257	0.0039	0.0017	0.0022
258	0.0039	0.0017	0.0021
259	0.0038	0.0017	0.0021
260	0.0038	0.0017	0.0021
261	0.0037	0.0017	0.0021
262	0.0037	0.0016	0.0021
263	0.0037	0.0016	0.0020
264	0.0036	0.0016	0.0020

265	0.0036	0.0016	0.0020
266	0.0036	0.0016	0.0020
267	0.0035	0.0016	0.0020
268	0.0035	0.0016	0.0019
269	0.0035	0.0015	0.0019
270	0.0034	0.0015	0.0019
271	0.0034	0.0015	0.0019
272	0.0034	0.0015	0.0019
273	0.0033	0.0015	0.0018
274	0.0033	0.0015	0.0018
275	0.0033	0.0015	0.0018
276	0.0032	0.0014	0.0018
277	0.0032	0.0014	0.0018
278	0.0032	0.0014	0.0018
279	0.0032	0.0014	0.0018
280	0.0031	0.0014	0.0017
281	0.0031	0.0014	0.0017
282	0.0031	0.0014	0.0017
283	0.0031	0.0014	0.0017
284	0.0030	0.0014	0.0017
285	0.0030	0.0013	0.0017
286	0.0030	0.0013	0.0017
287	0.0030	0.0013	0.0016
288	0.0029	0.0013	0.0016

Total soil rain loss = 1.08(In)
Total effective rainfall = 1.93(In)
Peak flow rate in flood hydrograph = 2754.99(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	700.0	1400.0	2100.0	2800.0
0+ 5	0.0018	0.26	Q	|	|	|	|
0+10	0.0076	0.84	Q	|	|	|	|
0+15	0.0197	1.76	Q	|	|	|	|
0+20	0.0402	2.98	Q	|	|	|	|
0+25	0.0711	4.48	Q	|	|	|	|
0+30	0.1149	6.36	Q	|	|	|	|
0+35	0.1782	9.19	Q	|	|	|	|
0+40	0.2687	13.14	Q	|	|	|	|
0+45	0.3973	18.67	Q	|	|	|	|
0+50	0.5625	23.99	Q	|	|	|	|
0+55	0.7611	28.84	Q	|	|	|	|
1+ 0	0.9891	33.10	Q	|	|	|	|
1+ 5	1.2418	36.70	Q	|	|	|	|
1+10	1.5156	39.75	Q	|	|	|	|
1+15	1.8063	42.21	Q	|	|	|	|
1+20	2.1118	44.37	Q	|	|	|	|
1+25	2.4307	46.31	Q	|	|	|	|
1+30	2.7616	48.05	Q	|	|	|	|
1+35	3.1038	49.68	Q	|	|	|	|
1+40	3.4565	51.22	Q	|	|	|	|

1+45	3.8188	52.60	Q				
1+50	4.1899	53.89	Q				
1+55	4.5694	55.11	Q				
2+ 0	4.9572	56.31	Q				
2+ 5	5.3524	57.38	Q				
2+10	5.7545	58.38	Q				
2+15	6.1634	59.38	Q				
2+20	6.5787	60.30	Q				
2+25	7.0000	61.18	Q				
2+30	7.4274	62.05	Q				
2+35	7.8605	62.89	Q				
2+40	8.2993	63.71	Q				
2+45	8.7437	64.53	Q				
2+50	9.1933	65.29	Q				
2+55	9.6480	66.03	Q				
3+ 0	10.1078	66.77	Q				
3+ 5	10.5723	67.43	Q				
3+10	11.0411	68.07	Q				
3+15	11.5143	68.71	Q				
3+20	11.9918	69.34	Q				
3+25	12.4737	69.96	Q				
3+30	12.9598	70.59	VQ				
3+35	13.4501	71.19	VQ				
3+40	13.9444	71.78	VQ				
3+45	14.4428	72.37	|Q				
3+50	14.9452	72.95	|Q				
3+55	15.4516	73.53	|Q				
4+ 0	15.9619	74.10	|Q				
4+ 5	16.4760	74.65	|Q				
4+10	16.9938	75.18	|Q				
4+15	17.5152	75.71	|Q				
4+20	18.0403	76.25	|Q				
4+25	18.5692	76.79	|Q				
4+30	19.1018	77.34	|Q				
4+35	19.6381	77.86	|Q				
4+40	20.1778	78.37	|Q				
4+45	20.7212	78.90	|Q				
4+50	21.2681	79.42	|Q				
4+55	21.8188	79.95	|Q				
5+ 0	22.3730	80.48	|Q				
5+ 5	22.9308	80.98	|Q				
5+10	23.4920	81.48	|Q				
5+15	24.0566	81.99	|Q				
5+20	24.6248	82.50	|Q				
5+25	25.1965	83.02	|Q				
5+30	25.7718	83.53	|Q				
5+35	26.3505	84.03	|Q				
5+40	26.9326	84.52	|Q				
5+45	27.5181	85.01	|Q				
5+50	28.1071	85.51	|Q				
5+55	28.6995	86.02	|QV				
6+ 0	29.2955	86.54	|QV				
6+ 5	29.8951	87.07	|QV				
6+10	30.4984	87.60	|QV				
6+15	31.1055	88.14	|QV				
6+20	31.7163	88.69	|QV				
6+25	32.3309	89.24	|QV				
6+30	32.9494	89.80	|QV				
6+35	33.5718	90.37	|QV				

6+40	34.1981	90.95	QV				
6+45	34.8285	91.53	QV				
6+50	35.4629	92.12	QV				
6+55	36.1014	92.71	QV				
7+ 0	36.7441	93.31	QV				
7+ 5	37.3908	93.90	QV				
7+10	38.0415	94.49	QV				
7+15	38.6963	95.08	QV				
7+20	39.3553	95.69	QV				
7+25	40.0186	96.30	QV				
7+30	40.6861	96.92	QV				
7+35	41.3579	97.55	QV				
7+40	42.0342	98.19	QV				
7+45	42.7149	98.84	Q V				
7+50	43.4001	99.48	Q V				
7+55	44.0896	100.12	Q V				
8+ 0	44.7836	100.76	Q V				
8+ 5	45.4821	101.42	Q V				
8+10	46.1852	102.08	Q V				
8+15	46.8929	102.76	Q V				
8+20	47.6053	103.45	Q V				
8+25	48.3226	104.15	Q V				
8+30	49.0447	104.85	Q V				
8+35	49.7718	105.58	Q V				
8+40	50.5039	106.31	Q V				
8+45	51.2412	107.05	Q V				
8+50	51.9837	107.81	Q V				
8+55	52.7315	108.58	Q V				
9+ 0	53.4848	109.37	Q V				
9+ 5	54.2435	110.17	Q V				
9+10	55.0078	110.98	Q V				
9+15	55.7778	111.81	Q V				
9+20	56.5536	112.65	Q V				
9+25	57.3354	113.51	Q V				
9+30	58.1231	114.38	Q V				
9+35	58.9170	115.27	Q V				
9+40	59.7171	116.18	Q V				
9+45	60.5236	117.11	Q V				
9+50	61.3366	118.05	Q V				
9+55	62.1562	119.01	Q V				
10+ 0	62.9826	119.99	Q V				
10+ 5	63.8159	120.99	Q V				
10+10	64.6562	122.01	Q V				
10+15	65.5037	123.06	Q V				
10+20	66.3584	124.12	Q V				
10+25	67.2208	125.21	Q V				
10+30	68.0907	126.31	Q V				
10+35	68.9684	127.45	Q V				
10+40	69.8542	128.61	Q V				
10+45	70.7481	129.80	Q V				
10+50	71.6503	131.00	Q V				
10+55	72.5611	132.25	Q V				
11+ 0	73.4806	133.51	Q V				
11+ 5	74.4091	134.82	Q V				
11+10	75.3467	136.14	Q V				
11+15	76.2938	137.51	Q V				
11+20	77.2504	138.90	Q V				
11+25	78.2169	140.34	Q V				
11+30	79.1935	141.80	Q V				

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11+35      80.1805    143.31  | Q  V    |          |          |          |
11+40      81.1781    144.85  | Q  V    |          |          |          |
11+45      82.1867    146.44  | Q  V    |          |          |          |
11+50      83.2064    148.07  | Q  V    |          |          |          |
11+55      84.2378    149.75  | Q  V    |          |          |          |
12+ 0      85.2809    151.47  | Q   V   |          |          |          |
12+ 5      86.3363    153.24  | Q   V   |          |          |          |
12+10      87.4042    155.05  | Q   V   |          |          |          |
12+15      88.4849    156.93  | Q   V   |          |          |          |
12+20      89.5789    158.84  | Q   V   |          |          |          |
12+25      90.6865    160.82  | Q   V   |          |          |          |
12+30      91.8080    162.85  | Q   V   |          |          |          |
12+35      92.9441    164.95  | Q   V   |          |          |          |
12+40      94.0949    167.09  | Q   V   |          |          |          |
12+45      95.2609    169.31  | Q   V   |          |          |          |
12+50      96.4426    171.59  | Q   V   |          |          |          |
12+55      97.6407    173.96  | Q   V   |          |          |          |
13+ 0      98.8557    176.42  | Q    V  |          |          |          |
13+ 5     100.0884    178.99  | Q    V  |          |          |          |
13+10     101.3393    181.64  | Q    V  |          |          |          |
13+15     102.6094    184.42  | Q    V  |          |          |          |
13+20     103.8992    187.28  | Q    V  |          |          |          |
13+25     105.2098    190.29  | Q    V  |          |          |          |
13+30     106.5418    193.40  | Q    V  |          |          |          |
13+35     107.8963    196.67  | Q    V  |          |          |          |
13+40     109.2741    200.06  | Q    V  |          |          |          |
13+45     110.6764    203.62  | Q    V  |          |          |          |
13+50     112.1043    207.32  | Q    V  |          |          |          |
13+55     113.5590    211.22  |  Q    V |          |          |          |
14+ 0     115.0416    215.28  |  Q    V |          |          |          |
14+ 5     116.5576    220.11  |  Q    V |          |          |          |
14+10     118.1124    225.77  |  Q    V |          |          |          |
14+15     119.7130    232.40  |  Q    V |          |          |          |
14+20     121.3649    239.86  |  Q    V |          |          |          |
14+25     123.0747    248.26  |  Q    V |          |          |          |
14+30     124.8496    257.72  |  Q    V |          |          |          |
14+35     126.7060    269.54  |  Q    V |          |          |          |
14+40     128.6617    283.97  |   Q    V|          |          |          |
14+45     130.7428    302.18  |   Q    V|          |          |          |
14+50     132.9501    320.49  |   Q    V|          |          |          |
14+55     135.2821    338.61  |   Q    V|          |          |          |
15+ 0     137.7350    356.16  |    Q   V|          |          |          |
15+ 5     140.3060    373.31  |    Q   V|          |          |          |
15+10     142.9929    390.14  |    Q    V          |          |          |
15+15     145.7955    406.94  |    Q    V          |          |          |
15+20     148.7168    424.17  |     Q   V          |          |          |
15+25     151.7583    441.62  |     Q   V          |          |          |
15+30     154.9200    459.08  |     Q   V          |          |          |
15+35     158.2073    477.32  |     Q   |V         |          |          |
15+40     161.6269    496.51  |      Q  |V         |          |          |
15+45     165.1924    517.72  |      Q  |V         |          |          |
15+50     168.9210    541.39  |      Q  |V         |          |          |
15+55     172.8530    570.93  |       Q | V        |          |          |
16+ 0     177.0689    612.15  |       Q | V        |          |          |
16+ 5     182.0900    729.06  |         Q V        |          |          |
16+10     188.0668    867.83  |         | QV       |          |          |
16+15     195.0676   1016.51  |         |  VQ      |          |          |
16+20     203.0361   1157.04  |         |   V Q    |          |          |
16+25     212.0931   1315.07  |         |    V  Q  |          |          |
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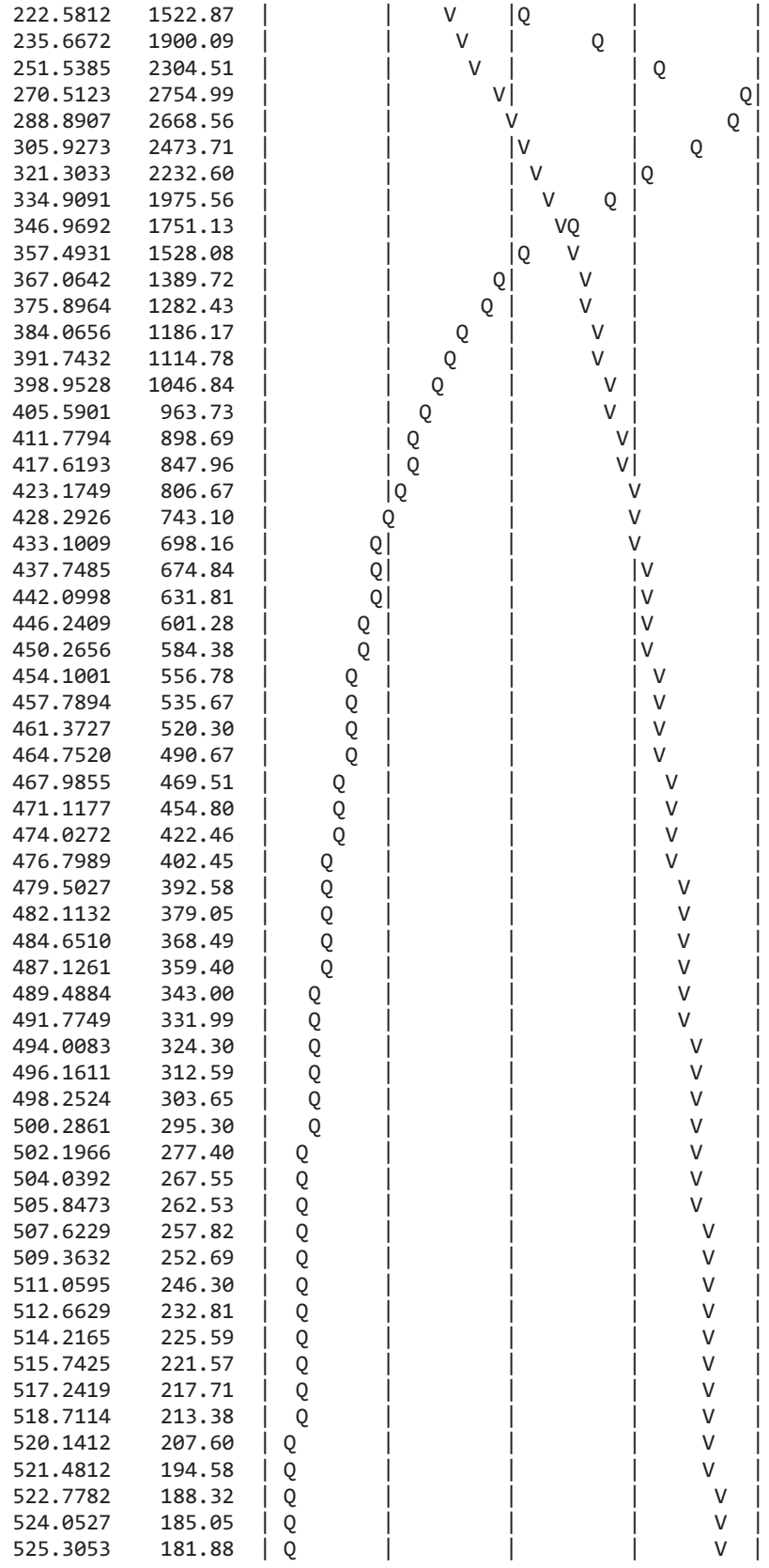
16+30	222.5812	1522.87	
16+35	235.6672	1900.09	
16+40	251.5385	2304.51	
16+45	270.5123	2754.99	
16+50	288.8907	2668.56	
16+55	305.9273	2473.71	
17+ 0	321.3033	2232.60	
17+ 5	334.9091	1975.56	
17+10	346.9692	1751.13	
17+15	357.4931	1528.08	
17+20	367.0642	1389.72	
17+25	375.8964	1282.43	
17+30	384.0656	1186.17	
17+35	391.7432	1114.78	
17+40	398.9528	1046.84	
17+45	405.5901	963.73	
17+50	411.7794	898.69	
17+55	417.6193	847.96	
18+ 0	423.1749	806.67	
18+ 5	428.2926	743.10	
18+10	433.1009	698.16	
18+15	437.7485	674.84	
18+20	442.0998	631.81	
18+25	446.2409	601.28	
18+30	450.2656	584.38	
18+35	454.1001	556.78	
18+40	457.7894	535.67	
18+45	461.3727	520.30	
18+50	464.7520	490.67	
18+55	467.9855	469.51	
19+ 0	471.1177	454.80	
19+ 5	474.0272	422.46	
19+10	476.7989	402.45	
19+15	479.5027	392.58	
19+20	482.1132	379.05	
19+25	484.6510	368.49	
19+30	487.1261	359.40	
19+35	489.4884	343.00	
19+40	491.7749	331.99	
19+45	494.0083	324.30	
19+50	496.1611	312.59	
19+55	498.2524	303.65	
20+ 0	500.2861	295.30	
20+ 5	502.1966	277.40	
20+10	504.0392	267.55	
20+15	505.8473	262.53	
20+20	507.6229	257.82	
20+25	509.3632	252.69	
20+30	511.0595	246.30	
20+35	512.6629	232.81	
20+40	514.2165	225.59	
20+45	515.7425	221.57	
20+50	517.2419	217.71	
20+55	518.7114	213.38	
21+ 0	520.1412	207.60	
21+ 5	521.4812	194.58	
21+10	522.7782	188.32	
21+15	524.0527	185.05	
21+20	525.3053	181.88	

21+25	526.5321	178.13	Q				V
21+30	527.7229	172.90	Q				V
21+35	528.8315	160.97	Q				V
21+40	529.9046	155.81	Q				V
21+45	530.9607	153.35	Q				V
21+50	532.0017	151.15	Q				V
21+55	533.0285	149.10	Q				V
22+ 0	534.0444	147.50	Q				V
22+ 5	535.0603	147.51	Q				V
22+10	536.0665	146.10	Q				V
22+15	537.0597	144.21	Q				V
22+20	538.0399	142.33	Q				V
22+25	539.0078	140.53	Q				V
22+30	539.9632	138.73	Q				V
22+35	540.9056	136.84	Q				V
22+40	541.8360	135.09	Q				V
22+45	542.7541	133.31	Q				V
22+50	543.6589	131.38	Q				V
22+55	544.5471	128.96	Q				V
23+ 0	545.4083	125.05	Q				V
23+ 5	546.2087	116.22	Q				V
23+10	546.9877	113.12	Q				V
23+15	547.7555	111.49	Q				V
23+20	548.5129	109.97	Q				V
23+25	549.2595	108.41	Q				V
23+30	549.9954	106.85	Q				V
23+35	550.7201	105.23	Q				V
23+40	551.4317	103.33	Q				V
23+45	552.1261	100.82	Q				V
23+50	552.7756	94.31	Q				V
23+55	553.3774	87.39	Q				V
24+ 0	553.9687	85.85	Q				V
24+ 5	554.5499	84.40	Q				V
24+10	555.1195	82.70	Q				V
24+15	555.6752	80.69	Q				V
24+20	556.2156	78.46	Q				V
24+25	556.7391	76.01	Q				V
24+30	557.2435	73.24	Q				V
24+35	557.7227	69.58	Q				V
24+40	558.1695	64.88	Q				V
24+45	558.5735	58.66	Q				V
24+50	558.9369	52.76	Q				V
24+55	559.2637	47.46	Q				V
25+ 0	559.5586	42.82	Q				V
25+ 5	559.8265	38.90	Q				V
25+10	560.0716	35.58	Q				V
25+15	560.2981	32.90	Q				V
25+20	560.5086	30.56	Q				V
25+25	560.7047	28.47	Q				V
25+30	560.8880	26.61	Q				V
25+35	561.0594	24.89	Q				V
25+40	561.2198	23.29	Q				V
25+45	561.3704	21.87	Q				V
25+50	561.5120	20.56	Q				V
25+55	561.6452	19.34	Q				V
26+ 0	561.7703	18.17	Q				V
26+ 5	561.8884	17.13	Q				V
26+10	561.9999	16.19	Q				V
26+15	562.1050	15.26	Q				V

26+20	562.2044	14.43	Q	|	|	|	V|
26+25	562.2985	13.66	Q	|	|	|	V|
26+30	562.3873	12.89	Q	|	|	|	V|
26+35	562.4712	12.19	Q	|	|	|	V|
26+40	562.5505	11.51	Q	|	|	|	V|
26+45	562.6252	10.85	Q	|	|	|	V|
26+50	562.6957	10.25	Q	|	|	|	V|
26+55	562.7624	9.68	Q	|	|	|	V|
27+ 0	562.8253	9.13	Q	|	|	|	V|
27+ 5	562.8849	8.66	Q	|	|	|	V|
27+10	562.9416	8.23	Q	|	|	|	V|
27+15	562.9953	7.80	Q	|	|	|	V|
27+20	563.0462	7.40	Q	|	|	|	V|
27+25	563.0945	7.00	Q	|	|	|	V|
27+30	563.1401	6.62	Q	|	|	|	V|
27+35	563.1832	6.27	Q	|	|	|	V|
27+40	563.2241	5.94	Q	|	|	|	V|
27+45	563.2627	5.61	Q	|	|	|	V|
27+50	563.2992	5.30	Q	|	|	|	V|
27+55	563.3337	5.00	Q	|	|	|	V|
28+ 0	563.3662	4.71	Q	|	|	|	V|
28+ 5	563.3969	4.47	Q	|	|	|	V|
28+10	563.4261	4.24	Q	|	|	|	V|
28+15	563.4537	4.01	Q	|	|	|	V|
28+20	563.4798	3.79	Q	|	|	|	V|
28+25	563.5043	3.57	Q	|	|	|	V|
28+30	563.5274	3.35	Q	|	|	|	V|
28+35	563.5492	3.16	Q	|	|	|	V|
28+40	563.5698	2.99	Q	|	|	|	V|
28+45	563.5892	2.82	Q	|	|	|	V|
28+50	563.6075	2.65	Q	|	|	|	V|
28+55	563.6246	2.49	Q	|	|	|	V|
29+ 0	563.6406	2.32	Q	|	|	|	V|
29+ 5	563.6557	2.19	Q	|	|	|	V|
29+10	563.6700	2.08	Q	|	|	|	V|
29+15	563.6835	1.96	Q	|	|	|	V|
29+20	563.6962	1.84	Q	|	|	|	V|
29+25	563.7081	1.73	Q	|	|	|	V|
29+30	563.7193	1.62	Q	|	|	|	V|
29+35	563.7299	1.54	Q	|	|	|	V|
29+40	563.7400	1.47	Q	|	|	|	V|
29+45	563.7496	1.40	Q	|	|	|	V|
29+50	563.7588	1.33	Q	|	|	|	V|
29+55	563.7675	1.26	Q	|	|	|	V|
30+ 0	563.7757	1.19	Q	|	|	|	V|
30+ 5	563.7834	1.12	Q	|	|	|	V|
30+10	563.7906	1.05	Q	|	|	|	V|
30+15	563.7973	0.97	Q	|	|	|	V|
30+20	563.8035	0.90	Q	|	|	|	V|
30+25	563.8092	0.82	Q	|	|	|	V|
30+30	563.8143	0.75	Q	|	|	|	V|
30+35	563.8190	0.68	Q	|	|	|	V|
30+40	563.8232	0.61	Q	|	|	|	V|
30+45	563.8269	0.54	Q	|	|	|	V|
30+50	563.8302	0.47	Q	|	|	|	V|
30+55	563.8330	0.40	Q	|	|	|	V|
31+ 0	563.8353	0.34	Q	|	|	|	V|
31+ 5	563.8373	0.30	Q	|	|	|	V|
31+10	563.8391	0.26	Q	|	|	|	V|

```
   31+15     563.8407      0.23  Q         |         |         |        V|
   31+20     563.8420      0.19  Q         |         |         |        V|
   31+25     563.8431      0.16  Q         |         |         |        V|
   31+30     563.8439      0.12  Q         |         |         |        V|
   31+35     563.8445      0.09  Q         |         |         |        V|
   31+40     563.8449      0.05  Q         |         |         |        V|
   31+45     563.8450      0.02  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 48
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
764.55	1	1.40
Rainfall data for year 100		
764.55	6	1.85
Rainfall data for year 100		
764.55	24	2.62

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
70.7	87.6	764.55	1.000	0.237	0.894	0.212

Area-averaged adjusted loss rate Fm (In/Hr) = 0.212

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
683.20	0.894	70.7	87.6	1.42	0.554
81.35	0.106	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.592
Area-averaged low loss fraction, Yb = 0.408
++
Watercourse length = 20795.00(Ft.)
Length from concentration point to centroid = 10119.00(Ft.)
Elevation difference along watercourse = 58.10(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 764.55(Ac.)
Catchment Lag time = 1.086 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.6744
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.212(In/Hr)
Average low loss rate fraction (Yb) = 0.408 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.661(In)
Specified peak 6-hour rainfall = 1.850(In)
Specified peak 24-hour rainfall = 2.620(In)

Rainfall depth area reduction factors:
Using a total area of 764.55(Ac.) (Ref: fig. E-4)

5-minute factor = 0.964 Adjusted rainfall = 0.641(In)
30-minute factor = 0.964 Adjusted rainfall = 1.096(In)
1-hour factor = 0.964 Adjusted rainfall = 1.350(In)
3-hour factor = 0.995 Adjusted rainfall = 1.653(In)
6-hour factor = 0.998 Adjusted rainfall = 1.846(In)
24-hour factor = 0.999 Adjusted rainfall = 2.617(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 9246.28 (CFS))	
1	0.338	31.222
2	1.055	66.356
3	2.223	107.990
4	3.682	134.858
5	5.569	174.501
6	7.882	213.896
7	10.735	263.782
8	15.337	425.521
9	21.329	553.991
10	29.124	720.728

11	36.078	643.007
12	42.350	579.965
13	47.395	466.497
14	51.874	414.107
15	55.805	363.422
16	58.978	293.445
17	61.785	259.530
18	64.201	223.393
19	66.382	201.643
20	68.389	185.575
21	70.258	172.837
22	71.995	160.626
23	73.531	142.020
24	74.941	130.380
25	76.282	123.973
26	77.577	119.742
27	78.745	107.940
28	79.758	93.714
29	80.771	93.667
30	81.741	89.708
31	82.580	77.499
32	83.408	76.637
33	84.229	75.870
34	84.981	69.533
35	85.718	68.122
36	86.453	67.964
37	87.109	60.710
38	87.723	56.768
39	88.337	56.768
40	88.888	50.903
41	89.349	42.635
42	89.809	42.576
43	90.263	41.973
44	90.695	39.910
45	91.125	39.738
46	91.550	39.297
47	91.929	35.103
48	92.298	34.061
49	92.666	34.034
50	93.015	32.281
51	93.353	31.222
52	93.690	31.222
53	93.998	28.482
54	94.260	24.178
55	94.521	24.126
56	94.782	24.126
57	95.043	24.126
58	95.304	24.126
59	95.560	23.751
60	95.772	19.599
61	95.972	18.450
62	96.171	18.450
63	96.371	18.450
64	96.570	18.450
65	96.770	18.450
66	96.947	16.406
67	97.086	12.838
68	97.224	12.773
69	97.363	12.773

70	97.501	12.773
71	97.639	12.773
72	97.774	12.457
73	97.864	8.357
74	97.941	7.096
75	98.017	7.096
76	98.094	7.096
77	98.171	7.096
78	98.248	7.096
79	98.330	7.571
80	98.421	8.492
81	98.514	8.515
82	98.606	8.515
83	98.698	8.515
84	98.790	8.515
85	98.882	8.515
86	98.974	8.515
87	99.066	8.515
88	99.158	8.515
89	99.250	8.515
90	99.342	8.515
91	99.434	8.515
92	99.513	7.248
93	99.562	4.527
94	99.610	4.435
95	99.658	4.435
96	99.706	4.435
97	99.754	4.435
98	99.802	4.435
99	99.850	4.435
100	99.898	4.435
101	99.946	4.435
102	100.000	2.217

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6405	0.6405
2	0.7886	0.1480
3	0.8906	0.1020
4	0.9708	0.0803
5	1.0380	0.0672
6	1.0964	0.0584
7	1.1483	0.0519
8	1.1952	0.0469
9	1.2382	0.0430
10	1.2780	0.0398
11	1.3150	0.0371
12	1.3498	0.0348
13	1.3699	0.0201
14	1.3888	0.0189
15	1.4066	0.0178
16	1.4235	0.0169
17	1.4395	0.0160
18	1.4548	0.0153
19	1.4694	0.0146
20	1.4833	0.0140
21	1.4968	0.0134
22	1.5097	0.0129
23	1.5221	0.0124

24	1.5341	0.0120
25	1.5457	0.0116
26	1.5570	0.0112
27	1.5678	0.0109
28	1.5784	0.0106
29	1.5887	0.0103
30	1.5986	0.0100
31	1.6083	0.0097
32	1.6178	0.0095
33	1.6270	0.0092
34	1.6360	0.0090
35	1.6448	0.0088
36	1.6534	0.0086
37	1.6606	0.0072
38	1.6676	0.0070
39	1.6745	0.0069
40	1.6812	0.0067
41	1.6878	0.0066
42	1.6943	0.0065
43	1.7006	0.0063
44	1.7069	0.0062
45	1.7130	0.0061
46	1.7189	0.0060
47	1.7248	0.0059
48	1.7306	0.0058
49	1.7363	0.0057
50	1.7418	0.0056
51	1.7473	0.0055
52	1.7527	0.0054
53	1.7580	0.0053
54	1.7632	0.0052
55	1.7684	0.0051
56	1.7734	0.0051
57	1.7784	0.0050
58	1.7833	0.0049
59	1.7882	0.0048
60	1.7930	0.0048
61	1.7977	0.0047
62	1.8023	0.0046
63	1.8069	0.0046
64	1.8114	0.0045
65	1.8159	0.0045
66	1.8203	0.0044
67	1.8246	0.0043
68	1.8289	0.0043
69	1.8332	0.0042
70	1.8373	0.0042
71	1.8415	0.0041
72	1.8456	0.0041
73	1.8520	0.0064
74	1.8584	0.0064
75	1.8647	0.0063
76	1.8709	0.0062
77	1.8771	0.0062
78	1.8832	0.0061
79	1.8892	0.0061
80	1.8952	0.0060
81	1.9012	0.0059
82	1.9071	0.0059

83	1.9129	0.0058
84	1.9187	0.0058
85	1.9244	0.0057
86	1.9301	0.0057
87	1.9357	0.0056
88	1.9413	0.0056
89	1.9469	0.0055
90	1.9524	0.0055
91	1.9578	0.0054
92	1.9632	0.0054
93	1.9686	0.0054
94	1.9739	0.0053
95	1.9791	0.0053
96	1.9844	0.0052
97	1.9896	0.0052
98	1.9947	0.0052
99	1.9998	0.0051
100	2.0049	0.0051
101	2.0099	0.0050
102	2.0149	0.0050
103	2.0199	0.0050
104	2.0248	0.0049
105	2.0297	0.0049
106	2.0346	0.0049
107	2.0394	0.0048
108	2.0442	0.0048
109	2.0489	0.0048
110	2.0537	0.0047
111	2.0583	0.0047
112	2.0630	0.0047
113	2.0676	0.0046
114	2.0722	0.0046
115	2.0768	0.0046
116	2.0813	0.0045
117	2.0858	0.0045
118	2.0903	0.0045
119	2.0948	0.0045
120	2.0992	0.0044
121	2.1036	0.0044
122	2.1080	0.0044
123	2.1123	0.0043
124	2.1166	0.0043
125	2.1209	0.0043
126	2.1252	0.0043
127	2.1294	0.0042
128	2.1336	0.0042
129	2.1378	0.0042
130	2.1420	0.0042
131	2.1461	0.0041
132	2.1502	0.0041
133	2.1543	0.0041
134	2.1584	0.0041
135	2.1624	0.0040
136	2.1665	0.0040
137	2.1705	0.0040
138	2.1745	0.0040
139	2.1784	0.0040
140	2.1824	0.0039
141	2.1863	0.0039

142	2.1902	0.0039
143	2.1941	0.0039
144	2.1979	0.0039
145	2.2017	0.0038
146	2.2056	0.0038
147	2.2094	0.0038
148	2.2131	0.0038
149	2.2169	0.0038
150	2.2206	0.0037
151	2.2244	0.0037
152	2.2281	0.0037
153	2.2318	0.0037
154	2.2354	0.0037
155	2.2391	0.0036
156	2.2427	0.0036
157	2.2463	0.0036
158	2.2499	0.0036
159	2.2535	0.0036
160	2.2571	0.0036
161	2.2606	0.0035
162	2.2641	0.0035
163	2.2677	0.0035
164	2.2712	0.0035
165	2.2746	0.0035
166	2.2781	0.0035
167	2.2816	0.0035
168	2.2850	0.0034
169	2.2884	0.0034
170	2.2918	0.0034
171	2.2952	0.0034
172	2.2986	0.0034
173	2.3019	0.0034
174	2.3053	0.0033
175	2.3086	0.0033
176	2.3119	0.0033
177	2.3152	0.0033
178	2.3185	0.0033
179	2.3218	0.0033
180	2.3251	0.0033
181	2.3283	0.0032
182	2.3316	0.0032
183	2.3348	0.0032
184	2.3380	0.0032
185	2.3412	0.0032
186	2.3444	0.0032
187	2.3475	0.0032
188	2.3507	0.0032
189	2.3538	0.0031
190	2.3570	0.0031
191	2.3601	0.0031
192	2.3632	0.0031
193	2.3663	0.0031
194	2.3694	0.0031
195	2.3725	0.0031
196	2.3755	0.0031
197	2.3786	0.0030
198	2.3816	0.0030
199	2.3846	0.0030
200	2.3876	0.0030

201	2.3906	0.0030
202	2.3936	0.0030
203	2.3966	0.0030
204	2.3996	0.0030
205	2.4026	0.0030
206	2.4055	0.0029
207	2.4084	0.0029
208	2.4114	0.0029
209	2.4143	0.0029
210	2.4172	0.0029
211	2.4201	0.0029
212	2.4230	0.0029
213	2.4258	0.0029
214	2.4287	0.0029
215	2.4316	0.0029
216	2.4344	0.0028
217	2.4372	0.0028
218	2.4401	0.0028
219	2.4429	0.0028
220	2.4457	0.0028
221	2.4485	0.0028
222	2.4513	0.0028
223	2.4541	0.0028
224	2.4568	0.0028
225	2.4596	0.0028
226	2.4623	0.0028
227	2.4651	0.0027
228	2.4678	0.0027
229	2.4705	0.0027
230	2.4733	0.0027
231	2.4760	0.0027
232	2.4787	0.0027
233	2.4813	0.0027
234	2.4840	0.0027
235	2.4867	0.0027
236	2.4894	0.0027
237	2.4920	0.0027
238	2.4947	0.0026
239	2.4973	0.0026
240	2.4999	0.0026
241	2.5026	0.0026
242	2.5052	0.0026
243	2.5078	0.0026
244	2.5104	0.0026
245	2.5130	0.0026
246	2.5155	0.0026
247	2.5181	0.0026
248	2.5207	0.0026
249	2.5232	0.0026
250	2.5258	0.0026
251	2.5283	0.0025
252	2.5309	0.0025
253	2.5334	0.0025
254	2.5359	0.0025
255	2.5384	0.0025
256	2.5409	0.0025
257	2.5434	0.0025
258	2.5459	0.0025
259	2.5484	0.0025

260	2.5509	0.0025
261	2.5533	0.0025
262	2.5558	0.0025
263	2.5583	0.0025
264	2.5607	0.0024
265	2.5632	0.0024
266	2.5656	0.0024
267	2.5680	0.0024
268	2.5704	0.0024
269	2.5729	0.0024
270	2.5753	0.0024
271	2.5777	0.0024
272	2.5801	0.0024
273	2.5824	0.0024
274	2.5848	0.0024
275	2.5872	0.0024
276	2.5896	0.0024
277	2.5919	0.0024
278	2.5943	0.0024
279	2.5966	0.0023
280	2.5990	0.0023
281	2.6013	0.0023
282	2.6036	0.0023
283	2.6060	0.0023
284	2.6083	0.0023
285	2.6106	0.0023
286	2.6129	0.0023
287	2.6152	0.0023
288	2.6175	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0009	0.0014
2	0.0023	0.0009	0.0014
3	0.0023	0.0009	0.0014
4	0.0023	0.0009	0.0014
5	0.0023	0.0009	0.0014
6	0.0023	0.0010	0.0014
7	0.0023	0.0010	0.0014
8	0.0024	0.0010	0.0014
9	0.0024	0.0010	0.0014
10	0.0024	0.0010	0.0014
11	0.0024	0.0010	0.0014
12	0.0024	0.0010	0.0014
13	0.0024	0.0010	0.0014
14	0.0024	0.0010	0.0014
15	0.0024	0.0010	0.0014
16	0.0024	0.0010	0.0014
17	0.0024	0.0010	0.0015
18	0.0025	0.0010	0.0015
19	0.0025	0.0010	0.0015
20	0.0025	0.0010	0.0015
21	0.0025	0.0010	0.0015
22	0.0025	0.0010	0.0015
23	0.0025	0.0010	0.0015
24	0.0025	0.0010	0.0015
25	0.0025	0.0010	0.0015

26	0.0025	0.0010	0.0015
27	0.0026	0.0010	0.0015
28	0.0026	0.0010	0.0015
29	0.0026	0.0011	0.0015
30	0.0026	0.0011	0.0015
31	0.0026	0.0011	0.0015
32	0.0026	0.0011	0.0015
33	0.0026	0.0011	0.0016
34	0.0026	0.0011	0.0016
35	0.0027	0.0011	0.0016
36	0.0027	0.0011	0.0016
37	0.0027	0.0011	0.0016
38	0.0027	0.0011	0.0016
39	0.0027	0.0011	0.0016
40	0.0027	0.0011	0.0016
41	0.0027	0.0011	0.0016
42	0.0027	0.0011	0.0016
43	0.0028	0.0011	0.0016
44	0.0028	0.0011	0.0016
45	0.0028	0.0011	0.0017
46	0.0028	0.0011	0.0017
47	0.0028	0.0011	0.0017
48	0.0028	0.0012	0.0017
49	0.0028	0.0012	0.0017
50	0.0029	0.0012	0.0017
51	0.0029	0.0012	0.0017
52	0.0029	0.0012	0.0017
53	0.0029	0.0012	0.0017
54	0.0029	0.0012	0.0017
55	0.0029	0.0012	0.0017
56	0.0029	0.0012	0.0017
57	0.0030	0.0012	0.0018
58	0.0030	0.0012	0.0018
59	0.0030	0.0012	0.0018
60	0.0030	0.0012	0.0018
61	0.0030	0.0012	0.0018
62	0.0030	0.0012	0.0018
63	0.0031	0.0013	0.0018
64	0.0031	0.0013	0.0018
65	0.0031	0.0013	0.0018
66	0.0031	0.0013	0.0018
67	0.0031	0.0013	0.0019
68	0.0032	0.0013	0.0019
69	0.0032	0.0013	0.0019
70	0.0032	0.0013	0.0019
71	0.0032	0.0013	0.0019
72	0.0032	0.0013	0.0019
73	0.0033	0.0013	0.0019
74	0.0033	0.0013	0.0019
75	0.0033	0.0013	0.0020
76	0.0033	0.0014	0.0020
77	0.0033	0.0014	0.0020
78	0.0034	0.0014	0.0020
79	0.0034	0.0014	0.0020
80	0.0034	0.0014	0.0020
81	0.0034	0.0014	0.0020
82	0.0035	0.0014	0.0020
83	0.0035	0.0014	0.0021
84	0.0035	0.0014	0.0021

85	0.0035	0.0014	0.0021
86	0.0035	0.0014	0.0021
87	0.0036	0.0015	0.0021
88	0.0036	0.0015	0.0021
89	0.0036	0.0015	0.0022
90	0.0036	0.0015	0.0022
91	0.0037	0.0015	0.0022
92	0.0037	0.0015	0.0022
93	0.0037	0.0015	0.0022
94	0.0038	0.0015	0.0022
95	0.0038	0.0015	0.0023
96	0.0038	0.0016	0.0023
97	0.0039	0.0016	0.0023
98	0.0039	0.0016	0.0023
99	0.0039	0.0016	0.0023
100	0.0039	0.0016	0.0023
101	0.0040	0.0016	0.0024
102	0.0040	0.0016	0.0024
103	0.0040	0.0017	0.0024
104	0.0041	0.0017	0.0024
105	0.0041	0.0017	0.0024
106	0.0041	0.0017	0.0025
107	0.0042	0.0017	0.0025
108	0.0042	0.0017	0.0025
109	0.0043	0.0017	0.0025
110	0.0043	0.0017	0.0025
111	0.0043	0.0018	0.0026
112	0.0044	0.0018	0.0026
113	0.0044	0.0018	0.0026
114	0.0045	0.0018	0.0026
115	0.0045	0.0018	0.0027
116	0.0045	0.0018	0.0027
117	0.0046	0.0019	0.0027
118	0.0046	0.0019	0.0027
119	0.0047	0.0019	0.0028
120	0.0047	0.0019	0.0028
121	0.0048	0.0020	0.0028
122	0.0048	0.0020	0.0029
123	0.0049	0.0020	0.0029
124	0.0049	0.0020	0.0029
125	0.0050	0.0020	0.0030
126	0.0050	0.0021	0.0030
127	0.0051	0.0021	0.0030
128	0.0052	0.0021	0.0031
129	0.0052	0.0021	0.0031
130	0.0053	0.0021	0.0031
131	0.0054	0.0022	0.0032
132	0.0054	0.0022	0.0032
133	0.0055	0.0022	0.0033
134	0.0055	0.0023	0.0033
135	0.0056	0.0023	0.0033
136	0.0057	0.0023	0.0034
137	0.0058	0.0024	0.0034
138	0.0058	0.0024	0.0035
139	0.0059	0.0024	0.0035
140	0.0060	0.0024	0.0036
141	0.0061	0.0025	0.0036
142	0.0062	0.0025	0.0037
143	0.0063	0.0026	0.0037

144	0.0064	0.0026	0.0038
145	0.0041	0.0017	0.0024
146	0.0041	0.0017	0.0025
147	0.0042	0.0017	0.0025
148	0.0043	0.0018	0.0025
149	0.0044	0.0018	0.0026
150	0.0045	0.0018	0.0026
151	0.0046	0.0019	0.0027
152	0.0046	0.0019	0.0028
153	0.0048	0.0019	0.0028
154	0.0048	0.0020	0.0029
155	0.0050	0.0020	0.0030
156	0.0051	0.0021	0.0030
157	0.0052	0.0021	0.0031
158	0.0053	0.0022	0.0031
159	0.0055	0.0022	0.0032
160	0.0056	0.0023	0.0033
161	0.0058	0.0024	0.0034
162	0.0059	0.0024	0.0035
163	0.0061	0.0025	0.0036
164	0.0062	0.0025	0.0037
165	0.0065	0.0026	0.0038
166	0.0066	0.0027	0.0039
167	0.0069	0.0028	0.0041
168	0.0070	0.0029	0.0042
169	0.0086	0.0035	0.0051
170	0.0088	0.0036	0.0052
171	0.0092	0.0038	0.0055
172	0.0095	0.0039	0.0056
173	0.0100	0.0041	0.0059
174	0.0103	0.0042	0.0061
175	0.0109	0.0044	0.0064
176	0.0112	0.0046	0.0067
177	0.0120	0.0049	0.0071
178	0.0124	0.0051	0.0074
179	0.0134	0.0055	0.0080
180	0.0140	0.0057	0.0083
181	0.0153	0.0062	0.0090
182	0.0160	0.0065	0.0095
183	0.0178	0.0073	0.0105
184	0.0189	0.0077	0.0112
185	0.0348	0.0142	0.0206
186	0.0371	0.0151	0.0220
187	0.0430	0.0175	0.0255
188	0.0469	0.0176	0.0293
189	0.0584	0.0176	0.0407
190	0.0672	0.0176	0.0496
191	0.1020	0.0176	0.0843
192	0.1480	0.0176	0.1304
193	0.6405	0.0176	0.6229
194	0.0803	0.0176	0.0626
195	0.0519	0.0176	0.0342
196	0.0398	0.0162	0.0236
197	0.0201	0.0082	0.0119
198	0.0169	0.0069	0.0100
199	0.0146	0.0059	0.0086
200	0.0129	0.0053	0.0076
201	0.0116	0.0047	0.0069
202	0.0106	0.0043	0.0063

203	0.0097	0.0040	0.0058
204	0.0090	0.0037	0.0053
205	0.0072	0.0029	0.0043
206	0.0067	0.0027	0.0040
207	0.0063	0.0026	0.0038
208	0.0060	0.0024	0.0035
209	0.0057	0.0023	0.0034
210	0.0054	0.0022	0.0032
211	0.0051	0.0021	0.0030
212	0.0049	0.0020	0.0029
213	0.0047	0.0019	0.0028
214	0.0045	0.0018	0.0027
215	0.0043	0.0018	0.0026
216	0.0042	0.0017	0.0025
217	0.0064	0.0026	0.0038
218	0.0062	0.0025	0.0037
219	0.0061	0.0025	0.0036
220	0.0059	0.0024	0.0035
221	0.0057	0.0023	0.0034
222	0.0056	0.0023	0.0033
223	0.0054	0.0022	0.0032
224	0.0053	0.0022	0.0031
225	0.0052	0.0021	0.0031
226	0.0051	0.0021	0.0030
227	0.0050	0.0020	0.0029
228	0.0049	0.0020	0.0029
229	0.0048	0.0019	0.0028
230	0.0047	0.0019	0.0028
231	0.0046	0.0019	0.0027
232	0.0045	0.0018	0.0027
233	0.0044	0.0018	0.0026
234	0.0043	0.0018	0.0026
235	0.0042	0.0017	0.0025
236	0.0042	0.0017	0.0025
237	0.0041	0.0017	0.0024
238	0.0040	0.0016	0.0024
239	0.0040	0.0016	0.0023
240	0.0039	0.0016	0.0023
241	0.0038	0.0016	0.0023
242	0.0038	0.0015	0.0022
243	0.0037	0.0015	0.0022
244	0.0037	0.0015	0.0022
245	0.0036	0.0015	0.0021
246	0.0036	0.0015	0.0021
247	0.0035	0.0014	0.0021
248	0.0035	0.0014	0.0021
249	0.0034	0.0014	0.0020
250	0.0034	0.0014	0.0020
251	0.0033	0.0014	0.0020
252	0.0033	0.0013	0.0019
253	0.0032	0.0013	0.0019
254	0.0032	0.0013	0.0019
255	0.0032	0.0013	0.0019
256	0.0031	0.0013	0.0019
257	0.0031	0.0013	0.0018
258	0.0031	0.0012	0.0018
259	0.0030	0.0012	0.0018
260	0.0030	0.0012	0.0018
261	0.0030	0.0012	0.0018

262	0.0029	0.0012	0.0017
263	0.0029	0.0012	0.0017
264	0.0029	0.0012	0.0017
265	0.0028	0.0012	0.0017
266	0.0028	0.0011	0.0017
267	0.0028	0.0011	0.0016
268	0.0028	0.0011	0.0016
269	0.0027	0.0011	0.0016
270	0.0027	0.0011	0.0016
271	0.0027	0.0011	0.0016
272	0.0026	0.0011	0.0016
273	0.0026	0.0011	0.0016
274	0.0026	0.0011	0.0015
275	0.0026	0.0010	0.0015
276	0.0026	0.0010	0.0015
277	0.0025	0.0010	0.0015
278	0.0025	0.0010	0.0015
279	0.0025	0.0010	0.0015
280	0.0025	0.0010	0.0015
281	0.0024	0.0010	0.0014
282	0.0024	0.0010	0.0014
283	0.0024	0.0010	0.0014
284	0.0024	0.0010	0.0014
285	0.0024	0.0010	0.0014
286	0.0023	0.0010	0.0014
287	0.0023	0.0009	0.0014
288	0.0023	0.0009	0.0014

Total soil rain loss = 0.72(In)
Total effective rainfall = 1.90(In)
Peak flow rate in flood hydrograph = 732.31(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	200.0	400.0	600.0	800.0
0+ 5	0.0003	0.04	Q	|	|	|	|
0+10	0.0012	0.13	Q	|	|	|	|
0+15	0.0031	0.28	Q	|	|	|	|
0+20	0.0063	0.46	Q	|	|	|	|
0+25	0.0112	0.70	Q	|	|	|	|
0+30	0.0180	1.00	Q	|	|	|	|
0+35	0.0274	1.36	Q	|	|	|	|
0+40	0.0408	1.94	Q	|	|	|	|
0+45	0.0594	2.70	Q	|	|	|	|
0+50	0.0848	3.69	Q	|	|	|	|
0+55	0.1163	4.58	Q	|	|	|	|
1+ 0	0.1534	5.39	Q	|	|	|	|
1+ 5	0.1950	6.04	Q	|	|	|	|
1+10	0.2407	6.63	Q	|	|	|	|
1+15	0.2899	7.15	Q	|	|	|	|
1+20	0.3420	7.57	Q	|	|	|	|
1+25	0.3968	7.96	Q	|	|	|	|

1+30	0.4539	8.29	Q				
1+35	0.5132	8.60	Q				
1+40	0.5744	8.89	Q				
1+45	0.6375	9.16	Q				
1+50	0.7023	9.41	Q				
1+55	0.7687	9.65	Q				
2+ 0	0.8367	9.86	Q				
2+ 5	0.9060	10.07	Q				
2+10	0.9768	10.28	Q				
2+15	1.0489	10.47	Q				
2+20	1.1222	10.64	Q				
2+25	1.1966	10.81	Q				
2+30	1.2723	10.98	Q				
2+35	1.3489	11.13	Q				
2+40	1.4266	11.28	Q				
2+45	1.5054	11.44	Q				
2+50	1.5851	11.58	Q				
2+55	1.6659	11.72	Q				
3+ 0	1.7476	11.87	Q				
3+ 5	1.8303	12.00	Q				
3+10	1.9138	12.13	Q				
3+15	1.9983	12.26	Q				
3+20	2.0836	12.39	Q				
3+25	2.1697	12.50	Q				
3+30	2.2566	12.62	Q				
3+35	2.3443	12.73	Q				
3+40	2.4327	12.84	Q				
3+45	2.5220	12.96	Q				
3+50	2.6120	13.07	Q				
3+55	2.7028	13.18	Q				
4+ 0	2.7943	13.29	Q				
4+ 5	2.8865	13.40	Q				
4+10	2.9795	13.50	Q				
4+15	3.0733	13.61	QV				
4+20	3.1678	13.72	QV				
4+25	3.2630	13.82	QV				
4+30	3.3589	13.92	QV				
4+35	3.4554	14.02	QV				
4+40	3.5527	14.13	QV				
4+45	3.6507	14.23	QV				
4+50	3.7494	14.33	QV				
4+55	3.8489	14.44	QV				
5+ 0	3.9490	14.54	QV				
5+ 5	4.0498	14.63	QV				
5+10	4.1512	14.73	QV				
5+15	4.2534	14.84	QV				
5+20	4.3563	14.94	QV				
5+25	4.4599	15.04	QV				
5+30	4.5641	15.14	QV				
5+35	4.6691	15.24	QV				
5+40	4.7747	15.34	QV				
5+45	4.8810	15.44	QV				
5+50	4.9880	15.54	QV				
5+55	5.0958	15.64	QV				
6+ 0	5.2042	15.74	QV				
6+ 5	5.3133	15.84	QV				
6+10	5.4230	15.94	QV				
6+15	5.5335	16.04	QV				
6+20	5.6446	16.14	QV				

6+25	5.7564	16.24	QV	|	|	|	|
6+30	5.8689	16.34	QV	|	|	|	|
6+35	5.9822	16.44	QV	|	|	|	|
6+40	6.0962	16.55	Q V	|	|	|	|
6+45	6.2109	16.66	Q V	|	|	|	|
6+50	6.3264	16.77	Q V	|	|	|	|
6+55	6.4426	16.88	Q V	|	|	|	|
7+ 0	6.5597	16.99	Q V	|	|	|	|
7+ 5	6.6775	17.11	Q V	|	|	|	|
7+10	6.7961	17.22	Q V	|	|	|	|
7+15	6.9155	17.34	Q V	|	|	|	|
7+20	7.0358	17.46	Q V	|	|	|	|
7+25	7.1568	17.58	Q V	|	|	|	|
7+30	7.2787	17.70	Q V	|	|	|	|
7+35	7.4015	17.82	Q V	|	|	|	|
7+40	7.5251	17.95	Q V	|	|	|	|
7+45	7.6495	18.07	Q V	|	|	|	|
7+50	7.7748	18.19	Q V	|	|	|	|
7+55	7.9010	18.32	Q V	|	|	|	|
8+ 0	8.0281	18.45	Q V	|	|	|	|
8+ 5	8.1560	18.58	Q V	|	|	|	|
8+10	8.2848	18.71	Q V	|	|	|	|
8+15	8.4146	18.84	Q V	|	|	|	|
8+20	8.5452	18.98	Q V	|	|	|	|
8+25	8.6769	19.11	Q V	|	|	|	|
8+30	8.8094	19.25	Q V	|	|	|	|
8+35	8.9429	19.38	Q V	|	|	|	|
8+40	9.0774	19.52	Q V	|	|	|	|
8+45	9.2128	19.66	Q V	|	|	|	|
8+50	9.3492	19.81	Q V	|	|	|	|
8+55	9.4866	19.95	Q V	|	|	|	|
9+ 0	9.6251	20.10	|Q V	|	|	|	|
9+ 5	9.7645	20.25	|Q V	|	|	|	|
9+10	9.9050	20.40	|Q V	|	|	|	|
9+15	10.0466	20.56	|Q V	|	|	|	|
9+20	10.1893	20.72	|Q V	|	|	|	|
9+25	10.3331	20.88	|Q V	|	|	|	|
9+30	10.4781	21.05	|Q V	|	|	|	|
9+35	10.6242	21.21	|Q V	|	|	|	|
9+40	10.7714	21.38	|Q V	|	|	|	|
9+45	10.9199	21.56	|Q V	|	|	|	|
9+50	11.0696	21.74	|Q V	|	|	|	|
9+55	11.2206	21.92	|Q V	|	|	|	|
10+ 0	11.3728	22.10	|Q V	|	|	|	|
10+ 5	11.5263	22.29	|Q V	|	|	|	|
10+10	11.6812	22.49	|Q V	|	|	|	|
10+15	11.8374	22.68	|Q V	|	|	|	|
10+20	11.9950	22.88	|Q V	|	|	|	|
10+25	12.1540	23.09	|Q V	|	|	|	|
10+30	12.3145	23.30	|Q V	|	|	|	|
10+35	12.4764	23.51	|Q V	|	|	|	|
10+40	12.6398	23.73	|Q V	|	|	|	|
10+45	12.8048	23.95	|Q V	|	|	|	|
10+50	12.9714	24.18	|Q V	|	|	|	|
10+55	13.1395	24.42	|Q V	|	|	|	|
11+ 0	13.3093	24.66	|Q V	|	|	|	|
11+ 5	13.4809	24.90	|Q V	|	|	|	|
11+10	13.6541	25.16	|Q V	|	|	|	|
11+15	13.8291	25.41	|Q V	|	|	|	|

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11+20      14.0059     25.68  |Q  V     |          |          |          |
11+25      14.1846     25.95  |Q  V     |          |          |          |
11+30      14.3653     26.23  |Q  V     |          |          |          |
11+35      14.5478     26.51  |Q  V     |          |          |          |
11+40      14.7324     26.80  |Q  V     |          |          |          |
11+45      14.9190     27.10  |Q  V     |          |          |          |
11+50      15.1078     27.41  |Q   V    |          |          |          |
11+55      15.2988     27.73  |Q   V    |          |          |          |
12+ 0      15.4920     28.05  |Q   V    |          |          |          |
12+ 5      15.6872     28.34  |Q   V    |          |          |          |
12+10      15.8841     28.59  |Q   V    |          |          |          |
12+15      16.0824     28.79  |Q   V    |          |          |          |
12+20      16.2818     28.96  |Q   V    |          |          |          |
12+25      16.4822     29.08  |Q   V    |          |          |          |
12+30      16.6830     29.16  |Q   V    |          |          |          |
12+35      16.8839     29.17  |Q   V    |          |          |          |
12+40      17.0834     28.96  |Q   V    |          |          |          |
12+45      17.2802     28.58  |Q   V    |          |          |          |
12+50      17.4727     27.96  |Q   V    |          |          |          |
12+55      17.6618     27.45  |Q   V    |          |          |          |
13+ 0      17.8480     27.04  |Q   V    |          |          |          |
13+ 5      18.0324     26.78  |Q   V    |          |          |          |
13+10      18.2158     26.62  |Q    V   |          |          |          |
13+15      18.3985     26.53  |Q    V   |          |          |          |
13+20      18.5814     26.56  |Q    V   |          |          |          |
13+25      18.7648     26.64  |Q    V   |          |          |          |
13+30      18.9493     26.79  |Q    V   |          |          |          |
13+35      19.1351     26.98  |Q    V   |          |          |          |
13+40      19.3226     27.22  |Q    V   |          |          |          |
13+45      19.5120     27.49  |Q    V   |          |          |          |
13+50      19.7035     27.81  |Q    V   |          |          |          |
13+55      19.8975     28.17  |Q    V   |          |          |          |
14+ 0      20.0943     28.57  |Q    V   |          |          |          |
14+ 5      20.2942     29.04  |Q    V   |          |          |          |
14+10      20.4978     29.56  |Q    V   |          |          |          |
14+15      20.7056     30.17  |Q    V   |          |          |          |
14+20      20.9181     30.86  |Q    V   |          |          |          |
14+25      21.1358     31.61  |Q     V  |          |          |          |
14+30      21.3594     32.46  |Q     V  |          |          |          |
14+35      21.5894     33.40  |Q     V  |          |          |          |
14+40      21.8272     34.53  |Q     V  |          |          |          |
14+45      22.0739     35.82  |Q     V  |          |          |          |
14+50      22.3310     37.33  |Q     V  |          |          |          |
14+55      22.5988     38.87  |Q     V  |          |          |          |
15+ 0      22.8776     40.49  | Q    V  |          |          |          |
15+ 5      23.1679     42.15  | Q    V  |          |          |          |
15+10      23.4705     43.93  | Q    V  |          |          |          |
15+15      23.7860     45.81  | Q    V  |          |          |          |
15+20      24.1156     47.86  | Q    V  |          |          |          |
15+25      24.4623     50.34  | Q     V |          |          |          |
15+30      24.8298     53.36  | Q     V |          |          |          |
15+35      25.2227     57.05  | Q     V |          |          |          |
15+40      25.6460     61.47  |  Q    V |          |          |          |
15+45      26.1077     67.04  |  Q    V |          |          |          |
15+50      26.6184     74.15  |  Q    V |          |          |          |
15+55      27.1967     83.96  |   Q    V|          |          |          |
16+ 0      27.8785     99.00  |   Q    V|          |          |          |
16+ 5      28.8062    134.70  |     Q  V|          |          |          |
16+10      30.0187    176.05  |       QV|          |          |          |
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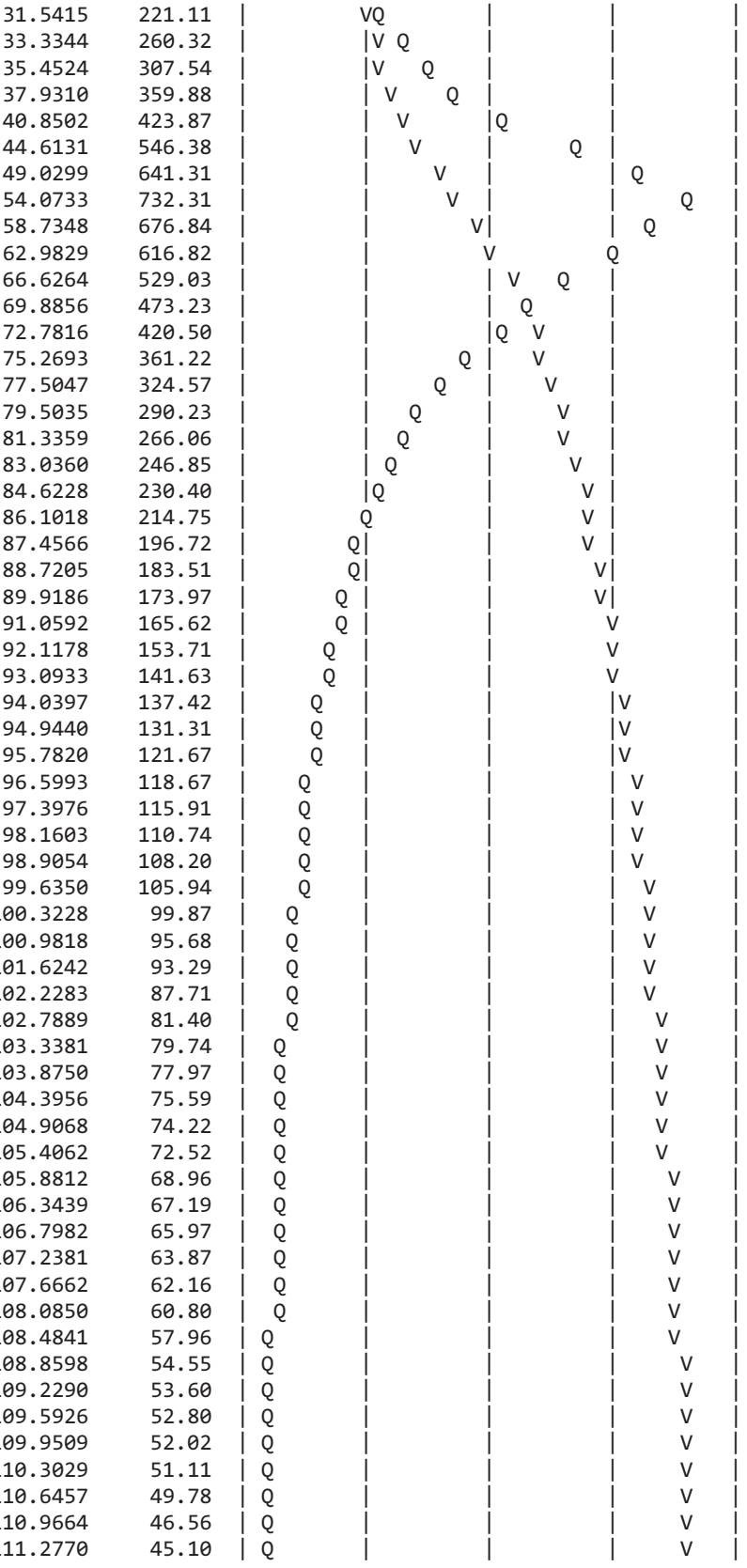
16+15	31.5415	221.11	
16+20	33.3344	260.32	
16+25	35.4524	307.54	
16+30	37.9310	359.88	
16+35	40.8502	423.87	
16+40	44.6131	546.38	
16+45	49.0299	641.31	
16+50	54.0733	732.31	
16+55	58.7348	676.84	
17+ 0	62.9829	616.82	
17+ 5	66.6264	529.03	
17+10	69.8856	473.23	
17+15	72.7816	420.50	
17+20	75.2693	361.22	
17+25	77.5047	324.57	
17+30	79.5035	290.23	
17+35	81.3359	266.06	
17+40	83.0360	246.85	
17+45	84.6228	230.40	
17+50	86.1018	214.75	
17+55	87.4566	196.72	
18+ 0	88.7205	183.51	
18+ 5	89.9186	173.97	
18+10	91.0592	165.62	
18+15	92.1178	153.71	
18+20	93.0933	141.63	
18+25	94.0397	137.42	
18+30	94.9440	131.31	
18+35	95.7820	121.67	
18+40	96.5993	118.67	
18+45	97.3976	115.91	
18+50	98.1603	110.74	
18+55	98.9054	108.20	
19+ 0	99.6350	105.94	
19+ 5	100.3228	99.87	
19+10	100.9818	95.68	
19+15	101.6242	93.29	
19+20	102.2283	87.71	
19+25	102.7889	81.40	
19+30	103.3381	79.74	
19+35	103.8750	77.97	
19+40	104.3956	75.59	
19+45	104.9068	74.22	
19+50	105.4062	72.52	
19+55	105.8812	68.96	
20+ 0	106.3439	67.19	
20+ 5	106.7982	65.97	
20+10	107.2381	63.87	
20+15	107.6662	62.16	
20+20	108.0850	60.80	
20+25	108.4841	57.96	
20+30	108.8598	54.55	
20+35	109.2290	53.60	
20+40	109.5926	52.80	
20+45	109.9509	52.02	
20+50	110.3029	51.11	
20+55	110.6457	49.78	
21+ 0	110.9664	46.56	
21+ 5	111.2770	45.10	

```
21+10     111.5826     44.38  | Q       |         |         |     V   |
21+15     111.8835     43.69  | Q       |         |         |      V  |
21+20     112.1793     42.95  | Q       |         |         |      V  |
21+25     112.4685     41.98  | Q       |         |         |      V  |
21+30     112.7429     39.85  |Q        |         |         |      V  |
21+35     112.9983     37.09  |Q        |         |         |      V  |
21+40     113.2487     36.35  |Q        |         |         |      V  |
21+45     113.4946     35.72  |Q        |         |         |      V  |
21+50     113.7364     35.10  |Q        |         |         |      V  |
21+55     113.9731     34.37  |Q        |         |         |      V  |
22+ 0     114.2023     33.28  |Q        |         |         |      V  |
22+ 5     114.4110     30.31  |Q        |         |         |      V  |
22+10     114.6110     29.04  |Q        |         |         |      V  |
22+15     114.8080     28.61  |Q        |         |         |       V |
22+20     115.0028     28.28  |Q        |         |         |       V |
22+25     115.1960     28.05  |Q        |         |         |       V |
22+30     115.3881     27.89  |Q        |         |         |       V |
22+35     115.5811     28.03  |Q        |         |         |       V |
22+40     115.7765     28.36  |Q        |         |         |       V |
22+45     115.9706     28.19  |Q        |         |         |       V |
22+50     116.1633     27.97  |Q        |         |         |       V |
22+55     116.3544     27.75  |Q        |         |         |       V |
23+ 0     116.5437     27.49  |Q        |         |         |       V |
23+ 5     116.7312     27.22  |Q        |         |         |       V |
23+10     116.9167     26.94  |Q        |         |         |       V |
23+15     117.1003     26.65  |Q        |         |         |       V |
23+20     117.2817     26.34  |Q        |         |         |       V |
23+25     117.4606     25.98  |Q        |         |         |       V |
23+30     117.6367     25.56  |Q        |         |         |       V |
23+35     117.8087     24.98  |Q        |         |         |        V|
23+40     117.9715     23.65  |Q        |         |         |        V|
23+45     118.1208     21.68  |Q        |         |         |        V|
23+50     118.2669     21.21  |Q        |         |         |        V|
23+55     118.4105     20.86  |Q        |         |         |        V|
24+ 0     118.5521     20.55  |Q        |         |         |        V|
24+ 5     118.6913     20.21  |Q        |         |         |        V|
24+10     118.8276     19.80  Q         |         |         |        V|
24+15     118.9606     19.30  Q         |         |         |        V|
24+20     119.0892     18.68  Q         |         |         |        V|
24+25     119.2120     17.83  Q         |         |         |        V|
24+30     119.3203     15.73  Q         |         |         |        V|
24+35     119.4149     13.73  Q         |         |         |        V|
24+40     119.5032     12.83  Q         |         |         |        V|
24+45     119.5848     11.84  Q         |         |         |        V|
24+50     119.6584     10.69  Q         |         |         |        V|
24+55     119.7251      9.68  Q         |         |         |        V|
25+ 0     119.7856      8.78  Q         |         |         |        V|
25+ 5     119.8410      8.04  Q         |         |         |        V|
25+10     119.8919      7.39  Q         |         |         |        V|
25+15     119.9388      6.81  Q         |         |         |        V|
25+20     119.9825      6.34  Q         |         |         |        V|
25+25     120.0232      5.92  Q         |         |         |        V|
25+30     120.0615      5.55  Q         |         |         |        V|
25+35     120.0975      5.23  Q         |         |         |        V|
25+40     120.1314      4.92  Q         |         |         |        V|
25+45     120.1633      4.63  Q         |         |         |        V|
25+50     120.1934      4.37  Q         |         |         |        V|
25+55     120.2218      4.13  Q         |         |         |        V|
26+ 0     120.2488      3.91  Q         |         |         |        V|
```

26+ 5	120.2743	3.70	Q	|	|	|	V|
26+10	120.2984	3.50	Q	|	|	|	V|
26+15	120.3213	3.32	Q	|	|	|	V|
26+20	120.3431	3.16	Q	|	|	|	V|
26+25	120.3638	3.01	Q	|	|	|	V|
26+30	120.3834	2.85	Q	|	|	|	V|
26+35	120.4022	2.72	Q	|	|	|	V|
26+40	120.4199	2.58	Q	|	|	|	V|
26+45	120.4368	2.45	Q	|	|	|	V|
26+50	120.4529	2.33	Q	|	|	|	V|
26+55	120.4681	2.21	Q	|	|	|	V|
27+ 0	120.4825	2.09	Q	|	|	|	V|
27+ 5	120.4962	1.99	Q	|	|	|	V|
27+10	120.5092	1.89	Q	|	|	|	V|
27+15	120.5216	1.79	Q	|	|	|	V|
27+20	120.5333	1.70	Q	|	|	|	V|
27+25	120.5445	1.63	Q	|	|	|	V|
27+30	120.5552	1.55	Q	|	|	|	V|
27+35	120.5654	1.48	Q	|	|	|	V|
27+40	120.5751	1.41	Q	|	|	|	V|
27+45	120.5844	1.34	Q	|	|	|	V|
27+50	120.5931	1.27	Q	|	|	|	V|
27+55	120.6015	1.21	Q	|	|	|	V|
28+ 0	120.6095	1.16	Q	|	|	|	V|
28+ 5	120.6170	1.10	Q	|	|	|	V|
28+10	120.6242	1.04	Q	|	|	|	V|
28+15	120.6310	0.99	Q	|	|	|	V|
28+20	120.6375	0.94	Q	|	|	|	V|
28+25	120.6436	0.89	Q	|	|	|	V|
28+30	120.6494	0.85	Q	|	|	|	V|
28+35	120.6550	0.81	Q	|	|	|	V|
28+40	120.6602	0.77	Q	|	|	|	V|
28+45	120.6652	0.73	Q	|	|	|	V|
28+50	120.6699	0.69	Q	|	|	|	V|
28+55	120.6744	0.65	Q	|	|	|	V|
29+ 0	120.6786	0.61	Q	|	|	|	V|
29+ 5	120.6826	0.58	Q	|	|	|	V|
29+10	120.6864	0.55	Q	|	|	|	V|
29+15	120.6900	0.52	Q	|	|	|	V|
29+20	120.6934	0.49	Q	|	|	|	V|
29+25	120.6966	0.46	Q	|	|	|	V|
29+30	120.6996	0.44	Q	|	|	|	V|
29+35	120.7025	0.41	Q	|	|	|	V|
29+40	120.7052	0.39	Q	|	|	|	V|
29+45	120.7077	0.37	Q	|	|	|	V|
29+50	120.7102	0.35	Q	|	|	|	V|
29+55	120.7124	0.33	Q	|	|	|	V|
30+ 0	120.7146	0.31	Q	|	|	|	V|
30+ 5	120.7166	0.30	Q	|	|	|	V|
30+10	120.7186	0.28	Q	|	|	|	V|
30+15	120.7204	0.27	Q	|	|	|	V|
30+20	120.7222	0.26	Q	|	|	|	V|
30+25	120.7239	0.25	Q	|	|	|	V|
30+30	120.7256	0.24	Q	|	|	|	V|
30+35	120.7271	0.22	Q	|	|	|	V|
30+40	120.7286	0.21	Q	|	|	|	V|
30+45	120.7299	0.20	Q	|	|	|	V|
30+50	120.7312	0.18	Q	|	|	|	V|
30+55	120.7324	0.17	Q	|	|	|	V|

31+ 0	120.7335	0.16	Q	|	|	|	V|
31+ 5	120.7345	0.15	Q	|	|	|	V|
31+10	120.7354	0.13	Q	|	|	|	V|
31+15	120.7362	0.12	Q	|	|	|	V|
31+20	120.7369	0.11	Q	|	|	|	V|
31+25	120.7376	0.09	Q	|	|	|	V|
31+30	120.7381	0.08	Q	|	|	|	V|
31+35	120.7386	0.07	Q	|	|	|	V|
31+40	120.7390	0.06	Q	|	|	|	V|
31+45	120.7394	0.05	Q	|	|	|	V|
31+50	120.7397	0.05	Q	|	|	|	V|
31+55	120.7400	0.04	Q	|	|	|	V|
32+ 0	120.7402	0.03	Q	|	|	|	V|
32+ 5	120.7404	0.03	Q	|	|	|	V|
32+10	120.7406	0.02	Q	|	|	|	V|
32+15	120.7407	0.02	Q	|	|	|	V|
32+20	120.7407	0.01	Q	|	|	|	V|
32+25	120.7408	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 49
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
17446.64	1	1.36
Rainfall data for year 100		
17446.64	6	2.15
Rainfall data for year 100		
17446.64	24	3.24

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
71.3	88.0	17446.64	1.000	0.229	0.989	0.226

Area-averaged adjusted loss rate Fm (In/Hr) = 0.226

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
17251.24	0.989	71.3	88.0	1.36	0.628
195.40	0.011	98.0	98.0	0.20	0.928

Area-averaged catchment yield fraction, Y = 0.631
Area-averaged low loss fraction, Yb = 0.369
++
Watercourse length = 81047.00(Ft.)
Length from concentration point to centroid = 39563.00(Ft.)
Elevation difference along watercourse = 2612.40(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 17446.64(Ac.)
Catchment Lag time = 1.921 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 4.3384
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.226(In/Hr)
Average low loss rate fraction (Yb) = 0.369 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.180
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.820

Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.801(In)
Specified peak 6-hour rainfall = 2.150(In)
Specified peak 24-hour rainfall = 3.240(In)

Rainfall depth area reduction factors:
Using a total area of 17446.64(Ac.) (Ref: fig. E-4)

5-minute factor = 0.568 Adjusted rainfall = 0.367(In)
30-minute factor = 0.594 Adjusted rainfall = 0.656(In)
1-hour factor = 0.605 Adjusted rainfall = 0.823(In)
3-hour factor = 0.908 Adjusted rainfall = 1.635(In)
6-hour factor = 0.957 Adjusted rainfall = 2.057(In)
24-hour factor = 0.974 Adjusted rainfall = 3.155(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 210995.30 (CFS))	
1	0.206	434.623
2	0.618	869.246
3	1.032	873.480
4	1.625	1251.922
5	2.366	1563.169

6	3.121	1592.420
7	4.085	2035.078
8	5.139	2224.011
9	6.236	2313.686
10	7.590	2857.279
11	9.009	2994.395
12	10.558	3267.314
13	12.966	5080.180
14	15.533	5416.978
15	18.413	6076.469
16	22.344	8294.244
17	26.388	8532.086
18	30.323	8302.613
19	33.956	7665.416
20	37.591	7670.467
21	41.160	7530.812
22	44.698	7464.989
23	48.172	7330.347
24	51.074	6122.057
25	53.464	5042.553
26	55.814	4958.843
27	57.760	4106.802
28	59.486	3640.289
29	61.205	3627.504
30	62.699	3153.128
31	64.080	2913.110
32	65.453	2896.212
33	66.692	2614.635
34	67.859	2462.850
35	69.013	2435.140
36	70.072	2234.811
37	71.110	2190.324
38	72.127	2145.936
39	73.038	1921.327
40	73.934	1890.079
41	74.802	1831.740
42	75.579	1639.391
43	76.349	1624.253
44	77.110	1605.926
45	77.852	1565.640
46	78.593	1564.204
47	79.270	1428.065
48	79.853	1229.756
49	80.435	1228.076
50	81.017	1228.076
51	81.599	1228.076
52	82.180	1225.998
53	82.697	1090.094
54	83.175	1008.384
55	83.653	1008.384
56	84.130	1008.384
57	84.608	1008.384
58	85.082	999.269
59	85.510	904.080
60	85.927	878.766
61	86.343	878.766
62	86.760	878.766
63	87.176	878.766
64	87.580	851.291

65	87.932	743.299
66	88.279	732.305
67	88.626	732.305
68	88.973	732.305
69	89.320	732.305
70	89.637	668.545
71	89.902	557.804
72	90.165	555.820
73	90.428	555.820
74	90.692	555.820
75	90.955	555.604
76	91.203	522.906
77	91.440	499.432
78	91.676	499.432
79	91.913	499.432
80	92.150	499.432
81	92.385	495.564
82	92.595	442.883
83	92.797	426.202
84	92.999	426.202
85	93.201	426.202
86	93.403	426.202
87	93.601	418.322
88	93.782	381.170
89	93.960	376.405
90	94.138	376.405
91	94.317	376.405
92	94.495	376.405
93	94.658	343.946
94	94.789	277.008
95	94.920	274.981
96	95.050	274.981
97	95.180	274.981
98	95.311	274.981
99	95.441	274.981
100	95.571	274.981
101	95.702	274.981
102	95.832	274.981
103	95.962	274.981
104	96.092	272.585
105	96.200	228.282
106	96.300	211.636
107	96.400	211.636
108	96.501	211.636
109	96.601	211.636
110	96.701	211.636
111	96.802	211.636
112	96.902	211.636
113	97.002	211.636
114	97.102	211.636
115	97.203	211.636
116	97.294	192.891
117	97.364	147.078
118	97.433	144.996
119	97.501	144.996
120	97.570	144.996
121	97.639	144.996
122	97.708	144.996
123	97.776	144.996

124	97.845	144.996
125	97.914	144.996
126	97.982	144.996
127	98.050	143.559
128	98.100	105.284
129	98.142	88.243
130	98.184	88.243
131	98.226	88.243
132	98.268	88.243
133	98.309	88.243
134	98.351	88.243
135	98.393	88.243
136	98.435	88.243
137	98.477	88.243
138	98.519	88.243
139	98.561	90.306
140	98.607	96.285
141	98.653	96.664
142	98.699	96.664
143	98.744	96.664
144	98.790	96.664
145	98.836	96.664
146	98.882	96.664
147	98.928	96.664
148	98.973	96.664
149	99.019	96.664
150	99.065	96.614
151	99.110	94.490
152	99.154	93.369
153	99.198	93.369
154	99.243	93.369
155	99.287	93.369
156	99.331	93.369
157	99.375	93.369
158	99.420	93.369
159	99.464	93.369
160	99.508	93.369
161	99.552	93.369
162	99.592	83.755
163	99.616	49.556
164	99.638	46.913
165	99.660	46.913
166	99.682	46.913
167	99.705	46.913
168	99.727	46.913
169	99.749	46.913
170	99.771	46.913
171	99.793	46.913
172	99.816	46.913
173	99.838	46.913
174	99.860	46.913
175	99.882	46.913
176	99.905	46.913
177	99.927	46.913
178	99.949	46.913
179	99.971	46.913
180	100.000	23.457

Peak Unit	Adjusted mass rainfall	Unit rainfall

Number	(In)	(In)
1	0.3668	0.3668
2	0.4592	0.0924
3	0.5237	0.0645
4	0.5749	0.0512
5	0.6180	0.0431
6	0.6557	0.0376
7	0.6896	0.0340
8	0.7205	0.0309
9	0.7488	0.0284
10	0.7752	0.0263
11	0.7998	0.0246
12	0.8229	0.0231
13	0.8651	0.0422
14	0.9061	0.0410
15	0.9460	0.0399
16	0.9850	0.0389
17	1.0230	0.0380
18	1.0602	0.0372
19	1.0966	0.0364
20	1.1324	0.0357
21	1.1674	0.0351
22	1.2019	0.0344
23	1.2357	0.0339
24	1.2690	0.0333
25	1.3018	0.0328
26	1.3341	0.0323
27	1.3659	0.0318
28	1.3973	0.0314
29	1.4283	0.0310
30	1.4589	0.0306
31	1.4891	0.0302
32	1.5190	0.0298
33	1.5484	0.0295
34	1.5776	0.0292
35	1.6064	0.0288
36	1.6350	0.0285
37	1.6499	0.0149
38	1.6645	0.0146
39	1.6789	0.0144
40	1.6930	0.0141
41	1.7069	0.0139
42	1.7206	0.0137
43	1.7340	0.0135
44	1.7473	0.0132
45	1.7603	0.0130
46	1.7732	0.0129
47	1.7858	0.0127
48	1.7983	0.0125
49	1.8106	0.0123
50	1.8228	0.0121
51	1.8348	0.0120
52	1.8466	0.0118
53	1.8583	0.0117
54	1.8698	0.0115
55	1.8812	0.0114
56	1.8925	0.0113
57	1.9036	0.0111
58	1.9146	0.0110

59	1.9254	0.0109
60	1.9362	0.0107
61	1.9468	0.0106
62	1.9573	0.0105
63	1.9677	0.0104
64	1.9780	0.0103
65	1.9881	0.0102
66	1.9982	0.0101
67	2.0082	0.0100
68	2.0181	0.0099
69	2.0278	0.0098
70	2.0375	0.0097
71	2.0471	0.0096
72	2.0566	0.0095
73	2.0654	0.0088
74	2.0741	0.0087
75	2.0827	0.0086
76	2.0912	0.0085
77	2.0997	0.0085
78	2.1081	0.0084
79	2.1164	0.0083
80	2.1246	0.0082
81	2.1328	0.0082
82	2.1409	0.0081
83	2.1489	0.0080
84	2.1569	0.0080
85	2.1647	0.0079
86	2.1726	0.0078
87	2.1803	0.0078
88	2.1881	0.0077
89	2.1957	0.0076
90	2.2033	0.0076
91	2.2108	0.0075
92	2.2183	0.0075
93	2.2257	0.0074
94	2.2331	0.0074
95	2.2404	0.0073
96	2.2476	0.0073
97	2.2548	0.0072
98	2.2620	0.0072
99	2.2691	0.0071
100	2.2761	0.0071
101	2.2831	0.0070
102	2.2901	0.0070
103	2.2970	0.0069
104	2.3039	0.0069
105	2.3107	0.0068
106	2.3175	0.0068
107	2.3242	0.0067
108	2.3309	0.0067
109	2.3375	0.0066
110	2.3441	0.0066
111	2.3507	0.0066
112	2.3572	0.0065
113	2.3637	0.0065
114	2.3701	0.0064
115	2.3765	0.0064
116	2.3829	0.0064
117	2.3892	0.0063

118	2.3955	0.0063
119	2.4017	0.0062
120	2.4079	0.0062
121	2.4141	0.0062
122	2.4202	0.0061
123	2.4264	0.0061
124	2.4324	0.0061
125	2.4385	0.0060
126	2.4445	0.0060
127	2.4504	0.0060
128	2.4564	0.0059
129	2.4623	0.0059
130	2.4682	0.0059
131	2.4740	0.0058
132	2.4798	0.0058
133	2.4856	0.0058
134	2.4914	0.0058
135	2.4971	0.0057
136	2.5028	0.0057
137	2.5085	0.0057
138	2.5141	0.0056
139	2.5197	0.0056
140	2.5253	0.0056
141	2.5309	0.0056
142	2.5364	0.0055
143	2.5419	0.0055
144	2.5474	0.0055
145	2.5528	0.0054
146	2.5582	0.0054
147	2.5636	0.0054
148	2.5690	0.0054
149	2.5743	0.0053
150	2.5797	0.0053
151	2.5850	0.0053
152	2.5902	0.0053
153	2.5955	0.0052
154	2.6007	0.0052
155	2.6059	0.0052
156	2.6111	0.0052
157	2.6162	0.0052
158	2.6214	0.0051
159	2.6265	0.0051
160	2.6316	0.0051
161	2.6366	0.0051
162	2.6417	0.0050
163	2.6467	0.0050
164	2.6517	0.0050
165	2.6567	0.0050
166	2.6617	0.0050
167	2.6666	0.0049
168	2.6715	0.0049
169	2.6764	0.0049
170	2.6813	0.0049
171	2.6862	0.0049
172	2.6910	0.0048
173	2.6958	0.0048
174	2.7006	0.0048
175	2.7054	0.0048
176	2.7102	0.0048

177	2.7149	0.0047
178	2.7196	0.0047
179	2.7243	0.0047
180	2.7290	0.0047
181	2.7337	0.0047
182	2.7384	0.0047
183	2.7430	0.0046
184	2.7476	0.0046
185	2.7522	0.0046
186	2.7568	0.0046
187	2.7614	0.0046
188	2.7659	0.0046
189	2.7705	0.0045
190	2.7750	0.0045
191	2.7795	0.0045
192	2.7840	0.0045
193	2.7884	0.0045
194	2.7929	0.0045
195	2.7973	0.0044
196	2.8017	0.0044
197	2.8061	0.0044
198	2.8105	0.0044
199	2.8149	0.0044
200	2.8193	0.0044
201	2.8236	0.0043
202	2.8279	0.0043
203	2.8323	0.0043
204	2.8366	0.0043
205	2.8408	0.0043
206	2.8451	0.0043
207	2.8494	0.0043
208	2.8536	0.0042
209	2.8578	0.0042
210	2.8621	0.0042
211	2.8663	0.0042
212	2.8704	0.0042
213	2.8746	0.0042
214	2.8788	0.0042
215	2.8829	0.0041
216	2.8871	0.0041
217	2.8912	0.0041
218	2.8953	0.0041
219	2.8994	0.0041
220	2.9035	0.0041
221	2.9075	0.0041
222	2.9116	0.0041
223	2.9156	0.0040
224	2.9197	0.0040
225	2.9237	0.0040
226	2.9277	0.0040
227	2.9317	0.0040
228	2.9356	0.0040
229	2.9396	0.0040
230	2.9436	0.0040
231	2.9475	0.0039
232	2.9515	0.0039
233	2.9554	0.0039
234	2.9593	0.0039
235	2.9632	0.0039

236	2.9671	0.0039
237	2.9709	0.0039
238	2.9748	0.0039
239	2.9787	0.0039
240	2.9825	0.0038
241	2.9863	0.0038
242	2.9902	0.0038
243	2.9940	0.0038
244	2.9978	0.0038
245	3.0016	0.0038
246	3.0053	0.0038
247	3.0091	0.0038
248	3.0129	0.0038
249	3.0166	0.0037
250	3.0203	0.0037
251	3.0241	0.0037
252	3.0278	0.0037
253	3.0315	0.0037
254	3.0352	0.0037
255	3.0389	0.0037
256	3.0425	0.0037
257	3.0462	0.0037
258	3.0499	0.0037
259	3.0535	0.0036
260	3.0571	0.0036
261	3.0608	0.0036
262	3.0644	0.0036
263	3.0680	0.0036
264	3.0716	0.0036
265	3.0752	0.0036
266	3.0787	0.0036
267	3.0823	0.0036
268	3.0859	0.0036
269	3.0894	0.0036
270	3.0930	0.0035
271	3.0965	0.0035
272	3.1000	0.0035
273	3.1035	0.0035
274	3.1070	0.0035
275	3.1105	0.0035
276	3.1140	0.0035
277	3.1175	0.0035
278	3.1210	0.0035
279	3.1244	0.0035
280	3.1279	0.0035
281	3.1313	0.0034
282	3.1348	0.0034
283	3.1382	0.0034
284	3.1416	0.0034
285	3.1450	0.0034
286	3.1484	0.0034
287	3.1518	0.0034
288	3.1552	0.0034

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0034	0.0012	0.0021

2	0.0034	0.0013	0.0021
3	0.0034	0.0013	0.0022
4	0.0034	0.0013	0.0022
5	0.0034	0.0013	0.0022
6	0.0034	0.0013	0.0022
7	0.0035	0.0013	0.0022
8	0.0035	0.0013	0.0022
9	0.0035	0.0013	0.0022
10	0.0035	0.0013	0.0022
11	0.0035	0.0013	0.0022
12	0.0035	0.0013	0.0022
13	0.0035	0.0013	0.0022
14	0.0036	0.0013	0.0022
15	0.0036	0.0013	0.0023
16	0.0036	0.0013	0.0023
17	0.0036	0.0013	0.0023
18	0.0036	0.0013	0.0023
19	0.0036	0.0013	0.0023
20	0.0036	0.0013	0.0023
21	0.0037	0.0013	0.0023
22	0.0037	0.0014	0.0023
23	0.0037	0.0014	0.0023
24	0.0037	0.0014	0.0023
25	0.0037	0.0014	0.0023
26	0.0037	0.0014	0.0024
27	0.0037	0.0014	0.0024
28	0.0038	0.0014	0.0024
29	0.0038	0.0014	0.0024
30	0.0038	0.0014	0.0024
31	0.0038	0.0014	0.0024
32	0.0038	0.0014	0.0024
33	0.0038	0.0014	0.0024
34	0.0039	0.0014	0.0024
35	0.0039	0.0014	0.0024
36	0.0039	0.0014	0.0025
37	0.0039	0.0014	0.0025
38	0.0039	0.0014	0.0025
39	0.0039	0.0015	0.0025
40	0.0040	0.0015	0.0025
41	0.0040	0.0015	0.0025
42	0.0040	0.0015	0.0025
43	0.0040	0.0015	0.0025
44	0.0040	0.0015	0.0025
45	0.0041	0.0015	0.0026
46	0.0041	0.0015	0.0026
47	0.0041	0.0015	0.0026
48	0.0041	0.0015	0.0026
49	0.0041	0.0015	0.0026
50	0.0041	0.0015	0.0026
51	0.0042	0.0015	0.0026
52	0.0042	0.0015	0.0026
53	0.0042	0.0016	0.0027
54	0.0042	0.0016	0.0027
55	0.0043	0.0016	0.0027
56	0.0043	0.0016	0.0027
57	0.0043	0.0016	0.0027
58	0.0043	0.0016	0.0027
59	0.0043	0.0016	0.0027
60	0.0044	0.0016	0.0028

61	0.0044	0.0016	0.0028
62	0.0044	0.0016	0.0028
63	0.0044	0.0016	0.0028
64	0.0045	0.0016	0.0028
65	0.0045	0.0017	0.0028
66	0.0045	0.0017	0.0028
67	0.0045	0.0017	0.0029
68	0.0046	0.0017	0.0029
69	0.0046	0.0017	0.0029
70	0.0046	0.0017	0.0029
71	0.0046	0.0017	0.0029
72	0.0047	0.0017	0.0029
73	0.0047	0.0017	0.0030
74	0.0047	0.0017	0.0030
75	0.0047	0.0017	0.0030
76	0.0048	0.0018	0.0030
77	0.0048	0.0018	0.0030
78	0.0048	0.0018	0.0030
79	0.0049	0.0018	0.0031
80	0.0049	0.0018	0.0031
81	0.0049	0.0018	0.0031
82	0.0049	0.0018	0.0031
83	0.0050	0.0018	0.0031
84	0.0050	0.0018	0.0032
85	0.0050	0.0019	0.0032
86	0.0051	0.0019	0.0032
87	0.0051	0.0019	0.0032
88	0.0051	0.0019	0.0032
89	0.0052	0.0019	0.0033
90	0.0052	0.0019	0.0033
91	0.0052	0.0019	0.0033
92	0.0053	0.0019	0.0033
93	0.0053	0.0020	0.0034
94	0.0053	0.0020	0.0034
95	0.0054	0.0020	0.0034
96	0.0054	0.0020	0.0034
97	0.0055	0.0020	0.0035
98	0.0055	0.0020	0.0035
99	0.0056	0.0020	0.0035
100	0.0056	0.0021	0.0035
101	0.0056	0.0021	0.0036
102	0.0057	0.0021	0.0036
103	0.0057	0.0021	0.0036
104	0.0058	0.0021	0.0036
105	0.0058	0.0021	0.0037
106	0.0058	0.0022	0.0037
107	0.0059	0.0022	0.0037
108	0.0059	0.0022	0.0038
109	0.0060	0.0022	0.0038
110	0.0060	0.0022	0.0038
111	0.0061	0.0023	0.0039
112	0.0061	0.0023	0.0039
113	0.0062	0.0023	0.0039
114	0.0062	0.0023	0.0039
115	0.0063	0.0023	0.0040
116	0.0064	0.0023	0.0040
117	0.0064	0.0024	0.0041
118	0.0065	0.0024	0.0041
119	0.0066	0.0024	0.0041

120	0.0066	0.0024	0.0042
121	0.0067	0.0025	0.0042
122	0.0067	0.0025	0.0042
123	0.0068	0.0025	0.0043
124	0.0069	0.0025	0.0043
125	0.0070	0.0026	0.0044
126	0.0070	0.0026	0.0044
127	0.0071	0.0026	0.0045
128	0.0072	0.0026	0.0045
129	0.0073	0.0027	0.0046
130	0.0073	0.0027	0.0046
131	0.0074	0.0027	0.0047
132	0.0075	0.0028	0.0047
133	0.0076	0.0028	0.0048
134	0.0076	0.0028	0.0048
135	0.0078	0.0029	0.0049
136	0.0078	0.0029	0.0049
137	0.0080	0.0029	0.0050
138	0.0080	0.0030	0.0051
139	0.0082	0.0030	0.0052
140	0.0082	0.0030	0.0052
141	0.0084	0.0031	0.0053
142	0.0085	0.0031	0.0053
143	0.0086	0.0032	0.0054
144	0.0087	0.0032	0.0055
145	0.0095	0.0035	0.0060
146	0.0096	0.0035	0.0061
147	0.0098	0.0036	0.0062
148	0.0099	0.0036	0.0062
149	0.0101	0.0037	0.0064
150	0.0102	0.0038	0.0064
151	0.0104	0.0038	0.0066
152	0.0105	0.0039	0.0066
153	0.0107	0.0040	0.0068
154	0.0109	0.0040	0.0069
155	0.0111	0.0041	0.0070
156	0.0113	0.0041	0.0071
157	0.0115	0.0043	0.0073
158	0.0117	0.0043	0.0074
159	0.0120	0.0044	0.0076
160	0.0121	0.0045	0.0077
161	0.0125	0.0046	0.0079
162	0.0127	0.0047	0.0080
163	0.0130	0.0048	0.0082
164	0.0132	0.0049	0.0084
165	0.0137	0.0050	0.0086
166	0.0139	0.0051	0.0088
167	0.0144	0.0053	0.0091
168	0.0146	0.0054	0.0092
169	0.0285	0.0105	0.0180
170	0.0288	0.0106	0.0182
171	0.0295	0.0109	0.0186
172	0.0298	0.0110	0.0188
173	0.0306	0.0113	0.0193
174	0.0310	0.0114	0.0196
175	0.0318	0.0117	0.0201
176	0.0323	0.0119	0.0204
177	0.0333	0.0123	0.0210
178	0.0339	0.0125	0.0214

179	0.0351	0.0129	0.0221
180	0.0357	0.0132	0.0226
181	0.0372	0.0137	0.0235
182	0.0380	0.0140	0.0240
183	0.0399	0.0147	0.0252
184	0.0410	0.0151	0.0259
185	0.0231	0.0085	0.0146
186	0.0246	0.0091	0.0155
187	0.0284	0.0105	0.0179
188	0.0309	0.0114	0.0195
189	0.0376	0.0139	0.0238
190	0.0431	0.0159	0.0272
191	0.0645	0.0188	0.0457
192	0.0924	0.0188	0.0736
193	0.3668	0.0188	0.3480
194	0.0512	0.0188	0.0323
195	0.0340	0.0125	0.0215
196	0.0263	0.0097	0.0166
197	0.0422	0.0156	0.0267
198	0.0389	0.0143	0.0246
199	0.0364	0.0134	0.0230
200	0.0344	0.0127	0.0217
201	0.0328	0.0121	0.0207
202	0.0314	0.0116	0.0198
203	0.0302	0.0111	0.0191
204	0.0292	0.0107	0.0184
205	0.0149	0.0055	0.0094
206	0.0141	0.0052	0.0089
207	0.0135	0.0050	0.0085
208	0.0129	0.0047	0.0081
209	0.0123	0.0045	0.0078
210	0.0118	0.0044	0.0075
211	0.0114	0.0042	0.0072
212	0.0110	0.0041	0.0069
213	0.0106	0.0039	0.0067
214	0.0103	0.0038	0.0065
215	0.0100	0.0037	0.0063
216	0.0097	0.0036	0.0061
217	0.0088	0.0032	0.0055
218	0.0085	0.0031	0.0054
219	0.0083	0.0031	0.0052
220	0.0081	0.0030	0.0051
221	0.0079	0.0029	0.0050
222	0.0077	0.0028	0.0049
223	0.0075	0.0028	0.0048
224	0.0074	0.0027	0.0046
225	0.0072	0.0027	0.0045
226	0.0071	0.0026	0.0045
227	0.0069	0.0025	0.0044
228	0.0068	0.0025	0.0043
229	0.0066	0.0024	0.0042
230	0.0065	0.0024	0.0041
231	0.0064	0.0024	0.0040
232	0.0063	0.0023	0.0040
233	0.0062	0.0023	0.0039
234	0.0061	0.0022	0.0038
235	0.0060	0.0022	0.0038
236	0.0059	0.0022	0.0037
237	0.0058	0.0021	0.0037

238	0.0057	0.0021	0.0036
239	0.0056	0.0021	0.0035
240	0.0055	0.0020	0.0035
241	0.0054	0.0020	0.0034
242	0.0054	0.0020	0.0034
243	0.0053	0.0020	0.0033
244	0.0052	0.0019	0.0033
245	0.0052	0.0019	0.0033
246	0.0051	0.0019	0.0032
247	0.0050	0.0019	0.0032
248	0.0050	0.0018	0.0031
249	0.0049	0.0018	0.0031
250	0.0048	0.0018	0.0031
251	0.0048	0.0018	0.0030
252	0.0047	0.0017	0.0030
253	0.0047	0.0017	0.0030
254	0.0046	0.0017	0.0029
255	0.0046	0.0017	0.0029
256	0.0045	0.0017	0.0029
257	0.0045	0.0016	0.0028
258	0.0044	0.0016	0.0028
259	0.0044	0.0016	0.0028
260	0.0043	0.0016	0.0027
261	0.0043	0.0016	0.0027
262	0.0042	0.0016	0.0027
263	0.0042	0.0015	0.0027
264	0.0042	0.0015	0.0026
265	0.0041	0.0015	0.0026
266	0.0041	0.0015	0.0026
267	0.0040	0.0015	0.0026
268	0.0040	0.0015	0.0025
269	0.0040	0.0015	0.0025
270	0.0039	0.0014	0.0025
271	0.0039	0.0014	0.0025
272	0.0039	0.0014	0.0024
273	0.0038	0.0014	0.0024
274	0.0038	0.0014	0.0024
275	0.0038	0.0014	0.0024
276	0.0037	0.0014	0.0024
277	0.0037	0.0014	0.0023
278	0.0037	0.0014	0.0023
279	0.0036	0.0013	0.0023
280	0.0036	0.0013	0.0023
281	0.0036	0.0013	0.0023
282	0.0036	0.0013	0.0022
283	0.0035	0.0013	0.0022
284	0.0035	0.0013	0.0022
285	0.0035	0.0013	0.0022
286	0.0035	0.0013	0.0022
287	0.0034	0.0013	0.0022
288	0.0034	0.0013	0.0021

Total soil rain loss = 1.03(In)
Total effective rainfall = 2.13(In)
Peak flow rate in flood hydrograph = 7103.32(CFS)

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24 - H O U R S T O R M

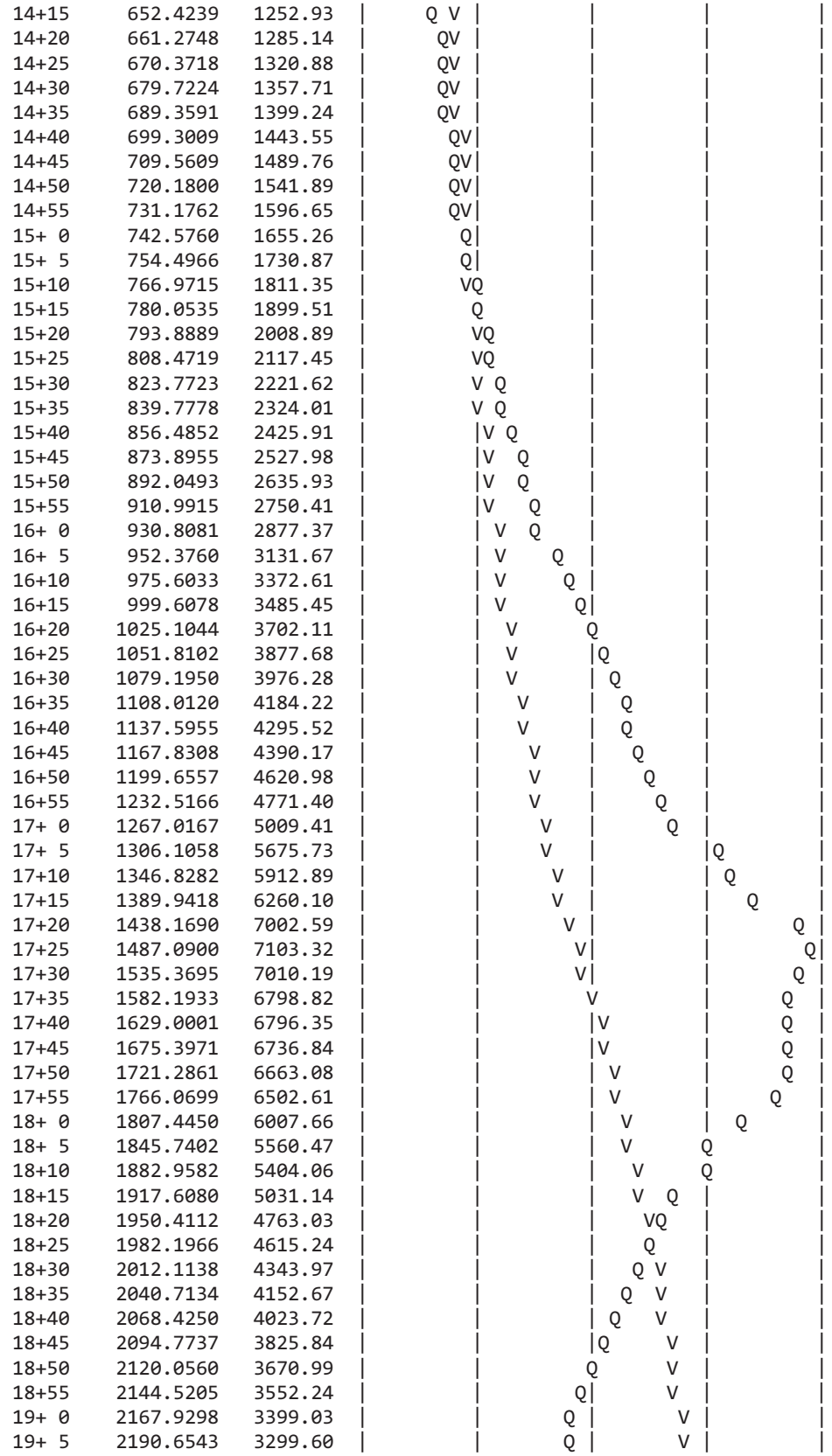
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1800.0	3600.0	5400.0	7200.0
0+ 5	0.0064	0.93	Q				
0+10	0.0256	2.79	Q				
0+15	0.0578	4.67	Q				
0+20	0.1085	7.36	Q				
0+25	0.1823	10.73	Q				
0+30	0.2799	14.17	Q				
0+35	0.4078	18.57	Q				
0+40	0.5689	23.39	Q				
0+45	0.7647	28.42	Q				
0+50	1.0032	34.63	Q				
0+55	1.2867	41.16	Q				
1+ 0	1.6193	48.29	Q				
1+ 5	2.0279	59.33	Q				
1+10	2.5177	71.13	Q				
1+15	3.0989	84.38	Q				
1+20	3.8042	102.42	Q				
1+25	4.6377	121.03	Q				
1+30	5.5966	139.22	Q				
1+35	6.6718	156.12	Q				
1+40	7.8639	173.10	Q				
1+45	9.1713	189.83	VQ				
1+50	10.5935	206.50	VQ				
1+55	12.1288	222.94	VQ				
2+ 0	13.7601	236.86	VQ				
2+ 5	15.4717	248.53	VQ				
2+10	17.2628	260.07	VQ				
2+15	19.1212	269.83	VQ				
2+20	21.0402	278.64	VQ				
2+25	23.0199	287.46	VQ				
2+30	25.0537	295.30	VQ				
2+35	27.1382	302.67	VQ				
2+40	29.2733	310.03	VQ				
2+45	31.4553	316.82	VQ				
2+50	33.6821	323.33	VQ				
2+55	35.9534	329.80	VQ				
3+ 0	38.2666	335.88	VQ				
3+ 5	40.6212	341.89	VQ				
3+10	43.0168	347.84	VQ				
3+15	45.4502	353.33	VQ				
3+20	47.9212	358.79	VQ				
3+25	50.4291	364.15	V Q				
3+30	52.9714	369.13	V Q				
3+35	55.5479	374.11	V Q				
3+40	58.1585	379.07	V Q				
3+45	60.8030	383.97	V Q				
3+50	63.4814	388.91	V Q				
3+55	66.1920	393.57	V Q				
4+ 0	68.9319	397.85	V Q				
4+ 5	71.7015	402.14	V Q				
4+10	74.5008	406.46	V Q				
4+15	77.3301	410.81	|VQ				
4+20	80.1894	415.18	|VQ				

4+25	83.0771	419.29	VQ				
4+30	85.9921	423.25	VQ				
4+35	88.9345	427.24	VQ				
4+40	91.9045	431.26	VQ				
4+45	94.9025	435.30	VQ				
4+50	97.9283	439.35	VQ				
4+55	100.9809	443.23	VQ				
5+ 0	104.0599	447.08	VQ				
5+ 5	107.1657	450.96	VQ				
5+10	110.2985	454.87	VQ				
5+15	113.4583	458.81	VQ				
5+20	116.6451	462.72	VQ				
5+25	119.8575	466.43	VQ				
5+30	123.0954	470.15	VQ				
5+35	126.3591	473.89	VQ				
5+40	129.6489	477.67	VQ				
5+45	132.9649	481.48	VQ				
5+50	136.3064	485.19	VQ				
5+55	139.6720	488.68	VQ				
6+ 0	143.0619	492.21	VQ				
6+ 5	146.4763	495.77	VQ				
6+10	149.9154	499.36	VQ				
6+15	153.3795	502.99	VQ				
6+20	156.8683	506.58	Q				
6+25	160.3817	510.15	Q				
6+30	163.9200	513.76	Q				
6+35	167.4833	517.40	Q				
6+40	171.0720	521.08	Q				
6+45	174.6862	524.78	Q				
6+50	178.3254	528.42	Q				
6+55	181.9897	532.05	Q				
7+ 0	185.6792	535.72	Q				
7+ 5	189.3943	539.43	Q				
7+10	193.1352	543.18	VQ				
7+15	196.9021	546.96	VQ				
7+20	200.6948	550.70	VQ				
7+25	204.5134	554.46	VQ				
7+30	208.3583	558.27	VQ				
7+35	212.2297	562.13	VQ				
7+40	216.1280	566.03	VQ				
7+45	220.0529	569.90	VQ				
7+50	224.0039	573.68	VQ				
7+55	227.9812	577.50	VQ				
8+ 0	231.9851	581.38	Q				
8+ 5	236.0161	585.29	Q				
8+10	240.0743	589.26	Q				
8+15	244.1603	593.28	Q				
8+20	248.2743	597.35	Q				
8+25	252.4167	601.47	Q				
8+30	256.5879	605.66	Q				
8+35	260.7882	609.89	Q				
8+40	265.0181	614.18	Q				
8+45	269.2773	618.43	Q				
8+50	273.5659	622.71	Q				
8+55	277.8844	627.04	Q				
9+ 0	282.2332	631.45	Q				
9+ 5	286.6127	635.91	Q				
9+10	291.0235	640.44	Q				
9+15	295.4659	645.04	Q				

9+20	299.9405	649.71	Q			
9+25	304.4477	654.44	Q			
9+30	308.9880	659.26	Q			
9+35	313.5620	664.14	QV			
9+40	318.1699	669.07	QV			
9+45	322.8116	673.97	QV			
9+50	327.4877	678.96	QV			
9+55	332.1985	684.02	QV			
10+ 0	336.9449	689.18	QV			
10+ 5	341.7274	694.41	QV			
10+10	346.5465	699.74	QV			
10+15	351.4030	705.16	QV			
10+20	356.2976	710.69	QV			
10+25	361.2308	716.30	QV			
10+30	366.2034	722.03	Q			
10+35	371.2161	727.84	Q			
10+40	376.2691	733.70	Q			
10+45	381.3629	739.62	Q			
10+50	386.4983	745.66	Q			
10+55	391.6761	751.82	QV			
11+ 0	396.8973	758.11	QV			
11+ 5	402.1625	764.51	QV			
11+10	407.4728	771.06	QV			
11+15	412.8291	777.73	QV			
11+20	418.2323	784.55	QV			
11+25	423.6835	791.51	QV			
11+30	429.1837	798.63	QV			
11+35	434.7340	805.91	QV			
11+40	440.3357	813.36	QV			
11+45	445.9898	820.98	QV			
11+50	451.6977	828.78	QV			
11+55	457.4605	836.76	QV			
12+ 0	463.2796	844.93	QV			
12+ 5	469.1575	853.47	Q V			
12+10	475.0969	862.40	Q V			
12+15	481.0992	871.54	Q V			
12+20	487.1671	881.06	Q V			
12+25	493.3031	890.94	Q V			
12+30	499.5089	901.09	QV			
12+35	505.7875	911.65	QV			
12+40	512.1414	922.58	QV			
12+45	518.5726	933.82	QV			
12+50	525.0849	945.58	QV			
12+55	531.6806	957.71	QV			
13+ 0	538.3631	970.29	QV			
13+ 5	545.1394	983.93	Q V			
13+10	552.0133	998.09	Q V			
13+15	558.9892	1012.90	Q V			
13+20	566.0762	1029.03	Q V			
13+25	573.2778	1045.68	Q V			
13+30	580.5967	1062.70	Q V			
13+35	588.0338	1079.88	Q V			
13+40	595.5930	1097.59	QV			
13+45	603.2774	1115.77	QV			
13+50	611.0910	1134.54	QV			
13+55	619.0376	1153.85	Q V			
14+ 0	627.1186	1173.36	Q V			
14+ 5	635.3609	1196.78	Q V			
14+10	643.7949	1224.62	Q V			



14+15	652.4239	1252.93	Q V				
14+20	661.2748	1285.14	QV				
14+25	670.3718	1320.88	QV				
14+30	679.7224	1357.71	QV				
14+35	689.3591	1399.24	QV				
14+40	699.3009	1443.55	QV				
14+45	709.5609	1489.76	QV				
14+50	720.1800	1541.89	QV				
14+55	731.1762	1596.65	QV				
15+ 0	742.5760	1655.26	Q				
15+ 5	754.4966	1730.87	Q				
15+10	766.9715	1811.35	VQ				
15+15	780.0535	1899.51	Q				
15+20	793.8889	2008.89	VQ				
15+25	808.4719	2117.45	VQ				
15+30	823.7723	2221.62	V Q				
15+35	839.7778	2324.01	V Q				
15+40	856.4852	2425.91	V Q				
15+45	873.8955	2527.98	V Q				
15+50	892.0493	2635.93	V Q				
15+55	910.9915	2750.41	V Q				
16+ 0	930.8081	2877.37	V Q				
16+ 5	952.3760	3131.67	V Q				
16+10	975.6033	3372.61	V Q				
16+15	999.6078	3485.45	V Q				
16+20	1025.1044	3702.11	V Q				
16+25	1051.8102	3877.68	V Q				
16+30	1079.1950	3976.28	V Q				
16+35	1108.0120	4184.22	V Q				
16+40	1137.5955	4295.52	V Q				
16+45	1167.8308	4390.17	V Q				
16+50	1199.6557	4620.98	V Q				
16+55	1232.5166	4771.40	V Q				
17+ 0	1267.0167	5009.41	V Q				
17+ 5	1306.1058	5675.73	V	Q			
17+10	1346.8282	5912.89	V	Q			
17+15	1389.9418	6260.10	V	Q			
17+20	1438.1690	7002.59	V	Q			
17+25	1487.0900	7103.32	V	Q			
17+30	1535.3695	7010.19	V	Q			
17+35	1582.1933	6798.82	V	Q			
17+40	1629.0001	6796.35	V	Q			
17+45	1675.3971	6736.84	V	Q			
17+50	1721.2861	6663.08	V	Q			
17+55	1766.0699	6502.61	V	Q			
18+ 0	1807.4450	6007.66	V	Q			
18+ 5	1845.7402	5560.47	V	Q			
18+10	1882.9582	5404.06	V	Q			
18+15	1917.6080	5031.14	V Q				
18+20	1950.4112	4763.03	VQ				
18+25	1982.1966	4615.24	Q				
18+30	2012.1138	4343.97	Q V				
18+35	2040.7134	4152.67	Q V				
18+40	2068.4250	4023.72	Q V				
18+45	2094.7737	3825.84	Q V				
18+50	2120.0560	3670.99	Q V				
18+55	2144.5205	3552.24	Q V				
19+ 0	2167.9298	3399.03	Q V				
19+ 5	2190.6543	3299.60	Q V				

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19+10    2212.6745   3197.33  |         |      Q  |       V |         |
19+15    2233.7224   3056.15  |         |     Q   |       V |         |
19+20    2254.2265   2977.20  |         |     Q   |        V|         |
19+25    2274.1213   2888.74  |         |     Q   |        V|         |
19+30    2293.2037   2770.76  |         |    Q    |        V|         |
19+35    2311.8618   2709.15  |         |    Q    |        V|         |
19+40    2330.1019   2648.47  |         |   Q     |         V         |
19+45    2347.9048   2584.98  |         |   Q     |         V         |
19+50    2365.3115   2527.45  |         |   Q     |         V         |
19+55    2382.0340   2428.10  |         |  Q      |         V         |
20+ 0    2398.0130   2320.16  |         | Q       |         |V        |
20+ 5    2413.6907   2276.39  |         | Q       |         |V        |
20+10    2429.0932   2236.45  |         | Q       |         |V        |
20+15    2444.2261   2197.29  |         | Q       |         |V        |
20+20    2459.0438   2151.53  |         |Q        |         |V        |
20+25    2473.2860   2067.96  |         |Q        |         |V        |
20+30    2487.1106   2007.34  |         |Q        |         | V       |
20+35    2500.7083   1974.39  |         Q         |         | V       |
20+40    2514.0927   1943.41  |         Q         |         | V       |
20+45    2527.2573   1911.50  |         Q         |         | V       |
20+50    2540.1599   1873.47  |         Q         |         | V       |
20+55    2552.6457   1812.94  |         Q         |         |  V      |
21+ 0    2564.8883   1777.62  |        Q|         |         |  V      |
21+ 5    2576.9495   1751.28  |        Q|         |         |  V      |
21+10    2588.8353   1725.82  |        Q|         |         |  V      |
21+15    2600.5324   1698.42  |        Q|         |         |  V      |
21+20    2611.9654   1660.07  |        Q|         |         |  V      |
21+25    2622.9967   1601.75  |       Q |         |         |  V      |
21+30    2633.8476   1575.54  |       Q |         |         |   V     |
21+35    2644.5486   1553.79  |       Q |         |         |   V     |
21+40    2655.0962   1531.52  |       Q |         |         |   V     |
21+45    2665.4592   1504.71  |       Q |         |         |   V     |
21+50    2675.4941   1457.07  |       Q |         |         |   V     |
21+55    2685.1381   1400.30  |      Q  |         |         |   V     |
22+ 0    2694.6358   1379.07  |      Q  |         |         |   V     |
22+ 5    2704.0029   1360.10  |      Q  |         |         |   V     |
22+10    2713.2399   1341.22  |      Q  |         |         |    V    |
22+15    2722.3333   1320.36  |      Q  |         |         |    V    |
22+20    2731.2212   1290.53  |      Q  |         |         |    V    |
22+25    2739.9392   1265.85  |      Q  |         |         |    V    |
22+30    2748.5420   1249.13  |     Q   |         |         |    V    |
22+35    2757.0330   1232.89  |     Q   |         |         |    V    |
22+40    2765.4072   1215.94  |     Q   |         |         |    V    |
22+45    2773.6431   1195.84  |     Q   |         |         |    V    |
22+50    2781.6502   1162.63  |     Q   |         |         |    V    |
22+55    2789.5194   1142.61  |     Q   |         |         |     V   |
23+ 0    2797.2911   1128.46  |     Q   |         |         |     V   |
23+ 5    2804.9699   1114.96  |     Q   |         |         |     V   |
23+10    2812.5529   1101.04  |     Q   |         |         |     V   |
23+15    2820.0175   1083.86  |     Q   |         |         |     V   |
23+20    2827.3122   1059.20  |    Q    |         |         |     V   |
23+25    2834.5111   1045.27  |    Q    |         |         |     V   |
23+30    2841.6262   1033.11  |    Q    |         |         |     V   |
23+35    2848.6540   1020.44  |    Q    |         |         |     V   |
23+40    2855.5774   1005.28  |    Q    |         |         |     V   |
23+45    2862.3207    979.12  |    Q    |         |         |      V  |
23+50    2868.8319    945.43  |    Q    |         |         |      V  |
23+55    2875.2574    932.98  |    Q    |         |         |      V  |
24+ 0    2881.6087    922.21  |    Q    |         |         |      V  |
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24+ 5    2887.8840    911.17  |    Q    |         |         |      V  |
24+10    2894.0748    898.90  |   Q     |         |         |      V  |
24+15    2900.1826    886.86  |   Q     |         |         |      V  |
24+20    2906.2053    874.49  |   Q     |         |         |      V  |
24+25    2912.1386    861.51  |   Q     |         |         |      V  |
24+30    2917.9817    848.41  |   Q     |         |         |      V  |
24+35    2923.7226    833.58  |   Q     |         |         |      V  |
24+40    2929.3423    815.98  |   Q     |         |         |      V  |
24+45    2934.7595    786.59  |   Q     |         |         |      V  |
24+50    2940.0363    766.19  |   Q     |         |         |       V |
24+55    2945.2109    751.36  |   Q     |         |         |       V |
25+ 0    2950.2843    736.65  |   Q     |         |         |       V |
25+ 5    2955.2316    718.36  |  Q      |         |         |       V |
25+10    2960.0482    699.37  |  Q      |         |         |       V |
25+15    2964.7253    679.11  |  Q      |         |         |       V |
25+20    2969.2310    654.22  |  Q      |         |         |       V |
25+25    2973.5616    628.81  |  Q      |         |         |       V |
25+30    2977.7187    603.60  |  Q      |         |         |       V |
25+35    2981.7035    578.60  |  Q      |         |         |       V |
25+40    2985.4733    547.38  |  Q      |         |         |       V |
25+45    2988.9878    510.30  | Q       |         |         |       V |
25+50    2992.3472    487.77  | Q       |         |         |       V |
25+55    2995.5630    466.94  | Q       |         |         |       V |
26+ 0    2998.6576    449.34  | Q       |         |         |       V |
26+ 5    3001.6462    433.94  | Q       |         |         |       V |
26+10    3004.5307    418.84  | Q       |         |         |       V |
26+15    3007.3247    405.68  | Q       |         |         |       V |
26+20    3010.0348    393.51  | Q       |         |         |       V |
26+25    3012.6608    381.30  | Q       |         |         |       V |
26+30    3015.2052    369.44  | Q       |         |         |       V |
26+35    3017.6599    356.43  |Q        |         |         |        V|
26+40    3019.9547    333.20  |Q        |         |         |        V|
26+45    3022.1483    318.51  |Q        |         |         |        V|
26+50    3024.2837    310.07  |Q        |         |         |        V|
26+55    3026.3643    302.10  |Q        |         |         |        V|
27+ 0    3028.3909    294.26  |Q        |         |         |        V|
27+ 5    3030.3640    286.50  |Q        |         |         |        V|
27+10    3032.2855    279.00  |Q        |         |         |        V|
27+15    3034.1597    272.14  |Q        |         |         |        V|
27+20    3035.9881    265.48  |Q        |         |         |        V|
27+25    3037.7727    259.11  |Q        |         |         |        V|
27+30    3039.5173    253.33  |Q        |         |         |        V|
27+35    3041.2261    248.11  |Q        |         |         |        V|
27+40    3042.9086    244.30  |Q        |         |         |        V|
27+45    3044.5546    238.99  |Q        |         |         |        V|
27+50    3046.1630    233.54  |Q        |         |         |        V|
27+55    3047.7362    228.43  |Q        |         |         |        V|
28+ 0    3049.2778    223.85  |Q        |         |         |        V|
28+ 5    3050.7880    219.28  |Q        |         |         |        V|
28+10    3052.2668    214.72  |Q        |         |         |        V|
28+15    3053.7141    210.15  |Q        |         |         |        V|
28+20    3055.1300    205.58  |Q        |         |         |        V|
28+25    3056.5161    201.26  |Q        |         |         |        V|
28+30    3057.8729    197.02  |Q        |         |         |        V|
28+35    3059.1963    192.15  |Q        |         |         |        V|
28+40    3060.4882    187.59  |Q        |         |         |        V|
28+45    3061.7513    183.39  |Q        |         |         |        V|
28+50    3062.9864    179.33  Q         |         |         |        V|
28+55    3064.1975    175.86  Q         |         |         |        V|
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29+ 0	3065.3836	172.22	Q	|	|	|	V|
29+ 5	3066.5426	168.30	Q	|	|	|	V|
29+10	3067.6741	164.29	Q	|	|	|	V|
29+15	3068.7768	160.11	Q	|	|	|	V|
29+20	3069.8491	155.70	Q	|	|	|	V|
29+25	3070.8864	150.61	Q	|	|	|	V|
29+30	3071.8637	141.91	Q	|	|	|	V|
29+35	3072.7370	126.80	Q	|	|	|	V|
29+40	3073.5764	121.88	Q	|	|	|	V|
29+45	3074.3904	118.20	Q	|	|	|	V|
29+50	3075.1807	114.75	Q	|	|	|	V|
29+55	3075.9466	111.21	Q	|	|	|	V|
30+ 0	3076.6885	107.72	Q	|	|	|	V|
30+ 5	3077.4067	104.28	Q	|	|	|	V|
30+10	3078.1014	100.87	Q	|	|	|	V|
30+15	3078.7728	97.48	Q	|	|	|	V|
30+20	3079.4233	94.46	Q	|	|	|	V|
30+25	3080.0555	91.78	Q	|	|	|	V|
30+30	3080.6695	89.15	Q	|	|	|	V|
30+35	3081.2669	86.75	Q	|	|	|	V|
30+40	3081.8473	84.27	Q	|	|	|	V|
30+45	3082.4096	81.64	Q	|	|	|	V|
30+50	3082.9512	78.64	Q	|	|	|	V|
30+55	3083.4651	74.62	Q	|	|	|	V|
31+ 0	3083.9026	63.52	Q	|	|	|	V|
31+ 5	3084.2705	53.42	Q	|	|	|	V|
31+10	3084.6216	50.99	Q	|	|	|	V|
31+15	3084.9589	48.97	Q	|	|	|	V|
31+20	3085.2820	46.92	Q	|	|	|	V|
31+25	3085.5899	44.71	Q	|	|	|	V|
31+30	3085.8833	42.61	Q	|	|	|	V|
31+35	3086.1629	40.60	Q	|	|	|	V|
31+40	3086.4291	38.65	Q	|	|	|	V|
31+45	3086.6829	36.84	Q	|	|	|	V|
31+50	3086.9254	35.22	Q	|	|	|	V|
31+55	3087.1571	33.65	Q	|	|	|	V|
32+ 0	3087.3796	32.31	Q	|	|	|	V|
32+ 5	3087.5945	31.20	Q	|	|	|	V|
32+10	3087.8020	30.13	Q	|	|	|	V|
32+15	3088.0023	29.08	Q	|	|	|	V|
32+20	3088.1956	28.06	Q	|	|	|	V|
32+25	3088.3820	27.06	Q	|	|	|	V|
32+30	3088.5616	26.09	Q	|	|	|	V|
32+35	3088.7347	25.13	Q	|	|	|	V|
32+40	3088.9013	24.19	Q	|	|	|	V|
32+45	3089.0623	23.37	Q	|	|	|	V|
32+50	3089.2180	22.60	Q	|	|	|	V|
32+55	3089.3684	21.85	Q	|	|	|	V|
33+ 0	3089.5138	21.12	Q	|	|	|	V|
33+ 5	3089.6544	20.40	Q	|	|	|	V|
33+10	3089.7901	19.71	Q	|	|	|	V|
33+15	3089.9211	19.02	Q	|	|	|	V|
33+20	3090.0474	18.34	Q	|	|	|	V|
33+25	3090.1692	17.68	Q	|	|	|	V|
33+30	3090.2864	17.02	Q	|	|	|	V|
33+35	3090.3992	16.38	Q	|	|	|	V|
33+40	3090.5079	15.78	Q	|	|	|	V|
33+45	3090.6132	15.29	Q	|	|	|	V|
33+50	3090.7152	14.81	Q	|	|	|	V|

33+55	3090.8140	14.34	Q	|	|	|	V|
34+ 0	3090.9095	13.88	Q	|	|	|	V|
34+ 5	3091.0019	13.42	Q	|	|	|	V|
34+10	3091.0912	12.97	Q	|	|	|	V|
34+15	3091.1775	12.52	Q	|	|	|	V|
34+20	3091.2607	12.08	Q	|	|	|	V|
34+25	3091.3409	11.65	Q	|	|	|	V|
34+30	3091.4181	11.22	Q	|	|	|	V|
34+35	3091.4925	10.80	Q	|	|	|	V|
34+40	3091.5645	10.46	Q	|	|	|	V|
34+45	3091.6346	10.17	Q	|	|	|	V|
34+50	3091.7027	9.88	Q	|	|	|	V|
34+55	3091.7688	9.60	Q	|	|	|	V|
35+ 0	3091.8329	9.32	Q	|	|	|	V|
35+ 5	3091.8952	9.04	Q	|	|	|	V|
35+10	3091.9555	8.76	Q	|	|	|	V|
35+15	3092.0140	8.49	Q	|	|	|	V|
35+20	3092.0707	8.23	Q	|	|	|	V|
35+25	3092.1255	7.96	Q	|	|	|	V|
35+30	3092.1785	7.70	Q	|	|	|	V|
35+35	3092.2298	7.44	Q	|	|	|	V|
35+40	3092.2791	7.17	Q	|	|	|	V|
35+45	3092.3266	6.90	Q	|	|	|	V|
35+50	3092.3722	6.63	Q	|	|	|	V|
35+55	3092.4161	6.36	Q	|	|	|	V|
36+ 0	3092.4581	6.10	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 50
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3444.14	1	1.45
Rainfall data for year 100		
3444.14	6	2.64
Rainfall data for year 100		
3444.14	24	4.24

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
88.0	97.6	3444.14	1.000	0.048	1.000	0.048

Area-averaged adjusted loss rate Fm (In/Hr) = 0.048

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3444.14	1.000	88.0	97.6	0.25	0.934

Area-averaged catchment yield fraction, Y = 0.934
Area-averaged low loss fraction, Yb = 0.066
++
Watercourse length = 24414.00(Ft.)
Length from concentration point to centroid = 13905.00(Ft.)
Elevation difference along watercourse = 1760.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 3444.14(Ac.)
Catchment Lag time = 0.702 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 11.8667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.048(In/Hr)
Average low loss rate fraction (Yb) = 0.066 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.950
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.050

Computed peak 5-minute rainfall = 0.689(In)
Computed peak 30-minute rainfall = 1.179(In)
Specified peak 1-hour rainfall = 1.451(In)
Computed peak 3-hour rainfall = 2.092(In)
Specified peak 6-hour rainfall = 2.636(In)
Specified peak 24-hour rainfall = 4.235(In)

Rainfall depth area reduction factors:
Using a total area of 3444.14(Ac.) (Ref: fig. E-4)

5-minute factor = 0.842 Adjusted rainfall = 0.580(In)
30-minute factor = 0.842 Adjusted rainfall = 0.992(In)
1-hour factor = 0.842 Adjusted rainfall = 1.222(In)
3-hour factor = 0.980 Adjusted rainfall = 2.050(In)
6-hour factor = 0.989 Adjusted rainfall = 2.608(In)
24-hour factor = 0.996 Adjusted rainfall = 4.216(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 41652.57 (CFS))	
1	0.740	308.265
2	2.435	705.927
3	4.806	987.787
4	7.863	1273.040
5	11.639	1573.119
6	16.946	2210.217

7	23.871	2884.545
8	34.448	4405.419
9	49.916	6443.142
10	57.976	3356.832
11	63.349	2238.239
12	67.615	1776.795
13	71.209	1496.913
14	74.138	1220.236
15	76.904	1151.984
16	79.250	977.265
17	81.421	904.052
18	83.294	780.513
19	84.996	708.703
20	86.544	644.903
21	87.961	590.169
22	89.257	539.866
23	90.397	474.770
24	91.472	447.535
25	92.424	396.621
26	93.323	374.716
27	94.088	318.507
28	94.811	301.075
29	95.399	244.948
30	95.961	234.175
31	96.452	204.519
32	96.921	195.125
33	97.287	152.708
34	97.621	139.039
35	97.823	84.187
36	97.979	64.750
37	98.134	64.750
38	98.289	64.715
39	98.429	58.206
40	98.557	53.382
41	98.685	53.382
42	98.814	53.382
43	98.923	45.611
44	99.002	32.811
45	99.080	32.622
46	99.159	32.622
47	99.241	34.197
48	99.336	39.587
49	99.432	40.037
50	99.528	40.037
51	99.620	38.280
52	99.679	24.633
53	99.731	21.748
54	99.783	21.748
55	99.835	21.511
56	99.872	15.178
57	99.901	12.357
58	99.931	12.357
59	99.972	16.945
60	99.977	2.239
61	99.981	1.545
62	99.984	1.545
63	99.988	1.545
64	99.992	1.545
65	99.995	1.545

66 100.000 0.772

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5797	0.5797
2	0.7137	0.1340
3	0.8060	0.0923
4	0.8787	0.0727
5	0.9395	0.0608
6	0.9924	0.0528
7	1.0393	0.0470
8	1.0818	0.0425
9	1.1207	0.0389
10	1.1567	0.0360
11	1.1902	0.0336
12	1.2217	0.0315
13	1.2687	0.0469
14	1.3137	0.0451
15	1.3571	0.0434
16	1.3990	0.0419
17	1.4396	0.0405
18	1.4789	0.0393
19	1.5170	0.0382
20	1.5541	0.0371
21	1.5902	0.0361
22	1.6255	0.0352
23	1.6599	0.0344
24	1.6935	0.0336
25	1.7264	0.0329
26	1.7586	0.0322
27	1.7901	0.0315
28	1.8210	0.0309
29	1.8514	0.0304
30	1.8812	0.0298
31	1.9105	0.0293
32	1.9393	0.0288
33	1.9676	0.0283
34	1.9955	0.0279
35	2.0229	0.0274
36	2.0499	0.0270
37	2.0695	0.0196
38	2.0888	0.0193
39	2.1077	0.0189
40	2.1263	0.0186
41	2.1447	0.0183
42	2.1627	0.0180
43	2.1804	0.0178
44	2.1979	0.0175
45	2.2152	0.0172
46	2.2321	0.0170
47	2.2489	0.0167
48	2.2654	0.0165
49	2.2817	0.0163
50	2.2977	0.0161
51	2.3136	0.0159
52	2.3293	0.0157
53	2.3447	0.0155
54	2.3600	0.0153
55	2.3751	0.0151

56	2.3900	0.0149
57	2.4047	0.0147
58	2.4193	0.0146
59	2.4337	0.0144
60	2.4480	0.0143
61	2.4621	0.0141
62	2.4760	0.0139
63	2.4898	0.0138
64	2.5035	0.0137
65	2.5170	0.0135
66	2.5304	0.0134
67	2.5436	0.0133
68	2.5568	0.0131
69	2.5698	0.0130
70	2.5826	0.0129
71	2.5954	0.0128
72	2.6080	0.0126
73	2.6205	0.0125
74	2.6329	0.0124
75	2.6452	0.0123
76	2.6574	0.0122
77	2.6694	0.0121
78	2.6814	0.0120
79	2.6932	0.0119
80	2.7050	0.0118
81	2.7167	0.0117
82	2.7283	0.0116
83	2.7397	0.0115
84	2.7511	0.0114
85	2.7624	0.0113
86	2.7737	0.0112
87	2.7848	0.0111
88	2.7958	0.0111
89	2.8068	0.0110
90	2.8177	0.0109
91	2.8285	0.0108
92	2.8392	0.0107
93	2.8499	0.0107
94	2.8605	0.0106
95	2.8710	0.0105
96	2.8814	0.0104
97	2.8918	0.0104
98	2.9021	0.0103
99	2.9123	0.0102
100	2.9225	0.0102
101	2.9326	0.0101
102	2.9426	0.0100
103	2.9526	0.0100
104	2.9625	0.0099
105	2.9723	0.0098
106	2.9821	0.0098
107	2.9918	0.0097
108	3.0015	0.0097
109	3.0111	0.0096
110	3.0206	0.0095
111	3.0301	0.0095
112	3.0395	0.0094
113	3.0489	0.0094
114	3.0582	0.0093

115	3.0675	0.0093
116	3.0767	0.0092
117	3.0859	0.0092
118	3.0950	0.0091
119	3.1041	0.0091
120	3.1131	0.0090
121	3.1220	0.0090
122	3.1310	0.0089
123	3.1398	0.0089
124	3.1487	0.0088
125	3.1574	0.0088
126	3.1662	0.0087
127	3.1748	0.0087
128	3.1835	0.0086
129	3.1921	0.0086
130	3.2006	0.0086
131	3.2092	0.0085
132	3.2176	0.0085
133	3.2260	0.0084
134	3.2344	0.0084
135	3.2428	0.0083
136	3.2511	0.0083
137	3.2593	0.0083
138	3.2676	0.0082
139	3.2758	0.0082
140	3.2839	0.0081
141	3.2920	0.0081
142	3.3001	0.0081
143	3.3081	0.0080
144	3.3161	0.0080
145	3.3241	0.0080
146	3.3320	0.0079
147	3.3399	0.0079
148	3.3478	0.0079
149	3.3556	0.0078
150	3.3634	0.0078
151	3.3711	0.0078
152	3.3788	0.0077
153	3.3865	0.0077
154	3.3942	0.0077
155	3.4018	0.0076
156	3.4094	0.0076
157	3.4169	0.0076
158	3.4245	0.0075
159	3.4320	0.0075
160	3.4394	0.0075
161	3.4469	0.0074
162	3.4543	0.0074
163	3.4616	0.0074
164	3.4690	0.0073
165	3.4763	0.0073
166	3.4836	0.0073
167	3.4908	0.0073
168	3.4981	0.0072
169	3.5053	0.0072
170	3.5124	0.0072
171	3.5196	0.0071
172	3.5267	0.0071
173	3.5338	0.0071

174	3.5409	0.0071
175	3.5479	0.0070
176	3.5549	0.0070
177	3.5619	0.0070
178	3.5689	0.0070
179	3.5758	0.0069
180	3.5827	0.0069
181	3.5896	0.0069
182	3.5965	0.0069
183	3.6033	0.0068
184	3.6101	0.0068
185	3.6169	0.0068
186	3.6237	0.0068
187	3.6304	0.0067
188	3.6371	0.0067
189	3.6438	0.0067
190	3.6505	0.0067
191	3.6571	0.0066
192	3.6637	0.0066
193	3.6703	0.0066
194	3.6769	0.0066
195	3.6835	0.0066
196	3.6900	0.0065
197	3.6965	0.0065
198	3.7030	0.0065
199	3.7095	0.0065
200	3.7159	0.0064
201	3.7224	0.0064
202	3.7288	0.0064
203	3.7352	0.0064
204	3.7415	0.0064
205	3.7479	0.0063
206	3.7542	0.0063
207	3.7605	0.0063
208	3.7668	0.0063
209	3.7731	0.0063
210	3.7793	0.0062
211	3.7855	0.0062
212	3.7917	0.0062
213	3.7979	0.0062
214	3.8041	0.0062
215	3.8102	0.0062
216	3.8164	0.0061
217	3.8225	0.0061
218	3.8286	0.0061
219	3.8347	0.0061
220	3.8407	0.0061
221	3.8468	0.0060
222	3.8528	0.0060
223	3.8588	0.0060
224	3.8648	0.0060
225	3.8707	0.0060
226	3.8767	0.0060
227	3.8826	0.0059
228	3.8886	0.0059
229	3.8945	0.0059
230	3.9003	0.0059
231	3.9062	0.0059
232	3.9121	0.0059

233	3.9179	0.0058
234	3.9237	0.0058
235	3.9295	0.0058
236	3.9353	0.0058
237	3.9411	0.0058
238	3.9468	0.0058
239	3.9526	0.0057
240	3.9583	0.0057
241	3.9640	0.0057
242	3.9697	0.0057
243	3.9754	0.0057
244	3.9810	0.0057
245	3.9867	0.0056
246	3.9923	0.0056
247	3.9979	0.0056
248	4.0035	0.0056
249	4.0091	0.0056
250	4.0147	0.0056
251	4.0202	0.0056
252	4.0258	0.0055
253	4.0313	0.0055
254	4.0368	0.0055
255	4.0423	0.0055
256	4.0478	0.0055
257	4.0533	0.0055
258	4.0587	0.0055
259	4.0642	0.0054
260	4.0696	0.0054
261	4.0750	0.0054
262	4.0804	0.0054
263	4.0858	0.0054
264	4.0912	0.0054
265	4.0966	0.0054
266	4.1019	0.0054
267	4.1073	0.0053
268	4.1126	0.0053
269	4.1179	0.0053
270	4.1232	0.0053
271	4.1285	0.0053
272	4.1337	0.0053
273	4.1390	0.0053
274	4.1443	0.0052
275	4.1495	0.0052
276	4.1547	0.0052
277	4.1599	0.0052
278	4.1651	0.0052
279	4.1703	0.0052
280	4.1755	0.0052
281	4.1806	0.0052
282	4.1858	0.0051
283	4.1909	0.0051
284	4.1961	0.0051
285	4.2012	0.0051
286	4.2063	0.0051
287	4.2114	0.0051
288	4.2164	0.0051

Unit Period	Unit Rainfall	Unit Soil-Loss	Effective Rainfall

(number)	(In)	(In)	(In)
1	0.0051	0.0003	0.0047
2	0.0051	0.0003	0.0048
3	0.0051	0.0003	0.0048
4	0.0051	0.0003	0.0048
5	0.0051	0.0003	0.0048
6	0.0052	0.0003	0.0048
7	0.0052	0.0003	0.0048
8	0.0052	0.0003	0.0049
9	0.0052	0.0003	0.0049
10	0.0052	0.0003	0.0049
11	0.0053	0.0003	0.0049
12	0.0053	0.0004	0.0049
13	0.0053	0.0004	0.0049
14	0.0053	0.0004	0.0050
15	0.0053	0.0004	0.0050
16	0.0054	0.0004	0.0050
17	0.0054	0.0004	0.0050
18	0.0054	0.0004	0.0050
19	0.0054	0.0004	0.0051
20	0.0054	0.0004	0.0051
21	0.0055	0.0004	0.0051
22	0.0055	0.0004	0.0051
23	0.0055	0.0004	0.0051
24	0.0055	0.0004	0.0051
25	0.0055	0.0004	0.0052
26	0.0056	0.0004	0.0052
27	0.0056	0.0004	0.0052
28	0.0056	0.0004	0.0052
29	0.0056	0.0004	0.0053
30	0.0056	0.0004	0.0053
31	0.0057	0.0004	0.0053
32	0.0057	0.0004	0.0053
33	0.0057	0.0004	0.0053
34	0.0057	0.0004	0.0054
35	0.0058	0.0004	0.0054
36	0.0058	0.0004	0.0054
37	0.0058	0.0004	0.0054
38	0.0058	0.0004	0.0054
39	0.0059	0.0004	0.0055
40	0.0059	0.0004	0.0055
41	0.0059	0.0004	0.0055
42	0.0059	0.0004	0.0055
43	0.0060	0.0004	0.0056
44	0.0060	0.0004	0.0056
45	0.0060	0.0004	0.0056
46	0.0060	0.0004	0.0056
47	0.0061	0.0004	0.0057
48	0.0061	0.0004	0.0057
49	0.0061	0.0004	0.0057
50	0.0062	0.0004	0.0057
51	0.0062	0.0004	0.0058
52	0.0062	0.0004	0.0058
53	0.0062	0.0004	0.0058
54	0.0063	0.0004	0.0058
55	0.0063	0.0004	0.0059
56	0.0063	0.0004	0.0059
57	0.0064	0.0004	0.0059

58	0.0064	0.0004	0.0060
59	0.0064	0.0004	0.0060
60	0.0064	0.0004	0.0060
61	0.0065	0.0004	0.0061
62	0.0065	0.0004	0.0061
63	0.0066	0.0004	0.0061
64	0.0066	0.0004	0.0061
65	0.0066	0.0004	0.0062
66	0.0066	0.0004	0.0062
67	0.0067	0.0004	0.0062
68	0.0067	0.0004	0.0063
69	0.0068	0.0004	0.0063
70	0.0068	0.0005	0.0063
71	0.0068	0.0005	0.0064
72	0.0069	0.0005	0.0064
73	0.0069	0.0005	0.0065
74	0.0069	0.0005	0.0065
75	0.0070	0.0005	0.0065
76	0.0070	0.0005	0.0065
77	0.0071	0.0005	0.0066
78	0.0071	0.0005	0.0066
79	0.0071	0.0005	0.0067
80	0.0072	0.0005	0.0067
81	0.0072	0.0005	0.0067
82	0.0073	0.0005	0.0068
83	0.0073	0.0005	0.0068
84	0.0073	0.0005	0.0069
85	0.0074	0.0005	0.0069
86	0.0074	0.0005	0.0069
87	0.0075	0.0005	0.0070
88	0.0075	0.0005	0.0070
89	0.0076	0.0005	0.0071
90	0.0076	0.0005	0.0071
91	0.0077	0.0005	0.0072
92	0.0077	0.0005	0.0072
93	0.0078	0.0005	0.0073
94	0.0078	0.0005	0.0073
95	0.0079	0.0005	0.0074
96	0.0079	0.0005	0.0074
97	0.0080	0.0005	0.0075
98	0.0080	0.0005	0.0075
99	0.0081	0.0005	0.0076
100	0.0081	0.0005	0.0076
101	0.0082	0.0005	0.0077
102	0.0083	0.0005	0.0077
103	0.0083	0.0006	0.0078
104	0.0084	0.0006	0.0078
105	0.0085	0.0006	0.0079
106	0.0085	0.0006	0.0079
107	0.0086	0.0006	0.0080
108	0.0086	0.0006	0.0081
109	0.0087	0.0006	0.0082
110	0.0088	0.0006	0.0082
111	0.0089	0.0006	0.0083
112	0.0089	0.0006	0.0083
113	0.0090	0.0006	0.0084
114	0.0091	0.0006	0.0085
115	0.0092	0.0006	0.0086
116	0.0092	0.0006	0.0086

117	0.0093	0.0006	0.0087
118	0.0094	0.0006	0.0088
119	0.0095	0.0006	0.0089
120	0.0095	0.0006	0.0089
121	0.0097	0.0006	0.0090
122	0.0097	0.0006	0.0091
123	0.0098	0.0007	0.0092
124	0.0099	0.0007	0.0092
125	0.0100	0.0007	0.0094
126	0.0101	0.0007	0.0094
127	0.0102	0.0007	0.0095
128	0.0103	0.0007	0.0096
129	0.0104	0.0007	0.0097
130	0.0105	0.0007	0.0098
131	0.0107	0.0007	0.0099
132	0.0107	0.0007	0.0100
133	0.0109	0.0007	0.0102
134	0.0110	0.0007	0.0102
135	0.0111	0.0007	0.0104
136	0.0112	0.0007	0.0105
137	0.0114	0.0008	0.0106
138	0.0115	0.0008	0.0107
139	0.0117	0.0008	0.0109
140	0.0118	0.0008	0.0110
141	0.0120	0.0008	0.0112
142	0.0121	0.0008	0.0113
143	0.0123	0.0008	0.0115
144	0.0124	0.0008	0.0116
145	0.0126	0.0008	0.0118
146	0.0128	0.0008	0.0119
147	0.0130	0.0009	0.0121
148	0.0131	0.0009	0.0123
149	0.0134	0.0009	0.0125
150	0.0135	0.0009	0.0126
151	0.0138	0.0009	0.0129
152	0.0139	0.0009	0.0130
153	0.0143	0.0009	0.0133
154	0.0144	0.0010	0.0135
155	0.0147	0.0010	0.0138
156	0.0149	0.0010	0.0139
157	0.0153	0.0010	0.0143
158	0.0155	0.0010	0.0144
159	0.0159	0.0011	0.0148
160	0.0161	0.0011	0.0150
161	0.0165	0.0011	0.0154
162	0.0167	0.0011	0.0156
163	0.0172	0.0011	0.0161
164	0.0175	0.0012	0.0163
165	0.0180	0.0012	0.0168
166	0.0183	0.0012	0.0171
167	0.0189	0.0013	0.0177
168	0.0193	0.0013	0.0180
169	0.0270	0.0018	0.0252
170	0.0274	0.0018	0.0256
171	0.0283	0.0019	0.0264
172	0.0288	0.0019	0.0269
173	0.0298	0.0020	0.0278
174	0.0304	0.0020	0.0283
175	0.0315	0.0021	0.0294

176	0.0322	0.0021	0.0301
177	0.0336	0.0022	0.0314
178	0.0344	0.0023	0.0321
179	0.0361	0.0024	0.0337
180	0.0371	0.0025	0.0346
181	0.0393	0.0026	0.0367
182	0.0405	0.0027	0.0378
183	0.0434	0.0029	0.0405
184	0.0451	0.0030	0.0421
185	0.0315	0.0021	0.0294
186	0.0336	0.0022	0.0313
187	0.0389	0.0026	0.0363
188	0.0425	0.0028	0.0397
189	0.0528	0.0035	0.0493
190	0.0608	0.0040	0.0569
191	0.0923	0.0040	0.0884
192	0.1340	0.0040	0.1300
193	0.5797	0.0040	0.5758
194	0.0727	0.0040	0.0687
195	0.0470	0.0031	0.0438
196	0.0360	0.0024	0.0336
197	0.0469	0.0031	0.0438
198	0.0419	0.0028	0.0391
199	0.0382	0.0025	0.0356
200	0.0352	0.0023	0.0329
201	0.0329	0.0022	0.0307
202	0.0309	0.0021	0.0289
203	0.0293	0.0019	0.0273
204	0.0279	0.0019	0.0260
205	0.0196	0.0013	0.0183
206	0.0186	0.0012	0.0174
207	0.0178	0.0012	0.0166
208	0.0170	0.0011	0.0158
209	0.0163	0.0011	0.0152
210	0.0157	0.0010	0.0146
211	0.0151	0.0010	0.0141
212	0.0146	0.0010	0.0136
213	0.0141	0.0009	0.0132
214	0.0137	0.0009	0.0128
215	0.0133	0.0009	0.0124
216	0.0129	0.0009	0.0120
217	0.0125	0.0008	0.0117
218	0.0122	0.0008	0.0114
219	0.0119	0.0008	0.0111
220	0.0116	0.0008	0.0108
221	0.0113	0.0008	0.0106
222	0.0111	0.0007	0.0103
223	0.0108	0.0007	0.0101
224	0.0106	0.0007	0.0099
225	0.0104	0.0007	0.0097
226	0.0102	0.0007	0.0095
227	0.0100	0.0007	0.0093
228	0.0098	0.0006	0.0091
229	0.0096	0.0006	0.0090
230	0.0094	0.0006	0.0088
231	0.0093	0.0006	0.0087
232	0.0091	0.0006	0.0085
233	0.0090	0.0006	0.0084
234	0.0088	0.0006	0.0082

235	0.0087	0.0006	0.0081
236	0.0086	0.0006	0.0080
237	0.0084	0.0006	0.0079
238	0.0083	0.0006	0.0078
239	0.0082	0.0005	0.0076
240	0.0081	0.0005	0.0075
241	0.0080	0.0005	0.0074
242	0.0079	0.0005	0.0073
243	0.0078	0.0005	0.0072
244	0.0077	0.0005	0.0071
245	0.0076	0.0005	0.0071
246	0.0075	0.0005	0.0070
247	0.0074	0.0005	0.0069
248	0.0073	0.0005	0.0068
249	0.0072	0.0005	0.0067
250	0.0071	0.0005	0.0066
251	0.0070	0.0005	0.0066
252	0.0070	0.0005	0.0065
253	0.0069	0.0005	0.0064
254	0.0068	0.0005	0.0064
255	0.0067	0.0004	0.0063
256	0.0067	0.0004	0.0062
257	0.0066	0.0004	0.0062
258	0.0065	0.0004	0.0061
259	0.0065	0.0004	0.0060
260	0.0064	0.0004	0.0060
261	0.0063	0.0004	0.0059
262	0.0063	0.0004	0.0059
263	0.0062	0.0004	0.0058
264	0.0062	0.0004	0.0058
265	0.0061	0.0004	0.0057
266	0.0061	0.0004	0.0057
267	0.0060	0.0004	0.0056
268	0.0060	0.0004	0.0056
269	0.0059	0.0004	0.0055
270	0.0059	0.0004	0.0055
271	0.0058	0.0004	0.0054
272	0.0058	0.0004	0.0054
273	0.0057	0.0004	0.0053
274	0.0057	0.0004	0.0053
275	0.0056	0.0004	0.0052
276	0.0056	0.0004	0.0052
277	0.0055	0.0004	0.0052
278	0.0055	0.0004	0.0051
279	0.0054	0.0004	0.0051
280	0.0054	0.0004	0.0050
281	0.0054	0.0004	0.0050
282	0.0053	0.0004	0.0050
283	0.0053	0.0004	0.0049
284	0.0052	0.0003	0.0049
285	0.0052	0.0003	0.0049
286	0.0052	0.0003	0.0048
287	0.0051	0.0003	0.0048
288	0.0051	0.0003	0.0048

Total soil rain loss = 0.24(In)
Total effective rainfall = 3.98(In)
Peak flow rate in flood hydrograph = 5599.01(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1400.0	2800.0	4200.0	5600.0
0+ 5	0.0101	1.46	Q				
0+10	0.0432	4.81	Q				
0+15	0.1087	9.51	Q				
0+20	0.2160	15.58	Q				
0+25	0.3750	23.09	Q				
0+30	0.6066	33.64	Q				
0+35	0.9333	47.43	Q				
0+40	1.4048	68.47	Q				
0+45	2.0883	99.24	Q				
0+50	2.8837	115.48	Q				
0+55	3.7549	126.50	Q				
1+ 0	4.6870	135.35	Q				
1+ 5	5.6714	142.93	VQ				
1+10	6.6989	149.20	VQ				
1+15	7.7678	155.19	VQ				
1+20	8.8722	160.37	VQ				
1+25	10.0102	165.23	VQ				
1+30	11.1776	169.51	VQ				
1+35	12.3724	173.49	VQ				
1+40	13.5925	177.16	VQ				
1+45	14.8363	180.60	VQ				
1+50	16.1022	183.81	VQ				
1+55	17.3883	186.74	VQ				
2+ 0	18.6936	189.54	VQ				
2+ 5	20.0168	192.13	VQ				
2+10	21.3571	194.60	VQ				
2+15	22.7128	196.85	VQ				
2+20	24.0833	199.00	VQ				
2+25	25.4671	200.92	VQ				
2+30	26.8636	202.78	VQ				
2+35	28.2722	204.53	VQ				
2+40	29.6925	206.23	|Q				
2+45	31.1234	207.75	|Q				
2+50	32.5642	209.21	|Q				
2+55	34.0134	210.43	|Q				
3+ 0	35.4703	211.55	|Q				
3+ 5	36.9352	212.70	|Q				
3+10	38.4079	213.83	|Q				
3+15	39.8884	214.97	|Q				
3+20	41.3765	216.07	|Q				
3+25	42.8724	217.21	|Q				
3+30	44.3761	218.33	|Q				
3+35	45.8874	219.45	|Q				
3+40	47.4059	220.49	|Q				
3+45	48.9319	221.57	|Q				
3+50	50.4651	222.63	|Q				
3+55	52.0060	223.73	|Q				
4+ 0	53.5545	224.85	|Q				
4+ 5	55.1110	226.00	|Q				

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4+10      56.6753    227.14  |Q         |          |          |          |
4+15      58.2477    228.31  |QV        |          |          |          |
4+20      59.8276    229.40  |QV        |          |          |          |
4+25      61.4151    230.51  |QV        |          |          |          |
4+30      63.0102    231.61  |QV        |          |          |          |
4+35      64.6131    232.74  |QV        |          |          |          |
4+40      66.2235    233.83  |QV        |          |          |          |
4+45      67.8415    234.94  |QV        |          |          |          |
4+50      69.4672    236.04  |QV        |          |          |          |
4+55      71.1008    237.20  |QV        |          |          |          |
5+ 0      72.7418    238.28  |QV        |          |          |          |
5+ 5      74.3905    239.39  |QV        |          |          |          |
5+10      76.0468    240.49  |QV        |          |          |          |
5+15      77.7109    241.63  |QV        |          |          |          |
5+20      79.3828    242.75  |QV        |          |          |          |
5+25      81.0627    243.92  |QV        |          |          |          |
5+30      82.7505    245.07  |QV        |          |          |          |
5+35      84.4464    246.26  |QV        |          |          |          |
5+40      86.1505    247.43  |Q V       |          |          |          |
5+45      87.8629    248.64  |Q V       |          |          |          |
5+50      89.5836    249.84  |Q V       |          |          |          |
5+55      91.3129    251.09  |Q V       |          |          |          |
6+ 0      93.0506    252.32  |Q V       |          |          |          |
6+ 5      94.7972    253.60  |Q V       |          |          |          |
6+10      96.5525    254.86  |Q V       |          |          |          |
6+15      98.3168    256.18  |Q V       |          |          |          |
6+20     100.0900    257.47  |Q V       |          |          |          |
6+25     101.8725    258.82  |Q V       |          |          |          |
6+30     103.6642    260.15  |Q V       |          |          |          |
6+35     105.4654    261.53  |Q V       |          |          |          |
6+40     107.2760    262.90  |Q V       |          |          |          |
6+45     109.0963    264.32  |Q V       |          |          |          |
6+50     110.9264    265.72  |Q V       |          |          |          |
6+55     112.7665    267.18  |Q V       |          |          |          |
7+ 0      114.6165    268.62  |Q  V      |          |          |          |
7+ 5      116.4768    270.12  |Q  V      |          |          |          |
7+10      118.3474    271.61  |Q  V      |          |          |          |
7+15      120.2286    273.15  |Q  V      |          |          |          |
7+20      122.1203    274.68  |Q  V      |          |          |          |
7+25      124.0230    276.26  |Q  V      |          |          |          |
7+30      125.9364    277.83  |Q  V      |          |          |          |
7+35      127.8612    279.47  |Q  V      |          |          |          |
7+40      129.7970    281.09  | Q V      |          |          |          |
7+45      131.7445    282.77  | Q V      |          |          |          |
7+50      133.7034    284.44  | Q V      |          |          |          |
7+55      135.6743    286.18  | Q V      |          |          |          |
8+ 0      137.6571    287.89  | Q V      |          |          |          |
8+ 5      139.6522    289.68  | Q V      |          |          |          |
8+10      141.6594    291.46  | Q V      |          |          |          |
8+15      143.6794    293.31  | Q  V     |          |          |          |
8+20      145.7121    295.13  | Q  V     |          |          |          |
8+25      147.7578    297.04  | Q  V     |          |          |          |
8+30      149.8166    298.93  | Q  V     |          |          |          |
8+35      151.8889    300.90  | Q  V     |          |          |          |
8+40      153.9747    302.86  | Q  V     |          |          |          |
8+45      156.0745    304.90  | Q  V     |          |          |          |
8+50      158.1883    306.92  | Q  V     |          |          |          |
8+55      160.3165    309.02  | Q  V     |          |          |          |
9+ 0      162.4592    311.12  | Q  V     |          |          |          |
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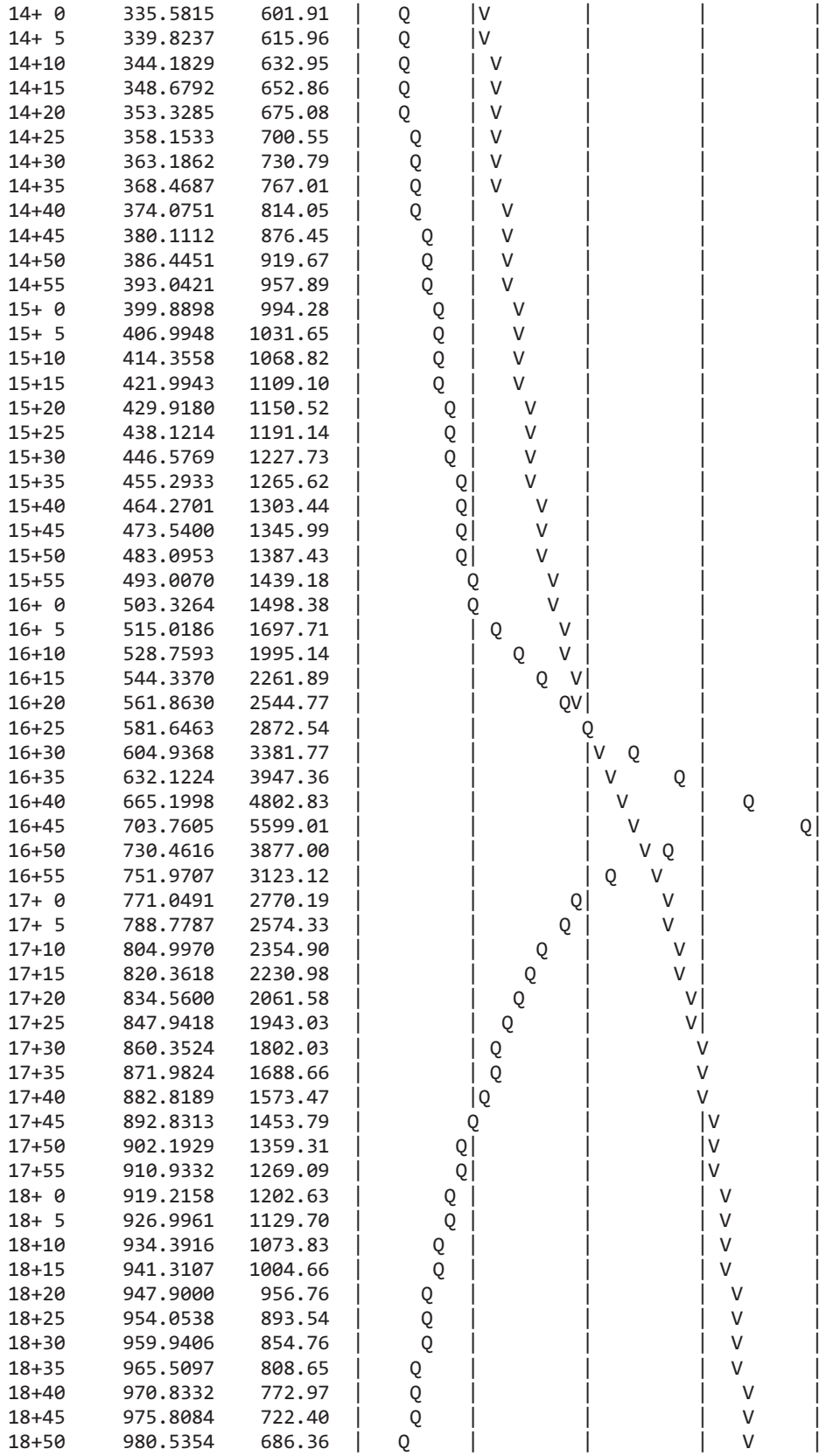
9+ 5	164.6169	313.30	Q V				
9+10	166.7895	315.46	Q V				
9+15	168.9777	317.73	Q V				
9+20	171.1814	319.97	Q V				
9+25	173.4012	322.32	Q V				
9+30	175.6371	324.65	Q V				
9+35	177.8897	327.08	Q V				
9+40	180.1589	329.50	Q V				
9+45	182.4456	332.03	Q V				
9+50	184.7496	334.54	Q V				
9+55	187.0717	337.17	Q V				
10+ 0	189.4118	339.78	Q V				
10+ 5	191.7708	342.52	Q V				
10+10	194.1484	345.24	Q V				
10+15	196.5457	348.09	Q V				
10+20	198.9626	350.92	Q V				
10+25	201.3999	353.90	Q V				
10+30	203.8575	356.85	Q V				
10+35	206.3366	359.96	Q V				
10+40	208.8369	363.05	Q V				
10+45	211.3596	366.29	Q V				
10+50	213.9045	369.52	Q V				
10+55	216.4728	372.92	Q V				
11+ 0	219.0644	376.30	Q V				
11+ 5	221.6805	379.86	Q V				
11+10	224.3210	383.40	Q V				
11+15	226.9872	387.14	Q V				
11+20	229.6791	390.86	Q V				
11+25	232.3980	394.78	Q V				
11+30	235.1439	398.70	Q V				
11+35	237.9182	402.83	Q V				
11+40	240.7209	406.95	Q V				
11+45	243.5535	411.30	Q V				
11+50	246.4162	415.66	Q V				
11+55	249.3105	420.25	Q V				
12+ 0	252.2365	424.85	Q V				
12+ 5	255.1960	429.73	Q V				
12+10	258.1893	434.62	Q V				
12+15	261.2182	439.81	Q V				
12+20	264.2831	445.02	Q V				
12+25	267.3860	450.54	Q V				
12+30	270.5273	456.11	Q V				
12+35	273.7093	462.03	Q V				
12+40	276.9327	468.03	Q V				
12+45	280.2003	474.46	Q V				
12+50	283.5118	480.84	Q V				
12+55	286.8698	487.58	Q V				
13+ 0	290.2746	494.37	Q V				
13+ 5	293.7291	501.59	Q V				
13+10	297.2338	508.88	Q V				
13+15	300.7920	516.65	Q V				
13+20	304.4043	524.51	Q V				
13+25	308.0745	532.91	Q V				
13+30	311.8033	541.42	Q V				
13+35	315.5948	550.53	Q V				
13+40	319.4501	559.80	Q V				
13+45	323.3740	569.74	Q V				
13+50	327.3675	579.87	Q V				
13+55	331.4362	590.77	Q V				



14+ 0	335.5815	601.91	
14+ 5	339.8237	615.96	
14+10	344.1829	632.95	
14+15	348.6792	652.86	
14+20	353.3285	675.08	
14+25	358.1533	700.55	
14+30	363.1862	730.79	
14+35	368.4687	767.01	
14+40	374.0751	814.05	
14+45	380.1112	876.45	
14+50	386.4451	919.67	
14+55	393.0421	957.89	
15+ 0	399.8898	994.28	
15+ 5	406.9948	1031.65	
15+10	414.3558	1068.82	
15+15	421.9943	1109.10	
15+20	429.9180	1150.52	
15+25	438.1214	1191.14	
15+30	446.5769	1227.73	
15+35	455.2933	1265.62	
15+40	464.2701	1303.44	
15+45	473.5400	1345.99	
15+50	483.0953	1387.43	
15+55	493.0070	1439.18	
16+ 0	503.3264	1498.38	
16+ 5	515.0186	1697.71	
16+10	528.7593	1995.14	
16+15	544.3370	2261.89	
16+20	561.8630	2544.77	
16+25	581.6463	2872.54	
16+30	604.9368	3381.77	
16+35	632.1224	3947.36	
16+40	665.1998	4802.83	
16+45	703.7605	5599.01	
16+50	730.4616	3877.00	
16+55	751.9707	3123.12	
17+ 0	771.0491	2770.19	
17+ 5	788.7787	2574.33	
17+10	804.9970	2354.90	
17+15	820.3618	2230.98	
17+20	834.5600	2061.58	
17+25	847.9418	1943.03	
17+30	860.3524	1802.03	
17+35	871.9824	1688.66	
17+40	882.8189	1573.47	
17+45	892.8313	1453.79	
17+50	902.1929	1359.31	
17+55	910.9332	1269.09	
18+ 0	919.2158	1202.63	
18+ 5	926.9961	1129.70	
18+10	934.3916	1073.83	
18+15	941.3107	1004.66	
18+20	947.9000	956.76	
18+25	954.0538	893.54	
18+30	959.9406	854.76	
18+35	965.5097	808.65	
18+40	970.8332	772.97	
18+45	975.8084	722.40	
18+50	980.5354	686.36	

18+55	984.9049	634.44	Q			V
19+ 0	989.0615	603.54	Q			V
19+ 5	993.0873	584.54	Q			V
19+10	996.9925	567.04	Q			V
19+15	1000.7611	547.21	Q			V
19+20	1004.4056	529.17	Q			V
19+25	1007.9503	514.69	Q			V
19+30	1011.3972	500.50	Q			V
19+35	1014.7248	483.17	Q			V
19+40	1017.9267	464.91	Q			V
19+45	1021.0546	454.17	Q			V
19+50	1024.1169	444.64	Q			V
19+55	1027.1253	436.82	Q			V
20+ 0	1030.0932	430.94	Q			V
20+ 5	1033.0047	422.76	Q			V
20+10	1035.8560	414.00	Q			V
20+15	1038.6384	404.01	Q			V
20+20	1041.3190	389.22	Q			V
20+25	1043.9381	380.29	Q			V
20+30	1046.5078	373.12	Q			V
20+35	1049.0281	365.95	Q			V
20+40	1051.4800	356.03	Q			V
20+45	1053.8790	348.32	Q			V
20+50	1056.2356	342.19	Q			V
20+55	1058.5621	337.81	Q			V
21+ 0	1060.7980	324.65	Q			V
21+ 5	1062.9928	318.69	Q			V
21+10	1065.1525	313.59	Q			V
21+15	1067.2799	308.90	Q			V
21+20	1069.3753	304.26	Q			V
21+25	1071.4400	299.78	Q			V
21+30	1073.4724	295.11	Q			V
21+35	1075.4742	290.65	Q			V
21+40	1077.4494	286.80	Q			V
21+45	1079.3992	283.12	Q			V
21+50	1081.3247	279.57	Q			V
21+55	1083.2262	276.10	Q			V
22+ 0	1085.1053	272.85	Q			V
22+ 5	1086.9627	269.70	Q			V
22+10	1088.7992	266.65	Q			V
22+15	1090.6153	263.70	Q			V
22+20	1092.4116	260.83	Q			V
22+25	1094.1888	258.05	Q			V
22+30	1095.9474	255.35	Q			V
22+35	1097.6880	252.73	Q			V
22+40	1099.4110	250.18	Q			V
22+45	1101.1169	247.70	Q			V
22+50	1102.8061	245.28	Q			V
22+55	1104.4791	242.92	Q			V
23+ 0	1106.1364	240.63	Q			V
23+ 5	1107.7781	238.39	Q			V
23+10	1109.4048	236.20	Q			V
23+15	1111.0169	234.06	Q			V
23+20	1112.6145	231.98	Q			V
23+25	1114.1982	229.94	Q			V
23+30	1115.7681	227.95	Q			V
23+35	1117.3246	226.01	Q			V
23+40	1118.8680	224.10	Q			V
23+45	1120.3986	222.24	Q			V

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23+50    1121.9166    220.42  |Q        |         |         |        V|
23+55    1123.4223    218.63  |Q        |         |         |        V|
24+ 0    1124.9160    216.88  |Q        |         |         |        V|
24+ 5    1126.3878    213.71  |Q        |         |         |        V|
24+10    1127.8252    208.70  |Q        |         |         |        V|
24+15    1129.2193    202.42  |Q        |         |         |        V|
24+20    1130.5612    194.85  |Q        |         |         |        V|
24+25    1131.8417    185.93  |Q        |         |         |        V|
24+30    1133.0405    174.07  |Q        |         |         |        V|
24+35    1134.1364    159.12  |Q        |         |         |        V|
24+40    1135.0806    137.10  Q         |         |         |        V|
24+45    1135.8078    105.59  Q         |         |         |        V|
24+50    1136.4202     88.91  Q         |         |         |        V|
24+55    1136.9550     77.65  Q         |         |         |        V|
25+ 0    1137.4278     68.65  Q         |         |         |        V|
25+ 5    1137.8482     61.05  Q         |         |         |        V|
25+10    1138.2257     54.81  Q         |         |         |        V|
25+15    1138.5628     48.94  Q         |         |         |        V|
25+20    1138.8654     43.95  Q         |         |         |        V|
25+25    1139.1363     39.34  Q         |         |         |        V|
25+30    1139.3798     35.35  Q         |         |         |        V|
25+35    1139.5983     31.72  Q         |         |         |        V|
25+40    1139.7941     28.43  Q         |         |         |        V|
25+45    1139.9692     25.43  Q         |         |         |        V|
25+50    1140.1254     22.68  Q         |         |         |        V|
25+55    1140.2649     20.26  Q         |         |         |        V|
26+ 0    1140.3888     17.99  Q         |         |         |        V|
26+ 5    1140.4989     15.98  Q         |         |         |        V|
26+10    1140.5959     14.09  Q         |         |         |        V|
26+15    1140.6818     12.47  Q         |         |         |        V|
26+20    1140.7573     10.95  Q         |         |         |        V|
26+25    1140.8242      9.71  Q         |         |         |        V|
26+30    1140.8829      8.53  Q         |         |         |        V|
26+35    1140.9346      7.50  Q         |         |         |        V|
26+40    1140.9795      6.52  Q         |         |         |        V|
26+45    1141.0191      5.75  Q         |         |         |        V|
26+50    1141.0538      5.05  Q         |         |         |        V|
26+55    1141.0856      4.61  Q         |         |         |        V|
27+ 0    1141.1150      4.27  Q         |         |         |        V|
27+ 5    1141.1421      3.93  Q         |         |         |        V|
27+10    1141.1668      3.60  Q         |         |         |        V|
27+15    1141.1895      3.29  Q         |         |         |        V|
27+20    1141.2103      3.02  Q         |         |         |        V|
27+25    1141.2292      2.74  Q         |         |         |        V|
27+30    1141.2461      2.47  Q         |         |         |        V|
27+35    1141.2615      2.23  Q         |         |         |        V|
27+40    1141.2757      2.06  Q         |         |         |        V|
27+45    1141.2888      1.89  Q         |         |         |        V|
27+50    1141.3007      1.73  Q         |         |         |        V|
27+55    1141.3113      1.55  Q         |         |         |        V|
28+ 0    1141.3207      1.35  Q         |         |         |        V|
28+ 5    1141.3286      1.15  Q         |         |         |        V|
28+10    1141.3352      0.96  Q         |         |         |        V|
28+15    1141.3405      0.77  Q         |         |         |        V|
28+20    1141.3449      0.65  Q         |         |         |        V|
28+25    1141.3486      0.54  Q         |         |         |        V|
28+30    1141.3516      0.43  Q         |         |         |        V|
28+35    1141.3539      0.33  Q         |         |         |        V|
28+40    1141.3556      0.25  Q         |         |         |        V|
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   28+45    1141.3569      0.19  Q         |         |         |        V|
   28+50    1141.3579      0.13  Q         |         |         |        V|
   28+55    1141.3582      0.05  Q         |         |         |        V|
   29+ 0    1141.3585      0.04  Q         |         |         |        V|
   29+ 5    1141.3587      0.03  Q         |         |         |        V|
   29+10    1141.3589      0.03  Q         |         |         |        V|
   29+15    1141.3590      0.02  Q         |         |         |        V|
   29+20    1141.3591      0.01  Q         |         |         |        V|
   29+25    1141.3591      0.00  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 51
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
15350.45	1	1.42
Rainfall data for year 100		
15350.45	6	2.25
Rainfall data for year 100		
15350.45	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.4	93.1	15350.45	1.000	0.135	0.995	0.134

Area-averaged adjusted loss rate Fm (In/Hr) = 0.134

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
15279.84	0.995	78.4	93.1	0.75	0.778
70.61	0.005	98.0	98.0	0.20	0.931

Area-averaged catchment yield fraction, Y = 0.779
Area-averaged low loss fraction, Yb = 0.221
++
Watercourse length = 45387.00(Ft.)
Length from concentration point to centroid = 22710.00(Ft.)
Elevation difference along watercourse = 2686.10(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 15350.45(Ac.)
Catchment Lag time = 1.112 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.4948
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.134(In/Hr)
Average low loss rate fraction (Yb) = 0.221 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.420
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.580

Computed peak 5-minute rainfall = 0.674(In)
Computed peak 30-minute rainfall = 1.153(In)
Specified peak 1-hour rainfall = 1.420(In)
Computed peak 3-hour rainfall = 1.883(In)
Specified peak 6-hour rainfall = 2.250(In)
Specified peak 24-hour rainfall = 3.400(In)

Rainfall depth area reduction factors:
Using a total area of 15350.45(Ac.) (Ref: fig. E-4)

5-minute factor = 0.592 Adjusted rainfall = 0.399(In)
30-minute factor = 0.614 Adjusted rainfall = 0.709(In)
1-hour factor = 0.623 Adjusted rainfall = 0.885(In)
3-hour factor = 0.918 Adjusted rainfall = 1.728(In)
6-hour factor = 0.961 Adjusted rainfall = 2.162(In)
24-hour factor = 0.977 Adjusted rainfall = 3.320(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 185644.50 (CFS))	
1	0.391	725.184
2	1.191	1485.986
3	2.342	2136.544
4	3.768	2647.236
5	5.525	3261.968

6	7.648	3941.781
7	10.097	4545.583
8	13.687	6664.526
9	18.221	8417.958
10	24.192	11085.274
11	30.236	11219.257
12	36.417	11474.799
13	43.758	13627.337
14	50.547	12604.827
15	55.093	8438.035
16	58.677	6654.891
17	61.760	5722.671
18	64.361	4829.586
19	66.755	4443.825
20	68.869	3924.810
21	70.796	3577.526
22	72.574	3299.609
23	74.226	3068.111
24	75.782	2887.834
25	77.143	2525.945
26	78.470	2464.392
27	79.766	2405.020
28	80.859	2029.767
29	81.886	1906.737
30	82.913	1906.737
31	83.854	1746.619
32	84.701	1572.880
33	85.548	1572.808
34	86.369	1523.697
35	87.097	1350.772
36	87.816	1335.718
37	88.530	1325.158
38	89.158	1166.399
39	89.758	1113.098
40	90.358	1113.098
41	90.892	992.592
42	91.355	858.296
43	91.817	858.199
44	92.265	832.701
45	92.664	740.717
46	93.059	732.419
47	93.451	727.373
48	93.800	648.294
49	94.135	621.109
50	94.469	621.109
51	94.778	573.381
52	95.057	518.765
53	95.337	518.704
54	95.598	484.152
55	95.790	356.438
56	95.975	344.504
57	96.161	344.504
58	96.346	344.504
59	96.532	344.504
60	96.718	344.504
61	96.884	309.474
62	97.029	268.322
63	97.173	268.257
64	97.318	268.257

65	97.462	268.257
66	97.607	268.257
67	97.749	264.628
68	97.858	202.655
69	97.956	180.322
70	98.053	180.322
71	98.150	180.322
72	98.247	180.322
73	98.344	180.322
74	98.436	170.290
75	98.507	131.347
76	98.575	127.450
77	98.644	127.450
78	98.713	127.450
79	98.781	127.450
80	98.850	127.450
81	98.917	124.221
82	98.982	120.226
83	99.046	120.215
84	99.111	120.215
85	99.176	120.215
86	99.241	120.215
87	99.305	119.778
88	99.365	111.612
89	99.424	108.527
90	99.482	108.527
91	99.541	108.527
92	99.599	108.527
93	99.658	108.527
94	99.711	98.918
95	99.740	54.108
96	99.767	50.437
97	99.794	50.437
98	99.821	50.437
99	99.849	50.437
100	99.876	50.437
101	99.903	50.437
102	99.930	50.437
103	99.957	50.437
104	99.984	50.437
105	100.000	28.841

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.3987	0.3987
2	0.4981	0.0994
3	0.5673	0.0693
4	0.6222	0.0549
5	0.6685	0.0462
6	0.7088	0.0403
7	0.7446	0.0358
8	0.7771	0.0325
9	0.8070	0.0299
10	0.8346	0.0277
11	0.8605	0.0258
12	0.8848	0.0243
13	0.9290	0.0442
14	0.9719	0.0429
15	1.0137	0.0417

16	1.0543	0.0407
17	1.0940	0.0397
18	1.1328	0.0388
19	1.1708	0.0380
20	1.2079	0.0372
21	1.2444	0.0365
22	1.2802	0.0358
23	1.3153	0.0352
24	1.3499	0.0346
25	1.3839	0.0340
26	1.4174	0.0335
27	1.4504	0.0330
28	1.4829	0.0325
29	1.5149	0.0321
30	1.5466	0.0316
31	1.5778	0.0312
32	1.6086	0.0308
33	1.6390	0.0305
34	1.6691	0.0301
35	1.6989	0.0298
36	1.7283	0.0294
37	1.7437	0.0154
38	1.7588	0.0151
39	1.7736	0.0148
40	1.7881	0.0146
41	1.8024	0.0143
42	1.8165	0.0141
43	1.8304	0.0139
44	1.8440	0.0136
45	1.8574	0.0134
46	1.8707	0.0132
47	1.8837	0.0130
48	1.8966	0.0128
49	1.9092	0.0127
50	1.9217	0.0125
51	1.9340	0.0123
52	1.9462	0.0122
53	1.9582	0.0120
54	1.9701	0.0119
55	1.9818	0.0117
56	1.9933	0.0116
57	2.0048	0.0114
58	2.0161	0.0113
59	2.0272	0.0112
60	2.0382	0.0110
61	2.0492	0.0109
62	2.0599	0.0108
63	2.0706	0.0107
64	2.0812	0.0106
65	2.0916	0.0104
66	2.1020	0.0103
67	2.1122	0.0102
68	2.1223	0.0101
69	2.1323	0.0100
70	2.1423	0.0099
71	2.1521	0.0098
72	2.1618	0.0097
73	2.1711	0.0093
74	2.1803	0.0092

75	2.1893	0.0091
76	2.1983	0.0090
77	2.2072	0.0089
78	2.2161	0.0088
79	2.2248	0.0088
80	2.2335	0.0087
81	2.2421	0.0086
82	2.2507	0.0085
83	2.2591	0.0085
84	2.2675	0.0084
85	2.2758	0.0083
86	2.2841	0.0083
87	2.2923	0.0082
88	2.3004	0.0081
89	2.3085	0.0081
90	2.3165	0.0080
91	2.3244	0.0079
92	2.3323	0.0079
93	2.3401	0.0078
94	2.3479	0.0078
95	2.3556	0.0077
96	2.3632	0.0076
97	2.3708	0.0076
98	2.3783	0.0075
99	2.3858	0.0075
100	2.3933	0.0074
101	2.4006	0.0074
102	2.4080	0.0073
103	2.4153	0.0073
104	2.4225	0.0072
105	2.4297	0.0072
106	2.4368	0.0071
107	2.4439	0.0071
108	2.4510	0.0070
109	2.4580	0.0070
110	2.4649	0.0070
111	2.4718	0.0069
112	2.4787	0.0069
113	2.4855	0.0068
114	2.4923	0.0068
115	2.4991	0.0067
116	2.5058	0.0067
117	2.5124	0.0067
118	2.5191	0.0066
119	2.5257	0.0066
120	2.5322	0.0066
121	2.5387	0.0065
122	2.5452	0.0065
123	2.5516	0.0064
124	2.5581	0.0064
125	2.5644	0.0064
126	2.5708	0.0063
127	2.5771	0.0063
128	2.5833	0.0063
129	2.5895	0.0062
130	2.5957	0.0062
131	2.6019	0.0062
132	2.6080	0.0061
133	2.6141	0.0061

134	2.6202	0.0061
135	2.6262	0.0060
136	2.6323	0.0060
137	2.6382	0.0060
138	2.6442	0.0059
139	2.6501	0.0059
140	2.6560	0.0059
141	2.6618	0.0059
142	2.6677	0.0058
143	2.6735	0.0058
144	2.6792	0.0058
145	2.6850	0.0057
146	2.6907	0.0057
147	2.6964	0.0057
148	2.7021	0.0057
149	2.7077	0.0056
150	2.7133	0.0056
151	2.7189	0.0056
152	2.7245	0.0056
153	2.7300	0.0055
154	2.7355	0.0055
155	2.7410	0.0055
156	2.7465	0.0055
157	2.7519	0.0054
158	2.7573	0.0054
159	2.7627	0.0054
160	2.7681	0.0054
161	2.7734	0.0053
162	2.7787	0.0053
163	2.7840	0.0053
164	2.7893	0.0053
165	2.7946	0.0053
166	2.7998	0.0052
167	2.8050	0.0052
168	2.8102	0.0052
169	2.8154	0.0052
170	2.8205	0.0051
171	2.8256	0.0051
172	2.8307	0.0051
173	2.8358	0.0051
174	2.8409	0.0051
175	2.8459	0.0050
176	2.8510	0.0050
177	2.8560	0.0050
178	2.8610	0.0050
179	2.8659	0.0050
180	2.8709	0.0049
181	2.8758	0.0049
182	2.8807	0.0049
183	2.8856	0.0049
184	2.8905	0.0049
185	2.8953	0.0049
186	2.9002	0.0048
187	2.9050	0.0048
188	2.9098	0.0048
189	2.9146	0.0048
190	2.9193	0.0048
191	2.9241	0.0047
192	2.9288	0.0047

193	2.9335	0.0047
194	2.9382	0.0047
195	2.9429	0.0047
196	2.9476	0.0047
197	2.9522	0.0046
198	2.9568	0.0046
199	2.9614	0.0046
200	2.9660	0.0046
201	2.9706	0.0046
202	2.9752	0.0046
203	2.9797	0.0046
204	2.9843	0.0045
205	2.9888	0.0045
206	2.9933	0.0045
207	2.9978	0.0045
208	3.0023	0.0045
209	3.0067	0.0045
210	3.0112	0.0044
211	3.0156	0.0044
212	3.0200	0.0044
213	3.0244	0.0044
214	3.0288	0.0044
215	3.0332	0.0044
216	3.0376	0.0044
217	3.0419	0.0043
218	3.0462	0.0043
219	3.0506	0.0043
220	3.0549	0.0043
221	3.0592	0.0043
222	3.0634	0.0043
223	3.0677	0.0043
224	3.0719	0.0043
225	3.0762	0.0042
226	3.0804	0.0042
227	3.0846	0.0042
228	3.0888	0.0042
229	3.0930	0.0042
230	3.0972	0.0042
231	3.1014	0.0042
232	3.1055	0.0041
233	3.1096	0.0041
234	3.1138	0.0041
235	3.1179	0.0041
236	3.1220	0.0041
237	3.1261	0.0041
238	3.1301	0.0041
239	3.1342	0.0041
240	3.1383	0.0041
241	3.1423	0.0040
242	3.1463	0.0040
243	3.1504	0.0040
244	3.1544	0.0040
245	3.1584	0.0040
246	3.1623	0.0040
247	3.1663	0.0040
248	3.1703	0.0040
249	3.1742	0.0040
250	3.1782	0.0039
251	3.1821	0.0039

252	3.1860	0.0039
253	3.1899	0.0039
254	3.1938	0.0039
255	3.1977	0.0039
256	3.2016	0.0039
257	3.2055	0.0039
258	3.2093	0.0039
259	3.2132	0.0038
260	3.2170	0.0038
261	3.2208	0.0038
262	3.2246	0.0038
263	3.2284	0.0038
264	3.2322	0.0038
265	3.2360	0.0038
266	3.2398	0.0038
267	3.2436	0.0038
268	3.2473	0.0038
269	3.2511	0.0037
270	3.2548	0.0037
271	3.2585	0.0037
272	3.2622	0.0037
273	3.2660	0.0037
274	3.2697	0.0037
275	3.2733	0.0037
276	3.2770	0.0037
277	3.2807	0.0037
278	3.2844	0.0037
279	3.2880	0.0037
280	3.2917	0.0036
281	3.2953	0.0036
282	3.2989	0.0036
283	3.3025	0.0036
284	3.3061	0.0036
285	3.3097	0.0036
286	3.3133	0.0036
287	3.3169	0.0036
288	3.3205	0.0036

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0036	0.0008	0.0028
2	0.0036	0.0008	0.0028
3	0.0036	0.0008	0.0028
4	0.0036	0.0008	0.0028
5	0.0036	0.0008	0.0028
6	0.0036	0.0008	0.0028
7	0.0037	0.0008	0.0028
8	0.0037	0.0008	0.0029
9	0.0037	0.0008	0.0029
10	0.0037	0.0008	0.0029
11	0.0037	0.0008	0.0029
12	0.0037	0.0008	0.0029
13	0.0037	0.0008	0.0029
14	0.0037	0.0008	0.0029
15	0.0038	0.0008	0.0029
16	0.0038	0.0008	0.0029
17	0.0038	0.0008	0.0030

18	0.0038	0.0008	0.0030
19	0.0038	0.0008	0.0030
20	0.0038	0.0008	0.0030
21	0.0039	0.0009	0.0030
22	0.0039	0.0009	0.0030
23	0.0039	0.0009	0.0030
24	0.0039	0.0009	0.0030
25	0.0039	0.0009	0.0031
26	0.0039	0.0009	0.0031
27	0.0040	0.0009	0.0031
28	0.0040	0.0009	0.0031
29	0.0040	0.0009	0.0031
30	0.0040	0.0009	0.0031
31	0.0040	0.0009	0.0031
32	0.0040	0.0009	0.0031
33	0.0041	0.0009	0.0032
34	0.0041	0.0009	0.0032
35	0.0041	0.0009	0.0032
36	0.0041	0.0009	0.0032
37	0.0041	0.0009	0.0032
38	0.0041	0.0009	0.0032
39	0.0042	0.0009	0.0032
40	0.0042	0.0009	0.0033
41	0.0042	0.0009	0.0033
42	0.0042	0.0009	0.0033
43	0.0042	0.0009	0.0033
44	0.0043	0.0009	0.0033
45	0.0043	0.0009	0.0033
46	0.0043	0.0010	0.0033
47	0.0043	0.0010	0.0034
48	0.0043	0.0010	0.0034
49	0.0044	0.0010	0.0034
50	0.0044	0.0010	0.0034
51	0.0044	0.0010	0.0034
52	0.0044	0.0010	0.0034
53	0.0044	0.0010	0.0035
54	0.0045	0.0010	0.0035
55	0.0045	0.0010	0.0035
56	0.0045	0.0010	0.0035
57	0.0045	0.0010	0.0035
58	0.0046	0.0010	0.0035
59	0.0046	0.0010	0.0036
60	0.0046	0.0010	0.0036
61	0.0046	0.0010	0.0036
62	0.0046	0.0010	0.0036
63	0.0047	0.0010	0.0036
64	0.0047	0.0010	0.0037
65	0.0047	0.0010	0.0037
66	0.0047	0.0011	0.0037
67	0.0048	0.0011	0.0037
68	0.0048	0.0011	0.0037
69	0.0048	0.0011	0.0038
70	0.0049	0.0011	0.0038
71	0.0049	0.0011	0.0038
72	0.0049	0.0011	0.0038
73	0.0049	0.0011	0.0039
74	0.0050	0.0011	0.0039
75	0.0050	0.0011	0.0039
76	0.0050	0.0011	0.0039

77	0.0051	0.0011	0.0039
78	0.0051	0.0011	0.0040
79	0.0051	0.0011	0.0040
80	0.0051	0.0011	0.0040
81	0.0052	0.0011	0.0040
82	0.0052	0.0012	0.0041
83	0.0053	0.0012	0.0041
84	0.0053	0.0012	0.0041
85	0.0053	0.0012	0.0041
86	0.0053	0.0012	0.0042
87	0.0054	0.0012	0.0042
88	0.0054	0.0012	0.0042
89	0.0055	0.0012	0.0043
90	0.0055	0.0012	0.0043
91	0.0055	0.0012	0.0043
92	0.0056	0.0012	0.0043
93	0.0056	0.0012	0.0044
94	0.0056	0.0012	0.0044
95	0.0057	0.0013	0.0044
96	0.0057	0.0013	0.0045
97	0.0058	0.0013	0.0045
98	0.0058	0.0013	0.0045
99	0.0059	0.0013	0.0046
100	0.0059	0.0013	0.0046
101	0.0059	0.0013	0.0046
102	0.0060	0.0013	0.0047
103	0.0060	0.0013	0.0047
104	0.0061	0.0013	0.0047
105	0.0061	0.0014	0.0048
106	0.0062	0.0014	0.0048
107	0.0062	0.0014	0.0049
108	0.0063	0.0014	0.0049
109	0.0063	0.0014	0.0049
110	0.0064	0.0014	0.0050
111	0.0064	0.0014	0.0050
112	0.0065	0.0014	0.0050
113	0.0066	0.0015	0.0051
114	0.0066	0.0015	0.0051
115	0.0067	0.0015	0.0052
116	0.0067	0.0015	0.0052
117	0.0068	0.0015	0.0053
118	0.0068	0.0015	0.0053
119	0.0069	0.0015	0.0054
120	0.0070	0.0015	0.0054
121	0.0070	0.0016	0.0055
122	0.0071	0.0016	0.0055
123	0.0072	0.0016	0.0056
124	0.0072	0.0016	0.0056
125	0.0073	0.0016	0.0057
126	0.0074	0.0016	0.0057
127	0.0075	0.0017	0.0058
128	0.0075	0.0017	0.0059
129	0.0076	0.0017	0.0060
130	0.0077	0.0017	0.0060
131	0.0078	0.0017	0.0061
132	0.0079	0.0017	0.0061
133	0.0080	0.0018	0.0062
134	0.0081	0.0018	0.0063
135	0.0082	0.0018	0.0064

136	0.0083	0.0018	0.0064
137	0.0084	0.0019	0.0065
138	0.0085	0.0019	0.0066
139	0.0086	0.0019	0.0067
140	0.0087	0.0019	0.0068
141	0.0088	0.0020	0.0069
142	0.0089	0.0020	0.0069
143	0.0091	0.0020	0.0071
144	0.0092	0.0020	0.0071
145	0.0097	0.0022	0.0076
146	0.0098	0.0022	0.0077
147	0.0100	0.0022	0.0078
148	0.0101	0.0022	0.0079
149	0.0103	0.0023	0.0080
150	0.0104	0.0023	0.0081
151	0.0107	0.0024	0.0083
152	0.0108	0.0024	0.0084
153	0.0110	0.0024	0.0086
154	0.0112	0.0025	0.0087
155	0.0114	0.0025	0.0089
156	0.0116	0.0026	0.0090
157	0.0119	0.0026	0.0092
158	0.0120	0.0027	0.0093
159	0.0123	0.0027	0.0096
160	0.0125	0.0028	0.0097
161	0.0128	0.0028	0.0100
162	0.0130	0.0029	0.0101
163	0.0134	0.0030	0.0105
164	0.0136	0.0030	0.0106
165	0.0141	0.0031	0.0110
166	0.0143	0.0032	0.0111
167	0.0148	0.0033	0.0115
168	0.0151	0.0033	0.0117
169	0.0294	0.0065	0.0229
170	0.0298	0.0066	0.0232
171	0.0305	0.0067	0.0237
172	0.0308	0.0068	0.0240
173	0.0316	0.0070	0.0246
174	0.0321	0.0071	0.0250
175	0.0330	0.0073	0.0257
176	0.0335	0.0074	0.0261
177	0.0346	0.0077	0.0269
178	0.0352	0.0078	0.0274
179	0.0365	0.0081	0.0284
180	0.0372	0.0082	0.0289
181	0.0388	0.0086	0.0302
182	0.0397	0.0088	0.0309
183	0.0417	0.0092	0.0325
184	0.0429	0.0095	0.0334
185	0.0243	0.0054	0.0189
186	0.0258	0.0057	0.0201
187	0.0299	0.0066	0.0232
188	0.0325	0.0072	0.0253
189	0.0403	0.0089	0.0314
190	0.0462	0.0102	0.0360
191	0.0693	0.0112	0.0581
192	0.0994	0.0112	0.0882
193	0.3987	0.0112	0.3875
194	0.0549	0.0112	0.0437

195	0.0358	0.0079	0.0279
196	0.0277	0.0061	0.0215
197	0.0442	0.0098	0.0344
198	0.0407	0.0090	0.0317
199	0.0380	0.0084	0.0295
200	0.0358	0.0079	0.0279
201	0.0340	0.0075	0.0265
202	0.0325	0.0072	0.0253
203	0.0312	0.0069	0.0243
204	0.0301	0.0067	0.0234
205	0.0154	0.0034	0.0120
206	0.0146	0.0032	0.0113
207	0.0139	0.0031	0.0108
208	0.0132	0.0029	0.0103
209	0.0127	0.0028	0.0099
210	0.0122	0.0027	0.0095
211	0.0117	0.0026	0.0091
212	0.0113	0.0025	0.0088
213	0.0109	0.0024	0.0085
214	0.0106	0.0023	0.0082
215	0.0102	0.0023	0.0080
216	0.0099	0.0022	0.0077
217	0.0093	0.0020	0.0072
218	0.0090	0.0020	0.0070
219	0.0088	0.0019	0.0068
220	0.0085	0.0019	0.0066
221	0.0083	0.0018	0.0065
222	0.0081	0.0018	0.0063
223	0.0079	0.0018	0.0062
224	0.0078	0.0017	0.0060
225	0.0076	0.0017	0.0059
226	0.0074	0.0016	0.0058
227	0.0073	0.0016	0.0057
228	0.0071	0.0016	0.0056
229	0.0070	0.0016	0.0055
230	0.0069	0.0015	0.0054
231	0.0067	0.0015	0.0053
232	0.0066	0.0015	0.0052
233	0.0065	0.0014	0.0051
234	0.0064	0.0014	0.0050
235	0.0063	0.0014	0.0049
236	0.0062	0.0014	0.0048
237	0.0061	0.0014	0.0047
238	0.0060	0.0013	0.0047
239	0.0059	0.0013	0.0046
240	0.0058	0.0013	0.0045
241	0.0057	0.0013	0.0045
242	0.0057	0.0013	0.0044
243	0.0056	0.0012	0.0043
244	0.0055	0.0012	0.0043
245	0.0054	0.0012	0.0042
246	0.0054	0.0012	0.0042
247	0.0053	0.0012	0.0041
248	0.0052	0.0012	0.0041
249	0.0052	0.0011	0.0040
250	0.0051	0.0011	0.0040
251	0.0050	0.0011	0.0039
252	0.0050	0.0011	0.0039
253	0.0049	0.0011	0.0038

254	0.0049	0.0011	0.0038
255	0.0048	0.0011	0.0038
256	0.0048	0.0011	0.0037
257	0.0047	0.0010	0.0037
258	0.0047	0.0010	0.0036
259	0.0046	0.0010	0.0036
260	0.0046	0.0010	0.0036
261	0.0045	0.0010	0.0035
262	0.0045	0.0010	0.0035
263	0.0044	0.0010	0.0035
264	0.0044	0.0010	0.0034
265	0.0043	0.0010	0.0034
266	0.0043	0.0010	0.0034
267	0.0043	0.0009	0.0033
268	0.0042	0.0009	0.0033
269	0.0042	0.0009	0.0033
270	0.0041	0.0009	0.0032
271	0.0041	0.0009	0.0032
272	0.0041	0.0009	0.0032
273	0.0040	0.0009	0.0031
274	0.0040	0.0009	0.0031
275	0.0040	0.0009	0.0031
276	0.0039	0.0009	0.0031
277	0.0039	0.0009	0.0030
278	0.0039	0.0009	0.0030
279	0.0038	0.0009	0.0030
280	0.0038	0.0008	0.0030
281	0.0038	0.0008	0.0029
282	0.0038	0.0008	0.0029
283	0.0037	0.0008	0.0029
284	0.0037	0.0008	0.0029
285	0.0037	0.0008	0.0029
286	0.0036	0.0008	0.0028
287	0.0036	0.0008	0.0028
288	0.0036	0.0008	0.0028

Total soil rain loss = 0.64(In)
Total effective rainfall = 2.68(In)
Peak flow rate in flood hydrograph = 10831.85(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2725.0	5450.0	8175.0	10900.0
0+ 5	0.0139	2.02	Q	|	|	|	|
0+10	0.0563	6.16	Q	|	|	|	|
0+15	0.1398	12.12	Q	|	|	|	|
0+20	0.2742	19.52	Q	|	|	|	|
0+25	0.4717	28.67	Q	|	|	|	|
0+30	0.7453	39.73	Q	|	|	|	|
0+35	1.1069	52.51	Q	|	|	|	|
0+40	1.5976	71.24	Q	|	|	|	|
0+45	2.2512	94.91	Q	|	|	|	|

0+50	3.1195	126.08	Q				
0+55	4.2058	157.73	Q				
1+ 0	5.5158	190.22	Q				
1+ 5	7.0916	228.81	Q				
1+10	8.9146	264.69	Q				
1+15	10.9058	289.13	VQ				
1+20	13.0319	308.70	VQ				
1+25	15.2754	325.76	VQ				
1+30	17.6198	340.41	VQ				
1+35	20.0580	354.03	VQ				
1+40	22.5806	366.28	VQ				
1+45	25.1812	377.61	VQ				
1+50	27.8549	388.22	VQ				
1+55	30.5975	398.22	VQ				
2+ 0	33.4058	407.78	VQ				
2+ 5	36.2734	416.37	VQ				
2+10	39.1992	424.83	VQ				
2+15	42.1824	433.16	VQ				
2+20	45.2161	440.49	VQ				
2+25	48.2981	447.51	VQ				
2+30	51.4288	454.58	VQ				
2+35	54.6053	461.23	VQ				
2+40	57.8246	467.44	VQ				
2+45	61.0868	473.67	VQ				
2+50	64.3913	479.81	VQ				
2+55	67.7349	485.49	VQ				
3+ 0	71.1176	491.18	VQ				
3+ 5	74.5395	496.86	VQ				
3+10	77.9977	502.14	VQ				
3+15	81.4915	507.29	VQ				
3+20	85.0210	512.49	VQ				
3+25	88.5842	517.37	|Q				
3+30	92.1787	521.92	|Q				
3+35	95.8047	526.50	|Q				
3+40	99.4620	531.04	|Q				
3+45	103.1490	535.35	|Q				
3+50	106.8657	539.68	|Q				
3+55	110.6124	544.01	|Q				
4+ 0	114.3876	548.17	|VQ				
4+ 5	118.1912	552.27	|VQ				
4+10	122.0232	556.42	|VQ				
4+15	125.8831	560.45	|VQ				
4+20	129.7699	564.37	|VQ				
4+25	133.6840	568.32	|VQ				
4+30	137.6249	572.21	|VQ				
4+35	141.5903	575.78	|VQ				
4+40	145.5803	579.35	|VQ				
4+45	149.5950	582.94	|VQ				
4+50	153.6348	586.58	|VQ				
4+55	157.6998	590.24	|VQ				
5+ 0	161.7903	593.94	|VQ				
5+ 5	165.9058	597.57	|VQ				
5+10	170.0459	601.14	|VQ				
5+15	174.2106	604.73	| Q				
5+20	178.4005	608.36	| Q				
5+25	182.6155	612.02	| Q				
5+30	186.8561	615.73	| Q				
5+35	191.1223	619.46	| Q				
5+40	195.4133	623.06	| Q				

5+45	199.7290	626.63	Q				
5+50	204.0696	630.25	Q				
5+55	208.4353	633.90	Q				
6+ 0	212.8265	637.60	Q				
6+ 5	217.2434	641.33	Q				
6+10	221.6861	645.09	Q				
6+15	226.1543	648.77	Q				
6+20	230.6481	652.50	Q				
6+25	235.1678	656.26	Q				
6+30	239.7137	660.08	Q				
6+35	244.2862	663.93	Q				
6+40	248.8857	667.84	Q				
6+45	253.5122	671.77	Q				
6+50	258.1662	675.76	QV				
6+55	262.8480	679.79	QV				
7+ 0	267.5579	683.88	QV				
7+ 5	272.2963	688.01	QV				
7+10	277.0635	692.21	QV				
7+15	281.8600	696.45	QV				
7+20	286.6860	700.73	QV				
7+25	291.5417	705.05	QV				
7+30	296.4277	709.44	QV				
7+35	301.3442	713.88	QV				
7+40	306.2919	718.40	QV				
7+45	311.2709	722.96	QV				
7+50	316.2818	727.58	QV				
7+55	321.3239	732.12	QV				
8+ 0	326.3978	736.73	QV				
8+ 5	331.5039	741.40	QV				
8+10	336.6426	746.15	QV				
8+15	341.8145	750.96	QV				
8+20	347.0201	755.86	Q V				
8+25	352.2599	760.81	Q V				
8+30	357.5344	765.86	Q V				
8+35	362.8442	770.98	Q V				
8+40	368.1898	776.19	Q V				
8+45	373.5714	781.41	Q V				
8+50	378.9891	786.65	Q V				
8+55	384.4434	791.96	Q V				
9+ 0	389.9350	797.38	Q V				
9+ 5	395.4644	802.88	Q V				
9+10	401.0325	808.48	Q V				
9+15	406.6398	814.17	Q V				
9+20	412.2870	819.98	QV				
9+25	417.9748	825.87	QV				
9+30	423.7040	831.89	QV				
9+35	429.4753	837.99	Q V				
9+40	435.2896	844.23	Q V				
9+45	441.1475	850.57	Q V				
9+50	447.0500	857.04	Q V				
9+55	452.9978	863.62	Q V				
10+ 0	458.9919	870.35	Q V				
10+ 5	465.0331	877.18	Q V				
10+10	471.1225	884.18	Q V				
10+15	477.2609	891.29	Q V				
10+20	483.4494	898.57	Q V				
10+25	489.6889	905.98	Q V				
10+30	495.9807	913.56	Q V				
10+35	502.3256	921.28	Q V				

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10+40     508.7249    929.19  |  Q V    |         |         |         |
10+45     515.1798    937.24  |  Q  V   |         |         |         |
10+50     521.6915    945.50  |  Q  V   |         |         |         |
10+55     528.2611    953.91  |  Q  V   |         |         |         |
11+ 0     534.8902    962.54  |  Q  V   |         |         |         |
11+ 5     541.5799    971.34  |  Q  V   |         |         |         |
11+10     548.3318    980.38  |  Q  V   |         |         |         |
11+15     555.1471    989.59  |  Q  V   |         |         |         |
11+20     562.0277    999.06  |  Q  V   |         |         |         |
11+25     568.9748   1008.72  |  Q  V   |         |         |         |
11+30     575.9903   1018.65  |  Q  V   |         |         |         |
11+35     583.0756   1028.80  |  Q  V   |         |         |         |
11+40     590.2329   1039.24  |  Q  V   |         |         |         |
11+45     597.4637   1049.91  |  Q  V   |         |         |         |
11+50     604.7702   1060.90  |  Q   V  |         |         |         |
11+55     612.1541   1072.14  |  Q   V  |         |         |         |
12+ 0     619.6178   1083.73  |  Q   V  |         |         |         |
12+ 5     627.1647   1095.82  |   Q  V  |         |         |         |
12+10     634.7992   1108.53  |   Q  V  |         |         |         |
12+15     642.5247   1121.74  |   Q  V  |         |         |         |
12+20     650.3451   1135.53  |   Q  V  |         |         |         |
12+25     658.2642   1149.85  |   Q  V  |         |         |         |
12+30     666.2866   1164.85  |   Q  V  |         |         |         |
12+35     674.4161   1180.41  |   Q  V  |         |         |         |
12+40     682.6609   1197.14  |   Q  V  |         |         |         |
12+45     691.0276   1214.85  |   Q   V |         |         |         |
12+50     699.5259   1233.95  |   Q   V |         |         |         |
12+55     708.1594   1253.59  |   Q   V |         |         |         |
13+ 0     716.9331   1273.94  |   Q   V |         |         |         |
13+ 5     725.8553   1295.50  |   Q   V |         |         |         |
13+10     734.9288   1317.46  |   Q   V |         |         |         |
13+15     744.1487   1338.73  |   Q   V |         |         |         |
13+20     753.5167   1360.23  |   Q   V |         |         |         |
13+25     763.0354   1382.11  |    Q  V |         |         |         |
13+30     772.7089   1404.59  |    Q   V|         |         |         |
13+35     782.5416   1427.71  |    Q   V|         |         |         |
13+40     792.5392   1451.66  |    Q   V|         |         |         |
13+45     802.7070   1476.36  |    Q   V|         |         |         |
13+50     813.0521   1502.11  |    Q   V|         |         |         |
13+55     823.5809   1528.78  |    Q   V|         |         |         |
14+ 0     834.3018   1556.68  |    Q   V|         |         |         |
14+ 5     845.2757   1593.41  |    Q   V|         |         |         |
14+10     856.5690   1639.79  |     Q   V         |         |         |
14+15     868.2393   1694.53  |     Q   V         |         |         |
14+20     880.3359   1756.42  |     Q   V         |         |         |
14+25     892.9155   1826.55  |     Q   V         |         |         |
14+30     906.0429   1906.11  |     Q   V         |         |         |
14+35     919.7765   1994.11  |      Q  V         |         |         |
14+40     934.2898   2107.33  |      Q  V         |         |         |
14+45     949.7294   2241.83  |       Q |V        |         |         |
14+50     966.3137   2408.05  |       Q |V        |         |         |
14+55     984.0736   2578.74  |        Q|V        |         |         |
15+ 0    1003.0545   2756.02  |         QV        |         |         |
15+ 5    1023.4411   2960.14  |         QV        |         |         |
15+10    1045.1900   3157.94  |         |QV       |         |         |
15+15    1068.0261   3315.80  |         | Q       |         |         |
15+20    1091.8572   3460.27  |         | Q       |         |         |
15+25    1116.5717   3588.55  |         |  Q      |         |         |
15+30    1142.0667   3701.88  |         |  Q      |         |         |
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15+35	1168.2945	3808.27	|	Q	|	|	|
15+40	1195.2287	3910.85	|	VQ	|	|	|
15+45	1222.8612	4012.23	|	Q	|	|	|
15+50	1251.2113	4116.44	|	VQ	|	|	|
15+55	1280.4043	4238.82	|	VQ	|	|	|
16+ 0	1310.5562	4378.06	|	VQ	|	|	|
16+ 5	1343.2804	4751.55	|	V Q	|	|	|
16+10	1378.4442	5105.79	|	V Q	|	|	|
16+15	1415.7834	5421.64	|	V Q	|	|	|
16+20	1455.0089	5695.56	|	V Q	|	|	|
16+25	1496.2453	5987.52	|	V |	Q	|	|
16+30	1540.0771	6364.38	|	V |	Q	|	|
16+35	1587.2824	6854.20	|	V |	Q	|	|
16+40	1641.6025	7887.28	|	V |	Q	|	|
16+45	1702.1797	8795.81	|	V |	|	Q	|
16+50	1770.1755	9872.99	|	V	|	Q	|
16+55	1839.4032	10051.86	|	|V	|	Q	|
17+ 0	1909.9289	10240.33	|	| V	|	Q	|
17+ 5	1984.5284	10831.85	|	| V	|	Q	|
17+10	2054.8282	10207.54	|	| V	|	Q	|
17+15	2113.6831	8545.72	|	| V	|Q	|	|
17+20	2166.8098	7714.00	|	| V Q	|	|	|
17+25	2216.7934	7257.62	|	| VQ	|	|	|
17+30	2263.9113	6841.52	|	| QV	|	|	|
17+35	2308.9764	6543.45	|	| Q V	|	|	|
17+40	2351.5600	6183.14	|	| Q V	|	|	|
17+45	2391.9601	5866.10	|	|Q V	|	|	|
17+50	2430.1573	5546.23	|	Q V	|	|	|
17+55	2466.3004	5247.97	|	Q | V	|	|	|
18+ 0	2500.4897	4964.30	|	Q | V	|	|	|
18+ 5	2532.2434	4610.64	|	Q | V	|	|	|
18+10	2562.3313	4368.76	|	Q | V	|	|	|
18+15	2591.0503	4169.99	|	Q | V	|	|	|
18+20	2617.8898	3897.09	|	Q | V	|	|	|
18+25	2643.5206	3721.60	|	Q | V	|	|	|
18+30	2668.3121	3599.73	|	Q | V	|	|	|
18+35	2691.9571	3433.25	|	Q | V	|	|	|
18+40	2714.4818	3270.58	|	Q | V	|	|	|
18+45	2736.3192	3170.79	|	|Q | V	|	|	|
18+50	2757.3962	3060.38	|	|Q | V	|	|	|
18+55	2777.4834	2916.66	|	Q | V	|	|	|
19+ 0	2796.9484	2826.31	|	Q | V	|	|	|
19+ 5	2815.8237	2740.69	|	Q | V	|	|	|
19+10	2833.8083	2611.36	|	Q| V	|	|	|
19+15	2851.1556	2518.84	|	Q| V	|	|	|
19+20	2868.0136	2447.77	|	Q | V	|	|	|
19+25	2884.1371	2341.13	|	Q | V	|	|	|
19+30	2899.5251	2234.34	|	Q | V	|	|	|
19+35	2914.5105	2175.88	|	Q | V	|	|	|
19+40	2929.0615	2112.80	|	Q | V	|	|	|
19+45	2943.0435	2030.19	|	Q | V	|	|	|
19+50	2956.6496	1975.61	|	Q | V	|	|	|
19+55	2969.9139	1925.97	|	Q | V	|	|	|
20+ 0	2982.6888	1854.92	|	Q | V	|	|	|
20+ 5	2995.0961	1801.53	|	Q | V	|	|	|
20+10	3007.2063	1758.41	|	Q | V	|	|	|
20+15	3018.9180	1700.54	|	Q | V	|	|	|
20+20	3030.2227	1641.45	|	Q | V	|	|	|
20+25	3041.2456	1600.52	|	Q | V	|	|	|

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20+30    3051.9158   1549.32  |    Q    |         |         |    V    |
20+35    3062.0528   1471.89  |    Q    |         |         |    V    |
20+40    3071.9400   1435.62  |    Q    |         |         |    V    |
20+45    3081.6317   1407.23  |    Q    |         |         |    V    |
20+50    3091.1341   1379.75  |    Q    |         |         |     V   |
20+55    3100.4359   1350.62  |   Q     |         |         |     V   |
21+ 0    3109.5417   1322.17  |   Q     |         |         |     V   |
21+ 5    3118.3808   1283.44  |   Q     |         |         |     V   |
21+10    3126.9555   1245.05  |   Q     |         |         |     V   |
21+15    3135.3737   1222.31  |   Q     |         |         |     V   |
21+20    3143.6459   1201.13  |   Q     |         |         |     V   |
21+25    3151.7710   1179.77  |   Q     |         |         |     V   |
21+30    3159.7423   1157.42  |   Q     |         |         |     V   |
21+35    3167.5536   1134.20  |   Q     |         |         |      V  |
21+40    3175.0859   1093.69  |   Q     |         |         |      V  |
21+45    3182.4428   1068.23  |  Q      |         |         |      V  |
21+50    3189.6855   1051.64  |  Q      |         |         |      V  |
21+55    3196.8161   1035.37  |  Q      |         |         |      V  |
22+ 0    3203.8297   1018.38  |  Q      |         |         |      V  |
22+ 5    3210.7226   1000.85  |  Q      |         |         |      V  |
22+10    3217.4723    980.06  |  Q      |         |         |      V  |
22+15    3224.0244    951.36  |  Q      |         |         |      V  |
22+20    3230.4667    935.42  |  Q      |         |         |      V  |
22+25    3236.8151    921.79  |  Q      |         |         |      V  |
22+30    3243.0727    908.61  |  Q      |         |         |      V  |
22+35    3249.2382    895.23  |  Q      |         |         |      V  |
22+40    3255.3179    882.77  |  Q      |         |         |       V |
22+45    3261.3068    869.58  |  Q      |         |         |       V |
22+50    3267.2038    856.25  |  Q      |         |         |       V |
22+55    3273.0202    844.54  |  Q      |         |         |       V |
23+ 0    3278.7576    833.07  |  Q      |         |         |       V |
23+ 5    3284.4167    821.69  |  Q      |         |         |       V |
23+10    3289.9985    810.49  | Q       |         |         |       V |
23+15    3295.5090    800.11  | Q       |         |         |       V |
23+20    3300.9329    787.56  | Q       |         |         |       V |
23+25    3306.2835    776.91  | Q       |         |         |       V |
23+30    3311.5690    767.45  | Q       |         |         |       V |
23+35    3316.7889    757.92  | Q       |         |         |       V |
23+40    3321.9404    748.01  | Q       |         |         |       V |
23+45    3327.0158    736.95  | Q       |         |         |       V |
23+50    3331.9866    721.75  | Q       |         |         |       V |
23+55    3336.7831    696.46  | Q       |         |         |       V |
24+ 0    3341.5056    685.71  | Q       |         |         |        V|
24+ 5    3346.1572    675.41  | Q       |         |         |        V|
24+10    3350.7286    663.77  | Q       |         |         |        V|
24+15    3355.2043    649.87  | Q       |         |         |        V|
24+20    3359.5760    634.78  | Q       |         |         |        V|
24+25    3363.8330    618.11  | Q       |         |         |        V|
24+30    3367.9621    599.55  | Q       |         |         |        V|
24+35    3371.9496    578.97  | Q       |         |         |        V|
24+40    3375.7476    551.48  | Q       |         |         |        V|
24+45    3379.2743    512.08  |Q        |         |         |        V|
24+50    3382.4732    464.47  |Q        |         |         |        V|
24+55    3385.4178    427.57  |Q        |         |         |        V|
25+ 0    3388.1101    390.92  |Q        |         |         |        V|
25+ 5    3390.5105    348.53  |Q        |         |         |        V|
25+10    3392.6388    309.03  |Q        |         |         |        V|
25+15    3394.5778    281.54  |Q        |         |         |        V|
25+20    3396.3639    259.34  Q         |         |         |        V|
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25+25	3398.0169	240.01	Q	|	|	|	V|
25+30	3399.5553	223.38	Q	|	|	|	V|
25+35	3400.9881	208.03	Q	|	|	|	V|
25+40	3402.3263	194.31	Q	|	|	|	V|
25+45	3403.5793	181.94	Q	|	|	|	V|
25+50	3404.7557	170.81	Q	|	|	|	V|
25+55	3405.8608	160.46	Q	|	|	|	V|
26+ 0	3406.8990	150.74	Q	|	|	|	V|
26+ 5	3407.8778	142.13	Q	|	|	|	V|
26+10	3408.7993	133.80	Q	|	|	|	V|
26+15	3409.6651	125.72	Q	|	|	|	V|
26+20	3410.4831	118.77	Q	|	|	|	V|
26+25	3411.2562	112.25	Q	|	|	|	V|
26+30	3411.9848	105.80	Q	|	|	|	V|
26+35	3412.6726	99.86	Q	|	|	|	V|
26+40	3413.3233	94.48	Q	|	|	|	V|
26+45	3413.9373	89.16	Q	|	|	|	V|
26+50	3414.5161	84.04	Q	|	|	|	V|
26+55	3415.0633	79.45	Q	|	|	|	V|
27+ 0	3415.5795	74.96	Q	|	|	|	V|
27+ 5	3416.0654	70.54	Q	|	|	|	V|
27+10	3416.5242	66.61	Q	|	|	|	V|
27+15	3416.9572	62.87	Q	|	|	|	V|
27+20	3417.3647	59.17	Q	|	|	|	V|
27+25	3417.7493	55.84	Q	|	|	|	V|
27+30	3418.1138	52.92	Q	|	|	|	V|
27+35	3418.4583	50.03	Q	|	|	|	V|
27+40	3418.7836	47.24	Q	|	|	|	V|
27+45	3419.0917	44.73	Q	|	|	|	V|
27+50	3419.3828	42.27	Q	|	|	|	V|
27+55	3419.6573	39.85	Q	|	|	|	V|
28+ 0	3419.9168	37.68	Q	|	|	|	V|
28+ 5	3420.1620	35.60	Q	|	|	|	V|
28+10	3420.3930	33.54	Q	|	|	|	V|
28+15	3420.6109	31.64	Q	|	|	|	V|
28+20	3420.8168	29.90	Q	|	|	|	V|
28+25	3421.0109	28.19	Q	|	|	|	V|
28+30	3421.1940	26.58	Q	|	|	|	V|
28+35	3421.3685	25.35	Q	|	|	|	V|
28+40	3421.5349	24.16	Q	|	|	|	V|
28+45	3421.6932	22.98	Q	|	|	|	V|
28+50	3421.8435	21.82	Q	|	|	|	V|
28+55	3421.9858	20.66	Q	|	|	|	V|
29+ 0	3422.1202	19.52	Q	|	|	|	V|
29+ 5	3422.2475	18.49	Q	|	|	|	V|
29+10	3422.3686	17.58	Q	|	|	|	V|
29+15	3422.4835	16.68	Q	|	|	|	V|
29+20	3422.5922	15.79	Q	|	|	|	V|
29+25	3422.6949	14.90	Q	|	|	|	V|
29+30	3422.7915	14.03	Q	|	|	|	V|
29+35	3422.8822	13.17	Q	|	|	|	V|
29+40	3422.9683	12.50	Q	|	|	|	V|
29+45	3423.0502	11.89	Q	|	|	|	V|
29+50	3423.1279	11.29	Q	|	|	|	V|
29+55	3423.2015	10.69	Q	|	|	|	V|
30+ 0	3423.2711	10.10	Q	|	|	|	V|
30+ 5	3423.3366	9.51	Q	|	|	|	V|
30+10	3423.3983	8.96	Q	|	|	|	V|
30+15	3423.4570	8.52	Q	|	|	|	V|

30+20	3423.5127	8.10	Q	|	|	|	V|
30+25	3423.5656	7.68	Q	|	|	|	V|
30+30	3423.6156	7.26	Q	|	|	|	V|
30+35	3423.6627	6.85	Q	|	|	|	V|
30+40	3423.7071	6.44	Q	|	|	|	V|
30+45	3423.7487	6.04	Q	|	|	|	V|
30+50	3423.7876	5.66	Q	|	|	|	V|
30+55	3423.8240	5.28	Q	|	|	|	V|
31+ 0	3423.8578	4.90	Q	|	|	|	V|
31+ 5	3423.8890	4.53	Q	|	|	|	V|
31+10	3423.9176	4.16	Q	|	|	|	V|
31+15	3423.9438	3.80	Q	|	|	|	V|
31+20	3423.9676	3.46	Q	|	|	|	V|
31+25	3423.9892	3.13	Q	|	|	|	V|
31+30	3424.0085	2.81	Q	|	|	|	V|
31+35	3424.0256	2.48	Q	|	|	|	V|
31+40	3424.0405	2.16	Q	|	|	|	V|
31+45	3424.0532	1.84	Q	|	|	|	V|
31+50	3424.0639	1.56	Q	|	|	|	V|
31+55	3424.0735	1.39	Q	|	|	|	V|
32+ 0	3424.0821	1.24	Q	|	|	|	V|
32+ 5	3424.0896	1.09	Q	|	|	|	V|
32+10	3424.0961	0.95	Q	|	|	|	V|
32+15	3424.1016	0.80	Q	|	|	|	V|
32+20	3424.1061	0.65	Q	|	|	|	V|
32+25	3424.1096	0.51	Q	|	|	|	V|
32+30	3424.1121	0.36	Q	|	|	|	V|
32+35	3424.1137	0.22	Q	|	|	|	V|
32+40	3424.1142	0.08	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREA 52
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
2128.12	1	1.39
Rainfall data for year 100		
2128.12	6	2.04
Rainfall data for year 100		
2128.12	24	2.93

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.1	89.5	2128.12	1.000	0.202	0.988	0.199

Area-averaged adjusted loss rate Fm (In/Hr) = 0.199

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
2102.16	0.988	73.1	89.5	1.17	0.641
25.96	0.012	98.0	98.0	0.20	0.921

Area-averaged catchment yield fraction, Y = 0.644
Area-averaged low loss fraction, Yb = 0.356
++
Watercourse length = 17716.00(Ft.)
Length from concentration point to centroid = 8950.00(Ft.)
Elevation difference along watercourse = 1680.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 2128.12(Ac.)
Catchment Lag time = 0.499 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.6951
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.199(In/Hr)
Average low loss rate fraction (Yb) = 0.356 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.040
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.960

Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.759(In)
Specified peak 6-hour rainfall = 2.040(In)
Specified peak 24-hour rainfall = 2.930(In)

Rainfall depth area reduction factors:
Using a total area of 2128.12(Ac.) (Ref: fig. E-4)

5-minute factor = 0.900 Adjusted rainfall = 0.594(In)
30-minute factor = 0.900 Adjusted rainfall = 1.016(In)
1-hour factor = 0.900 Adjusted rainfall = 1.251(In)
3-hour factor = 0.987 Adjusted rainfall = 1.736(In)
6-hour factor = 0.993 Adjusted rainfall = 2.026(In)
24-hour factor = 0.997 Adjusted rainfall = 2.922(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 25736.95 (CFS))	
1	0.788	202.857
2	3.396	671.080
3	7.775	1127.163
4	16.008	2118.909
5	30.716	3785.384

6	44.401	3522.173
7	54.400	2573.305
8	61.321	1781.260
9	66.467	1324.483
10	70.677	1083.411
11	74.156	895.448
12	77.110	760.364
13	79.615	644.663
14	81.772	555.138
15	83.629	477.832
16	85.330	437.953
17	86.896	402.907
18	88.261	351.359
19	89.421	298.546
20	90.415	255.760
21	91.352	241.322
22	92.210	220.851
23	92.996	202.182
24	93.728	188.251
25	94.359	162.548
26	94.912	142.310
27	95.465	142.275
28	95.947	124.140
29	96.371	108.967
30	96.794	108.923
31	97.145	90.446
32	97.438	75.280
33	97.730	75.229
34	97.952	57.168
35	98.118	42.624
36	98.283	42.639
37	98.465	46.855
38	98.660	50.187
39	98.855	50.186
40	99.050	49.993
41	99.243	49.843
42	99.437	49.930
43	99.577	36.004
44	99.677	25.781
45	99.778	25.781
46	99.878	25.781
47	100.000	12.890

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5938	0.5938
2	0.7310	0.1372
3	0.8256	0.0946
4	0.9000	0.0744
5	0.9623	0.0623
6	1.0164	0.0541
7	1.0645	0.0481
8	1.1080	0.0435
9	1.1479	0.0399
10	1.1847	0.0369
11	1.2191	0.0344
12	1.2513	0.0322
13	1.2816	0.0302
14	1.3102	0.0286

15	1.3374	0.0272
16	1.3634	0.0260
17	1.3883	0.0249
18	1.4122	0.0239
19	1.4351	0.0230
20	1.4572	0.0221
21	1.4786	0.0214
22	1.4992	0.0207
23	1.5193	0.0200
24	1.5387	0.0194
25	1.5575	0.0188
26	1.5758	0.0183
27	1.5937	0.0178
28	1.6110	0.0174
29	1.6280	0.0169
30	1.6445	0.0165
31	1.6607	0.0162
32	1.6765	0.0158
33	1.6919	0.0155
34	1.7071	0.0151
35	1.7219	0.0148
36	1.7364	0.0145
37	1.7470	0.0106
38	1.7575	0.0104
39	1.7677	0.0102
40	1.7777	0.0100
41	1.7875	0.0098
42	1.7971	0.0096
43	1.8065	0.0094
44	1.8158	0.0093
45	1.8249	0.0091
46	1.8339	0.0090
47	1.8427	0.0088
48	1.8514	0.0087
49	1.8599	0.0085
50	1.8683	0.0084
51	1.8765	0.0083
52	1.8847	0.0081
53	1.8927	0.0080
54	1.9006	0.0079
55	1.9084	0.0078
56	1.9161	0.0077
57	1.9236	0.0076
58	1.9311	0.0075
59	1.9385	0.0074
60	1.9458	0.0073
61	1.9529	0.0072
62	1.9600	0.0071
63	1.9670	0.0070
64	1.9739	0.0069
65	1.9808	0.0068
66	1.9875	0.0068
67	1.9942	0.0067
68	2.0008	0.0066
69	2.0073	0.0065
70	2.0138	0.0064
71	2.0201	0.0064
72	2.0264	0.0063
73	2.0338	0.0074

74	2.0411	0.0073
75	2.0484	0.0072
76	2.0556	0.0072
77	2.0627	0.0071
78	2.0697	0.0070
79	2.0767	0.0070
80	2.0836	0.0069
81	2.0904	0.0068
82	2.0972	0.0068
83	2.1040	0.0067
84	2.1106	0.0067
85	2.1172	0.0066
86	2.1238	0.0065
87	2.1303	0.0065
88	2.1367	0.0064
89	2.1431	0.0064
90	2.1494	0.0063
91	2.1557	0.0063
92	2.1619	0.0062
93	2.1681	0.0062
94	2.1742	0.0061
95	2.1803	0.0061
96	2.1864	0.0060
97	2.1924	0.0060
98	2.1983	0.0059
99	2.2042	0.0059
100	2.2101	0.0059
101	2.2159	0.0058
102	2.2217	0.0058
103	2.2274	0.0057
104	2.2331	0.0057
105	2.2387	0.0056
106	2.2443	0.0056
107	2.2499	0.0056
108	2.2554	0.0055
109	2.2609	0.0055
110	2.2664	0.0055
111	2.2718	0.0054
112	2.2772	0.0054
113	2.2826	0.0054
114	2.2879	0.0053
115	2.2931	0.0053
116	2.2984	0.0052
117	2.3036	0.0052
118	2.3088	0.0052
119	2.3139	0.0052
120	2.3191	0.0051
121	2.3242	0.0051
122	2.3292	0.0051
123	2.3342	0.0050
124	2.3392	0.0050
125	2.3442	0.0050
126	2.3491	0.0049
127	2.3540	0.0049
128	2.3589	0.0049
129	2.3638	0.0049
130	2.3686	0.0048
131	2.3734	0.0048
132	2.3782	0.0048

133	2.3829	0.0047
134	2.3876	0.0047
135	2.3923	0.0047
136	2.3970	0.0047
137	2.4016	0.0046
138	2.4063	0.0046
139	2.4108	0.0046
140	2.4154	0.0046
141	2.4200	0.0045
142	2.4245	0.0045
143	2.4290	0.0045
144	2.4334	0.0045
145	2.4379	0.0045
146	2.4423	0.0044
147	2.4467	0.0044
148	2.4511	0.0044
149	2.4555	0.0044
150	2.4598	0.0043
151	2.4641	0.0043
152	2.4684	0.0043
153	2.4727	0.0043
154	2.4770	0.0043
155	2.4812	0.0042
156	2.4854	0.0042
157	2.4896	0.0042
158	2.4938	0.0042
159	2.4980	0.0042
160	2.5021	0.0041
161	2.5062	0.0041
162	2.5103	0.0041
163	2.5144	0.0041
164	2.5185	0.0041
165	2.5225	0.0040
166	2.5265	0.0040
167	2.5305	0.0040
168	2.5345	0.0040
169	2.5385	0.0040
170	2.5425	0.0040
171	2.5464	0.0039
172	2.5503	0.0039
173	2.5542	0.0039
174	2.5581	0.0039
175	2.5620	0.0039
176	2.5659	0.0039
177	2.5697	0.0038
178	2.5735	0.0038
179	2.5773	0.0038
180	2.5811	0.0038
181	2.5849	0.0038
182	2.5887	0.0038
183	2.5924	0.0037
184	2.5962	0.0037
185	2.5999	0.0037
186	2.6036	0.0037
187	2.6073	0.0037
188	2.6109	0.0037
189	2.6146	0.0037
190	2.6183	0.0036
191	2.6219	0.0036

192	2.6255	0.0036
193	2.6291	0.0036
194	2.6327	0.0036
195	2.6363	0.0036
196	2.6398	0.0036
197	2.6434	0.0035
198	2.6469	0.0035
199	2.6504	0.0035
200	2.6540	0.0035
201	2.6575	0.0035
202	2.6609	0.0035
203	2.6644	0.0035
204	2.6679	0.0035
205	2.6713	0.0034
206	2.6748	0.0034
207	2.6782	0.0034
208	2.6816	0.0034
209	2.6850	0.0034
210	2.6884	0.0034
211	2.6917	0.0034
212	2.6951	0.0034
213	2.6985	0.0034
214	2.7018	0.0033
215	2.7051	0.0033
216	2.7084	0.0033
217	2.7117	0.0033
218	2.7150	0.0033
219	2.7183	0.0033
220	2.7216	0.0033
221	2.7249	0.0033
222	2.7281	0.0033
223	2.7313	0.0032
224	2.7346	0.0032
225	2.7378	0.0032
226	2.7410	0.0032
227	2.7442	0.0032
228	2.7474	0.0032
229	2.7506	0.0032
230	2.7537	0.0032
231	2.7569	0.0032
232	2.7600	0.0031
233	2.7632	0.0031
234	2.7663	0.0031
235	2.7694	0.0031
236	2.7725	0.0031
237	2.7756	0.0031
238	2.7787	0.0031
239	2.7818	0.0031
240	2.7849	0.0031
241	2.7879	0.0031
242	2.7910	0.0030
243	2.7940	0.0030
244	2.7970	0.0030
245	2.8001	0.0030
246	2.8031	0.0030
247	2.8061	0.0030
248	2.8091	0.0030
249	2.8121	0.0030
250	2.8150	0.0030

251	2.8180	0.0030
252	2.8210	0.0030
253	2.8239	0.0030
254	2.8269	0.0029
255	2.8298	0.0029
256	2.8327	0.0029
257	2.8356	0.0029
258	2.8385	0.0029
259	2.8414	0.0029
260	2.8443	0.0029
261	2.8472	0.0029
262	2.8501	0.0029
263	2.8530	0.0029
264	2.8558	0.0029
265	2.8587	0.0029
266	2.8615	0.0028
267	2.8644	0.0028
268	2.8672	0.0028
269	2.8700	0.0028
270	2.8728	0.0028
271	2.8756	0.0028
272	2.8784	0.0028
273	2.8812	0.0028
274	2.8840	0.0028
275	2.8868	0.0028
276	2.8895	0.0028
277	2.8923	0.0028
278	2.8951	0.0028
279	2.8978	0.0027
280	2.9005	0.0027
281	2.9033	0.0027
282	2.9060	0.0027
283	2.9087	0.0027
284	2.9114	0.0027
285	2.9141	0.0027
286	2.9168	0.0027
287	2.9195	0.0027
288	2.9222	0.0027

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0027	0.0010	0.0017
2	0.0027	0.0010	0.0017
3	0.0027	0.0010	0.0017
4	0.0027	0.0010	0.0017
5	0.0027	0.0010	0.0018
6	0.0027	0.0010	0.0018
7	0.0027	0.0010	0.0018
8	0.0028	0.0010	0.0018
9	0.0028	0.0010	0.0018
10	0.0028	0.0010	0.0018
11	0.0028	0.0010	0.0018
12	0.0028	0.0010	0.0018
13	0.0028	0.0010	0.0018
14	0.0028	0.0010	0.0018
15	0.0028	0.0010	0.0018
16	0.0028	0.0010	0.0018

17	0.0029	0.0010	0.0018
18	0.0029	0.0010	0.0018
19	0.0029	0.0010	0.0019
20	0.0029	0.0010	0.0019
21	0.0029	0.0010	0.0019
22	0.0029	0.0010	0.0019
23	0.0029	0.0010	0.0019
24	0.0029	0.0010	0.0019
25	0.0030	0.0011	0.0019
26	0.0030	0.0011	0.0019
27	0.0030	0.0011	0.0019
28	0.0030	0.0011	0.0019
29	0.0030	0.0011	0.0019
30	0.0030	0.0011	0.0019
31	0.0030	0.0011	0.0020
32	0.0030	0.0011	0.0020
33	0.0031	0.0011	0.0020
34	0.0031	0.0011	0.0020
35	0.0031	0.0011	0.0020
36	0.0031	0.0011	0.0020
37	0.0031	0.0011	0.0020
38	0.0031	0.0011	0.0020
39	0.0032	0.0011	0.0020
40	0.0032	0.0011	0.0020
41	0.0032	0.0011	0.0021
42	0.0032	0.0011	0.0021
43	0.0032	0.0011	0.0021
44	0.0032	0.0011	0.0021
45	0.0033	0.0012	0.0021
46	0.0033	0.0012	0.0021
47	0.0033	0.0012	0.0021
48	0.0033	0.0012	0.0021
49	0.0033	0.0012	0.0021
50	0.0033	0.0012	0.0021
51	0.0034	0.0012	0.0022
52	0.0034	0.0012	0.0022
53	0.0034	0.0012	0.0022
54	0.0034	0.0012	0.0022
55	0.0034	0.0012	0.0022
56	0.0034	0.0012	0.0022
57	0.0035	0.0012	0.0022
58	0.0035	0.0012	0.0022
59	0.0035	0.0012	0.0023
60	0.0035	0.0012	0.0023
61	0.0035	0.0013	0.0023
62	0.0035	0.0013	0.0023
63	0.0036	0.0013	0.0023
64	0.0036	0.0013	0.0023
65	0.0036	0.0013	0.0023
66	0.0036	0.0013	0.0023
67	0.0037	0.0013	0.0024
68	0.0037	0.0013	0.0024
69	0.0037	0.0013	0.0024
70	0.0037	0.0013	0.0024
71	0.0037	0.0013	0.0024
72	0.0038	0.0013	0.0024
73	0.0038	0.0014	0.0024
74	0.0038	0.0014	0.0025
75	0.0038	0.0014	0.0025

76	0.0039	0.0014	0.0025
77	0.0039	0.0014	0.0025
78	0.0039	0.0014	0.0025
79	0.0039	0.0014	0.0025
80	0.0040	0.0014	0.0025
81	0.0040	0.0014	0.0026
82	0.0040	0.0014	0.0026
83	0.0040	0.0014	0.0026
84	0.0041	0.0014	0.0026
85	0.0041	0.0015	0.0026
86	0.0041	0.0015	0.0027
87	0.0042	0.0015	0.0027
88	0.0042	0.0015	0.0027
89	0.0042	0.0015	0.0027
90	0.0042	0.0015	0.0027
91	0.0043	0.0015	0.0028
92	0.0043	0.0015	0.0028
93	0.0043	0.0015	0.0028
94	0.0044	0.0016	0.0028
95	0.0044	0.0016	0.0028
96	0.0044	0.0016	0.0029
97	0.0045	0.0016	0.0029
98	0.0045	0.0016	0.0029
99	0.0045	0.0016	0.0029
100	0.0046	0.0016	0.0029
101	0.0046	0.0016	0.0030
102	0.0046	0.0017	0.0030
103	0.0047	0.0017	0.0030
104	0.0047	0.0017	0.0030
105	0.0048	0.0017	0.0031
106	0.0048	0.0017	0.0031
107	0.0049	0.0017	0.0031
108	0.0049	0.0017	0.0031
109	0.0049	0.0018	0.0032
110	0.0050	0.0018	0.0032
111	0.0050	0.0018	0.0032
112	0.0051	0.0018	0.0033
113	0.0051	0.0018	0.0033
114	0.0052	0.0018	0.0033
115	0.0052	0.0019	0.0034
116	0.0052	0.0019	0.0034
117	0.0053	0.0019	0.0034
118	0.0054	0.0019	0.0034
119	0.0054	0.0019	0.0035
120	0.0055	0.0019	0.0035
121	0.0055	0.0020	0.0036
122	0.0056	0.0020	0.0036
123	0.0056	0.0020	0.0036
124	0.0057	0.0020	0.0037
125	0.0058	0.0021	0.0037
126	0.0058	0.0021	0.0037
127	0.0059	0.0021	0.0038
128	0.0059	0.0021	0.0038
129	0.0060	0.0021	0.0039
130	0.0061	0.0022	0.0039
131	0.0062	0.0022	0.0040
132	0.0062	0.0022	0.0040
133	0.0063	0.0023	0.0041
134	0.0064	0.0023	0.0041

135	0.0065	0.0023	0.0042
136	0.0065	0.0023	0.0042
137	0.0067	0.0024	0.0043
138	0.0067	0.0024	0.0043
139	0.0068	0.0024	0.0044
140	0.0069	0.0025	0.0044
141	0.0070	0.0025	0.0045
142	0.0071	0.0025	0.0046
143	0.0072	0.0026	0.0047
144	0.0073	0.0026	0.0047
145	0.0063	0.0022	0.0041
146	0.0064	0.0023	0.0041
147	0.0065	0.0023	0.0042
148	0.0066	0.0023	0.0042
149	0.0068	0.0024	0.0043
150	0.0068	0.0024	0.0044
151	0.0070	0.0025	0.0045
152	0.0071	0.0025	0.0046
153	0.0073	0.0026	0.0047
154	0.0074	0.0026	0.0047
155	0.0076	0.0027	0.0049
156	0.0077	0.0027	0.0049
157	0.0079	0.0028	0.0051
158	0.0080	0.0029	0.0052
159	0.0083	0.0029	0.0053
160	0.0084	0.0030	0.0054
161	0.0087	0.0031	0.0056
162	0.0088	0.0031	0.0057
163	0.0091	0.0032	0.0059
164	0.0093	0.0033	0.0060
165	0.0096	0.0034	0.0062
166	0.0098	0.0035	0.0063
167	0.0102	0.0036	0.0066
168	0.0104	0.0037	0.0067
169	0.0145	0.0052	0.0094
170	0.0148	0.0053	0.0095
171	0.0155	0.0055	0.0100
172	0.0158	0.0056	0.0102
173	0.0165	0.0059	0.0107
174	0.0169	0.0060	0.0109
175	0.0178	0.0063	0.0115
176	0.0183	0.0065	0.0118
177	0.0194	0.0069	0.0125
178	0.0200	0.0071	0.0129
179	0.0214	0.0076	0.0138
180	0.0221	0.0079	0.0142
181	0.0239	0.0085	0.0154
182	0.0249	0.0089	0.0160
183	0.0272	0.0097	0.0175
184	0.0286	0.0102	0.0184
185	0.0322	0.0115	0.0208
186	0.0344	0.0122	0.0221
187	0.0399	0.0142	0.0257
188	0.0435	0.0155	0.0280
189	0.0541	0.0166	0.0375
190	0.0623	0.0166	0.0457
191	0.0946	0.0166	0.0779
192	0.1372	0.0166	0.1206
193	0.5938	0.0166	0.5772

194	0.0744	0.0166	0.0578
195	0.0481	0.0166	0.0315
196	0.0369	0.0131	0.0237
197	0.0302	0.0108	0.0195
198	0.0260	0.0093	0.0167
199	0.0230	0.0082	0.0148
200	0.0207	0.0074	0.0133
201	0.0188	0.0067	0.0121
202	0.0174	0.0062	0.0112
203	0.0162	0.0058	0.0104
204	0.0151	0.0054	0.0097
205	0.0106	0.0038	0.0068
206	0.0100	0.0036	0.0064
207	0.0094	0.0034	0.0061
208	0.0090	0.0032	0.0058
209	0.0085	0.0030	0.0055
210	0.0081	0.0029	0.0052
211	0.0078	0.0028	0.0050
212	0.0075	0.0027	0.0048
213	0.0072	0.0026	0.0046
214	0.0069	0.0025	0.0045
215	0.0067	0.0024	0.0043
216	0.0064	0.0023	0.0042
217	0.0074	0.0026	0.0048
218	0.0072	0.0026	0.0046
219	0.0070	0.0025	0.0045
220	0.0068	0.0024	0.0044
221	0.0066	0.0024	0.0043
222	0.0064	0.0023	0.0041
223	0.0063	0.0022	0.0040
224	0.0061	0.0022	0.0039
225	0.0060	0.0021	0.0039
226	0.0059	0.0021	0.0038
227	0.0057	0.0020	0.0037
228	0.0056	0.0020	0.0036
229	0.0055	0.0020	0.0035
230	0.0054	0.0019	0.0035
231	0.0053	0.0019	0.0034
232	0.0052	0.0018	0.0033
233	0.0051	0.0018	0.0033
234	0.0050	0.0018	0.0032
235	0.0049	0.0017	0.0032
236	0.0048	0.0017	0.0031
237	0.0047	0.0017	0.0031
238	0.0047	0.0017	0.0030
239	0.0046	0.0016	0.0030
240	0.0045	0.0016	0.0029
241	0.0045	0.0016	0.0029
242	0.0044	0.0016	0.0028
243	0.0043	0.0015	0.0028
244	0.0043	0.0015	0.0027
245	0.0042	0.0015	0.0027
246	0.0041	0.0015	0.0027
247	0.0041	0.0015	0.0026
248	0.0040	0.0014	0.0026
249	0.0040	0.0014	0.0026
250	0.0039	0.0014	0.0025
251	0.0039	0.0014	0.0025
252	0.0038	0.0014	0.0025

253	0.0038	0.0013	0.0024
254	0.0037	0.0013	0.0024
255	0.0037	0.0013	0.0024
256	0.0036	0.0013	0.0023
257	0.0036	0.0013	0.0023
258	0.0036	0.0013	0.0023
259	0.0035	0.0013	0.0023
260	0.0035	0.0012	0.0022
261	0.0034	0.0012	0.0022
262	0.0034	0.0012	0.0022
263	0.0034	0.0012	0.0022
264	0.0033	0.0012	0.0022
265	0.0033	0.0012	0.0021
266	0.0033	0.0012	0.0021
267	0.0032	0.0012	0.0021
268	0.0032	0.0011	0.0021
269	0.0032	0.0011	0.0020
270	0.0031	0.0011	0.0020
271	0.0031	0.0011	0.0020
272	0.0031	0.0011	0.0020
273	0.0031	0.0011	0.0020
274	0.0030	0.0011	0.0020
275	0.0030	0.0011	0.0019
276	0.0030	0.0011	0.0019
277	0.0030	0.0011	0.0019
278	0.0029	0.0010	0.0019
279	0.0029	0.0010	0.0019
280	0.0029	0.0010	0.0019
281	0.0029	0.0010	0.0018
282	0.0028	0.0010	0.0018
283	0.0028	0.0010	0.0018
284	0.0028	0.0010	0.0018
285	0.0028	0.0010	0.0018
286	0.0027	0.0010	0.0018
287	0.0027	0.0010	0.0018
288	0.0027	0.0010	0.0017

Total soil rain loss = 0.78(In)
Total effective rainfall = 2.14(In)
Peak flow rate in flood hydrograph = 3269.02(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

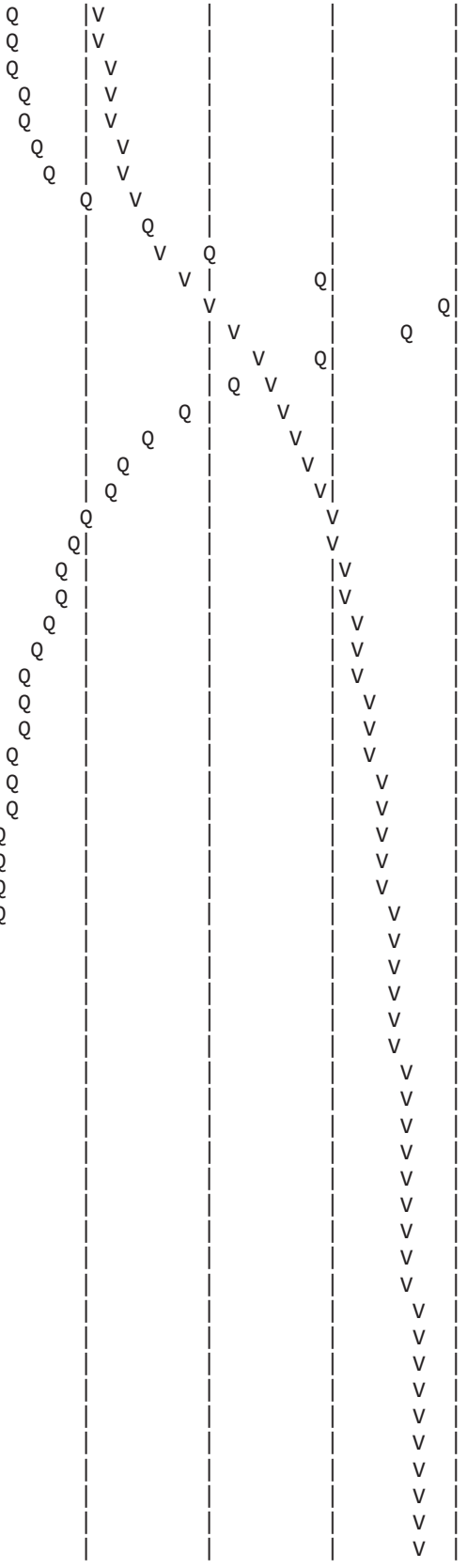
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	825.0	1650.0	2475.0	3300.0
0+ 5	0.0024	0.35	Q	|	|	|	|
0+10	0.0128	1.51	Q	|	|	|	|
0+15	0.0367	3.46	Q	|	|	|	|
0+20	0.0858	7.14	Q	|	|	|	|
0+25	0.1802	13.70	Q	|	|	|	|
0+30	0.3168	19.83	Q	|	|	|	|
0+35	0.4845	24.35	Q	|	|	|	|
0+40	0.6740	27.52	Q	|	|	|	|

0+45	0.8801	29.92	Q				
0+50	1.0998	31.91	Q				
0+55	1.3311	33.58	Q				
1+ 0	1.5723	35.02	Q				
1+ 5	1.8221	36.28	Q				
1+10	2.0795	37.38	Q				
1+15	2.3437	38.35	Q				
1+20	2.6141	39.26	Q				
1+25	2.8904	40.12	Q				
1+30	3.1720	40.89	Q				
1+35	3.4583	41.57	Q				
1+40	3.7488	42.18	Q				
1+45	4.0433	42.77	Q				
1+50	4.3417	43.33	Q				
1+55	4.6438	43.86	Q				
2+ 0	4.9494	44.37	Q				
2+ 5	5.2582	44.84	Q				
2+10	5.5699	45.27	Q				
2+15	5.8847	45.71	Q				
2+20	6.2024	46.12	Q				
2+25	6.5226	46.50	Q				
2+30	6.8456	46.89	Q				
2+35	7.1710	47.25	Q				
2+40	7.4988	47.59	Q				
2+45	7.8288	47.93	Q				
2+50	8.1611	48.24	Q				
2+55	8.4953	48.53	Q				
3+ 0	8.8315	48.82	Q				
3+ 5	9.1697	49.12	Q				
3+10	9.5101	49.42	QV				
3+15	9.8527	49.74	QV				
3+20	10.1973	50.05	QV				
3+25	10.5442	50.37	QV				
3+30	10.8933	50.68	QV				
3+35	11.2444	50.98	QV				
3+40	11.5975	51.27	QV				
3+45	11.9525	51.55	QV				
3+50	12.3096	51.84	QV				
3+55	12.6685	52.11	QV				
4+ 0	13.0291	52.36	QV				
4+ 5	13.3915	52.62	QV				
4+10	13.7556	52.87	QV				
4+15	14.1215	53.13	QV				
4+20	14.4892	53.39	QV				
4+25	14.8587	53.66	QV				
4+30	15.2301	53.93	QV				
4+35	15.6034	54.20	QV				
4+40	15.9785	54.47	QV				
4+45	16.3556	54.75	QV				
4+50	16.7346	55.03	QV				
4+55	17.1156	55.32	QV				
5+ 0	17.4985	55.60	QV				
5+ 5	17.8835	55.90	QV				
5+10	18.2705	56.19	QV				
5+15	18.6596	56.49	QV				
5+20	19.0507	56.79	Q V				
5+25	19.4440	57.10	Q V				
5+30	19.8394	57.41	Q V				
5+35	20.2370	57.73	Q V				

5+40	20.6367	58.05	Q V	|	|	|	|
5+45	21.0387	58.37	Q V	|	|	|	|
5+50	21.4430	58.70	Q V	|	|	|	|
5+55	21.8495	59.03	Q V	|	|	|	|
6+ 0	22.2584	59.37	Q V	|	|	|	|
6+ 5	22.6696	59.71	Q V	|	|	|	|
6+10	23.0832	60.05	Q V	|	|	|	|
6+15	23.4992	60.40	Q V	|	|	|	|
6+20	23.9176	60.76	Q V	|	|	|	|
6+25	24.3386	61.12	Q V	|	|	|	|
6+30	24.7620	61.48	Q V	|	|	|	|
6+35	25.1880	61.86	Q V	|	|	|	|
6+40	25.6166	62.23	Q V	|	|	|	|
6+45	26.0479	62.61	Q V	|	|	|	|
6+50	26.4817	63.00	Q V	|	|	|	|
6+55	26.9183	63.39	Q V	|	|	|	|
7+ 0	27.3577	63.79	Q V	|	|	|	|
7+ 5	27.7998	64.20	Q V	|	|	|	|
7+10	28.2447	64.61	Q V	|	|	|	|
7+15	28.6926	65.02	Q V	|	|	|	|
7+20	29.1433	65.45	Q V	|	|	|	|
7+25	29.5970	65.88	Q V	|	|	|	|
7+30	30.0537	66.31	Q V	|	|	|	|
7+35	30.5135	66.76	Q V	|	|	|	|
7+40	30.9763	67.21	Q V	|	|	|	|
7+45	31.4424	67.67	Q V	|	|	|	|
7+50	31.9116	68.13	Q V	|	|	|	|
7+55	32.3841	68.61	Q V	|	|	|	|
8+ 0	32.8599	69.08	Q V	|	|	|	|
8+ 5	33.3390	69.58	Q V	|	|	|	|
8+10	33.8216	70.07	Q V	|	|	|	|
8+15	34.3077	70.58	Q V	|	|	|	|
8+20	34.7973	71.09	Q V	|	|	|	|
8+25	35.2905	71.62	Q V	|	|	|	|
8+30	35.7874	72.15	Q V	|	|	|	|
8+35	36.2880	72.69	Q V	|	|	|	|
8+40	36.7925	73.24	Q V	|	|	|	|
8+45	37.3008	73.81	Q V	|	|	|	|
8+50	37.8130	74.38	Q V	|	|	|	|
8+55	38.3293	74.96	Q V	|	|	|	|
9+ 0	38.8496	75.55	Q V	|	|	|	|
9+ 5	39.3741	76.16	Q V	|	|	|	|
9+10	39.9029	76.77	Q V	|	|	|	|
9+15	40.4360	77.41	Q V	|	|	|	|
9+20	40.9735	78.04	Q V	|	|	|	|
9+25	41.5155	78.70	Q V	|	|	|	|
9+30	42.0621	79.36	Q V	|	|	|	|
9+35	42.6134	80.05	Q V	|	|	|	|
9+40	43.1694	80.74	Q V	|	|	|	|
9+45	43.7304	81.45	Q V	|	|	|	|
9+50	44.2963	82.17	Q V	|	|	|	|
9+55	44.8674	82.92	|Q V	|	|	|	|
10+ 0	45.4436	83.67	|Q V	|	|	|	|
10+ 5	46.0251	84.44	|Q V	|	|	|	|
10+10	46.6121	85.23	|Q V	|	|	|	|
10+15	47.2047	86.04	|Q V	|	|	|	|
10+20	47.8029	86.86	|Q V	|	|	|	|
10+25	48.4069	87.71	|Q V	|	|	|	|
10+30	49.0169	88.57	|Q V	|	|	|	|

```
10+35      49.6330     89.46  |Q   V    |          |          |          |
10+40      50.2553     90.36  |Q   V    |          |          |          |
10+45      50.8840     91.29  |Q   V    |          |          |          |
10+50      51.5192     92.24  |Q   V    |          |          |          |
10+55      52.1612     93.21  |Q   V    |          |          |          |
11+ 0      52.8100     94.21  |Q   V    |          |          |          |
11+ 5      53.4659     95.24  |Q   V    |          |          |          |
11+10      54.1290     96.29  |Q   V    |          |          |          |
11+15      54.7996     97.37  |Q   V    |          |          |          |
11+20      55.4778     98.48  |Q   V    |          |          |          |
11+25      56.1639     99.62  |Q   V    |          |          |          |
11+30      56.8581    100.79  |Q   V    |          |          |          |
11+35      57.5605    102.00  |Q    V   |          |          |          |
11+40      58.2715    103.23  |Q    V   |          |          |          |
11+45      58.9913    104.51  |Q    V   |          |          |          |
11+50      59.7201    105.82  |Q    V   |          |          |          |
11+55      60.4583    107.18  |Q    V   |          |          |          |
12+ 0      61.2060    108.57  |Q    V   |          |          |          |
12+ 5      61.9627    109.87  |Q    V   |          |          |          |
12+10      62.7261    110.85  |Q    V   |          |          |          |
12+15      63.4943    111.54  |Q    V   |          |          |          |
12+20      64.2623    111.51  |Q    V   |          |          |          |
12+25      65.0219    110.30  |Q    V   |          |          |          |
12+30      65.7745    109.29  |Q    V   |          |          |          |
12+35      66.5254    109.03  |Q     V  |          |          |          |
12+40      67.2788    109.39  |Q     V  |          |          |          |
12+45      68.0375    110.16  |Q     V  |          |          |          |
12+50      68.8030    111.15  |Q     V  |          |          |          |
12+55      69.5769    112.36  |Q     V  |          |          |          |
13+ 0      70.3601    113.72  |Q     V  |          |          |          |
13+ 5      71.1540    115.27  |Q     V  |          |          |          |
13+10      71.9593    116.94  |Q     V  |          |          |          |
13+15      72.7773    118.77  |Q     V  |          |          |          |
13+20      73.6086    120.71  |Q     V  |          |          |          |
13+25      74.4543    122.79  |Q     V  |          |          |          |
13+30      75.3152    125.00  |Q     V  |          |          |          |
13+35      76.1926    127.40  |Q      V |          |          |          |
13+40      77.0874    129.93  |Q      V |          |          |          |
13+45      78.0009    132.63  |Q      V |          |          |          |
13+50      78.9339    135.48  |Q      V |          |          |          |
13+55      79.8880    138.53  |Q      V |          |          |          |
14+ 0      80.8641    141.74  |Q      V |          |          |          |
14+ 5      81.8675    145.68  |Q      V |          |          |          |
14+10      82.9069    150.93  |Q      V |          |          |          |
14+15      83.9921    157.56  |Q      V |          |          |          |
14+20      85.1409    166.82  | Q     V |          |          |          |
14+25      86.3837    180.45  | Q      V|          |          |          |
14+30      87.7192    193.92  | Q      V|          |          |          |
14+35      89.1366    205.81  | Q      V|          |          |          |
14+40      90.6266    216.35  | Q      V|          |          |          |
14+45      92.1866    226.51  | Q      V|          |          |          |
14+50      93.8167    236.69  | Q      V|          |          |          |
14+55      95.5196    247.27  | Q       V          |          |          |
15+ 0      97.2983    258.27  |  Q      V          |          |          |
15+ 5      99.1582    270.06  |  Q      V          |          |          |
15+10     101.1048    282.65  |  Q      V          |          |          |
15+15     103.1469    296.51  |  Q      V          |          |          |
15+20     105.2936    311.70  |  Q      |V         |          |          |
15+25     107.5591    328.95  |  Q      |V         |          |          |
```

15+30	109.9580	348.33	
15+35	112.5127	370.94	
15+40	115.2489	397.29	
15+45	118.2115	430.18	
15+50	121.4641	472.27	
15+55	125.1317	532.53	
16+ 0	129.4579	628.16	
16+ 5	135.4349	867.86	
16+10	144.1923	1271.57	
16+15	156.0038	1715.04	
16+20	172.5659	2404.82	
16+25	195.0798	3269.02	
16+30	216.0279	3041.66	
16+35	232.6187	2408.99	
16+40	245.4537	1863.64	
16+45	255.9015	1517.03	
16+50	264.8827	1304.07	
16+55	272.7065	1136.01	
17+ 0	279.6368	1006.29	
17+ 5	285.8037	895.44	
17+10	291.3439	804.43	
17+15	296.3436	725.96	
17+20	300.9460	668.27	
17+25	305.1577	611.54	
17+30	308.9424	549.53	
17+35	312.3342	492.49	
17+40	315.4087	446.41	
17+45	318.2872	417.97	
17+50	320.9666	389.04	
17+55	323.4637	362.58	
18+ 0	325.8003	339.27	
18+ 5	327.9490	312.00	
18+10	329.9442	289.70	
18+15	331.8606	278.26	
18+20	333.6484	259.59	
18+25	335.3328	244.57	
18+30	336.9634	236.76	
18+35	338.4777	219.89	
18+40	339.8894	204.97	
18+45	341.2475	197.20	
18+50	342.4963	181.32	
18+55	343.6576	168.63	
19+ 0	344.7901	164.44	
19+ 5	345.9126	162.98	
19+10	347.0223	161.13	
19+15	348.1067	157.46	
19+20	349.1643	153.56	
19+25	350.1923	149.27	
19+30	351.1854	144.20	
19+35	352.0963	132.27	
19+40	352.9420	122.80	
19+45	353.7587	118.57	
19+50	354.5429	113.88	
19+55	355.2523	102.99	
20+ 0	355.8932	93.06	
20+ 5	356.5148	90.26	
20+10	357.1208	87.98	
20+15	357.7128	85.95	
20+20	358.2918	84.08	

20+25	358.8589	82.33	Q				V
20+30	359.4146	80.69	Q				V
20+35	359.9598	79.17	Q				V
20+40	360.4952	77.73	Q				V
20+45	361.0212	76.37	Q				V
20+50	361.5381	75.07	Q				V
20+55	362.0466	73.83	Q				V
21+ 0	362.5472	72.69	Q				V
21+ 5	363.0403	71.59	Q				V
21+10	363.5261	70.54	Q				V
21+15	364.0049	69.53	Q				V
21+20	364.4771	68.56	Q				V
21+25	364.9428	67.62	Q				V
21+30	365.4023	66.72	Q				V
21+35	365.8558	65.84	Q				V
21+40	366.3033	64.98	Q				V
21+45	366.7451	64.15	Q				V
21+50	367.1813	63.34	Q				V
21+55	367.6122	62.56	Q				V
22+ 0	368.0377	61.78	Q				V
22+ 5	368.4580	61.03	Q				V
22+10	368.8733	60.30	Q				V
22+15	369.2837	59.59	Q				V
22+20	369.6894	58.91	Q				V
22+25	370.0905	58.24	Q				V
22+30	370.4871	57.59	Q				V
22+35	370.8794	56.95	Q				V
22+40	371.2674	56.34	Q				V
22+45	371.6513	55.74	Q				V
22+50	372.0311	55.15	Q				V
22+55	372.4070	54.58	Q				V
23+ 0	372.7791	54.03	Q				V
23+ 5	373.1474	53.48	Q				V
23+10	373.5121	52.95	Q				V
23+15	373.8732	52.44	Q				V
23+20	374.2309	51.93	Q				V
23+25	374.5851	51.44	Q				V
23+30	374.9361	50.95	Q				V
23+35	375.2837	50.48	Q				V
23+40	375.6282	50.02	Q				V
23+45	375.9696	49.57	Q				V
23+50	376.3079	49.13	Q				V
23+55	376.6433	48.69	Q				V
24+ 0	376.9757	48.27	Q				V
24+ 5	377.3029	47.51	Q				V
24+10	377.6193	45.95	Q				V
24+15	377.9197	43.62	Q				V
24+20	378.1925	39.60	Q				V
24+25	378.4180	32.75	Q				V
24+30	378.5998	26.40	Q				V
24+35	378.7496	21.75	Q				V
24+40	378.8770	18.49	Q				V
24+45	378.9875	16.05	Q				V
24+50	379.0843	14.05	Q				V
24+55	379.1696	12.39	Q				V
25+ 0	379.2452	10.97	Q				V
25+ 5	379.3124	9.77	Q				V
25+10	379.3725	8.73	Q				V
25+15	379.4264	7.83	Q				V

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  25+20     379.4747      7.01  Q         |         |         |        V|
  25+25     379.5178      6.25  Q         |         |         |        V|
  25+30     379.5563      5.59  Q         |         |         |        V|
  25+35     379.5909      5.03  Q         |         |         |        V|
  25+40     379.6223      4.55  Q         |         |         |        V|
  25+45     379.6505      4.10  Q         |         |         |        V|
  25+50     379.6758      3.68  Q         |         |         |        V|
  25+55     379.6986      3.30  Q         |         |         |        V|
  26+ 0     379.7189      2.95  Q         |         |         |        V|
  26+ 5     379.7371      2.64  Q         |         |         |        V|
  26+10     379.7534      2.38  Q         |         |         |        V|
  26+15     379.7680      2.11  Q         |         |         |        V|
  26+20     379.7809      1.88  Q         |         |         |        V|
  26+25     379.7925      1.68  Q         |         |         |        V|
  26+30     379.8026      1.48  Q         |         |         |        V|
  26+35     379.8116      1.31  Q         |         |         |        V|
  26+40     379.8197      1.17  Q         |         |         |        V|
  26+45     379.8267      1.03  Q         |         |         |        V|
  26+50     379.8331      0.92  Q         |         |         |        V|
  26+55     379.8389      0.84  Q         |         |         |        V|
  27+ 0     379.8441      0.76  Q         |         |         |        V|
  27+ 5     379.8487      0.67  Q         |         |         |        V|
  27+10     379.8527      0.58  Q         |         |         |        V|
  27+15     379.8561      0.49  Q         |         |         |        V|
  27+20     379.8589      0.40  Q         |         |         |        V|
  27+25     379.8610      0.31  Q         |         |         |        V|
  27+30     379.8625      0.22  Q         |         |         |        V|
  27+35     379.8636      0.16  Q         |         |         |        V|
  27+40     379.8644      0.11  Q         |         |         |        V|
  27+45     379.8649      0.07  Q         |         |         |        V|
  27+50     379.8650      0.02  Q         |         |         |         V
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TECHNICAL APPENDIX NO. 5

Existing Conditions
Hydrograph Routing Calculations
100-Year, 24-Hour Storm Event

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 09/06/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREAS 49 AND 50 - ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: EX50.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 1.000 to Point/Station 1.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q				
0+45	1.0442	49.62	Q				
0+50	1.4418	57.74	Q				
0+55	1.8774	63.25	Q				
1+ 0	2.3435	67.68	Q				
1+ 5	2.8357	71.46	VQ				
1+10	3.3495	74.60	VQ				
1+15	3.8839	77.60	VQ				
1+20	4.4361	80.18	VQ				
1+25	5.0051	82.61	VQ				
1+30	5.5888	84.75	VQ				
1+35	6.1862	86.74	VQ				
1+40	6.7962	88.58	VQ				
1+45	7.4181	90.30	VQ				
1+50	8.0511	91.90	VQ				
1+55	8.6941	93.37	VQ				
2+ 0	9.3468	94.77	VQ				
2+ 5	10.0084	96.06	VQ				
2+10	10.6785	97.30	VQ				
2+15	11.3564	98.42	VQ				
2+20	12.0417	99.50	VQ				
2+25	12.7335	100.46	VQ				
2+30	13.4318	101.39	VQ				
2+35	14.1361	102.27	VQ				
2+40	14.8463	103.11	|Q				
2+45	15.5617	103.88	|Q				
2+50	16.2821	104.60	|Q				
2+55	17.0067	105.21	|Q				
3+ 0	17.7352	105.77	|Q				
3+ 5	18.4676	106.35	|Q				
3+10	19.2039	106.92	|Q				
3+15	19.9442	107.49	|Q				
3+20	20.6883	108.04	|Q				
3+25	21.4362	108.60	|Q				
3+30	22.1880	109.16	|Q				
3+35	22.9437	109.72	|Q				
3+40	23.7030	110.24	|Q				
3+45	24.4659	110.78	|Q				
3+50	25.2326	111.31	|Q				
3+55	26.0030	111.87	|Q				
4+ 0	26.7773	112.42	|Q				
4+ 5	27.5555	113.00	|Q				
4+10	28.3377	113.57	|Q				
4+15	29.1239	114.15	|QV				
4+20	29.9138	114.70	|QV				
4+25	30.7076	115.25	|QV				
4+30	31.5051	115.80	|QV				
4+35	32.3065	116.37	|QV				
4+40	33.1117	116.91	|QV				
4+45	33.9208	117.47	|QV				
4+50	34.7336	118.02	|QV				
4+55	35.5504	118.60	|QV				
5+ 0	36.3709	119.14	|QV				
5+ 5	37.1953	119.70	|QV				
5+10	38.0234	120.25	|QV				
5+15	38.8555	120.81	|QV				
5+20	39.6914	121.38	|QV				
5+25	40.5313	121.96	|QV				
5+30	41.3752	122.53	|QV				

5+35	42.2232	123.13	QV				
5+40	43.0752	123.71	Q V				
5+45	43.9315	124.32	Q V				
5+50	44.7918	124.92	Q V				
5+55	45.6564	125.55	Q V				
6+ 0	46.5253	126.16	Q V				
6+ 5	47.3986	126.80	Q V				
6+10	48.2762	127.43	Q V				
6+15	49.1584	128.09	Q V				
6+20	50.0450	128.74	Q V				
6+25	50.9363	129.41	Q V				
6+30	51.8321	130.07	Q V				
6+35	52.7327	130.77	Q V				
6+40	53.6380	131.45	Q V				
6+45	54.5482	132.16	Q V				
6+50	55.4632	132.86	Q V				
6+55	56.3832	133.59	Q V				
7+ 0	57.3082	134.31	Q V				
7+ 5	58.2384	135.06	Q V				
7+10	59.1737	135.80	Q V				
7+15	60.1143	136.58	Q V				
7+20	61.0602	137.34	Q V				
7+25	62.0115	138.13	Q V				
7+30	62.9682	138.92	Q V				
7+35	63.9306	139.74	Q V				
7+40	64.8985	140.54	Q V				
7+45	65.8722	141.39	Q V				
7+50	66.8517	142.22	Q V				
7+55	67.8372	143.09	Q V				
8+ 0	68.8285	143.95	Q V				
8+ 5	69.8261	144.84	Q V				
8+10	70.8297	145.73	Q V				
8+15	71.8397	146.65	Q V				
8+20	72.8560	147.57	Q V				
8+25	73.8789	148.52	Q V				
8+30	74.9083	149.47	Q V				
8+35	75.9445	150.45	Q V				
8+40	76.9874	151.43	Q V				
8+45	78.0373	152.45	Q V				
8+50	79.0941	153.46	Q V				
8+55	80.1583	154.51	Q V				
9+ 0	81.2296	155.56	Q V				
9+ 5	82.3085	156.65	Q V				
9+10	83.3948	157.73	Q V				
9+15	84.4889	158.86	Q V				
9+20	85.5907	159.99	Q V				
9+25	86.7006	161.16	Q V				
9+30	87.8185	162.32	Q V				
9+35	88.9448	163.54	Q V				
9+40	90.0795	164.75	Q V				
9+45	91.2228	166.01	Q V				
9+50	92.3748	167.27	Q V				
9+55	93.5359	168.58	Q V				
10+ 0	94.7059	169.89	Q V				
10+ 5	95.8854	171.26	Q V				
10+10	97.0742	172.62	Q V				
10+15	98.2729	174.04	Q V				
10+20	99.4813	175.46	Q V				
10+25	100.6999	176.95	Q V				

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10+30     101.9288    178.43  | Q    V  |          |          |          |
10+35     103.1683    179.98  | Q    V  |          |          |          |
10+40     104.4185    181.52  | Q    V  |          |          |          |
10+45     105.6798    183.15  | Q    V  |          |          |          |
10+50     106.9523    184.76  | Q    V  |          |          |          |
10+55     108.2364    186.46  | Q    V  |          |          |          |
11+ 0     109.5322    188.15  | Q    V  |          |          |          |
11+ 5     110.8402    189.93  | Q    V  |          |          |          |
11+10     112.1605    191.70  | Q    V  |          |          |          |
11+15     113.4936    193.57  | Q    V  |          |          |          |
11+20     114.8396    195.43  | Q     V |          |          |          |
11+25     116.1990    197.39  | Q     V |          |          |          |
11+30     117.5719    199.35  | Q     V |          |          |          |
11+35     118.9591    201.41  | Q     V |          |          |          |
11+40     120.3604    203.48  | Q     V |          |          |          |
11+45     121.7768    205.65  | Q     V |          |          |          |
11+50     123.2081    207.83  | Q     V |          |          |          |
11+55     124.6552    210.13  |  Q    V |          |          |          |
12+ 0     126.1182    212.43  |  Q    V |          |          |          |
12+ 5     127.5980    214.86  |  Q    V |          |          |          |
12+10     129.0946    217.31  |  Q     V|          |          |          |
12+15     130.6091    219.90  |  Q     V|          |          |          |
12+20     132.1416    222.51  |  Q     V|          |          |          |
12+25     133.6930    225.27  |  Q     V|          |          |          |
12+30     135.2636    228.06  |  Q     V|          |          |          |
12+35     136.8547    231.02  |  Q     V|          |          |          |
12+40     138.4663    234.02  |  Q     V|          |          |          |
12+45     140.1002    237.23  |  Q     V|          |          |          |
12+50     141.7559    240.42  |  Q     V|          |          |          |
12+55     143.4349    243.79  |  Q      V          |          |          |
13+ 0     145.1373    247.19  |  Q      V          |          |          |
13+ 5     146.8646    250.80  |  Q      V          |          |          |
13+10     148.6169    254.44  |  Q      V          |          |          |
13+15     150.3960    258.33  |  Q      V          |          |          |
13+20     152.2022    262.25  |  Q      V          |          |          |
13+25     154.0372    266.45  |  Q      V          |          |          |
13+30     155.9016    270.71  |  Q      V          |          |          |
13+35     157.7974    275.27  |  Q       V         |          |          |
13+40     159.7251    279.90  |  Q      |V         |          |          |
13+45     161.6870    284.87  |   Q     |V         |          |          |
13+50     163.6838    289.93  |   Q     |V         |          |          |
13+55     165.7181    295.38  |   Q     |V         |          |          |
14+ 0     167.7908    300.95  |   Q     |V         |          |          |
14+ 5     169.9119    307.98  |   Q     |V         |          |          |
14+10     172.0914    316.48  |   Q     | V        |          |          |
14+15     174.3396    326.43  |   Q     | V        |          |          |
14+20     176.6643    337.54  |   Q     | V        |          |          |
14+25     179.0766    350.28  |    Q    | V        |          |          |
14+30     181.5931    365.40  |    Q    | V        |          |          |
14+35     184.2343    383.51  |    Q    | V        |          |          |
14+40     187.0375    407.02  |    Q    |  V       |          |          |
14+45     190.0556    438.22  |     Q   |  V       |          |          |
14+50     193.2225    459.84  |     Q   |  V       |          |          |
14+55     196.5210    478.94  |     Q   |  V       |          |          |
15+ 0     199.9449    497.14  |      Q  |   V      |          |          |
15+ 5     203.4974    515.83  |      Q  |   V      |          |          |
15+10     207.1779    534.41  |      Q  |   V      |          |          |
15+15     210.9971    554.55  |      Q  |   V      |          |          |
15+20     214.9590    575.26  |       Q |    V     |          |          |
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15+25	219.0607	595.57	|	Q |	V	|	|	|
15+30	223.2884	613.87	|	Q |	V	|	|	|
15+35	227.6466	632.81	|	Q|	V	|	|	|
15+40	232.1351	651.72	|	Q|	V	|	|	|
15+45	236.7700	673.00	|	Q|	V	|	|	|
15+50	241.5477	693.71	|	Q|	V	|	|	|
15+55	246.5035	719.59	|	Q	V	|	|	|
16+ 0	251.6632	749.19	|	Q	V	|	|	|
16+ 5	257.5093	848.86	|	| Q	V	|	|	|
16+10	264.3796	997.57	|	| Q	V	|	|	|
16+15	272.1685	1130.94	|	| Q	V|	|	|	|
16+20	280.9315	1272.39	|	| QV|	|	|	|
16+25	290.8231	1436.27	|	| Q	|	|	|
16+30	302.4684	1690.89	|	| V	Q	|	|	|
16+35	316.0612	1973.68	|	| | V	Q	|	|	|
16+40	332.5999	2401.42	|	| | V	|	| Q	|
16+45	351.8802	2799.51	|	| | V	|	|	Q
16+50	365.2308	1938.50	|	| | V Q	|	|	|
16+55	375.9853	1561.56	|	| | Q	V	|	|	|
17+ 0	385.5246	1385.10	|	| Q|	V	|	|	|
17+ 5	394.3893	1287.16	|	| Q |	V	|	|	|
17+10	402.4985	1177.45	|	| Q	|	V |	|	|
17+15	410.1809	1115.49	|	| Q	|	V |	|	|
17+20	417.2800	1030.79	|	| Q	|	V|	|	|
17+25	423.9709	971.51	|	| Q	|	V|	|	|
17+30	430.1762	901.01	|	| Q	|	V	|	|
17+35	435.9912	844.33	|	| Q	|	V	|	|
17+40	441.4095	786.74	|	|Q	|	V	|	|
17+45	446.4156	726.90	|	Q	|	|	|V	|
17+50	451.0965	679.66	|	Q|	|	|	|V	|
17+55	455.4666	634.54	|	Q|	|	|	|V	|
18+ 0	459.6079	601.32	|	Q |	|	|	| V	|
18+ 5	463.4980	564.85	|	Q |	|	|	| V	|
18+10	467.1958	536.91	|	Q |	|	|	| V	|
18+15	470.6554	502.33	|	Q |	|	|	| V	|
18+20	473.9500	478.38	|	Q |	|	|	| V	|
18+25	477.0269	446.77	|	Q |	|	|	| V	|
18+30	479.9703	427.38	|	Q |	|	|	| V	|
18+35	482.7549	404.32	|	Q |	|	|	| V	|
18+40	485.4166	386.48	|	Q |	|	|	| V	|
18+45	487.9042	361.20	|	Q |	|	|	| V	|
18+50	490.2677	343.18	|	Q |	|	|	| V	|
18+55	492.4524	317.22	|	Q |	|	|	| V	|
19+ 0	494.5307	301.77	|	Q |	|	|	| V	|
19+ 5	496.5436	292.27	|	Q |	|	|	| V	|
19+10	498.4962	283.52	|	Q |	|	|	| V	|
19+15	500.3806	273.60	|	Q |	|	|	| V	|
19+20	502.2028	264.59	|	Q |	|	|	| V	|
19+25	503.9751	257.35	|	Q |	|	|	| V	|
19+30	505.6986	250.25	|	Q |	|	|	| V	|
19+35	507.3624	241.59	|	Q |	|	|	| V	|
19+40	508.9633	232.45	|	Q |	|	|	| V	|
19+45	510.5273	227.09	|	Q |	|	|	| V	|
19+50	512.0584	222.32	|	Q |	|	|	| V	|
19+55	513.5626	218.41	|	Q |	|	|	| V	|
20+ 0	515.0466	215.47	|	Q |	|	|	| V	|
20+ 5	516.5024	211.38	|	Q |	|	|	| V	|
20+10	517.9280	207.00	|	Q |	|	|	| V	|
20+15	519.3192	202.01	|	Q |	|	|	| V	|

20+20	520.6595	194.61	Q				V
20+25	521.9690	190.14	Q				V
20+30	523.2539	186.56	Q				V
20+35	524.5140	182.97	Q				V
20+40	525.7400	178.01	Q				V
20+45	526.9395	174.16	Q				V
20+50	528.1178	171.09	Q				V
20+55	529.2811	168.91	Q				V
21+ 0	530.3990	162.32	Q				V
21+ 5	531.4964	159.34	Q				V
21+10	532.5763	156.80	Q				V
21+15	533.6400	154.45	Q				V
21+20	534.6877	152.13	Q				V
21+25	535.7200	149.89	Q				V
21+30	536.7362	147.56	Q				V
21+35	537.7371	145.33	Q				V
21+40	538.7247	143.40	Q				V
21+45	539.6996	141.56	Q				V
21+50	540.6623	139.79	Q				V
21+55	541.6131	138.05	Q				V
22+ 0	542.5527	136.42	Q				V
22+ 5	543.4814	134.85	Q				V
22+10	544.3996	133.33	Q				V
22+15	545.3076	131.85	Q				V
22+20	546.2058	130.42	Q				V
22+25	547.0944	129.02	Q				V
22+30	547.9737	127.67	Q				V
22+35	548.8440	126.36	Q				V
22+40	549.7055	125.09	Q				V
22+45	550.5584	123.85	Q				V
22+50	551.4031	122.64	Q				V
22+55	552.2396	121.46	Q				V
23+ 0	553.0682	120.31	Q				V
23+ 5	553.8891	119.19	Q				V
23+10	554.7024	118.10	Q				V
23+15	555.5084	117.03	Q				V
23+20	556.3073	115.99	Q				V
23+25	557.0991	114.97	Q				V
23+30	557.8840	113.98	Q				V
23+35	558.6623	113.00	Q				V
23+40	559.4340	112.05	Q				V
23+45	560.1993	111.12	Q				V
23+50	560.9583	110.21	Q				V
23+55	561.7111	109.32	Q				V
24+ 0	562.4580	108.44	Q				V
24+ 5	563.1939	106.86	Q				V
24+10	563.9126	104.35	Q				V
24+15	564.6096	101.21	Q				V
24+20	565.2806	97.42	Q				V
24+25	565.9208	92.96	Q				V
24+30	566.5203	87.04	Q				V
24+35	567.0682	79.56	Q				V
24+40	567.5403	68.55	Q				V
24+45	567.9039	52.80	Q				V
24+50	568.2101	44.46	Q				V
24+55	568.4775	38.82	Q				V
25+ 0	568.7139	34.33	Q				V
25+ 5	568.9241	30.52	Q				V
25+10	569.1128	27.41	Q				V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

```
        Peak (CFS)   2799.507     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)    570.680     0.000     0.000     0.000     0.000
******************************************************************************

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        1.100
**** STREAM ROUTING SCS CONVEX METHOD ****
______________________________________________________________________________
HYDROGRAPH STREAM ROUTING DATA:
Length of stream =  41975.00 (Ft.)
Elevation difference = 1032.40 (Ft.)
Slope of channel =  0.024596 (Vert/Horiz)
Channel type - Improved Channel


Channel length = 41975.00(Ft.)     Elevation difference = 1032.40(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width  =  100.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Manning's 'N'    = 0.035
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =    268.931(CFS)
Depth of flow =     0.580(Ft.)
Average velocity =     4.586(Ft/s)
Total flow rate =   268.931(CFS)
Channel flow top width =  102.319(Ft.)
Depth of flow in channel =   0.58(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    4.59(Ft/s)
Travel time  =    0.00 min.
Individual channel flow =  268.931(CFS)
Total capacity of improved channels =    268.931(CFS)
Critical Depth in Channel =    0.61(Ft.)


Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea =   2799.507(CFS)
Depth of flow =     2.353(Ft.)
Average velocity =    11.363(Ft/s)
Total flow rate =  2799.507(CFS)
Channel flow top width =  109.412(Ft.)
Depth of flow in channel =   2.35(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =   11.36(Ft/s)
Travel time  =    0.00 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels =   2799.507(CFS)
Critical Depth in Channel =    2.84(Ft.)


********************** SCS CONVEX CHANNEL ROUTING ********************
Convex method of stream routing  data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
          where c* = 1 - (1-c)^e and dt = c(length)/velocity
```

c(v/v+1.7) = 0.8699 Travel time = 61.57 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.3956
dt(routing time-step) = 53.56 (min.), c* = 0.5536

Output hydrograph delayed by 0 unit time increments

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3668	0.73	O				
0+10	1.4093	2.41	O				
0+15	3.1403	4.76	O				
0+20	5.5567	7.79	O				
0+25	8.6766	11.54	O				
0+30	12.9123	16.82	O				
0+35	18.5357	23.71	O				
0+40	26.6837	34.24	O				
0+45	38.5876	49.62	O				
0+50	48.7724	57.74	O				
0+55	56.5027	63.25	O				
1+ 0	62.4595	67.68	O				
1+ 5	67.2483	71.46	OI				
1+10	71.1566	74.60	|O				
1+15	74.5676	77.60	|O				
1+20	77.5429	80.18	|O				
1+25	80.2253	82.61	|O				
1+30	82.6223	84.75	|O				
1+35	84.8006	86.74	|O				
1+40	86.7972	88.58	|O				
1+45	88.6485	90.30	|O				
1+50	90.3684	91.90	|O				
1+55	91.9547	93.37	|O				
2+ 0	93.4402	94.77	|O				
2+ 5	94.8253	96.06	|O				
2+10	96.1323	97.30	|O				
2+15	97.3431	98.42	|O				
2+20	98.4820	99.50	|O				
2+25	99.5278	100.46	|O				
2+30	100.5110	101.39	|O				
2+35	101.4373	102.27	|O				
2+40	102.3217	103.11	|O				
2+45	103.1435	103.88	|O				
2+50	103.9140	104.60	|O				
2+55	104.6023	105.21	|O				
3+ 0	105.2219	105.77	|O				
3+ 5	105.8159	106.35	|O				
3+10	106.3960	106.92	|O				
3+15	106.9699	107.49	|O				
3+20	107.5321	108.04	|O				
3+25	108.0961	108.60	|O				
3+30	108.6587	109.16	|O				
3+35	109.2192	109.72	|O				

3+40	109.7601	110.24	O				
3+45	110.2986	110.78	O				
3+50	110.8334	111.31	O				
3+55	111.3767	111.87	O				
4+ 0	111.9278	112.42	O				
4+ 5	112.4921	113.00	O				
4+10	113.0597	113.57	O				
4+15	113.6355	114.15	O				
4+20	114.1958	114.70	O				
4+25	114.7531	115.25	O				
4+30	115.3059	115.80	O				
4+35	115.8656	116.37	O				
4+40	116.4180	116.91	O				
4+45	116.9724	117.47	O				
4+50	117.5247	118.02	O				
4+55	118.0909	118.60	O				
5+ 0	118.6437	119.14	O				
5+ 5	119.1976	119.70	O				
5+10	119.7492	120.25	O				
5+15	120.3098	120.81	O				
5+20	120.8715	121.38	O				
5+25	121.4441	121.96	O				
5+30	122.0177	122.53	O				
5+35	122.6015	123.13	O				
5+40	123.1868	123.71	O				
5+45	123.7837	124.32	O				
5+50	124.3830	124.92	O				
5+55	124.9946	125.55	O				
6+ 0	125.6088	126.16	O				
6+ 5	126.2358	126.80	O				
6+10	126.8657	127.43	O				
6+15	127.5088	128.09	O				
6+20	128.1549	128.74	O				
6+25	128.8149	129.41	O				
6+30	129.4780	130.07	O				
6+35	130.1554	130.77	O				
6+40	130.8363	131.45	O				
6+45	131.5320	132.16	O				
6+50	132.2314	132.86	O				
6+55	132.9462	133.59	O				
7+ 0	133.6648	134.31	O				
7+ 5	134.3995	135.06	O				
7+10	135.1384	135.80	O				
7+15	135.8940	136.58	O				
7+20	136.6540	137.34	O				
7+25	137.4314	138.13	O				
7+30	138.2135	138.92	O				
7+35	139.0137	139.74	O				
7+40	139.8190	140.54	OI				
7+45	140.6431	141.39	O				
7+50	141.4728	142.22	O				
7+55	142.3220	143.09	O				
8+ 0	143.1772	143.95	O				
8+ 5	144.0527	144.84	O				
8+10	144.9347	145.73	O				
8+15	145.8380	146.65	O				
8+20	146.7481	147.57	O				
8+25	147.6806	148.52	O				
8+30	148.6204	149.47	O				

8+35	149.5835	150.45	O			
8+40	150.5545	151.43	O			
8+45	151.5501	152.45	O			
8+50	152.5540	153.46	O			
8+55	153.5837	154.51	O			
9+ 0	154.6225	155.56	O			
9+ 5	155.6882	156.65	O			
9+10	156.7638	157.73	O			
9+15	157.8677	158.86	O			
9+20	158.9822	159.99	O			
9+25	160.1265	161.16	O			
9+30	161.2823	162.32	O			
9+35	162.4694	163.54	O			
9+40	163.6690	164.75	O			
9+45	164.9016	166.01	O			
9+50	166.1477	167.27	O			
9+55	167.4287	168.58	O			
10+ 0	168.7243	169.89	O			
10+ 5	170.0569	171.26	O			
10+10	171.4051	172.62	O			
10+15	172.7927	174.04	O			
10+20	174.1973	175.46	O			
10+25	175.6435	176.95	O			
10+30	177.1083	178.43	O			
10+35	178.6174	179.98	O			
10+40	180.1467	181.52	O			
10+45	181.7232	183.15	O			
10+50	183.3216	184.76	O			
10+55	184.9704	186.46	O			
11+ 0	186.6433	188.15	O			
11+ 5	188.3700	189.93	O			
11+10	190.1230	191.70	O			
11+15	191.9337	193.57	O			
11+20	193.7733	195.43	O			
11+25	195.6749	197.39	O			
11+30	197.6081	199.35	O			
11+35	199.6081	201.41	O			
11+40	201.6431	203.48	O			
11+45	203.7500	205.65	O			
11+50	205.8956	207.83	O			
11+55	208.1191	210.13	OI			
12+ 0	210.3853	212.43	O			
12+ 5	212.7384	214.86	O			
12+10	215.1432	217.31	O			
12+15	217.6443	219.90	O			
12+20	220.2026	222.51	O			
12+25	222.8659	225.27	O			
12+30	225.5954	228.06	O			
12+35	228.4437	231.02	O			
12+40	231.3742	234.02	O			
12+45	234.4493	237.23	O			
12+50	237.5891	240.42	O			
12+55	240.8483	243.79	O			
13+ 0	244.1817	247.19	O			
13+ 5	247.6572	250.80	O			
13+10	251.2241	254.44	O			
13+15	254.9546	258.33	O			
13+20	258.7932	262.25	O			
13+25	262.8170	266.45	O			

13+30	266.9666	270.71	O				
13+35	271.3262	275.27	O				
13+40	275.8323	279.90	O				
13+45	280.5782	284.87	O				
13+50	285.4957	289.93	O				
13+55	290.6885	295.38	O				
14+ 0	296.0836	300.95	O				
14+ 5	302.3076	307.98	O				
14+10	309.7131	316.48	O				
14+15	318.4544	326.43	O				
14+20	328.4477	337.54	O				
14+25	339.8741	350.28	OI				
14+30	353.2220	365.40	O				
14+35	369.0521	383.51	O				
14+40	388.8595	407.02	O				
14+45	414.5768	438.22	OI				
14+50	438.5175	459.84	O				
14+55	459.9112	478.94	O				
15+ 0	479.5828	497.14	OI				
15+ 5	498.6825	515.83	O				
15+10	517.5014	534.41	O				
15+15	536.9729	554.55	O				
15+20	557.0994	575.26	OI				
15+25	577.3496	595.57	O				
15+30	596.6205	613.87	O				
15+35	615.6768	632.81	OI				
15+40	634.6547	651.72	O				
15+45	654.7820	673.00	O				
15+50	675.2648	693.71	O				
15+55	698.4663	719.59	OI				
16+ 0	725.0177	749.19	O				
16+ 5	788.4279	848.86	OI				
16+10	896.5306	997.57	O I				
16+15	1019.4169	1130.94	O I				
16+20	1152.1593	1272.39	O I				
16+25	1300.9822	1436.27	O I				
16+30	1503.6877	1690.89	O I				
16+35	1749.2757	1973.68	O I				
16+40	2088.2168	2401.42	O	I			
16+45	2461.4379	2799.51	O	I			
16+50	2216.4226	1938.50	I	O			
16+55	1873.3498	1561.56	I O				
17+ 0	1612.1548	1385.10	I O				
17+ 5	1437.2893	1287.16	I O				
17+10	1299.1026	1177.45	I O				
17+15	1200.6495	1115.49	I O				
17+20	1110.9871	1030.79	IO				
17+25	1036.8333	971.51	IO				
17+30	965.2829	901.01	IO				
17+35	901.2498	844.33	O				
17+40	840.8274	786.74	IO				
17+45	780.8440	726.90	IO				
17+50	727.2638	679.66	IO				
17+55	678.2623	634.54	O				
18+ 0	637.3794	601.32	IO				
18+ 5	599.1087	564.85	O				
18+10	566.1188	536.91	IO				
18+15	532.5909	502.33	O				
18+20	503.8146	478.38	IO				

18+25	473.8651	446.77	O			
18+30	449.1308	427.38	O			
18+35	425.5154	404.32	IO			
18+40	404.8282	386.48	O			
18+45	381.9799	361.20	O			
18+50	361.4310	343.18	IO			
18+55	338.2966	317.22	O			
19+ 0	318.8740	301.77	O			
19+ 5	304.6360	292.27	O			
19+10	293.3970	283.52	O			
19+15	282.9512	273.60	IO			
19+20	273.2497	264.59	O			
19+25	264.8193	257.35	O			
19+30	257.1193	250.25	O			
19+35	248.9668	241.59	O			
19+40	240.2968	232.45	O			
19+45	233.2610	227.09	O			
19+50	227.4508	222.32	O			
19+55	222.6469	218.41	O			
20+ 0	218.8251	215.47	O			
20+ 5	214.9145	211.38	O			
20+10	210.7583	207.00	IO			
20+15	206.1704	202.01	O			
20+20	200.1528	194.61	O			
20+25	194.8428	190.14	O			
20+30	190.4423	186.56	O			
20+35	186.4924	182.97	O			
20+40	182.0545	178.01	O			
20+45	177.8840	174.16	O			
20+50	174.2832	171.09	O			
20+55	171.4188	168.91	O			
21+ 0	166.7231	162.32	O			
21+ 5	162.7915	159.34	O			
21+10	159.6041	156.80	O			
21+15	156.8707	154.45	O			
21+20	154.3654	152.13	O			
21+25	152.0039	149.89	O			
21+30	149.6621	147.56	O			
21+35	147.3774	145.33	O			
21+40	145.2744	143.40	O			
21+45	143.3136	141.56	O			
21+50	141.4522	139.79	IO			
21+55	139.6590	138.05	O			
22+ 0	137.9516	136.42	O			
22+ 5	136.3157	134.85	O			
22+10	134.7393	133.33	O			
22+15	133.2155	131.85	O			
22+20	131.7395	130.42	O			
22+25	130.3081	129.02	O			
22+30	128.9196	127.67	O			
22+35	127.5724	126.36	O			
22+40	126.2635	125.09	O			
22+45	124.9905	123.85	O			
22+50	123.7514	122.64	O			
22+55	122.5445	121.46	O			
23+ 0	121.3685	120.31	O			
23+ 5	120.2219	119.19	O			
23+10	119.1035	118.10	O			
23+15	118.0120	117.03	O			

23+20	116.9464	115.99	|O	|	|	|	|
23+25	115.9057	114.97	|O	|	|	|	|
23+30	114.8888	113.98	|O	|	|	|	|
23+35	113.8949	113.00	|O	|	|	|	|
23+40	112.9231	112.05	|O	|	|	|	|
23+45	111.9727	111.12	|O	|	|	|	|
23+50	111.0427	110.21	|O	|	|	|	|
23+55	110.1325	109.32	|O	|	|	|	|
24+ 0	109.2414	108.44	|O	|	|	|	|
24+ 5	108.0028	106.86	|O	|	|	|	|
24+10	106.1112	104.35	|O	|	|	|	|
24+15	103.5600	101.21	|O	|	|	|	|
24+20	100.3586	97.42	|O	|	|	|	|
24+25	96.4951	92.96	|O	|	|	|	|
24+30	91.5646	87.04	|O	|	|	|	|
24+35	85.3057	79.56	|O	|	|	|	|
24+40	76.5974	68.55	IO	|	|	|	|
24+45	64.2343	52.80	O	|	|	|	|
24+50	53.7158	44.46	O	|	|	|	|
24+55	45.7627	38.82	O	|	|	|	|
25+ 0	39.6636	34.33	O	|	|	|	|
25+ 5	34.8001	30.52	O	|	|	|	|
25+10	30.8672	27.41	O	|	|	|	|
25+15	27.4780	24.47	O	|	|	|	|
25+20	24.5597	21.97	O	|	|	|	|
25+25	21.9708	19.67	O	|	|	|	|
25+30	19.6943	17.67	O	|	|	|	|
25+35	17.6663	15.86	O	|	|	|	|
25+40	15.8414	14.22	O	|	|	|	|
25+45	14.1871	12.71	O	|	|	|	|
25+50	12.6817	11.34	O	|	|	|	|
25+55	11.3320	10.13	O	|	|	|	|
26+ 0	10.0973	9.00	O	|	|	|	|
26+ 5	8.9826	7.99	O	|	|	|	|
26+10	7.9578	7.04	O	|	|	|	|
26+15	7.0466	6.24	O	|	|	|	|
26+20	6.2171	5.48	O	|	|	|	|
26+25	5.4961	4.86	O	|	|	|	|
26+30	4.8457	4.27	O	|	|	|	|
26+35	4.2658	3.75	O	|	|	|	|
26+40	3.7344	3.26	O	|	|	|	|
26+45	3.2782	2.87	O	|	|	|	|
26+50	2.8786	2.52	O	|	|	|	|
26+55	2.5725	2.31	O	|	|	|	|
27+ 0	2.3389	2.13	O	|	|	|	|
27+ 5	2.1409	1.97	O	|	|	|	|
27+10	1.9595	1.80	O	|	|	|	|
27+15	1.7941	1.65	O	|	|	|	|
27+20	1.6428	1.51	O	|	|	|	|
27+25	1.4992	1.37	O	|	|	|	|
27+30	1.3595	1.23	O	|	|	|	|
27+35	1.2314	1.12	O	|	|	|	|
27+40	1.1251	1.03	O	|	|	|	|
27+45	1.0307	0.95	O	|	|	|	|
27+50	0.9420	0.86	O	|	|	|	|
27+55	0.8543	0.78	O	|	|	|	|
28+ 0	0.7609	0.68	O	|	|	|	|
28+ 5	0.6641	0.58	O	|	|	|	|
28+10	0.5662	0.48	O	|	|	|	|

```
  28+15       0.4702      0.38  O         |         |         |         |
  28+20       0.3919      0.32  O         |         |         |         |
  28+25       0.3268      0.27  O         |         |         |         |
  28+30       0.2683      0.22  O         |         |         |         |
  28+35       0.2130      0.16  O         |         |         |         |
  28+40       0.1671      0.13  O         |         |         |         |
  28+45       0.1296      0.10  O         |         |         |         |
  28+50       0.0962      0.07  O         |         |         |         |
  28+55       0.0595      0.03  O         |         |         |         |
  29+ 0       0.0382      0.02  O         |         |         |         |
  29+ 5       0.0265      0.02  O         |         |         |         |
  29+10       0.0192      0.01  O         |         |         |         |
  29+15       0.0139      0.01  O         |         |         |         |
  29+20       0.0095      0.01  O         |         |         |         |
  29+25       0.0054      0.00  O         |         |         |         |
  29+30       0.0025      0.00  O         |         |         |         |
  29+35       0.0011      0.00  O         |         |         |         |
  29+40       0.0000      0.00  O         |         |         |         |
--------------------------------------------------------------------
      ***************************HYDROGRAPH DATA****************************
                    Number of intervals =   356
                    Time interval =    5.0 (Min.)
                    Maximum/Peak flow rate =     2461.438 (CFS)
                    Total volume =     570.680 (Ac.Ft)
             Status of hydrographs being held in storage
                       Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
             Peak (CFS)   2799.507     0.000     0.000     0.000     0.000
             Vol (Ac.Ft)    570.680     0.000     0.000     0.000     0.000
      **********************************************************************

      ----------------------------------------------------------------


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      Process from Point/Station        1.100 to Point/Station        1.100
      **** ADD/COMBINE/RECOVER HYDROGRAPHS ****
      ______________________________________________________________________
      ********************* HYDROGRAPH INFORMATION **********************

                    From study/file name: EX49.rte
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      P R I N T  O F  S T O R M
                   R u n o f f     H y d r o g r a p h
      ----------------------------------------------------------------------
                Hydrograph in   5   Minute intervals (CFS)

      ----------------------------------------------------------------------
  Time(h+m) Add q(CFS)  Tot. Q   0     2035.0    4070.1    6105.1    8140.2
  ----------------------------------------------------------------------
    0+ 5       0.9294      1.30  Q         |         |         |         |
    0+10       2.7904      4.20  Q         |         |         |         |
    0+15       4.6672      7.81  Q         |         |         |         |
    0+20       7.3601     12.92  Q         |         |         |         |
    0+25      10.7274     19.40  Q         |         |         |         |
    0+30      14.1698     27.08  Q         |         |         |         |
    0+35      18.5711     37.11  Q         |         |         |         |
    0+40      23.3918     50.08  Q         |         |         |         |
    0+45      28.4224     67.01  Q         |         |         |         |
    0+50      34.6335     83.41  Q         |         |         |         |
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0+55      41.1601     97.66  Q         |          |          |          |
1+ 0      48.2950    110.75  Q         |          |          |          |
1+ 5      59.3319    126.58  Q         |          |          |          |
1+10      71.1265    142.28  Q         |          |          |          |
1+15      84.3779    158.95  Q         |          |          |          |
1+20     102.4166    179.96  Q         |          |          |          |
1+25     121.0297    201.25  Q         |          |          |          |
1+30     139.2222    221.84  qQ        |          |          |          |
1+35     156.1204    240.92  qQ        |          |          |          |
1+40     173.0951    259.89  qQ        |          |          |          |
1+45     189.8342    278.48  qQ        |          |          |          |
1+50     206.4987    296.87  |Q        |          |          |          |
1+55     222.9377    314.89  |Q        |          |          |          |
2+ 0      236.8592    330.30  |Q        |          |          |          |
2+ 5      248.5281    343.35  |Q        |          |          |          |
2+10      260.0674    356.20  |Q        |          |          |          |
2+15      269.8300    367.17  |Q        |          |          |          |
2+20      278.6401    377.12  |Q        |          |          |          |
2+25      287.4578    386.99  |Q        |          |          |          |
2+30      295.3021    395.81  |Q        |          |          |          |
2+35      302.6664    404.10  |Q        |          |          |          |
2+40      310.0303    412.35  |qQ       |          |          |          |
2+45      316.8233    419.97  |qQ       |          |          |          |
2+50      323.3266    427.24  |qQ       |          |          |          |
2+55      329.7990    434.40  |qQ       |          |          |          |
3+ 0      335.8768    441.10  |qQ       |          |          |          |
3+ 5      341.8873    447.70  |qQ       |          |          |          |
3+10      347.8351    454.23  |qQ       |          |          |          |
3+15      353.3303    460.30  |qQ       |          |          |          |
3+20      358.7902    466.32  |qQ       |          |          |          |
3+25      364.1511    472.25  |qQ       |          |          |          |
3+30      369.1323    477.79  |qQ       |          |          |          |
3+35      374.1061    483.33  |qQ       |          |          |          |
3+40      379.0709    488.83  |qQ       |          |          |          |
3+45      383.9749    494.27  |qQ       |          |          |          |
3+50      388.9066    499.74  |qQ       |          |          |          |
3+55      393.5726    504.95  |qQ       |          |          |          |
4+ 0      397.8454    509.77  |qQ       |          |          |          |
4+ 5      402.1384    514.63  |qQ       |          |          |          |
4+10      406.4609    519.52  |qQ       |          |          |          |
4+15      410.8078    524.44  | Q       |          |          |          |
4+20      415.1807    529.38  | Q       |          |          |          |
4+25      419.2880    534.04  | Q       |          |          |          |
4+30      423.2512    538.56  | Q       |          |          |          |
4+35      427.2383    543.10  | Q       |          |          |          |
4+40      431.2560    547.67  | Q       |          |          |          |
4+45      435.2984    552.27  | Q       |          |          |          |
4+50      439.3527    556.88  | Q       |          |          |          |
4+55      443.2290    561.32  | Q       |          |          |          |
5+ 0      447.0829    565.73  | Q       |          |          |          |
5+ 5      450.9620    570.16  | Q       |          |          |          |
5+10      454.8735    574.62  | Q       |          |          |          |
5+15      458.8111    579.12  | Q       |          |          |          |
5+20      462.7233    583.59  | Q       |          |          |          |
5+25      466.4314    587.88  | Q       |          |          |          |
5+30      470.1496    592.17  | Q       |          |          |          |
5+35      473.8943    596.50  | Q       |          |          |          |
5+40      477.6736    600.86  | Q       |          |          |          |
5+45      481.4803    605.26  | Q       |          |          |          |
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5+50	485.1864	609.57	Q				
5+55	488.6839	613.68	qQ				
6+ 0	492.2127	617.82	qQ				
6+ 5	495.7696	622.01	qQ				
6+10	499.3633	626.23	qQ				
6+15	502.9856	630.49	qQ				
6+20	506.5761	634.73	qQ				
6+25	510.1464	638.96	qQ				
6+30	513.7558	643.23	qQ				
6+35	517.3961	647.55	qQ				
6+40	521.0769	651.91	qQ				
6+45	524.7816	656.31	qQ				
6+50	528.4156	660.65	qQ				
6+55	532.0471	664.99	qQ				
7+ 0	535.7215	669.39	qQ				
7+ 5	539.4303	673.83	qQ				
7+10	543.1836	678.32	qQ				
7+15	546.9559	682.85	qQ				
7+20	550.6950	687.35	qQ				
7+25	554.4611	691.89	qQ				
7+30	558.2749	696.49	qQ				
7+35	562.1273	701.14	qQ				
7+40	566.0295	705.85	qQ				
7+45	569.9026	710.55	qQ				
7+50	573.6842	715.16	qQ				
7+55	577.5031	719.83	qQ				
8+ 0	581.3750	724.55	qQ				
8+ 5	585.2905	729.34	qQ				
8+10	589.2613	734.20	qQ				
8+15	593.2778	739.12	qQ				
8+20	597.3521	744.10	qQ				
8+25	601.4743	749.15	qQ				
8+30	605.6569	754.28	qQ				
8+35	609.8898	759.47	qQ				
8+40	614.1809	764.74	Q				
8+45	618.4300	769.98	Q				
8+50	622.7095	775.26	Q				
8+55	627.0440	780.63	Q				
9+ 0	631.4475	786.07	Q				
9+ 5	635.9090	791.60	Q				
9+10	640.4429	797.21	Q				
9+15	645.0378	802.91	Q				
9+20	649.7089	808.69	Q				
9+25	654.4444	814.57	qQ				
9+30	659.2599	820.54	qQ				
9+35	664.1435	826.61	qQ				
9+40	669.0714	832.74	qQ				
9+45	673.9732	838.87	qQ				
9+50	678.9589	845.11	qQ				
9+55	684.0204	851.45	qQ				
10+ 0	689.1752	857.90	qQ				
10+ 5	694.4103	864.47	qQ				
10+10	699.7440	871.15	qQ				
10+15	705.1630	877.96	qQ				
10+20	710.6865	884.88	qQ				
10+25	716.3007	891.94	qQ				
10+30	722.0255	899.13	qQ				
10+35	727.8439	906.46	qQ				
10+40	733.6980	913.84	qQ				

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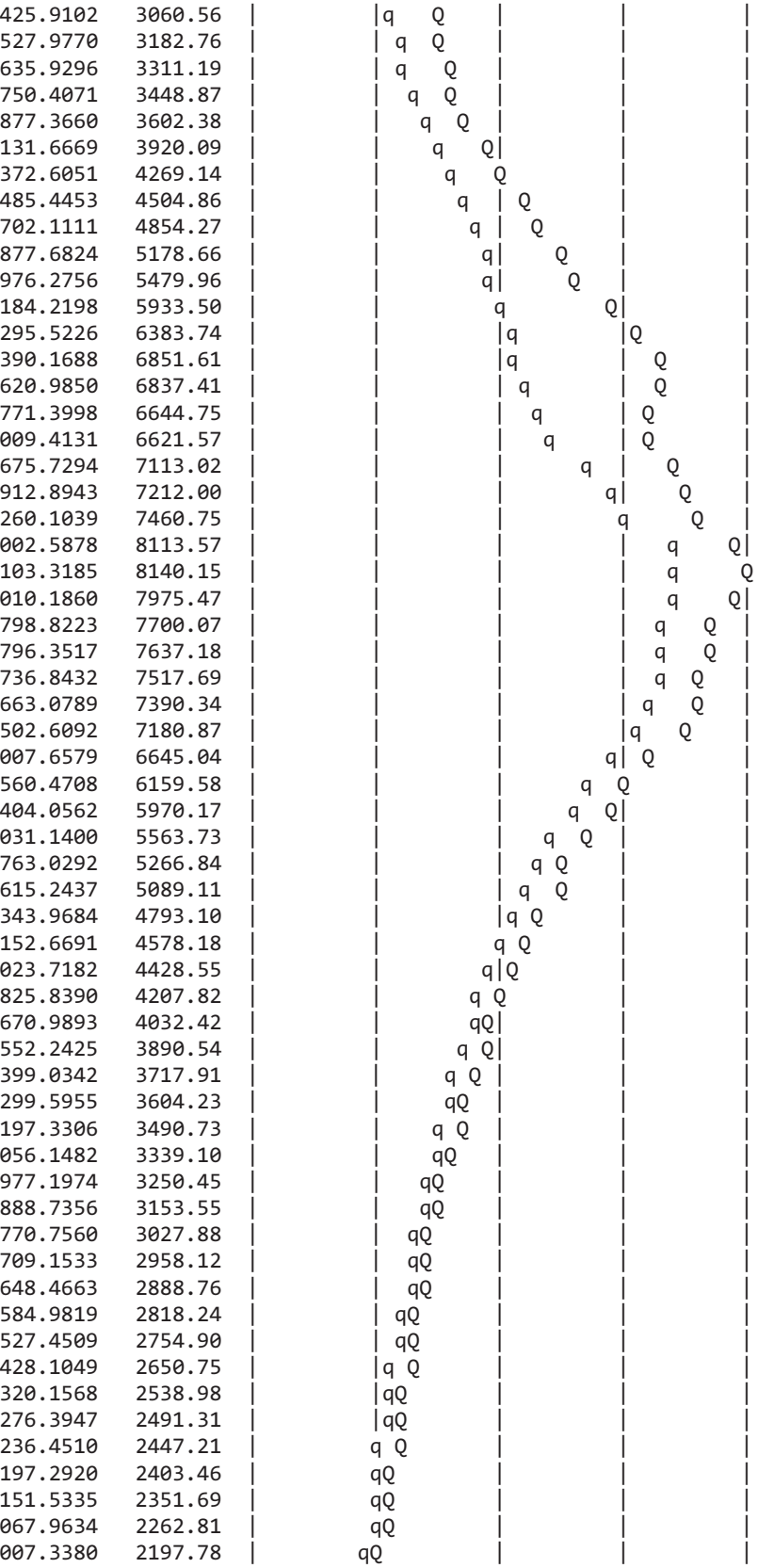
10+45     739.6186    921.34  |  qQ     |         |         |         |
10+50     745.6635    928.99  |  qQ     |         |         |         |
10+55     751.8183    936.79  |  qQ     |         |         |         |
11+ 0     758.1057    944.75  |  qQ     |         |         |         |
11+ 5     764.5106    952.88  |  qQ     |         |         |         |
11+10     771.0570    961.18  |  qQ     |         |         |         |
11+15     777.7294    969.66  |  qQ     |         |         |         |
11+20     784.5531    978.33  |  qQ     |         |         |         |
11+25     791.5123    987.19  |  qQ     |         |         |         |
11+30     798.6335    996.24  |  qQ     |         |         |         |
11+35     805.9051   1005.51  |  qQ     |         |         |         |
11+40     813.3633   1015.01  |  qQ     |         |         |         |
11+45     820.9800   1024.73  |   qQ    |         |         |         |
11+50     828.7837   1034.68  |   qQ    |         |         |         |
11+55     836.7580   1044.88  |   qQ    |         |         |         |
12+ 0     844.9339   1055.32  |   qQ    |         |         |         |
12+ 5     853.4699   1066.21  |   qQ    |         |         |         |
12+10     862.3997   1077.54  |   qQ    |         |         |         |
12+15     871.5350   1089.18  |   qQ    |         |         |         |
12+20     881.0618   1101.26  |   qQ    |         |         |         |
12+25     890.9369   1113.80  |   qQ    |         |         |         |
12+30     901.0857   1126.68  |   qQ    |         |         |         |
12+35     911.6532   1140.10  |   qQ    |         |         |         |
12+40     922.5809   1153.96  |   qQ    |         |         |         |
12+45     933.8156   1168.26  |   qQ    |         |         |         |
12+50     945.5834   1183.17  |   qQ    |         |         |         |
12+55     957.7060   1198.55  |   qQ    |         |         |         |
13+ 0     970.2857   1214.47  |   qQ    |         |         |         |
13+ 5     983.9271   1231.58  |   q Q   |         |         |         |
13+10     998.0913   1249.32  |   q Q   |         |         |         |
13+15    1012.8972   1267.85  |   q Q   |         |         |         |
13+20    1029.0267   1287.82  |    qQ   |         |         |         |
13+25    1045.6776   1308.49  |    qQ   |         |         |         |
13+30    1062.7036   1329.67  |    qQ   |         |         |         |
13+35    1079.8758   1351.20  |    qQ   |         |         |         |
13+40    1097.5858   1373.42  |    qQ   |         |         |         |
13+45    1115.7713   1396.35  |    qQ   |         |         |         |
13+50    1134.5373   1420.03  |    qQ   |         |         |         |
13+55    1153.8498   1444.54  |    q Q  |         |         |         |
14+ 0    1173.3611   1469.44  |    q Q  |         |         |         |
14+ 5    1196.7849   1499.09  |    q Q  |         |         |         |
14+10    1224.6174   1534.33  |     qQ  |         |         |         |
14+15    1252.9315   1571.39  |     qQ  |         |         |         |
14+20    1285.1439   1613.59  |     qQ  |         |         |         |
14+25    1320.8835   1660.76  |     q Q |         |         |         |
14+30    1357.7146   1710.94  |     q Q |         |         |         |
14+35    1399.2399   1768.29  |     q Q |         |         |         |
14+40    1443.5530   1832.41  |      q Q|         |         |         |
14+45    1489.7551   1904.33  |      q Q|         |         |         |
14+50    1541.8896   1980.41  |      q Q|         |         |         |
14+55    1596.6484   2056.56  |      q  Q         |         |         |
15+ 0    1655.2581   2134.84  |       q Q         |         |         |
15+ 5    1730.8707   2229.55  |       q Q         |         |         |
15+10    1811.3490   2328.85  |       q |Q        |         |         |
15+15    1899.5137   2436.49  |        q|Q        |         |         |
15+20    2008.8902   2565.99  |        q| Q       |         |         |
15+25    2117.4523   2694.80  |         q  Q      |         |         |
15+30    2221.6167   2818.24  |         q  Q      |         |         |
15+35    2324.0100   2939.69  |         |q  Q     |         |         |
```

15+40	2425.9102	3060.56	
15+45	2527.9770	3182.76	
15+50	2635.9296	3311.19	
15+55	2750.4071	3448.87	
16+ 0	2877.3660	3602.38	
16+ 5	3131.6669	3920.09	
16+10	3372.6051	4269.14	
16+15	3485.4453	4504.86	
16+20	3702.1111	4854.27	
16+25	3877.6824	5178.66	
16+30	3976.2756	5479.96	
16+35	4184.2198	5933.50	
16+40	4295.5226	6383.74	
16+45	4390.1688	6851.61	
16+50	4620.9850	6837.41	
16+55	4771.3998	6644.75	
17+ 0	5009.4131	6621.57	
17+ 5	5675.7294	7113.02	
17+10	5912.8943	7212.00	
17+15	6260.1039	7460.75	
17+20	7002.5878	8113.57	
17+25	7103.3185	8140.15	
17+30	7010.1860	7975.47	
17+35	6798.8223	7700.07	
17+40	6796.3517	7637.18	
17+45	6736.8432	7517.69	
17+50	6663.0789	7390.34	
17+55	6502.6092	7180.87	
18+ 0	6007.6579	6645.04	
18+ 5	5560.4708	6159.58	
18+10	5404.0562	5970.17	
18+15	5031.1400	5563.73	
18+20	4763.0292	5266.84	
18+25	4615.2437	5089.11	
18+30	4343.9684	4793.10	
18+35	4152.6691	4578.18	
18+40	4023.7182	4428.55	
18+45	3825.8390	4207.82	
18+50	3670.9893	4032.42	
18+55	3552.2425	3890.54	
19+ 0	3399.0342	3717.91	
19+ 5	3299.5955	3604.23	
19+10	3197.3306	3490.73	
19+15	3056.1482	3339.10	
19+20	2977.1974	3250.45	
19+25	2888.7356	3153.55	
19+30	2770.7560	3027.88	
19+35	2709.1533	2958.12	
19+40	2648.4663	2888.76	
19+45	2584.9819	2818.24	
19+50	2527.4509	2754.90	
19+55	2428.1049	2650.75	
20+ 0	2320.1568	2538.98	
20+ 5	2276.3947	2491.31	
20+10	2236.4510	2447.21	
20+15	2197.2920	2403.46	
20+20	2151.5335	2351.69	
20+25	2067.9634	2262.81	
20+30	2007.3380	2197.78	

20+35	1974.3883	2160.88	qQ			
20+40	1943.4070	2125.46	qQ			
20+45	1911.5005	2089.38	qQ			
20+50	1873.4670	2047.75	qQ			
20+55	1812.9350	1984.35	qQ			
21+ 0	1777.6241	1944.35	qQ			
21+ 5	1751.2807	1914.07	qQ			
21+10	1725.8221	1885.43	qQ			
21+15	1698.4180	1855.29	qQ			
21+20	1660.0669	1814.43	Q			
21+25	1601.7521	1753.76	qQ			
21+30	1575.5426	1725.20	qQ			
21+35	1553.7867	1701.16	qQ			
21+40	1531.5165	1676.79	qQ			
21+45	1504.7068	1648.02	qQ			
21+50	1457.0748	1598.53	Q			
21+55	1400.2978	1539.96	qQ			
22+ 0	1379.0686	1517.02	qQ			
22+ 5	1360.0988	1496.41	qQ			
22+10	1341.2218	1475.96	qQ			
22+15	1320.3557	1453.57	qQ			
22+20	1290.5276	1422.27	Q			
22+25	1265.8478	1396.16	Q			
22+30	1249.1314	1378.05	Q			
22+35	1232.8884	1360.46	Q			
22+40	1215.9416	1342.21	qQ			
22+45	1195.8438	1320.83	qQ			
22+50	1162.6291	1286.38	qQ			
22+55	1142.6117	1265.16	qQ			
23+ 0	1128.4583	1249.83	qQ			
23+ 5	1114.9616	1235.18	qQ			
23+10	1101.0443	1220.15	Q			
23+15	1083.8573	1201.87	Q			
23+20	1059.1976	1176.14	Q			
23+25	1045.2742	1161.18	Q			
23+30	1033.1129	1148.00	Q			
23+35	1020.4366	1134.33	Q			
23+40	1005.2831	1118.21	qQ			
23+45	979.1243	1091.10	qQ			
23+50	945.4293	1056.47	qQ			
23+55	932.9806	1043.11	qQ			
24+ 0	922.2117	1031.45	qQ			
24+ 5	911.1739	1019.18	qQ			
24+10	898.9002	1005.01	Q			
24+15	886.8602	990.42	Q			
24+20	874.4920	974.85	Q			
24+25	861.5142	958.01	Q			
24+30	848.4099	939.97	Q			
24+35	833.5782	918.88	Q			
24+40	815.9801	892.58	Q			
24+45	786.5885	850.82	qQ			
24+50	766.1854	819.90	qQ			
24+55	751.3578	797.12	Q			
25+ 0	736.6479	776.31	Q			
25+ 5	718.3570	753.16	Q			
25+10	699.3732	730.24	Q			
25+15	679.1129	706.59	Q			
25+20	654.2193	678.78	Q			
25+25	628.8102	650.78	Q			

25+30	603.6039	623.30	| qQ	|	|	|	|
25+35	578.6012	596.27	| Q	|	|	|	|
25+40	547.3778	563.22	| Q	|	|	|	|
25+45	510.3026	524.49	| Q	|	|	|	|
25+50	487.7749	500.46	| Q	|	|	|	|
25+55	466.9401	478.27	| Q	|	|	|	|
26+ 0	449.3390	459.44	| Q	|	|	|	|
26+ 5	433.9365	442.92	| Q	|	|	|	|
26+10	418.8405	426.80	| Q	|	|	|	|
26+15	405.6799	412.73	|qQ	|	|	|	|
26+20	393.5090	399.73	|Q	|	|	|	|
26+25	381.2954	386.79	|Q	|	|	|	|
26+30	369.4399	374.29	|Q	|	|	|	|
26+35	356.4315	360.70	|Q	|	|	|	|
26+40	333.2033	336.94	|Q	|	|	|	|
26+45	318.5089	321.79	|Q	|	|	|	|
26+50	310.0658	312.94	|Q	|	|	|	|
26+55	302.0997	304.67	|Q	|	|	|	|
27+ 0	294.2641	296.60	|Q	|	|	|	|
27+ 5	286.4960	288.64	|Q	|	|	|	|
27+10	279.0010	280.96	|Q	|	|	|	|
27+15	272.1360	273.93	|Q	|	|	|	|
27+20	265.4844	267.13	|Q	|	|	|	|
27+25	259.1132	260.61	|Q	|	|	|	|
27+30	253.3274	254.69	|Q	|	|	|	|
27+35	248.1086	249.34	|Q	|	|	|	|
27+40	244.3029	245.43	|Q	|	|	|	|
27+45	238.9917	240.02	|Q	|	|	|	|
27+50	233.5399	234.48	|Q	|	|	|	|
27+55	228.4311	229.29	|Q	|	|	|	|
28+ 0	223.8493	224.61	|Q	|	|	|	|
28+ 5	219.2791	219.94	|Q	|	|	|	|
28+10	214.7170	215.28	|Q	|	|	|	|
28+15	210.1495	210.62	|Q	|	|	|	|
28+20	205.5831	205.97	|Q	|	|	|	|
28+25	201.2605	201.59	Q	|	|	|	|
28+30	197.0189	197.29	Q	|	|	|	|
28+35	192.1475	192.36	Q	|	|	|	|
28+40	187.5941	187.76	Q	|	|	|	|
28+45	183.3933	183.52	Q	|	|	|	|
28+50	179.3346	179.43	Q	|	|	|	|
28+55	175.8557	175.92	Q	|	|	|	|
29+ 0	172.2157	172.25	Q	|	|	|	|
29+ 5	168.2968	168.32	Q	|	|	|	|
29+10	164.2911	164.31	Q	|	|	|	|
29+15	160.1139	160.13	Q	|	|	|	|
29+20	155.6978	155.71	Q	|	|	|	|
29+25	150.6115	150.62	Q	|	|	|	|
29+30	141.9106	141.91	Q	|	|	|	|
29+35	126.8035	126.80	Q	|	|	|	|
29+40	121.8763	121.88	Q	|	|	|	|
29+45	118.1982	118.20	Q	|	|	|	|
29+50	114.7465	114.75	Q	|	|	|	|
29+55	111.2099	111.21	Q	|	|	|	|
30+ 0	107.7197	107.72	Q	|	|	|	|
30+ 5	104.2813	104.28	Q	|	|	|	|
30+10	100.8736	100.87	Q	|	|	|	|
30+15	97.4832	97.48	Q	|	|	|	|
30+20	94.4641	94.46	Q	|	|	|	|

30+25	91.7848	91.78	Q				
30+30	89.1507	89.15	Q				
30+35	86.7504	86.75	Q				
30+40	84.2687	84.27	Q				
30+45	81.6435	81.64	Q				
30+50	78.6445	78.64	Q				
30+55	74.6188	74.62	Q				
31+ 0	63.5238	63.52	Q				
31+ 5	53.4168	53.42	Q				
31+10	50.9894	50.99	Q				
31+15	48.9664	48.97	Q				
31+20	46.9183	46.92	Q				
31+25	44.7095	44.71	Q				
31+30	42.6051	42.61	Q				
31+35	40.5954	40.60	Q				
31+40	38.6542	38.65	Q				
31+45	36.8401	36.84	Q				
31+50	35.2189	35.22	Q				
31+55	33.6455	33.65	Q				
32+ 0	32.3086	32.31	Q				
32+ 5	31.2038	31.20	Q				
32+10	30.1293	30.13	Q				
32+15	29.0825	29.08	Q				
32+20	28.0608	28.06	Q				
32+25	27.0623	27.06	Q				
32+30	26.0853	26.09	Q				
32+35	25.1282	25.13	Q				
32+40	24.1948	24.19	Q				
32+45	23.3734	23.37	Q				
32+50	22.6032	22.60	Q				
32+55	21.8476	21.85	Q				
33+ 0	21.1151	21.12	Q				
33+ 5	20.4049	20.40	Q				
33+10	19.7067	19.71	Q				
33+15	19.0200	19.02	Q				
33+20	18.3443	18.34	Q				
33+25	17.6789	17.68	Q				
33+30	17.0235	17.02	Q				
33+35	16.3777	16.38	Q				
33+40	15.7809	15.78	Q				
33+45	15.2904	15.29	Q				
33+50	14.8117	14.81	Q				
33+55	14.3402	14.34	Q				
34+ 0	13.8755	13.88	Q				
34+ 5	13.4174	13.42	Q				
34+10	12.9657	12.97	Q				
34+15	12.5200	12.52	Q				
34+20	12.0802	12.08	Q				
34+25	11.6461	11.65	Q				
34+30	11.2175	11.22	Q				
34+35	10.7973	10.80	Q				
34+40	10.4638	10.46	Q				
34+45	10.1710	10.17	Q				
34+50	9.8823	9.88	Q				
34+55	9.5973	9.60	Q				
35+ 0	9.3161	9.32	Q				
35+ 5	9.0385	9.04	Q				
35+10	8.7643	8.76	Q				
35+15	8.4935	8.49	Q				

35+20	8.2260	8.23	Q	|	|	|	|
35+25	7.9617	7.96	Q	|	|	|	|
35+30	7.7005	7.70	Q	|	|	|	|
35+35	7.4379	7.44	Q	|	|	|	|
35+40	7.1654	7.17	Q	|	|	|	|
35+45	6.8951	6.90	Q	|	|	|	|
35+50	6.6277	6.63	Q	|	|	|	|
35+55	6.3631	6.36	Q	|	|	|	|
36+ 0	6.1013	6.10	Q	|	|	|	|
36+ 5	5.8421	5.84	Q	|	|	|	|
36+10	5.5855	5.59	Q	|	|	|	|
36+15	5.3314	5.33	Q	|	|	|	|
36+20	5.0798	5.08	Q	|	|	|	|
36+25	4.8307	4.83	Q	|	|	|	|
36+30	4.5840	4.58	Q	|	|	|	|
36+35	4.3441	4.34	Q	|	|	|	|
36+40	4.1088	4.11	Q	|	|	|	|
36+45	3.8757	3.88	Q	|	|	|	|
36+50	3.6447	3.64	Q	|	|	|	|
36+55	3.4158	3.42	Q	|	|	|	|
37+ 0	3.1888	3.19	Q	|	|	|	|
37+ 5	2.9639	2.96	Q	|	|	|	|
37+10	2.7408	2.74	Q	|	|	|	|
37+15	2.5197	2.52	Q	|	|	|	|
37+20	2.3004	2.30	Q	|	|	|	|
37+25	2.0829	2.08	Q	|	|	|	|
37+30	1.8877	1.89	Q	|	|	|	|
37+35	1.7670	1.77	Q	|	|	|	|
37+40	1.6530	1.65	Q	|	|	|	|
37+45	1.5400	1.54	Q	|	|	|	|
37+50	1.4280	1.43	Q	|	|	|	|
37+55	1.3169	1.32	Q	|	|	|	|
38+ 0	1.2067	1.21	Q	|	|	|	|
38+ 5	1.0974	1.10	Q	|	|	|	|
38+10	0.9890	0.99	Q	|	|	|	|
38+15	0.8814	0.88	Q	|	|	|	|
38+20	0.7747	0.77	Q	|	|	|	|
38+25	0.6689	0.67	Q	|	|	|	|
38+30	0.5639	0.56	Q	|	|	|	|
38+35	0.4596	0.46	Q	|	|	|	|
38+40	0.3562	0.36	Q	|	|	|	|
38+45	0.2535	0.25	Q	|	|	|	|
38+50	0.1516	0.15	Q	|	|	|	|
38+55	0.0504	0.05	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 467
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 8140.152 (CFS)
Total volume = 3663.713 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 09/06/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
EXISTING CONDITIONS AREAS 50 AND 51 ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: EX50.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++++++++++

Process from Point/Station 2.000 to Point/Station 2.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q				
0+45	1.0442	49.62	Q				
0+50	1.4418	57.74	Q				
0+55	1.8774	63.25	Q				
1+ 0	2.3435	67.68	Q				
1+ 5	2.8357	71.46	VQ				
1+10	3.3495	74.60	VQ				
1+15	3.8839	77.60	VQ				
1+20	4.4361	80.18	VQ				
1+25	5.0051	82.61	VQ				
1+30	5.5888	84.75	VQ				
1+35	6.1862	86.74	VQ				
1+40	6.7962	88.58	VQ				
1+45	7.4181	90.30	VQ				
1+50	8.0511	91.90	VQ				
1+55	8.6941	93.37	VQ				
2+ 0	9.3468	94.77	VQ				
2+ 5	10.0084	96.06	VQ				
2+10	10.6785	97.30	VQ				
2+15	11.3564	98.42	VQ				
2+20	12.0417	99.50	VQ				
2+25	12.7335	100.46	VQ				
2+30	13.4318	101.39	VQ				
2+35	14.1361	102.27	VQ				
2+40	14.8463	103.11	|Q				
2+45	15.5617	103.88	|Q				
2+50	16.2821	104.60	|Q				
2+55	17.0067	105.21	|Q				
3+ 0	17.7352	105.77	|Q				
3+ 5	18.4676	106.35	|Q				
3+10	19.2039	106.92	|Q				
3+15	19.9442	107.49	|Q				
3+20	20.6883	108.04	|Q				
3+25	21.4362	108.60	|Q				
3+30	22.1880	109.16	|Q				
3+35	22.9437	109.72	|Q				
3+40	23.7030	110.24	|Q				
3+45	24.4659	110.78	|Q				
3+50	25.2326	111.31	|Q				
3+55	26.0030	111.87	|Q				
4+ 0	26.7773	112.42	|Q				
4+ 5	27.5555	113.00	|Q				
4+10	28.3377	113.57	|Q				
4+15	29.1239	114.15	|QV				
4+20	29.9138	114.70	|QV				
4+25	30.7076	115.25	|QV				
4+30	31.5051	115.80	|QV				
4+35	32.3065	116.37	|QV				
4+40	33.1117	116.91	|QV				
4+45	33.9208	117.47	|QV				
4+50	34.7336	118.02	|QV				
4+55	35.5504	118.60	|QV				
5+ 0	36.3709	119.14	|QV				
5+ 5	37.1953	119.70	|QV				
5+10	38.0234	120.25	|QV				
5+15	38.8555	120.81	|QV				
5+20	39.6914	121.38	|QV				
5+25	40.5313	121.96	|QV				
5+30	41.3752	122.53	|QV				

5+35	42.2232	123.13	QV				
5+40	43.0752	123.71	Q V				
5+45	43.9315	124.32	Q V				
5+50	44.7918	124.92	Q V				
5+55	45.6564	125.55	Q V				
6+ 0	46.5253	126.16	Q V				
6+ 5	47.3986	126.80	Q V				
6+10	48.2762	127.43	Q V				
6+15	49.1584	128.09	Q V				
6+20	50.0450	128.74	Q V				
6+25	50.9363	129.41	Q V				
6+30	51.8321	130.07	Q V				
6+35	52.7327	130.77	Q V				
6+40	53.6380	131.45	Q V				
6+45	54.5482	132.16	Q V				
6+50	55.4632	132.86	Q V				
6+55	56.3832	133.59	Q V				
7+ 0	57.3082	134.31	Q V				
7+ 5	58.2384	135.06	Q V				
7+10	59.1737	135.80	Q V				
7+15	60.1143	136.58	Q V				
7+20	61.0602	137.34	Q V				
7+25	62.0115	138.13	Q V				
7+30	62.9682	138.92	Q V				
7+35	63.9306	139.74	Q V				
7+40	64.8985	140.54	Q V				
7+45	65.8722	141.39	Q V				
7+50	66.8517	142.22	Q V				
7+55	67.8372	143.09	Q V				
8+ 0	68.8285	143.95	Q V				
8+ 5	69.8261	144.84	Q V				
8+10	70.8297	145.73	Q V				
8+15	71.8397	146.65	Q V				
8+20	72.8560	147.57	Q V				
8+25	73.8789	148.52	Q V				
8+30	74.9083	149.47	Q V				
8+35	75.9445	150.45	Q V				
8+40	76.9874	151.43	Q V				
8+45	78.0373	152.45	Q V				
8+50	79.0941	153.46	Q V				
8+55	80.1583	154.51	Q V				
9+ 0	81.2296	155.56	Q V				
9+ 5	82.3085	156.65	Q V				
9+10	83.3948	157.73	Q V				
9+15	84.4889	158.86	Q V				
9+20	85.5907	159.99	Q V				
9+25	86.7006	161.16	Q V				
9+30	87.8185	162.32	Q V				
9+35	88.9448	163.54	Q V				
9+40	90.0795	164.75	Q V				
9+45	91.2228	166.01	Q V				
9+50	92.3748	167.27	Q V				
9+55	93.5359	168.58	Q V				
10+ 0	94.7059	169.89	Q V				
10+ 5	95.8854	171.26	Q V				
10+10	97.0742	172.62	Q V				
10+15	98.2729	174.04	Q V				
10+20	99.4813	175.46	Q V				
10+25	100.6999	176.95	Q V				

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10+30     101.9288    178.43  | Q    V  |          |          |          |
10+35     103.1683    179.98  | Q    V  |          |          |          |
10+40     104.4185    181.52  | Q    V  |          |          |          |
10+45     105.6798    183.15  | Q    V  |          |          |          |
10+50     106.9523    184.76  | Q    V  |          |          |          |
10+55     108.2364    186.46  | Q    V  |          |          |          |
11+ 0     109.5322    188.15  | Q    V  |          |          |          |
11+ 5     110.8402    189.93  | Q    V  |          |          |          |
11+10     112.1605    191.70  | Q    V  |          |          |          |
11+15     113.4936    193.57  | Q    V  |          |          |          |
11+20     114.8396    195.43  | Q     V |          |          |          |
11+25     116.1990    197.39  | Q     V |          |          |          |
11+30     117.5719    199.35  | Q     V |          |          |          |
11+35     118.9591    201.41  | Q     V |          |          |          |
11+40     120.3604    203.48  | Q     V |          |          |          |
11+45     121.7768    205.65  | Q     V |          |          |          |
11+50     123.2081    207.83  | Q     V |          |          |          |
11+55     124.6552    210.13  |  Q    V |          |          |          |
12+ 0     126.1182    212.43  |  Q    V |          |          |          |
12+ 5     127.5980    214.86  |  Q    V |          |          |          |
12+10     129.0946    217.31  |  Q     V|          |          |          |
12+15     130.6091    219.90  |  Q     V|          |          |          |
12+20     132.1416    222.51  |  Q     V|          |          |          |
12+25     133.6930    225.27  |  Q     V|          |          |          |
12+30     135.2636    228.06  |  Q     V|          |          |          |
12+35     136.8547    231.02  |  Q     V|          |          |          |
12+40     138.4663    234.02  |  Q     V|          |          |          |
12+45     140.1002    237.23  |  Q     V|          |          |          |
12+50     141.7559    240.42  |  Q     V|          |          |          |
12+55     143.4349    243.79  |  Q      V          |          |          |
13+ 0     145.1373    247.19  |  Q      V          |          |          |
13+ 5     146.8646    250.80  |  Q      V          |          |          |
13+10     148.6169    254.44  |  Q      V          |          |          |
13+15     150.3960    258.33  |  Q      V          |          |          |
13+20     152.2022    262.25  |  Q      V          |          |          |
13+25     154.0372    266.45  |  Q      V          |          |          |
13+30     155.9016    270.71  |  Q      V          |          |          |
13+35     157.7974    275.27  |  Q       V         |          |          |
13+40     159.7251    279.90  |  Q      |V         |          |          |
13+45     161.6870    284.87  |   Q     |V         |          |          |
13+50     163.6838    289.93  |   Q     |V         |          |          |
13+55     165.7181    295.38  |   Q     |V         |          |          |
14+ 0     167.7908    300.95  |   Q     |V         |          |          |
14+ 5     169.9119    307.98  |   Q     |V         |          |          |
14+10     172.0914    316.48  |   Q     | V        |          |          |
14+15     174.3396    326.43  |   Q     | V        |          |          |
14+20     176.6643    337.54  |   Q     | V        |          |          |
14+25     179.0766    350.28  |    Q    | V        |          |          |
14+30     181.5931    365.40  |    Q    | V        |          |          |
14+35     184.2343    383.51  |    Q    | V        |          |          |
14+40     187.0375    407.02  |    Q    |  V       |          |          |
14+45     190.0556    438.22  |     Q   |  V       |          |          |
14+50     193.2225    459.84  |     Q   |  V       |          |          |
14+55     196.5210    478.94  |     Q   |  V       |          |          |
15+ 0     199.9449    497.14  |      Q  |   V      |          |          |
15+ 5     203.4974    515.83  |      Q  |   V      |          |          |
15+10     207.1779    534.41  |      Q  |   V      |          |          |
15+15     210.9971    554.55  |      Q  |   V      |          |          |
15+20     214.9590    575.26  |       Q |    V     |          |          |
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15+25	219.0607	595.57		Q		V		
15+30	223.2884	613.87		Q		V		
15+35	227.6466	632.81		Q		V		
15+40	232.1351	651.72		Q		V		
15+45	236.7700	673.00		Q		V		
15+50	241.5477	693.71		Q		V		
15+55	246.5035	719.59		Q		V		
16+ 0	251.6632	749.19		Q		V		
16+ 5	257.5093	848.86		Q		V		
16+10	264.3796	997.57		Q		V		
16+15	272.1685	1130.94		Q		V		
16+20	280.9315	1272.39		Q		V		
16+25	290.8231	1436.27		Q				
16+30	302.4684	1690.89		Q		V		
16+35	316.0612	1973.68		Q		V		
16+40	332.5999	2401.42		Q		V		
16+45	351.8802	2799.51		Q		V		
16+50	365.2308	1938.50		Q		V		
16+55	375.9853	1561.56		Q		V		
17+ 0	385.5246	1385.10		Q		V		
17+ 5	394.3893	1287.16		Q		V		
17+10	402.4985	1177.45		Q		V		
17+15	410.1809	1115.49		Q		V		
17+20	417.2800	1030.79		Q		V		
17+25	423.9709	971.51		Q		V		
17+30	430.1762	901.01		Q		V		
17+35	435.9912	844.33		Q		V		
17+40	441.4095	786.74		Q		V		
17+45	446.4156	726.90		Q		V		
17+50	451.0965	679.66		Q		V		
17+55	455.4666	634.54		Q		V		
18+ 0	459.6079	601.32		Q		V		
18+ 5	463.4980	564.85		Q		V		
18+10	467.1958	536.91		Q		V		
18+15	470.6554	502.33		Q		V		
18+20	473.9500	478.38		Q		V		
18+25	477.0269	446.77		Q		V		
18+30	479.9703	427.38		Q		V		
18+35	482.7549	404.32		Q		V		
18+40	485.4166	386.48		Q		V		
18+45	487.9042	361.20		Q		V		
18+50	490.2677	343.18		Q		V		
18+55	492.4524	317.22		Q		V		
19+ 0	494.5307	301.77		Q		V		
19+ 5	496.5436	292.27		Q		V		
19+10	498.4962	283.52		Q		V		
19+15	500.3806	273.60		Q		V		
19+20	502.2028	264.59		Q		V		
19+25	503.9751	257.35		Q		V		
19+30	505.6986	250.25		Q		V		
19+35	507.3624	241.59		Q		V		
19+40	508.9633	232.45		Q		V		
19+45	510.5273	227.09		Q		V		
19+50	512.0584	222.32		Q		V		
19+55	513.5626	218.41		Q		V		
20+ 0	515.0466	215.47		Q		V		
20+ 5	516.5024	211.38		Q		V		
20+10	517.9280	207.00		Q		V		
20+15	519.3192	202.01		Q		V		

20+20	520.6595	194.61	Q				V
20+25	521.9690	190.14	Q				V
20+30	523.2539	186.56	Q				V
20+35	524.5140	182.97	Q				V
20+40	525.7400	178.01	Q				V
20+45	526.9395	174.16	Q				V
20+50	528.1178	171.09	Q				V
20+55	529.2811	168.91	Q				V
21+ 0	530.3990	162.32	Q				V
21+ 5	531.4964	159.34	Q				V
21+10	532.5763	156.80	Q				V
21+15	533.6400	154.45	Q				V
21+20	534.6877	152.13	Q				V
21+25	535.7200	149.89	Q				V
21+30	536.7362	147.56	Q				V
21+35	537.7371	145.33	Q				V
21+40	538.7247	143.40	Q				V
21+45	539.6996	141.56	Q				V
21+50	540.6623	139.79	Q				V
21+55	541.6131	138.05	Q				V
22+ 0	542.5527	136.42	Q				V
22+ 5	543.4814	134.85	Q				V
22+10	544.3996	133.33	Q				V
22+15	545.3076	131.85	Q				V
22+20	546.2058	130.42	Q				V
22+25	547.0944	129.02	Q				V
22+30	547.9737	127.67	Q				V
22+35	548.8440	126.36	Q				V
22+40	549.7055	125.09	Q				V
22+45	550.5584	123.85	Q				V
22+50	551.4031	122.64	Q				V
22+55	552.2396	121.46	Q				V
23+ 0	553.0682	120.31	Q				V
23+ 5	553.8891	119.19	Q				V
23+10	554.7024	118.10	Q				V
23+15	555.5084	117.03	Q				V
23+20	556.3073	115.99	Q				V
23+25	557.0991	114.97	Q				V
23+30	557.8840	113.98	Q				V
23+35	558.6623	113.00	Q				V
23+40	559.4340	112.05	Q				V
23+45	560.1993	111.12	Q				V
23+50	560.9583	110.21	Q				V
23+55	561.7111	109.32	Q				V
24+ 0	562.4580	108.44	Q				V
24+ 5	563.1939	106.86	Q				V
24+10	563.9126	104.35	Q				V
24+15	564.6096	101.21	Q				V
24+20	565.2806	97.42	Q				V
24+25	565.9208	92.96	Q				V
24+30	566.5203	87.04	Q				V
24+35	567.0682	79.56	Q				V
24+40	567.5403	68.55	Q				V
24+45	567.9039	52.80	Q				V
24+50	568.2101	44.46	Q				V
24+55	568.4775	38.82	Q				V
25+ 0	568.7139	34.33	Q				V
25+ 5	568.9241	30.52	Q				V
25+10	569.1128	27.41	Q				V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

```
        Peak (CFS)   2799.507     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)    570.680     0.000     0.000     0.000     0.000
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Process from Point/Station        2.000 to Point/Station        2.100
**** STREAM ROUTING SCS CONVEX METHOD ****
______________________________________________________________________________
HYDROGRAPH STREAM ROUTING DATA:
Length of stream =  42866.00 (Ft.)
Elevation difference = 1046.10 (Ft.)
Slope of channel =  0.024404 (Vert/Horiz)
Channel type - Improved Channel


Channel length = 42866.00(Ft.)     Elevation difference = 1046.10(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width  =  100.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Manning's 'N'    = 0.035
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =    268.931(CFS)
Depth of flow =     0.581(Ft.)
Average velocity =     4.575(Ft/s)
Total flow rate =   268.931(CFS)
Channel flow top width =  102.324(Ft.)
Depth of flow in channel =   0.58(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =    4.58(Ft/s)
Travel time  =  156.15 min.
Individual channel flow =  268.931(CFS)
Total capacity of improved channels =    268.931(CFS)
Critical Depth in Channel =    0.61(Ft.)


Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea =   2799.507(CFS)
Depth of flow =     2.359(Ft.)
Average velocity =    11.335(Ft/s)
Total flow rate =  2799.507(CFS)
Channel flow top width =  109.434(Ft.)
Depth of flow in channel =   2.36(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity =   11.33(Ft/s)
Travel time  =  156.15 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels =   2799.507(CFS)
Critical Depth in Channel =    2.84(Ft.)


********************** SCS CONVEX CHANNEL ROUTING ********************
Convex method of stream routing  data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
          where c* = 1 - (1-c)^e and dt = c(length)/velocity
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c(v/v+1.7) = 0.8696 Travel time = 63.03 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.3942
dt(routing time-step) = 54.81 (min.), c* = 0.5520

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3666	0.73	O				
0+10	1.4080	2.41	O				
0+15	3.1372	4.76	O				
0+20	5.5516	7.79	O				
0+25	8.6694	11.54	O				
0+30	12.9025	16.82	O				
0+35	18.5225	23.71	O				
0+40	26.6656	34.24	O				
0+45	38.5617	49.62	O				
0+50	48.7396	57.74	O				
0+55	56.4711	63.25	O				
1+ 0	62.4326	67.68	O				
1+ 5	67.2262	71.46	OI				
1+10	71.1386	74.60	|O				
1+15	74.5528	77.60	|O				
1+20	77.5304	80.18	|O				
1+25	80.2144	82.61	|O				
1+30	82.6127	84.75	|O				
1+35	84.7921	86.74	|O				
1+40	86.7895	88.58	|O				
1+45	88.6415	90.30	|O				
1+50	90.3620	91.90	|O				
1+55	91.9487	93.37	|O				
2+ 0	93.4347	94.77	|O				
2+ 5	94.8202	96.06	|O				
2+10	96.1276	97.30	|O				
2+15	97.3386	98.42	|O				
2+20	98.4778	99.50	|O				
2+25	99.5239	100.46	|O				
2+30	100.5074	101.39	|O				
2+35	101.4339	102.27	|O				
2+40	102.3185	103.11	|O				
2+45	103.1405	103.88	|O				
2+50	103.9112	104.60	|O				
2+55	104.5997	105.21	|O				
3+ 0	105.2195	105.77	|O				
3+ 5	105.8137	106.35	|O				
3+10	106.3940	106.92	|O				
3+15	106.9679	107.49	|O				
3+20	107.5301	108.04	|O				
3+25	108.0942	108.60	|O				
3+30	108.6568	109.16	|O				
3+35	109.2173	109.72	|O				

3+40	109.7583	110.24	O				
3+45	110.2968	110.78	O				
3+50	110.8316	111.31	O				
3+55	111.3749	111.87	O				
4+ 0	111.9260	112.42	O				
4+ 5	112.4902	113.00	O				
4+10	113.0579	113.57	O				
4+15	113.6336	114.15	O				
4+20	114.1939	114.70	O				
4+25	114.7512	115.25	O				
4+30	115.3040	115.80	O				
4+35	115.8637	116.37	O				
4+40	116.4162	116.91	O				
4+45	116.9706	117.47	O				
4+50	117.5228	118.02	O				
4+55	118.0890	118.60	O				
5+ 0	118.6418	119.14	O				
5+ 5	119.1958	119.70	O				
5+10	119.7474	120.25	O				
5+15	120.3079	120.81	O				
5+20	120.8696	121.38	O				
5+25	121.4422	121.96	O				
5+30	122.0158	122.53	O				
5+35	122.5996	123.13	O				
5+40	123.1848	123.71	O				
5+45	123.7818	124.32	O				
5+50	124.3810	124.92	O				
5+55	124.9926	125.55	O				
6+ 0	125.6068	126.16	O				
6+ 5	126.2338	126.80	O				
6+10	126.8636	127.43	O				
6+15	127.5067	128.09	O				
6+20	128.1528	128.74	O				
6+25	128.8127	129.41	O				
6+30	129.4758	130.07	O				
6+35	130.1532	130.77	O				
6+40	130.8341	131.45	O				
6+45	131.5297	132.16	O				
6+50	132.2291	132.86	O				
6+55	132.9438	133.59	O				
7+ 0	133.6625	134.31	O				
7+ 5	134.3972	135.06	O				
7+10	135.1360	135.80	O				
7+15	135.8915	136.58	O				
7+20	136.6515	137.34	O				
7+25	137.4288	138.13	O				
7+30	138.2109	138.92	O				
7+35	139.0111	139.74	O				
7+40	139.8164	140.54	OI				
7+45	140.6405	141.39	O				
7+50	141.4701	142.22	O				
7+55	142.3192	143.09	O				
8+ 0	143.1743	143.95	O				
8+ 5	144.0499	144.84	O				
8+10	144.9318	145.73	O				
8+15	145.8351	146.65	O				
8+20	146.7451	147.57	O				
8+25	147.6776	148.52	O				
8+30	148.6173	149.47	O				

8+35	149.5804	150.45	O				
8+40	150.5514	151.43	O				
8+45	151.5468	152.45	O				
8+50	152.5508	153.46	O				
8+55	153.5804	154.51	O				
9+ 0	154.6191	155.56	O				
9+ 5	155.6848	156.65	O				
9+10	156.7603	157.73	O				
9+15	157.8641	158.86	O				
9+20	158.9786	159.99	O				
9+25	160.1228	161.16	O				
9+30	161.2785	162.32	O				
9+35	162.4656	163.54	O				
9+40	163.6650	164.75	O				
9+45	164.8977	166.01	O				
9+50	166.1436	167.27	O				
9+55	167.4246	168.58	O				
10+ 0	168.7200	169.89	O				
10+ 5	170.0526	171.26	O				
10+10	171.4007	172.62	O				
10+15	172.7882	174.04	O				
10+20	174.1927	175.46	O				
10+25	175.6389	176.95	O				
10+30	177.1036	178.43	O				
10+35	178.6126	179.98	O				
10+40	180.1417	181.52	O				
10+45	181.7181	183.15	O				
10+50	183.3164	184.76	O				
10+55	184.9651	186.46	O				
11+ 0	186.6378	188.15	O				
11+ 5	188.3644	189.93	O				
11+10	190.1173	191.70	O				
11+15	191.9279	193.57	O				
11+20	193.7673	195.43	O				
11+25	195.6688	197.39	O				
11+30	197.6019	199.35	O				
11+35	199.6017	201.41	O				
11+40	201.6365	203.48	O				
11+45	203.7433	205.65	O				
11+50	205.8887	207.83	O				
11+55	208.1120	210.13	OI				
12+ 0	210.3780	212.43	O				
12+ 5	212.7309	214.86	O				
12+10	215.1355	217.31	O				
12+15	217.6363	219.90	O				
12+20	220.1944	222.51	O				
12+25	222.8574	225.27	O				
12+30	225.5866	228.06	O				
12+35	228.4347	231.02	O				
12+40	231.3648	234.02	O				
12+45	234.4396	237.23	O				
12+50	237.5790	240.42	O				
12+55	240.8379	243.79	O				
13+ 0	244.1710	247.19	O				
13+ 5	247.6462	250.80	O				
13+10	251.2127	254.44	O				
13+15	254.9429	258.33	O				
13+20	258.7809	262.25	O				
13+25	262.8044	266.45	O				

13+30	266.9534	270.71	O				
13+35	271.3125	275.27	O				
13+40	275.8180	279.90	O				
13+45	280.5634	284.87	O				
13+50	285.4802	289.93	O				
13+55	290.6722	295.38	O				
14+ 0	296.0666	300.95	O				
14+ 5	302.2895	307.98	O				
14+10	309.6926	316.48	O				
14+15	318.4306	326.43	O				
14+20	328.4200	337.54	O				
14+25	339.8422	350.28	OI				
14+30	353.1852	365.40	O				
14+35	369.0092	383.51	O				
14+40	388.8082	407.02	O				
14+45	414.5130	438.22	OI				
14+50	438.4421	459.84	O				
14+55	459.8353	478.94	O				
15+ 0	479.5109	497.14	OI				
15+ 5	498.6146	515.83	O				
15+10	517.4362	534.41	O				
15+15	536.9086	554.55	O				
15+20	557.0342	575.26	OI				
15+25	577.2832	595.57	O				
15+30	596.5541	613.87	O				
15+35	615.6119	632.81	OI				
15+40	634.5906	651.72	O				
15+45	654.7177	673.00	O				
15+50	675.1985	693.71	O				
15+55	698.3971	719.59	OI				
16+ 0	724.9415	749.19	O				
16+ 5	788.3198	848.86	OI				
16+10	896.3311	997.57	O I				
16+15	1019.1138	1130.94	O I				
16+20	1151.7896	1272.39	O I				
16+25	1300.5605	1436.27	O I				
16+30	1503.1870	1690.89	O I				
16+35	1748.6433	1973.68	O I				
16+40	2087.4145	2401.42	O	I			
16+45	2460.4210	2799.51	O	I			
16+50	2215.6922	1938.50	I	O			
16+55	1873.6139	1561.56	I O				
17+ 0	1612.8535	1385.10	I O				
17+ 5	1438.0147	1287.16	I O				
17+10	1299.7154	1177.45	I O				
17+15	1201.1482	1115.49	I O				
17+20	1111.3813	1030.79	IO				
17+25	1037.1639	971.51	IO				
17+30	965.5639	901.01	IO				
17+35	901.5022	844.33	O				
17+40	841.0550	786.74	IO				
17+45	781.0565	726.90	IO				
17+50	727.4650	679.66	IO				
17+55	678.4472	634.54	O				
18+ 0	637.5465	601.32	IO				
18+ 5	599.2560	564.85	O				
18+10	566.2515	536.91	IO				
18+15	532.7107	502.33	O				
18+20	503.9269	478.38	IO				

18+25	473.9686	446.77	O			
18+30	449.2290	427.38	O			
18+35	425.6035	404.32	IO			
18+40	404.9091	386.48	O			
18+45	382.0553	361.20	O			
18+50	361.5056	343.18	IO			
18+55	338.3692	317.22	O			
19+ 0	318.9469	301.77	O			
19+ 5	304.7004	292.27	O			
19+10	293.4495	283.52	O			
19+15	282.9945	273.60	IO			
19+20	273.2878	264.59	O			
19+25	264.8532	257.35	O			
19+30	257.1494	250.25	O			
19+35	248.9947	241.59	O			
19+40	240.3247	232.45	O			
19+45	233.2884	227.09	O			
19+50	227.4750	222.32	O			
19+55	222.6676	218.41	O			
20+ 0	218.8425	215.47	O			
20+ 5	214.9293	211.38	O			
20+10	210.7723	207.00	IO			
20+15	206.1847	202.01	O			
20+20	200.1687	194.61	O			
20+25	194.8606	190.14	O			
20+30	190.4594	186.56	O			
20+35	186.5077	182.97	O			
20+40	182.0689	178.01	O			
20+45	177.8985	174.16	O			
20+50	174.2969	171.09	O			
20+55	171.4311	168.91	O			
21+ 0	166.7349	162.32	O			
21+ 5	162.8052	159.34	O			
21+10	159.6169	156.80	O			
21+15	156.8819	154.45	O			
21+20	154.3753	152.13	O			
21+25	152.0128	149.89	O			
21+30	149.6704	147.56	O			
21+35	147.3854	145.33	O			
21+40	145.2821	143.40	O			
21+45	143.3207	141.56	O			
21+50	141.4589	139.79	IO			
21+55	139.6654	138.05	O			
22+ 0	137.9577	136.42	O			
22+ 5	136.3215	134.85	O			
22+10	134.7449	133.33	O			
22+15	133.2208	131.85	O			
22+20	131.7447	130.42	O			
22+25	130.3131	129.02	O			
22+30	128.9244	127.67	O			
22+35	127.5771	126.36	O			
22+40	126.2680	125.09	O			
22+45	124.9949	123.85	O			
22+50	123.7557	122.64	O			
22+55	122.5487	121.46	O			
23+ 0	121.3726	120.31	O			
23+ 5	120.2259	119.19	O			
23+10	119.1073	118.10	O			
23+15	118.0158	117.03	O			

23+20	116.9501	115.99	|O	|	|	|	|
23+25	115.9093	114.97	|O	|	|	|	|
23+30	114.8923	113.98	|O	|	|	|	|
23+35	113.8983	113.00	|O	|	|	|	|
23+40	112.9265	112.05	|O	|	|	|	|
23+45	111.9759	111.12	|O	|	|	|	|
23+50	111.0459	110.21	|O	|	|	|	|
23+55	110.1356	109.32	|O	|	|	|	|
24+ 0	109.2445	108.44	|O	|	|	|	|
24+ 5	108.0060	106.86	|O	|	|	|	|
24+10	106.1154	104.35	|O	|	|	|	|
24+15	103.5659	101.21	|O	|	|	|	|
24+20	100.3664	97.42	|O	|	|	|	|
24+25	96.5050	92.96	|O	|	|	|	|
24+30	91.5769	87.04	|O	|	|	|	|
24+35	85.3213	79.56	|O	|	|	|	|
24+40	76.6177	68.55	IO	|	|	|	|
24+45	64.2622	52.80	O	|	|	|	|
24+50	53.7502	44.46	O	|	|	|	|
24+55	45.7955	38.82	O	|	|	|	|
25+ 0	39.6914	34.33	O	|	|	|	|
25+ 5	34.8228	30.52	O	|	|	|	|
25+10	30.8855	27.41	O	|	|	|	|
25+15	27.4930	24.47	O	|	|	|	|
25+20	24.5723	21.97	O	|	|	|	|
25+25	21.9815	19.67	O	|	|	|	|
25+30	19.7036	17.67	O	|	|	|	|
25+35	17.6744	15.86	O	|	|	|	|
25+40	15.8486	14.22	O	|	|	|	|
25+45	14.1935	12.71	O	|	|	|	|
25+50	12.6875	11.34	O	|	|	|	|
25+55	11.3373	10.13	O	|	|	|	|
26+ 0	10.1021	9.00	O	|	|	|	|
26+ 5	8.9869	7.99	O	|	|	|	|
26+10	7.9617	7.04	O	|	|	|	|
26+15	7.0502	6.24	O	|	|	|	|
26+20	6.2203	5.48	O	|	|	|	|
26+25	5.4989	4.86	O	|	|	|	|
26+30	4.8482	4.27	O	|	|	|	|
26+35	4.2681	3.75	O	|	|	|	|
26+40	3.7365	3.26	O	|	|	|	|
26+45	3.2800	2.87	O	|	|	|	|
26+50	2.8802	2.52	O	|	|	|	|
26+55	2.5739	2.31	O	|	|	|	|
27+ 0	2.3401	2.13	O	|	|	|	|
27+ 5	2.1418	1.97	O	|	|	|	|
27+10	1.9603	1.80	O	|	|	|	|
27+15	1.7947	1.65	O	|	|	|	|
27+20	1.6434	1.51	O	|	|	|	|
27+25	1.4997	1.37	O	|	|	|	|
27+30	1.3600	1.23	O	|	|	|	|
27+35	1.2318	1.12	O	|	|	|	|
27+40	1.1255	1.03	O	|	|	|	|
27+45	1.0311	0.95	O	|	|	|	|
27+50	0.9423	0.86	O	|	|	|	|
27+55	0.8547	0.78	O	|	|	|	|
28+ 0	0.7612	0.68	O	|	|	|	|
28+ 5	0.6645	0.58	O	|	|	|	|
28+10	0.5665	0.48	O	|	|	|	|

28+15	0.4706	0.38	Q				
28+20	0.3922	0.32	Q				
28+25	0.3271	0.27	Q				
28+30	0.2685	0.22	Q				
28+35	0.2133	0.16	Q				
28+40	0.1673	0.13	Q				
28+45	0.1297	0.10	Q				
28+50	0.0964	0.07	Q				
28+55	0.0596	0.03	Q				
29+ 0	0.0383	0.02	Q				
29+ 5	0.0266	0.02	Q				
29+10	0.0193	0.01	Q				
29+15	0.0139	0.01	Q				
29+20	0.0095	0.01	Q				
29+25	0.0054	0.00	Q				
29+30	0.0025	0.00	Q				
29+35	0.0011	0.00	Q				
29+40	0.0000	0.00	Q				

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2460.421 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.100 to Point/Station 2.100
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

****

********** HYDROGRAPH INFORMATION **********

From study/file name: EX51.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q		0	3067.5	6134.9	9202.4	12269.9
0+ 5	2.0175	2.38	Q					
0+10	6.1564	7.56	Q					
0+15	12.1202	15.26	Q					
0+20	19.5243	25.08	Q					
0+25	28.6660	37.34	Q					
0+30	39.7300	52.63	Q					
0+35	52.5145	71.04	Q					
0+40	71.2388	97.90	Q					
0+45	94.9050	133.47	Q					
0+50	126.0779	174.82	Q					

0+55	157.7302	214.20	Q	|	|	|	|
1+ 0	190.2178	252.65	Q	|	|	|	|
1+ 5	228.8061	296.03	Q	|	|	|	|
1+10	264.6943	335.83	qQ	|	|	|	|
1+15	289.1267	363.68	qQ	|	|	|	|
1+20	308.7038	386.23	|Q	|	|	|	|
1+25	325.7582	405.97	|Q	|	|	|	|
1+30	340.4051	423.02	|Q	|	|	|	|
1+35	354.0323	438.82	|Q	|	|	|	|
1+40	366.2796	453.07	|Q	|	|	|	|
1+45	377.6066	466.25	|Q	|	|	|	|
1+50	388.2164	478.58	|Q	|	|	|	|
1+55	398.2224	490.17	|Q	|	|	|	|
2+ 0	407.7787	501.21	|Q	|	|	|	|
2+ 5	416.3650	511.19	|Q	|	|	|	|
2+10	424.8282	520.96	|Q	|	|	|	|
2+15	433.1586	530.50	|Q	|	|	|	|
2+20	440.4929	538.97	|Q	|	|	|	|
2+25	447.5146	547.04	|Q	|	|	|	|
2+30	454.5796	555.09	|Q	|	|	|	|
2+35	461.2278	562.66	|Q	|	|	|	|
2+40	467.4358	569.75	|Q	|	|	|	|
2+45	473.6698	576.81	|Q	|	|	|	|
2+50	479.8089	583.72	|Q	|	|	|	|
2+55	485.4936	590.09	|Q	|	|	|	|
3+ 0	491.1773	596.40	|Q	|	|	|	|
3+ 5	496.8564	602.67	|Q	|	|	|	|
3+10	502.1356	608.53	|Q	|	|	|	|
3+15	507.2909	614.26	|qQ	|	|	|	|
3+20	512.4865	620.02	|qQ	|	|	|	|
3+25	517.3712	625.47	|qQ	|	|	|	|
3+30	521.9227	630.58	|qQ	|	|	|	|
3+35	526.4966	635.71	|qQ	|	|	|	|
3+40	531.0393	640.80	|qQ	|	|	|	|
3+45	535.3493	645.65	|qQ	|	|	|	|
3+50	539.6761	650.51	|qQ	|	|	|	|
3+55	544.0114	655.39	|qQ	|	|	|	|
4+ 0	548.1677	660.09	|qQ	|	|	|	|
4+ 5	552.2710	664.76	|qQ	|	|	|	|
4+10	556.4152	669.47	|qQ	|	|	|	|
4+15	560.4498	674.08	|qQ	|	|	|	|
4+20	564.3742	678.57	|qQ	|	|	|	|
4+25	568.3213	683.07	|qQ	|	|	|	|
4+30	572.2146	687.52	|qQ	|	|	|	|
4+35	575.7762	691.64	|qQ	|	|	|	|
4+40	579.3468	695.76	|qQ	|	|	|	|
4+45	582.9400	699.91	|qQ	|	|	|	|
4+50	586.5767	704.10	|qQ	|	|	|	|
4+55	590.2369	708.33	|qQ	|	|	|	|
5+ 0	593.9419	712.58	|qQ	|	|	|	|
5+ 5	597.5739	716.77	|qQ	|	|	|	|
5+10	601.1375	720.88	|qQ	|	|	|	|
5+15	604.7256	725.03	|qQ	|	|	|	|
5+20	608.3607	729.23	|qQ	|	|	|	|
5+25	612.0216	733.46	|qQ	|	|	|	|
5+30	615.7311	737.75	| Q	|	|	|	|
5+35	619.4573	742.06	| Q	|	|	|	|
5+40	623.0614	746.25	| Q	|	|	|	|
5+45	626.6309	750.41	| Q	|	|	|	|

5+50	630.2514	754.63	Q			
5+55	633.9003	758.89	Q			
6+ 0	637.6021	763.21	Q			
6+ 5	641.3337	767.57	Q			
6+10	645.0921	771.96	Q			
6+15	648.7731	776.28	Q			
6+20	652.4998	780.65	Q			
6+25	656.2583	785.07	Q			
6+30	660.0754	789.55	Q			
6+35	663.9258	794.08	Q			
6+40	667.8371	798.67	Q			
6+45	671.7743	803.30	Q			
6+50	675.7635	807.99	Q			
6+55	679.7894	812.73	Q			
7+ 0	683.8808	817.54	Q			
7+ 5	688.0107	822.41	Q			
7+10	692.2089	827.34	Q			
7+15	696.4462	832.34	Q			
7+20	700.7320	837.38	Q			
7+25	705.0514	842.48	Q			
7+30	709.4449	847.66	Q			
7+35	713.8829	852.89	Q			
7+40	718.3981	858.21	Q			
7+45	722.9601	863.60	Q			
7+50	727.5760	869.05	Q			
7+55	732.1165	874.44	Q			
8+ 0	736.7306	879.90	Q			
8+ 5	741.3960	885.45	Q			
8+10	746.1490	891.08	Q			
8+15	750.9562	896.79	Q			
8+20	755.8550	902.60	Q			
8+25	760.8112	908.49	Q			
8+30	765.8634	914.48	Q			
8+35	770.9762	920.56	qQ			
8+40	776.1898	926.74	qQ			
8+45	781.4074	932.95	qQ			
8+50	786.6504	939.20	qQ			
8+55	791.9610	945.54	qQ			
9+ 0	797.3822	952.00	qQ			
9+ 5	802.8751	958.56	qQ			
9+10	808.4844	965.24	qQ			
9+15	814.1699	972.03	qQ			
9+20	819.9781	978.96	qQ			
9+25	825.8672	985.99	qQ			
9+30	831.8859	993.16	qQ			
9+35	837.9907	1000.46	qQ			
9+40	844.2323	1007.90	qQ			
9+45	850.5659	1015.46	qQ			
9+50	857.0441	1023.19	qQ			
9+55	863.6204	1031.05	qQ			
10+ 0	870.3500	1039.07	qQ			
10+ 5	877.1846	1047.24	qQ			
10+10	884.1816	1055.58	qQ			
10+15	891.2910	1064.08	qQ			
10+20	898.5731	1072.77	qQ			
10+25	905.9757	1081.61	qQ			
10+30	913.5620	1090.67	qQ			
10+35	921.2779	1099.89	Q			
10+40	929.1893	1109.33	Q			

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10+45     937.2404   1118.96  |  Q      |         |         |         |
10+50     945.5002   1128.82  |  Q      |         |         |         |
10+55     953.9106   1138.88  |  Q      |         |         |         |
11+ 0     962.5443   1149.18  |  Q      |         |         |         |
11+ 5     971.3405   1159.70  |  Q      |         |         |         |
11+10     980.3761   1170.49  |  Q      |         |         |         |
11+15     989.5878   1181.52  |  Q      |         |         |         |
11+20     999.0565   1192.82  |  Q      |         |         |         |
11+25    1008.7162   1204.38  |  Q      |         |         |         |
11+30    1018.6526   1216.25  |  Q      |         |         |         |
11+35    1028.7967   1228.40  |  qQ     |         |         |         |
11+40    1039.2393   1240.88  |  qQ     |         |         |         |
11+45    1049.9084   1253.65  |  qQ     |         |         |         |
11+50    1060.9003   1266.79  |  qQ     |         |         |         |
11+55    1072.1400   1280.25  |  qQ     |         |         |         |
12+ 0    1083.7297   1294.11  |  qQ     |         |         |         |
12+ 5    1095.8176   1308.55  |  qQ     |         |         |         |
12+10    1108.5251   1323.66  |  qQ     |         |         |         |
12+15    1121.7382   1339.37  |  qQ     |         |         |         |
12+20    1135.5312   1355.73  |  qQ     |         |         |         |
12+25    1149.8525   1372.71  |  qQ     |         |         |         |
12+30    1164.8488   1390.44  |  qQ     |         |         |         |
12+35    1180.4089   1408.84  |  qQ     |         |         |         |
12+40    1197.1422   1428.51  |  qQ     |         |         |         |
12+45    1214.8450   1449.28  |  qQ     |         |         |         |
12+50    1233.9544   1471.53  |   Q     |         |         |         |
12+55    1253.5855   1494.42  |   Q     |         |         |         |
13+ 0    1273.9391   1518.11  |   Q     |         |         |         |
13+ 5    1295.5023   1543.15  |   qQ    |         |         |         |
13+10    1317.4637   1568.68  |   qQ    |         |         |         |
13+15    1338.7317   1593.67  |   qQ    |         |         |         |
13+20    1360.2329   1619.01  |   qQ    |         |         |         |
13+25    1382.1128   1644.92  |   qQ    |         |         |         |
13+30    1404.5935   1671.55  |   qQ    |         |         |         |
13+35    1427.7115   1699.02  |   qQ    |         |         |         |
13+40    1451.6581   1727.48  |   qQ    |         |         |         |
13+45    1476.3626   1756.93  |   qQ    |         |         |         |
13+50    1502.1062   1787.59  |   qQ    |         |         |         |
13+55    1528.7766   1819.45  |   qQ    |         |         |         |
14+ 0    1556.6819   1852.75  |    qQ   |         |         |         |
14+ 5    1593.4121   1895.70  |    qQ   |         |         |         |
14+10    1639.7876   1949.48  |    qQ   |         |         |         |
14+15    1694.5264   2012.96  |    qQ   |         |         |         |
14+20    1756.4203   2084.84  |    qQ   |         |         |         |
14+25    1826.5541   2166.40  |    q Q  |         |         |         |
14+30    1906.1068   2259.29  |     qQ  |         |         |         |
14+35    1994.1136   2363.12  |     qQ  |         |         |         |
14+40    2107.3303   2496.14  |     q Q |         |         |         |
14+45    2241.8285   2656.34  |      qQ |         |         |         |
14+50    2408.0457   2846.49  |      q Q|         |         |         |
14+55    2578.7430   3038.58  |       qQ|         |         |         |
15+ 0    2756.0214   3235.53  |       q Q         |         |         |
15+ 5    2960.1355   3458.75  |        q|Q        |         |         |
15+10    3157.9433   3675.38  |         qQ        |         |         |
15+15    3315.8005   3852.71  |         q Q       |         |         |
15+20    3460.2707   4017.30  |         |q Q      |         |         |
15+25    3588.5479   4165.83  |         |q Q      |         |         |
15+30    3701.8805   4298.43  |         | q Q     |         |         |
15+35    3808.2729   4423.88  |         | q Q     |         |         |
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15+40    3910.8454   4545.44  |          | q Q      |          |          |
15+45    4012.2339   4666.95  |          |  q Q     |          |          |
15+50    4116.4407   4791.64  |          |  q Q     |          |          |
15+55    4238.8224   4937.22  |          |  q  Q    |          |          |
16+ 0    4378.0604   5103.00  |          |   q Q    |          |          |
16+ 5    4751.5460   5539.87  |          |    q  Q  |          |          |
16+10    5105.7896   6002.12  |          |     q  Q |          |          |
16+15    5421.6402   6440.75  |          |      q  Q|          |          |
16+20    5695.5557   6847.35  |          |       q  | Q        |          |
16+25    5987.5247   7288.09  |          |        q |  Q       |          |
16+30    6364.3776   7867.56  |          |         q|    Q     |          |
16+35    6854.2035   8602.85  |          |          | q     Q  |          |
16+40    7887.2754   9974.69  |          |          |    q     | Q        |
16+45    8795.8075  11256.23  |          |          |       q  |     Q    |
16+50    9872.9940  12088.69  |          |          |          | q       Q|
16+55   10051.8583  11925.47  |          |          |          | q     Q  |
17+ 0   10240.3305  11853.18  |          |          |          |  q    Q  |
17+ 5   10831.8492  12269.86  |          |          |          |    q    Q
17+10   10207.5379  11507.25  |          |          |          |  q   Q   |
17+15    8545.7249   9746.87  |          |          |       q  |Q         |
17+20    7713.9969   8825.38  |          |          |     q  Q |          |
17+25    7257.6204   8294.78  |          |          |   q   Q  |          |
17+30    6841.5203   7807.08  |          |          | q  Q     |          |
17+35    6543.4469   7444.95  |          |          |q  Q      |          |
17+40    6183.1444   7024.20  |          |         q Q        |          |
17+45    5866.0989   6647.16  |          |        q|Q         |          |
17+50    5546.2350   6273.70  |          |       q Q          |          |
17+55    5247.9675   5926.41  |          |      q Q|          |          |
18+ 0    4964.2957   5601.84  |          |     q Q |          |          |
18+ 5    4610.6383   5209.89  |          |    qQ   |          |          |
18+10    4368.7624   4935.01  |          |   q Q   |          |          |
18+15    4169.9922   4702.70  |          |  q Q    |          |          |
18+20    3897.0909   4401.02  |          | q Q     |          |          |
18+25    3721.5954   4195.56  |          | qQ      |          |          |
18+30    3599.7318   4048.96  |          |q Q      |          |          |
18+35    3433.2516   3858.86  |          |qQ       |          |          |
18+40    3270.5828   3675.49  |          qQ        |          |          |
18+45    3170.7908   3552.85  |          qQ        |          |          |
18+50    3060.3844   3421.89  |         q|Q        |          |          |
18+55    2916.6641   3255.03  |         qQ         |          |          |
19+ 0    2826.3139   3145.26  |         qQ         |          |          |
19+ 5    2740.6874   3045.39  |        qQ|         |          |          |
19+10    2611.3642   2904.81  |        qQ|         |          |          |
19+15    2518.8383   2801.83  |        qQ|         |          |          |
19+20    2447.7736   2721.06  |       qQ |         |          |          |
19+25    2341.1349   2605.99  |       qQ |         |          |          |
19+30    2234.3418   2491.49  |       qQ |         |          |          |
19+35    2175.8770   2424.87  |       Q  |         |          |          |
19+40    2112.7992   2353.12  |      qQ  |         |          |          |
19+45    2030.1901   2263.48  |      qQ  |         |          |          |
19+50    1975.6094   2203.08  |      qQ  |         |          |          |
19+55    1925.9745   2148.64  |      qQ  |         |          |          |
20+ 0    1854.9191   2073.76  |      Q   |         |          |          |
20+ 5    1801.5305   2016.46  |     qQ   |         |          |          |
20+10    1758.4100   1969.18  |     qQ   |         |          |          |
20+15    1700.5360   1906.72  |     qQ   |         |          |          |
20+20    1641.4485   1841.62  |     qQ   |         |          |          |
20+25    1600.5169   1795.38  |     Q    |         |          |          |
20+30    1549.3151   1739.77  |     Q    |         |          |          |
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20+35	1471.8903	1658.40	qQ			
20+40	1435.6248	1617.69	qQ			
20+45	1407.2311	1585.13	qQ			
20+50	1379.7514	1554.05	qQ			
20+55	1350.6198	1522.05	Q			
21+ 0	1322.1678	1488.90	Q			
21+ 5	1283.4377	1446.24	Q			
21+10	1245.0478	1404.66	Q			
21+15	1222.3132	1379.20	qQ			
21+20	1201.1317	1355.51	qQ			
21+25	1179.7659	1331.78	qQ			
21+30	1157.4225	1307.09	qQ			
21+35	1134.2024	1281.59	qQ			
21+40	1093.6870	1238.97	qQ			
21+45	1068.2264	1211.55	Q			
21+50	1051.6356	1193.09	Q			
21+55	1035.3699	1175.04	Q			
22+ 0	1018.3761	1156.33	Q			
22+ 5	1000.8491	1137.17	Q			
22+10	980.0553	1114.80	Q			
22+15	951.3609	1084.58	Q			
22+20	935.4190	1067.16	Q			
22+25	921.7922	1052.11	Q			
22+30	908.6102	1037.53	qQ			
22+35	895.2274	1022.80	qQ			
22+40	882.7698	1009.04	qQ			
22+45	869.5827	994.58	qQ			
22+50	856.2534	980.01	qQ			
22+55	844.5427	967.09	qQ			
23+ 0	833.0728	954.45	qQ			
23+ 5	821.6898	941.92	qQ			
23+10	810.4884	929.60	qQ			
23+15	800.1137	918.13	Q			
23+20	787.5587	904.51	Q			
23+25	776.9104	892.82	Q			
23+30	767.4531	882.35	Q			
23+35	757.9171	871.82	Q			
23+40	748.0072	860.93	Q			
23+45	736.9479	848.92	Q			
23+50	721.7547	832.80	Q			
23+55	696.4558	806.59	Q			
24+ 0	685.7061	794.95	Q			
24+ 5	675.4094	783.42	Q			
24+10	663.7695	769.88	Q			
24+15	649.8726	753.44	Q			
24+20	634.7771	735.14	Q			
24+25	618.1091	714.61	Q			
24+30	599.5524	691.13	qQ			
24+35	578.9731	664.29	qQ			
24+40	551.4821	628.10	qQ			
24+45	512.0759	576.34	Q			
24+50	464.4674	518.22	Q			
24+55	427.5672	473.36	Q			
25+ 0	390.9221	430.61	Q			
25+ 5	348.5337	383.36	Q			
25+10	309.0296	339.92	Q			
25+15	281.5442	309.04	qQ			
25+20	259.3446	283.92	Q			
25+25	240.0067	261.99	Q			

25+30	223.3835	243.09	Q				
25+35	208.0345	225.71	Q				
25+40	194.3099	210.16	Q				
25+45	181.9440	196.14	Q				
25+50	170.8084	183.50	Q				
25+55	160.4618	171.80	Q				
26+ 0	150.7381	160.84	Q				
26+ 5	142.1311	151.12	Q				
26+10	133.7953	141.76	Q				
26+15	125.7192	132.77	Q				
26+20	118.7745	124.99	Q				
26+25	112.2503	117.75	Q				
26+30	105.7998	110.65	Q				
26+35	99.8647	104.13	Q				
26+40	94.4770	98.21	Q				
26+45	89.1559	92.44	Q				
26+50	84.0375	86.92	Q				
26+55	79.4535	82.03	Q				
27+ 0	74.9605	77.30	Q				
27+ 5	70.5444	72.69	Q				
27+10	66.6146	68.57	Q				
27+15	62.8740	64.67	Q				
27+20	59.1723	60.82	Q				
27+25	55.8429	57.34	Q				
27+30	52.9205	54.28	Q				
27+35	50.0291	51.26	Q				
27+40	47.2382	48.36	Q				
27+45	44.7311	45.76	Q				
27+50	42.2728	43.22	Q				
27+55	39.8534	40.71	Q				
28+ 0	37.6776	38.44	Q				
28+ 5	35.5993	36.26	Q				
28+10	33.5417	34.11	Q				
28+15	31.6368	32.11	Q				
28+20	29.9023	30.29	Q				
28+25	28.1852	28.51	Q				
28+30	26.5808	26.85	Q				
28+35	25.3464	25.56	Q				
28+40	24.1579	24.33	Q				
28+45	22.9816	23.11	Q				
28+50	21.8170	21.91	Q				
28+55	20.6641	20.72	Q				
29+ 0	19.5223	19.56	Q				
29+ 5	18.4888	18.52	Q				
29+10	17.5794	17.60	Q				
29+15	16.6792	16.69	Q				
29+20	15.7877	15.80	Q				
29+25	14.9047	14.91	Q				
29+30	14.0300	14.03	Q				
29+35	13.1734	13.17	Q				
29+40	12.4968	12.50	Q				
29+45	11.8885	11.89	Q				
29+50	11.2861	11.29	Q				
29+55	10.6894	10.69	Q				
30+ 0	10.0983	10.10	Q				
30+ 5	9.5126	9.51	Q				
30+10	8.9601	8.96	Q				
30+15	8.5207	8.52	Q				
30+20	8.0962	8.10	Q				

30+25	7.6756	7.68	Q	|	|	|	|
30+30	7.2590	7.26	Q	|	|	|	|
30+35	6.8461	6.85	Q	|	|	|	|
30+40	6.4369	6.44	Q	|	|	|	|
30+45	6.0403	6.04	Q	|	|	|	|
30+50	5.6582	5.66	Q	|	|	|	|
30+55	5.2795	5.28	Q	|	|	|	|
31+ 0	4.9040	4.90	Q	|	|	|	|
31+ 5	4.5317	4.53	Q	|	|	|	|
31+10	4.1626	4.16	Q	|	|	|	|
31+15	3.7976	3.80	Q	|	|	|	|
31+20	3.4584	3.46	Q	|	|	|	|
31+25	3.1304	3.13	Q	|	|	|	|
31+30	2.8052	2.81	Q	|	|	|	|
31+35	2.4825	2.48	Q	|	|	|	|
31+40	2.1623	2.16	Q	|	|	|	|
31+45	1.8446	1.84	Q	|	|	|	|
31+50	1.5561	1.56	Q	|	|	|	|
31+55	1.3941	1.39	Q	|	|	|	|
32+ 0	1.2436	1.24	Q	|	|	|	|
32+ 5	1.0943	1.09	Q	|	|	|	|
32+10	0.9462	0.95	Q	|	|	|	|
32+15	0.7992	0.80	Q	|	|	|	|
32+20	0.6533	0.65	Q	|	|	|	|
32+25	0.5085	0.51	Q	|	|	|	|
32+30	0.3648	0.36	Q	|	|	|	|
32+35	0.2222	0.22	Q	|	|	|	|
32+40	0.0806	0.08	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 392
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 12269.864 (CFS)
Total volume = 3994.794 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

****

TECHNICAL APPENDIX NO. 6

Developed Conditions
Rational Method Calculations
100-Year, 1-Hour Storm Event

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 1
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.260 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 1.000 to Point/Station 1.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 357.000(Ft.)
Top (of initial area) elevation = 1965.400(Ft.)
Bottom (of initial area) elevation = 1956.100(Ft.)
Difference in elevation = 9.300(Ft.)
Slope = 0.02605 s(%)= 2.61
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.809 min.
Rainfall intensity = 4.183(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.873
Subarea runoff = 3.651(CFS)
Total initial stream area = 1.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 1.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY
PROPOSED CONDTIIONS AREA 2
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 2.000 to Point/Station 2.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 285.000(Ft.)
Top (of initial area) elevation = 1965.100(Ft.)
Bottom (of initial area) elevation = 1955.600(Ft.)
Difference in elevation = 9.500(Ft.)
Slope = 0.03333 s(%)= 3.33
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.402 min.
Rainfall intensity = 4.648(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.876
Subarea runoff = 6.308(CFS)
Total initial stream area = 1.550(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 1.55 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 3
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 3.000 to Point/Station 3.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 600.000(Ft.)
Top (of initial area) elevation = 1963.000(Ft.)
Bottom (of initial area) elevation = 1955.000(Ft.)
Difference in elevation = 8.000(Ft.)
Slope = 0.01333 s(%)= 1.33
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.210 min.
Rainfall intensity = 3.319(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.866
Subarea runoff = 14.139(CFS)
Total initial stream area = 4.920(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 4.92 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 4
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 4.000 to Point/Station 4.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1971.300(Ft.)
Bottom (of initial area) elevation = 1953.900(Ft.)
Difference in elevation = 17.400(Ft.)
Slope = 0.01740 s(%)= 1.74
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 17.691 min.
Rainfall intensity = 2.986(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.862
Subarea runoff = 23.037(CFS)
Total initial stream area = 8.950(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 8.95 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 5
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 5.000 to Point/Station 5.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 931.000(Ft.)
Top (of initial area) elevation = 1971.200(Ft.)
Bottom (of initial area) elevation = 1954.800(Ft.)
Difference in elevation = 16.400(Ft.)
Slope = 0.01762 s(%)= 1.76
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 17.150 min.
Rainfall intensity = 3.052(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.863
Subarea runoff = 26.330(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 5.100 to Point/Station 5.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1954.800(Ft.)
Downstream point elevation = 1950.600(Ft.)

```
Channel length thru subarea  =   146.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     30.522(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     30.522(CFS)
Depth of flow =   0.227(Ft.), Average velocity =   2.662(Ft/s)
Channel flow top width =   50.909(Ft.)
Flow Velocity =    2.66(Ft/s)
Travel time  =    0.91 min.
Time of concentration =   18.06 min.
Critical depth =      0.227(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.943(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.861
Subarea runoff =      8.298(CFS) for    3.660(Ac.)
Total runoff =     34.627(CFS)
Effective area this stream =       13.66(Ac.)
Total Study Area (Main Stream No. 1) =       13.66(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.245(Ft.), Average velocity =   2.798(Ft/s)
Critical depth =      0.246(Ft.)
End of computations, Total Study Area =           13.66 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 6
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 6.000 to Point/Station 6.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1970.700(Ft.)
Bottom (of initial area) elevation = 1962.800(Ft.)
Difference in elevation = 7.900(Ft.)
Slope = 0.00790 s(%)= 0.79
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 20.718 min.
Rainfall intensity = 2.673(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.858
Subarea runoff = 21.712(CFS)
Total initial stream area = 9.470(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 6.100 to Point/Station 6.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1962.800(Ft.)
Downstream point elevation = 1948.800(Ft.)

```
Channel length thru subarea  =   474.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     25.124(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.124(CFS)
Depth of flow =   0.201(Ft.), Average velocity =   2.484(Ft/s)
Channel flow top width =   50.803(Ft.)
Flow Velocity =    2.48(Ft/s)
Travel time  =    3.18 min.
Time of concentration =   23.90 min.
Critical depth =      0.199(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.419(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.853
Subarea runoff =      6.769(CFS) for    4.330(Ac.)
Total runoff =     28.481(CFS)
Effective area this stream =       13.80(Ac.)
Total Study Area (Main Stream No. 1) =       13.80(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.216(Ft.), Average velocity =   2.611(Ft/s)
Critical depth =      0.215(Ft.)
End of computations, Total Study Area =           13.80 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

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Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 7
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 7.000 to Point/Station 7.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1970.400(Ft.)
Bottom (of initial area) elevation = 1966.600(Ft.)
Difference in elevation = 3.800(Ft.)
Slope = 0.00380 s(%)= 0.38
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 23.983 min.
Rainfall intensity = 2.413(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.853
Subarea runoff = 19.205(CFS)
Total initial stream area = 9.330(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

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Process from Point/Station 7.100 to Point/Station 7.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1966.600(Ft.)
Downstream point elevation = 1949.600(Ft.)

```
Channel length thru subarea  =   716.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     22.939(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     22.939(CFS)
Depth of flow =   0.203(Ft.), Average velocity =   2.244(Ft/s)
Channel flow top width =   50.811(Ft.)
Flow Velocity =    2.24(Ft/s)
Travel time  =    5.32 min.
Time of concentration =   29.30 min.
Critical depth =      0.188(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.097(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.846
Subarea runoff =      7.391(CFS) for    5.660(Ac.)
Total runoff =     26.596(CFS)
Effective area this stream =       14.99(Ac.)
Total Study Area (Main Stream No. 1) =       14.99(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.222(Ft.), Average velocity =   2.379(Ft/s)
Critical depth =      0.207(Ft.)
End of computations, Total Study Area =           14.99 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 8
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 8.000 to Point/Station 8.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1966.700(Ft.)
Bottom (of initial area) elevation = 1950.300(Ft.)
Difference in elevation = 16.400(Ft.)
Slope = 0.01640 s(%)= 1.64
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 17.902 min.
Rainfall intensity = 2.961(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.862
Subarea runoff = 22.889(CFS)
Total initial stream area = 8.970(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 8.97 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 9
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 9.000 to Point/Station 9.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 776.000(Ft.)
Top (of initial area) elevation = 1967.200(Ft.)
Bottom (of initial area) elevation = 1965.200(Ft.)
Difference in elevation = 2.000(Ft.)
Slope = 0.00258 s(%)= 0.26
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 23.420 min.
Rainfall intensity = 2.454(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.854
Subarea runoff = 20.948(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 9.100 to Point/Station 9.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1965.200(Ft.)
Downstream point elevation = 1960.400(Ft.)

```
Channel length thru subarea  =   780.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     23.892(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     23.892(CFS)
Depth of flow =   0.311(Ft.), Average velocity =   1.515(Ft/s)
Channel flow top width =   51.246(Ft.)
Flow Velocity =    1.52(Ft/s)
Travel time  =    8.58 min.
Time of concentration =   32.00 min.
Critical depth =      0.191(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.972(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.842
Subarea runoff =      5.817(CFS) for    6.110(Ac.)
Total runoff =     26.765(CFS)
Effective area this stream =       16.11(Ac.)
Total Study Area (Main Stream No. 1) =       16.11(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.333(Ft.), Average velocity =   1.584(Ft/s)
Critical depth =      0.207(Ft.)


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Process from Point/Station        9.100 to Point/Station        9.200
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     16.110(Ac.)
Runoff from this stream =     26.765(CFS)
Time of concentration =   32.00 min.
Rainfall intensity =     1.972(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


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Process from Point/Station        9.300 to Point/Station        9.200
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1967.900(Ft.)
Bottom (of initial area) elevation =  1960.400(Ft.)
Difference in elevation =     7.500(Ft.)
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Slope =    0.00750  s(%)=       0.75
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   20.934 min.
Rainfall intensity =      2.654(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.857
Subarea runoff =     20.523(CFS)
Total initial stream area =        9.020(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


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Process from Point/Station        9.300 to Point/Station        9.200
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      9.020(Ac.)
Runoff from this stream =     20.523(CFS)
Time of concentration =   20.93 min.
Rainfall intensity =     2.654(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     26.77    16.110     32.00    0.126      1.972
2     20.52     9.020     20.93    0.126      2.654
Qmax(1) =
           1.000 *    1.000 *    26.765) +
           0.730 *    1.000 *    20.523) + =      41.751
Qmax(2) =
           1.369 *    0.654 *    26.765) +
           1.000 *    1.000 *    20.523) + =      44.502

Total of 2 streams to confluence:
Flow rates before confluence point:
      26.765      20.523
Maximum flow rates at confluence using above data:
       41.751       44.502
Area of streams before confluence:
       16.110        9.020
Effective area values after confluence:
       25.130       19.559
Results of confluence:
Total flow rate =     44.502(CFS)
Time of concentration =    20.934 min.
Effective stream area after confluence =     19.559(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.126(In/Hr)
Study area total (this main stream) =      25.13(Ac.)


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Process from Point/Station        9.200 to Point/Station        9.500
**** IMPROVED CHANNEL TRAVEL TIME ****
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Upstream point elevation =  1960.400(Ft.)
Downstream point elevation =  1946.500(Ft.)
Channel length thru subarea  =   495.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     47.741(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     47.741(CFS)
Depth of flow =   0.299(Ft.), Average velocity =   3.153(Ft/s)
Channel flow top width =   51.197(Ft.)
Flow Velocity =    3.15(Ft/s)
Travel time  =    2.62 min.
Time of concentration =   23.55 min.
Critical depth =      0.305(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.444(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.854
Subarea runoff =      6.400(CFS) for    4.840(Ac.)
Total runoff =     50.901(CFS)
Effective area this stream =       24.40(Ac.)
Total Study Area (Main Stream No. 1) =       29.97(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.311(Ft.), Average velocity =   3.233(Ft/s)
Critical depth =      0.316(Ft.)
End of computations, Total Study Area =           29.97 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164307 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 10A
100-YEAR, 1-HOURS STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 10.000 to Point/Station 10.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1967.300(Ft.)
Bottom (of initial area) elevation = 1957.800(Ft.)
Difference in elevation = 9.500(Ft.)
Slope = 0.00950 s(%)= 0.95
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 19.967 min.
Rainfall intensity = 2.743(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.859
Subarea runoff = 14.723(CFS)
Total initial stream area = 6.250(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 10.100 to Point/Station 10.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1957.800(Ft.)
Downstream point elevation = 1957.300(Ft.)

```
Channel length thru subarea  =  1280.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.758(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.758(CFS)
Depth of flow =   0.533(Ft.), Average velocity =   0.542(Ft/s)
Channel flow top width =   52.132(Ft.)
Flow Velocity =    0.54(Ft/s)
Travel time  =   39.34 min.
Time of concentration =   59.31 min.
Critical depth =      0.139(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     14.098(CFS)
therefore the upstream flow rate of Q =     14.723(CFS) is being used
Rainfall intensity =      1.280(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.811
Subarea runoff =      0.000(CFS) for    7.320(Ac.)
Total runoff =     14.723(CFS)
Effective area this stream =       13.57(Ac.)
Total Study Area (Main Stream No. 1) =       13.57(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.532(Ft.), Average velocity =   0.542(Ft/s)
Critical depth =      0.139(Ft.)
End of computations, Total Study Area =           13.57 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 11
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 11.000 to Point/Station 11.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 841.000(Ft.)
Top (of initial area) elevation = 1957.600(Ft.)
Bottom (of initial area) elevation = 1947.600(Ft.)
Difference in elevation = 10.000(Ft.)
Slope = 0.01189 s(%)= 1.19
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 17.813 min.
Rainfall intensity = 2.972(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.862
Subarea runoff = 23.561(CFS)
Total initial stream area = 9.200(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 9.20 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 12
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.280 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 12.000 to Point/Station 12.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 225.000(Ft.)
Top (of initial area) elevation = 1955.300(Ft.)
Bottom (of initial area) elevation = 1948.800(Ft.)
Difference in elevation = 6.500(Ft.)
Slope = 0.02889 s(%)= 2.89
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.802 min.
Rainfall intensity = 4.906(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.877
Subarea runoff = 3.742(CFS)
Total initial stream area = 0.870(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 0.87 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 13
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.280 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 13.000 to Point/Station 13.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1959.000(Ft.)
Bottom (of initial area) elevation = 1955.600(Ft.)
Difference in elevation = 3.400(Ft.)
Slope = 0.00340 s(%)= 0.34
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.523 min.
Rainfall intensity = 2.395(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.853
Subarea runoff = 17.068(CFS)
Total initial stream area = 8.360(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 13.100 to Point/Station 13.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1955.600(Ft.)
Downstream point elevation = 1951.600(Ft.)

```
Channel length thru subarea  =   808.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     21.963(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     21.963(CFS)
Depth of flow =   0.316(Ft.), Average velocity =   1.372(Ft/s)
Channel flow top width =   51.264(Ft.)
Flow Velocity =    1.37(Ft/s)
Travel time  =    9.81 min.
Time of concentration =   34.34 min.
Critical depth =      0.182(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.892(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.840
Subarea runoff =      9.710(CFS) for    8.490(Ac.)
Total runoff =     26.779(CFS)
Effective area this stream =       16.85(Ac.)
Total Study Area (Main Stream No. 1) =       16.85(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.356(Ft.), Average velocity =   1.483(Ft/s)
Critical depth =      0.207(Ft.)
End of computations, Total Study Area =           16.85 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 14
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.290 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 14.000 to Point/Station 14.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1955.000(Ft.)
Bottom (of initial area) elevation = 1951.800(Ft.)
Difference in elevation = 3.200(Ft.)
Slope = 0.00320 s(%)= 0.32
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.822 min.
Rainfall intensity = 2.393(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.853
Subarea runoff = 20.401(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

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Process from Point/Station 14.100 to Point/Station 14.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1951.800(Ft.)
Downstream point elevation = 1947.400(Ft.)

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Channel length thru subarea  =   627.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     25.833(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.833(CFS)
Depth of flow =   0.314(Ft.), Average velocity =   1.626(Ft/s)
Channel flow top width =   51.255(Ft.)
Flow Velocity =    1.63(Ft/s)
Travel time  =    6.43 min.
Time of concentration =   31.25 min.
Critical depth =      0.203(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.037(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.844
Subarea runoff =     10.808(CFS) for    8.150(Ac.)
Total runoff =     31.210(CFS)
Effective area this stream =       18.15(Ac.)
Total Study Area (Main Stream No. 1) =       18.15(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.351(Ft.), Average velocity =   1.751(Ft/s)
Critical depth =      0.229(Ft.)
End of computations, Total Study Area =           18.15 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITONS AREA 15
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.270 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 15.000 to Point/Station 15.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 76.19
Adjusted SCS curve number for AMC 3 = 91.71
Pervious ratio(Ap) = 0.8380 Max loss rate(Fm)= 0.134(In/Hr)
Initial subarea data:
Initial area flow distance = 588.000(Ft.)
Top (of initial area) elevation = 1983.200(Ft.)
Bottom (of initial area) elevation = 1970.000(Ft.)
Difference in elevation = 13.200(Ft.)
Slope = 0.02245 s(%)= 2.24
TC = k(0.481)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.176 min.
Rainfall intensity = 3.670(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.867
Subarea runoff = 31.819(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.838
Initial area Fm value = 0.134(In/Hr)

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Process from Point/Station 15.100 to Point/Station 15.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1970.000(Ft.)
Downstream point elevation = 1964.600(Ft.)

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Channel length thru subarea  =   891.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     55.407(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     55.407(CFS)
Depth of flow =   0.518(Ft.), Average velocity =   2.097(Ft/s)
Channel flow top width =   52.071(Ft.)
Flow Velocity =    2.10(Ft/s)
Travel time  =    7.08 min.
Time of concentration =   20.26 min.
Critical depth =      0.336(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 69.69
Adjusted SCS curve number for AMC 3 = 86.75
Pervious ratio(Ap) = 0.5200     Max loss rate(Fm)=     0.131(In/Hr)
Rainfall intensity =      2.716(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.856
Subarea runoff =     47.080(CFS) for   23.930(Ac.)
Total runoff =     78.899(CFS)
Effective area this stream =       33.93(Ac.)
Total Study Area (Main Stream No. 1) =       33.93(Ac.)
Area averaged Fm value =    0.132(In/Hr)
Depth of flow =   0.640(Ft.), Average velocity =   2.405(Ft/s)
Critical depth =      0.422(Ft.)


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Process from Point/Station       15.200 to Point/Station       15.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1964.600(Ft.)
Downstream point elevation =  1963.800(Ft.)
Channel length thru subarea  =  1336.000(Ft.)
Channel base width      =  100.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    104.658(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    104.658(CFS)
Depth of flow =   1.002(Ft.), Average velocity =   1.024(Ft/s)
Channel flow top width =  104.008(Ft.)
Flow Velocity =    1.02(Ft/s)
Travel time  =   21.75 min.
Time of concentration =   42.01 min.
Critical depth =      0.324(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 68.48
Adjusted SCS curve number for AMC 3 = 85.78
Pervious ratio(Ap) = 0.6280     Max loss rate(Fm)=     0.169(In/Hr)
Rainfall intensity =      1.630(In/Hr) for a   100.0 year storm
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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.814
Subarea runoff =     51.454(CFS) for   64.340(Ac.)
Total runoff =    130.353(CFS)
Effective area this stream =       98.27(Ac.)
Total Study Area (Main Stream No. 1) =       98.27(Ac.)
Area averaged Fm value =    0.156(In/Hr)
Depth of flow =   1.143(Ft.), Average velocity =   1.115(Ft/s)
Critical depth =      0.375(Ft.)


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Process from Point/Station       15.300 to Point/Station       15.400
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1963.800(Ft.)
Downstream point elevation =  1949.300(Ft.)
Channel length thru subarea  =  6809.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    130.822(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    130.822(CFS)
Depth of flow =   1.182(Ft.), Average velocity =   2.113(Ft/s)
Channel flow top width =   54.730(Ft.)
Flow Velocity =    2.11(Ft/s)
Travel time  =   53.71 min.
Time of concentration =   95.72 min.
Critical depth =      0.594(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 72.35
Adjusted SCS curve number for AMC 3 = 88.88
Pervious ratio(Ap) = 0.9200     Max loss rate(Fm)=     0.196(In/Hr)
Rainfall intensity =      0.916(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.727
Subarea runoff =      0.859(CFS) for   98.810(Ac.)
Total runoff =    131.212(CFS)
Effective area this stream =      197.08(Ac.)
Total Study Area (Main Stream No. 1) =      197.08(Ac.)
Area averaged Fm value =    0.176(In/Hr)
Depth of flow =   1.184(Ft.), Average velocity =   2.115(Ft/s)
Critical depth =      0.594(Ft.)
End of computations, Total Study Area =          197.08 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.772
Area averaged SCS curve number =  71.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 17
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.300 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 17.000 to Point/Station 17.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9450 Max loss rate(Fm)= 0.132(In/Hr)
Initial subarea data:
Initial area flow distance = 805.000(Ft.)
Top (of initial area) elevation = 1951.200(Ft.)
Bottom (of initial area) elevation = 1947.600(Ft.)
Difference in elevation = 3.600(Ft.)
Slope = 0.00447 s(%)= 0.45
TC = k(0.508)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.761 min.
Rainfall intensity = 2.644(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.855
Subarea runoff = 22.606(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.945
Initial area Fm value = 0.132(In/Hr)

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Process from Point/Station 17.100 to Point/Station 17.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1947.600(Ft.)
Downstream point elevation = 1940.500(Ft.)

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Channel length thru subarea  =  1959.000(Ft.)
Channel base width      =  100.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    119.258(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    119.258(CFS)
Depth of flow =   0.632(Ft.), Average velocity =   1.863(Ft/s)
Channel flow top width =  102.528(Ft.)
Flow Velocity =    1.86(Ft/s)
Travel time  =   17.52 min.
Time of concentration =   39.28 min.
Critical depth =      0.352(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 77.84
Adjusted SCS curve number for AMC 3 = 92.70
Pervious ratio(Ap) = 0.9430     Max loss rate(Fm)=     0.134(In/Hr)
Rainfall intensity =      1.749(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.831
Subarea runoff =    193.209(CFS) for  138.480(Ac.)
Total runoff =    215.814(CFS)
Effective area this stream =      148.48(Ac.)
Total Study Area (Main Stream No. 1) =      148.48(Ac.)
Area averaged Fm value =    0.134(In/Hr)
Depth of flow =   0.902(Ft.), Average velocity =   2.351(Ft/s)
Critical depth =      0.523(Ft.)
End of computations, Total Study Area =          148.48 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.943
Area averaged SCS curve number =  77.9
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 18
100-YEAR, 1-HOUR STORM
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.330 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 18.000 to Point/Station 18.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 404.000(Ft.)
Top (of initial area) elevation = 1944.900(Ft.)
Bottom (of initial area) elevation = 1938.100(Ft.)
Difference in elevation = 6.800(Ft.)
Slope = 0.01683 s(%)= 1.68
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.393 min.
Rainfall intensity = 4.012(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff = 34.971(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

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Process from Point/Station 18.100 to Point/Station 18.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1938.100(Ft.)
Downstream point elevation = 1932.700(Ft.)

```
Channel length thru subarea  =   830.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     57.633(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     57.633(CFS)
Depth of flow =   0.519(Ft.), Average velocity =   2.176(Ft/s)
Channel flow top width =   52.076(Ft.)
Flow Velocity =    2.18(Ft/s)
Travel time  =    6.36 min.
Time of concentration =   18.75 min.
Critical depth =      0.344(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 76.60
Adjusted SCS curve number for AMC 3 = 91.96
Pervious ratio(Ap) = 0.9090     Max loss rate(Fm)=     0.142(In/Hr)
Rainfall intensity =      3.002(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.859
Subarea runoff =     45.233(CFS) for   21.100(Ac.)
Total runoff =     80.204(CFS)
Effective area this stream =       31.10(Ac.)
Total Study Area (Main Stream No. 1) =       31.10(Ac.)
Area averaged Fm value =    0.137(In/Hr)
Depth of flow =   0.633(Ft.), Average velocity =   2.473(Ft/s)
Critical depth =      0.430(Ft.)


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Process from Point/Station       18.200 to Point/Station       18.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1932.700(Ft.)
Downstream point elevation =  1926.100(Ft.)
Channel length thru subarea  =   590.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     94.330(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     94.330(CFS)
Depth of flow =   0.593(Ft.), Average velocity =   3.109(Ft/s)
Channel flow top width =   52.371(Ft.)
Flow Velocity =    3.11(Ft/s)
Travel time  =    3.16 min.
Time of concentration =   21.91 min.
Critical depth =      0.477(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 67.28
Adjusted SCS curve number for AMC 3 = 84.82
Pervious ratio(Ap) = 0.9670     Max loss rate(Fm)=     0.277(In/Hr)
Rainfall intensity =      2.692(In/Hr) for a   100.0 year storm
```

Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.838
Subarea runoff = 28.181(CFS) for 16.960(Ac.)
Total runoff = 108.385(CFS)
Effective area this stream = 48.06(Ac.)
Total Study Area (Main Stream No. 1) = 48.06(Ac.)
Area averaged Fm value = 0.186(In/Hr)
Depth of flow = 0.644(Ft.), Average velocity = 3.281(Ft/s)
Critical depth = 0.523(Ft.)
End of computations, Total Study Area = 48.06 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.928
Area averaged SCS curve number = 73.6

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 19
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.350 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 19.000 to Point/Station 19.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.360(In/Hr)
Initial subarea data:
Initial area flow distance = 756.000(Ft.)
Top (of initial area) elevation = 1933.900(Ft.)
Bottom (of initial area) elevation = 1929.600(Ft.)
Difference in elevation = 4.300(Ft.)
Slope = 0.00569 s(%)= 0.57
TC = k(0.868)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 34.570 min.
Rainfall intensity = 1.986(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.737
Subarea runoff = 11.519(CFS)
Total initial stream area = 7.870(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.360(In/Hr)
End of computations, Total Study Area = 7.87 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 62.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 20
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 20.000 to Point/Station 20.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 76.90
Adjusted SCS curve number for AMC 3 = 92.14
Pervious ratio(Ap) = 0.9070 Max loss rate(Fm)= 0.138(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1932.900(Ft.)
Bottom (of initial area) elevation = 1925.300(Ft.)
Difference in elevation = 7.600(Ft.)
Slope = 0.00760 s(%)= 0.76
TC = k(0.498)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 20.951 min.
Rainfall intensity = 2.841(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.856
Subarea runoff = 24.320(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.907
Initial area Fm value = 0.138(In/Hr)

++

Process from Point/Station 20.100 to Point/Station 20.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1925.300(Ft.)
Downstream point elevation = 1920.500(Ft.)

```
Channel length thru subarea  =   801.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     35.854(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     35.854(CFS)
Depth of flow =   0.400(Ft.), Average velocity =   1.763(Ft/s)
Channel flow top width =   51.602(Ft.)
Flow Velocity =    1.76(Ft/s)
Travel time  =    7.57 min.
Time of concentration =   28.53 min.
Critical depth =      0.250(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 77.44
Adjusted SCS curve number for AMC 3 = 92.46
Pervious ratio(Ap) = 0.9030     Max loss rate(Fm)=     0.132(In/Hr)
Rainfall intensity =      2.289(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.847
Subarea runoff =     23.001(CFS) for   14.410(Ac.)
Total runoff =     47.321(CFS)
Effective area this stream =       24.41(Ac.)
Total Study Area (Main Stream No. 1) =       24.41(Ac.)
Area averaged Fm value =    0.135(In/Hr)
Depth of flow =   0.473(Ft.), Average velocity =   1.965(Ft/s)
Critical depth =      0.301(Ft.)
End of computations, Total Study Area =           24.41 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.905
Area averaged SCS curve number =  77.2
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 21
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 21.000 to Point/Station 21.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 947.000(Ft.)
Top (of initial area) elevation = 1926.400(Ft.)
Bottom (of initial area) elevation = 1924.800(Ft.)
Difference in elevation = 1.600(Ft.)
Slope = 0.00169 s(%)= 0.17
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 27.596 min.
Rainfall intensity = 2.342(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.852
Subarea runoff = 19.727(CFS)
Total initial stream area = 9.890(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 9.89 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 22
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 22.000 to Point/Station 22.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 392.000(Ft.)
Top (of initial area) elevation = 1928.100(Ft.)
Bottom (of initial area) elevation = 1924.000(Ft.)
Difference in elevation = 4.100(Ft.)
Slope = 0.01046 s(%)= 1.05
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.467 min.
Rainfall intensity = 3.870(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.871
Subarea runoff = 12.570(CFS)
Total initial stream area = 3.730(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 3.73 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 23
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 23.000 to Point/Station 23.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 770.000(Ft.)
Top (of initial area) elevation = 1926.000(Ft.)
Bottom (of initial area) elevation = 1922.200(Ft.)
Difference in elevation = 3.800(Ft.)
Slope = 0.00494 s(%)= 0.49
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 20.502 min.
Rainfall intensity = 2.884(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.861
Subarea runoff = 24.821(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 23.100 to Point/Station 23.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1922.200(Ft.)
Downstream point elevation = 1917.200(Ft.)

```
Channel length thru subarea  =  1058.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     40.760(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     40.760(CFS)
Depth of flow =   0.464(Ft.), Average velocity =   1.724(Ft/s)
Channel flow top width =   51.857(Ft.)
Flow Velocity =    1.72(Ft/s)
Travel time  =   10.23 min.
Time of concentration =   30.73 min.
Critical depth =      0.273(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.172(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.848
Subarea runoff =     31.814(CFS) for   20.750(Ac.)
Total runoff =     56.635(CFS)
Effective area this stream =       30.75(Ac.)
Total Study Area (Main Stream No. 1) =       30.75(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.565(Ft.), Average velocity =   1.960(Ft/s)
Critical depth =      0.340(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       23.200 to Point/Station       23.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1917.200(Ft.)
Downstream point elevation =  1910.200(Ft.)
Channel length thru subarea  =  2495.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     70.377(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     70.377(CFS)
Depth of flow =   0.752(Ft.), Average velocity =   1.817(Ft/s)
Channel flow top width =   53.009(Ft.)
Flow Velocity =    1.82(Ft/s)
Travel time  =   22.89 min.
Time of concentration =   53.62 min.
Critical depth =      0.391(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.471(In/Hr) for a   100.0 year storm
```

Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.823
Subarea runoff = 27.405(CFS) for 38.660(Ac.)
Total runoff = 84.040(CFS)
Effective area this stream = 69.41(Ac.)
Total Study Area (Main Stream No. 1) = 69.41(Ac.)
Area averaged Fm value = 0.126(In/Hr)
Depth of flow = 0.836(Ft.), Average velocity = 1.945(Ft/s)
Critical depth = 0.441(Ft.)
End of computations, Total Study Area = 69.41 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 24
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.350 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 24.000 to Point/Station 24.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 66.02
Adjusted SCS curve number for AMC 3 = 83.82
Pervious ratio(Ap) = 0.9750 Max loss rate(Fm)= 0.296(In/Hr)
Initial subarea data:
Initial area flow distance = 807.000(Ft.)
Top (of initial area) elevation = 1941.900(Ft.)
Bottom (of initial area) elevation = 1938.400(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.00434 s(%)= 0.43
TC = k(0.515)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.236 min.
Rainfall intensity = 2.705(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.801
Subarea runoff = 21.675(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.975
Initial area Fm value = 0.296(In/Hr)

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Process from Point/Station 24.100 to Point/Station 24.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1938.400(Ft.)
Downstream point elevation = 1936.300(Ft.)

```
Channel length thru subarea  =  1074.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     31.505(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     31.505(CFS)
Depth of flow =   0.518(Ft.), Average velocity =   1.191(Ft/s)
Channel flow top width =   52.073(Ft.)
Flow Velocity =    1.19(Ft/s)
Travel time  =   15.03 min.
Time of concentration =   37.26 min.
Critical depth =      0.230(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 63.57
Adjusted SCS curve number for AMC 3 = 81.86
Pervious ratio(Ap) = 0.9900     Max loss rate(Fm)=     0.335(In/Hr)
Rainfall intensity =      1.884(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.746
Subarea runoff =     19.579(CFS) for   19.330(Ac.)
Total runoff =     41.254(CFS)
Effective area this stream =       29.33(Ac.)
Total Study Area (Main Stream No. 1) =       29.33(Ac.)
Area averaged Fm value =    0.322(In/Hr)
Depth of flow =   0.609(Ft.), Average velocity =   1.323(Ft/s)
Critical depth =      0.275(Ft.)


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Process from Point/Station       24.200 to Point/Station       24.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1936.300(Ft.)
Downstream point elevation =  1929.100(Ft.)
Channel length thru subarea  =  1697.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     59.017(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     59.017(CFS)
Depth of flow =   0.598(Ft.), Average velocity =   1.927(Ft/s)
Channel flow top width =   52.393(Ft.)
Flow Velocity =    1.93(Ft/s)
Travel time  =   14.68 min.
Time of concentration =   51.94 min.
Critical depth =      0.352(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.16
Adjusted SCS curve number for AMC 3 = 80.73
Pervious ratio(Ap) = 0.9990     Max loss rate(Fm)=     0.357(In/Hr)
Rainfall intensity =      1.493(In/Hr) for a   100.0 year storm
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```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.693
Subarea runoff =     35.439(CFS) for   44.740(Ac.)
Total runoff =     76.693(CFS)
Effective area this stream =       74.07(Ac.)
Total Study Area (Main Stream No. 1) =       74.07(Ac.)
Area averaged Fm value =    0.343(In/Hr)
Depth of flow =   0.700(Ft.), Average velocity =   2.132(Ft/s)
Critical depth =      0.414(Ft.)


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Process from Point/Station       24.300 to Point/Station       24.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1929.100(Ft.)
Downstream point elevation =  1921.900(Ft.)
Channel length thru subarea  =  1554.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     84.581(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     84.581(CFS)
Depth of flow =   0.723(Ft.), Average velocity =   2.275(Ft/s)
Channel flow top width =   52.891(Ft.)
Flow Velocity =    2.27(Ft/s)
Travel time  =   11.38 min.
Time of concentration =   63.33 min.
Critical depth =      0.445(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 73.58
Adjusted SCS curve number for AMC 3 = 89.86
Pervious ratio(Ap) = 0.9260     Max loss rate(Fm)=     0.180(In/Hr)
Rainfall intensity =      1.300(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.694
Subarea runoff =     15.709(CFS) for   28.390(Ac.)
Total runoff =     92.402(CFS)
Effective area this stream =      102.46(Ac.)
Total Study Area (Main Stream No. 1) =      102.46(Ac.)
Area averaged Fm value =    0.298(In/Hr)
Depth of flow =   0.762(Ft.), Average velocity =   2.354(Ft/s)
Critical depth =      0.469(Ft.)


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Process from Point/Station       24.300 to Point/Station       24.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    102.460(Ac.)
Runoff from this stream =     92.402(CFS)
Time of concentration =   63.33 min.
Rainfall intensity =     1.300(In/Hr)
Area averaged loss rate (Fm) =    0.2979(In/Hr)
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Area averaged Pervious ratio (Ap) = 0.9747


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Process from Point/Station       24.500 to Point/Station       24.600
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1940.000(Ft.)
Bottom (of initial area) elevation =  1932.200(Ft.)
Difference in elevation =     7.800(Ft.)
Slope =    0.00780  s(%)=       0.78
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   20.771 min.
Rainfall intensity =      2.837(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.860
Subarea runoff =     15.858(CFS)
Total initial stream area =        6.500(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


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Process from Point/Station       24.600 to Point/Station       24.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1932.200(Ft.)
Downstream point elevation =  1928.300(Ft.)
Channel length thru subarea  =   755.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     27.566(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     27.566(CFS)
Depth of flow =   0.358(Ft.), Average velocity =   1.520(Ft/s)
Channel flow top width =   51.431(Ft.)
Flow Velocity =    1.52(Ft/s)
Travel time  =    8.28 min.
Time of concentration =   29.05 min.
Critical depth =      0.211(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.243(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.849
Subarea runoff =     23.354(CFS) for   14.080(Ac.)
Total runoff =     39.212(CFS)
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Effective area this stream =       20.58(Ac.)
Total Study Area (Main Stream No. 1) =      123.04(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.442(Ft.), Average velocity =   1.745(Ft/s)
Critical depth =      0.266(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       24.700 to Point/Station       24.800
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1928.300(Ft.)
Downstream point elevation =  1927.300(Ft.)
Channel length thru subarea  =  1059.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     53.302(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     53.302(CFS)
Depth of flow =   0.882(Ft.), Average velocity =   1.167(Ft/s)
Channel flow top width =   53.528(Ft.)
Flow Velocity =    1.17(Ft/s)
Travel time  =   15.12 min.
Time of concentration =   44.17 min.
Critical depth =      0.328(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 74.67
Adjusted SCS curve number for AMC 3 = 90.74
Pervious ratio(Ap) = 0.9150     Max loss rate(Fm)=     0.164(In/Hr)
Rainfall intensity =      1.673(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.820
Subarea runoff =     28.099(CFS) for   28.460(Ac.)
Total runoff =     67.310(CFS)
Effective area this stream =       49.04(Ac.)
Total Study Area (Main Stream No. 1) =      151.50(Ac.)
Area averaged Fm value =    0.148(In/Hr)
Depth of flow =   1.013(Ft.), Average velocity =   1.277(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth
Critical depth =      0.383(Ft.)


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Process from Point/Station       24.800 to Point/Station       24.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1927.300(Ft.)
Downstream point elevation =  1921.900(Ft.)
Channel length thru subarea  =  1788.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     72.041(CFS)
Manning's 'N'    = 0.035
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```
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     72.041(CFS)
Depth of flow =   0.746(Ft.), Average velocity =   1.875(Ft/s)
Channel flow top width =   52.985(Ft.)
Flow Velocity =    1.87(Ft/s)
Travel time  =   15.89 min.
Time of concentration =   60.06 min.
Critical depth =      0.398(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 77.19
Adjusted SCS curve number for AMC 3 = 92.31
Pervious ratio(Ap) = 0.9050     Max loss rate(Fm)=     0.135(In/Hr)
Rainfall intensity =      1.349(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.804
Subarea runoff =      9.406(CFS) for   21.690(Ac.)
Total runoff =     76.716(CFS)
Effective area this stream =       70.73(Ac.)
Total Study Area (Main Stream No. 1) =      173.19(Ac.)
Area averaged Fm value =    0.144(In/Hr)
Depth of flow =   0.775(Ft.), Average velocity =   1.921(Ft/s)
Critical depth =      0.414(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       24.800 to Point/Station       24.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     70.730(Ac.)
Runoff from this stream =     76.716(CFS)
Time of concentration =   60.06 min.
Rainfall intensity =     1.349(In/Hr)
Area averaged loss rate (Fm) =    0.1439(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9076
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     92.40   102.460     63.33    0.298      1.300
2     76.72    70.730     60.06    0.144      1.349
Qmax(1) =
           1.000 *    1.000 *    92.402) +
           0.959 *    1.000 *    76.716) + =     165.996
Qmax(2) =
           1.049 *    0.948 *    92.402) +
           1.000 *    1.000 *    76.716) + =     168.646

Total of 2 streams to confluence:
Flow rates before confluence point:
      92.402      76.716
Maximum flow rates at confluence using above data:
      165.996      168.646
Area of streams before confluence:
      102.460       70.730
```

```
Effective area values after confluence:
      173.190      167.909
Results of confluence:
Total flow rate =    168.646(CFS)
Time of concentration =    60.062 min.
Effective stream area after confluence =    167.909(Ac.)
Study area average Pervious fraction(Ap) =  0.947
Study area average soil loss rate(Fm) =    0.235(In/Hr)
Study area total (this main stream) =     173.19(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       24.400 to Point/Station       24.900
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1921.900(Ft.)
Downstream point elevation =  1914.200(Ft.)
Channel length thru subarea  =  4942.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    183.898(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    183.898(CFS)
Depth of flow =   1.589(Ft.), Average velocity =   2.176(Ft/s)
Channel flow top width =   56.356(Ft.)
Flow Velocity =    2.18(Ft/s)
Travel time  =   37.85 min.
Time of concentration =   97.91 min.
Critical depth =      0.742(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      0.958(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.722
Subarea runoff =     30.421(CFS) for  119.870(Ac.)
Total runoff =    199.067(CFS)
Effective area this stream =      287.78(Ac.)
Total Study Area (Main Stream No. 1) =      293.06(Ac.)
Area averaged Fm value =    0.190(In/Hr)
Depth of flow =   1.666(Ft.), Average velocity =   2.241(Ft/s)
Critical depth =      0.781(Ft.)
End of computations, Total Study Area =          293.06 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.928
Area averaged SCS curve number =  73.4
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 25
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.360 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 25.000 to Point/Station 25.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 879.000(Ft.)
Top (of initial area) elevation = 1935.000(Ft.)
Bottom (of initial area) elevation = 1925.300(Ft.)
Difference in elevation = 9.700(Ft.)
Slope = 0.01104 s(%)= 1.10
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 18.404 min.
Rainfall intensity = 3.110(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.864
Subarea runoff = 26.859(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 25.100 to Point/Station 25.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1925.300(Ft.)
Downstream point elevation = 1923.000(Ft.)

```
Channel length thru subarea  =  1574.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     36.157(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     36.157(CFS)
Depth of flow =   0.614(Ft.), Average velocity =   1.150(Ft/s)
Channel flow top width =   52.456(Ft.)
Flow Velocity =    1.15(Ft/s)
Travel time  =   22.82 min.
Time of concentration =   41.22 min.
Critical depth =      0.254(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.769(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.836
Subarea runoff =     18.514(CFS) for   20.690(Ac.)
Total runoff =     45.373(CFS)
Effective area this stream =       30.69(Ac.)
Total Study Area (Main Stream No. 1) =       30.69(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.703(Ft.), Average velocity =   1.255(Ft/s)
Critical depth =      0.293(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       25.200 to Point/Station       25.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1923.000(Ft.)
Downstream point elevation =  1922.900(Ft.)
Channel length thru subarea  =  1306.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     52.901(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     52.901(CFS)
Depth of flow =   1.855(Ft.), Average velocity =   0.531(Ft/s)
Channel flow top width =   57.419(Ft.)
Flow Velocity =    0.53(Ft/s)
Travel time  =   40.99 min.
Time of concentration =   82.21 min.
Critical depth =      0.324(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.091(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.796
Subarea runoff =     14.973(CFS) for   38.800(Ac.)
Total runoff =     60.347(CFS)
Effective area this stream =       69.49(Ac.)
Total Study Area (Main Stream No. 1) =       69.49(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   2.005(Ft.), Average velocity =   0.557(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth
Critical depth =      0.355(Ft.)


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Process from Point/Station       25.300 to Point/Station       25.400
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1922.900(Ft.)
Downstream point elevation =  1916.700(Ft.)
Channel length thru subarea  =  1863.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     88.869(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     88.869(CFS)
Depth of flow =   0.822(Ft.), Average velocity =   2.094(Ft/s)
Channel flow top width =   53.287(Ft.)
Flow Velocity =    2.09(Ft/s)
Travel time  =   14.83 min.
Time of concentration =   97.04 min.
Critical depth =      0.461(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      0.971(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.783
Subarea runoff =     56.965(CFS) for   84.700(Ac.)
Total runoff =    117.312(CFS)
Effective area this stream =      154.19(Ac.)
Total Study Area (Main Stream No. 1) =      154.19(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.970(Ft.), Average velocity =   2.329(Ft/s)
Critical depth =      0.551(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       25.400 to Point/Station       25.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1916.700(Ft.)
Downstream point elevation =  1906.400(Ft.)
Channel length thru subarea  =   125.720(Ft.)
Channel base width      =   50.000(Ft.)
```

```
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    159.473(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    159.473(CFS)
Depth of flow =   0.447(Ft.), Average velocity =   7.006(Ft/s)
Channel flow top width =   51.789(Ft.)
Flow Velocity =    7.01(Ft/s)
Travel time  =    0.30 min.
Time of concentration =   97.34 min.
Critical depth =      0.672(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 70.79
Adjusted SCS curve number for AMC 3 = 87.63
Pervious ratio(Ap) = 0.9430     Max loss rate(Fm)=     0.222(In/Hr)
Rainfall intensity =      0.969(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.743
Subarea runoff =     84.234(CFS) for  125.720(Ac.)
Total runoff =    201.545(CFS)
Effective area this stream =      279.91(Ac.)
Total Study Area (Main Stream No. 1) =      279.91(Ac.)
Area averaged Fm value =    0.169(In/Hr)
Depth of flow =   0.515(Ft.), Average velocity =   7.676(Ft/s)
Critical depth =      0.789(Ft.)
End of computations, Total Study Area =          279.91 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.919
Area averaged SCS curve number =  74.8
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 26
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 26.000 to Point/Station 26.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1912.600(Ft.)
Bottom (of initial area) elevation = 1905.800(Ft.)
Difference in elevation = 6.800(Ft.)
Slope = 0.00680 s(%)= 0.68
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.348 min.
Rainfall intensity = 2.865(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.860
Subarea runoff = 11.809(CFS)
Total initial stream area = 4.790(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 26.000 to Point/Station 26.100
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 4.790(Ac.)

```
Runoff from this stream =     11.809(CFS)
Time of concentration =   21.35 min.
Rainfall intensity =     2.865(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.200 to Point/Station       26.100
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Initial subarea data:
Initial area flow distance =   694.000(Ft.)
Top (of initial area) elevation =  1906.900(Ft.)
Bottom (of initial area) elevation =  1905.800(Ft.)
Difference in elevation =     1.100(Ft.)
Slope =    0.00159  s(%)=       0.16
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.683 min.
Rainfall intensity =      2.588(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.856
Subarea runoff =     11.347(CFS)
Total initial stream area =        5.120(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.200 to Point/Station       26.100
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.120(Ac.)
Runoff from this stream =     11.347(CFS)
Time of concentration =   24.68 min.
Rainfall intensity =     2.588(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     11.81     4.790     21.35    0.126      2.865
2     11.35     5.120     24.68    0.126      2.588
Qmax(1) =
           1.000 *    1.000 *    11.809) +
           1.112 *    0.865 *    11.347) + =      22.726
Qmax(2) =
           0.899 *    1.000 *    11.809) +
           1.000 *    1.000 *    11.347) + =      21.962

Total of 2 streams to confluence:
```

```
Flow rates before confluence point:
      11.809      11.347
Maximum flow rates at confluence using above data:
       22.726       21.962
Area of streams before confluence:
        4.790        5.120
Effective area values after confluence:
        9.218        9.910
Results of confluence:
Total flow rate =     22.726(CFS)
Time of concentration =    21.348 min.
Effective stream area after confluence =      9.218(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.126(In/Hr)
Study area total (this main stream) =       9.91(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.100 to Point/Station       26.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1905.800(Ft.)
Downstream point elevation =  1904.600(Ft.)
Channel length thru subarea  =   403.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     24.842(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     24.842(CFS)
Depth of flow =   0.396(Ft.), Average velocity =   1.234(Ft/s)
Channel flow top width =   51.585(Ft.)
Flow Velocity =    1.23(Ft/s)
Travel time  =    5.44 min.
Time of concentration =   26.79 min.
Critical depth =      0.197(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.444(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.854
Subarea runoff =      4.142(CFS) for    3.660(Ac.)
Total runoff =     26.868(CFS)
Effective area this stream =       12.88(Ac.)
Total Study Area (Main Stream No. 1) =       13.57(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.415(Ft.), Average velocity =   1.273(Ft/s)
Critical depth =      0.207(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.100 to Point/Station       26.300
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
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```
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     12.878(Ac.)
Runoff from this stream =     26.868(CFS)
Time of concentration =   26.79 min.
Rainfall intensity =     2.444(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.400 to Point/Station       26.300
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Initial subarea data:
Initial area flow distance =   792.000(Ft.)
Top (of initial area) elevation =  1913.200(Ft.)
Bottom (of initial area) elevation =  1904.600(Ft.)
Difference in elevation =     8.600(Ft.)
Slope =    0.01086  s(%)=       1.09
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   17.709 min.
Rainfall intensity =      3.266(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.865
Subarea runoff =     12.348(CFS)
Total initial stream area =        4.370(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.400 to Point/Station       26.300
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.370(Ac.)
Runoff from this stream =     12.348(CFS)
Time of concentration =   17.71 min.
Rainfall intensity =     3.266(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area     TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     26.87    12.878     26.79    0.126      2.444
2     12.35     4.370     17.71    0.126      3.266
Qmax(1) =
           1.000 *    1.000 *    26.868) +
           0.738 *    1.000 *    12.348) + =      35.986
Qmax(2) =
           1.354 *    0.661 *    26.868) +
           1.000 *    1.000 *    12.348) + =      36.403
```

```
Total of 2 streams to confluence:
Flow rates before confluence point:
      26.868      12.348
Maximum flow rates at confluence using above data:
       35.986       36.403
Area of streams before confluence:
       12.878        4.370
Effective area values after confluence:
       17.248       12.883
Results of confluence:
Total flow rate =     36.403(CFS)
Time of concentration =    17.709 min.
Effective stream area after confluence =     12.883(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.126(In/Hr)
Study area total (this main stream) =      17.25(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.300 to Point/Station       26.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1904.600(Ft.)
Downstream point elevation =  1904.500(Ft.)
Channel length thru subarea  =   391.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     36.449(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     36.449(CFS)
Depth of flow =   1.037(Ft.), Average velocity =   0.675(Ft/s)
!!Warning: Water is above left or right bank elevations
Channel flow top width =   54.000(Ft.)
Flow Velocity =    0.68(Ft/s)
Travel time  =    9.65 min.
Time of concentration =   27.36 min.
Critical depth =      0.254(Ft.)
ERROR - Channel depth exceeds maximum allowable depth
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     34.965(CFS)
therefore the upstream flow rate of Q =     36.403(CFS) is being used
Rainfall intensity =      2.408(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.853
Subarea runoff =      0.000(CFS) for    4.140(Ac.)
Total runoff =     36.403(CFS)
Effective area this stream =       17.02(Ac.)
Total Study Area (Main Stream No. 1) =       22.08(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   1.036(Ft.), Average velocity =   0.675(Ft/s)
```

```
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth
Critical depth =      0.254(Ft.)


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Process from Point/Station       26.300 to Point/Station       26.500
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     17.023(Ac.)
Runoff from this stream =     36.403(CFS)
Time of concentration =   27.36 min.
Rainfall intensity =     2.408(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


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Process from Point/Station       26.600 to Point/Station       26.700
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 68.20
Adjusted SCS curve number for AMC 3 = 85.56
Pervious ratio(Ap) = 0.9520     Max loss rate(Fm)=     0.260(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1912.700(Ft.)
Bottom (of initial area) elevation =  1908.000(Ft.)
Difference in elevation =     4.700(Ft.)
Slope =    0.00470  s(%)=       0.47
TC = k(0.509)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.579 min.
Rainfall intensity =      2.673(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.812
Subarea runoff =     20.478(CFS)
Total initial stream area =        9.430(Ac.)
Pervious area fraction = 0.952
Initial area Fm value =    0.260(In/Hr)


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Process from Point/Station       26.700 to Point/Station       26.500
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1908.000(Ft.)
Downstream point elevation =  1904.500(Ft.)
Channel length thru subarea  =   534.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     20.673(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     20.673(CFS)
Depth of flow =   0.280(Ft.), Average velocity =   1.459(Ft/s)
Channel flow top width =   51.121(Ft.)
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```
Flow Velocity =    1.46(Ft/s)
Travel time  =    6.10 min.
Time of concentration =   29.68 min.
Critical depth =      0.174(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.275(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.806
Subarea runoff =      0.320(CFS) for    1.910(Ac.)
Total runoff =     20.798(CFS)
Effective area this stream =       11.34(Ac.)
Total Study Area (Main Stream No. 1) =       33.42(Ac.)
Area averaged Fm value =    0.237(In/Hr)
Depth of flow =   0.281(Ft.), Average velocity =   1.462(Ft/s)
Critical depth =      0.176(Ft.)


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Process from Point/Station       26.700 to Point/Station       26.500
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     11.340(Ac.)
Runoff from this stream =     20.798(CFS)
Time of concentration =   29.68 min.
Rainfall intensity =     2.275(In/Hr)
Area averaged loss rate (Fm) =    0.2373(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9432
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     36.40    17.023     27.36    0.126      2.408
2     20.80    11.340     29.68    0.237      2.275
Qmax(1) =
           1.000 *    1.000 *    36.403) +
           1.065 *    0.922 *    20.798) + =      56.831
Qmax(2) =
           0.942 *    1.000 *    36.403) +
           1.000 *    1.000 *    20.798) + =      55.077

Total of 2 streams to confluence:
Flow rates before confluence point:
      36.403      20.798
Maximum flow rates at confluence using above data:
       56.831       55.077
Area of streams before confluence:
       17.023       11.340
Effective area values after confluence:
       27.478       28.363
Results of confluence:
Total flow rate =     56.831(CFS)
```

```
Time of concentration =    27.363 min.
Effective stream area after confluence =     27.478(Ac.)
Study area average Pervious fraction(Ap) =  0.917
Study area average soil loss rate(Fm) =    0.171(In/Hr)
Study area total (this main stream) =      28.36(Ac.)


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Process from Point/Station       26.500 to Point/Station       26.800
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1904.500(Ft.)
Downstream point elevation =  1904.100(Ft.)
Channel length thru subarea  =   369.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     56.871(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     56.871(CFS)
Depth of flow =   0.880(Ft.), Average velocity =   1.249(Ft/s)
Channel flow top width =   53.519(Ft.)
Flow Velocity =    1.25(Ft/s)
Travel time  =    4.92 min.
Time of concentration =   32.29 min.
Critical depth =      0.340(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     53.385(CFS)
therefore the upstream flow rate of Q =     56.831(CFS) is being used
Rainfall intensity =      2.145(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.830
Subarea runoff =      0.000(CFS) for    2.510(Ac.)
Total runoff =     56.831(CFS)
Effective area this stream =       29.99(Ac.)
Total Study Area (Main Stream No. 1) =       35.93(Ac.)
Area averaged Fm value =    0.167(In/Hr)
Depth of flow =   0.879(Ft.), Average velocity =   1.248(Ft/s)
Critical depth =      0.340(Ft.)


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Process from Point/Station       26.500 to Point/Station       26.800
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     29.988(Ac.)
Runoff from this stream =     56.831(CFS)
Time of concentration =   32.29 min.
Rainfall intensity =     2.145(In/Hr)
Area averaged loss rate (Fm) =    0.1668(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9158
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Process from Point/Station       26.900 to Point/Station       26.100
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 77.76
Adjusted SCS curve number for AMC 3 = 92.66
Pervious ratio(Ap) = 0.9010     Max loss rate(Fm)=     0.129(In/Hr)
Initial subarea data:
Initial area flow distance =   755.000(Ft.)
Top (of initial area) elevation =  1911.000(Ft.)
Bottom (of initial area) elevation =  1905.600(Ft.)
Difference in elevation =     5.400(Ft.)
Slope =    0.00715  s(%)=       0.72
TC = k(0.497)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   18.896 min.
Rainfall intensity =      3.121(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.863
Subarea runoff =     26.929(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.901
Initial area Fm value =    0.129(In/Hr)


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Process from Point/Station       26.100 to Point/Station       26.800
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1905.600(Ft.)
Downstream point elevation =  1904.100(Ft.)
Channel length thru subarea  =   690.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     31.262(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     31.262(CFS)
Depth of flow =   0.500(Ft.), Average velocity =   1.227(Ft/s)
Channel flow top width =   51.999(Ft.)
Flow Velocity =    1.23(Ft/s)
Travel time  =    9.37 min.
Time of concentration =   28.27 min.
Critical depth =      0.230(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.354(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.851
Subarea runoff =      8.598(CFS) for    7.730(Ac.)
Total runoff =     35.527(CFS)
Effective area this stream =       17.73(Ac.)
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Total Study Area (Main Stream No. 1) =       53.66(Ac.)
Area averaged Fm value =    0.127(In/Hr)
Depth of flow =   0.539(Ft.), Average velocity =   1.289(Ft/s)
Critical depth =      0.250(Ft.)


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Process from Point/Station       26.100 to Point/Station       26.800
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     17.730(Ac.)
Runoff from this stream =     35.527(CFS)
Time of concentration =   28.27 min.
Rainfall intensity =     2.354(In/Hr)
Area averaged loss rate (Fm) =    0.1275(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9006
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     56.83    29.988     32.29    0.167      2.145
2     35.53    17.730     28.27    0.127      2.354
Qmax(1) =
           1.000 *    1.000 *    56.831) +
           0.906 *    1.000 *    35.527) + =      89.022
Qmax(2) =
           1.106 *    0.876 *    56.831) +
           1.000 *    1.000 *    35.527) + =      90.546

Total of 2 streams to confluence:
Flow rates before confluence point:
      56.831      35.527
Maximum flow rates at confluence using above data:
       89.022       90.546
Area of streams before confluence:
       29.988       17.730
Effective area values after confluence:
       47.718       43.986
Results of confluence:
Total flow rate =     90.546(CFS)
Time of concentration =    28.270 min.
Effective stream area after confluence =     43.986(Ac.)
Study area average Pervious fraction(Ap) =  0.910
Study area average soil loss rate(Fm) =    0.152(In/Hr)
Study area total (this main stream) =      47.72(Ac.)


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Process from Point/Station       26.800 to Point/Station       26.110
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1904.100(Ft.)
Downstream point elevation =  1902.500(Ft.)
Channel length thru subarea  =  1377.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
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Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     96.364(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     96.364(CFS)
Depth of flow =   0.928(Ft.), Average velocity =   1.351(Ft/s)
Channel flow top width =   78.714(Ft.)
Flow Velocity =    1.35(Ft/s)
Travel time  =   16.99 min.
Time of concentration =   45.26 min.
Critical depth =      0.371(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.693(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.825
Subarea runoff =     11.557(CFS) for   29.140(Ac.)
Total runoff =    102.103(CFS)
Effective area this stream =       73.13(Ac.)
Total Study Area (Main Stream No. 1) =       82.80(Ac.)
Area averaged Fm value =    0.142(In/Hr)
Depth of flow =   0.961(Ft.), Average velocity =   1.381(Ft/s)
Critical depth =      0.383(Ft.)


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Process from Point/Station       26.110 to Point/Station       26.120
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1902.500(Ft.)
Downstream point elevation =  1897.100(Ft.)
Channel length thru subarea  =  2640.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    110.918(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    110.918(CFS)
Depth of flow =   0.853(Ft.), Average velocity =   1.696(Ft/s)
Channel flow top width =   78.411(Ft.)
Flow Velocity =    1.70(Ft/s)
Travel time  =   25.95 min.
Time of concentration =   71.21 min.
Critical depth =      0.406(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.233(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.801
Subarea runoff =     17.550(CFS) for   48.020(Ac.)
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Total runoff =    119.653(CFS)
Effective area this stream =      121.15(Ac.)
Total Study Area (Main Stream No. 1) =      130.82(Ac.)
Area averaged Fm value =    0.136(In/Hr)
Depth of flow =   0.892(Ft.), Average velocity =   1.746(Ft/s)
Critical depth =      0.430(Ft.)


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Process from Point/Station       26.120 to Point/Station       26.130
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1897.100(Ft.)
Downstream point elevation =  1893.100(Ft.)
Channel length thru subarea  =  1785.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    123.915(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    123.915(CFS)
Depth of flow =   1.124(Ft.), Average velocity =   2.112(Ft/s)
!!Warning: Water is above left or right bank elevations
Channel flow top width =   54.000(Ft.)
Flow Velocity =    2.11(Ft/s)
Travel time  =   14.09 min.
Time of concentration =   85.30 min.
Critical depth =      0.570(Ft.)
ERROR - Channel depth exceeds maximum allowable depth
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.087(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.789
Subarea runoff =      8.432(CFS) for   28.210(Ac.)
Total runoff =    128.085(CFS)
Effective area this stream =      149.36(Ac.)
Total Study Area (Main Stream No. 1) =      159.03(Ac.)
Area averaged Fm value =    0.134(In/Hr)
Depth of flow =   1.145(Ft.), Average velocity =   2.140(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth
Critical depth =      0.586(Ft.)


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Process from Point/Station       26.120 to Point/Station       26.130
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    149.356(Ac.)
Runoff from this stream =    128.085(CFS)
Time of concentration =   85.30 min.
Rainfall intensity =     1.087(In/Hr)
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Area averaged loss rate (Fm) =    0.1337(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9030


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Process from Point/Station       26.140 to Point/Station       26.150
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Initial subarea data:
Initial area flow distance =   707.000(Ft.)
Top (of initial area) elevation =  1908.100(Ft.)
Bottom (of initial area) elevation =  1905.800(Ft.)
Difference in elevation =     2.300(Ft.)
Slope =    0.00325  s(%)=       0.33
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   21.536 min.
Rainfall intensity =      2.848(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.860
Subarea runoff =     20.968(CFS)
Total initial stream area =        8.560(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


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Process from Point/Station       26.150 to Point/Station       26.160
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1905.800(Ft.)
Downstream point elevation =  1901.600(Ft.)
Channel length thru subarea  =  1141.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     33.655(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     33.655(CFS)
Depth of flow =   0.446(Ft.), Average velocity =   1.483(Ft/s)
Channel flow top width =   51.784(Ft.)
Flow Velocity =    1.48(Ft/s)
Travel time  =   12.83 min.
Time of concentration =   34.36 min.
Critical depth =      0.242(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.053(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.845
Subarea runoff =     25.309(CFS) for   18.120(Ac.)
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Total runoff =     46.278(CFS)
Effective area this stream =       26.68(Ac.)
Total Study Area (Main Stream No. 1) =      185.71(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.540(Ft.), Average velocity =   1.679(Ft/s)
Critical depth =      0.297(Ft.)


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Process from Point/Station       26.160 to Point/Station       26.170
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1901.600(Ft.)
Downstream point elevation =  1896.100(Ft.)
Channel length thru subarea  =  1868.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     67.826(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     67.826(CFS)
Depth of flow =   0.725(Ft.), Average velocity =   1.818(Ft/s)
Channel flow top width =   52.901(Ft.)
Flow Velocity =    1.82(Ft/s)
Travel time  =   17.13 min.
Time of concentration =   51.49 min.
Critical depth =      0.383(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.547(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.827
Subarea runoff =     43.043(CFS) for   43.160(Ac.)
Total runoff =     89.320(CFS)
Effective area this stream =       69.84(Ac.)
Total Study Area (Main Stream No. 1) =      228.87(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.855(Ft.), Average velocity =   2.020(Ft/s)
Critical depth =      0.461(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.170 to Point/Station       26.130
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1896.100(Ft.)
Downstream point elevation =  1893.100(Ft.)
Channel length thru subarea  =  1118.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     92.277(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
```

```
Flow(q) thru subarea =     92.277(CFS)
Depth of flow =   0.896(Ft.), Average velocity =   1.988(Ft/s)
Channel flow top width =   53.585(Ft.)
Flow Velocity =    1.99(Ft/s)
Travel time  =    9.37 min.
Time of concentration =   60.86 min.
Critical depth =      0.469(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.376(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.818
Subarea runoff =      5.854(CFS) for   14.750(Ac.)
Total runoff =     95.174(CFS)
Effective area this stream =       84.59(Ac.)
Total Study Area (Main Stream No. 1) =      243.62(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.913(Ft.), Average velocity =   2.012(Ft/s)
Critical depth =      0.477(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.170 to Point/Station       26.130
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     84.590(Ac.)
Runoff from this stream =     95.174(CFS)
Time of concentration =   60.86 min.
Rainfall intensity =     1.376(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    128.09   149.356     85.30    0.134      1.087
2     95.17    84.590     60.86    0.126      1.376
Qmax(1) =
           1.000 *    1.000 *   128.085) +
           0.768 *    1.000 *    95.174) + =     201.215
Qmax(2) =
           1.304 *    0.714 *   128.085) +
           1.000 *    1.000 *    95.174) + =     214.344

Total of 2 streams to confluence:
Flow rates before confluence point:
     128.085      95.174
Maximum flow rates at confluence using above data:
      201.215      214.344
Area of streams before confluence:
      149.356       84.590
Effective area values after confluence:
```

```
      233.946      191.165
Results of confluence:
Total flow rate =    214.344(CFS)
Time of concentration =    60.865 min.
Effective stream area after confluence =    191.165(Ac.)
Study area average Pervious fraction(Ap) =  0.902
Study area average soil loss rate(Fm) =    0.131(In/Hr)
Study area total (this main stream) =     233.95(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.130 to Point/Station       26.180
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.100(Ft.)
Downstream point elevation =  1890.700(Ft.)
Channel length thru subarea  =  2434.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    214.373(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    214.373(CFS)
Depth of flow =   1.572(Ft.), Average velocity =   1.745(Ft/s)
Channel flow top width =   81.288(Ft.)
Flow Velocity =    1.75(Ft/s)
Travel time  =   23.25 min.
Time of concentration =   84.11 min.
Critical depth =      0.633(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    189.723(CFS)
therefore the upstream flow rate of Q =    214.344(CFS) is being used
Rainfall intensity =      1.097(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.793
Subarea runoff =      0.000(CFS) for   26.840(Ac.)
Total runoff =    214.344(CFS)
Effective area this stream =      218.00(Ac.)
Total Study Area (Main Stream No. 1) =      270.46(Ac.)
Area averaged Fm value =    0.130(In/Hr)
Depth of flow =   1.572(Ft.), Average velocity =   1.745(Ft/s)
Critical depth =      0.633(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.130 to Point/Station       26.180
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    218.005(Ac.)
Runoff from this stream =    214.344(CFS)
Time of concentration =   84.11 min.
```

```
Rainfall intensity =     1.097(In/Hr)
Area averaged loss rate (Fm) =    0.1303(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9017


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.190 to Point/Station       26.200
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Initial subarea data:
Initial area flow distance =   967.000(Ft.)
Top (of initial area) elevation =  1900.300(Ft.)
Bottom (of initial area) elevation =  1894.200(Ft.)
Difference in elevation =     6.100(Ft.)
Slope =    0.00631  s(%)=       0.63
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   21.382 min.
Rainfall intensity =      2.862(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.860
Subarea runoff =     18.912(CFS)
Total initial stream area =        7.680(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


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Process from Point/Station       26.200 to Point/Station       26.210
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1894.200(Ft.)
Downstream point elevation =  1890.800(Ft.)
Channel length thru subarea  =  1041.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     33.565(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     33.565(CFS)
Depth of flow =   0.462(Ft.), Average velocity =   1.428(Ft/s)
Channel flow top width =   51.846(Ft.)
Flow Velocity =    1.43(Ft/s)
Travel time  =   12.15 min.
Time of concentration =   33.53 min.
Critical depth =      0.240(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.089(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.846
```

```
Subarea runoff =     29.243(CFS) for   19.580(Ac.)
Total runoff =     48.155(CFS)
Effective area this stream =       27.26(Ac.)
Total Study Area (Main Stream No. 1) =      297.72(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.573(Ft.), Average velocity =   1.643(Ft/s)
Critical depth =      0.305(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.210 to Point/Station       26.180
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1890.800(Ft.)
Downstream point elevation =  1890.700(Ft.)
Channel length thru subarea  =  1444.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     48.199(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     48.199(CFS)
Depth of flow =   1.425(Ft.), Average velocity =   0.434(Ft/s)
Channel flow top width =   80.701(Ft.)
Flow Velocity =    0.43(Ft/s)
Travel time  =   55.40 min.
Time of concentration =   88.93 min.
Critical depth =      0.234(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     44.152(CFS)
therefore the upstream flow rate of Q =     48.155(CFS) is being used
Rainfall intensity =      1.055(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.793
Subarea runoff =      0.000(CFS) for   25.530(Ac.)
Total runoff =     48.155(CFS)
Effective area this stream =       52.79(Ac.)
Total Study Area (Main Stream No. 1) =      323.25(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   1.424(Ft.), Average velocity =   0.434(Ft/s)
Critical depth =      0.234(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.210 to Point/Station       26.180
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     52.790(Ac.)
Runoff from this stream =     48.155(CFS)
Time of concentration =   88.93 min.
Rainfall intensity =     1.055(In/Hr)
```

```
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    214.34   218.005     84.11    0.130      1.097
2     48.15    52.790     88.93    0.126      1.055
Qmax(1) =
           1.000 *    1.000 *   214.344) +
           1.045 *    0.946 *    48.155) + =     261.946
Qmax(2) =
           0.957 *    1.000 *   214.344) +
           1.000 *    1.000 *    48.155) + =     253.194

Total of 2 streams to confluence:
Flow rates before confluence point:
     214.344      48.155
Maximum flow rates at confluence using above data:
      261.946      253.194
Area of streams before confluence:
      218.005       52.790
Effective area values after confluence:
      267.933      270.795
Results of confluence:
Total flow rate =    261.946(CFS)
Time of concentration =    84.111 min.
Effective stream area after confluence =    267.933(Ac.)
Study area average Pervious fraction(Ap) =  0.901
Study area average soil loss rate(Fm) =    0.129(In/Hr)
Study area total (this main stream) =     270.79(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       26.180 to Point/Station       26.220
**** IMPROVED CHANNEL TRAVEL TIME ****
____________________________________________________________________________
Upstream point elevation =  1890.700(Ft.)
Downstream point elevation =  1887.200(Ft.)
Channel length thru subarea  =  1942.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    261.982(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    261.982(CFS)
Depth of flow =   1.480(Ft.), Average velocity =   2.270(Ft/s)
Channel flow top width =   80.920(Ft.)
Flow Velocity =    2.27(Ft/s)
Travel time  =   14.26 min.
Time of concentration =   98.37 min.
Critical depth =      0.719(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 75.97
```

```
Adjusted SCS curve number for AMC 3 = 91.58
Pervious ratio(Ap) = 0.9130     Max loss rate(Fm)=     0.149(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    220.040(CFS)
therefore the upstream flow rate of Q =    261.946(CFS) is being used
Rainfall intensity =      0.983(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.780
Subarea runoff =      0.000(CFS) for   18.810(Ac.)
Total runoff =    261.946(CFS)
Effective area this stream =      286.74(Ac.)
Total Study Area (Main Stream No. 1) =      342.06(Ac.)
Area averaged Fm value =    0.131(In/Hr)
Depth of flow =   1.480(Ft.), Average velocity =   2.270(Ft/s)
Critical depth =      0.719(Ft.)
End of computations, Total Study Area =          342.06 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.902
Area averaged SCS curve number =  77.6
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 27
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.380 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 27.000 to Point/Station 27.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 424.000(Ft.)
Top (of initial area) elevation = 1908.100(Ft.)
Bottom (of initial area) elevation = 1906.000(Ft.)
Difference in elevation = 2.100(Ft.)
Slope = 0.00495 s(%)= 0.50
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 16.138 min.
Rainfall intensity = 3.460(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.867
Subarea runoff = 18.454(CFS)
Total initial stream area = 6.150(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)
End of computations, Total Study Area = 6.15 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 78.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 28
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 28.000 to Point/Station 28.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 752.000(Ft.)
Top (of initial area) elevation = 1892.100(Ft.)
Bottom (of initial area) elevation = 1890.100(Ft.)
Difference in elevation = 2.000(Ft.)
Slope = 0.00266 s(%)= 0.27
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.982 min.
Rainfall intensity = 2.721(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.858
Subarea runoff = 23.356(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 28.100 to Point/Station 28.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1890.100(Ft.)
Downstream point elevation = 1887.500(Ft.)

Channel length thru subarea = 1206.000(Ft.)
Channel base width = 50.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Estimated mean flow rate at midpoint of channel = 25.028(CFS)
Manning's 'N' = 0.035
Maximum depth of channel = 1.000(Ft.)
Flow(q) thru subarea = 25.028(CFS)
Depth of flow = 0.438(Ft.), Average velocity = 1.122(Ft/s)
Channel flow top width = 51.754(Ft.)
Flow Velocity = 1.12(Ft/s)
Travel time = 17.92 min.
Time of concentration = 40.90 min.
Critical depth = 0.197(Ft.)
Adding area flow to channel
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Rainfall intensity = 1.818(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.838
Subarea runoff = 3.258(CFS) for 7.480(Ac.)
Total runoff = 26.614(CFS)
Effective area this stream = 17.48(Ac.)
Total Study Area (Main Stream No. 1) = 17.48(Ac.)
Area averaged Fm value = 0.126(In/Hr)
Depth of flow = 0.455(Ft.), Average velocity = 1.149(Ft/s)
Critical depth = 0.207(Ft.)

++
Process from Point/Station 28.100 to Point/Station 28.200
**** CONFLUENCE OF MINOR STREAMS ****
_____
Along Main Stream number: 1 in normal stream number 1
Stream flow area = 17.480(Ac.)
Runoff from this stream = 26.614(CFS)
Time of concentration = 40.90 min.
Rainfall intensity = 1.818(In/Hr)
Area averaged loss rate (Fm) = 0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000

++
Process from Point/Station 28.300 to Point/Station 28.400
**** INITIAL AREA EVALUATION ****
_____
Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 752.000(Ft.)
Top (of initial area) elevation = 1890.900(Ft.)
Bottom (of initial area) elevation = 1887.600(Ft.)
Difference in elevation = 3.300(Ft.)

```
Slope =    0.00439  s(%)=       0.44
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   20.792 min.
Rainfall intensity =      2.919(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.861
Subarea runoff =     25.134(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.126(In/Hr)


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Process from Point/Station       28.400 to Point/Station       28.200
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1887.600(Ft.)
Downstream point elevation =  1887.500(Ft.)
Channel length thru subarea  =   578.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     27.339(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     27.339(CFS)
Depth of flow =   0.983(Ft.), Average velocity =   0.535(Ft/s)
Channel flow top width =   53.931(Ft.)
Flow Velocity =    0.54(Ft/s)
Travel time  =   17.99 min.
Time of concentration =   38.78 min.
Critical depth =      0.211(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      1.887(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.840
Subarea runoff =      4.352(CFS) for    8.610(Ac.)
Total runoff =     29.487(CFS)
Effective area this stream =       18.61(Ac.)
Total Study Area (Main Stream No. 1) =       36.09(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   1.027(Ft.), Average velocity =   0.552(Ft/s)
!!Warning: Water is above left or right bank elevations
ERROR - Channel depth exceeds maximum allowable depth
Critical depth =      0.221(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       28.400 to Point/Station       28.200
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     18.610(Ac.)
Runoff from this stream =     29.487(CFS)
Time of concentration =   38.78 min.
```

```
Rainfall intensity =     1.887(In/Hr)
Area averaged loss rate (Fm) =    0.1260(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     26.61    17.480     40.90    0.126      1.818
2     29.49    18.610     38.78    0.126      1.887
Qmax(1) =
           1.000 *    1.000 *    26.614) +
           0.961 *    1.000 *    29.487) + =      54.948
Qmax(2) =
           1.041 *    0.948 *    26.614) +
           1.000 *    1.000 *    29.487) + =      55.751

Total of 2 streams to confluence:
Flow rates before confluence point:
      26.614      29.487
Maximum flow rates at confluence using above data:
       54.948       55.751
Area of streams before confluence:
       17.480       18.610
Effective area values after confluence:
       36.090       35.187
Results of confluence:
Total flow rate =     55.751(CFS)
Time of concentration =    38.784 min.
Effective stream area after confluence =     35.187(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.126(In/Hr)
Study area total (this main stream) =      36.09(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       28.200 to Point/Station       28.500
**** IMPROVED CHANNEL TRAVEL TIME ****
____________________________________________________________________________
Upstream point elevation =  1887.500(Ft.)
Downstream point elevation =  1884.400(Ft.)
Channel length thru subarea  =  1132.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     67.553(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     67.553(CFS)
Depth of flow =   0.739(Ft.), Average velocity =   1.775(Ft/s)
Channel flow top width =   52.957(Ft.)
Flow Velocity =    1.77(Ft/s)
Travel time  =   10.63 min.
Time of concentration =   49.41 min.
Critical depth =      0.383(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
```

```
SCS curve number for soil(AMC 2)  = 75.80
Adjusted SCS curve number for AMC 3 = 91.48
Pervious ratio(Ap) = 0.9110     Max loss rate(Fm)=     0.150(In/Hr)
Rainfall intensity =      1.592(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.823
Subarea runoff =     23.520(CFS) for   25.300(Ac.)
Total runoff =     79.271(CFS)
Effective area this stream =       60.49(Ac.)
Total Study Area (Main Stream No. 1) =       61.39(Ac.)
Area averaged Fm value =    0.136(In/Hr)
Depth of flow =   0.813(Ft.), Average velocity =   1.887(Ft/s)
Critical depth =      0.426(Ft.)
End of computations, Total Study Area =           61.39 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.905
Area averaged SCS curve number =  77.1
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 29
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 29.000 to Point/Station 29.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.126(In/Hr)
Initial subarea data:
Initial area flow distance = 776.000(Ft.)
Top (of initial area) elevation = 1889.000(Ft.)
Bottom (of initial area) elevation = 1887.500(Ft.)
Difference in elevation = 1.500(Ft.)
Slope = 0.00193 s(%)= 0.19
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.807 min.
Rainfall intensity = 2.579(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.856
Subarea runoff = 22.081(CFS)
Total initial stream area = 10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.126(In/Hr)

++

Process from Point/Station 29.100 to Point/Station 29.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1887.500(Ft.)
Downstream point elevation = 1886.400(Ft.)

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Channel length thru subarea  =   413.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     25.522(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.522(CFS)
Depth of flow =   0.416(Ft.), Average velocity =   1.206(Ft/s)
Channel flow top width =   51.666(Ft.)
Flow Velocity =    1.21(Ft/s)
Travel time  =    5.71 min.
Time of concentration =   30.52 min.
Critical depth =      0.199(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.00
Adjusted SCS curve number for AMC 3 = 92.80
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.126(In/Hr)
Rainfall intensity =      2.231(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.849
Subarea runoff =      6.795(CFS) for    5.240(Ac.)
Total runoff =     28.876(CFS)
Effective area this stream =       15.24(Ac.)
Total Study Area (Main Stream No. 1) =       15.24(Ac.)
Area averaged Fm value =    0.126(In/Hr)
Depth of flow =   0.448(Ft.), Average velocity =   1.265(Ft/s)
Critical depth =      0.219(Ft.)
End of computations, Total Study Area =           15.24 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  78.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 30
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 30.000 to Point/Station 30.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.04
Adjusted SCS curve number for AMC 3 = 96.42
Pervious ratio(Ap) = 0.7790 Max loss rate(Fm)= 0.055(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1902.900(Ft.)
Bottom (of initial area) elevation = 1896.400(Ft.)
Difference in elevation = 6.500(Ft.)
Slope = 0.00650 s(%)= 0.65
TC = k(0.467)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 20.247 min.
Rainfall intensity = 2.995(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.883
Subarea runoff = 19.289(CFS)
Total initial stream area = 7.290(Ac.)
Pervious area fraction = 0.779
Initial area Fm value = 0.055(In/Hr)

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Process from Point/Station 30.100 to Point/Station 30.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1896.400(Ft.)
Downstream point elevation = 1893.000(Ft.)

```
Channel length thru subarea  =  1043.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     29.927(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     29.927(CFS)
Depth of flow =   0.431(Ft.), Average velocity =   1.365(Ft/s)
Channel flow top width =   51.725(Ft.)
Flow Velocity =    1.36(Ft/s)
Travel time  =   12.74 min.
Time of concentration =   32.99 min.
Critical depth =      0.223(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 89.51
Adjusted SCS curve number for AMC 3 = 97.90
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.037(In/Hr)
Rainfall intensity =      2.128(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.882
Subarea runoff =     21.220(CFS) for   14.300(Ac.)
Total runoff =     40.509(CFS)
Effective area this stream =       21.59(Ac.)
Total Study Area (Main Stream No. 1) =       21.59(Ac.)
Area averaged Fm value =    0.043(In/Hr)
Depth of flow =   0.517(Ft.), Average velocity =   1.536(Ft/s)
Critical depth =      0.273(Ft.)


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Process from Point/Station       30.200 to Point/Station       30.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.000(Ft.)
Downstream point elevation =  1891.100(Ft.)
Channel length thru subarea  =  1163.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     58.344(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     58.344(CFS)
Depth of flow =   0.790(Ft.), Average velocity =   1.431(Ft/s)
Channel flow top width =   53.162(Ft.)
Flow Velocity =    1.43(Ft/s)
Travel time  =   13.54 min.
Time of concentration =   46.53 min.
Critical depth =      0.348(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 88.11
Adjusted SCS curve number for AMC 3 = 97.62
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.042(In/Hr)
Rainfall intensity =      1.673(In/Hr) for a   100.0 year storm
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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.877
Subarea runoff =     35.608(CFS) for   30.300(Ac.)
Total runoff =     76.117(CFS)
Effective area this stream =       51.89(Ac.)
Total Study Area (Main Stream No. 1) =       51.89(Ac.)
Area averaged Fm value =    0.043(In/Hr)
Depth of flow =   0.926(Ft.), Average velocity =   1.585(Ft/s)
Critical depth =      0.414(Ft.)


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Process from Point/Station       30.300 to Point/Station       30.400
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1891.100(Ft.)
Downstream point elevation =  1886.000(Ft.)
Channel length thru subarea  =  2235.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    116.208(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    116.208(CFS)
Depth of flow =   1.079(Ft.), Average velocity =   2.064(Ft/s)
Channel flow top width =   54.317(Ft.)
Flow Velocity =    2.06(Ft/s)
Travel time  =   18.05 min.
Time of concentration =   64.58 min.
Critical depth =      0.547(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 87.52
Adjusted SCS curve number for AMC 3 = 97.50
Pervious ratio(Ap) = 0.9020     Max loss rate(Fm)=     0.045(In/Hr)
Rainfall intensity =      1.330(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.870
Subarea runoff =     80.117(CFS) for   83.110(Ac.)
Total runoff =    156.235(CFS)
Effective area this stream =      135.00(Ac.)
Total Study Area (Main Stream No. 1) =      135.00(Ac.)
Area averaged Fm value =    0.044(In/Hr)
Depth of flow =   1.288(Ft.), Average velocity =   2.308(Ft/s)
Critical depth =      0.664(Ft.)
End of computations, Total Study Area =          135.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.895
Area averaged SCS curve number =  87.7
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 31
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 31.000 to Point/Station 31.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.6700 Max loss rate(Fm)= 0.241(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1924.300(Ft.)
Bottom (of initial area) elevation = 1920.600(Ft.)
Difference in elevation = 3.700(Ft.)
Slope = 0.00370 s(%)= 0.37
TC = k(0.440)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.357 min.
Rainfall intensity = 2.885(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.825
Subarea runoff = 12.470(CFS)
Total initial stream area = 5.240(Ac.)
Pervious area fraction = 0.670
Initial area Fm value = 0.241(In/Hr)

++

Process from Point/Station 31.100 to Point/Station 31.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1920.600(Ft.)
Downstream point elevation = 1917.400(Ft.)

```
Channel length thru subarea  =   991.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     18.806(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     18.806(CFS)
Depth of flow =   0.327(Ft.), Average velocity =   1.134(Ft/s)
Channel flow top width =   51.310(Ft.)
Flow Velocity =    1.13(Ft/s)
Travel time  =   14.57 min.
Time of concentration =   35.92 min.
Critical depth =      0.164(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.8450     Max loss rate(Fm)=     0.304(In/Hr)
Rainfall intensity =      2.005(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.773
Subarea runoff =     12.582(CFS) for   10.930(Ac.)
Total runoff =     25.052(CFS)
Effective area this stream =       16.17(Ac.)
Total Study Area (Main Stream No. 1) =       16.17(Ac.)
Area averaged Fm value =    0.283(In/Hr)
Depth of flow =   0.389(Ft.), Average velocity =   1.269(Ft/s)
Critical depth =      0.197(Ft.)


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Process from Point/Station       31.200 to Point/Station       31.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1917.400(Ft.)
Downstream point elevation =  1915.800(Ft.)
Channel length thru subarea  =   862.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     34.622(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     34.622(CFS)
Depth of flow =   0.557(Ft.), Average velocity =   1.216(Ft/s)
Channel flow top width =   52.227(Ft.)
Flow Velocity =    1.22(Ft/s)
Travel time  =   11.81 min.
Time of concentration =   47.73 min.
Critical depth =      0.246(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9670     Max loss rate(Fm)=     0.348(In/Hr)
Rainfall intensity =      1.643(In/Hr) for a   100.0 year storm
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```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.725
Subarea runoff =     19.067(CFS) for   20.870(Ac.)
Total runoff =     44.118(CFS)
Effective area this stream =       37.04(Ac.)
Total Study Area (Main Stream No. 1) =       37.04(Ac.)
Area averaged Fm value =    0.320(In/Hr)
Depth of flow =   0.644(Ft.), Average velocity =   1.336(Ft/s)
Critical depth =      0.289(Ft.)


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Process from Point/Station       31.300 to Point/Station       31.400
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1915.800(Ft.)
Downstream point elevation =  1914.700(Ft.)
Channel length thru subarea  =  1062.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     58.278(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =     58.278(CFS)
Depth of flow =   0.905(Ft.), Average velocity =   1.243(Ft/s)
Channel flow top width =   53.620(Ft.)
Flow Velocity =    1.24(Ft/s)
Travel time  =   14.24 min.
Time of concentration =   61.97 min.
Critical depth =      0.348(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9750     Max loss rate(Fm)=     0.351(In/Hr)
Rainfall intensity =      1.369(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.679
Subarea runoff =     28.262(CFS) for   40.830(Ac.)
Total runoff =     72.380(CFS)
Effective area this stream =       77.87(Ac.)
Total Study Area (Main Stream No. 1) =       77.87(Ac.)
Area averaged Fm value =    0.336(In/Hr)
Depth of flow =   1.030(Ft.), Average velocity =   1.350(Ft/s)
Critical depth =      0.398(Ft.)


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Process from Point/Station       31.400 to Point/Station       31.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1914.700(Ft.)
Downstream point elevation =  1905.300(Ft.)
Channel length thru subarea  =  3431.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
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Estimated mean flow rate at midpoint of channel =     88.611(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     88.611(CFS)
Depth of flow =   0.869(Ft.), Average velocity =   1.970(Ft/s)
Channel flow top width =   53.477(Ft.)
Flow Velocity =    1.97(Ft/s)
Travel time  =   29.03 min.
Time of concentration =   91.00 min.
Critical depth =      0.457(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 68.38
Adjusted SCS curve number for AMC 3 = 85.70
Pervious ratio(Ap) = 0.9280     Max loss rate(Fm)=     0.251(In/Hr)
Rainfall intensity =      1.046(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.647
Subarea runoff =     32.393(CFS) for   76.880(Ac.)
Total runoff =    104.773(CFS)
Effective area this stream =      154.75(Ac.)
Total Study Area (Main Stream No. 1) =      154.75(Ac.)
Area averaged Fm value =    0.294(In/Hr)
Depth of flow =   0.961(Ft.), Average velocity =   2.100(Ft/s)
Critical depth =      0.512(Ft.)


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Process from Point/Station       31.500 to Point/Station       31.600
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1905.300(Ft.)
Downstream point elevation =  1892.300(Ft.)
Channel length thru subarea  =  5186.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    139.723(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    139.723(CFS)
Depth of flow =   1.171(Ft.), Average velocity =   2.279(Ft/s)
Channel flow top width =   54.686(Ft.)
Flow Velocity =    2.28(Ft/s)
Travel time  =   37.93 min.
Time of concentration =  128.93 min.
Critical depth =      0.617(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 80.26
Adjusted SCS curve number for AMC 3 = 94.16
Pervious ratio(Ap) = 0.8930     Max loss rate(Fm)=     0.102(In/Hr)
Rainfall intensity =      0.820(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.683
Subarea runoff =     69.838(CFS) for  156.960(Ac.)
Total runoff =    174.611(CFS)
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Effective area this stream =      311.71(Ac.)
Total Study Area (Main Stream No. 1) =      311.71(Ac.)
Area averaged Fm value =    0.197(In/Hr)
Depth of flow =   1.338(Ft.), Average velocity =   2.478(Ft/s)
Critical depth =      0.719(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.600 to Point/Station       31.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1892.300(Ft.)
Downstream point elevation =  1886.800(Ft.)
Channel length thru subarea  =  2516.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    177.923(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    177.923(CFS)
Depth of flow =   1.409(Ft.), Average velocity =   2.391(Ft/s)
Channel flow top width =   55.636(Ft.)
Flow Velocity =    2.39(Ft/s)
Travel time  =   17.54 min.
Time of concentration =  146.47 min.
Critical depth =      0.727(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 73.90
Adjusted SCS curve number for AMC 3 = 90.12
Pervious ratio(Ap) = 0.9050     Max loss rate(Fm)=     0.172(In/Hr)
Rainfall intensity =      0.750(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.667
Subarea runoff =      6.526(CFS) for   50.340(Ac.)
Total runoff =    181.137(CFS)
Effective area this stream =      362.05(Ac.)
Total Study Area (Main Stream No. 1) =      362.05(Ac.)
Area averaged Fm value =    0.194(In/Hr)
Depth of flow =   1.424(Ft.), Average velocity =   2.407(Ft/s)
Critical depth =      0.734(Ft.)


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Process from Point/Station       31.600 to Point/Station       31.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    362.050(Ac.)
Runoff from this stream =    181.137(CFS)
Time of concentration =  146.47 min.
Rainfall intensity =     0.750(In/Hr)
Area averaged loss rate (Fm) =    0.1937(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9109


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Process from Point/Station       31.800 to Point/Station       31.900
**** INITIAL AREA EVALUATION ****
----------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.94
Adjusted SCS curve number for AMC 3 = 96.96
Pervious ratio(Ap) = 0.9390     Max loss rate(Fm)=     0.056(In/Hr)
Initial subarea data:
Initial area flow distance =   548.000(Ft.)
Top (of initial area) elevation =  1911.900(Ft.)
Bottom (of initial area) elevation =  1909.900(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00365  s(%)=       0.36
TC = k(0.506)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   19.376 min.
Rainfall intensity =      3.089(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.884
Subarea runoff =     27.290(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.939
Initial area Fm value =    0.056(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.900 to Point/Station       31.100
**** IMPROVED CHANNEL TRAVEL TIME ****
----------------------------------------------------------------------------
Upstream point elevation =  1909.900(Ft.)
Downstream point elevation =  1906.600(Ft.)
Channel length thru subarea  =  1333.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     41.856(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     41.856(CFS)
Depth of flow =   0.572(Ft.), Average velocity =   1.430(Ft/s)
Channel flow top width =   52.289(Ft.)
Flow Velocity =    1.43(Ft/s)
Travel time  =   15.54 min.
Time of concentration =   34.91 min.
Critical depth =      0.277(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 88.41
Adjusted SCS curve number for AMC 3 = 97.68
Pervious ratio(Ap) = 0.9040     Max loss rate(Fm)=     0.042(In/Hr)
Rainfall intensity =      2.045(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.880
Subarea runoff =     29.076(CFS) for   21.330(Ac.)
Total runoff =     56.365(CFS)
Effective area this stream =       31.33(Ac.)
Total Study Area (Main Stream No. 1) =      393.38(Ac.)
Area averaged Fm value =    0.046(In/Hr)
Depth of flow =   0.684(Ft.), Average velocity =   1.605(Ft/s)
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Critical depth =      0.340(Ft.)


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Process from Point/Station       31.100 to Point/Station       31.110
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1906.600(Ft.)
Downstream point elevation =  1902.700(Ft.)
Channel length thru subarea  =  1835.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     72.993(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     72.993(CFS)
Depth of flow =   0.835(Ft.), Average velocity =   1.691(Ft/s)
Channel flow top width =   53.341(Ft.)
Flow Velocity =    1.69(Ft/s)
Travel time  =   18.08 min.
Time of concentration =   53.00 min.
Critical depth =      0.402(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 75.74
Adjusted SCS curve number for AMC 3 = 91.44
Pervious ratio(Ap) = 0.8990     Max loss rate(Fm)=     0.149(In/Hr)
Rainfall intensity =      1.527(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.839
Subarea runoff =     33.197(CFS) for   38.540(Ac.)
Total runoff =     89.562(CFS)
Effective area this stream =       69.87(Ac.)
Total Study Area (Main Stream No. 1) =      431.92(Ac.)
Area averaged Fm value =    0.103(In/Hr)
Depth of flow =   0.944(Ft.), Average velocity =   1.829(Ft/s)
Critical depth =      0.461(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.110 to Point/Station       31.120
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1902.700(Ft.)
Downstream point elevation =  1893.600(Ft.)
Channel length thru subarea  =  3382.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    113.502(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    113.502(CFS)
Depth of flow =   1.013(Ft.), Average velocity =   2.153(Ft/s)
Channel flow top width =   54.053(Ft.)
Flow Velocity =    2.15(Ft/s)
Travel time  =   26.18 min.
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Time of concentration =   79.17 min.
Critical depth =      0.539(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 62.02
Adjusted SCS curve number for AMC 3 = 80.62
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.323(In/Hr)
Rainfall intensity =      1.153(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.720
Subarea runoff =     47.811(CFS) for   95.540(Ac.)
Total runoff =    137.374(CFS)
Effective area this stream =      165.41(Ac.)
Total Study Area (Main Stream No. 1) =      527.46(Ac.)
Area averaged Fm value =    0.230(In/Hr)
Depth of flow =   1.135(Ft.), Average velocity =   2.315(Ft/s)
Critical depth =      0.609(Ft.)


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Process from Point/Station       31.120 to Point/Station       31.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.600(Ft.)
Downstream point elevation =  1886.800(Ft.)
Channel length thru subarea  =  2737.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    149.021(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    149.021(CFS)
Depth of flow =   1.220(Ft.), Average velocity =   2.328(Ft/s)
Channel flow top width =   54.882(Ft.)
Flow Velocity =    2.33(Ft/s)
Travel time  =   19.59 min.
Time of concentration =   98.77 min.
Critical depth =      0.648(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 78.28
Adjusted SCS curve number for AMC 3 = 92.97
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.123(In/Hr)
Rainfall intensity =      0.988(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.717
Subarea runoff =     23.223(CFS) for   61.480(Ac.)
Total runoff =    160.597(CFS)
Effective area this stream =      226.89(Ac.)
Total Study Area (Main Stream No. 1) =      588.94(Ac.)
Area averaged Fm value =    0.201(In/Hr)
Depth of flow =   1.276(Ft.), Average velocity =   2.395(Ft/s)
Critical depth =      0.680(Ft.)


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Process from Point/Station       31.120 to Point/Station       31.700
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =    226.890(Ac.)
Runoff from this stream =    160.597(CFS)
Time of concentration =   98.77 min.
Rainfall intensity =     0.988(In/Hr)
Area averaged loss rate (Fm) =    0.2012(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9019
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    181.14   362.050    146.47    0.194      0.750
2    160.60   226.890     98.77    0.201      0.988
Qmax(1) =
           1.000 *    1.000 *   181.137) +
           0.697 *    1.000 *   160.597) + =     293.117
Qmax(2) =
           1.428 *    0.674 *   181.137) +
           1.000 *    1.000 *   160.597) + =     335.055

Total of 2 streams to confluence:
Flow rates before confluence point:
     181.137     160.597
Maximum flow rates at confluence using above data:
      293.117      335.055
Area of streams before confluence:
      362.050      226.890
Effective area values after confluence:
      588.940      471.029
Results of confluence:
Total flow rate =    335.055(CFS)
Time of concentration =    98.766 min.
Effective stream area after confluence =    471.029(Ac.)
Study area average Pervious fraction(Ap) =  0.907
Study area average soil loss rate(Fm) =    0.197(In/Hr)
Study area total (this main stream) =     588.94(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.700 to Point/Station       31.130
**** IMPROVED CHANNEL TRAVEL TIME ****
____________________________________________________________________________
Upstream point elevation =  1886.800(Ft.)
Downstream point elevation =  1880.800(Ft.)
Channel length thru subarea  =  3029.000(Ft.)
Channel base width      =   75.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    335.087(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    335.087(CFS)
Depth of flow =   1.667(Ft.), Average velocity =   2.567(Ft/s)
Channel flow top width =   81.666(Ft.)
```

```
Flow Velocity =    2.57(Ft/s)
Travel time  =   19.67 min.
Time of concentration =  118.43 min.
Critical depth =      0.844(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 89.95
Adjusted SCS curve number for AMC 3 = 97.99
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.036(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    319.853(CFS)
therefore the upstream flow rate of Q =    335.055(CFS) is being used
Rainfall intensity =      0.870(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.711
Subarea runoff =      0.000(CFS) for   45.930(Ac.)
Total runoff =    335.055(CFS)
Effective area this stream =      516.96(Ac.)
Total Study Area (Main Stream No. 1) =      634.87(Ac.)
Area averaged Fm value =    0.182(In/Hr)
Depth of flow =   1.666(Ft.), Average velocity =   2.567(Ft/s)
Critical depth =      0.844(Ft.)
End of computations, Total Study Area =          634.87 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.907
Area averaged SCS curve number =  73.9
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 32
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 32.000 to Point/Station 32.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1891.900(Ft.)
Bottom (of initial area) elevation = 1884.700(Ft.)
Difference in elevation = 7.200(Ft.)
Slope = 0.00720 s(%)= 0.72
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.106 min.
Rainfall intensity = 2.888(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.890
Subarea runoff = 23.751(CFS)
Total initial stream area = 9.240(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)

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Process from Point/Station 32.100 to Point/Station 32.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1884.700(Ft.)
Downstream point elevation = 1879.600(Ft.)

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Channel length thru subarea  =  1520.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     32.163(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     32.163(CFS)
Depth of flow =   0.446(Ft.), Average velocity =   1.416(Ft/s)
Channel flow top width =   51.785(Ft.)
Flow Velocity =    1.42(Ft/s)
Travel time  =   17.89 min.
Time of concentration =   39.00 min.
Critical depth =      0.234(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.879(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.885
Subarea runoff =     16.745(CFS) for   15.120(Ac.)
Total runoff =     40.496(CFS)
Effective area this stream =       24.36(Ac.)
Total Study Area (Main Stream No. 1) =       24.36(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.512(Ft.), Average velocity =   1.549(Ft/s)
Critical depth =      0.273(Ft.)
End of computations, Total Study Area =           24.36 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  91.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 33
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 33.000 to Point/Station 33.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1892.300(Ft.)
Bottom (of initial area) elevation = 1885.700(Ft.)
Difference in elevation = 6.600(Ft.)
Slope = 0.00660 s(%)= 0.66
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 21.476 min.
Rainfall intensity = 2.853(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.890
Subarea runoff = 14.726(CFS)
Total initial stream area = 5.800(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)

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Process from Point/Station 33.100 to Point/Station 33.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1885.700(Ft.)
Downstream point elevation = 1883.700(Ft.)

```
Channel length thru subarea  =   819.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     23.890(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     23.890(CFS)
Depth of flow =   0.411(Ft.), Average velocity =   1.144(Ft/s)
Channel flow top width =   51.643(Ft.)
Flow Velocity =    1.14(Ft/s)
Travel time  =   11.93 min.
Time of concentration =   33.41 min.
Critical depth =      0.191(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      2.094(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.886
Subarea runoff =     18.254(CFS) for   11.970(Ac.)
Total runoff =     32.980(CFS)
Effective area this stream =       17.77(Ac.)
Total Study Area (Main Stream No. 1) =       17.77(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.498(Ft.), Average velocity =   1.298(Ft/s)
Critical depth =      0.238(Ft.)


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Process from Point/Station       33.200 to Point/Station       33.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1883.700(Ft.)
Downstream point elevation =  1881.400(Ft.)
Channel length thru subarea  =   871.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     40.263(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     40.263(CFS)
Depth of flow =   0.548(Ft.), Average velocity =   1.437(Ft/s)
Channel flow top width =   52.194(Ft.)
Flow Velocity =    1.44(Ft/s)
Travel time  =   10.10 min.
Time of concentration =   43.51 min.
Critical depth =      0.270(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.741(In/Hr) for a   100.0 year storm
```

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Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.883
Subarea runoff =     14.470(CFS) for   13.090(Ac.)
Total runoff =     47.451(CFS)
Effective area this stream =       30.86(Ac.)
Total Study Area (Main Stream No. 1) =       30.86(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.605(Ft.), Average velocity =   1.531(Ft/s)
Critical depth =      0.301(Ft.)
End of computations, Total Study Area =           30.86 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  91.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 34
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 34.000 to Point/Station 34.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 81.58
Adjusted SCS curve number for AMC 3 = 94.95
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.089(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1897.600(Ft.)
Bottom (of initial area) elevation = 1894.200(Ft.)
Difference in elevation = 3.400(Ft.)
Slope = 0.00340 s(%)= 0.34
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 24.523 min.
Rainfall intensity = 2.619(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.869
Subarea runoff = 11.840(CFS)
Total initial stream area = 5.200(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.089(In/Hr)

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Process from Point/Station 34.100 to Point/Station 34.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1894.200(Ft.)
Downstream point elevation = 1893.300(Ft.)

```
Channel length thru subarea  =   570.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     19.163(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.163(CFS)
Depth of flow =   0.410(Ft.), Average velocity =   0.919(Ft/s)
Channel flow top width =   51.641(Ft.)
Flow Velocity =    0.92(Ft/s)
Travel time  =   10.33 min.
Time of concentration =   34.86 min.
Critical depth =      0.166(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.19
Adjusted SCS curve number for AMC 3 = 94.71
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.093(In/Hr)
Rainfall intensity =      2.047(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.860
Subarea runoff =     14.562(CFS) for    9.800(Ac.)
Total runoff =     26.402(CFS)
Effective area this stream =       15.00(Ac.)
Total Study Area (Main Stream No. 1) =       15.00(Ac.)
Area averaged Fm value =    0.092(In/Hr)
Depth of flow =   0.497(Ft.), Average velocity =   1.042(Ft/s)
Critical depth =      0.205(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       34.200 to Point/Station       34.300
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.300(Ft.)
Downstream point elevation =  1888.500(Ft.)
Channel length thru subarea  =  1115.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     37.152(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     37.152(CFS)
Depth of flow =   0.452(Ft.), Average velocity =   1.616(Ft/s)
Channel flow top width =   51.806(Ft.)
Flow Velocity =    1.62(Ft/s)
Travel time  =   11.50 min.
Time of concentration =   46.36 min.
Critical depth =      0.258(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 81.60
Adjusted SCS curve number for AMC 3 = 94.96
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.089(In/Hr)
Rainfall intensity =      1.677(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.852
Subarea runoff =     21.442(CFS) for   18.500(Ac.)
Total runoff =     47.844(CFS)
Effective area this stream =       33.50(Ac.)
Total Study Area (Main Stream No. 1) =       33.50(Ac.)
Area averaged Fm value =    0.090(In/Hr)
Depth of flow =   0.525(Ft.), Average velocity =   1.784(Ft/s)
Critical depth =      0.305(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       34.300 to Point/Station       34.400
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1888.500(Ft.)
Downstream point elevation =  1885.500(Ft.)
Channel length thru subarea  =  1198.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     67.488(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     67.488(CFS)
Depth of flow =   0.759(Ft.), Average velocity =   1.726(Ft/s)
Channel flow top width =   53.036(Ft.)
Flow Velocity =    1.73(Ft/s)
Travel time  =   11.57 min.
Time of concentration =   57.92 min.
Critical depth =      0.383(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.435(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.862
Subarea runoff =     39.222(CFS) for   36.850(Ac.)
Total runoff =     87.066(CFS)
Effective area this stream =       70.35(Ac.)
Total Study Area (Main Stream No. 1) =       70.35(Ac.)
Area averaged Fm value =    0.060(In/Hr)
Depth of flow =   0.884(Ft.), Average velocity =   1.903(Ft/s)
Critical depth =      0.453(Ft.)


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Process from Point/Station       34.400 to Point/Station       34.500
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1885.500(Ft.)
Downstream point elevation =  1881.800(Ft.)
Channel length thru subarea  =  1714.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
```

```
Estimated mean flow rate at midpoint of channel =    100.143(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    100.143(CFS)
Depth of flow =   1.004(Ft.), Average velocity =   1.918(Ft/s)
Channel flow top width =   54.017(Ft.)
Flow Velocity =    1.92(Ft/s)
Travel time  =   14.90 min.
Time of concentration =   72.82 min.
Critical depth =      0.496(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.223(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.863
Subarea runoff =     26.060(CFS) for   36.880(Ac.)
Total runoff =    113.125(CFS)
Effective area this stream =      107.23(Ac.)
Total Study Area (Main Stream No. 1) =      107.23(Ac.)
Area averaged Fm value =    0.050(In/Hr)
Depth of flow =   1.080(Ft.), Average velocity =   2.008(Ft/s)
Critical depth =      0.539(Ft.)
End of computations, Total Study Area =          107.23 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  88.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 35
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 35.000 to Point/Station 35.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1886.900(Ft.)
Bottom (of initial area) elevation = 1882.600(Ft.)
Difference in elevation = 4.300(Ft.)
Slope = 0.00430 s(%)= 0.43
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 23.398 min.
Rainfall intensity = 2.687(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.889
Subarea runoff = 14.958(CFS)
Total initial stream area = 6.260(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)

++

Process from Point/Station 35.100 to Point/Station 35.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1882.600(Ft.)
Downstream point elevation = 1880.800(Ft.)

```
Channel length thru subarea  =   378.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     16.137(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     16.137(CFS)
Depth of flow =   0.266(Ft.), Average velocity =   1.201(Ft/s)
Channel flow top width =   51.064(Ft.)
Flow Velocity =    1.20(Ft/s)
Travel time  =    5.25 min.
Time of concentration =   28.64 min.
Critical depth =      0.148(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      2.332(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff =      2.266(CFS) for    2.060(Ac.)
Total runoff =     17.224(CFS)
Effective area this stream =        8.32(Ac.)
Total Study Area (Main Stream No. 1) =        8.32(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.276(Ft.), Average velocity =   1.232(Ft/s)
Critical depth =      0.154(Ft.)


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Process from Point/Station       35.100 to Point/Station       35.200
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      8.320(Ac.)
Runoff from this stream =     17.224(CFS)
Time of concentration =   28.64 min.
Rainfall intensity =     2.332(In/Hr)
Area averaged loss rate (Fm) =    0.0322(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       35.300 to Point/Station       35.400
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1887.000(Ft.)
Bottom (of initial area) elevation =  1881.700(Ft.)
Difference in elevation =     5.300(Ft.)
```

```
Slope =    0.00530  s(%)=       0.53
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   22.439 min.
Rainfall intensity =      2.767(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.890
Subarea runoff =     24.614(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.032(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       35.400 to Point/Station       35.200
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1881.700(Ft.)
Downstream point elevation =  1880.800(Ft.)
Channel length thru subarea  =   288.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     28.653(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     28.653(CFS)
Depth of flow =   0.425(Ft.), Average velocity =   1.324(Ft/s)
Channel flow top width =   51.702(Ft.)
Flow Velocity =    1.32(Ft/s)
Travel time  =    3.62 min.
Time of concentration =   26.06 min.
Critical depth =      0.215(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      2.492(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff =      8.014(CFS) for    4.740(Ac.)
Total runoff =     32.628(CFS)
Effective area this stream =       14.74(Ac.)
Total Study Area (Main Stream No. 1) =       23.06(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.460(Ft.), Average velocity =   1.393(Ft/s)
Critical depth =      0.234(Ft.)


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Process from Point/Station       35.400 to Point/Station       35.200
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     14.740(Ac.)
Runoff from this stream =     32.628(CFS)
Time of concentration =   26.06 min.
Rainfall intensity =     2.492(In/Hr)
Area averaged loss rate (Fm) =    0.0322(In/Hr)
```

```
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     17.22     8.320     28.64    0.032      2.332
2     32.63    14.740     26.06    0.032      2.492
Qmax(1) =
           1.000 *    1.000 *    17.224) +
           0.935 *    1.000 *    32.628) + =      47.739
Qmax(2) =
           1.069 *    0.910 *    17.224) +
           1.000 *    1.000 *    32.628) + =      49.386

Total of 2 streams to confluence:
Flow rates before confluence point:
      17.224      32.628
Maximum flow rates at confluence using above data:
       47.739       49.386
Area of streams before confluence:
        8.320       14.740
Effective area values after confluence:
       23.060       22.311
Results of confluence:
Total flow rate =     49.386(CFS)
Time of concentration =    26.064 min.
Effective stream area after confluence =     22.311(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.032(In/Hr)
Study area total (this main stream) =      23.06(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       35.200 to Point/Station       35.500
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1880.800(Ft.)
Downstream point elevation =  1879.800(Ft.)
Channel length thru subarea  =   686.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     54.014(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     54.014(CFS)
Depth of flow =   0.781(Ft.), Average velocity =   1.341(Ft/s)
Channel flow top width =   53.124(Ft.)
Flow Velocity =    1.34(Ft/s)
Travel time  =    8.52 min.
Time of concentration =   34.59 min.
Critical depth =      0.328(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
```

Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Rainfall intensity = 2.044(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.886
Subarea runoff = 9.189(CFS) for 10.040(Ac.)
Total runoff = 58.576(CFS)
Effective area this stream = 32.35(Ac.)
Total Study Area (Main Stream No. 1) = 33.10(Ac.)
Area averaged Fm value = 0.032(In/Hr)
Depth of flow = 0.820(Ft.), Average velocity = 1.384(Ft/s)
Critical depth = 0.348(Ft.)
End of computations, Total Study Area = 33.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 36
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 36.000 to Point/Station 36.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 628.000(Ft.)
Top (of initial area) elevation = 1883.300(Ft.)
Bottom (of initial area) elevation = 1876.400(Ft.)
Difference in elevation = 6.900(Ft.)
Slope = 0.01099 s(%)= 1.10
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 16.102 min.
Rainfall intensity = 3.491(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.892
Subarea runoff = 11.112(CFS)
Total initial stream area = 3.570(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)
End of computations, Total Study Area = 3.57 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 37
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 37.000 to Point/Station 37.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1883.000(Ft.)
Bottom (of initial area) elevation = 1878.400(Ft.)
Difference in elevation = 4.600(Ft.)
Slope = 0.00460 s(%)= 0.46
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 23.084 min.
Rainfall intensity = 2.713(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.889
Subarea runoff = 21.953(CFS)
Total initial stream area = 9.100(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)

++

Process from Point/Station 37.100 to Point/Station 37.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1878.400(Ft.)
Downstream point elevation = 1877.300(Ft.)

```
Channel length thru subarea  =   203.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     22.733(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     22.733(CFS)
Depth of flow =   0.314(Ft.), Average velocity =   1.430(Ft/s)
Channel flow top width =   51.256(Ft.)
Flow Velocity =    1.43(Ft/s)
Travel time  =    2.37 min.
Time of concentration =   25.45 min.
Critical depth =      0.186(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      2.534(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.889
Subarea runoff =      1.504(CFS) for    1.320(Ac.)
Total runoff =     23.458(CFS)
Effective area this stream =       10.42(Ac.)
Total Study Area (Main Stream No. 1) =       10.42(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.320(Ft.), Average velocity =   1.447(Ft/s)
Critical depth =      0.189(Ft.)
End of computations, Total Study Area =           10.42 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  91.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 38
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 38.000 to Point/Station 38.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1882.000(Ft.)
Bottom (of initial area) elevation = 1879.100(Ft.)
Difference in elevation = 2.900(Ft.)
Slope = 0.00290 s(%)= 0.29
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 25.316 min.
Rainfall intensity = 2.543(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.889
Subarea runoff = 17.378(CFS)
Total initial stream area = 7.690(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)

++

Process from Point/Station 38.100 to Point/Station 38.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1879.100(Ft.)
Downstream point elevation = 1877.700(Ft.)

```
Channel length thru subarea  =   276.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     21.450(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     21.450(CFS)
Depth of flow =   0.309(Ft.), Average velocity =   1.370(Ft/s)
Channel flow top width =   51.238(Ft.)
Flow Velocity =    1.37(Ft/s)
Travel time  =    3.36 min.
Time of concentration =   28.67 min.
Critical depth =      0.178(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      2.331(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff =      8.066(CFS) for    4.610(Ac.)
Total runoff =     25.444(CFS)
Effective area this stream =       12.30(Ac.)
Total Study Area (Main Stream No. 1) =       12.30(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.343(Ft.), Average velocity =   1.465(Ft/s)
Critical depth =      0.199(Ft.)
End of computations, Total Study Area =           12.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  91.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 39
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 39.000 to Point/Station 39.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 62.00
Adjusted SCS curve number for AMC 3 = 80.60
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.324(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1903.000(Ft.)
Bottom (of initial area) elevation = 1897.800(Ft.)
Difference in elevation = 5.200(Ft.)
Slope = 0.00520 s(%)= 0.52
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.525 min.
Rainfall intensity = 2.780(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.795
Subarea runoff = 5.990(CFS)
Total initial stream area = 2.710(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.324(In/Hr)

++

Process from Point/Station 39.100 to Point/Station 39.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1897.800(Ft.)
Downstream point elevation = 1895.200(Ft.)

```
Channel length thru subarea  =   947.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =      8.921(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =      8.921(CFS)
Depth of flow =   0.220(Ft.), Average velocity =   0.805(Ft/s)
Channel flow top width =   50.879(Ft.)
Flow Velocity =    0.80(Ft/s)
Travel time  =   19.62 min.
Time of concentration =   42.14 min.
Critical depth =      0.100(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 66.10
Adjusted SCS curve number for AMC 3 = 83.88
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.272(In/Hr)
Rainfall intensity =      1.793(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.755
Subarea runoff =      5.762(CFS) for    5.970(Ac.)
Total runoff =     11.752(CFS)
Effective area this stream =        8.68(Ac.)
Total Study Area (Main Stream No. 1) =        8.68(Ac.)
Area averaged Fm value =    0.288(In/Hr)
Depth of flow =   0.259(Ft.), Average velocity =   0.897(Ft/s)
Critical depth =      0.119(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.200 to Point/Station       39.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1895.200(Ft.)
Downstream point elevation =  1893.000(Ft.)
Channel length thru subarea  =  1225.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.890(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.890(CFS)
Depth of flow =   0.339(Ft.), Average velocity =   0.866(Ft/s)
Channel flow top width =   51.357(Ft.)
Flow Velocity =    0.87(Ft/s)
Travel time  =   23.58 min.
Time of concentration =   65.72 min.
Critical depth =      0.141(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.313(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.780
Subarea runoff =      6.209(CFS) for    8.850(Ac.)
Total runoff =     17.961(CFS)
Effective area this stream =       17.53(Ac.)
Total Study Area (Main Stream No. 1) =       17.53(Ac.)
Area averaged Fm value =    0.175(In/Hr)
Depth of flow =   0.380(Ft.), Average velocity =   0.932(Ft/s)
Critical depth =      0.158(Ft.)


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Process from Point/Station       39.300 to Point/Station       39.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1893.000(Ft.)
Downstream point elevation =  1889.200(Ft.)
Channel length thru subarea  =  1060.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     25.124(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.124(CFS)
Depth of flow =   0.377(Ft.), Average velocity =   1.312(Ft/s)
Channel flow top width =   51.510(Ft.)
Flow Velocity =    1.31(Ft/s)
Travel time  =   13.47 min.
Time of concentration =   79.19 min.
Critical depth =      0.199(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.14
Adjusted SCS curve number for AMC 3 = 96.48
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.062(In/Hr)
Rainfall intensity =      1.153(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.807
Subarea runoff =     14.265(CFS) for   17.120(Ac.)
Total runoff =     32.226(CFS)
Effective area this stream =       34.65(Ac.)
Total Study Area (Main Stream No. 1) =       34.65(Ac.)
Area averaged Fm value =    0.119(In/Hr)
Depth of flow =   0.438(Ft.), Average velocity =   1.446(Ft/s)
Critical depth =      0.234(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.300 to Point/Station       39.400
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     34.650(Ac.)
Runoff from this stream =     32.226(CFS)
Time of concentration =   79.19 min.
Rainfall intensity =     1.153(In/Hr)
```

```
Area averaged loss rate (Fm) =    0.1194(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.500 to Point/Station       39.600
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1897.300(Ft.)
Bottom (of initial area) elevation =  1893.300(Ft.)
Difference in elevation =     4.000(Ft.)
Slope =    0.00400  s(%)=       0.40
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.739 min.
Rainfall intensity =      2.679(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff =     23.044(CFS)
Total initial stream area =        9.790(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


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Process from Point/Station       39.600 to Point/Station       39.700
**** IMPROVED CHANNEL TRAVEL TIME ****
------------------------------------------------------------------------------
Upstream point elevation =  1893.300(Ft.)
Downstream point elevation =  1890.400(Ft.)
Channel length thru subarea  =  1661.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     34.587(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     34.587(CFS)
Depth of flow =   0.567(Ft.), Average velocity =   1.193(Ft/s)
Channel flow top width =   52.267(Ft.)
Flow Velocity =    1.19(Ft/s)
Travel time  =   23.20 min.
Time of concentration =   46.94 min.
Critical depth =      0.246(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.663(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.865
```

```
Subarea runoff =     23.026(CFS) for   22.230(Ac.)
Total runoff =     46.070(CFS)
Effective area this stream =       32.02(Ac.)
Total Study Area (Main Stream No. 2) =       66.67(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.673(Ft.), Average velocity =   1.334(Ft/s)
Critical depth =      0.297(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.600 to Point/Station       39.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     32.020(Ac.)
Runoff from this stream =     46.070(CFS)
Time of concentration =   46.94 min.
Rainfall intensity =     1.663(In/Hr)
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.800 to Point/Station       39.900
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1893.000(Ft.)
Bottom (of initial area) elevation =  1891.000(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00200  s(%)=       0.20
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   27.268 min.
Rainfall intensity =      2.431(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.876
Subarea runoff =     21.266(CFS)
Total initial stream area =        9.980(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.900 to Point/Station       39.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1891.000(Ft.)
Downstream point elevation =  1890.400(Ft.)
Channel length thru subarea  =   384.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     24.303(CFS)
Manning's 'N'    = 0.035
```

```
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     24.303(CFS)
Depth of flow =   0.474(Ft.), Average velocity =   1.005(Ft/s)
Channel flow top width =   51.898(Ft.)
Flow Velocity =    1.01(Ft/s)
Travel time  =    6.37 min.
Time of concentration =   33.63 min.
Critical depth =      0.193(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      2.099(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.873
Subarea runoff =      5.994(CFS) for    4.900(Ac.)
Total runoff =     27.259(CFS)
Effective area this stream =       14.88(Ac.)
Total Study Area (Main Stream No. 2) =       81.55(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.508(Ft.), Average velocity =   1.052(Ft/s)
Critical depth =      0.209(Ft.)


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Process from Point/Station       39.900 to Point/Station       39.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     14.880(Ac.)
Runoff from this stream =     27.259(CFS)
Time of concentration =   33.63 min.
Rainfall intensity =     2.099(In/Hr)
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     46.07    32.020     46.94    0.064      1.663
2     27.26    14.880     33.63    0.064      2.099
Qmax(1) =
           1.000 *    1.000 *    46.070) +
           0.785 *    1.000 *    27.259) + =      67.479
Qmax(2) =
           1.273 *    0.717 *    46.070) +
           1.000 *    1.000 *    27.259) + =      69.293

Total of 2 streams to confluence:
Flow rates before confluence point:
      46.070      27.259
Maximum flow rates at confluence using above data:
       67.479       69.293
Area of streams before confluence:
       32.020       14.880
```

```
Effective area values after confluence:
       46.900       37.825
Results of confluence:
Total flow rate =     69.293(CFS)
Time of concentration =    33.634 min.
Effective stream area after confluence =     37.825(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.064(In/Hr)
Study area total (this main stream) =      46.90(Ac.)


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Process from Point/Station       39.700 to Point/Station       39.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1890.400(Ft.)
Downstream point elevation =  1889.200(Ft.)
Channel length thru subarea  =   638.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     70.522(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     70.522(CFS)
Depth of flow =   0.849(Ft.), Average velocity =   1.607(Ft/s)
Channel flow top width =   53.395(Ft.)
Flow Velocity =    1.61(Ft/s)
Travel time  =    6.62 min.
Time of concentration =   40.25 min.
Critical depth =      0.395(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Rainfall intensity =      1.851(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.869
Subarea runoff =      2.370(CFS) for    6.720(Ac.)
Total runoff =     71.662(CFS)
Effective area this stream =       44.54(Ac.)
Total Study Area (Main Stream No. 2) =       88.27(Ac.)
Area averaged Fm value =    0.064(In/Hr)
Depth of flow =   0.857(Ft.), Average velocity =   1.617(Ft/s)
Critical depth =      0.398(Ft.)


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Process from Point/Station       39.700 to Point/Station       39.400
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     44.545(Ac.)
Runoff from this stream =     71.662(CFS)
Time of concentration =   40.25 min.
Rainfall intensity =     1.851(In/Hr)
```

```
Area averaged loss rate (Fm) =    0.0639(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     32.23    34.650     79.19    0.119      1.153
2     71.66    44.545     40.25    0.064      1.851
Qmax(1) =
           1.000 *    1.000 *    32.226) +
           0.609 *    1.000 *    71.662) + =      75.880
Qmax(2) =
           1.676 *    0.508 *    32.226) +
           1.000 *    1.000 *    71.662) + =      99.113

Total of 2 main streams to confluence:
Flow rates before confluence point:
      33.226      72.662
Maximum flow rates at confluence using above data:
       75.880       99.113
Area of streams before confluence:
       34.650       44.545
Effective area values after confluence:
       79.195       62.155


Results of confluence:
Total flow rate =     99.113(CFS)
Time of concentration =    40.249 min.
Effective stream area after confluence  =     62.155(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.088(In/Hr)
Study area total =      79.19(Ac.)


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Process from Point/Station       39.400 to Point/Station       39.100
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1889.200(Ft.)
Downstream point elevation =  1887.800(Ft.)
Channel length thru subarea  =   551.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     99.423(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     99.423(CFS)
Depth of flow =   0.952(Ft.), Average velocity =   2.011(Ft/s)
Channel flow top width =   53.810(Ft.)
Flow Velocity =    2.01(Ft/s)
Travel time  =    4.57 min.
Time of concentration =   44.82 min.
Critical depth =      0.492(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
```

```
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 87.25
Adjusted SCS curve number for AMC 3 = 97.45
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.045(In/Hr)
Rainfall intensity =      1.717(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.856
Subarea runoff =      0.548(CFS) for    5.670(Ac.)
Total runoff =     99.661(CFS)
Effective area this stream =       67.83(Ac.)
Total Study Area (Main Stream No. 1) =       93.94(Ac.)
Area averaged Fm value =    0.085(In/Hr)
Depth of flow =   0.954(Ft.), Average velocity =   2.013(Ft/s)
Critical depth =      0.492(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.400 to Point/Station       39.100
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     67.825(Ac.)
Runoff from this stream =     99.661(CFS)
Time of concentration =   44.82 min.
Rainfall intensity =     1.717(In/Hr)
Area averaged loss rate (Fm) =    0.0846(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.110 to Point/Station       39.120
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.86
Adjusted SCS curve number for AMC 3 = 96.32
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.065(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1892.800(Ft.)
Bottom (of initial area) elevation =  1888.200(Ft.)
Difference in elevation =     4.600(Ft.)
Slope =    0.00460  s(%)=       0.46
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.084 min.
Rainfall intensity =      2.732(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.878
Subarea runoff =     22.345(CFS)
Total initial stream area =        9.310(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.065(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.120 to Point/Station       39.100
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1888.200(Ft.)
```

```
Downstream point elevation =  1887.800(Ft.)
Channel length thru subarea  =   425.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     22.393(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     22.393(CFS)
Depth of flow =   0.526(Ft.), Average velocity =   0.834(Ft/s)
Channel flow top width =   52.103(Ft.)
Flow Velocity =    0.83(Ft/s)
Travel time  =    8.49 min.
Time of concentration =   31.57 min.
Critical depth =      0.184(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =     22.325(CFS)
therefore the upstream flow rate of Q =     22.345(CFS) is being used
Rainfall intensity =      2.194(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.873
Subarea runoff =      0.000(CFS) for    2.340(Ac.)
Total runoff =     22.345(CFS)
Effective area this stream =       11.65(Ac.)
Total Study Area (Main Stream No. 1) =      105.59(Ac.)
Area averaged Fm value =    0.065(In/Hr)
Depth of flow =   0.525(Ft.), Average velocity =   0.834(Ft/s)
Critical depth =      0.184(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.120 to Point/Station       39.100
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     11.650(Ac.)
Runoff from this stream =     22.345(CFS)
Time of concentration =   31.57 min.
Rainfall intensity =     2.194(In/Hr)
Area averaged loss rate (Fm) =    0.0651(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     99.66    67.825     44.82    0.085      1.717
2     22.35    11.650     31.57    0.065      2.194
Qmax(1) =
           1.000 *    1.000 *    99.661) +
           0.776 *    1.000 *    22.345) + =     117.000
Qmax(2) =
```

```
          1.292 *    0.705 *    99.661) +
          1.000 *    1.000 *    22.345) + =     113.078

Total of 2 streams to confluence:
Flow rates before confluence point:
      99.661      22.345
Maximum flow rates at confluence using above data:
      117.000      113.078
Area of streams before confluence:
       67.825       11.650
Effective area values after confluence:
       79.475       59.435
Results of confluence:
Total flow rate =    117.000(CFS)
Time of concentration =    44.815 min.
Effective stream area after confluence =     79.475(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.082(In/Hr)
Study area total (this main stream) =      79.48(Ac.)


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Process from Point/Station       39.100 to Point/Station       39.130
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1887.800(Ft.)
Downstream point elevation =  1886.100(Ft.)
Channel length thru subarea  =   845.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    122.164(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    122.164(CFS)
Depth of flow =   1.155(Ft.), Average velocity =   2.023(Ft/s)
Channel flow top width =   54.618(Ft.)
Flow Velocity =    2.02(Ft/s)
Travel time  =    6.96 min.
Time of concentration =   51.78 min.
Critical depth =      0.563(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 89.13
Adjusted SCS curve number for AMC 3 = 97.83
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.039(In/Hr)
Rainfall intensity =      1.552(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.857
Subarea runoff =     10.267(CFS) for   16.220(Ac.)
Total runoff =    127.267(CFS)
Effective area this stream =       95.70(Ac.)
Total Study Area (Main Stream No. 1) =      121.81(Ac.)
Area averaged Fm value =    0.074(In/Hr)
Depth of flow =   1.183(Ft.), Average velocity =   2.054(Ft/s)
Critical depth =      0.578(Ft.)
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Process from Point/Station       39.130 to Point/Station       39.140
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1886.100(Ft.)
Downstream point elevation =  1882.000(Ft.)
Channel length thru subarea  =  1834.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    134.966(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    134.966(CFS)
Depth of flow =   1.187(Ft.), Average velocity =   2.170(Ft/s)
Channel flow top width =   54.749(Ft.)
Flow Velocity =    2.17(Ft/s)
Travel time  =   14.08 min.
Time of concentration =   65.86 min.
Critical depth =      0.602(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 88.81
Adjusted SCS curve number for AMC 3 = 97.76
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.040(In/Hr)
Rainfall intensity =      1.312(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.855
Subarea runoff =     15.332(CFS) for   31.500(Ac.)
Total runoff =    142.599(CFS)
Effective area this stream =      127.20(Ac.)
Total Study Area (Main Stream No. 1) =      153.31(Ac.)
Area averaged Fm value =    0.066(In/Hr)
Depth of flow =   1.227(Ft.), Average velocity =   2.216(Ft/s)
Critical depth =      0.625(Ft.)


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Process from Point/Station       39.140 to Point/Station       39.150
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1882.000(Ft.)
Downstream point elevation =  1876.100(Ft.)
Channel length thru subarea  =  2287.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    147.421(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    147.421(CFS)
Depth of flow =   1.199(Ft.), Average velocity =   2.346(Ft/s)
Channel flow top width =   54.796(Ft.)
Flow Velocity =    2.35(Ft/s)
Travel time  =   16.25 min.
Time of concentration =   82.11 min.
Critical depth =      0.641(Ft.)
 Adding area flow to channel
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Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 88.00
Adjusted SCS curve number for AMC 3 = 97.60
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.043(In/Hr)
Rainfall intensity =      1.124(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.851
Subarea runoff =      9.579(CFS) for   31.910(Ac.)
Total runoff =    152.178(CFS)
Effective area this stream =      159.11(Ac.)
Total Study Area (Main Stream No. 1) =      185.22(Ac.)
Area averaged Fm value =    0.061(In/Hr)
Depth of flow =   1.222(Ft.), Average velocity =   2.375(Ft/s)
Critical depth =      0.656(Ft.)


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Process from Point/Station       39.140 to Point/Station       39.150
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    159.105(Ac.)
Runoff from this stream =    152.178(CFS)
Time of concentration =   82.11 min.
Rainfall intensity =     1.124(In/Hr)
Area averaged loss rate (Fm) =    0.0613(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


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Process from Point/Station       39.160 to Point/Station       39.170
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.064(In/Hr)
Initial subarea data:
Initial area flow distance =   680.000(Ft.)
Top (of initial area) elevation =  1888.000(Ft.)
Bottom (of initial area) elevation =  1886.700(Ft.)
Difference in elevation =     1.300(Ft.)
Slope =    0.00191  s(%)=       0.19
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.582 min.
Rainfall intensity =      2.692(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff =     23.650(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.064(In/Hr)


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Process from Point/Station       39.170 to Point/Station       39.180
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
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Upstream point elevation =  1886.700(Ft.)
Downstream point elevation =  1882.400(Ft.)
Channel length thru subarea  =  1765.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     48.977(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     48.977(CFS)
Depth of flow =   0.632(Ft.), Average velocity =   1.512(Ft/s)
Channel flow top width =   52.527(Ft.)
Flow Velocity =    1.51(Ft/s)
Travel time  =   19.45 min.
Time of concentration =   43.03 min.
Critical depth =      0.309(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 83.44
Adjusted SCS curve number for AMC 3 = 96.06
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      1.767(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.865
Subarea runoff =     50.567(CFS) for   38.560(Ac.)
Total runoff =     74.217(CFS)
Effective area this stream =       48.56(Ac.)
Total Study Area (Main Stream No. 1) =      233.78(Ac.)
Area averaged Fm value =    0.069(In/Hr)
Depth of flow =   0.810(Ft.), Average velocity =   1.775(Ft/s)
Critical depth =      0.406(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       39.180 to Point/Station       39.150
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1882.400(Ft.)
Downstream point elevation =  1876.100(Ft.)
Channel length thru subarea  =  2853.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     79.639(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     79.639(CFS)
Depth of flow =   0.870(Ft.), Average velocity =   1.769(Ft/s)
Channel flow top width =   53.480(Ft.)
Flow Velocity =    1.77(Ft/s)
Travel time  =   26.87 min.
Time of concentration =   69.91 min.
Critical depth =      0.426(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 84.40
Adjusted SCS curve number for AMC 3 = 96.64
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Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.060(In/Hr)
Rainfall intensity =      1.258(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.853
Subarea runoff =     10.787(CFS) for   30.620(Ac.)
Total runoff =     85.004(CFS)
Effective area this stream =       79.18(Ac.)
Total Study Area (Main Stream No. 1) =      264.40(Ac.)
Area averaged Fm value =    0.065(In/Hr)
Depth of flow =   0.904(Ft.), Average velocity =   1.814(Ft/s)
Critical depth =      0.445(Ft.)


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Process from Point/Station       39.180 to Point/Station       39.150
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     79.180(Ac.)
Runoff from this stream =     85.004(CFS)
Time of concentration =   69.91 min.
Rainfall intensity =     1.258(In/Hr)
Area averaged loss rate (Fm) =    0.0651(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    152.18   159.105     82.11    0.061      1.124
2     85.00    79.180     69.91    0.065      1.258
Qmax(1) =
           1.000 *    1.000 *   152.178) +
           0.888 *    1.000 *    85.004) + =     227.637
Qmax(2) =
           1.126 *    0.851 *   152.178) +
           1.000 *    1.000 *    85.004) + =     230.904

Total of 2 streams to confluence:
Flow rates before confluence point:
     152.178      85.004
Maximum flow rates at confluence using above data:
      227.637      230.904
Area of streams before confluence:
      159.105       79.180
Effective area values after confluence:
      238.285      214.646
Results of confluence:
Total flow rate =    230.904(CFS)
Time of concentration =    69.907 min.
Effective stream area after confluence =    214.646(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.063(In/Hr)
Study area total (this main stream) =     238.29(Ac.)


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Process from Point/Station       39.150 to Point/Station       39.190
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```
**** IMPROVED CHANNEL TRAVEL TIME ****
_____________________________________________________________________
Upstream point elevation =  1876.100(Ft.)
Downstream point elevation =  1869.900(Ft.)
Channel length thru subarea  =  2692.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    230.933(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    2.000(Ft.)
Flow(q) thru subarea =    230.933(CFS)
Depth of flow =   1.620(Ft.), Average velocity =   2.678(Ft/s)
Channel flow top width =   56.480(Ft.)
Flow Velocity =    2.68(Ft/s)
Travel time  =   16.76 min.
Time of concentration =   86.66 min.
Critical depth =      0.859(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 90.45
Adjusted SCS curve number for AMC 3 = 98.09
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.034(In/Hr)
The area added to the existing stream causes a
a lower flow rate of Q =    209.818(CFS)
therefore the upstream flow rate of Q =    230.904(CFS) is being used
Rainfall intensity =      1.082(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.849
Subarea runoff =      0.000(CFS) for   13.590(Ac.)
Total runoff =    230.904(CFS)
Effective area this stream =      228.24(Ac.)
Total Study Area (Main Stream No. 1) =      277.99(Ac.)
Area averaged Fm value =    0.061(In/Hr)
Depth of flow =   1.620(Ft.), Average velocity =   2.678(Ft/s)
Critical depth =      0.859(Ft.)
End of computations, Total Study Area =          277.99 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  85.1
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 40
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.400 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 40.000 to Point/Station 40.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 515.000(Ft.)
Top (of initial area) elevation = 1881.400(Ft.)
Bottom (of initial area) elevation = 1876.500(Ft.)
Difference in elevation = 4.900(Ft.)
Slope = 0.00951 s(%)= 0.95
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.308 min.
Rainfall intensity = 3.642(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.892
Subarea runoff = 11.047(CFS)
Total initial stream area = 3.400(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)
End of computations, Total Study Area = 3.40 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 41
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 41.000 to Point/Station 41.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 340.000(Ft.)
Top (of initial area) elevation = 1878.400(Ft.)
Bottom (of initial area) elevation = 1876.300(Ft.)
Difference in elevation = 2.100(Ft.)
Slope = 0.00618 s(%)= 0.62
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 14.135 min.
Rainfall intensity = 3.824(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.892
Subarea runoff = 7.712(CFS)
Total initial stream area = 2.260(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)
End of computations, Total Study Area = 2.26 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 42
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

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Process from Point/Station 42.000 to Point/Station 42.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.23
Adjusted SCS curve number for AMC 3 = 96.54
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.061(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1886.700(Ft.)
Bottom (of initial area) elevation = 1881.500(Ft.)
Difference in elevation = 5.200(Ft.)
Slope = 0.00520 s(%)= 0.52
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.525 min.
Rainfall intensity = 2.760(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.880
Subarea runoff = 16.853(CFS)
Total initial stream area = 6.940(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.061(In/Hr)

++

Process from Point/Station 42.100 to Point/Station 42.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1881.500(Ft.)
Downstream point elevation = 1877.700(Ft.)

```
Channel length thru subarea  =  1696.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     28.197(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     28.197(CFS)
Depth of flow =   0.466(Ft.), Average velocity =   1.189(Ft/s)
Channel flow top width =   51.862(Ft.)
Flow Velocity =    1.19(Ft/s)
Travel time  =   23.77 min.
Time of concentration =   46.29 min.
Critical depth =      0.215(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 86.06
Adjusted SCS curve number for AMC 3 = 97.21
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.050(In/Hr)
Rainfall intensity =      1.667(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.872
Subarea runoff =     22.630(CFS) for   20.240(Ac.)
Total runoff =     39.483(CFS)
Effective area this stream =       27.18(Ac.)
Total Study Area (Main Stream No. 1) =       27.18(Ac.)
Area averaged Fm value =    0.053(In/Hr)
Depth of flow =   0.569(Ft.), Average velocity =   1.356(Ft/s)
Critical depth =      0.268(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.200 to Point/Station       42.300
**** IMPROVED CHANNEL TRAVEL TIME ****
________________________________________________________________________
Upstream point elevation =  1877.700(Ft.)
Downstream point elevation =  1875.700(Ft.)
Channel length thru subarea  =  1288.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     51.261(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     51.261(CFS)
Depth of flow =   0.743(Ft.), Average velocity =   1.340(Ft/s)
Channel flow top width =   52.971(Ft.)
Flow Velocity =    1.34(Ft/s)
Travel time  =   16.01 min.
Time of concentration =   62.31 min.
Critical depth =      0.320(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 90.66
Adjusted SCS curve number for AMC 3 = 98.13
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.033(In/Hr)
Rainfall intensity =      1.354(In/Hr) for a   100.0 year storm
```

```
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =     23.479(CFS) for   26.200(Ac.)
Total runoff =     62.962(CFS)
Effective area this stream =       53.38(Ac.)
Total Study Area (Main Stream No. 1) =       53.38(Ac.)
Area averaged Fm value =    0.043(In/Hr)
Depth of flow =   0.840(Ft.), Average velocity =   1.451(Ft/s)
Critical depth =      0.367(Ft.)


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Process from Point/Station       42.300 to Point/Station       42.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1875.700(Ft.)
Downstream point elevation =  1872.800(Ft.)
Channel length thru subarea  =   781.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     67.345(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     67.345(CFS)
Depth of flow =   0.674(Ft.), Average velocity =   1.947(Ft/s)
Channel flow top width =   52.695(Ft.)
Flow Velocity =    1.95(Ft/s)
Travel time  =    6.69 min.
Time of concentration =   68.99 min.
Critical depth =      0.383(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.261(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =      8.676(CFS) for   11.900(Ac.)
Total runoff =     71.638(CFS)
Effective area this stream =       65.28(Ac.)
Total Study Area (Main Stream No. 1) =       65.28(Ac.)
Area averaged Fm value =    0.041(In/Hr)
Depth of flow =   0.699(Ft.), Average velocity =   1.994(Ft/s)
Critical depth =      0.398(Ft.)


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Process from Point/Station       42.300 to Point/Station       42.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     65.280(Ac.)
Runoff from this stream =     71.638(CFS)
Time of concentration =   68.99 min.
Rainfall intensity =     1.261(In/Hr)
Area averaged loss rate (Fm) =    0.0412(In/Hr)
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Area averaged Pervious ratio (Ap) = 0.9000


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Process from Point/Station       42.500 to Point/Station       42.600
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 88.34
Adjusted SCS curve number for AMC 3 = 97.67
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.042(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1879.900(Ft.)
Bottom (of initial area) elevation =  1876.400(Ft.)
Difference in elevation =     3.500(Ft.)
Slope =    0.00350  s(%)=       0.35
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   24.381 min.
Rainfall intensity =      2.611(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.886
Subarea runoff =     14.452(CFS)
Total initial stream area =        6.250(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.042(In/Hr)


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Process from Point/Station       42.600 to Point/Station       42.400
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1876.400(Ft.)
Downstream point elevation =  1872.800(Ft.)
Channel length thru subarea  =  1421.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     20.230(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     20.230(CFS)
Depth of flow =   0.368(Ft.), Average velocity =   1.084(Ft/s)
Channel flow top width =   51.471(Ft.)
Flow Velocity =    1.08(Ft/s)
Travel time  =   21.85 min.
Time of concentration =   46.23 min.
Critical depth =      0.172(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.668(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.881
Subarea runoff =     11.456(CFS) for   11.380(Ac.)
Total runoff =     25.909(CFS)
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```
Effective area this stream =       17.63(Ac.)
Total Study Area (Main Stream No. 1) =       82.91(Ac.)
Area averaged Fm value =    0.036(In/Hr)
Depth of flow =   0.427(Ft.), Average velocity =   1.194(Ft/s)
Critical depth =      0.203(Ft.)


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Process from Point/Station       42.600 to Point/Station       42.400
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     17.630(Ac.)
Runoff from this stream =     25.909(CFS)
Time of concentration =   46.23 min.
Rainfall intensity =     1.668(In/Hr)
Area averaged loss rate (Fm) =    0.0355(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     71.64    65.280     68.99    0.041      1.261
2     25.91    17.630     46.23    0.036      1.668
Qmax(1) =
           1.000 *    1.000 *    71.638) +
           0.750 *    1.000 *    25.909) + =      91.076
Qmax(2) =
           1.334 *    0.670 *    71.638) +
           1.000 *    1.000 *    25.909) + =      89.962

Total of 2 streams to confluence:
Flow rates before confluence point:
      71.638      25.909
Maximum flow rates at confluence using above data:
       91.076       89.962
Area of streams before confluence:
       65.280       17.630
Effective area values after confluence:
       82.910       61.369
Results of confluence:
Total flow rate =     91.076(CFS)
Time of concentration =    68.994 min.
Effective stream area after confluence =     82.910(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.040(In/Hr)
Study area total (this main stream) =      82.91(Ac.)


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Process from Point/Station       42.400 to Point/Station       42.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1872.800(Ft.)
Downstream point elevation =  1870.500(Ft.)
Channel length thru subarea  =  1035.000(Ft.)
Channel base width      =   50.000(Ft.)
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Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     91.398(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     91.398(CFS)
Depth of flow =   0.943(Ft.), Average velocity =   1.869(Ft/s)
Channel flow top width =   53.771(Ft.)
Flow Velocity =    1.87(Ft/s)
Travel time  =    9.23 min.
Time of concentration =   78.23 min.
Critical depth =      0.469(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.154(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.869
Subarea runoff =      0.570(CFS) for    8.400(Ac.)
Total runoff =     91.645(CFS)
Effective area this stream =       91.31(Ac.)
Total Study Area (Main Stream No. 1) =       91.31(Ac.)
Area averaged Fm value =    0.039(In/Hr)
Depth of flow =   0.944(Ft.), Average velocity =   1.871(Ft/s)
Critical depth =      0.469(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.400 to Point/Station       42.700
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     91.310(Ac.)
Runoff from this stream =     91.645(CFS)
Time of concentration =   78.23 min.
Rainfall intensity =     1.154(In/Hr)
Area averaged loss rate (Fm) =    0.0393(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       42.800 to Point/Station       42.900
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 90.04
Adjusted SCS curve number for AMC 3 = 98.01
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.036(In/Hr)
Initial subarea data:
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  1879.900(Ft.)
Bottom (of initial area) elevation =  1876.100(Ft.)
Difference in elevation =     3.800(Ft.)
Slope =    0.00380  s(%)=       0.38
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
```

```
Initial area time of concentration =   23.983 min.
Rainfall intensity =      2.641(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.888
Subarea runoff =     13.061(CFS)
Total initial stream area =        5.570(Ac.)
Pervious area fraction = 0.900
Initial area Fm value =    0.036(In/Hr)


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Process from Point/Station       42.900 to Point/Station       42.100
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1876.100(Ft.)
Downstream point elevation =  1874.300(Ft.)
Channel length thru subarea  =   859.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     19.644(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.644(CFS)
Depth of flow =   0.383(Ft.), Average velocity =   1.012(Ft/s)
Channel flow top width =   51.530(Ft.)
Flow Velocity =    1.01(Ft/s)
Travel time  =   14.15 min.
Time of concentration =   38.14 min.
Critical depth =      0.168(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.909(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.884
Subarea runoff =     13.102(CFS) for    9.930(Ac.)
Total runoff =     26.164(CFS)
Effective area this stream =       15.50(Ac.)
Total Study Area (Main Stream No. 1) =      106.81(Ac.)
Area averaged Fm value =    0.033(In/Hr)
Depth of flow =   0.454(Ft.), Average velocity =   1.132(Ft/s)
Critical depth =      0.203(Ft.)


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Process from Point/Station       42.100 to Point/Station       42.700
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1874.300(Ft.)
Downstream point elevation =  1870.500(Ft.)
Channel length thru subarea  =  1381.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     31.392(CFS)
Manning's 'N'    = 0.035
```

```
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     31.392(CFS)
Depth of flow =   0.467(Ft.), Average velocity =   1.320(Ft/s)
Channel flow top width =   51.867(Ft.)
Flow Velocity =    1.32(Ft/s)
Travel time  =   17.43 min.
Time of concentration =   55.57 min.
Critical depth =      0.230(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.467(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.880
Subarea runoff =     10.395(CFS) for   12.830(Ac.)
Total runoff =     36.559(CFS)
Effective area this stream =       28.33(Ac.)
Total Study Area (Main Stream No. 1) =      119.64(Ac.)
Area averaged Fm value =    0.033(In/Hr)
Depth of flow =   0.511(Ft.), Average velocity =   1.401(Ft/s)
Critical depth =      0.254(Ft.)


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Process from Point/Station       42.100 to Point/Station       42.700
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     28.330(Ac.)
Runoff from this stream =     36.559(CFS)
Time of concentration =   55.57 min.
Rainfall intensity =     1.467(In/Hr)
Area averaged loss rate (Fm) =    0.0328(In/Hr)
Area averaged Pervious ratio (Ap) = 0.9000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     91.65    91.310     78.23    0.039      1.154
2     36.56    28.330     55.57    0.033      1.467
Qmax(1) =
           1.000 *    1.000 *    91.645) +
           0.782 *    1.000 *    36.559) + =     120.243
Qmax(2) =
           1.280 *    0.710 *    91.645) +
           1.000 *    1.000 *    36.559) + =     119.888

Total of 2 streams to confluence:
Flow rates before confluence point:
      91.645      36.559
Maximum flow rates at confluence using above data:
      120.243      119.888
Area of streams before confluence:
       91.310       28.330
```

```
Effective area values after confluence:
      119.640       93.193
Results of confluence:
Total flow rate =    120.243(CFS)
Time of concentration =    78.226 min.
Effective stream area after confluence =    119.640(Ac.)
Study area average Pervious fraction(Ap) =  0.900
Study area average soil loss rate(Fm) =    0.038(In/Hr)
Study area total (this main stream) =     119.64(Ac.)


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Process from Point/Station       42.700 to Point/Station       42.110
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________________
Upstream point elevation =  1870.500(Ft.)
Downstream point elevation =  1869.200(Ft.)
Channel length thru subarea  =   353.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    121.293(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =    121.293(CFS)
Depth of flow =   0.960(Ft.), Average velocity =   2.434(Ft/s)
Channel flow top width =   53.840(Ft.)
Flow Velocity =    2.43(Ft/s)
Travel time  =    2.42 min.
Time of concentration =   80.64 min.
Critical depth =      0.563(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      1.130(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.870
Subarea runoff =      2.014(CFS) for    4.690(Ac.)
Total runoff =    122.257(CFS)
Effective area this stream =      124.33(Ac.)
Total Study Area (Main Stream No. 1) =      124.33(Ac.)
Area averaged Fm value =    0.038(In/Hr)
Depth of flow =   0.964(Ft.), Average velocity =   2.441(Ft/s)
Critical depth =      0.563(Ft.)
End of computations, Total Study Area =          124.33 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  89.6
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 43
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 43.000 to Point/Station 43.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1877.800(Ft.)
Bottom (of initial area) elevation = 1872.000(Ft.)
Difference in elevation = 5.800(Ft.)
Slope = 0.00580 s(%)= 0.58
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.038 min.
Rainfall intensity = 2.802(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.890
Subarea runoff = 13.263(CFS)
Total initial stream area = 5.320(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)

++

Process from Point/Station 43.100 to Point/Station 43.200
**** IMPROVED CHANNEL TRAVEL TIME ****

Upstream point elevation = 1872.000(Ft.)
Downstream point elevation = 1871.000(Ft.)

```
Channel length thru subarea  =   245.000(Ft.)
Channel base width      =   50.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =     14.418(CFS)
Manning's 'N'    = 0.035
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     14.418(CFS)
Depth of flow =   0.260(Ft.), Average velocity =   1.096(Ft/s)
Channel flow top width =   51.041(Ft.)
Flow Velocity =    1.10(Ft/s)
Travel time  =    3.72 min.
Time of concentration =   25.76 min.
Critical depth =      0.137(Ft.)
 Adding area flow to channel
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000     Max loss rate(Fm)=     0.032(In/Hr)
Rainfall intensity =      2.512(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff =      2.249(CFS) for    1.630(Ac.)
Total runoff =     15.512(CFS)
Effective area this stream =        6.95(Ac.)
Total Study Area (Main Stream No. 1) =        6.95(Ac.)
Area averaged Fm value =    0.032(In/Hr)
Depth of flow =   0.272(Ft.), Average velocity =   1.129(Ft/s)
Critical depth =      0.145(Ft.)
End of computations, Total Study Area =            6.95 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number =  91.0
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 44
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 44.000 to Point/Station 44.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 850.000(Ft.)
Top (of initial area) elevation = 1874.300(Ft.)
Bottom (of initial area) elevation = 1871.200(Ft.)
Difference in elevation = 3.100(Ft.)
Slope = 0.00365 s(%)= 0.36
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.659 min.
Rainfall intensity = 2.748(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.889
Subarea runoff = 15.815(CFS)
Total initial stream area = 6.470(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)
End of computations, Total Study Area = 6.47 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study Date: 09/05/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 45
100-YEAR, 1-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.390 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 45.000 to Point/Station 45.100
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.9000 Max loss rate(Fm)= 0.032(In/Hr)
Initial subarea data:
Initial area flow distance = 439.000(Ft.)
Top (of initial area) elevation = 1876.300(Ft.)
Bottom (of initial area) elevation = 1872.800(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.00797 s(%)= 0.80
TC = k(0.496)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 14.878 min.
Rainfall intensity = 3.689(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.892
Subarea runoff = 11.487(CFS)
Total initial stream area = 3.490(Ac.)
Pervious area fraction = 0.900
Initial area Fm value = 0.032(In/Hr)
End of computations, Total Study Area = 3.49 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.900
Area averaged SCS curve number = 91.0

TECHNICAL APPENDIX NO. 7

Developed Conditions
Unit Hydrograph Calculations
100-Year, 24-Hour Storm Event

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 1
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
1.00	1	1.26
Rainfall data for year 100		
1.00	6	1.84
Rainfall data for year 100		
1.00	24	2.50

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	1.00	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.90	0.900	78.0	92.8	0.78	0.705
0.10	0.100	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.725
Area-averaged low loss fraction, Yb = 0.275
User entry of time of concentration = 0.180 (hours)
++
Watershed area = 1.00(Ac.)
Catchment Lag time = 0.144 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 57.8704
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.275 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.598(In)
Computed peak 30-minute rainfall = 1.023(In)
Specified peak 1-hour rainfall = 1.260(In)
Computed peak 3-hour rainfall = 1.589(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.500(In)

Rainfall depth area reduction factors:
Using a total area of 1.00(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.598(In)
30-minute factor = 1.000 Adjusted rainfall = 1.023(In)
1-hour factor = 1.000 Adjusted rainfall = 1.260(In)
3-hour factor = 1.000 Adjusted rainfall = 1.589(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.500(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 12.09 (CFS))	
1	5.194	0.628
2	39.293	4.124
3	66.686	3.313
4	78.397	1.416
5	85.236	0.827
6	89.761	0.547
7	92.821	0.370
8	95.045	0.269
9	96.659	0.195
10	97.739	0.131
11	98.400	0.080
12	99.086	0.083
13	99.645	0.068

14	100.000	0.043

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5979	0.5979
2	0.7360	0.1382
3	0.8313	0.0952
4	0.9062	0.0749
5	0.9689	0.0627
6	1.0234	0.0545
7	1.0718	0.0484
8	1.1156	0.0438
9	1.1558	0.0401
10	1.1929	0.0371
11	1.2275	0.0346
12	1.2599	0.0325
13	1.2814	0.0215
14	1.3017	0.0202
15	1.3208	0.0191
16	1.3389	0.0181
17	1.3562	0.0173
18	1.3727	0.0165
19	1.3885	0.0158
20	1.4036	0.0151
21	1.4181	0.0145
22	1.4322	0.0140
23	1.4457	0.0135
24	1.4587	0.0131
25	1.4714	0.0126
26	1.4836	0.0122
27	1.4955	0.0119
28	1.5071	0.0115
29	1.5183	0.0112
30	1.5292	0.0109
31	1.5398	0.0106
32	1.5502	0.0104
33	1.5603	0.0101
34	1.5702	0.0099
35	1.5798	0.0097
36	1.5893	0.0094
37	1.5985	0.0092
38	1.6075	0.0090
39	1.6164	0.0088
40	1.6251	0.0087
41	1.6336	0.0085
42	1.6419	0.0083
43	1.6501	0.0082
44	1.6581	0.0080
45	1.6660	0.0079
46	1.6738	0.0078
47	1.6814	0.0076
48	1.6889	0.0075
49	1.6963	0.0074
50	1.7035	0.0073
51	1.7107	0.0071
52	1.7177	0.0070
53	1.7246	0.0069
54	1.7315	0.0068
55	1.7382	0.0067

56	1.7448	0.0066
57	1.7514	0.0065
58	1.7578	0.0064
59	1.7642	0.0064
60	1.7704	0.0063
61	1.7766	0.0062
62	1.7828	0.0061
63	1.7888	0.0060
64	1.7948	0.0060
65	1.8006	0.0059
66	1.8065	0.0058
67	1.8122	0.0058
68	1.8179	0.0057
69	1.8235	0.0056
70	1.8291	0.0056
71	1.8346	0.0055
72	1.8400	0.0054
73	1.8456	0.0056
74	1.8512	0.0056
75	1.8567	0.0055
76	1.8621	0.0054
77	1.8675	0.0054
78	1.8728	0.0053
79	1.8781	0.0053
80	1.8834	0.0052
81	1.8885	0.0052
82	1.8937	0.0051
83	1.8988	0.0051
84	1.9038	0.0050
85	1.9088	0.0050
86	1.9137	0.0049
87	1.9186	0.0049
88	1.9235	0.0049
89	1.9283	0.0048
90	1.9331	0.0048
91	1.9378	0.0047
92	1.9425	0.0047
93	1.9471	0.0046
94	1.9517	0.0046
95	1.9563	0.0046
96	1.9608	0.0045
97	1.9653	0.0045
98	1.9698	0.0045
99	1.9742	0.0044
100	1.9786	0.0044
101	1.9830	0.0044
102	1.9873	0.0043
103	1.9916	0.0043
104	1.9959	0.0043
105	2.0001	0.0042
106	2.0043	0.0042
107	2.0084	0.0042
108	2.0126	0.0041
109	2.0167	0.0041
110	2.0208	0.0041
111	2.0248	0.0040
112	2.0288	0.0040
113	2.0328	0.0040
114	2.0368	0.0040

115	2.0407	0.0039
116	2.0446	0.0039
117	2.0485	0.0039
118	2.0524	0.0039
119	2.0562	0.0038
120	2.0600	0.0038
121	2.0638	0.0038
122	2.0676	0.0038
123	2.0713	0.0037
124	2.0750	0.0037
125	2.0787	0.0037
126	2.0824	0.0037
127	2.0860	0.0036
128	2.0896	0.0036
129	2.0932	0.0036
130	2.0968	0.0036
131	2.1004	0.0036
132	2.1039	0.0035
133	2.1074	0.0035
134	2.1109	0.0035
135	2.1144	0.0035
136	2.1178	0.0035
137	2.1213	0.0034
138	2.1247	0.0034
139	2.1281	0.0034
140	2.1314	0.0034
141	2.1348	0.0034
142	2.1381	0.0033
143	2.1415	0.0033
144	2.1448	0.0033
145	2.1480	0.0033
146	2.1513	0.0033
147	2.1546	0.0032
148	2.1578	0.0032
149	2.1610	0.0032
150	2.1642	0.0032
151	2.1674	0.0032
152	2.1706	0.0032
153	2.1737	0.0031
154	2.1768	0.0031
155	2.1800	0.0031
156	2.1831	0.0031
157	2.1861	0.0031
158	2.1892	0.0031
159	2.1923	0.0031
160	2.1953	0.0030
161	2.1983	0.0030
162	2.2013	0.0030
163	2.2043	0.0030
164	2.2073	0.0030
165	2.2103	0.0030
166	2.2133	0.0030
167	2.2162	0.0029
168	2.2191	0.0029
169	2.2220	0.0029
170	2.2249	0.0029
171	2.2278	0.0029
172	2.2307	0.0029
173	2.2336	0.0029

174	2.2364	0.0028
175	2.2392	0.0028
176	2.2421	0.0028
177	2.2449	0.0028
178	2.2477	0.0028
179	2.2505	0.0028
180	2.2532	0.0028
181	2.2560	0.0028
182	2.2587	0.0028
183	2.2615	0.0027
184	2.2642	0.0027
185	2.2669	0.0027
186	2.2696	0.0027
187	2.2723	0.0027
188	2.2750	0.0027
189	2.2777	0.0027
190	2.2803	0.0027
191	2.2830	0.0026
192	2.2856	0.0026
193	2.2882	0.0026
194	2.2909	0.0026
195	2.2935	0.0026
196	2.2961	0.0026
197	2.2986	0.0026
198	2.3012	0.0026
199	2.3038	0.0026
200	2.3063	0.0026
201	2.3089	0.0025
202	2.3114	0.0025
203	2.3139	0.0025
204	2.3165	0.0025
205	2.3190	0.0025
206	2.3215	0.0025
207	2.3240	0.0025
208	2.3264	0.0025
209	2.3289	0.0025
210	2.3314	0.0025
211	2.3338	0.0025
212	2.3362	0.0024
213	2.3387	0.0024
214	2.3411	0.0024
215	2.3435	0.0024
216	2.3459	0.0024
217	2.3483	0.0024
218	2.3507	0.0024
219	2.3531	0.0024
220	2.3555	0.0024
221	2.3578	0.0024
222	2.3602	0.0024
223	2.3625	0.0023
224	2.3649	0.0023
225	2.3672	0.0023
226	2.3695	0.0023
227	2.3718	0.0023
228	2.3741	0.0023
229	2.3764	0.0023
230	2.3787	0.0023
231	2.3810	0.0023
232	2.3833	0.0023

233	2.3856	0.0023	
234	2.3878	0.0023	
235	2.3901	0.0023	
236	2.3923	0.0022	
237	2.3945	0.0022	
238	2.3968	0.0022	
239	2.3990	0.0022	
240	2.4012	0.0022	
241	2.4034	0.0022	
242	2.4056	0.0022	
243	2.4078	0.0022	
244	2.4100	0.0022	
245	2.4122	0.0022	
246	2.4144	0.0022	
247	2.4165	0.0022	
248	2.4187	0.0022	
249	2.4208	0.0022	
250	2.4230	0.0021	
251	2.4251	0.0021	
252	2.4273	0.0021	
253	2.4294	0.0021	
254	2.4315	0.0021	
255	2.4336	0.0021	
256	2.4357	0.0021	
257	2.4378	0.0021	
258	2.4399	0.0021	
259	2.4420	0.0021	
260	2.4441	0.0021	
261	2.4462	0.0021	
262	2.4482	0.0021	
263	2.4503	0.0021	
264	2.4524	0.0021	
265	2.4544	0.0021	
266	2.4565	0.0020	
267	2.4585	0.0020	
268	2.4605	0.0020	
269	2.4626	0.0020	
270	2.4646	0.0020	
271	2.4666	0.0020	
272	2.4686	0.0020	
273	2.4706	0.0020	
274	2.4726	0.0020	
275	2.4746	0.0020	
276	2.4766	0.0020	
277	2.4786	0.0020	
278	2.4805	0.0020	
279	2.4825	0.0020	
280	2.4845	0.0020	
281	2.4864	0.0020	
282	2.4884	0.0020	
283	2.4903	0.0019	
284	2.4923	0.0019	
285	2.4942	0.0019	
286	2.4961	0.0019	
287	2.4981	0.0019	
288	2.5000	0.0019	

Unit Period	Unit Rainfall	Unit Soil-Loss	Effective Rainfall

(number)	(In)	(In)	(In)
1	0.0019	0.0005	0.0014
2	0.0019	0.0005	0.0014
3	0.0019	0.0005	0.0014
4	0.0019	0.0005	0.0014
5	0.0020	0.0005	0.0014
6	0.0020	0.0005	0.0014
7	0.0020	0.0005	0.0014
8	0.0020	0.0005	0.0014
9	0.0020	0.0005	0.0014
10	0.0020	0.0005	0.0014
11	0.0020	0.0006	0.0015
12	0.0020	0.0006	0.0015
13	0.0020	0.0006	0.0015
14	0.0020	0.0006	0.0015
15	0.0020	0.0006	0.0015
16	0.0020	0.0006	0.0015
17	0.0021	0.0006	0.0015
18	0.0021	0.0006	0.0015
19	0.0021	0.0006	0.0015
20	0.0021	0.0006	0.0015
21	0.0021	0.0006	0.0015
22	0.0021	0.0006	0.0015
23	0.0021	0.0006	0.0015
24	0.0021	0.0006	0.0015
25	0.0021	0.0006	0.0015
26	0.0021	0.0006	0.0016
27	0.0022	0.0006	0.0016
28	0.0022	0.0006	0.0016
29	0.0022	0.0006	0.0016
30	0.0022	0.0006	0.0016
31	0.0022	0.0006	0.0016
32	0.0022	0.0006	0.0016
33	0.0022	0.0006	0.0016
34	0.0022	0.0006	0.0016
35	0.0022	0.0006	0.0016
36	0.0022	0.0006	0.0016
37	0.0023	0.0006	0.0016
38	0.0023	0.0006	0.0016
39	0.0023	0.0006	0.0017
40	0.0023	0.0006	0.0017
41	0.0023	0.0006	0.0017
42	0.0023	0.0006	0.0017
43	0.0023	0.0006	0.0017
44	0.0023	0.0006	0.0017
45	0.0024	0.0006	0.0017
46	0.0024	0.0006	0.0017
47	0.0024	0.0007	0.0017
48	0.0024	0.0007	0.0017
49	0.0024	0.0007	0.0017
50	0.0024	0.0007	0.0018
51	0.0024	0.0007	0.0018
52	0.0024	0.0007	0.0018
53	0.0025	0.0007	0.0018
54	0.0025	0.0007	0.0018
55	0.0025	0.0007	0.0018
56	0.0025	0.0007	0.0018
57	0.0025	0.0007	0.0018

58	0.0025	0.0007	0.0018
59	0.0025	0.0007	0.0018
60	0.0026	0.0007	0.0019
61	0.0026	0.0007	0.0019
62	0.0026	0.0007	0.0019
63	0.0026	0.0007	0.0019
64	0.0026	0.0007	0.0019
65	0.0026	0.0007	0.0019
66	0.0026	0.0007	0.0019
67	0.0027	0.0007	0.0019
68	0.0027	0.0007	0.0019
69	0.0027	0.0007	0.0020
70	0.0027	0.0007	0.0020
71	0.0027	0.0008	0.0020
72	0.0028	0.0008	0.0020
73	0.0028	0.0008	0.0020
74	0.0028	0.0008	0.0020
75	0.0028	0.0008	0.0020
76	0.0028	0.0008	0.0020
77	0.0028	0.0008	0.0021
78	0.0029	0.0008	0.0021
79	0.0029	0.0008	0.0021
80	0.0029	0.0008	0.0021
81	0.0029	0.0008	0.0021
82	0.0029	0.0008	0.0021
83	0.0030	0.0008	0.0022
84	0.0030	0.0008	0.0022
85	0.0030	0.0008	0.0022
86	0.0030	0.0008	0.0022
87	0.0031	0.0008	0.0022
88	0.0031	0.0008	0.0022
89	0.0031	0.0009	0.0022
90	0.0031	0.0009	0.0023
91	0.0031	0.0009	0.0023
92	0.0032	0.0009	0.0023
93	0.0032	0.0009	0.0023
94	0.0032	0.0009	0.0023
95	0.0032	0.0009	0.0024
96	0.0033	0.0009	0.0024
97	0.0033	0.0009	0.0024
98	0.0033	0.0009	0.0024
99	0.0034	0.0009	0.0024
100	0.0034	0.0009	0.0024
101	0.0034	0.0009	0.0025
102	0.0034	0.0009	0.0025
103	0.0035	0.0010	0.0025
104	0.0035	0.0010	0.0025
105	0.0035	0.0010	0.0026
106	0.0036	0.0010	0.0026
107	0.0036	0.0010	0.0026
108	0.0036	0.0010	0.0026
109	0.0037	0.0010	0.0027
110	0.0037	0.0010	0.0027
111	0.0037	0.0010	0.0027
112	0.0038	0.0010	0.0027
113	0.0038	0.0010	0.0028
114	0.0038	0.0011	0.0028
115	0.0039	0.0011	0.0028
116	0.0039	0.0011	0.0028

117	0.0040	0.0011	0.0029
118	0.0040	0.0011	0.0029
119	0.0040	0.0011	0.0029
120	0.0041	0.0011	0.0030
121	0.0041	0.0011	0.0030
122	0.0042	0.0011	0.0030
123	0.0042	0.0012	0.0031
124	0.0043	0.0012	0.0031
125	0.0043	0.0012	0.0031
126	0.0044	0.0012	0.0032
127	0.0044	0.0012	0.0032
128	0.0045	0.0012	0.0032
129	0.0045	0.0012	0.0033
130	0.0046	0.0013	0.0033
131	0.0046	0.0013	0.0034
132	0.0047	0.0013	0.0034
133	0.0048	0.0013	0.0035
134	0.0048	0.0013	0.0035
135	0.0049	0.0013	0.0036
136	0.0049	0.0014	0.0036
137	0.0050	0.0014	0.0037
138	0.0051	0.0014	0.0037
139	0.0052	0.0014	0.0038
140	0.0052	0.0014	0.0038
141	0.0053	0.0015	0.0039
142	0.0054	0.0015	0.0039
143	0.0055	0.0015	0.0040
144	0.0056	0.0015	0.0040
145	0.0054	0.0015	0.0039
146	0.0055	0.0015	0.0040
147	0.0056	0.0015	0.0041
148	0.0057	0.0016	0.0041
149	0.0058	0.0016	0.0042
150	0.0059	0.0016	0.0043
151	0.0060	0.0017	0.0044
152	0.0061	0.0017	0.0044
153	0.0063	0.0017	0.0046
154	0.0064	0.0017	0.0046
155	0.0065	0.0018	0.0047
156	0.0066	0.0018	0.0048
157	0.0068	0.0019	0.0049
158	0.0069	0.0019	0.0050
159	0.0071	0.0020	0.0052
160	0.0073	0.0020	0.0053
161	0.0075	0.0021	0.0054
162	0.0076	0.0021	0.0055
163	0.0079	0.0022	0.0057
164	0.0080	0.0022	0.0058
165	0.0083	0.0023	0.0060
166	0.0085	0.0023	0.0062
167	0.0088	0.0024	0.0064
168	0.0090	0.0025	0.0066
169	0.0094	0.0026	0.0068
170	0.0097	0.0027	0.0070
171	0.0101	0.0028	0.0073
172	0.0104	0.0029	0.0075
173	0.0109	0.0030	0.0079
174	0.0112	0.0031	0.0081
175	0.0119	0.0033	0.0086

176	0.0122	0.0034	0.0089
177	0.0131	0.0036	0.0095
178	0.0135	0.0037	0.0098
179	0.0145	0.0040	0.0105
180	0.0151	0.0042	0.0110
181	0.0165	0.0045	0.0120
182	0.0173	0.0047	0.0125
183	0.0191	0.0053	0.0139
184	0.0202	0.0056	0.0147
185	0.0325	0.0089	0.0235
186	0.0346	0.0095	0.0251
187	0.0401	0.0105	0.0296
188	0.0438	0.0105	0.0333
189	0.0545	0.0105	0.0440
190	0.0627	0.0105	0.0522
191	0.0952	0.0105	0.0847
192	0.1382	0.0105	0.1277
193	0.5979	0.0105	0.5874
194	0.0749	0.0105	0.0644
195	0.0484	0.0105	0.0379
196	0.0371	0.0102	0.0269
197	0.0215	0.0059	0.0156
198	0.0181	0.0050	0.0132
199	0.0158	0.0043	0.0114
200	0.0140	0.0039	0.0102
201	0.0126	0.0035	0.0092
202	0.0115	0.0032	0.0084
203	0.0106	0.0029	0.0077
204	0.0099	0.0027	0.0072
205	0.0092	0.0025	0.0067
206	0.0087	0.0024	0.0063
207	0.0082	0.0023	0.0059
208	0.0078	0.0021	0.0056
209	0.0074	0.0020	0.0053
210	0.0070	0.0019	0.0051
211	0.0067	0.0018	0.0049
212	0.0064	0.0018	0.0047
213	0.0062	0.0017	0.0045
214	0.0060	0.0016	0.0043
215	0.0058	0.0016	0.0042
216	0.0056	0.0015	0.0040
217	0.0056	0.0015	0.0041
218	0.0054	0.0015	0.0039
219	0.0053	0.0015	0.0038
220	0.0051	0.0014	0.0037
221	0.0050	0.0014	0.0036
222	0.0049	0.0013	0.0035
223	0.0047	0.0013	0.0034
224	0.0046	0.0013	0.0033
225	0.0045	0.0012	0.0033
226	0.0044	0.0012	0.0032
227	0.0043	0.0012	0.0031
228	0.0042	0.0012	0.0030
229	0.0041	0.0011	0.0030
230	0.0040	0.0011	0.0029
231	0.0039	0.0011	0.0029
232	0.0039	0.0011	0.0028
233	0.0038	0.0010	0.0027
234	0.0037	0.0010	0.0027

235	0.0036	0.0010	0.0026
236	0.0036	0.0010	0.0026
237	0.0035	0.0010	0.0025
238	0.0035	0.0009	0.0025
239	0.0034	0.0009	0.0025
240	0.0033	0.0009	0.0024
241	0.0033	0.0009	0.0024
242	0.0032	0.0009	0.0023
243	0.0032	0.0009	0.0023
244	0.0031	0.0009	0.0023
245	0.0031	0.0008	0.0022
246	0.0030	0.0008	0.0022
247	0.0030	0.0008	0.0022
248	0.0030	0.0008	0.0021
249	0.0029	0.0008	0.0021
250	0.0029	0.0008	0.0021
251	0.0028	0.0008	0.0021
252	0.0028	0.0008	0.0020
253	0.0028	0.0008	0.0020
254	0.0027	0.0007	0.0020
255	0.0027	0.0007	0.0020
256	0.0027	0.0007	0.0019
257	0.0026	0.0007	0.0019
258	0.0026	0.0007	0.0019
259	0.0026	0.0007	0.0019
260	0.0025	0.0007	0.0018
261	0.0025	0.0007	0.0018
262	0.0025	0.0007	0.0018
263	0.0025	0.0007	0.0018
264	0.0024	0.0007	0.0018
265	0.0024	0.0007	0.0017
266	0.0024	0.0007	0.0017
267	0.0023	0.0006	0.0017
268	0.0023	0.0006	0.0017
269	0.0023	0.0006	0.0017
270	0.0023	0.0006	0.0016
271	0.0023	0.0006	0.0016
272	0.0022	0.0006	0.0016
273	0.0022	0.0006	0.0016
274	0.0022	0.0006	0.0016
275	0.0022	0.0006	0.0016
276	0.0021	0.0006	0.0016
277	0.0021	0.0006	0.0015
278	0.0021	0.0006	0.0015
279	0.0021	0.0006	0.0015
280	0.0021	0.0006	0.0015
281	0.0021	0.0006	0.0015
282	0.0020	0.0006	0.0015
283	0.0020	0.0006	0.0015
284	0.0020	0.0005	0.0014
285	0.0020	0.0005	0.0014
286	0.0020	0.0005	0.0014
287	0.0019	0.0005	0.0014
288	0.0019	0.0005	0.0014

Total soil rain loss = 0.46(In)
Total effective rainfall = 2.04(In)
Peak flow rate in flood hydrograph = 3.10(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.02	Q				
0+35	0.0005	0.02	Q				
0+40	0.0006	0.02	Q				
0+45	0.0008	0.02	Q				
0+50	0.0009	0.02	Q				
0+55	0.0010	0.02	Q				
1+ 0	0.0011	0.02	Q				
1+ 5	0.0012	0.02	Q				
1+10	0.0014	0.02	Q				
1+15	0.0015	0.02	Q				
1+20	0.0016	0.02	Q				
1+25	0.0017	0.02	Q				
1+30	0.0018	0.02	Q				
1+35	0.0020	0.02	Q				
1+40	0.0021	0.02	Q				
1+45	0.0022	0.02	Q				
1+50	0.0023	0.02	Q				
1+55	0.0025	0.02	Q				
2+ 0	0.0026	0.02	Q				
2+ 5	0.0027	0.02	Q				
2+10	0.0029	0.02	Q				
2+15	0.0030	0.02	Q				
2+20	0.0031	0.02	Q				
2+25	0.0032	0.02	Q				
2+30	0.0034	0.02	Q				
2+35	0.0035	0.02	Q				
2+40	0.0036	0.02	Q				
2+45	0.0038	0.02	Q				
2+50	0.0039	0.02	Q				
2+55	0.0040	0.02	Q				
3+ 0	0.0042	0.02	Q				
3+ 5	0.0043	0.02	QV				
3+10	0.0044	0.02	QV				
3+15	0.0046	0.02	QV				
3+20	0.0047	0.02	QV				
3+25	0.0048	0.02	QV				
3+30	0.0050	0.02	QV				
3+35	0.0051	0.02	QV				
3+40	0.0053	0.02	QV				
3+45	0.0054	0.02	QV				
3+50	0.0055	0.02	QV				
3+55	0.0057	0.02	QV				
4+ 0	0.0058	0.02	QV				
4+ 5	0.0060	0.02	QV				

4+10	0.0061	0.02	QV				
4+15	0.0063	0.02	QV				
4+20	0.0064	0.02	QV				
4+25	0.0066	0.02	QV				
4+30	0.0067	0.02	QV				
4+35	0.0068	0.02	QV				
4+40	0.0070	0.02	QV				
4+45	0.0071	0.02	QV				
4+50	0.0073	0.02	QV				
4+55	0.0074	0.02	QV				
5+ 0	0.0076	0.02	QV				
5+ 5	0.0078	0.02	QV				
5+10	0.0079	0.02	QV				
5+15	0.0081	0.02	QV				
5+20	0.0082	0.02	QV				
5+25	0.0084	0.02	QV				
5+30	0.0085	0.02	Q V				
5+35	0.0087	0.02	Q V				
5+40	0.0088	0.02	Q V				
5+45	0.0090	0.02	Q V				
5+50	0.0092	0.02	Q V				
5+55	0.0093	0.02	Q V				
6+ 0	0.0095	0.02	Q V				
6+ 5	0.0097	0.02	Q V				
6+10	0.0098	0.02	Q V				
6+15	0.0100	0.02	Q V				
6+20	0.0102	0.02	Q V				
6+25	0.0103	0.02	Q V				
6+30	0.0105	0.02	Q V				
6+35	0.0107	0.02	Q V				
6+40	0.0108	0.03	Q V				
6+45	0.0110	0.03	Q V				
6+50	0.0112	0.03	Q V				
6+55	0.0114	0.03	Q V				
7+ 0	0.0115	0.03	Q V				
7+ 5	0.0117	0.03	Q V				
7+10	0.0119	0.03	Q V				
7+15	0.0121	0.03	Q V				
7+20	0.0123	0.03	Q V				
7+25	0.0125	0.03	Q V				
7+30	0.0126	0.03	Q V				
7+35	0.0128	0.03	Q V				
7+40	0.0130	0.03	Q V				
7+45	0.0132	0.03	Q V				
7+50	0.0134	0.03	Q V				
7+55	0.0136	0.03	Q V				
8+ 0	0.0138	0.03	Q V				
8+ 5	0.0140	0.03	Q V				
8+10	0.0142	0.03	Q V				
8+15	0.0144	0.03	Q V				
8+20	0.0146	0.03	Q V				
8+25	0.0148	0.03	Q V				
8+30	0.0150	0.03	Q V				
8+35	0.0152	0.03	Q V				
8+40	0.0154	0.03	Q V				
8+45	0.0156	0.03	Q V				
8+50	0.0158	0.03	Q V				
8+55	0.0160	0.03	Q V				
9+ 0	0.0162	0.03	Q V				

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 9+ 5       0.0164      0.03  Q  V      |          |          |          |
 9+10       0.0167      0.03  Q  V      |          |          |          |
 9+15       0.0169      0.03  Q  V      |          |          |          |
 9+20       0.0171      0.03  Q   V     |          |          |          |
 9+25       0.0173      0.03  Q   V     |          |          |          |
 9+30       0.0176      0.03  Q   V     |          |          |          |
 9+35       0.0178      0.03  Q   V     |          |          |          |
 9+40       0.0180      0.03  Q   V     |          |          |          |
 9+45       0.0182      0.03  Q   V     |          |          |          |
 9+50       0.0185      0.03  Q   V     |          |          |          |
 9+55       0.0187      0.03  Q   V     |          |          |          |
10+ 0       0.0190      0.03  Q   V     |          |          |          |
10+ 5       0.0192      0.04  Q   V     |          |          |          |
10+10       0.0194      0.04  Q   V     |          |          |          |
10+15       0.0197      0.04  Q   V     |          |          |          |
10+20       0.0199      0.04  Q   V     |          |          |          |
10+25       0.0202      0.04  Q   V     |          |          |          |
10+30       0.0205      0.04  Q   V     |          |          |          |
10+35       0.0207      0.04  Q   V     |          |          |          |
10+40       0.0210      0.04  Q   V     |          |          |          |
10+45       0.0212      0.04  Q    V    |          |          |          |
10+50       0.0215      0.04  Q    V    |          |          |          |
10+55       0.0218      0.04  Q    V    |          |          |          |
11+ 0       0.0221      0.04  Q    V    |          |          |          |
11+ 5       0.0223      0.04  Q    V    |          |          |          |
11+10       0.0226      0.04  Q    V    |          |          |          |
11+15       0.0229      0.04  Q    V    |          |          |          |
11+20       0.0232      0.04  Q    V    |          |          |          |
11+25       0.0235      0.04  Q    V    |          |          |          |
11+30       0.0238      0.04  Q    V    |          |          |          |
11+35       0.0241      0.04  Q    V    |          |          |          |
11+40       0.0244      0.04  Q    V    |          |          |          |
11+45       0.0247      0.04  Q    V    |          |          |          |
11+50       0.0250      0.05  Q    V    |          |          |          |
11+55       0.0253      0.05  Q    V    |          |          |          |
12+ 0       0.0257      0.05  Q     V   |          |          |          |
12+ 5       0.0260      0.05  Q     V   |          |          |          |
12+10       0.0263      0.05  Q     V   |          |          |          |
12+15       0.0266      0.05  Q     V   |          |          |          |
12+20       0.0270      0.05  Q     V   |          |          |          |
12+25       0.0273      0.05  Q     V   |          |          |          |
12+30       0.0277      0.05  Q     V   |          |          |          |
12+35       0.0280      0.05  Q     V   |          |          |          |
12+40       0.0284      0.05  Q     V   |          |          |          |
12+45       0.0287      0.05  Q     V   |          |          |          |
12+50       0.0291      0.05  Q     V   |          |          |          |
12+55       0.0295      0.05  Q     V   |          |          |          |
13+ 0       0.0298      0.06  Q      V  |          |          |          |
13+ 5       0.0302      0.06  Q      V  |          |          |          |
13+10       0.0306      0.06  Q      V  |          |          |          |
13+15       0.0310      0.06  Q      V  |          |          |          |
13+20       0.0315      0.06  Q      V  |          |          |          |
13+25       0.0319      0.06  Q      V  |          |          |          |
13+30       0.0323      0.06  Q      V  |          |          |          |
13+35       0.0328      0.06  Q      V  |          |          |          |
13+40       0.0332      0.07  Q      V  |          |          |          |
13+45       0.0337      0.07  Q      V  |          |          |          |
13+50       0.0342      0.07  Q       V |          |          |          |
13+55       0.0347      0.07  Q       V |          |          |          |
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14+ 0       0.0352      0.07  Q       V |         |         |         |
14+ 5       0.0357      0.08  Q       V |         |         |         |
14+10       0.0362      0.08  Q       V |         |         |         |
14+15       0.0368      0.08  Q       V |         |         |         |
14+20       0.0374      0.08  Q       V |         |         |         |
14+25       0.0380      0.09  Q       V |         |         |         |
14+30       0.0386      0.09  Q        V|         |         |         |
14+35       0.0392      0.09  Q        V|         |         |         |
14+40       0.0399      0.10  Q        V|         |         |         |
14+45       0.0406      0.10  Q        V|         |         |         |
14+50       0.0414      0.11  Q        V|         |         |         |
14+55       0.0421      0.11  Q        V|         |         |         |
15+ 0       0.0429      0.12  Q         V         |         |         |
15+ 5       0.0438      0.12  Q         V         |         |         |
15+10       0.0447      0.13  Q         V         |         |         |
15+15       0.0457      0.14  Q         V         |         |         |
15+20       0.0467      0.15  Q         |V        |         |         |
15+25       0.0479      0.17  Q         |V        |         |         |
15+30       0.0493      0.21  Q         |V        |         |         |
15+35       0.0510      0.25  |Q        | V       |         |         |
15+40       0.0531      0.29  |Q        | V       |         |         |
15+45       0.0554      0.34  |Q        |  V      |         |         |
15+50       0.0583      0.42  |Q        |  V      |         |         |
15+55       0.0619      0.52  | Q       |   V     |         |         |
16+ 0       0.0669      0.73  | Q       |    V    |         |         |
16+ 5       0.0761      1.33  |    Q    |      V  |         |         |
16+10       0.0975      3.10  |         | Q       | V       |         |
16+15       0.1150      2.55  |         Q         |      V  |         |
16+20       0.1248      1.42  |    Q    |         |        V|         |
16+25       0.1314      0.96  |  Q      |         |         V         |
16+30       0.1361      0.68  | Q       |         |         | V       |
16+35       0.1396      0.50  | Q       |         |         | V       |
16+40       0.1423      0.39  |Q        |         |         |  V      |
16+45       0.1444      0.31  |Q        |         |         |   V     |
16+50       0.1461      0.24  Q         |         |         |   V     |
16+55       0.1474      0.20  Q         |         |         |   V     |
17+ 0       0.1487      0.18  Q         |         |         |    V    |
17+ 5       0.1497      0.15  Q         |         |         |    V    |
17+10       0.1506      0.12  Q         |         |         |    V    |
17+15       0.1512      0.09  Q         |         |         |    V    |
17+20       0.1518      0.08  Q         |         |         |    V    |
17+25       0.1523      0.08  Q         |         |         |    V    |
17+30       0.1528      0.07  Q         |         |         |     V   |
17+35       0.1533      0.07  Q         |         |         |     V   |
17+40       0.1537      0.06  Q         |         |         |     V   |
17+45       0.1541      0.06  Q         |         |         |     V   |
17+50       0.1545      0.06  Q         |         |         |     V   |
17+55       0.1549      0.06  Q         |         |         |     V   |
18+ 0       0.1553      0.05  Q         |         |         |     V   |
18+ 5       0.1556      0.05  Q         |         |         |     V   |
18+10       0.1560      0.05  Q         |         |         |     V   |
18+15       0.1563      0.05  Q         |         |         |     V   |
18+20       0.1567      0.05  Q         |         |         |     V   |
18+25       0.1570      0.05  Q         |         |         |      V  |
18+30       0.1573      0.05  Q         |         |         |      V  |
18+35       0.1576      0.04  Q         |         |         |      V  |
18+40       0.1579      0.04  Q         |         |         |      V  |
18+45       0.1582      0.04  Q         |         |         |      V  |
18+50       0.1585      0.04  Q         |         |         |      V  |
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18+55	0.1588	0.04	Q	|	|	|	V |
19+ 0	0.1590	0.04	Q	|	|	|	V |
19+ 5	0.1593	0.04	Q	|	|	|	V |
19+10	0.1596	0.04	Q	|	|	|	V |
19+15	0.1598	0.04	Q	|	|	|	V |
19+20	0.1601	0.04	Q	|	|	|	V |
19+25	0.1603	0.04	Q	|	|	|	V |
19+30	0.1605	0.03	Q	|	|	|	V |
19+35	0.1608	0.03	Q	|	|	|	V |
19+40	0.1610	0.03	Q	|	|	|	V |
19+45	0.1612	0.03	Q	|	|	|	V |
19+50	0.1614	0.03	Q	|	|	|	V |
19+55	0.1617	0.03	Q	|	|	|	V |
20+ 0	0.1619	0.03	Q	|	|	|	V |
20+ 5	0.1621	0.03	Q	|	|	|	V |
20+10	0.1623	0.03	Q	|	|	|	V |
20+15	0.1625	0.03	Q	|	|	|	V |
20+20	0.1627	0.03	Q	|	|	|	V |
20+25	0.1629	0.03	Q	|	|	|	V |
20+30	0.1631	0.03	Q	|	|	|	V |
20+35	0.1632	0.03	Q	|	|	|	V |
20+40	0.1634	0.03	Q	|	|	|	V |
20+45	0.1636	0.03	Q	|	|	|	V |
20+50	0.1638	0.03	Q	|	|	|	V |
20+55	0.1640	0.03	Q	|	|	|	V |
21+ 0	0.1641	0.03	Q	|	|	|	V |
21+ 5	0.1643	0.03	Q	|	|	|	V |
21+10	0.1645	0.02	Q	|	|	|	V |
21+15	0.1647	0.02	Q	|	|	|	V |
21+20	0.1648	0.02	Q	|	|	|	V |
21+25	0.1650	0.02	Q	|	|	|	V |
21+30	0.1651	0.02	Q	|	|	|	V |
21+35	0.1653	0.02	Q	|	|	|	V |
21+40	0.1655	0.02	Q	|	|	|	V|
21+45	0.1656	0.02	Q	|	|	|	V|
21+50	0.1658	0.02	Q	|	|	|	V|
21+55	0.1659	0.02	Q	|	|	|	V|
22+ 0	0.1661	0.02	Q	|	|	|	V|
22+ 5	0.1662	0.02	Q	|	|	|	V|
22+10	0.1664	0.02	Q	|	|	|	V|
22+15	0.1665	0.02	Q	|	|	|	V|
22+20	0.1667	0.02	Q	|	|	|	V|
22+25	0.1668	0.02	Q	|	|	|	V|
22+30	0.1670	0.02	Q	|	|	|	V|
22+35	0.1671	0.02	Q	|	|	|	V|
22+40	0.1672	0.02	Q	|	|	|	V|
22+45	0.1674	0.02	Q	|	|	|	V|
22+50	0.1675	0.02	Q	|	|	|	V|
22+55	0.1676	0.02	Q	|	|	|	V|
23+ 0	0.1678	0.02	Q	|	|	|	V|
23+ 5	0.1679	0.02	Q	|	|	|	V|
23+10	0.1680	0.02	Q	|	|	|	V|
23+15	0.1682	0.02	Q	|	|	|	V|
23+20	0.1683	0.02	Q	|	|	|	V|
23+25	0.1684	0.02	Q	|	|	|	V|
23+30	0.1685	0.02	Q	|	|	|	V|
23+35	0.1687	0.02	Q	|	|	|	V|
23+40	0.1688	0.02	Q	|	|	|	V|
23+45	0.1689	0.02	Q	|	|	|	V|

```
   23+50       0.1690      0.02  Q         |          |         |        V|
   23+55       0.1692      0.02  Q         |          |         |        V|
   24+ 0       0.1693      0.02  Q         |          |         |        V|
   24+ 5       0.1694      0.02  Q         |          |         |        V|
   24+10       0.1695      0.01  Q         |          |         |        V|
   24+15       0.1695      0.01  Q         |          |         |        V|
   24+20       0.1695      0.00  Q         |          |         |        V|
   24+25       0.1695      0.00  Q         |          |         |        V|
   24+30       0.1696      0.00  Q         |          |         |        V|
   24+35       0.1696      0.00  Q         |          |         |        V|
   24+40       0.1696      0.00  Q         |          |         |        V|
   24+45       0.1696      0.00  Q         |          |         |        V|
   24+50       0.1696      0.00  Q         |          |         |        V|
   24+55       0.1696      0.00  Q         |          |         |        V|
   25+ 0       0.1696      0.00  Q         |          |         |        V|
   25+ 5       0.1696      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 2
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
1.55	1	1.27
Rainfall data for year 100		
1.55	6	1.84
Rainfall data for year 100		
1.55	24	2.49

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	1.55	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1.40	0.900	78.0	92.8	0.78	0.704
0.15	0.100	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.724
Area-averaged low loss fraction, Yb = 0.276
User entry of time of concentration = 0.160 (hours)
++
Watershed area = 1.55(Ac.)
Catchment Lag time = 0.128 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 65.1042
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.276 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.490(In)

Rainfall depth area reduction factors:
Using a total area of 1.55(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.603(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.270(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.490(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 18.75 (CFS))	
1	6.621	1.241
2	46.358	7.449
3	71.060	4.630
4	81.731	2.000
5	88.011	1.177
6	91.943	0.737
7	94.679	0.513
8	96.569	0.354
9	97.782	0.227
10	98.525	0.139
11	99.292	0.144
12	100.000	0.133

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6026	0.6026
2	0.7419	0.1393
3	0.8378	0.0960
4	0.9133	0.0755
5	0.9766	0.0632
6	1.0315	0.0549
7	1.0803	0.0488
8	1.1245	0.0442
9	1.1649	0.0404
10	1.2023	0.0374
11	1.2372	0.0349
12	1.2699	0.0327
13	1.2911	0.0212
14	1.3111	0.0200
15	1.3299	0.0189
16	1.3478	0.0179
17	1.3648	0.0170
18	1.3811	0.0162
19	1.3966	0.0155
20	1.4115	0.0149
21	1.4259	0.0143
22	1.4397	0.0138
23	1.4530	0.0133
24	1.4658	0.0129
25	1.4782	0.0124
26	1.4903	0.0120
27	1.5020	0.0117
28	1.5133	0.0113
29	1.5244	0.0110
30	1.5351	0.0107
31	1.5456	0.0105
32	1.5557	0.0102
33	1.5657	0.0099
34	1.5754	0.0097
35	1.5849	0.0095
36	1.5941	0.0093
37	1.6032	0.0091
38	1.6121	0.0089
39	1.6208	0.0087
40	1.6293	0.0085
41	1.6376	0.0083
42	1.6458	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6695	0.0077
46	1.6771	0.0076
47	1.6846	0.0075
48	1.6919	0.0074
49	1.6991	0.0072
50	1.7063	0.0071
51	1.7133	0.0070
52	1.7202	0.0069
53	1.7270	0.0068
54	1.7337	0.0067
55	1.7403	0.0066
56	1.7468	0.0065
57	1.7532	0.0064

58	1.7595	0.0063
59	1.7657	0.0062
60	1.7719	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7957	0.0058
65	1.8015	0.0058
66	1.8072	0.0057
67	1.8128	0.0056
68	1.8184	0.0056
69	1.8239	0.0055
70	1.8293	0.0054
71	1.8347	0.0054
72	1.8400	0.0053
73	1.8455	0.0055
74	1.8510	0.0055
75	1.8565	0.0054
76	1.8618	0.0054
77	1.8671	0.0053
78	1.8724	0.0053
79	1.8776	0.0052
80	1.8828	0.0052
81	1.8879	0.0051
82	1.8930	0.0051
83	1.8980	0.0050
84	1.9029	0.0050
85	1.9079	0.0049
86	1.9127	0.0049
87	1.9176	0.0048
88	1.9224	0.0048
89	1.9271	0.0047
90	1.9318	0.0047
91	1.9365	0.0047
92	1.9411	0.0046
93	1.9457	0.0046
94	1.9502	0.0045
95	1.9547	0.0045
96	1.9592	0.0045
97	1.9636	0.0044
98	1.9680	0.0044
99	1.9724	0.0044
100	1.9767	0.0043
101	1.9810	0.0043
102	1.9853	0.0043
103	1.9895	0.0042
104	1.9937	0.0042
105	1.9979	0.0042
106	2.0020	0.0041
107	2.0061	0.0041
108	2.0102	0.0041
109	2.0143	0.0040
110	2.0183	0.0040
111	2.0223	0.0040
112	2.0262	0.0040
113	2.0302	0.0039
114	2.0341	0.0039
115	2.0380	0.0039
116	2.0418	0.0039

117	2.0456	0.0038
118	2.0494	0.0038
119	2.0532	0.0038
120	2.0570	0.0038
121	2.0607	0.0037
122	2.0644	0.0037
123	2.0681	0.0037
124	2.0717	0.0037
125	2.0754	0.0036
126	2.0790	0.0036
127	2.0826	0.0036
128	2.0861	0.0036
129	2.0897	0.0035
130	2.0932	0.0035
131	2.0967	0.0035
132	2.1002	0.0035
133	2.1037	0.0035
134	2.1071	0.0034
135	2.1105	0.0034
136	2.1139	0.0034
137	2.1173	0.0034
138	2.1207	0.0034
139	2.1240	0.0033
140	2.1273	0.0033
141	2.1306	0.0033
142	2.1339	0.0033
143	2.1372	0.0033
144	2.1405	0.0033
145	2.1437	0.0032
146	2.1469	0.0032
147	2.1501	0.0032
148	2.1533	0.0032
149	2.1565	0.0032
150	2.1596	0.0032
151	2.1627	0.0031
152	2.1659	0.0031
153	2.1690	0.0031
154	2.1721	0.0031
155	2.1751	0.0031
156	2.1782	0.0031
157	2.1812	0.0030
158	2.1842	0.0030
159	2.1872	0.0030
160	2.1902	0.0030
161	2.1932	0.0030
162	2.1962	0.0030
163	2.1991	0.0030
164	2.2021	0.0029
165	2.2050	0.0029
166	2.2079	0.0029
167	2.2108	0.0029
168	2.2137	0.0029
169	2.2166	0.0029
170	2.2194	0.0029
171	2.2223	0.0028
172	2.2251	0.0028
173	2.2279	0.0028
174	2.2307	0.0028
175	2.2335	0.0028

176	2.2363	0.0028
177	2.2390	0.0028
178	2.2418	0.0028
179	2.2445	0.0027
180	2.2473	0.0027
181	2.2500	0.0027
182	2.2527	0.0027
183	2.2554	0.0027
184	2.2581	0.0027
185	2.2607	0.0027
186	2.2634	0.0027
187	2.2661	0.0026
188	2.2687	0.0026
189	2.2713	0.0026
190	2.2739	0.0026
191	2.2765	0.0026
192	2.2791	0.0026
193	2.2817	0.0026
194	2.2843	0.0026
195	2.2869	0.0026
196	2.2894	0.0026
197	2.2920	0.0025
198	2.2945	0.0025
199	2.2970	0.0025
200	2.2995	0.0025
201	2.3020	0.0025
202	2.3045	0.0025
203	2.3070	0.0025
204	2.3095	0.0025
205	2.3120	0.0025
206	2.3144	0.0025
207	2.3169	0.0024
208	2.3193	0.0024
209	2.3217	0.0024
210	2.3242	0.0024
211	2.3266	0.0024
212	2.3290	0.0024
213	2.3314	0.0024
214	2.3337	0.0024
215	2.3361	0.0024
216	2.3385	0.0024
217	2.3408	0.0024
218	2.3432	0.0023
219	2.3455	0.0023
220	2.3479	0.0023
221	2.3502	0.0023
222	2.3525	0.0023
223	2.3548	0.0023
224	2.3571	0.0023
225	2.3594	0.0023
226	2.3617	0.0023
227	2.3640	0.0023
228	2.3662	0.0023
229	2.3685	0.0023
230	2.3708	0.0023
231	2.3730	0.0022
232	2.3752	0.0022
233	2.3775	0.0022
234	2.3797	0.0022

235	2.3819	0.0022
236	2.3841	0.0022
237	2.3863	0.0022
238	2.3885	0.0022
239	2.3907	0.0022
240	2.3929	0.0022
241	2.3950	0.0022
242	2.3972	0.0022
243	2.3994	0.0022
244	2.4015	0.0022
245	2.4037	0.0021
246	2.4058	0.0021
247	2.4079	0.0021
248	2.4101	0.0021
249	2.4122	0.0021
250	2.4143	0.0021
251	2.4164	0.0021
252	2.4185	0.0021
253	2.4206	0.0021
254	2.4227	0.0021
255	2.4247	0.0021
256	2.4268	0.0021
257	2.4289	0.0021
258	2.4309	0.0021
259	2.4330	0.0021
260	2.4350	0.0020
261	2.4371	0.0020
262	2.4391	0.0020
263	2.4411	0.0020
264	2.4432	0.0020
265	2.4452	0.0020
266	2.4472	0.0020
267	2.4492	0.0020
268	2.4512	0.0020
269	2.4532	0.0020
270	2.4552	0.0020
271	2.4572	0.0020
272	2.4591	0.0020
273	2.4611	0.0020
274	2.4631	0.0020
275	2.4650	0.0020
276	2.4670	0.0020
277	2.4689	0.0019
278	2.4709	0.0019
279	2.4728	0.0019
280	2.4747	0.0019
281	2.4767	0.0019
282	2.4786	0.0019
283	2.4805	0.0019
284	2.4824	0.0019
285	2.4843	0.0019
286	2.4862	0.0019
287	2.4881	0.0019
288	2.4900	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)

1	0.0019	0.0005	0.0014
2	0.0019	0.0005	0.0014
3	0.0019	0.0005	0.0014
4	0.0019	0.0005	0.0014
5	0.0019	0.0005	0.0014
6	0.0019	0.0005	0.0014
7	0.0019	0.0005	0.0014
8	0.0019	0.0005	0.0014
9	0.0020	0.0005	0.0014
10	0.0020	0.0005	0.0014
11	0.0020	0.0005	0.0014
12	0.0020	0.0005	0.0014
13	0.0020	0.0005	0.0014
14	0.0020	0.0005	0.0014
15	0.0020	0.0006	0.0015
16	0.0020	0.0006	0.0015
17	0.0020	0.0006	0.0015
18	0.0020	0.0006	0.0015
19	0.0020	0.0006	0.0015
20	0.0020	0.0006	0.0015
21	0.0021	0.0006	0.0015
22	0.0021	0.0006	0.0015
23	0.0021	0.0006	0.0015
24	0.0021	0.0006	0.0015
25	0.0021	0.0006	0.0015
26	0.0021	0.0006	0.0015
27	0.0021	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0016
31	0.0022	0.0006	0.0016
32	0.0022	0.0006	0.0016
33	0.0022	0.0006	0.0016
34	0.0022	0.0006	0.0016
35	0.0022	0.0006	0.0016
36	0.0022	0.0006	0.0016
37	0.0022	0.0006	0.0016
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0023	0.0006	0.0016
41	0.0023	0.0006	0.0016
42	0.0023	0.0006	0.0016
43	0.0023	0.0006	0.0017
44	0.0023	0.0006	0.0017
45	0.0023	0.0006	0.0017
46	0.0023	0.0006	0.0017
47	0.0023	0.0006	0.0017
48	0.0023	0.0006	0.0017
49	0.0024	0.0007	0.0017
50	0.0024	0.0007	0.0017
51	0.0024	0.0007	0.0017
52	0.0024	0.0007	0.0017
53	0.0024	0.0007	0.0018
54	0.0024	0.0007	0.0018
55	0.0024	0.0007	0.0018
56	0.0025	0.0007	0.0018
57	0.0025	0.0007	0.0018
58	0.0025	0.0007	0.0018
59	0.0025	0.0007	0.0018

60	0.0025	0.0007	0.0018
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0026	0.0007	0.0019
64	0.0026	0.0007	0.0019
65	0.0026	0.0007	0.0019
66	0.0026	0.0007	0.0019
67	0.0026	0.0007	0.0019
68	0.0026	0.0007	0.0019
69	0.0027	0.0007	0.0019
70	0.0027	0.0007	0.0019
71	0.0027	0.0007	0.0020
72	0.0027	0.0007	0.0020
73	0.0027	0.0008	0.0020
74	0.0027	0.0008	0.0020
75	0.0028	0.0008	0.0020
76	0.0028	0.0008	0.0020
77	0.0028	0.0008	0.0020
78	0.0028	0.0008	0.0020
79	0.0028	0.0008	0.0021
80	0.0029	0.0008	0.0021
81	0.0029	0.0008	0.0021
82	0.0029	0.0008	0.0021
83	0.0029	0.0008	0.0021
84	0.0029	0.0008	0.0021
85	0.0030	0.0008	0.0021
86	0.0030	0.0008	0.0022
87	0.0030	0.0008	0.0022
88	0.0030	0.0008	0.0022
89	0.0031	0.0008	0.0022
90	0.0031	0.0008	0.0022
91	0.0031	0.0009	0.0022
92	0.0031	0.0009	0.0023
93	0.0032	0.0009	0.0023
94	0.0032	0.0009	0.0023
95	0.0032	0.0009	0.0023
96	0.0032	0.0009	0.0023
97	0.0033	0.0009	0.0024
98	0.0033	0.0009	0.0024
99	0.0033	0.0009	0.0024
100	0.0033	0.0009	0.0024
101	0.0034	0.0009	0.0024
102	0.0034	0.0009	0.0024
103	0.0034	0.0009	0.0025
104	0.0034	0.0009	0.0025
105	0.0035	0.0010	0.0025
106	0.0035	0.0010	0.0025
107	0.0035	0.0010	0.0026
108	0.0036	0.0010	0.0026
109	0.0036	0.0010	0.0026
110	0.0036	0.0010	0.0026
111	0.0037	0.0010	0.0027
112	0.0037	0.0010	0.0027
113	0.0038	0.0010	0.0027
114	0.0038	0.0010	0.0027
115	0.0038	0.0011	0.0028
116	0.0039	0.0011	0.0028
117	0.0039	0.0011	0.0028
118	0.0039	0.0011	0.0028

119	0.0040	0.0011	0.0029
120	0.0040	0.0011	0.0029
121	0.0041	0.0011	0.0030
122	0.0041	0.0011	0.0030
123	0.0042	0.0011	0.0030
124	0.0042	0.0012	0.0030
125	0.0043	0.0012	0.0031
126	0.0043	0.0012	0.0031
127	0.0044	0.0012	0.0032
128	0.0044	0.0012	0.0032
129	0.0045	0.0012	0.0032
130	0.0045	0.0012	0.0033
131	0.0046	0.0013	0.0033
132	0.0046	0.0013	0.0033
133	0.0047	0.0013	0.0034
134	0.0047	0.0013	0.0034
135	0.0048	0.0013	0.0035
136	0.0049	0.0013	0.0035
137	0.0050	0.0014	0.0036
138	0.0050	0.0014	0.0036
139	0.0051	0.0014	0.0037
140	0.0052	0.0014	0.0037
141	0.0053	0.0015	0.0038
142	0.0053	0.0015	0.0039
143	0.0054	0.0015	0.0039
144	0.0055	0.0015	0.0040
145	0.0053	0.0015	0.0039
146	0.0054	0.0015	0.0039
147	0.0055	0.0015	0.0040
148	0.0056	0.0015	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0042
151	0.0059	0.0016	0.0043
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0045
154	0.0062	0.0017	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0018	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0019	0.0051
160	0.0071	0.0020	0.0052
161	0.0074	0.0020	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0021	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0023	0.0060
167	0.0087	0.0024	0.0063
168	0.0089	0.0024	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0026	0.0069
171	0.0099	0.0027	0.0072
172	0.0102	0.0028	0.0074
173	0.0107	0.0030	0.0078
174	0.0110	0.0030	0.0080
175	0.0117	0.0032	0.0085
176	0.0120	0.0033	0.0087
177	0.0129	0.0035	0.0093

178	0.0133	0.0037	0.0096
179	0.0143	0.0040	0.0104
180	0.0149	0.0041	0.0108
181	0.0162	0.0045	0.0118
182	0.0170	0.0047	0.0123
183	0.0189	0.0052	0.0137
184	0.0200	0.0055	0.0145
185	0.0327	0.0090	0.0237
186	0.0349	0.0096	0.0253
187	0.0404	0.0105	0.0299
188	0.0442	0.0105	0.0337
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0960	0.0105	0.0855
192	0.1393	0.0105	0.1288
193	0.6026	0.0105	0.5921
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0103	0.0271
197	0.0212	0.0059	0.0154
198	0.0179	0.0049	0.0130
199	0.0155	0.0043	0.0113
200	0.0138	0.0038	0.0100
201	0.0124	0.0034	0.0090
202	0.0113	0.0031	0.0082
203	0.0105	0.0029	0.0076
204	0.0097	0.0027	0.0070
205	0.0091	0.0025	0.0066
206	0.0085	0.0023	0.0062
207	0.0080	0.0022	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0018	0.0048
212	0.0063	0.0017	0.0046
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0041
216	0.0054	0.0015	0.0039
217	0.0055	0.0015	0.0040
218	0.0054	0.0015	0.0039
219	0.0052	0.0014	0.0038
220	0.0051	0.0014	0.0037
221	0.0049	0.0014	0.0036
222	0.0048	0.0013	0.0035
223	0.0047	0.0013	0.0034
224	0.0045	0.0013	0.0033
225	0.0044	0.0012	0.0032
226	0.0043	0.0012	0.0031
227	0.0042	0.0012	0.0031
228	0.0041	0.0011	0.0030
229	0.0040	0.0011	0.0029
230	0.0040	0.0011	0.0029
231	0.0039	0.0011	0.0028
232	0.0038	0.0010	0.0028
233	0.0037	0.0010	0.0027
234	0.0037	0.0010	0.0026
235	0.0036	0.0010	0.0026
236	0.0035	0.0010	0.0026

237	0.0035	0.0010	0.0025
238	0.0034	0.0009	0.0025
239	0.0033	0.0009	0.0024
240	0.0033	0.0009	0.0024
241	0.0032	0.0009	0.0023
242	0.0032	0.0009	0.0023
243	0.0031	0.0009	0.0023
244	0.0031	0.0009	0.0022
245	0.0030	0.0008	0.0022
246	0.0030	0.0008	0.0022
247	0.0030	0.0008	0.0021
248	0.0029	0.0008	0.0021
249	0.0029	0.0008	0.0021
250	0.0028	0.0008	0.0020
251	0.0028	0.0008	0.0020
252	0.0028	0.0008	0.0020
253	0.0027	0.0007	0.0020
254	0.0027	0.0007	0.0019
255	0.0026	0.0007	0.0019
256	0.0026	0.0007	0.0019
257	0.0026	0.0007	0.0019
258	0.0026	0.0007	0.0018
259	0.0025	0.0007	0.0018
260	0.0025	0.0007	0.0018
261	0.0025	0.0007	0.0018
262	0.0024	0.0007	0.0018
263	0.0024	0.0007	0.0017
264	0.0024	0.0007	0.0017
265	0.0024	0.0007	0.0017
266	0.0023	0.0006	0.0017
267	0.0023	0.0006	0.0017
268	0.0023	0.0006	0.0017
269	0.0023	0.0006	0.0016
270	0.0022	0.0006	0.0016
271	0.0022	0.0006	0.0016
272	0.0022	0.0006	0.0016
273	0.0022	0.0006	0.0016
274	0.0022	0.0006	0.0016
275	0.0021	0.0006	0.0015
276	0.0021	0.0006	0.0015
277	0.0021	0.0006	0.0015
278	0.0021	0.0006	0.0015
279	0.0021	0.0006	0.0015
280	0.0020	0.0006	0.0015
281	0.0020	0.0006	0.0015
282	0.0020	0.0006	0.0014
283	0.0020	0.0005	0.0014
284	0.0020	0.0005	0.0014
285	0.0019	0.0005	0.0014
286	0.0019	0.0005	0.0014
287	0.0019	0.0005	0.0014
288	0.0019	0.0005	0.0014

Total soil rain loss = 0.46(In)
Total effective rainfall = 2.03(In)
Peak flow rate in flood hydrograph = 5.39(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0007	0.02	Q				
0+35	0.0009	0.02	Q				
0+40	0.0010	0.03	Q				
0+45	0.0012	0.03	Q				
0+50	0.0014	0.03	Q				
0+55	0.0016	0.03	Q				
1+ 0	0.0017	0.03	Q				
1+ 5	0.0019	0.03	Q				
1+10	0.0021	0.03	Q				
1+15	0.0023	0.03	Q				
1+20	0.0025	0.03	Q				
1+25	0.0027	0.03	Q				
1+30	0.0029	0.03	Q				
1+35	0.0031	0.03	Q				
1+40	0.0032	0.03	Q				
1+45	0.0034	0.03	Q				
1+50	0.0036	0.03	Q				
1+55	0.0038	0.03	Q				
2+ 0	0.0040	0.03	Q				
2+ 5	0.0042	0.03	Q				
2+10	0.0044	0.03	Q				
2+15	0.0046	0.03	Q				
2+20	0.0048	0.03	Q				
2+25	0.0050	0.03	Q				
2+30	0.0052	0.03	Q				
2+35	0.0054	0.03	Q				
2+40	0.0056	0.03	Q				
2+45	0.0058	0.03	Q				
2+50	0.0060	0.03	Q				
2+55	0.0062	0.03	Q				
3+ 0	0.0064	0.03	Q				
3+ 5	0.0066	0.03	QV				
3+10	0.0068	0.03	QV				
3+15	0.0070	0.03	QV				
3+20	0.0072	0.03	QV				
3+25	0.0074	0.03	QV				
3+30	0.0076	0.03	QV				
3+35	0.0079	0.03	QV				
3+40	0.0081	0.03	QV				
3+45	0.0083	0.03	QV				
3+50	0.0085	0.03	QV				
3+55	0.0087	0.03	QV				
4+ 0	0.0089	0.03	QV				
4+ 5	0.0092	0.03	QV				
4+10	0.0094	0.03	QV				
4+15	0.0096	0.03	QV				

4+20	0.0098	0.03	QV				
4+25	0.0100	0.03	QV				
4+30	0.0103	0.03	QV				
4+35	0.0105	0.03	QV				
4+40	0.0107	0.03	QV				
4+45	0.0109	0.03	QV				
4+50	0.0112	0.03	QV				
4+55	0.0114	0.03	QV				
5+ 0	0.0116	0.03	QV				
5+ 5	0.0119	0.03	QV				
5+10	0.0121	0.03	QV				
5+15	0.0123	0.03	QV				
5+20	0.0126	0.03	QV				
5+25	0.0128	0.03	QV				
5+30	0.0131	0.03	QV				
5+35	0.0133	0.04	Q V				
5+40	0.0135	0.04	Q V				
5+45	0.0138	0.04	Q V				
5+50	0.0140	0.04	Q V				
5+55	0.0143	0.04	Q V				
6+ 0	0.0145	0.04	Q V				
6+ 5	0.0148	0.04	Q V				
6+10	0.0150	0.04	Q V				
6+15	0.0153	0.04	Q V				
6+20	0.0155	0.04	Q V				
6+25	0.0158	0.04	Q V				
6+30	0.0161	0.04	Q V				
6+35	0.0163	0.04	Q V				
6+40	0.0166	0.04	Q V				
6+45	0.0169	0.04	Q V				
6+50	0.0171	0.04	Q V				
6+55	0.0174	0.04	Q V				
7+ 0	0.0177	0.04	Q V				
7+ 5	0.0179	0.04	Q V				
7+10	0.0182	0.04	Q V				
7+15	0.0185	0.04	Q V				
7+20	0.0188	0.04	Q V				
7+25	0.0190	0.04	Q V				
7+30	0.0193	0.04	Q V				
7+35	0.0196	0.04	Q V				
7+40	0.0199	0.04	Q V				
7+45	0.0202	0.04	Q V				
7+50	0.0205	0.04	Q V				
7+55	0.0208	0.04	Q V				
8+ 0	0.0211	0.04	Q V				
8+ 5	0.0214	0.04	Q V				
8+10	0.0217	0.04	Q V				
8+15	0.0220	0.04	Q V				
8+20	0.0223	0.04	Q V				
8+25	0.0226	0.04	Q V				
8+30	0.0229	0.05	Q V				
8+35	0.0232	0.05	Q V				
8+40	0.0235	0.05	Q V				
8+45	0.0238	0.05	Q V				
8+50	0.0242	0.05	Q V				
8+55	0.0245	0.05	Q V				
9+ 0	0.0248	0.05	Q V				
9+ 5	0.0251	0.05	Q V				
9+10	0.0255	0.05	Q V				

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 9+15       0.0258      0.05  Q  V      |          |          |          |
 9+20       0.0262      0.05  Q  V      |          |          |          |
 9+25       0.0265      0.05  Q   V     |          |          |          |
 9+30       0.0268      0.05  Q   V     |          |          |          |
 9+35       0.0272      0.05  Q   V     |          |          |          |
 9+40       0.0275      0.05  Q   V     |          |          |          |
 9+45       0.0279      0.05  Q   V     |          |          |          |
 9+50       0.0283      0.05  Q   V     |          |          |          |
 9+55       0.0286      0.05  Q   V     |          |          |          |
10+ 0       0.0290      0.05  Q   V     |          |          |          |
10+ 5       0.0294      0.05  Q   V     |          |          |          |
10+10       0.0297      0.05  Q   V     |          |          |          |
10+15       0.0301      0.06  Q   V     |          |          |          |
10+20       0.0305      0.06  Q   V     |          |          |          |
10+25       0.0309      0.06  Q   V     |          |          |          |
10+30       0.0313      0.06  Q   V     |          |          |          |
10+35       0.0317      0.06  Q   V     |          |          |          |
10+40       0.0321      0.06  Q   V     |          |          |          |
10+45       0.0325      0.06  Q   V     |          |          |          |
10+50       0.0329      0.06  Q    V    |          |          |          |
10+55       0.0333      0.06  Q    V    |          |          |          |
11+ 0       0.0337      0.06  Q    V    |          |          |          |
11+ 5       0.0342      0.06  Q    V    |          |          |          |
11+10       0.0346      0.06  Q    V    |          |          |          |
11+15       0.0350      0.06  Q    V    |          |          |          |
11+20       0.0355      0.06  Q    V    |          |          |          |
11+25       0.0359      0.07  Q    V    |          |          |          |
11+30       0.0364      0.07  Q    V    |          |          |          |
11+35       0.0368      0.07  Q    V    |          |          |          |
11+40       0.0373      0.07  Q    V    |          |          |          |
11+45       0.0378      0.07  Q    V    |          |          |          |
11+50       0.0383      0.07  Q    V    |          |          |          |
11+55       0.0388      0.07  Q    V    |          |          |          |
12+ 0       0.0393      0.07  Q    V    |          |          |          |
12+ 5       0.0398      0.07  Q     V   |          |          |          |
12+10       0.0403      0.07  Q     V   |          |          |          |
12+15       0.0408      0.07  Q     V   |          |          |          |
12+20       0.0413      0.07  Q     V   |          |          |          |
12+25       0.0418      0.07  Q     V   |          |          |          |
12+30       0.0423      0.08  Q     V   |          |          |          |
12+35       0.0428      0.08  Q     V   |          |          |          |
12+40       0.0434      0.08  Q     V   |          |          |          |
12+45       0.0439      0.08  Q     V   |          |          |          |
12+50       0.0445      0.08  Q     V   |          |          |          |
12+55       0.0451      0.08  Q     V   |          |          |          |
13+ 0       0.0456      0.08  Q     V   |          |          |          |
13+ 5       0.0462      0.09  Q      V  |          |          |          |
13+10       0.0468      0.09  Q      V  |          |          |          |
13+15       0.0475      0.09  Q      V  |          |          |          |
13+20       0.0481      0.09  Q      V  |          |          |          |
13+25       0.0487      0.09  Q      V  |          |          |          |
13+30       0.0494      0.10  Q      V  |          |          |          |
13+35       0.0501      0.10  Q      V  |          |          |          |
13+40       0.0508      0.10  Q      V  |          |          |          |
13+45       0.0515      0.10  Q      V  |          |          |          |
13+50       0.0523      0.11  Q      V  |          |          |          |
13+55       0.0530      0.11  Q       V |          |          |          |
14+ 0       0.0538      0.11  Q       V |          |          |          |
14+ 5       0.0546      0.12  Q       V |          |          |          |
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14+10       0.0554      0.12  Q       V |         |         |         |
14+15       0.0563      0.12  Q       V |         |         |         |
14+20       0.0572      0.13  Q       V |         |         |         |
14+25       0.0581      0.13  Q       V |         |         |         |
14+30       0.0590      0.14  Q        V|         |         |         |
14+35       0.0600      0.14  Q        V|         |         |         |
14+40       0.0611      0.15  Q        V|         |         |         |
14+45       0.0621      0.16  Q        V|         |         |         |
14+50       0.0633      0.16  Q        V|         |         |         |
14+55       0.0645      0.17  Q        V|         |         |         |
15+ 0       0.0657      0.18  Q         V         |         |         |
15+ 5       0.0670      0.19  Q         V         |         |         |
15+10       0.0684      0.20  Q         V         |         |         |
15+15       0.0699      0.22  Q         V         |         |         |
15+20       0.0716      0.23  Q         V         |         |         |
15+25       0.0734      0.26  |Q        |V         |         |         |
15+30       0.0757      0.34  |Q        |V         |         |         |
15+35       0.0785      0.41  |Q        |V         |         |         |
15+40       0.0817      0.47  |Q        | V        |         |         |
15+45       0.0855      0.55  | Q       |  V       |         |         |
15+50       0.0902      0.68  | Q       |  V       |         |         |
15+55       0.0961      0.85  |  Q      |   V      |         |         |
16+ 0       0.1045      1.22  |   Q     |    V     |         |         |
16+ 5       0.1204      2.31  |        Q|       V  |         |         |
16+10       0.1575      5.39  |         |          |Q  V      |         |
16+15       0.1832      3.72  |         |   Q      |      V  |         |
16+20       0.1975      2.08  |       Q |          |         V         |
16+25       0.2072      1.41  |    Q    |          |         |V        |
16+30       0.2138      0.97  |  Q      |          |         | V       |
16+35       0.2188      0.72  | Q       |          |         |  V      |
16+40       0.2225      0.54  | Q       |          |         |  V      |
16+45       0.2254      0.42  |Q        |          |         |   V     |
16+50       0.2276      0.33  |Q        |          |         |   V     |
16+55       0.2297      0.29  |Q        |          |         |    V    |
17+ 0       0.2314      0.25  |Q        |          |         |    V    |
17+ 5       0.2325      0.16  Q         |          |         |    V    |
17+10       0.2335      0.14  Q         |          |         |    V    |
17+15       0.2344      0.13  Q         |          |         |    V    |
17+20       0.2352      0.12  Q         |          |         |    V    |
17+25       0.2360      0.11  Q         |          |         |     V   |
17+30       0.2367      0.11  Q         |          |         |     V   |
17+35       0.2374      0.10  Q         |          |         |     V   |
17+40       0.2381      0.10  Q         |          |         |     V   |
17+45       0.2387      0.09  Q         |          |         |     V   |
17+50       0.2393      0.09  Q         |          |         |     V   |
17+55       0.2399      0.08  Q         |          |         |     V   |
18+ 0       0.2405      0.08  Q         |          |         |     V   |
18+ 5       0.2410      0.08  Q         |          |         |     V   |
18+10       0.2415      0.08  Q         |          |         |     V   |
18+15       0.2421      0.08  Q         |          |         |     V   |
18+20       0.2426      0.07  Q         |          |         |      V  |
18+25       0.2431      0.07  Q         |          |         |      V  |
18+30       0.2435      0.07  Q         |          |         |      V  |
18+35       0.2440      0.07  Q         |          |         |      V  |
18+40       0.2444      0.07  Q         |          |         |      V  |
18+45       0.2449      0.06  Q         |          |         |      V  |
18+50       0.2453      0.06  Q         |          |         |      V  |
18+55       0.2457      0.06  Q         |          |         |      V  |
19+ 0       0.2461      0.06  Q         |          |         |      V  |
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19+ 5	0.2465	0.06	Q	|	|	|	V |
19+10	0.2469	0.06	Q	|	|	|	V |
19+15	0.2473	0.06	Q	|	|	|	V |
19+20	0.2477	0.05	Q	|	|	|	V |
19+25	0.2481	0.05	Q	|	|	|	V |
19+30	0.2484	0.05	Q	|	|	|	V |
19+35	0.2488	0.05	Q	|	|	|	V |
19+40	0.2491	0.05	Q	|	|	|	V |
19+45	0.2494	0.05	Q	|	|	|	V |
19+50	0.2498	0.05	Q	|	|	|	V |
19+55	0.2501	0.05	Q	|	|	|	V |
20+ 0	0.2504	0.05	Q	|	|	|	V |
20+ 5	0.2507	0.05	Q	|	|	|	V |
20+10	0.2510	0.04	Q	|	|	|	V |
20+15	0.2514	0.04	Q	|	|	|	V |
20+20	0.2517	0.04	Q	|	|	|	V |
20+25	0.2519	0.04	Q	|	|	|	V |
20+30	0.2522	0.04	Q	|	|	|	V |
20+35	0.2525	0.04	Q	|	|	|	V |
20+40	0.2528	0.04	Q	|	|	|	V |
20+45	0.2531	0.04	Q	|	|	|	V |
20+50	0.2534	0.04	Q	|	|	|	V |
20+55	0.2536	0.04	Q	|	|	|	V |
21+ 0	0.2539	0.04	Q	|	|	|	V |
21+ 5	0.2542	0.04	Q	|	|	|	V |
21+10	0.2544	0.04	Q	|	|	|	V |
21+15	0.2547	0.04	Q	|	|	|	V |
21+20	0.2549	0.04	Q	|	|	|	V |
21+25	0.2552	0.04	Q	|	|	|	V |
21+30	0.2554	0.04	Q	|	|	|	V |
21+35	0.2557	0.04	Q	|	|	|	V|
21+40	0.2559	0.03	Q	|	|	|	V|
21+45	0.2561	0.03	Q	|	|	|	V|
21+50	0.2564	0.03	Q	|	|	|	V|
21+55	0.2566	0.03	Q	|	|	|	V|
22+ 0	0.2568	0.03	Q	|	|	|	V|
22+ 5	0.2571	0.03	Q	|	|	|	V|
22+10	0.2573	0.03	Q	|	|	|	V|
22+15	0.2575	0.03	Q	|	|	|	V|
22+20	0.2577	0.03	Q	|	|	|	V|
22+25	0.2579	0.03	Q	|	|	|	V|
22+30	0.2581	0.03	Q	|	|	|	V|
22+35	0.2584	0.03	Q	|	|	|	V|
22+40	0.2586	0.03	Q	|	|	|	V|
22+45	0.2588	0.03	Q	|	|	|	V|
22+50	0.2590	0.03	Q	|	|	|	V|
22+55	0.2592	0.03	Q	|	|	|	V|
23+ 0	0.2594	0.03	Q	|	|	|	V|
23+ 5	0.2596	0.03	Q	|	|	|	V|
23+10	0.2598	0.03	Q	|	|	|	V|
23+15	0.2600	0.03	Q	|	|	|	V|
23+20	0.2602	0.03	Q	|	|	|	V|
23+25	0.2604	0.03	Q	|	|	|	V|
23+30	0.2606	0.03	Q	|	|	|	V|
23+35	0.2607	0.03	Q	|	|	|	V|
23+40	0.2609	0.03	Q	|	|	|	V|
23+45	0.2611	0.03	Q	|	|	|	V|
23+50	0.2613	0.03	Q	|	|	|	V|
23+55	0.2615	0.03	Q	|	|	|	V|

```
   24+ 0       0.2617      0.03  Q         |          |         |        V|
   24+ 5       0.2618      0.02  Q         |          |         |        V|
   24+10       0.2619      0.01  Q         |          |         |        V|
   24+15       0.2620      0.01  Q         |          |         |        V|
   24+20       0.2620      0.00  Q         |          |         |        V|
   24+25       0.2620      0.00  Q         |          |         |        V|
   24+30       0.2621      0.00  Q         |          |         |        V|
   24+35       0.2621      0.00  Q         |          |         |        V|
   24+40       0.2621      0.00  Q         |          |         |        V|
   24+45       0.2621      0.00  Q         |          |         |        V|
   24+50       0.2621      0.00  Q         |          |         |        V|
   24+55       0.2621      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 3
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
4.92	1	1.27
Rainfall data for year 100		
4.92	6	1.84
Rainfall data for year 100		
4.92	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	4.92	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
4.43	0.900	78.0	92.8	0.78	0.703
0.49	0.100	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.723
Area-averaged low loss fraction, Yb = 0.277
User entry of time of concentration = 0.250 (hours)
++
Watershed area = 4.92(Ac.)
Catchment Lag time = 0.200 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 41.6667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.277 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 4.92(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.602(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.270(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.50 (CFS))	
1	2.935	1.746
2	20.613	10.519
3	51.467	18.358
4	67.222	9.374
5	76.108	5.288
6	81.970	3.488
7	86.247	2.545
8	89.430	1.894
9	91.773	1.394
10	93.683	1.136
11	95.168	0.884
12	96.358	0.708
13	97.275	0.545

14	97.918	0.383
15	98.357	0.261
16	98.850	0.294
17	99.345	0.295
18	99.682	0.201
19	100.000	0.189

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6025	0.6025
2	0.7418	0.1393
3	0.8377	0.0959
4	0.9132	0.0755
5	0.9764	0.0632
6	1.0313	0.0549
7	1.0801	0.0488
8	1.1243	0.0441
9	1.1647	0.0404
10	1.2021	0.0374
11	1.2370	0.0349
12	1.2697	0.0327
13	1.2909	0.0212
14	1.3109	0.0200
15	1.3298	0.0189
16	1.3477	0.0179
17	1.3647	0.0170
18	1.3809	0.0163
19	1.3965	0.0155
20	1.4114	0.0149
21	1.4257	0.0143
22	1.4395	0.0138
23	1.4528	0.0133
24	1.4657	0.0129
25	1.4782	0.0124
26	1.4902	0.0121
27	1.5019	0.0117
28	1.5133	0.0114
29	1.5243	0.0110
30	1.5350	0.0107
31	1.5455	0.0105
32	1.5557	0.0102
33	1.5656	0.0099
34	1.5753	0.0097
35	1.5848	0.0095
36	1.5941	0.0093
37	1.6032	0.0091
38	1.6120	0.0089
39	1.6207	0.0087
40	1.6292	0.0085
41	1.6376	0.0083
42	1.6458	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6694	0.0077
46	1.6771	0.0076
47	1.6845	0.0075
48	1.6919	0.0074
49	1.6991	0.0072
50	1.7062	0.0071

51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7595	0.0063
59	1.7657	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7957	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8128	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8293	0.0054
71	1.8347	0.0054
72	1.8400	0.0053
73	1.8454	0.0055
74	1.8509	0.0054
75	1.8562	0.0054
76	1.8615	0.0053
77	1.8668	0.0052
78	1.8720	0.0052
79	1.8771	0.0051
80	1.8822	0.0051
81	1.8872	0.0050
82	1.8922	0.0050
83	1.8972	0.0049
84	1.9021	0.0049
85	1.9069	0.0049
86	1.9117	0.0048
87	1.9165	0.0048
88	1.9212	0.0047
89	1.9259	0.0047
90	1.9305	0.0046
91	1.9351	0.0046
92	1.9397	0.0046
93	1.9442	0.0045
94	1.9487	0.0045
95	1.9531	0.0044
96	1.9576	0.0044
97	1.9619	0.0044
98	1.9663	0.0043
99	1.9706	0.0043
100	1.9748	0.0043
101	1.9791	0.0042
102	1.9833	0.0042
103	1.9874	0.0042
104	1.9916	0.0041
105	1.9957	0.0041
106	1.9998	0.0041
107	2.0038	0.0040
108	2.0078	0.0040
109	2.0118	0.0040

110	2.0158	0.0040
111	2.0197	0.0039
112	2.0236	0.0039
113	2.0275	0.0039
114	2.0313	0.0039
115	2.0352	0.0038
116	2.0390	0.0038
117	2.0427	0.0038
118	2.0465	0.0037
119	2.0502	0.0037
120	2.0539	0.0037
121	2.0576	0.0037
122	2.0612	0.0036
123	2.0649	0.0036
124	2.0685	0.0036
125	2.0720	0.0036
126	2.0756	0.0036
127	2.0791	0.0035
128	2.0826	0.0035
129	2.0861	0.0035
130	2.0896	0.0035
131	2.0931	0.0035
132	2.0965	0.0034
133	2.0999	0.0034
134	2.1033	0.0034
135	2.1067	0.0034
136	2.1100	0.0034
137	2.1133	0.0033
138	2.1167	0.0033
139	2.1199	0.0033
140	2.1232	0.0033
141	2.1265	0.0033
142	2.1297	0.0032
143	2.1329	0.0032
144	2.1361	0.0032
145	2.1393	0.0032
146	2.1425	0.0032
147	2.1456	0.0032
148	2.1488	0.0031
149	2.1519	0.0031
150	2.1550	0.0031
151	2.1581	0.0031
152	2.1612	0.0031
153	2.1642	0.0031
154	2.1672	0.0030
155	2.1703	0.0030
156	2.1733	0.0030
157	2.1763	0.0030
158	2.1792	0.0030
159	2.1822	0.0030
160	2.1852	0.0029
161	2.1881	0.0029
162	2.1910	0.0029
163	2.1939	0.0029
164	2.1968	0.0029
165	2.1997	0.0029
166	2.2025	0.0029
167	2.2054	0.0029
168	2.2082	0.0028

169	2.2111	0.0028
170	2.2139	0.0028
171	2.2167	0.0028
172	2.2195	0.0028
173	2.2222	0.0028
174	2.2250	0.0028
175	2.2277	0.0027
176	2.2305	0.0027
177	2.2332	0.0027
178	2.2359	0.0027
179	2.2386	0.0027
180	2.2413	0.0027
181	2.2440	0.0027
182	2.2466	0.0027
183	2.2493	0.0027
184	2.2519	0.0026
185	2.2545	0.0026
186	2.2572	0.0026
187	2.2598	0.0026
188	2.2624	0.0026
189	2.2650	0.0026
190	2.2675	0.0026
191	2.2701	0.0026
192	2.2726	0.0026
193	2.2752	0.0025
194	2.2777	0.0025
195	2.2802	0.0025
196	2.2828	0.0025
197	2.2853	0.0025
198	2.2878	0.0025
199	2.2902	0.0025
200	2.2927	0.0025
201	2.2952	0.0025
202	2.2976	0.0025
203	2.3001	0.0024
204	2.3025	0.0024
205	2.3049	0.0024
206	2.3074	0.0024
207	2.3098	0.0024
208	2.3122	0.0024
209	2.3145	0.0024
210	2.3169	0.0024
211	2.3193	0.0024
212	2.3217	0.0024
213	2.3240	0.0024
214	2.3264	0.0023
215	2.3287	0.0023
216	2.3310	0.0023
217	2.3333	0.0023
218	2.3357	0.0023
219	2.3380	0.0023
220	2.3403	0.0023
221	2.3425	0.0023
222	2.3448	0.0023
223	2.3471	0.0023
224	2.3493	0.0023
225	2.3516	0.0023
226	2.3539	0.0022
227	2.3561	0.0022

228	2.3583	0.0022
229	2.3605	0.0022
230	2.3628	0.0022
231	2.3650	0.0022
232	2.3672	0.0022
233	2.3694	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3759	0.0022
237	2.3781	0.0022
238	2.3802	0.0022
239	2.3824	0.0021
240	2.3845	0.0021
241	2.3866	0.0021
242	2.3888	0.0021
243	2.3909	0.0021
244	2.3930	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4014	0.0021
249	2.4035	0.0021
250	2.4056	0.0021
251	2.4076	0.0021
252	2.4097	0.0021
253	2.4118	0.0021
254	2.4138	0.0020
255	2.4158	0.0020
256	2.4179	0.0020
257	2.4199	0.0020
258	2.4219	0.0020
259	2.4240	0.0020
260	2.4260	0.0020
261	2.4280	0.0020
262	2.4300	0.0020
263	2.4320	0.0020
264	2.4340	0.0020
265	2.4359	0.0020
266	2.4379	0.0020
267	2.4399	0.0020
268	2.4418	0.0020
269	2.4438	0.0020
270	2.4458	0.0020
271	2.4477	0.0019
272	2.4496	0.0019
273	2.4516	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4574	0.0019
277	2.4593	0.0019
278	2.4612	0.0019
279	2.4631	0.0019
280	2.4650	0.0019
281	2.4669	0.0019
282	2.4688	0.0019
283	2.4707	0.0019
284	2.4725	0.0019
285	2.4744	0.0019
286	2.4763	0.0019

287	2.4781	0.0019
288	2.4800	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0005	0.0013
2	0.0019	0.0005	0.0013
3	0.0019	0.0005	0.0014
4	0.0019	0.0005	0.0014
5	0.0019	0.0005	0.0014
6	0.0019	0.0005	0.0014
7	0.0019	0.0005	0.0014
8	0.0019	0.0005	0.0014
9	0.0019	0.0005	0.0014
10	0.0019	0.0005	0.0014
11	0.0019	0.0005	0.0014
12	0.0019	0.0005	0.0014
13	0.0020	0.0005	0.0014
14	0.0020	0.0005	0.0014
15	0.0020	0.0005	0.0014
16	0.0020	0.0005	0.0014
17	0.0020	0.0006	0.0014
18	0.0020	0.0006	0.0014
19	0.0020	0.0006	0.0015
20	0.0020	0.0006	0.0015
21	0.0020	0.0006	0.0015
22	0.0020	0.0006	0.0015
23	0.0020	0.0006	0.0015
24	0.0020	0.0006	0.0015
25	0.0021	0.0006	0.0015
26	0.0021	0.0006	0.0015
27	0.0021	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0015
31	0.0021	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0016
34	0.0021	0.0006	0.0016
35	0.0022	0.0006	0.0016
36	0.0022	0.0006	0.0016
37	0.0022	0.0006	0.0016
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0022	0.0006	0.0016
41	0.0022	0.0006	0.0016
42	0.0022	0.0006	0.0016
43	0.0023	0.0006	0.0016
44	0.0023	0.0006	0.0016
45	0.0023	0.0006	0.0016
46	0.0023	0.0006	0.0017
47	0.0023	0.0006	0.0017
48	0.0023	0.0006	0.0017
49	0.0023	0.0006	0.0017
50	0.0023	0.0006	0.0017
51	0.0024	0.0007	0.0017
52	0.0024	0.0007	0.0017

53	0.0024	0.0007	0.0017
54	0.0024	0.0007	0.0017
55	0.0024	0.0007	0.0017
56	0.0024	0.0007	0.0017
57	0.0024	0.0007	0.0018
58	0.0024	0.0007	0.0018
59	0.0025	0.0007	0.0018
60	0.0025	0.0007	0.0018
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0025	0.0007	0.0018
64	0.0025	0.0007	0.0018
65	0.0026	0.0007	0.0018
66	0.0026	0.0007	0.0019
67	0.0026	0.0007	0.0019
68	0.0026	0.0007	0.0019
69	0.0026	0.0007	0.0019
70	0.0026	0.0007	0.0019
71	0.0027	0.0007	0.0019
72	0.0027	0.0007	0.0019
73	0.0027	0.0007	0.0019
74	0.0027	0.0007	0.0020
75	0.0027	0.0008	0.0020
76	0.0027	0.0008	0.0020
77	0.0028	0.0008	0.0020
78	0.0028	0.0008	0.0020
79	0.0028	0.0008	0.0020
80	0.0028	0.0008	0.0020
81	0.0028	0.0008	0.0021
82	0.0029	0.0008	0.0021
83	0.0029	0.0008	0.0021
84	0.0029	0.0008	0.0021
85	0.0029	0.0008	0.0021
86	0.0029	0.0008	0.0021
87	0.0030	0.0008	0.0021
88	0.0030	0.0008	0.0022
89	0.0030	0.0008	0.0022
90	0.0030	0.0008	0.0022
91	0.0031	0.0008	0.0022
92	0.0031	0.0008	0.0022
93	0.0031	0.0009	0.0022
94	0.0031	0.0009	0.0023
95	0.0032	0.0009	0.0023
96	0.0032	0.0009	0.0023
97	0.0032	0.0009	0.0023
98	0.0032	0.0009	0.0023
99	0.0033	0.0009	0.0024
100	0.0033	0.0009	0.0024
101	0.0033	0.0009	0.0024
102	0.0033	0.0009	0.0024
103	0.0034	0.0009	0.0024
104	0.0034	0.0009	0.0025
105	0.0034	0.0009	0.0025
106	0.0035	0.0010	0.0025
107	0.0035	0.0010	0.0025
108	0.0035	0.0010	0.0025
109	0.0036	0.0010	0.0026
110	0.0036	0.0010	0.0026
111	0.0036	0.0010	0.0026

112	0.0036	0.0010	0.0026
113	0.0037	0.0010	0.0027
114	0.0037	0.0010	0.0027
115	0.0038	0.0010	0.0027
116	0.0038	0.0011	0.0027
117	0.0039	0.0011	0.0028
118	0.0039	0.0011	0.0028
119	0.0039	0.0011	0.0028
120	0.0040	0.0011	0.0029
121	0.0040	0.0011	0.0029
122	0.0040	0.0011	0.0029
123	0.0041	0.0011	0.0030
124	0.0041	0.0011	0.0030
125	0.0042	0.0012	0.0030
126	0.0042	0.0012	0.0031
127	0.0043	0.0012	0.0031
128	0.0043	0.0012	0.0031
129	0.0044	0.0012	0.0032
130	0.0044	0.0012	0.0032
131	0.0045	0.0013	0.0033
132	0.0046	0.0013	0.0033
133	0.0046	0.0013	0.0034
134	0.0047	0.0013	0.0034
135	0.0048	0.0013	0.0034
136	0.0048	0.0013	0.0035
137	0.0049	0.0014	0.0035
138	0.0049	0.0014	0.0036
139	0.0050	0.0014	0.0036
140	0.0051	0.0014	0.0037
141	0.0052	0.0014	0.0038
142	0.0052	0.0015	0.0038
143	0.0054	0.0015	0.0039
144	0.0054	0.0015	0.0039
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0015	0.0040
148	0.0056	0.0015	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0042
151	0.0059	0.0016	0.0043
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0044
154	0.0062	0.0017	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0019	0.0051
160	0.0071	0.0020	0.0051
161	0.0074	0.0020	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0021	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0023	0.0060
167	0.0087	0.0024	0.0063
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0026	0.0069

171	0.0099	0.0028	0.0072
172	0.0102	0.0028	0.0074
173	0.0107	0.0030	0.0078
174	0.0110	0.0031	0.0080
175	0.0117	0.0032	0.0085
176	0.0121	0.0033	0.0087
177	0.0129	0.0036	0.0093
178	0.0133	0.0037	0.0096
179	0.0143	0.0040	0.0104
180	0.0149	0.0041	0.0108
181	0.0163	0.0045	0.0118
182	0.0170	0.0047	0.0123
183	0.0189	0.0052	0.0136
184	0.0200	0.0055	0.0144
185	0.0327	0.0091	0.0237
186	0.0349	0.0096	0.0252
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1393	0.0105	0.1288
193	0.6025	0.0105	0.5920
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0103	0.0271
197	0.0212	0.0059	0.0154
198	0.0179	0.0050	0.0129
199	0.0155	0.0043	0.0112
200	0.0138	0.0038	0.0100
201	0.0124	0.0034	0.0090
202	0.0114	0.0031	0.0082
203	0.0105	0.0029	0.0076
204	0.0097	0.0027	0.0070
205	0.0091	0.0025	0.0066
206	0.0085	0.0024	0.0062
207	0.0080	0.0022	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0018	0.0048
212	0.0063	0.0017	0.0046
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0041
216	0.0054	0.0015	0.0039
217	0.0055	0.0015	0.0040
218	0.0053	0.0015	0.0038
219	0.0051	0.0014	0.0037
220	0.0050	0.0014	0.0036
221	0.0049	0.0013	0.0035
222	0.0047	0.0013	0.0034
223	0.0046	0.0013	0.0033
224	0.0045	0.0012	0.0032
225	0.0044	0.0012	0.0032
226	0.0043	0.0012	0.0031
227	0.0042	0.0012	0.0030
228	0.0041	0.0011	0.0029
229	0.0040	0.0011	0.0029

230	0.0039	0.0011	0.0028
231	0.0038	0.0011	0.0028
232	0.0037	0.0010	0.0027
233	0.0037	0.0010	0.0027
234	0.0036	0.0010	0.0026
235	0.0035	0.0010	0.0026
236	0.0035	0.0010	0.0025
237	0.0034	0.0009	0.0025
238	0.0034	0.0009	0.0024
239	0.0033	0.0009	0.0024
240	0.0032	0.0009	0.0023
241	0.0032	0.0009	0.0023
242	0.0031	0.0009	0.0023
243	0.0031	0.0009	0.0022
244	0.0030	0.0008	0.0022
245	0.0030	0.0008	0.0022
246	0.0029	0.0008	0.0021
247	0.0029	0.0008	0.0021
248	0.0029	0.0008	0.0021
249	0.0028	0.0008	0.0020
250	0.0028	0.0008	0.0020
251	0.0027	0.0008	0.0020
252	0.0027	0.0007	0.0020
253	0.0027	0.0007	0.0019
254	0.0026	0.0007	0.0019
255	0.0026	0.0007	0.0019
256	0.0026	0.0007	0.0019
257	0.0025	0.0007	0.0018
258	0.0025	0.0007	0.0018
259	0.0025	0.0007	0.0018
260	0.0025	0.0007	0.0018
261	0.0024	0.0007	0.0018
262	0.0024	0.0007	0.0017
263	0.0024	0.0007	0.0017
264	0.0023	0.0006	0.0017
265	0.0023	0.0006	0.0017
266	0.0023	0.0006	0.0017
267	0.0023	0.0006	0.0016
268	0.0022	0.0006	0.0016
269	0.0022	0.0006	0.0016
270	0.0022	0.0006	0.0016
271	0.0022	0.0006	0.0016
272	0.0022	0.0006	0.0016
273	0.0021	0.0006	0.0015
274	0.0021	0.0006	0.0015
275	0.0021	0.0006	0.0015
276	0.0021	0.0006	0.0015
277	0.0021	0.0006	0.0015
278	0.0020	0.0006	0.0015
279	0.0020	0.0006	0.0015
280	0.0020	0.0006	0.0014
281	0.0020	0.0005	0.0014
282	0.0020	0.0005	0.0014
283	0.0019	0.0005	0.0014
284	0.0019	0.0005	0.0014
285	0.0019	0.0005	0.0014
286	0.0019	0.0005	0.0014
287	0.0019	0.0005	0.0014
288	0.0019	0.0005	0.0014

Total soil rain loss = 0.46(In)
Total effective rainfall = 2.02(In)
Peak flow rate in flood hydrograph = 13.76(CFS)

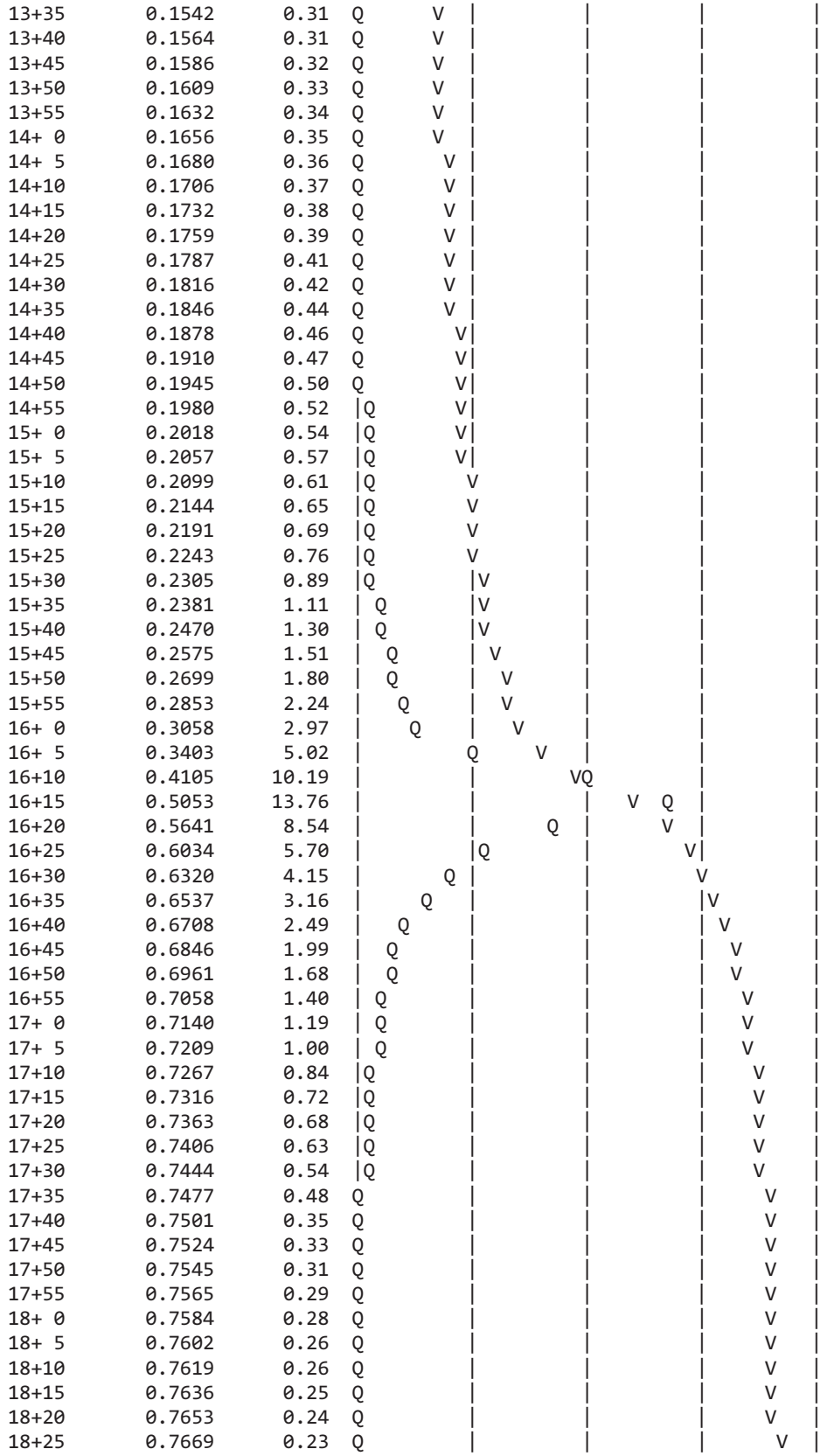
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0004	0.04	Q				
0+20	0.0008	0.05	Q				
0+25	0.0012	0.06	Q				
0+30	0.0017	0.07	Q				
0+35	0.0021	0.07	Q				
0+40	0.0026	0.07	Q				
0+45	0.0032	0.07	Q				
0+50	0.0037	0.08	Q				
0+55	0.0042	0.08	Q				
1+ 0	0.0048	0.08	Q				
1+ 5	0.0053	0.08	Q				
1+10	0.0059	0.08	Q				
1+15	0.0065	0.08	Q				
1+20	0.0070	0.08	Q				
1+25	0.0076	0.08	Q				
1+30	0.0082	0.08	Q				
1+35	0.0088	0.08	Q				
1+40	0.0094	0.09	Q				
1+45	0.0099	0.09	Q				
1+50	0.0105	0.09	Q				
1+55	0.0111	0.09	Q				
2+ 0	0.0117	0.09	Q				
2+ 5	0.0123	0.09	Q				
2+10	0.0129	0.09	Q				
2+15	0.0135	0.09	Q				
2+20	0.0142	0.09	Q				
2+25	0.0148	0.09	Q				
2+30	0.0154	0.09	Q				
2+35	0.0160	0.09	Q				
2+40	0.0166	0.09	Q				
2+45	0.0172	0.09	Q				
2+50	0.0179	0.09	Q				
2+55	0.0185	0.09	Q				
3+ 0	0.0191	0.09	Q				
3+ 5	0.0198	0.09	Q				
3+10	0.0204	0.09	Q				
3+15	0.0211	0.09	QV				
3+20	0.0217	0.09	QV				
3+25	0.0223	0.09	QV				
3+30	0.0230	0.09	QV				
3+35	0.0237	0.10	QV				
3+40	0.0243	0.10	QV				

3+45	0.0250	0.10	QV				
3+50	0.0256	0.10	QV				
3+55	0.0263	0.10	QV				
4+ 0	0.0270	0.10	QV				
4+ 5	0.0277	0.10	QV				
4+10	0.0283	0.10	QV				
4+15	0.0290	0.10	QV				
4+20	0.0297	0.10	QV				
4+25	0.0304	0.10	QV				
4+30	0.0311	0.10	QV				
4+35	0.0318	0.10	QV				
4+40	0.0325	0.10	QV				
4+45	0.0332	0.10	QV				
4+50	0.0339	0.10	QV				
4+55	0.0346	0.10	QV				
5+ 0	0.0354	0.10	QV				
5+ 5	0.0361	0.11	QV				
5+10	0.0368	0.11	QV				
5+15	0.0375	0.11	QV				
5+20	0.0383	0.11	QV				
5+25	0.0390	0.11	QV				
5+30	0.0398	0.11	QV				
5+35	0.0405	0.11	QV				
5+40	0.0413	0.11	QV				
5+45	0.0420	0.11	Q V				
5+50	0.0428	0.11	Q V				
5+55	0.0436	0.11	Q V				
6+ 0	0.0443	0.11	Q V				
6+ 5	0.0451	0.11	Q V				
6+10	0.0459	0.11	Q V				
6+15	0.0467	0.11	Q V				
6+20	0.0475	0.12	Q V				
6+25	0.0483	0.12	Q V				
6+30	0.0491	0.12	Q V				
6+35	0.0499	0.12	Q V				
6+40	0.0507	0.12	Q V				
6+45	0.0515	0.12	Q V				
6+50	0.0523	0.12	Q V				
6+55	0.0532	0.12	Q V				
7+ 0	0.0540	0.12	Q V				
7+ 5	0.0548	0.12	Q V				
7+10	0.0557	0.12	Q V				
7+15	0.0566	0.12	Q V				
7+20	0.0574	0.13	Q V				
7+25	0.0583	0.13	Q V				
7+30	0.0592	0.13	Q V				
7+35	0.0600	0.13	Q V				
7+40	0.0609	0.13	Q V				
7+45	0.0618	0.13	Q V				
7+50	0.0627	0.13	Q V				
7+55	0.0636	0.13	Q V				
8+ 0	0.0645	0.13	Q V				
8+ 5	0.0655	0.13	Q V				
8+10	0.0664	0.13	Q V				
8+15	0.0673	0.14	Q V				
8+20	0.0683	0.14	Q V				
8+25	0.0692	0.14	Q V				
8+30	0.0702	0.14	Q V				
8+35	0.0712	0.14	Q V				

8+40	0.0721	0.14	Q	V				
8+45	0.0731	0.14	Q	V				
8+50	0.0741	0.14	Q	V				
8+55	0.0751	0.15	Q	V				
9+ 0	0.0761	0.15	Q	V				
9+ 5	0.0771	0.15	Q	V				
9+10	0.0782	0.15	Q	V				
9+15	0.0792	0.15	Q	V				
9+20	0.0803	0.15	Q	V				
9+25	0.0813	0.15	Q	V				
9+30	0.0824	0.16	Q	V				
9+35	0.0835	0.16	Q	V				
9+40	0.0846	0.16	Q	V				
9+45	0.0857	0.16	Q	V				
9+50	0.0868	0.16	Q	V				
9+55	0.0879	0.16	Q	V				
10+ 0	0.0890	0.16	Q	V				
10+ 5	0.0902	0.17	Q	V				
10+10	0.0913	0.17	Q	V				
10+15	0.0925	0.17	Q	V				
10+20	0.0937	0.17	Q	V				
10+25	0.0949	0.17	Q	V				
10+30	0.0961	0.18	Q	V				
10+35	0.0973	0.18	Q	V				
10+40	0.0985	0.18	Q	V				
10+45	0.0998	0.18	Q	V				
10+50	0.1011	0.18	Q	V				
10+55	0.1023	0.19	Q	V				
11+ 0	0.1036	0.19	Q	V				
11+ 5	0.1050	0.19	Q	V				
11+10	0.1063	0.19	Q	V				
11+15	0.1076	0.20	Q	V				
11+20	0.1090	0.20	Q	V				
11+25	0.1104	0.20	Q	V				
11+30	0.1118	0.20	Q	V				
11+35	0.1132	0.21	Q	V				
11+40	0.1146	0.21	Q	V				
11+45	0.1161	0.21	Q	V				
11+50	0.1176	0.22	Q	V				
11+55	0.1191	0.22	Q	V				
12+ 0	0.1206	0.22	Q	V				
12+ 5	0.1222	0.22	Q	V				
12+10	0.1237	0.23	Q	V				
12+15	0.1253	0.23	Q	V				
12+20	0.1269	0.23	Q	V				
12+25	0.1285	0.23	Q	V				
12+30	0.1301	0.24	Q	V				
12+35	0.1317	0.24	Q	V				
12+40	0.1334	0.24	Q	V				
12+45	0.1351	0.25	Q	V				
12+50	0.1369	0.25	Q	V				
12+55	0.1386	0.26	Q	V				
13+ 0	0.1405	0.26	Q	V				
13+ 5	0.1423	0.27	Q	V				
13+10	0.1442	0.27	Q	V				
13+15	0.1461	0.28	Q	V				
13+20	0.1481	0.28	Q	V				
13+25	0.1501	0.29	Q	V				
13+30	0.1521	0.30	Q	V				



13+35	0.1542	0.31	Q V | | | |
13+40	0.1564	0.31	Q V | | | |
13+45	0.1586	0.32	Q V | | | |
13+50	0.1609	0.33	Q V | | | |
13+55	0.1632	0.34	Q V | | | |
14+ 0	0.1656	0.35	Q V | | | |
14+ 5	0.1680	0.36	Q V | | | |
14+10	0.1706	0.37	Q V | | | |
14+15	0.1732	0.38	Q V | | | |
14+20	0.1759	0.39	Q V | | | |
14+25	0.1787	0.41	Q V | | | |
14+30	0.1816	0.42	Q V | | | |
14+35	0.1846	0.44	Q V | | | |
14+40	0.1878	0.46	Q V| | | |
14+45	0.1910	0.47	Q V| | | |
14+50	0.1945	0.50	Q V| | | |
14+55	0.1980	0.52	|Q V| | | |
15+ 0	0.2018	0.54	|Q V| | | |
15+ 5	0.2057	0.57	|Q V| | | |
15+10	0.2099	0.61	|Q V | | |
15+15	0.2144	0.65	|Q V | | |
15+20	0.2191	0.69	|Q V | | |
15+25	0.2243	0.76	|Q V | | |
15+30	0.2305	0.89	|Q |V | | |
15+35	0.2381	1.11	| Q |V | | |
15+40	0.2470	1.30	| Q |V | | |
15+45	0.2575	1.51	| Q | V | | |
15+50	0.2699	1.80	| Q | V | | |
15+55	0.2853	2.24	| Q | V | | |
16+ 0	0.3058	2.97	| Q | V | | |
16+ 5	0.3403	5.02	| Q V | | |
16+10	0.4105	10.19	| | VQ | |
16+15	0.5053	13.76	| | | V Q | |
16+20	0.5641	8.54	| | Q | V | |
16+25	0.6034	5.70	| |Q | V| |
16+30	0.6320	4.15	| Q | | V |
16+35	0.6537	3.16	| Q | | |V |
16+40	0.6708	2.49	| Q | | | V |
16+45	0.6846	1.99	| Q | | | V |
16+50	0.6961	1.68	| Q | | | V |
16+55	0.7058	1.40	| Q | | | V |
17+ 0	0.7140	1.19	| Q | | | V |
17+ 5	0.7209	1.00	| Q | | | V |
17+10	0.7267	0.84	|Q | | | V |
17+15	0.7316	0.72	|Q | | | V |
17+20	0.7363	0.68	|Q | | | V |
17+25	0.7406	0.63	|Q | | | V |
17+30	0.7444	0.54	|Q | | | V |
17+35	0.7477	0.48	Q | | | V |
17+40	0.7501	0.35	Q | | | V |
17+45	0.7524	0.33	Q | | | V |
17+50	0.7545	0.31	Q | | | V |
17+55	0.7565	0.29	Q | | | V |
18+ 0	0.7584	0.28	Q | | | V |
18+ 5	0.7602	0.26	Q | | | V |
18+10	0.7619	0.26	Q | | | V |
18+15	0.7636	0.25	Q | | | V |
18+20	0.7653	0.24	Q | | | V |
18+25	0.7669	0.23	Q | | | V |

18+30	0.7685	0.23	Q	|	|	|	V |
18+35	0.7700	0.22	Q	|	|	|	V |
18+40	0.7715	0.21	Q	|	|	|	V |
18+45	0.7729	0.21	Q	|	|	|	V |
18+50	0.7743	0.20	Q	|	|	|	V |
18+55	0.7756	0.20	Q	|	|	|	V |
19+ 0	0.7770	0.19	Q	|	|	|	V |
19+ 5	0.7782	0.19	Q	|	|	|	V |
19+10	0.7795	0.18	Q	|	|	|	V |
19+15	0.7807	0.18	Q	|	|	|	V |
19+20	0.7819	0.17	Q	|	|	|	V |
19+25	0.7831	0.17	Q	|	|	|	V |
19+30	0.7843	0.17	Q	|	|	|	V |
19+35	0.7854	0.16	Q	|	|	|	V |
19+40	0.7865	0.16	Q	|	|	|	V |
19+45	0.7876	0.16	Q	|	|	|	V |
19+50	0.7887	0.15	Q	|	|	|	V |
19+55	0.7897	0.15	Q	|	|	|	V |
20+ 0	0.7907	0.15	Q	|	|	|	V |
20+ 5	0.7917	0.15	Q	|	|	|	V |
20+10	0.7927	0.14	Q	|	|	|	V |
20+15	0.7937	0.14	Q	|	|	|	V |
20+20	0.7947	0.14	Q	|	|	|	V |
20+25	0.7956	0.14	Q	|	|	|	V |
20+30	0.7965	0.13	Q	|	|	|	V |
20+35	0.7974	0.13	Q	|	|	|	V |
20+40	0.7983	0.13	Q	|	|	|	V |
20+45	0.7992	0.13	Q	|	|	|	V |
20+50	0.8001	0.13	Q	|	|	|	V |
20+55	0.8009	0.12	Q	|	|	|	V |
21+ 0	0.8018	0.12	Q	|	|	|	V |
21+ 5	0.8026	0.12	Q	|	|	|	V |
21+10	0.8034	0.12	Q	|	|	|	V |
21+15	0.8043	0.12	Q	|	|	|	V |
21+20	0.8051	0.12	Q	|	|	|	V |
21+25	0.8058	0.11	Q	|	|	|	V |
21+30	0.8066	0.11	Q	|	|	|	V |
21+35	0.8074	0.11	Q	|	|	|	V |
21+40	0.8082	0.11	Q	|	|	|	V|
21+45	0.8089	0.11	Q	|	|	|	V|
21+50	0.8096	0.11	Q	|	|	|	V|
21+55	0.8104	0.11	Q	|	|	|	V|
22+ 0	0.8111	0.11	Q	|	|	|	V|
22+ 5	0.8118	0.10	Q	|	|	|	V|
22+10	0.8125	0.10	Q	|	|	|	V|
22+15	0.8132	0.10	Q	|	|	|	V|
22+20	0.8139	0.10	Q	|	|	|	V|
22+25	0.8146	0.10	Q	|	|	|	V|
22+30	0.8153	0.10	Q	|	|	|	V|
22+35	0.8160	0.10	Q	|	|	|	V|
22+40	0.8166	0.10	Q	|	|	|	V|
22+45	0.8173	0.10	Q	|	|	|	V|
22+50	0.8179	0.09	Q	|	|	|	V|
22+55	0.8186	0.09	Q	|	|	|	V|
23+ 0	0.8192	0.09	Q	|	|	|	V|
23+ 5	0.8198	0.09	Q	|	|	|	V|
23+10	0.8205	0.09	Q	|	|	|	V|
23+15	0.8211	0.09	Q	|	|	|	V|
23+20	0.8217	0.09	Q	|	|	|	V|

23+25	0.8223	0.09	Q	|	|	|	V|
23+30	0.8229	0.09	Q	|	|	|	V|
23+35	0.8235	0.09	Q	|	|	|	V|
23+40	0.8241	0.09	Q	|	|	|	V|
23+45	0.8247	0.09	Q	|	|	|	V|
23+50	0.8253	0.08	Q	|	|	|	V|
23+55	0.8258	0.08	Q	|	|	|	V|
24+ 0	0.8264	0.08	Q	|	|	|	V|
24+ 5	0.8270	0.08	Q	|	|	|	V|
24+10	0.8274	0.07	Q	|	|	|	V|
24+15	0.8277	0.04	Q	|	|	|	V|
24+20	0.8279	0.03	Q	|	|	|	V|
24+25	0.8280	0.02	Q	|	|	|	V|
24+30	0.8281	0.01	Q	|	|	|	V|
24+35	0.8282	0.01	Q	|	|	|	V|
24+40	0.8282	0.01	Q	|	|	|	V|
24+45	0.8283	0.01	Q	|	|	|	V|
24+50	0.8283	0.01	Q	|	|	|	V|
24+55	0.8284	0.00	Q	|	|	|	V|
25+ 0	0.8284	0.00	Q	|	|	|	V|
25+ 5	0.8284	0.00	Q	|	|	|	V|
25+10	0.8284	0.00	Q	|	|	|	V|
25+15	0.8284	0.00	Q	|	|	|	V|
25+20	0.8284	0.00	Q	|	|	|	V|
25+25	0.8284	0.00	Q	|	|	|	V|
25+30	0.8284	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 4
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
8.95	1	1.27
Rainfall data for year 100		
8.95	6	1.84
Rainfall data for year 100		
8.95	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	8.95	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
8.05	0.900	78.0	92.8	0.78	0.703
0.89	0.100	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.723
Area-averaged low loss fraction, Yb = 0.277
User entry of time of concentration = 0.290 (hours)
++
Watershed area = 8.95(Ac.)
Catchment Lag time = 0.232 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 35.9195
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.277 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 8.95(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.602(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 108.24 (CFS))	
1	2.324	2.516
2	14.291	12.953
3	42.610	30.652
4	61.158	20.076
5	71.110	10.772
6	77.762	7.200
7	82.485	5.112
8	86.128	3.943
9	88.974	3.081
10	91.100	2.300
11	92.881	1.928
12	94.341	1.581
13	95.534	1.291

14	96.507	1.053
15	97.275	0.831
16	97.854	0.626
17	98.230	0.407
18	98.643	0.447
19	99.074	0.467
20	99.478	0.437
21	99.727	0.270
22	100.000	0.135

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6024	0.6024
2	0.7416	0.1392
3	0.8375	0.0959
4	0.9130	0.0755
5	0.9762	0.0632
6	1.0311	0.0549
7	1.0799	0.0488
8	1.1241	0.0441
9	1.1645	0.0404
10	1.2019	0.0374
11	1.2368	0.0349
12	1.2695	0.0327
13	1.2907	0.0212
14	1.3107	0.0200
15	1.3296	0.0189
16	1.3475	0.0179
17	1.3645	0.0170
18	1.3808	0.0163
19	1.3963	0.0156
20	1.4112	0.0149
21	1.4256	0.0143
22	1.4394	0.0138
23	1.4527	0.0133
24	1.4656	0.0129
25	1.4780	0.0125
26	1.4901	0.0121
27	1.5018	0.0117
28	1.5132	0.0114
29	1.5242	0.0110
30	1.5350	0.0107
31	1.5454	0.0105
32	1.5556	0.0102
33	1.5656	0.0100
34	1.5753	0.0097
35	1.5848	0.0095
36	1.5941	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6207	0.0087
40	1.6292	0.0085
41	1.6376	0.0083
42	1.6457	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075

48	1.6919	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7657	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8293	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8454	0.0055
74	1.8508	0.0054
75	1.8562	0.0054
76	1.8615	0.0053
77	1.8667	0.0052
78	1.8719	0.0052
79	1.8771	0.0051
80	1.8822	0.0051
81	1.8872	0.0050
82	1.8922	0.0050
83	1.8971	0.0049
84	1.9020	0.0049
85	1.9069	0.0049
86	1.9117	0.0048
87	1.9165	0.0048
88	1.9212	0.0047
89	1.9259	0.0047
90	1.9305	0.0046
91	1.9351	0.0046
92	1.9397	0.0046
93	1.9442	0.0045
94	1.9487	0.0045
95	1.9531	0.0044
96	1.9575	0.0044
97	1.9619	0.0044
98	1.9662	0.0043
99	1.9705	0.0043
100	1.9748	0.0043
101	1.9790	0.0042
102	1.9833	0.0042
103	1.9874	0.0042
104	1.9916	0.0041
105	1.9957	0.0041
106	1.9997	0.0041

107	2.0038	0.0040
108	2.0078	0.0040
109	2.0118	0.0040
110	2.0158	0.0040
111	2.0197	0.0039
112	2.0236	0.0039
113	2.0275	0.0039
114	2.0313	0.0039
115	2.0351	0.0038
116	2.0389	0.0038
117	2.0427	0.0038
118	2.0465	0.0037
119	2.0502	0.0037
120	2.0539	0.0037
121	2.0576	0.0037
122	2.0612	0.0036
123	2.0648	0.0036
124	2.0684	0.0036
125	2.0720	0.0036
126	2.0756	0.0036
127	2.0791	0.0035
128	2.0826	0.0035
129	2.0861	0.0035
130	2.0896	0.0035
131	2.0930	0.0035
132	2.0965	0.0034
133	2.0999	0.0034
134	2.1033	0.0034
135	2.1066	0.0034
136	2.1100	0.0034
137	2.1133	0.0033
138	2.1166	0.0033
139	2.1199	0.0033
140	2.1232	0.0033
141	2.1265	0.0033
142	2.1297	0.0032
143	2.1329	0.0032
144	2.1361	0.0032
145	2.1393	0.0032
146	2.1425	0.0032
147	2.1456	0.0032
148	2.1488	0.0031
149	2.1519	0.0031
150	2.1550	0.0031
151	2.1581	0.0031
152	2.1611	0.0031
153	2.1642	0.0031
154	2.1672	0.0030
155	2.1703	0.0030
156	2.1733	0.0030
157	2.1763	0.0030
158	2.1792	0.0030
159	2.1822	0.0030
160	2.1851	0.0029
161	2.1881	0.0029
162	2.1910	0.0029
163	2.1939	0.0029
164	2.1968	0.0029
165	2.1997	0.0029

166	2.2025	0.0029
167	2.2054	0.0029
168	2.2082	0.0028
169	2.2110	0.0028
170	2.2139	0.0028
171	2.2166	0.0028
172	2.2194	0.0028
173	2.2222	0.0028
174	2.2250	0.0028
175	2.2277	0.0027
176	2.2304	0.0027
177	2.2332	0.0027
178	2.2359	0.0027
179	2.2386	0.0027
180	2.2413	0.0027
181	2.2439	0.0027
182	2.2466	0.0027
183	2.2493	0.0027
184	2.2519	0.0026
185	2.2545	0.0026
186	2.2571	0.0026
187	2.2598	0.0026
188	2.2624	0.0026
189	2.2649	0.0026
190	2.2675	0.0026
191	2.2701	0.0026
192	2.2726	0.0026
193	2.2752	0.0025
194	2.2777	0.0025
195	2.2802	0.0025
196	2.2827	0.0025
197	2.2852	0.0025
198	2.2877	0.0025
199	2.2902	0.0025
200	2.2927	0.0025
201	2.2952	0.0025
202	2.2976	0.0025
203	2.3001	0.0024
204	2.3025	0.0024
205	2.3049	0.0024
206	2.3073	0.0024
207	2.3097	0.0024
208	2.3121	0.0024
209	2.3145	0.0024
210	2.3169	0.0024
211	2.3193	0.0024
212	2.3216	0.0024
213	2.3240	0.0024
214	2.3263	0.0023
215	2.3287	0.0023
216	2.3310	0.0023
217	2.3333	0.0023
218	2.3356	0.0023
219	2.3379	0.0023
220	2.3402	0.0023
221	2.3425	0.0023
222	2.3448	0.0023
223	2.3471	0.0023
224	2.3493	0.0023

225	2.3516	0.0023
226	2.3538	0.0022
227	2.3561	0.0022
228	2.3583	0.0022
229	2.3605	0.0022
230	2.3627	0.0022
231	2.3650	0.0022
232	2.3672	0.0022
233	2.3693	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3759	0.0022
237	2.3780	0.0022
238	2.3802	0.0022
239	2.3824	0.0021
240	2.3845	0.0021
241	2.3866	0.0021
242	2.3888	0.0021
243	2.3909	0.0021
244	2.3930	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4014	0.0021
249	2.4035	0.0021
250	2.4055	0.0021
251	2.4076	0.0021
252	2.4097	0.0021
253	2.4117	0.0021
254	2.4138	0.0020
255	2.4158	0.0020
256	2.4179	0.0020
257	2.4199	0.0020
258	2.4219	0.0020
259	2.4239	0.0020
260	2.4260	0.0020
261	2.4280	0.0020
262	2.4300	0.0020
263	2.4320	0.0020
264	2.4339	0.0020
265	2.4359	0.0020
266	2.4379	0.0020
267	2.4399	0.0020
268	2.4418	0.0020
269	2.4438	0.0020
270	2.4457	0.0020
271	2.4477	0.0019
272	2.4496	0.0019
273	2.4516	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4573	0.0019
277	2.4593	0.0019
278	2.4612	0.0019
279	2.4631	0.0019
280	2.4650	0.0019
281	2.4669	0.0019
282	2.4688	0.0019
283	2.4706	0.0019

284	2.4725	0.0019	
285	2.4744	0.0019	
286	2.4763	0.0019	
287	2.4781	0.0019	
288	2.4800	0.0019	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0005	0.0013
2	0.0019	0.0005	0.0013
3	0.0019	0.0005	0.0014
4	0.0019	0.0005	0.0014
5	0.0019	0.0005	0.0014
6	0.0019	0.0005	0.0014
7	0.0019	0.0005	0.0014
8	0.0019	0.0005	0.0014
9	0.0019	0.0005	0.0014
10	0.0019	0.0005	0.0014
11	0.0019	0.0005	0.0014
12	0.0019	0.0005	0.0014
13	0.0020	0.0005	0.0014
14	0.0020	0.0005	0.0014
15	0.0020	0.0005	0.0014
16	0.0020	0.0005	0.0014
17	0.0020	0.0006	0.0014
18	0.0020	0.0006	0.0014
19	0.0020	0.0006	0.0015
20	0.0020	0.0006	0.0015
21	0.0020	0.0006	0.0015
22	0.0020	0.0006	0.0015
23	0.0020	0.0006	0.0015
24	0.0020	0.0006	0.0015
25	0.0021	0.0006	0.0015
26	0.0021	0.0006	0.0015
27	0.0021	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0015
31	0.0021	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0016
34	0.0021	0.0006	0.0016
35	0.0022	0.0006	0.0016
36	0.0022	0.0006	0.0016
37	0.0022	0.0006	0.0016
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0022	0.0006	0.0016
41	0.0022	0.0006	0.0016
42	0.0022	0.0006	0.0016
43	0.0023	0.0006	0.0016
44	0.0023	0.0006	0.0016
45	0.0023	0.0006	0.0016
46	0.0023	0.0006	0.0017
47	0.0023	0.0006	0.0017
48	0.0023	0.0006	0.0017
49	0.0023	0.0006	0.0017

50	0.0023	0.0006	0.0017
51	0.0024	0.0007	0.0017
52	0.0024	0.0007	0.0017
53	0.0024	0.0007	0.0017
54	0.0024	0.0007	0.0017
55	0.0024	0.0007	0.0017
56	0.0024	0.0007	0.0017
57	0.0024	0.0007	0.0018
58	0.0024	0.0007	0.0018
59	0.0025	0.0007	0.0018
60	0.0025	0.0007	0.0018
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0025	0.0007	0.0018
64	0.0025	0.0007	0.0018
65	0.0026	0.0007	0.0018
66	0.0026	0.0007	0.0019
67	0.0026	0.0007	0.0019
68	0.0026	0.0007	0.0019
69	0.0026	0.0007	0.0019
70	0.0026	0.0007	0.0019
71	0.0027	0.0007	0.0019
72	0.0027	0.0007	0.0019
73	0.0027	0.0007	0.0019
74	0.0027	0.0007	0.0020
75	0.0027	0.0008	0.0020
76	0.0027	0.0008	0.0020
77	0.0028	0.0008	0.0020
78	0.0028	0.0008	0.0020
79	0.0028	0.0008	0.0020
80	0.0028	0.0008	0.0020
81	0.0028	0.0008	0.0021
82	0.0029	0.0008	0.0021
83	0.0029	0.0008	0.0021
84	0.0029	0.0008	0.0021
85	0.0029	0.0008	0.0021
86	0.0029	0.0008	0.0021
87	0.0030	0.0008	0.0021
88	0.0030	0.0008	0.0022
89	0.0030	0.0008	0.0022
90	0.0030	0.0008	0.0022
91	0.0031	0.0008	0.0022
92	0.0031	0.0008	0.0022
93	0.0031	0.0009	0.0022
94	0.0031	0.0009	0.0023
95	0.0032	0.0009	0.0023
96	0.0032	0.0009	0.0023
97	0.0032	0.0009	0.0023
98	0.0032	0.0009	0.0023
99	0.0033	0.0009	0.0024
100	0.0033	0.0009	0.0024
101	0.0033	0.0009	0.0024
102	0.0033	0.0009	0.0024
103	0.0034	0.0009	0.0024
104	0.0034	0.0009	0.0025
105	0.0034	0.0009	0.0025
106	0.0035	0.0010	0.0025
107	0.0035	0.0010	0.0025
108	0.0035	0.0010	0.0025

109	0.0036	0.0010	0.0026
110	0.0036	0.0010	0.0026
111	0.0036	0.0010	0.0026
112	0.0036	0.0010	0.0026
113	0.0037	0.0010	0.0027
114	0.0037	0.0010	0.0027
115	0.0038	0.0010	0.0027
116	0.0038	0.0011	0.0027
117	0.0039	0.0011	0.0028
118	0.0039	0.0011	0.0028
119	0.0039	0.0011	0.0028
120	0.0040	0.0011	0.0029
121	0.0040	0.0011	0.0029
122	0.0040	0.0011	0.0029
123	0.0041	0.0011	0.0030
124	0.0041	0.0011	0.0030
125	0.0042	0.0012	0.0030
126	0.0042	0.0012	0.0031
127	0.0043	0.0012	0.0031
128	0.0043	0.0012	0.0031
129	0.0044	0.0012	0.0032
130	0.0044	0.0012	0.0032
131	0.0045	0.0013	0.0033
132	0.0046	0.0013	0.0033
133	0.0046	0.0013	0.0034
134	0.0047	0.0013	0.0034
135	0.0048	0.0013	0.0034
136	0.0048	0.0013	0.0035
137	0.0049	0.0014	0.0035
138	0.0049	0.0014	0.0036
139	0.0050	0.0014	0.0036
140	0.0051	0.0014	0.0037
141	0.0052	0.0014	0.0038
142	0.0052	0.0015	0.0038
143	0.0054	0.0015	0.0039
144	0.0054	0.0015	0.0039
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0015	0.0040
148	0.0056	0.0015	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0042
151	0.0059	0.0016	0.0043
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0045
154	0.0062	0.0017	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0019	0.0051
160	0.0071	0.0020	0.0051
161	0.0074	0.0020	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0021	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0023	0.0060
167	0.0087	0.0024	0.0063

168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0026	0.0069
171	0.0100	0.0028	0.0072
172	0.0102	0.0028	0.0074
173	0.0107	0.0030	0.0078
174	0.0110	0.0031	0.0080
175	0.0117	0.0032	0.0085
176	0.0121	0.0033	0.0087
177	0.0129	0.0036	0.0093
178	0.0133	0.0037	0.0096
179	0.0143	0.0040	0.0104
180	0.0149	0.0041	0.0108
181	0.0163	0.0045	0.0118
182	0.0170	0.0047	0.0123
183	0.0189	0.0052	0.0137
184	0.0200	0.0055	0.0145
185	0.0327	0.0090	0.0237
186	0.0349	0.0096	0.0252
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1392	0.0105	0.1287
193	0.6024	0.0105	0.5919
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0103	0.0270
197	0.0212	0.0059	0.0154
198	0.0179	0.0050	0.0130
199	0.0156	0.0043	0.0113
200	0.0138	0.0038	0.0100
201	0.0125	0.0034	0.0090
202	0.0114	0.0031	0.0082
203	0.0105	0.0029	0.0076
204	0.0097	0.0027	0.0070
205	0.0091	0.0025	0.0066
206	0.0085	0.0024	0.0062
207	0.0080	0.0022	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0018	0.0048
212	0.0063	0.0017	0.0046
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0041
216	0.0054	0.0015	0.0039
217	0.0055	0.0015	0.0040
218	0.0053	0.0015	0.0038
219	0.0051	0.0014	0.0037
220	0.0050	0.0014	0.0036
221	0.0049	0.0013	0.0035
222	0.0047	0.0013	0.0034
223	0.0046	0.0013	0.0033
224	0.0045	0.0012	0.0032
225	0.0044	0.0012	0.0032
226	0.0043	0.0012	0.0031

227	0.0042	0.0012	0.0030
228	0.0041	0.0011	0.0029
229	0.0040	0.0011	0.0029
230	0.0039	0.0011	0.0028
231	0.0038	0.0011	0.0028
232	0.0037	0.0010	0.0027
233	0.0037	0.0010	0.0027
234	0.0036	0.0010	0.0026
235	0.0035	0.0010	0.0026
236	0.0035	0.0010	0.0025
237	0.0034	0.0009	0.0025
238	0.0034	0.0009	0.0024
239	0.0033	0.0009	0.0024
240	0.0032	0.0009	0.0023
241	0.0032	0.0009	0.0023
242	0.0031	0.0009	0.0023
243	0.0031	0.0009	0.0022
244	0.0030	0.0008	0.0022
245	0.0030	0.0008	0.0022
246	0.0029	0.0008	0.0021
247	0.0029	0.0008	0.0021
248	0.0029	0.0008	0.0021
249	0.0028	0.0008	0.0020
250	0.0028	0.0008	0.0020
251	0.0027	0.0008	0.0020
252	0.0027	0.0007	0.0020
253	0.0027	0.0007	0.0019
254	0.0026	0.0007	0.0019
255	0.0026	0.0007	0.0019
256	0.0026	0.0007	0.0019
257	0.0025	0.0007	0.0018
258	0.0025	0.0007	0.0018
259	0.0025	0.0007	0.0018
260	0.0025	0.0007	0.0018
261	0.0024	0.0007	0.0018
262	0.0024	0.0007	0.0017
263	0.0024	0.0007	0.0017
264	0.0023	0.0006	0.0017
265	0.0023	0.0006	0.0017
266	0.0023	0.0006	0.0017
267	0.0023	0.0006	0.0016
268	0.0022	0.0006	0.0016
269	0.0022	0.0006	0.0016
270	0.0022	0.0006	0.0016
271	0.0022	0.0006	0.0016
272	0.0022	0.0006	0.0016
273	0.0021	0.0006	0.0015
274	0.0021	0.0006	0.0015
275	0.0021	0.0006	0.0015
276	0.0021	0.0006	0.0015
277	0.0021	0.0006	0.0015
278	0.0020	0.0006	0.0015
279	0.0020	0.0006	0.0015
280	0.0020	0.0006	0.0014
281	0.0020	0.0005	0.0014
282	0.0020	0.0005	0.0014
283	0.0019	0.0005	0.0014
284	0.0019	0.0005	0.0014
285	0.0019	0.0005	0.0014

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     286             0.0019          0.0005             0.0014
     287             0.0019          0.0005             0.0014
     288             0.0019          0.0005             0.0014
     ----------------------------------------------------------------------
     ----------------------------------------------------------------------
     Total soil rain loss =      0.46(In)
     Total effective rainfall =      2.02(In)
     Peak flow rate in flood hydrograph =     23.61(CFS)
     ----------------------------------------------------------------------
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
     ----------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ----------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
----------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q         |          |         |         |
  0+10       0.0002      0.02  Q         |          |         |         |
  0+15       0.0006      0.06  Q         |          |         |         |
  0+20       0.0012      0.09  Q         |          |         |         |
  0+25       0.0019      0.10  Q         |          |         |         |
  0+30       0.0027      0.11  Q         |          |         |         |
  0+35       0.0035      0.12  Q         |          |         |         |
  0+40       0.0044      0.13  Q         |          |         |         |
  0+45       0.0053      0.13  Q         |          |         |         |
  0+50       0.0063      0.14  Q         |          |         |         |
  0+55       0.0072      0.14  Q         |          |         |         |
  1+ 0       0.0082      0.14  Q         |          |         |         |
  1+ 5       0.0092      0.14  Q         |          |         |         |
  1+10       0.0102      0.15  Q         |          |         |         |
  1+15       0.0112      0.15  Q         |          |         |         |
  1+20       0.0122      0.15  Q         |          |         |         |
  1+25       0.0133      0.15  Q         |          |         |         |
  1+30       0.0143      0.15  Q         |          |         |         |
  1+35       0.0154      0.15  Q         |          |         |         |
  1+40       0.0164      0.15  Q         |          |         |         |
  1+45       0.0175      0.16  Q         |          |         |         |
  1+50       0.0186      0.16  Q         |          |         |         |
  1+55       0.0196      0.16  Q         |          |         |         |
  2+ 0       0.0207      0.16  Q         |          |         |         |
  2+ 5       0.0218      0.16  Q         |          |         |         |
  2+10       0.0229      0.16  Q         |          |         |         |
  2+15       0.0240      0.16  Q         |          |         |         |
  2+20       0.0251      0.16  Q         |          |         |         |
  2+25       0.0262      0.16  Q         |          |         |         |
  2+30       0.0273      0.16  Q         |          |         |         |
  2+35       0.0285      0.16  Q         |          |         |         |
  2+40       0.0296      0.16  Q         |          |         |         |
  2+45       0.0307      0.16  Q         |          |         |         |
  2+50       0.0319      0.16  Q         |          |         |         |
  2+55       0.0330      0.17  Q         |          |         |         |
  3+ 0       0.0341      0.17  Q         |          |         |         |
  3+ 5       0.0353      0.17  Q         |          |         |         |
  3+10       0.0364      0.17  Q         |          |         |         |
  3+15       0.0376      0.17  Q         |          |         |         |
  3+20       0.0388      0.17  QV        |          |         |         |
  3+25       0.0400      0.17  QV        |          |         |         |
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3+30	0.0411	0.17	QV				
3+35	0.0423	0.17	QV				
3+40	0.0435	0.17	QV				
3+45	0.0447	0.17	QV				
3+50	0.0459	0.18	QV				
3+55	0.0471	0.18	QV				
4+ 0	0.0484	0.18	QV				
4+ 5	0.0496	0.18	QV				
4+10	0.0508	0.18	QV				
4+15	0.0521	0.18	QV				
4+20	0.0533	0.18	QV				
4+25	0.0546	0.18	QV				
4+30	0.0558	0.18	QV				
4+35	0.0571	0.18	QV				
4+40	0.0584	0.18	QV				
4+45	0.0596	0.19	QV				
4+50	0.0609	0.19	QV				
4+55	0.0622	0.19	QV				
5+ 0	0.0635	0.19	QV				
5+ 5	0.0648	0.19	QV				
5+10	0.0661	0.19	QV				
5+15	0.0675	0.19	QV				
5+20	0.0688	0.19	QV				
5+25	0.0701	0.19	QV				
5+30	0.0715	0.20	QV				
5+35	0.0728	0.20	QV				
5+40	0.0742	0.20	QV				
5+45	0.0756	0.20	Q V				
5+50	0.0770	0.20	Q V				
5+55	0.0784	0.20	Q V				
6+ 0	0.0798	0.20	Q V				
6+ 5	0.0812	0.20	Q V				
6+10	0.0826	0.21	Q V				
6+15	0.0840	0.21	Q V				
6+20	0.0854	0.21	Q V				
6+25	0.0869	0.21	Q V				
6+30	0.0883	0.21	Q V				
6+35	0.0898	0.21	Q V				
6+40	0.0913	0.21	Q V				
6+45	0.0928	0.22	Q V				
6+50	0.0943	0.22	Q V				
6+55	0.0958	0.22	Q V				
7+ 0	0.0973	0.22	Q V				
7+ 5	0.0988	0.22	Q V				
7+10	0.1003	0.22	Q V				
7+15	0.1019	0.22	Q V				
7+20	0.1035	0.23	Q V				
7+25	0.1050	0.23	Q V				
7+30	0.1066	0.23	Q V				
7+35	0.1082	0.23	Q V				
7+40	0.1098	0.23	Q V				
7+45	0.1114	0.23	Q V				
7+50	0.1130	0.24	Q V				
7+55	0.1147	0.24	Q V				
8+ 0	0.1163	0.24	Q V				
8+ 5	0.1180	0.24	Q V				
8+10	0.1197	0.24	Q V				
8+15	0.1214	0.25	Q V				
8+20	0.1231	0.25	Q V				

8+25	0.1248	0.25	Q	V				
8+30	0.1266	0.25	Q	V				
8+35	0.1283	0.25	Q	V				
8+40	0.1301	0.26	Q	V				
8+45	0.1319	0.26	Q	V				
8+50	0.1336	0.26	Q	V				
8+55	0.1355	0.26	Q	V				
9+ 0	0.1373	0.27	Q	V				
9+ 5	0.1391	0.27	Q	V				
9+10	0.1410	0.27	Q	V				
9+15	0.1429	0.27	Q	V				
9+20	0.1448	0.28	Q	V				
9+25	0.1467	0.28	Q	V				
9+30	0.1486	0.28	Q	V				
9+35	0.1506	0.28	Q	V				
9+40	0.1525	0.29	Q	V				
9+45	0.1545	0.29	Q	V				
9+50	0.1565	0.29	Q	V				
9+55	0.1586	0.29	Q	V				
10+ 0	0.1606	0.30	Q	V				
10+ 5	0.1627	0.30	Q	V				
10+10	0.1648	0.30	Q	V				
10+15	0.1669	0.31	Q	V				
10+20	0.1690	0.31	Q	V				
10+25	0.1712	0.31	Q	V				
10+30	0.1734	0.32	Q	V				
10+35	0.1756	0.32	Q	V				
10+40	0.1778	0.32	Q	V				
10+45	0.1801	0.33	Q	V				
10+50	0.1824	0.33	Q	V				
10+55	0.1847	0.34	Q	V				
11+ 0	0.1870	0.34	Q	V				
11+ 5	0.1894	0.34	Q	V				
11+10	0.1918	0.35	Q	V				
11+15	0.1942	0.35	Q	V				
11+20	0.1967	0.36	Q	V				
11+25	0.1992	0.36	Q	V				
11+30	0.2017	0.37	Q	V				
11+35	0.2043	0.37	Q	V				
11+40	0.2069	0.38	Q	V				
11+45	0.2095	0.38	Q	V				
11+50	0.2122	0.39	Q	V				
11+55	0.2149	0.39	Q	V				
12+ 0	0.2176	0.40	Q	V				
12+ 5	0.2204	0.41	Q	V				
12+10	0.2232	0.41	Q	V				
12+15	0.2261	0.41	Q	V				
12+20	0.2289	0.41	Q	V				
12+25	0.2318	0.42	Q	V				
12+30	0.2347	0.43	Q	V				
12+35	0.2377	0.43	Q	V				
12+40	0.2408	0.44	Q	V				
12+45	0.2438	0.45	Q	V				
12+50	0.2470	0.45	Q	V				
12+55	0.2502	0.46	Q	V				
13+ 0	0.2534	0.47	Q	V				
13+ 5	0.2567	0.48	Q	V				
13+10	0.2601	0.49	Q	V				
13+15	0.2636	0.50	Q	V				

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13+20       0.2671      0.51  Q      V  |          |          |          |
13+25       0.2707      0.52  Q      V  |          |          |          |
13+30       0.2744      0.54  Q      V  |          |          |          |
13+35       0.2782      0.55  Q      V  |          |          |          |
13+40       0.2820      0.56  Q      V  |          |          |          |
13+45       0.2860      0.58  Q      V  |          |          |          |
13+50       0.2901      0.59  Q      V  |          |          |          |
13+55       0.2942      0.61  Q      V  |          |          |          |
14+ 0       0.2985      0.62  Q      V  |          |          |          |
14+ 5       0.3030      0.64  Q       V |          |          |          |
14+10       0.3075      0.66  Q       V |          |          |          |
14+15       0.3122      0.68  Q       V |          |          |          |
14+20       0.3170      0.70  Q       V |          |          |          |
14+25       0.3221      0.73  Q       V |          |          |          |
14+30       0.3273      0.75  |Q      V |          |          |          |
14+35       0.3326      0.78  |Q      V |          |          |          |
14+40       0.3382      0.81  |Q      V |          |          |          |
14+45       0.3441      0.85  |Q       V|          |          |          |
14+50       0.3501      0.88  |Q       V|          |          |          |
14+55       0.3565      0.92  |Q       V|          |          |          |
15+ 0       0.3632      0.97  |Q       V|          |          |          |
15+ 5       0.3702      1.02  |Q       V|          |          |          |
15+10       0.3776      1.08  |Q        V          |          |          |
15+15       0.3855      1.14  |Q        V          |          |          |
15+20       0.3939      1.22  |Q        V          |          |          |
15+25       0.4030      1.33  |Q        V          |          |          |
15+30       0.4135      1.52  | Q       V          |          |          |
15+35       0.4265      1.89  | Q       |V         |          |          |
15+40       0.4418      2.22  | Q       |V         |          |          |
15+45       0.4597      2.59  |  Q      | V        |          |          |
15+50       0.4808      3.06  |   Q     | V        |          |          |
15+55       0.5068      3.78  |    Q    |  V       |          |          |
16+ 0       0.5406      4.91  |     Q   |   V      |          |          |
16+ 5       0.5959      8.02  |         Q    V     |          |          |
16+10       0.6986     14.91  |          |       VQ|          |          |
16+15       0.8612     23.61  |          |          | V        |Q         |
16+20       0.9797     17.22  |          |          | Q   V    |          |
16+25       1.0570     11.21  |          |   Q      |       V  |          |
16+30       1.1139      8.26  |          |Q         |        V |          |
16+35       1.1570      6.27  |       Q  |          |          V          |
16+40       1.1915      5.01  |     Q    |          |          |V         |
16+45       1.2198      4.10  |    Q     |          |          | V        |
16+50       1.2429      3.35  |   Q      |          |          |  V       |
16+55       1.2628      2.88  |  Q       |          |          |  V       |
17+ 0       1.2798      2.48  |  Q       |          |          |   V      |
17+ 5       1.2946      2.14  | Q        |          |          |   V      |
17+10       1.3073      1.85  | Q        |          |          |   V      |
17+15       1.3183      1.60  | Q        |          |          |    V     |
17+20       1.3277      1.37  |Q         |          |          |    V     |
17+25       1.3358      1.17  |Q         |          |          |    V     |
17+30       1.3435      1.12  |Q         |          |          |    V     |
17+35       1.3508      1.06  |Q         |          |          |    V     |
17+40       1.3574      0.97  |Q         |          |          |     V    |
17+45       1.3630      0.81  |Q         |          |          |     V    |
17+50       1.3677      0.68  Q          |          |          |     V    |
17+55       1.3716      0.56  Q          |          |          |     V    |
18+ 0       1.3752      0.53  Q          |          |          |     V    |
18+ 5       1.3787      0.50  Q          |          |          |     V    |
18+10       1.3819      0.48  Q          |          |          |     V    |
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18+15	1.3851	0.46	Q	|	|	|	V |
18+20	1.3882	0.45	Q	|	|	|	V |
18+25	1.3912	0.43	Q	|	|	|	V |
18+30	1.3941	0.42	Q	|	|	|	V |
18+35	1.3969	0.41	Q	|	|	|	V |
18+40	1.3996	0.40	Q	|	|	|	V |
18+45	1.4023	0.38	Q	|	|	|	V |
18+50	1.4049	0.37	Q	|	|	|	V |
18+55	1.4074	0.36	Q	|	|	|	V |
19+ 0	1.4098	0.35	Q	|	|	|	V |
19+ 5	1.4122	0.35	Q	|	|	|	V |
19+10	1.4145	0.34	Q	|	|	|	V |
19+15	1.4168	0.33	Q	|	|	|	V |
19+20	1.4190	0.32	Q	|	|	|	V |
19+25	1.4212	0.31	Q	|	|	|	V |
19+30	1.4233	0.31	Q	|	|	|	V |
19+35	1.4254	0.30	Q	|	|	|	V |
19+40	1.4274	0.30	Q	|	|	|	V |
19+45	1.4294	0.29	Q	|	|	|	V |
19+50	1.4314	0.28	Q	|	|	|	V |
19+55	1.4333	0.28	Q	|	|	|	V |
20+ 0	1.4352	0.27	Q	|	|	|	V |
20+ 5	1.4370	0.27	Q	|	|	|	V |
20+10	1.4388	0.26	Q	|	|	|	V |
20+15	1.4406	0.26	Q	|	|	|	V |
20+20	1.4424	0.25	Q	|	|	|	V |
20+25	1.4441	0.25	Q	|	|	|	V |
20+30	1.4458	0.25	Q	|	|	|	V |
20+35	1.4475	0.24	Q	|	|	|	V |
20+40	1.4491	0.24	Q	|	|	|	V |
20+45	1.4507	0.24	Q	|	|	|	V |
20+50	1.4523	0.23	Q	|	|	|	V |
20+55	1.4539	0.23	Q	|	|	|	V |
21+ 0	1.4555	0.22	Q	|	|	|	V |
21+ 5	1.4570	0.22	Q	|	|	|	V |
21+10	1.4585	0.22	Q	|	|	|	V |
21+15	1.4600	0.22	Q	|	|	|	V |
21+20	1.4614	0.21	Q	|	|	|	V |
21+25	1.4629	0.21	Q	|	|	|	V |
21+30	1.4643	0.21	Q	|	|	|	V |
21+35	1.4657	0.20	Q	|	|	|	V |
21+40	1.4671	0.20	Q	|	|	|	V|
21+45	1.4685	0.20	Q	|	|	|	V|
21+50	1.4698	0.20	Q	|	|	|	V|
21+55	1.4712	0.19	Q	|	|	|	V|
22+ 0	1.4725	0.19	Q	|	|	|	V|
22+ 5	1.4738	0.19	Q	|	|	|	V|
22+10	1.4751	0.19	Q	|	|	|	V|
22+15	1.4764	0.19	Q	|	|	|	V|
22+20	1.4777	0.18	Q	|	|	|	V|
22+25	1.4789	0.18	Q	|	|	|	V|
22+30	1.4802	0.18	Q	|	|	|	V|
22+35	1.4814	0.18	Q	|	|	|	V|
22+40	1.4826	0.18	Q	|	|	|	V|
22+45	1.4838	0.17	Q	|	|	|	V|
22+50	1.4850	0.17	Q	|	|	|	V|
22+55	1.4862	0.17	Q	|	|	|	V|
23+ 0	1.4873	0.17	Q	|	|	|	V|
23+ 5	1.4885	0.17	Q	|	|	|	V|

23+10	1.4896	0.17	Q	|	|	|	V|
23+15	1.4907	0.16	Q	|	|	|	V|
23+20	1.4919	0.16	Q	|	|	|	V|
23+25	1.4930	0.16	Q	|	|	|	V|
23+30	1.4941	0.16	Q	|	|	|	V|
23+35	1.4952	0.16	Q	|	|	|	V|
23+40	1.4962	0.16	Q	|	|	|	V|
23+45	1.4973	0.16	Q	|	|	|	V|
23+50	1.4984	0.15	Q	|	|	|	V|
23+55	1.4994	0.15	Q	|	|	|	V|
24+ 0	1.5005	0.15	Q	|	|	|	V|
24+ 5	1.5015	0.15	Q	|	|	|	V|
24+10	1.5024	0.13	Q	|	|	|	V|
24+15	1.5030	0.09	Q	|	|	|	V|
24+20	1.5034	0.06	Q	|	|	|	V|
24+25	1.5037	0.04	Q	|	|	|	V|
24+30	1.5039	0.03	Q	|	|	|	V|
24+35	1.5041	0.03	Q	|	|	|	V|
24+40	1.5042	0.02	Q	|	|	|	V|
24+45	1.5043	0.02	Q	|	|	|	V|
24+50	1.5044	0.01	Q	|	|	|	V|
24+55	1.5045	0.01	Q	|	|	|	V|
25+ 0	1.5045	0.01	Q	|	|	|	V|
25+ 5	1.5046	0.01	Q	|	|	|	V|
25+10	1.5046	0.00	Q	|	|	|	V|
25+15	1.5046	0.00	Q	|	|	|	V|
25+20	1.5047	0.00	Q	|	|	|	V|
25+25	1.5047	0.00	Q	|	|	|	V|
25+30	1.5047	0.00	Q	|	|	|	V|
25+35	1.5047	0.00	Q	|	|	|	V|
25+40	1.5047	0.00	Q	|	|	|	V|
25+45	1.5047	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 5
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
13.66	1	1.27
Rainfall data for year 100		
13.66	6	1.84
Rainfall data for year 100		
13.66	24	2.46

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	13.66	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
12.29	0.900	78.0	92.8	0.78	0.701
1.37	0.100	98.0	98.0	0.20	0.907

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278
User entry of time of concentration = 0.300 (hours)
++
Watershed area = 13.66(Ac.)
Catchment Lag time = 0.240 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 34.7222
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.460(In)

Rainfall depth area reduction factors:
Using a total area of 13.66(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.460(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 165.20 (CFS))	
1	2.206	3.644
2	13.132	18.050
3	40.437	45.109
4	59.629	31.706
5	69.886	16.944
6	76.724	11.297
7	81.579	8.020
8	85.290	6.130
9	88.266	4.917
10	90.463	3.630
11	92.296	3.028
12	93.829	2.533
13	95.057	2.027

14	96.088	1.703
15	96.940	1.409
16	97.584	1.063
17	98.029	0.736
18	98.394	0.603
19	98.808	0.684
20	99.225	0.688
21	99.571	0.572
22	99.791	0.363
23	100.000	0.346

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7414	0.1392
3	0.8374	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0309	0.0549
7	1.0797	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2365	0.0349
12	1.2692	0.0327
13	1.2904	0.0212
14	1.3104	0.0200
15	1.3293	0.0189
16	1.3472	0.0179
17	1.3643	0.0170
18	1.3805	0.0163
19	1.3961	0.0156
20	1.4111	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4526	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4900	0.0121
27	1.5017	0.0117
28	1.5131	0.0114
29	1.5241	0.0111
30	1.5349	0.0108
31	1.5453	0.0105
32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076

47	1.6845	0.0075
48	1.6918	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7838	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8452	0.0053
74	1.8505	0.0053
75	1.8557	0.0052
76	1.8609	0.0052
77	1.8660	0.0051
78	1.8710	0.0051
79	1.8760	0.0050
80	1.8810	0.0050
81	1.8859	0.0049
82	1.8907	0.0049
83	1.8955	0.0048
84	1.9003	0.0048
85	1.9050	0.0047
86	1.9097	0.0047
87	1.9143	0.0046
88	1.9189	0.0046
89	1.9235	0.0045
90	1.9280	0.0045
91	1.9324	0.0045
92	1.9369	0.0044
93	1.9413	0.0044
94	1.9456	0.0044
95	1.9499	0.0043
96	1.9542	0.0043
97	1.9585	0.0042
98	1.9627	0.0042
99	1.9669	0.0042
100	1.9710	0.0041
101	1.9751	0.0041
102	1.9792	0.0041
103	1.9832	0.0040
104	1.9873	0.0040
105	1.9913	0.0040

106	1.9952	0.0040
107	1.9991	0.0039
108	2.0030	0.0039
109	2.0069	0.0039
110	2.0108	0.0038
111	2.0146	0.0038
112	2.0184	0.0038
113	2.0221	0.0038
114	2.0259	0.0037
115	2.0296	0.0037
116	2.0333	0.0037
117	2.0369	0.0037
118	2.0405	0.0036
119	2.0442	0.0036
120	2.0477	0.0036
121	2.0513	0.0036
122	2.0548	0.0035
123	2.0584	0.0035
124	2.0619	0.0035
125	2.0653	0.0035
126	2.0688	0.0035
127	2.0722	0.0034
128	2.0756	0.0034
129	2.0790	0.0034
130	2.0824	0.0034
131	2.0857	0.0033
132	2.0890	0.0033
133	2.0923	0.0033
134	2.0956	0.0033
135	2.0989	0.0033
136	2.1021	0.0032
137	2.1054	0.0032
138	2.1086	0.0032
139	2.1118	0.0032
140	2.1150	0.0032
141	2.1181	0.0032
142	2.1212	0.0031
143	2.1244	0.0031
144	2.1275	0.0031
145	2.1306	0.0031
146	2.1336	0.0031
147	2.1367	0.0031
148	2.1397	0.0030
149	2.1427	0.0030
150	2.1457	0.0030
151	2.1487	0.0030
152	2.1517	0.0030
153	2.1547	0.0030
154	2.1576	0.0029
155	2.1605	0.0029
156	2.1634	0.0029
157	2.1663	0.0029
158	2.1692	0.0029
159	2.1721	0.0029
160	2.1750	0.0029
161	2.1778	0.0028
162	2.1806	0.0028
163	2.1834	0.0028
164	2.1862	0.0028

165	2.1890	0.0028
166	2.1918	0.0028
167	2.1945	0.0028
168	2.1973	0.0027
169	2.2000	0.0027
170	2.2028	0.0027
171	2.2055	0.0027
172	2.2082	0.0027
173	2.2108	0.0027
174	2.2135	0.0027
175	2.2162	0.0027
176	2.2188	0.0026
177	2.2214	0.0026
178	2.2241	0.0026
179	2.2267	0.0026
180	2.2293	0.0026
181	2.2319	0.0026
182	2.2345	0.0026
183	2.2370	0.0026
184	2.2396	0.0026
185	2.2421	0.0025
186	2.2447	0.0025
187	2.2472	0.0025
188	2.2497	0.0025
189	2.2522	0.0025
190	2.2547	0.0025
191	2.2572	0.0025
192	2.2596	0.0025
193	2.2621	0.0025
194	2.2645	0.0025
195	2.2670	0.0024
196	2.2694	0.0024
197	2.2718	0.0024
198	2.2742	0.0024
199	2.2766	0.0024
200	2.2790	0.0024
201	2.2814	0.0024
202	2.2838	0.0024
203	2.2862	0.0024
204	2.2885	0.0024
205	2.2909	0.0023
206	2.2932	0.0023
207	2.2955	0.0023
208	2.2978	0.0023
209	2.3002	0.0023
210	2.3025	0.0023
211	2.3047	0.0023
212	2.3070	0.0023
213	2.3093	0.0023
214	2.3116	0.0023
215	2.3138	0.0023
216	2.3161	0.0023
217	2.3183	0.0022
218	2.3206	0.0022
219	2.3228	0.0022
220	2.3250	0.0022
221	2.3272	0.0022
222	2.3294	0.0022
223	2.3316	0.0022

224	2.3338	0.0022
225	2.3360	0.0022
226	2.3381	0.0022
227	2.3403	0.0022
228	2.3425	0.0022
229	2.3446	0.0021
230	2.3468	0.0021
231	2.3489	0.0021
232	2.3510	0.0021
233	2.3531	0.0021
234	2.3552	0.0021
235	2.3574	0.0021
236	2.3594	0.0021
237	2.3615	0.0021
238	2.3636	0.0021
239	2.3657	0.0021
240	2.3678	0.0021
241	2.3698	0.0021
242	2.3719	0.0021
243	2.3739	0.0020
244	2.3760	0.0020
245	2.3780	0.0020
246	2.3801	0.0020
247	2.3821	0.0020
248	2.3841	0.0020
249	2.3861	0.0020
250	2.3881	0.0020
251	2.3901	0.0020
252	2.3921	0.0020
253	2.3941	0.0020
254	2.3961	0.0020
255	2.3980	0.0020
256	2.4000	0.0020
257	2.4020	0.0020
258	2.4039	0.0020
259	2.4059	0.0019
260	2.4078	0.0019
261	2.4097	0.0019
262	2.4117	0.0019
263	2.4136	0.0019
264	2.4155	0.0019
265	2.4174	0.0019
266	2.4193	0.0019
267	2.4212	0.0019
268	2.4231	0.0019
269	2.4250	0.0019
270	2.4269	0.0019
271	2.4288	0.0019
272	2.4307	0.0019
273	2.4325	0.0019
274	2.4344	0.0019
275	2.4363	0.0019
276	2.4381	0.0019
277	2.4400	0.0018
278	2.4418	0.0018
279	2.4437	0.0018
280	2.4455	0.0018
281	2.4473	0.0018
282	2.4491	0.0018

283	2.4509	0.0018
284	2.4528	0.0018
285	2.4546	0.0018
286	2.4564	0.0018
287	2.4582	0.0018
288	2.4600	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0005	0.0013
2	0.0018	0.0005	0.0013
3	0.0018	0.0005	0.0013
4	0.0018	0.0005	0.0013
5	0.0018	0.0005	0.0013
6	0.0018	0.0005	0.0013
7	0.0018	0.0005	0.0013
8	0.0018	0.0005	0.0013
9	0.0019	0.0005	0.0013
10	0.0019	0.0005	0.0013
11	0.0019	0.0005	0.0013
12	0.0019	0.0005	0.0014
13	0.0019	0.0005	0.0014
14	0.0019	0.0005	0.0014
15	0.0019	0.0005	0.0014
16	0.0019	0.0005	0.0014
17	0.0019	0.0005	0.0014
18	0.0019	0.0005	0.0014
19	0.0019	0.0005	0.0014
20	0.0019	0.0005	0.0014
21	0.0020	0.0005	0.0014
22	0.0020	0.0005	0.0014
23	0.0020	0.0005	0.0014
24	0.0020	0.0006	0.0014
25	0.0020	0.0006	0.0014
26	0.0020	0.0006	0.0014
27	0.0020	0.0006	0.0015
28	0.0020	0.0006	0.0015
29	0.0020	0.0006	0.0015
30	0.0020	0.0006	0.0015
31	0.0020	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0015
34	0.0021	0.0006	0.0015
35	0.0021	0.0006	0.0015
36	0.0021	0.0006	0.0015
37	0.0021	0.0006	0.0015
38	0.0021	0.0006	0.0015
39	0.0021	0.0006	0.0015
40	0.0021	0.0006	0.0015
41	0.0022	0.0006	0.0016
42	0.0022	0.0006	0.0016
43	0.0022	0.0006	0.0016
44	0.0022	0.0006	0.0016
45	0.0022	0.0006	0.0016
46	0.0022	0.0006	0.0016
47	0.0022	0.0006	0.0016
48	0.0022	0.0006	0.0016

49	0.0023	0.0006	0.0016
50	0.0023	0.0006	0.0016
51	0.0023	0.0006	0.0016
52	0.0023	0.0006	0.0016
53	0.0023	0.0006	0.0017
54	0.0023	0.0006	0.0017
55	0.0023	0.0006	0.0017
56	0.0023	0.0007	0.0017
57	0.0024	0.0007	0.0017
58	0.0024	0.0007	0.0017
59	0.0024	0.0007	0.0017
60	0.0024	0.0007	0.0017
61	0.0024	0.0007	0.0017
62	0.0024	0.0007	0.0017
63	0.0024	0.0007	0.0018
64	0.0025	0.0007	0.0018
65	0.0025	0.0007	0.0018
66	0.0025	0.0007	0.0018
67	0.0025	0.0007	0.0018
68	0.0025	0.0007	0.0018
69	0.0025	0.0007	0.0018
70	0.0025	0.0007	0.0018
71	0.0026	0.0007	0.0019
72	0.0026	0.0007	0.0019
73	0.0026	0.0007	0.0019
74	0.0026	0.0007	0.0019
75	0.0026	0.0007	0.0019
76	0.0026	0.0007	0.0019
77	0.0027	0.0007	0.0019
78	0.0027	0.0007	0.0019
79	0.0027	0.0008	0.0020
80	0.0027	0.0008	0.0020
81	0.0027	0.0008	0.0020
82	0.0028	0.0008	0.0020
83	0.0028	0.0008	0.0020
84	0.0028	0.0008	0.0020
85	0.0028	0.0008	0.0020
86	0.0028	0.0008	0.0020
87	0.0029	0.0008	0.0021
88	0.0029	0.0008	0.0021
89	0.0029	0.0008	0.0021
90	0.0029	0.0008	0.0021
91	0.0030	0.0008	0.0021
92	0.0030	0.0008	0.0021
93	0.0030	0.0008	0.0022
94	0.0030	0.0008	0.0022
95	0.0031	0.0009	0.0022
96	0.0031	0.0009	0.0022
97	0.0031	0.0009	0.0022
98	0.0031	0.0009	0.0023
99	0.0032	0.0009	0.0023
100	0.0032	0.0009	0.0023
101	0.0032	0.0009	0.0023
102	0.0032	0.0009	0.0023
103	0.0033	0.0009	0.0024
104	0.0033	0.0009	0.0024
105	0.0033	0.0009	0.0024
106	0.0033	0.0009	0.0024
107	0.0034	0.0009	0.0024

108	0.0034	0.0009	0.0025
109	0.0035	0.0010	0.0025
110	0.0035	0.0010	0.0025
111	0.0035	0.0010	0.0025
112	0.0035	0.0010	0.0026
113	0.0036	0.0010	0.0026
114	0.0036	0.0010	0.0026
115	0.0037	0.0010	0.0026
116	0.0037	0.0010	0.0027
117	0.0037	0.0010	0.0027
118	0.0038	0.0010	0.0027
119	0.0038	0.0011	0.0028
120	0.0038	0.0011	0.0028
121	0.0039	0.0011	0.0028
122	0.0039	0.0011	0.0028
123	0.0040	0.0011	0.0029
124	0.0040	0.0011	0.0029
125	0.0041	0.0011	0.0029
126	0.0041	0.0011	0.0030
127	0.0042	0.0012	0.0030
128	0.0042	0.0012	0.0030
129	0.0043	0.0012	0.0031
130	0.0043	0.0012	0.0031
131	0.0044	0.0012	0.0032
132	0.0044	0.0012	0.0032
133	0.0045	0.0013	0.0033
134	0.0045	0.0013	0.0033
135	0.0046	0.0013	0.0033
136	0.0047	0.0013	0.0034
137	0.0048	0.0013	0.0034
138	0.0048	0.0013	0.0035
139	0.0049	0.0014	0.0035
140	0.0050	0.0014	0.0036
141	0.0051	0.0014	0.0036
142	0.0051	0.0014	0.0037
143	0.0052	0.0015	0.0038
144	0.0053	0.0015	0.0038
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0015	0.0040
148	0.0056	0.0016	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0042
151	0.0059	0.0016	0.0043
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0044
154	0.0062	0.0017	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0020	0.0051
160	0.0071	0.0020	0.0051
161	0.0074	0.0020	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0022	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0023	0.0060

167	0.0087	0.0024	0.0063
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0026	0.0069
171	0.0100	0.0028	0.0072
172	0.0102	0.0028	0.0074
173	0.0108	0.0030	0.0078
174	0.0111	0.0031	0.0080
175	0.0117	0.0033	0.0084
176	0.0121	0.0034	0.0087
177	0.0129	0.0036	0.0093
178	0.0133	0.0037	0.0096
179	0.0144	0.0040	0.0104
180	0.0149	0.0042	0.0108
181	0.0163	0.0045	0.0117
182	0.0170	0.0047	0.0123
183	0.0189	0.0053	0.0136
184	0.0200	0.0056	0.0144
185	0.0327	0.0091	0.0236
186	0.0349	0.0097	0.0251
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1392	0.0105	0.1287
193	0.6022	0.0105	0.5917
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0104	0.0270
197	0.0212	0.0059	0.0153
198	0.0179	0.0050	0.0129
199	0.0156	0.0043	0.0112
200	0.0138	0.0038	0.0100
201	0.0125	0.0035	0.0090
202	0.0114	0.0032	0.0082
203	0.0105	0.0029	0.0076
204	0.0097	0.0027	0.0070
205	0.0091	0.0025	0.0065
206	0.0085	0.0024	0.0061
207	0.0080	0.0022	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0018	0.0048
212	0.0063	0.0018	0.0046
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0041
216	0.0054	0.0015	0.0039
217	0.0053	0.0015	0.0038
218	0.0052	0.0014	0.0037
219	0.0050	0.0014	0.0036
220	0.0049	0.0014	0.0035
221	0.0047	0.0013	0.0034
222	0.0046	0.0013	0.0033
223	0.0045	0.0012	0.0032
224	0.0044	0.0012	0.0031
225	0.0042	0.0012	0.0031

226	0.0041	0.0012	0.0030
227	0.0040	0.0011	0.0029
228	0.0040	0.0011	0.0029
229	0.0039	0.0011	0.0028
230	0.0038	0.0011	0.0027
231	0.0037	0.0010	0.0027
232	0.0036	0.0010	0.0026
233	0.0036	0.0010	0.0026
234	0.0035	0.0010	0.0025
235	0.0034	0.0010	0.0025
236	0.0034	0.0009	0.0024
237	0.0033	0.0009	0.0024
238	0.0032	0.0009	0.0023
239	0.0032	0.0009	0.0023
240	0.0031	0.0009	0.0023
241	0.0031	0.0009	0.0022
242	0.0030	0.0008	0.0022
243	0.0030	0.0008	0.0022
244	0.0029	0.0008	0.0021
245	0.0029	0.0008	0.0021
246	0.0029	0.0008	0.0021
247	0.0028	0.0008	0.0020
248	0.0028	0.0008	0.0020
249	0.0027	0.0008	0.0020
250	0.0027	0.0008	0.0019
251	0.0027	0.0007	0.0019
252	0.0026	0.0007	0.0019
253	0.0026	0.0007	0.0019
254	0.0026	0.0007	0.0018
255	0.0025	0.0007	0.0018
256	0.0025	0.0007	0.0018
257	0.0025	0.0007	0.0018
258	0.0024	0.0007	0.0018
259	0.0024	0.0007	0.0017
260	0.0024	0.0007	0.0017
261	0.0023	0.0007	0.0017
262	0.0023	0.0006	0.0017
263	0.0023	0.0006	0.0017
264	0.0023	0.0006	0.0016
265	0.0022	0.0006	0.0016
266	0.0022	0.0006	0.0016
267	0.0022	0.0006	0.0016
268	0.0022	0.0006	0.0016
269	0.0021	0.0006	0.0016
270	0.0021	0.0006	0.0015
271	0.0021	0.0006	0.0015
272	0.0021	0.0006	0.0015
273	0.0021	0.0006	0.0015
274	0.0020	0.0006	0.0015
275	0.0020	0.0006	0.0015
276	0.0020	0.0006	0.0014
277	0.0020	0.0006	0.0014
278	0.0020	0.0005	0.0014
279	0.0019	0.0005	0.0014
280	0.0019	0.0005	0.0014
281	0.0019	0.0005	0.0014
282	0.0019	0.0005	0.0014
283	0.0019	0.0005	0.0014
284	0.0019	0.0005	0.0013

285	0.0018	0.0005	0.0013
286	0.0018	0.0005	0.0013
287	0.0018	0.0005	0.0013
288	0.0018	0.0005	0.0013

Total soil rain loss = 0.46(In)
Total effective rainfall = 2.00(In)
Peak flow rate in flood hydrograph = 35.15(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0000	0.00	Q				
0+10	0.0002	0.03	Q				
0+15	0.0008	0.09	Q				
0+20	0.0017	0.13	Q				
0+25	0.0027	0.15	Q				
0+30	0.0039	0.17	Q				
0+35	0.0051	0.18	Q				
0+40	0.0064	0.19	Q				
0+45	0.0077	0.19	Q				
0+50	0.0091	0.20	Q				
0+55	0.0104	0.20	Q				
1+ 0	0.0119	0.21	Q				
1+ 5	0.0133	0.21	Q				
1+10	0.0148	0.21	Q				
1+15	0.0163	0.22	Q				
1+20	0.0178	0.22	Q				
1+25	0.0193	0.22	Q				
1+30	0.0208	0.22	Q				
1+35	0.0224	0.22	Q				
1+40	0.0239	0.23	Q				
1+45	0.0255	0.23	Q				
1+50	0.0271	0.23	Q				
1+55	0.0287	0.23	Q				
2+ 0	0.0302	0.23	Q				
2+ 5	0.0319	0.23	Q				
2+10	0.0335	0.23	Q				
2+15	0.0351	0.23	Q				
2+20	0.0367	0.24	Q				
2+25	0.0383	0.24	Q				
2+30	0.0400	0.24	Q				
2+35	0.0416	0.24	Q				
2+40	0.0433	0.24	Q				
2+45	0.0449	0.24	Q				
2+50	0.0466	0.24	Q				
2+55	0.0483	0.24	Q				
3+ 0	0.0500	0.25	Q				
3+ 5	0.0517	0.25	Q				
3+10	0.0534	0.25	Q				
3+15	0.0551	0.25	Q				
3+20	0.0568	0.25	Q				

3+25	0.0586	0.25	QV				
3+30	0.0603	0.25	QV				
3+35	0.0620	0.25	QV				
3+40	0.0638	0.26	QV				
3+45	0.0656	0.26	QV				
3+50	0.0673	0.26	QV				
3+55	0.0691	0.26	QV				
4+ 0	0.0709	0.26	QV				
4+ 5	0.0727	0.26	QV				
4+10	0.0745	0.26	QV				
4+15	0.0764	0.26	QV				
4+20	0.0782	0.27	QV				
4+25	0.0800	0.27	QV				
4+30	0.0819	0.27	QV				
4+35	0.0838	0.27	QV				
4+40	0.0856	0.27	QV				
4+45	0.0875	0.27	QV				
4+50	0.0894	0.28	QV				
4+55	0.0913	0.28	QV				
5+ 0	0.0932	0.28	QV				
5+ 5	0.0952	0.28	QV				
5+10	0.0971	0.28	QV				
5+15	0.0991	0.28	QV				
5+20	0.1010	0.29	QV				
5+25	0.1030	0.29	QV				
5+30	0.1050	0.29	QV				
5+35	0.1070	0.29	QV				
5+40	0.1090	0.29	QV				
5+45	0.1110	0.29	QV				
5+50	0.1131	0.30	QV				
5+55	0.1151	0.30	Q V				
6+ 0	0.1172	0.30	Q V				
6+ 5	0.1192	0.30	Q V				
6+10	0.1213	0.30	Q V				
6+15	0.1234	0.31	Q V				
6+20	0.1256	0.31	Q V				
6+25	0.1277	0.31	Q V				
6+30	0.1298	0.31	Q V				
6+35	0.1320	0.31	Q V				
6+40	0.1342	0.32	Q V				
6+45	0.1363	0.32	Q V				
6+50	0.1385	0.32	Q V				
6+55	0.1408	0.32	Q V				
7+ 0	0.1430	0.32	Q V				
7+ 5	0.1453	0.33	Q V				
7+10	0.1475	0.33	Q V				
7+15	0.1498	0.33	Q V				
7+20	0.1521	0.33	Q V				
7+25	0.1544	0.34	Q V				
7+30	0.1567	0.34	Q V				
7+35	0.1591	0.34	Q V				
7+40	0.1615	0.34	Q V				
7+45	0.1638	0.35	Q V				
7+50	0.1662	0.35	Q V				
7+55	0.1687	0.35	Q V				
8+ 0	0.1711	0.35	Q V				
8+ 5	0.1736	0.36	Q V				
8+10	0.1761	0.36	Q V				
8+15	0.1786	0.36	Q V				

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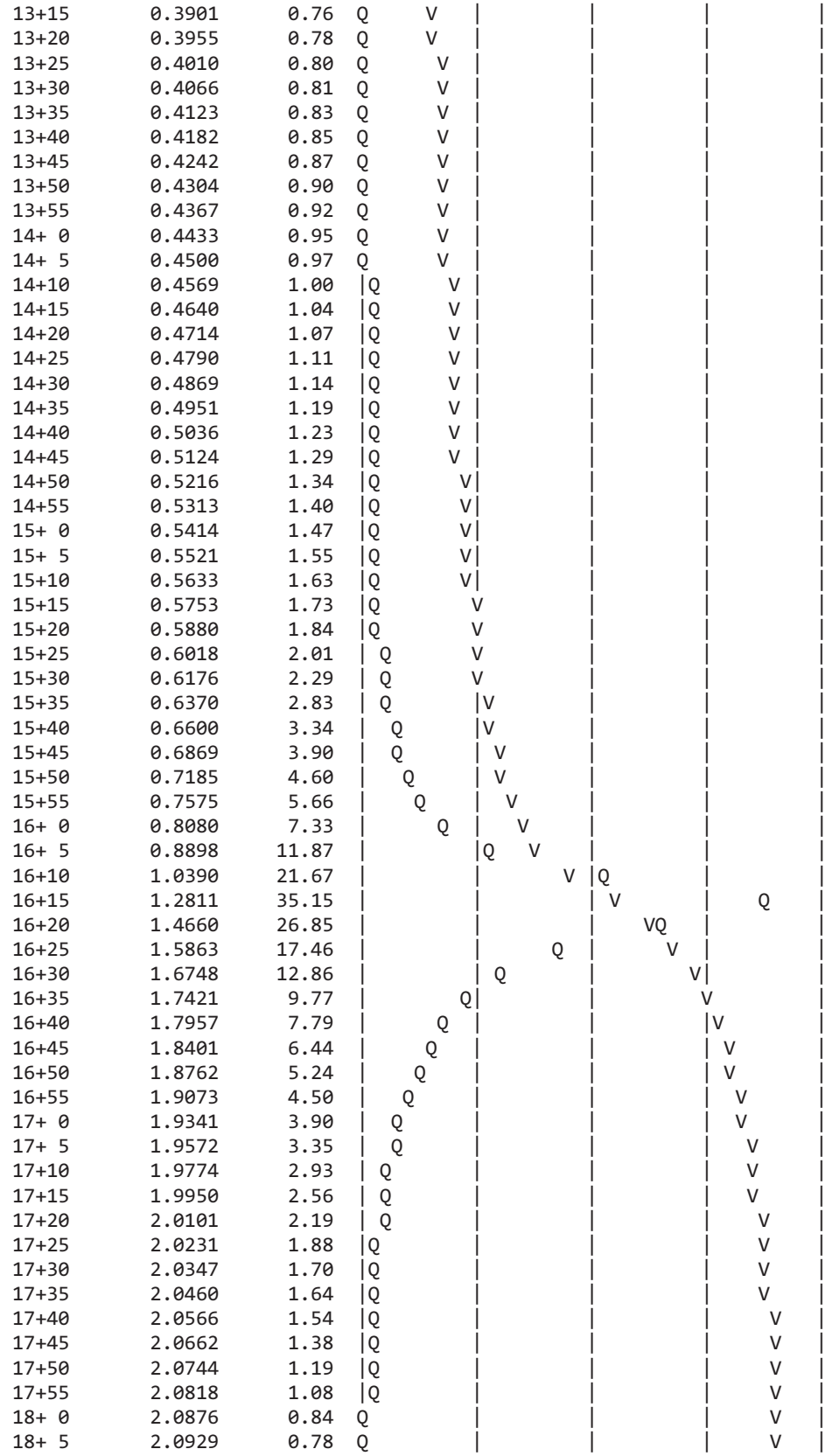
 8+20       0.1811      0.37  Q  V      |          |          |          |
 8+25       0.1836      0.37  Q  V      |          |          |          |
 8+30       0.1862      0.37  Q  V      |          |          |          |
 8+35       0.1888      0.38  Q  V      |          |          |          |
 8+40       0.1914      0.38  Q  V      |          |          |          |
 8+45       0.1940      0.38  Q  V      |          |          |          |
 8+50       0.1966      0.38  Q  V      |          |          |          |
 8+55       0.1993      0.39  Q  V      |          |          |          |
 9+ 0       0.2020      0.39  Q  V      |          |          |          |
 9+ 5       0.2047      0.40  Q  V      |          |          |          |
 9+10       0.2075      0.40  Q  V      |          |          |          |
 9+15       0.2103      0.40  Q  V      |          |          |          |
 9+20       0.2131      0.41  Q  V      |          |          |          |
 9+25       0.2159      0.41  Q  V      |          |          |          |
 9+30       0.2187      0.41  Q  V      |          |          |          |
 9+35       0.2216      0.42  Q  V      |          |          |          |
 9+40       0.2245      0.42  Q  V      |          |          |          |
 9+45       0.2275      0.43  Q  V      |          |          |          |
 9+50       0.2304      0.43  Q   V     |          |          |          |
 9+55       0.2334      0.44  Q   V     |          |          |          |
10+ 0       0.2364      0.44  Q   V     |          |          |          |
10+ 5       0.2395      0.44  Q   V     |          |          |          |
10+10       0.2426      0.45  Q   V     |          |          |          |
10+15       0.2457      0.45  Q   V     |          |          |          |
10+20       0.2489      0.46  Q   V     |          |          |          |
10+25       0.2521      0.46  Q   V     |          |          |          |
10+30       0.2553      0.47  Q   V     |          |          |          |
10+35       0.2586      0.47  Q   V     |          |          |          |
10+40       0.2619      0.48  Q   V     |          |          |          |
10+45       0.2652      0.48  Q   V     |          |          |          |
10+50       0.2686      0.49  Q   V     |          |          |          |
10+55       0.2720      0.50  Q   V     |          |          |          |
11+ 0       0.2755      0.50  Q   V     |          |          |          |
11+ 5       0.2790      0.51  Q   V     |          |          |          |
11+10       0.2825      0.52  Q   V     |          |          |          |
11+15       0.2861      0.52  Q    V    |          |          |          |
11+20       0.2897      0.53  Q    V    |          |          |          |
11+25       0.2934      0.54  Q    V    |          |          |          |
11+30       0.2972      0.54  Q    V    |          |          |          |
11+35       0.3010      0.55  Q    V    |          |          |          |
11+40       0.3048      0.56  Q    V    |          |          |          |
11+45       0.3087      0.57  Q    V    |          |          |          |
11+50       0.3127      0.57  Q    V    |          |          |          |
11+55       0.3167      0.58  Q    V    |          |          |          |
12+ 0       0.3207      0.59  Q    V    |          |          |          |
12+ 5       0.3249      0.60  Q    V    |          |          |          |
12+10       0.3291      0.61  Q    V    |          |          |          |
12+15       0.3333      0.62  Q    V    |          |          |          |
12+20       0.3376      0.62  Q    V    |          |          |          |
12+25       0.3420      0.63  Q    V    |          |          |          |
12+30       0.3464      0.64  Q     V   |          |          |          |
12+35       0.3509      0.66  Q     V   |          |          |          |
12+40       0.3555      0.67  Q     V   |          |          |          |
12+45       0.3602      0.68  Q     V   |          |          |          |
12+50       0.3649      0.69  Q     V   |          |          |          |
12+55       0.3698      0.70  Q     V   |          |          |          |
13+ 0       0.3747      0.72  Q     V   |          |          |          |
13+ 5       0.3798      0.73  Q     V   |          |          |          |
13+10       0.3849      0.75  Q     V   |          |          |          |
```



13+15	0.3901	0.76	Q V | | | |
13+20	0.3955	0.78	Q V | | | |
13+25	0.4010	0.80	Q V | | | |
13+30	0.4066	0.81	Q V | | | |
13+35	0.4123	0.83	Q V | | | |
13+40	0.4182	0.85	Q V | | | |
13+45	0.4242	0.87	Q V | | | |
13+50	0.4304	0.90	Q V | | | |
13+55	0.4367	0.92	Q V | | | |
14+ 0	0.4433	0.95	Q V | | | |
14+ 5	0.4500	0.97	Q V | | | |
14+10	0.4569	1.00	|Q V | | | |
14+15	0.4640	1.04	|Q V | | | |
14+20	0.4714	1.07	|Q V | | | |
14+25	0.4790	1.11	|Q V | | | |
14+30	0.4869	1.14	|Q V | | | |
14+35	0.4951	1.19	|Q V | | | |
14+40	0.5036	1.23	|Q V | | | |
14+45	0.5124	1.29	|Q V | | | |
14+50	0.5216	1.34	|Q V| | | |
14+55	0.5313	1.40	|Q V| | | |
15+ 0	0.5414	1.47	|Q V| | | |
15+ 5	0.5521	1.55	|Q V| | | |
15+10	0.5633	1.63	|Q V| | | |
15+15	0.5753	1.73	|Q V | | |
15+20	0.5880	1.84	|Q V | | |
15+25	0.6018	2.01	| Q V | | |
15+30	0.6176	2.29	| Q V | | |
15+35	0.6370	2.83	| Q |V | | |
15+40	0.6600	3.34	| Q |V | | |
15+45	0.6869	3.90	| Q | V | | |
15+50	0.7185	4.60	| Q | V | | |
15+55	0.7575	5.66	| Q | V | | |
16+ 0	0.8080	7.33	| Q | V | | |
16+ 5	0.8898	11.87	| |Q V | | |
16+10	1.0390	21.67	| | V |Q | |
16+15	1.2811	35.15	| | | V | Q |
16+20	1.4660	26.85	| | | VQ | |
16+25	1.5863	17.46	| | Q | V | |
16+30	1.6748	12.86	| Q | V| |
16+35	1.7421	9.77	| Q| | V |
16+40	1.7957	7.79	| Q | | |V |
16+45	1.8401	6.44	| Q | | | V |
16+50	1.8762	5.24	| Q | | | V |
16+55	1.9073	4.50	| Q | | | V |
17+ 0	1.9341	3.90	| Q | | | V |
17+ 5	1.9572	3.35	| Q | | | V |
17+10	1.9774	2.93	| Q | | | V |
17+15	1.9950	2.56	| Q | | | V |
17+20	2.0101	2.19	| Q | | | V |
17+25	2.0231	1.88	|Q | | | V |
17+30	2.0347	1.70	|Q | | | V |
17+35	2.0460	1.64	|Q | | | V |
17+40	2.0566	1.54	|Q | | | V |
17+45	2.0662	1.38	|Q | | | V |
17+50	2.0744	1.19	|Q | | | V |
17+55	2.0818	1.08	|Q | | | V |
18+ 0	2.0876	0.84	Q | | | V |
18+ 5	2.0929	0.78	Q | | | V |

18+10	2.0980	0.74	Q	|	|	|	V |
18+15	2.1029	0.71	Q	|	|	|	V |
18+20	2.1076	0.68	Q	|	|	|	V |
18+25	2.1121	0.66	Q	|	|	|	V |
18+30	2.1165	0.63	Q	|	|	|	V |
18+35	2.1207	0.61	Q	|	|	|	V |
18+40	2.1248	0.59	Q	|	|	|	V |
18+45	2.1288	0.58	Q	|	|	|	V |
18+50	2.1326	0.56	Q	|	|	|	V |
18+55	2.1364	0.54	Q	|	|	|	V |
19+ 0	2.1400	0.53	Q	|	|	|	V |
19+ 5	2.1436	0.52	Q	|	|	|	V |
19+10	2.1470	0.50	Q	|	|	|	V |
19+15	2.1504	0.49	Q	|	|	|	V |
19+20	2.1537	0.48	Q	|	|	|	V |
19+25	2.1570	0.47	Q	|	|	|	V |
19+30	2.1601	0.46	Q	|	|	|	V |
19+35	2.1632	0.45	Q	|	|	|	V |
19+40	2.1662	0.44	Q	|	|	|	V |
19+45	2.1692	0.43	Q	|	|	|	V |
19+50	2.1721	0.42	Q	|	|	|	V |
19+55	2.1749	0.41	Q	|	|	|	V |
20+ 0	2.1777	0.41	Q	|	|	|	V |
20+ 5	2.1805	0.40	Q	|	|	|	V |
20+10	2.1832	0.39	Q	|	|	|	V |
20+15	2.1858	0.38	Q	|	|	|	V |
20+20	2.1884	0.38	Q	|	|	|	V |
20+25	2.1910	0.37	Q	|	|	|	V |
20+30	2.1935	0.37	Q	|	|	|	V |
20+35	2.1960	0.36	Q	|	|	|	V |
20+40	2.1984	0.35	Q	|	|	|	V |
20+45	2.2008	0.35	Q	|	|	|	V |
20+50	2.2032	0.34	Q	|	|	|	V |
20+55	2.2055	0.34	Q	|	|	|	V |
21+ 0	2.2078	0.33	Q	|	|	|	V |
21+ 5	2.2101	0.33	Q	|	|	|	V |
21+10	2.2123	0.32	Q	|	|	|	V |
21+15	2.2145	0.32	Q	|	|	|	V |
21+20	2.2167	0.31	Q	|	|	|	V |
21+25	2.2188	0.31	Q	|	|	|	V |
21+30	2.2209	0.31	Q	|	|	|	V |
21+35	2.2230	0.30	Q	|	|	|	V |
21+40	2.2250	0.30	Q	|	|	|	V|
21+45	2.2271	0.30	Q	|	|	|	V|
21+50	2.2291	0.29	Q	|	|	|	V|
21+55	2.2311	0.29	Q	|	|	|	V|
22+ 0	2.2330	0.28	Q	|	|	|	V|
22+ 5	2.2350	0.28	Q	|	|	|	V|
22+10	2.2369	0.28	Q	|	|	|	V|
22+15	2.2388	0.27	Q	|	|	|	V|
22+20	2.2406	0.27	Q	|	|	|	V|
22+25	2.2425	0.27	Q	|	|	|	V|
22+30	2.2443	0.27	Q	|	|	|	V|
22+35	2.2461	0.26	Q	|	|	|	V|
22+40	2.2479	0.26	Q	|	|	|	V|
22+45	2.2497	0.26	Q	|	|	|	V|
22+50	2.2515	0.25	Q	|	|	|	V|
22+55	2.2532	0.25	Q	|	|	|	V|
23+ 0	2.2549	0.25	Q	|	|	|	V|

23+ 5	2.2566	0.25	Q	|	|	|	V|
23+10	2.2583	0.24	Q	|	|	|	V|
23+15	2.2600	0.24	Q	|	|	|	V|
23+20	2.2616	0.24	Q	|	|	|	V|
23+25	2.2632	0.24	Q	|	|	|	V|
23+30	2.2649	0.24	Q	|	|	|	V|
23+35	2.2665	0.23	Q	|	|	|	V|
23+40	2.2681	0.23	Q	|	|	|	V|
23+45	2.2696	0.23	Q	|	|	|	V|
23+50	2.2712	0.23	Q	|	|	|	V|
23+55	2.2728	0.22	Q	|	|	|	V|
24+ 0	2.2743	0.22	Q	|	|	|	V|
24+ 5	2.2758	0.22	Q	|	|	|	V|
24+10	2.2771	0.19	Q	|	|	|	V|
24+15	2.2780	0.13	Q	|	|	|	V|
24+20	2.2786	0.09	Q	|	|	|	V|
24+25	2.2791	0.07	Q	|	|	|	V|
24+30	2.2794	0.05	Q	|	|	|	V|
24+35	2.2797	0.04	Q	|	|	|	V|
24+40	2.2799	0.03	Q	|	|	|	V|
24+45	2.2801	0.03	Q	|	|	|	V|
24+50	2.2803	0.02	Q	|	|	|	V|
24+55	2.2804	0.02	Q	|	|	|	V|
25+ 0	2.2805	0.01	Q	|	|	|	V|
25+ 5	2.2806	0.01	Q	|	|	|	V|
25+10	2.2806	0.01	Q	|	|	|	V|
25+15	2.2807	0.01	Q	|	|	|	V|
25+20	2.2807	0.01	Q	|	|	|	V|
25+25	2.2807	0.00	Q	|	|	|	V|
25+30	2.2808	0.00	Q	|	|	|	V|
25+35	2.2808	0.00	Q	|	|	|	V|
25+40	2.2808	0.00	Q	|	|	|	V|
25+45	2.2808	0.00	Q	|	|	|	V|
25+50	2.2808	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 6
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
13.80	1	1.27
Rainfall data for year 100		
13.80	6	1.84
Rainfall data for year 100		
13.80	24	2.45

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	13.80	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
12.42	0.900	78.0	92.8	0.78	0.700
1.38	0.100	98.0	98.0	0.20	0.907

Area-averaged catchment yield fraction, Y = 0.721
Area-averaged low loss fraction, Yb = 0.279
User entry of time of concentration = 0.400 (hours)
++
Watershed area = 13.80(Ac.)
Catchment Lag time = 0.320 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 26.0417
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.279 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.450(In)

Rainfall depth area reduction factors:
Using a total area of 13.80(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.450(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 166.89 (CFS))	
1	1.429	2.385
2	7.072	9.418
3	21.935	24.805
4	43.929	36.706
5	58.081	23.619
6	66.645	14.293
7	72.800	10.271
8	77.460	7.778
9	81.078	6.038
10	83.994	4.866
11	86.510	4.199
12	88.598	3.486
13	90.217	2.702

14	91.655	2.399
15	92.906	2.089
16	94.007	1.837
17	94.909	1.506
18	95.741	1.388
19	96.426	1.144
20	97.036	1.019
21	97.509	0.789
22	97.897	0.648
23	98.159	0.437
24	98.444	0.475
25	98.756	0.521
26	99.069	0.522
27	99.380	0.520
28	99.601	0.368
29	99.764	0.272
30	100.000	0.136

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7414	0.1392
3	0.8373	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0309	0.0549
7	1.0797	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2365	0.0349
12	1.2692	0.0327
13	1.2904	0.0212
14	1.3104	0.0200
15	1.3293	0.0189
16	1.3472	0.0179
17	1.3643	0.0170
18	1.3805	0.0163
19	1.3961	0.0156
20	1.4110	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4526	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4900	0.0121
27	1.5017	0.0117
28	1.5131	0.0114
29	1.5241	0.0111
30	1.5349	0.0108
31	1.5453	0.0105
32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6206	0.0087

40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6918	0.0074
49	1.6990	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7838	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8452	0.0052
74	1.8504	0.0052
75	1.8555	0.0051
76	1.8606	0.0051
77	1.8656	0.0050
78	1.8706	0.0050
79	1.8755	0.0049
80	1.8804	0.0049
81	1.8852	0.0048
82	1.8900	0.0048
83	1.8948	0.0047
84	1.8994	0.0047
85	1.9041	0.0046
86	1.9087	0.0046
87	1.9133	0.0046
88	1.9178	0.0045
89	1.9223	0.0045
90	1.9267	0.0044
91	1.9311	0.0044
92	1.9355	0.0044
93	1.9398	0.0043
94	1.9441	0.0043
95	1.9483	0.0043
96	1.9526	0.0042
97	1.9568	0.0042
98	1.9609	0.0041

99	1.9650	0.0041
100	1.9691	0.0041
101	1.9732	0.0041
102	1.9772	0.0040
103	1.9812	0.0040
104	1.9851	0.0040
105	1.9890	0.0039
106	1.9929	0.0039
107	1.9968	0.0039
108	2.0007	0.0038
109	2.0045	0.0038
110	2.0083	0.0038
111	2.0120	0.0038
112	2.0157	0.0037
113	2.0194	0.0037
114	2.0231	0.0037
115	2.0268	0.0037
116	2.0304	0.0036
117	2.0340	0.0036
118	2.0376	0.0036
119	2.0411	0.0036
120	2.0447	0.0035
121	2.0482	0.0035
122	2.0517	0.0035
123	2.0551	0.0035
124	2.0586	0.0034
125	2.0620	0.0034
126	2.0654	0.0034
127	2.0688	0.0034
128	2.0721	0.0034
129	2.0754	0.0033
130	2.0788	0.0033
131	2.0821	0.0033
132	2.0853	0.0033
133	2.0886	0.0033
134	2.0918	0.0032
135	2.0950	0.0032
136	2.0982	0.0032
137	2.1014	0.0032
138	2.1046	0.0032
139	2.1077	0.0031
140	2.1108	0.0031
141	2.1139	0.0031
142	2.1170	0.0031
143	2.1201	0.0031
144	2.1231	0.0031
145	2.1262	0.0030
146	2.1292	0.0030
147	2.1322	0.0030
148	2.1352	0.0030
149	2.1382	0.0030
150	2.1411	0.0030
151	2.1441	0.0029
152	2.1470	0.0029
153	2.1499	0.0029
154	2.1528	0.0029
155	2.1557	0.0029
156	2.1585	0.0029
157	2.1614	0.0029

158	2.1642	0.0028
159	2.1670	0.0028
160	2.1699	0.0028
161	2.1726	0.0028
162	2.1754	0.0028
163	2.1782	0.0028
164	2.1809	0.0028
165	2.1837	0.0027
166	2.1864	0.0027
167	2.1891	0.0027
168	2.1918	0.0027
169	2.1945	0.0027
170	2.1972	0.0027
171	2.1999	0.0027
172	2.2025	0.0027
173	2.2051	0.0026
174	2.2078	0.0026
175	2.2104	0.0026
176	2.2130	0.0026
177	2.2156	0.0026
178	2.2182	0.0026
179	2.2207	0.0026
180	2.2233	0.0026
181	2.2258	0.0025
182	2.2284	0.0025
183	2.2309	0.0025
184	2.2334	0.0025
185	2.2359	0.0025
186	2.2384	0.0025
187	2.2409	0.0025
188	2.2434	0.0025
189	2.2458	0.0025
190	2.2483	0.0024
191	2.2507	0.0024
192	2.2531	0.0024
193	2.2555	0.0024
194	2.2580	0.0024
195	2.2604	0.0024
196	2.2627	0.0024
197	2.2651	0.0024
198	2.2675	0.0024
199	2.2699	0.0024
200	2.2722	0.0024
201	2.2745	0.0023
202	2.2769	0.0023
203	2.2792	0.0023
204	2.2815	0.0023
205	2.2838	0.0023
206	2.2861	0.0023
207	2.2884	0.0023
208	2.2907	0.0023
209	2.2930	0.0023
210	2.2952	0.0023
211	2.2975	0.0023
212	2.2997	0.0022
213	2.3020	0.0022
214	2.3042	0.0022
215	2.3064	0.0022
216	2.3086	0.0022

217	2.3108	0.0022
218	2.3130	0.0022
219	2.3152	0.0022
220	2.3174	0.0022
221	2.3196	0.0022
222	2.3217	0.0022
223	2.3239	0.0022
224	2.3260	0.0021
225	2.3282	0.0021
226	2.3303	0.0021
227	2.3324	0.0021
228	2.3345	0.0021
229	2.3367	0.0021
230	2.3388	0.0021
231	2.3409	0.0021
232	2.3429	0.0021
233	2.3450	0.0021
234	2.3471	0.0021
235	2.3492	0.0021
236	2.3512	0.0021
237	2.3533	0.0021
238	2.3553	0.0020
239	2.3574	0.0020
240	2.3594	0.0020
241	2.3614	0.0020
242	2.3635	0.0020
243	2.3655	0.0020
244	2.3675	0.0020
245	2.3695	0.0020
246	2.3715	0.0020
247	2.3735	0.0020
248	2.3754	0.0020
249	2.3774	0.0020
250	2.3794	0.0020
251	2.3814	0.0020
252	2.3833	0.0020
253	2.3853	0.0020
254	2.3872	0.0019
255	2.3891	0.0019
256	2.3911	0.0019
257	2.3930	0.0019
258	2.3949	0.0019
259	2.3968	0.0019
260	2.3987	0.0019
261	2.4006	0.0019
262	2.4025	0.0019
263	2.4044	0.0019
264	2.4063	0.0019
265	2.4082	0.0019
266	2.4101	0.0019
267	2.4119	0.0019
268	2.4138	0.0019
269	2.4157	0.0019
270	2.4175	0.0019
271	2.4194	0.0018
272	2.4212	0.0018
273	2.4230	0.0018
274	2.4249	0.0018
275	2.4267	0.0018

276	2.4285	0.0018
277	2.4303	0.0018
278	2.4321	0.0018
279	2.4339	0.0018
280	2.4357	0.0018
281	2.4375	0.0018
282	2.4393	0.0018
283	2.4411	0.0018
284	2.4429	0.0018
285	2.4447	0.0018
286	2.4464	0.0018
287	2.4482	0.0018
288	2.4500	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0005	0.0013
2	0.0018	0.0005	0.0013
3	0.0018	0.0005	0.0013
4	0.0018	0.0005	0.0013
5	0.0018	0.0005	0.0013
6	0.0018	0.0005	0.0013
7	0.0018	0.0005	0.0013
8	0.0018	0.0005	0.0013
9	0.0018	0.0005	0.0013
10	0.0018	0.0005	0.0013
11	0.0018	0.0005	0.0013
12	0.0018	0.0005	0.0013
13	0.0019	0.0005	0.0013
14	0.0019	0.0005	0.0013
15	0.0019	0.0005	0.0013
16	0.0019	0.0005	0.0014
17	0.0019	0.0005	0.0014
18	0.0019	0.0005	0.0014
19	0.0019	0.0005	0.0014
20	0.0019	0.0005	0.0014
21	0.0019	0.0005	0.0014
22	0.0019	0.0005	0.0014
23	0.0019	0.0005	0.0014
24	0.0019	0.0005	0.0014
25	0.0020	0.0005	0.0014
26	0.0020	0.0005	0.0014
27	0.0020	0.0006	0.0014
28	0.0020	0.0006	0.0014
29	0.0020	0.0006	0.0014
30	0.0020	0.0006	0.0014
31	0.0020	0.0006	0.0015
32	0.0020	0.0006	0.0015
33	0.0020	0.0006	0.0015
34	0.0020	0.0006	0.0015
35	0.0021	0.0006	0.0015
36	0.0021	0.0006	0.0015
37	0.0021	0.0006	0.0015
38	0.0021	0.0006	0.0015
39	0.0021	0.0006	0.0015
40	0.0021	0.0006	0.0015
41	0.0021	0.0006	0.0015

42	0.0021	0.0006	0.0015
43	0.0021	0.0006	0.0015
44	0.0021	0.0006	0.0015
45	0.0022	0.0006	0.0016
46	0.0022	0.0006	0.0016
47	0.0022	0.0006	0.0016
48	0.0022	0.0006	0.0016
49	0.0022	0.0006	0.0016
50	0.0022	0.0006	0.0016
51	0.0022	0.0006	0.0016
52	0.0022	0.0006	0.0016
53	0.0023	0.0006	0.0016
54	0.0023	0.0006	0.0016
55	0.0023	0.0006	0.0016
56	0.0023	0.0006	0.0017
57	0.0023	0.0006	0.0017
58	0.0023	0.0006	0.0017
59	0.0023	0.0007	0.0017
60	0.0024	0.0007	0.0017
61	0.0024	0.0007	0.0017
62	0.0024	0.0007	0.0017
63	0.0024	0.0007	0.0017
64	0.0024	0.0007	0.0017
65	0.0024	0.0007	0.0018
66	0.0024	0.0007	0.0018
67	0.0025	0.0007	0.0018
68	0.0025	0.0007	0.0018
69	0.0025	0.0007	0.0018
70	0.0025	0.0007	0.0018
71	0.0025	0.0007	0.0018
72	0.0025	0.0007	0.0018
73	0.0026	0.0007	0.0018
74	0.0026	0.0007	0.0019
75	0.0026	0.0007	0.0019
76	0.0026	0.0007	0.0019
77	0.0026	0.0007	0.0019
78	0.0026	0.0007	0.0019
79	0.0027	0.0007	0.0019
80	0.0027	0.0007	0.0019
81	0.0027	0.0008	0.0019
82	0.0027	0.0008	0.0020
83	0.0027	0.0008	0.0020
84	0.0028	0.0008	0.0020
85	0.0028	0.0008	0.0020
86	0.0028	0.0008	0.0020
87	0.0028	0.0008	0.0020
88	0.0028	0.0008	0.0020
89	0.0029	0.0008	0.0021
90	0.0029	0.0008	0.0021
91	0.0029	0.0008	0.0021
92	0.0029	0.0008	0.0021
93	0.0030	0.0008	0.0021
94	0.0030	0.0008	0.0021
95	0.0030	0.0008	0.0022
96	0.0030	0.0008	0.0022
97	0.0031	0.0009	0.0022
98	0.0031	0.0009	0.0022
99	0.0031	0.0009	0.0022
100	0.0031	0.0009	0.0023

101	0.0032	0.0009	0.0023
102	0.0032	0.0009	0.0023
103	0.0032	0.0009	0.0023
104	0.0032	0.0009	0.0023
105	0.0033	0.0009	0.0024
106	0.0033	0.0009	0.0024
107	0.0033	0.0009	0.0024
108	0.0034	0.0009	0.0024
109	0.0034	0.0009	0.0024
110	0.0034	0.0010	0.0025
111	0.0035	0.0010	0.0025
112	0.0035	0.0010	0.0025
113	0.0035	0.0010	0.0025
114	0.0036	0.0010	0.0026
115	0.0036	0.0010	0.0026
116	0.0036	0.0010	0.0026
117	0.0037	0.0010	0.0027
118	0.0037	0.0010	0.0027
119	0.0038	0.0010	0.0027
120	0.0038	0.0011	0.0027
121	0.0038	0.0011	0.0028
122	0.0039	0.0011	0.0028
123	0.0039	0.0011	0.0028
124	0.0040	0.0011	0.0029
125	0.0040	0.0011	0.0029
126	0.0041	0.0011	0.0029
127	0.0041	0.0011	0.0030
128	0.0041	0.0012	0.0030
129	0.0042	0.0012	0.0030
130	0.0043	0.0012	0.0031
131	0.0043	0.0012	0.0031
132	0.0044	0.0012	0.0031
133	0.0044	0.0012	0.0032
134	0.0045	0.0013	0.0032
135	0.0046	0.0013	0.0033
136	0.0046	0.0013	0.0033
137	0.0047	0.0013	0.0034
138	0.0047	0.0013	0.0034
139	0.0048	0.0013	0.0035
140	0.0049	0.0014	0.0035
141	0.0050	0.0014	0.0036
142	0.0050	0.0014	0.0036
143	0.0051	0.0014	0.0037
144	0.0052	0.0015	0.0037
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0015	0.0040
148	0.0056	0.0016	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0042
151	0.0059	0.0017	0.0043
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0044
154	0.0062	0.0017	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0020	0.0050

160	0.0071	0.0020	0.0051
161	0.0074	0.0021	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0022	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0023	0.0060
167	0.0087	0.0024	0.0063
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0027	0.0068
171	0.0100	0.0028	0.0072
172	0.0102	0.0029	0.0074
173	0.0108	0.0030	0.0078
174	0.0111	0.0031	0.0080
175	0.0117	0.0033	0.0084
176	0.0121	0.0034	0.0087
177	0.0129	0.0036	0.0093
178	0.0133	0.0037	0.0096
179	0.0144	0.0040	0.0103
180	0.0149	0.0042	0.0108
181	0.0163	0.0045	0.0117
182	0.0170	0.0048	0.0123
183	0.0189	0.0053	0.0136
184	0.0200	0.0056	0.0144
185	0.0327	0.0091	0.0236
186	0.0349	0.0097	0.0251
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1392	0.0105	0.1287
193	0.6022	0.0105	0.5917
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0104	0.0269
197	0.0212	0.0059	0.0153
198	0.0179	0.0050	0.0129
199	0.0156	0.0043	0.0112
200	0.0138	0.0039	0.0100
201	0.0125	0.0035	0.0090
202	0.0114	0.0032	0.0082
203	0.0105	0.0029	0.0075
204	0.0097	0.0027	0.0070
205	0.0091	0.0025	0.0065
206	0.0085	0.0024	0.0061
207	0.0080	0.0022	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0018	0.0048
212	0.0063	0.0018	0.0046
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0041
216	0.0054	0.0015	0.0039
217	0.0052	0.0015	0.0038
218	0.0051	0.0014	0.0037

219	0.0049	0.0014	0.0036
220	0.0048	0.0013	0.0034
221	0.0046	0.0013	0.0034
222	0.0045	0.0013	0.0033
223	0.0044	0.0012	0.0032
224	0.0043	0.0012	0.0031
225	0.0042	0.0012	0.0030
226	0.0041	0.0011	0.0029
227	0.0040	0.0011	0.0029
228	0.0039	0.0011	0.0028
229	0.0038	0.0011	0.0027
230	0.0037	0.0010	0.0027
231	0.0037	0.0010	0.0026
232	0.0036	0.0010	0.0026
233	0.0035	0.0010	0.0025
234	0.0034	0.0010	0.0025
235	0.0034	0.0009	0.0024
236	0.0033	0.0009	0.0024
237	0.0033	0.0009	0.0023
238	0.0032	0.0009	0.0023
239	0.0031	0.0009	0.0023
240	0.0031	0.0009	0.0022
241	0.0030	0.0008	0.0022
242	0.0030	0.0008	0.0022
243	0.0029	0.0008	0.0021
244	0.0029	0.0008	0.0021
245	0.0029	0.0008	0.0021
246	0.0028	0.0008	0.0020
247	0.0028	0.0008	0.0020
248	0.0027	0.0008	0.0020
249	0.0027	0.0008	0.0019
250	0.0027	0.0007	0.0019
251	0.0026	0.0007	0.0019
252	0.0026	0.0007	0.0019
253	0.0025	0.0007	0.0018
254	0.0025	0.0007	0.0018
255	0.0025	0.0007	0.0018
256	0.0024	0.0007	0.0018
257	0.0024	0.0007	0.0017
258	0.0024	0.0007	0.0017
259	0.0024	0.0007	0.0017
260	0.0023	0.0007	0.0017
261	0.0023	0.0006	0.0017
262	0.0023	0.0006	0.0016
263	0.0023	0.0006	0.0016
264	0.0022	0.0006	0.0016
265	0.0022	0.0006	0.0016
266	0.0022	0.0006	0.0016
267	0.0022	0.0006	0.0016
268	0.0021	0.0006	0.0015
269	0.0021	0.0006	0.0015
270	0.0021	0.0006	0.0015
271	0.0021	0.0006	0.0015
272	0.0020	0.0006	0.0015
273	0.0020	0.0006	0.0015
274	0.0020	0.0006	0.0014
275	0.0020	0.0006	0.0014
276	0.0020	0.0006	0.0014
277	0.0020	0.0005	0.0014

278	0.0019	0.0005	0.0014
279	0.0019	0.0005	0.0014
280	0.0019	0.0005	0.0014
281	0.0019	0.0005	0.0014
282	0.0019	0.0005	0.0013
283	0.0018	0.0005	0.0013
284	0.0018	0.0005	0.0013
285	0.0018	0.0005	0.0013
286	0.0018	0.0005	0.0013
287	0.0018	0.0005	0.0013
288	0.0018	0.0005	0.0013

Total soil rain loss = 0.45(In)
Total effective rainfall = 2.00(In)
Peak flow rate in flood hydrograph = 29.65(CFS)

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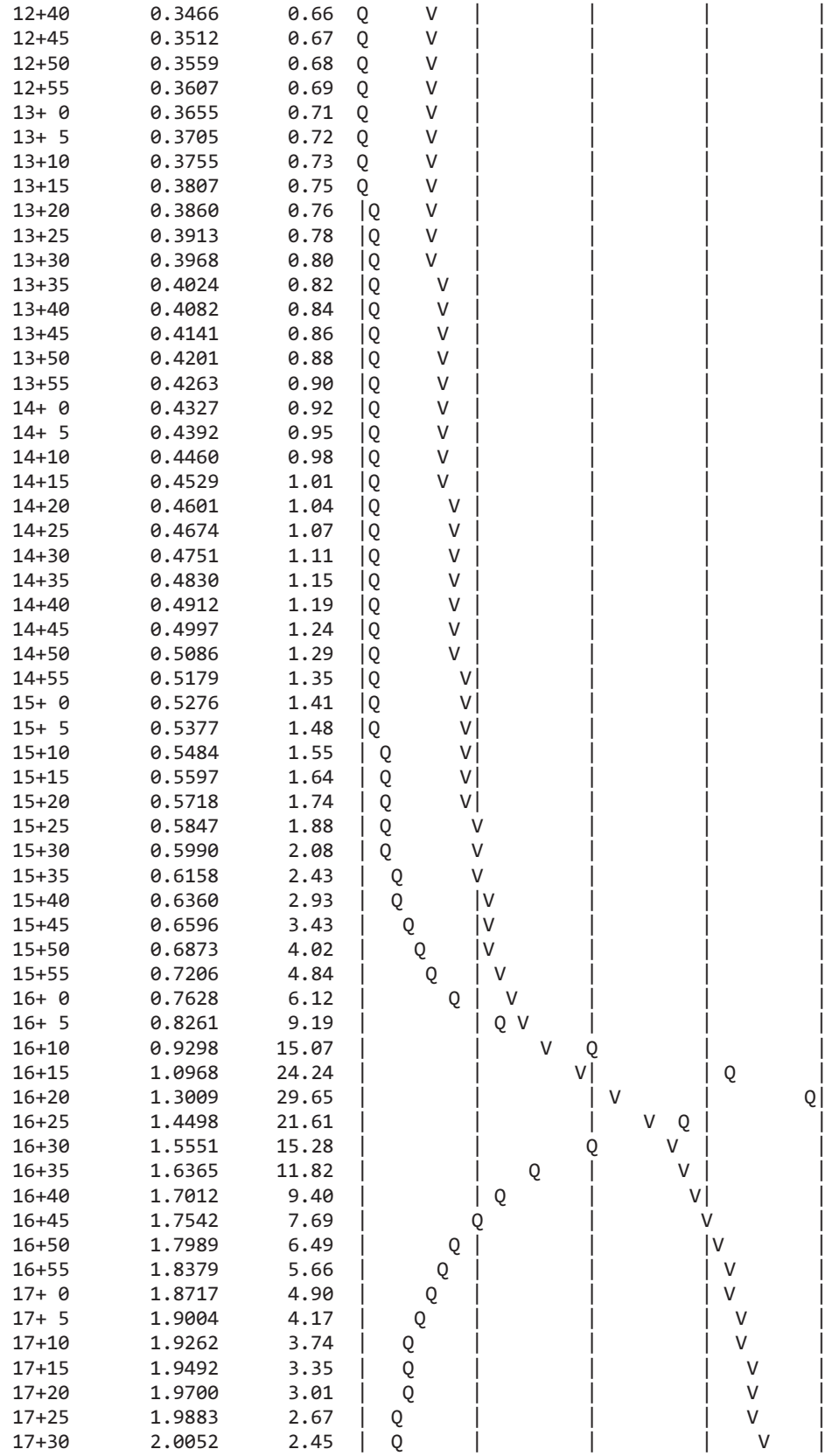
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0004	0.05	Q	|	|	|	|
0+20	0.0011	0.09	Q	|	|	|	|
0+25	0.0019	0.12	Q	|	|	|	|
0+30	0.0029	0.14	Q	|	|	|	|
0+35	0.0040	0.16	Q	|	|	|	|
0+40	0.0051	0.17	Q	|	|	|	|
0+45	0.0063	0.17	Q	|	|	|	|
0+50	0.0076	0.18	Q	|	|	|	|
0+55	0.0089	0.19	Q	|	|	|	|
1+ 0	0.0102	0.19	Q	|	|	|	|
1+ 5	0.0116	0.20	Q	|	|	|	|
1+10	0.0129	0.20	Q	|	|	|	|
1+15	0.0144	0.20	Q	|	|	|	|
1+20	0.0158	0.21	Q	|	|	|	|
1+25	0.0172	0.21	Q	|	|	|	|
1+30	0.0187	0.21	Q	|	|	|	|
1+35	0.0202	0.22	Q	|	|	|	|
1+40	0.0217	0.22	Q	|	|	|	|
1+45	0.0232	0.22	Q	|	|	|	|
1+50	0.0247	0.22	Q	|	|	|	|
1+55	0.0263	0.22	Q	|	|	|	|
2+ 0	0.0278	0.22	Q	|	|	|	|
2+ 5	0.0294	0.23	Q	|	|	|	|
2+10	0.0309	0.23	Q	|	|	|	|
2+15	0.0325	0.23	Q	|	|	|	|
2+20	0.0341	0.23	Q	|	|	|	|
2+25	0.0357	0.23	Q	|	|	|	|
2+30	0.0373	0.23	Q	|	|	|	|
2+35	0.0390	0.24	Q	|	|	|	|
2+40	0.0406	0.24	Q	|	|	|	|
2+45	0.0422	0.24	Q	|	|	|	|

2+50	0.0439	0.24	Q				
2+55	0.0455	0.24	Q				
3+ 0	0.0472	0.24	Q				
3+ 5	0.0489	0.24	Q				
3+10	0.0505	0.24	Q				
3+15	0.0522	0.24	Q				
3+20	0.0539	0.25	Q				
3+25	0.0556	0.25	Q				
3+30	0.0573	0.25	QV				
3+35	0.0590	0.25	QV				
3+40	0.0608	0.25	QV				
3+45	0.0625	0.25	QV				
3+50	0.0642	0.25	QV				
3+55	0.0660	0.25	QV				
4+ 0	0.0678	0.26	QV				
4+ 5	0.0695	0.26	QV				
4+10	0.0713	0.26	QV				
4+15	0.0731	0.26	QV				
4+20	0.0749	0.26	QV				
4+25	0.0767	0.26	QV				
4+30	0.0786	0.26	QV				
4+35	0.0804	0.27	QV				
4+40	0.0822	0.27	QV				
4+45	0.0841	0.27	QV				
4+50	0.0859	0.27	QV				
4+55	0.0878	0.27	QV				
5+ 0	0.0897	0.27	QV				
5+ 5	0.0916	0.28	QV				
5+10	0.0935	0.28	QV				
5+15	0.0954	0.28	QV				
5+20	0.0974	0.28	QV				
5+25	0.0993	0.28	QV				
5+30	0.1012	0.28	QV				
5+35	0.1032	0.29	QV				
5+40	0.1052	0.29	QV				
5+45	0.1072	0.29	QV				
5+50	0.1092	0.29	QV				
5+55	0.1112	0.29	QV				
6+ 0	0.1132	0.29	QV				
6+ 5	0.1153	0.30	Q V				
6+10	0.1173	0.30	Q V				
6+15	0.1194	0.30	Q V				
6+20	0.1214	0.30	Q V				
6+25	0.1235	0.30	Q V				
6+30	0.1256	0.31	Q V				
6+35	0.1278	0.31	Q V				
6+40	0.1299	0.31	Q V				
6+45	0.1320	0.31	Q V				
6+50	0.1342	0.31	Q V				
6+55	0.1364	0.32	Q V				
7+ 0	0.1386	0.32	Q V				
7+ 5	0.1408	0.32	Q V				
7+10	0.1430	0.32	Q V				
7+15	0.1453	0.33	Q V				
7+20	0.1475	0.33	Q V				
7+25	0.1498	0.33	Q V				
7+30	0.1521	0.33	Q V				
7+35	0.1544	0.33	Q V				
7+40	0.1567	0.34	Q V				

7+45	0.1590	0.34	Q V	|	|	|	|
7+50	0.1614	0.34	Q V	|	|	|	|
7+55	0.1638	0.35	Q V	|	|	|	|
8+ 0	0.1662	0.35	Q V	|	|	|	|
8+ 5	0.1686	0.35	Q V	|	|	|	|
8+10	0.1710	0.35	Q V	|	|	|	|
8+15	0.1735	0.36	Q V	|	|	|	|
8+20	0.1759	0.36	Q V	|	|	|	|
8+25	0.1784	0.36	Q V	|	|	|	|
8+30	0.1809	0.36	Q V	|	|	|	|
8+35	0.1835	0.37	Q V	|	|	|	|
8+40	0.1860	0.37	Q V	|	|	|	|
8+45	0.1886	0.37	Q V	|	|	|	|
8+50	0.1912	0.38	Q V	|	|	|	|
8+55	0.1938	0.38	Q V	|	|	|	|
9+ 0	0.1965	0.38	Q V	|	|	|	|
9+ 5	0.1991	0.39	Q V	|	|	|	|
9+10	0.2018	0.39	Q V	|	|	|	|
9+15	0.2046	0.39	Q V	|	|	|	|
9+20	0.2073	0.40	Q V	|	|	|	|
9+25	0.2101	0.40	Q V	|	|	|	|
9+30	0.2129	0.41	Q V	|	|	|	|
9+35	0.2157	0.41	Q V	|	|	|	|
9+40	0.2185	0.41	Q V	|	|	|	|
9+45	0.2214	0.42	Q V	|	|	|	|
9+50	0.2243	0.42	Q V	|	|	|	|
9+55	0.2272	0.43	Q V	|	|	|	|
10+ 0	0.2302	0.43	Q V	|	|	|	|
10+ 5	0.2332	0.43	Q V	|	|	|	|
10+10	0.2362	0.44	Q V	|	|	|	|
10+15	0.2393	0.44	Q V	|	|	|	|
10+20	0.2424	0.45	Q V	|	|	|	|
10+25	0.2455	0.45	Q V	|	|	|	|
10+30	0.2486	0.46	Q V	|	|	|	|
10+35	0.2518	0.46	Q V	|	|	|	|
10+40	0.2551	0.47	Q V	|	|	|	|
10+45	0.2583	0.47	Q V	|	|	|	|
10+50	0.2616	0.48	Q V	|	|	|	|
10+55	0.2650	0.49	Q V	|	|	|	|
11+ 0	0.2684	0.49	Q V	|	|	|	|
11+ 5	0.2718	0.50	Q V	|	|	|	|
11+10	0.2752	0.50	Q V	|	|	|	|
11+15	0.2788	0.51	Q V	|	|	|	|
11+20	0.2823	0.52	Q V	|	|	|	|
11+25	0.2859	0.52	Q V	|	|	|	|
11+30	0.2896	0.53	Q V	|	|	|	|
11+35	0.2933	0.54	Q V	|	|	|	|
11+40	0.2970	0.54	Q V	|	|	|	|
11+45	0.3008	0.55	Q V	|	|	|	|
11+50	0.3047	0.56	Q V	|	|	|	|
11+55	0.3086	0.57	Q V	|	|	|	|
12+ 0	0.3125	0.58	Q V	|	|	|	|
12+ 5	0.3166	0.58	Q V	|	|	|	|
12+10	0.3207	0.59	Q V	|	|	|	|
12+15	0.3248	0.60	Q V	|	|	|	|
12+20	0.3290	0.61	Q V	|	|	|	|
12+25	0.3333	0.62	Q V	|	|	|	|
12+30	0.3377	0.63	Q V	|	|	|	|
12+35	0.3421	0.64	Q V	|	|	|	|



12+40	0.3466	0.66	
12+45	0.3512	0.67	
12+50	0.3559	0.68	
12+55	0.3607	0.69	
13+ 0	0.3655	0.71	
13+ 5	0.3705	0.72	
13+10	0.3755	0.73	
13+15	0.3807	0.75	
13+20	0.3860	0.76	
13+25	0.3913	0.78	
13+30	0.3968	0.80	
13+35	0.4024	0.82	
13+40	0.4082	0.84	
13+45	0.4141	0.86	
13+50	0.4201	0.88	
13+55	0.4263	0.90	
14+ 0	0.4327	0.92	
14+ 5	0.4392	0.95	
14+10	0.4460	0.98	
14+15	0.4529	1.01	
14+20	0.4601	1.04	
14+25	0.4674	1.07	
14+30	0.4751	1.11	
14+35	0.4830	1.15	
14+40	0.4912	1.19	
14+45	0.4997	1.24	
14+50	0.5086	1.29	
14+55	0.5179	1.35	
15+ 0	0.5276	1.41	
15+ 5	0.5377	1.48	
15+10	0.5484	1.55	
15+15	0.5597	1.64	
15+20	0.5718	1.74	
15+25	0.5847	1.88	
15+30	0.5990	2.08	
15+35	0.6158	2.43	
15+40	0.6360	2.93	
15+45	0.6596	3.43	
15+50	0.6873	4.02	
15+55	0.7206	4.84	
16+ 0	0.7628	6.12	
16+ 5	0.8261	9.19	
16+10	0.9298	15.07	
16+15	1.0968	24.24	
16+20	1.3009	29.65	
16+25	1.4498	21.61	
16+30	1.5551	15.28	
16+35	1.6365	11.82	
16+40	1.7012	9.40	
16+45	1.7542	7.69	
16+50	1.7989	6.49	
16+55	1.8379	5.66	
17+ 0	1.8717	4.90	
17+ 5	1.9004	4.17	
17+10	1.9262	3.74	
17+15	1.9492	3.35	
17+20	1.9700	3.01	
17+25	1.9883	2.67	
17+30	2.0052	2.45	

17+35	2.0202	2.18	Q				V
17+40	2.0339	1.98	Q				V
17+45	2.0459	1.75	Q				V
17+50	2.0567	1.57	Q				V
17+55	2.0663	1.39	Q				V
18+ 0	2.0756	1.35	Q				V
18+ 5	2.0846	1.31	Q				V
18+10	2.0932	1.25	Q				V
18+15	2.1014	1.19	Q				V
18+20	2.1086	1.04	Q				V
18+25	2.1150	0.92	Q				V
18+30	2.1204	0.79	Q				V
18+35	2.1251	0.68	Q				V
18+40	2.1296	0.64	Q				V
18+45	2.1338	0.62	Q				V
18+50	2.1379	0.59	Q				V
18+55	2.1419	0.57	Q				V
19+ 0	2.1457	0.56	Q				V
19+ 5	2.1494	0.54	Q				V
19+10	2.1530	0.53	Q				V
19+15	2.1566	0.51	Q				V
19+20	2.1600	0.50	Q				V
19+25	2.1633	0.49	Q				V
19+30	2.1666	0.47	Q				V
19+35	2.1698	0.46	Q				V
19+40	2.1729	0.45	Q				V
19+45	2.1760	0.44	Q				V
19+50	2.1789	0.43	Q				V
19+55	2.1819	0.42	Q				V
20+ 0	2.1847	0.42	Q				V
20+ 5	2.1875	0.41	Q				V
20+10	2.1903	0.40	Q				V
20+15	2.1930	0.39	Q				V
20+20	2.1957	0.39	Q				V
20+25	2.1983	0.38	Q				V
20+30	2.2008	0.37	Q				V
20+35	2.2033	0.37	Q				V
20+40	2.2058	0.36	Q				V
20+45	2.2083	0.35	Q				V
20+50	2.2107	0.35	Q				V
20+55	2.2130	0.34	Q				V
21+ 0	2.2154	0.34	Q				V
21+ 5	2.2177	0.33	Q				V
21+10	2.2199	0.33	Q				V
21+15	2.2221	0.32	Q				V
21+20	2.2243	0.32	Q				V
21+25	2.2265	0.31	Q				V
21+30	2.2286	0.31	Q				V
21+35	2.2307	0.31	Q				V
21+40	2.2328	0.30	Q				V
21+45	2.2349	0.30	Q				V
21+50	2.2369	0.29	Q				V
21+55	2.2389	0.29	Q				V
22+ 0	2.2409	0.29	Q				V
22+ 5	2.2428	0.28	Q				V
22+10	2.2448	0.28	Q				V
22+15	2.2467	0.28	Q				V
22+20	2.2486	0.27	Q				V
22+25	2.2504	0.27	Q				V

22+30	2.2523	0.27	Q	|	|	|	V|
22+35	2.2541	0.26	Q	|	|	|	V|
22+40	2.2559	0.26	Q	|	|	|	V|
22+45	2.2577	0.26	Q	|	|	|	V|
22+50	2.2594	0.26	Q	|	|	|	V|
22+55	2.2612	0.25	Q	|	|	|	V|
23+ 0	2.2629	0.25	Q	|	|	|	V|
23+ 5	2.2646	0.25	Q	|	|	|	V|
23+10	2.2663	0.25	Q	|	|	|	V|
23+15	2.2680	0.24	Q	|	|	|	V|
23+20	2.2696	0.24	Q	|	|	|	V|
23+25	2.2713	0.24	Q	|	|	|	V|
23+30	2.2729	0.24	Q	|	|	|	V|
23+35	2.2745	0.23	Q	|	|	|	V|
23+40	2.2761	0.23	Q	|	|	|	V|
23+45	2.2777	0.23	Q	|	|	|	V|
23+50	2.2793	0.23	Q	|	|	|	V|
23+55	2.2808	0.23	Q	|	|	|	V|
24+ 0	2.2824	0.22	Q	|	|	|	V|
24+ 5	2.2839	0.22	Q	|	|	|	V|
24+10	2.2853	0.20	Q	|	|	|	V|
24+15	2.2865	0.17	Q	|	|	|	V|
24+20	2.2873	0.12	Q	|	|	|	V|
24+25	2.2880	0.09	Q	|	|	|	V|
24+30	2.2885	0.07	Q	|	|	|	V|
24+35	2.2889	0.06	Q	|	|	|	V|
24+40	2.2892	0.05	Q	|	|	|	V|
24+45	2.2895	0.04	Q	|	|	|	V|
24+50	2.2898	0.04	Q	|	|	|	V|
24+55	2.2900	0.03	Q	|	|	|	V|
25+ 0	2.2901	0.03	Q	|	|	|	V|
25+ 5	2.2903	0.02	Q	|	|	|	V|
25+10	2.2904	0.02	Q	|	|	|	V|
25+15	2.2905	0.02	Q	|	|	|	V|
25+20	2.2906	0.01	Q	|	|	|	V|
25+25	2.2907	0.01	Q	|	|	|	V|
25+30	2.2907	0.01	Q	|	|	|	V|
25+35	2.2908	0.01	Q	|	|	|	V|
25+40	2.2908	0.01	Q	|	|	|	V|
25+45	2.2909	0.01	Q	|	|	|	V|
25+50	2.2909	0.00	Q	|	|	|	V|
25+55	2.2909	0.00	Q	|	|	|	V|
26+ 0	2.2909	0.00	Q	|	|	|	V|
26+ 5	2.2910	0.00	Q	|	|	|	V|
26+10	2.2910	0.00	Q	|	|	|	V|
26+15	2.2910	0.00	Q	|	|	|	V|
26+20	2.2910	0.00	Q	|	|	|	V|
26+25	2.2910	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 7
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
14.99	1	1.27
Rainfall data for year 100		
14.99	6	1.84
Rainfall data for year 100		
14.99	24	2.44

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	14.99	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
13.49	0.900	78.0	92.8	0.78	0.699
1.50	0.100	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.720
Area-averaged low loss fraction, Yb = 0.280
User entry of time of concentration = 0.490 (hours)
++
Watershed area = 14.99(Ac.)
Catchment Lag time = 0.392 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 21.2585
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.280 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.440(In)

Rainfall depth area reduction factors:
Using a total area of 14.99(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.440(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 181.29 (CFS))	
1	1.080	1.957
2	4.987	7.083
3	12.929	14.398
4	30.293	31.478
5	47.082	30.436
6	58.064	19.908
7	65.268	13.060
8	70.711	9.867
9	74.986	7.751
10	78.494	6.360
11	81.320	5.123
12	83.696	4.307
13	85.810	3.832

14	87.659	3.353
15	89.192	2.779
16	90.449	2.278
17	91.618	2.120
18	92.652	1.873
19	93.601	1.721
20	94.394	1.439
21	95.117	1.310
22	95.781	1.204
23	96.336	1.006
24	96.869	0.966
25	97.275	0.735
26	97.656	0.691
27	97.934	0.503
28	98.146	0.385
29	98.371	0.409
30	98.626	0.461
31	98.881	0.462
32	99.136	0.462
33	99.390	0.462
34	99.576	0.336
35	99.709	0.241
36	99.842	0.241
37	100.000	0.120

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7414	0.1392
3	0.8373	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0308	0.0549
7	1.0796	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2364	0.0349
12	1.2691	0.0327
13	1.2904	0.0213
14	1.3104	0.0200
15	1.3292	0.0189
16	1.3472	0.0179
17	1.3642	0.0171
18	1.3805	0.0163
19	1.3961	0.0156
20	1.4110	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4525	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4899	0.0121
27	1.5016	0.0117
28	1.5130	0.0114
29	1.5241	0.0111
30	1.5348	0.0108
31	1.5453	0.0105
32	1.5555	0.0102

33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6119	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6844	0.0075
48	1.6918	0.0074
49	1.6990	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7778	0.0061
62	1.7838	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8451	0.0052
74	1.8502	0.0051
75	1.8553	0.0051
76	1.8603	0.0050
77	1.8652	0.0050
78	1.8701	0.0049
79	1.8750	0.0049
80	1.8798	0.0048
81	1.8846	0.0048
82	1.8893	0.0047
83	1.8940	0.0047
84	1.8986	0.0046
85	1.9032	0.0046
86	1.9077	0.0045
87	1.9122	0.0045
88	1.9166	0.0045
89	1.9211	0.0044
90	1.9254	0.0044
91	1.9298	0.0043

92	1.9341	0.0043
93	1.9383	0.0043
94	1.9426	0.0042
95	1.9467	0.0042
96	1.9509	0.0042
97	1.9550	0.0041
98	1.9591	0.0041
99	1.9632	0.0041
100	1.9672	0.0040
101	1.9712	0.0040
102	1.9751	0.0040
103	1.9791	0.0039
104	1.9830	0.0039
105	1.9868	0.0039
106	1.9907	0.0038
107	1.9945	0.0038
108	1.9983	0.0038
109	2.0020	0.0038
110	2.0057	0.0037
111	2.0094	0.0037
112	2.0131	0.0037
113	2.0168	0.0036
114	2.0204	0.0036
115	2.0240	0.0036
116	2.0275	0.0036
117	2.0311	0.0035
118	2.0346	0.0035
119	2.0381	0.0035
120	2.0416	0.0035
121	2.0450	0.0035
122	2.0485	0.0034
123	2.0519	0.0034
124	2.0553	0.0034
125	2.0586	0.0034
126	2.0620	0.0033
127	2.0653	0.0033
128	2.0686	0.0033
129	2.0719	0.0033
130	2.0751	0.0033
131	2.0784	0.0032
132	2.0816	0.0032
133	2.0848	0.0032
134	2.0880	0.0032
135	2.0911	0.0032
136	2.0943	0.0031
137	2.0974	0.0031
138	2.1005	0.0031
139	2.1036	0.0031
140	2.1067	0.0031
141	2.1097	0.0031
142	2.1128	0.0030
143	2.1158	0.0030
144	2.1188	0.0030
145	2.1218	0.0030
146	2.1248	0.0030
147	2.1277	0.0030
148	2.1307	0.0029
149	2.1336	0.0029
150	2.1365	0.0029

151	2.1394	0.0029
152	2.1423	0.0029
153	2.1451	0.0029
154	2.1480	0.0028
155	2.1508	0.0028
156	2.1536	0.0028
157	2.1564	0.0028
158	2.1592	0.0028
159	2.1620	0.0028
160	2.1647	0.0028
161	2.1675	0.0027
162	2.1702	0.0027
163	2.1729	0.0027
164	2.1757	0.0027
165	2.1783	0.0027
166	2.1810	0.0027
167	2.1837	0.0027
168	2.1864	0.0027
169	2.1890	0.0026
170	2.1916	0.0026
171	2.1942	0.0026
172	2.1969	0.0026
173	2.1994	0.0026
174	2.2020	0.0026
175	2.2046	0.0026
176	2.2072	0.0026
177	2.2097	0.0025
178	2.2122	0.0025
179	2.2148	0.0025
180	2.2173	0.0025
181	2.2198	0.0025
182	2.2223	0.0025
183	2.2248	0.0025
184	2.2272	0.0025
185	2.2297	0.0025
186	2.2321	0.0024
187	2.2346	0.0024
188	2.2370	0.0024
189	2.2394	0.0024
190	2.2418	0.0024
191	2.2442	0.0024
192	2.2466	0.0024
193	2.2490	0.0024
194	2.2514	0.0024
195	2.2537	0.0024
196	2.2561	0.0023
197	2.2584	0.0023
198	2.2607	0.0023
199	2.2631	0.0023
200	2.2654	0.0023
201	2.2677	0.0023
202	2.2700	0.0023
203	2.2722	0.0023
204	2.2745	0.0023
205	2.2768	0.0023
206	2.2790	0.0023
207	2.2813	0.0022
208	2.2835	0.0022
209	2.2858	0.0022

210	2.2880	0.0022
211	2.2902	0.0022
212	2.2924	0.0022
213	2.2946	0.0022
214	2.2968	0.0022
215	2.2990	0.0022
216	2.3011	0.0022
217	2.3033	0.0022
218	2.3055	0.0022
219	2.3076	0.0021
220	2.3098	0.0021
221	2.3119	0.0021
222	2.3140	0.0021
223	2.3161	0.0021
224	2.3182	0.0021
225	2.3203	0.0021
226	2.3224	0.0021
227	2.3245	0.0021
228	2.3266	0.0021
229	2.3287	0.0021
230	2.3308	0.0021
231	2.3328	0.0021
232	2.3349	0.0021
233	2.3369	0.0020
234	2.3390	0.0020
235	2.3410	0.0020
236	2.3430	0.0020
237	2.3450	0.0020
238	2.3470	0.0020
239	2.3490	0.0020
240	2.3510	0.0020
241	2.3530	0.0020
242	2.3550	0.0020
243	2.3570	0.0020
244	2.3590	0.0020
245	2.3609	0.0020
246	2.3629	0.0020
247	2.3648	0.0020
248	2.3668	0.0019
249	2.3687	0.0019
250	2.3707	0.0019
251	2.3726	0.0019
252	2.3745	0.0019
253	2.3764	0.0019
254	2.3783	0.0019
255	2.3802	0.0019
256	2.3821	0.0019
257	2.3840	0.0019
258	2.3859	0.0019
259	2.3878	0.0019
260	2.3897	0.0019
261	2.3915	0.0019
262	2.3934	0.0019
263	2.3953	0.0019
264	2.3971	0.0019
265	2.3990	0.0018
266	2.4008	0.0018
267	2.4026	0.0018
268	2.4045	0.0018

269	2.4063	0.0018
270	2.4081	0.0018
271	2.4099	0.0018
272	2.4117	0.0018
273	2.4135	0.0018
274	2.4153	0.0018
275	2.4171	0.0018
276	2.4189	0.0018
277	2.4207	0.0018
278	2.4225	0.0018
279	2.4242	0.0018
280	2.4260	0.0018
281	2.4278	0.0018
282	2.4295	0.0018
283	2.4313	0.0018
284	2.4330	0.0017
285	2.4348	0.0017
286	2.4365	0.0017
287	2.4382	0.0017
288	2.4400	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0005	0.0012
2	0.0017	0.0005	0.0012
3	0.0017	0.0005	0.0013
4	0.0017	0.0005	0.0013
5	0.0018	0.0005	0.0013
6	0.0018	0.0005	0.0013
7	0.0018	0.0005	0.0013
8	0.0018	0.0005	0.0013
9	0.0018	0.0005	0.0013
10	0.0018	0.0005	0.0013
11	0.0018	0.0005	0.0013
12	0.0018	0.0005	0.0013
13	0.0018	0.0005	0.0013
14	0.0018	0.0005	0.0013
15	0.0018	0.0005	0.0013
16	0.0018	0.0005	0.0013
17	0.0019	0.0005	0.0013
18	0.0019	0.0005	0.0013
19	0.0019	0.0005	0.0013
20	0.0019	0.0005	0.0013
21	0.0019	0.0005	0.0014
22	0.0019	0.0005	0.0014
23	0.0019	0.0005	0.0014
24	0.0019	0.0005	0.0014
25	0.0019	0.0005	0.0014
26	0.0019	0.0005	0.0014
27	0.0019	0.0005	0.0014
28	0.0019	0.0005	0.0014
29	0.0020	0.0005	0.0014
30	0.0020	0.0006	0.0014
31	0.0020	0.0006	0.0014
32	0.0020	0.0006	0.0014
33	0.0020	0.0006	0.0014
34	0.0020	0.0006	0.0014

35	0.0020	0.0006	0.0015
36	0.0020	0.0006	0.0015
37	0.0020	0.0006	0.0015
38	0.0020	0.0006	0.0015
39	0.0021	0.0006	0.0015
40	0.0021	0.0006	0.0015
41	0.0021	0.0006	0.0015
42	0.0021	0.0006	0.0015
43	0.0021	0.0006	0.0015
44	0.0021	0.0006	0.0015
45	0.0021	0.0006	0.0015
46	0.0021	0.0006	0.0015
47	0.0021	0.0006	0.0015
48	0.0022	0.0006	0.0016
49	0.0022	0.0006	0.0016
50	0.0022	0.0006	0.0016
51	0.0022	0.0006	0.0016
52	0.0022	0.0006	0.0016
53	0.0022	0.0006	0.0016
54	0.0022	0.0006	0.0016
55	0.0022	0.0006	0.0016
56	0.0023	0.0006	0.0016
57	0.0023	0.0006	0.0016
58	0.0023	0.0006	0.0016
59	0.0023	0.0006	0.0017
60	0.0023	0.0006	0.0017
61	0.0023	0.0007	0.0017
62	0.0023	0.0007	0.0017
63	0.0024	0.0007	0.0017
64	0.0024	0.0007	0.0017
65	0.0024	0.0007	0.0017
66	0.0024	0.0007	0.0017
67	0.0024	0.0007	0.0017
68	0.0024	0.0007	0.0017
69	0.0024	0.0007	0.0018
70	0.0025	0.0007	0.0018
71	0.0025	0.0007	0.0018
72	0.0025	0.0007	0.0018
73	0.0025	0.0007	0.0018
74	0.0025	0.0007	0.0018
75	0.0025	0.0007	0.0018
76	0.0026	0.0007	0.0018
77	0.0026	0.0007	0.0019
78	0.0026	0.0007	0.0019
79	0.0026	0.0007	0.0019
80	0.0026	0.0007	0.0019
81	0.0027	0.0007	0.0019
82	0.0027	0.0007	0.0019
83	0.0027	0.0008	0.0019
84	0.0027	0.0008	0.0019
85	0.0027	0.0008	0.0020
86	0.0027	0.0008	0.0020
87	0.0028	0.0008	0.0020
88	0.0028	0.0008	0.0020
89	0.0028	0.0008	0.0020
90	0.0028	0.0008	0.0020
91	0.0029	0.0008	0.0021
92	0.0029	0.0008	0.0021
93	0.0029	0.0008	0.0021

94	0.0029	0.0008	0.0021
95	0.0030	0.0008	0.0021
96	0.0030	0.0008	0.0021
97	0.0030	0.0008	0.0022
98	0.0030	0.0008	0.0022
99	0.0031	0.0009	0.0022
100	0.0031	0.0009	0.0022
101	0.0031	0.0009	0.0022
102	0.0031	0.0009	0.0023
103	0.0032	0.0009	0.0023
104	0.0032	0.0009	0.0023
105	0.0032	0.0009	0.0023
106	0.0032	0.0009	0.0023
107	0.0033	0.0009	0.0024
108	0.0033	0.0009	0.0024
109	0.0033	0.0009	0.0024
110	0.0034	0.0009	0.0024
111	0.0034	0.0010	0.0025
112	0.0034	0.0010	0.0025
113	0.0035	0.0010	0.0025
114	0.0035	0.0010	0.0025
115	0.0035	0.0010	0.0026
116	0.0036	0.0010	0.0026
117	0.0036	0.0010	0.0026
118	0.0036	0.0010	0.0026
119	0.0037	0.0010	0.0027
120	0.0037	0.0010	0.0027
121	0.0038	0.0011	0.0027
122	0.0038	0.0011	0.0027
123	0.0039	0.0011	0.0028
124	0.0039	0.0011	0.0028
125	0.0040	0.0011	0.0028
126	0.0040	0.0011	0.0029
127	0.0041	0.0011	0.0029
128	0.0041	0.0011	0.0029
129	0.0042	0.0012	0.0030
130	0.0042	0.0012	0.0030
131	0.0043	0.0012	0.0031
132	0.0043	0.0012	0.0031
133	0.0044	0.0012	0.0031
134	0.0044	0.0012	0.0032
135	0.0045	0.0013	0.0032
136	0.0045	0.0013	0.0033
137	0.0046	0.0013	0.0033
138	0.0047	0.0013	0.0034
139	0.0048	0.0013	0.0034
140	0.0048	0.0013	0.0035
141	0.0049	0.0014	0.0035
142	0.0050	0.0014	0.0036
143	0.0051	0.0014	0.0036
144	0.0051	0.0014	0.0037
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0015	0.0040
148	0.0056	0.0016	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0042
151	0.0059	0.0017	0.0043
152	0.0060	0.0017	0.0043

153	0.0062	0.0017	0.0044
154	0.0062	0.0017	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0020	0.0050
160	0.0071	0.0020	0.0051
161	0.0074	0.0021	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0022	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0023	0.0060
167	0.0087	0.0024	0.0063
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0027	0.0068
171	0.0100	0.0028	0.0072
172	0.0102	0.0029	0.0074
173	0.0108	0.0030	0.0077
174	0.0111	0.0031	0.0080
175	0.0117	0.0033	0.0084
176	0.0121	0.0034	0.0087
177	0.0129	0.0036	0.0093
178	0.0133	0.0037	0.0096
179	0.0144	0.0040	0.0103
180	0.0149	0.0042	0.0108
181	0.0163	0.0046	0.0117
182	0.0171	0.0048	0.0123
183	0.0189	0.0053	0.0136
184	0.0200	0.0056	0.0144
185	0.0327	0.0092	0.0235
186	0.0349	0.0098	0.0251
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1392	0.0105	0.1287
193	0.6022	0.0105	0.5917
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0105	0.0269
197	0.0213	0.0060	0.0153
198	0.0179	0.0050	0.0129
199	0.0156	0.0044	0.0112
200	0.0138	0.0039	0.0099
201	0.0125	0.0035	0.0090
202	0.0114	0.0032	0.0082
203	0.0105	0.0029	0.0075
204	0.0097	0.0027	0.0070
205	0.0091	0.0025	0.0065
206	0.0085	0.0024	0.0061
207	0.0080	0.0023	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0018	0.0047

212	0.0063	0.0018	0.0046
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0041
216	0.0054	0.0015	0.0039
217	0.0052	0.0015	0.0037
218	0.0050	0.0014	0.0036
219	0.0049	0.0014	0.0035
220	0.0047	0.0013	0.0034
221	0.0046	0.0013	0.0033
222	0.0045	0.0012	0.0032
223	0.0043	0.0012	0.0031
224	0.0042	0.0012	0.0030
225	0.0041	0.0012	0.0030
226	0.0040	0.0011	0.0029
227	0.0039	0.0011	0.0028
228	0.0038	0.0011	0.0028
229	0.0038	0.0011	0.0027
230	0.0037	0.0010	0.0026
231	0.0036	0.0010	0.0026
232	0.0035	0.0010	0.0025
233	0.0035	0.0010	0.0025
234	0.0034	0.0009	0.0024
235	0.0033	0.0009	0.0024
236	0.0033	0.0009	0.0023
237	0.0032	0.0009	0.0023
238	0.0031	0.0009	0.0023
239	0.0031	0.0009	0.0022
240	0.0030	0.0009	0.0022
241	0.0030	0.0008	0.0022
242	0.0029	0.0008	0.0021
243	0.0029	0.0008	0.0021
244	0.0028	0.0008	0.0020
245	0.0028	0.0008	0.0020
246	0.0028	0.0008	0.0020
247	0.0027	0.0008	0.0020
248	0.0027	0.0008	0.0019
249	0.0026	0.0007	0.0019
250	0.0026	0.0007	0.0019
251	0.0026	0.0007	0.0019
252	0.0025	0.0007	0.0018
253	0.0025	0.0007	0.0018
254	0.0025	0.0007	0.0018
255	0.0024	0.0007	0.0018
256	0.0024	0.0007	0.0017
257	0.0024	0.0007	0.0017
258	0.0023	0.0007	0.0017
259	0.0023	0.0007	0.0017
260	0.0023	0.0006	0.0017
261	0.0023	0.0006	0.0016
262	0.0022	0.0006	0.0016
263	0.0022	0.0006	0.0016
264	0.0022	0.0006	0.0016
265	0.0022	0.0006	0.0016
266	0.0021	0.0006	0.0015
267	0.0021	0.0006	0.0015
268	0.0021	0.0006	0.0015
269	0.0021	0.0006	0.0015
270	0.0021	0.0006	0.0015

271	0.0020	0.0006	0.0015
272	0.0020	0.0006	0.0014
273	0.0020	0.0006	0.0014
274	0.0020	0.0006	0.0014
275	0.0020	0.0005	0.0014
276	0.0019	0.0005	0.0014
277	0.0019	0.0005	0.0014
278	0.0019	0.0005	0.0014
279	0.0019	0.0005	0.0014
280	0.0019	0.0005	0.0013
281	0.0018	0.0005	0.0013
282	0.0018	0.0005	0.0013
283	0.0018	0.0005	0.0013
284	0.0018	0.0005	0.0013
285	0.0018	0.0005	0.0013
286	0.0018	0.0005	0.0013
287	0.0018	0.0005	0.0013
288	0.0017	0.0005	0.0013

Total soil rain loss = 0.45(In)
Total effective rainfall = 1.99(In)
Peak flow rate in flood hydrograph = 27.61(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0008	0.07	Q				
0+25	0.0015	0.11	Q				
0+30	0.0024	0.13	Q				
0+35	0.0034	0.15	Q				
0+40	0.0045	0.16	Q				
0+45	0.0057	0.17	Q				
0+50	0.0070	0.18	Q				
0+55	0.0083	0.19	Q				
1+ 0	0.0096	0.19	Q				
1+ 5	0.0110	0.20	Q				
1+10	0.0124	0.20	Q				
1+15	0.0138	0.21	Q				
1+20	0.0153	0.21	Q				
1+25	0.0168	0.22	Q				
1+30	0.0183	0.22	Q				
1+35	0.0198	0.22	Q				
1+40	0.0213	0.23	Q				
1+45	0.0229	0.23	Q				
1+50	0.0245	0.23	Q				
1+55	0.0261	0.23	Q				
2+ 0	0.0277	0.23	Q				
2+ 5	0.0293	0.24	Q				
2+10	0.0310	0.24	Q				

2+15	0.0326	0.24	Q				
2+20	0.0343	0.24	Q				
2+25	0.0360	0.24	Q				
2+30	0.0377	0.25	Q				
2+35	0.0394	0.25	Q				
2+40	0.0411	0.25	Q				
2+45	0.0428	0.25	Q				
2+50	0.0446	0.25	Q				
2+55	0.0463	0.25	Q				
3+ 0	0.0481	0.26	Q				
3+ 5	0.0498	0.26	Q				
3+10	0.0516	0.26	Q				
3+15	0.0534	0.26	Q				
3+20	0.0552	0.26	Q				
3+25	0.0570	0.26	Q				
3+30	0.0588	0.26	Q				
3+35	0.0606	0.26	Q				
3+40	0.0625	0.27	QV				
3+45	0.0643	0.27	QV				
3+50	0.0661	0.27	QV				
3+55	0.0680	0.27	QV				
4+ 0	0.0699	0.27	QV				
4+ 5	0.0718	0.27	QV				
4+10	0.0736	0.27	QV				
4+15	0.0755	0.28	QV				
4+20	0.0775	0.28	QV				
4+25	0.0794	0.28	QV				
4+30	0.0813	0.28	QV				
4+35	0.0832	0.28	QV				
4+40	0.0852	0.28	QV				
4+45	0.0872	0.29	QV				
4+50	0.0891	0.29	QV				
4+55	0.0911	0.29	QV				
5+ 0	0.0931	0.29	QV				
5+ 5	0.0951	0.29	QV				
5+10	0.0971	0.29	QV				
5+15	0.0992	0.29	QV				
5+20	0.1012	0.30	QV				
5+25	0.1033	0.30	QV				
5+30	0.1053	0.30	QV				
5+35	0.1074	0.30	QV				
5+40	0.1095	0.30	QV				
5+45	0.1116	0.31	QV				
5+50	0.1137	0.31	QV				
5+55	0.1159	0.31	QV				
6+ 0	0.1180	0.31	QV				
6+ 5	0.1202	0.31	QV				
6+10	0.1224	0.32	QV				
6+15	0.1245	0.32	Q V				
6+20	0.1267	0.32	Q V				
6+25	0.1290	0.32	Q V				
6+30	0.1312	0.32	Q V				
6+35	0.1334	0.33	Q V				
6+40	0.1357	0.33	Q V				
6+45	0.1380	0.33	Q V				
6+50	0.1402	0.33	Q V				
6+55	0.1426	0.33	Q V				
7+ 0	0.1449	0.34	Q V				
7+ 5	0.1472	0.34	Q V				

7+10	0.1496	0.34	Q V	|	|	|	|
7+15	0.1519	0.34	Q V	|	|	|	|
7+20	0.1543	0.35	Q V	|	|	|	|
7+25	0.1567	0.35	Q V	|	|	|	|
7+30	0.1591	0.35	Q V	|	|	|	|
7+35	0.1616	0.35	Q V	|	|	|	|
7+40	0.1640	0.36	Q V	|	|	|	|
7+45	0.1665	0.36	Q V	|	|	|	|
7+50	0.1690	0.36	Q V	|	|	|	|
7+55	0.1715	0.37	Q V	|	|	|	|
8+ 0	0.1741	0.37	Q V	|	|	|	|
8+ 5	0.1766	0.37	Q V	|	|	|	|
8+10	0.1792	0.37	Q V	|	|	|	|
8+15	0.1818	0.38	Q V	|	|	|	|
8+20	0.1844	0.38	Q V	|	|	|	|
8+25	0.1870	0.38	Q V	|	|	|	|
8+30	0.1897	0.39	Q V	|	|	|	|
8+35	0.1924	0.39	Q V	|	|	|	|
8+40	0.1951	0.39	Q V	|	|	|	|
8+45	0.1978	0.40	Q V	|	|	|	|
8+50	0.2005	0.40	Q V	|	|	|	|
8+55	0.2033	0.40	Q V	|	|	|	|
9+ 0	0.2061	0.41	Q V	|	|	|	|
9+ 5	0.2089	0.41	Q V	|	|	|	|
9+10	0.2118	0.41	Q V	|	|	|	|
9+15	0.2146	0.42	Q V	|	|	|	|
9+20	0.2175	0.42	Q V	|	|	|	|
9+25	0.2205	0.42	Q V	|	|	|	|
9+30	0.2234	0.43	Q V	|	|	|	|
9+35	0.2264	0.43	Q V	|	|	|	|
9+40	0.2294	0.44	Q V	|	|	|	|
9+45	0.2324	0.44	Q V	|	|	|	|
9+50	0.2355	0.45	Q V	|	|	|	|
9+55	0.2386	0.45	Q V	|	|	|	|
10+ 0	0.2417	0.45	Q V	|	|	|	|
10+ 5	0.2449	0.46	Q V	|	|	|	|
10+10	0.2481	0.46	Q V	|	|	|	|
10+15	0.2513	0.47	Q V	|	|	|	|
10+20	0.2546	0.47	Q V	|	|	|	|
10+25	0.2579	0.48	Q V	|	|	|	|
10+30	0.2612	0.48	Q V	|	|	|	|
10+35	0.2646	0.49	Q V	|	|	|	|
10+40	0.2680	0.49	Q V	|	|	|	|
10+45	0.2714	0.50	Q V	|	|	|	|
10+50	0.2749	0.51	Q V	|	|	|	|
10+55	0.2784	0.51	Q V	|	|	|	|
11+ 0	0.2820	0.52	Q V	|	|	|	|
11+ 5	0.2856	0.52	Q V	|	|	|	|
11+10	0.2893	0.53	Q V	|	|	|	|
11+15	0.2930	0.54	Q V	|	|	|	|
11+20	0.2967	0.54	Q V	|	|	|	|
11+25	0.3005	0.55	Q V	|	|	|	|
11+30	0.3043	0.56	Q V	|	|	|	|
11+35	0.3082	0.57	Q V	|	|	|	|
11+40	0.3122	0.57	Q V	|	|	|	|
11+45	0.3162	0.58	Q V	|	|	|	|
11+50	0.3202	0.59	Q V	|	|	|	|
11+55	0.3244	0.60	Q V	|	|	|	|
12+ 0	0.3285	0.61	Q V	|	|	|	|

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12+ 5       0.3328      0.62  Q    V    |          |          |          |
12+10       0.3371      0.62  Q    V    |          |          |          |
12+15       0.3414      0.64  Q    V    |          |          |          |
12+20       0.3459      0.65  Q    V    |          |          |          |
12+25       0.3504      0.66  Q    V    |          |          |          |
12+30       0.3551      0.67  Q    V    |          |          |          |
12+35       0.3598      0.68  Q    V    |          |          |          |
12+40       0.3646      0.70  Q    V    |          |          |          |
12+45       0.3694      0.71  Q    V    |          |          |          |
12+50       0.3744      0.72  Q     V   |          |          |          |
12+55       0.3795      0.73  Q     V   |          |          |          |
13+ 0       0.3846      0.75  Q     V   |          |          |          |
13+ 5       0.3899      0.76  |Q    V   |          |          |          |
13+10       0.3952      0.78  |Q    V   |          |          |          |
13+15       0.4007      0.79  |Q    V   |          |          |          |
13+20       0.4063      0.81  |Q    V   |          |          |          |
13+25       0.4120      0.83  |Q    V   |          |          |          |
13+30       0.4178      0.85  |Q    V   |          |          |          |
13+35       0.4237      0.86  |Q    V   |          |          |          |
13+40       0.4298      0.88  |Q    V   |          |          |          |
13+45       0.4361      0.90  |Q     V  |          |          |          |
13+50       0.4425      0.93  |Q     V  |          |          |          |
13+55       0.4490      0.95  |Q     V  |          |          |          |
14+ 0       0.4557      0.98  |Q     V  |          |          |          |
14+ 5       0.4626      1.00  |Q     V  |          |          |          |
14+10       0.4697      1.03  |Q     V  |          |          |          |
14+15       0.4770      1.06  |Q     V  |          |          |          |
14+20       0.4845      1.09  |Q     V  |          |          |          |
14+25       0.4923      1.13  |Q     V  |          |          |          |
14+30       0.5003      1.16  |Q      V |          |          |          |
14+35       0.5086      1.20  |Q      V |          |          |          |
14+40       0.5172      1.25  |Q      V |          |          |          |
14+45       0.5261      1.29  |Q      V |          |          |          |
14+50       0.5354      1.35  |Q      V |          |          |          |
14+55       0.5450      1.40  |Q      V |          |          |          |
15+ 0       0.5551      1.46  |Q      V |          |          |          |
15+ 5       0.5657      1.53  | Q      V|          |          |          |
15+10       0.5768      1.61  | Q      V|          |          |          |
15+15       0.5884      1.70  | Q      V|          |          |          |
15+20       0.6008      1.80  | Q      V|          |          |          |
15+25       0.6140      1.92  | Q      V|          |          |          |
15+30       0.6286      2.11  | Q       V          |          |          |
15+35       0.6449      2.37  |  Q      V          |          |          |
15+40       0.6642      2.81  |  Q      V          |          |          |
15+45       0.6871      3.32  |   Q     |V         |          |          |
15+50       0.7139      3.89  |    Q    |V         |          |          |
15+55       0.7457      4.62  |     Q   | V        |          |          |
16+ 0       0.7853      5.75  |      Q  | V        |          |          |
16+ 5       0.8423      8.27  |         |Q V       |          |          |
16+10       0.9306     12.83  |         |    V Q   |          |          |
16+15       1.0582     18.53  |         |      V   |   Q      |          |
16+20       1.2484     27.61  |         |         V|          |     Q    |
16+25       1.4288     26.20  |         |          |  V       |   Q      |
16+30       1.5624     19.40  |         |          |    Q     |          |
16+35       1.6621     14.47  |         |        Q |     V    |          |
16+40       1.7418     11.57  |         |    Q     |       V  |          |
16+45       1.8072      9.50  |         | Q        |        V |          |
16+50       1.8626      8.04  |         Q          |         V          |
16+55       1.9098      6.85  |        Q|          |         V          |
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17+ 0       1.9510      5.98  |      Q  |         |         |V        |
17+ 5       1.9879      5.36  |      Q  |         |         | V       |
17+10       2.0209      4.79  |     Q   |         |         | V       |
17+15       2.0499      4.21  |    Q    |         |         |  V      |
17+20       2.0755      3.72  |   Q     |         |         |  V      |
17+25       2.0992      3.43  |   Q     |         |         |  V      |
17+30       2.1207      3.13  |   Q     |         |         |   V     |
17+35       2.1406      2.88  |  Q      |         |         |   V     |
17+40       2.1584      2.60  |  Q      |         |         |   V     |
17+45       2.1750      2.40  |  Q      |         |         |    V    |
17+50       2.1903      2.22  | Q       |         |         |    V    |
17+55       2.2042      2.01  | Q       |         |         |    V    |
18+ 0       2.2172      1.89  | Q       |         |         |    V    |
18+ 5       2.2287      1.68  | Q       |         |         |    V    |
18+10       2.2395      1.57  | Q       |         |         |     V   |
18+15       2.2491      1.39  |Q        |         |         |     V   |
18+20       2.2579      1.28  |Q        |         |         |     V   |
18+25       2.2665      1.24  |Q        |         |         |     V   |
18+30       2.2749      1.23  |Q        |         |         |     V   |
18+35       2.2831      1.19  |Q        |         |         |     V   |
18+40       2.2910      1.14  |Q        |         |         |     V   |
18+45       2.2985      1.09  |Q        |         |         |      V  |
18+50       2.3052      0.97  |Q        |         |         |      V  |
18+55       2.3112      0.88  |Q        |         |         |      V  |
19+ 0       2.3169      0.82  |Q        |         |         |      V  |
19+ 5       2.3218      0.72  Q         |         |         |      V  |
19+10       2.3261      0.62  Q         |         |         |      V  |
19+15       2.3301      0.59  Q         |         |         |      V  |
19+20       2.3340      0.57  Q         |         |         |      V  |
19+25       2.3378      0.55  Q         |         |         |      V  |
19+30       2.3415      0.53  Q         |         |         |      V  |
19+35       2.3451      0.52  Q         |         |         |      V  |
19+40       2.3486      0.51  Q         |         |         |      V  |
19+45       2.3520      0.49  Q         |         |         |      V  |
19+50       2.3553      0.48  Q         |         |         |      V  |
19+55       2.3586      0.47  Q         |         |         |       V |
20+ 0       2.3618      0.46  Q         |         |         |       V |
20+ 5       2.3649      0.45  Q         |         |         |       V |
20+10       2.3679      0.44  Q         |         |         |       V |
20+15       2.3709      0.43  Q         |         |         |       V |
20+20       2.3738      0.43  Q         |         |         |       V |
20+25       2.3767      0.42  Q         |         |         |       V |
20+30       2.3795      0.41  Q         |         |         |       V |
20+35       2.3823      0.40  Q         |         |         |       V |
20+40       2.3850      0.40  Q         |         |         |       V |
20+45       2.3877      0.39  Q         |         |         |       V |
20+50       2.3903      0.38  Q         |         |         |       V |
20+55       2.3929      0.38  Q         |         |         |       V |
21+ 0       2.3955      0.37  Q         |         |         |       V |
21+ 5       2.3980      0.36  Q         |         |         |       V |
21+10       2.4005      0.36  Q         |         |         |       V |
21+15       2.4029      0.35  Q         |         |         |       V |
21+20       2.4053      0.35  Q         |         |         |       V |
21+25       2.4076      0.34  Q         |         |         |       V |
21+30       2.4100      0.34  Q         |         |         |       V |
21+35       2.4123      0.33  Q         |         |         |       V |
21+40       2.4145      0.33  Q         |         |         |       V |
21+45       2.4168      0.32  Q         |         |         |       V |
21+50       2.4190      0.32  Q         |         |         |        V|
```

21+55	2.4212	0.32	Q	|	|	|	V|
22+ 0	2.4233	0.31	Q	|	|	|	V|
22+ 5	2.4254	0.31	Q	|	|	|	V|
22+10	2.4275	0.30	Q	|	|	|	V|
22+15	2.4296	0.30	Q	|	|	|	V|
22+20	2.4316	0.30	Q	|	|	|	V|
22+25	2.4337	0.29	Q	|	|	|	V|
22+30	2.4357	0.29	Q	|	|	|	V|
22+35	2.4376	0.29	Q	|	|	|	V|
22+40	2.4396	0.28	Q	|	|	|	V|
22+45	2.4415	0.28	Q	|	|	|	V|
22+50	2.4434	0.28	Q	|	|	|	V|
22+55	2.4453	0.27	Q	|	|	|	V|
23+ 0	2.4472	0.27	Q	|	|	|	V|
23+ 5	2.4491	0.27	Q	|	|	|	V|
23+10	2.4509	0.27	Q	|	|	|	V|
23+15	2.4527	0.26	Q	|	|	|	V|
23+20	2.4545	0.26	Q	|	|	|	V|
23+25	2.4563	0.26	Q	|	|	|	V|
23+30	2.4580	0.26	Q	|	|	|	V|
23+35	2.4598	0.25	Q	|	|	|	V|
23+40	2.4615	0.25	Q	|	|	|	V|
23+45	2.4632	0.25	Q	|	|	|	V|
23+50	2.4649	0.25	Q	|	|	|	V|
23+55	2.4666	0.24	Q	|	|	|	V|
24+ 0	2.4683	0.24	Q	|	|	|	V|
24+ 5	2.4699	0.24	Q	|	|	|	V|
24+10	2.4714	0.23	Q	|	|	|	V|
24+15	2.4729	0.21	Q	|	|	|	V|
24+20	2.4740	0.17	Q	|	|	|	V|
24+25	2.4749	0.13	Q	|	|	|	V|
24+30	2.4756	0.10	Q	|	|	|	V|
24+35	2.4761	0.08	Q	|	|	|	V|
24+40	2.4766	0.07	Q	|	|	|	V|
24+45	2.4770	0.06	Q	|	|	|	V|
24+50	2.4774	0.05	Q	|	|	|	V|
24+55	2.4777	0.04	Q	|	|	|	V|
25+ 0	2.4780	0.04	Q	|	|	|	V|
25+ 5	2.4782	0.03	Q	|	|	|	V|
25+10	2.4784	0.03	Q	|	|	|	V|
25+15	2.4786	0.03	Q	|	|	|	V|
25+20	2.4787	0.02	Q	|	|	|	V|
25+25	2.4789	0.02	Q	|	|	|	V|
25+30	2.4790	0.02	Q	|	|	|	V|
25+35	2.4791	0.02	Q	|	|	|	V|
25+40	2.4792	0.01	Q	|	|	|	V|
25+45	2.4793	0.01	Q	|	|	|	V|
25+50	2.4793	0.01	Q	|	|	|	V|
25+55	2.4794	0.01	Q	|	|	|	V|
26+ 0	2.4794	0.01	Q	|	|	|	V|
26+ 5	2.4795	0.01	Q	|	|	|	V|
26+10	2.4795	0.01	Q	|	|	|	V|
26+15	2.4795	0.00	Q	|	|	|	V|
26+20	2.4796	0.00	Q	|	|	|	V|
26+25	2.4796	0.00	Q	|	|	|	V|
26+30	2.4796	0.00	Q	|	|	|	V|
26+35	2.4796	0.00	Q	|	|	|	V|
26+40	2.4796	0.00	Q	|	|	|	V|
26+45	2.4796	0.00	Q	|	|	|	V|

```
   26+50       2.4797      0.00  Q         |          |         |        V|
   26+55       2.4797      0.00  Q         |          |         |        V|
   27+ 0       2.4797      0.00  Q         |          |         |        V|
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 8
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
8.97	1	1.27
Rainfall data for year 100		
8.97	6	1.84
Rainfall data for year 100		
8.97	24	2.42

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	8.97	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
8.07	0.900	78.0	92.8	0.78	0.697
0.90	0.100	98.0	98.0	0.20	0.905

Area-averaged catchment yield fraction, Y = 0.718
Area-averaged low loss fraction, Yb = 0.282
User entry of time of concentration = 0.300 (hours)
++
Watershed area = 8.97(Ac.)
Catchment Lag time = 0.240 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 34.7222
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.282 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.420(In)

Rainfall depth area reduction factors:
Using a total area of 8.97(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.602(In)
30-minute factor = 1.000 Adjusted rainfall = 1.031(In)
1-hour factor = 1.000 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.420(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 108.48 (CFS))	
1	2.206	2.393
2	13.132	11.853
3	40.437	29.621
4	59.629	20.820
5	69.886	11.127
6	76.724	7.418
7	81.579	5.266
8	85.290	4.026
9	88.266	3.229
10	90.463	2.383
11	92.296	1.989
12	93.829	1.663
13	95.057	1.331

14	96.088	1.118
15	96.940	0.925
16	97.584	0.698
17	98.029	0.483
18	98.394	0.396
19	98.808	0.449
20	99.225	0.452
21	99.571	0.376
22	99.791	0.238
23	100.000	0.227

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6024	0.6024
2	0.7416	0.1392
3	0.8375	0.0959
4	0.9130	0.0755
5	0.9762	0.0632
6	1.0311	0.0549
7	1.0799	0.0488
8	1.1241	0.0441
9	1.1645	0.0404
10	1.2019	0.0374
11	1.2368	0.0349
12	1.2695	0.0327
13	1.2907	0.0212
14	1.3107	0.0200
15	1.3296	0.0189
16	1.3475	0.0179
17	1.3645	0.0170
18	1.3808	0.0163
19	1.3963	0.0156
20	1.4112	0.0149
21	1.4256	0.0143
22	1.4394	0.0138
23	1.4527	0.0133
24	1.4656	0.0129
25	1.4780	0.0125
26	1.4901	0.0121
27	1.5018	0.0117
28	1.5132	0.0114
29	1.5242	0.0110
30	1.5350	0.0107
31	1.5454	0.0105
32	1.5556	0.0102
33	1.5656	0.0100
34	1.5753	0.0097
35	1.5848	0.0095
36	1.5941	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6207	0.0087
40	1.6292	0.0085
41	1.6376	0.0083
42	1.6457	0.0082
43	1.6538	0.0080
44	1.6617	0.0079
45	1.6694	0.0077
46	1.6770	0.0076

47	1.6845	0.0075
48	1.6919	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068
54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7657	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8293	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8450	0.0050
74	1.8499	0.0050
75	1.8549	0.0049
76	1.8597	0.0049
77	1.8645	0.0048
78	1.8693	0.0048
79	1.8740	0.0047
80	1.8787	0.0047
81	1.8833	0.0046
82	1.8879	0.0046
83	1.8924	0.0045
84	1.8969	0.0045
85	1.9013	0.0044
86	1.9057	0.0044
87	1.9101	0.0044
88	1.9144	0.0043
89	1.9187	0.0043
90	1.9229	0.0042
91	1.9271	0.0042
92	1.9313	0.0042
93	1.9354	0.0041
94	1.9395	0.0041
95	1.9436	0.0041
96	1.9476	0.0040
97	1.9516	0.0040
98	1.9556	0.0040
99	1.9595	0.0039
100	1.9634	0.0039
101	1.9673	0.0039
102	1.9711	0.0038
103	1.9749	0.0038
104	1.9787	0.0038
105	1.9824	0.0037

106	1.9861	0.0037
107	1.9898	0.0037
108	1.9935	0.0037
109	1.9971	0.0036
110	2.0007	0.0036
111	2.0043	0.0036
112	2.0079	0.0036
113	2.0114	0.0035
114	2.0149	0.0035
115	2.0184	0.0035
116	2.0218	0.0035
117	2.0253	0.0034
118	2.0287	0.0034
119	2.0321	0.0034
120	2.0354	0.0034
121	2.0388	0.0033
122	2.0421	0.0033
123	2.0454	0.0033
124	2.0487	0.0033
125	2.0519	0.0033
126	2.0552	0.0032
127	2.0584	0.0032
128	2.0616	0.0032
129	2.0647	0.0032
130	2.0679	0.0032
131	2.0710	0.0031
132	2.0741	0.0031
133	2.0772	0.0031
134	2.0803	0.0031
135	2.0834	0.0031
136	2.0864	0.0030
137	2.0894	0.0030
138	2.0924	0.0030
139	2.0954	0.0030
140	2.0984	0.0030
141	2.1014	0.0030
142	2.1043	0.0029
143	2.1072	0.0029
144	2.1101	0.0029
145	2.1130	0.0029
146	2.1159	0.0029
147	2.1187	0.0029
148	2.1216	0.0028
149	2.1244	0.0028
150	2.1272	0.0028
151	2.1300	0.0028
152	2.1328	0.0028
153	2.1356	0.0028
154	2.1383	0.0028
155	2.1411	0.0027
156	2.1438	0.0027
157	2.1465	0.0027
158	2.1492	0.0027
159	2.1519	0.0027
160	2.1545	0.0027
161	2.1572	0.0027
162	2.1598	0.0026
163	2.1625	0.0026
164	2.1651	0.0026

165	2.1677	0.0026
166	2.1703	0.0026
167	2.1728	0.0026
168	2.1754	0.0026
169	2.1780	0.0026
170	2.1805	0.0025
171	2.1830	0.0025
172	2.1856	0.0025
173	2.1881	0.0025
174	2.1906	0.0025
175	2.1930	0.0025
176	2.1955	0.0025
177	2.1980	0.0025
178	2.2004	0.0024
179	2.2029	0.0024
180	2.2053	0.0024
181	2.2077	0.0024
182	2.2101	0.0024
183	2.2125	0.0024
184	2.2149	0.0024
185	2.2173	0.0024
186	2.2196	0.0024
187	2.2220	0.0024
188	2.2243	0.0023
189	2.2266	0.0023
190	2.2290	0.0023
191	2.2313	0.0023
192	2.2336	0.0023
193	2.2359	0.0023
194	2.2382	0.0023
195	2.2404	0.0023
196	2.2427	0.0023
197	2.2450	0.0023
198	2.2472	0.0022
199	2.2495	0.0022
200	2.2517	0.0022
201	2.2539	0.0022
202	2.2561	0.0022
203	2.2583	0.0022
204	2.2605	0.0022
205	2.2627	0.0022
206	2.2649	0.0022
207	2.2671	0.0022
208	2.2692	0.0022
209	2.2714	0.0022
210	2.2735	0.0021
211	2.2756	0.0021
212	2.2778	0.0021
213	2.2799	0.0021
214	2.2820	0.0021
215	2.2841	0.0021
216	2.2862	0.0021
217	2.2883	0.0021
218	2.2904	0.0021
219	2.2924	0.0021
220	2.2945	0.0021
221	2.2966	0.0021
222	2.2986	0.0021
223	2.3007	0.0020

224	2.3027	0.0020
225	2.3047	0.0020
226	2.3067	0.0020
227	2.3088	0.0020
228	2.3108	0.0020
229	2.3128	0.0020
230	2.3148	0.0020
231	2.3167	0.0020
232	2.3187	0.0020
233	2.3207	0.0020
234	2.3227	0.0020
235	2.3246	0.0020
236	2.3266	0.0020
237	2.3285	0.0019
238	2.3305	0.0019
239	2.3324	0.0019
240	2.3343	0.0019
241	2.3362	0.0019
242	2.3381	0.0019
243	2.3401	0.0019
244	2.3420	0.0019
245	2.3438	0.0019
246	2.3457	0.0019
247	2.3476	0.0019
248	2.3495	0.0019
249	2.3514	0.0019
250	2.3532	0.0019
251	2.3551	0.0019
252	2.3569	0.0019
253	2.3588	0.0018
254	2.3606	0.0018
255	2.3625	0.0018
256	2.3643	0.0018
257	2.3661	0.0018
258	2.3679	0.0018
259	2.3697	0.0018
260	2.3715	0.0018
261	2.3733	0.0018
262	2.3751	0.0018
263	2.3769	0.0018
264	2.3787	0.0018
265	2.3805	0.0018
266	2.3823	0.0018
267	2.3840	0.0018
268	2.3858	0.0018
269	2.3875	0.0018
270	2.3893	0.0018
271	2.3910	0.0017
272	2.3928	0.0017
273	2.3945	0.0017
274	2.3963	0.0017
275	2.3980	0.0017
276	2.3997	0.0017
277	2.4014	0.0017
278	2.4031	0.0017
279	2.4048	0.0017
280	2.4065	0.0017
281	2.4082	0.0017
282	2.4099	0.0017

283	2.4116	0.0017
284	2.4133	0.0017
285	2.4150	0.0017
286	2.4166	0.0017
287	2.4183	0.0017
288	2.4200	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0005	0.0012
2	0.0017	0.0005	0.0012
3	0.0017	0.0005	0.0012
4	0.0017	0.0005	0.0012
5	0.0017	0.0005	0.0012
6	0.0017	0.0005	0.0012
7	0.0017	0.0005	0.0012
8	0.0017	0.0005	0.0012
9	0.0017	0.0005	0.0012
10	0.0017	0.0005	0.0012
11	0.0017	0.0005	0.0012
12	0.0017	0.0005	0.0013
13	0.0018	0.0005	0.0013
14	0.0018	0.0005	0.0013
15	0.0018	0.0005	0.0013
16	0.0018	0.0005	0.0013
17	0.0018	0.0005	0.0013
18	0.0018	0.0005	0.0013
19	0.0018	0.0005	0.0013
20	0.0018	0.0005	0.0013
21	0.0018	0.0005	0.0013
22	0.0018	0.0005	0.0013
23	0.0018	0.0005	0.0013
24	0.0018	0.0005	0.0013
25	0.0019	0.0005	0.0013
26	0.0019	0.0005	0.0013
27	0.0019	0.0005	0.0013
28	0.0019	0.0005	0.0013
29	0.0019	0.0005	0.0014
30	0.0019	0.0005	0.0014
31	0.0019	0.0005	0.0014
32	0.0019	0.0005	0.0014
33	0.0019	0.0005	0.0014
34	0.0019	0.0005	0.0014
35	0.0019	0.0005	0.0014
36	0.0020	0.0006	0.0014
37	0.0020	0.0006	0.0014
38	0.0020	0.0006	0.0014
39	0.0020	0.0006	0.0014
40	0.0020	0.0006	0.0014
41	0.0020	0.0006	0.0014
42	0.0020	0.0006	0.0014
43	0.0020	0.0006	0.0015
44	0.0020	0.0006	0.0015
45	0.0021	0.0006	0.0015
46	0.0021	0.0006	0.0015
47	0.0021	0.0006	0.0015
48	0.0021	0.0006	0.0015

49	0.0021	0.0006	0.0015
50	0.0021	0.0006	0.0015
51	0.0021	0.0006	0.0015
52	0.0021	0.0006	0.0015
53	0.0021	0.0006	0.0015
54	0.0022	0.0006	0.0015
55	0.0022	0.0006	0.0016
56	0.0022	0.0006	0.0016
57	0.0022	0.0006	0.0016
58	0.0022	0.0006	0.0016
59	0.0022	0.0006	0.0016
60	0.0022	0.0006	0.0016
61	0.0022	0.0006	0.0016
62	0.0023	0.0006	0.0016
63	0.0023	0.0006	0.0016
64	0.0023	0.0006	0.0016
65	0.0023	0.0006	0.0017
66	0.0023	0.0007	0.0017
67	0.0023	0.0007	0.0017
68	0.0023	0.0007	0.0017
69	0.0024	0.0007	0.0017
70	0.0024	0.0007	0.0017
71	0.0024	0.0007	0.0017
72	0.0024	0.0007	0.0017
73	0.0024	0.0007	0.0017
74	0.0024	0.0007	0.0018
75	0.0025	0.0007	0.0018
76	0.0025	0.0007	0.0018
77	0.0025	0.0007	0.0018
78	0.0025	0.0007	0.0018
79	0.0025	0.0007	0.0018
80	0.0025	0.0007	0.0018
81	0.0026	0.0007	0.0018
82	0.0026	0.0007	0.0019
83	0.0026	0.0007	0.0019
84	0.0026	0.0007	0.0019
85	0.0026	0.0007	0.0019
86	0.0027	0.0007	0.0019
87	0.0027	0.0008	0.0019
88	0.0027	0.0008	0.0019
89	0.0027	0.0008	0.0020
90	0.0027	0.0008	0.0020
91	0.0028	0.0008	0.0020
92	0.0028	0.0008	0.0020
93	0.0028	0.0008	0.0020
94	0.0028	0.0008	0.0020
95	0.0029	0.0008	0.0021
96	0.0029	0.0008	0.0021
97	0.0029	0.0008	0.0021
98	0.0029	0.0008	0.0021
99	0.0030	0.0008	0.0021
100	0.0030	0.0008	0.0021
101	0.0030	0.0008	0.0022
102	0.0030	0.0009	0.0022
103	0.0031	0.0009	0.0022
104	0.0031	0.0009	0.0022
105	0.0031	0.0009	0.0022
106	0.0031	0.0009	0.0023
107	0.0032	0.0009	0.0023

108	0.0032	0.0009	0.0023
109	0.0032	0.0009	0.0023
110	0.0033	0.0009	0.0023
111	0.0033	0.0009	0.0024
112	0.0033	0.0009	0.0024
113	0.0034	0.0009	0.0024
114	0.0034	0.0010	0.0024
115	0.0034	0.0010	0.0025
116	0.0035	0.0010	0.0025
117	0.0035	0.0010	0.0025
118	0.0035	0.0010	0.0025
119	0.0036	0.0010	0.0026
120	0.0036	0.0010	0.0026
121	0.0037	0.0010	0.0026
122	0.0037	0.0010	0.0026
123	0.0037	0.0011	0.0027
124	0.0038	0.0011	0.0027
125	0.0038	0.0011	0.0028
126	0.0039	0.0011	0.0028
127	0.0039	0.0011	0.0028
128	0.0040	0.0011	0.0028
129	0.0040	0.0011	0.0029
130	0.0041	0.0011	0.0029
131	0.0041	0.0012	0.0030
132	0.0042	0.0012	0.0030
133	0.0042	0.0012	0.0030
134	0.0043	0.0012	0.0031
135	0.0044	0.0012	0.0031
136	0.0044	0.0012	0.0032
137	0.0045	0.0013	0.0032
138	0.0045	0.0013	0.0033
139	0.0046	0.0013	0.0033
140	0.0047	0.0013	0.0033
141	0.0048	0.0013	0.0034
142	0.0048	0.0014	0.0035
143	0.0049	0.0014	0.0035
144	0.0050	0.0014	0.0036
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0016	0.0039
148	0.0056	0.0016	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0041
151	0.0059	0.0017	0.0042
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0044
154	0.0062	0.0018	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0020	0.0050
160	0.0071	0.0020	0.0051
161	0.0074	0.0021	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0022	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0024	0.0060

167	0.0087	0.0025	0.0062
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0027	0.0068
171	0.0100	0.0028	0.0071
172	0.0102	0.0029	0.0073
173	0.0107	0.0030	0.0077
174	0.0110	0.0031	0.0079
175	0.0117	0.0033	0.0084
176	0.0121	0.0034	0.0087
177	0.0129	0.0036	0.0092
178	0.0133	0.0038	0.0096
179	0.0143	0.0040	0.0103
180	0.0149	0.0042	0.0107
181	0.0163	0.0046	0.0117
182	0.0170	0.0048	0.0122
183	0.0189	0.0053	0.0136
184	0.0200	0.0056	0.0143
185	0.0327	0.0092	0.0235
186	0.0349	0.0098	0.0250
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1392	0.0105	0.1287
193	0.6024	0.0105	0.5919
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0105	0.0269
197	0.0212	0.0060	0.0152
198	0.0179	0.0051	0.0129
199	0.0156	0.0044	0.0112
200	0.0138	0.0039	0.0099
201	0.0125	0.0035	0.0089
202	0.0114	0.0032	0.0082
203	0.0105	0.0030	0.0075
204	0.0097	0.0027	0.0070
205	0.0091	0.0026	0.0065
206	0.0085	0.0024	0.0061
207	0.0080	0.0023	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0019	0.0047
212	0.0063	0.0018	0.0045
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0040
216	0.0054	0.0015	0.0039
217	0.0050	0.0014	0.0036
218	0.0049	0.0014	0.0035
219	0.0047	0.0013	0.0034
220	0.0046	0.0013	0.0033
221	0.0044	0.0013	0.0032
222	0.0043	0.0012	0.0031
223	0.0042	0.0012	0.0030
224	0.0041	0.0012	0.0029
225	0.0040	0.0011	0.0029

226	0.0039	0.0011	0.0028
227	0.0038	0.0011	0.0027
228	0.0037	0.0010	0.0027
229	0.0036	0.0010	0.0026
230	0.0036	0.0010	0.0026
231	0.0035	0.0010	0.0025
232	0.0034	0.0010	0.0024
233	0.0033	0.0009	0.0024
234	0.0033	0.0009	0.0024
235	0.0032	0.0009	0.0023
236	0.0032	0.0009	0.0023
237	0.0031	0.0009	0.0022
238	0.0030	0.0009	0.0022
239	0.0030	0.0008	0.0021
240	0.0029	0.0008	0.0021
241	0.0029	0.0008	0.0021
242	0.0028	0.0008	0.0020
243	0.0028	0.0008	0.0020
244	0.0028	0.0008	0.0020
245	0.0027	0.0008	0.0019
246	0.0027	0.0008	0.0019
247	0.0026	0.0007	0.0019
248	0.0026	0.0007	0.0019
249	0.0026	0.0007	0.0018
250	0.0025	0.0007	0.0018
251	0.0025	0.0007	0.0018
252	0.0024	0.0007	0.0018
253	0.0024	0.0007	0.0017
254	0.0024	0.0007	0.0017
255	0.0024	0.0007	0.0017
256	0.0023	0.0007	0.0017
257	0.0023	0.0006	0.0016
258	0.0023	0.0006	0.0016
259	0.0022	0.0006	0.0016
260	0.0022	0.0006	0.0016
261	0.0022	0.0006	0.0016
262	0.0022	0.0006	0.0016
263	0.0021	0.0006	0.0015
264	0.0021	0.0006	0.0015
265	0.0021	0.0006	0.0015
266	0.0021	0.0006	0.0015
267	0.0020	0.0006	0.0015
268	0.0020	0.0006	0.0015
269	0.0020	0.0006	0.0014
270	0.0020	0.0006	0.0014
271	0.0020	0.0006	0.0014
272	0.0019	0.0005	0.0014
273	0.0019	0.0005	0.0014
274	0.0019	0.0005	0.0014
275	0.0019	0.0005	0.0014
276	0.0019	0.0005	0.0013
277	0.0018	0.0005	0.0013
278	0.0018	0.0005	0.0013
279	0.0018	0.0005	0.0013
280	0.0018	0.0005	0.0013
281	0.0018	0.0005	0.0013
282	0.0018	0.0005	0.0013
283	0.0017	0.0005	0.0013
284	0.0017	0.0005	0.0012

285	0.0017	0.0005	0.0012
286	0.0017	0.0005	0.0012
287	0.0017	0.0005	0.0012
288	0.0017	0.0005	0.0012

Total soil rain loss = 0.45(In)
Total effective rainfall = 1.97(In)
Peak flow rate in flood hydrograph = 23.09(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0005	0.05	Q				
0+20	0.0010	0.08	Q				
0+25	0.0017	0.09	Q				
0+30	0.0024	0.10	Q				
0+35	0.0031	0.11	Q				
0+40	0.0039	0.11	Q				
0+45	0.0047	0.12	Q				
0+50	0.0055	0.12	Q				
0+55	0.0063	0.12	Q				
1+ 0	0.0072	0.13	Q				
1+ 5	0.0081	0.13	Q				
1+10	0.0090	0.13	Q				
1+15	0.0099	0.13	Q				
1+20	0.0108	0.13	Q				
1+25	0.0117	0.13	Q				
1+30	0.0126	0.13	Q				
1+35	0.0136	0.14	Q				
1+40	0.0145	0.14	Q				
1+45	0.0155	0.14	Q				
1+50	0.0164	0.14	Q				
1+55	0.0174	0.14	Q				
2+ 0	0.0184	0.14	Q				
2+ 5	0.0193	0.14	Q				
2+10	0.0203	0.14	Q				
2+15	0.0213	0.14	Q				
2+20	0.0223	0.14	Q				
2+25	0.0233	0.14	Q				
2+30	0.0243	0.14	Q				
2+35	0.0253	0.15	Q				
2+40	0.0263	0.15	Q				
2+45	0.0273	0.15	Q				
2+50	0.0283	0.15	Q				
2+55	0.0293	0.15	Q				
3+ 0	0.0303	0.15	Q				
3+ 5	0.0314	0.15	Q				
3+10	0.0324	0.15	Q				
3+15	0.0335	0.15	Q				
3+20	0.0345	0.15	Q				

3+25	0.0356	0.15	Q				
3+30	0.0366	0.15	Q				
3+35	0.0377	0.15	QV				
3+40	0.0387	0.16	QV				
3+45	0.0398	0.16	QV				
3+50	0.0409	0.16	QV				
3+55	0.0420	0.16	QV				
4+ 0	0.0431	0.16	QV				
4+ 5	0.0442	0.16	QV				
4+10	0.0453	0.16	QV				
4+15	0.0464	0.16	QV				
4+20	0.0475	0.16	QV				
4+25	0.0486	0.16	QV				
4+30	0.0497	0.16	QV				
4+35	0.0509	0.16	QV				
4+40	0.0520	0.17	QV				
4+45	0.0532	0.17	QV				
4+50	0.0543	0.17	QV				
4+55	0.0555	0.17	QV				
5+ 0	0.0567	0.17	QV				
5+ 5	0.0578	0.17	QV				
5+10	0.0590	0.17	QV				
5+15	0.0602	0.17	QV				
5+20	0.0614	0.17	QV				
5+25	0.0626	0.17	QV				
5+30	0.0638	0.18	QV				
5+35	0.0650	0.18	QV				
5+40	0.0663	0.18	QV				
5+45	0.0675	0.18	QV				
5+50	0.0687	0.18	QV				
5+55	0.0700	0.18	QV				
6+ 0	0.0712	0.18	QV				
6+ 5	0.0725	0.18	QV				
6+10	0.0738	0.18	Q V				
6+15	0.0751	0.19	Q V				
6+20	0.0763	0.19	Q V				
6+25	0.0776	0.19	Q V				
6+30	0.0790	0.19	Q V				
6+35	0.0803	0.19	Q V				
6+40	0.0816	0.19	Q V				
6+45	0.0829	0.19	Q V				
6+50	0.0843	0.20	Q V				
6+55	0.0856	0.20	Q V				
7+ 0	0.0870	0.20	Q V				
7+ 5	0.0884	0.20	Q V				
7+10	0.0897	0.20	Q V				
7+15	0.0911	0.20	Q V				
7+20	0.0925	0.20	Q V				
7+25	0.0940	0.21	Q V				
7+30	0.0954	0.21	Q V				
7+35	0.0968	0.21	Q V				
7+40	0.0983	0.21	Q V				
7+45	0.0997	0.21	Q V				
7+50	0.1012	0.21	Q V				
7+55	0.1027	0.21	Q V				
8+ 0	0.1042	0.22	Q V				
8+ 5	0.1057	0.22	Q V				
8+10	0.1072	0.22	Q V				
8+15	0.1087	0.22	Q V				

8+20	0.1102	0.22	Q V	|	|	|	|
8+25	0.1118	0.23	Q V	|	|	|	|
8+30	0.1134	0.23	Q V	|	|	|	|
8+35	0.1149	0.23	Q V	|	|	|	|
8+40	0.1165	0.23	Q V	|	|	|	|
8+45	0.1182	0.23	Q V	|	|	|	|
8+50	0.1198	0.24	Q V	|	|	|	|
8+55	0.1214	0.24	Q V	|	|	|	|
9+ 0	0.1231	0.24	Q V	|	|	|	|
9+ 5	0.1247	0.24	Q V	|	|	|	|
9+10	0.1264	0.24	Q V	|	|	|	|
9+15	0.1281	0.25	Q V	|	|	|	|
9+20	0.1298	0.25	Q V	|	|	|	|
9+25	0.1315	0.25	Q V	|	|	|	|
9+30	0.1333	0.25	Q V	|	|	|	|
9+35	0.1351	0.26	Q V	|	|	|	|
9+40	0.1368	0.26	Q V	|	|	|	|
9+45	0.1386	0.26	Q V	|	|	|	|
9+50	0.1405	0.26	Q V	|	|	|	|
9+55	0.1423	0.27	Q V	|	|	|	|
10+ 0	0.1441	0.27	Q V	|	|	|	|
10+ 5	0.1460	0.27	Q V	|	|	|	|
10+10	0.1479	0.28	Q V	|	|	|	|
10+15	0.1498	0.28	Q V	|	|	|	|
10+20	0.1518	0.28	Q V	|	|	|	|
10+25	0.1537	0.28	Q V	|	|	|	|
10+30	0.1557	0.29	Q V	|	|	|	|
10+35	0.1577	0.29	Q V	|	|	|	|
10+40	0.1597	0.29	Q V	|	|	|	|
10+45	0.1618	0.30	Q V	|	|	|	|
10+50	0.1639	0.30	Q V	|	|	|	|
10+55	0.1660	0.31	Q V	|	|	|	|
11+ 0	0.1681	0.31	Q V	|	|	|	|
11+ 5	0.1702	0.31	Q V	|	|	|	|
11+10	0.1724	0.32	Q V	|	|	|	|
11+15	0.1746	0.32	Q V	|	|	|	|
11+20	0.1769	0.32	Q V	|	|	|	|
11+25	0.1791	0.33	Q V	|	|	|	|
11+30	0.1814	0.33	Q V	|	|	|	|
11+35	0.1838	0.34	Q V	|	|	|	|
11+40	0.1861	0.34	Q V	|	|	|	|
11+45	0.1885	0.35	Q V	|	|	|	|
11+50	0.1910	0.35	Q V	|	|	|	|
11+55	0.1934	0.36	Q V	|	|	|	|
12+ 0	0.1959	0.36	Q V	|	|	|	|
12+ 5	0.1985	0.37	Q V	|	|	|	|
12+10	0.2011	0.38	Q V	|	|	|	|
12+15	0.2038	0.39	Q V	|	|	|	|
12+20	0.2065	0.40	Q V	|	|	|	|
12+25	0.2093	0.41	Q V	|	|	|	|
12+30	0.2122	0.42	Q V	|	|	|	|
12+35	0.2151	0.42	Q V	|	|	|	|
12+40	0.2181	0.43	Q V	|	|	|	|
12+45	0.2211	0.44	Q V	|	|	|	|
12+50	0.2242	0.45	Q V	|	|	|	|
12+55	0.2274	0.46	Q V	|	|	|	|
13+ 0	0.2306	0.47	Q V	|	|	|	|
13+ 5	0.2339	0.48	Q V	|	|	|	|
13+10	0.2372	0.49	Q V	|	|	|	|

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13+15       0.2406      0.50  Q     V   |          |          |          |
13+20       0.2441      0.51  Q     V   |          |          |          |
13+25       0.2477      0.52  Q     V   |          |          |          |
13+30       0.2514      0.53  Q     V   |          |          |          |
13+35       0.2551      0.54  Q     V   |          |          |          |
13+40       0.2590      0.56  Q      V  |          |          |          |
13+45       0.2629      0.57  Q      V  |          |          |          |
13+50       0.2669      0.59  Q      V  |          |          |          |
13+55       0.2711      0.60  Q      V  |          |          |          |
14+ 0       0.2753      0.62  Q      V  |          |          |          |
14+ 5       0.2797      0.64  Q      V  |          |          |          |
14+10       0.2842      0.66  Q      V  |          |          |          |
14+15       0.2889      0.68  Q      V  |          |          |          |
14+20       0.2937      0.70  Q      V  |          |          |          |
14+25       0.2987      0.72  Q       V |          |          |          |
14+30       0.3038      0.75  Q       V |          |          |          |
14+35       0.3092      0.78  |Q      V |          |          |          |
14+40       0.3147      0.81  |Q      V |          |          |          |
14+45       0.3205      0.84  |Q      V |          |          |          |
14+50       0.3265      0.87  |Q      V |          |          |          |
14+55       0.3328      0.92  |Q       V|          |          |          |
15+ 0       0.3394      0.96  |Q       V|          |          |          |
15+ 5       0.3464      1.01  |Q       V|          |          |          |
15+10       0.3537      1.07  |Q       V|          |          |          |
15+15       0.3615      1.13  |Q       V|          |          |          |
15+20       0.3698      1.20  |Q        V          |          |          |
15+25       0.3788      1.31  |Q        V          |          |          |
15+30       0.3891      1.50  |Q        V          |          |          |
15+35       0.4019      1.85  | Q       V          |          |          |
15+40       0.4169      2.18  | Q       |V         |          |          |
15+45       0.4345      2.55  |  Q      |V         |          |          |
15+50       0.4552      3.02  |   Q     | V        |          |          |
15+55       0.4808      3.72  |   Q     |  V       |          |          |
16+ 0       0.5140      4.81  |     Q   |  V       |          |          |
16+ 5       0.5677      7.79  |         Q    V     |          |          |
16+10       0.6657     14.23  |          |       Q |          |          |
16+15       0.8247     23.09  |          |         | V        Q          |
16+20       0.9461     17.64  |          |         |  Q V     |          |
16+25       1.0251     11.46  |          |    Q    |      V   |          |
16+30       1.0833      8.44  |          |Q        |        V |          |
16+35       1.1274      6.41  |       Q  |         |          V          |
16+40       1.1626      5.11  |     Q    |         |          |V         |
16+45       1.1917      4.22  |    Q     |         |          | V        |
16+50       1.2154      3.44  |   Q      |         |          |  V       |
16+55       1.2357      2.95  |  Q       |         |          |  V       |
17+ 0       1.2533      2.56  |  Q       |         |          |   V      |
17+ 5       1.2684      2.19  | Q        |         |          |   V      |
17+10       1.2816      1.92  | Q        |         |          |   V      |
17+15       1.2932      1.68  | Q        |         |          |    V     |
17+20       1.3031      1.44  |Q         |         |          |    V     |
17+25       1.3116      1.23  |Q         |         |          |    V     |
17+30       1.3192      1.11  |Q         |         |          |    V     |
17+35       1.3266      1.07  |Q         |         |          |     V    |
17+40       1.3335      1.01  |Q         |         |          |     V    |
17+45       1.3398      0.91  |Q         |         |          |     V    |
17+50       1.3451      0.78  |Q         |         |          |     V    |
17+55       1.3500      0.71  Q          |         |          |     V    |
18+ 0       1.3538      0.55  Q          |         |          |     V    |
18+ 5       1.3573      0.51  Q          |         |          |     V    |
```

18+10	1.3606	0.48	Q	|	|	|	V |
18+15	1.3637	0.45	Q	|	|	|	V |
18+20	1.3667	0.43	Q	|	|	|	V |
18+25	1.3695	0.41	Q	|	|	|	V |
18+30	1.3723	0.40	Q	|	|	|	V |
18+35	1.3749	0.38	Q	|	|	|	V |
18+40	1.3774	0.37	Q	|	|	|	V |
18+45	1.3799	0.36	Q	|	|	|	V |
18+50	1.3823	0.35	Q	|	|	|	V |
18+55	1.3846	0.34	Q	|	|	|	V |
19+ 0	1.3869	0.33	Q	|	|	|	V |
19+ 5	1.3891	0.32	Q	|	|	|	V |
19+10	1.3912	0.31	Q	|	|	|	V |
19+15	1.3933	0.30	Q	|	|	|	V |
19+20	1.3953	0.30	Q	|	|	|	V |
19+25	1.3973	0.29	Q	|	|	|	V |
19+30	1.3992	0.28	Q	|	|	|	V |
19+35	1.4011	0.28	Q	|	|	|	V |
19+40	1.4030	0.27	Q	|	|	|	V |
19+45	1.4048	0.26	Q	|	|	|	V |
19+50	1.4066	0.26	Q	|	|	|	V |
19+55	1.4083	0.25	Q	|	|	|	V |
20+ 0	1.4100	0.25	Q	|	|	|	V |
20+ 5	1.4117	0.24	Q	|	|	|	V |
20+10	1.4134	0.24	Q	|	|	|	V |
20+15	1.4150	0.24	Q	|	|	|	V |
20+20	1.4166	0.23	Q	|	|	|	V |
20+25	1.4181	0.23	Q	|	|	|	V |
20+30	1.4197	0.22	Q	|	|	|	V |
20+35	1.4212	0.22	Q	|	|	|	V |
20+40	1.4227	0.22	Q	|	|	|	V |
20+45	1.4242	0.21	Q	|	|	|	V |
20+50	1.4256	0.21	Q	|	|	|	V |
20+55	1.4270	0.21	Q	|	|	|	V |
21+ 0	1.4284	0.20	Q	|	|	|	V |
21+ 5	1.4298	0.20	Q	|	|	|	V |
21+10	1.4312	0.20	Q	|	|	|	V |
21+15	1.4325	0.19	Q	|	|	|	V |
21+20	1.4338	0.19	Q	|	|	|	V |
21+25	1.4351	0.19	Q	|	|	|	V |
21+30	1.4364	0.19	Q	|	|	|	V|
21+35	1.4377	0.18	Q	|	|	|	V|
21+40	1.4389	0.18	Q	|	|	|	V|
21+45	1.4402	0.18	Q	|	|	|	V|
21+50	1.4414	0.18	Q	|	|	|	V|
21+55	1.4426	0.18	Q	|	|	|	V|
22+ 0	1.4438	0.17	Q	|	|	|	V|
22+ 5	1.4450	0.17	Q	|	|	|	V|
22+10	1.4461	0.17	Q	|	|	|	V|
22+15	1.4473	0.17	Q	|	|	|	V|
22+20	1.4484	0.17	Q	|	|	|	V|
22+25	1.4496	0.16	Q	|	|	|	V|
22+30	1.4507	0.16	Q	|	|	|	V|
22+35	1.4518	0.16	Q	|	|	|	V|
22+40	1.4529	0.16	Q	|	|	|	V|
22+45	1.4539	0.16	Q	|	|	|	V|
22+50	1.4550	0.15	Q	|	|	|	V|
22+55	1.4561	0.15	Q	|	|	|	V|
23+ 0	1.4571	0.15	Q	|	|	|	V|

23+ 5	1.4581	0.15	Q	|	|	|	V|
23+10	1.4592	0.15	Q	|	|	|	V|
23+15	1.4602	0.15	Q	|	|	|	V|
23+20	1.4612	0.15	Q	|	|	|	V|
23+25	1.4622	0.14	Q	|	|	|	V|
23+30	1.4632	0.14	Q	|	|	|	V|
23+35	1.4641	0.14	Q	|	|	|	V|
23+40	1.4651	0.14	Q	|	|	|	V|
23+45	1.4661	0.14	Q	|	|	|	V|
23+50	1.4670	0.14	Q	|	|	|	V|
23+55	1.4680	0.14	Q	|	|	|	V|
24+ 0	1.4689	0.14	Q	|	|	|	V|
24+ 5	1.4698	0.13	Q	|	|	|	V|
24+10	1.4706	0.12	Q	|	|	|	V|
24+15	1.4711	0.08	Q	|	|	|	V|
24+20	1.4715	0.05	Q	|	|	|	V|
24+25	1.4718	0.04	Q	|	|	|	V|
24+30	1.4720	0.03	Q	|	|	|	V|
24+35	1.4722	0.02	Q	|	|	|	V|
24+40	1.4723	0.02	Q	|	|	|	V|
24+45	1.4724	0.02	Q	|	|	|	V|
24+50	1.4725	0.01	Q	|	|	|	V|
24+55	1.4726	0.01	Q	|	|	|	V|
25+ 0	1.4726	0.01	Q	|	|	|	V|
25+ 5	1.4727	0.01	Q	|	|	|	V|
25+10	1.4727	0.01	Q	|	|	|	V|
25+15	1.4728	0.00	Q	|	|	|	V|
25+20	1.4728	0.00	Q	|	|	|	V|
25+25	1.4728	0.00	Q	|	|	|	V|
25+30	1.4728	0.00	Q	|	|	|	V|
25+35	1.4728	0.00	Q	|	|	|	V|
25+40	1.4728	0.00	Q	|	|	|	V|
25+45	1.4728	0.00	Q	|	|	|	V|
25+50	1.4728	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 9
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
29.97	1	1.27
Rainfall data for year 100		
29.97	6	1.84
Rainfall data for year 100		
29.97	24	2.42

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	29.97	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
26.97	0.900	78.0	92.8	0.78	0.697
3.00	0.100	98.0	98.0	0.20	0.905

Area-averaged catchment yield fraction, Y = 0.718
Area-averaged low loss fraction, Yb = 0.282
User entry of time of concentration = 0.390 (hours)
++
Watershed area = 29.97(Ac.)
Catchment Lag time = 0.312 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 26.7094
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.282 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.420(In)

Rainfall depth area reduction factors:
Using a total area of 29.97(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.030(In)
1-hour factor = 0.999 Adjusted rainfall = 1.268(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.420(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 362.45 (CFS))	
1	1.482	5.371
2	7.420	21.522
3	23.386	57.870
4	45.504	80.167
5	59.274	49.907
6	67.621	30.254
7	73.654	21.868
8	78.228	16.577
9	81.762	12.808
10	84.638	10.426
11	87.117	8.985
12	89.115	7.242
13	90.695	5.727

14	92.107	5.116
15	93.340	4.472
16	94.376	3.753
17	95.282	3.283
18	96.053	2.795
19	96.739	2.487
20	97.275	1.943
21	97.738	1.678
22	98.043	1.104
23	98.317	0.996
24	98.632	1.141
25	98.953	1.162
26	99.273	1.162
27	99.545	0.987
28	99.716	0.617
29	99.883	0.605
30	100.000	0.425

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6018	0.6018
2	0.7409	0.1391
3	0.8367	0.0958
4	0.9121	0.0754
5	0.9753	0.0632
6	1.0301	0.0548
7	1.0789	0.0488
8	1.1230	0.0441
9	1.1634	0.0404
10	1.2007	0.0374
11	1.2355	0.0348
12	1.2682	0.0327
13	1.2895	0.0213
14	1.3095	0.0200
15	1.3285	0.0189
16	1.3464	0.0180
17	1.3635	0.0171
18	1.3798	0.0163
19	1.3954	0.0156
20	1.4104	0.0150
21	1.4248	0.0144
22	1.4387	0.0139
23	1.4520	0.0134
24	1.4649	0.0129
25	1.4774	0.0125
26	1.4895	0.0121
27	1.5013	0.0117
28	1.5127	0.0114
29	1.5238	0.0111
30	1.5345	0.0108
31	1.5450	0.0105
32	1.5553	0.0102
33	1.5653	0.0100
34	1.5750	0.0098
35	1.5846	0.0095
36	1.5939	0.0093
37	1.6029	0.0091
38	1.6118	0.0089
39	1.6205	0.0087

40	1.6290	0.0085
41	1.6374	0.0083
42	1.6456	0.0082
43	1.6536	0.0080
44	1.6615	0.0079
45	1.6692	0.0077
46	1.6768	0.0076
47	1.6843	0.0075
48	1.6917	0.0074
49	1.6989	0.0072
50	1.7060	0.0071
51	1.7131	0.0070
52	1.7200	0.0069
53	1.7267	0.0068
54	1.7334	0.0067
55	1.7400	0.0066
56	1.7465	0.0065
57	1.7530	0.0064
58	1.7593	0.0063
59	1.7655	0.0062
60	1.7717	0.0062
61	1.7777	0.0061
62	1.7837	0.0060
63	1.7897	0.0059
64	1.7955	0.0058
65	1.8013	0.0058
66	1.8070	0.0057
67	1.8126	0.0056
68	1.8182	0.0056
69	1.8237	0.0055
70	1.8291	0.0054
71	1.8345	0.0054
72	1.8398	0.0053
73	1.8449	0.0050
74	1.8498	0.0050
75	1.8547	0.0049
76	1.8596	0.0049
77	1.8644	0.0048
78	1.8692	0.0048
79	1.8739	0.0047
80	1.8786	0.0047
81	1.8832	0.0046
82	1.8877	0.0046
83	1.8923	0.0045
84	1.8968	0.0045
85	1.9012	0.0044
86	1.9056	0.0044
87	1.9100	0.0044
88	1.9143	0.0043
89	1.9186	0.0043
90	1.9228	0.0042
91	1.9270	0.0042
92	1.9312	0.0042
93	1.9353	0.0041
94	1.9394	0.0041
95	1.9435	0.0041
96	1.9475	0.0040
97	1.9515	0.0040
98	1.9555	0.0040

99	1.9594	0.0039
100	1.9633	0.0039
101	1.9671	0.0039
102	1.9710	0.0038
103	1.9748	0.0038
104	1.9786	0.0038
105	1.9823	0.0037
106	1.9860	0.0037
107	1.9897	0.0037
108	1.9934	0.0037
109	1.9970	0.0036
110	2.0006	0.0036
111	2.0042	0.0036
112	2.0078	0.0036
113	2.0113	0.0035
114	2.0148	0.0035
115	2.0183	0.0035
116	2.0217	0.0035
117	2.0252	0.0034
118	2.0286	0.0034
119	2.0320	0.0034
120	2.0353	0.0034
121	2.0387	0.0033
122	2.0420	0.0033
123	2.0453	0.0033
124	2.0486	0.0033
125	2.0518	0.0033
126	2.0551	0.0032
127	2.0583	0.0032
128	2.0615	0.0032
129	2.0646	0.0032
130	2.0678	0.0032
131	2.0709	0.0031
132	2.0740	0.0031
133	2.0771	0.0031
134	2.0802	0.0031
135	2.0833	0.0031
136	2.0863	0.0030
137	2.0893	0.0030
138	2.0923	0.0030
139	2.0953	0.0030
140	2.0983	0.0030
141	2.1013	0.0030
142	2.1042	0.0029
143	2.1071	0.0029
144	2.1100	0.0029
145	2.1129	0.0029
146	2.1158	0.0029
147	2.1186	0.0029
148	2.1215	0.0028
149	2.1243	0.0028
150	2.1271	0.0028
151	2.1299	0.0028
152	2.1327	0.0028
153	2.1355	0.0028
154	2.1382	0.0028
155	2.1410	0.0027
156	2.1437	0.0027
157	2.1464	0.0027

158	2.1491	0.0027
159	2.1518	0.0027
160	2.1544	0.0027
161	2.1571	0.0027
162	2.1597	0.0026
163	2.1624	0.0026
164	2.1650	0.0026
165	2.1676	0.0026
166	2.1702	0.0026
167	2.1728	0.0026
168	2.1753	0.0026
169	2.1779	0.0026
170	2.1804	0.0025
171	2.1829	0.0025
172	2.1855	0.0025
173	2.1880	0.0025
174	2.1905	0.0025
175	2.1929	0.0025
176	2.1954	0.0025
177	2.1979	0.0025
178	2.2003	0.0024
179	2.2028	0.0024
180	2.2052	0.0024
181	2.2076	0.0024
182	2.2100	0.0024
183	2.2124	0.0024
184	2.2148	0.0024
185	2.2172	0.0024
186	2.2195	0.0024
187	2.2219	0.0024
188	2.2242	0.0023
189	2.2266	0.0023
190	2.2289	0.0023
191	2.2312	0.0023
192	2.2335	0.0023
193	2.2358	0.0023
194	2.2381	0.0023
195	2.2404	0.0023
196	2.2426	0.0023
197	2.2449	0.0023
198	2.2471	0.0022
199	2.2494	0.0022
200	2.2516	0.0022
201	2.2538	0.0022
202	2.2560	0.0022
203	2.2582	0.0022
204	2.2604	0.0022
205	2.2626	0.0022
206	2.2648	0.0022
207	2.2670	0.0022
208	2.2691	0.0022
209	2.2713	0.0022
210	2.2734	0.0021
211	2.2756	0.0021
212	2.2777	0.0021
213	2.2798	0.0021
214	2.2819	0.0021
215	2.2840	0.0021
216	2.2861	0.0021

217	2.2882	0.0021
218	2.2903	0.0021
219	2.2924	0.0021
220	2.2944	0.0021
221	2.2965	0.0021
222	2.2985	0.0021
223	2.3006	0.0020
224	2.3026	0.0020
225	2.3046	0.0020
226	2.3067	0.0020
227	2.3087	0.0020
228	2.3107	0.0020
229	2.3127	0.0020
230	2.3147	0.0020
231	2.3167	0.0020
232	2.3186	0.0020
233	2.3206	0.0020
234	2.3226	0.0020
235	2.3245	0.0020
236	2.3265	0.0020
237	2.3284	0.0019
238	2.3304	0.0019
239	2.3323	0.0019
240	2.3342	0.0019
241	2.3362	0.0019
242	2.3381	0.0019
243	2.3400	0.0019
244	2.3419	0.0019
245	2.3438	0.0019
246	2.3457	0.0019
247	2.3475	0.0019
248	2.3494	0.0019
249	2.3513	0.0019
250	2.3532	0.0019
251	2.3550	0.0019
252	2.3569	0.0019
253	2.3587	0.0018
254	2.3606	0.0018
255	2.3624	0.0018
256	2.3642	0.0018
257	2.3660	0.0018
258	2.3679	0.0018
259	2.3697	0.0018
260	2.3715	0.0018
261	2.3733	0.0018
262	2.3751	0.0018
263	2.3769	0.0018
264	2.3786	0.0018
265	2.3804	0.0018
266	2.3822	0.0018
267	2.3840	0.0018
268	2.3857	0.0018
269	2.3875	0.0018
270	2.3892	0.0018
271	2.3910	0.0017
272	2.3927	0.0017
273	2.3945	0.0017
274	2.3962	0.0017
275	2.3979	0.0017

276	2.3996	0.0017
277	2.4014	0.0017
278	2.4031	0.0017
279	2.4048	0.0017
280	2.4065	0.0017
281	2.4082	0.0017
282	2.4099	0.0017
283	2.4115	0.0017
284	2.4132	0.0017
285	2.4149	0.0017
286	2.4166	0.0017
287	2.4182	0.0017
288	2.4199	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0005	0.0012
2	0.0017	0.0005	0.0012
3	0.0017	0.0005	0.0012
4	0.0017	0.0005	0.0012
5	0.0017	0.0005	0.0012
6	0.0017	0.0005	0.0012
7	0.0017	0.0005	0.0012
8	0.0017	0.0005	0.0012
9	0.0017	0.0005	0.0012
10	0.0017	0.0005	0.0012
11	0.0017	0.0005	0.0012
12	0.0017	0.0005	0.0013
13	0.0018	0.0005	0.0013
14	0.0018	0.0005	0.0013
15	0.0018	0.0005	0.0013
16	0.0018	0.0005	0.0013
17	0.0018	0.0005	0.0013
18	0.0018	0.0005	0.0013
19	0.0018	0.0005	0.0013
20	0.0018	0.0005	0.0013
21	0.0018	0.0005	0.0013
22	0.0018	0.0005	0.0013
23	0.0018	0.0005	0.0013
24	0.0018	0.0005	0.0013
25	0.0019	0.0005	0.0013
26	0.0019	0.0005	0.0013
27	0.0019	0.0005	0.0013
28	0.0019	0.0005	0.0013
29	0.0019	0.0005	0.0014
30	0.0019	0.0005	0.0014
31	0.0019	0.0005	0.0014
32	0.0019	0.0005	0.0014
33	0.0019	0.0005	0.0014
34	0.0019	0.0005	0.0014
35	0.0019	0.0005	0.0014
36	0.0020	0.0006	0.0014
37	0.0020	0.0006	0.0014
38	0.0020	0.0006	0.0014
39	0.0020	0.0006	0.0014
40	0.0020	0.0006	0.0014
41	0.0020	0.0006	0.0014

42	0.0020	0.0006	0.0014
43	0.0020	0.0006	0.0015
44	0.0020	0.0006	0.0015
45	0.0021	0.0006	0.0015
46	0.0021	0.0006	0.0015
47	0.0021	0.0006	0.0015
48	0.0021	0.0006	0.0015
49	0.0021	0.0006	0.0015
50	0.0021	0.0006	0.0015
51	0.0021	0.0006	0.0015
52	0.0021	0.0006	0.0015
53	0.0021	0.0006	0.0015
54	0.0022	0.0006	0.0015
55	0.0022	0.0006	0.0016
56	0.0022	0.0006	0.0016
57	0.0022	0.0006	0.0016
58	0.0022	0.0006	0.0016
59	0.0022	0.0006	0.0016
60	0.0022	0.0006	0.0016
61	0.0022	0.0006	0.0016
62	0.0023	0.0006	0.0016
63	0.0023	0.0006	0.0016
64	0.0023	0.0006	0.0016
65	0.0023	0.0007	0.0017
66	0.0023	0.0007	0.0017
67	0.0023	0.0007	0.0017
68	0.0023	0.0007	0.0017
69	0.0024	0.0007	0.0017
70	0.0024	0.0007	0.0017
71	0.0024	0.0007	0.0017
72	0.0024	0.0007	0.0017
73	0.0024	0.0007	0.0017
74	0.0024	0.0007	0.0018
75	0.0025	0.0007	0.0018
76	0.0025	0.0007	0.0018
77	0.0025	0.0007	0.0018
78	0.0025	0.0007	0.0018
79	0.0025	0.0007	0.0018
80	0.0025	0.0007	0.0018
81	0.0026	0.0007	0.0018
82	0.0026	0.0007	0.0019
83	0.0026	0.0007	0.0019
84	0.0026	0.0007	0.0019
85	0.0026	0.0007	0.0019
86	0.0027	0.0007	0.0019
87	0.0027	0.0008	0.0019
88	0.0027	0.0008	0.0019
89	0.0027	0.0008	0.0020
90	0.0027	0.0008	0.0020
91	0.0028	0.0008	0.0020
92	0.0028	0.0008	0.0020
93	0.0028	0.0008	0.0020
94	0.0028	0.0008	0.0020
95	0.0029	0.0008	0.0021
96	0.0029	0.0008	0.0021
97	0.0029	0.0008	0.0021
98	0.0029	0.0008	0.0021
99	0.0030	0.0008	0.0021
100	0.0030	0.0008	0.0021

101	0.0030	0.0008	0.0022
102	0.0030	0.0009	0.0022
103	0.0031	0.0009	0.0022
104	0.0031	0.0009	0.0022
105	0.0031	0.0009	0.0022
106	0.0031	0.0009	0.0023
107	0.0032	0.0009	0.0023
108	0.0032	0.0009	0.0023
109	0.0032	0.0009	0.0023
110	0.0033	0.0009	0.0023
111	0.0033	0.0009	0.0024
112	0.0033	0.0009	0.0024
113	0.0034	0.0009	0.0024
114	0.0034	0.0010	0.0024
115	0.0034	0.0010	0.0025
116	0.0035	0.0010	0.0025
117	0.0035	0.0010	0.0025
118	0.0035	0.0010	0.0025
119	0.0036	0.0010	0.0026
120	0.0036	0.0010	0.0026
121	0.0037	0.0010	0.0026
122	0.0037	0.0010	0.0026
123	0.0037	0.0011	0.0027
124	0.0038	0.0011	0.0027
125	0.0038	0.0011	0.0028
126	0.0039	0.0011	0.0028
127	0.0039	0.0011	0.0028
128	0.0040	0.0011	0.0028
129	0.0040	0.0011	0.0029
130	0.0041	0.0011	0.0029
131	0.0041	0.0012	0.0030
132	0.0042	0.0012	0.0030
133	0.0042	0.0012	0.0030
134	0.0043	0.0012	0.0031
135	0.0044	0.0012	0.0031
136	0.0044	0.0012	0.0032
137	0.0045	0.0013	0.0032
138	0.0045	0.0013	0.0033
139	0.0046	0.0013	0.0033
140	0.0047	0.0013	0.0033
141	0.0048	0.0013	0.0034
142	0.0048	0.0014	0.0035
143	0.0049	0.0014	0.0035
144	0.0050	0.0014	0.0036
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0016	0.0040
148	0.0056	0.0016	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0041
151	0.0059	0.0017	0.0042
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0044
154	0.0062	0.0018	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0020	0.0050

160	0.0071	0.0020	0.0051
161	0.0074	0.0021	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0022	0.0056
164	0.0079	0.0022	0.0057
165	0.0082	0.0023	0.0059
166	0.0083	0.0024	0.0060
167	0.0087	0.0025	0.0062
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0027	0.0068
171	0.0100	0.0028	0.0072
172	0.0102	0.0029	0.0074
173	0.0108	0.0030	0.0077
174	0.0111	0.0031	0.0080
175	0.0117	0.0033	0.0084
176	0.0121	0.0034	0.0087
177	0.0129	0.0036	0.0093
178	0.0134	0.0038	0.0096
179	0.0144	0.0041	0.0103
180	0.0150	0.0042	0.0107
181	0.0163	0.0046	0.0117
182	0.0171	0.0048	0.0123
183	0.0189	0.0053	0.0136
184	0.0200	0.0057	0.0144
185	0.0327	0.0092	0.0235
186	0.0348	0.0098	0.0250
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0548	0.0105	0.0443
190	0.0632	0.0105	0.0526
191	0.0958	0.0105	0.0853
192	0.1391	0.0105	0.1286
193	0.6018	0.0105	0.5913
194	0.0754	0.0105	0.0649
195	0.0488	0.0105	0.0383
196	0.0374	0.0105	0.0269
197	0.0213	0.0060	0.0153
198	0.0180	0.0051	0.0129
199	0.0156	0.0044	0.0112
200	0.0139	0.0039	0.0099
201	0.0125	0.0035	0.0090
202	0.0114	0.0032	0.0082
203	0.0105	0.0030	0.0075
204	0.0098	0.0028	0.0070
205	0.0091	0.0026	0.0065
206	0.0085	0.0024	0.0061
207	0.0080	0.0023	0.0058
208	0.0076	0.0021	0.0055
209	0.0072	0.0020	0.0052
210	0.0069	0.0019	0.0050
211	0.0066	0.0019	0.0047
212	0.0063	0.0018	0.0045
213	0.0061	0.0017	0.0044
214	0.0058	0.0016	0.0042
215	0.0056	0.0016	0.0040
216	0.0054	0.0015	0.0039
217	0.0050	0.0014	0.0036
218	0.0049	0.0014	0.0035

219	0.0047	0.0013	0.0034
220	0.0046	0.0013	0.0033
221	0.0044	0.0013	0.0032
222	0.0043	0.0012	0.0031
223	0.0042	0.0012	0.0030
224	0.0041	0.0012	0.0029
225	0.0040	0.0011	0.0029
226	0.0039	0.0011	0.0028
227	0.0038	0.0011	0.0027
228	0.0037	0.0010	0.0027
229	0.0036	0.0010	0.0026
230	0.0036	0.0010	0.0026
231	0.0035	0.0010	0.0025
232	0.0034	0.0010	0.0024
233	0.0033	0.0009	0.0024
234	0.0033	0.0009	0.0024
235	0.0032	0.0009	0.0023
236	0.0032	0.0009	0.0023
237	0.0031	0.0009	0.0022
238	0.0030	0.0009	0.0022
239	0.0030	0.0008	0.0021
240	0.0029	0.0008	0.0021
241	0.0029	0.0008	0.0021
242	0.0028	0.0008	0.0020
243	0.0028	0.0008	0.0020
244	0.0028	0.0008	0.0020
245	0.0027	0.0008	0.0019
246	0.0027	0.0008	0.0019
247	0.0026	0.0007	0.0019
248	0.0026	0.0007	0.0019
249	0.0026	0.0007	0.0018
250	0.0025	0.0007	0.0018
251	0.0025	0.0007	0.0018
252	0.0024	0.0007	0.0018
253	0.0024	0.0007	0.0017
254	0.0024	0.0007	0.0017
255	0.0024	0.0007	0.0017
256	0.0023	0.0007	0.0017
257	0.0023	0.0006	0.0016
258	0.0023	0.0006	0.0016
259	0.0022	0.0006	0.0016
260	0.0022	0.0006	0.0016
261	0.0022	0.0006	0.0016
262	0.0022	0.0006	0.0016
263	0.0021	0.0006	0.0015
264	0.0021	0.0006	0.0015
265	0.0021	0.0006	0.0015
266	0.0021	0.0006	0.0015
267	0.0020	0.0006	0.0015
268	0.0020	0.0006	0.0015
269	0.0020	0.0006	0.0014
270	0.0020	0.0006	0.0014
271	0.0020	0.0006	0.0014
272	0.0019	0.0005	0.0014
273	0.0019	0.0005	0.0014
274	0.0019	0.0005	0.0014
275	0.0019	0.0005	0.0014
276	0.0019	0.0005	0.0013
277	0.0018	0.0005	0.0013

278	0.0018	0.0005	0.0013
279	0.0018	0.0005	0.0013
280	0.0018	0.0005	0.0013
281	0.0018	0.0005	0.0013
282	0.0018	0.0005	0.0013
283	0.0017	0.0005	0.0013
284	0.0017	0.0005	0.0012
285	0.0017	0.0005	0.0012
286	0.0017	0.0005	0.0012
287	0.0017	0.0005	0.0012
288	0.0017	0.0005	0.0012

Total soil rain loss = 0.45(In)
Total effective rainfall = 1.97(In)
Peak flow rate in flood hydrograph = 64.58(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	17.5	35.0	52.5	70.0
0+ 5	0.0000	0.01	Q				
0+10	0.0003	0.03	Q				
0+15	0.0010	0.10	Q				
0+20	0.0023	0.20	Q				
0+25	0.0041	0.26	Q				
0+30	0.0061	0.30	Q				
0+35	0.0084	0.32	Q				
0+40	0.0107	0.34	Q				
0+45	0.0132	0.36	Q				
0+50	0.0158	0.37	Q				
0+55	0.0184	0.39	Q				
1+ 0	0.0212	0.40	Q				
1+ 5	0.0240	0.41	Q				
1+10	0.0268	0.41	Q				
1+15	0.0297	0.42	Q				
1+20	0.0326	0.43	Q				
1+25	0.0356	0.43	Q				
1+30	0.0386	0.44	Q				
1+35	0.0417	0.44	Q				
1+40	0.0448	0.45	Q				
1+45	0.0479	0.45	Q				
1+50	0.0510	0.45	Q				
1+55	0.0542	0.46	Q				
2+ 0	0.0573	0.46	Q				
2+ 5	0.0605	0.46	Q				
2+10	0.0638	0.47	Q				
2+15	0.0670	0.47	Q				
2+20	0.0703	0.47	Q				
2+25	0.0736	0.48	Q				
2+30	0.0769	0.48	Q				
2+35	0.0802	0.48	Q				
2+40	0.0836	0.49	Q				
2+45	0.0869	0.49	Q				

2+50	0.0903	0.49	Q				
2+55	0.0937	0.49	Q				
3+ 0	0.0971	0.49	Q				
3+ 5	0.1005	0.50	Q				
3+10	0.1039	0.50	Q				
3+15	0.1074	0.50	Q				
3+20	0.1109	0.50	Q				
3+25	0.1144	0.51	Q				
3+30	0.1179	0.51	Q				
3+35	0.1214	0.51	Q				
3+40	0.1250	0.52	QV				
3+45	0.1285	0.52	QV				
3+50	0.1321	0.52	QV				
3+55	0.1357	0.52	QV				
4+ 0	0.1393	0.53	QV				
4+ 5	0.1430	0.53	QV				
4+10	0.1467	0.53	QV				
4+15	0.1503	0.53	QV				
4+20	0.1540	0.54	QV				
4+25	0.1578	0.54	QV				
4+30	0.1615	0.54	QV				
4+35	0.1653	0.55	QV				
4+40	0.1691	0.55	QV				
4+45	0.1729	0.55	QV				
4+50	0.1767	0.56	QV				
4+55	0.1806	0.56	QV				
5+ 0	0.1844	0.56	QV				
5+ 5	0.1883	0.57	QV				
5+10	0.1922	0.57	QV				
5+15	0.1962	0.57	QV				
5+20	0.2002	0.58	QV				
5+25	0.2041	0.58	QV				
5+30	0.2082	0.58	QV				
5+35	0.2122	0.59	QV				
5+40	0.2163	0.59	QV				
5+45	0.2204	0.59	QV				
5+50	0.2245	0.60	QV				
5+55	0.2286	0.60	QV				
6+ 0	0.2328	0.61	QV				
6+ 5	0.2370	0.61	QV				
6+10	0.2412	0.61	QV				
6+15	0.2454	0.62	QV				
6+20	0.2497	0.62	Q V				
6+25	0.2540	0.63	Q V				
6+30	0.2584	0.63	Q V				
6+35	0.2627	0.63	Q V				
6+40	0.2671	0.64	Q V				
6+45	0.2715	0.64	Q V				
6+50	0.2760	0.65	Q V				
6+55	0.2805	0.65	Q V				
7+ 0	0.2850	0.66	Q V				
7+ 5	0.2895	0.66	Q V				
7+10	0.2941	0.67	Q V				
7+15	0.2987	0.67	Q V				
7+20	0.3034	0.67	Q V				
7+25	0.3081	0.68	Q V				
7+30	0.3128	0.68	Q V				
7+35	0.3175	0.69	Q V				
7+40	0.3223	0.70	Q V				

7+45	0.3271	0.70	Q V	|	|	|	|
7+50	0.3320	0.71	Q V	|	|	|	|
7+55	0.3369	0.71	Q V	|	|	|	|
8+ 0	0.3418	0.72	Q V	|	|	|	|
8+ 5	0.3468	0.72	Q V	|	|	|	|
8+10	0.3518	0.73	Q V	|	|	|	|
8+15	0.3569	0.73	Q V	|	|	|	|
8+20	0.3620	0.74	Q V	|	|	|	|
8+25	0.3671	0.75	Q V	|	|	|	|
8+30	0.3723	0.75	Q V	|	|	|	|
8+35	0.3775	0.76	Q V	|	|	|	|
8+40	0.3828	0.77	Q V	|	|	|	|
8+45	0.3881	0.77	Q V	|	|	|	|
8+50	0.3935	0.78	Q V	|	|	|	|
8+55	0.3989	0.79	Q V	|	|	|	|
9+ 0	0.4044	0.79	Q V	|	|	|	|
9+ 5	0.4099	0.80	Q V	|	|	|	|
9+10	0.4154	0.81	Q V	|	|	|	|
9+15	0.4210	0.81	Q V	|	|	|	|
9+20	0.4267	0.82	Q V	|	|	|	|
9+25	0.4324	0.83	Q V	|	|	|	|
9+30	0.4382	0.84	Q V	|	|	|	|
9+35	0.4440	0.85	Q V	|	|	|	|
9+40	0.4499	0.85	Q V	|	|	|	|
9+45	0.4558	0.86	Q V	|	|	|	|
9+50	0.4618	0.87	Q V	|	|	|	|
9+55	0.4679	0.88	Q V	|	|	|	|
10+ 0	0.4740	0.89	Q V	|	|	|	|
10+ 5	0.4802	0.90	Q V	|	|	|	|
10+10	0.4865	0.91	Q V	|	|	|	|
10+15	0.4928	0.92	Q V	|	|	|	|
10+20	0.4992	0.93	Q V	|	|	|	|
10+25	0.5056	0.94	Q V	|	|	|	|
10+30	0.5122	0.95	Q V	|	|	|	|
10+35	0.5188	0.96	Q V	|	|	|	|
10+40	0.5254	0.97	Q V	|	|	|	|
10+45	0.5322	0.98	Q V	|	|	|	|
10+50	0.5390	0.99	Q V	|	|	|	|
10+55	0.5460	1.00	Q V	|	|	|	|
11+ 0	0.5530	1.02	Q V	|	|	|	|
11+ 5	0.5600	1.03	Q V	|	|	|	|
11+10	0.5672	1.04	Q V	|	|	|	|
11+15	0.5745	1.06	Q V	|	|	|	|
11+20	0.5819	1.07	Q V	|	|	|	|
11+25	0.5893	1.08	Q V	|	|	|	|
11+30	0.5969	1.10	Q V	|	|	|	|
11+35	0.6046	1.11	Q V	|	|	|	|
11+40	0.6123	1.13	Q V	|	|	|	|
11+45	0.6202	1.14	Q V	|	|	|	|
11+50	0.6282	1.16	Q V	|	|	|	|
11+55	0.6363	1.18	Q V	|	|	|	|
12+ 0	0.6445	1.20	Q V	|	|	|	|
12+ 5	0.6529	1.21	Q V	|	|	|	|
12+10	0.6614	1.24	Q V	|	|	|	|
12+15	0.6701	1.27	Q V	|	|	|	|
12+20	0.6791	1.30	Q V	|	|	|	|
12+25	0.6883	1.33	Q V	|	|	|	|
12+30	0.6976	1.36	Q V	|	|	|	|
12+35	0.7071	1.38	Q V	|	|	|	|

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12+40       0.7169      1.41  Q    V    |          |          |          |
12+45       0.7268      1.44  Q    V    |          |          |          |
12+50       0.7369      1.47  Q    V    |          |          |          |
12+55       0.7472      1.50  Q     V   |          |          |          |
13+ 0       0.7577      1.53  Q     V   |          |          |          |
13+ 5       0.7684      1.56  Q     V   |          |          |          |
13+10       0.7793      1.59  Q     V   |          |          |          |
13+15       0.7905      1.62  Q     V   |          |          |          |
13+20       0.8019      1.66  Q     V   |          |          |          |
13+25       0.8136      1.69  Q     V   |          |          |          |
13+30       0.8255      1.73  Q     V   |          |          |          |
13+35       0.8377      1.77  |Q    V   |          |          |          |
13+40       0.8502      1.81  |Q    V   |          |          |          |
13+45       0.8630      1.86  |Q     V  |          |          |          |
13+50       0.8761      1.90  |Q     V  |          |          |          |
13+55       0.8895      1.95  |Q     V  |          |          |          |
14+ 0       0.9033      2.01  |Q     V  |          |          |          |
14+ 5       0.9176      2.06  |Q     V  |          |          |          |
14+10       0.9322      2.12  |Q     V  |          |          |          |
14+15       0.9473      2.19  |Q     V  |          |          |          |
14+20       0.9628      2.26  |Q     V  |          |          |          |
14+25       0.9789      2.34  |Q     V  |          |          |          |
14+30       0.9956      2.42  |Q      V |          |          |          |
14+35       1.0128      2.50  |Q      V |          |          |          |
14+40       1.0307      2.60  |Q      V |          |          |          |
14+45       1.0493      2.70  |Q      V |          |          |          |
14+50       1.0686      2.81  |Q      V |          |          |          |
14+55       1.0888      2.93  |Q      V |          |          |          |
15+ 0       1.1100      3.07  |Q       V|          |          |          |
15+ 5       1.1321      3.22  |Q       V|          |          |          |
15+10       1.1555      3.39  |Q       V|          |          |          |
15+15       1.1802      3.59  | Q      V|          |          |          |
15+20       1.2064      3.81  | Q      V|          |          |          |
15+25       1.2347      4.10  | Q       V          |          |          |
15+30       1.2661      4.56  | Q       V          |          |          |
15+35       1.3029      5.35  |  Q      V          |          |          |
15+40       1.3472      6.43  |  Q      V          |          |          |
15+45       1.3991      7.53  |   Q     |V         |          |          |
15+50       1.4599      8.84  |    Q    |V         |          |          |
15+55       1.5334     10.66  |     Q   | V        |          |          |
16+ 0       1.6264     13.51  |      Q  |  V       |          |          |
16+ 5       1.7671     20.42  |         |Q  V      |          |          |
16+10       1.9994     33.73  |         |     V  Q |          |          |
16+15       2.3773     54.87  |         |        V |          |Q         |
16+20       2.8220     64.58  |         |          | V        |     Q    |
16+25       3.1394     46.09  |         |          |    VQ    |          |
16+30       3.3640     32.61  |         |       Q  |      V   |          |
16+35       3.5380     25.27  |         |   Q      |       V  |          |
16+40       3.6764     20.09  |         |Q         |        V |          |
16+45       3.7895     16.42  |        Q|          |         V          |
16+50       3.8852     13.91  |      Q  |          |         |V         |
16+55       3.9687     12.12  |     Q   |          |         | V        |
17+ 0       4.0400     10.36  |    Q    |          |         | V        |
17+ 5       4.1013      8.89  |    Q    |          |         |  V       |
17+10       4.1563      7.99  |   Q     |          |         |  V       |
17+15       4.2056      7.15  |   Q     |          |         |   V      |
17+20       4.2493      6.35  |  Q      |          |         |   V      |
17+25       4.2887      5.72  |  Q      |          |         |   V      |
17+30       4.3240      5.13  | Q       |          |         |    V     |
```

17+35	4.3561	4.66	| Q	|	|	|	V |
17+40	4.3843	4.10	| Q	|	|	|	V |
17+45	4.4099	3.71	| Q	|	|	|	V |
17+50	4.4321	3.22	|Q	|	|	|	V |
17+55	4.4529	3.02	|Q	|	|	|	V |
18+ 0	4.4732	2.96	|Q	|	|	|	V |
18+ 5	4.4928	2.84	|Q	|	|	|	V |
18+10	4.5114	2.70	|Q	|	|	|	V |
18+15	4.5284	2.46	|Q	|	|	|	V |
18+20	4.5430	2.13	|Q	|	|	|	V |
18+25	4.5566	1.97	|Q	|	|	|	V |
18+30	4.5686	1.75	Q	|	|	|	V |
18+35	4.5785	1.43	Q	|	|	|	V |
18+40	4.5878	1.35	Q	|	|	|	V |
18+45	4.5967	1.29	Q	|	|	|	V |
18+50	4.6052	1.24	Q	|	|	|	V |
18+55	4.6135	1.20	Q	|	|	|	V |
19+ 0	4.6214	1.16	Q	|	|	|	V |
19+ 5	4.6292	1.12	Q	|	|	|	V |
19+10	4.6367	1.09	Q	|	|	|	V |
19+15	4.6440	1.06	Q	|	|	|	V |
19+20	4.6511	1.03	Q	|	|	|	V |
19+25	4.6580	1.00	Q	|	|	|	V |
19+30	4.6647	0.98	Q	|	|	|	V |
19+35	4.6713	0.96	Q	|	|	|	V |
19+40	4.6778	0.93	Q	|	|	|	V |
19+45	4.6840	0.91	Q	|	|	|	V |
19+50	4.6902	0.89	Q	|	|	|	V |
19+55	4.6962	0.88	Q	|	|	|	V |
20+ 0	4.7021	0.86	Q	|	|	|	V |
20+ 5	4.7079	0.84	Q	|	|	|	V |
20+10	4.7136	0.82	Q	|	|	|	V |
20+15	4.7192	0.81	Q	|	|	|	V |
20+20	4.7246	0.79	Q	|	|	|	V |
20+25	4.7300	0.78	Q	|	|	|	V |
20+30	4.7353	0.77	Q	|	|	|	V |
20+35	4.7405	0.75	Q	|	|	|	V |
20+40	4.7456	0.74	Q	|	|	|	V |
20+45	4.7506	0.73	Q	|	|	|	V |
20+50	4.7555	0.72	Q	|	|	|	V |
20+55	4.7604	0.71	Q	|	|	|	V |
21+ 0	4.7652	0.69	Q	|	|	|	V |
21+ 5	4.7699	0.68	Q	|	|	|	V |
21+10	4.7745	0.67	Q	|	|	|	V |
21+15	4.7791	0.66	Q	|	|	|	V |
21+20	4.7836	0.66	Q	|	|	|	V |
21+25	4.7881	0.65	Q	|	|	|	V |
21+30	4.7925	0.64	Q	|	|	|	V |
21+35	4.7968	0.63	Q	|	|	|	V |
21+40	4.8011	0.62	Q	|	|	|	V|
21+45	4.8053	0.61	Q	|	|	|	V|
21+50	4.8094	0.60	Q	|	|	|	V|
21+55	4.8135	0.60	Q	|	|	|	V|
22+ 0	4.8176	0.59	Q	|	|	|	V|
22+ 5	4.8216	0.58	Q	|	|	|	V|
22+10	4.8256	0.58	Q	|	|	|	V|
22+15	4.8295	0.57	Q	|	|	|	V|
22+20	4.8334	0.56	Q	|	|	|	V|
22+25	4.8372	0.56	Q	|	|	|	V|

22+30	4.8410	0.55	Q	|	|	|	V|
22+35	4.8447	0.54	Q	|	|	|	V|
22+40	4.8484	0.54	Q	|	|	|	V|
22+45	4.8521	0.53	Q	|	|	|	V|
22+50	4.8557	0.53	Q	|	|	|	V|
22+55	4.8593	0.52	Q	|	|	|	V|
23+ 0	4.8628	0.51	Q	|	|	|	V|
23+ 5	4.8663	0.51	Q	|	|	|	V|
23+10	4.8698	0.50	Q	|	|	|	V|
23+15	4.8732	0.50	Q	|	|	|	V|
23+20	4.8766	0.49	Q	|	|	|	V|
23+25	4.8800	0.49	Q	|	|	|	V|
23+30	4.8833	0.48	Q	|	|	|	V|
23+35	4.8866	0.48	Q	|	|	|	V|
23+40	4.8899	0.48	Q	|	|	|	V|
23+45	4.8931	0.47	Q	|	|	|	V|
23+50	4.8963	0.47	Q	|	|	|	V|
23+55	4.8995	0.46	Q	|	|	|	V|
24+ 0	4.9027	0.46	Q	|	|	|	V|
24+ 5	4.9058	0.45	Q	|	|	|	V|
24+10	4.9086	0.42	Q	|	|	|	V|
24+15	4.9110	0.35	Q	|	|	|	V|
24+20	4.9127	0.25	Q	|	|	|	V|
24+25	4.9140	0.19	Q	|	|	|	V|
24+30	4.9150	0.15	Q	|	|	|	V|
24+35	4.9158	0.12	Q	|	|	|	V|
24+40	4.9165	0.10	Q	|	|	|	V|
24+45	4.9171	0.08	Q	|	|	|	V|
24+50	4.9176	0.07	Q	|	|	|	V|
24+55	4.9180	0.06	Q	|	|	|	V|
25+ 0	4.9183	0.05	Q	|	|	|	V|
25+ 5	4.9186	0.04	Q	|	|	|	V|
25+10	4.9188	0.04	Q	|	|	|	V|
25+15	4.9191	0.03	Q	|	|	|	V|
25+20	4.9192	0.03	Q	|	|	|	V|
25+25	4.9194	0.02	Q	|	|	|	V|
25+30	4.9195	0.02	Q	|	|	|	V|
25+35	4.9196	0.01	Q	|	|	|	V|
25+40	4.9197	0.01	Q	|	|	|	V|
25+45	4.9198	0.01	Q	|	|	|	V|
25+50	4.9198	0.01	Q	|	|	|	V|
25+55	4.9199	0.01	Q	|	|	|	V|
26+ 0	4.9199	0.01	Q	|	|	|	V|
26+ 5	4.9199	0.00	Q	|	|	|	V|
26+10	4.9200	0.00	Q	|	|	|	V|
26+15	4.9200	0.00	Q	|	|	|	V|
26+20	4.9200	0.00	Q	|	|	|	V|
26+25	4.9200	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 10A
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
13.57	1	1.27
Rainfall data for year 100		
13.57	6	1.84
Rainfall data for year 100		
13.57	24	2.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	13.57	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
12.21	0.900	78.0	92.8	0.78	0.695
1.36	0.100	98.0	98.0	0.20	0.905

Area-averaged catchment yield fraction, Y = 0.716
Area-averaged low loss fraction, Yb = 0.284
User entry of time of concentration = 0.990 (hours)
++
Watershed area = 13.57(Ac.)
Catchment Lag time = 0.792 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 10.5219
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.284 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.400(In)

Rainfall depth area reduction factors:
Using a total area of 13.57(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.602(In)
30-minute factor = 0.999 Adjusted rainfall = 1.031(In)
1-hour factor = 0.999 Adjusted rainfall = 1.269(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.400(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 164.11 (CFS))	
1	0.463	0.760
2	1.666	1.975
3	3.583	3.146
4	6.221	4.329
5	9.707	5.722
6	15.544	9.579
7	24.534	14.753
8	34.636	16.579
9	43.126	13.932
10	49.818	10.983
11	55.382	9.131
12	59.759	7.184
13	63.335	5.869

14	66.399	5.028
15	69.108	4.446
16	71.576	4.051
17	73.705	3.494
18	75.606	3.120
19	77.402	2.947
20	78.983	2.595
21	80.372	2.279
22	81.713	2.201
23	82.868	1.895
24	84.001	1.859
25	85.047	1.718
26	86.058	1.658
27	87.005	1.555
28	87.848	1.384
29	88.665	1.340
30	89.324	1.081
31	89.955	1.036
32	90.561	0.994
33	91.150	0.967
34	91.716	0.930
35	92.224	0.834
36	92.727	0.824
37	93.198	0.774
38	93.661	0.760
39	94.073	0.676
40	94.431	0.587
41	94.789	0.587
42	95.146	0.587
43	95.502	0.583
44	95.800	0.490
45	96.074	0.449
46	96.347	0.449
47	96.621	0.449
48	96.885	0.433
49	97.086	0.329
50	97.275	0.311
51	97.464	0.311
52	97.654	0.311
53	97.821	0.274
54	97.929	0.178
55	98.034	0.173
56	98.140	0.173
57	98.245	0.173
58	98.360	0.189
59	98.486	0.207
60	98.613	0.207
61	98.739	0.207
62	98.865	0.207
63	98.991	0.207
64	99.118	0.207
65	99.244	0.207
66	99.370	0.207
67	99.490	0.196
68	99.564	0.122
69	99.630	0.108
70	99.695	0.108
71	99.761	0.108
72	99.827	0.108

73	99.893	0.108
74	99.958	0.108
75	100.000	0.068

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6022	0.6022
2	0.7415	0.1392
3	0.8374	0.0959
4	0.9128	0.0755
5	0.9760	0.0632
6	1.0309	0.0549
7	1.0797	0.0488
8	1.1238	0.0441
9	1.1642	0.0404
10	1.2016	0.0374
11	1.2365	0.0349
12	1.2692	0.0327
13	1.2904	0.0212
14	1.3104	0.0200
15	1.3293	0.0189
16	1.3472	0.0179
17	1.3643	0.0170
18	1.3806	0.0163
19	1.3961	0.0156
20	1.4111	0.0149
21	1.4254	0.0144
22	1.4392	0.0138
23	1.4526	0.0133
24	1.4654	0.0129
25	1.4779	0.0125
26	1.4900	0.0121
27	1.5017	0.0117
28	1.5131	0.0114
29	1.5241	0.0111
30	1.5349	0.0108
31	1.5453	0.0105
32	1.5555	0.0102
33	1.5655	0.0100
34	1.5752	0.0097
35	1.5847	0.0095
36	1.5940	0.0093
37	1.6031	0.0091
38	1.6120	0.0089
39	1.6206	0.0087
40	1.6292	0.0085
41	1.6375	0.0083
42	1.6457	0.0082
43	1.6537	0.0080
44	1.6616	0.0079
45	1.6694	0.0077
46	1.6770	0.0076
47	1.6845	0.0075
48	1.6918	0.0074
49	1.6991	0.0072
50	1.7062	0.0071
51	1.7132	0.0070
52	1.7201	0.0069
53	1.7269	0.0068

54	1.7336	0.0067
55	1.7402	0.0066
56	1.7467	0.0065
57	1.7531	0.0064
58	1.7594	0.0063
59	1.7656	0.0062
60	1.7718	0.0062
61	1.7779	0.0061
62	1.7839	0.0060
63	1.7898	0.0059
64	1.7956	0.0058
65	1.8014	0.0058
66	1.8071	0.0057
67	1.8127	0.0056
68	1.8183	0.0056
69	1.8238	0.0055
70	1.8292	0.0054
71	1.8346	0.0054
72	1.8399	0.0053
73	1.8448	0.0049
74	1.8496	0.0048
75	1.8544	0.0048
76	1.8591	0.0047
77	1.8638	0.0047
78	1.8684	0.0046
79	1.8729	0.0046
80	1.8775	0.0045
81	1.8819	0.0045
82	1.8864	0.0044
83	1.8908	0.0044
84	1.8951	0.0043
85	1.8994	0.0043
86	1.9037	0.0043
87	1.9079	0.0042
88	1.9121	0.0042
89	1.9162	0.0041
90	1.9203	0.0041
91	1.9244	0.0041
92	1.9284	0.0040
93	1.9324	0.0040
94	1.9364	0.0040
95	1.9403	0.0039
96	1.9442	0.0039
97	1.9481	0.0039
98	1.9519	0.0038
99	1.9557	0.0038
100	1.9595	0.0038
101	1.9632	0.0037
102	1.9670	0.0037
103	1.9706	0.0037
104	1.9743	0.0037
105	1.9779	0.0036
106	1.9815	0.0036
107	1.9851	0.0036
108	1.9886	0.0035
109	1.9921	0.0035
110	1.9956	0.0035
111	1.9991	0.0035
112	2.0025	0.0034

113	2.0060	0.0034
114	2.0093	0.0034
115	2.0127	0.0034
116	2.0161	0.0033
117	2.0194	0.0033
118	2.0227	0.0033
119	2.0259	0.0033
120	2.0292	0.0033
121	2.0324	0.0032
122	2.0356	0.0032
123	2.0388	0.0032
124	2.0420	0.0032
125	2.0451	0.0031
126	2.0483	0.0031
127	2.0514	0.0031
128	2.0545	0.0031
129	2.0575	0.0031
130	2.0606	0.0030
131	2.0636	0.0030
132	2.0666	0.0030
133	2.0696	0.0030
134	2.0726	0.0030
135	2.0755	0.0030
136	2.0785	0.0029
137	2.0814	0.0029
138	2.0843	0.0029
139	2.0872	0.0029
140	2.0900	0.0029
141	2.0929	0.0029
142	2.0957	0.0028
143	2.0986	0.0028
144	2.1014	0.0028
145	2.1042	0.0028
146	2.1069	0.0028
147	2.1097	0.0028
148	2.1124	0.0027
149	2.1152	0.0027
150	2.1179	0.0027
151	2.1206	0.0027
152	2.1233	0.0027
153	2.1259	0.0027
154	2.1286	0.0027
155	2.1312	0.0026
156	2.1339	0.0026
157	2.1365	0.0026
158	2.1391	0.0026
159	2.1417	0.0026
160	2.1442	0.0026
161	2.1468	0.0026
162	2.1493	0.0025
163	2.1519	0.0025
164	2.1544	0.0025
165	2.1569	0.0025
166	2.1594	0.0025
167	2.1619	0.0025
168	2.1644	0.0025
169	2.1668	0.0025
170	2.1693	0.0025
171	2.1717	0.0024

172	2.1742	0.0024
173	2.1766	0.0024
174	2.1790	0.0024
175	2.1814	0.0024
176	2.1838	0.0024
177	2.1861	0.0024
178	2.1885	0.0024
179	2.1909	0.0024
180	2.1932	0.0023
181	2.1955	0.0023
182	2.1978	0.0023
183	2.2002	0.0023
184	2.2025	0.0023
185	2.2047	0.0023
186	2.2070	0.0023
187	2.2093	0.0023
188	2.2116	0.0023
189	2.2138	0.0023
190	2.2160	0.0022
191	2.2183	0.0022
192	2.2205	0.0022
193	2.2227	0.0022
194	2.2249	0.0022
195	2.2271	0.0022
196	2.2293	0.0022
197	2.2315	0.0022
198	2.2336	0.0022
199	2.2358	0.0022
200	2.2379	0.0021
201	2.2401	0.0021
202	2.2422	0.0021
203	2.2443	0.0021
204	2.2465	0.0021
205	2.2486	0.0021
206	2.2507	0.0021
207	2.2527	0.0021
208	2.2548	0.0021
209	2.2569	0.0021
210	2.2590	0.0021
211	2.2610	0.0021
212	2.2631	0.0021
213	2.2651	0.0020
214	2.2672	0.0020
215	2.2692	0.0020
216	2.2712	0.0020
217	2.2732	0.0020
218	2.2752	0.0020
219	2.2772	0.0020
220	2.2792	0.0020
221	2.2812	0.0020
222	2.2832	0.0020
223	2.2851	0.0020
224	2.2871	0.0020
225	2.2890	0.0020
226	2.2910	0.0019
227	2.2929	0.0019
228	2.2949	0.0019
229	2.2968	0.0019
230	2.2987	0.0019

231	2.3006	0.0019
232	2.3025	0.0019
233	2.3044	0.0019
234	2.3063	0.0019
235	2.3082	0.0019
236	2.3101	0.0019
237	2.3120	0.0019
238	2.3138	0.0019
239	2.3157	0.0019
240	2.3175	0.0019
241	2.3194	0.0018
242	2.3212	0.0018
243	2.3231	0.0018
244	2.3249	0.0018
245	2.3267	0.0018
246	2.3285	0.0018
247	2.3303	0.0018
248	2.3321	0.0018
249	2.3339	0.0018
250	2.3357	0.0018
251	2.3375	0.0018
252	2.3393	0.0018
253	2.3411	0.0018
254	2.3429	0.0018
255	2.3446	0.0018
256	2.3464	0.0018
257	2.3481	0.0018
258	2.3499	0.0017
259	2.3516	0.0017
260	2.3534	0.0017
261	2.3551	0.0017
262	2.3568	0.0017
263	2.3585	0.0017
264	2.3603	0.0017
265	2.3620	0.0017
266	2.3637	0.0017
267	2.3654	0.0017
268	2.3671	0.0017
269	2.3688	0.0017
270	2.3705	0.0017
271	2.3721	0.0017
272	2.3738	0.0017
273	2.3755	0.0017
274	2.3771	0.0017
275	2.3788	0.0017
276	2.3805	0.0017
277	2.3821	0.0017
278	2.3838	0.0016
279	2.3854	0.0016
280	2.3870	0.0016
281	2.3887	0.0016
282	2.3903	0.0016
283	2.3919	0.0016
284	2.3935	0.0016
285	2.3951	0.0016
286	2.3968	0.0016
287	2.3984	0.0016
288	2.4000	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0005	0.0011
2	0.0016	0.0005	0.0011
3	0.0016	0.0005	0.0012
4	0.0016	0.0005	0.0012
5	0.0016	0.0005	0.0012
6	0.0016	0.0005	0.0012
7	0.0016	0.0005	0.0012
8	0.0016	0.0005	0.0012
9	0.0017	0.0005	0.0012
10	0.0017	0.0005	0.0012
11	0.0017	0.0005	0.0012
12	0.0017	0.0005	0.0012
13	0.0017	0.0005	0.0012
14	0.0017	0.0005	0.0012
15	0.0017	0.0005	0.0012
16	0.0017	0.0005	0.0012
17	0.0017	0.0005	0.0012
18	0.0017	0.0005	0.0012
19	0.0017	0.0005	0.0012
20	0.0017	0.0005	0.0012
21	0.0017	0.0005	0.0013
22	0.0018	0.0005	0.0013
23	0.0018	0.0005	0.0013
24	0.0018	0.0005	0.0013
25	0.0018	0.0005	0.0013
26	0.0018	0.0005	0.0013
27	0.0018	0.0005	0.0013
28	0.0018	0.0005	0.0013
29	0.0018	0.0005	0.0013
30	0.0018	0.0005	0.0013
31	0.0018	0.0005	0.0013
32	0.0018	0.0005	0.0013
33	0.0019	0.0005	0.0013
34	0.0019	0.0005	0.0013
35	0.0019	0.0005	0.0013
36	0.0019	0.0005	0.0013
37	0.0019	0.0005	0.0014
38	0.0019	0.0005	0.0014
39	0.0019	0.0005	0.0014
40	0.0019	0.0005	0.0014
41	0.0019	0.0005	0.0014
42	0.0019	0.0006	0.0014
43	0.0020	0.0006	0.0014
44	0.0020	0.0006	0.0014
45	0.0020	0.0006	0.0014
46	0.0020	0.0006	0.0014
47	0.0020	0.0006	0.0014
48	0.0020	0.0006	0.0014
49	0.0020	0.0006	0.0014
50	0.0020	0.0006	0.0015
51	0.0020	0.0006	0.0015
52	0.0021	0.0006	0.0015
53	0.0021	0.0006	0.0015
54	0.0021	0.0006	0.0015
55	0.0021	0.0006	0.0015

56	0.0021	0.0006	0.0015
57	0.0021	0.0006	0.0015
58	0.0021	0.0006	0.0015
59	0.0021	0.0006	0.0015
60	0.0021	0.0006	0.0015
61	0.0022	0.0006	0.0016
62	0.0022	0.0006	0.0016
63	0.0022	0.0006	0.0016
64	0.0022	0.0006	0.0016
65	0.0022	0.0006	0.0016
66	0.0022	0.0006	0.0016
67	0.0023	0.0006	0.0016
68	0.0023	0.0006	0.0016
69	0.0023	0.0006	0.0016
70	0.0023	0.0007	0.0016
71	0.0023	0.0007	0.0017
72	0.0023	0.0007	0.0017
73	0.0023	0.0007	0.0017
74	0.0024	0.0007	0.0017
75	0.0024	0.0007	0.0017
76	0.0024	0.0007	0.0017
77	0.0024	0.0007	0.0017
78	0.0024	0.0007	0.0017
79	0.0024	0.0007	0.0017
80	0.0025	0.0007	0.0018
81	0.0025	0.0007	0.0018
82	0.0025	0.0007	0.0018
83	0.0025	0.0007	0.0018
84	0.0025	0.0007	0.0018
85	0.0025	0.0007	0.0018
86	0.0026	0.0007	0.0018
87	0.0026	0.0007	0.0019
88	0.0026	0.0007	0.0019
89	0.0026	0.0007	0.0019
90	0.0026	0.0008	0.0019
91	0.0027	0.0008	0.0019
92	0.0027	0.0008	0.0019
93	0.0027	0.0008	0.0019
94	0.0027	0.0008	0.0020
95	0.0028	0.0008	0.0020
96	0.0028	0.0008	0.0020
97	0.0028	0.0008	0.0020
98	0.0028	0.0008	0.0020
99	0.0029	0.0008	0.0020
100	0.0029	0.0008	0.0021
101	0.0029	0.0008	0.0021
102	0.0029	0.0008	0.0021
103	0.0030	0.0008	0.0021
104	0.0030	0.0008	0.0021
105	0.0030	0.0009	0.0022
106	0.0030	0.0009	0.0022
107	0.0031	0.0009	0.0022
108	0.0031	0.0009	0.0022
109	0.0031	0.0009	0.0022
110	0.0031	0.0009	0.0023
111	0.0032	0.0009	0.0023
112	0.0032	0.0009	0.0023
113	0.0033	0.0009	0.0023
114	0.0033	0.0009	0.0023

115	0.0033	0.0009	0.0024
116	0.0033	0.0009	0.0024
117	0.0034	0.0010	0.0024
118	0.0034	0.0010	0.0024
119	0.0035	0.0010	0.0025
120	0.0035	0.0010	0.0025
121	0.0035	0.0010	0.0025
122	0.0036	0.0010	0.0026
123	0.0036	0.0010	0.0026
124	0.0037	0.0010	0.0026
125	0.0037	0.0011	0.0027
126	0.0037	0.0011	0.0027
127	0.0038	0.0011	0.0027
128	0.0038	0.0011	0.0027
129	0.0039	0.0011	0.0028
130	0.0039	0.0011	0.0028
131	0.0040	0.0011	0.0029
132	0.0040	0.0011	0.0029
133	0.0041	0.0012	0.0029
134	0.0041	0.0012	0.0030
135	0.0042	0.0012	0.0030
136	0.0043	0.0012	0.0031
137	0.0043	0.0012	0.0031
138	0.0044	0.0012	0.0031
139	0.0045	0.0013	0.0032
140	0.0045	0.0013	0.0032
141	0.0046	0.0013	0.0033
142	0.0047	0.0013	0.0033
143	0.0048	0.0014	0.0034
144	0.0048	0.0014	0.0034
145	0.0053	0.0015	0.0038
146	0.0054	0.0015	0.0039
147	0.0055	0.0016	0.0039
148	0.0056	0.0016	0.0040
149	0.0057	0.0016	0.0041
150	0.0058	0.0016	0.0041
151	0.0059	0.0017	0.0042
152	0.0060	0.0017	0.0043
153	0.0062	0.0017	0.0044
154	0.0062	0.0018	0.0045
155	0.0064	0.0018	0.0046
156	0.0065	0.0018	0.0047
157	0.0067	0.0019	0.0048
158	0.0068	0.0019	0.0049
159	0.0070	0.0020	0.0050
160	0.0071	0.0020	0.0051
161	0.0074	0.0021	0.0053
162	0.0075	0.0021	0.0054
163	0.0077	0.0022	0.0055
164	0.0079	0.0022	0.0056
165	0.0082	0.0023	0.0059
166	0.0083	0.0024	0.0060
167	0.0087	0.0025	0.0062
168	0.0089	0.0025	0.0064
169	0.0093	0.0026	0.0067
170	0.0095	0.0027	0.0068
171	0.0100	0.0028	0.0071
172	0.0102	0.0029	0.0073
173	0.0108	0.0031	0.0077

174	0.0111	0.0031	0.0079
175	0.0117	0.0033	0.0084
176	0.0121	0.0034	0.0086
177	0.0129	0.0037	0.0092
178	0.0133	0.0038	0.0095
179	0.0144	0.0041	0.0103
180	0.0149	0.0042	0.0107
181	0.0163	0.0046	0.0117
182	0.0170	0.0048	0.0122
183	0.0189	0.0054	0.0135
184	0.0200	0.0057	0.0143
185	0.0327	0.0093	0.0234
186	0.0349	0.0099	0.0250
187	0.0404	0.0105	0.0299
188	0.0441	0.0105	0.0336
189	0.0549	0.0105	0.0444
190	0.0632	0.0105	0.0527
191	0.0959	0.0105	0.0854
192	0.1392	0.0105	0.1287
193	0.6022	0.0105	0.5917
194	0.0755	0.0105	0.0650
195	0.0488	0.0105	0.0383
196	0.0374	0.0105	0.0269
197	0.0212	0.0060	0.0152
198	0.0179	0.0051	0.0128
199	0.0156	0.0044	0.0111
200	0.0138	0.0039	0.0099
201	0.0125	0.0035	0.0089
202	0.0114	0.0032	0.0081
203	0.0105	0.0030	0.0075
204	0.0097	0.0028	0.0070
205	0.0091	0.0026	0.0065
206	0.0085	0.0024	0.0061
207	0.0080	0.0023	0.0058
208	0.0076	0.0022	0.0055
209	0.0072	0.0021	0.0052
210	0.0069	0.0020	0.0049
211	0.0066	0.0019	0.0047
212	0.0063	0.0018	0.0045
213	0.0061	0.0017	0.0043
214	0.0058	0.0017	0.0042
215	0.0056	0.0016	0.0040
216	0.0054	0.0015	0.0039
217	0.0049	0.0014	0.0035
218	0.0047	0.0013	0.0034
219	0.0046	0.0013	0.0033
220	0.0044	0.0013	0.0032
221	0.0043	0.0012	0.0031
222	0.0042	0.0012	0.0030
223	0.0041	0.0012	0.0029
224	0.0040	0.0011	0.0028
225	0.0039	0.0011	0.0028
226	0.0038	0.0011	0.0027
227	0.0037	0.0010	0.0026
228	0.0036	0.0010	0.0026
229	0.0035	0.0010	0.0025
230	0.0034	0.0010	0.0025
231	0.0034	0.0010	0.0024
232	0.0033	0.0009	0.0024

233	0.0032	0.0009	0.0023
234	0.0032	0.0009	0.0023
235	0.0031	0.0009	0.0022
236	0.0030	0.0009	0.0022
237	0.0030	0.0008	0.0021
238	0.0029	0.0008	0.0021
239	0.0029	0.0008	0.0021
240	0.0028	0.0008	0.0020
241	0.0028	0.0008	0.0020
242	0.0027	0.0008	0.0020
243	0.0027	0.0008	0.0019
244	0.0027	0.0008	0.0019
245	0.0026	0.0007	0.0019
246	0.0026	0.0007	0.0018
247	0.0025	0.0007	0.0018
248	0.0025	0.0007	0.0018
249	0.0025	0.0007	0.0018
250	0.0024	0.0007	0.0017
251	0.0024	0.0007	0.0017
252	0.0024	0.0007	0.0017
253	0.0023	0.0007	0.0017
254	0.0023	0.0007	0.0016
255	0.0023	0.0006	0.0016
256	0.0022	0.0006	0.0016
257	0.0022	0.0006	0.0016
258	0.0022	0.0006	0.0016
259	0.0022	0.0006	0.0015
260	0.0021	0.0006	0.0015
261	0.0021	0.0006	0.0015
262	0.0021	0.0006	0.0015
263	0.0021	0.0006	0.0015
264	0.0020	0.0006	0.0015
265	0.0020	0.0006	0.0014
266	0.0020	0.0006	0.0014
267	0.0020	0.0006	0.0014
268	0.0019	0.0006	0.0014
269	0.0019	0.0005	0.0014
270	0.0019	0.0005	0.0014
271	0.0019	0.0005	0.0014
272	0.0019	0.0005	0.0013
273	0.0018	0.0005	0.0013
274	0.0018	0.0005	0.0013
275	0.0018	0.0005	0.0013
276	0.0018	0.0005	0.0013
277	0.0018	0.0005	0.0013
278	0.0018	0.0005	0.0013
279	0.0017	0.0005	0.0012
280	0.0017	0.0005	0.0012
281	0.0017	0.0005	0.0012
282	0.0017	0.0005	0.0012
283	0.0017	0.0005	0.0012
284	0.0017	0.0005	0.0012
285	0.0017	0.0005	0.0012
286	0.0016	0.0005	0.0012
287	0.0016	0.0005	0.0012
288	0.0016	0.0005	0.0012

Total soil rain loss = 0.45(In)

Total effective rainfall = 1.95(In)
Peak flow rate in flood hydrograph = 15.91(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.02	Q				
0+30	0.0005	0.03	Q				
0+35	0.0008	0.05	Q				
0+40	0.0013	0.07	Q				
0+45	0.0018	0.08	Q				
0+50	0.0025	0.09	Q				
0+55	0.0032	0.11	Q				
1+ 0	0.0040	0.11	Q				
1+ 5	0.0048	0.12	Q				
1+10	0.0057	0.13	Q				
1+15	0.0066	0.13	Q				
1+20	0.0076	0.14	Q				
1+25	0.0086	0.14	Q				
1+30	0.0096	0.15	Q				
1+35	0.0106	0.15	Q				
1+40	0.0117	0.16	Q				
1+45	0.0128	0.16	Q				
1+50	0.0139	0.16	Q				
1+55	0.0150	0.16	Q				
2+ 0	0.0162	0.17	Q				
2+ 5	0.0173	0.17	Q				
2+10	0.0185	0.17	Q				
2+15	0.0197	0.18	Q				
2+20	0.0210	0.18	Q				
2+25	0.0222	0.18	Q				
2+30	0.0235	0.18	Q				
2+35	0.0247	0.18	Q				
2+40	0.0260	0.19	Q				
2+45	0.0273	0.19	Q				
2+50	0.0286	0.19	Q				
2+55	0.0299	0.19	Q				
3+ 0	0.0313	0.19	Q				
3+ 5	0.0326	0.20	Q				
3+10	0.0340	0.20	Q				
3+15	0.0354	0.20	Q				
3+20	0.0367	0.20	Q				
3+25	0.0381	0.20	Q				
3+30	0.0396	0.20	Q				
3+35	0.0410	0.21	Q				
3+40	0.0424	0.21	Q				
3+45	0.0438	0.21	Q				
3+50	0.0453	0.21	Q				
3+55	0.0468	0.21	Q				

4+ 0	0.0482	0.21	Q				
4+ 5	0.0497	0.22	Q				
4+10	0.0512	0.22	Q				
4+15	0.0527	0.22	Q				
4+20	0.0542	0.22	Q				
4+25	0.0558	0.22	QV				
4+30	0.0573	0.22	QV				
4+35	0.0588	0.22	QV				
4+40	0.0604	0.23	QV				
4+45	0.0619	0.23	QV				
4+50	0.0635	0.23	QV				
4+55	0.0651	0.23	QV				
5+ 0	0.0667	0.23	QV				
5+ 5	0.0683	0.23	QV				
5+10	0.0699	0.23	QV				
5+15	0.0715	0.24	QV				
5+20	0.0732	0.24	QV				
5+25	0.0748	0.24	QV				
5+30	0.0765	0.24	QV				
5+35	0.0782	0.24	QV				
5+40	0.0798	0.24	QV				
5+45	0.0815	0.25	QV				
5+50	0.0832	0.25	QV				
5+55	0.0850	0.25	QV				
6+ 0	0.0867	0.25	QV				
6+ 5	0.0884	0.25	QV				
6+10	0.0902	0.25	QV				
6+15	0.0919	0.26	QV				
6+20	0.0937	0.26	QV				
6+25	0.0955	0.26	QV				
6+30	0.0973	0.26	QV				
6+35	0.0991	0.26	QV				
6+40	0.1009	0.26	QV				
6+45	0.1027	0.27	QV				
6+50	0.1046	0.27	QV				
6+55	0.1064	0.27	QV				
7+ 0	0.1083	0.27	QV				
7+ 5	0.1102	0.27	QV				
7+10	0.1121	0.27	Q V				
7+15	0.1140	0.28	Q V				
7+20	0.1159	0.28	Q V				
7+25	0.1178	0.28	Q V				
7+30	0.1198	0.28	Q V				
7+35	0.1217	0.28	Q V				
7+40	0.1237	0.29	Q V				
7+45	0.1257	0.29	Q V				
7+50	0.1277	0.29	Q V				
7+55	0.1297	0.29	Q V				
8+ 0	0.1317	0.29	Q V				
8+ 5	0.1338	0.30	Q V				
8+10	0.1358	0.30	Q V				
8+15	0.1379	0.30	Q V				
8+20	0.1400	0.30	Q V				
8+25	0.1421	0.31	Q V				
8+30	0.1442	0.31	Q V				
8+35	0.1464	0.31	Q V				
8+40	0.1485	0.31	Q V				
8+45	0.1507	0.32	Q V				
8+50	0.1529	0.32	Q V				

8+55	0.1551	0.32	Q V	|	|	|	|
9+ 0	0.1573	0.32	Q V	|	|	|	|
9+ 5	0.1596	0.33	Q V	|	|	|	|
9+10	0.1619	0.33	Q V	|	|	|	|
9+15	0.1641	0.33	Q V	|	|	|	|
9+20	0.1665	0.34	Q V	|	|	|	|
9+25	0.1688	0.34	Q V	|	|	|	|
9+30	0.1711	0.34	Q V	|	|	|	|
9+35	0.1735	0.34	Q V	|	|	|	|
9+40	0.1759	0.35	Q V	|	|	|	|
9+45	0.1783	0.35	Q V	|	|	|	|
9+50	0.1807	0.35	Q V	|	|	|	|
9+55	0.1832	0.36	Q V	|	|	|	|
10+ 0	0.1857	0.36	Q V	|	|	|	|
10+ 5	0.1882	0.36	Q V	|	|	|	|
10+10	0.1907	0.37	Q V	|	|	|	|
10+15	0.1933	0.37	Q V	|	|	|	|
10+20	0.1959	0.37	Q V	|	|	|	|
10+25	0.1985	0.38	Q V	|	|	|	|
10+30	0.2011	0.38	Q V	|	|	|	|
10+35	0.2038	0.39	Q V	|	|	|	|
10+40	0.2065	0.39	Q V	|	|	|	|
10+45	0.2092	0.39	Q V	|	|	|	|
10+50	0.2119	0.40	Q V	|	|	|	|
10+55	0.2147	0.40	Q V	|	|	|	|
11+ 0	0.2175	0.41	Q V	|	|	|	|
11+ 5	0.2204	0.41	Q V	|	|	|	|
11+10	0.2232	0.42	Q V	|	|	|	|
11+15	0.2261	0.42	Q V	|	|	|	|
11+20	0.2291	0.43	Q V	|	|	|	|
11+25	0.2321	0.43	Q V	|	|	|	|
11+30	0.2351	0.44	Q V	|	|	|	|
11+35	0.2381	0.44	Q V	|	|	|	|
11+40	0.2412	0.45	Q V	|	|	|	|
11+45	0.2443	0.45	Q V	|	|	|	|
11+50	0.2475	0.46	Q V	|	|	|	|
11+55	0.2507	0.47	Q V	|	|	|	|
12+ 0	0.2540	0.47	Q V	|	|	|	|
12+ 5	0.2573	0.48	Q V	|	|	|	|
12+10	0.2606	0.49	Q V	|	|	|	|
12+15	0.2640	0.49	Q V	|	|	|	|
12+20	0.2675	0.50	|Q V	|	|	|	|
12+25	0.2710	0.51	|Q V	|	|	|	|
12+30	0.2746	0.52	|Q V	|	|	|	|
12+35	0.2783	0.53	|Q V	|	|	|	|
12+40	0.2821	0.55	|Q V	|	|	|	|
12+45	0.2859	0.56	|Q V	|	|	|	|
12+50	0.2899	0.57	|Q V	|	|	|	|
12+55	0.2939	0.58	|Q V	|	|	|	|
13+ 0	0.2980	0.60	|Q V	|	|	|	|
13+ 5	0.3022	0.61	|Q V	|	|	|	|
13+10	0.3064	0.62	|Q V	|	|	|	|
13+15	0.3108	0.63	|Q V	|	|	|	|
13+20	0.3152	0.64	|Q V	|	|	|	|
13+25	0.3197	0.66	|Q V	|	|	|	|
13+30	0.3244	0.67	|Q V	|	|	|	|
13+35	0.3291	0.69	|Q V	|	|	|	|
13+40	0.3339	0.70	|Q V	|	|	|	|
13+45	0.3388	0.72	|Q V	|	|	|	|

13+50	0.3439	0.73	Q V				
13+55	0.3490	0.75	Q V				
14+ 0	0.3543	0.77	Q V				
14+ 5	0.3597	0.78	Q V				
14+10	0.3652	0.80	Q V				
14+15	0.3709	0.82	Q V				
14+20	0.3767	0.85	Q V				
14+25	0.3827	0.87	Q V				
14+30	0.3889	0.89	Q V				
14+35	0.3952	0.92	Q V				
14+40	0.4018	0.95	Q V				
14+45	0.4085	0.98	Q V				
14+50	0.4155	1.01	Q V				
14+55	0.4227	1.05	Q V				
15+ 0	0.4301	1.09	Q V				
15+ 5	0.4379	1.13	Q V				
15+10	0.4460	1.17	Q V				
15+15	0.4544	1.22	Q V				
15+20	0.4632	1.28	Q V				
15+25	0.4725	1.35	Q V				
15+30	0.4824	1.43	Q V				
15+35	0.4930	1.54	Q V				
15+40	0.5045	1.67	Q V				
15+45	0.5172	1.84	Q V				
15+50	0.5315	2.07	Q V				
15+55	0.5481	2.41	Q V				
16+ 0	0.5679	2.88	Q V				
16+ 5	0.5943	3.83	Q V				
16+10	0.6292	5.07	QV				
16+15	0.6728	6.34	Q				
16+20	0.7259	7.70	V Q				
16+25	0.7901	9.32	V Q				
16+30	0.8736	12.13	V Q				
16+35	0.9780	15.16	V Q				
16+40	1.0876	15.91	V Q				
16+45	1.1842	14.03	V Q				
16+50	1.2658	11.85	VQ				
16+55	1.3360	10.19	Q V				
17+ 0	1.3949	8.56	Q V				
17+ 5	1.4457	7.37	Q V				
17+10	1.4907	6.53	Q V				
17+15	1.5313	5.90	Q V				
17+20	1.5686	5.41	Q V				
17+25	1.6021	4.87	Q V				
17+30	1.6329	4.47	Q V				
17+35	1.6618	4.19	Q V				
17+40	1.6882	3.83	Q V				
17+45	1.7125	3.52	Q V				
17+50	1.7355	3.34	Q V				
17+55	1.7566	3.07	Q V				
18+ 0	1.7769	2.94	Q V				
18+ 5	1.7960	2.78	Q V				
18+10	1.8143	2.65	Q V				
18+15	1.8315	2.51	Q V				
18+20	1.8476	2.33	Q V				
18+25	1.8629	2.22	Q V				
18+30	1.8767	2.01	Q V				
18+35	1.8899	1.92	Q V				
18+40	1.9026	1.84	Q V				

18+45	1.9147	1.77	Q			V
18+50	1.9264	1.69	Q			V
18+55	1.9374	1.60	Q			V
19+ 0	1.9481	1.55	Q			V
19+ 5	1.9582	1.48	Q			V
19+10	1.9680	1.42	Q			V
19+15	1.9772	1.34	Q			V
19+20	1.9859	1.26	Q			V
19+25	1.9943	1.22	Q			V
19+30	2.0025	1.19	Q			V
19+35	2.0104	1.15	Q			V
19+40	2.0178	1.07	Q			V
19+45	2.0248	1.02	Q			V
19+50	2.0317	0.99	Q			V
19+55	2.0383	0.97	Q			V
20+ 0	2.0447	0.93	Q			V
20+ 5	2.0505	0.85	Q			V
20+10	2.0561	0.81	Q			V
20+15	2.0615	0.79	Q			V
20+20	2.0668	0.76	Q			V
20+25	2.0717	0.72	Q			V
20+30	2.0762	0.65	Q			V
20+35	2.0806	0.63	Q			V
20+40	2.0848	0.62	Q			V
20+45	2.0891	0.61	Q			V
20+50	2.0933	0.61	Q			V
20+55	2.0975	0.62	Q			V
21+ 0	2.1017	0.61	Q			V
21+ 5	2.1058	0.60	Q			V
21+10	2.1099	0.59	Q			V
21+15	2.1139	0.58	Q			V
21+20	2.1178	0.57	Q			V
21+25	2.1216	0.56	Q			V
21+30	2.1253	0.54	Q			V
21+35	2.1289	0.52	Q			V
21+40	2.1321	0.46	Q			V
21+45	2.1352	0.44	Q			V
21+50	2.1382	0.43	Q			V
21+55	2.1411	0.42	Q			V
22+ 0	2.1439	0.41	Q			V
22+ 5	2.1467	0.40	Q			V
22+10	2.1493	0.39	Q			V
22+15	2.1517	0.35	Q			V
22+20	2.1538	0.30	Q			V
22+25	2.1558	0.29	Q			V
22+30	2.1578	0.28	Q			V
22+35	2.1597	0.28	Q			V
22+40	2.1616	0.27	Q			V
22+45	2.1634	0.27	Q			V
22+50	2.1653	0.27	Q			V
22+55	2.1671	0.26	Q			V
23+ 0	2.1688	0.26	Q			V
23+ 5	2.1706	0.25	Q			V
23+10	2.1723	0.25	Q			V
23+15	2.1740	0.25	Q			V
23+20	2.1757	0.24	Q			V
23+25	2.1773	0.24	Q			V
23+30	2.1790	0.24	Q			V
23+35	2.1806	0.23	Q			V

23+40	2.1822	0.23	Q	|	|	|	V|
23+45	2.1838	0.23	Q	|	|	|	V|
23+50	2.1853	0.23	Q	|	|	|	V|
23+55	2.1869	0.22	Q	|	|	|	V|
24+ 0	2.1884	0.22	Q	|	|	|	V|
24+ 5	2.1899	0.22	Q	|	|	|	V|
24+10	2.1914	0.21	Q	|	|	|	V|
24+15	2.1928	0.21	Q	|	|	|	V|
24+20	2.1942	0.20	Q	|	|	|	V|
24+25	2.1955	0.19	Q	|	|	|	V|
24+30	2.1967	0.18	Q	|	|	|	V|
24+35	2.1978	0.16	Q	|	|	|	V|
24+40	2.1988	0.14	Q	|	|	|	V|
24+45	2.1996	0.12	Q	|	|	|	V|
24+50	2.2004	0.11	Q	|	|	|	V|
24+55	2.2010	0.10	Q	|	|	|	V|
25+ 0	2.2016	0.09	Q	|	|	|	V|
25+ 5	2.2022	0.08	Q	|	|	|	V|
25+10	2.2027	0.07	Q	|	|	|	V|
25+15	2.2032	0.07	Q	|	|	|	V|
25+20	2.2036	0.06	Q	|	|	|	V|
25+25	2.2040	0.06	Q	|	|	|	V|
25+30	2.2044	0.05	Q	|	|	|	V|
25+35	2.2047	0.05	Q	|	|	|	V|
25+40	2.2050	0.05	Q	|	|	|	V|
25+45	2.2053	0.04	Q	|	|	|	V|
25+50	2.2056	0.04	Q	|	|	|	V|
25+55	2.2059	0.04	Q	|	|	|	V|
26+ 0	2.2061	0.03	Q	|	|	|	V|
26+ 5	2.2063	0.03	Q	|	|	|	V|
26+10	2.2065	0.03	Q	|	|	|	V|
26+15	2.2067	0.03	Q	|	|	|	V|
26+20	2.2069	0.03	Q	|	|	|	V|
26+25	2.2071	0.02	Q	|	|	|	V|
26+30	2.2072	0.02	Q	|	|	|	V|
26+35	2.2074	0.02	Q	|	|	|	V|
26+40	2.2075	0.02	Q	|	|	|	V|
26+45	2.2077	0.02	Q	|	|	|	V|
26+50	2.2078	0.02	Q	|	|	|	V|
26+55	2.2079	0.02	Q	|	|	|	V|
27+ 0	2.2080	0.02	Q	|	|	|	V|
27+ 5	2.2081	0.01	Q	|	|	|	V|
27+10	2.2082	0.01	Q	|	|	|	V|
27+15	2.2083	0.01	Q	|	|	|	V|
27+20	2.2084	0.01	Q	|	|	|	V|
27+25	2.2084	0.01	Q	|	|	|	V|
27+30	2.2085	0.01	Q	|	|	|	V|
27+35	2.2086	0.01	Q	|	|	|	V|
27+40	2.2086	0.01	Q	|	|	|	V|
27+45	2.2087	0.01	Q	|	|	|	V|
27+50	2.2087	0.01	Q	|	|	|	V|
27+55	2.2088	0.01	Q	|	|	|	V|
28+ 0	2.2088	0.01	Q	|	|	|	V|
28+ 5	2.2089	0.01	Q	|	|	|	V|
28+10	2.2089	0.01	Q	|	|	|	V|
28+15	2.2090	0.01	Q	|	|	|	V|
28+20	2.2090	0.00	Q	|	|	|	V|
28+25	2.2090	0.00	Q	|	|	|	V|
28+30	2.2091	0.00	Q	|	|	|	V|

28+35	2.2091	0.00	Q	|	|	|	V|
28+40	2.2091	0.00	Q	|	|	|	V|
28+45	2.2091	0.00	Q	|	|	|	V|
28+50	2.2092	0.00	Q	|	|	|	V|
28+55	2.2092	0.00	Q	|	|	|	V|
29+ 0	2.2092	0.00	Q	|	|	|	V|
29+ 5	2.2092	0.00	Q	|	|	|	V|
29+10	2.2092	0.00	Q	|	|	|	V|
29+15	2.2092	0.00	Q	|	|	|	V|
29+20	2.2092	0.00	Q	|	|	|	V|
29+25	2.2093	0.00	Q	|	|	|	V|
29+30	2.2093	0.00	Q	|	|	|	V|
29+35	2.2093	0.00	Q	|	|	|	V|
29+40	2.2093	0.00	Q	|	|	|	V|
29+45	2.2093	0.00	Q	|	|	|	V|
29+50	2.2093	0.00	Q	|	|	|	V|
29+55	2.2093	0.00	Q	|	|	|	V|
30+ 0	2.2093	0.00	Q	|	|	|	V|
30+ 5	2.2093	0.00	Q	|	|	|	V|
30+10	2.2093	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/07/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 10B (BORROW PIT)
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
43.92	1	1.27
Rainfall data for year 100		
43.92	6	1.84
Rainfall data for year 100		
43.92	24	2.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
98.0	99.6	43.92	1.000	0.008	0.010	0.000

Area-averaged adjusted loss rate Fm (In/Hr) = 0.000

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.44	0.010	98.0	99.6	0.04	0.980
43.48	0.990	98.0	98.0	0.20	0.905

Area-averaged catchment yield fraction, Y = 0.905
Area-averaged low loss fraction, Yb = 0.095
Direct entry of lag time by user
++
Watershed area = 43.92(Ac.)
Catchment Lag time = 0.500 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.6667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.000(In/Hr)
Average low loss rate fraction (Yb) = 0.095 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.594(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.400(In)

Rainfall depth area reduction factors:
Using a total area of 43.92(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998 Adjusted rainfall = 0.601(In)
30-minute factor = 0.998 Adjusted rainfall = 1.029(In)
1-hour factor = 0.998 Adjusted rainfall = 1.267(In)
3-hour factor = 1.000 Adjusted rainfall = 1.594(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.400(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 531.16 (CFS))	
1	0.775	4.116
2	3.367	13.766
3	7.746	23.260
4	16.033	44.020
5	30.950	79.231
6	44.554	72.260
7	54.263	51.567
8	61.150	36.583
9	66.275	27.222
10	70.479	22.331
11	73.950	18.436
12	76.896	15.647
13	79.400	13.301

14	81.550	11.420
15	83.400	9.826
16	85.100	9.030
17	86.667	8.321
18	88.033	7.259
19	89.200	6.197
20	90.192	5.267
21	91.133	5.002
22	92.000	4.603
23	92.792	4.205
24	93.533	3.939
25	94.183	3.453
26	94.750	3.010
27	95.317	3.010
28	95.817	2.656
29	96.250	2.302
30	96.683	2.302
31	97.050	1.948
32	97.350	1.593
33	97.650	1.593
34	97.883	1.239
35	98.050	0.885
36	98.217	0.885
37	98.400	0.974
38	98.600	1.062
39	98.800	1.062
40	99.000	1.062
41	99.200	1.062
42	99.400	1.062
43	99.552	0.808
44	99.656	0.553
45	99.760	0.553
46	99.865	0.553
47	100.000	0.277

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6014	0.6014
2	0.7404	0.1390
3	0.8362	0.0958
4	0.9115	0.0754
5	0.9746	0.0631
6	1.0294	0.0548
7	1.0782	0.0487
8	1.1222	0.0441
9	1.1626	0.0404
10	1.1999	0.0373
11	1.2347	0.0348
12	1.2674	0.0327
13	1.2887	0.0213
14	1.3088	0.0201
15	1.3278	0.0190
16	1.3458	0.0180
17	1.3629	0.0171
18	1.3792	0.0163
19	1.3949	0.0156
20	1.4099	0.0150
21	1.4243	0.0144
22	1.4382	0.0139

23	1.4516	0.0134
24	1.4645	0.0129
25	1.4770	0.0125
26	1.4892	0.0121
27	1.5009	0.0118
28	1.5124	0.0114
29	1.5235	0.0111
30	1.5343	0.0108
31	1.5448	0.0105
32	1.5551	0.0103
33	1.5651	0.0100
34	1.5748	0.0098
35	1.5844	0.0095
36	1.5937	0.0093
37	1.6028	0.0091
38	1.6117	0.0089
39	1.6204	0.0087
40	1.6289	0.0085
41	1.6372	0.0084
42	1.6454	0.0082
43	1.6535	0.0080
44	1.6614	0.0079
45	1.6691	0.0078
46	1.6767	0.0076
47	1.6842	0.0075
48	1.6916	0.0074
49	1.6988	0.0072
50	1.7059	0.0071
51	1.7129	0.0070
52	1.7198	0.0069
53	1.7266	0.0068
54	1.7333	0.0067
55	1.7399	0.0066
56	1.7464	0.0065
57	1.7529	0.0064
58	1.7592	0.0063
59	1.7654	0.0062
60	1.7716	0.0062
61	1.7777	0.0061
62	1.7836	0.0060
63	1.7896	0.0059
64	1.7954	0.0058
65	1.8012	0.0058
66	1.8069	0.0057
67	1.8125	0.0056
68	1.8181	0.0056
69	1.8236	0.0055
70	1.8290	0.0054
71	1.8344	0.0054
72	1.8397	0.0053
73	1.8446	0.0049
74	1.8494	0.0048
75	1.8542	0.0048
76	1.8589	0.0047
77	1.8636	0.0047
78	1.8682	0.0046
79	1.8728	0.0046
80	1.8773	0.0045
81	1.8818	0.0045

82	1.8862	0.0044
83	1.8906	0.0044
84	1.8949	0.0043
85	1.8992	0.0043
86	1.9035	0.0043
87	1.9077	0.0042
88	1.9119	0.0042
89	1.9161	0.0041
90	1.9202	0.0041
91	1.9242	0.0041
92	1.9283	0.0040
93	1.9323	0.0040
94	1.9362	0.0040
95	1.9402	0.0039
96	1.9441	0.0039
97	1.9479	0.0039
98	1.9518	0.0038
99	1.9556	0.0038
100	1.9593	0.0038
101	1.9631	0.0037
102	1.9668	0.0037
103	1.9705	0.0037
104	1.9741	0.0037
105	1.9778	0.0036
106	1.9814	0.0036
107	1.9849	0.0036
108	1.9885	0.0035
109	1.9920	0.0035
110	1.9955	0.0035
111	1.9989	0.0035
112	2.0024	0.0034
113	2.0058	0.0034
114	2.0092	0.0034
115	2.0126	0.0034
116	2.0159	0.0033
117	2.0192	0.0033
118	2.0225	0.0033
119	2.0258	0.0033
120	2.0290	0.0033
121	2.0323	0.0032
122	2.0355	0.0032
123	2.0387	0.0032
124	2.0418	0.0032
125	2.0450	0.0031
126	2.0481	0.0031
127	2.0512	0.0031
128	2.0543	0.0031
129	2.0574	0.0031
130	2.0604	0.0030
131	2.0635	0.0030
132	2.0665	0.0030
133	2.0695	0.0030
134	2.0724	0.0030
135	2.0754	0.0030
136	2.0783	0.0029
137	2.0812	0.0029
138	2.0842	0.0029
139	2.0870	0.0029
140	2.0899	0.0029

141	2.0928	0.0029
142	2.0956	0.0028
143	2.0984	0.0028
144	2.1012	0.0028
145	2.1040	0.0028
146	2.1068	0.0028
147	2.1095	0.0028
148	2.1123	0.0027
149	2.1150	0.0027
150	2.1177	0.0027
151	2.1204	0.0027
152	2.1231	0.0027
153	2.1258	0.0027
154	2.1284	0.0027
155	2.1311	0.0026
156	2.1337	0.0026
157	2.1363	0.0026
158	2.1389	0.0026
159	2.1415	0.0026
160	2.1441	0.0026
161	2.1467	0.0026
162	2.1492	0.0025
163	2.1518	0.0025
164	2.1543	0.0025
165	2.1568	0.0025
166	2.1593	0.0025
167	2.1618	0.0025
168	2.1643	0.0025
169	2.1667	0.0025
170	2.1692	0.0025
171	2.1716	0.0024
172	2.1740	0.0024
173	2.1765	0.0024
174	2.1789	0.0024
175	2.1813	0.0024
176	2.1836	0.0024
177	2.1860	0.0024
178	2.1884	0.0024
179	2.1907	0.0024
180	2.1931	0.0023
181	2.1954	0.0023
182	2.1977	0.0023
183	2.2000	0.0023
184	2.2023	0.0023
185	2.2046	0.0023
186	2.2069	0.0023
187	2.2092	0.0023
188	2.2114	0.0023
189	2.2137	0.0023
190	2.2159	0.0022
191	2.2182	0.0022
192	2.2204	0.0022
193	2.2226	0.0022
194	2.2248	0.0022
195	2.2270	0.0022
196	2.2292	0.0022
197	2.2313	0.0022
198	2.2335	0.0022
199	2.2357	0.0022

200	2.2378	0.0021
201	2.2400	0.0021
202	2.2421	0.0021
203	2.2442	0.0021
204	2.2463	0.0021
205	2.2484	0.0021
206	2.2505	0.0021
207	2.2526	0.0021
208	2.2547	0.0021
209	2.2568	0.0021
210	2.2589	0.0021
211	2.2609	0.0021
212	2.2630	0.0021
213	2.2650	0.0020
214	2.2670	0.0020
215	2.2691	0.0020
216	2.2711	0.0020
217	2.2731	0.0020
218	2.2751	0.0020
219	2.2771	0.0020
220	2.2791	0.0020
221	2.2811	0.0020
222	2.2830	0.0020
223	2.2850	0.0020
224	2.2870	0.0020
225	2.2889	0.0020
226	2.2909	0.0019
227	2.2928	0.0019
228	2.2948	0.0019
229	2.2967	0.0019
230	2.2986	0.0019
231	2.3005	0.0019
232	2.3024	0.0019
233	2.3043	0.0019
234	2.3062	0.0019
235	2.3081	0.0019
236	2.3100	0.0019
237	2.3118	0.0019
238	2.3137	0.0019
239	2.3156	0.0019
240	2.3174	0.0019
241	2.3193	0.0018
242	2.3211	0.0018
243	2.3230	0.0018
244	2.3248	0.0018
245	2.3266	0.0018
246	2.3284	0.0018
247	2.3302	0.0018
248	2.3320	0.0018
249	2.3338	0.0018
250	2.3356	0.0018
251	2.3374	0.0018
252	2.3392	0.0018
253	2.3410	0.0018
254	2.3428	0.0018
255	2.3445	0.0018
256	2.3463	0.0018
257	2.3480	0.0018
258	2.3498	0.0017

259	2.3515	0.0017
260	2.3533	0.0017
261	2.3550	0.0017
262	2.3567	0.0017
263	2.3584	0.0017
264	2.3602	0.0017
265	2.3619	0.0017
266	2.3636	0.0017
267	2.3653	0.0017
268	2.3670	0.0017
269	2.3687	0.0017
270	2.3704	0.0017
271	2.3720	0.0017
272	2.3737	0.0017
273	2.3754	0.0017
274	2.3770	0.0017
275	2.3787	0.0017
276	2.3804	0.0017
277	2.3820	0.0017
278	2.3837	0.0016
279	2.3853	0.0016
280	2.3869	0.0016
281	2.3886	0.0016
282	2.3902	0.0016
283	2.3918	0.0016
284	2.3934	0.0016
285	2.3951	0.0016
286	2.3967	0.0016
287	2.3983	0.0016
288	2.3999	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0000	0.0016
2	0.0016	0.0000	0.0016
3	0.0016	0.0000	0.0016
4	0.0016	0.0000	0.0016
5	0.0016	0.0000	0.0016
6	0.0016	0.0000	0.0016
7	0.0016	0.0000	0.0016
8	0.0016	0.0000	0.0016
9	0.0017	0.0000	0.0016
10	0.0017	0.0000	0.0017
11	0.0017	0.0000	0.0017
12	0.0017	0.0000	0.0017
13	0.0017	0.0000	0.0017
14	0.0017	0.0000	0.0017
15	0.0017	0.0000	0.0017
16	0.0017	0.0000	0.0017
17	0.0017	0.0000	0.0017
18	0.0017	0.0000	0.0017
19	0.0017	0.0000	0.0017
20	0.0017	0.0000	0.0017
21	0.0017	0.0000	0.0017
22	0.0018	0.0000	0.0017
23	0.0018	0.0000	0.0018
24	0.0018	0.0000	0.0018

25	0.0018	0.0000	0.0018
26	0.0018	0.0000	0.0018
27	0.0018	0.0000	0.0018
28	0.0018	0.0000	0.0018
29	0.0018	0.0000	0.0018
30	0.0018	0.0000	0.0018
31	0.0018	0.0000	0.0018
32	0.0018	0.0000	0.0018
33	0.0019	0.0000	0.0018
34	0.0019	0.0000	0.0019
35	0.0019	0.0000	0.0019
36	0.0019	0.0000	0.0019
37	0.0019	0.0000	0.0019
38	0.0019	0.0000	0.0019
39	0.0019	0.0000	0.0019
40	0.0019	0.0000	0.0019
41	0.0019	0.0000	0.0019
42	0.0019	0.0000	0.0019
43	0.0020	0.0000	0.0019
44	0.0020	0.0000	0.0020
45	0.0020	0.0000	0.0020
46	0.0020	0.0000	0.0020
47	0.0020	0.0000	0.0020
48	0.0020	0.0000	0.0020
49	0.0020	0.0000	0.0020
50	0.0020	0.0000	0.0020
51	0.0020	0.0000	0.0020
52	0.0021	0.0000	0.0020
53	0.0021	0.0000	0.0021
54	0.0021	0.0000	0.0021
55	0.0021	0.0000	0.0021
56	0.0021	0.0000	0.0021
57	0.0021	0.0000	0.0021
58	0.0021	0.0000	0.0021
59	0.0021	0.0000	0.0021
60	0.0021	0.0000	0.0021
61	0.0022	0.0000	0.0022
62	0.0022	0.0000	0.0022
63	0.0022	0.0000	0.0022
64	0.0022	0.0000	0.0022
65	0.0022	0.0000	0.0022
66	0.0022	0.0000	0.0022
67	0.0023	0.0000	0.0022
68	0.0023	0.0000	0.0023
69	0.0023	0.0000	0.0023
70	0.0023	0.0000	0.0023
71	0.0023	0.0000	0.0023
72	0.0023	0.0000	0.0023
73	0.0023	0.0000	0.0023
74	0.0024	0.0000	0.0023
75	0.0024	0.0000	0.0024
76	0.0024	0.0000	0.0024
77	0.0024	0.0000	0.0024
78	0.0024	0.0000	0.0024
79	0.0024	0.0000	0.0024
80	0.0025	0.0000	0.0024
81	0.0025	0.0000	0.0025
82	0.0025	0.0000	0.0025
83	0.0025	0.0000	0.0025

84	0.0025	0.0000	0.0025
85	0.0025	0.0000	0.0025
86	0.0026	0.0000	0.0026
87	0.0026	0.0000	0.0026
88	0.0026	0.0000	0.0026
89	0.0026	0.0000	0.0026
90	0.0026	0.0000	0.0026
91	0.0027	0.0000	0.0027
92	0.0027	0.0000	0.0027
93	0.0027	0.0000	0.0027
94	0.0027	0.0000	0.0027
95	0.0028	0.0000	0.0028
96	0.0028	0.0000	0.0028
97	0.0028	0.0000	0.0028
98	0.0028	0.0000	0.0028
99	0.0029	0.0000	0.0028
100	0.0029	0.0000	0.0029
101	0.0029	0.0000	0.0029
102	0.0029	0.0000	0.0029
103	0.0030	0.0000	0.0029
104	0.0030	0.0000	0.0030
105	0.0030	0.0000	0.0030
106	0.0030	0.0000	0.0030
107	0.0031	0.0000	0.0031
108	0.0031	0.0000	0.0031
109	0.0031	0.0000	0.0031
110	0.0031	0.0000	0.0031
111	0.0032	0.0000	0.0032
112	0.0032	0.0000	0.0032
113	0.0033	0.0000	0.0032
114	0.0033	0.0000	0.0033
115	0.0033	0.0000	0.0033
116	0.0033	0.0000	0.0033
117	0.0034	0.0000	0.0034
118	0.0034	0.0000	0.0034
119	0.0035	0.0000	0.0035
120	0.0035	0.0000	0.0035
121	0.0035	0.0000	0.0035
122	0.0036	0.0000	0.0036
123	0.0036	0.0000	0.0036
124	0.0037	0.0000	0.0036
125	0.0037	0.0000	0.0037
126	0.0037	0.0000	0.0037
127	0.0038	0.0000	0.0038
128	0.0038	0.0000	0.0038
129	0.0039	0.0000	0.0039
130	0.0039	0.0000	0.0039
131	0.0040	0.0000	0.0040
132	0.0040	0.0000	0.0040
133	0.0041	0.0000	0.0041
134	0.0041	0.0000	0.0041
135	0.0042	0.0000	0.0042
136	0.0043	0.0000	0.0043
137	0.0043	0.0000	0.0043
138	0.0044	0.0000	0.0044
139	0.0045	0.0000	0.0045
140	0.0045	0.0000	0.0045
141	0.0046	0.0000	0.0046
142	0.0047	0.0000	0.0047

143	0.0048	0.0000	0.0048
144	0.0048	0.0000	0.0048
145	0.0053	0.0000	0.0053
146	0.0054	0.0000	0.0054
147	0.0055	0.0000	0.0055
148	0.0056	0.0000	0.0056
149	0.0057	0.0000	0.0057
150	0.0058	0.0000	0.0058
151	0.0059	0.0000	0.0059
152	0.0060	0.0000	0.0060
153	0.0062	0.0000	0.0061
154	0.0062	0.0000	0.0062
155	0.0064	0.0000	0.0064
156	0.0065	0.0000	0.0065
157	0.0067	0.0000	0.0067
158	0.0068	0.0000	0.0068
159	0.0070	0.0000	0.0070
160	0.0071	0.0000	0.0071
161	0.0074	0.0000	0.0074
162	0.0075	0.0000	0.0075
163	0.0078	0.0000	0.0077
164	0.0079	0.0000	0.0079
165	0.0082	0.0000	0.0082
166	0.0084	0.0000	0.0083
167	0.0087	0.0000	0.0087
168	0.0089	0.0000	0.0089
169	0.0093	0.0000	0.0093
170	0.0095	0.0000	0.0095
171	0.0100	0.0000	0.0100
172	0.0103	0.0000	0.0103
173	0.0108	0.0000	0.0108
174	0.0111	0.0000	0.0111
175	0.0118	0.0000	0.0118
176	0.0121	0.0000	0.0121
177	0.0129	0.0000	0.0129
178	0.0134	0.0000	0.0134
179	0.0144	0.0000	0.0144
180	0.0150	0.0000	0.0150
181	0.0163	0.0000	0.0163
182	0.0171	0.0000	0.0171
183	0.0190	0.0000	0.0190
184	0.0201	0.0000	0.0201
185	0.0327	0.0000	0.0326
186	0.0348	0.0000	0.0348
187	0.0404	0.0000	0.0404
188	0.0441	0.0000	0.0441
189	0.0548	0.0000	0.0548
190	0.0631	0.0000	0.0631
191	0.0958	0.0000	0.0958
192	0.1390	0.0000	0.1390
193	0.6014	0.0000	0.6014
194	0.0754	0.0000	0.0754
195	0.0487	0.0000	0.0487
196	0.0373	0.0000	0.0373
197	0.0213	0.0000	0.0213
198	0.0180	0.0000	0.0180
199	0.0156	0.0000	0.0156
200	0.0139	0.0000	0.0139
201	0.0125	0.0000	0.0125

202	0.0114	0.0000	0.0114
203	0.0105	0.0000	0.0105
204	0.0098	0.0000	0.0098
205	0.0091	0.0000	0.0091
206	0.0085	0.0000	0.0085
207	0.0080	0.0000	0.0080
208	0.0076	0.0000	0.0076
209	0.0072	0.0000	0.0072
210	0.0069	0.0000	0.0069
211	0.0066	0.0000	0.0066
212	0.0063	0.0000	0.0063
213	0.0061	0.0000	0.0061
214	0.0058	0.0000	0.0058
215	0.0056	0.0000	0.0056
216	0.0054	0.0000	0.0054
217	0.0049	0.0000	0.0049
218	0.0047	0.0000	0.0047
219	0.0046	0.0000	0.0046
220	0.0044	0.0000	0.0044
221	0.0043	0.0000	0.0043
222	0.0042	0.0000	0.0042
223	0.0041	0.0000	0.0041
224	0.0040	0.0000	0.0040
225	0.0039	0.0000	0.0039
226	0.0038	0.0000	0.0038
227	0.0037	0.0000	0.0037
228	0.0036	0.0000	0.0036
229	0.0035	0.0000	0.0035
230	0.0034	0.0000	0.0034
231	0.0034	0.0000	0.0034
232	0.0033	0.0000	0.0033
233	0.0032	0.0000	0.0032
234	0.0032	0.0000	0.0032
235	0.0031	0.0000	0.0031
236	0.0030	0.0000	0.0030
237	0.0030	0.0000	0.0030
238	0.0029	0.0000	0.0029
239	0.0029	0.0000	0.0029
240	0.0028	0.0000	0.0028
241	0.0028	0.0000	0.0028
242	0.0027	0.0000	0.0027
243	0.0027	0.0000	0.0027
244	0.0027	0.0000	0.0027
245	0.0026	0.0000	0.0026
246	0.0026	0.0000	0.0026
247	0.0025	0.0000	0.0025
248	0.0025	0.0000	0.0025
249	0.0025	0.0000	0.0025
250	0.0024	0.0000	0.0024
251	0.0024	0.0000	0.0024
252	0.0024	0.0000	0.0024
253	0.0023	0.0000	0.0023
254	0.0023	0.0000	0.0023
255	0.0023	0.0000	0.0023
256	0.0022	0.0000	0.0022
257	0.0022	0.0000	0.0022
258	0.0022	0.0000	0.0022
259	0.0022	0.0000	0.0022
260	0.0021	0.0000	0.0021

261	0.0021	0.0000	0.0021
262	0.0021	0.0000	0.0021
263	0.0021	0.0000	0.0021
264	0.0020	0.0000	0.0020
265	0.0020	0.0000	0.0020
266	0.0020	0.0000	0.0020
267	0.0020	0.0000	0.0020
268	0.0019	0.0000	0.0019
269	0.0019	0.0000	0.0019
270	0.0019	0.0000	0.0019
271	0.0019	0.0000	0.0019
272	0.0019	0.0000	0.0019
273	0.0018	0.0000	0.0018
274	0.0018	0.0000	0.0018
275	0.0018	0.0000	0.0018
276	0.0018	0.0000	0.0018
277	0.0018	0.0000	0.0018
278	0.0018	0.0000	0.0018
279	0.0017	0.0000	0.0017
280	0.0017	0.0000	0.0017
281	0.0017	0.0000	0.0017
282	0.0017	0.0000	0.0017
283	0.0017	0.0000	0.0017
284	0.0017	0.0000	0.0017
285	0.0017	0.0000	0.0016
286	0.0016	0.0000	0.0016
287	0.0016	0.0000	0.0016
288	0.0016	0.0000	0.0016

Total soil rain loss = 0.00(In)
Total effective rainfall = 2.40(In)
Peak flow rate in flood hydrograph = 75.67(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

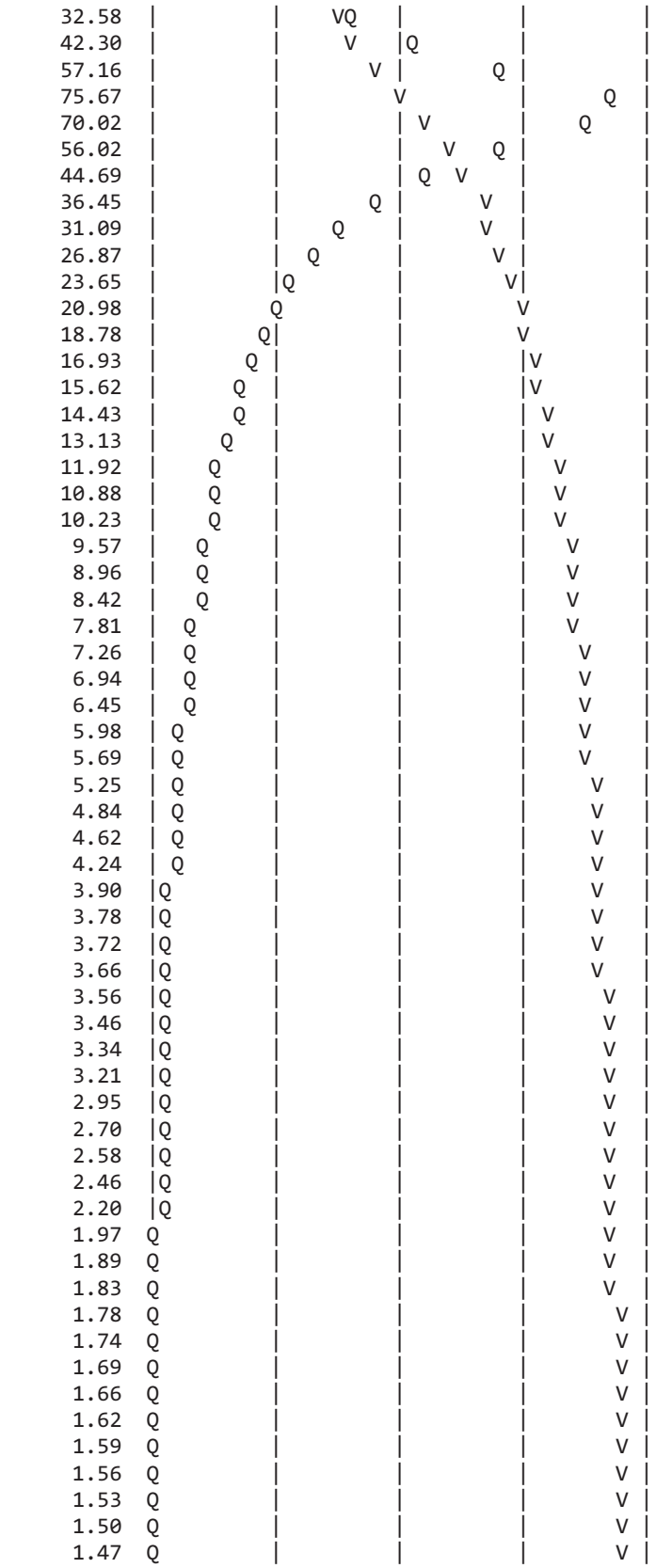
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0002	0.03	Q	|	|	|	|
0+15	0.0007	0.07	Q	|	|	|	|
0+20	0.0016	0.14	Q	|	|	|	|
0+25	0.0034	0.26	Q	|	|	|	|
0+30	0.0061	0.38	Q	|	|	|	|
0+35	0.0092	0.46	Q	|	|	|	|
0+40	0.0128	0.52	Q	|	|	|	|
0+45	0.0168	0.57	Q	|	|	|	|
0+50	0.0209	0.61	Q	|	|	|	|
0+55	0.0253	0.64	Q	|	|	|	|
1+ 0	0.0299	0.67	Q	|	|	|	|
1+ 5	0.0347	0.69	Q	|	|	|	|
1+10	0.0396	0.71	Q	|	|	|	|
1+15	0.0446	0.73	Q	|	|	|	|
1+20	0.0497	0.75	Q	|	|	|	|

1+25	0.0550	0.76	Q				
1+30	0.0604	0.78	Q				
1+35	0.0658	0.79	Q				
1+40	0.0714	0.80	Q				
1+45	0.0770	0.82	Q				
1+50	0.0827	0.83	Q				
1+55	0.0885	0.84	Q				
2+ 0	0.0943	0.85	Q				
2+ 5	0.1002	0.86	Q				
2+10	0.1062	0.87	Q				
2+15	0.1122	0.88	Q				
2+20	0.1183	0.88	Q				
2+25	0.1244	0.89	Q				
2+30	0.1306	0.90	Q				
2+35	0.1369	0.91	Q				
2+40	0.1432	0.91	Q				
2+45	0.1495	0.92	Q				
2+50	0.1559	0.93	Q				
2+55	0.1623	0.93	Q				
3+ 0	0.1688	0.94	Q				
3+ 5	0.1753	0.95	Q				
3+10	0.1818	0.95	Q				
3+15	0.1884	0.96	Q				
3+20	0.1951	0.96	Q				
3+25	0.2018	0.97	Q				
3+30	0.2085	0.98	Q				
3+35	0.2153	0.98	Q				
3+40	0.2221	0.99	QV				
3+45	0.2290	1.00	QV				
3+50	0.2359	1.00	QV				
3+55	0.2428	1.01	QV				
4+ 0	0.2498	1.01	QV				
4+ 5	0.2568	1.02	QV				
4+10	0.2638	1.02	QV				
4+15	0.2709	1.03	QV				
4+20	0.2781	1.04	QV				
4+25	0.2852	1.04	QV				
4+30	0.2924	1.05	QV				
4+35	0.2997	1.05	QV				
4+40	0.3070	1.06	QV				
4+45	0.3143	1.06	QV				
4+50	0.3217	1.07	QV				
4+55	0.3291	1.08	QV				
5+ 0	0.3365	1.08	QV				
5+ 5	0.3440	1.09	QV				
5+10	0.3516	1.10	QV				
5+15	0.3592	1.10	QV				
5+20	0.3668	1.11	QV				
5+25	0.3745	1.11	QV				
5+30	0.3822	1.12	QV				
5+35	0.3900	1.13	QV				
5+40	0.3978	1.13	QV				
5+45	0.4057	1.14	QV				
5+50	0.4136	1.15	QV				
5+55	0.4215	1.16	QV				
6+ 0	0.4295	1.16	QV				
6+ 5	0.4376	1.17	QV				
6+10	0.4457	1.18	Q V				
6+15	0.4539	1.19	Q V				

6+20	0.4621	1.19	Q V	|	|	|	|
6+25	0.4704	1.20	Q V	|	|	|	|
6+30	0.4787	1.21	Q V	|	|	|	|
6+35	0.4871	1.22	Q V	|	|	|	|
6+40	0.4955	1.23	Q V	|	|	|	|
6+45	0.5040	1.23	Q V	|	|	|	|
6+50	0.5126	1.24	Q V	|	|	|	|
6+55	0.5212	1.25	Q V	|	|	|	|
7+ 0	0.5299	1.26	Q V	|	|	|	|
7+ 5	0.5386	1.27	Q V	|	|	|	|
7+10	0.5474	1.28	Q V	|	|	|	|
7+15	0.5563	1.29	Q V	|	|	|	|
7+20	0.5652	1.30	Q V	|	|	|	|
7+25	0.5742	1.30	Q V	|	|	|	|
7+30	0.5832	1.31	Q V	|	|	|	|
7+35	0.5923	1.32	Q V	|	|	|	|
7+40	0.6015	1.33	Q V	|	|	|	|
7+45	0.6108	1.34	Q V	|	|	|	|
7+50	0.6201	1.35	Q V	|	|	|	|
7+55	0.6295	1.36	Q V	|	|	|	|
8+ 0	0.6390	1.37	Q V	|	|	|	|
8+ 5	0.6485	1.39	Q V	|	|	|	|
8+10	0.6581	1.40	Q V	|	|	|	|
8+15	0.6678	1.41	Q V	|	|	|	|
8+20	0.6776	1.42	Q V	|	|	|	|
8+25	0.6874	1.43	Q V	|	|	|	|
8+30	0.6974	1.44	Q V	|	|	|	|
8+35	0.7074	1.45	Q V	|	|	|	|
8+40	0.7175	1.47	Q V	|	|	|	|
8+45	0.7277	1.48	Q V	|	|	|	|
8+50	0.7379	1.49	Q V	|	|	|	|
8+55	0.7483	1.50	Q V	|	|	|	|
9+ 0	0.7587	1.52	Q V	|	|	|	|
9+ 5	0.7693	1.53	Q V	|	|	|	|
9+10	0.7799	1.54	Q V	|	|	|	|
9+15	0.7907	1.56	Q V	|	|	|	|
9+20	0.8015	1.57	Q V	|	|	|	|
9+25	0.8124	1.59	Q V	|	|	|	|
9+30	0.8234	1.60	Q V	|	|	|	|
9+35	0.8346	1.62	Q V	|	|	|	|
9+40	0.8458	1.63	Q V	|	|	|	|
9+45	0.8572	1.65	Q V	|	|	|	|
9+50	0.8686	1.66	Q V	|	|	|	|
9+55	0.8802	1.68	Q V	|	|	|	|
10+ 0	0.8919	1.70	Q V	|	|	|	|
10+ 5	0.9037	1.71	Q V	|	|	|	|
10+10	0.9156	1.73	Q V	|	|	|	|
10+15	0.9277	1.75	Q V	|	|	|	|
10+20	0.9399	1.77	Q V	|	|	|	|
10+25	0.9522	1.79	Q V	|	|	|	|
10+30	0.9646	1.81	Q V	|	|	|	|
10+35	0.9772	1.83	Q V	|	|	|	|
10+40	0.9900	1.85	Q V	|	|	|	|
10+45	1.0028	1.87	Q V	|	|	|	|
10+50	1.0158	1.89	Q V	|	|	|	|
10+55	1.0290	1.91	Q V	|	|	|	|
11+ 0	1.0423	1.93	Q V	|	|	|	|
11+ 5	1.0558	1.96	Q V	|	|	|	|
11+10	1.0695	1.98	Q V	|	|	|	|

11+15	1.0833	2.01	Q V	|	|	|
11+20	1.0973	2.03	Q V	|	|	|
11+25	1.1114	2.06	Q V	|	|	|
11+30	1.1258	2.08	Q V	|	|	|
11+35	1.1403	2.11	Q V	|	|	|
11+40	1.1550	2.14	Q V	|	|	|
11+45	1.1700	2.17	Q V	|	|	|
11+50	1.1851	2.20	Q V	|	|	|
11+55	1.2005	2.23	Q V	|	|	|
12+ 0	1.2160	2.26	Q V	|	|	|
12+ 5	1.2319	2.30	Q V	|	|	|
12+10	1.2479	2.34	Q V	|	|	|
12+15	1.2643	2.38	Q V	|	|	|
12+20	1.2811	2.43	Q V	|	|	|
12+25	1.2983	2.50	Q V	|	|	|
12+30	1.3161	2.57	Q V	|	|	|
12+35	1.3342	2.63	Q V	|	|	|
12+40	1.3528	2.69	Q V	|	|	|
12+45	1.3717	2.75	Q V	|	|	|
12+50	1.3910	2.81	Q V	|	|	|
12+55	1.4107	2.86	Q V	|	|	|
13+ 0	1.4308	2.92	Q V	|	|	|
13+ 5	1.4514	2.98	Q V	|	|	|
13+10	1.4723	3.04	Q V	|	|	|
13+15	1.4937	3.10	Q V	|	|	|
13+20	1.5155	3.17	Q V	|	|	|
13+25	1.5378	3.24	Q V	|	|	|
13+30	1.5606	3.31	Q V	|	|	|
13+35	1.5839	3.38	Q V	|	|	|
13+40	1.6077	3.46	Q V	|	|	|
13+45	1.6321	3.54	Q V	|	|	|
13+50	1.6570	3.62	Q V	|	|	|
13+55	1.6826	3.71	Q V	|	|	|
14+ 0	1.7088	3.81	Q V	|	|	|
14+ 5	1.7357	3.91	Q V	|	|	|
14+10	1.7634	4.01	Q V	|	|	|
14+15	1.7918	4.13	Q V	|	|	|
14+20	1.8211	4.25	Q V	|	|	|
14+25	1.8513	4.39	Q V	|	|	|
14+30	1.8825	4.53	Q V	|	|	|
14+35	1.9147	4.68	Q V	|	|	|
14+40	1.9481	4.84	Q V	|	|	|
14+45	1.9826	5.02	Q V	|	|	|
14+50	2.0185	5.20	Q V	|	|	|
14+55	2.0557	5.41	Q V	|	|	|
15+ 0	2.0946	5.64	Q V	|	|	|
15+ 5	2.1351	5.89	Q V	|	|	|
15+10	2.1776	6.16	Q V	|	|	|
15+15	2.2222	6.48	Q V	|	|	|
15+20	2.2692	6.82	Q V	|	|	|
15+25	2.3192	7.27	Q V	|	|	|
15+30	2.3734	7.86	Q V	|	|	|
15+35	2.4329	8.65	Q V	|	|	|
15+40	2.5001	9.75	Q V	|	|	|
15+45	2.5785	11.39	Q V	|	|	|
15+50	2.6697	13.23	Q V	|	|	|
15+55	2.7753	15.34	Q V	|	|	|
16+ 0	2.8996	18.06	Q V	|	|	|
16+ 5	3.0625	23.65	Q V	|	|	|

16+10	3.2868	32.58	
16+15	3.5781	42.30	
16+20	3.9718	57.16	
16+25	4.4929	75.67	
16+30	4.9752	70.02	
16+35	5.3610	56.02	
16+40	5.6687	44.69	
16+45	5.9198	36.45	
16+50	6.1339	31.09	
16+55	6.3190	26.87	
17+ 0	6.4818	23.65	
17+ 5	6.6263	20.98	
17+10	6.7556	18.78	
17+15	6.8722	16.93	
17+20	6.9798	15.62	
17+25	7.0792	14.43	
17+30	7.1696	13.13	
17+35	7.2517	11.92	
17+40	7.3266	10.88	
17+45	7.3971	10.23	
17+50	7.4630	9.57	
17+55	7.5247	8.96	
18+ 0	7.5827	8.42	
18+ 5	7.6365	7.81	
18+10	7.6866	7.26	
18+15	7.7343	6.94	
18+20	7.7787	6.45	
18+25	7.8199	5.98	
18+30	7.8591	5.69	
18+35	7.8952	5.25	
18+40	7.9286	4.84	
18+45	7.9604	4.62	
18+50	7.9896	4.24	
18+55	8.0165	3.90	
19+ 0	8.0425	3.78	
19+ 5	8.0681	3.72	
19+10	8.0933	3.66	
19+15	8.1178	3.56	
19+20	8.1416	3.46	
19+25	8.1647	3.34	
19+30	8.1867	3.21	
19+35	8.2070	2.95	
19+40	8.2256	2.70	
19+45	8.2434	2.58	
19+50	8.2603	2.46	
19+55	8.2754	2.20	
20+ 0	8.2890	1.97	
20+ 5	8.3020	1.89	
20+10	8.3147	1.83	
20+15	8.3269	1.78	
20+20	8.3389	1.74	
20+25	8.3505	1.69	
20+30	8.3619	1.66	
20+35	8.3731	1.62	
20+40	8.3840	1.59	
20+45	8.3948	1.56	
20+50	8.4053	1.53	
20+55	8.4156	1.50	
21+ 0	8.4257	1.47	

21+ 5	8.4357	1.44	Q	|	|	|	V |
21+10	8.4454	1.42	Q	|	|	|	V |
21+15	8.4551	1.40	Q	|	|	|	V |
21+20	8.4645	1.37	Q	|	|	|	V |
21+25	8.4738	1.35	Q	|	|	|	V |
21+30	8.4830	1.33	Q	|	|	|	V |
21+35	8.4920	1.31	Q	|	|	|	V |
21+40	8.5009	1.29	Q	|	|	|	V |
21+45	8.5096	1.27	Q	|	|	|	V |
21+50	8.5182	1.25	Q	|	|	|	V |
21+55	8.5267	1.23	Q	|	|	|	V |
22+ 0	8.5351	1.22	Q	|	|	|	V |
22+ 5	8.5434	1.20	Q	|	|	|	V |
22+10	8.5516	1.19	Q	|	|	|	V|
22+15	8.5596	1.17	Q	|	|	|	V|
22+20	8.5676	1.16	Q	|	|	|	V|
22+25	8.5755	1.14	Q	|	|	|	V|
22+30	8.5832	1.13	Q	|	|	|	V|
22+35	8.5909	1.11	Q	|	|	|	V|
22+40	8.5985	1.10	Q	|	|	|	V|
22+45	8.6059	1.09	Q	|	|	|	V|
22+50	8.6133	1.07	Q	|	|	|	V|
22+55	8.6207	1.06	Q	|	|	|	V|
23+ 0	8.6279	1.05	Q	|	|	|	V|
23+ 5	8.6350	1.04	Q	|	|	|	V|
23+10	8.6421	1.03	Q	|	|	|	V|
23+15	8.6491	1.02	Q	|	|	|	V|
23+20	8.6560	1.01	Q	|	|	|	V|
23+25	8.6629	0.99	Q	|	|	|	V|
23+30	8.6697	0.98	Q	|	|	|	V|
23+35	8.6764	0.97	Q	|	|	|	V|
23+40	8.6830	0.96	Q	|	|	|	V|
23+45	8.6896	0.95	Q	|	|	|	V|
23+50	8.6961	0.95	Q	|	|	|	V|
23+55	8.7025	0.94	Q	|	|	|	V|
24+ 0	8.7089	0.93	Q	|	|	|	V|
24+ 5	8.7152	0.91	Q	|	|	|	V|
24+10	8.7213	0.88	Q	|	|	|	V|
24+15	8.7270	0.84	Q	|	|	|	V|
24+20	8.7323	0.76	Q	|	|	|	V|
24+25	8.7366	0.63	Q	|	|	|	V|
24+30	8.7401	0.51	Q	|	|	|	V|
24+35	8.7429	0.42	Q	|	|	|	V|
24+40	8.7454	0.36	Q	|	|	|	V|
24+45	8.7475	0.31	Q	|	|	|	V|
24+50	8.7494	0.27	Q	|	|	|	V|
24+55	8.7511	0.24	Q	|	|	|	V|
25+ 0	8.7525	0.21	Q	|	|	|	V|
25+ 5	8.7538	0.19	Q	|	|	|	V|
25+10	8.7550	0.17	Q	|	|	|	V|
25+15	8.7560	0.15	Q	|	|	|	V|
25+20	8.7570	0.14	Q	|	|	|	V|
25+25	8.7578	0.12	Q	|	|	|	V|
25+30	8.7586	0.11	Q	|	|	|	V|
25+35	8.7593	0.10	Q	|	|	|	V|
25+40	8.7599	0.09	Q	|	|	|	V|
25+45	8.7604	0.08	Q	|	|	|	V|
25+50	8.7609	0.07	Q	|	|	|	V|
25+55	8.7614	0.07	Q	|	|	|	V|

26+ 0	8.7618	0.06	Q	|	|	|	V|
26+ 5	8.7621	0.05	Q	|	|	|	V|
26+10	8.7625	0.05	Q	|	|	|	V|
26+15	8.7627	0.04	Q	|	|	|	V|
26+20	8.7630	0.04	Q	|	|	|	V|
26+25	8.7632	0.03	Q	|	|	|	V|
26+30	8.7634	0.03	Q	|	|	|	V|
26+35	8.7636	0.03	Q	|	|	|	V|
26+40	8.7638	0.02	Q	|	|	|	V|
26+45	8.7639	0.02	Q	|	|	|	V|
26+50	8.7640	0.02	Q	|	|	|	V|
26+55	8.7641	0.02	Q	|	|	|	V|
27+ 0	8.7642	0.02	Q	|	|	|	V|
27+ 5	8.7643	0.01	Q	|	|	|	V|
27+10	8.7644	0.01	Q	|	|	|	V|
27+15	8.7645	0.01	Q	|	|	|	V|
27+20	8.7645	0.01	Q	|	|	|	V|
27+25	8.7646	0.01	Q	|	|	|	V|
27+30	8.7646	0.00	Q	|	|	|	V|
27+35	8.7646	0.00	Q	|	|	|	V|
27+40	8.7646	0.00	Q	|	|	|	V|
27+45	8.7647	0.00	Q	|	|	|	V|
27+50	8.7647	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 11
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
9.20	1	1.28
Rainfall data for year 100		
9.20	6	1.84
Rainfall data for year 100		
9.20	24	2.38

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	9.20	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
8.28	0.900	78.0	92.8	0.78	0.693
0.92	0.100	98.0	98.0	0.20	0.904

Area-averaged catchment yield fraction, Y = 0.714
Area-averaged low loss fraction, Yb = 0.286
User entry of time of concentration = 0.300 (hours)
++
Watershed area = 9.20(Ac.)
Catchment Lag time = 0.240 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 34.7222
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.286 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.607(In)
Computed peak 30-minute rainfall = 1.040(In)
Specified peak 1-hour rainfall = 1.280(In)
Computed peak 3-hour rainfall = 1.599(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.380(In)

Rainfall depth area reduction factors:
Using a total area of 9.20(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.607(In)
30-minute factor = 1.000 Adjusted rainfall = 1.039(In)
1-hour factor = 1.000 Adjusted rainfall = 1.279(In)
3-hour factor = 1.000 Adjusted rainfall = 1.599(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.380(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 111.26 (CFS))	
1	2.206	2.454
2	13.132	12.157
3	40.437	30.381
4	59.629	21.354
5	69.886	11.412
6	76.724	7.608
7	81.579	5.401
8	85.290	4.129
9	88.266	3.311
10	90.463	2.445
11	92.296	2.040
12	93.829	1.706
13	95.057	1.365

14	96.088	1.147
15	96.940	0.949
16	97.584	0.716
17	98.029	0.495
18	98.394	0.406
19	98.808	0.461
20	99.225	0.464
21	99.571	0.385
22	99.791	0.244
23	100.000	0.233

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6071	0.6071
2	0.7474	0.1403
3	0.8441	0.0967
4	0.9202	0.0761
5	0.9839	0.0637
6	1.0392	0.0553
7	1.0884	0.0492
8	1.1329	0.0445
9	1.1737	0.0407
10	1.2113	0.0377
11	1.2465	0.0351
12	1.2794	0.0330
13	1.3004	0.0209
14	1.3201	0.0197
15	1.3387	0.0186
16	1.3563	0.0176
17	1.3731	0.0168
18	1.3891	0.0160
19	1.4045	0.0153
20	1.4192	0.0147
21	1.4333	0.0141
22	1.4469	0.0136
23	1.4600	0.0131
24	1.4726	0.0127
25	1.4849	0.0122
26	1.4968	0.0119
27	1.5083	0.0115
28	1.5194	0.0112
29	1.5303	0.0109
30	1.5408	0.0106
31	1.5511	0.0103
32	1.5612	0.0100
33	1.5709	0.0098
34	1.5805	0.0095
35	1.5898	0.0093
36	1.5989	0.0091
37	1.6078	0.0089
38	1.6165	0.0087
39	1.6250	0.0085
40	1.6334	0.0084
41	1.6416	0.0082
42	1.6496	0.0080
43	1.6575	0.0079
44	1.6652	0.0077
45	1.6728	0.0076
46	1.6803	0.0075

47	1.6876	0.0073
48	1.6949	0.0072
49	1.7020	0.0071
50	1.7089	0.0070
51	1.7158	0.0069
52	1.7226	0.0068
53	1.7292	0.0067
54	1.7358	0.0066
55	1.7422	0.0065
56	1.7486	0.0064
57	1.7549	0.0063
58	1.7611	0.0062
59	1.7672	0.0061
60	1.7732	0.0060
61	1.7792	0.0059
62	1.7850	0.0059
63	1.7908	0.0058
64	1.7966	0.0057
65	1.8022	0.0057
66	1.8078	0.0056
67	1.8133	0.0055
68	1.8188	0.0055
69	1.8242	0.0054
70	1.8295	0.0053
71	1.8347	0.0053
72	1.8399	0.0052
73	1.8447	0.0047
74	1.8493	0.0047
75	1.8539	0.0046
76	1.8585	0.0046
77	1.8630	0.0045
78	1.8675	0.0045
79	1.8719	0.0044
80	1.8763	0.0044
81	1.8806	0.0043
82	1.8849	0.0043
83	1.8892	0.0042
84	1.8934	0.0042
85	1.8975	0.0042
86	1.9016	0.0041
87	1.9057	0.0041
88	1.9098	0.0040
89	1.9138	0.0040
90	1.9178	0.0040
91	1.9217	0.0039
92	1.9256	0.0039
93	1.9295	0.0039
94	1.9333	0.0038
95	1.9371	0.0038
96	1.9409	0.0038
97	1.9446	0.0037
98	1.9483	0.0037
99	1.9520	0.0037
100	1.9556	0.0036
101	1.9593	0.0036
102	1.9628	0.0036
103	1.9664	0.0036
104	1.9699	0.0035
105	1.9734	0.0035

106	1.9769	0.0035
107	1.9804	0.0034
108	1.9838	0.0034
109	1.9872	0.0034
110	1.9906	0.0034
111	1.9939	0.0033
112	1.9972	0.0033
113	2.0005	0.0033
114	2.0038	0.0033
115	2.0070	0.0033
116	2.0103	0.0032
117	2.0135	0.0032
118	2.0167	0.0032
119	2.0198	0.0032
120	2.0230	0.0031
121	2.0261	0.0031
122	2.0292	0.0031
123	2.0323	0.0031
124	2.0353	0.0031
125	2.0384	0.0030
126	2.0414	0.0030
127	2.0444	0.0030
128	2.0474	0.0030
129	2.0503	0.0030
130	2.0533	0.0029
131	2.0562	0.0029
132	2.0591	0.0029
133	2.0620	0.0029
134	2.0648	0.0029
135	2.0677	0.0029
136	2.0705	0.0028
137	2.0733	0.0028
138	2.0761	0.0028
139	2.0789	0.0028
140	2.0817	0.0028
141	2.0844	0.0028
142	2.0872	0.0027
143	2.0899	0.0027
144	2.0926	0.0027
145	2.0953	0.0027
146	2.0980	0.0027
147	2.1006	0.0027
148	2.1033	0.0026
149	2.1059	0.0026
150	2.1085	0.0026
151	2.1111	0.0026
152	2.1137	0.0026
153	2.1163	0.0026
154	2.1189	0.0026
155	2.1214	0.0025
156	2.1239	0.0025
157	2.1265	0.0025
158	2.1290	0.0025
159	2.1315	0.0025
160	2.1339	0.0025
161	2.1364	0.0025
162	2.1389	0.0025
163	2.1413	0.0024
164	2.1437	0.0024

165	2.1462	0.0024
166	2.1486	0.0024
167	2.1510	0.0024
168	2.1534	0.0024
169	2.1557	0.0024
170	2.1581	0.0024
171	2.1604	0.0024
172	2.1628	0.0023
173	2.1651	0.0023
174	2.1674	0.0023
175	2.1697	0.0023
176	2.1720	0.0023
177	2.1743	0.0023
178	2.1766	0.0023
179	2.1789	0.0023
180	2.1811	0.0023
181	2.1834	0.0022
182	2.1856	0.0022
183	2.1878	0.0022
184	2.1900	0.0022
185	2.1922	0.0022
186	2.1944	0.0022
187	2.1966	0.0022
188	2.1988	0.0022
189	2.2010	0.0022
190	2.2031	0.0022
191	2.2053	0.0021
192	2.2074	0.0021
193	2.2095	0.0021
194	2.2117	0.0021
195	2.2138	0.0021
196	2.2159	0.0021
197	2.2180	0.0021
198	2.2201	0.0021
199	2.2221	0.0021
200	2.2242	0.0021
201	2.2263	0.0021
202	2.2283	0.0021
203	2.2304	0.0020
204	2.2324	0.0020
205	2.2344	0.0020
206	2.2364	0.0020
207	2.2384	0.0020
208	2.2405	0.0020
209	2.2424	0.0020
210	2.2444	0.0020
211	2.2464	0.0020
212	2.2484	0.0020
213	2.2504	0.0020
214	2.2523	0.0020
215	2.2543	0.0020
216	2.2562	0.0019
217	2.2581	0.0019
218	2.2601	0.0019
219	2.2620	0.0019
220	2.2639	0.0019
221	2.2658	0.0019
222	2.2677	0.0019
223	2.2696	0.0019

224	2.2715	0.0019
225	2.2734	0.0019
226	2.2752	0.0019
227	2.2771	0.0019
228	2.2790	0.0019
229	2.2808	0.0019
230	2.2827	0.0018
231	2.2845	0.0018
232	2.2863	0.0018
233	2.2882	0.0018
234	2.2900	0.0018
235	2.2918	0.0018
236	2.2936	0.0018
237	2.2954	0.0018
238	2.2972	0.0018
239	2.2990	0.0018
240	2.3008	0.0018
241	2.3025	0.0018
242	2.3043	0.0018
243	2.3061	0.0018
244	2.3078	0.0018
245	2.3096	0.0018
246	2.3113	0.0017
247	2.3131	0.0017
248	2.3148	0.0017
249	2.3165	0.0017
250	2.3183	0.0017
251	2.3200	0.0017
252	2.3217	0.0017
253	2.3234	0.0017
254	2.3251	0.0017
255	2.3268	0.0017
256	2.3285	0.0017
257	2.3302	0.0017
258	2.3319	0.0017
259	2.3335	0.0017
260	2.3352	0.0017
261	2.3369	0.0017
262	2.3385	0.0017
263	2.3402	0.0017
264	2.3418	0.0016
265	2.3435	0.0016
266	2.3451	0.0016
267	2.3468	0.0016
268	2.3484	0.0016
269	2.3500	0.0016
270	2.3516	0.0016
271	2.3532	0.0016
272	2.3549	0.0016
273	2.3565	0.0016
274	2.3581	0.0016
275	2.3597	0.0016
276	2.3612	0.0016
277	2.3628	0.0016
278	2.3644	0.0016
279	2.3660	0.0016
280	2.3676	0.0016
281	2.3691	0.0016
282	2.3707	0.0016

283	2.3722	0.0016	
284	2.3738	0.0016	
285	2.3754	0.0015	
286	2.3769	0.0015	
287	2.3784	0.0015	
288	2.3800	0.0015	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0015	0.0004	0.0011
2	0.0015	0.0004	0.0011
3	0.0015	0.0004	0.0011
4	0.0016	0.0004	0.0011
5	0.0016	0.0004	0.0011
6	0.0016	0.0004	0.0011
7	0.0016	0.0005	0.0011
8	0.0016	0.0005	0.0011
9	0.0016	0.0005	0.0011
10	0.0016	0.0005	0.0011
11	0.0016	0.0005	0.0011
12	0.0016	0.0005	0.0011
13	0.0016	0.0005	0.0012
14	0.0016	0.0005	0.0012
15	0.0016	0.0005	0.0012
16	0.0016	0.0005	0.0012
17	0.0016	0.0005	0.0012
18	0.0017	0.0005	0.0012
19	0.0017	0.0005	0.0012
20	0.0017	0.0005	0.0012
21	0.0017	0.0005	0.0012
22	0.0017	0.0005	0.0012
23	0.0017	0.0005	0.0012
24	0.0017	0.0005	0.0012
25	0.0017	0.0005	0.0012
26	0.0017	0.0005	0.0012
27	0.0017	0.0005	0.0012
28	0.0017	0.0005	0.0012
29	0.0017	0.0005	0.0012
30	0.0018	0.0005	0.0013
31	0.0018	0.0005	0.0013
32	0.0018	0.0005	0.0013
33	0.0018	0.0005	0.0013
34	0.0018	0.0005	0.0013
35	0.0018	0.0005	0.0013
36	0.0018	0.0005	0.0013
37	0.0018	0.0005	0.0013
38	0.0018	0.0005	0.0013
39	0.0018	0.0005	0.0013
40	0.0018	0.0005	0.0013
41	0.0019	0.0005	0.0013
42	0.0019	0.0005	0.0013
43	0.0019	0.0005	0.0013
44	0.0019	0.0005	0.0013
45	0.0019	0.0005	0.0014
46	0.0019	0.0005	0.0014
47	0.0019	0.0005	0.0014
48	0.0019	0.0006	0.0014

49	0.0019	0.0006	0.0014
50	0.0020	0.0006	0.0014
51	0.0020	0.0006	0.0014
52	0.0020	0.0006	0.0014
53	0.0020	0.0006	0.0014
54	0.0020	0.0006	0.0014
55	0.0020	0.0006	0.0014
56	0.0020	0.0006	0.0014
57	0.0020	0.0006	0.0015
58	0.0020	0.0006	0.0015
59	0.0021	0.0006	0.0015
60	0.0021	0.0006	0.0015
61	0.0021	0.0006	0.0015
62	0.0021	0.0006	0.0015
63	0.0021	0.0006	0.0015
64	0.0021	0.0006	0.0015
65	0.0021	0.0006	0.0015
66	0.0021	0.0006	0.0015
67	0.0022	0.0006	0.0015
68	0.0022	0.0006	0.0016
69	0.0022	0.0006	0.0016
70	0.0022	0.0006	0.0016
71	0.0022	0.0006	0.0016
72	0.0022	0.0006	0.0016
73	0.0023	0.0006	0.0016
74	0.0023	0.0006	0.0016
75	0.0023	0.0007	0.0016
76	0.0023	0.0007	0.0016
77	0.0023	0.0007	0.0017
78	0.0023	0.0007	0.0017
79	0.0024	0.0007	0.0017
80	0.0024	0.0007	0.0017
81	0.0024	0.0007	0.0017
82	0.0024	0.0007	0.0017
83	0.0024	0.0007	0.0017
84	0.0024	0.0007	0.0017
85	0.0025	0.0007	0.0018
86	0.0025	0.0007	0.0018
87	0.0025	0.0007	0.0018
88	0.0025	0.0007	0.0018
89	0.0025	0.0007	0.0018
90	0.0025	0.0007	0.0018
91	0.0026	0.0007	0.0018
92	0.0026	0.0007	0.0018
93	0.0026	0.0007	0.0019
94	0.0026	0.0008	0.0019
95	0.0027	0.0008	0.0019
96	0.0027	0.0008	0.0019
97	0.0027	0.0008	0.0019
98	0.0027	0.0008	0.0019
99	0.0028	0.0008	0.0020
100	0.0028	0.0008	0.0020
101	0.0028	0.0008	0.0020
102	0.0028	0.0008	0.0020
103	0.0029	0.0008	0.0020
104	0.0029	0.0008	0.0020
105	0.0029	0.0008	0.0021
106	0.0029	0.0008	0.0021
107	0.0030	0.0008	0.0021

108	0.0030	0.0009	0.0021
109	0.0030	0.0009	0.0022
110	0.0030	0.0009	0.0022
111	0.0031	0.0009	0.0022
112	0.0031	0.0009	0.0022
113	0.0031	0.0009	0.0022
114	0.0032	0.0009	0.0023
115	0.0032	0.0009	0.0023
116	0.0032	0.0009	0.0023
117	0.0033	0.0009	0.0023
118	0.0033	0.0009	0.0024
119	0.0033	0.0010	0.0024
120	0.0034	0.0010	0.0024
121	0.0034	0.0010	0.0024
122	0.0034	0.0010	0.0025
123	0.0035	0.0010	0.0025
124	0.0035	0.0010	0.0025
125	0.0036	0.0010	0.0026
126	0.0036	0.0010	0.0026
127	0.0037	0.0011	0.0026
128	0.0037	0.0011	0.0026
129	0.0038	0.0011	0.0027
130	0.0038	0.0011	0.0027
131	0.0039	0.0011	0.0028
132	0.0039	0.0011	0.0028
133	0.0040	0.0011	0.0028
134	0.0040	0.0011	0.0029
135	0.0041	0.0012	0.0029
136	0.0041	0.0012	0.0029
137	0.0042	0.0012	0.0030
138	0.0042	0.0012	0.0030
139	0.0043	0.0012	0.0031
140	0.0044	0.0013	0.0031
141	0.0045	0.0013	0.0032
142	0.0045	0.0013	0.0032
143	0.0046	0.0013	0.0033
144	0.0047	0.0013	0.0033
145	0.0052	0.0015	0.0037
146	0.0053	0.0015	0.0038
147	0.0054	0.0015	0.0038
148	0.0055	0.0016	0.0039
149	0.0056	0.0016	0.0040
150	0.0057	0.0016	0.0040
151	0.0058	0.0017	0.0041
152	0.0059	0.0017	0.0042
153	0.0060	0.0017	0.0043
154	0.0061	0.0017	0.0044
155	0.0063	0.0018	0.0045
156	0.0064	0.0018	0.0046
157	0.0066	0.0019	0.0047
158	0.0067	0.0019	0.0048
159	0.0069	0.0020	0.0049
160	0.0070	0.0020	0.0050
161	0.0072	0.0021	0.0052
162	0.0073	0.0021	0.0052
163	0.0076	0.0022	0.0054
164	0.0077	0.0022	0.0055
165	0.0080	0.0023	0.0057
166	0.0082	0.0023	0.0058

167	0.0085	0.0024	0.0061
168	0.0087	0.0025	0.0062
169	0.0091	0.0026	0.0065
170	0.0093	0.0027	0.0067
171	0.0098	0.0028	0.0070
172	0.0100	0.0029	0.0072
173	0.0106	0.0030	0.0075
174	0.0109	0.0031	0.0078
175	0.0115	0.0033	0.0082
176	0.0119	0.0034	0.0085
177	0.0127	0.0036	0.0090
178	0.0131	0.0037	0.0094
179	0.0141	0.0040	0.0101
180	0.0147	0.0042	0.0105
181	0.0160	0.0046	0.0114
182	0.0168	0.0048	0.0120
183	0.0186	0.0053	0.0133
184	0.0197	0.0056	0.0141
185	0.0330	0.0094	0.0235
186	0.0351	0.0100	0.0251
187	0.0407	0.0105	0.0302
188	0.0445	0.0105	0.0340
189	0.0553	0.0105	0.0448
190	0.0637	0.0105	0.0532
191	0.0967	0.0105	0.0862
192	0.1403	0.0105	0.1298
193	0.6071	0.0105	0.5966
194	0.0761	0.0105	0.0656
195	0.0492	0.0105	0.0387
196	0.0377	0.0105	0.0272
197	0.0209	0.0060	0.0150
198	0.0176	0.0050	0.0126
199	0.0153	0.0044	0.0109
200	0.0136	0.0039	0.0097
201	0.0122	0.0035	0.0087
202	0.0112	0.0032	0.0080
203	0.0103	0.0029	0.0073
204	0.0095	0.0027	0.0068
205	0.0089	0.0025	0.0064
206	0.0084	0.0024	0.0060
207	0.0079	0.0023	0.0056
208	0.0075	0.0021	0.0053
209	0.0071	0.0020	0.0051
210	0.0068	0.0019	0.0048
211	0.0065	0.0018	0.0046
212	0.0062	0.0018	0.0044
213	0.0059	0.0017	0.0042
214	0.0057	0.0016	0.0041
215	0.0055	0.0016	0.0039
216	0.0053	0.0015	0.0038
217	0.0047	0.0013	0.0034
218	0.0046	0.0013	0.0033
219	0.0044	0.0013	0.0032
220	0.0043	0.0012	0.0031
221	0.0042	0.0012	0.0030
222	0.0040	0.0012	0.0029
223	0.0039	0.0011	0.0028
224	0.0038	0.0011	0.0027
225	0.0037	0.0011	0.0027

226	0.0036	0.0010	0.0026
227	0.0036	0.0010	0.0025
228	0.0035	0.0010	0.0025
229	0.0034	0.0010	0.0024
230	0.0033	0.0009	0.0024
231	0.0033	0.0009	0.0023
232	0.0032	0.0009	0.0023
233	0.0031	0.0009	0.0022
234	0.0031	0.0009	0.0022
235	0.0030	0.0009	0.0021
236	0.0029	0.0008	0.0021
237	0.0029	0.0008	0.0021
238	0.0028	0.0008	0.0020
239	0.0028	0.0008	0.0020
240	0.0027	0.0008	0.0020
241	0.0027	0.0008	0.0019
242	0.0026	0.0008	0.0019
243	0.0026	0.0007	0.0019
244	0.0026	0.0007	0.0018
245	0.0025	0.0007	0.0018
246	0.0025	0.0007	0.0018
247	0.0024	0.0007	0.0017
248	0.0024	0.0007	0.0017
249	0.0024	0.0007	0.0017
250	0.0023	0.0007	0.0017
251	0.0023	0.0007	0.0016
252	0.0023	0.0007	0.0016
253	0.0022	0.0006	0.0016
254	0.0022	0.0006	0.0016
255	0.0022	0.0006	0.0016
256	0.0022	0.0006	0.0015
257	0.0021	0.0006	0.0015
258	0.0021	0.0006	0.0015
259	0.0021	0.0006	0.0015
260	0.0021	0.0006	0.0015
261	0.0020	0.0006	0.0014
262	0.0020	0.0006	0.0014
263	0.0020	0.0006	0.0014
264	0.0020	0.0006	0.0014
265	0.0019	0.0006	0.0014
266	0.0019	0.0005	0.0014
267	0.0019	0.0005	0.0014
268	0.0019	0.0005	0.0013
269	0.0019	0.0005	0.0013
270	0.0018	0.0005	0.0013
271	0.0018	0.0005	0.0013
272	0.0018	0.0005	0.0013
273	0.0018	0.0005	0.0013
274	0.0018	0.0005	0.0013
275	0.0017	0.0005	0.0012
276	0.0017	0.0005	0.0012
277	0.0017	0.0005	0.0012
278	0.0017	0.0005	0.0012
279	0.0017	0.0005	0.0012
280	0.0017	0.0005	0.0012
281	0.0016	0.0005	0.0012
282	0.0016	0.0005	0.0012
283	0.0016	0.0005	0.0012
284	0.0016	0.0005	0.0011

285	0.0016	0.0005	0.0011
286	0.0016	0.0004	0.0011
287	0.0016	0.0004	0.0011
288	0.0015	0.0004	0.0011

Total soil rain loss = 0.44(In)
Total effective rainfall = 1.94(In)
Peak flow rate in flood hydrograph = 23.87(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0005	0.05	Q				
0+20	0.0010	0.07	Q				
0+25	0.0016	0.09	Q				
0+30	0.0022	0.09	Q				
0+35	0.0029	0.10	Q				
0+40	0.0036	0.11	Q				
0+45	0.0044	0.11	Q				
0+50	0.0052	0.11	Q				
0+55	0.0060	0.12	Q				
1+ 0	0.0068	0.12	Q				
1+ 5	0.0076	0.12	Q				
1+10	0.0085	0.12	Q				
1+15	0.0093	0.12	Q				
1+20	0.0102	0.12	Q				
1+25	0.0110	0.13	Q				
1+30	0.0119	0.13	Q				
1+35	0.0128	0.13	Q				
1+40	0.0137	0.13	Q				
1+45	0.0146	0.13	Q				
1+50	0.0155	0.13	Q				
1+55	0.0164	0.13	Q				
2+ 0	0.0173	0.13	Q				
2+ 5	0.0182	0.13	Q				
2+10	0.0192	0.13	Q				
2+15	0.0201	0.13	Q				
2+20	0.0210	0.14	Q				
2+25	0.0219	0.14	Q				
2+30	0.0229	0.14	Q				
2+35	0.0238	0.14	Q				
2+40	0.0248	0.14	Q				
2+45	0.0257	0.14	Q				
2+50	0.0267	0.14	Q				
2+55	0.0277	0.14	Q				
3+ 0	0.0286	0.14	Q				
3+ 5	0.0296	0.14	Q				
3+10	0.0306	0.14	Q				
3+15	0.0316	0.14	Q				
3+20	0.0326	0.14	Q				

3+25	0.0335	0.14	Q				
3+30	0.0345	0.15	Q				
3+35	0.0355	0.15	Q				
3+40	0.0366	0.15	Q				
3+45	0.0376	0.15	QV				
3+50	0.0386	0.15	QV				
3+55	0.0396	0.15	QV				
4+ 0	0.0407	0.15	QV				
4+ 5	0.0417	0.15	QV				
4+10	0.0427	0.15	QV				
4+15	0.0438	0.15	QV				
4+20	0.0448	0.15	QV				
4+25	0.0459	0.15	QV				
4+30	0.0470	0.15	QV				
4+35	0.0480	0.16	QV				
4+40	0.0491	0.16	QV				
4+45	0.0502	0.16	QV				
4+50	0.0513	0.16	QV				
4+55	0.0524	0.16	QV				
5+ 0	0.0535	0.16	QV				
5+ 5	0.0546	0.16	QV				
5+10	0.0557	0.16	QV				
5+15	0.0569	0.16	QV				
5+20	0.0580	0.16	QV				
5+25	0.0591	0.17	QV				
5+30	0.0603	0.17	QV				
5+35	0.0614	0.17	QV				
5+40	0.0626	0.17	QV				
5+45	0.0638	0.17	QV				
5+50	0.0649	0.17	QV				
5+55	0.0661	0.17	QV				
6+ 0	0.0673	0.17	QV				
6+ 5	0.0685	0.17	QV				
6+10	0.0697	0.18	QV				
6+15	0.0709	0.18	QV				
6+20	0.0721	0.18	QV				
6+25	0.0734	0.18	QV				
6+30	0.0746	0.18	Q V				
6+35	0.0759	0.18	Q V				
6+40	0.0771	0.18	Q V				
6+45	0.0784	0.18	Q V				
6+50	0.0797	0.19	Q V				
6+55	0.0809	0.19	Q V				
7+ 0	0.0822	0.19	Q V				
7+ 5	0.0835	0.19	Q V				
7+10	0.0849	0.19	Q V				
7+15	0.0862	0.19	Q V				
7+20	0.0875	0.19	Q V				
7+25	0.0888	0.19	Q V				
7+30	0.0902	0.20	Q V				
7+35	0.0916	0.20	Q V				
7+40	0.0929	0.20	Q V				
7+45	0.0943	0.20	Q V				
7+50	0.0957	0.20	Q V				
7+55	0.0971	0.20	Q V				
8+ 0	0.0985	0.21	Q V				
8+ 5	0.1000	0.21	Q V				
8+10	0.1014	0.21	Q V				
8+15	0.1029	0.21	Q V				

8+20	0.1043	0.21	Q V	|	|	|	|
8+25	0.1058	0.21	Q V	|	|	|	|
8+30	0.1073	0.22	Q V	|	|	|	|
8+35	0.1088	0.22	Q V	|	|	|	|
8+40	0.1103	0.22	Q V	|	|	|	|
8+45	0.1118	0.22	Q V	|	|	|	|
8+50	0.1134	0.22	Q V	|	|	|	|
8+55	0.1149	0.23	Q V	|	|	|	|
9+ 0	0.1165	0.23	Q V	|	|	|	|
9+ 5	0.1181	0.23	Q V	|	|	|	|
9+10	0.1197	0.23	Q V	|	|	|	|
9+15	0.1213	0.23	Q V	|	|	|	|
9+20	0.1229	0.24	Q V	|	|	|	|
9+25	0.1246	0.24	Q V	|	|	|	|
9+30	0.1262	0.24	Q V	|	|	|	|
9+35	0.1279	0.24	Q V	|	|	|	|
9+40	0.1296	0.25	Q V	|	|	|	|
9+45	0.1313	0.25	Q V	|	|	|	|
9+50	0.1331	0.25	Q V	|	|	|	|
9+55	0.1348	0.25	Q V	|	|	|	|
10+ 0	0.1366	0.26	Q V	|	|	|	|
10+ 5	0.1384	0.26	Q V	|	|	|	|
10+10	0.1402	0.26	Q V	|	|	|	|
10+15	0.1420	0.27	Q V	|	|	|	|
10+20	0.1438	0.27	Q V	|	|	|	|
10+25	0.1457	0.27	Q V	|	|	|	|
10+30	0.1476	0.27	Q V	|	|	|	|
10+35	0.1495	0.28	Q V	|	|	|	|
10+40	0.1514	0.28	Q V	|	|	|	|
10+45	0.1534	0.28	Q V	|	|	|	|
10+50	0.1554	0.29	Q V	|	|	|	|
10+55	0.1574	0.29	Q V	|	|	|	|
11+ 0	0.1594	0.29	Q V	|	|	|	|
11+ 5	0.1615	0.30	Q V	|	|	|	|
11+10	0.1636	0.30	Q V	|	|	|	|
11+15	0.1657	0.31	Q V	|	|	|	|
11+20	0.1678	0.31	Q V	|	|	|	|
11+25	0.1700	0.31	Q V	|	|	|	|
11+30	0.1722	0.32	Q V	|	|	|	|
11+35	0.1744	0.32	Q V	|	|	|	|
11+40	0.1767	0.33	Q V	|	|	|	|
11+45	0.1790	0.33	Q V	|	|	|	|
11+50	0.1813	0.34	Q V	|	|	|	|
11+55	0.1836	0.34	Q V	|	|	|	|
12+ 0	0.1860	0.35	Q V	|	|	|	|
12+ 5	0.1885	0.35	Q V	|	|	|	|
12+10	0.1910	0.36	Q V	|	|	|	|
12+15	0.1936	0.38	Q V	|	|	|	|
12+20	0.1963	0.39	Q V	|	|	|	|
12+25	0.1991	0.40	Q V	|	|	|	|
12+30	0.2019	0.41	Q V	|	|	|	|
12+35	0.2048	0.42	Q V	|	|	|	|
12+40	0.2078	0.43	Q V	|	|	|	|
12+45	0.2108	0.44	Q V	|	|	|	|
12+50	0.2139	0.45	Q V	|	|	|	|
12+55	0.2170	0.46	Q V	|	|	|	|
13+ 0	0.2202	0.47	Q V	|	|	|	|
13+ 5	0.2235	0.48	Q V	|	|	|	|
13+10	0.2268	0.49	Q V	|	|	|	|

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13+15       0.2303      0.50  Q     V   |          |          |          |
13+20       0.2338      0.51  Q     V   |          |          |          |
13+25       0.2373      0.52  Q     V   |          |          |          |
13+30       0.2410      0.53  Q     V   |          |          |          |
13+35       0.2447      0.54  Q     V   |          |          |          |
13+40       0.2486      0.56  Q     V   |          |          |          |
13+45       0.2525      0.57  Q     V   |          |          |          |
13+50       0.2565      0.59  Q     V   |          |          |          |
13+55       0.2607      0.60  Q      V  |          |          |          |
14+ 0       0.2650      0.62  Q      V  |          |          |          |
14+ 5       0.2694      0.64  Q      V  |          |          |          |
14+10       0.2739      0.66  Q      V  |          |          |          |
14+15       0.2785      0.68  Q      V  |          |          |          |
14+20       0.2834      0.70  Q      V  |          |          |          |
14+25       0.2883      0.72  Q      V  |          |          |          |
14+30       0.2935      0.75  Q      V  |          |          |          |
14+35       0.2988      0.78  |Q      V |          |          |          |
14+40       0.3044      0.81  |Q      V |          |          |          |
14+45       0.3102      0.84  |Q      V |          |          |          |
14+50       0.3162      0.88  |Q      V |          |          |          |
14+55       0.3226      0.92  |Q      V |          |          |          |
15+ 0       0.3292      0.96  |Q      V |          |          |          |
15+ 5       0.3362      1.01  |Q       V|          |          |          |
15+10       0.3436      1.07  |Q       V|          |          |          |
15+15       0.3514      1.14  |Q       V|          |          |          |
15+20       0.3597      1.21  |Q       V|          |          |          |
15+25       0.3688      1.32  |Q       V|          |          |          |
15+30       0.3792      1.51  | Q       V          |          |          |
15+35       0.3922      1.88  | Q       V          |          |          |
15+40       0.4076      2.24  | Q       V          |          |          |
15+45       0.4257      2.63  |  Q      |V         |          |          |
15+50       0.4471      3.11  |   Q     | V        |          |          |
15+55       0.4736      3.84  |    Q    | V        |          |          |
16+ 0       0.5078      4.98  |     Q   |  V       |          |          |
16+ 5       0.5633      8.06  |         Q    V     |          |          |
16+10       0.6647     14.72  |         |      V Q|          |          |
16+15       0.8291     23.87  |         |          | V        |Q         |
16+20       0.9547     18.24  |         |          |   QV     |          |
16+25       1.0363     11.86  |         |    Q     |      V   |          |
16+30       1.0964      8.73  |         |Q         |        V|          |
16+35       1.1420      6.61  |       Q |          |         V          |
16+40       1.1782      5.26  |      Q  |          |         |V         |
16+45       1.2081      4.34  |    Q    |          |         | V        |
16+50       1.2324      3.53  |   Q     |          |         |  V       |
16+55       1.2532      3.03  |   Q     |          |         |  V       |
17+ 0       1.2713      2.62  |  Q      |          |         |   V      |
17+ 5       1.2867      2.24  | Q       |          |         |   V      |
17+10       1.3002      1.96  | Q       |          |         |   V      |
17+15       1.3120      1.71  | Q       |          |         |    V     |
17+20       1.3221      1.46  |Q        |          |         |    V     |
17+25       1.3307      1.25  |Q        |          |         |    V     |
17+30       1.3385      1.13  |Q        |          |         |    V     |
17+35       1.3460      1.09  |Q        |          |         |     V    |
17+40       1.3530      1.02  |Q        |          |         |     V    |
17+45       1.3593      0.92  |Q        |          |         |     V    |
17+50       1.3647      0.78  |Q        |          |         |     V    |
17+55       1.3697      0.71  Q         |          |         |     V    |
18+ 0       1.3734      0.55  Q         |          |         |     V    |
18+ 5       1.3769      0.51  Q         |          |         |      V   |
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18+10	1.3802	0.48	Q	|	|	|	V |
18+15	1.3833	0.45	Q	|	|	|	V |
18+20	1.3862	0.42	Q	|	|	|	V |
18+25	1.3890	0.40	Q	|	|	|	V |
18+30	1.3916	0.39	Q	|	|	|	V |
18+35	1.3942	0.37	Q	|	|	|	V |
18+40	1.3967	0.36	Q	|	|	|	V |
18+45	1.3990	0.34	Q	|	|	|	V |
18+50	1.4013	0.33	Q	|	|	|	V |
18+55	1.4036	0.32	Q	|	|	|	V |
19+ 0	1.4057	0.31	Q	|	|	|	V |
19+ 5	1.4078	0.31	Q	|	|	|	V |
19+10	1.4099	0.30	Q	|	|	|	V |
19+15	1.4119	0.29	Q	|	|	|	V |
19+20	1.4138	0.28	Q	|	|	|	V |
19+25	1.4157	0.28	Q	|	|	|	V |
19+30	1.4175	0.27	Q	|	|	|	V |
19+35	1.4194	0.26	Q	|	|	|	V |
19+40	1.4211	0.26	Q	|	|	|	V |
19+45	1.4229	0.25	Q	|	|	|	V |
19+50	1.4245	0.25	Q	|	|	|	V |
19+55	1.4262	0.24	Q	|	|	|	V |
20+ 0	1.4278	0.24	Q	|	|	|	V |
20+ 5	1.4294	0.23	Q	|	|	|	V |
20+10	1.4310	0.23	Q	|	|	|	V |
20+15	1.4325	0.22	Q	|	|	|	V |
20+20	1.4341	0.22	Q	|	|	|	V |
20+25	1.4355	0.22	Q	|	|	|	V |
20+30	1.4370	0.21	Q	|	|	|	V |
20+35	1.4384	0.21	Q	|	|	|	V |
20+40	1.4399	0.21	Q	|	|	|	V |
20+45	1.4413	0.20	Q	|	|	|	V |
20+50	1.4426	0.20	Q	|	|	|	V |
20+55	1.4440	0.20	Q	|	|	|	V |
21+ 0	1.4453	0.19	Q	|	|	|	V |
21+ 5	1.4466	0.19	Q	|	|	|	V |
21+10	1.4479	0.19	Q	|	|	|	V |
21+15	1.4492	0.18	Q	|	|	|	V |
21+20	1.4504	0.18	Q	|	|	|	V|
21+25	1.4517	0.18	Q	|	|	|	V|
21+30	1.4529	0.18	Q	|	|	|	V|
21+35	1.4541	0.17	Q	|	|	|	V|
21+40	1.4553	0.17	Q	|	|	|	V|
21+45	1.4564	0.17	Q	|	|	|	V|
21+50	1.4576	0.17	Q	|	|	|	V|
21+55	1.4587	0.17	Q	|	|	|	V|
22+ 0	1.4599	0.16	Q	|	|	|	V|
22+ 5	1.4610	0.16	Q	|	|	|	V|
22+10	1.4621	0.16	Q	|	|	|	V|
22+15	1.4632	0.16	Q	|	|	|	V|
22+20	1.4643	0.16	Q	|	|	|	V|
22+25	1.4653	0.15	Q	|	|	|	V|
22+30	1.4664	0.15	Q	|	|	|	V|
22+35	1.4674	0.15	Q	|	|	|	V|
22+40	1.4685	0.15	Q	|	|	|	V|
22+45	1.4695	0.15	Q	|	|	|	V|
22+50	1.4705	0.15	Q	|	|	|	V|
22+55	1.4715	0.14	Q	|	|	|	V|
23+ 0	1.4725	0.14	Q	|	|	|	V|

23+ 5	1.4734	0.14	Q	|	|	|	V|
23+10	1.4744	0.14	Q	|	|	|	V|
23+15	1.4754	0.14	Q	|	|	|	V|
23+20	1.4763	0.14	Q	|	|	|	V|
23+25	1.4772	0.14	Q	|	|	|	V|
23+30	1.4782	0.13	Q	|	|	|	V|
23+35	1.4791	0.13	Q	|	|	|	V|
23+40	1.4800	0.13	Q	|	|	|	V|
23+45	1.4809	0.13	Q	|	|	|	V|
23+50	1.4818	0.13	Q	|	|	|	V|
23+55	1.4827	0.13	Q	|	|	|	V|
24+ 0	1.4836	0.13	Q	|	|	|	V|
24+ 5	1.4844	0.12	Q	|	|	|	V|
24+10	1.4852	0.11	Q	|	|	|	V|
24+15	1.4857	0.08	Q	|	|	|	V|
24+20	1.4861	0.05	Q	|	|	|	V|
24+25	1.4863	0.04	Q	|	|	|	V|
24+30	1.4865	0.03	Q	|	|	|	V|
24+35	1.4867	0.02	Q	|	|	|	V|
24+40	1.4868	0.02	Q	|	|	|	V|
24+45	1.4869	0.01	Q	|	|	|	V|
24+50	1.4870	0.01	Q	|	|	|	V|
24+55	1.4871	0.01	Q	|	|	|	V|
25+ 0	1.4871	0.01	Q	|	|	|	V|
25+ 5	1.4872	0.01	Q	|	|	|	V|
25+10	1.4872	0.00	Q	|	|	|	V|
25+15	1.4872	0.00	Q	|	|	|	V|
25+20	1.4872	0.00	Q	|	|	|	V|
25+25	1.4873	0.00	Q	|	|	|	V|
25+30	1.4873	0.00	Q	|	|	|	V|
25+35	1.4873	0.00	Q	|	|	|	V|
25+40	1.4873	0.00	Q	|	|	|	V|
25+45	1.4873	0.00	Q	|	|	|	V|
25+50	1.4873	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 12
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
0.87	1	1.28
Rainfall data for year 100		
0.87	6	1.84
Rainfall data for year 100		
0.87	24	2.37

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	0.87	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.78	0.900	78.0	92.8	0.78	0.692
0.09	0.100	98.0	98.0	0.20	0.904

Area-averaged catchment yield fraction, Y = 0.713
Area-averaged low loss fraction, Yb = 0.287
User entry of time of concentration = 0.150 (hours)
++
Watershed area = 0.87(Ac.)
Catchment Lag time = 0.120 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 69.4444
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.287 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.607(In)
Computed peak 30-minute rainfall = 1.040(In)
Specified peak 1-hour rainfall = 1.280(In)
Computed peak 3-hour rainfall = 1.599(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.370(In)

Rainfall depth area reduction factors:
Using a total area of 0.87(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.607(In)
30-minute factor = 1.000 Adjusted rainfall = 1.040(In)
1-hour factor = 1.000 Adjusted rainfall = 1.280(In)
3-hour factor = 1.000 Adjusted rainfall = 1.599(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.370(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 10.52 (CFS))	
1	7.669	0.807
2	50.033	4.457
3	73.305	2.449
4	83.434	1.066
5	89.365	0.624
6	93.063	0.389
7	95.572	0.264
8	97.262	0.178
9	98.212	0.100
10	99.017	0.085
11	99.681	0.070
12	100.000	0.034

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6073	0.6073
2	0.7477	0.1404
3	0.8445	0.0967
4	0.9206	0.0761
5	0.9843	0.0637
6	1.0396	0.0553
7	1.0888	0.0492
8	1.1334	0.0445
9	1.1741	0.0408
10	1.2118	0.0377
11	1.2470	0.0351
12	1.2799	0.0330
13	1.3009	0.0209
14	1.3205	0.0197
15	1.3391	0.0186
16	1.3568	0.0176
17	1.3735	0.0168
18	1.3895	0.0160
19	1.4048	0.0153
20	1.4195	0.0147
21	1.4336	0.0141
22	1.4472	0.0136
23	1.4603	0.0131
24	1.4729	0.0126
25	1.4851	0.0122
26	1.4970	0.0118
27	1.5085	0.0115
28	1.5196	0.0112
29	1.5305	0.0108
30	1.5410	0.0105
31	1.5513	0.0103
32	1.5613	0.0100
33	1.5710	0.0098
34	1.5806	0.0095
35	1.5899	0.0093
36	1.5990	0.0091
37	1.6079	0.0089
38	1.6166	0.0087
39	1.6251	0.0085
40	1.6335	0.0084
41	1.6417	0.0082
42	1.6497	0.0080
43	1.6576	0.0079
44	1.6653	0.0077
45	1.6729	0.0076
46	1.6804	0.0075
47	1.6877	0.0073
48	1.6949	0.0072
49	1.7020	0.0071
50	1.7090	0.0070
51	1.7159	0.0069
52	1.7226	0.0068
53	1.7293	0.0067
54	1.7358	0.0066
55	1.7423	0.0065
56	1.7487	0.0064
57	1.7550	0.0063

58	1.7612	0.0062
59	1.7673	0.0061
60	1.7733	0.0060
61	1.7792	0.0059
62	1.7851	0.0059
63	1.7909	0.0058
64	1.7966	0.0057
65	1.8023	0.0057
66	1.8079	0.0056
67	1.8134	0.0055
68	1.8188	0.0054
69	1.8242	0.0054
70	1.8295	0.0053
71	1.8348	0.0053
72	1.8400	0.0052
73	1.8446	0.0046
74	1.8492	0.0046
75	1.8538	0.0045
76	1.8582	0.0045
77	1.8627	0.0044
78	1.8671	0.0044
79	1.8714	0.0043
80	1.8757	0.0043
81	1.8800	0.0043
82	1.8842	0.0042
83	1.8884	0.0042
84	1.8925	0.0041
85	1.8966	0.0041
86	1.9007	0.0041
87	1.9047	0.0040
88	1.9087	0.0040
89	1.9126	0.0039
90	1.9165	0.0039
91	1.9204	0.0039
92	1.9242	0.0038
93	1.9280	0.0038
94	1.9318	0.0038
95	1.9355	0.0037
96	1.9392	0.0037
97	1.9429	0.0037
98	1.9465	0.0036
99	1.9502	0.0036
100	1.9537	0.0036
101	1.9573	0.0036
102	1.9608	0.0035
103	1.9643	0.0035
104	1.9678	0.0035
105	1.9712	0.0034
106	1.9746	0.0034
107	1.9780	0.0034
108	1.9814	0.0034
109	1.9847	0.0033
110	1.9880	0.0033
111	1.9913	0.0033
112	1.9946	0.0033
113	1.9978	0.0032
114	2.0010	0.0032
115	2.0042	0.0032
116	2.0074	0.0032

117	2.0106	0.0031
118	2.0137	0.0031
119	2.0168	0.0031
120	2.0199	0.0031
121	2.0229	0.0031
122	2.0260	0.0030
123	2.0290	0.0030
124	2.0320	0.0030
125	2.0350	0.0030
126	2.0379	0.0030
127	2.0409	0.0029
128	2.0438	0.0029
129	2.0467	0.0029
130	2.0496	0.0029
131	2.0525	0.0029
132	2.0553	0.0029
133	2.0582	0.0028
134	2.0610	0.0028
135	2.0638	0.0028
136	2.0666	0.0028
137	2.0693	0.0028
138	2.0721	0.0027
139	2.0748	0.0027
140	2.0775	0.0027
141	2.0802	0.0027
142	2.0829	0.0027
143	2.0856	0.0027
144	2.0882	0.0027
145	2.0909	0.0026
146	2.0935	0.0026
147	2.0961	0.0026
148	2.0987	0.0026
149	2.1013	0.0026
150	2.1039	0.0026
151	2.1064	0.0026
152	2.1090	0.0025
153	2.1115	0.0025
154	2.1140	0.0025
155	2.1165	0.0025
156	2.1190	0.0025
157	2.1215	0.0025
158	2.1239	0.0025
159	2.1264	0.0024
160	2.1288	0.0024
161	2.1312	0.0024
162	2.1336	0.0024
163	2.1360	0.0024
164	2.1384	0.0024
165	2.1408	0.0024
166	2.1432	0.0024
167	2.1455	0.0024
168	2.1479	0.0023
169	2.1502	0.0023
170	2.1525	0.0023
171	2.1548	0.0023
172	2.1571	0.0023
173	2.1594	0.0023
174	2.1617	0.0023
175	2.1639	0.0023

176	2.1662	0.0023
177	2.1684	0.0022
178	2.1707	0.0022
179	2.1729	0.0022
180	2.1751	0.0022
181	2.1773	0.0022
182	2.1795	0.0022
183	2.1817	0.0022
184	2.1838	0.0022
185	2.1860	0.0022
186	2.1882	0.0022
187	2.1903	0.0021
188	2.1924	0.0021
189	2.1946	0.0021
190	2.1967	0.0021
191	2.1988	0.0021
192	2.2009	0.0021
193	2.2030	0.0021
194	2.2050	0.0021
195	2.2071	0.0021
196	2.2092	0.0021
197	2.2112	0.0021
198	2.2133	0.0020
199	2.2153	0.0020
200	2.2173	0.0020
201	2.2194	0.0020
202	2.2214	0.0020
203	2.2234	0.0020
204	2.2254	0.0020
205	2.2274	0.0020
206	2.2293	0.0020
207	2.2313	0.0020
208	2.2333	0.0020
209	2.2352	0.0020
210	2.2372	0.0019
211	2.2391	0.0019
212	2.2411	0.0019
213	2.2430	0.0019
214	2.2449	0.0019
215	2.2468	0.0019
216	2.2487	0.0019
217	2.2506	0.0019
218	2.2525	0.0019
219	2.2544	0.0019
220	2.2563	0.0019
221	2.2581	0.0019
222	2.2600	0.0019
223	2.2619	0.0019
224	2.2637	0.0018
225	2.2655	0.0018
226	2.2674	0.0018
227	2.2692	0.0018
228	2.2710	0.0018
229	2.2728	0.0018
230	2.2747	0.0018
231	2.2765	0.0018
232	2.2783	0.0018
233	2.2800	0.0018
234	2.2818	0.0018

235	2.2836	0.0018
236	2.2854	0.0018
237	2.2871	0.0018
238	2.2889	0.0018
239	2.2907	0.0018
240	2.2924	0.0017
241	2.2941	0.0017
242	2.2959	0.0017
243	2.2976	0.0017
244	2.2993	0.0017
245	2.3010	0.0017
246	2.3028	0.0017
247	2.3045	0.0017
248	2.3062	0.0017
249	2.3079	0.0017
250	2.3095	0.0017
251	2.3112	0.0017
252	2.3129	0.0017
253	2.3146	0.0017
254	2.3163	0.0017
255	2.3179	0.0017
256	2.3196	0.0017
257	2.3212	0.0017
258	2.3229	0.0016
259	2.3245	0.0016
260	2.3261	0.0016
261	2.3278	0.0016
262	2.3294	0.0016
263	2.3310	0.0016
264	2.3326	0.0016
265	2.3343	0.0016
266	2.3359	0.0016
267	2.3375	0.0016
268	2.3391	0.0016
269	2.3406	0.0016
270	2.3422	0.0016
271	2.3438	0.0016
272	2.3454	0.0016
273	2.3470	0.0016
274	2.3485	0.0016
275	2.3501	0.0016
276	2.3517	0.0016
277	2.3532	0.0016
278	2.3548	0.0015
279	2.3563	0.0015
280	2.3578	0.0015
281	2.3594	0.0015
282	2.3609	0.0015
283	2.3624	0.0015
284	2.3640	0.0015
285	2.3655	0.0015
286	2.3670	0.0015
287	2.3685	0.0015
288	2.3700	0.0015

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)

1	0.0015	0.0004	0.0011
2	0.0015	0.0004	0.0011
3	0.0015	0.0004	0.0011
4	0.0015	0.0004	0.0011
5	0.0015	0.0004	0.0011
6	0.0015	0.0004	0.0011
7	0.0015	0.0004	0.0011
8	0.0015	0.0004	0.0011
9	0.0016	0.0004	0.0011
10	0.0016	0.0004	0.0011
11	0.0016	0.0005	0.0011
12	0.0016	0.0005	0.0011
13	0.0016	0.0005	0.0011
14	0.0016	0.0005	0.0011
15	0.0016	0.0005	0.0011
16	0.0016	0.0005	0.0011
17	0.0016	0.0005	0.0012
18	0.0016	0.0005	0.0012
19	0.0016	0.0005	0.0012
20	0.0016	0.0005	0.0012
21	0.0016	0.0005	0.0012
22	0.0017	0.0005	0.0012
23	0.0017	0.0005	0.0012
24	0.0017	0.0005	0.0012
25	0.0017	0.0005	0.0012
26	0.0017	0.0005	0.0012
27	0.0017	0.0005	0.0012
28	0.0017	0.0005	0.0012
29	0.0017	0.0005	0.0012
30	0.0017	0.0005	0.0012
31	0.0017	0.0005	0.0012
32	0.0017	0.0005	0.0012
33	0.0017	0.0005	0.0012
34	0.0018	0.0005	0.0013
35	0.0018	0.0005	0.0013
36	0.0018	0.0005	0.0013
37	0.0018	0.0005	0.0013
38	0.0018	0.0005	0.0013
39	0.0018	0.0005	0.0013
40	0.0018	0.0005	0.0013
41	0.0018	0.0005	0.0013
42	0.0018	0.0005	0.0013
43	0.0018	0.0005	0.0013
44	0.0018	0.0005	0.0013
45	0.0019	0.0005	0.0013
46	0.0019	0.0005	0.0013
47	0.0019	0.0005	0.0013
48	0.0019	0.0005	0.0013
49	0.0019	0.0005	0.0014
50	0.0019	0.0005	0.0014
51	0.0019	0.0006	0.0014
52	0.0019	0.0006	0.0014
53	0.0019	0.0006	0.0014
54	0.0020	0.0006	0.0014
55	0.0020	0.0006	0.0014
56	0.0020	0.0006	0.0014
57	0.0020	0.0006	0.0014
58	0.0020	0.0006	0.0014
59	0.0020	0.0006	0.0014

60	0.0020	0.0006	0.0014
61	0.0020	0.0006	0.0015
62	0.0021	0.0006	0.0015
63	0.0021	0.0006	0.0015
64	0.0021	0.0006	0.0015
65	0.0021	0.0006	0.0015
66	0.0021	0.0006	0.0015
67	0.0021	0.0006	0.0015
68	0.0021	0.0006	0.0015
69	0.0022	0.0006	0.0015
70	0.0022	0.0006	0.0015
71	0.0022	0.0006	0.0016
72	0.0022	0.0006	0.0016
73	0.0022	0.0006	0.0016
74	0.0022	0.0006	0.0016
75	0.0022	0.0006	0.0016
76	0.0023	0.0006	0.0016
77	0.0023	0.0007	0.0016
78	0.0023	0.0007	0.0016
79	0.0023	0.0007	0.0016
80	0.0023	0.0007	0.0017
81	0.0023	0.0007	0.0017
82	0.0024	0.0007	0.0017
83	0.0024	0.0007	0.0017
84	0.0024	0.0007	0.0017
85	0.0024	0.0007	0.0017
86	0.0024	0.0007	0.0017
87	0.0024	0.0007	0.0017
88	0.0025	0.0007	0.0018
89	0.0025	0.0007	0.0018
90	0.0025	0.0007	0.0018
91	0.0025	0.0007	0.0018
92	0.0025	0.0007	0.0018
93	0.0026	0.0007	0.0018
94	0.0026	0.0007	0.0018
95	0.0026	0.0007	0.0019
96	0.0026	0.0008	0.0019
97	0.0027	0.0008	0.0019
98	0.0027	0.0008	0.0019
99	0.0027	0.0008	0.0019
100	0.0027	0.0008	0.0019
101	0.0027	0.0008	0.0020
102	0.0028	0.0008	0.0020
103	0.0028	0.0008	0.0020
104	0.0028	0.0008	0.0020
105	0.0029	0.0008	0.0020
106	0.0029	0.0008	0.0020
107	0.0029	0.0008	0.0021
108	0.0029	0.0008	0.0021
109	0.0030	0.0008	0.0021
110	0.0030	0.0009	0.0021
111	0.0030	0.0009	0.0022
112	0.0030	0.0009	0.0022
113	0.0031	0.0009	0.0022
114	0.0031	0.0009	0.0022
115	0.0031	0.0009	0.0022
116	0.0032	0.0009	0.0023
117	0.0032	0.0009	0.0023
118	0.0032	0.0009	0.0023

119	0.0033	0.0009	0.0023
120	0.0033	0.0009	0.0024
121	0.0034	0.0010	0.0024
122	0.0034	0.0010	0.0024
123	0.0034	0.0010	0.0025
124	0.0035	0.0010	0.0025
125	0.0035	0.0010	0.0025
126	0.0036	0.0010	0.0025
127	0.0036	0.0010	0.0026
128	0.0036	0.0010	0.0026
129	0.0037	0.0011	0.0026
130	0.0037	0.0011	0.0027
131	0.0038	0.0011	0.0027
132	0.0038	0.0011	0.0027
133	0.0039	0.0011	0.0028
134	0.0039	0.0011	0.0028
135	0.0040	0.0012	0.0029
136	0.0041	0.0012	0.0029
137	0.0041	0.0012	0.0029
138	0.0042	0.0012	0.0030
139	0.0043	0.0012	0.0030
140	0.0043	0.0012	0.0031
141	0.0044	0.0013	0.0031
142	0.0044	0.0013	0.0032
143	0.0045	0.0013	0.0032
144	0.0046	0.0013	0.0033
145	0.0052	0.0015	0.0037
146	0.0053	0.0015	0.0038
147	0.0054	0.0015	0.0038
148	0.0054	0.0016	0.0039
149	0.0056	0.0016	0.0040
150	0.0057	0.0016	0.0040
151	0.0058	0.0017	0.0041
152	0.0059	0.0017	0.0042
153	0.0060	0.0017	0.0043
154	0.0061	0.0018	0.0044
155	0.0063	0.0018	0.0045
156	0.0064	0.0018	0.0045
157	0.0066	0.0019	0.0047
158	0.0067	0.0019	0.0047
159	0.0069	0.0020	0.0049
160	0.0070	0.0020	0.0050
161	0.0072	0.0021	0.0051
162	0.0073	0.0021	0.0052
163	0.0076	0.0022	0.0054
164	0.0077	0.0022	0.0055
165	0.0080	0.0023	0.0057
166	0.0082	0.0023	0.0058
167	0.0085	0.0024	0.0061
168	0.0087	0.0025	0.0062
169	0.0091	0.0026	0.0065
170	0.0093	0.0027	0.0066
171	0.0098	0.0028	0.0070
172	0.0100	0.0029	0.0071
173	0.0105	0.0030	0.0075
174	0.0108	0.0031	0.0077
175	0.0115	0.0033	0.0082
176	0.0118	0.0034	0.0084
177	0.0126	0.0036	0.0090

178	0.0131	0.0038	0.0093
179	0.0141	0.0040	0.0101
180	0.0147	0.0042	0.0105
181	0.0160	0.0046	0.0114
182	0.0168	0.0048	0.0120
183	0.0186	0.0053	0.0133
184	0.0197	0.0056	0.0140
185	0.0330	0.0095	0.0235
186	0.0351	0.0101	0.0251
187	0.0408	0.0105	0.0303
188	0.0445	0.0105	0.0340
189	0.0553	0.0105	0.0448
190	0.0637	0.0105	0.0532
191	0.0967	0.0105	0.0862
192	0.1404	0.0105	0.1299
193	0.6073	0.0105	0.5968
194	0.0761	0.0105	0.0656
195	0.0492	0.0105	0.0387
196	0.0377	0.0105	0.0272
197	0.0209	0.0060	0.0149
198	0.0176	0.0051	0.0126
199	0.0153	0.0044	0.0109
200	0.0136	0.0039	0.0097
201	0.0122	0.0035	0.0087
202	0.0112	0.0032	0.0080
203	0.0103	0.0029	0.0073
204	0.0095	0.0027	0.0068
205	0.0089	0.0026	0.0063
206	0.0084	0.0024	0.0060
207	0.0079	0.0023	0.0056
208	0.0075	0.0021	0.0053
209	0.0071	0.0020	0.0051
210	0.0068	0.0019	0.0048
211	0.0065	0.0019	0.0046
212	0.0062	0.0018	0.0044
213	0.0059	0.0017	0.0042
214	0.0057	0.0016	0.0041
215	0.0055	0.0016	0.0039
216	0.0053	0.0015	0.0038
217	0.0046	0.0013	0.0033
218	0.0045	0.0013	0.0032
219	0.0043	0.0012	0.0031
220	0.0042	0.0012	0.0030
221	0.0041	0.0012	0.0029
222	0.0040	0.0011	0.0028
223	0.0039	0.0011	0.0028
224	0.0038	0.0011	0.0027
225	0.0037	0.0011	0.0026
226	0.0036	0.0010	0.0026
227	0.0035	0.0010	0.0025
228	0.0034	0.0010	0.0024
229	0.0033	0.0010	0.0024
230	0.0033	0.0009	0.0023
231	0.0032	0.0009	0.0023
232	0.0031	0.0009	0.0022
233	0.0031	0.0009	0.0022
234	0.0030	0.0009	0.0021
235	0.0029	0.0008	0.0021
236	0.0029	0.0008	0.0021

237	0.0028	0.0008	0.0020
238	0.0028	0.0008	0.0020
239	0.0027	0.0008	0.0019
240	0.0027	0.0008	0.0019
241	0.0026	0.0008	0.0019
242	0.0026	0.0007	0.0019
243	0.0026	0.0007	0.0018
244	0.0025	0.0007	0.0018
245	0.0025	0.0007	0.0018
246	0.0024	0.0007	0.0017
247	0.0024	0.0007	0.0017
248	0.0024	0.0007	0.0017
249	0.0023	0.0007	0.0017
250	0.0023	0.0007	0.0016
251	0.0023	0.0006	0.0016
252	0.0022	0.0006	0.0016
253	0.0022	0.0006	0.0016
254	0.0022	0.0006	0.0015
255	0.0021	0.0006	0.0015
256	0.0021	0.0006	0.0015
257	0.0021	0.0006	0.0015
258	0.0021	0.0006	0.0015
259	0.0020	0.0006	0.0015
260	0.0020	0.0006	0.0014
261	0.0020	0.0006	0.0014
262	0.0020	0.0006	0.0014
263	0.0019	0.0006	0.0014
264	0.0019	0.0006	0.0014
265	0.0019	0.0005	0.0014
266	0.0019	0.0005	0.0013
267	0.0019	0.0005	0.0013
268	0.0018	0.0005	0.0013
269	0.0018	0.0005	0.0013
270	0.0018	0.0005	0.0013
271	0.0018	0.0005	0.0013
272	0.0018	0.0005	0.0013
273	0.0017	0.0005	0.0012
274	0.0017	0.0005	0.0012
275	0.0017	0.0005	0.0012
276	0.0017	0.0005	0.0012
277	0.0017	0.0005	0.0012
278	0.0017	0.0005	0.0012
279	0.0016	0.0005	0.0012
280	0.0016	0.0005	0.0012
281	0.0016	0.0005	0.0011
282	0.0016	0.0005	0.0011
283	0.0016	0.0005	0.0011
284	0.0016	0.0004	0.0011
285	0.0016	0.0004	0.0011
286	0.0015	0.0004	0.0011
287	0.0015	0.0004	0.0011
288	0.0015	0.0004	0.0011

Total soil rain loss = 0.44(In)
Total effective rainfall = 1.93(In)
Peak flow rate in flood hydrograph = 3.19(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0004	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0006	0.01	Q				
0+55	0.0007	0.01	Q				
1+ 0	0.0008	0.01	Q				
1+ 5	0.0009	0.01	Q				
1+10	0.0009	0.01	Q				
1+15	0.0010	0.01	Q				
1+20	0.0011	0.01	Q				
1+25	0.0012	0.01	Q				
1+30	0.0013	0.01	Q				
1+35	0.0014	0.01	Q				
1+40	0.0014	0.01	Q				
1+45	0.0015	0.01	Q				
1+50	0.0016	0.01	Q				
1+55	0.0017	0.01	Q				
2+ 0	0.0018	0.01	Q				
2+ 5	0.0019	0.01	Q				
2+10	0.0020	0.01	Q				
2+15	0.0020	0.01	Q				
2+20	0.0021	0.01	Q				
2+25	0.0022	0.01	Q				
2+30	0.0023	0.01	Q				
2+35	0.0024	0.01	Q				
2+40	0.0025	0.01	Q				
2+45	0.0026	0.01	Q				
2+50	0.0027	0.01	Q				
2+55	0.0027	0.01	Q				
3+ 0	0.0028	0.01	Q				
3+ 5	0.0029	0.01	Q				
3+10	0.0030	0.01	Q				
3+15	0.0031	0.01	Q				
3+20	0.0032	0.01	Q				
3+25	0.0033	0.01	Q				
3+30	0.0034	0.01	Q				
3+35	0.0035	0.01	Q				
3+40	0.0036	0.01	QV				
3+45	0.0037	0.01	QV				
3+50	0.0038	0.01	QV				
3+55	0.0039	0.01	QV				
4+ 0	0.0040	0.01	QV				
4+ 5	0.0041	0.01	QV				
4+10	0.0042	0.01	QV				
4+15	0.0043	0.01	QV				

4+20	0.0044	0.01	QV				
4+25	0.0045	0.01	QV				
4+30	0.0046	0.01	QV				
4+35	0.0047	0.01	QV				
4+40	0.0048	0.01	QV				
4+45	0.0049	0.01	QV				
4+50	0.0050	0.01	QV				
4+55	0.0051	0.01	QV				
5+ 0	0.0052	0.02	QV				
5+ 5	0.0053	0.02	QV				
5+10	0.0054	0.02	QV				
5+15	0.0055	0.02	QV				
5+20	0.0056	0.02	QV				
5+25	0.0057	0.02	QV				
5+30	0.0058	0.02	QV				
5+35	0.0059	0.02	QV				
5+40	0.0060	0.02	QV				
5+45	0.0061	0.02	QV				
5+50	0.0062	0.02	QV				
5+55	0.0064	0.02	QV				
6+ 0	0.0065	0.02	QV				
6+ 5	0.0066	0.02	QV				
6+10	0.0067	0.02	QV				
6+15	0.0068	0.02	QV				
6+20	0.0069	0.02	QV				
6+25	0.0070	0.02	Q V				
6+30	0.0072	0.02	Q V				
6+35	0.0073	0.02	Q V				
6+40	0.0074	0.02	Q V				
6+45	0.0075	0.02	Q V				
6+50	0.0076	0.02	Q V				
6+55	0.0077	0.02	Q V				
7+ 0	0.0079	0.02	Q V				
7+ 5	0.0080	0.02	Q V				
7+10	0.0081	0.02	Q V				
7+15	0.0082	0.02	Q V				
7+20	0.0084	0.02	Q V				
7+25	0.0085	0.02	Q V				
7+30	0.0086	0.02	Q V				
7+35	0.0087	0.02	Q V				
7+40	0.0089	0.02	Q V				
7+45	0.0090	0.02	Q V				
7+50	0.0091	0.02	Q V				
7+55	0.0093	0.02	Q V				
8+ 0	0.0094	0.02	Q V				
8+ 5	0.0095	0.02	Q V				
8+10	0.0097	0.02	Q V				
8+15	0.0098	0.02	Q V				
8+20	0.0099	0.02	Q V				
8+25	0.0101	0.02	Q V				
8+30	0.0102	0.02	Q V				
8+35	0.0104	0.02	Q V				
8+40	0.0105	0.02	Q V				
8+45	0.0107	0.02	Q V				
8+50	0.0108	0.02	Q V				
8+55	0.0109	0.02	Q V				
9+ 0	0.0111	0.02	Q V				
9+ 5	0.0112	0.02	Q V				
9+10	0.0114	0.02	Q V				

```
 9+15       0.0116      0.02  Q  V      |          |          |          |
 9+20       0.0117      0.02  Q  V      |          |          |          |
 9+25       0.0119      0.02  Q  V      |          |          |          |
 9+30       0.0120      0.02  Q  V      |          |          |          |
 9+35       0.0122      0.02  Q  V      |          |          |          |
 9+40       0.0123      0.02  Q  V      |          |          |          |
 9+45       0.0125      0.02  Q  V      |          |          |          |
 9+50       0.0127      0.02  Q  V      |          |          |          |
 9+55       0.0128      0.02  Q  V      |          |          |          |
10+ 0       0.0130      0.02  Q  V      |          |          |          |
10+ 5       0.0132      0.02  Q  V      |          |          |          |
10+10       0.0133      0.02  Q  V      |          |          |          |
10+15       0.0135      0.03  Q  V      |          |          |          |
10+20       0.0137      0.03  Q  V      |          |          |          |
10+25       0.0139      0.03  Q  V      |          |          |          |
10+30       0.0140      0.03  Q   V      |          |          |          |
10+35       0.0142      0.03  Q   V      |          |          |          |
10+40       0.0144      0.03  Q   V      |          |          |          |
10+45       0.0146      0.03  Q   V      |          |          |          |
10+50       0.0148      0.03  Q   V      |          |          |          |
10+55       0.0150      0.03  Q   V      |          |          |          |
11+ 0       0.0152      0.03  Q   V      |          |          |          |
11+ 5       0.0154      0.03  Q   V      |          |          |          |
11+10       0.0156      0.03  Q   V      |          |          |          |
11+15       0.0158      0.03  Q   V      |          |          |          |
11+20       0.0160      0.03  Q   V      |          |          |          |
11+25       0.0162      0.03  Q   V      |          |          |          |
11+30       0.0164      0.03  Q   V      |          |          |          |
11+35       0.0166      0.03  Q   V      |          |          |          |
11+40       0.0168      0.03  Q   V      |          |          |          |
11+45       0.0170      0.03  Q   V      |          |          |          |
11+50       0.0173      0.03  Q   V      |          |          |          |
11+55       0.0175      0.03  Q   V      |          |          |          |
12+ 0       0.0177      0.03  Q    V     |          |          |          |
12+ 5       0.0179      0.03  Q    V     |          |          |          |
12+10       0.0182      0.04  Q    V     |          |          |          |
12+15       0.0185      0.04  Q    V     |          |          |          |
12+20       0.0187      0.04  Q    V     |          |          |          |
12+25       0.0190      0.04  Q    V     |          |          |          |
12+30       0.0193      0.04  Q    V     |          |          |          |
12+35       0.0196      0.04  Q    V     |          |          |          |
12+40       0.0199      0.04  Q    V     |          |          |          |
12+45       0.0202      0.04  Q    V     |          |          |          |
12+50       0.0205      0.04  Q    V     |          |          |          |
12+55       0.0208      0.04  Q    V     |          |          |          |
13+ 0       0.0211      0.05  Q     V    |          |          |          |
13+ 5       0.0214      0.05  Q     V    |          |          |          |
13+10       0.0217      0.05  Q     V    |          |          |          |
13+15       0.0221      0.05  Q     V    |          |          |          |
13+20       0.0224      0.05  Q     V    |          |          |          |
13+25       0.0228      0.05  Q     V    |          |          |          |
13+30       0.0231      0.05  Q     V    |          |          |          |
13+35       0.0235      0.05  Q     V    |          |          |          |
13+40       0.0239      0.06  Q     V    |          |          |          |
13+45       0.0243      0.06  Q     V    |          |          |          |
13+50       0.0247      0.06  Q      V   |          |          |          |
13+55       0.0251      0.06  Q      V   |          |          |          |
14+ 0       0.0255      0.06  Q      V   |          |          |          |
14+ 5       0.0260      0.06  Q      V   |          |          |          |
```

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14+10       0.0264      0.07  Q      V  |          |          |          |
14+15       0.0269      0.07  Q      V  |          |          |          |
14+20       0.0274      0.07  Q      V  |          |          |          |
14+25       0.0279      0.07  Q      V  |          |          |          |
14+30       0.0284      0.08  Q       V |          |          |          |
14+35       0.0289      0.08  Q       V |          |          |          |
14+40       0.0295      0.08  Q       V |          |          |          |
14+45       0.0301      0.09  Q       V |          |          |          |
14+50       0.0307      0.09  Q       V |          |          |          |
14+55       0.0313      0.09  Q       V |          |          |          |
15+ 0       0.0320      0.10  Q        V|          |          |          |
15+ 5       0.0328      0.10  Q        V|          |          |          |
15+10       0.0335      0.11  Q        V|          |          |          |
15+15       0.0343      0.12  Q        V|          |          |          |
15+20       0.0352      0.13  Q         V          |          |          |
15+25       0.0362      0.14  Q         V          |          |          |
15+30       0.0376      0.19  Q         V          |          |          |
15+35       0.0391      0.23  Q         |V         |          |          |
15+40       0.0410      0.27  |Q        |V         |          |          |
15+45       0.0432      0.32  |Q        | V        |          |          |
15+50       0.0459      0.39  |Q        |  V       |          |          |
15+55       0.0493      0.49  |Q        |   V      |          |          |
16+ 0       0.0542      0.71  | Q       |    V     |          |          |
16+ 5       0.0638      1.39  |    Q    |       V  |          |          |
16+10       0.0858      3.19  |         | Q        |   V      |          |
16+15       0.0997      2.02  |       Q |          |       V  |          |
16+20       0.1075      1.14  |   Q     |          |         V          |
16+25       0.1128      0.76  |  Q      |          |          | V       |
16+30       0.1164      0.52  | Q       |          |          |  V      |
16+35       0.1190      0.38  |Q        |          |          |  V      |
16+40       0.1209      0.28  |Q        |          |          |   V     |
16+45       0.1224      0.21  Q         |          |          |   V     |
16+50       0.1236      0.18  Q         |          |          |    V    |
16+55       0.1246      0.15  Q         |          |          |    V    |
17+ 0       0.1254      0.11  Q         |          |          |    V    |
17+ 5       0.1260      0.08  Q         |          |          |    V    |
17+10       0.1265      0.08  Q         |          |          |     V   |
17+15       0.1270      0.07  Q         |          |          |     V   |
17+20       0.1274      0.06  Q         |          |          |     V   |
17+25       0.1279      0.06  Q         |          |          |     V   |
17+30       0.1282      0.06  Q         |          |          |     V   |
17+35       0.1286      0.05  Q         |          |          |     V   |
17+40       0.1290      0.05  Q         |          |          |     V   |
17+45       0.1293      0.05  Q         |          |          |     V   |
17+50       0.1296      0.05  Q         |          |          |      V  |
17+55       0.1300      0.05  Q         |          |          |      V  |
18+ 0       0.1303      0.04  Q         |          |          |      V  |
18+ 5       0.1305      0.04  Q         |          |          |      V  |
18+10       0.1308      0.04  Q         |          |          |      V  |
18+15       0.1311      0.04  Q         |          |          |      V  |
18+20       0.1313      0.03  Q         |          |          |      V  |
18+25       0.1315      0.03  Q         |          |          |      V  |
18+30       0.1317      0.03  Q         |          |          |      V  |
18+35       0.1320      0.03  Q         |          |          |      V  |
18+40       0.1322      0.03  Q         |          |          |      V  |
18+45       0.1324      0.03  Q         |          |          |      V  |
18+50       0.1326      0.03  Q         |          |          |      V  |
18+55       0.1328      0.03  Q         |          |          |      V  |
19+ 0       0.1329      0.03  Q         |          |          |      V  |
```

19+ 5	0.1331	0.03	Q	|	|	|	V |
19+10	0.1333	0.03	Q	|	|	|	V |
19+15	0.1335	0.03	Q	|	|	|	V |
19+20	0.1336	0.02	Q	|	|	|	V |
19+25	0.1338	0.02	Q	|	|	|	V |
19+30	0.1340	0.02	Q	|	|	|	V |
19+35	0.1341	0.02	Q	|	|	|	V |
19+40	0.1343	0.02	Q	|	|	|	V |
19+45	0.1344	0.02	Q	|	|	|	V |
19+50	0.1346	0.02	Q	|	|	|	V |
19+55	0.1347	0.02	Q	|	|	|	V |
20+ 0	0.1349	0.02	Q	|	|	|	V |
20+ 5	0.1350	0.02	Q	|	|	|	V |
20+10	0.1352	0.02	Q	|	|	|	V |
20+15	0.1353	0.02	Q	|	|	|	V |
20+20	0.1354	0.02	Q	|	|	|	V |
20+25	0.1356	0.02	Q	|	|	|	V |
20+30	0.1357	0.02	Q	|	|	|	V |
20+35	0.1358	0.02	Q	|	|	|	V |
20+40	0.1360	0.02	Q	|	|	|	V |
20+45	0.1361	0.02	Q	|	|	|	V |
20+50	0.1362	0.02	Q	|	|	|	V |
20+55	0.1363	0.02	Q	|	|	|	V |
21+ 0	0.1364	0.02	Q	|	|	|	V |
21+ 5	0.1366	0.02	Q	|	|	|	V |
21+10	0.1367	0.02	Q	|	|	|	V|
21+15	0.1368	0.02	Q	|	|	|	V|
21+20	0.1369	0.02	Q	|	|	|	V|
21+25	0.1370	0.02	Q	|	|	|	V|
21+30	0.1371	0.02	Q	|	|	|	V|
21+35	0.1372	0.02	Q	|	|	|	V|
21+40	0.1373	0.02	Q	|	|	|	V|
21+45	0.1374	0.02	Q	|	|	|	V|
21+50	0.1375	0.02	Q	|	|	|	V|
21+55	0.1376	0.01	Q	|	|	|	V|
22+ 0	0.1377	0.01	Q	|	|	|	V|
22+ 5	0.1378	0.01	Q	|	|	|	V|
22+10	0.1379	0.01	Q	|	|	|	V|
22+15	0.1380	0.01	Q	|	|	|	V|
22+20	0.1381	0.01	Q	|	|	|	V|
22+25	0.1382	0.01	Q	|	|	|	V|
22+30	0.1383	0.01	Q	|	|	|	V|
22+35	0.1384	0.01	Q	|	|	|	V|
22+40	0.1385	0.01	Q	|	|	|	V|
22+45	0.1386	0.01	Q	|	|	|	V|
22+50	0.1387	0.01	Q	|	|	|	V|
22+55	0.1388	0.01	Q	|	|	|	V|
23+ 0	0.1389	0.01	Q	|	|	|	V|
23+ 5	0.1390	0.01	Q	|	|	|	V|
23+10	0.1391	0.01	Q	|	|	|	V|
23+15	0.1391	0.01	Q	|	|	|	V|
23+20	0.1392	0.01	Q	|	|	|	V|
23+25	0.1393	0.01	Q	|	|	|	V|
23+30	0.1394	0.01	Q	|	|	|	V|
23+35	0.1395	0.01	Q	|	|	|	V|
23+40	0.1396	0.01	Q	|	|	|	V|
23+45	0.1396	0.01	Q	|	|	|	V|
23+50	0.1397	0.01	Q	|	|	|	V|
23+55	0.1398	0.01	Q	|	|	|	V|

```
   24+ 0       0.1399      0.01  Q         |          |         |        V|
   24+ 5       0.1400      0.01  Q         |          |         |        V|
   24+10       0.1400      0.01  Q         |          |         |        V|
   24+15       0.1400      0.00  Q         |          |         |        V|
   24+20       0.1400      0.00  Q         |          |         |        V|
   24+25       0.1400      0.00  Q         |          |         |        V|
   24+30       0.1401      0.00  Q         |          |         |        V|
   24+35       0.1401      0.00  Q         |          |         |        V|
   24+40       0.1401      0.00  Q         |          |         |        V|
   24+45       0.1401      0.00  Q         |          |         |        V|
   24+50       0.1401      0.00  Q         |          |         |        V|
   24+55       0.1401      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 13
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
16.85	1	1.28
Rainfall data for year 100		
16.85	6	1.84
Rainfall data for year 100		
16.85	24	2.39

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	16.85	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
15.17	0.900	78.0	92.8	0.78	0.694
1.68	0.100	98.0	98.0	0.20	0.904

Area-averaged catchment yield fraction, Y = 0.715
Area-averaged low loss fraction, Yb = 0.285
User entry of time of concentration = 0.570 (hours)
++
Watershed area = 16.85(Ac.)
Catchment Lag time = 0.456 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 18.2749
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.285 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.607(In)
Computed peak 30-minute rainfall = 1.040(In)
Specified peak 1-hour rainfall = 1.280(In)
Computed peak 3-hour rainfall = 1.599(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.390(In)

Rainfall depth area reduction factors:
Using a total area of 16.85(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.607(In)
30-minute factor = 0.999 Adjusted rainfall = 1.039(In)
1-hour factor = 0.999 Adjusted rainfall = 1.279(In)
3-hour factor = 1.000 Adjusted rainfall = 1.599(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.390(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 203.78 (CFS))	
1	0.877	1.787
2	3.897	6.154
3	9.247	10.901
4	20.616	23.168
5	37.389	34.181
6	50.022	25.742
7	58.867	18.025
8	64.964	12.424
9	69.767	9.788
10	73.683	7.980
11	76.931	6.619
12	79.641	5.523
13	81.950	4.704

14	83.934	4.043
15	85.739	3.678
16	87.360	3.305
17	88.760	2.853
18	89.887	2.295
19	90.933	2.131
20	91.904	1.978
21	92.774	1.774
22	93.587	1.656
23	94.280	1.413
24	94.902	1.266
25	95.513	1.245
26	96.016	1.026
27	96.491	0.968
28	96.937	0.907
29	97.275	0.690
30	97.604	0.670
31	97.873	0.549
32	98.057	0.374
33	98.240	0.373
34	98.446	0.421
35	98.666	0.447
36	98.885	0.447
37	99.104	0.447
38	99.324	0.447
39	99.518	0.395
40	99.637	0.243
41	99.751	0.233
42	99.865	0.233
43	100.000	0.116

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6069	0.6069
2	0.7472	0.1403
3	0.8438	0.0966
4	0.9199	0.0761
5	0.9836	0.0637
6	1.0389	0.0553
7	1.0880	0.0492
8	1.1325	0.0445
9	1.1732	0.0407
10	1.2109	0.0377
11	1.2460	0.0351
12	1.2790	0.0330
13	1.3000	0.0210
14	1.3197	0.0197
15	1.3383	0.0186
16	1.3560	0.0177
17	1.3728	0.0168
18	1.3888	0.0160
19	1.4042	0.0153
20	1.4189	0.0147
21	1.4330	0.0141
22	1.4466	0.0136
23	1.4597	0.0131
24	1.4724	0.0127
25	1.4847	0.0123
26	1.4965	0.0119

27	1.5081	0.0115
28	1.5192	0.0112
29	1.5301	0.0109
30	1.5407	0.0106
31	1.5510	0.0103
32	1.5610	0.0100
33	1.5708	0.0098
34	1.5804	0.0096
35	1.5897	0.0093
36	1.5988	0.0091
37	1.6077	0.0089
38	1.6164	0.0087
39	1.6250	0.0085
40	1.6333	0.0084
41	1.6415	0.0082
42	1.6496	0.0080
43	1.6574	0.0079
44	1.6652	0.0077
45	1.6728	0.0076
46	1.6802	0.0075
47	1.6876	0.0073
48	1.6948	0.0072
49	1.7019	0.0071
50	1.7089	0.0070
51	1.7157	0.0069
52	1.7225	0.0068
53	1.7292	0.0067
54	1.7357	0.0066
55	1.7422	0.0065
56	1.7486	0.0064
57	1.7548	0.0063
58	1.7610	0.0062
59	1.7671	0.0061
60	1.7732	0.0060
61	1.7791	0.0059
62	1.7850	0.0059
63	1.7908	0.0058
64	1.7965	0.0057
65	1.8022	0.0057
66	1.8078	0.0056
67	1.8133	0.0055
68	1.8187	0.0055
69	1.8241	0.0054
70	1.8294	0.0053
71	1.8347	0.0053
72	1.8399	0.0052
73	1.8447	0.0048
74	1.8494	0.0047
75	1.8541	0.0047
76	1.8588	0.0046
77	1.8634	0.0046
78	1.8679	0.0045
79	1.8724	0.0045
80	1.8768	0.0044
81	1.8812	0.0044
82	1.8856	0.0044
83	1.8899	0.0043
84	1.8942	0.0043
85	1.8984	0.0042

86	1.9026	0.0042
87	1.9068	0.0042
88	1.9109	0.0041
89	1.9150	0.0041
90	1.9190	0.0040
91	1.9230	0.0040
92	1.9270	0.0040
93	1.9309	0.0039
94	1.9348	0.0039
95	1.9387	0.0039
96	1.9425	0.0038
97	1.9463	0.0038
98	1.9501	0.0038
99	1.9538	0.0037
100	1.9575	0.0037
101	1.9612	0.0037
102	1.9649	0.0036
103	1.9685	0.0036
104	1.9721	0.0036
105	1.9757	0.0036
106	1.9792	0.0035
107	1.9827	0.0035
108	1.9862	0.0035
109	1.9896	0.0035
110	1.9931	0.0034
111	1.9965	0.0034
112	1.9999	0.0034
113	2.0032	0.0034
114	2.0065	0.0033
115	2.0099	0.0033
116	2.0131	0.0033
117	2.0164	0.0033
118	2.0196	0.0032
119	2.0229	0.0032
120	2.0261	0.0032
121	2.0292	0.0032
122	2.0324	0.0032
123	2.0355	0.0031
124	2.0386	0.0031
125	2.0417	0.0031
126	2.0448	0.0031
127	2.0478	0.0031
128	2.0509	0.0030
129	2.0539	0.0030
130	2.0569	0.0030
131	2.0599	0.0030
132	2.0628	0.0030
133	2.0658	0.0029
134	2.0687	0.0029
135	2.0716	0.0029
136	2.0745	0.0029
137	2.0773	0.0029
138	2.0802	0.0029
139	2.0830	0.0028
140	2.0859	0.0028
141	2.0887	0.0028
142	2.0914	0.0028
143	2.0942	0.0028
144	2.0970	0.0028

145	2.0997	0.0027
146	2.1024	0.0027
147	2.1051	0.0027
148	2.1078	0.0027
149	2.1105	0.0027
150	2.1132	0.0027
151	2.1158	0.0027
152	2.1185	0.0026
153	2.1211	0.0026
154	2.1237	0.0026
155	2.1263	0.0026
156	2.1289	0.0026
157	2.1314	0.0026
158	2.1340	0.0026
159	2.1365	0.0025
160	2.1391	0.0025
161	2.1416	0.0025
162	2.1441	0.0025
163	2.1466	0.0025
164	2.1491	0.0025
165	2.1515	0.0025
166	2.1540	0.0025
167	2.1564	0.0024
168	2.1589	0.0024
169	2.1613	0.0024
170	2.1637	0.0024
171	2.1661	0.0024
172	2.1685	0.0024
173	2.1708	0.0024
174	2.1732	0.0024
175	2.1755	0.0024
176	2.1779	0.0023
177	2.1802	0.0023
178	2.1825	0.0023
179	2.1848	0.0023
180	2.1871	0.0023
181	2.1894	0.0023
182	2.1917	0.0023
183	2.1940	0.0023
184	2.1962	0.0023
185	2.1985	0.0022
186	2.2007	0.0022
187	2.2029	0.0022
188	2.2052	0.0022
189	2.2074	0.0022
190	2.2096	0.0022
191	2.2118	0.0022
192	2.2139	0.0022
193	2.2161	0.0022
194	2.2183	0.0022
195	2.2204	0.0022
196	2.2226	0.0021
197	2.2247	0.0021
198	2.2268	0.0021
199	2.2289	0.0021
200	2.2311	0.0021
201	2.2332	0.0021
202	2.2352	0.0021
203	2.2373	0.0021

204	2.2394	0.0021
205	2.2415	0.0021
206	2.2435	0.0021
207	2.2456	0.0021
208	2.2476	0.0020
209	2.2497	0.0020
210	2.2517	0.0020
211	2.2537	0.0020
212	2.2557	0.0020
213	2.2577	0.0020
214	2.2597	0.0020
215	2.2617	0.0020
216	2.2637	0.0020
217	2.2657	0.0020
218	2.2676	0.0020
219	2.2696	0.0020
220	2.2715	0.0020
221	2.2735	0.0019
222	2.2754	0.0019
223	2.2773	0.0019
224	2.2793	0.0019
225	2.2812	0.0019
226	2.2831	0.0019
227	2.2850	0.0019
228	2.2869	0.0019
229	2.2888	0.0019
230	2.2907	0.0019
231	2.2925	0.0019
232	2.2944	0.0019
233	2.2963	0.0019
234	2.2981	0.0019
235	2.3000	0.0018
236	2.3018	0.0018
237	2.3037	0.0018
238	2.3055	0.0018
239	2.3073	0.0018
240	2.3091	0.0018
241	2.3109	0.0018
242	2.3128	0.0018
243	2.3146	0.0018
244	2.3163	0.0018
245	2.3181	0.0018
246	2.3199	0.0018
247	2.3217	0.0018
248	2.3235	0.0018
249	2.3252	0.0018
250	2.3270	0.0018
251	2.3287	0.0018
252	2.3305	0.0017
253	2.3322	0.0017
254	2.3340	0.0017
255	2.3357	0.0017
256	2.3374	0.0017
257	2.3391	0.0017
258	2.3409	0.0017
259	2.3426	0.0017
260	2.3443	0.0017
261	2.3460	0.0017
262	2.3477	0.0017

263	2.3494	0.0017
264	2.3510	0.0017
265	2.3527	0.0017
266	2.3544	0.0017
267	2.3561	0.0017
268	2.3577	0.0017
269	2.3594	0.0017
270	2.3610	0.0017
271	2.3627	0.0016
272	2.3643	0.0016
273	2.3660	0.0016
274	2.3676	0.0016
275	2.3692	0.0016
276	2.3708	0.0016
277	2.3725	0.0016
278	2.3741	0.0016
279	2.3757	0.0016
280	2.3773	0.0016
281	2.3789	0.0016
282	2.3805	0.0016
283	2.3821	0.0016
284	2.3837	0.0016
285	2.3852	0.0016
286	2.3868	0.0016
287	2.3884	0.0016
288	2.3899	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0004	0.0011
2	0.0016	0.0004	0.0011
3	0.0016	0.0005	0.0011
4	0.0016	0.0005	0.0011
5	0.0016	0.0005	0.0011
6	0.0016	0.0005	0.0011
7	0.0016	0.0005	0.0012
8	0.0016	0.0005	0.0012
9	0.0016	0.0005	0.0012
10	0.0016	0.0005	0.0012
11	0.0016	0.0005	0.0012
12	0.0016	0.0005	0.0012
13	0.0017	0.0005	0.0012
14	0.0017	0.0005	0.0012
15	0.0017	0.0005	0.0012
16	0.0017	0.0005	0.0012
17	0.0017	0.0005	0.0012
18	0.0017	0.0005	0.0012
19	0.0017	0.0005	0.0012
20	0.0017	0.0005	0.0012
21	0.0017	0.0005	0.0012
22	0.0017	0.0005	0.0012
23	0.0017	0.0005	0.0012
24	0.0017	0.0005	0.0012
25	0.0017	0.0005	0.0012
26	0.0018	0.0005	0.0013
27	0.0018	0.0005	0.0013
28	0.0018	0.0005	0.0013

29	0.0018	0.0005	0.0013
30	0.0018	0.0005	0.0013
31	0.0018	0.0005	0.0013
32	0.0018	0.0005	0.0013
33	0.0018	0.0005	0.0013
34	0.0018	0.0005	0.0013
35	0.0018	0.0005	0.0013
36	0.0018	0.0005	0.0013
37	0.0019	0.0005	0.0013
38	0.0019	0.0005	0.0013
39	0.0019	0.0005	0.0013
40	0.0019	0.0005	0.0013
41	0.0019	0.0005	0.0014
42	0.0019	0.0005	0.0014
43	0.0019	0.0005	0.0014
44	0.0019	0.0005	0.0014
45	0.0019	0.0006	0.0014
46	0.0019	0.0006	0.0014
47	0.0020	0.0006	0.0014
48	0.0020	0.0006	0.0014
49	0.0020	0.0006	0.0014
50	0.0020	0.0006	0.0014
51	0.0020	0.0006	0.0014
52	0.0020	0.0006	0.0014
53	0.0020	0.0006	0.0014
54	0.0020	0.0006	0.0015
55	0.0021	0.0006	0.0015
56	0.0021	0.0006	0.0015
57	0.0021	0.0006	0.0015
58	0.0021	0.0006	0.0015
59	0.0021	0.0006	0.0015
60	0.0021	0.0006	0.0015
61	0.0021	0.0006	0.0015
62	0.0021	0.0006	0.0015
63	0.0022	0.0006	0.0015
64	0.0022	0.0006	0.0015
65	0.0022	0.0006	0.0016
66	0.0022	0.0006	0.0016
67	0.0022	0.0006	0.0016
68	0.0022	0.0006	0.0016
69	0.0022	0.0006	0.0016
70	0.0022	0.0006	0.0016
71	0.0023	0.0006	0.0016
72	0.0023	0.0006	0.0016
73	0.0023	0.0007	0.0016
74	0.0023	0.0007	0.0017
75	0.0023	0.0007	0.0017
76	0.0023	0.0007	0.0017
77	0.0024	0.0007	0.0017
78	0.0024	0.0007	0.0017
79	0.0024	0.0007	0.0017
80	0.0024	0.0007	0.0017
81	0.0024	0.0007	0.0017
82	0.0024	0.0007	0.0017
83	0.0025	0.0007	0.0018
84	0.0025	0.0007	0.0018
85	0.0025	0.0007	0.0018
86	0.0025	0.0007	0.0018
87	0.0025	0.0007	0.0018

88	0.0026	0.0007	0.0018
89	0.0026	0.0007	0.0018
90	0.0026	0.0007	0.0019
91	0.0026	0.0007	0.0019
92	0.0026	0.0008	0.0019
93	0.0027	0.0008	0.0019
94	0.0027	0.0008	0.0019
95	0.0027	0.0008	0.0019
96	0.0027	0.0008	0.0019
97	0.0028	0.0008	0.0020
98	0.0028	0.0008	0.0020
99	0.0028	0.0008	0.0020
100	0.0028	0.0008	0.0020
101	0.0029	0.0008	0.0020
102	0.0029	0.0008	0.0021
103	0.0029	0.0008	0.0021
104	0.0029	0.0008	0.0021
105	0.0030	0.0008	0.0021
106	0.0030	0.0008	0.0021
107	0.0030	0.0009	0.0022
108	0.0030	0.0009	0.0022
109	0.0031	0.0009	0.0022
110	0.0031	0.0009	0.0022
111	0.0031	0.0009	0.0022
112	0.0032	0.0009	0.0023
113	0.0032	0.0009	0.0023
114	0.0032	0.0009	0.0023
115	0.0033	0.0009	0.0023
116	0.0033	0.0009	0.0023
117	0.0033	0.0009	0.0024
118	0.0034	0.0010	0.0024
119	0.0034	0.0010	0.0024
120	0.0034	0.0010	0.0025
121	0.0035	0.0010	0.0025
122	0.0035	0.0010	0.0025
123	0.0036	0.0010	0.0025
124	0.0036	0.0010	0.0026
125	0.0036	0.0010	0.0026
126	0.0037	0.0010	0.0026
127	0.0037	0.0011	0.0027
128	0.0038	0.0011	0.0027
129	0.0038	0.0011	0.0027
130	0.0039	0.0011	0.0028
131	0.0039	0.0011	0.0028
132	0.0040	0.0011	0.0028
133	0.0040	0.0012	0.0029
134	0.0041	0.0012	0.0029
135	0.0042	0.0012	0.0030
136	0.0042	0.0012	0.0030
137	0.0043	0.0012	0.0031
138	0.0043	0.0012	0.0031
139	0.0044	0.0013	0.0031
140	0.0044	0.0013	0.0032
141	0.0045	0.0013	0.0032
142	0.0046	0.0013	0.0033
143	0.0047	0.0013	0.0034
144	0.0047	0.0014	0.0034
145	0.0052	0.0015	0.0037
146	0.0053	0.0015	0.0038

147	0.0054	0.0015	0.0039
148	0.0055	0.0016	0.0039
149	0.0056	0.0016	0.0040
150	0.0057	0.0016	0.0040
151	0.0058	0.0017	0.0041
152	0.0059	0.0017	0.0042
153	0.0060	0.0017	0.0043
154	0.0061	0.0017	0.0044
155	0.0063	0.0018	0.0045
156	0.0064	0.0018	0.0046
157	0.0066	0.0019	0.0047
158	0.0067	0.0019	0.0048
159	0.0069	0.0020	0.0049
160	0.0070	0.0020	0.0050
161	0.0072	0.0021	0.0052
162	0.0073	0.0021	0.0052
163	0.0076	0.0022	0.0054
164	0.0077	0.0022	0.0055
165	0.0080	0.0023	0.0057
166	0.0082	0.0023	0.0059
167	0.0085	0.0024	0.0061
168	0.0087	0.0025	0.0062
169	0.0091	0.0026	0.0065
170	0.0093	0.0027	0.0067
171	0.0098	0.0028	0.0070
172	0.0100	0.0029	0.0072
173	0.0106	0.0030	0.0076
174	0.0109	0.0031	0.0078
175	0.0115	0.0033	0.0082
176	0.0119	0.0034	0.0085
177	0.0127	0.0036	0.0091
178	0.0131	0.0037	0.0094
179	0.0141	0.0040	0.0101
180	0.0147	0.0042	0.0105
181	0.0160	0.0046	0.0115
182	0.0168	0.0048	0.0120
183	0.0186	0.0053	0.0133
184	0.0197	0.0056	0.0141
185	0.0330	0.0094	0.0236
186	0.0351	0.0100	0.0251
187	0.0407	0.0105	0.0302
188	0.0445	0.0105	0.0340
189	0.0553	0.0105	0.0448
190	0.0637	0.0105	0.0532
191	0.0966	0.0105	0.0861
192	0.1403	0.0105	0.1298
193	0.6069	0.0105	0.5964
194	0.0761	0.0105	0.0656
195	0.0492	0.0105	0.0387
196	0.0377	0.0105	0.0272
197	0.0210	0.0060	0.0150
198	0.0177	0.0050	0.0126
199	0.0153	0.0044	0.0110
200	0.0136	0.0039	0.0097
201	0.0123	0.0035	0.0088
202	0.0112	0.0032	0.0080
203	0.0103	0.0029	0.0074
204	0.0096	0.0027	0.0068
205	0.0089	0.0025	0.0064

206	0.0084	0.0024	0.0060
207	0.0079	0.0022	0.0056
208	0.0075	0.0021	0.0053
209	0.0071	0.0020	0.0051
210	0.0068	0.0019	0.0048
211	0.0065	0.0018	0.0046
212	0.0062	0.0018	0.0044
213	0.0059	0.0017	0.0043
214	0.0057	0.0016	0.0041
215	0.0055	0.0016	0.0039
216	0.0053	0.0015	0.0038
217	0.0048	0.0014	0.0034
218	0.0046	0.0013	0.0033
219	0.0045	0.0013	0.0032
220	0.0044	0.0012	0.0031
221	0.0042	0.0012	0.0030
222	0.0041	0.0012	0.0029
223	0.0040	0.0011	0.0029
224	0.0039	0.0011	0.0028
225	0.0038	0.0011	0.0027
226	0.0037	0.0011	0.0027
227	0.0036	0.0010	0.0026
228	0.0035	0.0010	0.0025
229	0.0035	0.0010	0.0025
230	0.0034	0.0010	0.0024
231	0.0033	0.0009	0.0024
232	0.0032	0.0009	0.0023
233	0.0032	0.0009	0.0023
234	0.0031	0.0009	0.0022
235	0.0031	0.0009	0.0022
236	0.0030	0.0009	0.0021
237	0.0029	0.0008	0.0021
238	0.0029	0.0008	0.0021
239	0.0028	0.0008	0.0020
240	0.0028	0.0008	0.0020
241	0.0027	0.0008	0.0020
242	0.0027	0.0008	0.0019
243	0.0027	0.0008	0.0019
244	0.0026	0.0007	0.0019
245	0.0026	0.0007	0.0018
246	0.0025	0.0007	0.0018
247	0.0025	0.0007	0.0018
248	0.0025	0.0007	0.0018
249	0.0024	0.0007	0.0017
250	0.0024	0.0007	0.0017
251	0.0024	0.0007	0.0017
252	0.0023	0.0007	0.0017
253	0.0023	0.0007	0.0016
254	0.0023	0.0006	0.0016
255	0.0022	0.0006	0.0016
256	0.0022	0.0006	0.0016
257	0.0022	0.0006	0.0016
258	0.0021	0.0006	0.0015
259	0.0021	0.0006	0.0015
260	0.0021	0.0006	0.0015
261	0.0021	0.0006	0.0015
262	0.0020	0.0006	0.0015
263	0.0020	0.0006	0.0014
264	0.0020	0.0006	0.0014

265	0.0020	0.0006	0.0014
266	0.0020	0.0006	0.0014
267	0.0019	0.0005	0.0014
268	0.0019	0.0005	0.0014
269	0.0019	0.0005	0.0014
270	0.0019	0.0005	0.0013
271	0.0018	0.0005	0.0013
272	0.0018	0.0005	0.0013
273	0.0018	0.0005	0.0013
274	0.0018	0.0005	0.0013
275	0.0018	0.0005	0.0013
276	0.0018	0.0005	0.0013
277	0.0017	0.0005	0.0012
278	0.0017	0.0005	0.0012
279	0.0017	0.0005	0.0012
280	0.0017	0.0005	0.0012
281	0.0017	0.0005	0.0012
282	0.0017	0.0005	0.0012
283	0.0016	0.0005	0.0012
284	0.0016	0.0005	0.0012
285	0.0016	0.0005	0.0012
286	0.0016	0.0005	0.0011
287	0.0016	0.0005	0.0011
288	0.0016	0.0004	0.0011

Total soil rain loss = 0.44(In)
Total effective rainfall = 1.95(In)
Peak flow rate in flood hydrograph = 29.59(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0002	0.02	Q	|	|	|	|
0+20	0.0005	0.05	Q	|	|	|	|
0+25	0.0011	0.09	Q	|	|	|	|
0+30	0.0019	0.11	Q	|	|	|	|
0+35	0.0029	0.14	Q	|	|	|	|
0+40	0.0039	0.15	Q	|	|	|	|
0+45	0.0050	0.16	Q	|	|	|	|
0+50	0.0062	0.17	Q	|	|	|	|
0+55	0.0074	0.18	Q	|	|	|	|
1+ 0	0.0087	0.19	Q	|	|	|	|
1+ 5	0.0100	0.19	Q	|	|	|	|
1+10	0.0114	0.20	Q	|	|	|	|
1+15	0.0128	0.20	Q	|	|	|	|
1+20	0.0142	0.21	Q	|	|	|	|
1+25	0.0157	0.21	Q	|	|	|	|
1+30	0.0172	0.22	Q	|	|	|	|
1+35	0.0187	0.22	Q	|	|	|	|
1+40	0.0202	0.22	Q	|	|	|	|

1+45	0.0217	0.22	Q				
1+50	0.0233	0.23	Q				
1+55	0.0249	0.23	Q				
2+ 0	0.0265	0.23	Q				
2+ 5	0.0281	0.24	Q				
2+10	0.0298	0.24	Q				
2+15	0.0314	0.24	Q				
2+20	0.0331	0.24	Q				
2+25	0.0348	0.24	Q				
2+30	0.0364	0.25	Q				
2+35	0.0382	0.25	Q				
2+40	0.0399	0.25	Q				
2+45	0.0416	0.25	Q				
2+50	0.0433	0.25	Q				
2+55	0.0451	0.25	Q				
3+ 0	0.0468	0.26	Q				
3+ 5	0.0486	0.26	Q				
3+10	0.0504	0.26	Q				
3+15	0.0522	0.26	Q				
3+20	0.0540	0.26	Q				
3+25	0.0558	0.26	Q				
3+30	0.0577	0.27	Q				
3+35	0.0595	0.27	Q				
3+40	0.0614	0.27	Q				
3+45	0.0632	0.27	Q				
3+50	0.0651	0.27	Q				
3+55	0.0670	0.27	Q				
4+ 0	0.0689	0.27	QV				
4+ 5	0.0708	0.28	QV				
4+10	0.0727	0.28	QV				
4+15	0.0746	0.28	QV				
4+20	0.0765	0.28	QV				
4+25	0.0785	0.28	QV				
4+30	0.0804	0.28	QV				
4+35	0.0824	0.29	QV				
4+40	0.0844	0.29	QV				
4+45	0.0864	0.29	QV				
4+50	0.0884	0.29	QV				
4+55	0.0904	0.29	QV				
5+ 0	0.0924	0.29	QV				
5+ 5	0.0944	0.30	QV				
5+10	0.0965	0.30	QV				
5+15	0.0985	0.30	QV				
5+20	0.1006	0.30	QV				
5+25	0.1027	0.30	QV				
5+30	0.1048	0.30	QV				
5+35	0.1069	0.31	QV				
5+40	0.1090	0.31	QV				
5+45	0.1111	0.31	QV				
5+50	0.1133	0.31	QV				
5+55	0.1154	0.31	QV				
6+ 0	0.1176	0.32	QV				
6+ 5	0.1198	0.32	QV				
6+10	0.1220	0.32	QV				
6+15	0.1242	0.32	QV				
6+20	0.1265	0.32	QV				
6+25	0.1287	0.33	QV				
6+30	0.1310	0.33	QV				
6+35	0.1332	0.33	QV				

6+40	0.1355	0.33	QV	|	|	|	|
6+45	0.1378	0.33	Q V	|	|	|	|
6+50	0.1401	0.34	Q V	|	|	|	|
6+55	0.1425	0.34	Q V	|	|	|	|
7+ 0	0.1448	0.34	Q V	|	|	|	|
7+ 5	0.1472	0.34	Q V	|	|	|	|
7+10	0.1496	0.35	Q V	|	|	|	|
7+15	0.1520	0.35	Q V	|	|	|	|
7+20	0.1544	0.35	Q V	|	|	|	|
7+25	0.1569	0.35	Q V	|	|	|	|
7+30	0.1593	0.36	Q V	|	|	|	|
7+35	0.1618	0.36	Q V	|	|	|	|
7+40	0.1643	0.36	Q V	|	|	|	|
7+45	0.1668	0.36	Q V	|	|	|	|
7+50	0.1693	0.37	Q V	|	|	|	|
7+55	0.1719	0.37	Q V	|	|	|	|
8+ 0	0.1745	0.37	Q V	|	|	|	|
8+ 5	0.1770	0.38	Q V	|	|	|	|
8+10	0.1797	0.38	Q V	|	|	|	|
8+15	0.1823	0.38	Q V	|	|	|	|
8+20	0.1849	0.39	Q V	|	|	|	|
8+25	0.1876	0.39	Q V	|	|	|	|
8+30	0.1903	0.39	Q V	|	|	|	|
8+35	0.1930	0.40	Q V	|	|	|	|
8+40	0.1958	0.40	Q V	|	|	|	|
8+45	0.1986	0.40	Q V	|	|	|	|
8+50	0.2013	0.41	Q V	|	|	|	|
8+55	0.2042	0.41	Q V	|	|	|	|
9+ 0	0.2070	0.41	Q V	|	|	|	|
9+ 5	0.2099	0.42	Q V	|	|	|	|
9+10	0.2128	0.42	Q V	|	|	|	|
9+15	0.2157	0.42	Q V	|	|	|	|
9+20	0.2186	0.43	Q V	|	|	|	|
9+25	0.2216	0.43	Q V	|	|	|	|
9+30	0.2246	0.44	Q V	|	|	|	|
9+35	0.2276	0.44	Q V	|	|	|	|
9+40	0.2307	0.44	Q V	|	|	|	|
9+45	0.2338	0.45	Q V	|	|	|	|
9+50	0.2369	0.45	Q V	|	|	|	|
9+55	0.2400	0.46	Q V	|	|	|	|
10+ 0	0.2432	0.46	Q V	|	|	|	|
10+ 5	0.2464	0.47	Q V	|	|	|	|
10+10	0.2497	0.47	Q V	|	|	|	|
10+15	0.2529	0.48	Q V	|	|	|	|
10+20	0.2563	0.48	Q V	|	|	|	|
10+25	0.2596	0.49	Q V	|	|	|	|
10+30	0.2630	0.49	Q V	|	|	|	|
10+35	0.2664	0.50	Q V	|	|	|	|
10+40	0.2699	0.50	Q V	|	|	|	|
10+45	0.2734	0.51	Q V	|	|	|	|
10+50	0.2769	0.51	Q V	|	|	|	|
10+55	0.2805	0.52	Q V	|	|	|	|
11+ 0	0.2842	0.53	Q V	|	|	|	|
11+ 5	0.2878	0.53	Q V	|	|	|	|
11+10	0.2916	0.54	Q V	|	|	|	|
11+15	0.2953	0.55	Q V	|	|	|	|
11+20	0.2991	0.55	Q V	|	|	|	|
11+25	0.3030	0.56	Q V	|	|	|	|
11+30	0.3069	0.57	Q V	|	|	|	|

```
11+35       0.3109      0.58  Q   V     |          |          |          |
11+40       0.3149      0.58  Q   V     |          |          |          |
11+45       0.3190      0.59  Q   V     |          |          |          |
11+50       0.3231      0.60  Q   V     |          |          |          |
11+55       0.3273      0.61  Q   V     |          |          |          |
12+ 0       0.3315      0.62  Q   V     |          |          |          |
12+ 5       0.3358      0.63  Q   V     |          |          |          |
12+10       0.3402      0.64  Q   V     |          |          |          |
12+15       0.3447      0.65  Q    V    |          |          |          |
12+20       0.3493      0.67  Q    V    |          |          |          |
12+25       0.3540      0.69  Q    V    |          |          |          |
12+30       0.3589      0.70  Q    V    |          |          |          |
12+35       0.3638      0.72  Q    V    |          |          |          |
12+40       0.3689      0.74  Q    V    |          |          |          |
12+45       0.3741      0.75  |Q   V    |          |          |          |
12+50       0.3793      0.77  |Q   V    |          |          |          |
12+55       0.3847      0.78  |Q   V    |          |          |          |
13+ 0       0.3902      0.80  |Q   V    |          |          |          |
13+ 5       0.3958      0.81  |Q   V    |          |          |          |
13+10       0.4015      0.83  |Q   V    |          |          |          |
13+15       0.4073      0.85  |Q   V    |          |          |          |
13+20       0.4133      0.86  |Q    V   |          |          |          |
13+25       0.4194      0.88  |Q    V   |          |          |          |
13+30       0.4256      0.90  |Q    V   |          |          |          |
13+35       0.4320      0.92  |Q    V   |          |          |          |
13+40       0.4385      0.94  |Q    V   |          |          |          |
13+45       0.4451      0.97  |Q    V   |          |          |          |
13+50       0.4520      0.99  |Q    V   |          |          |          |
13+55       0.4590      1.02  |Q    V   |          |          |          |
14+ 0       0.4661      1.04  |Q    V   |          |          |          |
14+ 5       0.4735      1.07  |Q    V   |          |          |          |
14+10       0.4811      1.10  |Q     V  |          |          |          |
14+15       0.4889      1.13  |Q     V  |          |          |          |
14+20       0.4969      1.16  |Q     V  |          |          |          |
14+25       0.5052      1.20  |Q     V  |          |          |          |
14+30       0.5137      1.24  |Q     V  |          |          |          |
14+35       0.5225      1.28  |Q     V  |          |          |          |
14+40       0.5317      1.33  |Q     V  |          |          |          |
14+45       0.5412      1.38  |Q     V  |          |          |          |
14+50       0.5510      1.43  |Q      V |          |          |          |
14+55       0.5612      1.49  |Q      V |          |          |          |
15+ 0       0.5719      1.55  | Q     V |          |          |          |
15+ 5       0.5831      1.62  | Q     V |          |          |          |
15+10       0.5948      1.70  | Q     V |          |          |          |
15+15       0.6071      1.79  | Q     V |          |          |          |
15+20       0.6201      1.89  | Q      V|          |          |          |
15+25       0.6340      2.02  | Q      V|          |          |          |
15+30       0.6492      2.20  | Q      V|          |          |          |
15+35       0.6660      2.44  |  Q     V|          |          |          |
15+40       0.6854      2.82  |  Q      V          |          |          |
15+45       0.7086      3.36  |   Q     V          |          |          |
15+50       0.7359      3.96  |    Q    V          |          |          |
15+55       0.7683      4.71  |     Q   |V         |          |          |
16+ 0       0.8081      5.78  |      Q  |V         |          |          |
16+ 5       0.8641      8.14  |         Q V        |          |          |
16+10       0.9476     12.12  |          |  V  Q   |          |          |
16+15       1.0622     16.64  |          |    V    | Q        |          |
16+20       1.2292     24.26  |          |      V  |          | Q        |
16+25       1.4330     29.59  |          |         V          |         Q|
```

16+30	1.5991	24.11	|	|	| V	| Q	|
16+35	1.7274	18.63	|	|	| QV	|	|
16+40	1.8262	14.34	|	| Q	| V	|	|
16+45	1.9073	11.78	|	| Q	| V	|	|
16+50	1.9757	9.93	|	| Q	| V	|	|
16+55	2.0345	8.53	|	|Q	| V	|	|
17+ 0	2.0855	7.41	|	Q|	| V	|	|
17+ 5	2.1305	6.54	|	Q |	|	|V	|	|
17+10	2.1706	5.82	|	Q |	|	|V	|	|
17+15	2.2072	5.31	|	Q |	|	| V	|	|
17+20	2.2404	4.83	|	Q |	|	| V	|	|
17+25	2.2703	4.33	|	Q |	|	| V	|	|
17+30	2.2966	3.83	|	Q |	|	| V	|	|
17+35	2.3211	3.55	|	Q |	|	| V	|	|
17+40	2.3439	3.31	|	Q |	|	| V	|	|
17+45	2.3649	3.05	|	Q |	|	| V	|	|
17+50	2.3845	2.85	|	Q |	|	| V	|	|
17+55	2.4024	2.60	|	Q |	|	| V	|	|
18+ 0	2.4189	2.41	|	Q |	|	| V	|	|
18+ 5	2.4347	2.28	|	Q |	|	| V	|	|
18+10	2.4489	2.07	|	Q |	|	| V	|	|
18+15	2.4623	1.95	|	Q |	|	| V	|	|
18+20	2.4749	1.82	|	Q |	|	| V	|	|
18+25	2.4860	1.62	|	Q |	|	| V	|	|
18+30	2.4965	1.52	|	Q |	|	| V	|	|
18+35	2.5061	1.39	|Q	|	|	| V	|	|
18+40	2.5146	1.24	|Q	|	|	| V	|	|
18+45	2.5229	1.20	|Q	|	|	| V	|	|
18+50	2.5311	1.19	|Q	|	|	| V	|	|
18+55	2.5392	1.17	|Q	|	|	| V	|	|
19+ 0	2.5470	1.14	|Q	|	|	| V	|	|
19+ 5	2.5546	1.10	|Q	|	|	| V	|	|
19+10	2.5619	1.06	|Q	|	|	| V	|	|
19+15	2.5686	0.98	|Q	|	|	| V	|	|
19+20	2.5746	0.86	|Q	|	|	| V	|	|
19+25	2.5801	0.81	|Q	|	|	| V	|	|
19+30	2.5854	0.77	|Q	|	|	| V	|	|
19+35	2.5900	0.66	Q	|	|	| V	|	|
19+40	2.5939	0.57	Q	|	|	| V	|	|
19+45	2.5977	0.55	Q	|	|	| V	|	|
19+50	2.6014	0.53	Q	|	|	| V	|	|
19+55	2.6049	0.51	Q	|	|	| V	|	|
20+ 0	2.6083	0.50	Q	|	|	| V	|	|
20+ 5	2.6117	0.49	Q	|	|	| V	|	|
20+10	2.6150	0.47	Q	|	|	| V	|	|
20+15	2.6181	0.46	Q	|	|	| V	|	|
20+20	2.6213	0.45	Q	|	|	| V	|	|
20+25	2.6243	0.44	Q	|	|	| V	|	|
20+30	2.6273	0.44	Q	|	|	| V	|	|
20+35	2.6303	0.43	Q	|	|	| V	|	|
20+40	2.6331	0.42	Q	|	|	| V	|	|
20+45	2.6360	0.41	Q	|	|	| V	|	|
20+50	2.6387	0.40	Q	|	|	| V	|	|
20+55	2.6415	0.40	Q	|	|	| V	|	|
21+ 0	2.6442	0.39	Q	|	|	| V	|	|
21+ 5	2.6468	0.38	Q	|	|	| V	|	|
21+10	2.6494	0.38	Q	|	|	| V	|	|
21+15	2.6519	0.37	Q	|	|	| V	|	|
21+20	2.6544	0.36	Q	|	|	| V	|	|

21+25	2.6569	0.36	Q	|	|	|	V |
21+30	2.6593	0.35	Q	|	|	|	V |
21+35	2.6617	0.35	Q	|	|	|	V |
21+40	2.6641	0.34	Q	|	|	|	V |
21+45	2.6664	0.34	Q	|	|	|	V|
21+50	2.6687	0.33	Q	|	|	|	V|
21+55	2.6710	0.33	Q	|	|	|	V|
22+ 0	2.6732	0.32	Q	|	|	|	V|
22+ 5	2.6754	0.32	Q	|	|	|	V|
22+10	2.6776	0.32	Q	|	|	|	V|
22+15	2.6797	0.31	Q	|	|	|	V|
22+20	2.6819	0.31	Q	|	|	|	V|
22+25	2.6840	0.30	Q	|	|	|	V|
22+30	2.6860	0.30	Q	|	|	|	V|
22+35	2.6881	0.30	Q	|	|	|	V|
22+40	2.6901	0.29	Q	|	|	|	V|
22+45	2.6921	0.29	Q	|	|	|	V|
22+50	2.6941	0.29	Q	|	|	|	V|
22+55	2.6960	0.28	Q	|	|	|	V|
23+ 0	2.6980	0.28	Q	|	|	|	V|
23+ 5	2.6999	0.28	Q	|	|	|	V|
23+10	2.7018	0.27	Q	|	|	|	V|
23+15	2.7036	0.27	Q	|	|	|	V|
23+20	2.7055	0.27	Q	|	|	|	V|
23+25	2.7073	0.27	Q	|	|	|	V|
23+30	2.7091	0.26	Q	|	|	|	V|
23+35	2.7109	0.26	Q	|	|	|	V|
23+40	2.7127	0.26	Q	|	|	|	V|
23+45	2.7145	0.26	Q	|	|	|	V|
23+50	2.7162	0.25	Q	|	|	|	V|
23+55	2.7179	0.25	Q	|	|	|	V|
24+ 0	2.7196	0.25	Q	|	|	|	V|
24+ 5	2.7213	0.24	Q	|	|	|	V|
24+10	2.7229	0.23	Q	|	|	|	V|
24+15	2.7245	0.22	Q	|	|	|	V|
24+20	2.7258	0.19	Q	|	|	|	V|
24+25	2.7268	0.15	Q	|	|	|	V|
24+30	2.7277	0.12	Q	|	|	|	V|
24+35	2.7284	0.10	Q	|	|	|	V|
24+40	2.7290	0.09	Q	|	|	|	V|
24+45	2.7295	0.07	Q	|	|	|	V|
24+50	2.7299	0.06	Q	|	|	|	V|
24+55	2.7303	0.06	Q	|	|	|	V|
25+ 0	2.7307	0.05	Q	|	|	|	V|
25+ 5	2.7310	0.04	Q	|	|	|	V|
25+10	2.7312	0.04	Q	|	|	|	V|
25+15	2.7315	0.04	Q	|	|	|	V|
25+20	2.7317	0.03	Q	|	|	|	V|
25+25	2.7319	0.03	Q	|	|	|	V|
25+30	2.7321	0.02	Q	|	|	|	V|
25+35	2.7322	0.02	Q	|	|	|	V|
25+40	2.7323	0.02	Q	|	|	|	V|
25+45	2.7325	0.02	Q	|	|	|	V|
25+50	2.7326	0.02	Q	|	|	|	V|
25+55	2.7327	0.01	Q	|	|	|	V|
26+ 0	2.7327	0.01	Q	|	|	|	V|
26+ 5	2.7328	0.01	Q	|	|	|	V|
26+10	2.7329	0.01	Q	|	|	|	V|
26+15	2.7329	0.01	Q	|	|	|	V|

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   26+20       2.7330      0.01  Q         |          |         |        V|
   26+25       2.7330      0.01  Q         |          |         |        V|
   26+30       2.7331      0.01  Q         |          |         |        V|
   26+35       2.7331      0.00  Q         |          |         |        V|
   26+40       2.7331      0.00  Q         |          |         |        V|
   26+45       2.7332      0.00  Q         |          |         |        V|
   26+50       2.7332      0.00  Q         |          |         |        V|
   26+55       2.7332      0.00  Q         |          |         |        V|
   27+ 0       2.7332      0.00  Q         |          |         |        V|
   27+ 5       2.7332      0.00  Q         |          |         |        V|
   27+10       2.7332      0.00  Q         |          |         |        V|
   27+15       2.7333      0.00  Q         |          |         |        V|
   27+20       2.7333      0.00  Q         |          |         |        V|
   27+25       2.7333      0.00  Q         |          |         |        V|
   27+30       2.7333      0.00  Q         |          |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 14
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
18.15	1	1.29
Rainfall data for year 100		
18.15	6	1.84
Rainfall data for year 100		
18.15	24	2.39

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	18.15	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
16.34	0.900	78.0	92.8	0.78	0.694
1.81	0.100	98.0	98.0	0.20	0.904

Area-averaged catchment yield fraction, Y = 0.715
Area-averaged low loss fraction, Yb = 0.285
User entry of time of concentration = 0.520 (hours)
++
Watershed area = 18.15(Ac.)
Catchment Lag time = 0.416 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.0321
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.285 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.604(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.390(In)

Rainfall depth area reduction factors:
Using a total area of 18.15(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.612(In)
30-minute factor = 0.999 Adjusted rainfall = 1.047(In)
1-hour factor = 0.999 Adjusted rainfall = 1.289(In)
3-hour factor = 1.000 Adjusted rainfall = 1.604(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.390(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 219.50 (CFS))	
1	0.995	2.183
2	4.516	7.729
3	11.300	14.893
4	26.240	32.793
5	43.399	37.665
6	55.091	25.663
7	62.875	17.085
8	68.500	12.349
9	73.033	9.948
10	76.661	7.963
11	79.664	6.593
12	82.167	5.493
13	84.311	4.706

14	86.250	4.256
15	87.937	3.704
16	89.330	3.057
17	90.508	2.585
18	91.609	2.418
19	92.585	2.143
20	93.487	1.980
21	94.262	1.701
22	94.943	1.495
23	95.601	1.444
24	96.140	1.181
25	96.660	1.143
26	97.095	0.954
27	97.455	0.791
28	97.792	0.739
29	98.009	0.476
30	98.210	0.440
31	98.432	0.488
32	98.672	0.528
33	98.913	0.528
34	99.153	0.528
35	99.393	0.527
36	99.570	0.387
37	99.695	0.275
38	99.820	0.275
39	100.000	0.137

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6116	0.6116
2	0.7530	0.1414
3	0.8504	0.0974
4	0.9270	0.0766
5	0.9912	0.0642
6	1.0469	0.0557
7	1.0965	0.0496
8	1.1413	0.0448
9	1.1823	0.0410
10	1.2203	0.0380
11	1.2557	0.0354
12	1.2889	0.0332
13	1.3096	0.0207
14	1.3290	0.0194
15	1.3474	0.0184
16	1.3648	0.0174
17	1.3813	0.0166
18	1.3971	0.0158
19	1.4122	0.0151
20	1.4267	0.0145
21	1.4406	0.0139
22	1.4540	0.0134
23	1.4669	0.0129
24	1.4794	0.0125
25	1.4915	0.0121
26	1.5031	0.0117
27	1.5145	0.0113
28	1.5255	0.0110
29	1.5361	0.0107
30	1.5465	0.0104

31	1.5567	0.0101
32	1.5665	0.0099
33	1.5761	0.0096
34	1.5855	0.0094
35	1.5947	0.0092
36	1.6036	0.0090
37	1.6124	0.0087
38	1.6209	0.0085
39	1.6293	0.0084
40	1.6375	0.0082
41	1.6455	0.0080
42	1.6534	0.0079
43	1.6611	0.0077
44	1.6687	0.0076
45	1.6762	0.0075
46	1.6835	0.0073
47	1.6907	0.0072
48	1.6978	0.0071
49	1.7047	0.0070
50	1.7116	0.0068
51	1.7183	0.0067
52	1.7249	0.0066
53	1.7315	0.0065
54	1.7379	0.0064
55	1.7442	0.0063
56	1.7505	0.0062
57	1.7566	0.0062
58	1.7627	0.0061
59	1.7687	0.0060
60	1.7746	0.0059
61	1.7804	0.0058
62	1.7861	0.0057
63	1.7918	0.0057
64	1.7974	0.0056
65	1.8030	0.0055
66	1.8084	0.0055
67	1.8138	0.0054
68	1.8192	0.0053
69	1.8244	0.0053
70	1.8296	0.0052
71	1.8348	0.0052
72	1.8399	0.0051
73	1.8447	0.0048
74	1.8494	0.0047
75	1.8541	0.0047
76	1.8588	0.0046
77	1.8634	0.0046
78	1.8679	0.0045
79	1.8724	0.0045
80	1.8768	0.0044
81	1.8812	0.0044
82	1.8856	0.0044
83	1.8899	0.0043
84	1.8942	0.0043
85	1.8984	0.0042
86	1.9026	0.0042
87	1.9068	0.0042
88	1.9109	0.0041
89	1.9150	0.0041

90	1.9190	0.0040
91	1.9230	0.0040
92	1.9270	0.0040
93	1.9309	0.0039
94	1.9348	0.0039
95	1.9387	0.0039
96	1.9425	0.0038
97	1.9463	0.0038
98	1.9501	0.0038
99	1.9538	0.0037
100	1.9575	0.0037
101	1.9612	0.0037
102	1.9649	0.0036
103	1.9685	0.0036
104	1.9721	0.0036
105	1.9756	0.0036
106	1.9792	0.0035
107	1.9827	0.0035
108	1.9862	0.0035
109	1.9896	0.0035
110	1.9931	0.0034
111	1.9965	0.0034
112	1.9999	0.0034
113	2.0032	0.0034
114	2.0065	0.0033
115	2.0098	0.0033
116	2.0131	0.0033
117	2.0164	0.0033
118	2.0196	0.0032
119	2.0229	0.0032
120	2.0261	0.0032
121	2.0292	0.0032
122	2.0324	0.0032
123	2.0355	0.0031
124	2.0386	0.0031
125	2.0417	0.0031
126	2.0448	0.0031
127	2.0478	0.0031
128	2.0509	0.0030
129	2.0539	0.0030
130	2.0569	0.0030
131	2.0599	0.0030
132	2.0628	0.0030
133	2.0658	0.0029
134	2.0687	0.0029
135	2.0716	0.0029
136	2.0745	0.0029
137	2.0773	0.0029
138	2.0802	0.0029
139	2.0830	0.0028
140	2.0858	0.0028
141	2.0886	0.0028
142	2.0914	0.0028
143	2.0942	0.0028
144	2.0970	0.0028
145	2.0997	0.0027
146	2.1024	0.0027
147	2.1051	0.0027
148	2.1078	0.0027

149	2.1105	0.0027
150	2.1132	0.0027
151	2.1158	0.0027
152	2.1185	0.0026
153	2.1211	0.0026
154	2.1237	0.0026
155	2.1263	0.0026
156	2.1289	0.0026
157	2.1314	0.0026
158	2.1340	0.0026
159	2.1365	0.0025
160	2.1391	0.0025
161	2.1416	0.0025
162	2.1441	0.0025
163	2.1466	0.0025
164	2.1491	0.0025
165	2.1515	0.0025
166	2.1540	0.0025
167	2.1564	0.0024
168	2.1588	0.0024
169	2.1613	0.0024
170	2.1637	0.0024
171	2.1661	0.0024
172	2.1685	0.0024
173	2.1708	0.0024
174	2.1732	0.0024
175	2.1755	0.0024
176	2.1779	0.0023
177	2.1802	0.0023
178	2.1825	0.0023
179	2.1848	0.0023
180	2.1871	0.0023
181	2.1894	0.0023
182	2.1917	0.0023
183	2.1940	0.0023
184	2.1962	0.0023
185	2.1985	0.0022
186	2.2007	0.0022
187	2.2029	0.0022
188	2.2052	0.0022
189	2.2074	0.0022
190	2.2096	0.0022
191	2.2117	0.0022
192	2.2139	0.0022
193	2.2161	0.0022
194	2.2183	0.0022
195	2.2204	0.0022
196	2.2226	0.0021
197	2.2247	0.0021
198	2.2268	0.0021
199	2.2289	0.0021
200	2.2310	0.0021
201	2.2331	0.0021
202	2.2352	0.0021
203	2.2373	0.0021
204	2.2394	0.0021
205	2.2415	0.0021
206	2.2435	0.0021
207	2.2456	0.0021

208	2.2476	0.0020
209	2.2497	0.0020
210	2.2517	0.0020
211	2.2537	0.0020
212	2.2557	0.0020
213	2.2577	0.0020
214	2.2597	0.0020
215	2.2617	0.0020
216	2.2637	0.0020
217	2.2657	0.0020
218	2.2676	0.0020
219	2.2696	0.0020
220	2.2715	0.0020
221	2.2735	0.0019
222	2.2754	0.0019
223	2.2773	0.0019
224	2.2793	0.0019
225	2.2812	0.0019
226	2.2831	0.0019
227	2.2850	0.0019
228	2.2869	0.0019
229	2.2888	0.0019
230	2.2907	0.0019
231	2.2925	0.0019
232	2.2944	0.0019
233	2.2963	0.0019
234	2.2981	0.0019
235	2.3000	0.0018
236	2.3018	0.0018
237	2.3037	0.0018
238	2.3055	0.0018
239	2.3073	0.0018
240	2.3091	0.0018
241	2.3109	0.0018
242	2.3127	0.0018
243	2.3145	0.0018
244	2.3163	0.0018
245	2.3181	0.0018
246	2.3199	0.0018
247	2.3217	0.0018
248	2.3235	0.0018
249	2.3252	0.0018
250	2.3270	0.0018
251	2.3287	0.0018
252	2.3305	0.0017
253	2.3322	0.0017
254	2.3340	0.0017
255	2.3357	0.0017
256	2.3374	0.0017
257	2.3391	0.0017
258	2.3409	0.0017
259	2.3426	0.0017
260	2.3443	0.0017
261	2.3460	0.0017
262	2.3477	0.0017
263	2.3493	0.0017
264	2.3510	0.0017
265	2.3527	0.0017
266	2.3544	0.0017

267	2.3560	0.0017
268	2.3577	0.0017
269	2.3594	0.0017
270	2.3610	0.0017
271	2.3627	0.0016
272	2.3643	0.0016
273	2.3659	0.0016
274	2.3676	0.0016
275	2.3692	0.0016
276	2.3708	0.0016
277	2.3724	0.0016
278	2.3741	0.0016
279	2.3757	0.0016
280	2.3773	0.0016
281	2.3789	0.0016
282	2.3805	0.0016
283	2.3821	0.0016
284	2.3836	0.0016
285	2.3852	0.0016
286	2.3868	0.0016
287	2.3884	0.0016
288	2.3899	0.0016

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0016	0.0004	0.0011
2	0.0016	0.0004	0.0011
3	0.0016	0.0005	0.0011
4	0.0016	0.0005	0.0011
5	0.0016	0.0005	0.0011
6	0.0016	0.0005	0.0011
7	0.0016	0.0005	0.0012
8	0.0016	0.0005	0.0012
9	0.0016	0.0005	0.0012
10	0.0016	0.0005	0.0012
11	0.0016	0.0005	0.0012
12	0.0016	0.0005	0.0012
13	0.0017	0.0005	0.0012
14	0.0017	0.0005	0.0012
15	0.0017	0.0005	0.0012
16	0.0017	0.0005	0.0012
17	0.0017	0.0005	0.0012
18	0.0017	0.0005	0.0012
19	0.0017	0.0005	0.0012
20	0.0017	0.0005	0.0012
21	0.0017	0.0005	0.0012
22	0.0017	0.0005	0.0012
23	0.0017	0.0005	0.0012
24	0.0017	0.0005	0.0012
25	0.0017	0.0005	0.0012
26	0.0018	0.0005	0.0013
27	0.0018	0.0005	0.0013
28	0.0018	0.0005	0.0013
29	0.0018	0.0005	0.0013
30	0.0018	0.0005	0.0013
31	0.0018	0.0005	0.0013
32	0.0018	0.0005	0.0013

33	0.0018	0.0005	0.0013
34	0.0018	0.0005	0.0013
35	0.0018	0.0005	0.0013
36	0.0018	0.0005	0.0013
37	0.0019	0.0005	0.0013
38	0.0019	0.0005	0.0013
39	0.0019	0.0005	0.0013
40	0.0019	0.0005	0.0013
41	0.0019	0.0005	0.0014
42	0.0019	0.0005	0.0014
43	0.0019	0.0005	0.0014
44	0.0019	0.0005	0.0014
45	0.0019	0.0006	0.0014
46	0.0019	0.0006	0.0014
47	0.0020	0.0006	0.0014
48	0.0020	0.0006	0.0014
49	0.0020	0.0006	0.0014
50	0.0020	0.0006	0.0014
51	0.0020	0.0006	0.0014
52	0.0020	0.0006	0.0014
53	0.0020	0.0006	0.0014
54	0.0020	0.0006	0.0015
55	0.0021	0.0006	0.0015
56	0.0021	0.0006	0.0015
57	0.0021	0.0006	0.0015
58	0.0021	0.0006	0.0015
59	0.0021	0.0006	0.0015
60	0.0021	0.0006	0.0015
61	0.0021	0.0006	0.0015
62	0.0021	0.0006	0.0015
63	0.0022	0.0006	0.0015
64	0.0022	0.0006	0.0015
65	0.0022	0.0006	0.0016
66	0.0022	0.0006	0.0016
67	0.0022	0.0006	0.0016
68	0.0022	0.0006	0.0016
69	0.0022	0.0006	0.0016
70	0.0022	0.0006	0.0016
71	0.0023	0.0006	0.0016
72	0.0023	0.0006	0.0016
73	0.0023	0.0007	0.0016
74	0.0023	0.0007	0.0017
75	0.0023	0.0007	0.0017
76	0.0023	0.0007	0.0017
77	0.0024	0.0007	0.0017
78	0.0024	0.0007	0.0017
79	0.0024	0.0007	0.0017
80	0.0024	0.0007	0.0017
81	0.0024	0.0007	0.0017
82	0.0024	0.0007	0.0017
83	0.0025	0.0007	0.0018
84	0.0025	0.0007	0.0018
85	0.0025	0.0007	0.0018
86	0.0025	0.0007	0.0018
87	0.0025	0.0007	0.0018
88	0.0026	0.0007	0.0018
89	0.0026	0.0007	0.0018
90	0.0026	0.0007	0.0019
91	0.0026	0.0007	0.0019

92	0.0026	0.0008	0.0019
93	0.0027	0.0008	0.0019
94	0.0027	0.0008	0.0019
95	0.0027	0.0008	0.0019
96	0.0027	0.0008	0.0019
97	0.0028	0.0008	0.0020
98	0.0028	0.0008	0.0020
99	0.0028	0.0008	0.0020
100	0.0028	0.0008	0.0020
101	0.0029	0.0008	0.0020
102	0.0029	0.0008	0.0021
103	0.0029	0.0008	0.0021
104	0.0029	0.0008	0.0021
105	0.0030	0.0008	0.0021
106	0.0030	0.0008	0.0021
107	0.0030	0.0009	0.0022
108	0.0030	0.0009	0.0022
109	0.0031	0.0009	0.0022
110	0.0031	0.0009	0.0022
111	0.0031	0.0009	0.0022
112	0.0032	0.0009	0.0023
113	0.0032	0.0009	0.0023
114	0.0032	0.0009	0.0023
115	0.0033	0.0009	0.0023
116	0.0033	0.0009	0.0023
117	0.0033	0.0009	0.0024
118	0.0034	0.0010	0.0024
119	0.0034	0.0010	0.0024
120	0.0034	0.0010	0.0025
121	0.0035	0.0010	0.0025
122	0.0035	0.0010	0.0025
123	0.0036	0.0010	0.0025
124	0.0036	0.0010	0.0026
125	0.0036	0.0010	0.0026
126	0.0037	0.0010	0.0026
127	0.0037	0.0011	0.0027
128	0.0038	0.0011	0.0027
129	0.0038	0.0011	0.0027
130	0.0039	0.0011	0.0028
131	0.0039	0.0011	0.0028
132	0.0040	0.0011	0.0028
133	0.0040	0.0012	0.0029
134	0.0041	0.0012	0.0029
135	0.0042	0.0012	0.0030
136	0.0042	0.0012	0.0030
137	0.0043	0.0012	0.0031
138	0.0043	0.0012	0.0031
139	0.0044	0.0013	0.0031
140	0.0044	0.0013	0.0032
141	0.0045	0.0013	0.0032
142	0.0046	0.0013	0.0033
143	0.0047	0.0013	0.0034
144	0.0047	0.0014	0.0034
145	0.0051	0.0015	0.0036
146	0.0052	0.0015	0.0037
147	0.0053	0.0015	0.0038
148	0.0053	0.0015	0.0038
149	0.0055	0.0016	0.0039
150	0.0055	0.0016	0.0040

151	0.0057	0.0016	0.0041
152	0.0057	0.0016	0.0041
153	0.0059	0.0017	0.0042
154	0.0060	0.0017	0.0043
155	0.0062	0.0018	0.0044
156	0.0062	0.0018	0.0045
157	0.0064	0.0018	0.0046
158	0.0065	0.0019	0.0047
159	0.0067	0.0019	0.0048
160	0.0068	0.0019	0.0049
161	0.0071	0.0020	0.0051
162	0.0072	0.0020	0.0051
163	0.0075	0.0021	0.0053
164	0.0076	0.0022	0.0054
165	0.0079	0.0022	0.0056
166	0.0080	0.0023	0.0057
167	0.0084	0.0024	0.0060
168	0.0085	0.0024	0.0061
169	0.0090	0.0026	0.0064
170	0.0092	0.0026	0.0066
171	0.0096	0.0027	0.0069
172	0.0099	0.0028	0.0071
173	0.0104	0.0030	0.0074
174	0.0107	0.0030	0.0076
175	0.0113	0.0032	0.0081
176	0.0117	0.0033	0.0084
177	0.0125	0.0036	0.0089
178	0.0129	0.0037	0.0092
179	0.0139	0.0040	0.0099
180	0.0145	0.0041	0.0104
181	0.0158	0.0045	0.0113
182	0.0166	0.0047	0.0118
183	0.0184	0.0052	0.0131
184	0.0194	0.0055	0.0139
185	0.0332	0.0095	0.0237
186	0.0354	0.0101	0.0253
187	0.0410	0.0105	0.0305
188	0.0448	0.0105	0.0343
189	0.0557	0.0105	0.0452
190	0.0642	0.0105	0.0537
191	0.0974	0.0105	0.0869
192	0.1414	0.0105	0.1309
193	0.6116	0.0105	0.6011
194	0.0766	0.0105	0.0661
195	0.0496	0.0105	0.0391
196	0.0380	0.0105	0.0275
197	0.0207	0.0059	0.0148
198	0.0174	0.0050	0.0124
199	0.0151	0.0043	0.0108
200	0.0134	0.0038	0.0096
201	0.0121	0.0034	0.0086
202	0.0110	0.0031	0.0079
203	0.0101	0.0029	0.0072
204	0.0094	0.0027	0.0067
205	0.0087	0.0025	0.0062
206	0.0082	0.0023	0.0059
207	0.0077	0.0022	0.0055
208	0.0073	0.0021	0.0052
209	0.0070	0.0020	0.0050

210	0.0066	0.0019	0.0047
211	0.0063	0.0018	0.0045
212	0.0061	0.0017	0.0043
213	0.0058	0.0017	0.0042
214	0.0056	0.0016	0.0040
215	0.0054	0.0015	0.0039
216	0.0052	0.0015	0.0037
217	0.0048	0.0014	0.0034
218	0.0046	0.0013	0.0033
219	0.0045	0.0013	0.0032
220	0.0044	0.0012	0.0031
221	0.0042	0.0012	0.0030
222	0.0041	0.0012	0.0029
223	0.0040	0.0011	0.0029
224	0.0039	0.0011	0.0028
225	0.0038	0.0011	0.0027
226	0.0037	0.0011	0.0027
227	0.0036	0.0010	0.0026
228	0.0035	0.0010	0.0025
229	0.0035	0.0010	0.0025
230	0.0034	0.0010	0.0024
231	0.0033	0.0009	0.0024
232	0.0032	0.0009	0.0023
233	0.0032	0.0009	0.0023
234	0.0031	0.0009	0.0022
235	0.0031	0.0009	0.0022
236	0.0030	0.0009	0.0021
237	0.0029	0.0008	0.0021
238	0.0029	0.0008	0.0021
239	0.0028	0.0008	0.0020
240	0.0028	0.0008	0.0020
241	0.0027	0.0008	0.0020
242	0.0027	0.0008	0.0019
243	0.0027	0.0008	0.0019
244	0.0026	0.0007	0.0019
245	0.0026	0.0007	0.0018
246	0.0025	0.0007	0.0018
247	0.0025	0.0007	0.0018
248	0.0025	0.0007	0.0018
249	0.0024	0.0007	0.0017
250	0.0024	0.0007	0.0017
251	0.0024	0.0007	0.0017
252	0.0023	0.0007	0.0017
253	0.0023	0.0007	0.0016
254	0.0023	0.0006	0.0016
255	0.0022	0.0006	0.0016
256	0.0022	0.0006	0.0016
257	0.0022	0.0006	0.0016
258	0.0021	0.0006	0.0015
259	0.0021	0.0006	0.0015
260	0.0021	0.0006	0.0015
261	0.0021	0.0006	0.0015
262	0.0020	0.0006	0.0015
263	0.0020	0.0006	0.0014
264	0.0020	0.0006	0.0014
265	0.0020	0.0006	0.0014
266	0.0020	0.0006	0.0014
267	0.0019	0.0005	0.0014
268	0.0019	0.0005	0.0014

269	0.0019	0.0005	0.0014
270	0.0019	0.0005	0.0013
271	0.0018	0.0005	0.0013
272	0.0018	0.0005	0.0013
273	0.0018	0.0005	0.0013
274	0.0018	0.0005	0.0013
275	0.0018	0.0005	0.0013
276	0.0018	0.0005	0.0013
277	0.0017	0.0005	0.0012
278	0.0017	0.0005	0.0012
279	0.0017	0.0005	0.0012
280	0.0017	0.0005	0.0012
281	0.0017	0.0005	0.0012
282	0.0017	0.0005	0.0012
283	0.0016	0.0005	0.0012
284	0.0016	0.0005	0.0012
285	0.0016	0.0005	0.0012
286	0.0016	0.0005	0.0011
287	0.0016	0.0005	0.0011
288	0.0016	0.0004	0.0011

Total soil rain loss = 0.44(In)
Total effective rainfall = 1.95(In)
Peak flow rate in flood hydrograph = 32.65(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0007	0.06	Q				
0+25	0.0015	0.11	Q				
0+30	0.0024	0.14	Q				
0+35	0.0035	0.16	Q				
0+40	0.0047	0.17	Q				
0+45	0.0059	0.18	Q				
0+50	0.0072	0.19	Q				
0+55	0.0086	0.20	Q				
1+ 0	0.0101	0.21	Q				
1+ 5	0.0115	0.21	Q				
1+10	0.0130	0.22	Q				
1+15	0.0146	0.22	Q				
1+20	0.0162	0.23	Q				
1+25	0.0178	0.23	Q				
1+30	0.0194	0.24	Q				
1+35	0.0210	0.24	Q				
1+40	0.0227	0.24	Q				
1+45	0.0244	0.25	Q				
1+50	0.0261	0.25	Q				
1+55	0.0279	0.25	Q				
2+ 0	0.0296	0.25	Q				

2+ 5	0.0314	0.26	Q				
2+10	0.0332	0.26	Q				
2+15	0.0350	0.26	Q				
2+20	0.0368	0.26	Q				
2+25	0.0386	0.27	Q				
2+30	0.0405	0.27	Q				
2+35	0.0423	0.27	Q				
2+40	0.0442	0.27	Q				
2+45	0.0460	0.27	Q				
2+50	0.0479	0.27	Q				
2+55	0.0498	0.28	Q				
3+ 0	0.0518	0.28	Q				
3+ 5	0.0537	0.28	Q				
3+10	0.0556	0.28	Q				
3+15	0.0576	0.28	Q				
3+20	0.0595	0.28	Q				
3+25	0.0615	0.29	Q				
3+30	0.0635	0.29	Q				
3+35	0.0655	0.29	Q				
3+40	0.0675	0.29	Q				
3+45	0.0695	0.29	Q				
3+50	0.0715	0.29	Q				
3+55	0.0735	0.30	Q				
4+ 0	0.0756	0.30	QV				
4+ 5	0.0776	0.30	QV				
4+10	0.0797	0.30	QV				
4+15	0.0818	0.30	QV				
4+20	0.0839	0.30	QV				
4+25	0.0860	0.30	QV				
4+30	0.0881	0.31	QV				
4+35	0.0902	0.31	QV				
4+40	0.0923	0.31	QV				
4+45	0.0945	0.31	QV				
4+50	0.0967	0.31	QV				
4+55	0.0988	0.32	QV				
5+ 0	0.1010	0.32	QV				
5+ 5	0.1032	0.32	QV				
5+10	0.1054	0.32	QV				
5+15	0.1076	0.32	QV				
5+20	0.1099	0.32	QV				
5+25	0.1121	0.33	QV				
5+30	0.1144	0.33	QV				
5+35	0.1167	0.33	QV				
5+40	0.1190	0.33	QV				
5+45	0.1213	0.33	QV				
5+50	0.1236	0.34	QV				
5+55	0.1259	0.34	QV				
6+ 0	0.1283	0.34	QV				
6+ 5	0.1306	0.34	QV				
6+10	0.1330	0.35	QV				
6+15	0.1354	0.35	QV				
6+20	0.1378	0.35	QV				
6+25	0.1403	0.35	QV				
6+30	0.1427	0.35	QV				
6+35	0.1452	0.36	QV				
6+40	0.1476	0.36	Q V				
6+45	0.1501	0.36	Q V				
6+50	0.1526	0.36	Q V				
6+55	0.1552	0.37	Q V				

7+ 0	0.1577	0.37	Q V	|	|	|	|
7+ 5	0.1603	0.37	Q V	|	|	|	|
7+10	0.1629	0.37	Q V	|	|	|	|
7+15	0.1655	0.38	Q V	|	|	|	|
7+20	0.1681	0.38	Q V	|	|	|	|
7+25	0.1707	0.38	Q V	|	|	|	|
7+30	0.1734	0.39	Q V	|	|	|	|
7+35	0.1761	0.39	Q V	|	|	|	|
7+40	0.1788	0.39	Q V	|	|	|	|
7+45	0.1815	0.39	Q V	|	|	|	|
7+50	0.1842	0.40	Q V	|	|	|	|
7+55	0.1870	0.40	Q V	|	|	|	|
8+ 0	0.1898	0.40	Q V	|	|	|	|
8+ 5	0.1926	0.41	Q V	|	|	|	|
8+10	0.1954	0.41	Q V	|	|	|	|
8+15	0.1983	0.41	Q V	|	|	|	|
8+20	0.2011	0.42	Q V	|	|	|	|
8+25	0.2040	0.42	Q V	|	|	|	|
8+30	0.2069	0.42	Q V	|	|	|	|
8+35	0.2099	0.43	Q V	|	|	|	|
8+40	0.2129	0.43	Q V	|	|	|	|
8+45	0.2159	0.44	Q V	|	|	|	|
8+50	0.2189	0.44	Q V	|	|	|	|
8+55	0.2219	0.44	Q V	|	|	|	|
9+ 0	0.2250	0.45	Q V	|	|	|	|
9+ 5	0.2281	0.45	Q V	|	|	|	|
9+10	0.2312	0.45	Q V	|	|	|	|
9+15	0.2344	0.46	Q V	|	|	|	|
9+20	0.2376	0.46	Q V	|	|	|	|
9+25	0.2408	0.47	Q V	|	|	|	|
9+30	0.2441	0.47	Q V	|	|	|	|
9+35	0.2473	0.48	Q V	|	|	|	|
9+40	0.2506	0.48	Q V	|	|	|	|
9+45	0.2540	0.49	Q V	|	|	|	|
9+50	0.2574	0.49	Q V	|	|	|	|
9+55	0.2608	0.50	Q V	|	|	|	|
10+ 0	0.2642	0.50	Q V	|	|	|	|
10+ 5	0.2677	0.51	Q V	|	|	|	|
10+10	0.2712	0.51	Q V	|	|	|	|
10+15	0.2748	0.52	Q V	|	|	|	|
10+20	0.2784	0.52	Q V	|	|	|	|
10+25	0.2820	0.53	Q V	|	|	|	|
10+30	0.2857	0.53	Q V	|	|	|	|
10+35	0.2894	0.54	Q V	|	|	|	|
10+40	0.2932	0.55	Q V	|	|	|	|
10+45	0.2970	0.55	Q V	|	|	|	|
10+50	0.3008	0.56	Q V	|	|	|	|
10+55	0.3047	0.56	Q V	|	|	|	|
11+ 0	0.3086	0.57	Q V	|	|	|	|
11+ 5	0.3126	0.58	Q V	|	|	|	|
11+10	0.3167	0.59	Q V	|	|	|	|
11+15	0.3207	0.59	Q V	|	|	|	|
11+20	0.3249	0.60	Q V	|	|	|	|
11+25	0.3291	0.61	Q V	|	|	|	|
11+30	0.3333	0.62	Q V	|	|	|	|
11+35	0.3376	0.63	Q V	|	|	|	|
11+40	0.3420	0.63	Q V	|	|	|	|
11+45	0.3464	0.64	Q V	|	|	|	|
11+50	0.3509	0.65	Q V	|	|	|	|

```
11+55       0.3555      0.66  Q   V     |          |          |          |
12+ 0       0.3601      0.67  Q   V     |          |          |          |
12+ 5       0.3648      0.68  Q   V     |          |          |          |
12+10       0.3695      0.69  Q    V    |          |          |          |
12+15       0.3744      0.71  Q    V    |          |          |          |
12+20       0.3794      0.72  Q    V    |          |          |          |
12+25       0.3845      0.74  Q    V    |          |          |          |
12+30       0.3897      0.76  Q    V    |          |          |          |
12+35       0.3950      0.77  Q    V    |          |          |          |
12+40       0.4005      0.79  Q    V    |          |          |          |
12+45       0.4060      0.80  Q    V    |          |          |          |
12+50       0.4117      0.82  Q    V    |          |          |          |
12+55       0.4174      0.84  Q    V    |          |          |          |
13+ 0       0.4233      0.85  Q    V    |          |          |          |
13+ 5       0.4293      0.87  Q    V    |          |          |          |
13+10       0.4354      0.89  Q    V    |          |          |          |
13+15       0.4416      0.91  Q    V    |          |          |          |
13+20       0.4480      0.93  Q     V   |          |          |          |
13+25       0.4545      0.95  Q     V   |          |          |          |
13+30       0.4612      0.97  Q     V   |          |          |          |
13+35       0.4680      0.99  Q     V   |          |          |          |
13+40       0.4750      1.01  |Q    V   |          |          |          |
13+45       0.4821      1.04  |Q    V   |          |          |          |
13+50       0.4894      1.06  |Q    V   |          |          |          |
13+55       0.4969      1.09  |Q    V   |          |          |          |
14+ 0       0.5046      1.12  |Q    V   |          |          |          |
14+ 5       0.5125      1.15  |Q    V   |          |          |          |
14+10       0.5206      1.18  |Q     V  |          |          |          |
14+15       0.5290      1.21  |Q     V  |          |          |          |
14+20       0.5376      1.25  |Q     V  |          |          |          |
14+25       0.5465      1.29  |Q     V  |          |          |          |
14+30       0.5557      1.34  |Q     V  |          |          |          |
14+35       0.5652      1.38  |Q     V  |          |          |          |
14+40       0.5751      1.43  |Q     V  |          |          |          |
14+45       0.5853      1.48  |Q     V  |          |          |          |
14+50       0.5959      1.54  |Q      V |          |          |          |
14+55       0.6070      1.61  |Q      V |          |          |          |
15+ 0       0.6186      1.68  |Q      V |          |          |          |
15+ 5       0.6307      1.76  |Q      V |          |          |          |
15+10       0.6434      1.85  |Q      V |          |          |          |
15+15       0.6568      1.94  |Q      V |          |          |          |
15+20       0.6709      2.06  | Q      V|          |          |          |
15+25       0.6861      2.20  | Q      V|          |          |          |
15+30       0.7028      2.42  | Q      V|          |          |          |
15+35       0.7215      2.72  | Q      V|          |          |          |
15+40       0.7437      3.22  |  Q      V          |          |          |
15+45       0.7702      3.85  |  Q      V          |          |          |
15+50       0.8016      4.55  |   Q     V          |          |          |
15+55       0.8390      5.43  |    Q    |V         |          |          |
16+ 0       0.8854      6.73  |     Q   | V        |          |          |
16+ 5       0.9516      9.62  |        Q| V        |          |          |
16+10       1.0527     14.68  |         |   Q      |          |          |
16+15       1.1959     20.79  |         |     V   Q          |          |
16+20       1.4091     30.96  |         |        V|          Q          |
16+25       1.6340     32.65  |         |         | V        | Q        |
16+30       1.8052     24.86  |         |         |   Q      |          |
16+35       1.9338     18.67  |         |       Q |     V    |          |
16+40       2.0347     14.65  |         |   Q     |      V   |          |
16+45       2.1181     12.11  |         | Q       |       V  |          |
```

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16+50       2.1879     10.14  |         Q          |        V|         |
16+55       2.2478      8.70  |       Q  |         |         V         |
17+ 0       2.2998      7.55  |      Q   |         |         |V        |
17+ 5       2.3458      6.68  |     Q    |         |         |V        |
17+10       2.3874      6.04  |     Q    |         |         | V       |
17+15       2.4246      5.40  |    Q     |         |         | V       |
17+20       2.4573      4.75  |   Q      |         |         |  V      |
17+25       2.4866      4.25  |   Q      |         |         |  V      |
17+30       2.5138      3.94  |  Q       |         |         |   V     |
17+35       2.5386      3.60  |  Q       |         |         |   V     |
17+40       2.5616      3.34  |  Q       |         |         |   V     |
17+45       2.5824      3.03  |  Q       |         |         |    V    |
17+50       2.6016      2.78  | Q        |         |         |    V    |
17+55       2.6196      2.61  | Q        |         |         |    V    |
18+ 0       2.6358      2.36  | Q        |         |         |    V    |
18+ 5       2.6510      2.22  | Q        |         |         |    V    |
18+10       2.6649      2.01  | Q        |         |         |     V   |
18+15       2.6774      1.83  |Q         |         |         |     V   |
18+20       2.6891      1.70  |Q         |         |         |     V   |
18+25       2.6994      1.48  |Q         |         |         |     V   |
18+30       2.7090      1.41  |Q         |         |         |     V   |
18+35       2.7186      1.38  |Q         |         |         |     V   |
18+40       2.7279      1.36  |Q         |         |         |      V  |
18+45       2.7370      1.32  |Q         |         |         |      V  |
18+50       2.7457      1.27  |Q         |         |         |      V  |
18+55       2.7540      1.21  |Q         |         |         |      V  |
19+ 0       2.7614      1.07  |Q         |         |         |      V  |
19+ 5       2.7680      0.96  Q          |         |         |      V  |
19+10       2.7743      0.90  Q          |         |         |      V  |
19+15       2.7796      0.78  Q          |         |         |      V  |
19+20       2.7842      0.67  Q          |         |         |      V  |
19+25       2.7886      0.64  Q          |         |         |      V  |
19+30       2.7928      0.61  Q          |         |         |      V  |
19+35       2.7969      0.59  Q          |         |         |      V  |
19+40       2.8008      0.58  Q          |         |         |       V |
19+45       2.8047      0.56  Q          |         |         |       V |
19+50       2.8085      0.55  Q          |         |         |       V |
19+55       2.8121      0.53  Q          |         |         |       V |
20+ 0       2.8157      0.52  Q          |         |         |       V |
20+ 5       2.8192      0.51  Q          |         |         |       V |
20+10       2.8226      0.50  Q          |         |         |       V |
20+15       2.8260      0.49  Q          |         |         |       V |
20+20       2.8292      0.48  Q          |         |         |       V |
20+25       2.8325      0.47  Q          |         |         |       V |
20+30       2.8356      0.46  Q          |         |         |       V |
20+35       2.8387      0.45  Q          |         |         |       V |
20+40       2.8417      0.44  Q          |         |         |       V |
20+45       2.8447      0.43  Q          |         |         |       V |
20+50       2.8477      0.43  Q          |         |         |       V |
20+55       2.8505      0.42  Q          |         |         |       V |
21+ 0       2.8534      0.41  Q          |         |         |       V |
21+ 5       2.8562      0.40  Q          |         |         |       V |
21+10       2.8589      0.40  Q          |         |         |       V |
21+15       2.8616      0.39  Q          |         |         |       V |
21+20       2.8643      0.39  Q          |         |         |       V |
21+25       2.8669      0.38  Q          |         |         |       V |
21+30       2.8695      0.37  Q          |         |         |       V |
21+35       2.8720      0.37  Q          |         |         |       V |
21+40       2.8745      0.36  Q          |         |         |        V|
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21+45	2.8770	0.36	Q	|	|	|	V|
21+50	2.8794	0.35	Q	|	|	|	V|
21+55	2.8819	0.35	Q	|	|	|	V|
22+ 0	2.8842	0.35	Q	|	|	|	V|
22+ 5	2.8866	0.34	Q	|	|	|	V|
22+10	2.8889	0.34	Q	|	|	|	V|
22+15	2.8912	0.33	Q	|	|	|	V|
22+20	2.8934	0.33	Q	|	|	|	V|
22+25	2.8957	0.32	Q	|	|	|	V|
22+30	2.8979	0.32	Q	|	|	|	V|
22+35	2.9001	0.32	Q	|	|	|	V|
22+40	2.9022	0.31	Q	|	|	|	V|
22+45	2.9044	0.31	Q	|	|	|	V|
22+50	2.9065	0.31	Q	|	|	|	V|
22+55	2.9085	0.30	Q	|	|	|	V|
23+ 0	2.9106	0.30	Q	|	|	|	V|
23+ 5	2.9126	0.30	Q	|	|	|	V|
23+10	2.9147	0.29	Q	|	|	|	V|
23+15	2.9167	0.29	Q	|	|	|	V|
23+20	2.9186	0.29	Q	|	|	|	V|
23+25	2.9206	0.28	Q	|	|	|	V|
23+30	2.9225	0.28	Q	|	|	|	V|
23+35	2.9244	0.28	Q	|	|	|	V|
23+40	2.9263	0.28	Q	|	|	|	V|
23+45	2.9282	0.27	Q	|	|	|	V|
23+50	2.9301	0.27	Q	|	|	|	V|
23+55	2.9319	0.27	Q	|	|	|	V|
24+ 0	2.9337	0.27	Q	|	|	|	V|
24+ 5	2.9355	0.26	Q	|	|	|	V|
24+10	2.9373	0.25	Q	|	|	|	V|
24+15	2.9388	0.23	Q	|	|	|	V|
24+20	2.9402	0.19	Q	|	|	|	V|
24+25	2.9412	0.15	Q	|	|	|	V|
24+30	2.9420	0.12	Q	|	|	|	V|
24+35	2.9427	0.10	Q	|	|	|	V|
24+40	2.9432	0.08	Q	|	|	|	V|
24+45	2.9437	0.07	Q	|	|	|	V|
24+50	2.9441	0.06	Q	|	|	|	V|
24+55	2.9445	0.05	Q	|	|	|	V|
25+ 0	2.9448	0.05	Q	|	|	|	V|
25+ 5	2.9451	0.04	Q	|	|	|	V|
25+10	2.9454	0.04	Q	|	|	|	V|
25+15	2.9456	0.03	Q	|	|	|	V|
25+20	2.9458	0.03	Q	|	|	|	V|
25+25	2.9459	0.02	Q	|	|	|	V|
25+30	2.9461	0.02	Q	|	|	|	V|
25+35	2.9462	0.02	Q	|	|	|	V|
25+40	2.9463	0.02	Q	|	|	|	V|
25+45	2.9464	0.01	Q	|	|	|	V|
25+50	2.9465	0.01	Q	|	|	|	V|
25+55	2.9466	0.01	Q	|	|	|	V|
26+ 0	2.9467	0.01	Q	|	|	|	V|
26+ 5	2.9467	0.01	Q	|	|	|	V|
26+10	2.9468	0.01	Q	|	|	|	V|
26+15	2.9468	0.01	Q	|	|	|	V|
26+20	2.9469	0.01	Q	|	|	|	V|
26+25	2.9469	0.00	Q	|	|	|	V|
26+30	2.9469	0.00	Q	|	|	|	V|
26+35	2.9469	0.00	Q	|	|	|	V|

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   26+40       2.9470      0.00  Q         |          |         |        V|
   26+45       2.9470      0.00  Q         |          |         |        V|
   26+50       2.9470      0.00  Q         |          |         |        V|
   26+55       2.9470      0.00  Q         |          |         |        V|
   27+ 0       2.9470      0.00  Q         |          |         |        V|
   27+ 5       2.9470      0.00  Q         |          |         |        V|
   27+10       2.9470      0.00  Q         |          |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 15
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
197.08	1	1.27
Rainfall data for year 100		
197.08	6	1.83
Rainfall data for year 100		
197.08	24	2.43

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
71.0	87.8	197.08	1.000	0.233	0.772	0.180

Area-averaged adjusted loss rate Fm (In/Hr) = 0.180

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
152.15	0.772	71.0	87.8	1.39	0.538
44.93	0.228	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.622
Area-averaged low loss fraction, Yb = 0.378
User entry of time of concentration = 1.600 (hours)
++
Watershed area = 197.08(Ac.)
Catchment Lag time = 1.280 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 6.5104
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.180(In/Hr)
Average low loss rate fraction (Yb) = 0.378 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.589(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.430(In)

Rainfall depth area reduction factors:
Using a total area of 197.08(Ac.) (Ref: fig. E-4)

5-minute factor = 0.991 Adjusted rainfall = 0.597(In)
30-minute factor = 0.991 Adjusted rainfall = 1.022(In)
1-hour factor = 0.991 Adjusted rainfall = 1.258(In)
3-hour factor = 0.999 Adjusted rainfall = 1.587(In)
6-hour factor = 0.999 Adjusted rainfall = 1.829(In)
24-hour factor = 1.000 Adjusted rainfall = 2.429(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 2383.44 (CFS))	
1	0.286	6.828
2	0.861	13.695
3	1.734	20.815
4	2.835	26.228
5	4.266	34.103
6	5.897	38.876
7	7.919	48.194
8	10.208	54.553
9	13.917	88.404
10	18.283	104.077
11	24.500	148.170
12	31.041	155.893
13	36.761	136.351

14	42.114	127.571
15	46.417	102.554
16	50.423	95.496
17	53.859	81.896
18	57.015	75.219
19	59.550	60.413
20	61.900	56.011
21	63.941	48.637
22	65.851	45.530
23	67.572	41.019
24	69.219	39.249
25	70.781	37.239
26	72.203	33.894
27	73.504	31.008
28	74.710	28.752
29	75.855	27.285
30	76.966	26.466
31	78.050	25.850
32	78.970	21.931
33	79.830	20.483
34	80.689	20.483
35	81.533	20.122
36	82.261	17.342
37	82.964	16.759
38	83.667	16.759
39	84.356	16.423
40	84.987	15.045
41	85.613	14.896
42	86.238	14.896
43	86.832	14.179
44	87.356	12.485
45	87.877	12.414
46	88.398	12.414
47	88.864	11.100
48	89.255	9.320
49	89.645	9.310
50	90.036	9.308
51	90.411	8.952
52	90.776	8.690
53	91.141	8.690
54	91.504	8.654
55	91.831	7.807
56	92.144	7.448
57	92.456	7.448
58	92.767	7.399
59	93.058	6.939
60	93.344	6.828
61	93.631	6.828
62	93.907	6.584
63	94.135	5.426
64	94.356	5.276
65	94.577	5.276
66	94.799	5.276
67	95.020	5.276
68	95.241	5.276
69	95.463	5.276
70	95.664	4.795
71	95.834	4.043
72	96.003	4.034

73	96.172	4.034
74	96.341	4.034
75	96.511	4.034
76	96.680	4.034
77	96.848	4.010
78	96.982	3.190
79	97.099	2.793
80	97.216	2.793
81	97.334	2.793
82	97.451	2.793
83	97.568	2.793
84	97.685	2.793
85	97.795	2.625
86	97.866	1.695
87	97.932	1.552
88	97.997	1.552
89	98.062	1.552
90	98.127	1.552
91	98.192	1.552
92	98.257	1.552
93	98.327	1.661
94	98.405	1.858
95	98.483	1.862
96	98.561	1.862
97	98.639	1.862
98	98.717	1.862
99	98.795	1.862
100	98.873	1.862
101	98.952	1.862
102	99.030	1.862
103	99.108	1.862
104	99.186	1.862
105	99.264	1.862
106	99.342	1.862
107	99.420	1.862
108	99.494	1.759
109	99.540	1.090
110	99.581	0.970
111	99.621	0.970
112	99.662	0.970
113	99.703	0.970
114	99.743	0.970
115	99.784	0.970
116	99.825	0.970
117	99.865	0.970
118	99.906	0.970
119	99.947	0.970
120	100.000	0.485

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5971	0.5971
2	0.7351	0.1380
3	0.8301	0.0951
4	0.9050	0.0748
5	0.9676	0.0627
6	1.0220	0.0544
7	1.0704	0.0484
8	1.1142	0.0438

9	1.1542	0.0401
10	1.1913	0.0371
11	1.2258	0.0346
12	1.2583	0.0324
13	1.2797	0.0215
14	1.2999	0.0202
15	1.3190	0.0191
16	1.3371	0.0181
17	1.3543	0.0172
18	1.3708	0.0165
19	1.3865	0.0157
20	1.4017	0.0151
21	1.4162	0.0145
22	1.4302	0.0140
23	1.4437	0.0135
24	1.4567	0.0130
25	1.4693	0.0126
26	1.4815	0.0122
27	1.4934	0.0119
28	1.5049	0.0115
29	1.5161	0.0112
30	1.5270	0.0109
31	1.5376	0.0106
32	1.5480	0.0103
33	1.5581	0.0101
34	1.5679	0.0099
35	1.5776	0.0096
36	1.5870	0.0094
37	1.5959	0.0089
38	1.6046	0.0087
39	1.6132	0.0086
40	1.6216	0.0084
41	1.6298	0.0082
42	1.6378	0.0081
43	1.6457	0.0079
44	1.6535	0.0078
45	1.6611	0.0076
46	1.6686	0.0075
47	1.6760	0.0074
48	1.6832	0.0072
49	1.6903	0.0071
50	1.6973	0.0070
51	1.7042	0.0069
52	1.7110	0.0068
53	1.7177	0.0067
54	1.7243	0.0066
55	1.7308	0.0065
56	1.7372	0.0064
57	1.7435	0.0063
58	1.7497	0.0062
59	1.7558	0.0061
60	1.7619	0.0061
61	1.7679	0.0060
62	1.7737	0.0059
63	1.7796	0.0058
64	1.7853	0.0057
65	1.7910	0.0057
66	1.7966	0.0056
67	1.8021	0.0055

68	1.8076	0.0055
69	1.8130	0.0054
70	1.8184	0.0053
71	1.8236	0.0053
72	1.8289	0.0052
73	1.8340	0.0052
74	1.8392	0.0051
75	1.8442	0.0051
76	1.8492	0.0050
77	1.8542	0.0050
78	1.8591	0.0049
79	1.8640	0.0049
80	1.8688	0.0048
81	1.8735	0.0048
82	1.8782	0.0047
83	1.8829	0.0047
84	1.8875	0.0046
85	1.8921	0.0046
86	1.8967	0.0045
87	1.9012	0.0045
88	1.9056	0.0045
89	1.9100	0.0044
90	1.9144	0.0044
91	1.9187	0.0043
92	1.9230	0.0043
93	1.9273	0.0043
94	1.9315	0.0042
95	1.9357	0.0042
96	1.9399	0.0042
97	1.9440	0.0041
98	1.9481	0.0041
99	1.9521	0.0041
100	1.9562	0.0040
101	1.9602	0.0040
102	1.9641	0.0040
103	1.9680	0.0039
104	1.9719	0.0039
105	1.9758	0.0039
106	1.9796	0.0038
107	1.9835	0.0038
108	1.9872	0.0038
109	1.9910	0.0038
110	1.9947	0.0037
111	1.9984	0.0037
112	2.0021	0.0037
113	2.0058	0.0036
114	2.0094	0.0036
115	2.0130	0.0036
116	2.0165	0.0036
117	2.0201	0.0035
118	2.0236	0.0035
119	2.0271	0.0035
120	2.0306	0.0035
121	2.0340	0.0035
122	2.0375	0.0034
123	2.0409	0.0034
124	2.0443	0.0034
125	2.0476	0.0034
126	2.0510	0.0033

127	2.0543	0.0033
128	2.0576	0.0033
129	2.0609	0.0033
130	2.0642	0.0033
131	2.0674	0.0032
132	2.0706	0.0032
133	2.0738	0.0032
134	2.0770	0.0032
135	2.0802	0.0032
136	2.0833	0.0031
137	2.0865	0.0031
138	2.0896	0.0031
139	2.0927	0.0031
140	2.0957	0.0031
141	2.0988	0.0031
142	2.1018	0.0030
143	2.1049	0.0030
144	2.1079	0.0030
145	2.1108	0.0030
146	2.1138	0.0030
147	2.1168	0.0030
148	2.1197	0.0029
149	2.1226	0.0029
150	2.1256	0.0029
151	2.1285	0.0029
152	2.1313	0.0029
153	2.1342	0.0029
154	2.1370	0.0028
155	2.1399	0.0028
156	2.1427	0.0028
157	2.1455	0.0028
158	2.1483	0.0028
159	2.1511	0.0028
160	2.1538	0.0028
161	2.1566	0.0028
162	2.1593	0.0027
163	2.1621	0.0027
164	2.1648	0.0027
165	2.1675	0.0027
166	2.1701	0.0027
167	2.1728	0.0027
168	2.1755	0.0027
169	2.1781	0.0026
170	2.1808	0.0026
171	2.1834	0.0026
172	2.1860	0.0026
173	2.1886	0.0026
174	2.1912	0.0026
175	2.1937	0.0026
176	2.1963	0.0026
177	2.1989	0.0026
178	2.2014	0.0025
179	2.2039	0.0025
180	2.2064	0.0025
181	2.2089	0.0025
182	2.2114	0.0025
183	2.2139	0.0025
184	2.2164	0.0025
185	2.2189	0.0025

186	2.2213	0.0025
187	2.2237	0.0024
188	2.2262	0.0024
189	2.2286	0.0024
190	2.2310	0.0024
191	2.2334	0.0024
192	2.2358	0.0024
193	2.2382	0.0024
194	2.2405	0.0024
195	2.2429	0.0024
196	2.2453	0.0024
197	2.2476	0.0023
198	2.2499	0.0023
199	2.2523	0.0023
200	2.2546	0.0023
201	2.2569	0.0023
202	2.2592	0.0023
203	2.2615	0.0023
204	2.2637	0.0023
205	2.2660	0.0023
206	2.2683	0.0023
207	2.2705	0.0023
208	2.2728	0.0022
209	2.2750	0.0022
210	2.2772	0.0022
211	2.2794	0.0022
212	2.2816	0.0022
213	2.2838	0.0022
214	2.2860	0.0022
215	2.2882	0.0022
216	2.2904	0.0022
217	2.2926	0.0022
218	2.2947	0.0022
219	2.2969	0.0022
220	2.2990	0.0021
221	2.3011	0.0021
222	2.3033	0.0021
223	2.3054	0.0021
224	2.3075	0.0021
225	2.3096	0.0021
226	2.3117	0.0021
227	2.3138	0.0021
228	2.3159	0.0021
229	2.3180	0.0021
230	2.3200	0.0021
231	2.3221	0.0021
232	2.3242	0.0021
233	2.3262	0.0020
234	2.3282	0.0020
235	2.3303	0.0020
236	2.3323	0.0020
237	2.3343	0.0020
238	2.3363	0.0020
239	2.3384	0.0020
240	2.3404	0.0020
241	2.3423	0.0020
242	2.3443	0.0020
243	2.3463	0.0020
244	2.3483	0.0020

245	2.3503	0.0020
246	2.3522	0.0020
247	2.3542	0.0020
248	2.3561	0.0019
249	2.3581	0.0019
250	2.3600	0.0019
251	2.3619	0.0019
252	2.3639	0.0019
253	2.3658	0.0019
254	2.3677	0.0019
255	2.3696	0.0019
256	2.3715	0.0019
257	2.3734	0.0019
258	2.3753	0.0019
259	2.3772	0.0019
260	2.3790	0.0019
261	2.3809	0.0019
262	2.3828	0.0019
263	2.3846	0.0019
264	2.3865	0.0019
265	2.3883	0.0018
266	2.3902	0.0018
267	2.3920	0.0018
268	2.3939	0.0018
269	2.3957	0.0018
270	2.3975	0.0018
271	2.3993	0.0018
272	2.4011	0.0018
273	2.4029	0.0018
274	2.4047	0.0018
275	2.4065	0.0018
276	2.4083	0.0018
277	2.4101	0.0018
278	2.4119	0.0018
279	2.4137	0.0018
280	2.4154	0.0018
281	2.4172	0.0018
282	2.4189	0.0018
283	2.4207	0.0018
284	2.4225	0.0017
285	2.4242	0.0017
286	2.4259	0.0017
287	2.4277	0.0017
288	2.4294	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0007	0.0011
2	0.0017	0.0007	0.0011
3	0.0017	0.0007	0.0011
4	0.0017	0.0007	0.0011
5	0.0018	0.0007	0.0011
6	0.0018	0.0007	0.0011
7	0.0018	0.0007	0.0011
8	0.0018	0.0007	0.0011
9	0.0018	0.0007	0.0011
10	0.0018	0.0007	0.0011

11	0.0018	0.0007	0.0011
12	0.0018	0.0007	0.0011
13	0.0018	0.0007	0.0011
14	0.0018	0.0007	0.0011
15	0.0018	0.0007	0.0011
16	0.0018	0.0007	0.0011
17	0.0019	0.0007	0.0012
18	0.0019	0.0007	0.0012
19	0.0019	0.0007	0.0012
20	0.0019	0.0007	0.0012
21	0.0019	0.0007	0.0012
22	0.0019	0.0007	0.0012
23	0.0019	0.0007	0.0012
24	0.0019	0.0007	0.0012
25	0.0019	0.0007	0.0012
26	0.0019	0.0007	0.0012
27	0.0019	0.0007	0.0012
28	0.0019	0.0007	0.0012
29	0.0020	0.0007	0.0012
30	0.0020	0.0007	0.0012
31	0.0020	0.0007	0.0012
32	0.0020	0.0008	0.0012
33	0.0020	0.0008	0.0012
34	0.0020	0.0008	0.0012
35	0.0020	0.0008	0.0013
36	0.0020	0.0008	0.0013
37	0.0020	0.0008	0.0013
38	0.0020	0.0008	0.0013
39	0.0021	0.0008	0.0013
40	0.0021	0.0008	0.0013
41	0.0021	0.0008	0.0013
42	0.0021	0.0008	0.0013
43	0.0021	0.0008	0.0013
44	0.0021	0.0008	0.0013
45	0.0021	0.0008	0.0013
46	0.0021	0.0008	0.0013
47	0.0022	0.0008	0.0013
48	0.0022	0.0008	0.0013
49	0.0022	0.0008	0.0014
50	0.0022	0.0008	0.0014
51	0.0022	0.0008	0.0014
52	0.0022	0.0008	0.0014
53	0.0022	0.0008	0.0014
54	0.0022	0.0008	0.0014
55	0.0023	0.0009	0.0014
56	0.0023	0.0009	0.0014
57	0.0023	0.0009	0.0014
58	0.0023	0.0009	0.0014
59	0.0023	0.0009	0.0014
60	0.0023	0.0009	0.0014
61	0.0023	0.0009	0.0015
62	0.0023	0.0009	0.0015
63	0.0024	0.0009	0.0015
64	0.0024	0.0009	0.0015
65	0.0024	0.0009	0.0015
66	0.0024	0.0009	0.0015
67	0.0024	0.0009	0.0015
68	0.0024	0.0009	0.0015
69	0.0025	0.0009	0.0015

70	0.0025	0.0009	0.0015
71	0.0025	0.0009	0.0015
72	0.0025	0.0009	0.0016
73	0.0025	0.0010	0.0016
74	0.0025	0.0010	0.0016
75	0.0026	0.0010	0.0016
76	0.0026	0.0010	0.0016
77	0.0026	0.0010	0.0016
78	0.0026	0.0010	0.0016
79	0.0026	0.0010	0.0016
80	0.0026	0.0010	0.0016
81	0.0027	0.0010	0.0017
82	0.0027	0.0010	0.0017
83	0.0027	0.0010	0.0017
84	0.0027	0.0010	0.0017
85	0.0027	0.0010	0.0017
86	0.0028	0.0010	0.0017
87	0.0028	0.0011	0.0017
88	0.0028	0.0011	0.0017
89	0.0028	0.0011	0.0018
90	0.0028	0.0011	0.0018
91	0.0029	0.0011	0.0018
92	0.0029	0.0011	0.0018
93	0.0029	0.0011	0.0018
94	0.0029	0.0011	0.0018
95	0.0030	0.0011	0.0018
96	0.0030	0.0011	0.0018
97	0.0030	0.0011	0.0019
98	0.0030	0.0011	0.0019
99	0.0031	0.0012	0.0019
100	0.0031	0.0012	0.0019
101	0.0031	0.0012	0.0019
102	0.0031	0.0012	0.0019
103	0.0032	0.0012	0.0020
104	0.0032	0.0012	0.0020
105	0.0032	0.0012	0.0020
106	0.0032	0.0012	0.0020
107	0.0033	0.0012	0.0020
108	0.0033	0.0012	0.0021
109	0.0033	0.0013	0.0021
110	0.0034	0.0013	0.0021
111	0.0034	0.0013	0.0021
112	0.0034	0.0013	0.0021
113	0.0035	0.0013	0.0022
114	0.0035	0.0013	0.0022
115	0.0035	0.0013	0.0022
116	0.0036	0.0014	0.0022
117	0.0036	0.0014	0.0023
118	0.0036	0.0014	0.0023
119	0.0037	0.0014	0.0023
120	0.0037	0.0014	0.0023
121	0.0038	0.0014	0.0024
122	0.0038	0.0014	0.0024
123	0.0039	0.0015	0.0024
124	0.0039	0.0015	0.0024
125	0.0040	0.0015	0.0025
126	0.0040	0.0015	0.0025
127	0.0041	0.0015	0.0025
128	0.0041	0.0015	0.0025

129	0.0042	0.0016	0.0026
130	0.0042	0.0016	0.0026
131	0.0043	0.0016	0.0027
132	0.0043	0.0016	0.0027
133	0.0044	0.0017	0.0027
134	0.0044	0.0017	0.0027
135	0.0045	0.0017	0.0028
136	0.0045	0.0017	0.0028
137	0.0046	0.0017	0.0029
138	0.0047	0.0018	0.0029
139	0.0048	0.0018	0.0030
140	0.0048	0.0018	0.0030
141	0.0049	0.0019	0.0031
142	0.0050	0.0019	0.0031
143	0.0051	0.0019	0.0031
144	0.0051	0.0019	0.0032
145	0.0052	0.0020	0.0033
146	0.0053	0.0020	0.0033
147	0.0054	0.0020	0.0034
148	0.0055	0.0021	0.0034
149	0.0056	0.0021	0.0035
150	0.0057	0.0021	0.0035
151	0.0058	0.0022	0.0036
152	0.0059	0.0022	0.0037
153	0.0061	0.0023	0.0038
154	0.0061	0.0023	0.0038
155	0.0063	0.0024	0.0039
156	0.0064	0.0024	0.0040
157	0.0066	0.0025	0.0041
158	0.0067	0.0025	0.0042
159	0.0069	0.0026	0.0043
160	0.0070	0.0026	0.0044
161	0.0072	0.0027	0.0045
162	0.0074	0.0028	0.0046
163	0.0076	0.0029	0.0047
164	0.0078	0.0029	0.0048
165	0.0081	0.0030	0.0050
166	0.0082	0.0031	0.0051
167	0.0086	0.0032	0.0053
168	0.0087	0.0033	0.0054
169	0.0094	0.0036	0.0059
170	0.0096	0.0036	0.0060
171	0.0101	0.0038	0.0063
172	0.0103	0.0039	0.0064
173	0.0109	0.0041	0.0068
174	0.0112	0.0042	0.0070
175	0.0119	0.0045	0.0074
176	0.0122	0.0046	0.0076
177	0.0130	0.0049	0.0081
178	0.0135	0.0051	0.0084
179	0.0145	0.0055	0.0090
180	0.0151	0.0057	0.0094
181	0.0165	0.0062	0.0102
182	0.0172	0.0065	0.0107
183	0.0191	0.0072	0.0119
184	0.0202	0.0076	0.0126
185	0.0324	0.0123	0.0202
186	0.0346	0.0131	0.0215
187	0.0401	0.0150	0.0251

188	0.0438	0.0150	0.0288
189	0.0544	0.0150	0.0394
190	0.0627	0.0150	0.0477
191	0.0951	0.0150	0.0801
192	0.1380	0.0150	0.1230
193	0.5971	0.0150	0.5821
194	0.0748	0.0150	0.0599
195	0.0484	0.0150	0.0334
196	0.0371	0.0140	0.0231
197	0.0215	0.0081	0.0133
198	0.0181	0.0068	0.0113
199	0.0157	0.0060	0.0098
200	0.0140	0.0053	0.0087
201	0.0126	0.0048	0.0078
202	0.0115	0.0044	0.0072
203	0.0106	0.0040	0.0066
204	0.0099	0.0037	0.0061
205	0.0089	0.0034	0.0056
206	0.0084	0.0032	0.0052
207	0.0079	0.0030	0.0049
208	0.0075	0.0028	0.0047
209	0.0071	0.0027	0.0044
210	0.0068	0.0026	0.0042
211	0.0065	0.0025	0.0040
212	0.0062	0.0024	0.0039
213	0.0060	0.0023	0.0037
214	0.0057	0.0022	0.0036
215	0.0055	0.0021	0.0034
216	0.0053	0.0020	0.0033
217	0.0052	0.0020	0.0032
218	0.0050	0.0019	0.0031
219	0.0049	0.0018	0.0030
220	0.0047	0.0018	0.0029
221	0.0046	0.0017	0.0028
222	0.0045	0.0017	0.0028
223	0.0043	0.0016	0.0027
224	0.0042	0.0016	0.0026
225	0.0041	0.0016	0.0026
226	0.0040	0.0015	0.0025
227	0.0039	0.0015	0.0024
228	0.0038	0.0015	0.0024
229	0.0038	0.0014	0.0023
230	0.0037	0.0014	0.0023
231	0.0036	0.0014	0.0022
232	0.0035	0.0013	0.0022
233	0.0035	0.0013	0.0021
234	0.0034	0.0013	0.0021
235	0.0033	0.0013	0.0021
236	0.0033	0.0012	0.0020
237	0.0032	0.0012	0.0020
238	0.0031	0.0012	0.0020
239	0.0031	0.0012	0.0019
240	0.0030	0.0011	0.0019
241	0.0030	0.0011	0.0019
242	0.0029	0.0011	0.0018
243	0.0029	0.0011	0.0018
244	0.0028	0.0011	0.0018
245	0.0028	0.0011	0.0017
246	0.0028	0.0010	0.0017

247	0.0027	0.0010	0.0017
248	0.0027	0.0010	0.0017
249	0.0026	0.0010	0.0016
250	0.0026	0.0010	0.0016
251	0.0026	0.0010	0.0016
252	0.0025	0.0010	0.0016
253	0.0025	0.0009	0.0016
254	0.0025	0.0009	0.0015
255	0.0024	0.0009	0.0015
256	0.0024	0.0009	0.0015
257	0.0024	0.0009	0.0015
258	0.0024	0.0009	0.0015
259	0.0023	0.0009	0.0014
260	0.0023	0.0009	0.0014
261	0.0023	0.0009	0.0014
262	0.0022	0.0008	0.0014
263	0.0022	0.0008	0.0014
264	0.0022	0.0008	0.0014
265	0.0022	0.0008	0.0013
266	0.0021	0.0008	0.0013
267	0.0021	0.0008	0.0013
268	0.0021	0.0008	0.0013
269	0.0021	0.0008	0.0013
270	0.0021	0.0008	0.0013
271	0.0020	0.0008	0.0013
272	0.0020	0.0008	0.0013
273	0.0020	0.0008	0.0012
274	0.0020	0.0007	0.0012
275	0.0020	0.0007	0.0012
276	0.0019	0.0007	0.0012
277	0.0019	0.0007	0.0012
278	0.0019	0.0007	0.0012
279	0.0019	0.0007	0.0012
280	0.0019	0.0007	0.0012
281	0.0018	0.0007	0.0011
282	0.0018	0.0007	0.0011
283	0.0018	0.0007	0.0011
284	0.0018	0.0007	0.0011
285	0.0018	0.0007	0.0011
286	0.0018	0.0007	0.0011
287	0.0018	0.0007	0.0011
288	0.0017	0.0007	0.0011

Total soil rain loss = 0.62(In)
Total effective rainfall = 1.81(In)
Peak flow rate in flood hydrograph = 155.79(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

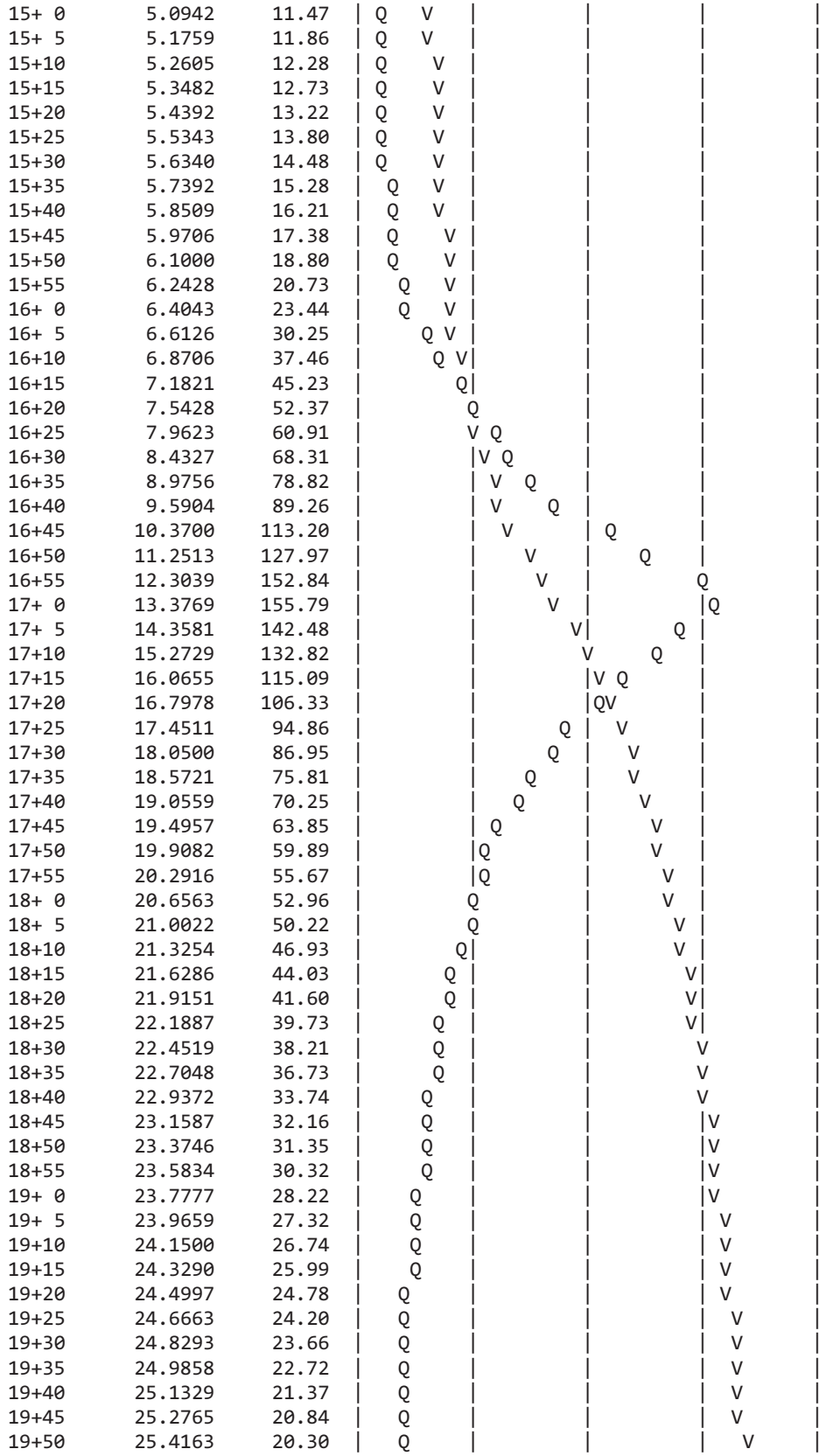
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|

0+15	0.0005	0.04	Q				
0+20	0.0010	0.07	Q				
0+25	0.0018	0.11	Q				
0+30	0.0028	0.15	Q				
0+35	0.0042	0.20	Q				
0+40	0.0060	0.26	Q				
0+45	0.0085	0.36	Q				
0+50	0.0118	0.47	Q				
0+55	0.0162	0.64	Q				
1+ 0	0.0217	0.81	Q				
1+ 5	0.0283	0.96	Q				
1+10	0.0359	1.10	Q				
1+15	0.0442	1.21	Q				
1+20	0.0533	1.32	Q				
1+25	0.0630	1.41	Q				
1+30	0.0734	1.50	Q				
1+35	0.0842	1.57	Q				
1+40	0.0955	1.64	Q				
1+45	0.1072	1.70	Q				
1+50	0.1192	1.75	Q				
1+55	0.1317	1.81	Q				
2+ 0	0.1445	1.86	Q				
2+ 5	0.1576	1.90	Q				
2+10	0.1710	1.95	Q				
2+15	0.1847	1.99	Q				
2+20	0.1987	2.03	Q				
2+25	0.2130	2.07	Q				
2+30	0.2275	2.11	Q				
2+35	0.2423	2.15	Q				
2+40	0.2573	2.18	Q				
2+45	0.2725	2.21	Q				
2+50	0.2879	2.24	Q				
2+55	0.3036	2.27	Q				
3+ 0	0.3195	2.30	Q				
3+ 5	0.3355	2.33	Q				
3+10	0.3518	2.36	Q				
3+15	0.3683	2.39	Q				
3+20	0.3849	2.42	Q				
3+25	0.4018	2.45	Q				
3+30	0.4188	2.47	Q				
3+35	0.4360	2.50	Q				
3+40	0.4534	2.53	Q				
3+45	0.4710	2.55	Q				
3+50	0.4887	2.58	Q				
3+55	0.5066	2.60	Q				
4+ 0	0.5247	2.62	Q				
4+ 5	0.5430	2.65	Q				
4+10	0.5613	2.67	Q				
4+15	0.5799	2.69	Q				
4+20	0.5986	2.72	Q				
4+25	0.6175	2.74	Q				
4+30	0.6365	2.76	Q				
4+35	0.6557	2.79	Q				
4+40	0.6751	2.81	Q				
4+45	0.6945	2.83	Q				
4+50	0.7142	2.85	Q				
4+55	0.7340	2.88	Q				
5+ 0	0.7540	2.90	QV				
5+ 5	0.7741	2.92	QV				

5+10	0.7944	2.94	QV				
5+15	0.8148	2.97	QV				
5+20	0.8354	2.99	QV				
5+25	0.8561	3.01	QV				
5+30	0.8770	3.03	QV				
5+35	0.8981	3.06	QV				
5+40	0.9192	3.08	QV				
5+45	0.9406	3.10	QV				
5+50	0.9621	3.12	QV				
5+55	0.9838	3.15	QV				
6+ 0	1.0056	3.17	QV				
6+ 5	1.0276	3.19	QV				
6+10	1.0497	3.21	QV				
6+15	1.0720	3.24	QV				
6+20	1.0944	3.26	QV				
6+25	1.1171	3.28	QV				
6+30	1.1398	3.31	QV				
6+35	1.1628	3.33	QV				
6+40	1.1859	3.35	QV				
6+45	1.2091	3.38	QV				
6+50	1.2325	3.40	QV				
6+55	1.2561	3.42	QV				
7+ 0	1.2799	3.45	QV				
7+ 5	1.3038	3.47	QV				
7+10	1.3279	3.50	QV				
7+15	1.3521	3.52	QV				
7+20	1.3766	3.55	QV				
7+25	1.4011	3.57	QV				
7+30	1.4259	3.60	QV				
7+35	1.4509	3.62	QV				
7+40	1.4760	3.65	QV				
7+45	1.5013	3.67	Q V				
7+50	1.5268	3.70	Q V				
7+55	1.5524	3.73	Q V				
8+ 0	1.5783	3.76	Q V				
8+ 5	1.6044	3.78	Q V				
8+10	1.6306	3.81	Q V				
8+15	1.6571	3.84	Q V				
8+20	1.6837	3.87	Q V				
8+25	1.7106	3.90	Q V				
8+30	1.7377	3.93	Q V				
8+35	1.7650	3.96	Q V				
8+40	1.7925	3.99	Q V				
8+45	1.8202	4.03	Q V				
8+50	1.8481	4.06	Q V				
8+55	1.8763	4.09	Q V				
9+ 0	1.9047	4.12	Q V				
9+ 5	1.9334	4.16	Q V				
9+10	1.9622	4.19	Q V				
9+15	1.9913	4.23	Q V				
9+20	2.0207	4.26	Q V				
9+25	2.0503	4.30	Q V				
9+30	2.0801	4.33	Q V				
9+35	2.1102	4.37	Q V				
9+40	2.1406	4.41	Q V				
9+45	2.1712	4.45	Q V				
9+50	2.2021	4.49	Q V				
9+55	2.2333	4.53	Q V				
10+ 0	2.2647	4.57	Q V				

10+ 5	2.2964	4.61	Q V				
10+10	2.3284	4.65	Q V				
10+15	2.3607	4.69	Q V				
10+20	2.3933	4.73	Q V				
10+25	2.4262	4.78	Q V				
10+30	2.4594	4.82	Q V				
10+35	2.4929	4.87	Q V				
10+40	2.5268	4.91	Q V				
10+45	2.5609	4.96	Q V				
10+50	2.5954	5.01	Q V				
10+55	2.6303	5.06	Q V				
11+ 0	2.6655	5.11	Q V				
11+ 5	2.7011	5.17	Q V				
11+10	2.7370	5.22	Q V				
11+15	2.7734	5.27	Q V				
11+20	2.8101	5.33	Q V				
11+25	2.8472	5.39	Q V				
11+30	2.8847	5.45	Q V				
11+35	2.9226	5.51	Q V				
11+40	2.9610	5.57	Q V				
11+45	2.9998	5.64	Q V				
11+50	3.0391	5.70	Q V				
11+55	3.0788	5.77	Q V				
12+ 0	3.1191	5.84	Q V				
12+ 5	3.1598	5.91	Q V				
12+10	3.2010	5.99	Q V				
12+15	3.2428	6.06	Q V				
12+20	3.2850	6.14	Q V				
12+25	3.3279	6.22	Q V				
12+30	3.3713	6.30	Q V				
12+35	3.4153	6.39	Q V				
12+40	3.4599	6.48	Q V				
12+45	3.5052	6.57	Q V				
12+50	3.5511	6.66	Q V				
12+55	3.5976	6.76	Q V				
13+ 0	3.6449	6.86	Q V				
13+ 5	3.6929	6.97	Q V				
13+10	3.7416	7.08	Q V				
13+15	3.7912	7.19	Q V				
13+20	3.8415	7.31	Q V				
13+25	3.8927	7.43	Q V				
13+30	3.9447	7.56	Q V				
13+35	3.9976	7.69	Q V				
13+40	4.0515	7.83	Q V				
13+45	4.1064	7.97	Q V				
13+50	4.1624	8.12	Q V				
13+55	4.2194	8.28	Q V				
14+ 0	4.2775	8.44	Q V				
14+ 5	4.3369	8.62	Q V				
14+10	4.3975	8.80	Q V				
14+15	4.4595	9.00	Q V				
14+20	4.5228	9.20	Q V				
14+25	4.5878	9.42	Q V				
14+30	4.6543	9.66	Q V				
14+35	4.7225	9.91	Q V				
14+40	4.7925	10.17	Q V				
14+45	4.8645	10.46	Q V				
14+50	4.9387	10.77	Q V				
14+55	5.0152	11.11	Q V				



15+ 0	5.0942	11.47	Q V
15+ 5	5.1759	11.86	Q V
15+10	5.2605	12.28	Q V
15+15	5.3482	12.73	Q V
15+20	5.4392	13.22	Q V
15+25	5.5343	13.80	Q V
15+30	5.6340	14.48	Q V
15+35	5.7392	15.28	Q V
15+40	5.8509	16.21	Q V
15+45	5.9706	17.38	Q V
15+50	6.1000	18.80	Q V
15+55	6.2428	20.73	Q V
16+ 0	6.4043	23.44	Q V
16+ 5	6.6126	30.25	Q V
16+10	6.8706	37.46	Q V
16+15	7.1821	45.23	Q
16+20	7.5428	52.37	Q
16+25	7.9623	60.91	V Q
16+30	8.4327	68.31	V Q
16+35	8.9756	78.82	V Q
16+40	9.5904	89.26	V Q
16+45	10.3700	113.20	V Q
16+50	11.2513	127.97	V Q
16+55	12.3039	152.84	V Q
17+ 0	13.3769	155.79	V Q
17+ 5	14.3581	142.48	V Q
17+10	15.2729	132.82	V Q
17+15	16.0655	115.09	V Q
17+20	16.7978	106.33	QV
17+25	17.4511	94.86	Q V
17+30	18.0500	86.95	Q V
17+35	18.5721	75.81	Q V
17+40	19.0559	70.25	Q V
17+45	19.4957	63.85	Q V
17+50	19.9082	59.89	Q V
17+55	20.2916	55.67	Q V
18+ 0	20.6563	52.96	Q V
18+ 5	21.0022	50.22	Q V
18+10	21.3254	46.93	Q V
18+15	21.6286	44.03	Q V
18+20	21.9151	41.60	Q V
18+25	22.1887	39.73	Q V
18+30	22.4519	38.21	Q V
18+35	22.7048	36.73	Q V
18+40	22.9372	33.74	Q V
18+45	23.1587	32.16	Q V
18+50	23.3746	31.35	Q V
18+55	23.5834	30.32	Q V
19+ 0	23.7777	28.22	Q V
19+ 5	23.9659	27.32	Q V
19+10	24.1500	26.74	Q V
19+15	24.3290	25.99	Q V
19+20	24.4997	24.78	Q V
19+25	24.6663	24.20	Q V
19+30	24.8293	23.66	Q V
19+35	24.9858	22.72	Q V
19+40	25.1329	21.37	Q V
19+45	25.2765	20.84	Q V
19+50	25.4163	20.30	Q V

19+55	25.5478	19.09	Q			V
20+ 0	25.6701	17.77	Q			V
20+ 5	25.7900	17.40	Q			V
20+10	25.9076	17.08	Q			V
20+15	26.0220	16.60	Q			V
20+20	26.1335	16.20	Q			V
20+25	26.2432	15.93	Q			V
20+30	26.3507	15.60	Q			V
20+35	26.4531	14.88	Q			V
20+40	26.5526	14.44	Q			V
20+45	26.6504	14.20	Q			V
20+50	26.7463	13.92	Q			V
20+55	26.8390	13.46	Q			V
21+ 0	26.9297	13.17	Q			V
21+ 5	27.0186	12.91	Q			V
21+10	27.1046	12.49	Q			V
21+15	27.1849	11.66	Q			V
21+20	27.2633	11.38	Q			V
21+25	27.3405	11.21	Q			V
21+30	27.4167	11.05	Q			V
21+35	27.4917	10.90	Q			V
21+40	27.5656	10.73	Q			V
21+45	27.6380	10.51	Q			V
21+50	27.7072	10.04	Q			V
21+55	27.7724	9.48	Q			V
22+ 0	27.8366	9.31	Q			V
22+ 5	27.8998	9.18	Q			V
22+10	27.9621	9.04	Q			V
22+15	28.0234	8.91	Q			V
22+20	28.0836	8.74	Q			V
22+25	28.1423	8.52	Q			V
22+30	28.1968	7.92	Q			V
22+35	28.2489	7.56	Q			V
22+40	28.3000	7.42	Q			V
22+45	28.3503	7.31	Q			V
22+50	28.3998	7.19	Q			V
22+55	28.4485	7.07	Q			V
23+ 0	28.4961	6.91	Q			V
23+ 5	28.5418	6.64	Q			V
23+10	28.5832	6.02	Q			V
23+15	28.6234	5.83	Q			V
23+20	28.6629	5.74	Q			V
23+25	28.7020	5.68	Q			V
23+30	28.7408	5.62	Q			V
23+35	28.7792	5.58	Q			V
23+40	28.8174	5.55	Q			V
23+45	28.8559	5.58	Q			V
23+50	28.8948	5.65	Q			V
23+55	28.9335	5.62	Q			V
24+ 0	28.9719	5.57	Q			V
24+ 5	29.0099	5.52	Q			V
24+10	29.0475	5.46	Q			V
24+15	29.0847	5.39	Q			V
24+20	29.1213	5.32	Q			V
24+25	29.1573	5.23	Q			V
24+30	29.1926	5.13	Q			V
24+35	29.2272	5.03	Q			V
24+40	29.2610	4.91	Q			V
24+45	29.2937	4.75	Q			V

24+50	29.3251	4.56	Q	|	|	|	V|
24+55	29.3547	4.30	Q	|	|	|	V|
25+ 0	29.3819	3.95	Q	|	|	|	V|
25+ 5	29.4051	3.37	Q	|	|	|	V|
25+10	29.4264	3.09	Q	|	|	|	V|
25+15	29.4465	2.92	Q	|	|	|	V|
25+20	29.4656	2.77	Q	|	|	|	V|
25+25	29.4838	2.64	Q	|	|	|	V|
25+30	29.5011	2.51	Q	|	|	|	V|
25+35	29.5176	2.40	Q	|	|	|	V|
25+40	29.5334	2.29	Q	|	|	|	V|
25+45	29.5485	2.19	Q	|	|	|	V|
25+50	29.5627	2.06	Q	|	|	|	V|
25+55	29.5758	1.91	Q	|	|	|	V|
26+ 0	29.5862	1.51	Q	|	|	|	V|
26+ 5	29.5941	1.15	Q	|	|	|	V|
26+10	29.6014	1.06	Q	|	|	|	V|
26+15	29.6082	0.99	Q	|	|	|	V|
26+20	29.6146	0.93	Q	|	|	|	V|
26+25	29.6207	0.88	Q	|	|	|	V|
26+30	29.6265	0.84	Q	|	|	|	V|
26+35	29.6319	0.79	Q	|	|	|	V|
26+40	29.6371	0.75	Q	|	|	|	V|
26+45	29.6421	0.72	Q	|	|	|	V|
26+50	29.6468	0.69	Q	|	|	|	V|
26+55	29.6513	0.65	Q	|	|	|	V|
27+ 0	29.6556	0.62	Q	|	|	|	V|
27+ 5	29.6597	0.60	Q	|	|	|	V|
27+10	29.6636	0.57	Q	|	|	|	V|
27+15	29.6674	0.54	Q	|	|	|	V|
27+20	29.6710	0.52	Q	|	|	|	V|
27+25	29.6744	0.50	Q	|	|	|	V|
27+30	29.6776	0.47	Q	|	|	|	V|
27+35	29.6807	0.45	Q	|	|	|	V|
27+40	29.6837	0.43	Q	|	|	|	V|
27+45	29.6866	0.41	Q	|	|	|	V|
27+50	29.6893	0.39	Q	|	|	|	V|
27+55	29.6919	0.38	Q	|	|	|	V|
28+ 0	29.6944	0.36	Q	|	|	|	V|
28+ 5	29.6967	0.35	Q	|	|	|	V|
28+10	29.6990	0.33	Q	|	|	|	V|
28+15	29.7012	0.32	Q	|	|	|	V|
28+20	29.7033	0.31	Q	|	|	|	V|
28+25	29.7054	0.29	Q	|	|	|	V|
28+30	29.7073	0.28	Q	|	|	|	V|
28+35	29.7091	0.27	Q	|	|	|	V|
28+40	29.7109	0.26	Q	|	|	|	V|
28+45	29.7126	0.25	Q	|	|	|	V|
28+50	29.7142	0.23	Q	|	|	|	V|
28+55	29.7157	0.22	Q	|	|	|	V|
29+ 0	29.7172	0.21	Q	|	|	|	V|
29+ 5	29.7186	0.20	Q	|	|	|	V|
29+10	29.7200	0.20	Q	|	|	|	V|
29+15	29.7213	0.19	Q	|	|	|	V|
29+20	29.7225	0.18	Q	|	|	|	V|
29+25	29.7237	0.17	Q	|	|	|	V|
29+30	29.7248	0.16	Q	|	|	|	V|
29+35	29.7259	0.16	Q	|	|	|	V|
29+40	29.7269	0.15	Q	|	|	|	V|

29+45	29.7279	0.14	Q	|	|	|	V|
29+50	29.7288	0.14	Q	|	|	|	V|
29+55	29.7297	0.13	Q	|	|	|	V|
30+ 0	29.7306	0.12	Q	|	|	|	V|
30+ 5	29.7314	0.12	Q	|	|	|	V|
30+10	29.7321	0.11	Q	|	|	|	V|
30+15	29.7329	0.11	Q	|	|	|	V|
30+20	29.7336	0.10	Q	|	|	|	V|
30+25	29.7342	0.10	Q	|	|	|	V|
30+30	29.7349	0.09	Q	|	|	|	V|
30+35	29.7355	0.09	Q	|	|	|	V|
30+40	29.7360	0.08	Q	|	|	|	V|
30+45	29.7366	0.08	Q	|	|	|	V|
30+50	29.7371	0.08	Q	|	|	|	V|
30+55	29.7376	0.07	Q	|	|	|	V|
31+ 0	29.7381	0.07	Q	|	|	|	V|
31+ 5	29.7385	0.06	Q	|	|	|	V|
31+10	29.7390	0.06	Q	|	|	|	V|
31+15	29.7394	0.06	Q	|	|	|	V|
31+20	29.7398	0.06	Q	|	|	|	V|
31+25	29.7402	0.06	Q	|	|	|	V|
31+30	29.7405	0.05	Q	|	|	|	V|
31+35	29.7409	0.05	Q	|	|	|	V|
31+40	29.7412	0.05	Q	|	|	|	V|
31+45	29.7415	0.05	Q	|	|	|	V|
31+50	29.7418	0.04	Q	|	|	|	V|
31+55	29.7421	0.04	Q	|	|	|	V|
32+ 0	29.7424	0.04	Q	|	|	|	V|
32+ 5	29.7427	0.04	Q	|	|	|	V|
32+10	29.7429	0.03	Q	|	|	|	V|
32+15	29.7431	0.03	Q	|	|	|	V|
32+20	29.7433	0.03	Q	|	|	|	V|
32+25	29.7435	0.03	Q	|	|	|	V|
32+30	29.7437	0.03	Q	|	|	|	V|
32+35	29.7439	0.02	Q	|	|	|	V|
32+40	29.7440	0.02	Q	|	|	|	V|
32+45	29.7441	0.02	Q	|	|	|	V|
32+50	29.7443	0.02	Q	|	|	|	V|
32+55	29.7444	0.01	Q	|	|	|	V|
33+ 0	29.7444	0.01	Q	|	|	|	V|
33+ 5	29.7445	0.01	Q	|	|	|	V|
33+10	29.7446	0.01	Q	|	|	|	V|
33+15	29.7447	0.01	Q	|	|	|	V|
33+20	29.7447	0.01	Q	|	|	|	V|
33+25	29.7448	0.01	Q	|	|	|	V|
33+30	29.7448	0.01	Q	|	|	|	V|
33+35	29.7448	0.00	Q	|	|	|	V|
33+40	29.7449	0.00	Q	|	|	|	V|
33+45	29.7449	0.00	Q	|	|	|	V|
33+50	29.7449	0.00	Q	|	|	|	V|
33+55	29.7449	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/07/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 16 (LINED EVAPORATION PONDS)
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
158.96	1	1.27
Rainfall data for year 100		
158.96	6	1.83
Rainfall data for year 100		
158.96	24	2.44

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
98.0	99.6	158.96	1.000	0.008	0.010	0.000

Area-averaged adjusted loss rate Fm (In/Hr) = 0.000

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1.59	0.010	98.0	99.6	0.04	0.981
157.37	0.990	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.907
Area-averaged low loss fraction, Yb = 0.093
Direct entry of lag time by user
++
Watershed area = 158.96(Ac.)
Catchment Lag time = 0.500 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.6667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.000(In/Hr)
Average low loss rate fraction (Yb) = 0.093 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.603(In)
Computed peak 30-minute rainfall = 1.032(In)
Specified peak 1-hour rainfall = 1.270(In)
Computed peak 3-hour rainfall = 1.589(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.440(In)

Rainfall depth area reduction factors:
Using a total area of 158.96(Ac.) (Ref: fig. E-4)

5-minute factor = 0.993 Adjusted rainfall = 0.598(In)
30-minute factor = 0.993 Adjusted rainfall = 1.024(In)
1-hour factor = 0.993 Adjusted rainfall = 1.261(In)
3-hour factor = 0.999 Adjusted rainfall = 1.587(In)
6-hour factor = 1.000 Adjusted rainfall = 1.829(In)
24-hour factor = 1.000 Adjusted rainfall = 2.440(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1922.42 (CFS))	
1	0.775	14.899
2	3.367	49.823
3	7.746	84.186
4	16.033	159.321
5	30.950	286.761
6	44.554	261.530
7	54.263	186.635
8	61.150	132.407
9	66.275	98.524
10	70.479	80.822
11	73.950	66.724
12	76.896	56.631
13	79.400	48.141

14	81.550	41.332
15	83.400	35.565
16	85.100	32.681
17	86.667	30.118
18	88.033	26.273
19	89.200	22.428
20	90.192	19.064
21	91.133	18.103
22	92.000	16.661
23	92.792	15.219
24	93.533	14.258
25	94.183	12.496
26	94.750	10.894
27	95.317	10.894
28	95.817	9.612
29	96.250	8.330
30	96.683	8.330
31	97.050	7.049
32	97.350	5.767
33	97.650	5.767
34	97.883	4.486
35	98.050	3.204
36	98.217	3.204
37	98.400	3.524
38	98.600	3.845
39	98.800	3.845
40	99.000	3.845
41	99.200	3.845
42	99.400	3.845
43	99.552	2.924
44	99.656	2.003
45	99.760	2.003
46	99.865	2.003
47	100.000	1.001

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5981	0.5981
2	0.7364	0.1383
3	0.8316	0.0953
4	0.9066	0.0750
5	0.9694	0.0628
6	1.0239	0.0545
7	1.0723	0.0485
8	1.1162	0.0438
9	1.1563	0.0401
10	1.1934	0.0371
11	1.2281	0.0346
12	1.2605	0.0325
13	1.2819	0.0213
14	1.3020	0.0201
15	1.3210	0.0190
16	1.3390	0.0180
17	1.3561	0.0171
18	1.3725	0.0164
19	1.3881	0.0157
20	1.4032	0.0150
21	1.4176	0.0144
22	1.4315	0.0139

23	1.4449	0.0134
24	1.4579	0.0130
25	1.4704	0.0125
26	1.4826	0.0122
27	1.4944	0.0118
28	1.5058	0.0114
29	1.5169	0.0111
30	1.5278	0.0108
31	1.5383	0.0105
32	1.5486	0.0103
33	1.5586	0.0100
34	1.5684	0.0098
35	1.5780	0.0096
36	1.5873	0.0094
37	1.5963	0.0089
38	1.6050	0.0087
39	1.6135	0.0085
40	1.6219	0.0084
41	1.6301	0.0082
42	1.6382	0.0081
43	1.6461	0.0079
44	1.6538	0.0078
45	1.6615	0.0076
46	1.6689	0.0075
47	1.6763	0.0074
48	1.6835	0.0072
49	1.6906	0.0071
50	1.6976	0.0070
51	1.7045	0.0069
52	1.7113	0.0068
53	1.7180	0.0067
54	1.7246	0.0066
55	1.7311	0.0065
56	1.7375	0.0064
57	1.7438	0.0063
58	1.7500	0.0062
59	1.7561	0.0061
60	1.7621	0.0060
61	1.7681	0.0060
62	1.7740	0.0059
63	1.7798	0.0058
64	1.7856	0.0057
65	1.7912	0.0057
66	1.7968	0.0056
67	1.8024	0.0055
68	1.8078	0.0055
69	1.8132	0.0054
70	1.8186	0.0053
71	1.8239	0.0053
72	1.8291	0.0052
73	1.8343	0.0052
74	1.8395	0.0052
75	1.8447	0.0051
76	1.8498	0.0051
77	1.8548	0.0050
78	1.8598	0.0050
79	1.8647	0.0049
80	1.8696	0.0049
81	1.8744	0.0048

82	1.8792	0.0048
83	1.8839	0.0047
84	1.8886	0.0047
85	1.8933	0.0046
86	1.8979	0.0046
87	1.9024	0.0046
88	1.9070	0.0045
89	1.9114	0.0045
90	1.9159	0.0044
91	1.9203	0.0044
92	1.9246	0.0044
93	1.9290	0.0043
94	1.9333	0.0043
95	1.9375	0.0043
96	1.9417	0.0042
97	1.9459	0.0042
98	1.9501	0.0042
99	1.9542	0.0041
100	1.9583	0.0041
101	1.9623	0.0041
102	1.9663	0.0040
103	1.9703	0.0040
104	1.9743	0.0040
105	1.9782	0.0039
106	1.9821	0.0039
107	1.9860	0.0039
108	1.9898	0.0038
109	1.9936	0.0038
110	1.9974	0.0038
111	2.0012	0.0038
112	2.0049	0.0037
113	2.0086	0.0037
114	2.0123	0.0037
115	2.0160	0.0037
116	2.0196	0.0036
117	2.0232	0.0036
118	2.0268	0.0036
119	2.0303	0.0036
120	2.0339	0.0035
121	2.0374	0.0035
122	2.0409	0.0035
123	2.0443	0.0035
124	2.0478	0.0034
125	2.0512	0.0034
126	2.0546	0.0034
127	2.0580	0.0034
128	2.0613	0.0034
129	2.0646	0.0033
130	2.0680	0.0033
131	2.0713	0.0033
132	2.0745	0.0033
133	2.0778	0.0033
134	2.0810	0.0032
135	2.0842	0.0032
136	2.0874	0.0032
137	2.0906	0.0032
138	2.0938	0.0032
139	2.0969	0.0031
140	2.1000	0.0031

141	2.1031	0.0031
142	2.1062	0.0031
143	2.1093	0.0031
144	2.1124	0.0031
145	2.1154	0.0030
146	2.1184	0.0030
147	2.1214	0.0030
148	2.1244	0.0030
149	2.1274	0.0030
150	2.1304	0.0030
151	2.1333	0.0029
152	2.1362	0.0029
153	2.1391	0.0029
154	2.1420	0.0029
155	2.1449	0.0029
156	2.1478	0.0029
157	2.1506	0.0029
158	2.1535	0.0028
159	2.1563	0.0028
160	2.1591	0.0028
161	2.1619	0.0028
162	2.1647	0.0028
163	2.1675	0.0028
164	2.1702	0.0028
165	2.1730	0.0027
166	2.1757	0.0027
167	2.1784	0.0027
168	2.1811	0.0027
169	2.1838	0.0027
170	2.1865	0.0027
171	2.1891	0.0027
172	2.1918	0.0027
173	2.1944	0.0026
174	2.1971	0.0026
175	2.1997	0.0026
176	2.2023	0.0026
177	2.2049	0.0026
178	2.2075	0.0026
179	2.2100	0.0026
180	2.2126	0.0026
181	2.2151	0.0025
182	2.2177	0.0025
183	2.2202	0.0025
184	2.2227	0.0025
185	2.2252	0.0025
186	2.2277	0.0025
187	2.2302	0.0025
188	2.2327	0.0025
189	2.2351	0.0025
190	2.2376	0.0025
191	2.2400	0.0024
192	2.2425	0.0024
193	2.2449	0.0024
194	2.2473	0.0024
195	2.2497	0.0024
196	2.2521	0.0024
197	2.2545	0.0024
198	2.2568	0.0024
199	2.2592	0.0024

200	2.2616	0.0024
201	2.2639	0.0023
202	2.2662	0.0023
203	2.2686	0.0023
204	2.2709	0.0023
205	2.2732	0.0023
206	2.2755	0.0023
207	2.2778	0.0023
208	2.2801	0.0023
209	2.2823	0.0023
210	2.2846	0.0023
211	2.2868	0.0023
212	2.2891	0.0022
213	2.2913	0.0022
214	2.2936	0.0022
215	2.2958	0.0022
216	2.2980	0.0022
217	2.3002	0.0022
218	2.3024	0.0022
219	2.3046	0.0022
220	2.3068	0.0022
221	2.3089	0.0022
222	2.3111	0.0022
223	2.3133	0.0022
224	2.3154	0.0022
225	2.3176	0.0021
226	2.3197	0.0021
227	2.3218	0.0021
228	2.3240	0.0021
229	2.3261	0.0021
230	2.3282	0.0021
231	2.3303	0.0021
232	2.3324	0.0021
233	2.3344	0.0021
234	2.3365	0.0021
235	2.3386	0.0021
236	2.3407	0.0021
237	2.3427	0.0021
238	2.3448	0.0021
239	2.3468	0.0020
240	2.3488	0.0020
241	2.3509	0.0020
242	2.3529	0.0020
243	2.3549	0.0020
244	2.3569	0.0020
245	2.3589	0.0020
246	2.3609	0.0020
247	2.3629	0.0020
248	2.3649	0.0020
249	2.3669	0.0020
250	2.3689	0.0020
251	2.3708	0.0020
252	2.3728	0.0020
253	2.3747	0.0020
254	2.3767	0.0019
255	2.3786	0.0019
256	2.3806	0.0019
257	2.3825	0.0019
258	2.3844	0.0019

259	2.3863	0.0019
260	2.3882	0.0019
261	2.3901	0.0019
262	2.3920	0.0019
263	2.3939	0.0019
264	2.3958	0.0019
265	2.3977	0.0019
266	2.3996	0.0019
267	2.4014	0.0019
268	2.4033	0.0019
269	2.4052	0.0019
270	2.4070	0.0019
271	2.4089	0.0018
272	2.4107	0.0018
273	2.4126	0.0018
274	2.4144	0.0018
275	2.4162	0.0018
276	2.4180	0.0018
277	2.4199	0.0018
278	2.4217	0.0018
279	2.4235	0.0018
280	2.4253	0.0018
281	2.4271	0.0018
282	2.4289	0.0018
283	2.4307	0.0018
284	2.4324	0.0018
285	2.4342	0.0018
286	2.4360	0.0018
287	2.4378	0.0018
288	2.4395	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0000	0.0018
2	0.0018	0.0000	0.0018
3	0.0018	0.0000	0.0018
4	0.0018	0.0000	0.0018
5	0.0018	0.0000	0.0018
6	0.0018	0.0000	0.0018
7	0.0018	0.0000	0.0018
8	0.0018	0.0000	0.0018
9	0.0018	0.0000	0.0018
10	0.0018	0.0000	0.0018
11	0.0018	0.0000	0.0018
12	0.0018	0.0000	0.0018
13	0.0019	0.0000	0.0018
14	0.0019	0.0000	0.0019
15	0.0019	0.0000	0.0019
16	0.0019	0.0000	0.0019
17	0.0019	0.0000	0.0019
18	0.0019	0.0000	0.0019
19	0.0019	0.0000	0.0019
20	0.0019	0.0000	0.0019
21	0.0019	0.0000	0.0019
22	0.0019	0.0000	0.0019
23	0.0019	0.0000	0.0019
24	0.0019	0.0000	0.0019

25	0.0020	0.0000	0.0020
26	0.0020	0.0000	0.0020
27	0.0020	0.0000	0.0020
28	0.0020	0.0000	0.0020
29	0.0020	0.0000	0.0020
30	0.0020	0.0000	0.0020
31	0.0020	0.0000	0.0020
32	0.0020	0.0000	0.0020
33	0.0020	0.0000	0.0020
34	0.0020	0.0000	0.0020
35	0.0021	0.0000	0.0021
36	0.0021	0.0000	0.0021
37	0.0021	0.0000	0.0021
38	0.0021	0.0000	0.0021
39	0.0021	0.0000	0.0021
40	0.0021	0.0000	0.0021
41	0.0021	0.0000	0.0021
42	0.0021	0.0000	0.0021
43	0.0021	0.0000	0.0021
44	0.0022	0.0000	0.0021
45	0.0022	0.0000	0.0022
46	0.0022	0.0000	0.0022
47	0.0022	0.0000	0.0022
48	0.0022	0.0000	0.0022
49	0.0022	0.0000	0.0022
50	0.0022	0.0000	0.0022
51	0.0022	0.0000	0.0022
52	0.0022	0.0000	0.0022
53	0.0023	0.0000	0.0023
54	0.0023	0.0000	0.0023
55	0.0023	0.0000	0.0023
56	0.0023	0.0000	0.0023
57	0.0023	0.0000	0.0023
58	0.0023	0.0000	0.0023
59	0.0023	0.0000	0.0023
60	0.0024	0.0000	0.0023
61	0.0024	0.0000	0.0024
62	0.0024	0.0000	0.0024
63	0.0024	0.0000	0.0024
64	0.0024	0.0000	0.0024
65	0.0024	0.0000	0.0024
66	0.0024	0.0000	0.0024
67	0.0025	0.0000	0.0025
68	0.0025	0.0000	0.0025
69	0.0025	0.0000	0.0025
70	0.0025	0.0000	0.0025
71	0.0025	0.0000	0.0025
72	0.0025	0.0000	0.0025
73	0.0026	0.0000	0.0026
74	0.0026	0.0000	0.0026
75	0.0026	0.0000	0.0026
76	0.0026	0.0000	0.0026
77	0.0026	0.0000	0.0026
78	0.0026	0.0000	0.0026
79	0.0027	0.0000	0.0027
80	0.0027	0.0000	0.0027
81	0.0027	0.0000	0.0027
82	0.0027	0.0000	0.0027
83	0.0027	0.0000	0.0027

84	0.0028	0.0000	0.0027
85	0.0028	0.0000	0.0028
86	0.0028	0.0000	0.0028
87	0.0028	0.0000	0.0028
88	0.0028	0.0000	0.0028
89	0.0029	0.0000	0.0029
90	0.0029	0.0000	0.0029
91	0.0029	0.0000	0.0029
92	0.0029	0.0000	0.0029
93	0.0030	0.0000	0.0030
94	0.0030	0.0000	0.0030
95	0.0030	0.0000	0.0030
96	0.0030	0.0000	0.0030
97	0.0031	0.0000	0.0030
98	0.0031	0.0000	0.0031
99	0.0031	0.0000	0.0031
100	0.0031	0.0000	0.0031
101	0.0032	0.0000	0.0032
102	0.0032	0.0000	0.0032
103	0.0032	0.0000	0.0032
104	0.0032	0.0000	0.0032
105	0.0033	0.0000	0.0033
106	0.0033	0.0000	0.0033
107	0.0033	0.0000	0.0033
108	0.0034	0.0000	0.0033
109	0.0034	0.0000	0.0034
110	0.0034	0.0000	0.0034
111	0.0035	0.0000	0.0035
112	0.0035	0.0000	0.0035
113	0.0035	0.0000	0.0035
114	0.0036	0.0000	0.0035
115	0.0036	0.0000	0.0036
116	0.0036	0.0000	0.0036
117	0.0037	0.0000	0.0037
118	0.0037	0.0000	0.0037
119	0.0038	0.0000	0.0038
120	0.0038	0.0000	0.0038
121	0.0038	0.0000	0.0038
122	0.0039	0.0000	0.0039
123	0.0039	0.0000	0.0039
124	0.0040	0.0000	0.0040
125	0.0040	0.0000	0.0040
126	0.0041	0.0000	0.0040
127	0.0041	0.0000	0.0041
128	0.0042	0.0000	0.0041
129	0.0042	0.0000	0.0042
130	0.0043	0.0000	0.0042
131	0.0043	0.0000	0.0043
132	0.0044	0.0000	0.0044
133	0.0044	0.0000	0.0044
134	0.0045	0.0000	0.0045
135	0.0046	0.0000	0.0046
136	0.0046	0.0000	0.0046
137	0.0047	0.0000	0.0047
138	0.0047	0.0000	0.0047
139	0.0048	0.0000	0.0048
140	0.0049	0.0000	0.0049
141	0.0050	0.0000	0.0050
142	0.0050	0.0000	0.0050

143	0.0051	0.0000	0.0051
144	0.0052	0.0000	0.0052
145	0.0052	0.0000	0.0052
146	0.0053	0.0000	0.0053
147	0.0054	0.0000	0.0054
148	0.0055	0.0000	0.0055
149	0.0056	0.0000	0.0056
150	0.0057	0.0000	0.0057
151	0.0058	0.0000	0.0058
152	0.0059	0.0000	0.0059
153	0.0060	0.0000	0.0060
154	0.0061	0.0000	0.0061
155	0.0063	0.0000	0.0063
156	0.0064	0.0000	0.0064
157	0.0066	0.0000	0.0066
158	0.0067	0.0000	0.0067
159	0.0069	0.0000	0.0069
160	0.0070	0.0000	0.0070
161	0.0072	0.0000	0.0072
162	0.0074	0.0000	0.0074
163	0.0076	0.0000	0.0076
164	0.0078	0.0000	0.0078
165	0.0081	0.0000	0.0080
166	0.0082	0.0000	0.0082
167	0.0085	0.0000	0.0085
168	0.0087	0.0000	0.0087
169	0.0094	0.0000	0.0093
170	0.0096	0.0000	0.0096
171	0.0100	0.0000	0.0100
172	0.0103	0.0000	0.0103
173	0.0108	0.0000	0.0108
174	0.0111	0.0000	0.0111
175	0.0118	0.0000	0.0118
176	0.0122	0.0000	0.0121
177	0.0130	0.0000	0.0130
178	0.0134	0.0000	0.0134
179	0.0144	0.0000	0.0144
180	0.0150	0.0000	0.0150
181	0.0164	0.0000	0.0164
182	0.0171	0.0000	0.0171
183	0.0190	0.0000	0.0190
184	0.0201	0.0000	0.0201
185	0.0325	0.0000	0.0325
186	0.0346	0.0000	0.0346
187	0.0401	0.0000	0.0401
188	0.0438	0.0000	0.0438
189	0.0545	0.0000	0.0545
190	0.0628	0.0000	0.0628
191	0.0953	0.0000	0.0952
192	0.1383	0.0000	0.1382
193	0.5981	0.0000	0.5981
194	0.0750	0.0000	0.0750
195	0.0485	0.0000	0.0485
196	0.0371	0.0000	0.0371
197	0.0213	0.0000	0.0213
198	0.0180	0.0000	0.0180
199	0.0157	0.0000	0.0157
200	0.0139	0.0000	0.0139
201	0.0125	0.0000	0.0125

202	0.0114	0.0000	0.0114
203	0.0105	0.0000	0.0105
204	0.0098	0.0000	0.0098
205	0.0089	0.0000	0.0089
206	0.0084	0.0000	0.0084
207	0.0079	0.0000	0.0079
208	0.0075	0.0000	0.0075
209	0.0071	0.0000	0.0071
210	0.0068	0.0000	0.0068
211	0.0065	0.0000	0.0065
212	0.0062	0.0000	0.0062
213	0.0060	0.0000	0.0060
214	0.0057	0.0000	0.0057
215	0.0055	0.0000	0.0055
216	0.0053	0.0000	0.0053
217	0.0052	0.0000	0.0052
218	0.0051	0.0000	0.0051
219	0.0049	0.0000	0.0049
220	0.0048	0.0000	0.0048
221	0.0046	0.0000	0.0046
222	0.0045	0.0000	0.0045
223	0.0044	0.0000	0.0044
224	0.0043	0.0000	0.0043
225	0.0042	0.0000	0.0042
226	0.0041	0.0000	0.0041
227	0.0040	0.0000	0.0040
228	0.0039	0.0000	0.0039
229	0.0038	0.0000	0.0038
230	0.0037	0.0000	0.0037
231	0.0037	0.0000	0.0036
232	0.0036	0.0000	0.0036
233	0.0035	0.0000	0.0035
234	0.0034	0.0000	0.0034
235	0.0034	0.0000	0.0034
236	0.0033	0.0000	0.0033
237	0.0033	0.0000	0.0032
238	0.0032	0.0000	0.0032
239	0.0031	0.0000	0.0031
240	0.0031	0.0000	0.0031
241	0.0030	0.0000	0.0030
242	0.0030	0.0000	0.0030
243	0.0029	0.0000	0.0029
244	0.0029	0.0000	0.0029
245	0.0029	0.0000	0.0028
246	0.0028	0.0000	0.0028
247	0.0028	0.0000	0.0028
248	0.0027	0.0000	0.0027
249	0.0027	0.0000	0.0027
250	0.0027	0.0000	0.0026
251	0.0026	0.0000	0.0026
252	0.0026	0.0000	0.0026
253	0.0025	0.0000	0.0025
254	0.0025	0.0000	0.0025
255	0.0025	0.0000	0.0025
256	0.0025	0.0000	0.0024
257	0.0024	0.0000	0.0024
258	0.0024	0.0000	0.0024
259	0.0024	0.0000	0.0024
260	0.0023	0.0000	0.0023

261	0.0023	0.0000	0.0023
262	0.0023	0.0000	0.0023
263	0.0023	0.0000	0.0022
264	0.0022	0.0000	0.0022
265	0.0022	0.0000	0.0022
266	0.0022	0.0000	0.0022
267	0.0022	0.0000	0.0022
268	0.0021	0.0000	0.0021
269	0.0021	0.0000	0.0021
270	0.0021	0.0000	0.0021
271	0.0021	0.0000	0.0021
272	0.0021	0.0000	0.0020
273	0.0020	0.0000	0.0020
274	0.0020	0.0000	0.0020
275	0.0020	0.0000	0.0020
276	0.0020	0.0000	0.0020
277	0.0020	0.0000	0.0019
278	0.0019	0.0000	0.0019
279	0.0019	0.0000	0.0019
280	0.0019	0.0000	0.0019
281	0.0019	0.0000	0.0019
282	0.0019	0.0000	0.0019
283	0.0018	0.0000	0.0018
284	0.0018	0.0000	0.0018
285	0.0018	0.0000	0.0018
286	0.0018	0.0000	0.0018
287	0.0018	0.0000	0.0018
288	0.0018	0.0000	0.0018

Total soil rain loss = 0.00(In)
Total effective rainfall = 2.44(In)
Peak flow rate in flood hydrograph = 272.42(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0010	0.11	Q	|	|	|	|
0+15	0.0028	0.26	Q	|	|	|	|
0+20	0.0065	0.54	Q	|	|	|	|
0+25	0.0137	1.05	Q	|	|	|	|
0+30	0.0241	1.51	Q	|	|	|	|
0+35	0.0368	1.84	Q	|	|	|	|
0+40	0.0512	2.08	Q	|	|	|	|
0+45	0.0668	2.27	Q	|	|	|	|
0+50	0.0834	2.42	Q	|	|	|	|
0+55	0.1010	2.54	Q	|	|	|	|
1+ 0	0.1193	2.66	Q	|	|	|	|
1+ 5	0.1382	2.75	Q	|	|	|	|
1+10	0.1577	2.84	Q	|	|	|	|
1+15	0.1778	2.91	Q	|	|	|	|
1+20	0.1983	2.98	Q	|	|	|	|

1+25	0.2193	3.05	Q				
1+30	0.2407	3.11	Q				
1+35	0.2624	3.16	Q				
1+40	0.2845	3.21	Q				
1+45	0.3069	3.25	Q				
1+50	0.3296	3.30	Q				
1+55	0.3526	3.34	Q				
2+ 0	0.3758	3.38	Q				
2+ 5	0.3993	3.41	Q				
2+10	0.4231	3.45	Q				
2+15	0.4471	3.48	Q				
2+20	0.4713	3.52	Q				
2+25	0.4957	3.55	Q				
2+30	0.5204	3.58	Q				
2+35	0.5452	3.61	Q				
2+40	0.5703	3.64	Q				
2+45	0.5955	3.66	Q				
2+50	0.6209	3.69	Q				
2+55	0.6465	3.71	Q				
3+ 0	0.6722	3.73	Q				
3+ 5	0.6981	3.76	Q				
3+10	0.7241	3.78	Q				
3+15	0.7504	3.81	Q				
3+20	0.7768	3.84	Q				
3+25	0.8034	3.86	Q				
3+30	0.8302	3.89	QV				
3+35	0.8571	3.91	QV				
3+40	0.8842	3.93	QV				
3+45	0.9115	3.96	QV				
3+50	0.9389	3.98	QV				
3+55	0.9665	4.00	QV				
4+ 0	0.9942	4.03	QV				
4+ 5	1.0221	4.05	QV				
4+10	1.0501	4.07	QV				
4+15	1.0782	4.09	QV				
4+20	1.1065	4.11	QV				
4+25	1.1350	4.13	QV				
4+30	1.1636	4.16	QV				
4+35	1.1924	4.18	QV				
4+40	1.2213	4.20	QV				
4+45	1.2504	4.22	QV				
4+50	1.2797	4.25	QV				
4+55	1.3091	4.27	QV				
5+ 0	1.3387	4.30	QV				
5+ 5	1.3684	4.32	QV				
5+10	1.3983	4.34	QV				
5+15	1.4284	4.37	QV				
5+20	1.4587	4.39	QV				
5+25	1.4891	4.42	QV				
5+30	1.5198	4.45	QV				
5+35	1.5506	4.47	QV				
5+40	1.5816	4.50	QV				
5+45	1.6127	4.53	Q V				
5+50	1.6441	4.55	Q V				
5+55	1.6756	4.58	Q V				
6+ 0	1.7074	4.61	Q V				
6+ 5	1.7393	4.64	Q V				
6+10	1.7715	4.67	Q V				
6+15	1.8038	4.70	Q V				

6+20	1.8364	4.73	Q V	|	|	|	|
6+25	1.8691	4.76	Q V	|	|	|	|
6+30	1.9021	4.79	Q V	|	|	|	|
6+35	1.9353	4.82	Q V	|	|	|	|
6+40	1.9687	4.85	Q V	|	|	|	|
6+45	2.0023	4.88	Q V	|	|	|	|
6+50	2.0362	4.91	Q V	|	|	|	|
6+55	2.0703	4.95	Q V	|	|	|	|
7+ 0	2.1046	4.98	Q V	|	|	|	|
7+ 5	2.1391	5.02	Q V	|	|	|	|
7+10	2.1739	5.05	Q V	|	|	|	|
7+15	2.2089	5.09	Q V	|	|	|	|
7+20	2.2442	5.12	Q V	|	|	|	|
7+25	2.2797	5.16	Q V	|	|	|	|
7+30	2.3155	5.19	Q V	|	|	|	|
7+35	2.3515	5.23	Q V	|	|	|	|
7+40	2.3878	5.27	Q V	|	|	|	|
7+45	2.4244	5.31	Q V	|	|	|	|
7+50	2.4612	5.35	Q V	|	|	|	|
7+55	2.4983	5.39	Q V	|	|	|	|
8+ 0	2.5357	5.43	Q V	|	|	|	|
8+ 5	2.5734	5.47	Q V	|	|	|	|
8+10	2.6113	5.51	Q V	|	|	|	|
8+15	2.6496	5.56	Q V	|	|	|	|
8+20	2.6882	5.60	Q V	|	|	|	|
8+25	2.7270	5.64	Q V	|	|	|	|
8+30	2.7662	5.69	Q V	|	|	|	|
8+35	2.8057	5.74	Q V	|	|	|	|
8+40	2.8456	5.78	Q V	|	|	|	|
8+45	2.8857	5.83	Q V	|	|	|	|
8+50	2.9262	5.88	Q V	|	|	|	|
8+55	2.9670	5.93	Q V	|	|	|	|
9+ 0	3.0082	5.98	Q V	|	|	|	|
9+ 5	3.0498	6.03	Q V	|	|	|	|
9+10	3.0917	6.08	Q V	|	|	|	|
9+15	3.1339	6.14	Q V	|	|	|	|
9+20	3.1766	6.19	Q V	|	|	|	|
9+25	3.2196	6.25	Q V	|	|	|	|
9+30	3.2630	6.31	Q V	|	|	|	|
9+35	3.3069	6.36	Q V	|	|	|	|
9+40	3.3511	6.42	Q V	|	|	|	|
9+45	3.3958	6.48	Q V	|	|	|	|
9+50	3.4408	6.55	Q V	|	|	|	|
9+55	3.4864	6.61	Q V	|	|	|	|
10+ 0	3.5323	6.68	Q V	|	|	|	|
10+ 5	3.5788	6.74	Q V	|	|	|	|
10+10	3.6257	6.81	Q V	|	|	|	|
10+15	3.6731	6.88	Q V	|	|	|	|
10+20	3.7209	6.95	Q V	|	|	|	|
10+25	3.7693	7.02	Q V	|	|	|	|
10+30	3.8182	7.10	Q V	|	|	|	|
10+35	3.8676	7.17	Q V	|	|	|	|
10+40	3.9175	7.25	Q V	|	|	|	|
10+45	3.9680	7.33	Q V	|	|	|	|
10+50	4.0191	7.42	Q V	|	|	|	|
10+55	4.0708	7.50	|Q V	|	|	|	|
11+ 0	4.1230	7.59	|Q V	|	|	|	|
11+ 5	4.1759	7.68	|Q V	|	|	|	|
11+10	4.2294	7.77	|Q V	|	|	|	|

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11+15       4.2835      7.86  |Q   V    |          |          |          |
11+20       4.3383      7.96  |Q   V    |          |          |          |
11+25       4.3938      8.06  |Q   V    |          |          |          |
11+30       4.4500      8.16  |Q   V    |          |          |          |
11+35       4.5069      8.26  |Q   V    |          |          |          |
11+40       4.5646      8.37  |Q   V    |          |          |          |
11+45       4.6230      8.49  |Q   V    |          |          |          |
11+50       4.6822      8.60  |Q   V    |          |          |          |
11+55       4.7423      8.72  |Q   V    |          |          |          |
12+ 0       4.8032      8.84  |Q   V    |          |          |          |
12+ 5       4.8649      8.97  |Q    V   |          |          |          |
12+10       4.9276      9.09  |Q    V   |          |          |          |
12+15       4.9911      9.22  |Q    V   |          |          |          |
12+20       5.0554      9.35  |Q    V   |          |          |          |
12+25       5.1207      9.47  |Q    V   |          |          |          |
12+30       5.1868      9.60  |Q    V   |          |          |          |
12+35       5.2538      9.74  |Q    V   |          |          |          |
12+40       5.3219      9.89  |Q    V   |          |          |          |
12+45       5.3911     10.05  |Q    V   |          |          |          |
12+50       5.4614     10.21  |Q    V   |          |          |          |
12+55       5.5329     10.39  |Q    V   |          |          |          |
13+ 0       5.6057     10.57  |Q    V   |          |          |          |
13+ 5       5.6798     10.76  |Q     V  |          |          |          |
13+10       5.7553     10.96  |Q     V  |          |          |          |
13+15       5.8322     11.17  |Q     V  |          |          |          |
13+20       5.9106     11.39  |Q     V  |          |          |          |
13+25       5.9906     11.62  |Q     V  |          |          |          |
13+30       6.0723     11.86  |Q     V  |          |          |          |
13+35       6.1557     12.11  |Q     V  |          |          |          |
13+40       6.2410     12.38  |Q     V  |          |          |          |
13+45       6.3282     12.66  |Q     V  |          |          |          |
13+50       6.4174     12.95  |Q     V  |          |          |          |
13+55       6.5088     13.27  |Q      V |          |          |          |
14+ 0       6.6024     13.60  |Q      V |          |          |          |
14+ 5       6.6985     13.96  |Q      V |          |          |          |
14+10       6.7973     14.34  |Q      V |          |          |          |
14+15       6.8989     14.76  |Q      V |          |          |          |
14+20       7.0037     15.22  | Q     V |          |          |          |
14+25       7.1121     15.74  | Q     V |          |          |          |
14+30       7.2244     16.29  | Q     V |          |          |          |
14+35       7.3405     16.87  | Q      V|          |          |          |
14+40       7.4608     17.47  | Q      V|          |          |          |
14+45       7.5856     18.12  | Q      V|          |          |          |
14+50       7.7152     18.81  | Q      V|          |          |          |
14+55       7.8499     19.57  | Q      V|          |          |          |
15+ 0       7.9903     20.39  | Q      V|          |          |          |
15+ 5       8.1371     21.30  | Q       V          |          |          |
15+10       8.2907     22.31  | Q       V          |          |          |
15+15       8.4521     23.44  |  Q      V          |          |          |
15+20       8.6222     24.70  |  Q      V          |          |          |
15+25       8.8034     26.30  |  Q      V          |          |          |
15+30       8.9993     28.45  |  Q      |V         |          |          |
15+35       9.2147     31.27  |   Q     |V         |          |          |
15+40       9.4574     35.24  |   Q     |V         |          |          |
15+45       9.7406     41.12  |    Q    | V        |          |          |
15+50      10.0692     47.72  |     Q   | V        |          |          |
15+55      10.4498     55.27  |      Q  | V        |          |          |
16+ 0      10.8979     65.05  |       Q |  V       |          |          |
16+ 5      11.4844     85.16  |         |Q  V      |          |          |
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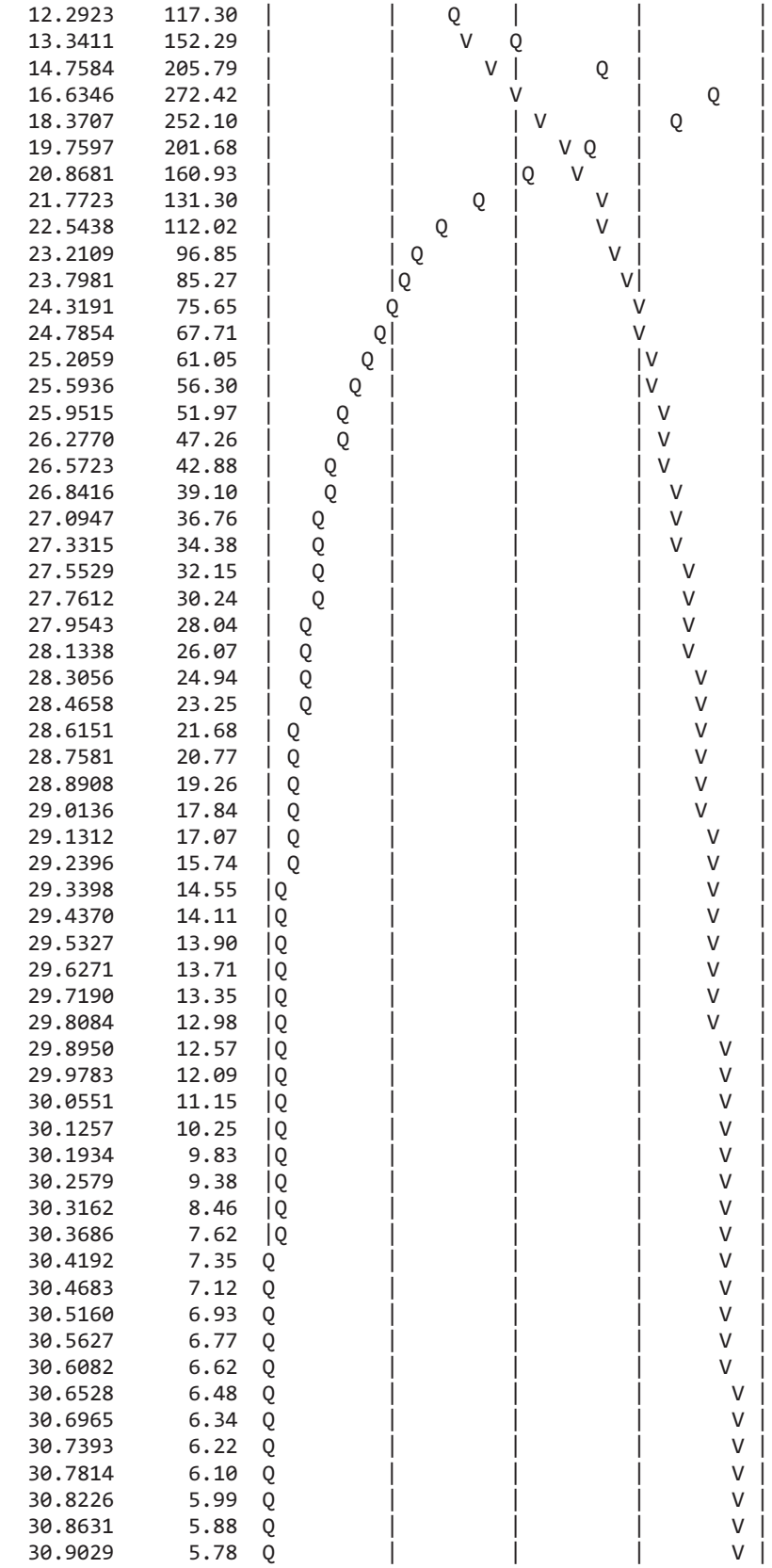
16+10	12.2923	117.30	
16+15	13.3411	152.29	
16+20	14.7584	205.79	
16+25	16.6346	272.42	
16+30	18.3707	252.10	
16+35	19.7597	201.68	
16+40	20.8681	160.93	
16+45	21.7723	131.30	
16+50	22.5438	112.02	
16+55	23.2109	96.85	
17+ 0	23.7981	85.27	
17+ 5	24.3191	75.65	
17+10	24.7854	67.71	
17+15	25.2059	61.05	
17+20	25.5936	56.30	
17+25	25.9515	51.97	
17+30	26.2770	47.26	
17+35	26.5723	42.88	
17+40	26.8416	39.10	
17+45	27.0947	36.76	
17+50	27.3315	34.38	
17+55	27.5529	32.15	
18+ 0	27.7612	30.24	
18+ 5	27.9543	28.04	
18+10	28.1338	26.07	
18+15	28.3056	24.94	
18+20	28.4658	23.25	
18+25	28.6151	21.68	
18+30	28.7581	20.77	
18+35	28.8908	19.26	
18+40	29.0136	17.84	
18+45	29.1312	17.07	
18+50	29.2396	15.74	
18+55	29.3398	14.55	
19+ 0	29.4370	14.11	
19+ 5	29.5327	13.90	
19+10	29.6271	13.71	
19+15	29.7190	13.35	
19+20	29.8084	12.98	
19+25	29.8950	12.57	
19+30	29.9783	12.09	
19+35	30.0551	11.15	
19+40	30.1257	10.25	
19+45	30.1934	9.83	
19+50	30.2579	9.38	
19+55	30.3162	8.46	
20+ 0	30.3686	7.62	
20+ 5	30.4192	7.35	
20+10	30.4683	7.12	
20+15	30.5160	6.93	
20+20	30.5627	6.77	
20+25	30.6082	6.62	
20+30	30.6528	6.48	
20+35	30.6965	6.34	
20+40	30.7393	6.22	
20+45	30.7814	6.10	
20+50	30.8226	5.99	
20+55	30.8631	5.88	
21+ 0	30.9029	5.78	

21+ 5	30.9420	5.68	Q	|	|	|	V |
21+10	30.9805	5.59	Q	|	|	|	V |
21+15	31.0183	5.50	Q	|	|	|	V |
21+20	31.0556	5.41	Q	|	|	|	V |
21+25	31.0923	5.33	Q	|	|	|	V |
21+30	31.1284	5.25	Q	|	|	|	V |
21+35	31.1640	5.17	Q	|	|	|	V |
21+40	31.1991	5.10	Q	|	|	|	V |
21+45	31.2337	5.02	Q	|	|	|	V |
21+50	31.2679	4.95	Q	|	|	|	V |
21+55	31.3015	4.89	Q	|	|	|	V |
22+ 0	31.3347	4.82	Q	|	|	|	V |
22+ 5	31.3675	4.76	Q	|	|	|	V |
22+10	31.3998	4.70	Q	|	|	|	V |
22+15	31.4317	4.64	Q	|	|	|	V |
22+20	31.4633	4.58	Q	|	|	|	V|
22+25	31.4944	4.52	Q	|	|	|	V|
22+30	31.5252	4.47	Q	|	|	|	V|
22+35	31.5556	4.41	Q	|	|	|	V|
22+40	31.5856	4.36	Q	|	|	|	V|
22+45	31.6153	4.31	Q	|	|	|	V|
22+50	31.6447	4.26	Q	|	|	|	V|
22+55	31.6737	4.22	Q	|	|	|	V|
23+ 0	31.7024	4.17	Q	|	|	|	V|
23+ 5	31.7308	4.12	Q	|	|	|	V|
23+10	31.7589	4.08	Q	|	|	|	V|
23+15	31.7867	4.04	Q	|	|	|	V|
23+20	31.8142	3.99	Q	|	|	|	V|
23+25	31.8415	3.95	Q	|	|	|	V|
23+30	31.8684	3.91	Q	|	|	|	V|
23+35	31.8951	3.87	Q	|	|	|	V|
23+40	31.9215	3.84	Q	|	|	|	V|
23+45	31.9476	3.80	Q	|	|	|	V|
23+50	31.9736	3.76	Q	|	|	|	V|
23+55	31.9992	3.73	Q	|	|	|	V|
24+ 0	32.0246	3.69	Q	|	|	|	V|
24+ 5	32.0496	3.63	Q	|	|	|	V|
24+10	32.0738	3.51	Q	|	|	|	V|
24+15	32.0967	3.33	Q	|	|	|	V|
24+20	32.1175	3.02	Q	|	|	|	V|
24+25	32.1347	2.49	Q	|	|	|	V|
24+30	32.1486	2.01	Q	|	|	|	V|
24+35	32.1600	1.67	Q	|	|	|	V|
24+40	32.1698	1.42	Q	|	|	|	V|
24+45	32.1783	1.23	Q	|	|	|	V|
24+50	32.1857	1.08	Q	|	|	|	V|
24+55	32.1923	0.95	Q	|	|	|	V|
25+ 0	32.1981	0.85	Q	|	|	|	V|
25+ 5	32.2033	0.75	Q	|	|	|	V|
25+10	32.2080	0.67	Q	|	|	|	V|
25+15	32.2122	0.61	Q	|	|	|	V|
25+20	32.2159	0.54	Q	|	|	|	V|
25+25	32.2193	0.49	Q	|	|	|	V|
25+30	32.2223	0.44	Q	|	|	|	V|
25+35	32.2250	0.39	Q	|	|	|	V|
25+40	32.2274	0.36	Q	|	|	|	V|
25+45	32.2296	0.32	Q	|	|	|	V|
25+50	32.2316	0.29	Q	|	|	|	V|
25+55	32.2334	0.26	Q	|	|	|	V|

26+ 0	32.2350	0.23	Q	|	|	|	V|
26+ 5	32.2364	0.21	Q	|	|	|	V|
26+10	32.2377	0.19	Q	|	|	|	V|
26+15	32.2388	0.17	Q	|	|	|	V|
26+20	32.2399	0.15	Q	|	|	|	V|
26+25	32.2408	0.13	Q	|	|	|	V|
26+30	32.2416	0.12	Q	|	|	|	V|
26+35	32.2423	0.10	Q	|	|	|	V|
26+40	32.2429	0.09	Q	|	|	|	V|
26+45	32.2435	0.08	Q	|	|	|	V|
26+50	32.2440	0.07	Q	|	|	|	V|
26+55	32.2444	0.07	Q	|	|	|	V|
27+ 0	32.2448	0.06	Q	|	|	|	V|
27+ 5	32.2452	0.05	Q	|	|	|	V|
27+10	32.2455	0.05	Q	|	|	|	V|
27+15	32.2458	0.04	Q	|	|	|	V|
27+20	32.2460	0.03	Q	|	|	|	V|
27+25	32.2462	0.02	Q	|	|	|	V|
27+30	32.2463	0.02	Q	|	|	|	V|
27+35	32.2464	0.01	Q	|	|	|	V|
27+40	32.2464	0.01	Q	|	|	|	V|
27+45	32.2465	0.01	Q	|	|	|	V|
27+50	32.2465	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 17
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
148.48	1	1.30
Rainfall data for year 100		
148.48	6	1.83
Rainfall data for year 100		
148.48	24	2.43

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
77.9	92.7	148.48	1.000	0.141	0.943	0.133

Area-averaged adjusted loss rate Fm (In/Hr) = 0.133

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
140.02	0.943	77.9	92.7	0.78	0.696
8.46	0.057	98.0	98.0	0.20	0.906

Area-averaged catchment yield fraction, Y = 0.708
Area-averaged low loss fraction, Yb = 0.292
User entry of time of concentration = 0.650 (hours)
++
Watershed area = 148.48(Ac.)
Catchment Lag time = 0.520 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.0256
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.133(In/Hr)
Average low loss rate fraction (Yb) = 0.292 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.617(In)
Computed peak 30-minute rainfall = 1.056(In)
Specified peak 1-hour rainfall = 1.300(In)
Computed peak 3-hour rainfall = 1.603(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.430(In)

Rainfall depth area reduction factors:
Using a total area of 148.48(Ac.) (Ref: fig. E-4)

5-minute factor = 0.993 Adjusted rainfall = 0.613(In)
30-minute factor = 0.993 Adjusted rainfall = 1.049(In)
1-hour factor = 0.993 Adjusted rainfall = 1.291(In)
3-hour factor = 0.999 Adjusted rainfall = 1.602(In)
6-hour factor = 1.000 Adjusted rainfall = 1.829(In)
24-hour factor = 1.000 Adjusted rainfall = 2.430(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1795.68 (CFS))	
1	0.736	13.219
2	3.163	43.571
3	7.243	73.272
4	14.463	129.652
5	28.208	246.817
6	42.044	248.445
7	52.111	180.776
8	59.430	131.427
9	64.732	95.204
10	69.014	76.880
11	72.646	65.233
12	75.630	53.579
13	78.276	47.509

14	80.458	39.179
15	82.396	34.803
16	84.112	30.808
17	85.685	28.247
18	87.133	26.001
19	88.405	22.855
20	89.450	18.758
21	90.395	16.968
22	91.293	16.131
23	92.108	14.625
24	92.865	13.606
25	93.576	12.752
26	94.194	11.110
27	94.739	9.784
28	95.284	9.784
29	95.775	8.810
30	96.192	7.489
31	96.608	7.482
32	96.984	6.745
33	97.275	5.226
34	97.563	5.180
35	97.822	4.648
36	97.989	2.996
37	98.149	2.878
38	98.315	2.968
39	98.504	3.398
40	98.696	3.453
41	98.888	3.453
42	99.081	3.453
43	99.273	3.453
44	99.461	3.369
45	99.582	2.181
46	99.682	1.799
47	99.782	1.799
48	99.883	1.799
49	100.000	0.899

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6126	0.6126
2	0.7542	0.1416
3	0.8517	0.0975
4	0.9285	0.0768
5	0.9928	0.0643
6	1.0486	0.0558
7	1.0982	0.0496
8	1.1431	0.0449
9	1.1842	0.0411
10	1.2222	0.0380
11	1.2577	0.0355
12	1.2910	0.0333
13	1.3114	0.0205
14	1.3306	0.0192
15	1.3488	0.0182
16	1.3660	0.0172
17	1.3824	0.0164
18	1.3980	0.0156
19	1.4129	0.0149
20	1.4272	0.0143

21	1.4409	0.0137
22	1.4542	0.0132
23	1.4669	0.0128
24	1.4792	0.0123
25	1.4911	0.0119
26	1.5027	0.0115
27	1.5138	0.0112
28	1.5247	0.0109
29	1.5352	0.0105
30	1.5455	0.0103
31	1.5555	0.0100
32	1.5652	0.0097
33	1.5747	0.0095
34	1.5840	0.0093
35	1.5930	0.0090
36	1.6018	0.0088
37	1.6103	0.0084
38	1.6185	0.0082
39	1.6266	0.0081
40	1.6345	0.0079
41	1.6422	0.0077
42	1.6498	0.0076
43	1.6573	0.0074
44	1.6646	0.0073
45	1.6717	0.0072
46	1.6788	0.0070
47	1.6857	0.0069
48	1.6925	0.0068
49	1.6992	0.0067
50	1.7058	0.0066
51	1.7123	0.0065
52	1.7187	0.0064
53	1.7249	0.0063
54	1.7311	0.0062
55	1.7372	0.0061
56	1.7432	0.0060
57	1.7491	0.0059
58	1.7550	0.0058
59	1.7607	0.0058
60	1.7664	0.0057
61	1.7720	0.0056
62	1.7775	0.0055
63	1.7830	0.0055
64	1.7884	0.0054
65	1.7937	0.0053
66	1.7989	0.0053
67	1.8041	0.0052
68	1.8092	0.0051
69	1.8143	0.0051
70	1.8193	0.0050
71	1.8243	0.0049
72	1.8292	0.0049
73	1.8343	0.0052
74	1.8394	0.0051
75	1.8445	0.0051
76	1.8495	0.0050
77	1.8545	0.0050
78	1.8594	0.0049
79	1.8642	0.0049

80	1.8690	0.0048
81	1.8738	0.0048
82	1.8785	0.0047
83	1.8832	0.0047
84	1.8878	0.0046
85	1.8924	0.0046
86	1.8969	0.0045
87	1.9014	0.0045
88	1.9059	0.0045
89	1.9103	0.0044
90	1.9147	0.0044
91	1.9190	0.0043
92	1.9233	0.0043
93	1.9276	0.0043
94	1.9318	0.0042
95	1.9360	0.0042
96	1.9401	0.0042
97	1.9443	0.0041
98	1.9483	0.0041
99	1.9524	0.0041
100	1.9564	0.0040
101	1.9604	0.0040
102	1.9644	0.0040
103	1.9683	0.0039
104	1.9722	0.0039
105	1.9761	0.0039
106	1.9799	0.0038
107	1.9837	0.0038
108	1.9875	0.0038
109	1.9912	0.0038
110	1.9950	0.0037
111	1.9987	0.0037
112	2.0023	0.0037
113	2.0060	0.0036
114	2.0096	0.0036
115	2.0132	0.0036
116	2.0168	0.0036
117	2.0203	0.0035
118	2.0239	0.0035
119	2.0274	0.0035
120	2.0308	0.0035
121	2.0343	0.0035
122	2.0377	0.0034
123	2.0411	0.0034
124	2.0445	0.0034
125	2.0479	0.0034
126	2.0512	0.0033
127	2.0545	0.0033
128	2.0579	0.0033
129	2.0611	0.0033
130	2.0644	0.0033
131	2.0676	0.0032
132	2.0709	0.0032
133	2.0741	0.0032
134	2.0772	0.0032
135	2.0804	0.0032
136	2.0836	0.0031
137	2.0867	0.0031
138	2.0898	0.0031

139	2.0929	0.0031
140	2.0960	0.0031
141	2.0990	0.0031
142	2.1021	0.0030
143	2.1051	0.0030
144	2.1081	0.0030
145	2.1111	0.0030
146	2.1140	0.0030
147	2.1170	0.0030
148	2.1199	0.0029
149	2.1229	0.0029
150	2.1258	0.0029
151	2.1287	0.0029
152	2.1315	0.0029
153	2.1344	0.0029
154	2.1373	0.0028
155	2.1401	0.0028
156	2.1429	0.0028
157	2.1457	0.0028
158	2.1485	0.0028
159	2.1513	0.0028
160	2.1541	0.0028
161	2.1568	0.0027
162	2.1595	0.0027
163	2.1623	0.0027
164	2.1650	0.0027
165	2.1677	0.0027
166	2.1704	0.0027
167	2.1730	0.0027
168	2.1757	0.0027
169	2.1783	0.0026
170	2.1810	0.0026
171	2.1836	0.0026
172	2.1862	0.0026
173	2.1888	0.0026
174	2.1914	0.0026
175	2.1939	0.0026
176	2.1965	0.0026
177	2.1991	0.0025
178	2.2016	0.0025
179	2.2041	0.0025
180	2.2066	0.0025
181	2.2091	0.0025
182	2.2116	0.0025
183	2.2141	0.0025
184	2.2166	0.0025
185	2.2190	0.0025
186	2.2215	0.0025
187	2.2239	0.0024
188	2.2264	0.0024
189	2.2288	0.0024
190	2.2312	0.0024
191	2.2336	0.0024
192	2.2360	0.0024
193	2.2384	0.0024
194	2.2407	0.0024
195	2.2431	0.0024
196	2.2454	0.0024
197	2.2478	0.0023

198	2.2501	0.0023
199	2.2524	0.0023
200	2.2548	0.0023
201	2.2571	0.0023
202	2.2594	0.0023
203	2.2616	0.0023
204	2.2639	0.0023
205	2.2662	0.0023
206	2.2684	0.0023
207	2.2707	0.0023
208	2.2729	0.0022
209	2.2752	0.0022
210	2.2774	0.0022
211	2.2796	0.0022
212	2.2818	0.0022
213	2.2840	0.0022
214	2.2862	0.0022
215	2.2884	0.0022
216	2.2906	0.0022
217	2.2927	0.0022
218	2.2949	0.0022
219	2.2970	0.0022
220	2.2992	0.0021
221	2.3013	0.0021
222	2.3035	0.0021
223	2.3056	0.0021
224	2.3077	0.0021
225	2.3098	0.0021
226	2.3119	0.0021
227	2.3140	0.0021
228	2.3161	0.0021
229	2.3181	0.0021
230	2.3202	0.0021
231	2.3223	0.0021
232	2.3243	0.0021
233	2.3264	0.0020
234	2.3284	0.0020
235	2.3305	0.0020
236	2.3325	0.0020
237	2.3345	0.0020
238	2.3365	0.0020
239	2.3385	0.0020
240	2.3405	0.0020
241	2.3425	0.0020
242	2.3445	0.0020
243	2.3465	0.0020
244	2.3485	0.0020
245	2.3504	0.0020
246	2.3524	0.0020
247	2.3543	0.0020
248	2.3563	0.0019
249	2.3582	0.0019
250	2.3602	0.0019
251	2.3621	0.0019
252	2.3640	0.0019
253	2.3659	0.0019
254	2.3679	0.0019
255	2.3698	0.0019
256	2.3717	0.0019

257	2.3736	0.0019
258	2.3754	0.0019
259	2.3773	0.0019
260	2.3792	0.0019
261	2.3811	0.0019
262	2.3829	0.0019
263	2.3848	0.0019
264	2.3866	0.0019
265	2.3885	0.0018
266	2.3903	0.0018
267	2.3922	0.0018
268	2.3940	0.0018
269	2.3958	0.0018
270	2.3977	0.0018
271	2.3995	0.0018
272	2.4013	0.0018
273	2.4031	0.0018
274	2.4049	0.0018
275	2.4067	0.0018
276	2.4085	0.0018
277	2.4103	0.0018
278	2.4120	0.0018
279	2.4138	0.0018
280	2.4156	0.0018
281	2.4173	0.0018
282	2.4191	0.0018
283	2.4209	0.0018
284	2.4226	0.0017
285	2.4243	0.0017
286	2.4261	0.0017
287	2.4278	0.0017
288	2.4295	0.0017

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0017	0.0005	0.0012
2	0.0017	0.0005	0.0012
3	0.0017	0.0005	0.0012
4	0.0017	0.0005	0.0012
5	0.0018	0.0005	0.0012
6	0.0018	0.0005	0.0012
7	0.0018	0.0005	0.0013
8	0.0018	0.0005	0.0013
9	0.0018	0.0005	0.0013
10	0.0018	0.0005	0.0013
11	0.0018	0.0005	0.0013
12	0.0018	0.0005	0.0013
13	0.0018	0.0005	0.0013
14	0.0018	0.0005	0.0013
15	0.0018	0.0005	0.0013
16	0.0018	0.0005	0.0013
17	0.0019	0.0005	0.0013
18	0.0019	0.0005	0.0013
19	0.0019	0.0005	0.0013
20	0.0019	0.0005	0.0013
21	0.0019	0.0006	0.0013
22	0.0019	0.0006	0.0013

23	0.0019	0.0006	0.0013
24	0.0019	0.0006	0.0014
25	0.0019	0.0006	0.0014
26	0.0019	0.0006	0.0014
27	0.0019	0.0006	0.0014
28	0.0019	0.0006	0.0014
29	0.0020	0.0006	0.0014
30	0.0020	0.0006	0.0014
31	0.0020	0.0006	0.0014
32	0.0020	0.0006	0.0014
33	0.0020	0.0006	0.0014
34	0.0020	0.0006	0.0014
35	0.0020	0.0006	0.0014
36	0.0020	0.0006	0.0014
37	0.0020	0.0006	0.0014
38	0.0020	0.0006	0.0014
39	0.0021	0.0006	0.0015
40	0.0021	0.0006	0.0015
41	0.0021	0.0006	0.0015
42	0.0021	0.0006	0.0015
43	0.0021	0.0006	0.0015
44	0.0021	0.0006	0.0015
45	0.0021	0.0006	0.0015
46	0.0021	0.0006	0.0015
47	0.0022	0.0006	0.0015
48	0.0022	0.0006	0.0015
49	0.0022	0.0006	0.0015
50	0.0022	0.0006	0.0015
51	0.0022	0.0006	0.0016
52	0.0022	0.0006	0.0016
53	0.0022	0.0006	0.0016
54	0.0022	0.0007	0.0016
55	0.0023	0.0007	0.0016
56	0.0023	0.0007	0.0016
57	0.0023	0.0007	0.0016
58	0.0023	0.0007	0.0016
59	0.0023	0.0007	0.0016
60	0.0023	0.0007	0.0016
61	0.0023	0.0007	0.0017
62	0.0023	0.0007	0.0017
63	0.0024	0.0007	0.0017
64	0.0024	0.0007	0.0017
65	0.0024	0.0007	0.0017
66	0.0024	0.0007	0.0017
67	0.0024	0.0007	0.0017
68	0.0024	0.0007	0.0017
69	0.0025	0.0007	0.0017
70	0.0025	0.0007	0.0017
71	0.0025	0.0007	0.0018
72	0.0025	0.0007	0.0018
73	0.0025	0.0007	0.0018
74	0.0025	0.0007	0.0018
75	0.0025	0.0007	0.0018
76	0.0026	0.0007	0.0018
77	0.0026	0.0008	0.0018
78	0.0026	0.0008	0.0018
79	0.0026	0.0008	0.0019
80	0.0026	0.0008	0.0019
81	0.0027	0.0008	0.0019

82	0.0027	0.0008	0.0019
83	0.0027	0.0008	0.0019
84	0.0027	0.0008	0.0019
85	0.0027	0.0008	0.0019
86	0.0027	0.0008	0.0019
87	0.0028	0.0008	0.0020
88	0.0028	0.0008	0.0020
89	0.0028	0.0008	0.0020
90	0.0028	0.0008	0.0020
91	0.0029	0.0008	0.0020
92	0.0029	0.0008	0.0020
93	0.0029	0.0008	0.0021
94	0.0029	0.0009	0.0021
95	0.0030	0.0009	0.0021
96	0.0030	0.0009	0.0021
97	0.0030	0.0009	0.0021
98	0.0030	0.0009	0.0021
99	0.0031	0.0009	0.0022
100	0.0031	0.0009	0.0022
101	0.0031	0.0009	0.0022
102	0.0031	0.0009	0.0022
103	0.0032	0.0009	0.0022
104	0.0032	0.0009	0.0023
105	0.0032	0.0009	0.0023
106	0.0032	0.0009	0.0023
107	0.0033	0.0010	0.0023
108	0.0033	0.0010	0.0023
109	0.0033	0.0010	0.0024
110	0.0034	0.0010	0.0024
111	0.0034	0.0010	0.0024
112	0.0034	0.0010	0.0024
113	0.0035	0.0010	0.0025
114	0.0035	0.0010	0.0025
115	0.0035	0.0010	0.0025
116	0.0036	0.0010	0.0025
117	0.0036	0.0011	0.0026
118	0.0036	0.0011	0.0026
119	0.0037	0.0011	0.0026
120	0.0037	0.0011	0.0026
121	0.0038	0.0011	0.0027
122	0.0038	0.0011	0.0027
123	0.0039	0.0011	0.0027
124	0.0039	0.0011	0.0028
125	0.0040	0.0012	0.0028
126	0.0040	0.0012	0.0028
127	0.0041	0.0012	0.0029
128	0.0041	0.0012	0.0029
129	0.0042	0.0012	0.0029
130	0.0042	0.0012	0.0030
131	0.0043	0.0012	0.0030
132	0.0043	0.0013	0.0030
133	0.0044	0.0013	0.0031
134	0.0044	0.0013	0.0031
135	0.0045	0.0013	0.0032
136	0.0045	0.0013	0.0032
137	0.0046	0.0014	0.0033
138	0.0047	0.0014	0.0033
139	0.0048	0.0014	0.0034
140	0.0048	0.0014	0.0034

141	0.0049	0.0014	0.0035
142	0.0050	0.0014	0.0035
143	0.0051	0.0015	0.0036
144	0.0051	0.0015	0.0036
145	0.0049	0.0014	0.0035
146	0.0049	0.0014	0.0035
147	0.0051	0.0015	0.0036
148	0.0051	0.0015	0.0036
149	0.0053	0.0015	0.0037
150	0.0053	0.0016	0.0038
151	0.0055	0.0016	0.0039
152	0.0055	0.0016	0.0039
153	0.0057	0.0017	0.0040
154	0.0058	0.0017	0.0041
155	0.0059	0.0017	0.0042
156	0.0060	0.0018	0.0042
157	0.0062	0.0018	0.0044
158	0.0063	0.0018	0.0044
159	0.0065	0.0019	0.0046
160	0.0066	0.0019	0.0047
161	0.0068	0.0020	0.0048
162	0.0069	0.0020	0.0049
163	0.0072	0.0021	0.0051
164	0.0073	0.0021	0.0052
165	0.0076	0.0022	0.0054
166	0.0077	0.0023	0.0055
167	0.0081	0.0024	0.0057
168	0.0082	0.0024	0.0058
169	0.0088	0.0026	0.0063
170	0.0090	0.0026	0.0064
171	0.0095	0.0028	0.0067
172	0.0097	0.0028	0.0069
173	0.0103	0.0030	0.0073
174	0.0105	0.0031	0.0075
175	0.0112	0.0033	0.0079
176	0.0115	0.0034	0.0082
177	0.0123	0.0036	0.0087
178	0.0128	0.0037	0.0090
179	0.0137	0.0040	0.0097
180	0.0143	0.0042	0.0101
181	0.0156	0.0046	0.0110
182	0.0164	0.0048	0.0116
183	0.0182	0.0053	0.0129
184	0.0192	0.0056	0.0136
185	0.0333	0.0097	0.0235
186	0.0355	0.0104	0.0251
187	0.0411	0.0111	0.0300
188	0.0449	0.0111	0.0338
189	0.0558	0.0111	0.0447
190	0.0643	0.0111	0.0532
191	0.0975	0.0111	0.0865
192	0.1416	0.0111	0.1305
193	0.6126	0.0111	0.6015
194	0.0768	0.0111	0.0657
195	0.0496	0.0111	0.0385
196	0.0380	0.0111	0.0269
197	0.0205	0.0060	0.0145
198	0.0172	0.0050	0.0122
199	0.0149	0.0044	0.0106

200	0.0132	0.0039	0.0094
201	0.0119	0.0035	0.0084
202	0.0109	0.0032	0.0077
203	0.0100	0.0029	0.0071
204	0.0093	0.0027	0.0066
205	0.0084	0.0025	0.0060
206	0.0079	0.0023	0.0056
207	0.0074	0.0022	0.0053
208	0.0070	0.0021	0.0050
209	0.0067	0.0020	0.0047
210	0.0064	0.0019	0.0045
211	0.0061	0.0018	0.0043
212	0.0058	0.0017	0.0041
213	0.0056	0.0016	0.0040
214	0.0054	0.0016	0.0038
215	0.0052	0.0015	0.0037
216	0.0050	0.0015	0.0035
217	0.0052	0.0015	0.0037
218	0.0050	0.0015	0.0035
219	0.0049	0.0014	0.0034
220	0.0047	0.0014	0.0033
221	0.0046	0.0013	0.0032
222	0.0045	0.0013	0.0032
223	0.0043	0.0013	0.0031
224	0.0042	0.0012	0.0030
225	0.0041	0.0012	0.0029
226	0.0040	0.0012	0.0028
227	0.0039	0.0011	0.0028
228	0.0038	0.0011	0.0027
229	0.0038	0.0011	0.0027
230	0.0037	0.0011	0.0026
231	0.0036	0.0011	0.0025
232	0.0035	0.0010	0.0025
233	0.0035	0.0010	0.0024
234	0.0034	0.0010	0.0024
235	0.0033	0.0010	0.0024
236	0.0033	0.0010	0.0023
237	0.0032	0.0009	0.0023
238	0.0031	0.0009	0.0022
239	0.0031	0.0009	0.0022
240	0.0030	0.0009	0.0022
241	0.0030	0.0009	0.0021
242	0.0029	0.0009	0.0021
243	0.0029	0.0008	0.0020
244	0.0028	0.0008	0.0020
245	0.0028	0.0008	0.0020
246	0.0028	0.0008	0.0020
247	0.0027	0.0008	0.0019
248	0.0027	0.0008	0.0019
249	0.0026	0.0008	0.0019
250	0.0026	0.0008	0.0018
251	0.0026	0.0008	0.0018
252	0.0025	0.0007	0.0018
253	0.0025	0.0007	0.0018
254	0.0025	0.0007	0.0017
255	0.0024	0.0007	0.0017
256	0.0024	0.0007	0.0017
257	0.0024	0.0007	0.0017
258	0.0024	0.0007	0.0017

259	0.0023	0.0007	0.0016
260	0.0023	0.0007	0.0016
261	0.0023	0.0007	0.0016
262	0.0022	0.0007	0.0016
263	0.0022	0.0006	0.0016
264	0.0022	0.0006	0.0016
265	0.0022	0.0006	0.0015
266	0.0021	0.0006	0.0015
267	0.0021	0.0006	0.0015
268	0.0021	0.0006	0.0015
269	0.0021	0.0006	0.0015
270	0.0021	0.0006	0.0015
271	0.0020	0.0006	0.0014
272	0.0020	0.0006	0.0014
273	0.0020	0.0006	0.0014
274	0.0020	0.0006	0.0014
275	0.0020	0.0006	0.0014
276	0.0019	0.0006	0.0014
277	0.0019	0.0006	0.0014
278	0.0019	0.0006	0.0013
279	0.0019	0.0005	0.0013
280	0.0019	0.0005	0.0013
281	0.0018	0.0005	0.0013
282	0.0018	0.0005	0.0013
283	0.0018	0.0005	0.0013
284	0.0018	0.0005	0.0013
285	0.0018	0.0005	0.0013
286	0.0018	0.0005	0.0013
287	0.0018	0.0005	0.0012
288	0.0017	0.0005	0.0012

Total soil rain loss = 0.46(In)
Total effective rainfall = 1.97(In)
Peak flow rate in flood hydrograph = 231.00(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0006	0.07	Q	|	|	|	|
0+15	0.0017	0.16	Q	|	|	|	|
0+20	0.0039	0.32	Q	|	|	|	|
0+25	0.0082	0.62	Q	|	|	|	|
0+30	0.0146	0.93	Q	|	|	|	|
0+35	0.0225	1.15	Q	|	|	|	|
0+40	0.0316	1.32	Q	|	|	|	|
0+45	0.0415	1.44	Q	|	|	|	|
0+50	0.0522	1.54	Q	|	|	|	|
0+55	0.0634	1.63	Q	|	|	|	|
1+ 0	0.0751	1.70	Q	|	|	|	|
1+ 5	0.0872	1.77	Q	|	|	|	|
1+10	0.0998	1.82	Q	|	|	|	|

1+15	0.1127	1.87	Q				
1+20	0.1259	1.92	Q				
1+25	0.1394	1.96	Q				
1+30	0.1532	2.00	Q				
1+35	0.1672	2.04	Q				
1+40	0.1815	2.07	Q				
1+45	0.1959	2.10	Q				
1+50	0.2106	2.13	Q				
1+55	0.2254	2.16	Q				
2+ 0	0.2405	2.18	Q				
2+ 5	0.2557	2.21	Q				
2+10	0.2711	2.23	Q				
2+15	0.2866	2.25	Q				
2+20	0.3023	2.28	Q				
2+25	0.3181	2.30	Q				
2+30	0.3341	2.32	Q				
2+35	0.3502	2.34	Q				
2+40	0.3664	2.36	Q				
2+45	0.3828	2.37	Q				
2+50	0.3992	2.39	Q				
2+55	0.4158	2.41	Q				
3+ 0	0.4325	2.42	Q				
3+ 5	0.4493	2.44	Q				
3+10	0.4662	2.46	Q				
3+15	0.4833	2.47	Q				
3+20	0.5004	2.49	Q				
3+25	0.5177	2.50	Q				
3+30	0.5350	2.52	Q				
3+35	0.5525	2.54	Q				
3+40	0.5701	2.56	Q				
3+45	0.5878	2.57	Q				
3+50	0.6056	2.59	Q				
3+55	0.6235	2.60	QV				
4+ 0	0.6416	2.62	QV				
4+ 5	0.6597	2.63	QV				
4+10	0.6779	2.65	QV				
4+15	0.6962	2.66	QV				
4+20	0.7147	2.67	QV				
4+25	0.7332	2.69	QV				
4+30	0.7518	2.70	QV				
4+35	0.7705	2.72	QV				
4+40	0.7893	2.73	QV				
4+45	0.8083	2.75	QV				
4+50	0.8273	2.76	QV				
4+55	0.8464	2.78	QV				
5+ 0	0.8657	2.79	QV				
5+ 5	0.8850	2.81	QV				
5+10	0.9045	2.83	QV				
5+15	0.9241	2.84	QV				
5+20	0.9437	2.86	QV				
5+25	0.9635	2.88	QV				
5+30	0.9835	2.89	QV				
5+35	1.0035	2.91	QV				
5+40	1.0237	2.93	QV				
5+45	1.0439	2.94	QV				
5+50	1.0643	2.96	QV				
5+55	1.0849	2.98	QV				
6+ 0	1.1055	3.00	QV				
6+ 5	1.1263	3.02	QV				

6+10	1.1472	3.04	QV	|	|	|	|
6+15	1.1682	3.05	QV	|	|	|	|
6+20	1.1894	3.07	QV	|	|	|	|
6+25	1.2107	3.09	QV	|	|	|	|
6+30	1.2322	3.11	Q V	|	|	|	|
6+35	1.2537	3.13	Q V	|	|	|	|
6+40	1.2755	3.15	Q V	|	|	|	|
6+45	1.2973	3.18	Q V	|	|	|	|
6+50	1.3193	3.20	Q V	|	|	|	|
6+55	1.3415	3.22	Q V	|	|	|	|
7+ 0	1.3638	3.24	Q V	|	|	|	|
7+ 5	1.3863	3.26	Q V	|	|	|	|
7+10	1.4089	3.28	Q V	|	|	|	|
7+15	1.4317	3.31	Q V	|	|	|	|
7+20	1.4546	3.33	Q V	|	|	|	|
7+25	1.4777	3.35	Q V	|	|	|	|
7+30	1.5010	3.38	Q V	|	|	|	|
7+35	1.5244	3.40	Q V	|	|	|	|
7+40	1.5480	3.43	Q V	|	|	|	|
7+45	1.5718	3.45	Q V	|	|	|	|
7+50	1.5958	3.48	Q V	|	|	|	|
7+55	1.6199	3.50	Q V	|	|	|	|
8+ 0	1.6442	3.53	Q V	|	|	|	|
8+ 5	1.6687	3.56	Q V	|	|	|	|
8+10	1.6934	3.58	Q V	|	|	|	|
8+15	1.7183	3.61	Q V	|	|	|	|
8+20	1.7434	3.64	Q V	|	|	|	|
8+25	1.7686	3.67	Q V	|	|	|	|
8+30	1.7941	3.70	Q V	|	|	|	|
8+35	1.8198	3.73	Q V	|	|	|	|
8+40	1.8457	3.76	Q V	|	|	|	|
8+45	1.8718	3.79	Q V	|	|	|	|
8+50	1.8981	3.82	Q V	|	|	|	|
8+55	1.9247	3.86	Q V	|	|	|	|
9+ 0	1.9515	3.89	Q V	|	|	|	|
9+ 5	1.9785	3.92	Q V	|	|	|	|
9+10	2.0057	3.96	Q V	|	|	|	|
9+15	2.0332	3.99	Q V	|	|	|	|
9+20	2.0609	4.03	Q V	|	|	|	|
9+25	2.0889	4.06	Q V	|	|	|	|
9+30	2.1171	4.10	Q V	|	|	|	|
9+35	2.1456	4.14	Q V	|	|	|	|
9+40	2.1744	4.18	Q V	|	|	|	|
9+45	2.2034	4.22	Q V	|	|	|	|
9+50	2.2327	4.26	Q V	|	|	|	|
9+55	2.2623	4.30	Q V	|	|	|	|
10+ 0	2.2922	4.34	Q V	|	|	|	|
10+ 5	2.3224	4.38	Q V	|	|	|	|
10+10	2.3529	4.43	Q V	|	|	|	|
10+15	2.3837	4.47	Q V	|	|	|	|
10+20	2.4148	4.52	Q V	|	|	|	|
10+25	2.4462	4.57	Q V	|	|	|	|
10+30	2.4780	4.61	Q V	|	|	|	|
10+35	2.5101	4.66	Q V	|	|	|	|
10+40	2.5426	4.71	Q V	|	|	|	|
10+45	2.5754	4.77	Q V	|	|	|	|
10+50	2.6086	4.82	Q V	|	|	|	|
10+55	2.6422	4.87	Q V	|	|	|	|
11+ 0	2.6761	4.93	Q V	|	|	|	|

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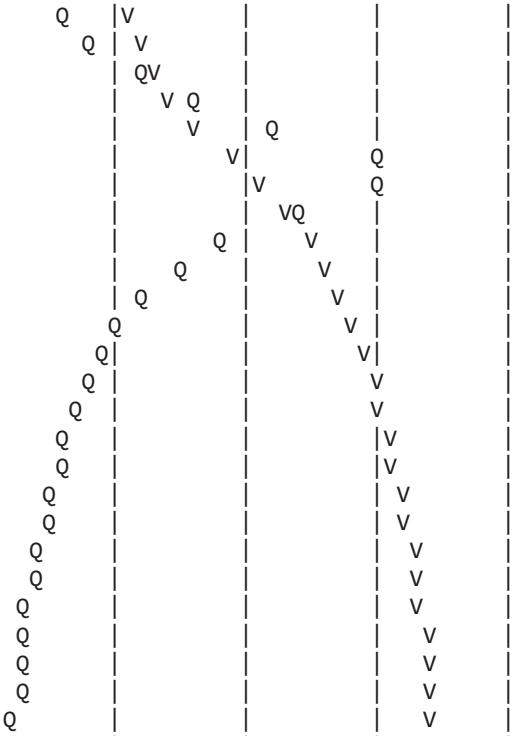
11+ 5       2.7105      4.99  Q   V     |          |          |          |
11+10       2.7453      5.05  Q   V     |          |          |          |
11+15       2.7804      5.11  Q   V     |          |          |          |
11+20       2.8161      5.17  Q   V     |          |          |          |
11+25       2.8521      5.24  Q   V     |          |          |          |
11+30       2.8886      5.30  Q   V     |          |          |          |
11+35       2.9256      5.37  Q   V     |          |          |          |
11+40       2.9631      5.44  Q   V     |          |          |          |
11+45       3.0011      5.51  Q   V     |          |          |          |
11+50       3.0396      5.59  Q    V    |          |          |          |
11+55       3.0786      5.67  Q    V    |          |          |          |
12+ 0       3.1181      5.74  Q    V    |          |          |          |
12+ 5       3.1582      5.82  Q    V    |          |          |          |
12+10       3.1989      5.90  Q    V    |          |          |          |
12+15       3.2400      5.97  Q    V    |          |          |          |
12+20       3.2815      6.03  Q    V    |          |          |          |
12+25       3.3232      6.06  Q    V    |          |          |          |
12+30       3.3652      6.10  Q    V    |          |          |          |
12+35       3.4075      6.15  Q    V    |          |          |          |
12+40       3.4504      6.22  Q    V    |          |          |          |
12+45       3.4938      6.30  Q    V    |          |          |          |
12+50       3.5378      6.39  Q    V    |          |          |          |
12+55       3.5826      6.49  Q    V    |          |          |          |
13+ 0       3.6280      6.60  Q    V    |          |          |          |
13+ 5       3.6742      6.71  Q     V   |          |          |          |
13+10       3.7212      6.82  Q     V   |          |          |          |
13+15       3.7690      6.95  Q     V   |          |          |          |
13+20       3.8178      7.08  Q     V   |          |          |          |
13+25       3.8675      7.22  Q     V   |          |          |          |
13+30       3.9183      7.37  Q     V   |          |          |          |
13+35       3.9700      7.52  |Q    V   |          |          |          |
13+40       4.0230      7.68  |Q    V   |          |          |          |
13+45       4.0771      7.86  |Q    V   |          |          |          |
13+50       4.1324      8.04  |Q    V   |          |          |          |
13+55       4.1891      8.23  |Q    V   |          |          |          |
14+ 0       4.2472      8.43  |Q    V   |          |          |          |
14+ 5       4.3068      8.65  |Q     V  |          |          |          |
14+10       4.3680      8.89  |Q     V  |          |          |          |
14+15       4.4310      9.15  |Q     V  |          |          |          |
14+20       4.4960      9.43  |Q     V  |          |          |          |
14+25       4.5632      9.76  |Q     V  |          |          |          |
14+30       4.6327     10.10  |Q     V  |          |          |          |
14+35       4.7047     10.46  |Q     V  |          |          |          |
14+40       4.7793     10.83  |Q     V  |          |          |          |
14+45       4.8567     11.23  |Q     V  |          |          |          |
14+50       4.9371     11.67  |Q      V |          |          |          |
14+55       5.0207     12.14  |Q      V |          |          |          |
15+ 0       5.1078     12.65  |Q      V |          |          |          |
15+ 5       5.1989     13.22  |Q      V |          |          |          |
15+10       5.2942     13.85  |Q      V |          |          |          |
15+15       5.3945     14.55  |Q      V |          |          |          |
15+20       5.5001     15.34  | Q      V|          |          |          |
15+25       5.6128     16.36  | Q      V|          |          |          |
15+30       5.7350     17.75  | Q      V|          |          |          |
15+35       5.8700     19.61  | Q      V|          |          |          |
15+40       6.0231     22.23  | Q      V|          |          |          |
15+45       6.2045     26.33  |  Q      V          |          |          |
15+50       6.4199     31.29  |   Q     V          |          |          |
15+55       6.6765     37.26  |   Q     V          |          |          |
```

16+ 0	6.9896	45.46	
16+ 5	7.4244	63.14	
16+10	8.0543	91.46	
16+15	8.8962	122.25	
16+20	10.0423	166.41	
16+25	11.6332	231.00	
16+30	13.1893	225.95	
16+35	14.4294	180.06	
16+40	15.4100	142.39	
16+45	16.1867	112.77	
16+50	16.8373	94.48	
16+55	17.3999	81.69	
17+ 0	17.8847	70.40	
17+ 5	18.3177	62.87	
17+10	18.6966	55.01	
17+15	19.0390	49.72	
17+20	19.3499	45.13	
17+25	19.6360	41.55	
17+30	19.8996	38.28	
17+35	20.1386	34.70	
17+40	20.3517	30.94	
17+45	20.5487	28.60	
17+50	20.7340	26.91	
17+55	20.9064	25.02	
18+ 0	21.0681	23.48	
18+ 5	21.2199	22.04	
18+10	21.3597	20.30	
18+15	21.4895	18.85	
18+20	21.6141	18.09	
18+25	21.7305	16.91	
18+30	21.8382	15.63	
18+35	21.9416	15.02	
18+40	22.0382	14.03	
18+45	22.1258	12.72	
18+50	22.2096	12.17	
18+55	22.2880	11.38	
19+ 0	22.3579	10.14	
19+ 5	22.4253	9.79	
19+10	22.4915	9.61	
19+15	22.5578	9.63	
19+20	22.6230	9.46	
19+25	22.6867	9.24	
19+30	22.7486	9.00	
19+35	22.8086	8.71	
19+40	22.8658	8.31	
19+45	22.9165	7.37	
19+50	22.9639	6.88	
19+55	23.0093	6.59	
20+ 0	23.0525	6.27	
20+ 5	23.0904	5.50	
20+10	23.1235	4.81	
20+15	23.1553	4.63	
20+20	23.1862	4.48	
20+25	23.2163	4.37	
20+30	23.2457	4.27	
20+35	23.2745	4.18	
20+40	23.3027	4.09	
20+45	23.3303	4.01	
20+50	23.3574	3.94	

20+55	23.3841	3.87	Q	|	|	|	V |
21+ 0	23.4102	3.80	Q	|	|	|	V |
21+ 5	23.4359	3.73	Q	|	|	|	V |
21+10	23.4612	3.67	Q	|	|	|	V |
21+15	23.4860	3.61	Q	|	|	|	V |
21+20	23.5105	3.55	Q	|	|	|	V |
21+25	23.5346	3.50	Q	|	|	|	V |
21+30	23.5583	3.44	Q	|	|	|	V |
21+35	23.5817	3.39	Q	|	|	|	V |
21+40	23.6047	3.34	Q	|	|	|	V |
21+45	23.6274	3.30	Q	|	|	|	V |
21+50	23.6498	3.25	Q	|	|	|	V |
21+55	23.6719	3.21	Q	|	|	|	V |
22+ 0	23.6937	3.16	Q	|	|	|	V|
22+ 5	23.7152	3.12	Q	|	|	|	V|
22+10	23.7364	3.08	Q	|	|	|	V|
22+15	23.7573	3.04	Q	|	|	|	V|
22+20	23.7780	3.00	Q	|	|	|	V|
22+25	23.7984	2.96	Q	|	|	|	V|
22+30	23.8186	2.93	Q	|	|	|	V|
22+35	23.8385	2.89	Q	|	|	|	V|
22+40	23.8582	2.86	Q	|	|	|	V|
22+45	23.8776	2.83	Q	|	|	|	V|
22+50	23.8969	2.79	Q	|	|	|	V|
22+55	23.9159	2.76	Q	|	|	|	V|
23+ 0	23.9347	2.73	Q	|	|	|	V|
23+ 5	23.9533	2.70	Q	|	|	|	V|
23+10	23.9717	2.67	Q	|	|	|	V|
23+15	23.9899	2.64	Q	|	|	|	V|
23+20	24.0079	2.62	Q	|	|	|	V|
23+25	24.0257	2.59	Q	|	|	|	V|
23+30	24.0434	2.56	Q	|	|	|	V|
23+35	24.0608	2.54	Q	|	|	|	V|
23+40	24.0781	2.51	Q	|	|	|	V|
23+45	24.0952	2.49	Q	|	|	|	V|
23+50	24.1122	2.46	Q	|	|	|	V|
23+55	24.1290	2.44	Q	|	|	|	V|
24+ 0	24.1456	2.41	Q	|	|	|	V|
24+ 5	24.1620	2.38	Q	|	|	|	V|
24+10	24.1778	2.30	Q	|	|	|	V|
24+15	24.1929	2.19	Q	|	|	|	V|
24+20	24.2068	2.01	Q	|	|	|	V|
24+25	24.2184	1.69	Q	|	|	|	V|
24+30	24.2279	1.37	Q	|	|	|	V|
24+35	24.2357	1.14	Q	|	|	|	V|
24+40	24.2424	0.97	Q	|	|	|	V|
24+45	24.2482	0.84	Q	|	|	|	V|
24+50	24.2534	0.74	Q	|	|	|	V|
24+55	24.2579	0.66	Q	|	|	|	V|
25+ 0	24.2619	0.58	Q	|	|	|	V|
25+ 5	24.2655	0.52	Q	|	|	|	V|
25+10	24.2687	0.47	Q	|	|	|	V|
25+15	24.2716	0.42	Q	|	|	|	V|
25+20	24.2742	0.38	Q	|	|	|	V|
25+25	24.2766	0.34	Q	|	|	|	V|
25+30	24.2787	0.31	Q	|	|	|	V|
25+35	24.2806	0.28	Q	|	|	|	V|
25+40	24.2823	0.25	Q	|	|	|	V|
25+45	24.2839	0.23	Q	|	|	|	V|

25+50	24.2853	0.21	Q	|	|	|	V|
25+55	24.2866	0.19	Q	|	|	|	V|
26+ 0	24.2878	0.17	Q	|	|	|	V|
26+ 5	24.2888	0.15	Q	|	|	|	V|
26+10	24.2897	0.14	Q	|	|	|	V|
26+15	24.2906	0.12	Q	|	|	|	V|
26+20	24.2913	0.11	Q	|	|	|	V|
26+25	24.2920	0.10	Q	|	|	|	V|
26+30	24.2926	0.09	Q	|	|	|	V|
26+35	24.2931	0.08	Q	|	|	|	V|
26+40	24.2936	0.07	Q	|	|	|	V|
26+45	24.2941	0.06	Q	|	|	|	V|
26+50	24.2944	0.06	Q	|	|	|	V|
26+55	24.2948	0.05	Q	|	|	|	V|
27+ 0	24.2951	0.04	Q	|	|	|	V|
27+ 5	24.2954	0.04	Q	|	|	|	V|
27+10	24.2956	0.04	Q	|	|	|	V|
27+15	24.2958	0.03	Q	|	|	|	V|
27+20	24.2960	0.03	Q	|	|	|	V|
27+25	24.2962	0.02	Q	|	|	|	V|
27+30	24.2963	0.02	Q	|	|	|	V|
27+35	24.2964	0.01	Q	|	|	|	V|
27+40	24.2965	0.01	Q	|	|	|	V|
27+45	24.2966	0.01	Q	|	|	|	V|
27+50	24.2966	0.01	Q	|	|	|	V|
27+55	24.2966	0.00	Q	|	|	|	V|
28+ 0	24.2966	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0

Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 18
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
48.06	1	1.33
Rainfall data for year 100		
48.06	6	1.84
Rainfall data for year 100		
48.06	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.6	89.9	48.06	1.000	0.195	0.928	0.181

Area-averaged adjusted loss rate Fm (In/Hr) = 0.181

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
44.60	0.928	73.6	89.9	1.13	0.606
3.46	0.072	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.628
Area-averaged low loss fraction, Yb = 0.372
User entry of time of concentration = 0.370 (hours)
++
Watershed area = 48.06(Ac.)
Catchment Lag time = 0.296 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 28.1532
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.181(In/Hr)
Average low loss rate fraction (Yb) = 0.372 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.631(In)
Computed peak 30-minute rainfall = 1.080(In)
Specified peak 1-hour rainfall = 1.330(In)
Computed peak 3-hour rainfall = 1.623(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 48.06(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998 Adjusted rainfall = 0.630(In)
30-minute factor = 0.998 Adjusted rainfall = 1.078(In)
1-hour factor = 0.998 Adjusted rainfall = 1.327(In)
3-hour factor = 1.000 Adjusted rainfall = 1.622(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 581.23 (CFS))	
1	1.601	9.305
2	8.240	38.590
3	26.567	106.517
4	48.689	128.578
5	61.622	75.171
6	69.597	46.352
7	75.378	33.606
8	79.766	25.502
9	83.142	19.622
10	85.964	16.399
11	88.315	13.669
12	90.114	10.454
13	91.671	9.049

14	93.017	7.825
15	94.173	6.720
16	95.137	5.599
17	95.978	4.888
18	96.703	4.217
19	97.275	3.323
20	97.758	2.804
21	98.071	1.824
22	98.366	1.714
23	98.701	1.948
24	99.039	1.964
25	99.376	1.955
26	99.612	1.374
27	99.788	1.023
28	100.000	0.511

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6297	0.6297
2	0.7752	0.1455
3	0.8755	0.1003
4	0.9544	0.0789
5	1.0205	0.0661
6	1.0779	0.0574
7	1.1289	0.0510
8	1.1750	0.0461
9	1.2173	0.0423
10	1.2564	0.0391
11	1.2928	0.0364
12	1.3270	0.0342
13	1.3466	0.0196
14	1.3650	0.0184
15	1.3823	0.0173
16	1.3987	0.0164
17	1.4143	0.0156
18	1.4292	0.0149
19	1.4434	0.0142
20	1.4570	0.0136
21	1.4701	0.0131
22	1.4826	0.0126
23	1.4947	0.0121
24	1.5064	0.0117
25	1.5177	0.0113
26	1.5286	0.0109
27	1.5392	0.0106
28	1.5495	0.0103
29	1.5595	0.0100
30	1.5692	0.0097
31	1.5786	0.0094
32	1.5878	0.0092
33	1.5968	0.0090
34	1.6055	0.0087
35	1.6141	0.0085
36	1.6224	0.0083
37	1.6305	0.0081
38	1.6384	0.0079
39	1.6461	0.0077
40	1.6537	0.0076
41	1.6611	0.0074

42	1.6684	0.0073
43	1.6755	0.0071
44	1.6825	0.0070
45	1.6894	0.0069
46	1.6962	0.0067
47	1.7028	0.0066
48	1.7093	0.0065
49	1.7157	0.0064
50	1.7220	0.0063
51	1.7282	0.0062
52	1.7343	0.0061
53	1.7403	0.0060
54	1.7462	0.0059
55	1.7520	0.0058
56	1.7578	0.0057
57	1.7634	0.0057
58	1.7690	0.0056
59	1.7745	0.0055
60	1.7799	0.0054
61	1.7852	0.0053
62	1.7905	0.0053
63	1.7957	0.0052
64	1.8008	0.0051
65	1.8059	0.0051
66	1.8109	0.0050
67	1.8159	0.0049
68	1.8208	0.0049
69	1.8256	0.0048
70	1.8303	0.0048
71	1.8351	0.0047
72	1.8397	0.0047
73	1.8452	0.0055
74	1.8506	0.0054
75	1.8560	0.0054
76	1.8613	0.0053
77	1.8665	0.0052
78	1.8717	0.0052
79	1.8769	0.0051
80	1.8819	0.0051
81	1.8870	0.0050
82	1.8920	0.0050
83	1.8969	0.0049
84	1.9018	0.0049
85	1.9067	0.0049
86	1.9115	0.0048
87	1.9163	0.0048
88	1.9210	0.0047
89	1.9257	0.0047
90	1.9303	0.0046
91	1.9349	0.0046
92	1.9395	0.0046
93	1.9440	0.0045
94	1.9485	0.0045
95	1.9529	0.0044
96	1.9573	0.0044
97	1.9617	0.0044
98	1.9660	0.0043
99	1.9703	0.0043
100	1.9746	0.0043

101	1.9788	0.0042
102	1.9830	0.0042
103	1.9872	0.0042
104	1.9914	0.0041
105	1.9955	0.0041
106	1.9995	0.0041
107	2.0036	0.0040
108	2.0076	0.0040
109	2.0116	0.0040
110	2.0156	0.0040
111	2.0195	0.0039
112	2.0234	0.0039
113	2.0273	0.0039
114	2.0311	0.0039
115	2.0350	0.0038
116	2.0387	0.0038
117	2.0425	0.0038
118	2.0463	0.0037
119	2.0500	0.0037
120	2.0537	0.0037
121	2.0574	0.0037
122	2.0610	0.0037
123	2.0646	0.0036
124	2.0682	0.0036
125	2.0718	0.0036
126	2.0754	0.0036
127	2.0789	0.0035
128	2.0824	0.0035
129	2.0859	0.0035
130	2.0894	0.0035
131	2.0929	0.0035
132	2.0963	0.0034
133	2.0997	0.0034
134	2.1031	0.0034
135	2.1065	0.0034
136	2.1098	0.0034
137	2.1131	0.0033
138	2.1165	0.0033
139	2.1197	0.0033
140	2.1230	0.0033
141	2.1263	0.0033
142	2.1295	0.0032
143	2.1327	0.0032
144	2.1359	0.0032
145	2.1391	0.0032
146	2.1423	0.0032
147	2.1454	0.0032
148	2.1486	0.0031
149	2.1517	0.0031
150	2.1548	0.0031
151	2.1579	0.0031
152	2.1610	0.0031
153	2.1640	0.0031
154	2.1671	0.0030
155	2.1701	0.0030
156	2.1731	0.0030
157	2.1761	0.0030
158	2.1791	0.0030
159	2.1820	0.0030

160	2.1850	0.0029
161	2.1879	0.0029
162	2.1908	0.0029
163	2.1937	0.0029
164	2.1966	0.0029
165	2.1995	0.0029
166	2.2024	0.0029
167	2.2052	0.0029
168	2.2080	0.0028
169	2.2109	0.0028
170	2.2137	0.0028
171	2.2165	0.0028
172	2.2193	0.0028
173	2.2220	0.0028
174	2.2248	0.0028
175	2.2275	0.0027
176	2.2303	0.0027
177	2.2330	0.0027
178	2.2357	0.0027
179	2.2384	0.0027
180	2.2411	0.0027
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182	2.2464	0.0027
183	2.2491	0.0027
184	2.2517	0.0026
185	2.2544	0.0026
186	2.2570	0.0026
187	2.2596	0.0026
188	2.2622	0.0026
189	2.2648	0.0026
190	2.2674	0.0026
191	2.2699	0.0026
192	2.2725	0.0026
193	2.2750	0.0025
194	2.2776	0.0025
195	2.2801	0.0025
196	2.2826	0.0025
197	2.2851	0.0025
198	2.2876	0.0025
199	2.2901	0.0025
200	2.2925	0.0025
201	2.2950	0.0025
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204	2.3023	0.0024
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206	2.3072	0.0024
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208	2.3120	0.0024
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224	2.3492	0.0023
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226	2.3537	0.0022
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230	2.3626	0.0022
231	2.3648	0.0022
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269	2.4437	0.0020
270	2.4456	0.0020
271	2.4476	0.0019
272	2.4495	0.0019
273	2.4514	0.0019
274	2.4534	0.0019
275	2.4553	0.0019
276	2.4572	0.0019
277	2.4591	0.0019

278	2.4610	0.0019
279	2.4630	0.0019
280	2.4649	0.0019
281	2.4667	0.0019
282	2.4686	0.0019
283	2.4705	0.0019
284	2.4724	0.0019
285	2.4743	0.0019
286	2.4761	0.0019
287	2.4780	0.0019
288	2.4799	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0007	0.0012
2	0.0019	0.0007	0.0012
3	0.0019	0.0007	0.0012
4	0.0019	0.0007	0.0012
5	0.0019	0.0007	0.0012
6	0.0019	0.0007	0.0012
7	0.0019	0.0007	0.0012
8	0.0019	0.0007	0.0012
9	0.0019	0.0007	0.0012
10	0.0019	0.0007	0.0012
11	0.0019	0.0007	0.0012
12	0.0019	0.0007	0.0012
13	0.0020	0.0007	0.0012
14	0.0020	0.0007	0.0012
15	0.0020	0.0007	0.0012
16	0.0020	0.0007	0.0012
17	0.0020	0.0007	0.0012
18	0.0020	0.0007	0.0013
19	0.0020	0.0007	0.0013
20	0.0020	0.0007	0.0013
21	0.0020	0.0008	0.0013
22	0.0020	0.0008	0.0013
23	0.0020	0.0008	0.0013
24	0.0020	0.0008	0.0013
25	0.0021	0.0008	0.0013
26	0.0021	0.0008	0.0013
27	0.0021	0.0008	0.0013
28	0.0021	0.0008	0.0013
29	0.0021	0.0008	0.0013
30	0.0021	0.0008	0.0013
31	0.0021	0.0008	0.0013
32	0.0021	0.0008	0.0013
33	0.0021	0.0008	0.0013
34	0.0022	0.0008	0.0014
35	0.0022	0.0008	0.0014
36	0.0022	0.0008	0.0014
37	0.0022	0.0008	0.0014
38	0.0022	0.0008	0.0014
39	0.0022	0.0008	0.0014
40	0.0022	0.0008	0.0014
41	0.0022	0.0008	0.0014
42	0.0022	0.0008	0.0014
43	0.0023	0.0008	0.0014

44	0.0023	0.0008	0.0014
45	0.0023	0.0008	0.0014
46	0.0023	0.0009	0.0014
47	0.0023	0.0009	0.0014
48	0.0023	0.0009	0.0015
49	0.0023	0.0009	0.0015
50	0.0023	0.0009	0.0015
51	0.0024	0.0009	0.0015
52	0.0024	0.0009	0.0015
53	0.0024	0.0009	0.0015
54	0.0024	0.0009	0.0015
55	0.0024	0.0009	0.0015
56	0.0024	0.0009	0.0015
57	0.0024	0.0009	0.0015
58	0.0024	0.0009	0.0015
59	0.0025	0.0009	0.0015
60	0.0025	0.0009	0.0016
61	0.0025	0.0009	0.0016
62	0.0025	0.0009	0.0016
63	0.0025	0.0009	0.0016
64	0.0025	0.0009	0.0016
65	0.0026	0.0010	0.0016
66	0.0026	0.0010	0.0016
67	0.0026	0.0010	0.0016
68	0.0026	0.0010	0.0016
69	0.0026	0.0010	0.0016
70	0.0026	0.0010	0.0017
71	0.0027	0.0010	0.0017
72	0.0027	0.0010	0.0017
73	0.0027	0.0010	0.0017
74	0.0027	0.0010	0.0017
75	0.0027	0.0010	0.0017
76	0.0027	0.0010	0.0017
77	0.0028	0.0010	0.0017
78	0.0028	0.0010	0.0017
79	0.0028	0.0010	0.0018
80	0.0028	0.0010	0.0018
81	0.0028	0.0011	0.0018
82	0.0029	0.0011	0.0018
83	0.0029	0.0011	0.0018
84	0.0029	0.0011	0.0018
85	0.0029	0.0011	0.0018
86	0.0029	0.0011	0.0018
87	0.0030	0.0011	0.0019
88	0.0030	0.0011	0.0019
89	0.0030	0.0011	0.0019
90	0.0030	0.0011	0.0019
91	0.0031	0.0011	0.0019
92	0.0031	0.0011	0.0019
93	0.0031	0.0012	0.0019
94	0.0031	0.0012	0.0020
95	0.0032	0.0012	0.0020
96	0.0032	0.0012	0.0020
97	0.0032	0.0012	0.0020
98	0.0032	0.0012	0.0020
99	0.0033	0.0012	0.0020
100	0.0033	0.0012	0.0021
101	0.0033	0.0012	0.0021
102	0.0033	0.0012	0.0021

103	0.0034	0.0013	0.0021
104	0.0034	0.0013	0.0021
105	0.0034	0.0013	0.0022
106	0.0035	0.0013	0.0022
107	0.0035	0.0013	0.0022
108	0.0035	0.0013	0.0022
109	0.0036	0.0013	0.0022
110	0.0036	0.0013	0.0022
111	0.0036	0.0013	0.0023
112	0.0037	0.0014	0.0023
113	0.0037	0.0014	0.0023
114	0.0037	0.0014	0.0023
115	0.0038	0.0014	0.0024
116	0.0038	0.0014	0.0024
117	0.0039	0.0014	0.0024
118	0.0039	0.0014	0.0024
119	0.0039	0.0015	0.0025
120	0.0040	0.0015	0.0025
121	0.0040	0.0015	0.0025
122	0.0040	0.0015	0.0025
123	0.0041	0.0015	0.0026
124	0.0041	0.0015	0.0026
125	0.0042	0.0016	0.0026
126	0.0042	0.0016	0.0027
127	0.0043	0.0016	0.0027
128	0.0043	0.0016	0.0027
129	0.0044	0.0016	0.0028
130	0.0044	0.0017	0.0028
131	0.0045	0.0017	0.0028
132	0.0046	0.0017	0.0029
133	0.0046	0.0017	0.0029
134	0.0047	0.0017	0.0029
135	0.0048	0.0018	0.0030
136	0.0048	0.0018	0.0030
137	0.0049	0.0018	0.0031
138	0.0049	0.0018	0.0031
139	0.0050	0.0019	0.0032
140	0.0051	0.0019	0.0032
141	0.0052	0.0019	0.0033
142	0.0052	0.0020	0.0033
143	0.0054	0.0020	0.0034
144	0.0054	0.0020	0.0034
145	0.0047	0.0017	0.0029
146	0.0047	0.0018	0.0030
147	0.0048	0.0018	0.0030
148	0.0049	0.0018	0.0031
149	0.0050	0.0019	0.0031
150	0.0051	0.0019	0.0032
151	0.0052	0.0019	0.0033
152	0.0053	0.0020	0.0033
153	0.0054	0.0020	0.0034
154	0.0055	0.0020	0.0034
155	0.0057	0.0021	0.0035
156	0.0057	0.0021	0.0036
157	0.0059	0.0022	0.0037
158	0.0060	0.0022	0.0038
159	0.0062	0.0023	0.0039
160	0.0063	0.0023	0.0040
161	0.0065	0.0024	0.0041

162	0.0066	0.0025	0.0042
163	0.0069	0.0026	0.0043
164	0.0070	0.0026	0.0044
165	0.0073	0.0027	0.0046
166	0.0074	0.0028	0.0047
167	0.0077	0.0029	0.0049
168	0.0079	0.0029	0.0050
169	0.0083	0.0031	0.0052
170	0.0085	0.0032	0.0054
171	0.0090	0.0033	0.0056
172	0.0092	0.0034	0.0058
173	0.0097	0.0036	0.0061
174	0.0100	0.0037	0.0063
175	0.0106	0.0039	0.0067
176	0.0109	0.0041	0.0069
177	0.0117	0.0043	0.0073
178	0.0121	0.0045	0.0076
179	0.0131	0.0049	0.0082
180	0.0136	0.0051	0.0085
181	0.0149	0.0055	0.0093
182	0.0156	0.0058	0.0098
183	0.0173	0.0064	0.0109
184	0.0184	0.0068	0.0115
185	0.0342	0.0127	0.0215
186	0.0364	0.0136	0.0229
187	0.0423	0.0150	0.0272
188	0.0461	0.0150	0.0311
189	0.0574	0.0150	0.0423
190	0.0661	0.0150	0.0510
191	0.1003	0.0150	0.0852
192	0.1455	0.0150	0.1305
193	0.6297	0.0150	0.6146
194	0.0789	0.0150	0.0639
195	0.0510	0.0150	0.0360
196	0.0391	0.0145	0.0246
197	0.0196	0.0073	0.0123
198	0.0164	0.0061	0.0103
199	0.0142	0.0053	0.0089
200	0.0126	0.0047	0.0079
201	0.0113	0.0042	0.0071
202	0.0103	0.0038	0.0065
203	0.0094	0.0035	0.0059
204	0.0087	0.0033	0.0055
205	0.0081	0.0030	0.0051
206	0.0076	0.0028	0.0048
207	0.0071	0.0027	0.0045
208	0.0067	0.0025	0.0042
209	0.0064	0.0024	0.0040
210	0.0061	0.0023	0.0038
211	0.0058	0.0022	0.0037
212	0.0056	0.0021	0.0035
213	0.0053	0.0020	0.0034
214	0.0051	0.0019	0.0032
215	0.0049	0.0018	0.0031
216	0.0048	0.0018	0.0030
217	0.0055	0.0020	0.0034
218	0.0053	0.0020	0.0033
219	0.0051	0.0019	0.0032
220	0.0050	0.0019	0.0031

221	0.0049	0.0018	0.0030
222	0.0047	0.0018	0.0030
223	0.0046	0.0017	0.0029
224	0.0045	0.0017	0.0028
225	0.0044	0.0016	0.0027
226	0.0043	0.0016	0.0027
227	0.0042	0.0016	0.0026
228	0.0041	0.0015	0.0026
229	0.0040	0.0015	0.0025
230	0.0039	0.0015	0.0025
231	0.0038	0.0014	0.0024
232	0.0037	0.0014	0.0024
233	0.0037	0.0014	0.0023
234	0.0036	0.0013	0.0023
235	0.0035	0.0013	0.0022
236	0.0035	0.0013	0.0022
237	0.0034	0.0013	0.0021
238	0.0034	0.0012	0.0021
239	0.0033	0.0012	0.0021
240	0.0032	0.0012	0.0020
241	0.0032	0.0012	0.0020
242	0.0031	0.0012	0.0020
243	0.0031	0.0011	0.0019
244	0.0030	0.0011	0.0019
245	0.0030	0.0011	0.0019
246	0.0029	0.0011	0.0019
247	0.0029	0.0011	0.0018
248	0.0029	0.0011	0.0018
249	0.0028	0.0011	0.0018
250	0.0028	0.0010	0.0017
251	0.0027	0.0010	0.0017
252	0.0027	0.0010	0.0017
253	0.0027	0.0010	0.0017
254	0.0026	0.0010	0.0017
255	0.0026	0.0010	0.0016
256	0.0026	0.0010	0.0016
257	0.0025	0.0009	0.0016
258	0.0025	0.0009	0.0016
259	0.0025	0.0009	0.0016
260	0.0025	0.0009	0.0015
261	0.0024	0.0009	0.0015
262	0.0024	0.0009	0.0015
263	0.0024	0.0009	0.0015
264	0.0023	0.0009	0.0015
265	0.0023	0.0009	0.0015
266	0.0023	0.0009	0.0014
267	0.0023	0.0008	0.0014
268	0.0022	0.0008	0.0014
269	0.0022	0.0008	0.0014
270	0.0022	0.0008	0.0014
271	0.0022	0.0008	0.0014
272	0.0022	0.0008	0.0014
273	0.0021	0.0008	0.0013
274	0.0021	0.0008	0.0013
275	0.0021	0.0008	0.0013
276	0.0021	0.0008	0.0013
277	0.0021	0.0008	0.0013
278	0.0020	0.0008	0.0013
279	0.0020	0.0008	0.0013

280	0.0020	0.0007	0.0013
281	0.0020	0.0007	0.0012
282	0.0020	0.0007	0.0012
283	0.0019	0.0007	0.0012
284	0.0019	0.0007	0.0012
285	0.0019	0.0007	0.0012
286	0.0019	0.0007	0.0012
287	0.0019	0.0007	0.0012
288	0.0019	0.0007	0.0012

Total soil rain loss = 0.60(In)
Total effective rainfall = 1.87(In)
Peak flow rate in flood hydrograph = 106.10(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q				
0+10	0.0005	0.06	Q				
0+15	0.0017	0.18	Q				
0+20	0.0040	0.33	Q				
0+25	0.0069	0.42	Q				
0+30	0.0101	0.48	Q				
0+35	0.0137	0.52	Q				
0+40	0.0175	0.55	Q				
0+45	0.0214	0.57	Q				
0+50	0.0255	0.60	Q				
0+55	0.0298	0.61	Q				
1+ 0	0.0341	0.63	Q				
1+ 5	0.0385	0.64	Q				
1+10	0.0430	0.65	Q				
1+15	0.0476	0.66	Q				
1+20	0.0522	0.67	Q				
1+25	0.0569	0.68	Q				
1+30	0.0617	0.69	Q				
1+35	0.0665	0.70	Q				
1+40	0.0713	0.70	Q				
1+45	0.0762	0.71	Q				
1+50	0.0811	0.71	Q				
1+55	0.0861	0.72	Q				
2+ 0	0.0911	0.72	Q				
2+ 5	0.0961	0.73	Q				
2+10	0.1012	0.74	Q				
2+15	0.1063	0.74	Q				
2+20	0.1114	0.74	Q				
2+25	0.1165	0.75	Q				
2+30	0.1217	0.75	Q				
2+35	0.1269	0.75	Q				
2+40	0.1321	0.76	Q				
2+45	0.1374	0.76	Q				
2+50	0.1427	0.77	Q				
2+55	0.1479	0.77	Q				

3+ 0	0.1533	0.77	Q				
3+ 5	0.1586	0.78	Q				
3+10	0.1640	0.78	Q				
3+15	0.1694	0.78	Q				
3+20	0.1748	0.79	Q				
3+25	0.1803	0.79	Q				
3+30	0.1858	0.80	Q				
3+35	0.1913	0.80	QV				
3+40	0.1968	0.80	QV				
3+45	0.2024	0.81	QV				
3+50	0.2080	0.81	QV				
3+55	0.2136	0.82	QV				
4+ 0	0.2192	0.82	QV				
4+ 5	0.2249	0.83	QV				
4+10	0.2306	0.83	QV				
4+15	0.2364	0.83	QV				
4+20	0.2422	0.84	QV				
4+25	0.2480	0.84	QV				
4+30	0.2538	0.85	QV				
4+35	0.2597	0.85	QV				
4+40	0.2656	0.86	QV				
4+45	0.2715	0.86	QV				
4+50	0.2775	0.87	QV				
4+55	0.2835	0.87	QV				
5+ 0	0.2895	0.88	QV				
5+ 5	0.2956	0.88	QV				
5+10	0.3017	0.89	QV				
5+15	0.3078	0.89	QV				
5+20	0.3140	0.90	QV				
5+25	0.3202	0.90	QV				
5+30	0.3265	0.91	QV				
5+35	0.3328	0.91	QV				
5+40	0.3391	0.92	QV				
5+45	0.3455	0.92	QV				
5+50	0.3519	0.93	QV				
5+55	0.3583	0.94	QV				
6+ 0	0.3648	0.94	QV				
6+ 5	0.3713	0.95	QV				
6+10	0.3779	0.95	Q V				
6+15	0.3845	0.96	Q V				
6+20	0.3911	0.97	Q V				
6+25	0.3978	0.97	Q V				
6+30	0.4046	0.98	Q V				
6+35	0.4113	0.98	Q V				
6+40	0.4182	0.99	Q V				
6+45	0.4250	1.00	Q V				
6+50	0.4320	1.00	Q V				
6+55	0.4389	1.01	Q V				
7+ 0	0.4459	1.02	Q V				
7+ 5	0.4530	1.03	Q V				
7+10	0.4601	1.03	Q V				
7+15	0.4673	1.04	Q V				
7+20	0.4745	1.05	Q V				
7+25	0.4818	1.06	Q V				
7+30	0.4891	1.06	Q V				
7+35	0.4965	1.07	Q V				
7+40	0.5039	1.08	Q V				
7+45	0.5114	1.09	Q V				
7+50	0.5189	1.09	Q V				

7+55	0.5265	1.10	Q V	|	|	|	|
8+ 0	0.5342	1.11	Q V	|	|	|	|
8+ 5	0.5419	1.12	Q V	|	|	|	|
8+10	0.5496	1.13	Q V	|	|	|	|
8+15	0.5575	1.14	Q V	|	|	|	|
8+20	0.5654	1.15	Q V	|	|	|	|
8+25	0.5733	1.16	Q V	|	|	|	|
8+30	0.5814	1.17	Q V	|	|	|	|
8+35	0.5895	1.18	Q V	|	|	|	|
8+40	0.5976	1.19	Q V	|	|	|	|
8+45	0.6059	1.20	Q V	|	|	|	|
8+50	0.6142	1.21	Q V	|	|	|	|
8+55	0.6225	1.22	Q V	|	|	|	|
9+ 0	0.6310	1.23	Q V	|	|	|	|
9+ 5	0.6395	1.24	Q V	|	|	|	|
9+10	0.6481	1.25	Q V	|	|	|	|
9+15	0.6568	1.26	Q V	|	|	|	|
9+20	0.6655	1.27	Q V	|	|	|	|
9+25	0.6744	1.28	Q V	|	|	|	|
9+30	0.6833	1.30	Q V	|	|	|	|
9+35	0.6923	1.31	Q V	|	|	|	|
9+40	0.7014	1.32	Q V	|	|	|	|
9+45	0.7106	1.33	Q V	|	|	|	|
9+50	0.7198	1.35	Q V	|	|	|	|
9+55	0.7292	1.36	Q V	|	|	|	|
10+ 0	0.7387	1.37	Q V	|	|	|	|
10+ 5	0.7482	1.39	Q V	|	|	|	|
10+10	0.7579	1.40	Q V	|	|	|	|
10+15	0.7676	1.42	Q V	|	|	|	|
10+20	0.7775	1.43	Q V	|	|	|	|
10+25	0.7874	1.45	Q V	|	|	|	|
10+30	0.7975	1.46	Q V	|	|	|	|
10+35	0.8077	1.48	Q V	|	|	|	|
10+40	0.8180	1.50	Q V	|	|	|	|
10+45	0.8284	1.51	Q V	|	|	|	|
10+50	0.8389	1.53	Q V	|	|	|	|
10+55	0.8496	1.55	Q V	|	|	|	|
11+ 0	0.8604	1.57	Q V	|	|	|	|
11+ 5	0.8713	1.59	Q V	|	|	|	|
11+10	0.8824	1.60	Q V	|	|	|	|
11+15	0.8935	1.62	Q V	|	|	|	|
11+20	0.9049	1.65	Q V	|	|	|	|
11+25	0.9164	1.67	Q V	|	|	|	|
11+30	0.9280	1.69	Q V	|	|	|	|
11+35	0.9398	1.71	Q V	|	|	|	|
11+40	0.9517	1.73	Q V	|	|	|	|
11+45	0.9638	1.76	Q V	|	|	|	|
11+50	0.9761	1.78	Q V	|	|	|	|
11+55	0.9886	1.81	Q V	|	|	|	|
12+ 0	1.0012	1.84	Q V	|	|	|	|
12+ 5	1.0140	1.86	Q V	|	|	|	|
12+10	1.0269	1.86	Q V	|	|	|	|
12+15	1.0395	1.84	Q V	|	|	|	|
12+20	1.0519	1.79	Q V	|	|	|	|
12+25	1.0641	1.78	Q V	|	|	|	|
12+30	1.0764	1.79	Q V	|	|	|	|
12+35	1.0888	1.80	Q V	|	|	|	|
12+40	1.1014	1.82	Q V	|	|	|	|
12+45	1.1140	1.84	Q V	|	|	|	|

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12+50       1.1269      1.87  Q     V   |          |          |          |
12+55       1.1399      1.89  Q     V   |          |          |          |
13+ 0       1.1532      1.93  Q     V   |          |          |          |
13+ 5       1.1667      1.96  Q     V   |          |          |          |
13+10       1.1804      2.00  Q     V   |          |          |          |
13+15       1.1944      2.03  Q     V   |          |          |          |
13+20       1.2087      2.08  Q     V   |          |          |          |
13+25       1.2233      2.12  Q     V   |          |          |          |
13+30       1.2382      2.17  Q     V   |          |          |          |
13+35       1.2535      2.22  Q     V   |          |          |          |
13+40       1.2691      2.27  Q     V   |          |          |          |
13+45       1.2851      2.32  Q     V   |          |          |          |
13+50       1.3015      2.38  Q     V   |          |          |          |
13+55       1.3184      2.45  Q      V  |          |          |          |
14+ 0       1.3357      2.51  Q      V  |          |          |          |
14+ 5       1.3535      2.59  Q      V  |          |          |          |
14+10       1.3719      2.67  Q      V  |          |          |          |
14+15       1.3909      2.75  Q      V  |          |          |          |
14+20       1.4105      2.85  Q      V  |          |          |          |
14+25       1.4308      2.95  Q      V  |          |          |          |
14+30       1.4518      3.06  Q      V  |          |          |          |
14+35       1.4737      3.17  Q      V  |          |          |          |
14+40       1.4963      3.29  Q      V  |          |          |          |
14+45       1.5200      3.43  Q       V |          |          |          |
14+50       1.5446      3.58  Q       V |          |          |          |
14+55       1.5704      3.74  Q       V |          |          |          |
15+ 0       1.5974      3.92  Q       V |          |          |          |
15+ 5       1.6258      4.13  Q       V |          |          |          |
15+10       1.6558      4.36  Q       V |          |          |          |
15+15       1.6876      4.62  Q        V|          |          |          |
15+20       1.7215      4.92  Q        V|          |          |          |
15+25       1.7583      5.34  |Q       V|          |          |          |
15+30       1.8001      6.08  |Q       V|          |          |          |
15+35       1.8517      7.49  |Q       V|          |          |          |
15+40       1.9157      9.29  |Q        V          |          |          |
15+45       1.9919     11.06  | Q       V          |          |          |
15+50       2.0829     13.21  | Q       |V         |          |          |
15+55       2.1956     16.36  |  Q      |V         |          |          |
16+ 0       2.3425     21.33  |   Q     | V        |          |          |
16+ 5       2.5752     33.80  |     Q   |  V       |          |          |
16+10       2.9762     58.23  |         |Q   V     |          |          |
16+15       3.6500     97.83  |         |        Q |          |          |
16+20       4.3807    106.10  |         |          |Q V       |          |
16+25       4.8773     72.10  |         |   Q      |     V    |          |
16+30       5.2271     50.80  |         Q          |      V   |          |
16+35       5.4949     38.88  |      Q   |         |        V |          |
16+40       5.7053     30.55  |     Q    |         |          V          |
16+45       5.8754     24.70  |   Q      |         |          |V         |
16+50       6.0196     20.94  |   Q      |         |          | V        |
16+55       6.1426     17.85  |  Q       |         |          | V        |
17+ 0       6.2449     14.86  | Q        |         |          |  V       |
17+ 5       6.3349     13.06  | Q        |         |          |  V       |
17+10       6.4143     11.53  | Q        |         |          |   V      |
17+15       6.4843     10.17  | Q        |         |          |   V      |
17+20       6.5458      8.93  |Q         |         |          |   V      |
17+25       6.6008      7.97  |Q         |         |          |    V     |
17+30       6.6496      7.10  |Q         |         |          |    V     |
17+35       6.6920      6.16  |Q         |         |          |    V     |
17+40       6.7297      5.47  |Q         |         |          |    V     |
```

17+45	6.7616	4.64	Q	|	|	|	V |
17+50	6.7916	4.34	Q	|	|	|	V |
17+55	6.8209	4.27	Q	|	|	|	V |
18+ 0	6.8490	4.07	Q	|	|	|	V |
18+ 5	6.8754	3.83	Q	|	|	|	V |
18+10	6.8981	3.31	Q	|	|	|	V |
18+15	6.9183	2.93	Q	|	|	|	V |
18+20	6.9357	2.51	Q	|	|	|	V |
18+25	6.9503	2.12	Q	|	|	|	V |
18+30	6.9642	2.03	Q	|	|	|	V |
18+35	6.9777	1.95	Q	|	|	|	V |
18+40	6.9907	1.89	Q	|	|	|	V |
18+45	7.0033	1.84	Q	|	|	|	V |
18+50	7.0156	1.79	Q	|	|	|	V |
18+55	7.0276	1.74	Q	|	|	|	V |
19+ 0	7.0393	1.69	Q	|	|	|	V |
19+ 5	7.0506	1.65	Q	|	|	|	V |
19+10	7.0618	1.61	Q	|	|	|	V |
19+15	7.0726	1.58	Q	|	|	|	V |
19+20	7.0832	1.54	Q	|	|	|	V |
19+25	7.0936	1.51	Q	|	|	|	V |
19+30	7.1037	1.47	Q	|	|	|	V |
19+35	7.1137	1.44	Q	|	|	|	V |
19+40	7.1234	1.41	Q	|	|	|	V |
19+45	7.1329	1.38	Q	|	|	|	V |
19+50	7.1423	1.36	Q	|	|	|	V |
19+55	7.1515	1.33	Q	|	|	|	V |
20+ 0	7.1605	1.31	Q	|	|	|	V |
20+ 5	7.1693	1.28	Q	|	|	|	V |
20+10	7.1780	1.26	Q	|	|	|	V |
20+15	7.1865	1.24	Q	|	|	|	V |
20+20	7.1949	1.22	Q	|	|	|	V |
20+25	7.2031	1.20	Q	|	|	|	V |
20+30	7.2112	1.18	Q	|	|	|	V |
20+35	7.2192	1.16	Q	|	|	|	V |
20+40	7.2270	1.14	Q	|	|	|	V |
20+45	7.2347	1.12	Q	|	|	|	V |
20+50	7.2423	1.10	Q	|	|	|	V |
20+55	7.2498	1.09	Q	|	|	|	V |
21+ 0	7.2571	1.07	Q	|	|	|	V |
21+ 5	7.2644	1.05	Q	|	|	|	V |
21+10	7.2716	1.04	Q	|	|	|	V |
21+15	7.2786	1.02	Q	|	|	|	V |
21+20	7.2856	1.01	Q	|	|	|	V |
21+25	7.2924	1.00	Q	|	|	|	V |
21+30	7.2992	0.98	Q	|	|	|	V |
21+35	7.3059	0.97	Q	|	|	|	V |
21+40	7.3125	0.96	Q	|	|	|	V|
21+45	7.3190	0.95	Q	|	|	|	V|
21+50	7.3254	0.93	Q	|	|	|	V|
21+55	7.3318	0.92	Q	|	|	|	V|
22+ 0	7.3381	0.91	Q	|	|	|	V|
22+ 5	7.3443	0.90	Q	|	|	|	V|
22+10	7.3504	0.89	Q	|	|	|	V|
22+15	7.3565	0.88	Q	|	|	|	V|
22+20	7.3625	0.87	Q	|	|	|	V|
22+25	7.3684	0.86	Q	|	|	|	V|
22+30	7.3742	0.85	Q	|	|	|	V|
22+35	7.3800	0.84	Q	|	|	|	V|

22+40	7.3858	0.83	Q	|	|	|	V|
22+45	7.3914	0.82	Q	|	|	|	V|
22+50	7.3971	0.82	Q	|	|	|	V|
22+55	7.4026	0.81	Q	|	|	|	V|
23+ 0	7.4081	0.80	Q	|	|	|	V|
23+ 5	7.4136	0.79	Q	|	|	|	V|
23+10	7.4190	0.78	Q	|	|	|	V|
23+15	7.4243	0.78	Q	|	|	|	V|
23+20	7.4296	0.77	Q	|	|	|	V|
23+25	7.4348	0.76	Q	|	|	|	V|
23+30	7.4400	0.75	Q	|	|	|	V|
23+35	7.4451	0.75	Q	|	|	|	V|
23+40	7.4502	0.74	Q	|	|	|	V|
23+45	7.4553	0.73	Q	|	|	|	V|
23+50	7.4603	0.73	Q	|	|	|	V|
23+55	7.4652	0.72	Q	|	|	|	V|
24+ 0	7.4701	0.71	Q	|	|	|	V|
24+ 5	7.4749	0.70	Q	|	|	|	V|
24+10	7.4794	0.65	Q	|	|	|	V|
24+15	7.4829	0.52	Q	|	|	|	V|
24+20	7.4854	0.36	Q	|	|	|	V|
24+25	7.4873	0.27	Q	|	|	|	V|
24+30	7.4888	0.22	Q	|	|	|	V|
24+35	7.4900	0.17	Q	|	|	|	V|
24+40	7.4910	0.14	Q	|	|	|	V|
24+45	7.4918	0.12	Q	|	|	|	V|
24+50	7.4925	0.10	Q	|	|	|	V|
24+55	7.4930	0.08	Q	|	|	|	V|
25+ 0	7.4935	0.07	Q	|	|	|	V|
25+ 5	7.4939	0.06	Q	|	|	|	V|
25+10	7.4942	0.05	Q	|	|	|	V|
25+15	7.4945	0.04	Q	|	|	|	V|
25+20	7.4947	0.03	Q	|	|	|	V|
25+25	7.4949	0.03	Q	|	|	|	V|
25+30	7.4951	0.02	Q	|	|	|	V|
25+35	7.4952	0.02	Q	|	|	|	V|
25+40	7.4953	0.01	Q	|	|	|	V|
25+45	7.4954	0.01	Q	|	|	|	V|
25+50	7.4955	0.01	Q	|	|	|	V|
25+55	7.4955	0.01	Q	|	|	|	V|
26+ 0	7.4956	0.01	Q	|	|	|	V|
26+ 5	7.4956	0.00	Q	|	|	|	V|
26+10	7.4956	0.00	Q	|	|	|	V|
26+15	7.4956	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 19
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
7.87	1	1.35
Rainfall data for year 100		
7.87	6	1.84
Rainfall data for year 100		
7.87	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
62.0	80.6	7.87	1.000	0.360	1.000	0.360

Area-averaged adjusted loss rate Fm (In/Hr) = 0.360

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
7.87	1.000	62.0	80.6	2.41	0.366

Area-averaged catchment yield fraction, Y = 0.366
Area-averaged low loss fraction, Yb = 0.634
User entry of time of concentration = 0.580 (hours)
++
Watershed area = 7.87(Ac.)
Catchment Lag time = 0.464 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 17.9598
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.360(In/Hr)
Average low loss rate fraction (Yb) = 0.634 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.641(In)
Computed peak 30-minute rainfall = 1.097(In)
Specified peak 1-hour rainfall = 1.350(In)
Computed peak 3-hour rainfall = 1.632(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 7.87(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.640(In)
30-minute factor = 1.000 Adjusted rainfall = 1.096(In)
1-hour factor = 1.000 Adjusted rainfall = 1.350(In)
3-hour factor = 1.000 Adjusted rainfall = 1.632(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 95.18 (CFS))	
1	0.857	0.815
2	3.791	2.793
3	8.920	4.881
4	19.662	10.225
5	36.203	15.743
6	49.017	12.197
7	58.041	8.589
8	64.275	5.933
9	69.111	4.603
10	73.109	3.805
11	76.367	3.101
12	79.157	2.655
13	81.486	2.216
14	83.485	1.903

15	85.300	1.728
16	86.956	1.576
17	88.391	1.366
18	89.558	1.110
19	90.606	0.998
20	91.593	0.940
21	92.472	0.836
22	93.290	0.779
23	94.033	0.707
24	94.650	0.588
25	95.260	0.581
26	95.807	0.520
27	96.274	0.445
28	96.739	0.443
29	97.113	0.356
30	97.437	0.308
31	97.750	0.298
32	97.957	0.198
33	98.137	0.171
34	98.323	0.177
35	98.535	0.202
36	98.751	0.205
37	98.966	0.205
38	99.182	0.205
39	99.397	0.205
40	99.559	0.154
41	99.671	0.107
42	99.783	0.107
43	99.896	0.107
44	100.000	0.099

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6404	0.6404
2	0.7884	0.1480
3	0.8903	0.1020
4	0.9706	0.0803
5	1.0378	0.0672
6	1.0961	0.0583
7	1.1480	0.0519
8	1.1949	0.0469
9	1.2379	0.0430
10	1.2777	0.0398
11	1.3147	0.0371
12	1.3495	0.0348
13	1.3683	0.0188
14	1.3860	0.0177
15	1.4027	0.0167
16	1.4184	0.0158
17	1.4334	0.0150
18	1.4476	0.0143
19	1.4612	0.0136
20	1.4743	0.0130
21	1.4868	0.0125
22	1.4988	0.0120
23	1.5104	0.0116
24	1.5216	0.0112
25	1.5323	0.0108
26	1.5428	0.0104

27	1.5529	0.0101
28	1.5627	0.0098
29	1.5722	0.0095
30	1.5815	0.0093
31	1.5905	0.0090
32	1.5993	0.0088
33	1.6078	0.0085
34	1.6161	0.0083
35	1.6243	0.0081
36	1.6322	0.0079
37	1.6399	0.0077
38	1.6475	0.0076
39	1.6549	0.0074
40	1.6622	0.0073
41	1.6693	0.0071
42	1.6763	0.0070
43	1.6831	0.0068
44	1.6898	0.0067
45	1.6964	0.0066
46	1.7028	0.0065
47	1.7092	0.0063
48	1.7154	0.0062
49	1.7215	0.0061
50	1.7276	0.0060
51	1.7335	0.0059
52	1.7393	0.0058
53	1.7450	0.0057
54	1.7507	0.0056
55	1.7563	0.0056
56	1.7617	0.0055
57	1.7671	0.0054
58	1.7725	0.0053
59	1.7777	0.0052
60	1.7829	0.0052
61	1.7880	0.0051
62	1.7930	0.0050
63	1.7980	0.0050
64	1.8029	0.0049
65	1.8077	0.0048
66	1.8125	0.0048
67	1.8172	0.0047
68	1.8219	0.0047
69	1.8265	0.0046
70	1.8310	0.0045
71	1.8355	0.0045
72	1.8400	0.0044
73	1.8454	0.0055
74	1.8508	0.0054
75	1.8562	0.0054
76	1.8615	0.0053
77	1.8667	0.0052
78	1.8719	0.0052
79	1.8771	0.0051
80	1.8822	0.0051
81	1.8872	0.0050
82	1.8922	0.0050
83	1.8972	0.0049
84	1.9021	0.0049
85	1.9069	0.0049

86	1.9117	0.0048
87	1.9165	0.0048
88	1.9212	0.0047
89	1.9259	0.0047
90	1.9305	0.0046
91	1.9351	0.0046
92	1.9397	0.0046
93	1.9442	0.0045
94	1.9487	0.0045
95	1.9531	0.0044
96	1.9575	0.0044
97	1.9619	0.0044
98	1.9662	0.0043
99	1.9706	0.0043
100	1.9748	0.0043
101	1.9791	0.0042
102	1.9833	0.0042
103	1.9874	0.0042
104	1.9916	0.0041
105	1.9957	0.0041
106	1.9998	0.0041
107	2.0038	0.0040
108	2.0078	0.0040
109	2.0118	0.0040
110	2.0158	0.0040
111	2.0197	0.0039
112	2.0236	0.0039
113	2.0275	0.0039
114	2.0313	0.0039
115	2.0352	0.0038
116	2.0390	0.0038
117	2.0427	0.0038
118	2.0465	0.0037
119	2.0502	0.0037
120	2.0539	0.0037
121	2.0576	0.0037
122	2.0612	0.0036
123	2.0648	0.0036
124	2.0684	0.0036
125	2.0720	0.0036
126	2.0756	0.0036
127	2.0791	0.0035
128	2.0826	0.0035
129	2.0861	0.0035
130	2.0896	0.0035
131	2.0930	0.0035
132	2.0965	0.0034
133	2.0999	0.0034
134	2.1033	0.0034
135	2.1066	0.0034
136	2.1100	0.0034
137	2.1133	0.0033
138	2.1166	0.0033
139	2.1199	0.0033
140	2.1232	0.0033
141	2.1265	0.0033
142	2.1297	0.0032
143	2.1329	0.0032
144	2.1361	0.0032

145	2.1393	0.0032
146	2.1425	0.0032
147	2.1456	0.0032
148	2.1488	0.0031
149	2.1519	0.0031
150	2.1550	0.0031
151	2.1581	0.0031
152	2.1611	0.0031
153	2.1642	0.0031
154	2.1672	0.0030
155	2.1703	0.0030
156	2.1733	0.0030
157	2.1763	0.0030
158	2.1792	0.0030
159	2.1822	0.0030
160	2.1851	0.0029
161	2.1881	0.0029
162	2.1910	0.0029
163	2.1939	0.0029
164	2.1968	0.0029
165	2.1997	0.0029
166	2.2025	0.0029
167	2.2054	0.0029
168	2.2082	0.0028
169	2.2110	0.0028
170	2.2139	0.0028
171	2.2167	0.0028
172	2.2194	0.0028
173	2.2222	0.0028
174	2.2250	0.0028
175	2.2277	0.0027
176	2.2305	0.0027
177	2.2332	0.0027
178	2.2359	0.0027
179	2.2386	0.0027
180	2.2413	0.0027
181	2.2439	0.0027
182	2.2466	0.0027
183	2.2493	0.0027
184	2.2519	0.0026
185	2.2545	0.0026
186	2.2572	0.0026
187	2.2598	0.0026
188	2.2624	0.0026
189	2.2649	0.0026
190	2.2675	0.0026
191	2.2701	0.0026
192	2.2726	0.0026
193	2.2752	0.0025
194	2.2777	0.0025
195	2.2802	0.0025
196	2.2827	0.0025
197	2.2853	0.0025
198	2.2877	0.0025
199	2.2902	0.0025
200	2.2927	0.0025
201	2.2952	0.0025
202	2.2976	0.0025
203	2.3001	0.0024

204	2.3025	0.0024
205	2.3049	0.0024
206	2.3073	0.0024
207	2.3097	0.0024
208	2.3121	0.0024
209	2.3145	0.0024
210	2.3169	0.0024
211	2.3193	0.0024
212	2.3216	0.0024
213	2.3240	0.0024
214	2.3263	0.0023
215	2.3287	0.0023
216	2.3310	0.0023
217	2.3333	0.0023
218	2.3356	0.0023
219	2.3379	0.0023
220	2.3402	0.0023
221	2.3425	0.0023
222	2.3448	0.0023
223	2.3471	0.0023
224	2.3493	0.0023
225	2.3516	0.0023
226	2.3538	0.0022
227	2.3561	0.0022
228	2.3583	0.0022
229	2.3605	0.0022
230	2.3627	0.0022
231	2.3650	0.0022
232	2.3672	0.0022
233	2.3694	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3759	0.0022
237	2.3781	0.0022
238	2.3802	0.0022
239	2.3824	0.0021
240	2.3845	0.0021
241	2.3866	0.0021
242	2.3888	0.0021
243	2.3909	0.0021
244	2.3930	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4014	0.0021
249	2.4035	0.0021
250	2.4056	0.0021
251	2.4076	0.0021
252	2.4097	0.0021
253	2.4117	0.0021
254	2.4138	0.0020
255	2.4158	0.0020
256	2.4179	0.0020
257	2.4199	0.0020
258	2.4219	0.0020
259	2.4239	0.0020
260	2.4260	0.0020
261	2.4280	0.0020
262	2.4300	0.0020

263	2.4320	0.0020
264	2.4339	0.0020
265	2.4359	0.0020
266	2.4379	0.0020
267	2.4399	0.0020
268	2.4418	0.0020
269	2.4438	0.0020
270	2.4457	0.0020
271	2.4477	0.0019
272	2.4496	0.0019
273	2.4516	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4574	0.0019
277	2.4593	0.0019
278	2.4612	0.0019
279	2.4631	0.0019
280	2.4650	0.0019
281	2.4669	0.0019
282	2.4688	0.0019
283	2.4706	0.0019
284	2.4725	0.0019
285	2.4744	0.0019
286	2.4763	0.0019
287	2.4781	0.0019
288	2.4800	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0012	0.0007
2	0.0019	0.0012	0.0007
3	0.0019	0.0012	0.0007
4	0.0019	0.0012	0.0007
5	0.0019	0.0012	0.0007
6	0.0019	0.0012	0.0007
7	0.0019	0.0012	0.0007
8	0.0019	0.0012	0.0007
9	0.0019	0.0012	0.0007
10	0.0019	0.0012	0.0007
11	0.0019	0.0012	0.0007
12	0.0019	0.0012	0.0007
13	0.0020	0.0012	0.0007
14	0.0020	0.0012	0.0007
15	0.0020	0.0013	0.0007
16	0.0020	0.0013	0.0007
17	0.0020	0.0013	0.0007
18	0.0020	0.0013	0.0007
19	0.0020	0.0013	0.0007
20	0.0020	0.0013	0.0007
21	0.0020	0.0013	0.0007
22	0.0020	0.0013	0.0007
23	0.0020	0.0013	0.0007
24	0.0020	0.0013	0.0007
25	0.0021	0.0013	0.0008
26	0.0021	0.0013	0.0008
27	0.0021	0.0013	0.0008
28	0.0021	0.0013	0.0008

29	0.0021	0.0013	0.0008
30	0.0021	0.0013	0.0008
31	0.0021	0.0013	0.0008
32	0.0021	0.0014	0.0008
33	0.0021	0.0014	0.0008
34	0.0021	0.0014	0.0008
35	0.0022	0.0014	0.0008
36	0.0022	0.0014	0.0008
37	0.0022	0.0014	0.0008
38	0.0022	0.0014	0.0008
39	0.0022	0.0014	0.0008
40	0.0022	0.0014	0.0008
41	0.0022	0.0014	0.0008
42	0.0022	0.0014	0.0008
43	0.0023	0.0014	0.0008
44	0.0023	0.0014	0.0008
45	0.0023	0.0014	0.0008
46	0.0023	0.0015	0.0008
47	0.0023	0.0015	0.0008
48	0.0023	0.0015	0.0008
49	0.0023	0.0015	0.0009
50	0.0023	0.0015	0.0009
51	0.0024	0.0015	0.0009
52	0.0024	0.0015	0.0009
53	0.0024	0.0015	0.0009
54	0.0024	0.0015	0.0009
55	0.0024	0.0015	0.0009
56	0.0024	0.0015	0.0009
57	0.0024	0.0015	0.0009
58	0.0024	0.0016	0.0009
59	0.0025	0.0016	0.0009
60	0.0025	0.0016	0.0009
61	0.0025	0.0016	0.0009
62	0.0025	0.0016	0.0009
63	0.0025	0.0016	0.0009
64	0.0025	0.0016	0.0009
65	0.0026	0.0016	0.0009
66	0.0026	0.0016	0.0009
67	0.0026	0.0016	0.0009
68	0.0026	0.0016	0.0009
69	0.0026	0.0017	0.0010
70	0.0026	0.0017	0.0010
71	0.0027	0.0017	0.0010
72	0.0027	0.0017	0.0010
73	0.0027	0.0017	0.0010
74	0.0027	0.0017	0.0010
75	0.0027	0.0017	0.0010
76	0.0027	0.0017	0.0010
77	0.0028	0.0018	0.0010
78	0.0028	0.0018	0.0010
79	0.0028	0.0018	0.0010
80	0.0028	0.0018	0.0010
81	0.0028	0.0018	0.0010
82	0.0029	0.0018	0.0010
83	0.0029	0.0018	0.0011
84	0.0029	0.0018	0.0011
85	0.0029	0.0019	0.0011
86	0.0029	0.0019	0.0011
87	0.0030	0.0019	0.0011

88	0.0030	0.0019	0.0011
89	0.0030	0.0019	0.0011
90	0.0030	0.0019	0.0011
91	0.0031	0.0019	0.0011
92	0.0031	0.0019	0.0011
93	0.0031	0.0020	0.0011
94	0.0031	0.0020	0.0011
95	0.0032	0.0020	0.0012
96	0.0032	0.0020	0.0012
97	0.0032	0.0020	0.0012
98	0.0032	0.0020	0.0012
99	0.0033	0.0021	0.0012
100	0.0033	0.0021	0.0012
101	0.0033	0.0021	0.0012
102	0.0033	0.0021	0.0012
103	0.0034	0.0021	0.0012
104	0.0034	0.0022	0.0012
105	0.0034	0.0022	0.0013
106	0.0035	0.0022	0.0013
107	0.0035	0.0022	0.0013
108	0.0035	0.0022	0.0013
109	0.0036	0.0023	0.0013
110	0.0036	0.0023	0.0013
111	0.0036	0.0023	0.0013
112	0.0036	0.0023	0.0013
113	0.0037	0.0023	0.0014
114	0.0037	0.0024	0.0014
115	0.0038	0.0024	0.0014
116	0.0038	0.0024	0.0014
117	0.0039	0.0024	0.0014
118	0.0039	0.0025	0.0014
119	0.0039	0.0025	0.0014
120	0.0040	0.0025	0.0014
121	0.0040	0.0025	0.0015
122	0.0040	0.0026	0.0015
123	0.0041	0.0026	0.0015
124	0.0041	0.0026	0.0015
125	0.0042	0.0027	0.0015
126	0.0042	0.0027	0.0015
127	0.0043	0.0027	0.0016
128	0.0043	0.0028	0.0016
129	0.0044	0.0028	0.0016
130	0.0044	0.0028	0.0016
131	0.0045	0.0029	0.0017
132	0.0046	0.0029	0.0017
133	0.0046	0.0029	0.0017
134	0.0047	0.0030	0.0017
135	0.0048	0.0030	0.0017
136	0.0048	0.0031	0.0018
137	0.0049	0.0031	0.0018
138	0.0049	0.0031	0.0018
139	0.0050	0.0032	0.0018
140	0.0051	0.0032	0.0019
141	0.0052	0.0033	0.0019
142	0.0052	0.0033	0.0019
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0044	0.0028	0.0016
146	0.0045	0.0029	0.0016

147	0.0046	0.0029	0.0017
148	0.0047	0.0030	0.0017
149	0.0048	0.0030	0.0017
150	0.0048	0.0031	0.0018
151	0.0050	0.0032	0.0018
152	0.0050	0.0032	0.0018
153	0.0052	0.0033	0.0019
154	0.0052	0.0033	0.0019
155	0.0054	0.0034	0.0020
156	0.0055	0.0035	0.0020
157	0.0056	0.0036	0.0021
158	0.0057	0.0036	0.0021
159	0.0059	0.0038	0.0022
160	0.0060	0.0038	0.0022
161	0.0062	0.0040	0.0023
162	0.0063	0.0040	0.0023
163	0.0066	0.0042	0.0024
164	0.0067	0.0043	0.0025
165	0.0070	0.0044	0.0025
166	0.0071	0.0045	0.0026
167	0.0074	0.0047	0.0027
168	0.0076	0.0048	0.0028
169	0.0079	0.0050	0.0029
170	0.0081	0.0052	0.0030
171	0.0085	0.0054	0.0031
172	0.0088	0.0056	0.0032
173	0.0093	0.0059	0.0034
174	0.0095	0.0060	0.0035
175	0.0101	0.0064	0.0037
176	0.0104	0.0066	0.0038
177	0.0112	0.0071	0.0041
178	0.0116	0.0073	0.0042
179	0.0125	0.0079	0.0046
180	0.0130	0.0083	0.0048
181	0.0143	0.0090	0.0052
182	0.0150	0.0095	0.0055
183	0.0167	0.0106	0.0061
184	0.0177	0.0112	0.0065
185	0.0348	0.0221	0.0127
186	0.0371	0.0235	0.0135
187	0.0430	0.0273	0.0157
188	0.0469	0.0298	0.0172
189	0.0583	0.0300	0.0284
190	0.0672	0.0300	0.0372
191	0.1020	0.0300	0.0720
192	0.1480	0.0300	0.1181
193	0.6404	0.0300	0.6104
194	0.0803	0.0300	0.0503
195	0.0519	0.0300	0.0219
196	0.0398	0.0252	0.0145
197	0.0188	0.0119	0.0069
198	0.0158	0.0100	0.0058
199	0.0136	0.0086	0.0050
200	0.0120	0.0076	0.0044
201	0.0108	0.0068	0.0039
202	0.0098	0.0062	0.0036
203	0.0090	0.0057	0.0033
204	0.0083	0.0053	0.0030
205	0.0077	0.0049	0.0028

206	0.0073	0.0046	0.0027
207	0.0068	0.0043	0.0025
208	0.0065	0.0041	0.0024
209	0.0061	0.0039	0.0022
210	0.0058	0.0037	0.0021
211	0.0056	0.0035	0.0020
212	0.0053	0.0034	0.0019
213	0.0051	0.0032	0.0019
214	0.0049	0.0031	0.0018
215	0.0047	0.0030	0.0017
216	0.0045	0.0029	0.0017
217	0.0055	0.0035	0.0020
218	0.0053	0.0034	0.0019
219	0.0051	0.0033	0.0019
220	0.0050	0.0032	0.0018
221	0.0049	0.0031	0.0018
222	0.0047	0.0030	0.0017
223	0.0046	0.0029	0.0017
224	0.0045	0.0028	0.0016
225	0.0044	0.0028	0.0016
226	0.0043	0.0027	0.0016
227	0.0042	0.0026	0.0015
228	0.0041	0.0026	0.0015
229	0.0040	0.0025	0.0015
230	0.0039	0.0025	0.0014
231	0.0038	0.0024	0.0014
232	0.0037	0.0024	0.0014
233	0.0037	0.0023	0.0013
234	0.0036	0.0023	0.0013
235	0.0035	0.0022	0.0013
236	0.0035	0.0022	0.0013
237	0.0034	0.0022	0.0012
238	0.0034	0.0021	0.0012
239	0.0033	0.0021	0.0012
240	0.0032	0.0021	0.0012
241	0.0032	0.0020	0.0012
242	0.0031	0.0020	0.0011
243	0.0031	0.0020	0.0011
244	0.0030	0.0019	0.0011
245	0.0030	0.0019	0.0011
246	0.0029	0.0019	0.0011
247	0.0029	0.0018	0.0011
248	0.0029	0.0018	0.0010
249	0.0028	0.0018	0.0010
250	0.0028	0.0018	0.0010
251	0.0027	0.0017	0.0010
252	0.0027	0.0017	0.0010
253	0.0027	0.0017	0.0010
254	0.0026	0.0017	0.0010
255	0.0026	0.0017	0.0010
256	0.0026	0.0016	0.0009
257	0.0025	0.0016	0.0009
258	0.0025	0.0016	0.0009
259	0.0025	0.0016	0.0009
260	0.0025	0.0016	0.0009
261	0.0024	0.0015	0.0009
262	0.0024	0.0015	0.0009
263	0.0024	0.0015	0.0009
264	0.0023	0.0015	0.0009

265	0.0023	0.0015	0.0008
266	0.0023	0.0015	0.0008
267	0.0023	0.0014	0.0008
268	0.0022	0.0014	0.0008
269	0.0022	0.0014	0.0008
270	0.0022	0.0014	0.0008
271	0.0022	0.0014	0.0008
272	0.0022	0.0014	0.0008
273	0.0021	0.0014	0.0008
274	0.0021	0.0013	0.0008
275	0.0021	0.0013	0.0008
276	0.0021	0.0013	0.0008
277	0.0021	0.0013	0.0008
278	0.0020	0.0013	0.0007
279	0.0020	0.0013	0.0007
280	0.0020	0.0013	0.0007
281	0.0020	0.0013	0.0007
282	0.0020	0.0012	0.0007
283	0.0019	0.0012	0.0007
284	0.0019	0.0012	0.0007
285	0.0019	0.0012	0.0007
286	0.0019	0.0012	0.0007
287	0.0019	0.0012	0.0007
288	0.0019	0.0012	0.0007

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.43(In)
Peak flow rate in flood hydrograph = 12.94(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.01	Q				
0+20	0.0001	0.01	Q				
0+25	0.0003	0.02	Q				
0+30	0.0005	0.03	Q				
0+35	0.0008	0.04	Q				
0+40	0.0011	0.04	Q				
0+45	0.0014	0.05	Q				
0+50	0.0017	0.05	Q				
0+55	0.0021	0.05	Q				
1+ 0	0.0024	0.05	Q				
1+ 5	0.0028	0.05	Q				
1+10	0.0032	0.06	Q				
1+15	0.0036	0.06	Q				
1+20	0.0040	0.06	Q				
1+25	0.0044	0.06	Q				
1+30	0.0048	0.06	Q				
1+35	0.0052	0.06	Q				
1+40	0.0057	0.06	Q				

1+45	0.0061	0.06	Q				
1+50	0.0065	0.06	Q				
1+55	0.0070	0.06	Q				
2+ 0	0.0074	0.07	Q				
2+ 5	0.0079	0.07	Q				
2+10	0.0083	0.07	Q				
2+15	0.0088	0.07	Q				
2+20	0.0093	0.07	Q				
2+25	0.0098	0.07	Q				
2+30	0.0102	0.07	Q				
2+35	0.0107	0.07	Q				
2+40	0.0112	0.07	Q				
2+45	0.0117	0.07	Q				
2+50	0.0122	0.07	Q				
2+55	0.0127	0.07	Q				
3+ 0	0.0132	0.07	Q				
3+ 5	0.0137	0.07	Q				
3+10	0.0142	0.07	Q				
3+15	0.0147	0.07	Q				
3+20	0.0152	0.07	Q				
3+25	0.0157	0.07	Q				
3+30	0.0162	0.07	Q				
3+35	0.0167	0.08	Q				
3+40	0.0172	0.08	Q				
3+45	0.0178	0.08	Q				
3+50	0.0183	0.08	Q				
3+55	0.0188	0.08	Q				
4+ 0	0.0193	0.08	Q				
4+ 5	0.0199	0.08	Q				
4+10	0.0204	0.08	Q				
4+15	0.0210	0.08	Q				
4+20	0.0215	0.08	Q				
4+25	0.0220	0.08	Q				
4+30	0.0226	0.08	Q				
4+35	0.0231	0.08	Q				
4+40	0.0237	0.08	QV				
4+45	0.0243	0.08	QV				
4+50	0.0248	0.08	QV				
4+55	0.0254	0.08	QV				
5+ 0	0.0259	0.08	QV				
5+ 5	0.0265	0.08	QV				
5+10	0.0271	0.08	QV				
5+15	0.0277	0.08	QV				
5+20	0.0282	0.08	QV				
5+25	0.0288	0.08	QV				
5+30	0.0294	0.09	QV				
5+35	0.0300	0.09	QV				
5+40	0.0306	0.09	QV				
5+45	0.0312	0.09	QV				
5+50	0.0318	0.09	QV				
5+55	0.0324	0.09	QV				
6+ 0	0.0330	0.09	QV				
6+ 5	0.0336	0.09	QV				
6+10	0.0342	0.09	QV				
6+15	0.0349	0.09	QV				
6+20	0.0355	0.09	QV				
6+25	0.0361	0.09	QV				
6+30	0.0367	0.09	QV				
6+35	0.0374	0.09	QV				

6+40	0.0380	0.09	QV				
6+45	0.0387	0.09	QV				
6+50	0.0393	0.09	QV				
6+55	0.0400	0.09	QV				
7+ 0	0.0406	0.10	QV				
7+ 5	0.0413	0.10	QV				
7+10	0.0419	0.10	QV				
7+15	0.0426	0.10	QV				
7+20	0.0433	0.10	QV				
7+25	0.0440	0.10	QV				
7+30	0.0446	0.10	QV				
7+35	0.0453	0.10	QV				
7+40	0.0460	0.10	QV				
7+45	0.0467	0.10	Q V				
7+50	0.0474	0.10	Q V				
7+55	0.0481	0.10	Q V				
8+ 0	0.0489	0.10	Q V				
8+ 5	0.0496	0.10	Q V				
8+10	0.0503	0.11	Q V				
8+15	0.0510	0.11	Q V				
8+20	0.0518	0.11	Q V				
8+25	0.0525	0.11	Q V				
8+30	0.0533	0.11	Q V				
8+35	0.0540	0.11	Q V				
8+40	0.0548	0.11	Q V				
8+45	0.0556	0.11	Q V				
8+50	0.0563	0.11	Q V				
8+55	0.0571	0.11	Q V				
9+ 0	0.0579	0.11	Q V				
9+ 5	0.0587	0.12	Q V				
9+10	0.0595	0.12	Q V				
9+15	0.0603	0.12	Q V				
9+20	0.0611	0.12	Q V				
9+25	0.0619	0.12	Q V				
9+30	0.0628	0.12	Q V				
9+35	0.0636	0.12	Q V				
9+40	0.0644	0.12	Q V				
9+45	0.0653	0.12	Q V				
9+50	0.0662	0.13	Q V				
9+55	0.0670	0.13	Q V				
10+ 0	0.0679	0.13	Q V				
10+ 5	0.0688	0.13	Q V				
10+10	0.0697	0.13	Q V				
10+15	0.0706	0.13	Q V				
10+20	0.0715	0.13	Q V				
10+25	0.0724	0.13	Q V				
10+30	0.0734	0.14	Q V				
10+35	0.0743	0.14	Q V				
10+40	0.0753	0.14	Q V				
10+45	0.0762	0.14	Q V				
10+50	0.0772	0.14	Q V				
10+55	0.0782	0.14	Q V				
11+ 0	0.0792	0.14	Q V				
11+ 5	0.0802	0.15	Q V				
11+10	0.0812	0.15	Q V				
11+15	0.0823	0.15	Q V				
11+20	0.0833	0.15	Q V				
11+25	0.0844	0.15	Q V				
11+30	0.0854	0.16	Q V				

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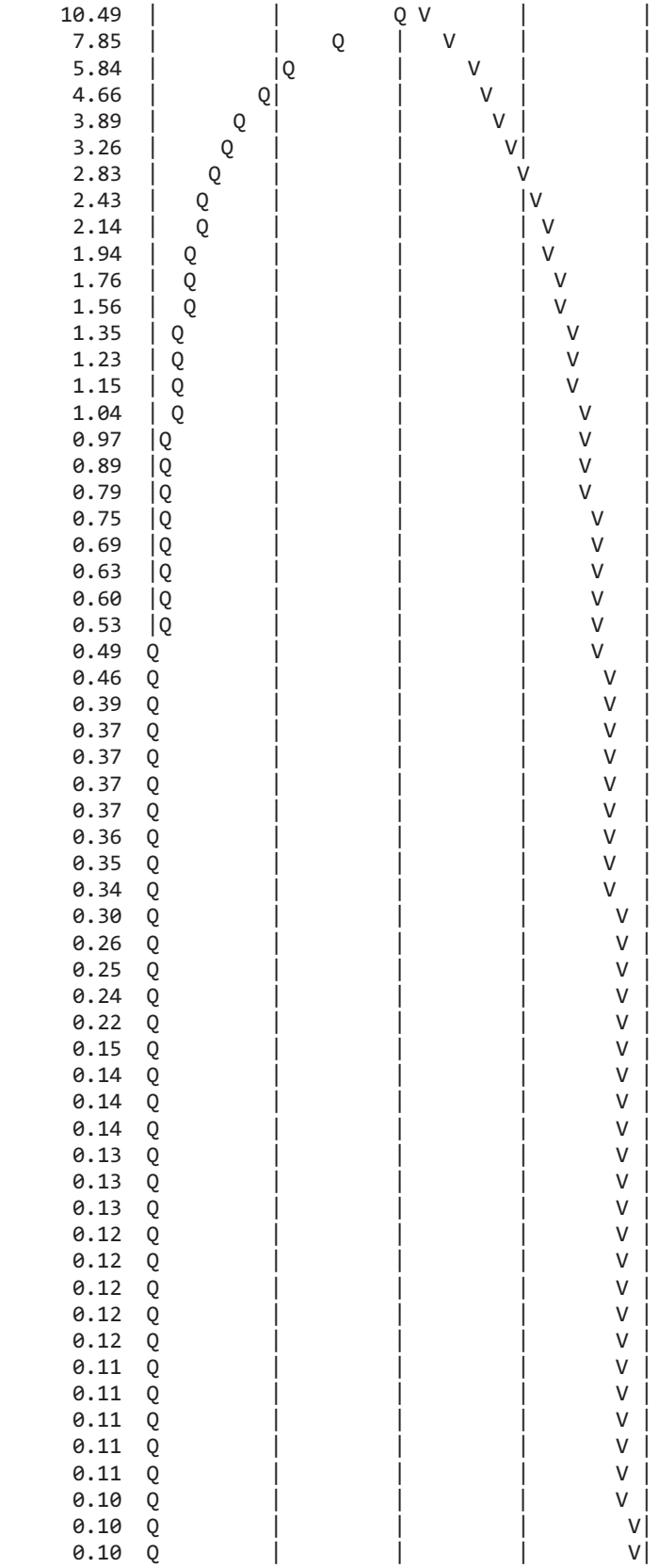
11+35       0.0865      0.16  Q  V      |          |          |          |
11+40       0.0876      0.16  Q  V      |          |          |          |
11+45       0.0887      0.16  Q  V      |          |          |          |
11+50       0.0899      0.16  Q  V      |          |          |          |
11+55       0.0910      0.17  Q  V      |          |          |          |
12+ 0       0.0922      0.17  Q  V      |          |          |          |
12+ 5       0.0933      0.17  Q  V      |          |          |          |
12+10       0.0945      0.17  Q   V     |          |          |          |
12+15       0.0957      0.17  Q   V     |          |          |          |
12+20       0.0969      0.17  Q   V     |          |          |          |
12+25       0.0981      0.17  Q   V     |          |          |          |
12+30       0.0992      0.17  Q   V     |          |          |          |
12+35       0.1003      0.16  Q   V     |          |          |          |
12+40       0.1015      0.17  Q   V     |          |          |          |
12+45       0.1026      0.17  Q   V     |          |          |          |
12+50       0.1038      0.17  Q   V     |          |          |          |
12+55       0.1049      0.17  Q   V     |          |          |          |
13+ 0       0.1061      0.17  Q   V     |          |          |          |
13+ 5       0.1073      0.17  Q   V     |          |          |          |
13+10       0.1085      0.18  Q   V     |          |          |          |
13+15       0.1098      0.18  Q   V     |          |          |          |
13+20       0.1110      0.18  Q   V     |          |          |          |
13+25       0.1123      0.19  Q   V     |          |          |          |
13+30       0.1136      0.19  Q   V     |          |          |          |
13+35       0.1149      0.19  Q   V     |          |          |          |
13+40       0.1163      0.20  Q   V     |          |          |          |
13+45       0.1177      0.20  Q    V    |          |          |          |
13+50       0.1191      0.21  Q    V    |          |          |          |
13+55       0.1206      0.21  Q    V    |          |          |          |
14+ 0       0.1221      0.22  Q    V    |          |          |          |
14+ 5       0.1236      0.22  Q    V    |          |          |          |
14+10       0.1252      0.23  Q    V    |          |          |          |
14+15       0.1268      0.24  Q    V    |          |          |          |
14+20       0.1285      0.24  Q    V    |          |          |          |
14+25       0.1302      0.25  Q    V    |          |          |          |
14+30       0.1319      0.26  Q    V    |          |          |          |
14+35       0.1338      0.27  Q    V    |          |          |          |
14+40       0.1357      0.28  Q    V    |          |          |          |
14+45       0.1377      0.29  Q    V    |          |          |          |
14+50       0.1397      0.30  Q    V    |          |          |          |
14+55       0.1418      0.31  Q     V   |          |          |          |
15+ 0       0.1441      0.32  Q     V   |          |          |          |
15+ 5       0.1464      0.34  Q     V   |          |          |          |
15+10       0.1489      0.36  Q     V   |          |          |          |
15+15       0.1514      0.37  Q     V   |          |          |          |
15+20       0.1542      0.40  Q     V   |          |          |          |
15+25       0.1571      0.43  Q     V   |          |          |          |
15+30       0.1603      0.47  Q     V   |          |          |          |
15+35       0.1640      0.53  |Q     V   |          |          |          |
15+40       0.1683      0.63  |Q     V   |          |          |          |
15+45       0.1737      0.78  |Q     V   |          |          |          |
15+50       0.1802      0.95  |Q     V   |          |          |          |
15+55       0.1884      1.18  | Q     V  |          |          |          |
16+ 0       0.1992      1.58  |  Q    V  |          |          |          |
16+ 5       0.2173      2.62  |    Q   V|          |          |          |
16+10       0.2480      4.46  |       Q V          |          |          |
16+15       0.2930      6.54  |         | VQ       |          |          |
16+20       0.3625     10.09  |         |    V    Q          |          |
16+25       0.4516     12.94  |         |        V|    Q     |          |
```

16+30	0.5239	10.49	
16+35	0.5780	7.85	
16+40	0.6182	5.84	
16+45	0.6503	4.66	
16+50	0.6771	3.89	
16+55	0.6996	3.26	
17+ 0	0.7191	2.83	
17+ 5	0.7358	2.43	
17+10	0.7506	2.14	
17+15	0.7639	1.94	
17+20	0.7761	1.76	
17+25	0.7868	1.56	
17+30	0.7961	1.35	
17+35	0.8046	1.23	
17+40	0.8125	1.15	
17+45	0.8197	1.04	
17+50	0.8264	0.97	
17+55	0.8325	0.89	
18+ 0	0.8379	0.79	
18+ 5	0.8431	0.75	
18+10	0.8479	0.69	
18+15	0.8522	0.63	
18+20	0.8564	0.60	
18+25	0.8600	0.53	
18+30	0.8634	0.49	
18+35	0.8666	0.46	
18+40	0.8693	0.39	
18+45	0.8718	0.37	
18+50	0.8743	0.37	
18+55	0.8769	0.37	
19+ 0	0.8795	0.37	
19+ 5	0.8819	0.36	
19+10	0.8844	0.35	
19+15	0.8867	0.34	
19+20	0.8887	0.30	
19+25	0.8905	0.26	
19+30	0.8922	0.25	
19+35	0.8938	0.24	
19+40	0.8953	0.22	
19+45	0.8964	0.15	
19+50	0.8974	0.14	
19+55	0.8983	0.14	
20+ 0	0.8993	0.14	
20+ 5	0.9002	0.13	
20+10	0.9011	0.13	
20+15	0.9019	0.13	
20+20	0.9028	0.12	
20+25	0.9036	0.12	
20+30	0.9045	0.12	
20+35	0.9053	0.12	
20+40	0.9061	0.12	
20+45	0.9068	0.11	
20+50	0.9076	0.11	
20+55	0.9084	0.11	
21+ 0	0.9091	0.11	
21+ 5	0.9098	0.11	
21+10	0.9106	0.10	
21+15	0.9113	0.10	
21+20	0.9120	0.10	

21+25	0.9127	0.10	Q	|	|	|	V|
21+30	0.9133	0.10	Q	|	|	|	V|
21+35	0.9140	0.10	Q	|	|	|	V|
21+40	0.9147	0.10	Q	|	|	|	V|
21+45	0.9153	0.09	Q	|	|	|	V|
21+50	0.9160	0.09	Q	|	|	|	V|
21+55	0.9166	0.09	Q	|	|	|	V|
22+ 0	0.9172	0.09	Q	|	|	|	V|
22+ 5	0.9178	0.09	Q	|	|	|	V|
22+10	0.9185	0.09	Q	|	|	|	V|
22+15	0.9191	0.09	Q	|	|	|	V|
22+20	0.9197	0.09	Q	|	|	|	V|
22+25	0.9202	0.09	Q	|	|	|	V|
22+30	0.9208	0.08	Q	|	|	|	V|
22+35	0.9214	0.08	Q	|	|	|	V|
22+40	0.9220	0.08	Q	|	|	|	V|
22+45	0.9225	0.08	Q	|	|	|	V|
22+50	0.9231	0.08	Q	|	|	|	V|
22+55	0.9236	0.08	Q	|	|	|	V|
23+ 0	0.9242	0.08	Q	|	|	|	V|
23+ 5	0.9247	0.08	Q	|	|	|	V|
23+10	0.9253	0.08	Q	|	|	|	V|
23+15	0.9258	0.08	Q	|	|	|	V|
23+20	0.9263	0.08	Q	|	|	|	V|
23+25	0.9268	0.08	Q	|	|	|	V|
23+30	0.9273	0.07	Q	|	|	|	V|
23+35	0.9278	0.07	Q	|	|	|	V|
23+40	0.9283	0.07	Q	|	|	|	V|
23+45	0.9288	0.07	Q	|	|	|	V|
23+50	0.9293	0.07	Q	|	|	|	V|
23+55	0.9298	0.07	Q	|	|	|	V|
24+ 0	0.9303	0.07	Q	|	|	|	V|
24+ 5	0.9308	0.07	Q	|	|	|	V|
24+10	0.9312	0.07	Q	|	|	|	V|
24+15	0.9317	0.06	Q	|	|	|	V|
24+20	0.9320	0.06	Q	|	|	|	V|
24+25	0.9323	0.04	Q	|	|	|	V|
24+30	0.9326	0.04	Q	|	|	|	V|
24+35	0.9328	0.03	Q	|	|	|	V|
24+40	0.9330	0.02	Q	|	|	|	V|
24+45	0.9331	0.02	Q	|	|	|	V|
24+50	0.9332	0.02	Q	|	|	|	V|
24+55	0.9334	0.02	Q	|	|	|	V|
25+ 0	0.9335	0.01	Q	|	|	|	V|
25+ 5	0.9335	0.01	Q	|	|	|	V|
25+10	0.9336	0.01	Q	|	|	|	V|
25+15	0.9337	0.01	Q	|	|	|	V|
25+20	0.9338	0.01	Q	|	|	|	V|
25+25	0.9338	0.01	Q	|	|	|	V|
25+30	0.9339	0.01	Q	|	|	|	V|
25+35	0.9339	0.01	Q	|	|	|	V|
25+40	0.9339	0.01	Q	|	|	|	V|
25+45	0.9340	0.01	Q	|	|	|	V|
25+50	0.9340	0.00	Q	|	|	|	V|
25+55	0.9340	0.00	Q	|	|	|	V|
26+ 0	0.9341	0.00	Q	|	|	|	V|
26+ 5	0.9341	0.00	Q	|	|	|	V|
26+10	0.9341	0.00	Q	|	|	|	V|
26+15	0.9341	0.00	Q	|	|	|	V|

26+20	0.9341	0.00	Q	|	|	|	V|
26+25	0.9342	0.00	Q	|	|	|	V|
26+30	0.9342	0.00	Q	|	|	|	V|
26+35	0.9342	0.00	Q	|	|	|	V|
26+40	0.9342	0.00	Q	|	|	|	V|
26+45	0.9342	0.00	Q	|	|	|	V|
26+50	0.9342	0.00	Q	|	|	|	V|
26+55	0.9342	0.00	Q	|	|	|	V|
27+ 0	0.9342	0.00	Q	|	|	|	V|
27+ 5	0.9342	0.00	Q	|	|	|	V|
27+10	0.9342	0.00	Q	|	|	|	V|
27+15	0.9342	0.00	Q	|	|	|	V|
27+20	0.9342	0.00	Q	|	|	|	V|
27+25	0.9342	0.00	Q	|	|	|	V|
27+30	0.9342	0.00	Q	|	|	|	V|
27+35	0.9342	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 20
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)	
Rainfall data for year 100			
24.41	1	1.36	
Rainfall data for year 100			
24.41	6	1.84	
Rainfall data for year 100			
24.41	24	2.48	

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
77.2	92.3	24.41	1.000	0.149	0.905	0.135

Area-averaged adjusted loss rate Fm (In/Hr) = 0.135

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
22.09	0.905	77.2	92.3	0.83	0.686
2.32	0.095	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.707
Area-averaged low loss fraction, Yb = 0.293
User entry of time of concentration = 0.480 (hours)
++
Watershed area = 24.41(Ac.)
Catchment Lag time = 0.384 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 21.7014
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.135(In/Hr)
Average low loss rate fraction (Yb) = 0.293 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 24.41(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.645(In)
30-minute factor = 0.999 Adjusted rainfall = 1.103(In)
1-hour factor = 0.999 Adjusted rainfall = 1.358(In)
3-hour factor = 1.000 Adjusted rainfall = 1.637(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 295.21 (CFS))	
1	1.111	3.280
2	5.164	11.964
3	13.587	24.867
4	31.738	53.584
5	48.298	48.884
6	59.038	31.708
7	66.079	20.784
8	71.449	15.853
9	75.653	12.411
10	79.095	10.162
11	81.874	8.203
12	84.223	6.934
13	86.323	6.199

14	88.131	5.337
15	89.580	4.279
16	90.837	3.710
17	91.986	3.393
18	93.007	3.013
19	93.930	2.726
20	94.688	2.238
21	95.420	2.160
22	96.031	1.804
23	96.595	1.666
24	97.080	1.430
25	97.470	1.154
26	97.824	1.043
27	98.051	0.671
28	98.271	0.649
29	98.522	0.742
30	98.782	0.769
31	99.043	0.769
32	99.303	0.769
33	99.529	0.667
34	99.669	0.412
35	99.804	0.400
36	100.000	0.200

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6446	0.6446
2	0.7936	0.1490
3	0.8962	0.1026
4	0.9770	0.0808
5	1.0447	0.0676
6	1.1034	0.0587
7	1.1556	0.0522
8	1.2029	0.0472
9	1.2461	0.0433
10	1.2861	0.0400
11	1.3234	0.0373
12	1.3584	0.0350
13	1.3770	0.0186
14	1.3944	0.0174
15	1.4108	0.0164
16	1.4264	0.0155
17	1.4411	0.0147
18	1.4552	0.0140
19	1.4686	0.0134
20	1.4814	0.0128
21	1.4937	0.0123
22	1.5055	0.0118
23	1.5169	0.0114
24	1.5279	0.0110
25	1.5385	0.0106
26	1.5488	0.0103
27	1.5588	0.0099
28	1.5684	0.0096
29	1.5778	0.0094
30	1.5869	0.0091
31	1.5957	0.0089
32	1.6043	0.0086
33	1.6127	0.0084

34	1.6209	0.0082
35	1.6289	0.0080
36	1.6367	0.0078
37	1.6443	0.0076
38	1.6517	0.0074
39	1.6590	0.0073
40	1.6661	0.0071
41	1.6730	0.0070
42	1.6798	0.0068
43	1.6865	0.0067
44	1.6931	0.0066
45	1.6995	0.0064
46	1.7058	0.0063
47	1.7120	0.0062
48	1.7181	0.0061
49	1.7241	0.0060
50	1.7300	0.0059
51	1.7358	0.0058
52	1.7415	0.0057
53	1.7471	0.0056
54	1.7526	0.0055
55	1.7581	0.0054
56	1.7634	0.0054
57	1.7687	0.0053
58	1.7739	0.0052
59	1.7790	0.0051
60	1.7841	0.0051
61	1.7891	0.0050
62	1.7940	0.0049
63	1.7989	0.0049
64	1.8036	0.0048
65	1.8084	0.0047
66	1.8130	0.0047
67	1.8176	0.0046
68	1.8222	0.0046
69	1.8267	0.0045
70	1.8311	0.0044
71	1.8355	0.0044
72	1.8399	0.0043
73	1.8453	0.0055
74	1.8507	0.0054
75	1.8561	0.0054
76	1.8614	0.0053
77	1.8667	0.0052
78	1.8718	0.0052
79	1.8770	0.0051
80	1.8821	0.0051
81	1.8871	0.0050
82	1.8921	0.0050
83	1.8971	0.0049
84	1.9020	0.0049
85	1.9068	0.0049
86	1.9116	0.0048
87	1.9164	0.0048
88	1.9211	0.0047
89	1.9258	0.0047
90	1.9304	0.0046
91	1.9350	0.0046
92	1.9396	0.0046

93	1.9441	0.0045
94	1.9486	0.0045
95	1.9530	0.0044
96	1.9574	0.0044
97	1.9618	0.0044
98	1.9662	0.0043
99	1.9705	0.0043
100	1.9747	0.0043
101	1.9790	0.0042
102	1.9832	0.0042
103	1.9873	0.0042
104	1.9915	0.0041
105	1.9956	0.0041
106	1.9997	0.0041
107	2.0037	0.0040
108	2.0077	0.0040
109	2.0117	0.0040
110	2.0157	0.0040
111	2.0196	0.0039
112	2.0235	0.0039
113	2.0274	0.0039
114	2.0312	0.0039
115	2.0351	0.0038
116	2.0389	0.0038
117	2.0426	0.0038
118	2.0464	0.0037
119	2.0501	0.0037
120	2.0538	0.0037
121	2.0575	0.0037
122	2.0611	0.0036
123	2.0648	0.0036
124	2.0684	0.0036
125	2.0719	0.0036
126	2.0755	0.0036
127	2.0790	0.0035
128	2.0826	0.0035
129	2.0860	0.0035
130	2.0895	0.0035
131	2.0930	0.0035
132	2.0964	0.0034
133	2.0998	0.0034
134	2.1032	0.0034
135	2.1066	0.0034
136	2.1099	0.0034
137	2.1133	0.0033
138	2.1166	0.0033
139	2.1199	0.0033
140	2.1231	0.0033
141	2.1264	0.0033
142	2.1296	0.0032
143	2.1328	0.0032
144	2.1361	0.0032
145	2.1392	0.0032
146	2.1424	0.0032
147	2.1456	0.0032
148	2.1487	0.0031
149	2.1518	0.0031
150	2.1549	0.0031
151	2.1580	0.0031

152	2.1611	0.0031
153	2.1641	0.0031
154	2.1672	0.0030
155	2.1702	0.0030
156	2.1732	0.0030
157	2.1762	0.0030
158	2.1792	0.0030
159	2.1821	0.0030
160	2.1851	0.0029
161	2.1880	0.0029
162	2.1909	0.0029
163	2.1938	0.0029
164	2.1967	0.0029
165	2.1996	0.0029
166	2.2025	0.0029
167	2.2053	0.0029
168	2.2081	0.0028
169	2.2110	0.0028
170	2.2138	0.0028
171	2.2166	0.0028
172	2.2194	0.0028
173	2.2221	0.0028
174	2.2249	0.0028
175	2.2276	0.0027
176	2.2304	0.0027
177	2.2331	0.0027
178	2.2358	0.0027
179	2.2385	0.0027
180	2.2412	0.0027
181	2.2439	0.0027
182	2.2465	0.0027
183	2.2492	0.0027
184	2.2518	0.0026
185	2.2545	0.0026
186	2.2571	0.0026
187	2.2597	0.0026
188	2.2623	0.0026
189	2.2649	0.0026
190	2.2675	0.0026
191	2.2700	0.0026
192	2.2726	0.0026
193	2.2751	0.0025
194	2.2776	0.0025
195	2.2802	0.0025
196	2.2827	0.0025
197	2.2852	0.0025
198	2.2877	0.0025
199	2.2902	0.0025
200	2.2926	0.0025
201	2.2951	0.0025
202	2.2976	0.0025
203	2.3000	0.0024
204	2.3024	0.0024
205	2.3049	0.0024
206	2.3073	0.0024
207	2.3097	0.0024
208	2.3121	0.0024
209	2.3145	0.0024
210	2.3169	0.0024

211	2.3192	0.0024
212	2.3216	0.0024
213	2.3239	0.0024
214	2.3263	0.0023
215	2.3286	0.0023
216	2.3309	0.0023
217	2.3333	0.0023
218	2.3356	0.0023
219	2.3379	0.0023
220	2.3402	0.0023
221	2.3425	0.0023
222	2.3447	0.0023
223	2.3470	0.0023
224	2.3493	0.0023
225	2.3515	0.0023
226	2.3538	0.0022
227	2.3560	0.0022
228	2.3582	0.0022
229	2.3605	0.0022
230	2.3627	0.0022
231	2.3649	0.0022
232	2.3671	0.0022
233	2.3693	0.0022
234	2.3715	0.0022
235	2.3737	0.0022
236	2.3758	0.0022
237	2.3780	0.0022
238	2.3801	0.0022
239	2.3823	0.0022
240	2.3844	0.0021
241	2.3866	0.0021
242	2.3887	0.0021
243	2.3908	0.0021
244	2.3929	0.0021
245	2.3951	0.0021
246	2.3972	0.0021
247	2.3993	0.0021
248	2.4013	0.0021
249	2.4034	0.0021
250	2.4055	0.0021
251	2.4076	0.0021
252	2.4096	0.0021
253	2.4117	0.0021
254	2.4137	0.0020
255	2.4158	0.0020
256	2.4178	0.0020
257	2.4198	0.0020
258	2.4219	0.0020
259	2.4239	0.0020
260	2.4259	0.0020
261	2.4279	0.0020
262	2.4299	0.0020
263	2.4319	0.0020
264	2.4339	0.0020
265	2.4359	0.0020
266	2.4378	0.0020
267	2.4398	0.0020
268	2.4418	0.0020
269	2.4437	0.0020

270	2.4457	0.0020
271	2.4476	0.0019
272	2.4496	0.0019
273	2.4515	0.0019
274	2.4535	0.0019
275	2.4554	0.0019
276	2.4573	0.0019
277	2.4592	0.0019
278	2.4611	0.0019
279	2.4630	0.0019
280	2.4649	0.0019
281	2.4668	0.0019
282	2.4687	0.0019
283	2.4706	0.0019
284	2.4725	0.0019
285	2.4743	0.0019
286	2.4762	0.0019
287	2.4781	0.0019
288	2.4799	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0005	0.0013
2	0.0019	0.0005	0.0013
3	0.0019	0.0005	0.0013
4	0.0019	0.0005	0.0013
5	0.0019	0.0006	0.0013
6	0.0019	0.0006	0.0013
7	0.0019	0.0006	0.0013
8	0.0019	0.0006	0.0014
9	0.0019	0.0006	0.0014
10	0.0019	0.0006	0.0014
11	0.0019	0.0006	0.0014
12	0.0019	0.0006	0.0014
13	0.0020	0.0006	0.0014
14	0.0020	0.0006	0.0014
15	0.0020	0.0006	0.0014
16	0.0020	0.0006	0.0014
17	0.0020	0.0006	0.0014
18	0.0020	0.0006	0.0014
19	0.0020	0.0006	0.0014
20	0.0020	0.0006	0.0014
21	0.0020	0.0006	0.0014
22	0.0020	0.0006	0.0014
23	0.0020	0.0006	0.0014
24	0.0020	0.0006	0.0014
25	0.0021	0.0006	0.0015
26	0.0021	0.0006	0.0015
27	0.0021	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0015
31	0.0021	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0015
34	0.0022	0.0006	0.0015
35	0.0022	0.0006	0.0015

36	0.0022	0.0006	0.0015
37	0.0022	0.0006	0.0015
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0022	0.0006	0.0016
41	0.0022	0.0007	0.0016
42	0.0022	0.0007	0.0016
43	0.0023	0.0007	0.0016
44	0.0023	0.0007	0.0016
45	0.0023	0.0007	0.0016
46	0.0023	0.0007	0.0016
47	0.0023	0.0007	0.0016
48	0.0023	0.0007	0.0016
49	0.0023	0.0007	0.0016
50	0.0023	0.0007	0.0017
51	0.0024	0.0007	0.0017
52	0.0024	0.0007	0.0017
53	0.0024	0.0007	0.0017
54	0.0024	0.0007	0.0017
55	0.0024	0.0007	0.0017
56	0.0024	0.0007	0.0017
57	0.0024	0.0007	0.0017
58	0.0024	0.0007	0.0017
59	0.0025	0.0007	0.0017
60	0.0025	0.0007	0.0017
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0025	0.0007	0.0018
64	0.0025	0.0007	0.0018
65	0.0026	0.0007	0.0018
66	0.0026	0.0008	0.0018
67	0.0026	0.0008	0.0018
68	0.0026	0.0008	0.0018
69	0.0026	0.0008	0.0019
70	0.0026	0.0008	0.0019
71	0.0027	0.0008	0.0019
72	0.0027	0.0008	0.0019
73	0.0027	0.0008	0.0019
74	0.0027	0.0008	0.0019
75	0.0027	0.0008	0.0019
76	0.0027	0.0008	0.0019
77	0.0028	0.0008	0.0020
78	0.0028	0.0008	0.0020
79	0.0028	0.0008	0.0020
80	0.0028	0.0008	0.0020
81	0.0028	0.0008	0.0020
82	0.0029	0.0008	0.0020
83	0.0029	0.0008	0.0020
84	0.0029	0.0008	0.0020
85	0.0029	0.0009	0.0021
86	0.0029	0.0009	0.0021
87	0.0030	0.0009	0.0021
88	0.0030	0.0009	0.0021
89	0.0030	0.0009	0.0021
90	0.0030	0.0009	0.0021
91	0.0031	0.0009	0.0022
92	0.0031	0.0009	0.0022
93	0.0031	0.0009	0.0022
94	0.0031	0.0009	0.0022

95	0.0032	0.0009	0.0022
96	0.0032	0.0009	0.0022
97	0.0032	0.0009	0.0023
98	0.0032	0.0009	0.0023
99	0.0033	0.0010	0.0023
100	0.0033	0.0010	0.0023
101	0.0033	0.0010	0.0023
102	0.0033	0.0010	0.0024
103	0.0034	0.0010	0.0024
104	0.0034	0.0010	0.0024
105	0.0034	0.0010	0.0024
106	0.0035	0.0010	0.0024
107	0.0035	0.0010	0.0025
108	0.0035	0.0010	0.0025
109	0.0036	0.0010	0.0025
110	0.0036	0.0010	0.0025
111	0.0036	0.0011	0.0026
112	0.0036	0.0011	0.0026
113	0.0037	0.0011	0.0026
114	0.0037	0.0011	0.0026
115	0.0038	0.0011	0.0027
116	0.0038	0.0011	0.0027
117	0.0039	0.0011	0.0027
118	0.0039	0.0011	0.0027
119	0.0039	0.0012	0.0028
120	0.0040	0.0012	0.0028
121	0.0040	0.0012	0.0028
122	0.0040	0.0012	0.0029
123	0.0041	0.0012	0.0029
124	0.0041	0.0012	0.0029
125	0.0042	0.0012	0.0030
126	0.0042	0.0012	0.0030
127	0.0043	0.0013	0.0030
128	0.0043	0.0013	0.0031
129	0.0044	0.0013	0.0031
130	0.0044	0.0013	0.0031
131	0.0045	0.0013	0.0032
132	0.0046	0.0013	0.0032
133	0.0046	0.0014	0.0033
134	0.0047	0.0014	0.0033
135	0.0048	0.0014	0.0034
136	0.0048	0.0014	0.0034
137	0.0049	0.0014	0.0035
138	0.0049	0.0014	0.0035
139	0.0050	0.0015	0.0036
140	0.0051	0.0015	0.0036
141	0.0052	0.0015	0.0037
142	0.0052	0.0015	0.0037
143	0.0054	0.0016	0.0038
144	0.0054	0.0016	0.0038
145	0.0043	0.0013	0.0031
146	0.0044	0.0013	0.0031
147	0.0045	0.0013	0.0032
148	0.0046	0.0013	0.0032
149	0.0047	0.0014	0.0033
150	0.0047	0.0014	0.0033
151	0.0049	0.0014	0.0034
152	0.0049	0.0014	0.0035
153	0.0051	0.0015	0.0036

154	0.0051	0.0015	0.0036
155	0.0053	0.0015	0.0037
156	0.0054	0.0016	0.0038
157	0.0055	0.0016	0.0039
158	0.0056	0.0016	0.0040
159	0.0058	0.0017	0.0041
160	0.0059	0.0017	0.0042
161	0.0061	0.0018	0.0043
162	0.0062	0.0018	0.0044
163	0.0064	0.0019	0.0046
164	0.0066	0.0019	0.0046
165	0.0068	0.0020	0.0048
166	0.0070	0.0020	0.0049
167	0.0073	0.0021	0.0051
168	0.0074	0.0022	0.0052
169	0.0078	0.0023	0.0055
170	0.0080	0.0023	0.0057
171	0.0084	0.0025	0.0059
172	0.0086	0.0025	0.0061
173	0.0091	0.0027	0.0064
174	0.0094	0.0027	0.0066
175	0.0099	0.0029	0.0070
176	0.0103	0.0030	0.0073
177	0.0110	0.0032	0.0078
178	0.0114	0.0033	0.0081
179	0.0123	0.0036	0.0087
180	0.0128	0.0038	0.0091
181	0.0140	0.0041	0.0099
182	0.0147	0.0043	0.0104
183	0.0164	0.0048	0.0116
184	0.0174	0.0051	0.0123
185	0.0350	0.0102	0.0248
186	0.0373	0.0109	0.0264
187	0.0433	0.0112	0.0320
188	0.0472	0.0112	0.0360
189	0.0587	0.0112	0.0475
190	0.0676	0.0112	0.0564
191	0.1026	0.0112	0.0914
192	0.1490	0.0112	0.1378
193	0.6446	0.0112	0.6334
194	0.0808	0.0112	0.0695
195	0.0522	0.0112	0.0410
196	0.0400	0.0112	0.0288
197	0.0186	0.0054	0.0131
198	0.0155	0.0045	0.0110
199	0.0134	0.0039	0.0095
200	0.0118	0.0035	0.0084
201	0.0106	0.0031	0.0075
202	0.0096	0.0028	0.0068
203	0.0089	0.0026	0.0063
204	0.0082	0.0024	0.0058
205	0.0076	0.0022	0.0054
206	0.0071	0.0021	0.0050
207	0.0067	0.0020	0.0047
208	0.0063	0.0018	0.0045
209	0.0060	0.0018	0.0042
210	0.0057	0.0017	0.0040
211	0.0054	0.0016	0.0038
212	0.0052	0.0015	0.0037

213	0.0050	0.0015	0.0035
214	0.0048	0.0014	0.0034
215	0.0046	0.0013	0.0033
216	0.0044	0.0013	0.0031
217	0.0055	0.0016	0.0039
218	0.0053	0.0016	0.0037
219	0.0051	0.0015	0.0036
220	0.0050	0.0015	0.0035
221	0.0049	0.0014	0.0034
222	0.0047	0.0014	0.0033
223	0.0046	0.0013	0.0033
224	0.0045	0.0013	0.0032
225	0.0044	0.0013	0.0031
226	0.0043	0.0012	0.0030
227	0.0042	0.0012	0.0029
228	0.0041	0.0012	0.0029
229	0.0040	0.0012	0.0028
230	0.0039	0.0011	0.0028
231	0.0038	0.0011	0.0027
232	0.0037	0.0011	0.0027
233	0.0037	0.0011	0.0026
234	0.0036	0.0011	0.0025
235	0.0035	0.0010	0.0025
236	0.0035	0.0010	0.0025
237	0.0034	0.0010	0.0024
238	0.0034	0.0010	0.0024
239	0.0033	0.0010	0.0023
240	0.0032	0.0009	0.0023
241	0.0032	0.0009	0.0023
242	0.0031	0.0009	0.0022
243	0.0031	0.0009	0.0022
244	0.0030	0.0009	0.0021
245	0.0030	0.0009	0.0021
246	0.0029	0.0009	0.0021
247	0.0029	0.0009	0.0021
248	0.0029	0.0008	0.0020
249	0.0028	0.0008	0.0020
250	0.0028	0.0008	0.0020
251	0.0027	0.0008	0.0019
252	0.0027	0.0008	0.0019
253	0.0027	0.0008	0.0019
254	0.0026	0.0008	0.0019
255	0.0026	0.0008	0.0018
256	0.0026	0.0008	0.0018
257	0.0025	0.0007	0.0018
258	0.0025	0.0007	0.0018
259	0.0025	0.0007	0.0018
260	0.0025	0.0007	0.0017
261	0.0024	0.0007	0.0017
262	0.0024	0.0007	0.0017
263	0.0024	0.0007	0.0017
264	0.0023	0.0007	0.0017
265	0.0023	0.0007	0.0016
266	0.0023	0.0007	0.0016
267	0.0023	0.0007	0.0016
268	0.0022	0.0007	0.0016
269	0.0022	0.0007	0.0016
270	0.0022	0.0006	0.0016
271	0.0022	0.0006	0.0015

272	0.0022	0.0006	0.0015
273	0.0021	0.0006	0.0015
274	0.0021	0.0006	0.0015
275	0.0021	0.0006	0.0015
276	0.0021	0.0006	0.0015
277	0.0021	0.0006	0.0015
278	0.0020	0.0006	0.0014
279	0.0020	0.0006	0.0014
280	0.0020	0.0006	0.0014
281	0.0020	0.0006	0.0014
282	0.0020	0.0006	0.0014
283	0.0019	0.0006	0.0014
284	0.0019	0.0006	0.0014
285	0.0019	0.0006	0.0014
286	0.0019	0.0006	0.0013
287	0.0019	0.0006	0.0013
288	0.0019	0.0005	0.0013

Total soil rain loss = 0.46(In)
Total effective rainfall = 2.02(In)
Peak flow rate in flood hydrograph = 49.38(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|
0+15	0.0005	0.05	Q	|	|	|	|
0+20	0.0014	0.12	Q	|	|	|	|
0+25	0.0027	0.19	Q	|	|	|	|
0+30	0.0043	0.23	Q	|	|	|	|
0+35	0.0060	0.26	Q	|	|	|	|
0+40	0.0080	0.28	Q	|	|	|	|
0+45	0.0100	0.30	Q	|	|	|	|
0+50	0.0122	0.31	Q	|	|	|	|
0+55	0.0144	0.32	Q	|	|	|	|
1+ 0	0.0167	0.34	Q	|	|	|	|
1+ 5	0.0191	0.34	Q	|	|	|	|
1+10	0.0215	0.35	Q	|	|	|	|
1+15	0.0240	0.36	Q	|	|	|	|
1+20	0.0265	0.37	Q	|	|	|	|
1+25	0.0291	0.37	Q	|	|	|	|
1+30	0.0317	0.38	Q	|	|	|	|
1+35	0.0343	0.38	Q	|	|	|	|
1+40	0.0370	0.39	Q	|	|	|	|
1+45	0.0397	0.39	Q	|	|	|	|
1+50	0.0425	0.40	Q	|	|	|	|
1+55	0.0452	0.40	Q	|	|	|	|
2+ 0	0.0480	0.40	Q	|	|	|	|
2+ 5	0.0508	0.41	Q	|	|	|	|
2+10	0.0536	0.41	Q	|	|	|	|
2+15	0.0565	0.41	Q	|	|	|	|

2+20	0.0594	0.42	Q				
2+25	0.0622	0.42	Q				
2+30	0.0651	0.42	Q				
2+35	0.0681	0.43	Q				
2+40	0.0710	0.43	Q				
2+45	0.0740	0.43	Q				
2+50	0.0770	0.43	Q				
2+55	0.0800	0.44	Q				
3+ 0	0.0830	0.44	Q				
3+ 5	0.0860	0.44	Q				
3+10	0.0891	0.44	Q				
3+15	0.0922	0.45	Q				
3+20	0.0952	0.45	Q				
3+25	0.0983	0.45	Q				
3+30	0.1015	0.45	Q				
3+35	0.1046	0.45	QV				
3+40	0.1077	0.46	QV				
3+45	0.1109	0.46	QV				
3+50	0.1141	0.46	QV				
3+55	0.1172	0.46	QV				
4+ 0	0.1205	0.47	QV				
4+ 5	0.1237	0.47	QV				
4+10	0.1269	0.47	QV				
4+15	0.1302	0.47	QV				
4+20	0.1335	0.48	QV				
4+25	0.1368	0.48	QV				
4+30	0.1401	0.48	QV				
4+35	0.1434	0.48	QV				
4+40	0.1467	0.49	QV				
4+45	0.1501	0.49	QV				
4+50	0.1535	0.49	QV				
4+55	0.1569	0.49	QV				
5+ 0	0.1603	0.50	QV				
5+ 5	0.1638	0.50	QV				
5+10	0.1672	0.50	QV				
5+15	0.1707	0.51	QV				
5+20	0.1742	0.51	QV				
5+25	0.1777	0.51	QV				
5+30	0.1813	0.51	QV				
5+35	0.1848	0.52	QV				
5+40	0.1884	0.52	QV				
5+45	0.1920	0.52	QV				
5+50	0.1957	0.53	QV				
5+55	0.1993	0.53	QV				
6+ 0	0.2030	0.53	QV				
6+ 5	0.2067	0.54	Q V				
6+10	0.2104	0.54	Q V				
6+15	0.2141	0.54	Q V				
6+20	0.2179	0.55	Q V				
6+25	0.2217	0.55	Q V				
6+30	0.2255	0.55	Q V				
6+35	0.2294	0.56	Q V				
6+40	0.2332	0.56	Q V				
6+45	0.2371	0.57	Q V				
6+50	0.2410	0.57	Q V				
6+55	0.2450	0.57	Q V				
7+ 0	0.2489	0.58	Q V				
7+ 5	0.2529	0.58	Q V				
7+10	0.2570	0.58	Q V				

7+15	0.2610	0.59	Q V	|	|	|	|
7+20	0.2651	0.59	Q V	|	|	|	|
7+25	0.2692	0.60	Q V	|	|	|	|
7+30	0.2734	0.60	Q V	|	|	|	|
7+35	0.2775	0.61	Q V	|	|	|	|
7+40	0.2817	0.61	Q V	|	|	|	|
7+45	0.2860	0.61	Q V	|	|	|	|
7+50	0.2902	0.62	Q V	|	|	|	|
7+55	0.2945	0.62	Q V	|	|	|	|
8+ 0	0.2989	0.63	Q V	|	|	|	|
8+ 5	0.3032	0.63	Q V	|	|	|	|
8+10	0.3076	0.64	Q V	|	|	|	|
8+15	0.3120	0.64	Q V	|	|	|	|
8+20	0.3165	0.65	Q V	|	|	|	|
8+25	0.3210	0.65	Q V	|	|	|	|
8+30	0.3256	0.66	Q V	|	|	|	|
8+35	0.3301	0.66	Q V	|	|	|	|
8+40	0.3347	0.67	Q V	|	|	|	|
8+45	0.3394	0.68	Q V	|	|	|	|
8+50	0.3441	0.68	Q V	|	|	|	|
8+55	0.3488	0.69	Q V	|	|	|	|
9+ 0	0.3536	0.69	Q V	|	|	|	|
9+ 5	0.3584	0.70	Q V	|	|	|	|
9+10	0.3632	0.70	Q V	|	|	|	|
9+15	0.3681	0.71	Q V	|	|	|	|
9+20	0.3731	0.72	Q V	|	|	|	|
9+25	0.3781	0.72	Q V	|	|	|	|
9+30	0.3831	0.73	Q V	|	|	|	|
9+35	0.3882	0.74	Q V	|	|	|	|
9+40	0.3933	0.74	Q V	|	|	|	|
9+45	0.3985	0.75	Q V	|	|	|	|
9+50	0.4037	0.76	Q V	|	|	|	|
9+55	0.4090	0.77	Q V	|	|	|	|
10+ 0	0.4143	0.77	Q V	|	|	|	|
10+ 5	0.4197	0.78	Q V	|	|	|	|
10+10	0.4252	0.79	Q V	|	|	|	|
10+15	0.4306	0.80	Q V	|	|	|	|
10+20	0.4362	0.81	Q V	|	|	|	|
10+25	0.4418	0.81	Q V	|	|	|	|
10+30	0.4475	0.82	Q V	|	|	|	|
10+35	0.4532	0.83	Q V	|	|	|	|
10+40	0.4590	0.84	Q V	|	|	|	|
10+45	0.4649	0.85	Q V	|	|	|	|
10+50	0.4708	0.86	Q V	|	|	|	|
10+55	0.4768	0.87	Q V	|	|	|	|
11+ 0	0.4829	0.88	Q V	|	|	|	|
11+ 5	0.4890	0.89	Q V	|	|	|	|
11+10	0.4952	0.90	Q V	|	|	|	|
11+15	0.5015	0.91	Q V	|	|	|	|
11+20	0.5079	0.92	Q V	|	|	|	|
11+25	0.5143	0.94	Q V	|	|	|	|
11+30	0.5209	0.95	Q V	|	|	|	|
11+35	0.5275	0.96	Q V	|	|	|	|
11+40	0.5342	0.97	Q V	|	|	|	|
11+45	0.5410	0.99	Q V	|	|	|	|
11+50	0.5479	1.00	Q V	|	|	|	|
11+55	0.5548	1.01	Q V	|	|	|	|
12+ 0	0.5619	1.03	Q V	|	|	|	|
12+ 5	0.5691	1.04	Q V	|	|	|	|

```
12+10       0.5763      1.05  Q    V    |          |          |          |
12+15       0.5835      1.04  Q    V    |          |          |          |
12+20       0.5905      1.01  Q    V    |          |          |          |
12+25       0.5973      0.99  Q    V    |          |          |          |
12+30       0.6040      0.98  Q    V    |          |          |          |
12+35       0.6107      0.98  Q    V    |          |          |          |
12+40       0.6175      0.98  Q     V   |          |          |          |
12+45       0.6242      0.99  Q     V   |          |          |          |
12+50       0.6311      1.00  Q     V   |          |          |          |
12+55       0.6380      1.01  Q     V   |          |          |          |
13+ 0       0.6451      1.02  Q     V   |          |          |          |
13+ 5       0.6522      1.04  Q     V   |          |          |          |
13+10       0.6595      1.05  Q     V   |          |          |          |
13+15       0.6668      1.07  Q     V   |          |          |          |
13+20       0.6743      1.09  Q     V   |          |          |          |
13+25       0.6820      1.11  Q     V   |          |          |          |
13+30       0.6898      1.13  Q     V   |          |          |          |
13+35       0.6978      1.16  Q     V   |          |          |          |
13+40       0.7059      1.18  Q     V   |          |          |          |
13+45       0.7143      1.21  Q     V   |          |          |          |
13+50       0.7228      1.24  Q      V  |          |          |          |
13+55       0.7316      1.27  |Q     V  |          |          |          |
14+ 0       0.7406      1.31  |Q     V  |          |          |          |
14+ 5       0.7498      1.34  |Q     V  |          |          |          |
14+10       0.7593      1.38  |Q     V  |          |          |          |
14+15       0.7691      1.42  |Q     V  |          |          |          |
14+20       0.7792      1.47  |Q     V  |          |          |          |
14+25       0.7897      1.52  |Q     V  |          |          |          |
14+30       0.8005      1.57  |Q     V  |          |          |          |
14+35       0.8117      1.63  |Q     V  |          |          |          |
14+40       0.8233      1.69  |Q      V |          |          |          |
14+45       0.8354      1.75  |Q      V |          |          |          |
14+50       0.8479      1.83  |Q      V |          |          |          |
14+55       0.8611      1.91  |Q      V |          |          |          |
15+ 0       0.8748      2.00  |Q      V |          |          |          |
15+ 5       0.8892      2.09  |Q      V |          |          |          |
15+10       0.9044      2.21  |Q      V |          |          |          |
15+15       0.9205      2.33  |Q      V |          |          |          |
15+20       0.9375      2.48  |Q       V|          |          |          |
15+25       0.9560      2.67  | Q      V|          |          |          |
15+30       0.9766      3.00  | Q      V|          |          |          |
15+35       1.0008      3.51  | Q      V|          |          |          |
15+40       1.0312      4.42  |  Q      V          |          |          |
15+45       1.0686      5.43  |   Q     V          |          |          |
15+50       1.1137      6.54  |    Q    V          |          |          |
15+55       1.1681      7.90  |     Q   |V         |          |          |
16+ 0       1.2366      9.96  |      Q  | V        |          |          |
16+ 5       1.3366     14.51  |         |Q V       |          |          |
16+10       1.4934     22.77  |         |   V   Q  |          |          |
16+15       1.7223     33.25  |         |     V    |     Q    |          |
16+20       2.0624     49.38  |         |          V          |        Q |
16+25       2.3734     45.16  |         |          |  V       |     Q    |
16+30       2.6021     33.20  |         |          |    VQ    |          |
16+35       2.7718     24.65  |         |        Q |      V   |          |
16+40       2.9067     19.58  |         |    Q     |       V  |          |
16+45       3.0160     15.87  |         | Q        |        V |          |
16+50       3.1077     13.32  |         Q          |         V          |
16+55       3.1853     11.26  |        Q|          |         |V         |
17+ 0       3.2527      9.79  |      Q  |          |         |V         |
```

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17+ 5       3.3129      8.74  |     Q   |         |         | V       |
17+10       3.3659      7.70  |     Q   |         |         | V       |
17+15       3.4117      6.65  |    Q    |         |         |  V      |
17+20       3.4526      5.95  |   Q     |         |         |  V      |
17+25       3.4900      5.43  |   Q     |         |         |   V     |
17+30       3.5240      4.92  |  Q      |         |         |   V     |
17+35       3.5549      4.49  |  Q      |         |         |   V     |
17+40       3.5824      3.99  |  Q      |         |         |   V     |
17+45       3.6081      3.73  | Q       |         |         |    V    |
17+50       3.6311      3.34  | Q       |         |         |    V    |
17+55       3.6524      3.08  | Q       |         |         |    V    |
18+ 0       3.6716      2.79  | Q       |         |         |    V    |
18+ 5       3.6887      2.49  |Q        |         |         |     V   |
18+10       3.7046      2.30  |Q        |         |         |     V   |
18+15       3.7184      2.01  |Q        |         |         |     V   |
18+20       3.7320      1.97  |Q        |         |         |     V   |
18+25       3.7456      1.99  |Q        |         |         |     V   |
18+30       3.7591      1.96  |Q        |         |         |     V   |
18+35       3.7723      1.91  |Q        |         |         |     V   |
18+40       3.7849      1.84  |Q        |         |         |     V   |
18+45       3.7966      1.69  |Q        |         |         |      V  |
18+50       3.8068      1.48  |Q        |         |         |      V  |
18+55       3.8163      1.38  |Q        |         |         |      V  |
19+ 0       3.8245      1.19  Q         |         |         |      V  |
19+ 5       3.8316      1.03  Q         |         |         |      V  |
19+10       3.8383      0.98  Q         |         |         |      V  |
19+15       3.8449      0.95  Q         |         |         |      V  |
19+20       3.8512      0.92  Q         |         |         |      V  |
19+25       3.8574      0.90  Q         |         |         |      V  |
19+30       3.8635      0.88  Q         |         |         |      V  |
19+35       3.8694      0.86  Q         |         |         |      V  |
19+40       3.8751      0.84  Q         |         |         |      V  |
19+45       3.8808      0.82  Q         |         |         |      V  |
19+50       3.8863      0.80  Q         |         |         |      V  |
19+55       3.8918      0.79  Q         |         |         |      V  |
20+ 0       3.8971      0.77  Q         |         |         |       V |
20+ 5       3.9023      0.76  Q         |         |         |       V |
20+10       3.9074      0.74  Q         |         |         |       V |
20+15       3.9124      0.73  Q         |         |         |       V |
20+20       3.9174      0.72  Q         |         |         |       V |
20+25       3.9222      0.70  Q         |         |         |       V |
20+30       3.9270      0.69  Q         |         |         |       V |
20+35       3.9317      0.68  Q         |         |         |       V |
20+40       3.9363      0.67  Q         |         |         |       V |
20+45       3.9408      0.66  Q         |         |         |       V |
20+50       3.9453      0.65  Q         |         |         |       V |
20+55       3.9497      0.64  Q         |         |         |       V |
21+ 0       3.9541      0.63  Q         |         |         |       V |
21+ 5       3.9583      0.62  Q         |         |         |       V |
21+10       3.9625      0.61  Q         |         |         |       V |
21+15       3.9667      0.60  Q         |         |         |       V |
21+20       3.9708      0.59  Q         |         |         |       V |
21+25       3.9748      0.58  Q         |         |         |       V |
21+30       3.9788      0.58  Q         |         |         |       V |
21+35       3.9827      0.57  Q         |         |         |       V |
21+40       3.9865      0.56  Q         |         |         |       V |
21+45       3.9903      0.55  Q         |         |         |       V |
21+50       3.9941      0.55  Q         |         |         |       V |
21+55       3.9978      0.54  Q         |         |         |        V|
```

22+ 0	4.0015	0.53	Q	|	|	|	V|
22+ 5	4.0051	0.53	Q	|	|	|	V|
22+10	4.0087	0.52	Q	|	|	|	V|
22+15	4.0122	0.51	Q	|	|	|	V|
22+20	4.0157	0.51	Q	|	|	|	V|
22+25	4.0192	0.50	Q	|	|	|	V|
22+30	4.0226	0.50	Q	|	|	|	V|
22+35	4.0260	0.49	Q	|	|	|	V|
22+40	4.0293	0.49	Q	|	|	|	V|
22+45	4.0326	0.48	Q	|	|	|	V|
22+50	4.0359	0.47	Q	|	|	|	V|
22+55	4.0391	0.47	Q	|	|	|	V|
23+ 0	4.0424	0.46	Q	|	|	|	V|
23+ 5	4.0455	0.46	Q	|	|	|	V|
23+10	4.0487	0.46	Q	|	|	|	V|
23+15	4.0518	0.45	Q	|	|	|	V|
23+20	4.0548	0.45	Q	|	|	|	V|
23+25	4.0579	0.44	Q	|	|	|	V|
23+30	4.0609	0.44	Q	|	|	|	V|
23+35	4.0639	0.43	Q	|	|	|	V|
23+40	4.0668	0.43	Q	|	|	|	V|
23+45	4.0698	0.43	Q	|	|	|	V|
23+50	4.0727	0.42	Q	|	|	|	V|
23+55	4.0756	0.42	Q	|	|	|	V|
24+ 0	4.0784	0.41	Q	|	|	|	V|
24+ 5	4.0812	0.41	Q	|	|	|	V|
24+10	4.0839	0.39	Q	|	|	|	V|
24+15	4.0863	0.35	Q	|	|	|	V|
24+20	4.0882	0.28	Q	|	|	|	V|
24+25	4.0897	0.21	Q	|	|	|	V|
24+30	4.0908	0.17	Q	|	|	|	V|
24+35	4.0918	0.14	Q	|	|	|	V|
24+40	4.0926	0.12	Q	|	|	|	V|
24+45	4.0933	0.10	Q	|	|	|	V|
24+50	4.0939	0.09	Q	|	|	|	V|
24+55	4.0944	0.07	Q	|	|	|	V|
25+ 0	4.0948	0.06	Q	|	|	|	V|
25+ 5	4.0952	0.06	Q	|	|	|	V|
25+10	4.0955	0.05	Q	|	|	|	V|
25+15	4.0958	0.04	Q	|	|	|	V|
25+20	4.0961	0.04	Q	|	|	|	V|
25+25	4.0963	0.03	Q	|	|	|	V|
25+30	4.0965	0.03	Q	|	|	|	V|
25+35	4.0967	0.02	Q	|	|	|	V|
25+40	4.0968	0.02	Q	|	|	|	V|
25+45	4.0969	0.02	Q	|	|	|	V|
25+50	4.0970	0.02	Q	|	|	|	V|
25+55	4.0971	0.01	Q	|	|	|	V|
26+ 0	4.0972	0.01	Q	|	|	|	V|
26+ 5	4.0973	0.01	Q	|	|	|	V|
26+10	4.0973	0.01	Q	|	|	|	V|
26+15	4.0974	0.01	Q	|	|	|	V|
26+20	4.0974	0.01	Q	|	|	|	V|
26+25	4.0975	0.01	Q	|	|	|	V|
26+30	4.0975	0.00	Q	|	|	|	V|
26+35	4.0975	0.00	Q	|	|	|	V|
26+40	4.0975	0.00	Q	|	|	|	V|
26+45	4.0975	0.00	Q	|	|	|	V|
26+50	4.0975	0.00	Q	|	|	|	V|

```
   26+55       4.0975      0.00  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 21
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
9.89	1	1.36
Rainfall data for year 100		
9.89	6	1.84
Rainfall data for year 100		
9.89	24	2.47

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	9.89	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
8.90	0.900	78.0	92.8	0.78	0.702
0.99	0.100	98.0	98.0	0.20	0.907

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278
User entry of time of concentration = 0.460 (hours)
++
Watershed area = 9.89(Ac.)
Catchment Lag time = 0.368 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 22.6449
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.470(In)

Rainfall depth area reduction factors:
Using a total area of 9.89(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.645(In)
30-minute factor = 1.000 Adjusted rainfall = 1.104(In)
1-hour factor = 1.000 Adjusted rainfall = 1.359(In)
3-hour factor = 1.000 Adjusted rainfall = 1.637(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.470(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
(K = 119.61 (CFS))		
1	1.178	1.409
2	5.552	5.231
3	15.131	11.458
4	34.714	23.422
5	50.752	19.183
6	60.938	12.183
7	67.717	8.108
8	72.933	6.238
9	77.018	4.886
10	80.296	3.920
11	82.979	3.210
12	85.300	2.775
13	87.341	2.442

14	89.028	2.018
15	90.382	1.619
16	91.629	1.491
17	92.726	1.312
18	93.724	1.193
19	94.544	0.981
20	95.312	0.919
21	95.970	0.787
22	96.559	0.704
23	97.071	0.613
24	97.479	0.488
25	97.840	0.433
26	98.074	0.280
27	98.307	0.278
28	98.573	0.318
29	98.845	0.325
30	99.116	0.325
31	99.388	0.324
32	99.583	0.234
33	99.725	0.169
34	99.866	0.169
35	100.000	0.160

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6450	0.6450
2	0.7941	0.1491
3	0.8968	0.1027
4	0.9777	0.0808
5	1.0454	0.0677
6	1.1042	0.0588
7	1.1564	0.0523
8	1.2037	0.0473
9	1.2470	0.0433
10	1.2870	0.0400
11	1.3243	0.0373
12	1.3594	0.0350
13	1.3779	0.0185
14	1.3953	0.0174
15	1.4116	0.0164
16	1.4271	0.0155
17	1.4418	0.0147
18	1.4558	0.0140
19	1.4692	0.0134
20	1.4820	0.0128
21	1.4943	0.0123
22	1.5061	0.0118
23	1.5174	0.0114
24	1.5284	0.0110
25	1.5390	0.0106
26	1.5492	0.0102
27	1.5591	0.0099
28	1.5687	0.0096
29	1.5781	0.0093
30	1.5872	0.0091
31	1.5960	0.0088
32	1.6046	0.0086
33	1.6129	0.0084
34	1.6211	0.0082

35	1.6291	0.0080
36	1.6368	0.0078
37	1.6444	0.0076
38	1.6518	0.0074
39	1.6591	0.0073
40	1.6662	0.0071
41	1.6732	0.0070
42	1.6800	0.0068
43	1.6867	0.0067
44	1.6932	0.0066
45	1.6997	0.0064
46	1.7060	0.0063
47	1.7122	0.0062
48	1.7183	0.0061
49	1.7243	0.0060
50	1.7301	0.0059
51	1.7359	0.0058
52	1.7416	0.0057
53	1.7472	0.0056
54	1.7528	0.0055
55	1.7582	0.0054
56	1.7635	0.0054
57	1.7688	0.0053
58	1.7740	0.0052
59	1.7791	0.0051
60	1.7842	0.0051
61	1.7892	0.0050
62	1.7941	0.0049
63	1.7989	0.0049
64	1.8037	0.0048
65	1.8085	0.0047
66	1.8131	0.0047
67	1.8177	0.0046
68	1.8223	0.0045
69	1.8268	0.0045
70	1.8312	0.0044
71	1.8356	0.0044
72	1.8399	0.0043
73	1.8453	0.0054
74	1.8507	0.0053
75	1.8560	0.0053
76	1.8612	0.0052
77	1.8664	0.0052
78	1.8715	0.0051
79	1.8766	0.0051
80	1.8816	0.0050
81	1.8866	0.0050
82	1.8915	0.0049
83	1.8964	0.0049
84	1.9012	0.0048
85	1.9060	0.0048
86	1.9107	0.0047
87	1.9154	0.0047
88	1.9201	0.0047
89	1.9247	0.0046
90	1.9293	0.0046
91	1.9338	0.0045
92	1.9383	0.0045
93	1.9427	0.0045

94	1.9472	0.0044
95	1.9515	0.0044
96	1.9559	0.0043
97	1.9602	0.0043
98	1.9645	0.0043
99	1.9687	0.0042
100	1.9729	0.0042
101	1.9771	0.0042
102	1.9812	0.0041
103	1.9853	0.0041
104	1.9894	0.0041
105	1.9935	0.0040
106	1.9975	0.0040
107	2.0015	0.0040
108	2.0054	0.0040
109	2.0094	0.0039
110	2.0133	0.0039
111	2.0171	0.0039
112	2.0210	0.0038
113	2.0248	0.0038
114	2.0286	0.0038
115	2.0324	0.0038
116	2.0361	0.0037
117	2.0398	0.0037
118	2.0435	0.0037
119	2.0472	0.0037
120	2.0508	0.0036
121	2.0544	0.0036
122	2.0580	0.0036
123	2.0616	0.0036
124	2.0652	0.0035
125	2.0687	0.0035
126	2.0722	0.0035
127	2.0757	0.0035
128	2.0791	0.0035
129	2.0826	0.0034
130	2.0860	0.0034
131	2.0894	0.0034
132	2.0928	0.0034
133	2.0961	0.0034
134	2.0995	0.0033
135	2.1028	0.0033
136	2.1061	0.0033
137	2.1094	0.0033
138	2.1126	0.0033
139	2.1159	0.0032
140	2.1191	0.0032
141	2.1223	0.0032
142	2.1255	0.0032
143	2.1287	0.0032
144	2.1318	0.0032
145	2.1349	0.0031
146	2.1381	0.0031
147	2.1412	0.0031
148	2.1443	0.0031
149	2.1473	0.0031
150	2.1504	0.0031
151	2.1534	0.0030
152	2.1564	0.0030

153	2.1594	0.0030
154	2.1624	0.0030
155	2.1654	0.0030
156	2.1684	0.0030
157	2.1713	0.0029
158	2.1742	0.0029
159	2.1772	0.0029
160	2.1801	0.0029
161	2.1829	0.0029
162	2.1858	0.0029
163	2.1887	0.0029
164	2.1915	0.0028
165	2.1944	0.0028
166	2.1972	0.0028
167	2.2000	0.0028
168	2.2028	0.0028
169	2.2055	0.0028
170	2.2083	0.0028
171	2.2111	0.0028
172	2.2138	0.0027
173	2.2165	0.0027
174	2.2192	0.0027
175	2.2220	0.0027
176	2.2246	0.0027
177	2.2273	0.0027
178	2.2300	0.0027
179	2.2326	0.0027
180	2.2353	0.0026
181	2.2379	0.0026
182	2.2405	0.0026
183	2.2431	0.0026
184	2.2457	0.0026
185	2.2483	0.0026
186	2.2509	0.0026
187	2.2535	0.0026
188	2.2560	0.0026
189	2.2586	0.0025
190	2.2611	0.0025
191	2.2636	0.0025
192	2.2661	0.0025
193	2.2686	0.0025
194	2.2711	0.0025
195	2.2736	0.0025
196	2.2761	0.0025
197	2.2786	0.0025
198	2.2810	0.0025
199	2.2834	0.0024
200	2.2859	0.0024
201	2.2883	0.0024
202	2.2907	0.0024
203	2.2931	0.0024
204	2.2955	0.0024
205	2.2979	0.0024
206	2.3003	0.0024
207	2.3026	0.0024
208	2.3050	0.0024
209	2.3073	0.0023
210	2.3097	0.0023
211	2.3120	0.0023

212	2.3143	0.0023
213	2.3167	0.0023
214	2.3190	0.0023
215	2.3213	0.0023
216	2.3236	0.0023
217	2.3258	0.0023
218	2.3281	0.0023
219	2.3304	0.0023
220	2.3326	0.0023
221	2.3349	0.0022
222	2.3371	0.0022
223	2.3393	0.0022
224	2.3416	0.0022
225	2.3438	0.0022
226	2.3460	0.0022
227	2.3482	0.0022
228	2.3504	0.0022
229	2.3526	0.0022
230	2.3548	0.0022
231	2.3569	0.0022
232	2.3591	0.0022
233	2.3612	0.0022
234	2.3634	0.0021
235	2.3655	0.0021
236	2.3677	0.0021
237	2.3698	0.0021
238	2.3719	0.0021
239	2.3740	0.0021
240	2.3761	0.0021
241	2.3782	0.0021
242	2.3803	0.0021
243	2.3824	0.0021
244	2.3845	0.0021
245	2.3866	0.0021
246	2.3886	0.0021
247	2.3907	0.0021
248	2.3927	0.0021
249	2.3948	0.0020
250	2.3968	0.0020
251	2.3989	0.0020
252	2.4009	0.0020
253	2.4029	0.0020
254	2.4049	0.0020
255	2.4069	0.0020
256	2.4089	0.0020
257	2.4109	0.0020
258	2.4129	0.0020
259	2.4149	0.0020
260	2.4169	0.0020
261	2.4189	0.0020
262	2.4208	0.0020
263	2.4228	0.0020
264	2.4247	0.0020
265	2.4267	0.0019
266	2.4286	0.0019
267	2.4306	0.0019
268	2.4325	0.0019
269	2.4344	0.0019
270	2.4363	0.0019

271	2.4383	0.0019
272	2.4402	0.0019
273	2.4421	0.0019
274	2.4440	0.0019
275	2.4459	0.0019
276	2.4477	0.0019
277	2.4496	0.0019
278	2.4515	0.0019
279	2.4534	0.0019
280	2.4552	0.0019
281	2.4571	0.0019
282	2.4589	0.0019
283	2.4608	0.0018
284	2.4626	0.0018
285	2.4645	0.0018
286	2.4663	0.0018
287	2.4681	0.0018
288	2.4700	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0005	0.0013
2	0.0018	0.0005	0.0013
3	0.0018	0.0005	0.0013
4	0.0018	0.0005	0.0013
5	0.0019	0.0005	0.0013
6	0.0019	0.0005	0.0013
7	0.0019	0.0005	0.0014
8	0.0019	0.0005	0.0014
9	0.0019	0.0005	0.0014
10	0.0019	0.0005	0.0014
11	0.0019	0.0005	0.0014
12	0.0019	0.0005	0.0014
13	0.0019	0.0005	0.0014
14	0.0019	0.0005	0.0014
15	0.0019	0.0005	0.0014
16	0.0019	0.0005	0.0014
17	0.0020	0.0005	0.0014
18	0.0020	0.0005	0.0014
19	0.0020	0.0005	0.0014
20	0.0020	0.0005	0.0014
21	0.0020	0.0006	0.0014
22	0.0020	0.0006	0.0014
23	0.0020	0.0006	0.0015
24	0.0020	0.0006	0.0015
25	0.0020	0.0006	0.0015
26	0.0020	0.0006	0.0015
27	0.0020	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0015
31	0.0021	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0015
34	0.0021	0.0006	0.0015
35	0.0021	0.0006	0.0015
36	0.0021	0.0006	0.0015

37	0.0021	0.0006	0.0016
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0022	0.0006	0.0016
41	0.0022	0.0006	0.0016
42	0.0022	0.0006	0.0016
43	0.0022	0.0006	0.0016
44	0.0022	0.0006	0.0016
45	0.0022	0.0006	0.0016
46	0.0022	0.0006	0.0016
47	0.0023	0.0006	0.0016
48	0.0023	0.0006	0.0016
49	0.0023	0.0006	0.0017
50	0.0023	0.0006	0.0017
51	0.0023	0.0006	0.0017
52	0.0023	0.0006	0.0017
53	0.0023	0.0006	0.0017
54	0.0023	0.0007	0.0017
55	0.0024	0.0007	0.0017
56	0.0024	0.0007	0.0017
57	0.0024	0.0007	0.0017
58	0.0024	0.0007	0.0017
59	0.0024	0.0007	0.0018
60	0.0024	0.0007	0.0018
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0025	0.0007	0.0018
64	0.0025	0.0007	0.0018
65	0.0025	0.0007	0.0018
66	0.0025	0.0007	0.0018
67	0.0025	0.0007	0.0018
68	0.0026	0.0007	0.0018
69	0.0026	0.0007	0.0019
70	0.0026	0.0007	0.0019
71	0.0026	0.0007	0.0019
72	0.0026	0.0007	0.0019
73	0.0026	0.0007	0.0019
74	0.0027	0.0007	0.0019
75	0.0027	0.0007	0.0019
76	0.0027	0.0007	0.0019
77	0.0027	0.0008	0.0020
78	0.0027	0.0008	0.0020
79	0.0028	0.0008	0.0020
80	0.0028	0.0008	0.0020
81	0.0028	0.0008	0.0020
82	0.0028	0.0008	0.0020
83	0.0028	0.0008	0.0020
84	0.0028	0.0008	0.0021
85	0.0029	0.0008	0.0021
86	0.0029	0.0008	0.0021
87	0.0029	0.0008	0.0021
88	0.0029	0.0008	0.0021
89	0.0030	0.0008	0.0021
90	0.0030	0.0008	0.0021
91	0.0030	0.0008	0.0022
92	0.0030	0.0008	0.0022
93	0.0031	0.0008	0.0022
94	0.0031	0.0009	0.0022
95	0.0031	0.0009	0.0022

96	0.0031	0.0009	0.0023
97	0.0032	0.0009	0.0023
98	0.0032	0.0009	0.0023
99	0.0032	0.0009	0.0023
100	0.0032	0.0009	0.0023
101	0.0033	0.0009	0.0024
102	0.0033	0.0009	0.0024
103	0.0033	0.0009	0.0024
104	0.0033	0.0009	0.0024
105	0.0034	0.0009	0.0024
106	0.0034	0.0009	0.0025
107	0.0034	0.0010	0.0025
108	0.0035	0.0010	0.0025
109	0.0035	0.0010	0.0025
110	0.0035	0.0010	0.0025
111	0.0036	0.0010	0.0026
112	0.0036	0.0010	0.0026
113	0.0036	0.0010	0.0026
114	0.0037	0.0010	0.0026
115	0.0037	0.0010	0.0027
116	0.0037	0.0010	0.0027
117	0.0038	0.0011	0.0027
118	0.0038	0.0011	0.0028
119	0.0039	0.0011	0.0028
120	0.0039	0.0011	0.0028
121	0.0040	0.0011	0.0029
122	0.0040	0.0011	0.0029
123	0.0040	0.0011	0.0029
124	0.0041	0.0011	0.0029
125	0.0041	0.0011	0.0030
126	0.0042	0.0012	0.0030
127	0.0042	0.0012	0.0031
128	0.0043	0.0012	0.0031
129	0.0043	0.0012	0.0031
130	0.0044	0.0012	0.0032
131	0.0045	0.0012	0.0032
132	0.0045	0.0012	0.0032
133	0.0046	0.0013	0.0033
134	0.0046	0.0013	0.0033
135	0.0047	0.0013	0.0034
136	0.0047	0.0013	0.0034
137	0.0048	0.0013	0.0035
138	0.0049	0.0014	0.0035
139	0.0050	0.0014	0.0036
140	0.0050	0.0014	0.0036
141	0.0051	0.0014	0.0037
142	0.0052	0.0014	0.0037
143	0.0053	0.0015	0.0038
144	0.0053	0.0015	0.0039
145	0.0043	0.0012	0.0031
146	0.0044	0.0012	0.0032
147	0.0045	0.0012	0.0032
148	0.0045	0.0013	0.0033
149	0.0047	0.0013	0.0034
150	0.0047	0.0013	0.0034
151	0.0049	0.0013	0.0035
152	0.0049	0.0014	0.0036
153	0.0051	0.0014	0.0037
154	0.0051	0.0014	0.0037

155	0.0053	0.0015	0.0038
156	0.0054	0.0015	0.0039
157	0.0055	0.0015	0.0040
158	0.0056	0.0016	0.0041
159	0.0058	0.0016	0.0042
160	0.0059	0.0016	0.0043
161	0.0061	0.0017	0.0044
162	0.0062	0.0017	0.0045
163	0.0064	0.0018	0.0046
164	0.0066	0.0018	0.0047
165	0.0068	0.0019	0.0049
166	0.0070	0.0019	0.0050
167	0.0073	0.0020	0.0052
168	0.0074	0.0021	0.0054
169	0.0078	0.0022	0.0056
170	0.0080	0.0022	0.0058
171	0.0084	0.0023	0.0060
172	0.0086	0.0024	0.0062
173	0.0091	0.0025	0.0066
174	0.0093	0.0026	0.0067
175	0.0099	0.0028	0.0072
176	0.0102	0.0028	0.0074
177	0.0110	0.0030	0.0079
178	0.0114	0.0032	0.0082
179	0.0123	0.0034	0.0089
180	0.0128	0.0036	0.0092
181	0.0140	0.0039	0.0101
182	0.0147	0.0041	0.0106
183	0.0164	0.0045	0.0118
184	0.0174	0.0048	0.0126
185	0.0350	0.0097	0.0253
186	0.0373	0.0104	0.0270
187	0.0433	0.0105	0.0328
188	0.0473	0.0105	0.0368
189	0.0588	0.0105	0.0483
190	0.0677	0.0105	0.0572
191	0.1027	0.0105	0.0922
192	0.1491	0.0105	0.1386
193	0.6450	0.0105	0.6345
194	0.0808	0.0105	0.0703
195	0.0523	0.0105	0.0418
196	0.0400	0.0105	0.0295
197	0.0185	0.0051	0.0134
198	0.0155	0.0043	0.0112
199	0.0134	0.0037	0.0097
200	0.0118	0.0033	0.0085
201	0.0106	0.0029	0.0076
202	0.0096	0.0027	0.0069
203	0.0088	0.0024	0.0064
204	0.0082	0.0023	0.0059
205	0.0076	0.0021	0.0055
206	0.0071	0.0020	0.0051
207	0.0067	0.0019	0.0048
208	0.0063	0.0018	0.0046
209	0.0060	0.0017	0.0043
210	0.0057	0.0016	0.0041
211	0.0054	0.0015	0.0039
212	0.0052	0.0014	0.0038
213	0.0050	0.0014	0.0036

214	0.0048	0.0013	0.0035
215	0.0046	0.0013	0.0033
216	0.0044	0.0012	0.0032
217	0.0054	0.0015	0.0039
218	0.0052	0.0015	0.0038
219	0.0051	0.0014	0.0037
220	0.0049	0.0014	0.0036
221	0.0048	0.0013	0.0035
222	0.0047	0.0013	0.0034
223	0.0045	0.0013	0.0033
224	0.0044	0.0012	0.0032
225	0.0043	0.0012	0.0031
226	0.0042	0.0012	0.0030
227	0.0041	0.0011	0.0030
228	0.0040	0.0011	0.0029
229	0.0039	0.0011	0.0028
230	0.0038	0.0011	0.0028
231	0.0038	0.0010	0.0027
232	0.0037	0.0010	0.0027
233	0.0036	0.0010	0.0026
234	0.0035	0.0010	0.0026
235	0.0035	0.0010	0.0025
236	0.0034	0.0009	0.0025
237	0.0034	0.0009	0.0024
238	0.0033	0.0009	0.0024
239	0.0032	0.0009	0.0023
240	0.0032	0.0009	0.0023
241	0.0031	0.0009	0.0023
242	0.0031	0.0009	0.0022
243	0.0030	0.0008	0.0022
244	0.0030	0.0008	0.0022
245	0.0029	0.0008	0.0021
246	0.0029	0.0008	0.0021
247	0.0029	0.0008	0.0021
248	0.0028	0.0008	0.0020
249	0.0028	0.0008	0.0020
250	0.0027	0.0008	0.0020
251	0.0027	0.0008	0.0020
252	0.0027	0.0007	0.0019
253	0.0026	0.0007	0.0019
254	0.0026	0.0007	0.0019
255	0.0026	0.0007	0.0019
256	0.0025	0.0007	0.0018
257	0.0025	0.0007	0.0018
258	0.0025	0.0007	0.0018
259	0.0024	0.0007	0.0018
260	0.0024	0.0007	0.0017
261	0.0024	0.0007	0.0017
262	0.0024	0.0007	0.0017
263	0.0023	0.0006	0.0017
264	0.0023	0.0006	0.0017
265	0.0023	0.0006	0.0016
266	0.0023	0.0006	0.0016
267	0.0022	0.0006	0.0016
268	0.0022	0.0006	0.0016
269	0.0022	0.0006	0.0016
270	0.0022	0.0006	0.0016
271	0.0021	0.0006	0.0015
272	0.0021	0.0006	0.0015

273	0.0021	0.0006	0.0015
274	0.0021	0.0006	0.0015
275	0.0021	0.0006	0.0015
276	0.0020	0.0006	0.0015
277	0.0020	0.0006	0.0015
278	0.0020	0.0006	0.0014
279	0.0020	0.0006	0.0014
280	0.0020	0.0005	0.0014
281	0.0019	0.0005	0.0014
282	0.0019	0.0005	0.0014
283	0.0019	0.0005	0.0014
284	0.0019	0.0005	0.0014
285	0.0019	0.0005	0.0014
286	0.0019	0.0005	0.0013
287	0.0018	0.0005	0.0013
288	0.0018	0.0005	0.0013

Total soil rain loss = 0.43(In)
Total effective rainfall = 2.04(In)
Peak flow rate in flood hydrograph = 21.10(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.02	Q				
0+20	0.0006	0.05	Q				
0+25	0.0012	0.08	Q				
0+30	0.0018	0.10	Q				
0+35	0.0026	0.11	Q				
0+40	0.0034	0.12	Q				
0+45	0.0042	0.12	Q				
0+50	0.0051	0.13	Q				
0+55	0.0060	0.13	Q				
1+ 0	0.0070	0.14	Q				
1+ 5	0.0080	0.14	Q				
1+10	0.0090	0.15	Q				
1+15	0.0100	0.15	Q				
1+20	0.0110	0.15	Q				
1+25	0.0121	0.15	Q				
1+30	0.0131	0.16	Q				
1+35	0.0142	0.16	Q				
1+40	0.0153	0.16	Q				
1+45	0.0164	0.16	Q				
1+50	0.0175	0.16	Q				
1+55	0.0187	0.16	Q				
2+ 0	0.0198	0.17	Q				
2+ 5	0.0210	0.17	Q				
2+10	0.0221	0.17	Q				
2+15	0.0233	0.17	Q				
2+20	0.0244	0.17	Q				

2+25	0.0256	0.17	Q				
2+30	0.0268	0.17	Q				
2+35	0.0280	0.17	Q				
2+40	0.0292	0.17	Q				
2+45	0.0304	0.18	Q				
2+50	0.0316	0.18	Q				
2+55	0.0329	0.18	Q				
3+ 0	0.0341	0.18	Q				
3+ 5	0.0353	0.18	Q				
3+10	0.0366	0.18	Q				
3+15	0.0378	0.18	Q				
3+20	0.0391	0.18	Q				
3+25	0.0404	0.18	Q				
3+30	0.0416	0.18	Q				
3+35	0.0429	0.19	QV				
3+40	0.0442	0.19	QV				
3+45	0.0455	0.19	QV				
3+50	0.0468	0.19	QV				
3+55	0.0481	0.19	QV				
4+ 0	0.0494	0.19	QV				
4+ 5	0.0507	0.19	QV				
4+10	0.0520	0.19	QV				
4+15	0.0533	0.19	QV				
4+20	0.0547	0.19	QV				
4+25	0.0560	0.20	QV				
4+30	0.0574	0.20	QV				
4+35	0.0587	0.20	QV				
4+40	0.0601	0.20	QV				
4+45	0.0615	0.20	QV				
4+50	0.0629	0.20	QV				
4+55	0.0642	0.20	QV				
5+ 0	0.0656	0.20	QV				
5+ 5	0.0670	0.20	QV				
5+10	0.0685	0.21	QV				
5+15	0.0699	0.21	QV				
5+20	0.0713	0.21	QV				
5+25	0.0727	0.21	QV				
5+30	0.0742	0.21	QV				
5+35	0.0756	0.21	QV				
5+40	0.0771	0.21	QV				
5+45	0.0786	0.21	QV				
5+50	0.0801	0.22	QV				
5+55	0.0816	0.22	QV				
6+ 0	0.0831	0.22	QV				
6+ 5	0.0846	0.22	Q V				
6+10	0.0861	0.22	Q V				
6+15	0.0876	0.22	Q V				
6+20	0.0891	0.22	Q V				
6+25	0.0907	0.22	Q V				
6+30	0.0923	0.23	Q V				
6+35	0.0938	0.23	Q V				
6+40	0.0954	0.23	Q V				
6+45	0.0970	0.23	Q V				
6+50	0.0986	0.23	Q V				
6+55	0.1002	0.23	Q V				
7+ 0	0.1018	0.24	Q V				
7+ 5	0.1035	0.24	Q V				
7+10	0.1051	0.24	Q V				
7+15	0.1068	0.24	Q V				

7+20	0.1084	0.24	Q V	|	|	|	|
7+25	0.1101	0.24	Q V	|	|	|	|
7+30	0.1118	0.25	Q V	|	|	|	|
7+35	0.1135	0.25	Q V	|	|	|	|
7+40	0.1152	0.25	Q V	|	|	|	|
7+45	0.1169	0.25	Q V	|	|	|	|
7+50	0.1187	0.25	Q V	|	|	|	|
7+55	0.1204	0.25	Q V	|	|	|	|
8+ 0	0.1222	0.26	Q V	|	|	|	|
8+ 5	0.1240	0.26	Q V	|	|	|	|
8+10	0.1258	0.26	Q V	|	|	|	|
8+15	0.1276	0.26	Q V	|	|	|	|
8+20	0.1294	0.27	Q V	|	|	|	|
8+25	0.1313	0.27	Q V	|	|	|	|
8+30	0.1331	0.27	Q V	|	|	|	|
8+35	0.1350	0.27	Q V	|	|	|	|
8+40	0.1369	0.27	Q V	|	|	|	|
8+45	0.1388	0.28	Q V	|	|	|	|
8+50	0.1407	0.28	Q V	|	|	|	|
8+55	0.1426	0.28	Q V	|	|	|	|
9+ 0	0.1446	0.28	Q V	|	|	|	|
9+ 5	0.1465	0.29	Q V	|	|	|	|
9+10	0.1485	0.29	Q V	|	|	|	|
9+15	0.1505	0.29	Q V	|	|	|	|
9+20	0.1526	0.29	Q V	|	|	|	|
9+25	0.1546	0.30	Q V	|	|	|	|
9+30	0.1567	0.30	Q V	|	|	|	|
9+35	0.1587	0.30	Q V	|	|	|	|
9+40	0.1608	0.30	Q V	|	|	|	|
9+45	0.1629	0.31	Q V	|	|	|	|
9+50	0.1651	0.31	Q V	|	|	|	|
9+55	0.1672	0.31	Q V	|	|	|	|
10+ 0	0.1694	0.32	Q V	|	|	|	|
10+ 5	0.1716	0.32	Q V	|	|	|	|
10+10	0.1739	0.32	Q V	|	|	|	|
10+15	0.1761	0.33	Q V	|	|	|	|
10+20	0.1784	0.33	Q V	|	|	|	|
10+25	0.1807	0.33	Q V	|	|	|	|
10+30	0.1830	0.34	Q V	|	|	|	|
10+35	0.1853	0.34	Q V	|	|	|	|
10+40	0.1877	0.34	Q V	|	|	|	|
10+45	0.1901	0.35	Q V	|	|	|	|
10+50	0.1925	0.35	Q V	|	|	|	|
10+55	0.1950	0.36	Q V	|	|	|	|
11+ 0	0.1975	0.36	Q V	|	|	|	|
11+ 5	0.2000	0.37	Q V	|	|	|	|
11+10	0.2025	0.37	Q V	|	|	|	|
11+15	0.2051	0.37	Q V	|	|	|	|
11+20	0.2077	0.38	Q V	|	|	|	|
11+25	0.2104	0.38	Q V	|	|	|	|
11+30	0.2130	0.39	Q V	|	|	|	|
11+35	0.2157	0.39	Q V	|	|	|	|
11+40	0.2185	0.40	Q V	|	|	|	|
11+45	0.2213	0.40	Q V	|	|	|	|
11+50	0.2241	0.41	Q V	|	|	|	|
11+55	0.2270	0.42	Q V	|	|	|	|
12+ 0	0.2299	0.42	Q V	|	|	|	|
12+ 5	0.2328	0.43	Q V	|	|	|	|
12+10	0.2358	0.43	Q V	|	|	|	|

```
12+15       0.2387      0.43  Q    V    |          |          |          |
12+20       0.2416      0.41  Q    V    |          |          |          |
12+25       0.2443      0.41  Q    V    |          |          |          |
12+30       0.2471      0.40  Q    V    |          |          |          |
12+35       0.2499      0.40  Q    V    |          |          |          |
12+40       0.2527      0.40  Q     V   |          |          |          |
12+45       0.2555      0.41  Q     V   |          |          |          |
12+50       0.2583      0.41  Q     V   |          |          |          |
12+55       0.2612      0.42  Q     V   |          |          |          |
13+ 0       0.2641      0.42  Q     V   |          |          |          |
13+ 5       0.2671      0.43  Q     V   |          |          |          |
13+10       0.2701      0.44  Q     V   |          |          |          |
13+15       0.2731      0.44  Q     V   |          |          |          |
13+20       0.2762      0.45  Q     V   |          |          |          |
13+25       0.2794      0.46  Q     V   |          |          |          |
13+30       0.2827      0.47  Q     V   |          |          |          |
13+35       0.2860      0.48  Q     V   |          |          |          |
13+40       0.2894      0.49  Q     V   |          |          |          |
13+45       0.2928      0.50  Q     V   |          |          |          |
13+50       0.2964      0.52  Q      V  |          |          |          |
13+55       0.3000      0.53  Q      V  |          |          |          |
14+ 0       0.3038      0.54  Q      V  |          |          |          |
14+ 5       0.3076      0.56  Q      V  |          |          |          |
14+10       0.3116      0.58  Q      V  |          |          |          |
14+15       0.3157      0.59  Q      V  |          |          |          |
14+20       0.3199      0.61  Q      V  |          |          |          |
14+25       0.3242      0.63  Q      V  |          |          |          |
14+30       0.3287      0.65  Q      V  |          |          |          |
14+35       0.3334      0.68  Q      V  |          |          |          |
14+40       0.3382      0.70  Q       V |          |          |          |
14+45       0.3433      0.73  Q       V |          |          |          |
14+50       0.3485      0.76  |Q      V |          |          |          |
14+55       0.3540      0.79  |Q      V |          |          |          |
15+ 0       0.3597      0.83  |Q      V |          |          |          |
15+ 5       0.3657      0.87  |Q      V |          |          |          |
15+10       0.3721      0.92  |Q      V |          |          |          |
15+15       0.3788      0.97  |Q       V|          |          |          |
15+20       0.3859      1.03  |Q       V|          |          |          |
15+25       0.3936      1.12  |Q       V|          |          |          |
15+30       0.4023      1.26  |Q       V|          |          |          |
15+35       0.4126      1.49  |Q       V|          |          |          |
15+40       0.4256      1.89  | Q       V          |          |          |
15+45       0.4415      2.32  |  Q      V          |          |          |
15+50       0.4607      2.78  |  Q      V          |          |          |
15+55       0.4839      3.36  |   Q     |V         |          |          |
16+ 0       0.5131      4.24  |    Q    | V        |          |          |
16+ 5       0.5558      6.20  |       Q |  V       |          |          |
16+10       0.6232      9.80  |         |  QV      |          |          |
16+15       0.7235     14.56  |         |      V Q |          |          |
16+20       0.8688     21.10  |         |         V|       Q  |          |
16+25       0.9930     18.02  |         |          |  VQ      |          |
16+30       1.0832     13.09  |         |      Q   |    V     |          |
16+35       1.1506      9.80  |         |  Q       |      V   |          |
16+40       1.2043      7.79  |         Q          |       V  |          |
16+45       1.2478      6.32  |       Q |          |        V |          |
16+50       1.2841      5.26  |      Q  |          |         V          |
16+55       1.3149      4.48  |    Q    |          |          |V         |
17+ 0       1.3420      3.93  |    Q    |          |          |V         |
17+ 5       1.3660      3.48  |   Q     |          |          | V        |
```

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17+10       1.3867      3.02  |   Q     |         |         |  V      |
17+15       1.4047      2.61  |  Q      |         |         |  V      |
17+20       1.4212      2.38  |  Q      |         |         |  V      |
17+25       1.4360      2.15  | Q       |         |         |   V     |
17+30       1.4495      1.96  | Q       |         |         |   V     |
17+35       1.4614      1.74  | Q       |         |         |   V     |
17+40       1.4725      1.60  | Q       |         |         |    V    |
17+45       1.4824      1.45  |Q        |         |         |    V    |
17+50       1.4915      1.32  |Q        |         |         |    V    |
17+55       1.4997      1.20  |Q        |         |         |    V    |
18+ 0       1.5070      1.06  |Q        |         |         |    V    |
18+ 5       1.5137      0.97  |Q        |         |         |     V   |
18+10       1.5195      0.85  |Q        |         |         |     V   |
18+15       1.5252      0.82  |Q        |         |         |     V   |
18+20       1.5309      0.83  |Q        |         |         |     V   |
18+25       1.5366      0.82  |Q        |         |         |     V   |
18+30       1.5421      0.80  |Q        |         |         |     V   |
18+35       1.5473      0.77  |Q        |         |         |     V   |
18+40       1.5521      0.68  Q         |         |         |      V  |
18+45       1.5563      0.62  Q         |         |         |      V  |
18+50       1.5604      0.59  Q         |         |         |      V  |
18+55       1.5641      0.55  Q         |         |         |      V  |
19+ 0       1.5671      0.43  Q         |         |         |      V  |
19+ 5       1.5699      0.41  Q         |         |         |      V  |
19+10       1.5727      0.40  Q         |         |         |      V  |
19+15       1.5753      0.38  Q         |         |         |      V  |
19+20       1.5779      0.37  Q         |         |         |      V  |
19+25       1.5804      0.36  Q         |         |         |      V  |
19+30       1.5828      0.36  Q         |         |         |      V  |
19+35       1.5852      0.35  Q         |         |         |      V  |
19+40       1.5876      0.34  Q         |         |         |      V  |
19+45       1.5899      0.33  Q         |         |         |      V  |
19+50       1.5921      0.33  Q         |         |         |      V  |
19+55       1.5943      0.32  Q         |         |         |       V |
20+ 0       1.5965      0.31  Q         |         |         |       V |
20+ 5       1.5986      0.31  Q         |         |         |       V |
20+10       1.6007      0.30  Q         |         |         |       V |
20+15       1.6027      0.30  Q         |         |         |       V |
20+20       1.6047      0.29  Q         |         |         |       V |
20+25       1.6067      0.29  Q         |         |         |       V |
20+30       1.6087      0.28  Q         |         |         |       V |
20+35       1.6106      0.28  Q         |         |         |       V |
20+40       1.6124      0.27  Q         |         |         |       V |
20+45       1.6143      0.27  Q         |         |         |       V |
20+50       1.6161      0.26  Q         |         |         |       V |
20+55       1.6179      0.26  Q         |         |         |       V |
21+ 0       1.6196      0.26  Q         |         |         |       V |
21+ 5       1.6214      0.25  Q         |         |         |       V |
21+10       1.6231      0.25  Q         |         |         |       V |
21+15       1.6248      0.24  Q         |         |         |       V |
21+20       1.6264      0.24  Q         |         |         |       V |
21+25       1.6281      0.24  Q         |         |         |       V |
21+30       1.6297      0.23  Q         |         |         |       V |
21+35       1.6313      0.23  Q         |         |         |       V |
21+40       1.6328      0.23  Q         |         |         |       V |
21+45       1.6344      0.22  Q         |         |         |       V |
21+50       1.6359      0.22  Q         |         |         |        V|
21+55       1.6374      0.22  Q         |         |         |        V|
22+ 0       1.6389      0.22  Q         |         |         |        V|
```

22+ 5	1.6404	0.21	Q	|	|	|	V|
22+10	1.6418	0.21	Q	|	|	|	V|
22+15	1.6433	0.21	Q	|	|	|	V|
22+20	1.6447	0.21	Q	|	|	|	V|
22+25	1.6461	0.20	Q	|	|	|	V|
22+30	1.6475	0.20	Q	|	|	|	V|
22+35	1.6489	0.20	Q	|	|	|	V|
22+40	1.6502	0.20	Q	|	|	|	V|
22+45	1.6516	0.20	Q	|	|	|	V|
22+50	1.6529	0.19	Q	|	|	|	V|
22+55	1.6542	0.19	Q	|	|	|	V|
23+ 0	1.6555	0.19	Q	|	|	|	V|
23+ 5	1.6568	0.19	Q	|	|	|	V|
23+10	1.6581	0.19	Q	|	|	|	V|
23+15	1.6593	0.18	Q	|	|	|	V|
23+20	1.6606	0.18	Q	|	|	|	V|
23+25	1.6618	0.18	Q	|	|	|	V|
23+30	1.6630	0.18	Q	|	|	|	V|
23+35	1.6643	0.18	Q	|	|	|	V|
23+40	1.6655	0.17	Q	|	|	|	V|
23+45	1.6666	0.17	Q	|	|	|	V|
23+50	1.6678	0.17	Q	|	|	|	V|
23+55	1.6690	0.17	Q	|	|	|	V|
24+ 0	1.6702	0.17	Q	|	|	|	V|
24+ 5	1.6713	0.16	Q	|	|	|	V|
24+10	1.6724	0.16	Q	|	|	|	V|
24+15	1.6733	0.14	Q	|	|	|	V|
24+20	1.6741	0.11	Q	|	|	|	V|
24+25	1.6746	0.08	Q	|	|	|	V|
24+30	1.6751	0.07	Q	|	|	|	V|
24+35	1.6755	0.05	Q	|	|	|	V|
24+40	1.6758	0.05	Q	|	|	|	V|
24+45	1.6760	0.04	Q	|	|	|	V|
24+50	1.6763	0.03	Q	|	|	|	V|
24+55	1.6765	0.03	Q	|	|	|	V|
25+ 0	1.6766	0.02	Q	|	|	|	V|
25+ 5	1.6768	0.02	Q	|	|	|	V|
25+10	1.6769	0.02	Q	|	|	|	V|
25+15	1.6770	0.02	Q	|	|	|	V|
25+20	1.6771	0.01	Q	|	|	|	V|
25+25	1.6772	0.01	Q	|	|	|	V|
25+30	1.6773	0.01	Q	|	|	|	V|
25+35	1.6773	0.01	Q	|	|	|	V|
25+40	1.6774	0.01	Q	|	|	|	V|
25+45	1.6774	0.01	Q	|	|	|	V|
25+50	1.6775	0.01	Q	|	|	|	V|
25+55	1.6775	0.00	Q	|	|	|	V|
26+ 0	1.6775	0.00	Q	|	|	|	V|
26+ 5	1.6776	0.00	Q	|	|	|	V|
26+10	1.6776	0.00	Q	|	|	|	V|
26+15	1.6776	0.00	Q	|	|	|	V|
26+20	1.6776	0.00	Q	|	|	|	V|
26+25	1.6776	0.00	Q	|	|	|	V|
26+30	1.6776	0.00	Q	|	|	|	V|
26+35	1.6776	0.00	Q	|	|	|	V|
26+40	1.6776	0.00	Q	|	|	|	V|
26+45	1.6777	0.00	Q	|	|	|	V|
26+50	1.6777	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 22
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.73	1	1.36
Rainfall data for year 100		
3.73	6	1.84
Rainfall data for year 100		
3.73	24	2.47

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	3.73	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.36	0.900	78.0	92.8	0.78	0.702
0.37	0.100	98.0	98.0	0.20	0.907

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278
User entry of time of concentration = 0.220 (hours)
++
Watershed area = 3.73(Ac.)
Catchment Lag time = 0.176 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 47.3485
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.470(In)

Rainfall depth area reduction factors:
Using a total area of 3.73(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.645(In)
30-minute factor = 1.000 Adjusted rainfall = 1.104(In)
1-hour factor = 1.000 Adjusted rainfall = 1.360(In)
3-hour factor = 1.000 Adjusted rainfall = 1.637(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.470(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 45.11 (CFS))	
1	3.621	1.634
2	27.374	10.715
3	58.032	13.830
4	71.898	6.255
5	79.947	3.631
6	85.264	2.398
7	89.111	1.735
8	91.816	1.220
9	93.936	0.957
10	95.547	0.727
11	96.789	0.560
12	97.673	0.399
13	98.224	0.248

14	98.770	0.247
15	99.332	0.253
16	99.712	0.171
17	100.000	0.130

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6452	0.6452
2	0.7944	0.1491
3	0.8971	0.1027
4	0.9780	0.0809
5	1.0457	0.0677
6	1.1045	0.0588
7	1.1567	0.0523
8	1.2040	0.0473
9	1.2473	0.0433
10	1.2874	0.0401
11	1.3247	0.0373
12	1.3598	0.0350
13	1.3783	0.0185
14	1.3956	0.0174
15	1.4120	0.0164
16	1.4274	0.0155
17	1.4421	0.0147
18	1.4561	0.0140
19	1.4695	0.0134
20	1.4822	0.0128
21	1.4945	0.0123
22	1.5063	0.0118
23	1.5176	0.0113
24	1.5286	0.0109
25	1.5392	0.0106
26	1.5494	0.0102
27	1.5593	0.0099
28	1.5689	0.0096
29	1.5782	0.0093
30	1.5873	0.0091
31	1.5961	0.0088
32	1.6047	0.0086
33	1.6130	0.0084
34	1.6212	0.0082
35	1.6291	0.0080
36	1.6369	0.0078
37	1.6445	0.0076
38	1.6519	0.0074
39	1.6592	0.0073
40	1.6663	0.0071
41	1.6732	0.0070
42	1.6800	0.0068
43	1.6867	0.0067
44	1.6933	0.0066
45	1.6997	0.0064
46	1.7060	0.0063
47	1.7122	0.0062
48	1.7183	0.0061
49	1.7243	0.0060
50	1.7302	0.0059
51	1.7360	0.0058
52	1.7417	0.0057

53	1.7473	0.0056
54	1.7528	0.0055
55	1.7582	0.0054
56	1.7636	0.0054
57	1.7689	0.0053
58	1.7741	0.0052
59	1.7792	0.0051
60	1.7842	0.0051
61	1.7892	0.0050
62	1.7941	0.0049
63	1.7990	0.0048
64	1.8038	0.0048
65	1.8085	0.0047
66	1.8132	0.0047
67	1.8178	0.0046
68	1.8223	0.0045
69	1.8268	0.0045
70	1.8313	0.0044
71	1.8356	0.0044
72	1.8400	0.0043
73	1.8454	0.0054
74	1.8507	0.0053
75	1.8560	0.0053
76	1.8612	0.0052
77	1.8664	0.0052
78	1.8715	0.0051
79	1.8766	0.0051
80	1.8816	0.0050
81	1.8866	0.0050
82	1.8915	0.0049
83	1.8964	0.0049
84	1.9012	0.0048
85	1.9060	0.0048
86	1.9107	0.0047
87	1.9154	0.0047
88	1.9201	0.0047
89	1.9247	0.0046
90	1.9293	0.0046
91	1.9338	0.0045
92	1.9383	0.0045
93	1.9428	0.0045
94	1.9472	0.0044
95	1.9516	0.0044
96	1.9559	0.0043
97	1.9602	0.0043
98	1.9645	0.0043
99	1.9687	0.0042
100	1.9730	0.0042
101	1.9771	0.0042
102	1.9813	0.0041
103	1.9854	0.0041
104	1.9895	0.0041
105	1.9935	0.0040
106	1.9975	0.0040
107	2.0015	0.0040
108	2.0055	0.0040
109	2.0094	0.0039
110	2.0133	0.0039
111	2.0172	0.0039

112	2.0210	0.0038
113	2.0248	0.0038
114	2.0286	0.0038
115	2.0324	0.0038
116	2.0361	0.0037
117	2.0399	0.0037
118	2.0435	0.0037
119	2.0472	0.0037
120	2.0509	0.0036
121	2.0545	0.0036
122	2.0581	0.0036
123	2.0616	0.0036
124	2.0652	0.0035
125	2.0687	0.0035
126	2.0722	0.0035
127	2.0757	0.0035
128	2.0792	0.0035
129	2.0826	0.0034
130	2.0860	0.0034
131	2.0894	0.0034
132	2.0928	0.0034
133	2.0962	0.0034
134	2.0995	0.0033
135	2.1028	0.0033
136	2.1061	0.0033
137	2.1094	0.0033
138	2.1127	0.0033
139	2.1159	0.0032
140	2.1191	0.0032
141	2.1223	0.0032
142	2.1255	0.0032
143	2.1287	0.0032
144	2.1318	0.0032
145	2.1350	0.0031
146	2.1381	0.0031
147	2.1412	0.0031
148	2.1443	0.0031
149	2.1473	0.0031
150	2.1504	0.0031
151	2.1534	0.0030
152	2.1565	0.0030
153	2.1595	0.0030
154	2.1625	0.0030
155	2.1654	0.0030
156	2.1684	0.0030
157	2.1713	0.0029
158	2.1743	0.0029
159	2.1772	0.0029
160	2.1801	0.0029
161	2.1830	0.0029
162	2.1858	0.0029
163	2.1887	0.0029
164	2.1915	0.0028
165	2.1944	0.0028
166	2.1972	0.0028
167	2.2000	0.0028
168	2.2028	0.0028
169	2.2056	0.0028
170	2.2083	0.0028

171	2.2111	0.0028
172	2.2138	0.0027
173	2.2166	0.0027
174	2.2193	0.0027
175	2.2220	0.0027
176	2.2247	0.0027
177	2.2273	0.0027
178	2.2300	0.0027
179	2.2327	0.0027
180	2.2353	0.0026
181	2.2379	0.0026
182	2.2406	0.0026
183	2.2432	0.0026
184	2.2458	0.0026
185	2.2484	0.0026
186	2.2509	0.0026
187	2.2535	0.0026
188	2.2561	0.0026
189	2.2586	0.0025
190	2.2611	0.0025
191	2.2637	0.0025
192	2.2662	0.0025
193	2.2687	0.0025
194	2.2712	0.0025
195	2.2736	0.0025
196	2.2761	0.0025
197	2.2786	0.0025
198	2.2810	0.0025
199	2.2835	0.0024
200	2.2859	0.0024
201	2.2883	0.0024
202	2.2907	0.0024
203	2.2931	0.0024
204	2.2955	0.0024
205	2.2979	0.0024
206	2.3003	0.0024
207	2.3027	0.0024
208	2.3050	0.0024
209	2.3074	0.0023
210	2.3097	0.0023
211	2.3120	0.0023
212	2.3144	0.0023
213	2.3167	0.0023
214	2.3190	0.0023
215	2.3213	0.0023
216	2.3236	0.0023
217	2.3259	0.0023
218	2.3281	0.0023
219	2.3304	0.0023
220	2.3327	0.0023
221	2.3349	0.0022
222	2.3371	0.0022
223	2.3394	0.0022
224	2.3416	0.0022
225	2.3438	0.0022
226	2.3460	0.0022
227	2.3482	0.0022
228	2.3504	0.0022
229	2.3526	0.0022

230	2.3548	0.0022
231	2.3570	0.0022
232	2.3591	0.0022
233	2.3613	0.0022
234	2.3634	0.0021
235	2.3656	0.0021
236	2.3677	0.0021
237	2.3698	0.0021
238	2.3719	0.0021
239	2.3741	0.0021
240	2.3762	0.0021
241	2.3783	0.0021
242	2.3804	0.0021
243	2.3824	0.0021
244	2.3845	0.0021
245	2.3866	0.0021
246	2.3887	0.0021
247	2.3907	0.0021
248	2.3928	0.0021
249	2.3948	0.0020
250	2.3969	0.0020
251	2.3989	0.0020
252	2.4009	0.0020
253	2.4029	0.0020
254	2.4050	0.0020
255	2.4070	0.0020
256	2.4090	0.0020
257	2.4110	0.0020
258	2.4129	0.0020
259	2.4149	0.0020
260	2.4169	0.0020
261	2.4189	0.0020
262	2.4208	0.0020
263	2.4228	0.0020
264	2.4248	0.0020
265	2.4267	0.0019
266	2.4286	0.0019
267	2.4306	0.0019
268	2.4325	0.0019
269	2.4344	0.0019
270	2.4364	0.0019
271	2.4383	0.0019
272	2.4402	0.0019
273	2.4421	0.0019
274	2.4440	0.0019
275	2.4459	0.0019
276	2.4478	0.0019
277	2.4496	0.0019
278	2.4515	0.0019
279	2.4534	0.0019
280	2.4553	0.0019
281	2.4571	0.0019
282	2.4590	0.0019
283	2.4608	0.0018
284	2.4627	0.0018
285	2.4645	0.0018
286	2.4663	0.0018
287	2.4682	0.0018
288	2.4700	0.0018

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0018	0.0005	0.0013
2	0.0018	0.0005	0.0013
3	0.0018	0.0005	0.0013
4	0.0018	0.0005	0.0013
5	0.0019	0.0005	0.0013
6	0.0019	0.0005	0.0013
7	0.0019	0.0005	0.0014
8	0.0019	0.0005	0.0014
9	0.0019	0.0005	0.0014
10	0.0019	0.0005	0.0014
11	0.0019	0.0005	0.0014
12	0.0019	0.0005	0.0014
13	0.0019	0.0005	0.0014
14	0.0019	0.0005	0.0014
15	0.0019	0.0005	0.0014
16	0.0019	0.0005	0.0014
17	0.0020	0.0005	0.0014
18	0.0020	0.0005	0.0014
19	0.0020	0.0005	0.0014
20	0.0020	0.0005	0.0014
21	0.0020	0.0006	0.0014
22	0.0020	0.0006	0.0014
23	0.0020	0.0006	0.0015
24	0.0020	0.0006	0.0015
25	0.0020	0.0006	0.0015
26	0.0020	0.0006	0.0015
27	0.0020	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0015
31	0.0021	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0015
34	0.0021	0.0006	0.0015
35	0.0021	0.0006	0.0015
36	0.0021	0.0006	0.0015
37	0.0021	0.0006	0.0016
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0022	0.0006	0.0016
41	0.0022	0.0006	0.0016
42	0.0022	0.0006	0.0016
43	0.0022	0.0006	0.0016
44	0.0022	0.0006	0.0016
45	0.0022	0.0006	0.0016
46	0.0022	0.0006	0.0016
47	0.0023	0.0006	0.0016
48	0.0023	0.0006	0.0016
49	0.0023	0.0006	0.0017
50	0.0023	0.0006	0.0017
51	0.0023	0.0006	0.0017
52	0.0023	0.0006	0.0017
53	0.0023	0.0006	0.0017
54	0.0023	0.0007	0.0017

55	0.0024	0.0007	0.0017
56	0.0024	0.0007	0.0017
57	0.0024	0.0007	0.0017
58	0.0024	0.0007	0.0017
59	0.0024	0.0007	0.0018
60	0.0024	0.0007	0.0018
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0025	0.0007	0.0018
64	0.0025	0.0007	0.0018
65	0.0025	0.0007	0.0018
66	0.0025	0.0007	0.0018
67	0.0025	0.0007	0.0018
68	0.0026	0.0007	0.0018
69	0.0026	0.0007	0.0019
70	0.0026	0.0007	0.0019
71	0.0026	0.0007	0.0019
72	0.0026	0.0007	0.0019
73	0.0026	0.0007	0.0019
74	0.0027	0.0007	0.0019
75	0.0027	0.0007	0.0019
76	0.0027	0.0007	0.0019
77	0.0027	0.0008	0.0020
78	0.0027	0.0008	0.0020
79	0.0028	0.0008	0.0020
80	0.0028	0.0008	0.0020
81	0.0028	0.0008	0.0020
82	0.0028	0.0008	0.0020
83	0.0028	0.0008	0.0020
84	0.0028	0.0008	0.0021
85	0.0029	0.0008	0.0021
86	0.0029	0.0008	0.0021
87	0.0029	0.0008	0.0021
88	0.0029	0.0008	0.0021
89	0.0030	0.0008	0.0021
90	0.0030	0.0008	0.0021
91	0.0030	0.0008	0.0022
92	0.0030	0.0008	0.0022
93	0.0031	0.0008	0.0022
94	0.0031	0.0009	0.0022
95	0.0031	0.0009	0.0022
96	0.0031	0.0009	0.0023
97	0.0032	0.0009	0.0023
98	0.0032	0.0009	0.0023
99	0.0032	0.0009	0.0023
100	0.0032	0.0009	0.0023
101	0.0033	0.0009	0.0024
102	0.0033	0.0009	0.0024
103	0.0033	0.0009	0.0024
104	0.0033	0.0009	0.0024
105	0.0034	0.0009	0.0024
106	0.0034	0.0009	0.0025
107	0.0034	0.0010	0.0025
108	0.0035	0.0010	0.0025
109	0.0035	0.0010	0.0025
110	0.0035	0.0010	0.0025
111	0.0036	0.0010	0.0026
112	0.0036	0.0010	0.0026
113	0.0036	0.0010	0.0026

114	0.0037	0.0010	0.0026
115	0.0037	0.0010	0.0027
116	0.0037	0.0010	0.0027
117	0.0038	0.0011	0.0027
118	0.0038	0.0011	0.0028
119	0.0039	0.0011	0.0028
120	0.0039	0.0011	0.0028
121	0.0040	0.0011	0.0029
122	0.0040	0.0011	0.0029
123	0.0040	0.0011	0.0029
124	0.0041	0.0011	0.0029
125	0.0041	0.0011	0.0030
126	0.0042	0.0012	0.0030
127	0.0042	0.0012	0.0031
128	0.0043	0.0012	0.0031
129	0.0043	0.0012	0.0031
130	0.0044	0.0012	0.0032
131	0.0045	0.0012	0.0032
132	0.0045	0.0012	0.0032
133	0.0046	0.0013	0.0033
134	0.0046	0.0013	0.0033
135	0.0047	0.0013	0.0034
136	0.0047	0.0013	0.0034
137	0.0048	0.0013	0.0035
138	0.0049	0.0014	0.0035
139	0.0050	0.0014	0.0036
140	0.0050	0.0014	0.0036
141	0.0051	0.0014	0.0037
142	0.0052	0.0014	0.0037
143	0.0053	0.0015	0.0038
144	0.0053	0.0015	0.0039
145	0.0043	0.0012	0.0031
146	0.0044	0.0012	0.0032
147	0.0045	0.0012	0.0032
148	0.0045	0.0013	0.0033
149	0.0047	0.0013	0.0034
150	0.0047	0.0013	0.0034
151	0.0048	0.0013	0.0035
152	0.0049	0.0014	0.0036
153	0.0051	0.0014	0.0037
154	0.0051	0.0014	0.0037
155	0.0053	0.0015	0.0038
156	0.0054	0.0015	0.0039
157	0.0055	0.0015	0.0040
158	0.0056	0.0016	0.0041
159	0.0058	0.0016	0.0042
160	0.0059	0.0016	0.0043
161	0.0061	0.0017	0.0044
162	0.0062	0.0017	0.0045
163	0.0064	0.0018	0.0046
164	0.0066	0.0018	0.0047
165	0.0068	0.0019	0.0049
166	0.0070	0.0019	0.0050
167	0.0073	0.0020	0.0052
168	0.0074	0.0021	0.0054
169	0.0078	0.0022	0.0056
170	0.0080	0.0022	0.0057
171	0.0084	0.0023	0.0060
172	0.0086	0.0024	0.0062

173	0.0091	0.0025	0.0065
174	0.0093	0.0026	0.0067
175	0.0099	0.0027	0.0072
176	0.0102	0.0028	0.0074
177	0.0109	0.0030	0.0079
178	0.0113	0.0031	0.0082
179	0.0123	0.0034	0.0089
180	0.0128	0.0035	0.0092
181	0.0140	0.0039	0.0101
182	0.0147	0.0041	0.0106
183	0.0164	0.0045	0.0118
184	0.0174	0.0048	0.0125
185	0.0350	0.0097	0.0253
186	0.0373	0.0104	0.0270
187	0.0433	0.0105	0.0328
188	0.0473	0.0105	0.0368
189	0.0588	0.0105	0.0483
190	0.0677	0.0105	0.0572
191	0.1027	0.0105	0.0922
192	0.1491	0.0105	0.1386
193	0.6452	0.0105	0.6347
194	0.0809	0.0105	0.0704
195	0.0523	0.0105	0.0418
196	0.0401	0.0105	0.0296
197	0.0185	0.0051	0.0134
198	0.0155	0.0043	0.0112
199	0.0134	0.0037	0.0096
200	0.0118	0.0033	0.0085
201	0.0106	0.0029	0.0076
202	0.0096	0.0027	0.0069
203	0.0088	0.0024	0.0064
204	0.0082	0.0023	0.0059
205	0.0076	0.0021	0.0055
206	0.0071	0.0020	0.0051
207	0.0067	0.0019	0.0048
208	0.0063	0.0018	0.0046
209	0.0060	0.0017	0.0043
210	0.0057	0.0016	0.0041
211	0.0054	0.0015	0.0039
212	0.0052	0.0014	0.0038
213	0.0050	0.0014	0.0036
214	0.0048	0.0013	0.0035
215	0.0046	0.0013	0.0033
216	0.0044	0.0012	0.0032
217	0.0054	0.0015	0.0039
218	0.0052	0.0015	0.0038
219	0.0051	0.0014	0.0037
220	0.0049	0.0014	0.0036
221	0.0048	0.0013	0.0035
222	0.0047	0.0013	0.0034
223	0.0045	0.0013	0.0033
224	0.0044	0.0012	0.0032
225	0.0043	0.0012	0.0031
226	0.0042	0.0012	0.0030
227	0.0041	0.0011	0.0030
228	0.0040	0.0011	0.0029
229	0.0039	0.0011	0.0028
230	0.0038	0.0011	0.0028
231	0.0038	0.0010	0.0027

232	0.0037	0.0010	0.0027
233	0.0036	0.0010	0.0026
234	0.0035	0.0010	0.0026
235	0.0035	0.0010	0.0025
236	0.0034	0.0009	0.0025
237	0.0034	0.0009	0.0024
238	0.0033	0.0009	0.0024
239	0.0032	0.0009	0.0023
240	0.0032	0.0009	0.0023
241	0.0031	0.0009	0.0023
242	0.0031	0.0009	0.0022
243	0.0030	0.0008	0.0022
244	0.0030	0.0008	0.0022
245	0.0029	0.0008	0.0021
246	0.0029	0.0008	0.0021
247	0.0029	0.0008	0.0021
248	0.0028	0.0008	0.0020
249	0.0028	0.0008	0.0020
250	0.0027	0.0008	0.0020
251	0.0027	0.0008	0.0020
252	0.0027	0.0007	0.0019
253	0.0026	0.0007	0.0019
254	0.0026	0.0007	0.0019
255	0.0026	0.0007	0.0019
256	0.0025	0.0007	0.0018
257	0.0025	0.0007	0.0018
258	0.0025	0.0007	0.0018
259	0.0024	0.0007	0.0018
260	0.0024	0.0007	0.0017
261	0.0024	0.0007	0.0017
262	0.0024	0.0007	0.0017
263	0.0023	0.0006	0.0017
264	0.0023	0.0006	0.0017
265	0.0023	0.0006	0.0016
266	0.0023	0.0006	0.0016
267	0.0022	0.0006	0.0016
268	0.0022	0.0006	0.0016
269	0.0022	0.0006	0.0016
270	0.0022	0.0006	0.0016
271	0.0021	0.0006	0.0015
272	0.0021	0.0006	0.0015
273	0.0021	0.0006	0.0015
274	0.0021	0.0006	0.0015
275	0.0021	0.0006	0.0015
276	0.0020	0.0006	0.0015
277	0.0020	0.0006	0.0015
278	0.0020	0.0006	0.0014
279	0.0020	0.0006	0.0014
280	0.0020	0.0005	0.0014
281	0.0019	0.0005	0.0014
282	0.0019	0.0005	0.0014
283	0.0019	0.0005	0.0014
284	0.0019	0.0005	0.0014
285	0.0019	0.0005	0.0014
286	0.0019	0.0005	0.0013
287	0.0018	0.0005	0.0013
288	0.0018	0.0005	0.0013

Total soil rain loss = 0.43(In)
Total effective rainfall = 2.04(In)
Peak flow rate in flood hydrograph = 11.15(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0004	0.03	Q				
0+20	0.0007	0.04	Q				
0+25	0.0010	0.05	Q				
0+30	0.0013	0.05	Q				
0+35	0.0017	0.05	Q				
0+40	0.0021	0.06	Q				
0+45	0.0025	0.06	Q				
0+50	0.0029	0.06	Q				
0+55	0.0033	0.06	Q				
1+ 0	0.0037	0.06	Q				
1+ 5	0.0041	0.06	Q				
1+10	0.0046	0.06	Q				
1+15	0.0050	0.06	Q				
1+20	0.0054	0.06	Q				
1+25	0.0058	0.06	Q				
1+30	0.0063	0.06	Q				
1+35	0.0067	0.06	Q				
1+40	0.0071	0.06	Q				
1+45	0.0076	0.06	Q				
1+50	0.0080	0.06	Q				
1+55	0.0085	0.06	Q				
2+ 0	0.0089	0.06	Q				
2+ 5	0.0094	0.07	Q				
2+10	0.0098	0.07	Q				
2+15	0.0103	0.07	Q				
2+20	0.0107	0.07	Q				
2+25	0.0112	0.07	Q				
2+30	0.0116	0.07	Q				
2+35	0.0121	0.07	Q				
2+40	0.0126	0.07	Q				
2+45	0.0130	0.07	Q				
2+50	0.0135	0.07	Q				
2+55	0.0140	0.07	Q				
3+ 0	0.0144	0.07	Q				
3+ 5	0.0149	0.07	Q				
3+10	0.0154	0.07	Q				
3+15	0.0159	0.07	QV				
3+20	0.0164	0.07	QV				
3+25	0.0168	0.07	QV				
3+30	0.0173	0.07	QV				
3+35	0.0178	0.07	QV				
3+40	0.0183	0.07	QV				
3+45	0.0188	0.07	QV				
3+50	0.0193	0.07	QV				

3+55	0.0198	0.07	QV				
4+ 0	0.0203	0.07	QV				
4+ 5	0.0208	0.07	QV				
4+10	0.0213	0.07	QV				
4+15	0.0218	0.07	QV				
4+20	0.0223	0.07	QV				
4+25	0.0228	0.07	QV				
4+30	0.0234	0.08	QV				
4+35	0.0239	0.08	QV				
4+40	0.0244	0.08	QV				
4+45	0.0249	0.08	QV				
4+50	0.0255	0.08	QV				
4+55	0.0260	0.08	QV				
5+ 0	0.0265	0.08	QV				
5+ 5	0.0271	0.08	QV				
5+10	0.0276	0.08	QV				
5+15	0.0282	0.08	QV				
5+20	0.0287	0.08	QV				
5+25	0.0293	0.08	QV				
5+30	0.0298	0.08	QV				
5+35	0.0304	0.08	QV				
5+40	0.0310	0.08	QV				
5+45	0.0315	0.08	QV				
5+50	0.0321	0.08	Q V				
5+55	0.0327	0.08	Q V				
6+ 0	0.0332	0.08	Q V				
6+ 5	0.0338	0.08	Q V				
6+10	0.0344	0.08	Q V				
6+15	0.0350	0.09	Q V				
6+20	0.0356	0.09	Q V				
6+25	0.0362	0.09	Q V				
6+30	0.0368	0.09	Q V				
6+35	0.0374	0.09	Q V				
6+40	0.0380	0.09	Q V				
6+45	0.0386	0.09	Q V				
6+50	0.0392	0.09	Q V				
6+55	0.0398	0.09	Q V				
7+ 0	0.0405	0.09	Q V				
7+ 5	0.0411	0.09	Q V				
7+10	0.0417	0.09	Q V				
7+15	0.0424	0.09	Q V				
7+20	0.0430	0.09	Q V				
7+25	0.0437	0.09	Q V				
7+30	0.0443	0.09	Q V				
7+35	0.0450	0.10	Q V				
7+40	0.0456	0.10	Q V				
7+45	0.0463	0.10	Q V				
7+50	0.0470	0.10	Q V				
7+55	0.0477	0.10	Q V				
8+ 0	0.0483	0.10	Q V				
8+ 5	0.0490	0.10	Q V				
8+10	0.0497	0.10	Q V				
8+15	0.0504	0.10	Q V				
8+20	0.0511	0.10	Q V				
8+25	0.0518	0.10	Q V				
8+30	0.0526	0.10	Q V				
8+35	0.0533	0.11	Q V				
8+40	0.0540	0.11	Q V				
8+45	0.0548	0.11	Q V				

```
 8+50       0.0555      0.11  Q  V      |          |          |          |
 8+55       0.0563      0.11  Q  V      |          |          |          |
 9+ 0       0.0570      0.11  Q  V      |          |          |          |
 9+ 5       0.0578      0.11  Q  V      |          |          |          |
 9+10       0.0585      0.11  Q  V      |          |          |          |
 9+15       0.0593      0.11  Q  V      |          |          |          |
 9+20       0.0601      0.11  Q  V      |          |          |          |
 9+25       0.0609      0.12  Q  V      |          |          |          |
 9+30       0.0617      0.12  Q  V      |          |          |          |
 9+35       0.0625      0.12  Q  V      |          |          |          |
 9+40       0.0633      0.12  Q   V     |          |          |          |
 9+45       0.0641      0.12  Q   V     |          |          |          |
 9+50       0.0650      0.12  Q   V     |          |          |          |
 9+55       0.0658      0.12  Q   V     |          |          |          |
10+ 0       0.0667      0.12  Q   V     |          |          |          |
10+ 5       0.0675      0.12  Q   V     |          |          |          |
10+10       0.0684      0.13  Q   V     |          |          |          |
10+15       0.0693      0.13  Q   V     |          |          |          |
10+20       0.0702      0.13  Q   V     |          |          |          |
10+25       0.0711      0.13  Q   V     |          |          |          |
10+30       0.0720      0.13  Q   V     |          |          |          |
10+35       0.0729      0.13  Q   V     |          |          |          |
10+40       0.0738      0.13  Q   V     |          |          |          |
10+45       0.0747      0.14  Q   V     |          |          |          |
10+50       0.0757      0.14  Q   V     |          |          |          |
10+55       0.0767      0.14  Q   V     |          |          |          |
11+ 0       0.0776      0.14  Q   V     |          |          |          |
11+ 5       0.0786      0.14  Q   V     |          |          |          |
11+10       0.0796      0.14  Q    V    |          |          |          |
11+15       0.0806      0.15  Q    V    |          |          |          |
11+20       0.0816      0.15  Q    V    |          |          |          |
11+25       0.0827      0.15  Q    V    |          |          |          |
11+30       0.0837      0.15  Q    V    |          |          |          |
11+35       0.0848      0.15  Q    V    |          |          |          |
11+40       0.0859      0.16  Q    V    |          |          |          |
11+45       0.0870      0.16  Q    V    |          |          |          |
11+50       0.0881      0.16  Q    V    |          |          |          |
11+55       0.0892      0.16  Q    V    |          |          |          |
12+ 0       0.0904      0.17  Q    V    |          |          |          |
12+ 5       0.0915      0.17  Q    V    |          |          |          |
12+10       0.0926      0.16  Q    V    |          |          |          |
12+15       0.0937      0.15  Q    V    |          |          |          |
12+20       0.0947      0.15  Q    V    |          |          |          |
12+25       0.0958      0.15  Q     V   |          |          |          |
12+30       0.0968      0.15  Q     V   |          |          |          |
12+35       0.0979      0.15  Q     V   |          |          |          |
12+40       0.0989      0.15  Q     V   |          |          |          |
12+45       0.1000      0.16  Q     V   |          |          |          |
12+50       0.1011      0.16  Q     V   |          |          |          |
12+55       0.1022      0.16  Q     V   |          |          |          |
13+ 0       0.1033      0.16  Q     V   |          |          |          |
13+ 5       0.1045      0.17  Q     V   |          |          |          |
13+10       0.1057      0.17  Q     V   |          |          |          |
13+15       0.1069      0.18  Q     V   |          |          |          |
13+20       0.1081      0.18  Q     V   |          |          |          |
13+25       0.1094      0.18  Q     V   |          |          |          |
13+30       0.1107      0.19  Q     V   |          |          |          |
13+35       0.1120      0.19  Q      V  |          |          |          |
13+40       0.1134      0.20  Q      V  |          |          |          |
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13+45       0.1148      0.20  Q      V  |          |          |          |
13+50       0.1162      0.21  Q      V  |          |          |          |
13+55       0.1177      0.22  Q      V  |          |          |          |
14+ 0       0.1192      0.22  Q      V  |          |          |          |
14+ 5       0.1208      0.23  Q      V  |          |          |          |
14+10       0.1224      0.24  Q      V  |          |          |          |
14+15       0.1241      0.24  Q      V  |          |          |          |
14+20       0.1259      0.25  Q      V  |          |          |          |
14+25       0.1277      0.26  Q       V |          |          |          |
14+30       0.1295      0.27  Q       V |          |          |          |
14+35       0.1315      0.28  Q       V |          |          |          |
14+40       0.1335      0.30  Q       V |          |          |          |
14+45       0.1356      0.31  Q       V |          |          |          |
14+50       0.1379      0.32  Q       V |          |          |          |
14+55       0.1402      0.34  Q       V |          |          |          |
15+ 0       0.1427      0.36  Q        V|          |          |          |
15+ 5       0.1453      0.38  Q        V|          |          |          |
15+10       0.1480      0.40  Q        V|          |          |          |
15+15       0.1510      0.43  Q        V|          |          |          |
15+20       0.1542      0.46  Q        V|          |          |          |
15+25       0.1577      0.52  |Q       V|          |          |          |
15+30       0.1624      0.68  |Q        V          |          |          |
15+35       0.1686      0.90  |Q        V          |          |          |
15+40       0.1760      1.08  | Q       |V         |          |          |
15+45       0.1848      1.28  | Q       |V         |          |          |
15+50       0.1955      1.55  |  Q      | V        |          |          |
15+55       0.2089      1.94  |  Q      |  V       |          |          |
16+ 0       0.2271      2.64  |    Q    |   V      |          |          |
16+ 5       0.2585      4.56  |        Q|     V    |          |          |
16+10       0.3267      9.90  |         |        QV          |          |
16+15       0.4035     11.15  |         |          | Q  V     |          |
16+20       0.4477      6.42  |         | Q        |       V  |          |
16+25       0.4776      4.34  |       Q |          |         V          |
16+30       0.4990      3.11  |     Q   |          |         |V         |
16+35       0.5147      2.29  |   Q     |          |         | V        |
16+40       0.5267      1.74  |  Q      |          |         |  V       |
16+45       0.5364      1.40  | Q       |          |         |  V       |
16+50       0.5442      1.13  | Q       |          |         |   V      |
16+55       0.5506      0.93  |Q        |          |         |   V      |
17+ 0       0.5557      0.75  |Q        |          |         |    V     |
17+ 5       0.5599      0.60  |Q        |          |         |    V     |
17+10       0.5636      0.54  |Q        |          |         |    V     |
17+15       0.5671      0.50  Q         |          |         |    V     |
17+20       0.5699      0.41  Q         |          |         |     V    |
17+25       0.5723      0.35  Q         |          |         |     V    |
17+30       0.5740      0.25  Q         |          |         |     V    |
17+35       0.5755      0.22  Q         |          |         |     V    |
17+40       0.5769      0.21  Q         |          |         |     V    |
17+45       0.5783      0.19  Q         |          |         |     V    |
17+50       0.5795      0.18  Q         |          |         |     V    |
17+55       0.5807      0.17  Q         |          |         |     V    |
18+ 0       0.5819      0.17  Q         |          |         |     V    |
18+ 5       0.5830      0.16  Q         |          |         |     V    |
18+10       0.5841      0.16  Q         |          |         |     V    |
18+15       0.5853      0.17  Q         |          |         |     V    |
18+20       0.5864      0.17  Q         |          |         |      V   |
18+25       0.5876      0.16  Q         |          |         |      V   |
18+30       0.5887      0.16  Q         |          |         |      V   |
18+35       0.5898      0.16  Q         |          |         |      V   |
```

18+40	0.5908	0.15	Q	|	|	|	V |
18+45	0.5919	0.15	Q	|	|	|	V |
18+50	0.5929	0.15	Q	|	|	|	V |
18+55	0.5939	0.14	Q	|	|	|	V |
19+ 0	0.5949	0.14	Q	|	|	|	V |
19+ 5	0.5958	0.14	Q	|	|	|	V |
19+10	0.5967	0.13	Q	|	|	|	V |
19+15	0.5976	0.13	Q	|	|	|	V |
19+20	0.5985	0.13	Q	|	|	|	V |
19+25	0.5994	0.13	Q	|	|	|	V |
19+30	0.6003	0.12	Q	|	|	|	V |
19+35	0.6011	0.12	Q	|	|	|	V |
19+40	0.6019	0.12	Q	|	|	|	V |
19+45	0.6027	0.12	Q	|	|	|	V |
19+50	0.6035	0.11	Q	|	|	|	V |
19+55	0.6043	0.11	Q	|	|	|	V |
20+ 0	0.6050	0.11	Q	|	|	|	V |
20+ 5	0.6058	0.11	Q	|	|	|	V |
20+10	0.6065	0.11	Q	|	|	|	V |
20+15	0.6072	0.10	Q	|	|	|	V |
20+20	0.6079	0.10	Q	|	|	|	V |
20+25	0.6086	0.10	Q	|	|	|	V |
20+30	0.6093	0.10	Q	|	|	|	V |
20+35	0.6100	0.10	Q	|	|	|	V |
20+40	0.6106	0.10	Q	|	|	|	V |
20+45	0.6113	0.09	Q	|	|	|	V |
20+50	0.6119	0.09	Q	|	|	|	V |
20+55	0.6126	0.09	Q	|	|	|	V |
21+ 0	0.6132	0.09	Q	|	|	|	V |
21+ 5	0.6138	0.09	Q	|	|	|	V |
21+10	0.6144	0.09	Q	|	|	|	V |
21+15	0.6150	0.09	Q	|	|	|	V |
21+20	0.6156	0.09	Q	|	|	|	V |
21+25	0.6162	0.08	Q	|	|	|	V |
21+30	0.6168	0.08	Q	|	|	|	V |
21+35	0.6174	0.08	Q	|	|	|	V|
21+40	0.6179	0.08	Q	|	|	|	V|
21+45	0.6185	0.08	Q	|	|	|	V|
21+50	0.6190	0.08	Q	|	|	|	V|
21+55	0.6196	0.08	Q	|	|	|	V|
22+ 0	0.6201	0.08	Q	|	|	|	V|
22+ 5	0.6206	0.08	Q	|	|	|	V|
22+10	0.6212	0.08	Q	|	|	|	V|
22+15	0.6217	0.08	Q	|	|	|	V|
22+20	0.6222	0.07	Q	|	|	|	V|
22+25	0.6227	0.07	Q	|	|	|	V|
22+30	0.6232	0.07	Q	|	|	|	V|
22+35	0.6237	0.07	Q	|	|	|	V|
22+40	0.6242	0.07	Q	|	|	|	V|
22+45	0.6247	0.07	Q	|	|	|	V|
22+50	0.6252	0.07	Q	|	|	|	V|
22+55	0.6256	0.07	Q	|	|	|	V|
23+ 0	0.6261	0.07	Q	|	|	|	V|
23+ 5	0.6266	0.07	Q	|	|	|	V|
23+10	0.6270	0.07	Q	|	|	|	V|
23+15	0.6275	0.07	Q	|	|	|	V|
23+20	0.6280	0.07	Q	|	|	|	V|
23+25	0.6284	0.07	Q	|	|	|	V|
23+30	0.6289	0.06	Q	|	|	|	V|

23+35	0.6293	0.06	Q	|	|	|	V|
23+40	0.6297	0.06	Q	|	|	|	V|
23+45	0.6302	0.06	Q	|	|	|	V|
23+50	0.6306	0.06	Q	|	|	|	V|
23+55	0.6310	0.06	Q	|	|	|	V|
24+ 0	0.6314	0.06	Q	|	|	|	V|
24+ 5	0.6319	0.06	Q	|	|	|	V|
24+10	0.6322	0.04	Q	|	|	|	V|
24+15	0.6323	0.03	Q	|	|	|	V|
24+20	0.6324	0.02	Q	|	|	|	V|
24+25	0.6325	0.01	Q	|	|	|	V|
24+30	0.6326	0.01	Q	|	|	|	V|
24+35	0.6326	0.01	Q	|	|	|	V|
24+40	0.6327	0.00	Q	|	|	|	V|
24+45	0.6327	0.00	Q	|	|	|	V|
24+50	0.6327	0.00	Q	|	|	|	V|
24+55	0.6327	0.00	Q	|	|	|	V|
25+ 0	0.6327	0.00	Q	|	|	|	V|
25+ 5	0.6328	0.00	Q	|	|	|	V|
25+10	0.6328	0.00	Q	|	|	|	V|
25+15	0.6328	0.00	Q	|	|	|	V|
25+20	0.6328	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 23
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
69.41	1	1.36
Rainfall data for year 100		
69.41	6	1.84
Rainfall data for year 100		
69.41	24	2.48

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	69.41	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
62.47	0.900	78.0	92.8	0.78	0.703
6.94	0.100	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.723
Area-averaged low loss fraction, Yb = 0.277
User entry of time of concentration = 0.890 (hours)
++
Watershed area = 69.41(Ac.)
Catchment Lag time = 0.712 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 11.7041
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.277 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.637(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.480(In)

Rainfall depth area reduction factors:
Using a total area of 69.41(Ac.) (Ref: fig. E-4)

5-minute factor = 0.997 Adjusted rainfall = 0.643(In)
30-minute factor = 0.997 Adjusted rainfall = 1.101(In)
1-hour factor = 0.997 Adjusted rainfall = 1.356(In)
3-hour factor = 1.000 Adjusted rainfall = 1.636(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.480(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 839.43 (CFS))	
1	0.515	4.323
2	1.952	12.059
3	4.265	19.421
4	7.485	27.032
5	12.339	40.746
6	20.677	69.991
7	32.058	95.533
8	41.893	82.560
9	49.524	64.057
10	55.699	51.827
11	60.448	39.867
12	64.277	32.139
13	67.519	27.217

14	70.418	24.338
15	72.942	21.182
16	75.129	18.360
17	77.144	16.914
18	78.935	15.035
19	80.481	12.982
20	81.942	12.259
21	83.213	10.670
22	84.448	10.369
23	85.581	9.508
24	86.681	9.232
25	87.640	8.053
26	88.561	7.727
27	89.310	6.287
28	90.011	5.884
29	90.680	5.618
30	91.335	5.498
31	91.935	5.037
32	92.497	4.716
33	93.037	4.535
34	93.552	4.323
35	94.027	3.989
36	94.427	3.356
37	94.825	3.340
38	95.223	3.340
39	95.606	3.221
40	95.920	2.633
41	96.224	2.554
42	96.529	2.554
43	96.829	2.524
44	97.064	1.972
45	97.275	1.768
46	97.486	1.768
47	97.696	1.768
48	97.859	1.369
49	97.976	0.982
50	98.094	0.982
51	98.211	0.982
52	98.334	1.036
53	98.474	1.172
54	98.614	1.179
55	98.754	1.179
56	98.895	1.179
57	99.035	1.179
58	99.176	1.179
59	99.316	1.179
60	99.456	1.169
61	99.551	0.798
62	99.624	0.614
63	99.697	0.614
64	99.770	0.614
65	99.843	0.614
66	99.916	0.614
67	100.000	0.307

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6432	0.6432
2	0.7919	0.1487

3	0.8943	0.1024
4	0.9750	0.0806
5	1.0425	0.0675
6	1.1011	0.0586
7	1.1532	0.0521
8	1.2003	0.0471
9	1.2435	0.0432
10	1.2834	0.0399
11	1.3206	0.0372
12	1.3556	0.0349
13	1.3743	0.0187
14	1.3918	0.0176
15	1.4084	0.0165
16	1.4241	0.0157
17	1.4389	0.0149
18	1.4531	0.0142
19	1.4666	0.0135
20	1.4795	0.0129
21	1.4920	0.0124
22	1.5039	0.0119
23	1.5154	0.0115
24	1.5265	0.0111
25	1.5372	0.0107
26	1.5475	0.0104
27	1.5576	0.0100
28	1.5673	0.0097
29	1.5768	0.0094
30	1.5860	0.0092
31	1.5949	0.0089
32	1.6036	0.0087
33	1.6121	0.0085
34	1.6203	0.0083
35	1.6284	0.0081
36	1.6363	0.0079
37	1.6439	0.0076
38	1.6513	0.0074
39	1.6585	0.0073
40	1.6657	0.0071
41	1.6726	0.0070
42	1.6794	0.0068
43	1.6861	0.0067
44	1.6927	0.0066
45	1.6991	0.0064
46	1.7055	0.0063
47	1.7117	0.0062
48	1.7178	0.0061
49	1.7238	0.0060
50	1.7297	0.0059
51	1.7355	0.0058
52	1.7412	0.0057
53	1.7468	0.0056
54	1.7523	0.0055
55	1.7578	0.0054
56	1.7631	0.0054
57	1.7684	0.0053
58	1.7736	0.0052
59	1.7787	0.0051
60	1.7838	0.0051
61	1.7888	0.0050

62	1.7937	0.0049
63	1.7986	0.0049
64	1.8033	0.0048
65	1.8081	0.0047
66	1.8127	0.0047
67	1.8174	0.0046
68	1.8219	0.0046
69	1.8264	0.0045
70	1.8309	0.0044
71	1.8353	0.0044
72	1.8396	0.0043
73	1.8451	0.0055
74	1.8505	0.0054
75	1.8558	0.0054
76	1.8612	0.0053
77	1.8664	0.0052
78	1.8716	0.0052
79	1.8767	0.0051
80	1.8818	0.0051
81	1.8869	0.0050
82	1.8919	0.0050
83	1.8968	0.0049
84	1.9017	0.0049
85	1.9066	0.0049
86	1.9114	0.0048
87	1.9161	0.0048
88	1.9209	0.0047
89	1.9255	0.0047
90	1.9302	0.0046
91	1.9348	0.0046
92	1.9393	0.0046
93	1.9439	0.0045
94	1.9484	0.0045
95	1.9528	0.0044
96	1.9572	0.0044
97	1.9616	0.0044
98	1.9659	0.0043
99	1.9702	0.0043
100	1.9745	0.0043
101	1.9787	0.0042
102	1.9829	0.0042
103	1.9871	0.0042
104	1.9912	0.0041
105	1.9954	0.0041
106	1.9994	0.0041
107	2.0035	0.0040
108	2.0075	0.0040
109	2.0115	0.0040
110	2.0155	0.0040
111	2.0194	0.0039
112	2.0233	0.0039
113	2.0272	0.0039
114	2.0310	0.0039
115	2.0348	0.0038
116	2.0386	0.0038
117	2.0424	0.0038
118	2.0462	0.0037
119	2.0499	0.0037
120	2.0536	0.0037

121	2.0573	0.0037
122	2.0609	0.0037
123	2.0645	0.0036
124	2.0681	0.0036
125	2.0717	0.0036
126	2.0753	0.0036
127	2.0788	0.0035
128	2.0823	0.0035
129	2.0858	0.0035
130	2.0893	0.0035
131	2.0927	0.0035
132	2.0962	0.0034
133	2.0996	0.0034
134	2.1030	0.0034
135	2.1064	0.0034
136	2.1097	0.0034
137	2.1130	0.0033
138	2.1163	0.0033
139	2.1196	0.0033
140	2.1229	0.0033
141	2.1262	0.0033
142	2.1294	0.0032
143	2.1326	0.0032
144	2.1358	0.0032
145	2.1390	0.0032
146	2.1422	0.0032
147	2.1453	0.0032
148	2.1485	0.0031
149	2.1516	0.0031
150	2.1547	0.0031
151	2.1578	0.0031
152	2.1609	0.0031
153	2.1639	0.0031
154	2.1670	0.0030
155	2.1700	0.0030
156	2.1730	0.0030
157	2.1760	0.0030
158	2.1790	0.0030
159	2.1819	0.0030
160	2.1849	0.0029
161	2.1878	0.0029
162	2.1907	0.0029
163	2.1936	0.0029
164	2.1965	0.0029
165	2.1994	0.0029
166	2.2023	0.0029
167	2.2051	0.0029
168	2.2080	0.0028
169	2.2108	0.0028
170	2.2136	0.0028
171	2.2164	0.0028
172	2.2192	0.0028
173	2.2219	0.0028
174	2.2247	0.0028
175	2.2275	0.0027
176	2.2302	0.0027
177	2.2329	0.0027
178	2.2356	0.0027
179	2.2383	0.0027

180	2.2410	0.0027
181	2.2437	0.0027
182	2.2464	0.0027
183	2.2490	0.0027
184	2.2516	0.0026
185	2.2543	0.0026
186	2.2569	0.0026
187	2.2595	0.0026
188	2.2621	0.0026
189	2.2647	0.0026
190	2.2673	0.0026
191	2.2698	0.0026
192	2.2724	0.0026
193	2.2749	0.0025
194	2.2775	0.0025
195	2.2800	0.0025
196	2.2825	0.0025
197	2.2850	0.0025
198	2.2875	0.0025
199	2.2900	0.0025
200	2.2925	0.0025
201	2.2949	0.0025
202	2.2974	0.0025
203	2.2998	0.0024
204	2.3023	0.0024
205	2.3047	0.0024
206	2.3071	0.0024
207	2.3095	0.0024
208	2.3119	0.0024
209	2.3143	0.0024
210	2.3167	0.0024
211	2.3190	0.0024
212	2.3214	0.0024
213	2.3238	0.0024
214	2.3261	0.0023
215	2.3284	0.0023
216	2.3308	0.0023
217	2.3331	0.0023
218	2.3354	0.0023
219	2.3377	0.0023
220	2.3400	0.0023
221	2.3423	0.0023
222	2.3446	0.0023
223	2.3468	0.0023
224	2.3491	0.0023
225	2.3514	0.0023
226	2.3536	0.0022
227	2.3559	0.0022
228	2.3581	0.0022
229	2.3603	0.0022
230	2.3625	0.0022
231	2.3647	0.0022
232	2.3669	0.0022
233	2.3691	0.0022
234	2.3713	0.0022
235	2.3735	0.0022
236	2.3757	0.0022
237	2.3778	0.0022
238	2.3800	0.0022

239	2.3821	0.0022
240	2.3843	0.0021
241	2.3864	0.0021
242	2.3885	0.0021
243	2.3907	0.0021
244	2.3928	0.0021
245	2.3949	0.0021
246	2.3970	0.0021
247	2.3991	0.0021
248	2.4012	0.0021
249	2.4033	0.0021
250	2.4053	0.0021
251	2.4074	0.0021
252	2.4095	0.0021
253	2.4115	0.0021
254	2.4136	0.0021
255	2.4156	0.0020
256	2.4177	0.0020
257	2.4197	0.0020
258	2.4217	0.0020
259	2.4237	0.0020
260	2.4257	0.0020
261	2.4278	0.0020
262	2.4298	0.0020
263	2.4317	0.0020
264	2.4337	0.0020
265	2.4357	0.0020
266	2.4377	0.0020
267	2.4397	0.0020
268	2.4416	0.0020
269	2.4436	0.0020
270	2.4455	0.0020
271	2.4475	0.0019
272	2.4494	0.0019
273	2.4514	0.0019
274	2.4533	0.0019
275	2.4552	0.0019
276	2.4572	0.0019
277	2.4591	0.0019
278	2.4610	0.0019
279	2.4629	0.0019
280	2.4648	0.0019
281	2.4667	0.0019
282	2.4686	0.0019
283	2.4704	0.0019
284	2.4723	0.0019
285	2.4742	0.0019
286	2.4761	0.0019
287	2.4779	0.0019
288	2.4798	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0005	0.0013
2	0.0019	0.0005	0.0013
3	0.0019	0.0005	0.0014
4	0.0019	0.0005	0.0014

5	0.0019	0.0005	0.0014
6	0.0019	0.0005	0.0014
7	0.0019	0.0005	0.0014
8	0.0019	0.0005	0.0014
9	0.0019	0.0005	0.0014
10	0.0019	0.0005	0.0014
11	0.0019	0.0005	0.0014
12	0.0019	0.0005	0.0014
13	0.0020	0.0005	0.0014
14	0.0020	0.0005	0.0014
15	0.0020	0.0005	0.0014
16	0.0020	0.0005	0.0014
17	0.0020	0.0006	0.0014
18	0.0020	0.0006	0.0014
19	0.0020	0.0006	0.0015
20	0.0020	0.0006	0.0015
21	0.0020	0.0006	0.0015
22	0.0020	0.0006	0.0015
23	0.0020	0.0006	0.0015
24	0.0021	0.0006	0.0015
25	0.0021	0.0006	0.0015
26	0.0021	0.0006	0.0015
27	0.0021	0.0006	0.0015
28	0.0021	0.0006	0.0015
29	0.0021	0.0006	0.0015
30	0.0021	0.0006	0.0015
31	0.0021	0.0006	0.0015
32	0.0021	0.0006	0.0015
33	0.0021	0.0006	0.0016
34	0.0022	0.0006	0.0016
35	0.0022	0.0006	0.0016
36	0.0022	0.0006	0.0016
37	0.0022	0.0006	0.0016
38	0.0022	0.0006	0.0016
39	0.0022	0.0006	0.0016
40	0.0022	0.0006	0.0016
41	0.0022	0.0006	0.0016
42	0.0022	0.0006	0.0016
43	0.0023	0.0006	0.0016
44	0.0023	0.0006	0.0016
45	0.0023	0.0006	0.0016
46	0.0023	0.0006	0.0017
47	0.0023	0.0006	0.0017
48	0.0023	0.0006	0.0017
49	0.0023	0.0006	0.0017
50	0.0023	0.0006	0.0017
51	0.0024	0.0007	0.0017
52	0.0024	0.0007	0.0017
53	0.0024	0.0007	0.0017
54	0.0024	0.0007	0.0017
55	0.0024	0.0007	0.0017
56	0.0024	0.0007	0.0017
57	0.0024	0.0007	0.0018
58	0.0024	0.0007	0.0018
59	0.0025	0.0007	0.0018
60	0.0025	0.0007	0.0018
61	0.0025	0.0007	0.0018
62	0.0025	0.0007	0.0018
63	0.0025	0.0007	0.0018

64	0.0025	0.0007	0.0018
65	0.0026	0.0007	0.0018
66	0.0026	0.0007	0.0019
67	0.0026	0.0007	0.0019
68	0.0026	0.0007	0.0019
69	0.0026	0.0007	0.0019
70	0.0026	0.0007	0.0019
71	0.0027	0.0007	0.0019
72	0.0027	0.0007	0.0019
73	0.0027	0.0007	0.0019
74	0.0027	0.0007	0.0020
75	0.0027	0.0008	0.0020
76	0.0027	0.0008	0.0020
77	0.0028	0.0008	0.0020
78	0.0028	0.0008	0.0020
79	0.0028	0.0008	0.0020
80	0.0028	0.0008	0.0020
81	0.0028	0.0008	0.0021
82	0.0029	0.0008	0.0021
83	0.0029	0.0008	0.0021
84	0.0029	0.0008	0.0021
85	0.0029	0.0008	0.0021
86	0.0029	0.0008	0.0021
87	0.0030	0.0008	0.0021
88	0.0030	0.0008	0.0022
89	0.0030	0.0008	0.0022
90	0.0030	0.0008	0.0022
91	0.0031	0.0008	0.0022
92	0.0031	0.0008	0.0022
93	0.0031	0.0009	0.0022
94	0.0031	0.0009	0.0023
95	0.0032	0.0009	0.0023
96	0.0032	0.0009	0.0023
97	0.0032	0.0009	0.0023
98	0.0032	0.0009	0.0023
99	0.0033	0.0009	0.0024
100	0.0033	0.0009	0.0024
101	0.0033	0.0009	0.0024
102	0.0033	0.0009	0.0024
103	0.0034	0.0009	0.0024
104	0.0034	0.0009	0.0025
105	0.0034	0.0009	0.0025
106	0.0035	0.0010	0.0025
107	0.0035	0.0010	0.0025
108	0.0035	0.0010	0.0025
109	0.0036	0.0010	0.0026
110	0.0036	0.0010	0.0026
111	0.0036	0.0010	0.0026
112	0.0037	0.0010	0.0026
113	0.0037	0.0010	0.0027
114	0.0037	0.0010	0.0027
115	0.0038	0.0010	0.0027
116	0.0038	0.0011	0.0027
117	0.0039	0.0011	0.0028
118	0.0039	0.0011	0.0028
119	0.0039	0.0011	0.0028
120	0.0040	0.0011	0.0029
121	0.0040	0.0011	0.0029
122	0.0040	0.0011	0.0029

123	0.0041	0.0011	0.0030
124	0.0041	0.0011	0.0030
125	0.0042	0.0012	0.0030
126	0.0042	0.0012	0.0031
127	0.0043	0.0012	0.0031
128	0.0043	0.0012	0.0031
129	0.0044	0.0012	0.0032
130	0.0044	0.0012	0.0032
131	0.0045	0.0013	0.0033
132	0.0046	0.0013	0.0033
133	0.0046	0.0013	0.0034
134	0.0047	0.0013	0.0034
135	0.0048	0.0013	0.0034
136	0.0048	0.0013	0.0035
137	0.0049	0.0014	0.0035
138	0.0049	0.0014	0.0036
139	0.0050	0.0014	0.0036
140	0.0051	0.0014	0.0037
141	0.0052	0.0014	0.0038
142	0.0052	0.0015	0.0038
143	0.0054	0.0015	0.0039
144	0.0054	0.0015	0.0039
145	0.0043	0.0012	0.0031
146	0.0044	0.0012	0.0032
147	0.0045	0.0012	0.0033
148	0.0046	0.0013	0.0033
149	0.0047	0.0013	0.0034
150	0.0047	0.0013	0.0034
151	0.0049	0.0013	0.0035
152	0.0049	0.0014	0.0036
153	0.0051	0.0014	0.0037
154	0.0051	0.0014	0.0037
155	0.0053	0.0015	0.0038
156	0.0054	0.0015	0.0039
157	0.0055	0.0015	0.0040
158	0.0056	0.0016	0.0041
159	0.0058	0.0016	0.0042
160	0.0059	0.0016	0.0043
161	0.0061	0.0017	0.0044
162	0.0062	0.0017	0.0045
163	0.0064	0.0018	0.0047
164	0.0066	0.0018	0.0047
165	0.0068	0.0019	0.0049
166	0.0070	0.0019	0.0050
167	0.0073	0.0020	0.0053
168	0.0074	0.0021	0.0054
169	0.0079	0.0022	0.0057
170	0.0081	0.0022	0.0058
171	0.0085	0.0023	0.0061
172	0.0087	0.0024	0.0063
173	0.0092	0.0025	0.0066
174	0.0094	0.0026	0.0068
175	0.0100	0.0028	0.0073
176	0.0104	0.0029	0.0075
177	0.0111	0.0031	0.0080
178	0.0115	0.0032	0.0083
179	0.0124	0.0034	0.0090
180	0.0129	0.0036	0.0094
181	0.0142	0.0039	0.0102

182	0.0149	0.0041	0.0108
183	0.0165	0.0046	0.0120
184	0.0176	0.0049	0.0127
185	0.0349	0.0097	0.0253
186	0.0372	0.0103	0.0269
187	0.0432	0.0105	0.0327
188	0.0471	0.0105	0.0366
189	0.0586	0.0105	0.0481
190	0.0675	0.0105	0.0570
191	0.1024	0.0105	0.0919
192	0.1487	0.0105	0.1382
193	0.6432	0.0105	0.6327
194	0.0806	0.0105	0.0701
195	0.0521	0.0105	0.0416
196	0.0399	0.0105	0.0294
197	0.0187	0.0052	0.0135
198	0.0157	0.0043	0.0113
199	0.0135	0.0037	0.0098
200	0.0119	0.0033	0.0086
201	0.0107	0.0030	0.0077
202	0.0097	0.0027	0.0070
203	0.0089	0.0025	0.0065
204	0.0083	0.0023	0.0060
205	0.0076	0.0021	0.0055
206	0.0071	0.0020	0.0051
207	0.0067	0.0019	0.0048
208	0.0063	0.0017	0.0046
209	0.0060	0.0017	0.0043
210	0.0057	0.0016	0.0041
211	0.0054	0.0015	0.0039
212	0.0052	0.0014	0.0038
213	0.0050	0.0014	0.0036
214	0.0048	0.0013	0.0035
215	0.0046	0.0013	0.0033
216	0.0044	0.0012	0.0032
217	0.0055	0.0015	0.0040
218	0.0053	0.0015	0.0038
219	0.0051	0.0014	0.0037
220	0.0050	0.0014	0.0036
221	0.0049	0.0013	0.0035
222	0.0047	0.0013	0.0034
223	0.0046	0.0013	0.0033
224	0.0045	0.0012	0.0032
225	0.0044	0.0012	0.0032
226	0.0043	0.0012	0.0031
227	0.0042	0.0012	0.0030
228	0.0041	0.0011	0.0030
229	0.0040	0.0011	0.0029
230	0.0039	0.0011	0.0028
231	0.0038	0.0011	0.0028
232	0.0037	0.0010	0.0027
233	0.0037	0.0010	0.0027
234	0.0036	0.0010	0.0026
235	0.0035	0.0010	0.0026
236	0.0035	0.0010	0.0025
237	0.0034	0.0009	0.0025
238	0.0034	0.0009	0.0024
239	0.0033	0.0009	0.0024
240	0.0032	0.0009	0.0023

241	0.0032	0.0009	0.0023
242	0.0031	0.0009	0.0023
243	0.0031	0.0009	0.0022
244	0.0030	0.0008	0.0022
245	0.0030	0.0008	0.0022
246	0.0029	0.0008	0.0021
247	0.0029	0.0008	0.0021
248	0.0029	0.0008	0.0021
249	0.0028	0.0008	0.0020
250	0.0028	0.0008	0.0020
251	0.0027	0.0008	0.0020
252	0.0027	0.0008	0.0020
253	0.0027	0.0007	0.0019
254	0.0026	0.0007	0.0019
255	0.0026	0.0007	0.0019
256	0.0026	0.0007	0.0019
257	0.0025	0.0007	0.0018
258	0.0025	0.0007	0.0018
259	0.0025	0.0007	0.0018
260	0.0025	0.0007	0.0018
261	0.0024	0.0007	0.0018
262	0.0024	0.0007	0.0017
263	0.0024	0.0007	0.0017
264	0.0023	0.0006	0.0017
265	0.0023	0.0006	0.0017
266	0.0023	0.0006	0.0017
267	0.0023	0.0006	0.0016
268	0.0022	0.0006	0.0016
269	0.0022	0.0006	0.0016
270	0.0022	0.0006	0.0016
271	0.0022	0.0006	0.0016
272	0.0022	0.0006	0.0016
273	0.0021	0.0006	0.0015
274	0.0021	0.0006	0.0015
275	0.0021	0.0006	0.0015
276	0.0021	0.0006	0.0015
277	0.0021	0.0006	0.0015
278	0.0020	0.0006	0.0015
279	0.0020	0.0006	0.0015
280	0.0020	0.0006	0.0014
281	0.0020	0.0005	0.0014
282	0.0020	0.0005	0.0014
283	0.0019	0.0005	0.0014
284	0.0019	0.0005	0.0014
285	0.0019	0.0005	0.0014
286	0.0019	0.0005	0.0014
287	0.0019	0.0005	0.0014
288	0.0019	0.0005	0.0014

Total soil rain loss = 0.44(In)
Total effective rainfall = 2.04(In)
Peak flow rate in flood hydrograph = 95.46(CFS)

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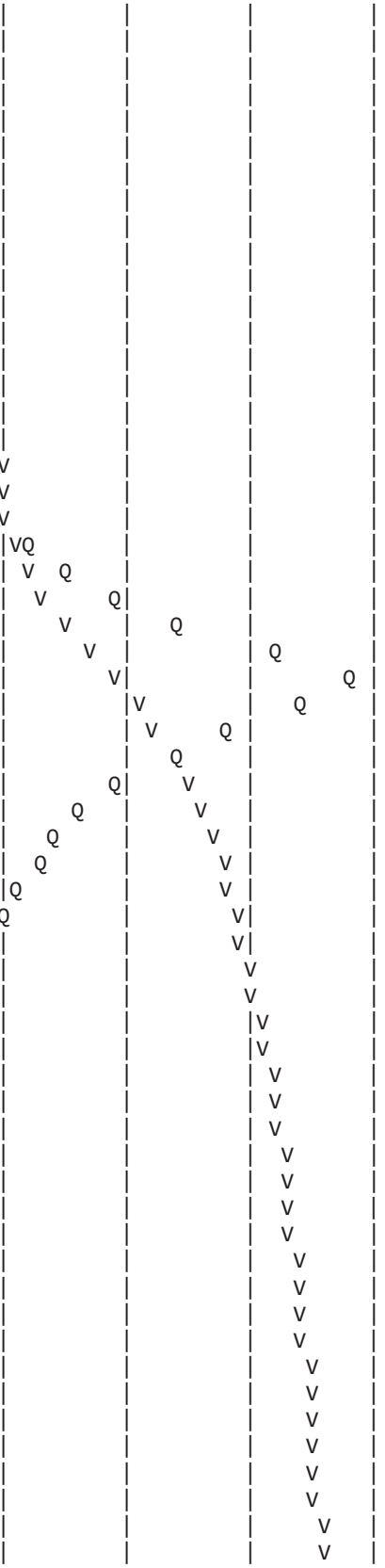
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	25.0	50.0	75.0	100.0
0+ 5	0.0000	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0005	0.05	Q				
0+20	0.0011	0.08	Q				
0+25	0.0021	0.14	Q				
0+30	0.0037	0.23	Q				
0+35	0.0062	0.36	Q				
0+40	0.0095	0.48	Q				
0+45	0.0133	0.56	Q				
0+50	0.0177	0.64	Q				
0+55	0.0225	0.69	Q				
1+ 0	0.0276	0.74	Q				
1+ 5	0.0329	0.78	Q				
1+10	0.0385	0.81	Q				
1+15	0.0444	0.85	Q				
1+20	0.0504	0.87	Q				
1+25	0.0566	0.90	Q				
1+30	0.0629	0.92	Q				
1+35	0.0694	0.95	Q				
1+40	0.0761	0.97	Q				
1+45	0.0829	0.98	Q				
1+50	0.0898	1.00	Q				
1+55	0.0968	1.02	Q				
2+ 0	0.1040	1.04	Q				
2+ 5	0.1112	1.05	Q				
2+10	0.1186	1.07	Q				
2+15	0.1260	1.08	Q				
2+20	0.1335	1.09	Q				
2+25	0.1412	1.11	Q				
2+30	0.1489	1.12	Q				
2+35	0.1566	1.13	Q				
2+40	0.1645	1.14	Q				
2+45	0.1724	1.15	Q				
2+50	0.1805	1.16	Q				
2+55	0.1886	1.18	Q				
3+ 0	0.1967	1.19	Q				
3+ 5	0.2050	1.20	Q				
3+10	0.2133	1.21	Q				
3+15	0.2216	1.22	Q				
3+20	0.2301	1.22	Q				
3+25	0.2386	1.23	Q				
3+30	0.2471	1.24	Q				
3+35	0.2558	1.25	Q				
3+40	0.2644	1.26	Q				
3+45	0.2732	1.27	Q				
3+50	0.2820	1.28	Q				
3+55	0.2909	1.29	Q				
4+ 0	0.2998	1.30	QV				
4+ 5	0.3088	1.30	QV				
4+10	0.3178	1.31	QV				
4+15	0.3269	1.32	QV				
4+20	0.3361	1.33	QV				
4+25	0.3453	1.34	QV				
4+30	0.3545	1.35	QV				
4+35	0.3639	1.35	QV				

4+40	0.3733	1.36	QV				
4+45	0.3827	1.37	QV				
4+50	0.3922	1.38	QV				
4+55	0.4018	1.39	QV				
5+ 0	0.4114	1.40	QV				
5+ 5	0.4211	1.41	QV				
5+10	0.4309	1.42	QV				
5+15	0.4407	1.42	QV				
5+20	0.4506	1.43	QV				
5+25	0.4605	1.44	QV				
5+30	0.4705	1.45	QV				
5+35	0.4806	1.46	QV				
5+40	0.4907	1.47	QV				
5+45	0.5008	1.48	QV				
5+50	0.5111	1.49	QV				
5+55	0.5214	1.49	QV				
6+ 0	0.5317	1.50	QV				
6+ 5	0.5421	1.51	QV				
6+10	0.5526	1.52	QV				
6+15	0.5632	1.53	QV				
6+20	0.5738	1.54	QV				
6+25	0.5844	1.55	QV				
6+30	0.5952	1.56	Q V				
6+35	0.6060	1.57	Q V				
6+40	0.6169	1.58	Q V				
6+45	0.6278	1.59	Q V				
6+50	0.6388	1.60	Q V				
6+55	0.6499	1.61	Q V				
7+ 0	0.6611	1.62	Q V				
7+ 5	0.6723	1.63	Q V				
7+10	0.6836	1.64	Q V				
7+15	0.6950	1.65	Q V				
7+20	0.7065	1.66	Q V				
7+25	0.7180	1.68	Q V				
7+30	0.7296	1.69	Q V				
7+35	0.7413	1.70	Q V				
7+40	0.7531	1.71	Q V				
7+45	0.7649	1.72	Q V				
7+50	0.7769	1.73	Q V				
7+55	0.7889	1.75	Q V				
8+ 0	0.8010	1.76	Q V				
8+ 5	0.8133	1.77	Q V				
8+10	0.8256	1.79	Q V				
8+15	0.8379	1.80	Q V				
8+20	0.8504	1.81	Q V				
8+25	0.8630	1.83	Q V				
8+30	0.8757	1.84	Q V				
8+35	0.8885	1.86	Q V				
8+40	0.9013	1.87	Q V				
8+45	0.9143	1.88	Q V				
8+50	0.9274	1.90	Q V				
8+55	0.9406	1.91	Q V				
9+ 0	0.9539	1.93	Q V				
9+ 5	0.9673	1.95	Q V				
9+10	0.9808	1.96	Q V				
9+15	0.9944	1.98	Q V				
9+20	1.0082	2.00	Q V				
9+25	1.0221	2.01	Q V				
9+30	1.0360	2.03	Q V				

```
 9+35       1.0502      2.05  Q  V      |          |          |          |
 9+40       1.0644      2.07  Q  V      |          |          |          |
 9+45       1.0788      2.09  Q  V      |          |          |          |
 9+50       1.0933      2.11  Q  V      |          |          |          |
 9+55       1.1079      2.12  Q  V      |          |          |          |
10+ 0       1.1227      2.14  Q  V      |          |          |          |
10+ 5       1.1376      2.17  Q  V      |          |          |          |
10+10       1.1526      2.19  Q  V      |          |          |          |
10+15       1.1678      2.21  Q  V      |          |          |          |
10+20       1.1832      2.23  Q   V     |          |          |          |
10+25       1.1987      2.25  Q   V     |          |          |          |
10+30       1.2143      2.27  Q   V     |          |          |          |
10+35       1.2302      2.30  Q   V     |          |          |          |
10+40       1.2462      2.32  Q   V     |          |          |          |
10+45       1.2623      2.35  Q   V     |          |          |          |
10+50       1.2786      2.37  Q   V     |          |          |          |
10+55       1.2951      2.40  Q   V     |          |          |          |
11+ 0       1.3118      2.42  Q   V     |          |          |          |
11+ 5       1.3287      2.45  Q   V     |          |          |          |
11+10       1.3458      2.48  Q   V     |          |          |          |
11+15       1.3630      2.51  |Q  V     |          |          |          |
11+20       1.3805      2.53  |Q  V     |          |          |          |
11+25       1.3981      2.56  |Q  V     |          |          |          |
11+30       1.4160      2.60  |Q  V     |          |          |          |
11+35       1.4341      2.63  |Q  V     |          |          |          |
11+40       1.4524      2.66  |Q  V     |          |          |          |
11+45       1.4710      2.69  |Q  V     |          |          |          |
11+50       1.4898      2.73  |Q   V    |          |          |          |
11+55       1.5088      2.76  |Q   V    |          |          |          |
12+ 0       1.5281      2.80  |Q   V    |          |          |          |
12+ 5       1.5476      2.83  |Q   V    |          |          |          |
12+10       1.5673      2.86  |Q   V    |          |          |          |
12+15       1.5872      2.89  |Q   V    |          |          |          |
12+20       1.6072      2.90  |Q   V    |          |          |          |
12+25       1.6272      2.91  |Q   V    |          |          |          |
12+30       1.6472      2.89  |Q   V    |          |          |          |
12+35       1.6668      2.86  |Q   V    |          |          |          |
12+40       1.6863      2.83  |Q   V    |          |          |          |
12+45       1.7057      2.82  |Q   V    |          |          |          |
12+50       1.7252      2.82  |Q   V    |          |          |          |
12+55       1.7447      2.83  |Q   V    |          |          |          |
13+ 0       1.7644      2.86  |Q   V    |          |          |          |
13+ 5       1.7842      2.88  |Q    V   |          |          |          |
13+10       1.8043      2.91  |Q    V   |          |          |          |
13+15       1.8246      2.95  |Q    V   |          |          |          |
13+20       1.8452      2.99  |Q    V   |          |          |          |
13+25       1.8661      3.03  |Q    V   |          |          |          |
13+30       1.8873      3.08  |Q    V   |          |          |          |
13+35       1.9089      3.13  |Q    V   |          |          |          |
13+40       1.9309      3.19  |Q    V   |          |          |          |
13+45       1.9533      3.25  |Q    V   |          |          |          |
13+50       1.9761      3.32  |Q    V   |          |          |          |
13+55       1.9994      3.38  |Q    V   |          |          |          |
14+ 0       2.0232      3.46  |Q    V   |          |          |          |
14+ 5       2.0476      3.54  |Q    V   |          |          |          |
14+10       2.0725      3.62  |Q     V  |          |          |          |
14+15       2.0981      3.72  |Q     V  |          |          |          |
14+20       2.1244      3.81  |Q     V  |          |          |          |
14+25       2.1514      3.92  |Q     V  |          |          |          |
```

14+30	2.1792	4.04	
14+35	2.2079	4.17	
14+40	2.2376	4.30	
14+45	2.2682	4.45	
14+50	2.3000	4.61	
14+55	2.3329	4.78	
15+ 0	2.3671	4.97	
15+ 5	2.4027	5.17	
15+10	2.4399	5.40	
15+15	2.4788	5.65	
15+20	2.5196	5.93	
15+25	2.5629	6.29	
15+30	2.6097	6.79	
15+35	2.6609	7.44	
15+40	2.7179	8.27	
15+45	2.7827	9.42	
15+50	2.8594	11.13	
15+55	2.9527	13.55	
16+ 0	3.0674	16.66	
16+ 5	3.2238	22.70	
16+10	3.4374	31.02	
16+15	3.7097	39.54	
16+20	4.0462	48.86	
16+25	4.4734	62.02	
16+30	5.0365	81.77	
16+35	5.6939	95.46	
16+40	6.2838	85.65	
16+45	6.7760	71.47	
16+50	7.1908	60.23	
16+55	7.5316	49.48	
17+ 0	7.8199	41.86	
17+ 5	8.0715	36.54	
17+10	8.2974	32.80	
17+15	8.4993	29.30	
17+20	8.6804	26.30	
17+25	8.8471	24.20	
17+30	8.9988	22.03	
17+35	9.1360	19.92	
17+40	9.2644	18.64	
17+45	9.3818	17.04	
17+50	9.4933	16.20	
17+55	9.5976	15.13	
18+ 0	9.6966	14.38	
18+ 5	9.7875	13.20	
18+10	9.8734	12.47	
18+15	9.9508	11.24	
18+20	10.0239	10.63	
18+25	10.0940	10.17	
18+30	10.1616	9.82	
18+35	10.2260	9.35	
18+40	10.2878	8.96	
18+45	10.3472	8.64	
18+50	10.4043	8.29	
18+55	10.4585	7.86	
19+ 0	10.5088	7.31	
19+ 5	10.5578	7.11	
19+10	10.6054	6.92	
19+15	10.6512	6.65	
19+20	10.6935	6.15	

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19+25      10.7344      5.94  | Q       |         |         |     V   |
19+30      10.7741      5.76  | Q       |         |         |     V   |
19+35      10.8124      5.55  | Q       |         |         |     V   |
19+40      10.8474      5.09  | Q       |         |         |     V   |
19+45      10.8806      4.83  |Q        |         |         |     V   |
19+50      10.9129      4.68  |Q        |         |         |     V   |
19+55      10.9441      4.53  |Q        |         |         |      V  |
20+ 0      10.9728      4.17  |Q        |         |         |      V  |
20+ 5      10.9993      3.85  |Q        |         |         |      V  |
20+10      11.0253      3.77  |Q        |         |         |      V  |
20+15      11.0509      3.71  |Q        |         |         |      V  |
20+20      11.0763      3.70  |Q        |         |         |      V  |
20+25      11.1020      3.73  |Q        |         |         |      V  |
20+30      11.1274      3.68  |Q        |         |         |      V  |
20+35      11.1524      3.63  |Q        |         |         |      V  |
20+40      11.1770      3.57  |Q        |         |         |      V  |
20+45      11.2012      3.51  |Q        |         |         |      V  |
20+50      11.2249      3.44  |Q        |         |         |       V |
20+55      11.2480      3.35  |Q        |         |         |       V |
21+ 0      11.2703      3.24  |Q        |         |         |       V |
21+ 5      11.2905      2.93  |Q        |         |         |       V |
21+10      11.3093      2.74  |Q        |         |         |       V |
21+15      11.3277      2.66  |Q        |         |         |       V |
21+20      11.3455      2.59  |Q        |         |         |       V |
21+25      11.3627      2.51  |Q        |         |         |       V |
21+30      11.3793      2.41  Q        |         |         |       V |
21+35      11.3941      2.14  Q        |         |         |       V |
21+40      11.4072      1.90  Q        |         |         |       V |
21+45      11.4199      1.84  Q        |         |         |       V |
21+50      11.4322      1.80  Q        |         |         |       V |
21+55      11.4444      1.76  Q        |         |         |       V |
22+ 0      11.4563      1.73  Q        |         |         |       V |
22+ 5      11.4680      1.70  Q        |         |         |       V |
22+10      11.4796      1.68  Q        |         |         |       V |
22+15      11.4909      1.65  Q        |         |         |       V |
22+20      11.5022      1.63  Q        |         |         |       V |
22+25      11.5132      1.61  Q        |         |         |       V |
22+30      11.5241      1.58  Q        |         |         |        V|
22+35      11.5349      1.56  Q        |         |         |        V|
22+40      11.5455      1.54  Q        |         |         |        V|
22+45      11.5560      1.52  Q        |         |         |        V|
22+50      11.5664      1.51  Q        |         |         |        V|
22+55      11.5766      1.49  Q        |         |         |        V|
23+ 0      11.5868      1.47  Q        |         |         |        V|
23+ 5      11.5968      1.45  Q        |         |         |        V|
23+10      11.6067      1.44  Q        |         |         |        V|
23+15      11.6165      1.42  Q        |         |         |        V|
23+20      11.6261      1.41  Q        |         |         |        V|
23+25      11.6357      1.39  Q        |         |         |        V|
23+30      11.6452      1.37  Q        |         |         |        V|
23+35      11.6546      1.36  Q        |         |         |        V|
23+40      11.6638      1.35  Q        |         |         |        V|
23+45      11.6730      1.33  Q        |         |         |        V|
23+50      11.6821      1.32  Q        |         |         |        V|
23+55      11.6910      1.30  Q        |         |         |        V|
24+ 0      11.6999      1.29  Q        |         |         |        V|
24+ 5      11.7087      1.27  Q        |         |         |        V|
24+10      11.7173      1.24  Q        |         |         |        V|
24+15      11.7256      1.21  Q        |         |         |        V|
```

24+20	11.7335	1.16	Q	|	|	|	V|
24+25	11.7411	1.09	Q	|	|	|	V|
24+30	11.7479	0.99	Q	|	|	|	V|
24+35	11.7537	0.85	Q	|	|	|	V|
24+40	11.7588	0.73	Q	|	|	|	V|
24+45	11.7632	0.64	Q	|	|	|	V|
24+50	11.7670	0.56	Q	|	|	|	V|
24+55	11.7705	0.50	Q	|	|	|	V|
25+ 0	11.7737	0.46	Q	|	|	|	V|
25+ 5	11.7765	0.42	Q	|	|	|	V|
25+10	11.7791	0.38	Q	|	|	|	V|
25+15	11.7815	0.35	Q	|	|	|	V|
25+20	11.7837	0.32	Q	|	|	|	V|
25+25	11.7857	0.29	Q	|	|	|	V|
25+30	11.7876	0.27	Q	|	|	|	V|
25+35	11.7893	0.25	Q	|	|	|	V|
25+40	11.7909	0.23	Q	|	|	|	V|
25+45	11.7924	0.21	Q	|	|	|	V|
25+50	11.7937	0.20	Q	|	|	|	V|
25+55	11.7950	0.18	Q	|	|	|	V|
26+ 0	11.7962	0.17	Q	|	|	|	V|
26+ 5	11.7972	0.16	Q	|	|	|	V|
26+10	11.7982	0.15	Q	|	|	|	V|
26+15	11.7992	0.14	Q	|	|	|	V|
26+20	11.8000	0.13	Q	|	|	|	V|
26+25	11.8009	0.12	Q	|	|	|	V|
26+30	11.8016	0.11	Q	|	|	|	V|
26+35	11.8023	0.10	Q	|	|	|	V|
26+40	11.8030	0.09	Q	|	|	|	V|
26+45	11.8036	0.09	Q	|	|	|	V|
26+50	11.8041	0.08	Q	|	|	|	V|
26+55	11.8046	0.07	Q	|	|	|	V|
27+ 0	11.8051	0.07	Q	|	|	|	V|
27+ 5	11.8055	0.06	Q	|	|	|	V|
27+10	11.8059	0.06	Q	|	|	|	V|
27+15	11.8063	0.05	Q	|	|	|	V|
27+20	11.8067	0.05	Q	|	|	|	V|
27+25	11.8070	0.05	Q	|	|	|	V|
27+30	11.8073	0.04	Q	|	|	|	V|
27+35	11.8075	0.04	Q	|	|	|	V|
27+40	11.8078	0.04	Q	|	|	|	V|
27+45	11.8080	0.03	Q	|	|	|	V|
27+50	11.8082	0.03	Q	|	|	|	V|
27+55	11.8084	0.03	Q	|	|	|	V|
28+ 0	11.8086	0.03	Q	|	|	|	V|
28+ 5	11.8087	0.02	Q	|	|	|	V|
28+10	11.8089	0.02	Q	|	|	|	V|
28+15	11.8090	0.02	Q	|	|	|	V|
28+20	11.8092	0.02	Q	|	|	|	V|
28+25	11.8093	0.02	Q	|	|	|	V|
28+30	11.8094	0.02	Q	|	|	|	V|
28+35	11.8095	0.01	Q	|	|	|	V|
28+40	11.8096	0.01	Q	|	|	|	V|
28+45	11.8097	0.01	Q	|	|	|	V|
28+50	11.8097	0.01	Q	|	|	|	V|
28+55	11.8098	0.01	Q	|	|	|	V|
29+ 0	11.8098	0.01	Q	|	|	|	V|
29+ 5	11.8098	0.00	Q	|	|	|	V|
29+10	11.8099	0.00	Q	|	|	|	V|

29+15	11.8099	0.00	Q	|	|	|	V|
29+20	11.8099	0.00	Q	|	|	|	V|
29+25	11.8099	0.00	Q	|	|	|	V|
29+30	11.8099	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 24
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
293.06	1	1.35
Rainfall data for year 100		
293.06	6	1.84
Rainfall data for year 100		
293.06	24	2.49

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.4	89.7	293.06	1.000	0.198	0.928	0.183

Area-averaged adjusted loss rate Fm (In/Hr) = 0.183

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
271.96	0.928	73.4	89.7	1.15	0.603
21.10	0.072	98.0	98.0	0.20	0.908

Area-averaged catchment yield fraction, Y = 0.625
Area-averaged low loss fraction, Yb = 0.375
User entry of time of concentration = 1.630 (hours)
++
Watershed area = 293.06(Ac.)
Catchment Lag time = 1.304 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 6.3906
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.183(In/Hr)
Average low loss rate fraction (Yb) = 0.375 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.641(In)
Computed peak 30-minute rainfall = 1.097(In)
Specified peak 1-hour rainfall = 1.350(In)
Computed peak 3-hour rainfall = 1.632(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.490(In)

Rainfall depth area reduction factors:
Using a total area of 293.06(Ac.) (Ref: fig. E-4)

5-minute factor = 0.986 Adjusted rainfall = 0.632(In)
30-minute factor = 0.986 Adjusted rainfall = 1.081(In)
1-hour factor = 0.986 Adjusted rainfall = 1.331(In)
3-hour factor = 0.998 Adjusted rainfall = 1.629(In)
6-hour factor = 0.999 Adjusted rainfall = 1.838(In)
24-hour factor = 1.000 Adjusted rainfall = 2.489(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 3544.19 (CFS))	
1	0.281	9.966
2	0.844	19.949
3	1.684	29.771
4	2.760	38.121
5	4.132	48.635
6	5.722	56.344
7	7.657	68.594
8	9.834	77.169
9	13.265	121.582
10	17.414	147.062
11	23.212	205.473
12	29.718	230.605
13	35.479	204.186

14	40.884	191.559
15	45.305	156.671
16	49.347	143.273
17	52.831	123.484
18	56.086	115.362
19	58.699	92.593
20	61.108	85.396
21	63.174	73.223
22	65.132	69.393
23	66.860	61.242
24	68.526	59.037
25	70.077	54.964
26	71.569	52.877
27	72.870	46.129
28	74.119	44.268
29	75.255	40.264
30	76.369	39.468
31	77.445	38.156
32	78.462	36.031
33	79.316	30.255
34	80.159	29.897
35	81.003	29.897
36	81.798	28.192
37	82.492	24.579
38	83.182	24.461
39	83.872	24.461
40	84.533	23.409
41	85.147	21.763
42	85.760	21.744
43	86.374	21.744
44	86.939	20.046
45	87.451	18.121
46	87.962	18.120
47	88.473	18.113
48	88.913	15.608
49	89.297	13.590
50	89.680	13.590
51	90.063	13.580
52	90.430	13.016
53	90.788	12.684
54	91.146	12.684
55	91.503	12.635
56	91.825	11.406
57	92.131	10.872
58	92.438	10.872
59	92.743	10.825
60	93.031	10.175
61	93.312	9.966
62	93.593	9.966
63	93.869	9.777
64	94.097	8.098
65	94.315	7.701
66	94.532	7.701
67	94.749	7.701
68	94.966	7.701
69	95.184	7.701
70	95.401	7.701
71	95.610	7.392
72	95.780	6.046

73	95.946	5.889
74	96.112	5.889
75	96.279	5.889
76	96.445	5.889
77	96.611	5.889
78	96.777	5.889
79	96.928	5.366
80	97.045	4.129
81	97.160	4.077
82	97.275	4.077
83	97.390	4.077
84	97.505	4.077
85	97.620	4.077
86	97.735	4.077
87	97.828	3.283
88	97.892	2.269
89	97.956	2.265
90	98.020	2.265
91	98.083	2.265
92	98.147	2.265
93	98.211	2.265
94	98.275	2.268
95	98.347	2.539
96	98.424	2.718
97	98.500	2.718
98	98.577	2.718
99	98.654	2.718
100	98.730	2.718
101	98.807	2.718
102	98.884	2.718
103	98.960	2.718
104	99.037	2.718
105	99.114	2.718
106	99.190	2.718
107	99.267	2.718
108	99.344	2.718
109	99.421	2.718
110	99.493	2.578
111	99.539	1.603
112	99.578	1.416
113	99.618	1.416
114	99.658	1.416
115	99.698	1.416
116	99.738	1.416
117	99.778	1.416
118	99.818	1.416
119	99.858	1.416
120	99.898	1.416
121	99.938	1.416
122	99.978	1.416
123	100.000	0.785

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6318	0.6318
2	0.7778	0.1460
3	0.8784	0.1006
4	0.9576	0.0792
5	1.0239	0.0663

6	1.0815	0.0576
7	1.1327	0.0512
8	1.1790	0.0463
9	1.2214	0.0424
10	1.2606	0.0392
11	1.2971	0.0366
12	1.3315	0.0343
13	1.3512	0.0197
14	1.3697	0.0185
15	1.3872	0.0175
16	1.4038	0.0166
17	1.4195	0.0157
18	1.4345	0.0150
19	1.4488	0.0143
20	1.4625	0.0137
21	1.4757	0.0132
22	1.4884	0.0127
23	1.5006	0.0122
24	1.5124	0.0118
25	1.5238	0.0114
26	1.5348	0.0110
27	1.5455	0.0107
28	1.5559	0.0104
29	1.5659	0.0101
30	1.5757	0.0098
31	1.5853	0.0095
32	1.5945	0.0093
33	1.6036	0.0090
34	1.6124	0.0088
35	1.6210	0.0086
36	1.6294	0.0084
37	1.6372	0.0078
38	1.6448	0.0076
39	1.6523	0.0075
40	1.6596	0.0073
41	1.6667	0.0071
42	1.6737	0.0070
43	1.6806	0.0069
44	1.6873	0.0067
45	1.6939	0.0066
46	1.7004	0.0065
47	1.7068	0.0064
48	1.7131	0.0063
49	1.7192	0.0062
50	1.7253	0.0061
51	1.7312	0.0060
52	1.7371	0.0059
53	1.7429	0.0058
54	1.7486	0.0057
55	1.7541	0.0056
56	1.7597	0.0055
57	1.7651	0.0054
58	1.7704	0.0053
59	1.7757	0.0053
60	1.7809	0.0052
61	1.7860	0.0051
62	1.7911	0.0051
63	1.7961	0.0050
64	1.8010	0.0049

65	1.8059	0.0049
66	1.8107	0.0048
67	1.8154	0.0047
68	1.8201	0.0047
69	1.8248	0.0046
70	1.8293	0.0046
71	1.8338	0.0045
72	1.8383	0.0045
73	1.8439	0.0056
74	1.8494	0.0055
75	1.8548	0.0054
76	1.8602	0.0054
77	1.8655	0.0053
78	1.8708	0.0053
79	1.8760	0.0052
80	1.8811	0.0052
81	1.8863	0.0051
82	1.8913	0.0051
83	1.8964	0.0050
84	1.9013	0.0050
85	1.9062	0.0049
86	1.9111	0.0049
87	1.9160	0.0048
88	1.9208	0.0048
89	1.9255	0.0048
90	1.9302	0.0047
91	1.9349	0.0047
92	1.9395	0.0046
93	1.9441	0.0046
94	1.9487	0.0046
95	1.9532	0.0045
96	1.9576	0.0045
97	1.9621	0.0044
98	1.9665	0.0044
99	1.9709	0.0044
100	1.9752	0.0043
101	1.9795	0.0043
102	1.9838	0.0043
103	1.9880	0.0042
104	1.9922	0.0042
105	1.9964	0.0042
106	2.0005	0.0041
107	2.0046	0.0041
108	2.0087	0.0041
109	2.0128	0.0041
110	2.0168	0.0040
111	2.0208	0.0040
112	2.0247	0.0040
113	2.0287	0.0039
114	2.0326	0.0039
115	2.0365	0.0039
116	2.0403	0.0039
117	2.0442	0.0038
118	2.0480	0.0038
119	2.0518	0.0038
120	2.0555	0.0038
121	2.0592	0.0037
122	2.0630	0.0037
123	2.0666	0.0037

124	2.0703	0.0037
125	2.0739	0.0036
126	2.0776	0.0036
127	2.0811	0.0036
128	2.0847	0.0036
129	2.0883	0.0035
130	2.0918	0.0035
131	2.0953	0.0035
132	2.0988	0.0035
133	2.1023	0.0035
134	2.1057	0.0034
135	2.1091	0.0034
136	2.1125	0.0034
137	2.1159	0.0034
138	2.1193	0.0034
139	2.1226	0.0033
140	2.1260	0.0033
141	2.1293	0.0033
142	2.1326	0.0033
143	2.1358	0.0033
144	2.1391	0.0033
145	2.1423	0.0032
146	2.1456	0.0032
147	2.1488	0.0032
148	2.1519	0.0032
149	2.1551	0.0032
150	2.1583	0.0032
151	2.1614	0.0031
152	2.1645	0.0031
153	2.1676	0.0031
154	2.1707	0.0031
155	2.1738	0.0031
156	2.1769	0.0031
157	2.1799	0.0030
158	2.1829	0.0030
159	2.1859	0.0030
160	2.1889	0.0030
161	2.1919	0.0030
162	2.1949	0.0030
163	2.1978	0.0030
164	2.2008	0.0029
165	2.2037	0.0029
166	2.2066	0.0029
167	2.2095	0.0029
168	2.2124	0.0029
169	2.2153	0.0029
170	2.2181	0.0029
171	2.2210	0.0028
172	2.2238	0.0028
173	2.2266	0.0028
174	2.2294	0.0028
175	2.2322	0.0028
176	2.2350	0.0028
177	2.2378	0.0028
178	2.2406	0.0028
179	2.2433	0.0027
180	2.2460	0.0027
181	2.2488	0.0027
182	2.2515	0.0027

183	2.2542	0.0027
184	2.2569	0.0027
185	2.2595	0.0027
186	2.2622	0.0027
187	2.2648	0.0027
188	2.2675	0.0026
189	2.2701	0.0026
190	2.2727	0.0026
191	2.2753	0.0026
192	2.2779	0.0026
193	2.2805	0.0026
194	2.2831	0.0026
195	2.2857	0.0026
196	2.2882	0.0026
197	2.2908	0.0025
198	2.2933	0.0025
199	2.2959	0.0025
200	2.2984	0.0025
201	2.3009	0.0025
202	2.3034	0.0025
203	2.3059	0.0025
204	2.3083	0.0025
205	2.3108	0.0025
206	2.3133	0.0025
207	2.3157	0.0025
208	2.3182	0.0024
209	2.3206	0.0024
210	2.3230	0.0024
211	2.3254	0.0024
212	2.3278	0.0024
213	2.3302	0.0024
214	2.3326	0.0024
215	2.3350	0.0024
216	2.3374	0.0024
217	2.3397	0.0024
218	2.3421	0.0024
219	2.3444	0.0023
220	2.3468	0.0023
221	2.3491	0.0023
222	2.3514	0.0023
223	2.3537	0.0023
224	2.3560	0.0023
225	2.3583	0.0023
226	2.3606	0.0023
227	2.3629	0.0023
228	2.3652	0.0023
229	2.3674	0.0023
230	2.3697	0.0023
231	2.3719	0.0022
232	2.3742	0.0022
233	2.3764	0.0022
234	2.3786	0.0022
235	2.3808	0.0022
236	2.3831	0.0022
237	2.3853	0.0022
238	2.3875	0.0022
239	2.3896	0.0022
240	2.3918	0.0022
241	2.3940	0.0022

242	2.3962	0.0022
243	2.3983	0.0022
244	2.4005	0.0022
245	2.4026	0.0021
246	2.4048	0.0021
247	2.4069	0.0021
248	2.4090	0.0021
249	2.4112	0.0021
250	2.4133	0.0021
251	2.4154	0.0021
252	2.4175	0.0021
253	2.4196	0.0021
254	2.4217	0.0021
255	2.4237	0.0021
256	2.4258	0.0021
257	2.4279	0.0021
258	2.4299	0.0021
259	2.4320	0.0021
260	2.4340	0.0020
261	2.4361	0.0020
262	2.4381	0.0020
263	2.4402	0.0020
264	2.4422	0.0020
265	2.4442	0.0020
266	2.4462	0.0020
267	2.4482	0.0020
268	2.4502	0.0020
269	2.4522	0.0020
270	2.4542	0.0020
271	2.4562	0.0020
272	2.4582	0.0020
273	2.4602	0.0020
274	2.4621	0.0020
275	2.4641	0.0020
276	2.4660	0.0020
277	2.4680	0.0020
278	2.4699	0.0019
279	2.4719	0.0019
280	2.4738	0.0019
281	2.4757	0.0019
282	2.4777	0.0019
283	2.4796	0.0019
284	2.4815	0.0019
285	2.4834	0.0019
286	2.4853	0.0019
287	2.4872	0.0019
288	2.4891	0.0019

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0019	0.0007	0.0012
2	0.0019	0.0007	0.0012
3	0.0019	0.0007	0.0012
4	0.0019	0.0007	0.0012
5	0.0019	0.0007	0.0012
6	0.0019	0.0007	0.0012
7	0.0019	0.0007	0.0012

8	0.0019	0.0007	0.0012
9	0.0020	0.0007	0.0012
10	0.0020	0.0007	0.0012
11	0.0020	0.0007	0.0012
12	0.0020	0.0007	0.0012
13	0.0020	0.0007	0.0012
14	0.0020	0.0007	0.0012
15	0.0020	0.0008	0.0013
16	0.0020	0.0008	0.0013
17	0.0020	0.0008	0.0013
18	0.0020	0.0008	0.0013
19	0.0020	0.0008	0.0013
20	0.0020	0.0008	0.0013
21	0.0021	0.0008	0.0013
22	0.0021	0.0008	0.0013
23	0.0021	0.0008	0.0013
24	0.0021	0.0008	0.0013
25	0.0021	0.0008	0.0013
26	0.0021	0.0008	0.0013
27	0.0021	0.0008	0.0013
28	0.0021	0.0008	0.0013
29	0.0021	0.0008	0.0013
30	0.0021	0.0008	0.0013
31	0.0022	0.0008	0.0013
32	0.0022	0.0008	0.0014
33	0.0022	0.0008	0.0014
34	0.0022	0.0008	0.0014
35	0.0022	0.0008	0.0014
36	0.0022	0.0008	0.0014
37	0.0022	0.0008	0.0014
38	0.0022	0.0008	0.0014
39	0.0022	0.0008	0.0014
40	0.0023	0.0008	0.0014
41	0.0023	0.0009	0.0014
42	0.0023	0.0009	0.0014
43	0.0023	0.0009	0.0014
44	0.0023	0.0009	0.0014
45	0.0023	0.0009	0.0014
46	0.0023	0.0009	0.0015
47	0.0023	0.0009	0.0015
48	0.0024	0.0009	0.0015
49	0.0024	0.0009	0.0015
50	0.0024	0.0009	0.0015
51	0.0024	0.0009	0.0015
52	0.0024	0.0009	0.0015
53	0.0024	0.0009	0.0015
54	0.0024	0.0009	0.0015
55	0.0025	0.0009	0.0015
56	0.0025	0.0009	0.0015
57	0.0025	0.0009	0.0015
58	0.0025	0.0009	0.0016
59	0.0025	0.0009	0.0016
60	0.0025	0.0009	0.0016
61	0.0025	0.0010	0.0016
62	0.0025	0.0010	0.0016
63	0.0026	0.0010	0.0016
64	0.0026	0.0010	0.0016
65	0.0026	0.0010	0.0016
66	0.0026	0.0010	0.0016

67	0.0026	0.0010	0.0016
68	0.0026	0.0010	0.0017
69	0.0027	0.0010	0.0017
70	0.0027	0.0010	0.0017
71	0.0027	0.0010	0.0017
72	0.0027	0.0010	0.0017
73	0.0027	0.0010	0.0017
74	0.0027	0.0010	0.0017
75	0.0028	0.0010	0.0017
76	0.0028	0.0010	0.0017
77	0.0028	0.0011	0.0018
78	0.0028	0.0011	0.0018
79	0.0028	0.0011	0.0018
80	0.0029	0.0011	0.0018
81	0.0029	0.0011	0.0018
82	0.0029	0.0011	0.0018
83	0.0029	0.0011	0.0018
84	0.0029	0.0011	0.0018
85	0.0030	0.0011	0.0019
86	0.0030	0.0011	0.0019
87	0.0030	0.0011	0.0019
88	0.0030	0.0011	0.0019
89	0.0031	0.0011	0.0019
90	0.0031	0.0012	0.0019
91	0.0031	0.0012	0.0019
92	0.0031	0.0012	0.0019
93	0.0032	0.0012	0.0020
94	0.0032	0.0012	0.0020
95	0.0032	0.0012	0.0020
96	0.0032	0.0012	0.0020
97	0.0033	0.0012	0.0020
98	0.0033	0.0012	0.0020
99	0.0033	0.0012	0.0021
100	0.0033	0.0012	0.0021
101	0.0034	0.0013	0.0021
102	0.0034	0.0013	0.0021
103	0.0034	0.0013	0.0021
104	0.0034	0.0013	0.0022
105	0.0035	0.0013	0.0022
106	0.0035	0.0013	0.0022
107	0.0035	0.0013	0.0022
108	0.0036	0.0013	0.0022
109	0.0036	0.0014	0.0023
110	0.0036	0.0014	0.0023
111	0.0037	0.0014	0.0023
112	0.0037	0.0014	0.0023
113	0.0038	0.0014	0.0023
114	0.0038	0.0014	0.0024
115	0.0038	0.0014	0.0024
116	0.0039	0.0014	0.0024
117	0.0039	0.0015	0.0024
118	0.0039	0.0015	0.0025
119	0.0040	0.0015	0.0025
120	0.0040	0.0015	0.0025
121	0.0041	0.0015	0.0025
122	0.0041	0.0015	0.0026
123	0.0042	0.0016	0.0026
124	0.0042	0.0016	0.0026
125	0.0043	0.0016	0.0027

126	0.0043	0.0016	0.0027
127	0.0044	0.0016	0.0027
128	0.0044	0.0017	0.0028
129	0.0045	0.0017	0.0028
130	0.0045	0.0017	0.0028
131	0.0046	0.0017	0.0029
132	0.0046	0.0017	0.0029
133	0.0047	0.0018	0.0029
134	0.0048	0.0018	0.0030
135	0.0048	0.0018	0.0030
136	0.0049	0.0018	0.0030
137	0.0050	0.0019	0.0031
138	0.0050	0.0019	0.0031
139	0.0051	0.0019	0.0032
140	0.0052	0.0019	0.0032
141	0.0053	0.0020	0.0033
142	0.0053	0.0020	0.0033
143	0.0054	0.0020	0.0034
144	0.0055	0.0021	0.0034
145	0.0045	0.0017	0.0028
146	0.0045	0.0017	0.0028
147	0.0046	0.0017	0.0029
148	0.0047	0.0018	0.0029
149	0.0048	0.0018	0.0030
150	0.0049	0.0018	0.0030
151	0.0050	0.0019	0.0031
152	0.0051	0.0019	0.0032
153	0.0052	0.0020	0.0032
154	0.0053	0.0020	0.0033
155	0.0054	0.0020	0.0034
156	0.0055	0.0021	0.0034
157	0.0057	0.0021	0.0035
158	0.0058	0.0022	0.0036
159	0.0060	0.0022	0.0037
160	0.0061	0.0023	0.0038
161	0.0063	0.0024	0.0039
162	0.0064	0.0024	0.0040
163	0.0066	0.0025	0.0041
164	0.0067	0.0025	0.0042
165	0.0070	0.0026	0.0044
166	0.0071	0.0027	0.0045
167	0.0075	0.0028	0.0047
168	0.0076	0.0029	0.0048
169	0.0084	0.0032	0.0053
170	0.0086	0.0032	0.0054
171	0.0090	0.0034	0.0056
172	0.0093	0.0035	0.0058
173	0.0098	0.0037	0.0061
174	0.0101	0.0038	0.0063
175	0.0107	0.0040	0.0067
176	0.0110	0.0041	0.0069
177	0.0118	0.0044	0.0074
178	0.0122	0.0046	0.0076
179	0.0132	0.0049	0.0082
180	0.0137	0.0052	0.0086
181	0.0150	0.0056	0.0094
182	0.0157	0.0059	0.0098
183	0.0175	0.0066	0.0109
184	0.0185	0.0070	0.0116

185	0.0343	0.0129	0.0214
186	0.0366	0.0137	0.0228
187	0.0424	0.0153	0.0271
188	0.0463	0.0153	0.0310
189	0.0576	0.0153	0.0423
190	0.0663	0.0153	0.0510
191	0.1006	0.0153	0.0853
192	0.1460	0.0153	0.1308
193	0.6318	0.0153	0.6165
194	0.0792	0.0153	0.0639
195	0.0512	0.0153	0.0359
196	0.0392	0.0147	0.0245
197	0.0197	0.0074	0.0123
198	0.0166	0.0062	0.0103
199	0.0143	0.0054	0.0089
200	0.0127	0.0048	0.0079
201	0.0114	0.0043	0.0071
202	0.0104	0.0039	0.0065
203	0.0095	0.0036	0.0060
204	0.0088	0.0033	0.0055
205	0.0078	0.0029	0.0049
206	0.0073	0.0027	0.0046
207	0.0069	0.0026	0.0043
208	0.0065	0.0024	0.0041
209	0.0062	0.0023	0.0038
210	0.0059	0.0022	0.0037
211	0.0056	0.0021	0.0035
212	0.0053	0.0020	0.0033
213	0.0051	0.0019	0.0032
214	0.0049	0.0019	0.0031
215	0.0047	0.0018	0.0030
216	0.0046	0.0017	0.0029
217	0.0056	0.0021	0.0035
218	0.0054	0.0020	0.0034
219	0.0052	0.0020	0.0033
220	0.0051	0.0019	0.0032
221	0.0049	0.0018	0.0031
222	0.0048	0.0018	0.0030
223	0.0047	0.0018	0.0029
224	0.0046	0.0017	0.0028
225	0.0044	0.0017	0.0028
226	0.0043	0.0016	0.0027
227	0.0042	0.0016	0.0026
228	0.0041	0.0016	0.0026
229	0.0041	0.0015	0.0025
230	0.0040	0.0015	0.0025
231	0.0039	0.0015	0.0024
232	0.0038	0.0014	0.0024
233	0.0037	0.0014	0.0023
234	0.0037	0.0014	0.0023
235	0.0036	0.0013	0.0022
236	0.0035	0.0013	0.0022
237	0.0035	0.0013	0.0022
238	0.0034	0.0013	0.0021
239	0.0033	0.0013	0.0021
240	0.0033	0.0012	0.0021
241	0.0032	0.0012	0.0020
242	0.0032	0.0012	0.0020
243	0.0031	0.0012	0.0020

244	0.0031	0.0012	0.0019
245	0.0030	0.0011	0.0019
246	0.0030	0.0011	0.0019
247	0.0030	0.0011	0.0018
248	0.0029	0.0011	0.0018
249	0.0029	0.0011	0.0018
250	0.0028	0.0011	0.0018
251	0.0028	0.0010	0.0017
252	0.0028	0.0010	0.0017
253	0.0027	0.0010	0.0017
254	0.0027	0.0010	0.0017
255	0.0027	0.0010	0.0017
256	0.0026	0.0010	0.0016
257	0.0026	0.0010	0.0016
258	0.0026	0.0010	0.0016
259	0.0025	0.0009	0.0016
260	0.0025	0.0009	0.0016
261	0.0025	0.0009	0.0015
262	0.0024	0.0009	0.0015
263	0.0024	0.0009	0.0015
264	0.0024	0.0009	0.0015
265	0.0024	0.0009	0.0015
266	0.0023	0.0009	0.0015
267	0.0023	0.0009	0.0014
268	0.0023	0.0009	0.0014
269	0.0023	0.0008	0.0014
270	0.0022	0.0008	0.0014
271	0.0022	0.0008	0.0014
272	0.0022	0.0008	0.0014
273	0.0022	0.0008	0.0014
274	0.0022	0.0008	0.0013
275	0.0021	0.0008	0.0013
276	0.0021	0.0008	0.0013
277	0.0021	0.0008	0.0013
278	0.0021	0.0008	0.0013
279	0.0021	0.0008	0.0013
280	0.0020	0.0008	0.0013
281	0.0020	0.0008	0.0013
282	0.0020	0.0008	0.0013
283	0.0020	0.0007	0.0012
284	0.0020	0.0007	0.0012
285	0.0020	0.0007	0.0012
286	0.0019	0.0007	0.0012
287	0.0019	0.0007	0.0012
288	0.0019	0.0007	0.0012

Total soil rain loss = 0.61(In)
Total effective rainfall = 1.88(In)
Peak flow rate in flood hydrograph = 242.92(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m) Volume Ac.Ft Q(CFS) 0 75.0 150.0 225.0 300.0

0+ 5	0.0001	0.01	Q				
0+10	0.0003	0.04	Q				
0+15	0.0008	0.07	Q				
0+20	0.0016	0.12	Q				
0+25	0.0028	0.17	Q				
0+30	0.0045	0.24	Q				
0+35	0.0067	0.32	Q				
0+40	0.0096	0.42	Q				
0+45	0.0134	0.56	Q				
0+50	0.0185	0.74	Q				
0+55	0.0253	0.98	Q				
1+ 0	0.0339	1.26	Q				
1+ 5	0.0443	1.51	Q				
1+10	0.0563	1.74	Q				
1+15	0.0696	1.93	Q				
1+20	0.0841	2.11	Q				
1+25	0.0997	2.26	Q				
1+30	0.1162	2.41	Q				
1+35	0.1336	2.53	Q				
1+40	0.1518	2.64	Q				
1+45	0.1707	2.74	Q				
1+50	0.1902	2.83	Q				
1+55	0.2102	2.91	Q				
2+ 0	0.2309	3.00	Q				
2+ 5	0.2521	3.07	Q				
2+10	0.2738	3.15	Q				
2+15	0.2959	3.22	Q				
2+20	0.3185	3.29	Q				
2+25	0.3416	3.35	Q				
2+30	0.3651	3.41	Q				
2+35	0.3890	3.47	Q				
2+40	0.4133	3.53	Q				
2+45	0.4379	3.58	Q				
2+50	0.4629	3.63	Q				
2+55	0.4883	3.68	Q				
3+ 0	0.5140	3.73	Q				
3+ 5	0.5400	3.78	Q				
3+10	0.5663	3.82	Q				
3+15	0.5930	3.87	Q				
3+20	0.6200	3.92	Q				
3+25	0.6472	3.96	Q				
3+30	0.6748	4.00	Q				
3+35	0.7027	4.05	Q				
3+40	0.7309	4.09	Q				
3+45	0.7594	4.13	Q				
3+50	0.7881	4.17	Q				
3+55	0.8172	4.22	Q				
4+ 0	0.8465	4.26	Q				
4+ 5	0.8760	4.29	Q				
4+10	0.9058	4.33	Q				
4+15	0.9359	4.37	Q				
4+20	0.9662	4.40	Q				
4+25	0.9968	4.44	Q				
4+30	1.0277	4.48	Q				
4+35	1.0587	4.52	Q				
4+40	1.0901	4.55	Q				
4+45	1.1217	4.59	Q				
4+50	1.1535	4.62	QV				

4+55	1.1856	4.66	QV				
5+ 0	1.2180	4.70	QV				
5+ 5	1.2506	4.73	QV				
5+10	1.2834	4.77	QV				
5+15	1.3165	4.81	QV				
5+20	1.3499	4.84	QV				
5+25	1.3835	4.88	QV				
5+30	1.4173	4.91	QV				
5+35	1.4514	4.95	QV				
5+40	1.4857	4.98	QV				
5+45	1.5203	5.02	QV				
5+50	1.5551	5.06	QV				
5+55	1.5902	5.10	QV				
6+ 0	1.6256	5.13	QV				
6+ 5	1.6612	5.17	QV				
6+10	1.6970	5.20	QV				
6+15	1.7331	5.24	QV				
6+20	1.7694	5.28	QV				
6+25	1.8060	5.32	QV				
6+30	1.8429	5.35	QV				
6+35	1.8800	5.39	QV				
6+40	1.9174	5.43	QV				
6+45	1.9551	5.47	QV				
6+50	1.9930	5.50	QV				
6+55	2.0311	5.54	QV				
7+ 0	2.0696	5.58	QV				
7+ 5	2.1083	5.62	QV				
7+10	2.1473	5.66	QV				
7+15	2.1865	5.70	QV				
7+20	2.2260	5.74	QV				
7+25	2.2658	5.78	QV				
7+30	2.3059	5.82	Q V				
7+35	2.3462	5.86	Q V				
7+40	2.3869	5.90	Q V				
7+45	2.4278	5.94	Q V				
7+50	2.4690	5.98	Q V				
7+55	2.5105	6.03	Q V				
8+ 0	2.5523	6.07	Q V				
8+ 5	2.5944	6.11	Q V				
8+10	2.6368	6.16	Q V				
8+15	2.6796	6.21	Q V				
8+20	2.7226	6.25	Q V				
8+25	2.7660	6.30	Q V				
8+30	2.8098	6.35	Q V				
8+35	2.8538	6.40	Q V				
8+40	2.8982	6.45	Q V				
8+45	2.9430	6.50	Q V				
8+50	2.9881	6.55	Q V				
8+55	3.0336	6.60	Q V				
9+ 0	3.0794	6.66	Q V				
9+ 5	3.1256	6.71	Q V				
9+10	3.1722	6.76	Q V				
9+15	3.2191	6.82	Q V				
9+20	3.2665	6.87	Q V				
9+25	3.3142	6.93	Q V				
9+30	3.3623	6.99	Q V				
9+35	3.4109	7.05	Q V				
9+40	3.4598	7.11	Q V				
9+45	3.5091	7.17	Q V				

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 9+50       3.5589      7.23  Q  V      |          |          |          |
 9+55       3.6091      7.29  Q  V      |          |          |          |
10+ 0       3.6598      7.36  Q  V      |          |          |          |
10+ 5       3.7109      7.42  Q  V      |          |          |          |
10+10       3.7625      7.49  Q  V      |          |          |          |
10+15       3.8145      7.55  |Q V      |          |          |          |
10+20       3.8670      7.62  |Q V      |          |          |          |
10+25       3.9200      7.69  |Q V      |          |          |          |
10+30       3.9734      7.76  |Q V      |          |          |          |
10+35       4.0274      7.83  |Q V      |          |          |          |
10+40       4.0819      7.91  |Q V      |          |          |          |
10+45       4.1368      7.98  |Q V      |          |          |          |
10+50       4.1924      8.06  |Q V      |          |          |          |
10+55       4.2484      8.14  |Q V      |          |          |          |
11+ 0       4.3051      8.22  |Q V      |          |          |          |
11+ 5       4.3622      8.30  |Q V      |          |          |          |
11+10       4.4200      8.39  |Q V      |          |          |          |
11+15       4.4784      8.48  |Q V      |          |          |          |
11+20       4.5374      8.57  |Q V      |          |          |          |
11+25       4.5970      8.66  |Q  V     |          |          |          |
11+30       4.6573      8.75  |Q  V     |          |          |          |
11+35       4.7182      8.85  |Q  V     |          |          |          |
11+40       4.7798      8.94  |Q  V     |          |          |          |
11+45       4.8421      9.04  |Q  V     |          |          |          |
11+50       4.9051      9.15  |Q  V     |          |          |          |
11+55       4.9688      9.26  |Q  V     |          |          |          |
12+ 0       5.0333      9.36  |Q  V     |          |          |          |
12+ 5       5.0985      9.47  |Q  V     |          |          |          |
12+10       5.1645      9.57  |Q  V     |          |          |          |
12+15       5.2311      9.67  |Q  V     |          |          |          |
12+20       5.2983      9.76  |Q  V     |          |          |          |
12+25       5.3662      9.86  |Q  V     |          |          |          |
12+30       5.4347      9.94  |Q  V     |          |          |          |
12+35       5.5037     10.03  |Q  V     |          |          |          |
12+40       5.5734     10.11  |Q  V     |          |          |          |
12+45       5.6433     10.16  |Q  V     |          |          |          |
12+50       5.7136     10.20  |Q  V     |          |          |          |
12+55       5.7839     10.20  |Q   V    |          |          |          |
13+ 0       5.8540     10.19  |Q   V    |          |          |          |
13+ 5       5.9242     10.20  |Q   V    |          |          |          |
13+10       5.9946     10.22  |Q   V    |          |          |          |
13+15       6.0653     10.27  |Q   V    |          |          |          |
13+20       6.1364     10.33  |Q   V    |          |          |          |
13+25       6.2082     10.41  |Q   V    |          |          |          |
13+30       6.2805     10.51  |Q   V    |          |          |          |
13+35       6.3537     10.63  |Q   V    |          |          |          |
13+40       6.4278     10.75  |Q   V    |          |          |          |
13+45       6.5028     10.90  |Q   V    |          |          |          |
13+50       6.5790     11.06  |Q   V    |          |          |          |
13+55       6.6563     11.23  |Q   V    |          |          |          |
14+ 0       6.7349     11.41  |Q   V    |          |          |          |
14+ 5       6.8148     11.61  |Q   V    |          |          |          |
14+10       6.8962     11.82  |Q    V   |          |          |          |
14+15       6.9793     12.06  |Q    V   |          |          |          |
14+20       7.0640     12.31  |Q    V   |          |          |          |
14+25       7.1507     12.58  |Q    V   |          |          |          |
14+30       7.2393     12.87  |Q    V   |          |          |          |
14+35       7.3302     13.19  |Q    V   |          |          |          |
14+40       7.4233     13.53  |Q    V   |          |          |          |
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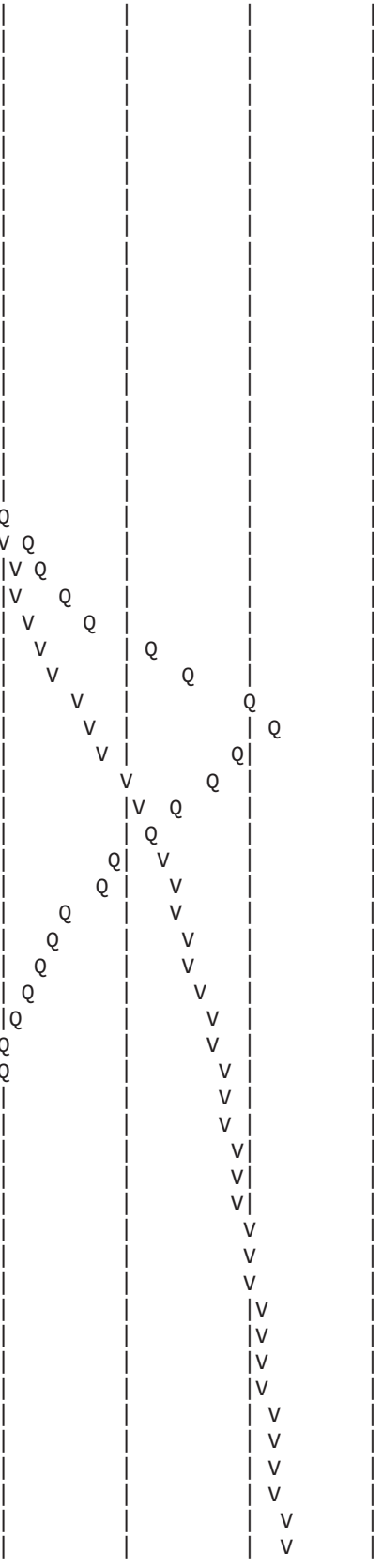
14+45	7.5191	13.91	
14+50	7.6178	14.32	
14+55	7.7195	14.78	
15+ 0	7.8248	15.28	
15+ 5	7.9337	15.81	
15+10	8.0465	16.39	
15+15	8.1636	17.00	
15+20	8.2853	17.67	
15+25	8.4126	18.49	
15+30	8.5467	19.46	
15+35	8.6889	20.64	
15+40	8.8407	22.05	
15+45	9.0047	23.81	
15+50	9.1837	25.99	
15+55	9.3832	28.97	
16+ 0	9.6115	33.15	
16+ 5	9.9124	43.69	
16+10	10.2904	54.88	
16+15	10.7500	66.73	
16+20	11.2891	78.29	
16+25	11.9172	91.19	
16+30	12.6276	103.16	
16+35	13.4446	118.62	
16+40	14.3694	134.28	
16+45	15.5318	168.78	
16+50	16.8637	193.39	
16+55	18.4480	230.05	
17+ 0	20.1210	242.92	
17+ 5	21.6646	224.13	
17+10	23.1073	209.48	
17+15	24.3651	182.64	
17+20	25.5161	167.11	
17+25	26.5432	149.13	
17+30	27.4897	137.44	
17+35	28.3110	119.25	
17+40	29.0680	109.92	
17+45	29.7499	99.02	
17+50	30.3905	93.02	
17+55	30.9795	85.52	
18+ 0	31.5405	81.46	
18+ 5	32.0686	76.67	
18+10	32.5710	72.96	
18+15	33.0335	67.14	
18+20	33.4746	64.06	
18+25	33.8891	60.17	
18+30	34.2893	58.11	
18+35	34.6735	55.79	
18+40	35.0383	52.98	
18+45	35.3730	48.60	
18+50	35.6986	47.28	
18+55	36.0168	46.20	
19+ 0	36.3215	44.24	
19+ 5	36.6072	41.48	
19+10	36.8872	40.66	
19+15	37.1621	39.91	
19+20	37.4279	38.59	
19+25	37.6830	37.05	
19+30	37.9334	36.35	
19+35	38.1784	35.57	

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19+40      38.4117     33.87  |   Q     |         |         |  V      |
19+45      38.6331     32.15  |   Q     |         |         |  V      |
19+50      38.8497     31.45  |   Q     |         |         |  V      |
19+55      39.0606     30.63  |   Q     |         |         |   V     |
20+ 0      39.2572     28.54  |  Q      |         |         |   V     |
20+ 5      39.4423     26.87  |  Q      |         |         |   V     |
20+10      39.6238     26.36  |  Q      |         |         |   V     |
20+15      39.8022     25.90  |  Q      |         |         |   V     |
20+20      39.9757     25.19  |  Q      |         |         |   V     |
20+25      40.1454     24.64  |  Q      |         |         |    V    |
20+30      40.3124     24.25  |  Q      |         |         |    V    |
20+35      40.4762     23.78  |  Q      |         |         |    V    |
20+40      40.6327     22.71  |  Q      |         |         |    V    |
20+45      40.7845     22.06  | Q       |         |         |    V    |
20+50      40.9340     21.70  | Q       |         |         |    V    |
20+55      41.0808     21.31  | Q       |         |         |    V    |
21+ 0      41.2228     20.63  | Q       |         |         |     V   |
21+ 5      41.3619     20.19  | Q       |         |         |     V   |
21+10      41.4983     19.82  | Q       |         |         |     V   |
21+15      41.6311     19.28  | Q       |         |         |     V   |
21+20      41.7552     18.02  | Q       |         |         |     V   |
21+25      41.8757     17.49  | Q       |         |         |     V   |
21+30      41.9944     17.24  | Q       |         |         |     V   |
21+35      42.1115     17.01  | Q       |         |         |     V   |
21+40      42.2272     16.79  | Q       |         |         |     V   |
21+45      42.3412     16.56  | Q       |         |         |     V   |
21+50      42.4532     16.26  | Q       |         |         |      V  |
21+55      42.5617     15.76  | Q       |         |         |      V  |
22+ 0      42.6633     14.75  |Q        |         |         |      V  |
22+ 5      42.7626     14.41  |Q        |         |         |      V  |
22+10      42.8604     14.20  |Q        |         |         |      V  |
22+15      42.9568     14.01  |Q        |         |         |      V  |
22+20      43.0520     13.81  |Q        |         |         |      V  |
22+25      43.1456     13.60  |Q        |         |         |      V  |
22+30      43.2373     13.32  |Q        |         |         |      V  |
22+35      43.3250     12.72  |Q        |         |         |      V  |
22+40      43.4063     11.81  |Q        |         |         |      V  |
22+45      43.4859     11.56  |Q        |         |         |      V  |
22+50      43.5643     11.38  |Q        |         |         |       V |
22+55      43.6415     11.21  |Q        |         |         |       V |
23+ 0      43.7175     11.04  |Q        |         |         |       V |
23+ 5      43.7922     10.84  |Q        |         |         |       V |
23+10      43.8651     10.58  |Q        |         |         |       V |
23+15      43.9332      9.89  |Q        |         |         |       V |
23+20      43.9961      9.14  |Q        |         |         |       V |
23+25      44.0580      8.99  |Q        |         |         |       V |
23+30      44.1192      8.87  |Q        |         |         |       V |
23+35      44.1797      8.79  |Q        |         |         |       V |
23+40      44.2398      8.72  |Q        |         |         |       V |
23+45      44.2995      8.67  |Q        |         |         |       V |
23+50      44.3590      8.65  |Q        |         |         |       V |
23+55      44.4194      8.76  |Q        |         |         |       V |
24+ 0      44.4800      8.81  |Q        |         |         |       V |
24+ 5      44.5403      8.75  |Q        |         |         |       V |
24+10      44.6000      8.67  |Q        |         |         |       V |
24+15      44.6590      8.57  |Q        |         |         |        V|
24+20      44.7172      8.46  |Q        |         |         |        V|
24+25      44.7746      8.33  |Q        |         |         |        V|
24+30      44.8311      8.20  |Q        |         |         |        V|
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24+35	44.8865	8.05	|Q	|	|	|	V|
24+40	44.9408	7.88	|Q	|	|	|	V|
24+45	44.9935	7.65	|Q	|	|	|	V|
24+50	45.0444	7.39	Q	|	|	|	V|
24+55	45.0930	7.05	Q	|	|	|	V|
25+ 0	45.1389	6.67	Q	|	|	|	V|
25+ 5	45.1822	6.28	Q	|	|	|	V|
25+10	45.2220	5.79	Q	|	|	|	V|
25+15	45.2560	4.93	Q	|	|	|	V|
25+20	45.2873	4.55	Q	|	|	|	V|
25+25	45.3170	4.32	Q	|	|	|	V|
25+30	45.3454	4.12	Q	|	|	|	V|
25+35	45.3726	3.95	Q	|	|	|	V|
25+40	45.3987	3.79	Q	|	|	|	V|
25+45	45.4238	3.64	Q	|	|	|	V|
25+50	45.4478	3.50	Q	|	|	|	V|
25+55	45.4709	3.35	Q	|	|	|	V|
26+ 0	45.4930	3.20	Q	|	|	|	V|
26+ 5	45.5138	3.02	Q	|	|	|	V|
26+10	45.5331	2.80	Q	|	|	|	V|
26+15	45.5485	2.24	Q	|	|	|	V|
26+20	45.5598	1.65	Q	|	|	|	V|
26+25	45.5702	1.51	Q	|	|	|	V|
26+30	45.5800	1.41	Q	|	|	|	V|
26+35	45.5891	1.33	Q	|	|	|	V|
26+40	45.5978	1.26	Q	|	|	|	V|
26+45	45.6061	1.20	Q	|	|	|	V|
26+50	45.6140	1.15	Q	|	|	|	V|
26+55	45.6216	1.10	Q	|	|	|	V|
27+ 0	45.6288	1.05	Q	|	|	|	V|
27+ 5	45.6357	1.00	Q	|	|	|	V|
27+10	45.6423	0.96	Q	|	|	|	V|
27+15	45.6486	0.92	Q	|	|	|	V|
27+20	45.6546	0.88	Q	|	|	|	V|
27+25	45.6604	0.84	Q	|	|	|	V|
27+30	45.6659	0.80	Q	|	|	|	V|
27+35	45.6711	0.77	Q	|	|	|	V|
27+40	45.6762	0.73	Q	|	|	|	V|
27+45	45.6810	0.70	Q	|	|	|	V|
27+50	45.6856	0.67	Q	|	|	|	V|
27+55	45.6901	0.64	Q	|	|	|	V|
28+ 0	45.6943	0.62	Q	|	|	|	V|
28+ 5	45.6984	0.59	Q	|	|	|	V|
28+10	45.7023	0.57	Q	|	|	|	V|
28+15	45.7061	0.55	Q	|	|	|	V|
28+20	45.7097	0.52	Q	|	|	|	V|
28+25	45.7132	0.50	Q	|	|	|	V|
28+30	45.7165	0.48	Q	|	|	|	V|
28+35	45.7197	0.46	Q	|	|	|	V|
28+40	45.7227	0.44	Q	|	|	|	V|
28+45	45.7256	0.42	Q	|	|	|	V|
28+50	45.7284	0.41	Q	|	|	|	V|
28+55	45.7311	0.39	Q	|	|	|	V|
29+ 0	45.7337	0.37	Q	|	|	|	V|
29+ 5	45.7361	0.36	Q	|	|	|	V|
29+10	45.7384	0.34	Q	|	|	|	V|
29+15	45.7407	0.32	Q	|	|	|	V|
29+20	45.7428	0.31	Q	|	|	|	V|
29+25	45.7449	0.30	Q	|	|	|	V|

29+30	45.7468	0.29	Q				V
29+35	45.7487	0.27	Q				V
29+40	45.7505	0.26	Q				V
29+45	45.7522	0.25	Q				V
29+50	45.7539	0.24	Q				V
29+55	45.7554	0.23	Q				V
30+ 0	45.7569	0.22	Q				V
30+ 5	45.7584	0.21	Q				V
30+10	45.7597	0.20	Q				V
30+15	45.7610	0.19	Q				V
30+20	45.7623	0.18	Q				V
30+25	45.7634	0.17	Q				V
30+30	45.7646	0.16	Q				V
30+35	45.7656	0.15	Q				V
30+40	45.7666	0.15	Q				V
30+45	45.7676	0.14	Q				V
30+50	45.7686	0.14	Q				V
30+55	45.7694	0.13	Q				V
31+ 0	45.7703	0.12	Q				V
31+ 5	45.7711	0.12	Q				V
31+10	45.7719	0.11	Q				V
31+15	45.7726	0.11	Q				V
31+20	45.7733	0.10	Q				V
31+25	45.7740	0.10	Q				V
31+30	45.7746	0.10	Q				V
31+35	45.7753	0.09	Q				V
31+40	45.7759	0.09	Q				V
31+45	45.7765	0.08	Q				V
31+50	45.7770	0.08	Q				V
31+55	45.7775	0.08	Q				V
32+ 0	45.7781	0.07	Q				V
32+ 5	45.7785	0.07	Q				V
32+10	45.7790	0.07	Q				V
32+15	45.7794	0.06	Q				V
32+20	45.7798	0.06	Q				V
32+25	45.7802	0.05	Q				V
32+30	45.7805	0.05	Q				V
32+35	45.7809	0.05	Q				V
32+40	45.7811	0.04	Q				V
32+45	45.7814	0.04	Q				V
32+50	45.7817	0.04	Q				V
32+55	45.7819	0.03	Q				V
33+ 0	45.7821	0.03	Q				V
33+ 5	45.7823	0.03	Q				V
33+10	45.7824	0.02	Q				V
33+15	45.7826	0.02	Q				V
33+20	45.7827	0.02	Q				V
33+25	45.7828	0.02	Q				V
33+30	45.7829	0.01	Q				V
33+35	45.7830	0.01	Q				V
33+40	45.7831	0.01	Q				V
33+45	45.7831	0.01	Q				V
33+50	45.7832	0.01	Q				V
33+55	45.7832	0.01	Q				V
34+ 0	45.7833	0.00	Q				V
34+ 5	45.7833	0.00	Q				V
34+10	45.7833	0.00	Q				V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 25
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
279.91	1	1.36
Rainfall data for year 100		
279.91	6	1.83
Rainfall data for year 100		
279.91	24	2.51

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
74.8	90.8	279.91	1.000	0.177	0.919	0.162

Area-averaged adjusted loss rate Fm (In/Hr) = 0.162

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
257.24	0.919	74.8	90.8	1.01	0.640
22.67	0.081	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.662
Area-averaged low loss fraction, Yb = 0.338
User entry of time of concentration = 1.620 (hours)
++
Watershed area = 279.91(Ac.)
Catchment Lag time = 1.296 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 6.4300
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.162(In/Hr)
Average low loss rate fraction (Yb) = 0.338 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.631(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.510(In)

Rainfall depth area reduction factors:
Using a total area of 279.91(Ac.) (Ref: fig. E-4)

5-minute factor = 0.987 Adjusted rainfall = 0.637(In)
30-minute factor = 0.987 Adjusted rainfall = 1.090(In)
1-hour factor = 0.987 Adjusted rainfall = 1.342(In)
3-hour factor = 0.998 Adjusted rainfall = 1.629(In)
6-hour factor = 0.999 Adjusted rainfall = 1.828(In)
24-hour factor = 1.000 Adjusted rainfall = 2.509(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 3385.16 (CFS))	
1	0.283	9.577
2	0.850	19.182
3	1.701	28.809
4	2.784	36.677
5	4.176	47.116
6	5.779	54.252
7	7.743	66.507
8	9.953	74.796
9	13.479	119.384
10	17.691	142.584
11	23.636	201.226
12	30.159	220.827
13	35.901	194.385

14	41.299	182.711
15	45.671	147.997
16	49.709	136.686
17	53.170	117.166
18	56.402	109.427
19	58.979	87.226
20	61.376	81.127
21	63.427	69.429
22	65.374	65.930
23	67.094	58.234
24	68.757	56.285
25	70.309	52.521
26	71.784	49.933
27	73.079	43.856
28	74.318	41.928
29	75.453	38.431
30	76.567	37.695
31	77.648	36.590
32	78.635	33.423
33	79.485	28.774
34	80.334	28.732
35	81.182	28.732
36	81.953	26.078
37	82.647	23.508
38	83.342	23.508
39	84.036	23.489
40	84.683	21.907
41	85.300	20.896
42	85.917	20.896
43	86.532	20.802
44	87.077	18.440
45	87.591	17.413
46	88.105	17.413
47	88.612	17.156
48	89.026	13.997
49	89.411	13.060
50	89.797	13.060
51	90.180	12.970
52	90.544	12.318
53	90.904	12.189
54	91.264	12.189
55	91.616	11.908
56	91.930	10.611
57	92.238	10.448
58	92.547	10.448
59	92.850	10.247
60	93.134	9.622
61	93.417	9.577
62	93.700	9.577
63	93.962	8.895
64	94.182	7.448
65	94.401	7.401
66	94.620	7.401
67	94.838	7.401
68	95.057	7.401
69	95.276	7.401
70	95.494	7.400
71	95.686	6.502
72	95.853	5.659

73	96.021	5.659
74	96.188	5.659
75	96.355	5.659
76	96.522	5.659
77	96.689	5.659
78	96.855	5.609
79	96.986	4.421
80	97.101	3.918
81	97.217	3.918
82	97.333	3.918
83	97.449	3.918
84	97.564	3.918
85	97.680	3.918
86	97.790	3.731
87	97.862	2.427
88	97.926	2.177
89	97.991	2.177
90	98.055	2.177
91	98.119	2.177
92	98.183	2.177
93	98.248	2.177
94	98.315	2.280
95	98.392	2.591
96	98.469	2.612
97	98.546	2.612
98	98.623	2.612
99	98.700	2.612
100	98.777	2.612
101	98.855	2.612
102	98.932	2.612
103	99.009	2.612
104	99.086	2.612
105	99.163	2.612
106	99.240	2.612
107	99.318	2.612
108	99.395	2.612
109	99.472	2.600
110	99.526	1.828
111	99.566	1.360
112	99.606	1.360
113	99.646	1.360
114	99.686	1.360
115	99.726	1.360
116	99.767	1.360
117	99.807	1.360
118	99.847	1.360
119	99.887	1.360
120	99.927	1.360
121	99.968	1.360
122	100.000	1.096

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6369	0.6369
2	0.7841	0.1472
3	0.8855	0.1014
4	0.9653	0.0798
5	1.0321	0.0668
6	1.0902	0.0580

7	1.1418	0.0516
8	1.1884	0.0467
9	1.2312	0.0427
10	1.2707	0.0395
11	1.3076	0.0369
12	1.3422	0.0346
13	1.3612	0.0191
14	1.3791	0.0179
15	1.3960	0.0169
16	1.4119	0.0160
17	1.4271	0.0152
18	1.4415	0.0144
19	1.4553	0.0138
20	1.4685	0.0132
21	1.4812	0.0127
22	1.4934	0.0122
23	1.5052	0.0117
24	1.5165	0.0113
25	1.5274	0.0109
26	1.5380	0.0106
27	1.5483	0.0103
28	1.5582	0.0100
29	1.5679	0.0097
30	1.5773	0.0094
31	1.5864	0.0091
32	1.5953	0.0089
33	1.6040	0.0087
34	1.6124	0.0085
35	1.6207	0.0083
36	1.6288	0.0081
37	1.6362	0.0075
38	1.6435	0.0073
39	1.6507	0.0071
40	1.6576	0.0070
41	1.6645	0.0068
42	1.6712	0.0067
43	1.6778	0.0066
44	1.6842	0.0064
45	1.6905	0.0063
46	1.6967	0.0062
47	1.7028	0.0061
48	1.7088	0.0060
49	1.7147	0.0059
50	1.7205	0.0058
51	1.7262	0.0057
52	1.7318	0.0056
53	1.7373	0.0055
54	1.7427	0.0054
55	1.7481	0.0053
56	1.7533	0.0053
57	1.7585	0.0052
58	1.7636	0.0051
59	1.7687	0.0050
60	1.7736	0.0050
61	1.7785	0.0049
62	1.7834	0.0048
63	1.7881	0.0048
64	1.7928	0.0047
65	1.7975	0.0046

66	1.8021	0.0046
67	1.8066	0.0045
68	1.8110	0.0045
69	1.8155	0.0044
70	1.8198	0.0044
71	1.8241	0.0043
72	1.8284	0.0043
73	1.8342	0.0058
74	1.8399	0.0057
75	1.8455	0.0056
76	1.8511	0.0056
77	1.8566	0.0055
78	1.8621	0.0055
79	1.8675	0.0054
80	1.8729	0.0054
81	1.8782	0.0053
82	1.8835	0.0053
83	1.8887	0.0052
84	1.8939	0.0052
85	1.8990	0.0051
86	1.9041	0.0051
87	1.9091	0.0050
88	1.9141	0.0050
89	1.9191	0.0049
90	1.9240	0.0049
91	1.9288	0.0049
92	1.9336	0.0048
93	1.9384	0.0048
94	1.9432	0.0047
95	1.9479	0.0047
96	1.9525	0.0047
97	1.9571	0.0046
98	1.9617	0.0046
99	1.9663	0.0046
100	1.9708	0.0045
101	1.9753	0.0045
102	1.9797	0.0044
103	1.9841	0.0044
104	1.9885	0.0044
105	1.9929	0.0043
106	1.9972	0.0043
107	2.0015	0.0043
108	2.0057	0.0043
109	2.0100	0.0042
110	2.0142	0.0042
111	2.0183	0.0042
112	2.0225	0.0041
113	2.0266	0.0041
114	2.0306	0.0041
115	2.0347	0.0041
116	2.0387	0.0040
117	2.0427	0.0040
118	2.0467	0.0040
119	2.0506	0.0039
120	2.0546	0.0039
121	2.0585	0.0039
122	2.0623	0.0039
123	2.0662	0.0038
124	2.0700	0.0038

125	2.0738	0.0038
126	2.0776	0.0038
127	2.0813	0.0038
128	2.0851	0.0037
129	2.0888	0.0037
130	2.0925	0.0037
131	2.0961	0.0037
132	2.0998	0.0036
133	2.1034	0.0036
134	2.1070	0.0036
135	2.1106	0.0036
136	2.1141	0.0036
137	2.1177	0.0035
138	2.1212	0.0035
139	2.1247	0.0035
140	2.1282	0.0035
141	2.1316	0.0035
142	2.1351	0.0034
143	2.1385	0.0034
144	2.1419	0.0034
145	2.1453	0.0034
146	2.1486	0.0034
147	2.1520	0.0034
148	2.1553	0.0033
149	2.1586	0.0033
150	2.1619	0.0033
151	2.1652	0.0033
152	2.1685	0.0033
153	2.1717	0.0032
154	2.1750	0.0032
155	2.1782	0.0032
156	2.1814	0.0032
157	2.1846	0.0032
158	2.1877	0.0032
159	2.1909	0.0032
160	2.1940	0.0031
161	2.1972	0.0031
162	2.2003	0.0031
163	2.2034	0.0031
164	2.2064	0.0031
165	2.2095	0.0031
166	2.2125	0.0031
167	2.2156	0.0030
168	2.2186	0.0030
169	2.2216	0.0030
170	2.2246	0.0030
171	2.2276	0.0030
172	2.2306	0.0030
173	2.2335	0.0030
174	2.2365	0.0029
175	2.2394	0.0029
176	2.2423	0.0029
177	2.2452	0.0029
178	2.2481	0.0029
179	2.2510	0.0029
180	2.2538	0.0029
181	2.2567	0.0029
182	2.2595	0.0028
183	2.2624	0.0028

184	2.2652	0.0028
185	2.2680	0.0028
186	2.2708	0.0028
187	2.2735	0.0028
188	2.2763	0.0028
189	2.2791	0.0028
190	2.2818	0.0027
191	2.2846	0.0027
192	2.2873	0.0027
193	2.2900	0.0027
194	2.2927	0.0027
195	2.2954	0.0027
196	2.2981	0.0027
197	2.3007	0.0027
198	2.3034	0.0027
199	2.3061	0.0027
200	2.3087	0.0026
201	2.3113	0.0026
202	2.3140	0.0026
203	2.3166	0.0026
204	2.3192	0.0026
205	2.3218	0.0026
206	2.3243	0.0026
207	2.3269	0.0026
208	2.3295	0.0026
209	2.3320	0.0026
210	2.3346	0.0025
211	2.3371	0.0025
212	2.3396	0.0025
213	2.3421	0.0025
214	2.3446	0.0025
215	2.3471	0.0025
216	2.3496	0.0025
217	2.3521	0.0025
218	2.3546	0.0025
219	2.3570	0.0025
220	2.3595	0.0025
221	2.3619	0.0024
222	2.3644	0.0024
223	2.3668	0.0024
224	2.3692	0.0024
225	2.3716	0.0024
226	2.3740	0.0024
227	2.3764	0.0024
228	2.3788	0.0024
229	2.3812	0.0024
230	2.3836	0.0024
231	2.3859	0.0024
232	2.3883	0.0024
233	2.3906	0.0023
234	2.3930	0.0023
235	2.3953	0.0023
236	2.3976	0.0023
237	2.3999	0.0023
238	2.4022	0.0023
239	2.4045	0.0023
240	2.4068	0.0023
241	2.4091	0.0023
242	2.4114	0.0023

243	2.4137	0.0023
244	2.4159	0.0023
245	2.4182	0.0023
246	2.4204	0.0022
247	2.4227	0.0022
248	2.4249	0.0022
249	2.4271	0.0022
250	2.4294	0.0022
251	2.4316	0.0022
252	2.4338	0.0022
253	2.4360	0.0022
254	2.4382	0.0022
255	2.4404	0.0022
256	2.4426	0.0022
257	2.4447	0.0022
258	2.4469	0.0022
259	2.4491	0.0022
260	2.4512	0.0022
261	2.4534	0.0021
262	2.4555	0.0021
263	2.4576	0.0021
264	2.4598	0.0021
265	2.4619	0.0021
266	2.4640	0.0021
267	2.4661	0.0021
268	2.4682	0.0021
269	2.4703	0.0021
270	2.4724	0.0021
271	2.4745	0.0021
272	2.4766	0.0021
273	2.4787	0.0021
274	2.4807	0.0021
275	2.4828	0.0021
276	2.4849	0.0021
277	2.4869	0.0021
278	2.4890	0.0020
279	2.4910	0.0020
280	2.4930	0.0020
281	2.4951	0.0020
282	2.4971	0.0020
283	2.4991	0.0020
284	2.5011	0.0020
285	2.5031	0.0020
286	2.5051	0.0020
287	2.5071	0.0020
288	2.5091	0.0020

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0020	0.0007	0.0013
2	0.0020	0.0007	0.0013
3	0.0020	0.0007	0.0013
4	0.0020	0.0007	0.0013
5	0.0020	0.0007	0.0013
6	0.0020	0.0007	0.0013
7	0.0020	0.0007	0.0014
8	0.0020	0.0007	0.0014

9	0.0021	0.0007	0.0014
10	0.0021	0.0007	0.0014
11	0.0021	0.0007	0.0014
12	0.0021	0.0007	0.0014
13	0.0021	0.0007	0.0014
14	0.0021	0.0007	0.0014
15	0.0021	0.0007	0.0014
16	0.0021	0.0007	0.0014
17	0.0021	0.0007	0.0014
18	0.0021	0.0007	0.0014
19	0.0021	0.0007	0.0014
20	0.0022	0.0007	0.0014
21	0.0022	0.0007	0.0014
22	0.0022	0.0007	0.0014
23	0.0022	0.0007	0.0014
24	0.0022	0.0007	0.0015
25	0.0022	0.0007	0.0015
26	0.0022	0.0007	0.0015
27	0.0022	0.0008	0.0015
28	0.0022	0.0008	0.0015
29	0.0022	0.0008	0.0015
30	0.0023	0.0008	0.0015
31	0.0023	0.0008	0.0015
32	0.0023	0.0008	0.0015
33	0.0023	0.0008	0.0015
34	0.0023	0.0008	0.0015
35	0.0023	0.0008	0.0015
36	0.0023	0.0008	0.0015
37	0.0023	0.0008	0.0015
38	0.0023	0.0008	0.0016
39	0.0024	0.0008	0.0016
40	0.0024	0.0008	0.0016
41	0.0024	0.0008	0.0016
42	0.0024	0.0008	0.0016
43	0.0024	0.0008	0.0016
44	0.0024	0.0008	0.0016
45	0.0024	0.0008	0.0016
46	0.0024	0.0008	0.0016
47	0.0025	0.0008	0.0016
48	0.0025	0.0008	0.0016
49	0.0025	0.0008	0.0016
50	0.0025	0.0008	0.0017
51	0.0025	0.0009	0.0017
52	0.0025	0.0009	0.0017
53	0.0025	0.0009	0.0017
54	0.0026	0.0009	0.0017
55	0.0026	0.0009	0.0017
56	0.0026	0.0009	0.0017
57	0.0026	0.0009	0.0017
58	0.0026	0.0009	0.0017
59	0.0026	0.0009	0.0017
60	0.0026	0.0009	0.0017
61	0.0027	0.0009	0.0018
62	0.0027	0.0009	0.0018
63	0.0027	0.0009	0.0018
64	0.0027	0.0009	0.0018
65	0.0027	0.0009	0.0018
66	0.0027	0.0009	0.0018
67	0.0028	0.0009	0.0018

68	0.0028	0.0009	0.0018
69	0.0028	0.0009	0.0018
70	0.0028	0.0009	0.0019
71	0.0028	0.0010	0.0019
72	0.0028	0.0010	0.0019
73	0.0029	0.0010	0.0019
74	0.0029	0.0010	0.0019
75	0.0029	0.0010	0.0019
76	0.0029	0.0010	0.0019
77	0.0029	0.0010	0.0019
78	0.0030	0.0010	0.0020
79	0.0030	0.0010	0.0020
80	0.0030	0.0010	0.0020
81	0.0030	0.0010	0.0020
82	0.0030	0.0010	0.0020
83	0.0031	0.0010	0.0020
84	0.0031	0.0010	0.0020
85	0.0031	0.0011	0.0021
86	0.0031	0.0011	0.0021
87	0.0032	0.0011	0.0021
88	0.0032	0.0011	0.0021
89	0.0032	0.0011	0.0021
90	0.0032	0.0011	0.0021
91	0.0032	0.0011	0.0022
92	0.0033	0.0011	0.0022
93	0.0033	0.0011	0.0022
94	0.0033	0.0011	0.0022
95	0.0034	0.0011	0.0022
96	0.0034	0.0011	0.0022
97	0.0034	0.0012	0.0023
98	0.0034	0.0012	0.0023
99	0.0035	0.0012	0.0023
100	0.0035	0.0012	0.0023
101	0.0035	0.0012	0.0023
102	0.0035	0.0012	0.0023
103	0.0036	0.0012	0.0024
104	0.0036	0.0012	0.0024
105	0.0036	0.0012	0.0024
106	0.0037	0.0012	0.0024
107	0.0037	0.0013	0.0025
108	0.0037	0.0013	0.0025
109	0.0038	0.0013	0.0025
110	0.0038	0.0013	0.0025
111	0.0038	0.0013	0.0025
112	0.0039	0.0013	0.0026
113	0.0039	0.0013	0.0026
114	0.0039	0.0013	0.0026
115	0.0040	0.0014	0.0026
116	0.0040	0.0014	0.0027
117	0.0041	0.0014	0.0027
118	0.0041	0.0014	0.0027
119	0.0042	0.0014	0.0028
120	0.0042	0.0014	0.0028
121	0.0043	0.0014	0.0028
122	0.0043	0.0014	0.0028
123	0.0043	0.0015	0.0029
124	0.0044	0.0015	0.0029
125	0.0044	0.0015	0.0029
126	0.0045	0.0015	0.0030

127	0.0046	0.0015	0.0030
128	0.0046	0.0016	0.0030
129	0.0047	0.0016	0.0031
130	0.0047	0.0016	0.0031
131	0.0048	0.0016	0.0032
132	0.0048	0.0016	0.0032
133	0.0049	0.0017	0.0032
134	0.0049	0.0017	0.0033
135	0.0050	0.0017	0.0033
136	0.0051	0.0017	0.0034
137	0.0052	0.0017	0.0034
138	0.0052	0.0018	0.0035
139	0.0053	0.0018	0.0035
140	0.0054	0.0018	0.0036
141	0.0055	0.0019	0.0036
142	0.0055	0.0019	0.0037
143	0.0056	0.0019	0.0037
144	0.0057	0.0019	0.0038
145	0.0043	0.0014	0.0028
146	0.0043	0.0015	0.0029
147	0.0044	0.0015	0.0029
148	0.0045	0.0015	0.0030
149	0.0046	0.0016	0.0030
150	0.0046	0.0016	0.0031
151	0.0048	0.0016	0.0032
152	0.0048	0.0016	0.0032
153	0.0050	0.0017	0.0033
154	0.0050	0.0017	0.0033
155	0.0052	0.0018	0.0034
156	0.0053	0.0018	0.0035
157	0.0054	0.0018	0.0036
158	0.0055	0.0019	0.0036
159	0.0057	0.0019	0.0038
160	0.0058	0.0020	0.0038
161	0.0060	0.0020	0.0040
162	0.0061	0.0021	0.0040
163	0.0063	0.0021	0.0042
164	0.0064	0.0022	0.0043
165	0.0067	0.0023	0.0044
166	0.0068	0.0023	0.0045
167	0.0071	0.0024	0.0047
168	0.0073	0.0025	0.0048
169	0.0081	0.0027	0.0053
170	0.0083	0.0028	0.0055
171	0.0087	0.0029	0.0057
172	0.0089	0.0030	0.0059
173	0.0094	0.0032	0.0062
174	0.0097	0.0033	0.0064
175	0.0103	0.0035	0.0068
176	0.0106	0.0036	0.0070
177	0.0113	0.0038	0.0075
178	0.0117	0.0040	0.0078
179	0.0127	0.0043	0.0084
180	0.0132	0.0045	0.0087
181	0.0144	0.0049	0.0096
182	0.0152	0.0051	0.0100
183	0.0169	0.0057	0.0112
184	0.0179	0.0060	0.0118
185	0.0346	0.0117	0.0229

186	0.0369	0.0125	0.0244
187	0.0427	0.0135	0.0292
188	0.0467	0.0135	0.0331
189	0.0580	0.0135	0.0445
190	0.0668	0.0135	0.0533
191	0.1014	0.0135	0.0879
192	0.1472	0.0135	0.1337
193	0.6369	0.0135	0.6233
194	0.0798	0.0135	0.0663
195	0.0516	0.0135	0.0381
196	0.0395	0.0134	0.0262
197	0.0191	0.0064	0.0126
198	0.0160	0.0054	0.0106
199	0.0138	0.0047	0.0091
200	0.0122	0.0041	0.0081
201	0.0109	0.0037	0.0072
202	0.0100	0.0034	0.0066
203	0.0091	0.0031	0.0060
204	0.0085	0.0029	0.0056
205	0.0075	0.0025	0.0049
206	0.0070	0.0024	0.0046
207	0.0066	0.0022	0.0043
208	0.0062	0.0021	0.0041
209	0.0059	0.0020	0.0039
210	0.0056	0.0019	0.0037
211	0.0053	0.0018	0.0035
212	0.0051	0.0017	0.0034
213	0.0049	0.0017	0.0032
214	0.0047	0.0016	0.0031
215	0.0045	0.0015	0.0030
216	0.0044	0.0015	0.0029
217	0.0058	0.0020	0.0038
218	0.0056	0.0019	0.0037
219	0.0054	0.0018	0.0036
220	0.0053	0.0018	0.0035
221	0.0051	0.0017	0.0034
222	0.0050	0.0017	0.0033
223	0.0049	0.0016	0.0032
224	0.0047	0.0016	0.0031
225	0.0046	0.0016	0.0031
226	0.0045	0.0015	0.0030
227	0.0044	0.0015	0.0029
228	0.0043	0.0015	0.0029
229	0.0042	0.0014	0.0028
230	0.0041	0.0014	0.0027
231	0.0041	0.0014	0.0027
232	0.0040	0.0013	0.0026
233	0.0039	0.0013	0.0026
234	0.0038	0.0013	0.0025
235	0.0038	0.0013	0.0025
236	0.0037	0.0012	0.0024
237	0.0036	0.0012	0.0024
238	0.0036	0.0012	0.0024
239	0.0035	0.0012	0.0023
240	0.0034	0.0012	0.0023
241	0.0034	0.0011	0.0022
242	0.0033	0.0011	0.0022
243	0.0033	0.0011	0.0022
244	0.0032	0.0011	0.0021

245	0.0032	0.0011	0.0021
246	0.0031	0.0011	0.0021
247	0.0031	0.0010	0.0020
248	0.0031	0.0010	0.0020
249	0.0030	0.0010	0.0020
250	0.0030	0.0010	0.0020
251	0.0029	0.0010	0.0019
252	0.0029	0.0010	0.0019
253	0.0029	0.0010	0.0019
254	0.0028	0.0010	0.0019
255	0.0028	0.0009	0.0018
256	0.0027	0.0009	0.0018
257	0.0027	0.0009	0.0018
258	0.0027	0.0009	0.0018
259	0.0027	0.0009	0.0018
260	0.0026	0.0009	0.0017
261	0.0026	0.0009	0.0017
262	0.0026	0.0009	0.0017
263	0.0025	0.0009	0.0017
264	0.0025	0.0008	0.0017
265	0.0025	0.0008	0.0016
266	0.0025	0.0008	0.0016
267	0.0024	0.0008	0.0016
268	0.0024	0.0008	0.0016
269	0.0024	0.0008	0.0016
270	0.0024	0.0008	0.0016
271	0.0023	0.0008	0.0015
272	0.0023	0.0008	0.0015
273	0.0023	0.0008	0.0015
274	0.0023	0.0008	0.0015
275	0.0022	0.0008	0.0015
276	0.0022	0.0008	0.0015
277	0.0022	0.0007	0.0015
278	0.0022	0.0007	0.0014
279	0.0022	0.0007	0.0014
280	0.0021	0.0007	0.0014
281	0.0021	0.0007	0.0014
282	0.0021	0.0007	0.0014
283	0.0021	0.0007	0.0014
284	0.0021	0.0007	0.0014
285	0.0021	0.0007	0.0014
286	0.0020	0.0007	0.0013
287	0.0020	0.0007	0.0013
288	0.0020	0.0007	0.0013

Total soil rain loss = 0.55(In)
Total effective rainfall = 1.96(In)
Peak flow rate in flood hydrograph = 237.71(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

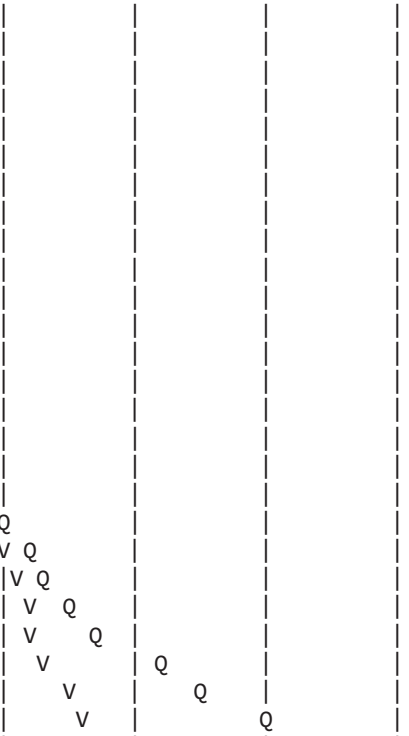
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m) Volume Ac.Ft Q(CFS) 0 75.0 150.0 225.0 300.0

0+ 5	0.0001	0.01	Q				
0+10	0.0003	0.04	Q				
0+15	0.0009	0.08	Q				
0+20	0.0017	0.12	Q				
0+25	0.0030	0.19	Q				
0+30	0.0048	0.26	Q				
0+35	0.0072	0.35	Q				
0+40	0.0103	0.45	Q				
0+45	0.0145	0.61	Q				
0+50	0.0200	0.80	Q				
0+55	0.0273	1.07	Q				
1+ 0	0.0367	1.36	Q				
1+ 5	0.0479	1.62	Q				
1+10	0.0607	1.87	Q				
1+15	0.0750	2.07	Q				
1+20	0.0906	2.26	Q				
1+25	0.1073	2.43	Q				
1+30	0.1250	2.58	Q				
1+35	0.1437	2.70	Q				
1+40	0.1631	2.82	Q				
1+45	0.1833	2.93	Q				
1+50	0.2041	3.03	Q				
1+55	0.2256	3.12	Q				
2+ 0	0.2476	3.20	Q				
2+ 5	0.2703	3.29	Q				
2+10	0.2934	3.37	Q				
2+15	0.3171	3.44	Q				
2+20	0.3413	3.51	Q				
2+25	0.3659	3.57	Q				
2+30	0.3909	3.64	Q				
2+35	0.4164	3.70	Q				
2+40	0.4424	3.76	Q				
2+45	0.4687	3.82	Q				
2+50	0.4953	3.87	Q				
2+55	0.5224	3.93	Q				
3+ 0	0.5498	3.98	Q				
3+ 5	0.5776	4.03	Q				
3+10	0.6056	4.08	Q				
3+15	0.6341	4.13	Q				
3+20	0.6628	4.18	Q				
3+25	0.6919	4.22	Q				
3+30	0.7213	4.27	Q				
3+35	0.7511	4.32	Q				
3+40	0.7811	4.36	Q				
3+45	0.8114	4.41	Q				
3+50	0.8421	4.45	Q				
3+55	0.8730	4.49	Q				
4+ 0	0.9042	4.53	Q				
4+ 5	0.9357	4.57	Q				
4+10	0.9675	4.61	Q				
4+15	0.9995	4.65	Q				
4+20	1.0318	4.69	Q				
4+25	1.0644	4.73	Q				
4+30	1.0972	4.77	Q				
4+35	1.1303	4.81	Q				
4+40	1.1637	4.85	QV				
4+45	1.1974	4.88	QV				
4+50	1.2313	4.92	QV				
4+55	1.2654	4.96	QV				

5+ 0	1.2999	5.00	QV	|	|	|	|
5+ 5	1.3346	5.04	QV	|	|	|	|
5+10	1.3695	5.08	QV	|	|	|	|
5+15	1.4048	5.12	QV	|	|	|	|
5+20	1.4403	5.15	QV	|	|	|	|
5+25	1.4760	5.19	QV	|	|	|	|
5+30	1.5120	5.23	QV	|	|	|	|
5+35	1.5482	5.26	QV	|	|	|	|
5+40	1.5848	5.30	QV	|	|	|	|
5+45	1.6216	5.34	QV	|	|	|	|
5+50	1.6586	5.38	QV	|	|	|	|
5+55	1.6959	5.42	QV	|	|	|	|
6+ 0	1.7335	5.46	QV	|	|	|	|
6+ 5	1.7714	5.49	QV	|	|	|	|
6+10	1.8095	5.53	QV	|	|	|	|
6+15	1.8478	5.57	QV	|	|	|	|
6+20	1.8865	5.61	QV	|	|	|	|
6+25	1.9254	5.65	QV	|	|	|	|
6+30	1.9646	5.69	QV	|	|	|	|
6+35	2.0040	5.73	QV	|	|	|	|
6+40	2.0438	5.77	QV	|	|	|	|
6+45	2.0838	5.81	QV	|	|	|	|
6+50	2.1241	5.85	QV	|	|	|	|
6+55	2.1646	5.89	QV	|	|	|	|
7+ 0	2.2054	5.93	QV	|	|	|	|
7+ 5	2.2466	5.97	QV	|	|	|	|
7+10	2.2880	6.01	Q V	|	|	|	|
7+15	2.3297	6.05	Q V	|	|	|	|
7+20	2.3716	6.09	Q V	|	|	|	|
7+25	2.4139	6.14	Q V	|	|	|	|
7+30	2.4564	6.18	Q V	|	|	|	|
7+35	2.4993	6.22	Q V	|	|	|	|
7+40	2.5424	6.26	Q V	|	|	|	|
7+45	2.5858	6.31	Q V	|	|	|	|
7+50	2.6296	6.35	Q V	|	|	|	|
7+55	2.6736	6.40	Q V	|	|	|	|
8+ 0	2.7180	6.44	Q V	|	|	|	|
8+ 5	2.7627	6.49	Q V	|	|	|	|
8+10	2.8077	6.54	Q V	|	|	|	|
8+15	2.8531	6.59	Q V	|	|	|	|
8+20	2.8988	6.63	Q V	|	|	|	|
8+25	2.9448	6.68	Q V	|	|	|	|
8+30	2.9912	6.74	Q V	|	|	|	|
8+35	3.0379	6.79	Q V	|	|	|	|
8+40	3.0850	6.84	Q V	|	|	|	|
8+45	3.1325	6.89	Q V	|	|	|	|
8+50	3.1803	6.95	Q V	|	|	|	|
8+55	3.2285	7.00	Q V	|	|	|	|
9+ 0	3.2771	7.06	Q V	|	|	|	|
9+ 5	3.3261	7.11	Q V	|	|	|	|
9+10	3.3755	7.17	Q V	|	|	|	|
9+15	3.4253	7.23	Q V	|	|	|	|
9+20	3.4755	7.29	Q V	|	|	|	|
9+25	3.5260	7.34	Q V	|	|	|	|
9+30	3.5770	7.40	Q V	|	|	|	|
9+35	3.6284	7.47	Q V	|	|	|	|
9+40	3.6803	7.53	|Q V	|	|	|	|
9+45	3.7326	7.59	|Q V	|	|	|	|
9+50	3.7853	7.66	|Q V	|	|	|	|

9+55	3.8385	7.72	Q V				
10+ 0	3.8921	7.79	Q V				
10+ 5	3.9462	7.86	Q V				
10+10	4.0008	7.93	Q V				
10+15	4.0559	8.00	Q V				
10+20	4.1115	8.07	Q V				
10+25	4.1675	8.14	Q V				
10+30	4.2241	8.21	Q V				
10+35	4.2812	8.29	Q V				
10+40	4.3388	8.37	Q V				
10+45	4.3970	8.45	Q V				
10+50	4.4557	8.53	Q V				
10+55	4.5150	8.61	Q V				
11+ 0	4.5749	8.69	Q V				
11+ 5	4.6354	8.78	Q V				
11+10	4.6965	8.87	Q V				
11+15	4.7582	8.96	Q V				
11+20	4.8205	9.05	Q V				
11+25	4.8836	9.15	Q V				
11+30	4.9472	9.25	Q V				
11+35	5.0116	9.35	Q V				
11+40	5.0767	9.45	Q V				
11+45	5.1425	9.55	Q V				
11+50	5.2090	9.66	Q V				
11+55	5.2763	9.77	Q V				
12+ 0	5.3444	9.89	Q V				
12+ 5	5.4133	10.00	Q V				
12+10	5.4828	10.10	Q V				
12+15	5.5530	10.19	Q V				
12+20	5.6238	10.28	Q V				
12+25	5.6952	10.36	Q V				
12+30	5.7671	10.44	Q V				
12+35	5.8395	10.51	Q V				
12+40	5.9123	10.57	Q V				
12+45	5.9852	10.59	Q V				
12+50	6.0582	10.59	Q V				
12+55	6.1308	10.54	Q V				
13+ 0	6.2028	10.46	Q V				
13+ 5	6.2746	10.42	Q V				
13+10	6.3461	10.39	Q V				
13+15	6.4177	10.40	Q V				
13+20	6.4894	10.42	Q V				
13+25	6.5616	10.47	Q V				
13+30	6.6341	10.53	Q V				
13+35	6.7073	10.63	Q V				
13+40	6.7812	10.73	Q V				
13+45	6.8560	10.86	Q V				
13+50	6.9317	10.99	Q V				
13+55	7.0084	11.14	Q V				
14+ 0	7.0863	11.31	Q V				
14+ 5	7.1654	11.49	Q V				
14+10	7.2459	11.69	Q V				
14+15	7.3279	11.91	Q V				
14+20	7.4115	12.14	Q V				
14+25	7.4969	12.40	Q V				
14+30	7.5842	12.68	Q V				
14+35	7.6736	12.98	Q V				
14+40	7.7652	13.30	Q V				
14+45	7.8593	13.67	Q V				

14+50	7.9562	14.07	
14+55	8.0561	14.51	
15+ 0	8.1594	14.99	
15+ 5	8.2662	15.51	
15+10	8.3769	16.07	
15+15	8.4917	16.67	
15+20	8.6110	17.32	
15+25	8.7359	18.13	
15+30	8.8675	19.11	
15+35	9.0073	20.30	
15+40	9.1569	21.73	
15+45	9.3189	23.52	
15+50	9.4961	25.73	
15+55	9.6941	28.74	
16+ 0	9.9209	32.93	
16+ 5	10.2196	43.38	
16+10	10.5948	54.48	
16+15	11.0523	66.43	
16+20	11.5888	77.91	
16+25	12.2152	90.94	
16+30	12.9229	102.75	
16+35	13.7376	118.30	
16+40	14.6591	133.80	
16+45	15.8185	168.35	
16+50	17.1376	191.53	
16+55	18.7077	227.98	
17+ 0	20.3448	237.71	
17+ 5	21.8503	218.60	
17+10	23.2577	204.35	
17+15	24.4799	177.47	
17+20	25.6025	162.99	
17+25	26.6017	145.09	
17+30	27.5218	133.59	
17+35	28.3187	115.71	
17+40	29.0556	107.00	
17+45	29.7193	96.37	
17+50	30.3431	90.58	
17+55	30.9171	83.35	
18+ 0	31.4642	79.43	
18+ 5	31.9793	74.80	
18+10	32.4672	70.85	
18+15	32.9176	65.40	
18+20	33.3468	62.32	
18+25	33.7513	58.73	
18+30	34.1418	56.71	
18+35	34.5170	54.48	
18+40	34.8695	51.18	
18+45	35.1964	47.47	
18+50	35.5158	46.36	
18+55	35.8279	45.33	
19+ 0	36.1238	42.96	
19+ 5	36.4049	40.82	
19+10	36.6813	40.13	
19+15	36.9525	39.38	
19+20	37.2131	37.83	
19+25	37.4655	36.65	
19+30	37.7133	35.97	
19+35	37.9552	35.13	
19+40	38.1833	33.12	

```
19+45      38.4029     31.89  |   Q     |         |         |  V      |
19+50      38.6176     31.18  |   Q     |         |         |  V      |
19+55      38.8257     30.22  |   Q     |         |         |   V     |
20+ 0      39.0174     27.83  |  Q      |         |         |   V     |
20+ 5      39.2018     26.77  |  Q      |         |         |   V     |
20+10      39.3828     26.29  |  Q      |         |         |   V     |
20+15      39.5604     25.79  |  Q      |         |         |   V     |
20+20      39.7330     25.05  |  Q      |         |         |   V     |
20+25      39.9025     24.61  |  Q      |         |         |    V    |
20+30      40.0692     24.21  |  Q      |         |         |    V    |
20+35      40.2319     23.62  |  Q      |         |         |    V    |
20+40      40.3870     22.53  |  Q      |         |         |    V    |
20+45      40.5390     22.07  | Q       |         |         |    V    |
20+50      40.6886     21.72  | Q       |         |         |    V    |
20+55      40.8349     21.25  | Q       |         |         |    V    |
21+ 0      40.9766     20.58  | Q       |         |         |    V    |
21+ 5      41.1159     20.22  | Q       |         |         |     V   |
21+10      41.2524     19.82  | Q       |         |         |     V   |
21+15      41.3835     19.03  | Q       |         |         |     V   |
21+20      41.5068     17.91  | Q       |         |         |     V   |
21+25      41.6280     17.60  | Q       |         |         |     V   |
21+30      41.7475     17.35  | Q       |         |         |     V   |
21+35      41.8655     17.13  | Q       |         |         |     V   |
21+40      41.9819     16.90  | Q       |         |         |     V   |
21+45      42.0966     16.65  | Q       |         |         |     V   |
21+50      42.2090     16.33  | Q       |         |         |      V  |
21+55      42.3159     15.52  | Q       |         |         |      V  |
22+ 0      42.4178     14.79  |Q        |         |         |      V  |
22+ 5      42.5181     14.56  |Q        |         |         |      V  |
22+10      42.6169     14.35  |Q        |         |         |      V  |
22+15      42.7144     14.15  |Q        |         |         |      V  |
22+20      42.8105     13.95  |Q        |         |         |      V  |
22+25      42.9049     13.71  |Q        |         |         |      V  |
22+30      42.9970     13.37  |Q        |         |         |      V  |
22+35      43.0827     12.45  |Q        |         |         |      V  |
22+40      43.1649     11.94  |Q        |         |         |      V  |
22+45      43.2458     11.73  |Q        |         |         |      V  |
22+50      43.3253     11.56  |Q        |         |         |       V |
22+55      43.4038     11.38  |Q        |         |         |       V |
23+ 0      43.4809     11.20  |Q        |         |         |       V |
23+ 5      43.5565     10.97  |Q        |         |         |       V |
23+10      43.6294     10.59  |Q        |         |         |       V |
23+15      43.6960      9.66  |Q        |         |         |       V |
23+20      43.7603      9.35  |Q        |         |         |       V |
23+25      43.8238      9.22  |Q        |         |         |       V |
23+30      43.8866      9.11  |Q        |         |         |       V |
23+35      43.9488      9.04  |Q        |         |         |       V |
23+40      44.0107      8.98  |Q        |         |         |       V |
23+45      44.0723      8.94  |Q        |         |         |       V |
23+50      44.1341      8.97  |Q        |         |         |       V |
23+55      44.1967      9.10  |Q        |         |         |       V |
24+ 0      44.2591      9.06  |Q        |         |         |       V |
24+ 5      44.3210      8.99  |Q        |         |         |       V |
24+10      44.3823      8.90  |Q        |         |         |       V |
24+15      44.4429      8.80  |Q        |         |         |        V|
24+20      44.5026      8.68  |Q        |         |         |        V|
24+25      44.5615      8.55  |Q        |         |         |        V|
24+30      44.6194      8.41  |Q        |         |         |        V|
24+35      44.6762      8.24  |Q        |         |         |        V|
```

24+40	44.7317	8.06	|Q	|	|	|	V|
24+45	44.7855	7.81	|Q	|	|	|	V|
24+50	44.8373	7.53	|Q	|	|	|	V|
24+55	44.8866	7.16	Q	|	|	|	V|
25+ 0	44.9329	6.73	Q	|	|	|	V|
25+ 5	44.9762	6.28	Q	|	|	|	V|
25+10	45.0138	5.46	Q	|	|	|	V|
25+15	45.0474	4.88	Q	|	|	|	V|
25+20	45.0792	4.61	Q	|	|	|	V|
25+25	45.1093	4.38	Q	|	|	|	V|
25+30	45.1381	4.18	Q	|	|	|	V|
25+35	45.1656	4.00	Q	|	|	|	V|
25+40	45.1920	3.83	Q	|	|	|	V|
25+45	45.2173	3.67	Q	|	|	|	V|
25+50	45.2416	3.52	Q	|	|	|	V|
25+55	45.2647	3.36	Q	|	|	|	V|
26+ 0	45.2866	3.18	Q	|	|	|	V|
26+ 5	45.3071	2.97	Q	|	|	|	V|
26+10	45.3248	2.57	Q	|	|	|	V|
26+15	45.3372	1.80	Q	|	|	|	V|
26+20	45.3486	1.65	Q	|	|	|	V|
26+25	45.3592	1.54	Q	|	|	|	V|
26+30	45.3692	1.45	Q	|	|	|	V|
26+35	45.3786	1.37	Q	|	|	|	V|
26+40	45.3876	1.31	Q	|	|	|	V|
26+45	45.3962	1.25	Q	|	|	|	V|
26+50	45.4044	1.19	Q	|	|	|	V|
26+55	45.4123	1.14	Q	|	|	|	V|
27+ 0	45.4197	1.09	Q	|	|	|	V|
27+ 5	45.4269	1.04	Q	|	|	|	V|
27+10	45.4338	1.00	Q	|	|	|	V|
27+15	45.4403	0.95	Q	|	|	|	V|
27+20	45.4466	0.91	Q	|	|	|	V|
27+25	45.4526	0.87	Q	|	|	|	V|
27+30	45.4584	0.83	Q	|	|	|	V|
27+35	45.4639	0.80	Q	|	|	|	V|
27+40	45.4691	0.76	Q	|	|	|	V|
27+45	45.4742	0.73	Q	|	|	|	V|
27+50	45.4790	0.70	Q	|	|	|	V|
27+55	45.4836	0.67	Q	|	|	|	V|
28+ 0	45.4880	0.64	Q	|	|	|	V|
28+ 5	45.4923	0.62	Q	|	|	|	V|
28+10	45.4964	0.60	Q	|	|	|	V|
28+15	45.5003	0.57	Q	|	|	|	V|
28+20	45.5041	0.55	Q	|	|	|	V|
28+25	45.5077	0.53	Q	|	|	|	V|
28+30	45.5112	0.50	Q	|	|	|	V|
28+35	45.5145	0.48	Q	|	|	|	V|
28+40	45.5177	0.46	Q	|	|	|	V|
28+45	45.5208	0.44	Q	|	|	|	V|
28+50	45.5237	0.42	Q	|	|	|	V|
28+55	45.5265	0.40	Q	|	|	|	V|
29+ 0	45.5291	0.39	Q	|	|	|	V|
29+ 5	45.5317	0.37	Q	|	|	|	V|
29+10	45.5341	0.35	Q	|	|	|	V|
29+15	45.5364	0.34	Q	|	|	|	V|
29+20	45.5387	0.32	Q	|	|	|	V|
29+25	45.5408	0.31	Q	|	|	|	V|
29+30	45.5429	0.30	Q	|	|	|	V|

29+35	45.5448	0.28	Q	|	|	|	V|
29+40	45.5467	0.27	Q	|	|	|	V|
29+45	45.5485	0.26	Q	|	|	|	V|
29+50	45.5502	0.25	Q	|	|	|	V|
29+55	45.5518	0.24	Q	|	|	|	V|
30+ 0	45.5534	0.23	Q	|	|	|	V|
30+ 5	45.5548	0.22	Q	|	|	|	V|
30+10	45.5563	0.21	Q	|	|	|	V|
30+15	45.5576	0.20	Q	|	|	|	V|
30+20	45.5589	0.19	Q	|	|	|	V|
30+25	45.5601	0.18	Q	|	|	|	V|
30+30	45.5613	0.17	Q	|	|	|	V|
30+35	45.5624	0.16	Q	|	|	|	V|
30+40	45.5635	0.15	Q	|	|	|	V|
30+45	45.5645	0.15	Q	|	|	|	V|
30+50	45.5654	0.14	Q	|	|	|	V|
30+55	45.5664	0.13	Q	|	|	|	V|
31+ 0	45.5672	0.13	Q	|	|	|	V|
31+ 5	45.5681	0.12	Q	|	|	|	V|
31+10	45.5689	0.11	Q	|	|	|	V|
31+15	45.5696	0.11	Q	|	|	|	V|
31+20	45.5704	0.11	Q	|	|	|	V|
31+25	45.5711	0.10	Q	|	|	|	V|
31+30	45.5717	0.10	Q	|	|	|	V|
31+35	45.5724	0.10	Q	|	|	|	V|
31+40	45.5730	0.09	Q	|	|	|	V|
31+45	45.5736	0.09	Q	|	|	|	V|
31+50	45.5742	0.08	Q	|	|	|	V|
31+55	45.5748	0.08	Q	|	|	|	V|
32+ 0	45.5753	0.08	Q	|	|	|	V|
32+ 5	45.5758	0.07	Q	|	|	|	V|
32+10	45.5762	0.07	Q	|	|	|	V|
32+15	45.5767	0.06	Q	|	|	|	V|
32+20	45.5771	0.06	Q	|	|	|	V|
32+25	45.5775	0.06	Q	|	|	|	V|
32+30	45.5778	0.05	Q	|	|	|	V|
32+35	45.5781	0.05	Q	|	|	|	V|
32+40	45.5784	0.04	Q	|	|	|	V|
32+45	45.5787	0.04	Q	|	|	|	V|
32+50	45.5790	0.04	Q	|	|	|	V|
32+55	45.5792	0.03	Q	|	|	|	V|
33+ 0	45.5794	0.03	Q	|	|	|	V|
33+ 5	45.5795	0.02	Q	|	|	|	V|
33+10	45.5797	0.02	Q	|	|	|	V|
33+15	45.5798	0.02	Q	|	|	|	V|
33+20	45.5800	0.02	Q	|	|	|	V|
33+25	45.5801	0.02	Q	|	|	|	V|
33+30	45.5802	0.01	Q	|	|	|	V|
33+35	45.5803	0.01	Q	|	|	|	V|
33+40	45.5803	0.01	Q	|	|	|	V|
33+45	45.5804	0.01	Q	|	|	|	V|
33+50	45.5805	0.01	Q	|	|	|	V|
33+55	45.5805	0.01	Q	|	|	|	V|
34+ 0	45.5805	0.00	Q	|	|	|	V|
34+ 5	45.5805	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 26
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
342.06	1	1.39
Rainfall data for year 100		
342.06	6	1.82
Rainfall data for year 100		
342.06	24	2.52

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
77.6	92.6	342.06	1.000	0.145	0.902	0.130

Area-averaged adjusted loss rate Fm (In/Hr) = 0.130

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
308.54	0.902	77.6	92.6	0.80	0.698
33.52	0.098	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.719
Area-averaged low loss fraction, Yb = 0.281
User entry of time of concentration = 1.640 (hours)
++
Watershed area = 342.06(Ac.)
Catchment Lag time = 1.312 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 6.3516
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.130(In/Hr)
Average low loss rate fraction (Yb) = 0.281 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.640(In)
Specified peak 6-hour rainfall = 1.820(In)
Specified peak 24-hour rainfall = 2.520(In)

Rainfall depth area reduction factors:
Using a total area of 342.06(Ac.) (Ref: fig. E-4)

5-minute factor = 0.984 Adjusted rainfall = 0.649(In)
30-minute factor = 0.984 Adjusted rainfall = 1.111(In)
1-hour factor = 0.984 Adjusted rainfall = 1.368(In)
3-hour factor = 0.998 Adjusted rainfall = 1.636(In)
6-hour factor = 0.999 Adjusted rainfall = 1.818(In)
24-hour factor = 1.000 Adjusted rainfall = 2.519(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 4136.79 (CFS))	
1	0.279	11.561
2	0.839	23.133
3	1.668	34.294
4	2.736	44.186
5	4.088	55.955
6	5.666	65.269
7	7.572	78.837
8	9.722	88.939
9	13.053	137.794
10	17.149	169.454
11	22.793	233.463
12	29.277	268.246
13	35.062	239.326

14	40.465	223.493
15	44.943	185.250
16	48.983	167.129
17	52.497	145.358
18	55.764	135.150
19	58.422	109.955
20	60.838	99.929
21	62.925	86.353
22	64.888	81.198
23	66.629	72.015
24	68.294	68.902
25	69.848	64.257
26	71.350	62.151
27	72.664	54.343
28	73.919	51.918
29	75.060	47.205
30	76.172	46.002
31	77.246	44.427
32	78.283	42.903
33	79.148	35.810
34	79.987	34.683
35	80.825	34.683
36	81.638	33.637
37	82.338	28.944
38	83.024	28.377
39	83.710	28.377
40	84.380	27.732
41	84.995	25.429
42	85.605	25.224
43	86.215	25.224
44	86.799	24.183
45	87.312	21.204
46	87.820	21.020
47	88.328	21.020
48	88.799	19.470
49	89.183	15.907
50	89.564	15.765
51	89.945	15.765
52	90.318	15.401
53	90.674	14.729
54	91.029	14.714
55	91.385	14.714
56	91.720	13.870
57	92.026	12.624
58	92.330	12.612
59	92.635	12.612
60	92.929	12.128
61	93.208	11.562
62	93.488	11.561
63	93.767	11.560
64	94.013	10.185
65	94.229	8.934
66	94.445	8.934
67	94.661	8.934
68	94.877	8.934
69	95.093	8.934
70	95.309	8.934
71	95.524	8.909
72	95.708	7.587

73	95.873	6.832
74	96.038	6.832
75	96.203	6.832
76	96.368	6.832
77	96.533	6.832
78	96.699	6.832
79	96.862	6.749
80	96.989	5.274
81	97.104	4.730
82	97.218	4.730
83	97.332	4.730
84	97.446	4.730
85	97.561	4.730
86	97.675	4.730
87	97.785	4.555
88	97.858	2.996
89	97.921	2.628
90	97.985	2.628
91	98.048	2.628
92	98.112	2.628
93	98.175	2.628
94	98.239	2.628
95	98.304	2.703
96	98.379	3.096
97	98.455	3.153
98	98.531	3.153
99	98.608	3.153
100	98.684	3.153
101	98.760	3.153
102	98.836	3.153
103	98.913	3.153
104	98.989	3.153
105	99.065	3.153
106	99.141	3.153
107	99.217	3.153
108	99.294	3.153
109	99.370	3.153
110	99.446	3.153
111	99.511	2.679
112	99.551	1.675
113	99.591	1.642
114	99.631	1.642
115	99.670	1.642
116	99.710	1.642
117	99.750	1.642
118	99.789	1.642
119	99.829	1.642
120	99.869	1.642
121	99.909	1.642
122	99.948	1.642
123	100.000	0.821

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6490	0.6490
2	0.7990	0.1500
3	0.9024	0.1033
4	0.9837	0.0813
5	1.0518	0.0681

6	1.1109	0.0591
7	1.1635	0.0526
8	1.2111	0.0476
9	1.2546	0.0436
10	1.2949	0.0403
11	1.3325	0.0376
12	1.3677	0.0352
13	1.3857	0.0180
14	1.4026	0.0169
15	1.4185	0.0159
16	1.4335	0.0150
17	1.4478	0.0143
18	1.4613	0.0136
19	1.4743	0.0130
20	1.4867	0.0124
21	1.4986	0.0119
22	1.5100	0.0114
23	1.5210	0.0110
24	1.5316	0.0106
25	1.5419	0.0102
26	1.5518	0.0099
27	1.5614	0.0096
28	1.5707	0.0093
29	1.5797	0.0090
30	1.5885	0.0088
31	1.5970	0.0085
32	1.6053	0.0083
33	1.6134	0.0081
34	1.6213	0.0079
35	1.6289	0.0077
36	1.6365	0.0075
37	1.6433	0.0068
38	1.6499	0.0067
39	1.6565	0.0065
40	1.6628	0.0064
41	1.6691	0.0062
42	1.6752	0.0061
43	1.6812	0.0060
44	1.6871	0.0059
45	1.6928	0.0058
46	1.6985	0.0057
47	1.7041	0.0056
48	1.7095	0.0055
49	1.7149	0.0054
50	1.7201	0.0053
51	1.7253	0.0052
52	1.7304	0.0051
53	1.7354	0.0050
54	1.7404	0.0049
55	1.7452	0.0049
56	1.7500	0.0048
57	1.7547	0.0047
58	1.7593	0.0046
59	1.7639	0.0046
60	1.7684	0.0045
61	1.7729	0.0044
62	1.7772	0.0044
63	1.7816	0.0043
64	1.7858	0.0043

65	1.7900	0.0042
66	1.7942	0.0042
67	1.7983	0.0041
68	1.8023	0.0040
69	1.8063	0.0040
70	1.8103	0.0040
71	1.8142	0.0039
72	1.8181	0.0039
73	1.8240	0.0059
74	1.8298	0.0058
75	1.8356	0.0058
76	1.8413	0.0057
77	1.8470	0.0057
78	1.8526	0.0056
79	1.8582	0.0056
80	1.8637	0.0055
81	1.8691	0.0055
82	1.8745	0.0054
83	1.8799	0.0054
84	1.8852	0.0053
85	1.8904	0.0053
86	1.8956	0.0052
87	1.9008	0.0052
88	1.9059	0.0051
89	1.9110	0.0051
90	1.9160	0.0050
91	1.9210	0.0050
92	1.9260	0.0049
93	1.9309	0.0049
94	1.9357	0.0049
95	1.9405	0.0048
96	1.9453	0.0048
97	1.9501	0.0047
98	1.9548	0.0047
99	1.9595	0.0047
100	1.9641	0.0046
101	1.9687	0.0046
102	1.9733	0.0046
103	1.9778	0.0045
104	1.9823	0.0045
105	1.9868	0.0045
106	1.9912	0.0044
107	1.9956	0.0044
108	2.0000	0.0044
109	2.0043	0.0043
110	2.0086	0.0043
111	2.0129	0.0043
112	2.0172	0.0043
113	2.0214	0.0042
114	2.0256	0.0042
115	2.0297	0.0042
116	2.0339	0.0041
117	2.0380	0.0041
118	2.0421	0.0041
119	2.0461	0.0041
120	2.0502	0.0040
121	2.0542	0.0040
122	2.0581	0.0040
123	2.0621	0.0040

124	2.0660	0.0039
125	2.0699	0.0039
126	2.0738	0.0039
127	2.0777	0.0039
128	2.0815	0.0038
129	2.0853	0.0038
130	2.0891	0.0038
131	2.0929	0.0038
132	2.0966	0.0037
133	2.1004	0.0037
134	2.1041	0.0037
135	2.1077	0.0037
136	2.1114	0.0037
137	2.1150	0.0036
138	2.1187	0.0036
139	2.1223	0.0036
140	2.1259	0.0036
141	2.1294	0.0036
142	2.1330	0.0035
143	2.1365	0.0035
144	2.1400	0.0035
145	2.1435	0.0035
146	2.1469	0.0035
147	2.1504	0.0034
148	2.1538	0.0034
149	2.1572	0.0034
150	2.1606	0.0034
151	2.1640	0.0034
152	2.1674	0.0034
153	2.1707	0.0033
154	2.1740	0.0033
155	2.1774	0.0033
156	2.1807	0.0033
157	2.1839	0.0033
158	2.1872	0.0033
159	2.1904	0.0032
160	2.1937	0.0032
161	2.1969	0.0032
162	2.2001	0.0032
163	2.2033	0.0032
164	2.2065	0.0032
165	2.2096	0.0032
166	2.2128	0.0031
167	2.2159	0.0031
168	2.2190	0.0031
169	2.2221	0.0031
170	2.2252	0.0031
171	2.2283	0.0031
172	2.2313	0.0031
173	2.2344	0.0030
174	2.2374	0.0030
175	2.2404	0.0030
176	2.2434	0.0030
177	2.2464	0.0030
178	2.2494	0.0030
179	2.2523	0.0030
180	2.2553	0.0030
181	2.2582	0.0029
182	2.2612	0.0029

183	2.2641	0.0029
184	2.2670	0.0029
185	2.2699	0.0029
186	2.2728	0.0029
187	2.2756	0.0029
188	2.2785	0.0029
189	2.2813	0.0028
190	2.2842	0.0028
191	2.2870	0.0028
192	2.2898	0.0028
193	2.2926	0.0028
194	2.2954	0.0028
195	2.2982	0.0028
196	2.3009	0.0028
197	2.3037	0.0028
198	2.3064	0.0027
199	2.3092	0.0027
200	2.3119	0.0027
201	2.3146	0.0027
202	2.3173	0.0027
203	2.3200	0.0027
204	2.3227	0.0027
205	2.3254	0.0027
206	2.3280	0.0027
207	2.3307	0.0027
208	2.3333	0.0026
209	2.3359	0.0026
210	2.3386	0.0026
211	2.3412	0.0026
212	2.3438	0.0026
213	2.3464	0.0026
214	2.3490	0.0026
215	2.3516	0.0026
216	2.3541	0.0026
217	2.3567	0.0026
218	2.3592	0.0025
219	2.3618	0.0025
220	2.3643	0.0025
221	2.3668	0.0025
222	2.3693	0.0025
223	2.3718	0.0025
224	2.3743	0.0025
225	2.3768	0.0025
226	2.3793	0.0025
227	2.3818	0.0025
228	2.3842	0.0025
229	2.3867	0.0025
230	2.3892	0.0024
231	2.3916	0.0024
232	2.3940	0.0024
233	2.3964	0.0024
234	2.3989	0.0024
235	2.4013	0.0024
236	2.4037	0.0024
237	2.4061	0.0024
238	2.4084	0.0024
239	2.4108	0.0024
240	2.4132	0.0024
241	2.4155	0.0024

242	2.4179	0.0024
243	2.4202	0.0023
244	2.4226	0.0023
245	2.4249	0.0023
246	2.4272	0.0023
247	2.4296	0.0023
248	2.4319	0.0023
249	2.4342	0.0023
250	2.4365	0.0023
251	2.4388	0.0023
252	2.4410	0.0023
253	2.4433	0.0023
254	2.4456	0.0023
255	2.4478	0.0023
256	2.4501	0.0023
257	2.4523	0.0022
258	2.4546	0.0022
259	2.4568	0.0022
260	2.4590	0.0022
261	2.4613	0.0022
262	2.4635	0.0022
263	2.4657	0.0022
264	2.4679	0.0022
265	2.4701	0.0022
266	2.4723	0.0022
267	2.4745	0.0022
268	2.4766	0.0022
269	2.4788	0.0022
270	2.4810	0.0022
271	2.4831	0.0022
272	2.4853	0.0022
273	2.4874	0.0021
274	2.4896	0.0021
275	2.4917	0.0021
276	2.4938	0.0021
277	2.4960	0.0021
278	2.4981	0.0021
279	2.5002	0.0021
280	2.5023	0.0021
281	2.5044	0.0021
282	2.5065	0.0021
283	2.5086	0.0021
284	2.5106	0.0021
285	2.5127	0.0021
286	2.5148	0.0021
287	2.5169	0.0021
288	2.5189	0.0021

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0021	0.0006	0.0015
2	0.0021	0.0006	0.0015
3	0.0021	0.0006	0.0015
4	0.0021	0.0006	0.0015
5	0.0021	0.0006	0.0015
6	0.0021	0.0006	0.0015
7	0.0021	0.0006	0.0015

8	0.0021	0.0006	0.0015
9	0.0021	0.0006	0.0015
10	0.0021	0.0006	0.0015
11	0.0021	0.0006	0.0015
12	0.0022	0.0006	0.0015
13	0.0022	0.0006	0.0016
14	0.0022	0.0006	0.0016
15	0.0022	0.0006	0.0016
16	0.0022	0.0006	0.0016
17	0.0022	0.0006	0.0016
18	0.0022	0.0006	0.0016
19	0.0022	0.0006	0.0016
20	0.0022	0.0006	0.0016
21	0.0022	0.0006	0.0016
22	0.0022	0.0006	0.0016
23	0.0023	0.0006	0.0016
24	0.0023	0.0006	0.0016
25	0.0023	0.0006	0.0016
26	0.0023	0.0006	0.0016
27	0.0023	0.0006	0.0017
28	0.0023	0.0006	0.0017
29	0.0023	0.0007	0.0017
30	0.0023	0.0007	0.0017
31	0.0023	0.0007	0.0017
32	0.0024	0.0007	0.0017
33	0.0024	0.0007	0.0017
34	0.0024	0.0007	0.0017
35	0.0024	0.0007	0.0017
36	0.0024	0.0007	0.0017
37	0.0024	0.0007	0.0017
38	0.0024	0.0007	0.0017
39	0.0024	0.0007	0.0018
40	0.0024	0.0007	0.0018
41	0.0025	0.0007	0.0018
42	0.0025	0.0007	0.0018
43	0.0025	0.0007	0.0018
44	0.0025	0.0007	0.0018
45	0.0025	0.0007	0.0018
46	0.0025	0.0007	0.0018
47	0.0025	0.0007	0.0018
48	0.0025	0.0007	0.0018
49	0.0026	0.0007	0.0018
50	0.0026	0.0007	0.0019
51	0.0026	0.0007	0.0019
52	0.0026	0.0007	0.0019
53	0.0026	0.0007	0.0019
54	0.0026	0.0007	0.0019
55	0.0027	0.0007	0.0019
56	0.0027	0.0007	0.0019
57	0.0027	0.0008	0.0019
58	0.0027	0.0008	0.0019
59	0.0027	0.0008	0.0020
60	0.0027	0.0008	0.0020
61	0.0027	0.0008	0.0020
62	0.0028	0.0008	0.0020
63	0.0028	0.0008	0.0020
64	0.0028	0.0008	0.0020
65	0.0028	0.0008	0.0020
66	0.0028	0.0008	0.0020

67	0.0028	0.0008	0.0020
68	0.0029	0.0008	0.0021
69	0.0029	0.0008	0.0021
70	0.0029	0.0008	0.0021
71	0.0029	0.0008	0.0021
72	0.0029	0.0008	0.0021
73	0.0030	0.0008	0.0021
74	0.0030	0.0008	0.0021
75	0.0030	0.0008	0.0022
76	0.0030	0.0008	0.0022
77	0.0030	0.0009	0.0022
78	0.0030	0.0009	0.0022
79	0.0031	0.0009	0.0022
80	0.0031	0.0009	0.0022
81	0.0031	0.0009	0.0022
82	0.0031	0.0009	0.0022
83	0.0032	0.0009	0.0023
84	0.0032	0.0009	0.0023
85	0.0032	0.0009	0.0023
86	0.0032	0.0009	0.0023
87	0.0032	0.0009	0.0023
88	0.0033	0.0009	0.0023
89	0.0033	0.0009	0.0024
90	0.0033	0.0009	0.0024
91	0.0033	0.0009	0.0024
92	0.0034	0.0009	0.0024
93	0.0034	0.0010	0.0024
94	0.0034	0.0010	0.0025
95	0.0034	0.0010	0.0025
96	0.0035	0.0010	0.0025
97	0.0035	0.0010	0.0025
98	0.0035	0.0010	0.0025
99	0.0036	0.0010	0.0026
100	0.0036	0.0010	0.0026
101	0.0036	0.0010	0.0026
102	0.0036	0.0010	0.0026
103	0.0037	0.0010	0.0026
104	0.0037	0.0010	0.0027
105	0.0037	0.0011	0.0027
106	0.0038	0.0011	0.0027
107	0.0038	0.0011	0.0027
108	0.0038	0.0011	0.0028
109	0.0039	0.0011	0.0028
110	0.0039	0.0011	0.0028
111	0.0040	0.0011	0.0028
112	0.0040	0.0011	0.0029
113	0.0040	0.0011	0.0029
114	0.0041	0.0011	0.0029
115	0.0041	0.0012	0.0030
116	0.0041	0.0012	0.0030
117	0.0042	0.0012	0.0030
118	0.0042	0.0012	0.0030
119	0.0043	0.0012	0.0031
120	0.0043	0.0012	0.0031
121	0.0044	0.0012	0.0031
122	0.0044	0.0012	0.0032
123	0.0045	0.0013	0.0032
124	0.0045	0.0013	0.0032
125	0.0046	0.0013	0.0033

126	0.0046	0.0013	0.0033
127	0.0047	0.0013	0.0034
128	0.0047	0.0013	0.0034
129	0.0048	0.0013	0.0034
130	0.0048	0.0014	0.0035
131	0.0049	0.0014	0.0035
132	0.0049	0.0014	0.0036
133	0.0050	0.0014	0.0036
134	0.0051	0.0014	0.0036
135	0.0052	0.0015	0.0037
136	0.0052	0.0015	0.0037
137	0.0053	0.0015	0.0038
138	0.0054	0.0015	0.0038
139	0.0055	0.0015	0.0039
140	0.0055	0.0015	0.0040
141	0.0056	0.0016	0.0040
142	0.0057	0.0016	0.0041
143	0.0058	0.0016	0.0042
144	0.0058	0.0016	0.0042
145	0.0039	0.0011	0.0028
146	0.0039	0.0011	0.0028
147	0.0040	0.0011	0.0029
148	0.0040	0.0011	0.0029
149	0.0042	0.0012	0.0030
150	0.0042	0.0012	0.0030
151	0.0043	0.0012	0.0031
152	0.0044	0.0012	0.0032
153	0.0045	0.0013	0.0032
154	0.0046	0.0013	0.0033
155	0.0047	0.0013	0.0034
156	0.0048	0.0013	0.0034
157	0.0049	0.0014	0.0035
158	0.0050	0.0014	0.0036
159	0.0052	0.0015	0.0037
160	0.0053	0.0015	0.0038
161	0.0055	0.0015	0.0039
162	0.0056	0.0016	0.0040
163	0.0058	0.0016	0.0041
164	0.0059	0.0017	0.0042
165	0.0061	0.0017	0.0044
166	0.0062	0.0018	0.0045
167	0.0065	0.0018	0.0047
168	0.0067	0.0019	0.0048
169	0.0075	0.0021	0.0054
170	0.0077	0.0022	0.0055
171	0.0081	0.0023	0.0058
172	0.0083	0.0023	0.0060
173	0.0088	0.0025	0.0063
174	0.0090	0.0025	0.0065
175	0.0096	0.0027	0.0069
176	0.0099	0.0028	0.0071
177	0.0106	0.0030	0.0076
178	0.0110	0.0031	0.0079
179	0.0119	0.0033	0.0085
180	0.0124	0.0035	0.0089
181	0.0136	0.0038	0.0098
182	0.0143	0.0040	0.0103
183	0.0159	0.0045	0.0114
184	0.0169	0.0047	0.0121

185	0.0352	0.0099	0.0253
186	0.0376	0.0106	0.0270
187	0.0436	0.0109	0.0327
188	0.0476	0.0109	0.0367
189	0.0591	0.0109	0.0483
190	0.0681	0.0109	0.0572
191	0.1033	0.0109	0.0925
192	0.1500	0.0109	0.1391
193	0.6490	0.0109	0.6381
194	0.0813	0.0109	0.0705
195	0.0526	0.0109	0.0417
196	0.0403	0.0109	0.0294
197	0.0180	0.0051	0.0129
198	0.0150	0.0042	0.0108
199	0.0130	0.0036	0.0093
200	0.0114	0.0032	0.0082
201	0.0102	0.0029	0.0074
202	0.0093	0.0026	0.0067
203	0.0085	0.0024	0.0061
204	0.0079	0.0022	0.0057
205	0.0068	0.0019	0.0049
206	0.0064	0.0018	0.0046
207	0.0060	0.0017	0.0043
208	0.0057	0.0016	0.0041
209	0.0054	0.0015	0.0039
210	0.0051	0.0014	0.0037
211	0.0049	0.0014	0.0035
212	0.0046	0.0013	0.0033
213	0.0044	0.0012	0.0032
214	0.0043	0.0012	0.0031
215	0.0041	0.0012	0.0029
216	0.0040	0.0011	0.0028
217	0.0059	0.0017	0.0042
218	0.0057	0.0016	0.0041
219	0.0056	0.0016	0.0040
220	0.0054	0.0015	0.0039
221	0.0053	0.0015	0.0038
222	0.0051	0.0014	0.0037
223	0.0050	0.0014	0.0036
224	0.0049	0.0014	0.0035
225	0.0047	0.0013	0.0034
226	0.0046	0.0013	0.0033
227	0.0045	0.0013	0.0033
228	0.0044	0.0012	0.0032
229	0.0043	0.0012	0.0031
230	0.0043	0.0012	0.0031
231	0.0042	0.0012	0.0030
232	0.0041	0.0011	0.0029
233	0.0040	0.0011	0.0029
234	0.0039	0.0011	0.0028
235	0.0039	0.0011	0.0028
236	0.0038	0.0011	0.0027
237	0.0037	0.0010	0.0027
238	0.0037	0.0010	0.0026
239	0.0036	0.0010	0.0026
240	0.0035	0.0010	0.0025
241	0.0035	0.0010	0.0025
242	0.0034	0.0010	0.0025
243	0.0034	0.0009	0.0024

244	0.0033	0.0009	0.0024
245	0.0033	0.0009	0.0024
246	0.0032	0.0009	0.0023
247	0.0032	0.0009	0.0023
248	0.0031	0.0009	0.0023
249	0.0031	0.0009	0.0022
250	0.0031	0.0009	0.0022
251	0.0030	0.0008	0.0022
252	0.0030	0.0008	0.0021
253	0.0029	0.0008	0.0021
254	0.0029	0.0008	0.0021
255	0.0029	0.0008	0.0021
256	0.0028	0.0008	0.0020
257	0.0028	0.0008	0.0020
258	0.0028	0.0008	0.0020
259	0.0027	0.0008	0.0020
260	0.0027	0.0008	0.0019
261	0.0027	0.0008	0.0019
262	0.0026	0.0007	0.0019
263	0.0026	0.0007	0.0019
264	0.0026	0.0007	0.0019
265	0.0026	0.0007	0.0018
266	0.0025	0.0007	0.0018
267	0.0025	0.0007	0.0018
268	0.0025	0.0007	0.0018
269	0.0025	0.0007	0.0018
270	0.0024	0.0007	0.0017
271	0.0024	0.0007	0.0017
272	0.0024	0.0007	0.0017
273	0.0024	0.0007	0.0017
274	0.0023	0.0007	0.0017
275	0.0023	0.0007	0.0017
276	0.0023	0.0006	0.0017
277	0.0023	0.0006	0.0016
278	0.0023	0.0006	0.0016
279	0.0022	0.0006	0.0016
280	0.0022	0.0006	0.0016
281	0.0022	0.0006	0.0016
282	0.0022	0.0006	0.0016
283	0.0022	0.0006	0.0016
284	0.0021	0.0006	0.0015
285	0.0021	0.0006	0.0015
286	0.0021	0.0006	0.0015
287	0.0021	0.0006	0.0015
288	0.0021	0.0006	0.0015

Total soil rain loss = 0.45(In)
Total effective rainfall = 2.07(In)
Peak flow rate in flood hydrograph = 300.53(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

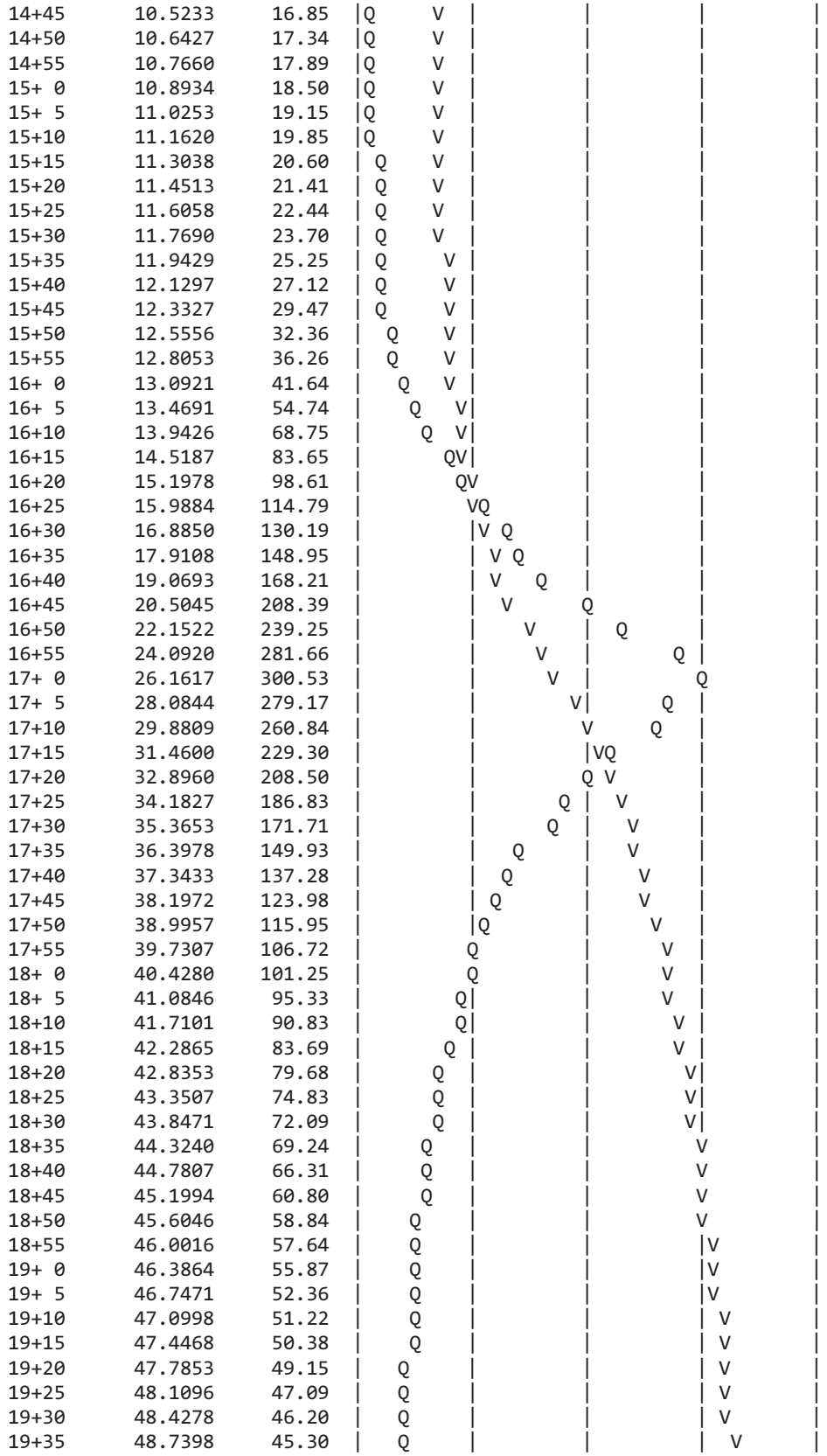
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m) Volume Ac.Ft Q(CFS) 0 100.0 200.0 300.0 400.0

0+ 5	0.0001	0.02	Q				
0+10	0.0005	0.05	Q				
0+15	0.0012	0.10	Q				
0+20	0.0023	0.17	Q				
0+25	0.0041	0.25	Q				
0+30	0.0065	0.35	Q				
0+35	0.0097	0.47	Q				
0+40	0.0138	0.60	Q				
0+45	0.0194	0.81	Q				
0+50	0.0267	1.06	Q				
0+55	0.0364	1.41	Q				
1+ 0	0.0489	1.81	Q				
1+ 5	0.0639	2.18	Q				
1+10	0.0812	2.52	Q				
1+15	0.1005	2.80	Q				
1+20	0.1216	3.06	Q				
1+25	0.1442	3.29	Q				
1+30	0.1683	3.50	Q				
1+35	0.1936	3.68	Q				
1+40	0.2201	3.84	Q				
1+45	0.2475	3.98	Q				
1+50	0.2759	4.12	Q				
1+55	0.3051	4.24	Q				
2+ 0	0.3352	4.36	Q				
2+ 5	0.3660	4.48	Q				
2+10	0.3976	4.59	Q				
2+15	0.4299	4.69	Q				
2+20	0.4629	4.79	Q				
2+25	0.4965	4.88	Q				
2+30	0.5307	4.97	Q				
2+35	0.5655	5.05	Q				
2+40	0.6009	5.14	Q				
2+45	0.6368	5.21	Q				
2+50	0.6732	5.29	Q				
2+55	0.7101	5.36	Q				
3+ 0	0.7476	5.44	Q				
3+ 5	0.7855	5.50	Q				
3+10	0.8239	5.57	Q				
3+15	0.8627	5.64	Q				
3+20	0.9020	5.71	Q				
3+25	0.9417	5.77	Q				
3+30	0.9819	5.83	Q				
3+35	1.0225	5.90	Q				
3+40	1.0636	5.96	Q				
3+45	1.1050	6.02	Q				
3+50	1.1469	6.08	Q				
3+55	1.1892	6.14	Q				
4+ 0	1.2318	6.20	Q				
4+ 5	1.2749	6.25	Q				
4+10	1.3183	6.30	Q				
4+15	1.3621	6.36	Q				
4+20	1.4062	6.41	Q				
4+25	1.4507	6.46	Q				
4+30	1.4956	6.52	QV				
4+35	1.5409	6.57	QV				
4+40	1.5865	6.62	QV				
4+45	1.6325	6.68	QV				
4+50	1.6788	6.73	QV				

4+55	1.7255	6.78	QV				
5+ 0	1.7726	6.83	QV				
5+ 5	1.8200	6.89	QV				
5+10	1.8678	6.94	QV				
5+15	1.9159	6.99	QV				
5+20	1.9644	7.04	QV				
5+25	2.0133	7.09	QV				
5+30	2.0625	7.14	QV				
5+35	2.1120	7.19	QV				
5+40	2.1619	7.25	QV				
5+45	2.2122	7.30	QV				
5+50	2.2628	7.35	QV				
5+55	2.3138	7.41	QV				
6+ 0	2.3652	7.46	QV				
6+ 5	2.4169	7.51	QV				
6+10	2.4690	7.56	QV				
6+15	2.5214	7.61	QV				
6+20	2.5742	7.67	QV				
6+25	2.6274	7.72	QV				
6+30	2.6809	7.77	QV				
6+35	2.7348	7.83	QV				
6+40	2.7891	7.88	QV				
6+45	2.8438	7.94	QV				
6+50	2.8988	7.99	QV				
6+55	2.9542	8.04	Q V				
7+ 0	3.0100	8.10	Q V				
7+ 5	3.0662	8.16	Q V				
7+10	3.1227	8.21	Q V				
7+15	3.1797	8.27	Q V				
7+20	3.2370	8.33	Q V				
7+25	3.2948	8.38	Q V				
7+30	3.3529	8.44	Q V				
7+35	3.4114	8.50	Q V				
7+40	3.4703	8.55	Q V				
7+45	3.5296	8.61	Q V				
7+50	3.5894	8.67	Q V				
7+55	3.6495	8.73	Q V				
8+ 0	3.7101	8.80	Q V				
8+ 5	3.7711	8.86	Q V				
8+10	3.8326	8.92	Q V				
8+15	3.8945	8.99	Q V				
8+20	3.9569	9.06	Q V				
8+25	4.0197	9.12	Q V				
8+30	4.0830	9.19	Q V				
8+35	4.1468	9.26	Q V				
8+40	4.2111	9.33	Q V				
8+45	4.2758	9.40	Q V				
8+50	4.3411	9.48	Q V				
8+55	4.4069	9.55	Q V				
9+ 0	4.4732	9.63	Q V				
9+ 5	4.5400	9.70	Q V				
9+10	4.6073	9.78	Q V				
9+15	4.6752	9.86	Q V				
9+20	4.7437	9.94	Q V				
9+25	4.8127	10.02	|Q V				
9+30	4.8822	10.10	|Q V				
9+35	4.9523	10.18	|Q V				
9+40	5.0230	10.26	|Q V				
9+45	5.0943	10.35	|Q V				

9+50	5.1662	10.44	Q V				
9+55	5.2387	10.53	Q V				
10+ 0	5.3118	10.62	Q V				
10+ 5	5.3855	10.71	Q V				
10+10	5.4600	10.80	Q V				
10+15	5.5350	10.90	Q V				
10+20	5.6107	10.99	Q V				
10+25	5.6871	11.09	Q V				
10+30	5.7642	11.19	Q V				
10+35	5.8420	11.29	Q V				
10+40	5.9205	11.40	Q V				
10+45	5.9997	11.50	Q V				
10+50	6.0797	11.61	Q V				
10+55	6.1605	11.72	Q V				
11+ 0	6.2420	11.84	Q V				
11+ 5	6.3243	11.95	Q V				
11+10	6.4075	12.07	Q V				
11+15	6.4915	12.20	Q V				
11+20	6.5763	12.32	Q V				
11+25	6.6621	12.45	Q V				
11+30	6.7487	12.58	Q V				
11+35	6.8363	12.72	Q V				
11+40	6.9248	12.85	Q V				
11+45	7.0143	13.00	Q V				
11+50	7.1048	13.14	Q V				
11+55	7.1964	13.29	Q V				
12+ 0	7.2889	13.44	Q V				
12+ 5	7.3825	13.58	Q V				
12+10	7.4769	13.71	Q V				
12+15	7.5722	13.83	Q V				
12+20	7.6681	13.93	Q V				
12+25	7.7646	14.02	Q V				
12+30	7.8617	14.10	Q V				
12+35	7.9593	14.16	Q V				
12+40	8.0572	14.22	Q V				
12+45	8.1550	14.20	Q V				
12+50	8.2524	14.14	Q V				
12+55	8.3486	13.98	Q V				
13+ 0	8.4435	13.78	Q V				
13+ 5	8.5373	13.62	Q V				
13+10	8.6301	13.48	Q V				
13+15	8.7225	13.41	Q V				
13+20	8.8146	13.37	Q V				
13+25	8.9066	13.37	Q V				
13+30	8.9988	13.38	Q V				
13+35	9.0914	13.45	Q V				
13+40	9.1846	13.53	Q V				
13+45	9.2786	13.65	Q V				
13+50	9.3735	13.78	Q V				
13+55	9.4695	13.94	Q V				
14+ 0	9.5666	14.11	Q V				
14+ 5	9.6651	14.30	Q V				
14+10	9.7651	14.52	Q V				
14+15	9.8668	14.77	Q V				
14+20	9.9704	15.04	Q V				
14+25	10.0760	15.34	Q V				
14+30	10.1839	15.66	Q V				
14+35	10.2942	16.02	Q V				
14+40	10.4072	16.41	Q V				

14+45	10.5233	16.85	
14+50	10.6427	17.34	
14+55	10.7660	17.89	
15+ 0	10.8934	18.50	
15+ 5	11.0253	19.15	
15+10	11.1620	19.85	
15+15	11.3038	20.60	
15+20	11.4513	21.41	
15+25	11.6058	22.44	
15+30	11.7690	23.70	
15+35	11.9429	25.25	
15+40	12.1297	27.12	
15+45	12.3327	29.47	
15+50	12.5556	32.36	
15+55	12.8053	36.26	
16+ 0	13.0921	41.64	
16+ 5	13.4691	54.74	
16+10	13.9426	68.75	
16+15	14.5187	83.65	
16+20	15.1978	98.61	
16+25	15.9884	114.79	
16+30	16.8850	130.19	
16+35	17.9108	148.95	
16+40	19.0693	168.21	
16+45	20.5045	208.39	
16+50	22.1522	239.25	
16+55	24.0920	281.66	
17+ 0	26.1617	300.53	
17+ 5	28.0844	279.17	
17+10	29.8809	260.84	
17+15	31.4600	229.30	
17+20	32.8960	208.50	
17+25	34.1827	186.83	
17+30	35.3653	171.71	
17+35	36.3978	149.93	
17+40	37.3433	137.28	
17+45	38.1972	123.98	
17+50	38.9957	115.95	
17+55	39.7307	106.72	
18+ 0	40.4280	101.25	
18+ 5	41.0846	95.33	
18+10	41.7101	90.83	
18+15	42.2865	83.69	
18+20	42.8353	79.68	
18+25	43.3507	74.83	
18+30	43.8471	72.09	
18+35	44.3240	69.24	
18+40	44.7807	66.31	
18+45	45.1994	60.80	
18+50	45.6046	58.84	
18+55	46.0016	57.64	
19+ 0	46.3864	55.87	
19+ 5	46.7471	52.36	
19+10	47.0998	51.22	
19+15	47.4468	50.38	
19+20	47.7853	49.15	
19+25	48.1096	47.09	
19+30	48.4278	46.20	
19+35	48.7398	45.30	

19+40	49.0410	43.73	Q			V
19+45	49.3250	41.24	Q			V
19+50	49.6025	40.30	Q			V
19+55	49.8735	39.35	Q			V
20+ 0	50.1318	37.51	Q			V
20+ 5	50.3714	34.79	Q			V
20+10	50.6059	34.05	Q			V
20+15	50.8364	33.47	Q			V
20+20	51.0618	32.73	Q			V
20+25	51.2815	31.90	Q			V
20+30	51.4979	31.42	Q			V
20+35	51.7107	30.90	Q			V
20+40	51.9166	29.90	Q			V
20+45	52.1145	28.73	Q			V
20+50	52.3091	28.27	Q			V
20+55	52.5007	27.81	Q			V
21+ 0	52.6873	27.10	Q			V
21+ 5	52.8690	26.38	Q			V
21+10	53.0476	25.94	Q			V
21+15	53.2227	25.42	Q			V
21+20	53.3890	24.16	Q			V
21+25	53.5478	23.05	Q			V
21+30	53.7042	22.70	Q			V
21+35	53.8584	22.39	Q			V
21+40	54.0106	22.11	Q			V
21+45	54.1609	21.82	Q			V
21+50	54.3089	21.49	Q			V
21+55	54.4540	21.07	Q			V
22+ 0	54.5914	19.94	Q			V
22+ 5	54.7235	19.18	Q			V
22+10	54.8535	18.88	Q			V
22+15	54.9817	18.62	Q			V
22+20	55.1082	18.37	Q			V
22+25	55.2330	18.11	Q			V
22+30	55.3556	17.80	Q			V
22+35	55.4752	17.37	Q			V
22+40	55.5867	16.20	Q			V
22+45	55.6941	15.59	Q			V
22+50	55.7996	15.33	Q			V
22+55	55.9036	15.10	Q			V
23+ 0	56.0061	14.88	Q			V
23+ 5	56.1069	14.65	Q			V
23+10	56.2058	14.36	Q			V
23+15	56.3016	13.90	Q			V
23+20	56.3895	12.76	Q			V
23+25	56.4744	12.33	Q			V
23+30	56.5581	12.15	Q			V
23+35	56.6409	12.02	Q			V
23+40	56.7230	11.92	Q			V
23+45	56.8046	11.85	Q			V
23+50	56.8858	11.79	Q			V
23+55	56.9670	11.80	Q			V
24+ 0	57.0494	11.97	Q			V
24+ 5	57.1315	11.92	Q			V
24+10	57.2129	11.81	Q			V
24+15	57.2933	11.68	Q			V
24+20	57.3728	11.53	Q			V
24+25	57.4511	11.37	Q			V
24+30	57.5281	11.19	Q			V

24+35	57.6037	10.98	|Q	|	|	|	V|
24+40	57.6778	10.75	|Q	|	|	|	V|
24+45	57.7496	10.44	|Q	|	|	|	V|
24+50	57.8190	10.07	|Q	|	|	|	V|
24+55	57.8852	9.61	Q	|	|	|	V|
25+ 0	57.9477	9.08	Q	|	|	|	V|
25+ 5	58.0067	8.57	Q	|	|	|	V|
25+10	58.0621	8.03	Q	|	|	|	V|
25+15	58.1121	7.27	Q	|	|	|	V|
25+20	58.1554	6.29	Q	|	|	|	V|
25+25	58.1962	5.92	Q	|	|	|	V|
25+30	58.2349	5.62	Q	|	|	|	V|
25+35	58.2719	5.36	Q	|	|	|	V|
25+40	58.3072	5.13	Q	|	|	|	V|
25+45	58.3411	4.92	Q	|	|	|	V|
25+50	58.3736	4.71	Q	|	|	|	V|
25+55	58.4046	4.51	Q	|	|	|	V|
26+ 0	58.4342	4.29	Q	|	|	|	V|
26+ 5	58.4621	4.05	Q	|	|	|	V|
26+10	58.4879	3.75	Q	|	|	|	V|
26+15	58.5086	3.01	Q	|	|	|	V|
26+20	58.5247	2.33	Q	|	|	|	V|
26+25	58.5396	2.16	Q	|	|	|	V|
26+30	58.5534	2.02	Q	|	|	|	V|
26+35	58.5665	1.90	Q	|	|	|	V|
26+40	58.5790	1.81	Q	|	|	|	V|
26+45	58.5909	1.72	Q	|	|	|	V|
26+50	58.6022	1.65	Q	|	|	|	V|
26+55	58.6131	1.57	Q	|	|	|	V|
27+ 0	58.6234	1.50	Q	|	|	|	V|
27+ 5	58.6333	1.44	Q	|	|	|	V|
27+10	58.6429	1.38	Q	|	|	|	V|
27+15	58.6520	1.33	Q	|	|	|	V|
27+20	58.6607	1.27	Q	|	|	|	V|
27+25	58.6691	1.21	Q	|	|	|	V|
27+30	58.6771	1.16	Q	|	|	|	V|
27+35	58.6848	1.11	Q	|	|	|	V|
27+40	58.6921	1.06	Q	|	|	|	V|
27+45	58.6991	1.02	Q	|	|	|	V|
27+50	58.7059	0.98	Q	|	|	|	V|
27+55	58.7123	0.94	Q	|	|	|	V|
28+ 0	58.7185	0.90	Q	|	|	|	V|
28+ 5	58.7245	0.87	Q	|	|	|	V|
28+10	58.7302	0.83	Q	|	|	|	V|
28+15	58.7358	0.80	Q	|	|	|	V|
28+20	58.7411	0.77	Q	|	|	|	V|
28+25	58.7462	0.74	Q	|	|	|	V|
28+30	58.7510	0.71	Q	|	|	|	V|
28+35	58.7557	0.68	Q	|	|	|	V|
28+40	58.7602	0.65	Q	|	|	|	V|
28+45	58.7644	0.62	Q	|	|	|	V|
28+50	58.7686	0.60	Q	|	|	|	V|
28+55	58.7725	0.57	Q	|	|	|	V|
29+ 0	58.7762	0.55	Q	|	|	|	V|
29+ 5	58.7798	0.52	Q	|	|	|	V|
29+10	58.7833	0.50	Q	|	|	|	V|
29+15	58.7866	0.48	Q	|	|	|	V|
29+20	58.7897	0.46	Q	|	|	|	V|
29+25	58.7927	0.44	Q	|	|	|	V|

29+30	58.7956	0.42	Q	|	|	|	V|
29+35	58.7984	0.40	Q	|	|	|	V|
29+40	58.8010	0.38	Q	|	|	|	V|
29+45	58.8036	0.37	Q	|	|	|	V|
29+50	58.8060	0.35	Q	|	|	|	V|
29+55	58.8083	0.33	Q	|	|	|	V|
30+ 0	58.8105	0.32	Q	|	|	|	V|
30+ 5	58.8126	0.31	Q	|	|	|	V|
30+10	58.8146	0.29	Q	|	|	|	V|
30+15	58.8165	0.28	Q	|	|	|	V|
30+20	58.8183	0.27	Q	|	|	|	V|
30+25	58.8201	0.25	Q	|	|	|	V|
30+30	58.8217	0.24	Q	|	|	|	V|
30+35	58.8233	0.23	Q	|	|	|	V|
30+40	58.8248	0.22	Q	|	|	|	V|
30+45	58.8262	0.21	Q	|	|	|	V|
30+50	58.8276	0.20	Q	|	|	|	V|
30+55	58.8289	0.19	Q	|	|	|	V|
31+ 0	58.8302	0.18	Q	|	|	|	V|
31+ 5	58.8313	0.17	Q	|	|	|	V|
31+10	58.8325	0.16	Q	|	|	|	V|
31+15	58.8335	0.16	Q	|	|	|	V|
31+20	58.8346	0.15	Q	|	|	|	V|
31+25	58.8356	0.14	Q	|	|	|	V|
31+30	58.8365	0.14	Q	|	|	|	V|
31+35	58.8374	0.13	Q	|	|	|	V|
31+40	58.8383	0.13	Q	|	|	|	V|
31+45	58.8392	0.12	Q	|	|	|	V|
31+50	58.8400	0.12	Q	|	|	|	V|
31+55	58.8408	0.11	Q	|	|	|	V|
32+ 0	58.8415	0.11	Q	|	|	|	V|
32+ 5	58.8422	0.10	Q	|	|	|	V|
32+10	58.8429	0.10	Q	|	|	|	V|
32+15	58.8435	0.09	Q	|	|	|	V|
32+20	58.8441	0.09	Q	|	|	|	V|
32+25	58.8447	0.08	Q	|	|	|	V|
32+30	58.8452	0.07	Q	|	|	|	V|
32+35	58.8457	0.07	Q	|	|	|	V|
32+40	58.8461	0.06	Q	|	|	|	V|
32+45	58.8465	0.06	Q	|	|	|	V|
32+50	58.8469	0.05	Q	|	|	|	V|
32+55	58.8472	0.05	Q	|	|	|	V|
33+ 0	58.8475	0.04	Q	|	|	|	V|
33+ 5	58.8478	0.04	Q	|	|	|	V|
33+10	58.8480	0.03	Q	|	|	|	V|
33+15	58.8482	0.03	Q	|	|	|	V|
33+20	58.8484	0.03	Q	|	|	|	V|
33+25	58.8486	0.02	Q	|	|	|	V|
33+30	58.8487	0.02	Q	|	|	|	V|
33+35	58.8488	0.02	Q	|	|	|	V|
33+40	58.8490	0.02	Q	|	|	|	V|
33+45	58.8490	0.01	Q	|	|	|	V|
33+50	58.8491	0.01	Q	|	|	|	V|
33+55	58.8492	0.01	Q	|	|	|	V|
34+ 0	58.8492	0.01	Q	|	|	|	V|
34+ 5	58.8493	0.00	Q	|	|	|	V|
34+10	58.8493	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 27
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
6.15	1	1.38
Rainfall data for year 100		
6.15	6	1.82
Rainfall data for year 100		
6.15	24	2.51

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	6.15	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
5.54	0.900	78.0	92.8	0.78	0.706
0.61	0.100	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.726
Area-averaged low loss fraction, Yb = 0.274
User entry of time of concentration = 0.270 (hours)
++
Watershed area = 6.15(Ac.)
Catchment Lag time = 0.216 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 38.5802
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.274 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.655(In)
Computed peak 30-minute rainfall = 1.121(In)
Specified peak 1-hour rainfall = 1.380(In)
Computed peak 3-hour rainfall = 1.635(In)
Specified peak 6-hour rainfall = 1.820(In)
Specified peak 24-hour rainfall = 2.510(In)

Rainfall depth area reduction factors:
Using a total area of 6.15(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.655(In)
30-minute factor = 1.000 Adjusted rainfall = 1.121(In)
1-hour factor = 1.000 Adjusted rainfall = 1.380(In)
3-hour factor = 1.000 Adjusted rainfall = 1.635(In)
6-hour factor = 1.000 Adjusted rainfall = 1.820(In)
24-hour factor = 1.000 Adjusted rainfall = 2.510(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 74.38 (CFS))	
1	2.595	1.930
2	17.110	10.796
3	47.025	22.250
4	64.168	12.750
5	73.585	7.004
6	79.873	4.677
7	84.321	3.308
8	87.824	2.605
9	90.350	1.879
10	92.386	1.514
11	94.047	1.236
12	95.367	0.982
13	96.438	0.796

14	97.275	0.622
15	97.884	0.453
16	98.288	0.300
17	98.739	0.336
18	99.202	0.344
19	99.584	0.284
20	99.827	0.181
21	100.000	0.129

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6546	0.6546
2	0.8060	0.1513
3	0.9102	0.1042
4	0.9922	0.0820
5	1.0609	0.0687
6	1.1206	0.0596
7	1.1736	0.0530
8	1.2216	0.0480
9	1.2655	0.0439
10	1.3062	0.0406
11	1.3441	0.0379
12	1.3796	0.0355
13	1.3968	0.0172
14	1.4129	0.0161
15	1.4281	0.0152
16	1.4424	0.0143
17	1.4560	0.0136
18	1.4689	0.0129
19	1.4812	0.0123
20	1.4930	0.0118
21	1.5044	0.0113
22	1.5152	0.0109
23	1.5257	0.0105
24	1.5357	0.0101
25	1.5455	0.0097
26	1.5549	0.0094
27	1.5640	0.0091
28	1.5728	0.0088
29	1.5814	0.0086
30	1.5897	0.0083
31	1.5978	0.0081
32	1.6056	0.0079
33	1.6133	0.0077
34	1.6208	0.0075
35	1.6280	0.0073
36	1.6352	0.0071
37	1.6421	0.0069
38	1.6489	0.0068
39	1.6555	0.0066
40	1.6620	0.0065
41	1.6683	0.0064
42	1.6746	0.0062
43	1.6807	0.0061
44	1.6866	0.0060
45	1.6925	0.0059
46	1.6983	0.0058
47	1.7039	0.0057
48	1.7095	0.0056

49	1.7149	0.0055
50	1.7203	0.0054
51	1.7255	0.0053
52	1.7307	0.0052
53	1.7358	0.0051
54	1.7409	0.0050
55	1.7458	0.0049
56	1.7507	0.0049
57	1.7555	0.0048
58	1.7602	0.0047
59	1.7648	0.0047
60	1.7694	0.0046
61	1.7739	0.0045
62	1.7784	0.0045
63	1.7828	0.0044
64	1.7871	0.0043
65	1.7914	0.0043
66	1.7957	0.0042
67	1.7998	0.0042
68	1.8040	0.0041
69	1.8080	0.0041
70	1.8121	0.0040
71	1.8160	0.0040
72	1.8200	0.0039
73	1.8258	0.0058
74	1.8316	0.0058
75	1.8373	0.0057
76	1.8429	0.0057
77	1.8485	0.0056
78	1.8541	0.0055
79	1.8595	0.0055
80	1.8650	0.0054
81	1.8704	0.0054
82	1.8757	0.0053
83	1.8810	0.0053
84	1.8862	0.0052
85	1.8914	0.0052
86	1.8965	0.0051
87	1.9016	0.0051
88	1.9067	0.0050
89	1.9117	0.0050
90	1.9166	0.0050
91	1.9215	0.0049
92	1.9264	0.0049
93	1.9312	0.0048
94	1.9360	0.0048
95	1.9408	0.0048
96	1.9455	0.0047
97	1.9502	0.0047
98	1.9548	0.0046
99	1.9594	0.0046
100	1.9640	0.0046
101	1.9686	0.0045
102	1.9731	0.0045
103	1.9775	0.0045
104	1.9820	0.0044
105	1.9864	0.0044
106	1.9907	0.0044
107	1.9951	0.0043

108	1.9994	0.0043
109	2.0037	0.0043
110	2.0079	0.0042
111	2.0121	0.0042
112	2.0163	0.0042
113	2.0205	0.0042
114	2.0246	0.0041
115	2.0287	0.0041
116	2.0328	0.0041
117	2.0368	0.0041
118	2.0409	0.0040
119	2.0449	0.0040
120	2.0488	0.0040
121	2.0528	0.0039
122	2.0567	0.0039
123	2.0606	0.0039
124	2.0645	0.0039
125	2.0683	0.0038
126	2.0721	0.0038
127	2.0759	0.0038
128	2.0797	0.0038
129	2.0835	0.0038
130	2.0872	0.0037
131	2.0909	0.0037
132	2.0946	0.0037
133	2.0983	0.0037
134	2.1019	0.0036
135	2.1056	0.0036
136	2.1092	0.0036
137	2.1128	0.0036
138	2.1163	0.0036
139	2.1199	0.0035
140	2.1234	0.0035
141	2.1269	0.0035
142	2.1304	0.0035
143	2.1339	0.0035
144	2.1373	0.0035
145	2.1407	0.0034
146	2.1442	0.0034
147	2.1475	0.0034
148	2.1509	0.0034
149	2.1543	0.0034
150	2.1576	0.0033
151	2.1610	0.0033
152	2.1643	0.0033
153	2.1676	0.0033
154	2.1708	0.0033
155	2.1741	0.0033
156	2.1773	0.0032
157	2.1806	0.0032
158	2.1838	0.0032
159	2.1870	0.0032
160	2.1902	0.0032
161	2.1933	0.0032
162	2.1965	0.0032
163	2.1996	0.0031
164	2.2027	0.0031
165	2.2058	0.0031
166	2.2089	0.0031

167	2.2120	0.0031
168	2.2151	0.0031
169	2.2181	0.0031
170	2.2212	0.0030
171	2.2242	0.0030
172	2.2272	0.0030
173	2.2302	0.0030
174	2.2332	0.0030
175	2.2362	0.0030
176	2.2391	0.0030
177	2.2421	0.0029
178	2.2450	0.0029
179	2.2479	0.0029
180	2.2508	0.0029
181	2.2537	0.0029
182	2.2566	0.0029
183	2.2595	0.0029
184	2.2623	0.0029
185	2.2652	0.0028
186	2.2680	0.0028
187	2.2708	0.0028
188	2.2736	0.0028
189	2.2764	0.0028
190	2.2792	0.0028
191	2.2820	0.0028
192	2.2847	0.0028
193	2.2875	0.0028
194	2.2902	0.0027
195	2.2930	0.0027
196	2.2957	0.0027
197	2.2984	0.0027
198	2.3011	0.0027
199	2.3038	0.0027
200	2.3065	0.0027
201	2.3091	0.0027
202	2.3118	0.0027
203	2.3145	0.0026
204	2.3171	0.0026
205	2.3197	0.0026
206	2.3223	0.0026
207	2.3249	0.0026
208	2.3275	0.0026
209	2.3301	0.0026
210	2.3327	0.0026
211	2.3353	0.0026
212	2.3379	0.0026
213	2.3404	0.0026
214	2.3429	0.0025
215	2.3455	0.0025
216	2.3480	0.0025
217	2.3505	0.0025
218	2.3530	0.0025
219	2.3555	0.0025
220	2.3580	0.0025
221	2.3605	0.0025
222	2.3630	0.0025
223	2.3654	0.0025
224	2.3679	0.0025
225	2.3703	0.0024

226	2.3728	0.0024
227	2.3752	0.0024
228	2.3776	0.0024
229	2.3800	0.0024
230	2.3824	0.0024
231	2.3848	0.0024
232	2.3872	0.0024
233	2.3896	0.0024
234	2.3920	0.0024
235	2.3944	0.0024
236	2.3967	0.0024
237	2.3991	0.0024
238	2.4014	0.0023
239	2.4037	0.0023
240	2.4061	0.0023
241	2.4084	0.0023
242	2.4107	0.0023
243	2.4130	0.0023
244	2.4153	0.0023
245	2.4176	0.0023
246	2.4199	0.0023
247	2.4222	0.0023
248	2.4244	0.0023
249	2.4267	0.0023
250	2.4290	0.0023
251	2.4312	0.0022
252	2.4335	0.0022
253	2.4357	0.0022
254	2.4379	0.0022
255	2.4401	0.0022
256	2.4424	0.0022
257	2.4446	0.0022
258	2.4468	0.0022
259	2.4490	0.0022
260	2.4512	0.0022
261	2.4533	0.0022
262	2.4555	0.0022
263	2.4577	0.0022
264	2.4598	0.0022
265	2.4620	0.0022
266	2.4642	0.0022
267	2.4663	0.0021
268	2.4684	0.0021
269	2.4706	0.0021
270	2.4727	0.0021
271	2.4748	0.0021
272	2.4769	0.0021
273	2.4790	0.0021
274	2.4811	0.0021
275	2.4832	0.0021
276	2.4853	0.0021
277	2.4874	0.0021
278	2.4895	0.0021
279	2.4916	0.0021
280	2.4936	0.0021
281	2.4957	0.0021
282	2.4978	0.0021
283	2.4998	0.0021
284	2.5019	0.0020

285	2.5039	0.0020
286	2.5059	0.0020
287	2.5080	0.0020
288	2.5100	0.0020

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0020	0.0006	0.0015
2	0.0020	0.0006	0.0015
3	0.0020	0.0006	0.0015
4	0.0020	0.0006	0.0015
5	0.0021	0.0006	0.0015
6	0.0021	0.0006	0.0015
7	0.0021	0.0006	0.0015
8	0.0021	0.0006	0.0015
9	0.0021	0.0006	0.0015
10	0.0021	0.0006	0.0015
11	0.0021	0.0006	0.0015
12	0.0021	0.0006	0.0015
13	0.0021	0.0006	0.0015
14	0.0021	0.0006	0.0015
15	0.0021	0.0006	0.0016
16	0.0022	0.0006	0.0016
17	0.0022	0.0006	0.0016
18	0.0022	0.0006	0.0016
19	0.0022	0.0006	0.0016
20	0.0022	0.0006	0.0016
21	0.0022	0.0006	0.0016
22	0.0022	0.0006	0.0016
23	0.0022	0.0006	0.0016
24	0.0022	0.0006	0.0016
25	0.0022	0.0006	0.0016
26	0.0022	0.0006	0.0016
27	0.0023	0.0006	0.0016
28	0.0023	0.0006	0.0016
29	0.0023	0.0006	0.0017
30	0.0023	0.0006	0.0017
31	0.0023	0.0006	0.0017
32	0.0023	0.0006	0.0017
33	0.0023	0.0006	0.0017
34	0.0023	0.0006	0.0017
35	0.0024	0.0006	0.0017
36	0.0024	0.0006	0.0017
37	0.0024	0.0007	0.0017
38	0.0024	0.0007	0.0017
39	0.0024	0.0007	0.0017
40	0.0024	0.0007	0.0017
41	0.0024	0.0007	0.0018
42	0.0024	0.0007	0.0018
43	0.0024	0.0007	0.0018
44	0.0025	0.0007	0.0018
45	0.0025	0.0007	0.0018
46	0.0025	0.0007	0.0018
47	0.0025	0.0007	0.0018
48	0.0025	0.0007	0.0018
49	0.0025	0.0007	0.0018
50	0.0025	0.0007	0.0018

51	0.0026	0.0007	0.0019
52	0.0026	0.0007	0.0019
53	0.0026	0.0007	0.0019
54	0.0026	0.0007	0.0019
55	0.0026	0.0007	0.0019
56	0.0026	0.0007	0.0019
57	0.0026	0.0007	0.0019
58	0.0026	0.0007	0.0019
59	0.0027	0.0007	0.0019
60	0.0027	0.0007	0.0019
61	0.0027	0.0007	0.0020
62	0.0027	0.0007	0.0020
63	0.0027	0.0007	0.0020
64	0.0027	0.0008	0.0020
65	0.0028	0.0008	0.0020
66	0.0028	0.0008	0.0020
67	0.0028	0.0008	0.0020
68	0.0028	0.0008	0.0020
69	0.0028	0.0008	0.0021
70	0.0028	0.0008	0.0021
71	0.0029	0.0008	0.0021
72	0.0029	0.0008	0.0021
73	0.0029	0.0008	0.0021
74	0.0029	0.0008	0.0021
75	0.0029	0.0008	0.0021
76	0.0030	0.0008	0.0021
77	0.0030	0.0008	0.0022
78	0.0030	0.0008	0.0022
79	0.0030	0.0008	0.0022
80	0.0030	0.0008	0.0022
81	0.0031	0.0008	0.0022
82	0.0031	0.0008	0.0022
83	0.0031	0.0009	0.0023
84	0.0031	0.0009	0.0023
85	0.0032	0.0009	0.0023
86	0.0032	0.0009	0.0023
87	0.0032	0.0009	0.0023
88	0.0032	0.0009	0.0023
89	0.0032	0.0009	0.0024
90	0.0033	0.0009	0.0024
91	0.0033	0.0009	0.0024
92	0.0033	0.0009	0.0024
93	0.0033	0.0009	0.0024
94	0.0034	0.0009	0.0024
95	0.0034	0.0009	0.0025
96	0.0034	0.0009	0.0025
97	0.0035	0.0009	0.0025
98	0.0035	0.0010	0.0025
99	0.0035	0.0010	0.0025
100	0.0035	0.0010	0.0026
101	0.0036	0.0010	0.0026
102	0.0036	0.0010	0.0026
103	0.0036	0.0010	0.0026
104	0.0036	0.0010	0.0026
105	0.0037	0.0010	0.0027
106	0.0037	0.0010	0.0027
107	0.0038	0.0010	0.0027
108	0.0038	0.0010	0.0027
109	0.0038	0.0010	0.0028

110	0.0038	0.0011	0.0028
111	0.0039	0.0011	0.0028
112	0.0039	0.0011	0.0028
113	0.0040	0.0011	0.0029
114	0.0040	0.0011	0.0029
115	0.0041	0.0011	0.0029
116	0.0041	0.0011	0.0030
117	0.0041	0.0011	0.0030
118	0.0042	0.0011	0.0030
119	0.0042	0.0012	0.0031
120	0.0042	0.0012	0.0031
121	0.0043	0.0012	0.0031
122	0.0043	0.0012	0.0032
123	0.0044	0.0012	0.0032
124	0.0044	0.0012	0.0032
125	0.0045	0.0012	0.0033
126	0.0045	0.0012	0.0033
127	0.0046	0.0013	0.0033
128	0.0046	0.0013	0.0034
129	0.0047	0.0013	0.0034
130	0.0048	0.0013	0.0035
131	0.0048	0.0013	0.0035
132	0.0049	0.0013	0.0035
133	0.0050	0.0014	0.0036
134	0.0050	0.0014	0.0036
135	0.0051	0.0014	0.0037
136	0.0051	0.0014	0.0037
137	0.0052	0.0014	0.0038
138	0.0053	0.0014	0.0038
139	0.0054	0.0015	0.0039
140	0.0054	0.0015	0.0039
141	0.0055	0.0015	0.0040
142	0.0056	0.0015	0.0041
143	0.0057	0.0016	0.0041
144	0.0058	0.0016	0.0042
145	0.0039	0.0011	0.0029
146	0.0040	0.0011	0.0029
147	0.0041	0.0011	0.0030
148	0.0041	0.0011	0.0030
149	0.0042	0.0012	0.0031
150	0.0043	0.0012	0.0031
151	0.0044	0.0012	0.0032
152	0.0045	0.0012	0.0032
153	0.0046	0.0013	0.0033
154	0.0047	0.0013	0.0034
155	0.0048	0.0013	0.0035
156	0.0049	0.0013	0.0035
157	0.0050	0.0014	0.0036
158	0.0051	0.0014	0.0037
159	0.0053	0.0014	0.0038
160	0.0054	0.0015	0.0039
161	0.0056	0.0015	0.0040
162	0.0057	0.0015	0.0041
163	0.0059	0.0016	0.0043
164	0.0060	0.0016	0.0043
165	0.0062	0.0017	0.0045
166	0.0064	0.0017	0.0046
167	0.0066	0.0018	0.0048
168	0.0068	0.0019	0.0049

169	0.0071	0.0019	0.0052
170	0.0073	0.0020	0.0053
171	0.0077	0.0021	0.0056
172	0.0079	0.0022	0.0057
173	0.0083	0.0023	0.0060
174	0.0086	0.0023	0.0062
175	0.0091	0.0025	0.0066
176	0.0094	0.0026	0.0068
177	0.0101	0.0028	0.0073
178	0.0105	0.0029	0.0076
179	0.0113	0.0031	0.0082
180	0.0118	0.0032	0.0086
181	0.0129	0.0035	0.0094
182	0.0136	0.0037	0.0099
183	0.0152	0.0042	0.0110
184	0.0161	0.0044	0.0117
185	0.0355	0.0097	0.0258
186	0.0379	0.0104	0.0275
187	0.0439	0.0105	0.0334
188	0.0480	0.0105	0.0375
189	0.0596	0.0105	0.0491
190	0.0687	0.0105	0.0582
191	0.1042	0.0105	0.0937
192	0.1513	0.0105	0.1408
193	0.6546	0.0105	0.6441
194	0.0820	0.0105	0.0715
195	0.0530	0.0105	0.0425
196	0.0406	0.0105	0.0301
197	0.0172	0.0047	0.0125
198	0.0143	0.0039	0.0104
199	0.0123	0.0034	0.0090
200	0.0109	0.0030	0.0079
201	0.0097	0.0027	0.0071
202	0.0088	0.0024	0.0064
203	0.0081	0.0022	0.0059
204	0.0075	0.0020	0.0054
205	0.0069	0.0019	0.0050
206	0.0065	0.0018	0.0047
207	0.0061	0.0017	0.0044
208	0.0058	0.0016	0.0042
209	0.0055	0.0015	0.0040
210	0.0052	0.0014	0.0038
211	0.0049	0.0014	0.0036
212	0.0047	0.0013	0.0034
213	0.0045	0.0012	0.0033
214	0.0043	0.0012	0.0032
215	0.0042	0.0011	0.0030
216	0.0040	0.0011	0.0029
217	0.0058	0.0016	0.0042
218	0.0057	0.0015	0.0041
219	0.0055	0.0015	0.0040
220	0.0053	0.0015	0.0039
221	0.0052	0.0014	0.0038
222	0.0050	0.0014	0.0037
223	0.0049	0.0013	0.0036
224	0.0048	0.0013	0.0035
225	0.0047	0.0013	0.0034
226	0.0046	0.0013	0.0033
227	0.0045	0.0012	0.0032

228	0.0044	0.0012	0.0032
229	0.0043	0.0012	0.0031
230	0.0042	0.0011	0.0030
231	0.0041	0.0011	0.0030
232	0.0040	0.0011	0.0029
233	0.0039	0.0011	0.0029
234	0.0039	0.0011	0.0028
235	0.0038	0.0010	0.0028
236	0.0037	0.0010	0.0027
237	0.0037	0.0010	0.0027
238	0.0036	0.0010	0.0026
239	0.0035	0.0010	0.0026
240	0.0035	0.0010	0.0025
241	0.0034	0.0009	0.0025
242	0.0034	0.0009	0.0025
243	0.0033	0.0009	0.0024
244	0.0033	0.0009	0.0024
245	0.0032	0.0009	0.0023
246	0.0032	0.0009	0.0023
247	0.0031	0.0009	0.0023
248	0.0031	0.0008	0.0022
249	0.0031	0.0008	0.0022
250	0.0030	0.0008	0.0022
251	0.0030	0.0008	0.0022
252	0.0029	0.0008	0.0021
253	0.0029	0.0008	0.0021
254	0.0029	0.0008	0.0021
255	0.0028	0.0008	0.0020
256	0.0028	0.0008	0.0020
257	0.0028	0.0008	0.0020
258	0.0027	0.0007	0.0020
259	0.0027	0.0007	0.0020
260	0.0027	0.0007	0.0019
261	0.0026	0.0007	0.0019
262	0.0026	0.0007	0.0019
263	0.0026	0.0007	0.0019
264	0.0025	0.0007	0.0018
265	0.0025	0.0007	0.0018
266	0.0025	0.0007	0.0018
267	0.0025	0.0007	0.0018
268	0.0024	0.0007	0.0018
269	0.0024	0.0007	0.0018
270	0.0024	0.0007	0.0017
271	0.0024	0.0006	0.0017
272	0.0023	0.0006	0.0017
273	0.0023	0.0006	0.0017
274	0.0023	0.0006	0.0017
275	0.0023	0.0006	0.0017
276	0.0023	0.0006	0.0016
277	0.0022	0.0006	0.0016
278	0.0022	0.0006	0.0016
279	0.0022	0.0006	0.0016
280	0.0022	0.0006	0.0016
281	0.0022	0.0006	0.0016
282	0.0021	0.0006	0.0016
283	0.0021	0.0006	0.0015
284	0.0021	0.0006	0.0015
285	0.0021	0.0006	0.0015
286	0.0021	0.0006	0.0015

287	0.0021	0.0006	0.0015
288	0.0020	0.0006	0.0015

Total soil rain loss = 0.43(In)
Total effective rainfall = 2.08(In)
Peak flow rate in flood hydrograph = 18.35(CFS)

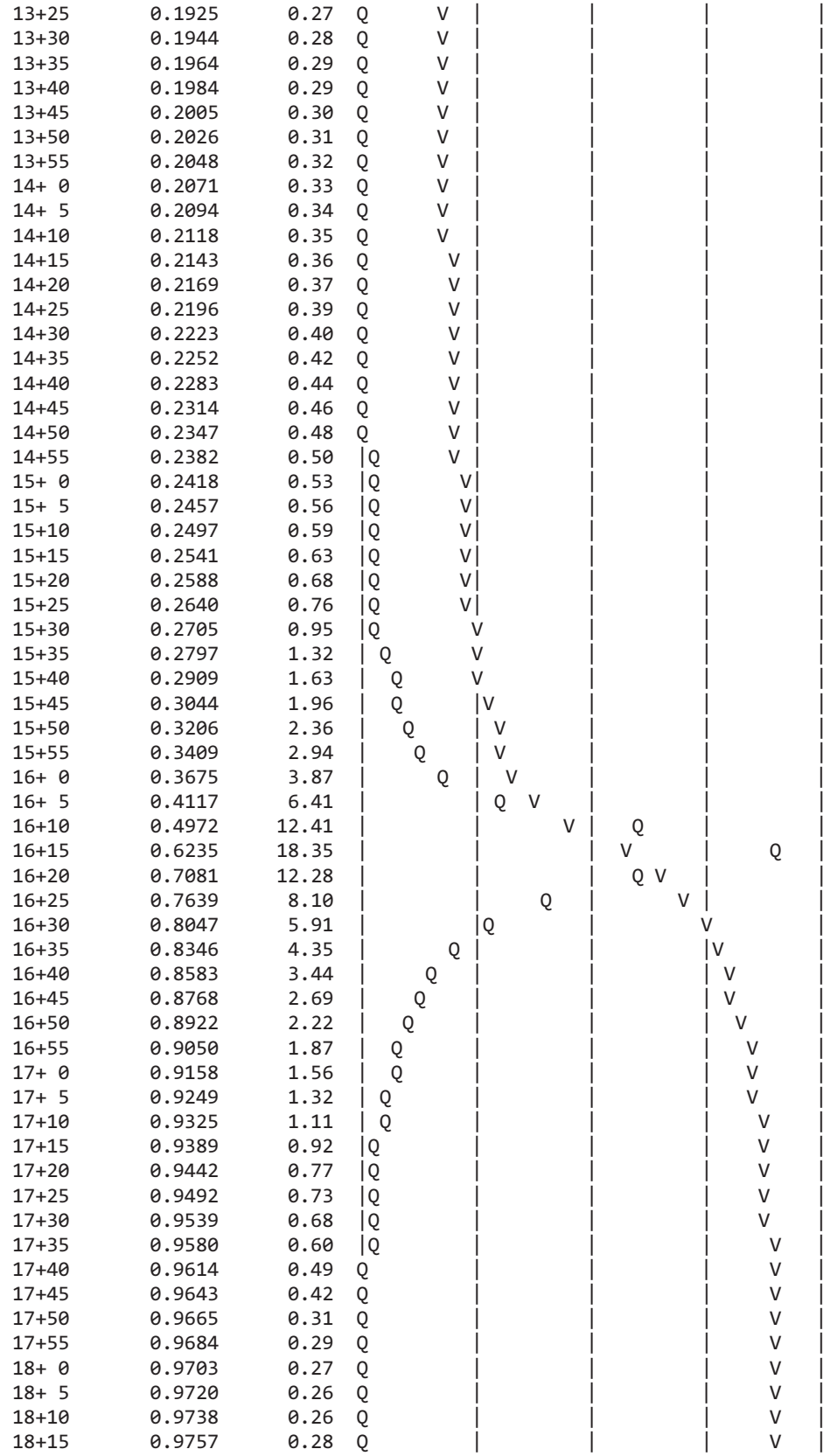
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0005	0.05	Q				
0+20	0.0010	0.07	Q				
0+25	0.0015	0.08	Q				
0+30	0.0022	0.09	Q				
0+35	0.0028	0.09	Q				
0+40	0.0035	0.10	Q				
0+45	0.0042	0.10	Q				
0+50	0.0049	0.10	Q				
0+55	0.0056	0.11	Q				
1+ 0	0.0063	0.11	Q				
1+ 5	0.0071	0.11	Q				
1+10	0.0079	0.11	Q				
1+15	0.0086	0.11	Q				
1+20	0.0094	0.11	Q				
1+25	0.0102	0.11	Q				
1+30	0.0110	0.11	Q				
1+35	0.0118	0.12	Q				
1+40	0.0126	0.12	Q				
1+45	0.0134	0.12	Q				
1+50	0.0142	0.12	Q				
1+55	0.0150	0.12	Q				
2+ 0	0.0158	0.12	Q				
2+ 5	0.0166	0.12	Q				
2+10	0.0174	0.12	Q				
2+15	0.0183	0.12	Q				
2+20	0.0191	0.12	Q				
2+25	0.0199	0.12	Q				
2+30	0.0208	0.12	Q				
2+35	0.0216	0.12	Q				
2+40	0.0225	0.12	Q				
2+45	0.0233	0.12	Q				
2+50	0.0242	0.12	Q				
2+55	0.0250	0.12	Q				
3+ 0	0.0259	0.13	Q				
3+ 5	0.0267	0.13	QV				
3+10	0.0276	0.13	QV				
3+15	0.0285	0.13	QV				
3+20	0.0294	0.13	QV				
3+25	0.0303	0.13	QV				
3+30	0.0311	0.13	QV				

3+35	0.0320	0.13	QV				
3+40	0.0329	0.13	QV				
3+45	0.0338	0.13	QV				
3+50	0.0347	0.13	QV				
3+55	0.0356	0.13	QV				
4+ 0	0.0366	0.13	QV				
4+ 5	0.0375	0.13	QV				
4+10	0.0384	0.13	QV				
4+15	0.0393	0.13	QV				
4+20	0.0403	0.14	QV				
4+25	0.0412	0.14	QV				
4+30	0.0422	0.14	QV				
4+35	0.0431	0.14	QV				
4+40	0.0441	0.14	QV				
4+45	0.0450	0.14	QV				
4+50	0.0460	0.14	QV				
4+55	0.0470	0.14	QV				
5+ 0	0.0479	0.14	QV				
5+ 5	0.0489	0.14	QV				
5+10	0.0499	0.14	QV				
5+15	0.0509	0.14	QV				
5+20	0.0519	0.14	QV				
5+25	0.0529	0.15	QV				
5+30	0.0539	0.15	Q V				
5+35	0.0549	0.15	Q V				
5+40	0.0559	0.15	Q V				
5+45	0.0570	0.15	Q V				
5+50	0.0580	0.15	Q V				
5+55	0.0590	0.15	Q V				
6+ 0	0.0601	0.15	Q V				
6+ 5	0.0612	0.15	Q V				
6+10	0.0622	0.15	Q V				
6+15	0.0633	0.15	Q V				
6+20	0.0644	0.16	Q V				
6+25	0.0654	0.16	Q V				
6+30	0.0665	0.16	Q V				
6+35	0.0676	0.16	Q V				
6+40	0.0687	0.16	Q V				
6+45	0.0698	0.16	Q V				
6+50	0.0709	0.16	Q V				
6+55	0.0721	0.16	Q V				
7+ 0	0.0732	0.16	Q V				
7+ 5	0.0743	0.17	Q V				
7+10	0.0755	0.17	Q V				
7+15	0.0766	0.17	Q V				
7+20	0.0778	0.17	Q V				
7+25	0.0790	0.17	Q V				
7+30	0.0802	0.17	Q V				
7+35	0.0814	0.17	Q V				
7+40	0.0826	0.17	Q V				
7+45	0.0838	0.18	Q V				
7+50	0.0850	0.18	Q V				
7+55	0.0862	0.18	Q V				
8+ 0	0.0874	0.18	Q V				
8+ 5	0.0887	0.18	Q V				
8+10	0.0899	0.18	Q V				
8+15	0.0912	0.18	Q V				
8+20	0.0925	0.18	Q V				
8+25	0.0938	0.19	Q V				

8+30	0.0951	0.19	Q	V				
8+35	0.0964	0.19	Q	V				
8+40	0.0977	0.19	Q	V				
8+45	0.0990	0.19	Q	V				
8+50	0.1003	0.19	Q	V				
8+55	0.1017	0.20	Q	V				
9+ 0	0.1031	0.20	Q	V				
9+ 5	0.1044	0.20	Q	V				
9+10	0.1058	0.20	Q	V				
9+15	0.1072	0.20	Q	V				
9+20	0.1086	0.20	Q	V				
9+25	0.1100	0.21	Q	V				
9+30	0.1115	0.21	Q	V				
9+35	0.1129	0.21	Q	V				
9+40	0.1144	0.21	Q	V				
9+45	0.1159	0.21	Q	V				
9+50	0.1174	0.22	Q	V				
9+55	0.1189	0.22	Q	V				
10+ 0	0.1204	0.22	Q	V				
10+ 5	0.1219	0.22	Q	V				
10+10	0.1235	0.23	Q	V				
10+15	0.1251	0.23	Q	V				
10+20	0.1266	0.23	Q	V				
10+25	0.1283	0.23	Q	V				
10+30	0.1299	0.24	Q	V				
10+35	0.1315	0.24	Q	V				
10+40	0.1332	0.24	Q	V				
10+45	0.1348	0.24	Q	V				
10+50	0.1365	0.25	Q	V				
10+55	0.1383	0.25	Q	V				
11+ 0	0.1400	0.25	Q	V				
11+ 5	0.1418	0.26	Q	V				
11+10	0.1435	0.26	Q	V				
11+15	0.1453	0.26	Q	V				
11+20	0.1472	0.26	Q	V				
11+25	0.1490	0.27	Q	V				
11+30	0.1509	0.27	Q	V				
11+35	0.1528	0.28	Q	V				
11+40	0.1547	0.28	Q	V				
11+45	0.1566	0.28	Q	V				
11+50	0.1586	0.29	Q	V				
11+55	0.1606	0.29	Q	V				
12+ 0	0.1627	0.30	Q	V				
12+ 5	0.1647	0.30	Q	V				
12+10	0.1667	0.29	Q	V				
12+15	0.1685	0.26	Q	V				
12+20	0.1702	0.25	Q	V				
12+25	0.1718	0.24	Q	V				
12+30	0.1734	0.24	Q	V				
12+35	0.1751	0.24	Q	V				
12+40	0.1767	0.24	Q	V				
12+45	0.1783	0.24	Q	V				
12+50	0.1800	0.24	Q	V				
12+55	0.1817	0.24	Q	V				
13+ 0	0.1834	0.25	Q	V				
13+ 5	0.1851	0.25	Q	V				
13+10	0.1869	0.26	Q	V				
13+15	0.1887	0.26	Q	V				
13+20	0.1906	0.27	Q	V				



13+25	0.1925	0.27	
13+30	0.1944	0.28	
13+35	0.1964	0.29	
13+40	0.1984	0.29	
13+45	0.2005	0.30	
13+50	0.2026	0.31	
13+55	0.2048	0.32	
14+ 0	0.2071	0.33	
14+ 5	0.2094	0.34	
14+10	0.2118	0.35	
14+15	0.2143	0.36	
14+20	0.2169	0.37	
14+25	0.2196	0.39	
14+30	0.2223	0.40	
14+35	0.2252	0.42	
14+40	0.2283	0.44	
14+45	0.2314	0.46	
14+50	0.2347	0.48	
14+55	0.2382	0.50	
15+ 0	0.2418	0.53	
15+ 5	0.2457	0.56	
15+10	0.2497	0.59	
15+15	0.2541	0.63	
15+20	0.2588	0.68	
15+25	0.2640	0.76	
15+30	0.2705	0.95	
15+35	0.2797	1.32	
15+40	0.2909	1.63	
15+45	0.3044	1.96	
15+50	0.3206	2.36	
15+55	0.3409	2.94	
16+ 0	0.3675	3.87	
16+ 5	0.4117	6.41	
16+10	0.4972	12.41	
16+15	0.6235	18.35	
16+20	0.7081	12.28	
16+25	0.7639	8.10	
16+30	0.8047	5.91	
16+35	0.8346	4.35	
16+40	0.8583	3.44	
16+45	0.8768	2.69	
16+50	0.8922	2.22	
16+55	0.9050	1.87	
17+ 0	0.9158	1.56	
17+ 5	0.9249	1.32	
17+10	0.9325	1.11	
17+15	0.9389	0.92	
17+20	0.9442	0.77	
17+25	0.9492	0.73	
17+30	0.9539	0.68	
17+35	0.9580	0.60	
17+40	0.9614	0.49	
17+45	0.9643	0.42	
17+50	0.9665	0.31	
17+55	0.9684	0.29	
18+ 0	0.9703	0.27	
18+ 5	0.9720	0.26	
18+10	0.9738	0.26	
18+15	0.9757	0.28	

18+20	0.9777	0.29	Q	|	|	|	V |
18+25	0.9797	0.29	Q	|	|	|	V |
18+30	0.9816	0.28	Q	|	|	|	V |
18+35	0.9836	0.28	Q	|	|	|	V |
18+40	0.9855	0.28	Q	|	|	|	V |
18+45	0.9873	0.27	Q	|	|	|	V |
18+50	0.9892	0.27	Q	|	|	|	V |
18+55	0.9910	0.26	Q	|	|	|	V |
19+ 0	0.9927	0.26	Q	|	|	|	V |
19+ 5	0.9944	0.25	Q	|	|	|	V |
19+10	0.9961	0.25	Q	|	|	|	V |
19+15	0.9978	0.24	Q	|	|	|	V |
19+20	0.9994	0.24	Q	|	|	|	V |
19+25	1.0010	0.23	Q	|	|	|	V |
19+30	1.0026	0.23	Q	|	|	|	V |
19+35	1.0041	0.22	Q	|	|	|	V |
19+40	1.0056	0.22	Q	|	|	|	V |
19+45	1.0071	0.21	Q	|	|	|	V |
19+50	1.0085	0.21	Q	|	|	|	V |
19+55	1.0099	0.21	Q	|	|	|	V |
20+ 0	1.0113	0.20	Q	|	|	|	V |
20+ 5	1.0127	0.20	Q	|	|	|	V |
20+10	1.0140	0.20	Q	|	|	|	V |
20+15	1.0153	0.19	Q	|	|	|	V |
20+20	1.0166	0.19	Q	|	|	|	V |
20+25	1.0179	0.19	Q	|	|	|	V |
20+30	1.0192	0.18	Q	|	|	|	V |
20+35	1.0204	0.18	Q	|	|	|	V |
20+40	1.0216	0.18	Q	|	|	|	V |
20+45	1.0228	0.17	Q	|	|	|	V |
20+50	1.0240	0.17	Q	|	|	|	V |
20+55	1.0252	0.17	Q	|	|	|	V |
21+ 0	1.0263	0.17	Q	|	|	|	V |
21+ 5	1.0275	0.16	Q	|	|	|	V |
21+10	1.0286	0.16	Q	|	|	|	V |
21+15	1.0297	0.16	Q	|	|	|	V |
21+20	1.0308	0.16	Q	|	|	|	V |
21+25	1.0319	0.16	Q	|	|	|	V |
21+30	1.0329	0.15	Q	|	|	|	V |
21+35	1.0340	0.15	Q	|	|	|	V |
21+40	1.0350	0.15	Q	|	|	|	V |
21+45	1.0360	0.15	Q	|	|	|	V |
21+50	1.0370	0.15	Q	|	|	|	V|
21+55	1.0380	0.15	Q	|	|	|	V|
22+ 0	1.0390	0.14	Q	|	|	|	V|
22+ 5	1.0400	0.14	Q	|	|	|	V|
22+10	1.0410	0.14	Q	|	|	|	V|
22+15	1.0419	0.14	Q	|	|	|	V|
22+20	1.0429	0.14	Q	|	|	|	V|
22+25	1.0438	0.14	Q	|	|	|	V|
22+30	1.0447	0.13	Q	|	|	|	V|
22+35	1.0457	0.13	Q	|	|	|	V|
22+40	1.0466	0.13	Q	|	|	|	V|
22+45	1.0475	0.13	Q	|	|	|	V|
22+50	1.0484	0.13	Q	|	|	|	V|
22+55	1.0492	0.13	Q	|	|	|	V|
23+ 0	1.0501	0.13	Q	|	|	|	V|
23+ 5	1.0510	0.13	Q	|	|	|	V|
23+10	1.0518	0.12	Q	|	|	|	V|

23+15	1.0527	0.12	Q	|	|	|	V|
23+20	1.0535	0.12	Q	|	|	|	V|
23+25	1.0543	0.12	Q	|	|	|	V|
23+30	1.0552	0.12	Q	|	|	|	V|
23+35	1.0560	0.12	Q	|	|	|	V|
23+40	1.0568	0.12	Q	|	|	|	V|
23+45	1.0576	0.12	Q	|	|	|	V|
23+50	1.0584	0.12	Q	|	|	|	V|
23+55	1.0592	0.11	Q	|	|	|	V|
24+ 0	1.0600	0.11	Q	|	|	|	V|
24+ 5	1.0607	0.11	Q	|	|	|	V|
24+10	1.0614	0.09	Q	|	|	|	V|
24+15	1.0618	0.06	Q	|	|	|	V|
24+20	1.0620	0.04	Q	|	|	|	V|
24+25	1.0622	0.03	Q	|	|	|	V|
24+30	1.0624	0.02	Q	|	|	|	V|
24+35	1.0625	0.02	Q	|	|	|	V|
24+40	1.0626	0.01	Q	|	|	|	V|
24+45	1.0627	0.01	Q	|	|	|	V|
24+50	1.0628	0.01	Q	|	|	|	V|
24+55	1.0628	0.01	Q	|	|	|	V|
25+ 0	1.0628	0.01	Q	|	|	|	V|
25+ 5	1.0629	0.00	Q	|	|	|	V|
25+10	1.0629	0.00	Q	|	|	|	V|
25+15	1.0629	0.00	Q	|	|	|	V|
25+20	1.0629	0.00	Q	|	|	|	V|
25+25	1.0629	0.00	Q	|	|	|	V|
25+30	1.0629	0.00	Q	|	|	|	V|
25+35	1.0629	0.00	Q	|	|	|	V|
25+40	1.0629	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 28
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
61.39	1	1.39
Rainfall data for year 100		
61.39	6	1.81
Rainfall data for year 100		
61.39	24	2.53

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
77.1	92.3	61.39	1.000	0.150	0.905	0.136

Area-averaged adjusted loss rate Fm (In/Hr) = 0.136

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
55.56	0.905	77.1	92.3	0.84	0.689
5.83	0.095	98.0	98.0	0.20	0.909

Area-averaged catchment yield fraction, Y = 0.710
Area-averaged low loss fraction, Yb = 0.290
User entry of time of concentration = 0.820 (hours)
++
Watershed area = 61.39(Ac.)
Catchment Lag time = 0.656 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 12.7033
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.136(In/Hr)
Average low loss rate fraction (Yb) = 0.290 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.634(In)
Specified peak 6-hour rainfall = 1.810(In)
Specified peak 24-hour rainfall = 2.530(In)

Rainfall depth area reduction factors:
Using a total area of 61.39(Ac.) (Ref: fig. E-4)

5-minute factor = 0.997 Adjusted rainfall = 0.658(In)
30-minute factor = 0.997 Adjusted rainfall = 1.126(In)
1-hour factor = 0.997 Adjusted rainfall = 1.386(In)
3-hour factor = 1.000 Adjusted rainfall = 1.634(In)
6-hour factor = 1.000 Adjusted rainfall = 1.810(In)
24-hour factor = 1.000 Adjusted rainfall = 2.530(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 742.44 (CFS))	
1	0.559	4.151
2	2.202	12.196
3	4.877	19.864
4	8.647	27.987
5	15.101	47.917
6	26.035	81.177
7	37.764	87.079
8	46.963	68.300
9	54.130	53.213
10	59.630	40.829
11	63.906	31.751
12	67.461	26.394
13	70.599	23.293

14	73.291	19.989
15	75.616	17.259
16	77.764	15.951
17	79.568	13.389
18	81.232	12.355
19	82.681	10.760
20	84.045	10.128
21	85.300	9.316
22	86.507	8.961
23	87.566	7.862
24	88.563	7.406
25	89.374	6.017
26	90.132	5.626
27	90.852	5.346
28	91.553	5.206
29	92.178	4.642
30	92.782	4.484
31	93.348	4.201
32	93.890	4.026
33	94.337	3.319
34	94.769	3.207
35	95.201	3.207
36	95.616	3.081
37	95.955	2.520
38	96.286	2.452
39	96.616	2.452
40	96.925	2.298
41	97.161	1.747
42	97.389	1.698
43	97.618	1.698
44	97.821	1.511
45	97.953	0.976
46	98.080	0.943
47	98.207	0.943
48	98.342	0.999
49	98.493	1.127
50	98.646	1.132
51	98.798	1.132
52	98.951	1.132
53	99.103	1.132
54	99.255	1.132
55	99.408	1.132
56	99.531	0.914
57	99.611	0.592
58	99.690	0.589
59	99.770	0.589
60	99.849	0.589
61	99.928	0.589
62	100.000	0.531

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6577	0.6577
2	0.8097	0.1520
3	0.9144	0.1047
4	0.9968	0.0824
5	1.0659	0.0690
6	1.1258	0.0599
7	1.1791	0.0533

8	1.2273	0.0482
9	1.2714	0.0441
10	1.3122	0.0408
11	1.3503	0.0381
12	1.3860	0.0357
13	1.4027	0.0167
14	1.4183	0.0156
15	1.4331	0.0147
16	1.4470	0.0139
17	1.4602	0.0132
18	1.4727	0.0125
19	1.4847	0.0120
20	1.4961	0.0114
21	1.5071	0.0110
22	1.5176	0.0105
23	1.5277	0.0101
24	1.5375	0.0098
25	1.5469	0.0094
26	1.5560	0.0091
27	1.5648	0.0088
28	1.5734	0.0085
29	1.5816	0.0083
30	1.5897	0.0080
31	1.5975	0.0078
32	1.6051	0.0076
33	1.6125	0.0074
34	1.6197	0.0072
35	1.6268	0.0070
36	1.6337	0.0069
37	1.6403	0.0066
38	1.6468	0.0065
39	1.6531	0.0063
40	1.6593	0.0062
41	1.6653	0.0061
42	1.6713	0.0059
43	1.6771	0.0058
44	1.6828	0.0057
45	1.6884	0.0056
46	1.6939	0.0055
47	1.6992	0.0054
48	1.7045	0.0053
49	1.7097	0.0052
50	1.7148	0.0051
51	1.7198	0.0050
52	1.7248	0.0049
53	1.7296	0.0049
54	1.7344	0.0048
55	1.7391	0.0047
56	1.7438	0.0046
57	1.7483	0.0046
58	1.7528	0.0045
59	1.7572	0.0044
60	1.7616	0.0044
61	1.7659	0.0043
62	1.7701	0.0042
63	1.7743	0.0042
64	1.7785	0.0041
65	1.7825	0.0041
66	1.7866	0.0040

67	1.7905	0.0040
68	1.7944	0.0039
69	1.7983	0.0039
70	1.8021	0.0038
71	1.8059	0.0038
72	1.8097	0.0037
73	1.8157	0.0060
74	1.8217	0.0060
75	1.8276	0.0059
76	1.8335	0.0059
77	1.8393	0.0058
78	1.8450	0.0057
79	1.8507	0.0057
80	1.8563	0.0056
81	1.8619	0.0056
82	1.8674	0.0055
83	1.8729	0.0055
84	1.8783	0.0054
85	1.8837	0.0054
86	1.8890	0.0053
87	1.8943	0.0053
88	1.8996	0.0052
89	1.9048	0.0052
90	1.9099	0.0052
91	1.9150	0.0051
92	1.9201	0.0051
93	1.9251	0.0050
94	1.9301	0.0050
95	1.9350	0.0049
96	1.9399	0.0049
97	1.9448	0.0049
98	1.9496	0.0048
99	1.9544	0.0048
100	1.9592	0.0048
101	1.9639	0.0047
102	1.9686	0.0047
103	1.9732	0.0046
104	1.9778	0.0046
105	1.9824	0.0046
106	1.9870	0.0045
107	1.9915	0.0045
108	1.9959	0.0045
109	2.0004	0.0045
110	2.0048	0.0044
111	2.0092	0.0044
112	2.0136	0.0044
113	2.0179	0.0043
114	2.0222	0.0043
115	2.0265	0.0043
116	2.0307	0.0042
117	2.0349	0.0042
118	2.0391	0.0042
119	2.0433	0.0042
120	2.0474	0.0041
121	2.0515	0.0041
122	2.0556	0.0041
123	2.0597	0.0041
124	2.0637	0.0040
125	2.0677	0.0040

126	2.0717	0.0040
127	2.0757	0.0040
128	2.0796	0.0039
129	2.0835	0.0039
130	2.0874	0.0039
131	2.0913	0.0039
132	2.0951	0.0038
133	2.0989	0.0038
134	2.1027	0.0038
135	2.1065	0.0038
136	2.1103	0.0038
137	2.1140	0.0037
138	2.1177	0.0037
139	2.1214	0.0037
140	2.1251	0.0037
141	2.1288	0.0037
142	2.1324	0.0036
143	2.1360	0.0036
144	2.1396	0.0036
145	2.1432	0.0036
146	2.1468	0.0036
147	2.1503	0.0035
148	2.1539	0.0035
149	2.1574	0.0035
150	2.1609	0.0035
151	2.1643	0.0035
152	2.1678	0.0035
153	2.1712	0.0034
154	2.1746	0.0034
155	2.1780	0.0034
156	2.1814	0.0034
157	2.1848	0.0034
158	2.1882	0.0034
159	2.1915	0.0033
160	2.1948	0.0033
161	2.1981	0.0033
162	2.2014	0.0033
163	2.2047	0.0033
164	2.2080	0.0033
165	2.2112	0.0032
166	2.2144	0.0032
167	2.2176	0.0032
168	2.2209	0.0032
169	2.2240	0.0032
170	2.2272	0.0032
171	2.2304	0.0032
172	2.2335	0.0031
173	2.2366	0.0031
174	2.2398	0.0031
175	2.2429	0.0031
176	2.2460	0.0031
177	2.2490	0.0031
178	2.2521	0.0031
179	2.2552	0.0031
180	2.2582	0.0030
181	2.2612	0.0030
182	2.2642	0.0030
183	2.2672	0.0030
184	2.2702	0.0030

185	2.2732	0.0030
186	2.2762	0.0030
187	2.2791	0.0030
188	2.2820	0.0029
189	2.2850	0.0029
190	2.2879	0.0029
191	2.2908	0.0029
192	2.2937	0.0029
193	2.2966	0.0029
194	2.2994	0.0029
195	2.3023	0.0029
196	2.3051	0.0028
197	2.3080	0.0028
198	2.3108	0.0028
199	2.3136	0.0028
200	2.3164	0.0028
201	2.3192	0.0028
202	2.3220	0.0028
203	2.3248	0.0028
204	2.3275	0.0028
205	2.3303	0.0028
206	2.3330	0.0027
207	2.3358	0.0027
208	2.3385	0.0027
209	2.3412	0.0027
210	2.3439	0.0027
211	2.3466	0.0027
212	2.3493	0.0027
213	2.3519	0.0027
214	2.3546	0.0027
215	2.3573	0.0027
216	2.3599	0.0026
217	2.3625	0.0026
218	2.3652	0.0026
219	2.3678	0.0026
220	2.3704	0.0026
221	2.3730	0.0026
222	2.3756	0.0026
223	2.3782	0.0026
224	2.3807	0.0026
225	2.3833	0.0026
226	2.3859	0.0026
227	2.3884	0.0025
228	2.3909	0.0025
229	2.3935	0.0025
230	2.3960	0.0025
231	2.3985	0.0025
232	2.4010	0.0025
233	2.4035	0.0025
234	2.4060	0.0025
235	2.4085	0.0025
236	2.4110	0.0025
237	2.4134	0.0025
238	2.4159	0.0025
239	2.4183	0.0024
240	2.4208	0.0024
241	2.4232	0.0024
242	2.4256	0.0024
243	2.4280	0.0024

244	2.4305	0.0024
245	2.4329	0.0024
246	2.4353	0.0024
247	2.4376	0.0024
248	2.4400	0.0024
249	2.4424	0.0024
250	2.4448	0.0024
251	2.4471	0.0024
252	2.4495	0.0024
253	2.4518	0.0023
254	2.4542	0.0023
255	2.4565	0.0023
256	2.4588	0.0023
257	2.4611	0.0023
258	2.4634	0.0023
259	2.4657	0.0023
260	2.4680	0.0023
261	2.4703	0.0023
262	2.4726	0.0023
263	2.4749	0.0023
264	2.4772	0.0023
265	2.4794	0.0023
266	2.4817	0.0023
267	2.4839	0.0023
268	2.4862	0.0022
269	2.4884	0.0022
270	2.4907	0.0022
271	2.4929	0.0022
272	2.4951	0.0022
273	2.4973	0.0022
274	2.4995	0.0022
275	2.5017	0.0022
276	2.5039	0.0022
277	2.5061	0.0022
278	2.5083	0.0022
279	2.5105	0.0022
280	2.5126	0.0022
281	2.5148	0.0022
282	2.5170	0.0022
283	2.5191	0.0022
284	2.5213	0.0021
285	2.5234	0.0021
286	2.5255	0.0021
287	2.5277	0.0021
288	2.5298	0.0021

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0021	0.0006	0.0015
2	0.0021	0.0006	0.0015
3	0.0021	0.0006	0.0015
4	0.0021	0.0006	0.0015
5	0.0022	0.0006	0.0015
6	0.0022	0.0006	0.0015
7	0.0022	0.0006	0.0015
8	0.0022	0.0006	0.0016
9	0.0022	0.0006	0.0016

10	0.0022	0.0006	0.0016
11	0.0022	0.0006	0.0016
12	0.0022	0.0006	0.0016
13	0.0022	0.0006	0.0016
14	0.0022	0.0006	0.0016
15	0.0023	0.0007	0.0016
16	0.0023	0.0007	0.0016
17	0.0023	0.0007	0.0016
18	0.0023	0.0007	0.0016
19	0.0023	0.0007	0.0016
20	0.0023	0.0007	0.0016
21	0.0023	0.0007	0.0016
22	0.0023	0.0007	0.0016
23	0.0023	0.0007	0.0017
24	0.0023	0.0007	0.0017
25	0.0024	0.0007	0.0017
26	0.0024	0.0007	0.0017
27	0.0024	0.0007	0.0017
28	0.0024	0.0007	0.0017
29	0.0024	0.0007	0.0017
30	0.0024	0.0007	0.0017
31	0.0024	0.0007	0.0017
32	0.0024	0.0007	0.0017
33	0.0024	0.0007	0.0017
34	0.0024	0.0007	0.0017
35	0.0025	0.0007	0.0017
36	0.0025	0.0007	0.0018
37	0.0025	0.0007	0.0018
38	0.0025	0.0007	0.0018
39	0.0025	0.0007	0.0018
40	0.0025	0.0007	0.0018
41	0.0025	0.0007	0.0018
42	0.0025	0.0007	0.0018
43	0.0026	0.0007	0.0018
44	0.0026	0.0007	0.0018
45	0.0026	0.0008	0.0018
46	0.0026	0.0008	0.0018
47	0.0026	0.0008	0.0019
48	0.0026	0.0008	0.0019
49	0.0026	0.0008	0.0019
50	0.0027	0.0008	0.0019
51	0.0027	0.0008	0.0019
52	0.0027	0.0008	0.0019
53	0.0027	0.0008	0.0019
54	0.0027	0.0008	0.0019
55	0.0027	0.0008	0.0019
56	0.0027	0.0008	0.0019
57	0.0028	0.0008	0.0020
58	0.0028	0.0008	0.0020
59	0.0028	0.0008	0.0020
60	0.0028	0.0008	0.0020
61	0.0028	0.0008	0.0020
62	0.0028	0.0008	0.0020
63	0.0029	0.0008	0.0020
64	0.0029	0.0008	0.0020
65	0.0029	0.0008	0.0021
66	0.0029	0.0008	0.0021
67	0.0029	0.0008	0.0021
68	0.0029	0.0009	0.0021

69	0.0030	0.0009	0.0021
70	0.0030	0.0009	0.0021
71	0.0030	0.0009	0.0021
72	0.0030	0.0009	0.0021
73	0.0030	0.0009	0.0022
74	0.0031	0.0009	0.0022
75	0.0031	0.0009	0.0022
76	0.0031	0.0009	0.0022
77	0.0031	0.0009	0.0022
78	0.0031	0.0009	0.0022
79	0.0032	0.0009	0.0022
80	0.0032	0.0009	0.0023
81	0.0032	0.0009	0.0023
82	0.0032	0.0009	0.0023
83	0.0032	0.0009	0.0023
84	0.0033	0.0009	0.0023
85	0.0033	0.0010	0.0023
86	0.0033	0.0010	0.0023
87	0.0033	0.0010	0.0024
88	0.0034	0.0010	0.0024
89	0.0034	0.0010	0.0024
90	0.0034	0.0010	0.0024
91	0.0034	0.0010	0.0024
92	0.0035	0.0010	0.0025
93	0.0035	0.0010	0.0025
94	0.0035	0.0010	0.0025
95	0.0035	0.0010	0.0025
96	0.0036	0.0010	0.0025
97	0.0036	0.0010	0.0026
98	0.0036	0.0010	0.0026
99	0.0037	0.0011	0.0026
100	0.0037	0.0011	0.0026
101	0.0037	0.0011	0.0026
102	0.0037	0.0011	0.0027
103	0.0038	0.0011	0.0027
104	0.0038	0.0011	0.0027
105	0.0038	0.0011	0.0027
106	0.0039	0.0011	0.0027
107	0.0039	0.0011	0.0028
108	0.0039	0.0011	0.0028
109	0.0040	0.0012	0.0028
110	0.0040	0.0012	0.0028
111	0.0041	0.0012	0.0029
112	0.0041	0.0012	0.0029
113	0.0041	0.0012	0.0029
114	0.0042	0.0012	0.0030
115	0.0042	0.0012	0.0030
116	0.0042	0.0012	0.0030
117	0.0043	0.0012	0.0031
118	0.0043	0.0013	0.0031
119	0.0044	0.0013	0.0031
120	0.0044	0.0013	0.0031
121	0.0045	0.0013	0.0032
122	0.0045	0.0013	0.0032
123	0.0046	0.0013	0.0033
124	0.0046	0.0013	0.0033
125	0.0047	0.0014	0.0033
126	0.0047	0.0014	0.0033
127	0.0048	0.0014	0.0034

128	0.0048	0.0014	0.0034
129	0.0049	0.0014	0.0035
130	0.0049	0.0014	0.0035
131	0.0050	0.0015	0.0036
132	0.0051	0.0015	0.0036
133	0.0052	0.0015	0.0037
134	0.0052	0.0015	0.0037
135	0.0053	0.0015	0.0038
136	0.0053	0.0015	0.0038
137	0.0054	0.0016	0.0039
138	0.0055	0.0016	0.0039
139	0.0056	0.0016	0.0040
140	0.0056	0.0016	0.0040
141	0.0057	0.0017	0.0041
142	0.0058	0.0017	0.0041
143	0.0059	0.0017	0.0042
144	0.0060	0.0017	0.0042
145	0.0037	0.0011	0.0026
146	0.0038	0.0011	0.0027
147	0.0039	0.0011	0.0027
148	0.0039	0.0011	0.0028
149	0.0040	0.0012	0.0029
150	0.0041	0.0012	0.0029
151	0.0042	0.0012	0.0030
152	0.0042	0.0012	0.0030
153	0.0044	0.0013	0.0031
154	0.0044	0.0013	0.0031
155	0.0046	0.0013	0.0032
156	0.0046	0.0013	0.0033
157	0.0048	0.0014	0.0034
158	0.0049	0.0014	0.0034
159	0.0050	0.0015	0.0036
160	0.0051	0.0015	0.0036
161	0.0053	0.0015	0.0038
162	0.0054	0.0016	0.0038
163	0.0056	0.0016	0.0040
164	0.0057	0.0017	0.0040
165	0.0059	0.0017	0.0042
166	0.0061	0.0018	0.0043
167	0.0063	0.0018	0.0045
168	0.0065	0.0019	0.0046
169	0.0069	0.0020	0.0049
170	0.0070	0.0020	0.0050
171	0.0074	0.0021	0.0053
172	0.0076	0.0022	0.0054
173	0.0080	0.0023	0.0057
174	0.0083	0.0024	0.0059
175	0.0088	0.0026	0.0063
176	0.0091	0.0026	0.0065
177	0.0098	0.0028	0.0069
178	0.0101	0.0029	0.0072
179	0.0110	0.0032	0.0078
180	0.0114	0.0033	0.0081
181	0.0125	0.0036	0.0089
182	0.0132	0.0038	0.0094
183	0.0147	0.0043	0.0104
184	0.0156	0.0045	0.0111
185	0.0357	0.0104	0.0254
186	0.0381	0.0110	0.0270

187	0.0441	0.0113	0.0328
188	0.0482	0.0113	0.0369
189	0.0599	0.0113	0.0486
190	0.0690	0.0113	0.0577
191	0.1047	0.0113	0.0934
192	0.1520	0.0113	0.1407
193	0.6577	0.0113	0.6463
194	0.0824	0.0113	0.0711
195	0.0533	0.0113	0.0420
196	0.0408	0.0113	0.0295
197	0.0167	0.0048	0.0119
198	0.0139	0.0040	0.0099
199	0.0120	0.0035	0.0085
200	0.0105	0.0031	0.0075
201	0.0094	0.0027	0.0067
202	0.0085	0.0025	0.0061
203	0.0078	0.0023	0.0056
204	0.0072	0.0021	0.0051
205	0.0066	0.0019	0.0047
206	0.0062	0.0018	0.0044
207	0.0058	0.0017	0.0041
208	0.0055	0.0016	0.0039
209	0.0052	0.0015	0.0037
210	0.0049	0.0014	0.0035
211	0.0047	0.0014	0.0033
212	0.0045	0.0013	0.0032
213	0.0043	0.0012	0.0031
214	0.0041	0.0012	0.0029
215	0.0040	0.0012	0.0028
216	0.0038	0.0011	0.0027
217	0.0060	0.0018	0.0043
218	0.0059	0.0017	0.0042
219	0.0057	0.0017	0.0040
220	0.0055	0.0016	0.0039
221	0.0054	0.0016	0.0038
222	0.0052	0.0015	0.0037
223	0.0051	0.0015	0.0036
224	0.0050	0.0014	0.0035
225	0.0049	0.0014	0.0035
226	0.0048	0.0014	0.0034
227	0.0046	0.0013	0.0033
228	0.0045	0.0013	0.0032
229	0.0045	0.0013	0.0032
230	0.0044	0.0013	0.0031
231	0.0043	0.0012	0.0030
232	0.0042	0.0012	0.0030
233	0.0041	0.0012	0.0029
234	0.0040	0.0012	0.0029
235	0.0040	0.0011	0.0028
236	0.0039	0.0011	0.0028
237	0.0038	0.0011	0.0027
238	0.0038	0.0011	0.0027
239	0.0037	0.0011	0.0026
240	0.0036	0.0011	0.0026
241	0.0036	0.0010	0.0025
242	0.0035	0.0010	0.0025
243	0.0035	0.0010	0.0025
244	0.0034	0.0010	0.0024
245	0.0034	0.0010	0.0024

246	0.0033	0.0010	0.0024
247	0.0033	0.0010	0.0023
248	0.0032	0.0009	0.0023
249	0.0032	0.0009	0.0023
250	0.0031	0.0009	0.0022
251	0.0031	0.0009	0.0022
252	0.0031	0.0009	0.0022
253	0.0030	0.0009	0.0021
254	0.0030	0.0009	0.0021
255	0.0030	0.0009	0.0021
256	0.0029	0.0008	0.0021
257	0.0029	0.0008	0.0020
258	0.0028	0.0008	0.0020
259	0.0028	0.0008	0.0020
260	0.0028	0.0008	0.0020
261	0.0028	0.0008	0.0020
262	0.0027	0.0008	0.0019
263	0.0027	0.0008	0.0019
264	0.0027	0.0008	0.0019
265	0.0026	0.0008	0.0019
266	0.0026	0.0008	0.0019
267	0.0026	0.0007	0.0018
268	0.0026	0.0007	0.0018
269	0.0025	0.0007	0.0018
270	0.0025	0.0007	0.0018
271	0.0025	0.0007	0.0018
272	0.0025	0.0007	0.0017
273	0.0024	0.0007	0.0017
274	0.0024	0.0007	0.0017
275	0.0024	0.0007	0.0017
276	0.0024	0.0007	0.0017
277	0.0023	0.0007	0.0017
278	0.0023	0.0007	0.0017
279	0.0023	0.0007	0.0016
280	0.0023	0.0007	0.0016
281	0.0023	0.0007	0.0016
282	0.0022	0.0007	0.0016
283	0.0022	0.0006	0.0016
284	0.0022	0.0006	0.0016
285	0.0022	0.0006	0.0016
286	0.0022	0.0006	0.0015
287	0.0022	0.0006	0.0015
288	0.0021	0.0006	0.0015

Total soil rain loss = 0.47(In)
Total effective rainfall = 2.06(In)
Peak flow rate in flood hydrograph = 87.71(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	22.5	45.0	67.5	90.0
0+ 5	0.0000	0.01	Q	|	|	|	|

0+10	0.0002	0.02	Q				
0+15	0.0006	0.05	Q				
0+20	0.0013	0.10	Q				
0+25	0.0024	0.17	Q				
0+30	0.0044	0.29	Q				
0+35	0.0074	0.43	Q				
0+40	0.0110	0.53	Q				
0+45	0.0152	0.61	Q				
0+50	0.0199	0.68	Q				
0+55	0.0249	0.73	Q				
1+ 0	0.0302	0.77	Q				
1+ 5	0.0358	0.81	Q				
1+10	0.0416	0.84	Q				
1+15	0.0476	0.87	Q				
1+20	0.0538	0.90	Q				
1+25	0.0601	0.92	Q				
1+30	0.0666	0.95	Q				
1+35	0.0733	0.97	Q				
1+40	0.0801	0.98	Q				
1+45	0.0870	1.00	Q				
1+50	0.0940	1.02	Q				
1+55	0.1011	1.04	Q				
2+ 0	0.1084	1.05	Q				
2+ 5	0.1157	1.07	Q				
2+10	0.1231	1.08	Q				
2+15	0.1307	1.09	Q				
2+20	0.1383	1.10	Q				
2+25	0.1460	1.12	Q				
2+30	0.1537	1.13	Q				
2+35	0.1616	1.14	Q				
2+40	0.1695	1.15	Q				
2+45	0.1775	1.16	Q				
2+50	0.1856	1.17	Q				
2+55	0.1937	1.18	Q				
3+ 0	0.2019	1.19	Q				
3+ 5	0.2101	1.20	Q				
3+10	0.2185	1.21	Q				
3+15	0.2269	1.22	Q				
3+20	0.2353	1.23	Q				
3+25	0.2438	1.24	Q				
3+30	0.2524	1.24	Q				
3+35	0.2610	1.25	Q				
3+40	0.2697	1.26	QV				
3+45	0.2785	1.27	QV				
3+50	0.2873	1.28	QV				
3+55	0.2961	1.28	QV				
4+ 0	0.3050	1.29	QV				
4+ 5	0.3139	1.30	QV				
4+10	0.3229	1.31	QV				
4+15	0.3320	1.32	QV				
4+20	0.3411	1.32	QV				
4+25	0.3503	1.33	QV				
4+30	0.3595	1.34	QV				
4+35	0.3688	1.35	QV				
4+40	0.3782	1.36	QV				
4+45	0.3876	1.37	QV				
4+50	0.3971	1.37	QV				
4+55	0.4066	1.38	QV				
5+ 0	0.4162	1.39	QV				

5+ 5	0.4258	1.40	QV	|	|	|	|
5+10	0.4355	1.41	QV	|	|	|	|
5+15	0.4452	1.41	QV	|	|	|	|
5+20	0.4550	1.42	QV	|	|	|	|
5+25	0.4649	1.43	QV	|	|	|	|
5+30	0.4748	1.44	QV	|	|	|	|
5+35	0.4847	1.45	QV	|	|	|	|
5+40	0.4947	1.45	QV	|	|	|	|
5+45	0.5048	1.46	QV	|	|	|	|
5+50	0.5149	1.47	QV	|	|	|	|
5+55	0.5251	1.48	QV	|	|	|	|
6+ 0	0.5354	1.49	Q V	|	|	|	|
6+ 5	0.5457	1.50	Q V	|	|	|	|
6+10	0.5560	1.50	Q V	|	|	|	|
6+15	0.5665	1.51	Q V	|	|	|	|
6+20	0.5770	1.52	Q V	|	|	|	|
6+25	0.5875	1.53	Q V	|	|	|	|
6+30	0.5981	1.54	Q V	|	|	|	|
6+35	0.6088	1.55	Q V	|	|	|	|
6+40	0.6195	1.56	Q V	|	|	|	|
6+45	0.6304	1.57	Q V	|	|	|	|
6+50	0.6412	1.58	Q V	|	|	|	|
6+55	0.6522	1.59	Q V	|	|	|	|
7+ 0	0.6632	1.60	Q V	|	|	|	|
7+ 5	0.6743	1.61	Q V	|	|	|	|
7+10	0.6854	1.62	Q V	|	|	|	|
7+15	0.6967	1.63	Q V	|	|	|	|
7+20	0.7080	1.64	Q V	|	|	|	|
7+25	0.7194	1.65	Q V	|	|	|	|
7+30	0.7308	1.66	Q V	|	|	|	|
7+35	0.7423	1.67	Q V	|	|	|	|
7+40	0.7540	1.69	Q V	|	|	|	|
7+45	0.7656	1.70	Q V	|	|	|	|
7+50	0.7774	1.71	Q V	|	|	|	|
7+55	0.7893	1.72	Q V	|	|	|	|
8+ 0	0.8012	1.73	Q V	|	|	|	|
8+ 5	0.8132	1.75	Q V	|	|	|	|
8+10	0.8254	1.76	Q V	|	|	|	|
8+15	0.8376	1.77	Q V	|	|	|	|
8+20	0.8498	1.78	Q V	|	|	|	|
8+25	0.8622	1.80	Q V	|	|	|	|
8+30	0.8747	1.81	Q V	|	|	|	|
8+35	0.8873	1.82	Q V	|	|	|	|
8+40	0.8999	1.84	Q V	|	|	|	|
8+45	0.9127	1.85	Q V	|	|	|	|
8+50	0.9255	1.87	Q V	|	|	|	|
8+55	0.9385	1.88	Q V	|	|	|	|
9+ 0	0.9516	1.90	Q V	|	|	|	|
9+ 5	0.9647	1.91	Q V	|	|	|	|
9+10	0.9780	1.93	Q V	|	|	|	|
9+15	0.9914	1.94	Q V	|	|	|	|
9+20	1.0049	1.96	Q V	|	|	|	|
9+25	1.0185	1.98	Q V	|	|	|	|
9+30	1.0322	1.99	Q V	|	|	|	|
9+35	1.0461	2.01	Q V	|	|	|	|
9+40	1.0601	2.03	Q V	|	|	|	|
9+45	1.0742	2.05	Q V	|	|	|	|
9+50	1.0884	2.06	Q V	|	|	|	|
9+55	1.1027	2.08	Q V	|	|	|	|

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10+ 0       1.1172      2.10  Q   V     |          |          |          |
10+ 5       1.1318      2.12  Q   V     |          |          |          |
10+10       1.1465      2.14  Q   V     |          |          |          |
10+15       1.1614      2.16  Q   V     |          |          |          |
10+20       1.1765      2.18  Q   V     |          |          |          |
10+25       1.1916      2.20  Q   V     |          |          |          |
10+30       1.2070      2.23  Q   V     |          |          |          |
10+35       1.2224      2.25  Q   V     |          |          |          |
10+40       1.2381      2.27  |Q  V     |          |          |          |
10+45       1.2539      2.29  |Q  V     |          |          |          |
10+50       1.2698      2.32  |Q  V     |          |          |          |
10+55       1.2860      2.34  |Q  V     |          |          |          |
11+ 0       1.3023      2.37  |Q  V     |          |          |          |
11+ 5       1.3187      2.39  |Q  V     |          |          |          |
11+10       1.3354      2.42  |Q   V    |          |          |          |
11+15       1.3522      2.45  |Q   V    |          |          |          |
11+20       1.3693      2.47  |Q   V    |          |          |          |
11+25       1.3865      2.50  |Q   V    |          |          |          |
11+30       1.4040      2.53  |Q   V    |          |          |          |
11+35       1.4216      2.56  |Q   V    |          |          |          |
11+40       1.4395      2.59  |Q   V    |          |          |          |
11+45       1.4575      2.63  |Q   V    |          |          |          |
11+50       1.4759      2.66  |Q   V    |          |          |          |
11+55       1.4944      2.69  |Q   V    |          |          |          |
12+ 0       1.5132      2.73  |Q   V    |          |          |          |
12+ 5       1.5322      2.76  |Q   V    |          |          |          |
12+10       1.5512      2.77  |Q   V    |          |          |          |
12+15       1.5704      2.78  |Q   V    |          |          |          |
12+20       1.5894      2.77  |Q    V   |          |          |          |
12+25       1.6082      2.73  |Q    V   |          |          |          |
12+30       1.6263      2.63  |Q    V   |          |          |          |
12+35       1.6437      2.52  |Q    V   |          |          |          |
12+40       1.6606      2.45  |Q    V   |          |          |          |
12+45       1.6771      2.40  |Q    V   |          |          |          |
12+50       1.6934      2.37  |Q    V   |          |          |          |
12+55       1.7096      2.35  |Q    V   |          |          |          |
13+ 0       1.7258      2.35  |Q    V   |          |          |          |
13+ 5       1.7420      2.35  |Q    V   |          |          |          |
13+10       1.7582      2.36  |Q    V   |          |          |          |
13+15       1.7746      2.38  |Q    V   |          |          |          |
13+20       1.7911      2.40  |Q    V   |          |          |          |
13+25       1.8078      2.42  |Q    V   |          |          |          |
13+30       1.8247      2.45  |Q    V   |          |          |          |
13+35       1.8418      2.48  |Q    V   |          |          |          |
13+40       1.8591      2.52  |Q     V  |          |          |          |
13+45       1.8768      2.56  |Q     V  |          |          |          |
13+50       1.8947      2.61  |Q     V  |          |          |          |
13+55       1.9130      2.65  |Q     V  |          |          |          |
14+ 0       1.9316      2.71  |Q     V  |          |          |          |
14+ 5       1.9507      2.77  |Q     V  |          |          |          |
14+10       1.9702      2.83  |Q     V  |          |          |          |
14+15       1.9902      2.90  |Q     V  |          |          |          |
14+20       2.0107      2.98  |Q     V  |          |          |          |
14+25       2.0318      3.06  |Q     V  |          |          |          |
14+30       2.0535      3.15  |Q     V  |          |          |          |
14+35       2.0759      3.25  |Q     V  |          |          |          |
14+40       2.0991      3.36  |Q     V  |          |          |          |
14+45       2.1230      3.48  |Q      V |          |          |          |
14+50       2.1479      3.61  |Q      V |          |          |          |
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14+55       2.1736      3.74  |Q      V |         |         |         |
15+ 0       2.2004      3.89  |Q      V |         |         |         |
15+ 5       2.2284      4.06  |Q      V |         |         |         |
15+10       2.2576      4.24  |Q      V |         |         |         |
15+15       2.2883      4.45  |Q      V |         |         |         |
15+20       2.3205      4.68  | Q     V |         |         |         |
15+25       2.3549      5.00  | Q     V |         |         |         |
15+30       2.3925      5.46  | Q      V|         |         |         |
15+35       2.4345      6.09  | Q      V|         |         |         |
15+40       2.4821      6.92  |  Q     V|         |         |         |
15+45       2.5383      8.17  |  Q     V|         |         |         |
15+50       2.6078     10.09  |   Q    V|         |         |         |
15+55       2.6943     12.56  |    Q    V         |         |         |
16+ 0       2.8021     15.65  |     Q   V         |         |         |
16+ 5       2.9515     21.70  |        Q|V         |         |         |
16+10       3.1605     30.35  |         |V Q       |         |         |
16+15       3.4309     39.26  |         |  V   Q   |         |         |
16+20       3.7705     49.31  |         |   V     |Q        |         |
16+25       4.2225     65.64  |         |     V   |         Q|         |
16+30       4.8151     86.03  |         |       V |          |       Q |
16+35       5.4191     87.71  |         |         V          |       Q |
16+40       5.9269     73.73  |         |          | V       | Q       |
16+45       6.3463     60.89  |         |          |   V  Q  |         |
16+50       6.6875     49.55  |         |          | Q  V    |         |
16+55       6.9681     40.73  |         |       Q  |     V   |         |
17+ 0       7.2082     34.87  |         |    Q     |      V  |         |
17+ 5       7.4207     30.85  |         |  Q       |       V |         |
17+10       7.6080     27.19  |         | Q        |       V |         |
17+15       7.7745     24.19  |         Q          |        V|         |
17+20       7.9271     22.15  |        Q|          |         V         |
17+25       8.0623     19.62  |       Q |          |         V         |
17+30       8.1867     18.07  |       Q |          |          |V       |
17+35       8.2995     16.38  |      Q  |          |          |V       |
17+40       8.4050     15.32  |     Q   |          |          |V       |
17+45       8.5031     14.24  |     Q   |          |          | V      |
17+50       8.5956     13.43  |    Q    |          |          | V      |
17+55       8.6801     12.27  |    Q    |          |          | V      |
18+ 0       8.7590     11.46  |    Q    |          |          |  V     |
18+ 5       8.8294     10.23  |   Q     |          |          |  V     |
18+10       8.8957      9.63  |   Q     |          |          |  V     |
18+15       8.9588      9.16  |   Q     |          |          |  V     |
18+20       9.0194      8.80  |  Q      |          |          |   V    |
18+25       9.0764      8.27  |  Q      |          |          |   V    |
18+30       9.1318      8.04  |  Q      |          |          |   V    |
18+35       9.1852      7.76  |  Q      |          |          |   V    |
18+40       9.2368      7.49  |  Q      |          |          |    V   |
18+45       9.2846      6.94  |  Q      |          |          |    V   |
18+50       9.3309      6.73  | Q       |          |          |    V   |
18+55       9.3761      6.56  | Q       |          |          |    V   |
19+ 0       9.4195      6.31  | Q       |          |          |    V   |
19+ 5       9.4597      5.83  | Q       |          |          |    V   |
19+10       9.4985      5.64  | Q       |          |          |     V  |
19+15       9.5362      5.47  | Q       |          |          |     V  |
19+20       9.5721      5.21  | Q       |          |          |     V  |
19+25       9.6049      4.76  | Q       |          |          |     V  |
19+30       9.6365      4.59  | Q       |          |          |     V  |
19+35       9.6672      4.45  |Q        |          |          |     V  |
19+40       9.6961      4.20  |Q        |          |          |     V  |
19+45       9.7223      3.80  |Q        |          |          |     V  |
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19+50       9.7477      3.70  |Q        |         |         |     V   |
19+55       9.7728      3.65  |Q        |         |         |      V  |
20+ 0       9.7979      3.63  |Q        |         |         |      V  |
20+ 5       9.8231      3.66  |Q        |         |         |      V  |
20+10       9.8480      3.62  |Q        |         |         |      V  |
20+15       9.8726      3.57  |Q        |         |         |      V  |
20+20       9.8968      3.51  |Q        |         |         |      V  |
20+25       9.9205      3.45  |Q        |         |         |      V  |
20+30       9.9437      3.37  |Q        |         |         |      V  |
20+35       9.9662      3.27  |Q        |         |         |      V  |
20+40       9.9872      3.04  |Q        |         |         |      V  |
20+45      10.0063      2.77  |Q        |         |         |      V  |
20+50      10.0248      2.69  |Q        |         |         |       V |
20+55      10.0428      2.62  |Q        |         |         |       V |
21+ 0      10.0603      2.55  |Q        |         |         |       V |
21+ 5      10.0773      2.46  |Q        |         |         |       V |
21+10      10.0933      2.32  |Q        |         |         |       V |
21+15      10.1067      1.95  Q        |         |         |       V |
21+20      10.1196      1.88  Q        |         |         |       V |
21+25      10.1323      1.83  Q        |         |         |       V |
21+30      10.1446      1.80  Q        |         |         |       V |
21+35      10.1568      1.77  Q        |         |         |       V |
21+40      10.1688      1.74  Q        |         |         |       V |
21+45      10.1806      1.71  Q        |         |         |       V |
21+50      10.1922      1.69  Q        |         |         |       V |
21+55      10.2037      1.66  Q        |         |         |       V |
22+ 0      10.2150      1.64  Q        |         |         |       V |
22+ 5      10.2261      1.62  Q        |         |         |       V |
22+10      10.2372      1.60  Q        |         |         |       V |
22+15      10.2480      1.58  Q        |         |         |       V |
22+20      10.2588      1.56  Q        |         |         |       V |
22+25      10.2694      1.54  Q        |         |         |       V |
22+30      10.2799      1.53  Q        |         |         |       V |
22+35      10.2903      1.51  Q        |         |         |        V|
22+40      10.3006      1.49  Q        |         |         |        V|
22+45      10.3107      1.47  Q        |         |         |        V|
22+50      10.3208      1.46  Q        |         |         |        V|
22+55      10.3307      1.44  Q        |         |         |        V|
23+ 0      10.3405      1.43  Q        |         |         |        V|
23+ 5      10.3502      1.41  Q        |         |         |        V|
23+10      10.3599      1.40  Q        |         |         |        V|
23+15      10.3694      1.38  Q        |         |         |        V|
23+20      10.3788      1.37  Q        |         |         |        V|
23+25      10.3881      1.35  Q        |         |         |        V|
23+30      10.3973      1.34  Q        |         |         |        V|
23+35      10.4064      1.32  Q        |         |         |        V|
23+40      10.4155      1.31  Q        |         |         |        V|
23+45      10.4244      1.30  Q        |         |         |        V|
23+50      10.4333      1.29  Q        |         |         |        V|
23+55      10.4420      1.27  Q        |         |         |        V|
24+ 0      10.4507      1.26  Q        |         |         |        V|
24+ 5      10.4593      1.24  Q        |         |         |        V|
24+10      10.4676      1.21  Q        |         |         |        V|
24+15      10.4757      1.17  Q        |         |         |        V|
24+20      10.4834      1.12  Q        |         |         |        V|
24+25      10.4906      1.04  Q        |         |         |        V|
24+30      10.4968      0.91  Q        |         |         |        V|
24+35      10.5021      0.77  Q        |         |         |        V|
24+40      10.5066      0.66  Q        |         |         |        V|
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24+45	10.5105	0.57	Q	|	|	|	V|
24+50	10.5140	0.50	Q	|	|	|	V|
24+55	10.5171	0.45	Q	|	|	|	V|
25+ 0	10.5199	0.41	Q	|	|	|	V|
25+ 5	10.5225	0.37	Q	|	|	|	V|
25+10	10.5248	0.34	Q	|	|	|	V|
25+15	10.5269	0.31	Q	|	|	|	V|
25+20	10.5288	0.28	Q	|	|	|	V|
25+25	10.5306	0.26	Q	|	|	|	V|
25+30	10.5322	0.24	Q	|	|	|	V|
25+35	10.5337	0.22	Q	|	|	|	V|
25+40	10.5351	0.20	Q	|	|	|	V|
25+45	10.5363	0.18	Q	|	|	|	V|
25+50	10.5375	0.17	Q	|	|	|	V|
25+55	10.5386	0.16	Q	|	|	|	V|
26+ 0	10.5395	0.14	Q	|	|	|	V|
26+ 5	10.5405	0.13	Q	|	|	|	V|
26+10	10.5413	0.12	Q	|	|	|	V|
26+15	10.5421	0.11	Q	|	|	|	V|
26+20	10.5428	0.10	Q	|	|	|	V|
26+25	10.5435	0.10	Q	|	|	|	V|
26+30	10.5441	0.09	Q	|	|	|	V|
26+35	10.5446	0.08	Q	|	|	|	V|
26+40	10.5452	0.08	Q	|	|	|	V|
26+45	10.5456	0.07	Q	|	|	|	V|
26+50	10.5461	0.06	Q	|	|	|	V|
26+55	10.5465	0.06	Q	|	|	|	V|
27+ 0	10.5469	0.05	Q	|	|	|	V|
27+ 5	10.5472	0.05	Q	|	|	|	V|
27+10	10.5475	0.05	Q	|	|	|	V|
27+15	10.5478	0.04	Q	|	|	|	V|
27+20	10.5481	0.04	Q	|	|	|	V|
27+25	10.5483	0.03	Q	|	|	|	V|
27+30	10.5485	0.03	Q	|	|	|	V|
27+35	10.5487	0.03	Q	|	|	|	V|
27+40	10.5489	0.03	Q	|	|	|	V|
27+45	10.5491	0.02	Q	|	|	|	V|
27+50	10.5492	0.02	Q	|	|	|	V|
27+55	10.5494	0.02	Q	|	|	|	V|
28+ 0	10.5495	0.02	Q	|	|	|	V|
28+ 5	10.5496	0.02	Q	|	|	|	V|
28+10	10.5497	0.02	Q	|	|	|	V|
28+15	10.5498	0.01	Q	|	|	|	V|
28+20	10.5499	0.01	Q	|	|	|	V|
28+25	10.5500	0.01	Q	|	|	|	V|
28+30	10.5500	0.01	Q	|	|	|	V|
28+35	10.5501	0.01	Q	|	|	|	V|
28+40	10.5501	0.01	Q	|	|	|	V|
28+45	10.5501	0.00	Q	|	|	|	V|
28+50	10.5502	0.00	Q	|	|	|	V|
28+55	10.5502	0.00	Q	|	|	|	V|
29+ 0	10.5502	0.00	Q	|	|	|	V|
29+ 5	10.5502	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 29
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
15.24	1	1.39
Rainfall data for year 100		
15.24	6	1.81
Rainfall data for year 100		
15.24	24	2.54

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	92.8	15.24	1.000	0.140	0.900	0.126

Area-averaged adjusted loss rate Fm (In/Hr) = 0.126

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
13.72	0.900	78.0	92.8	0.78	0.708
1.52	0.100	98.0	98.0	0.20	0.910

Area-averaged catchment yield fraction, Y = 0.729
Area-averaged low loss fraction, Yb = 0.271
User entry of time of concentration = 0.510 (hours)
++
Watershed area = 15.24(Ac.)
Catchment Lag time = 0.408 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 20.4248
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.126(In/Hr)
Average low loss rate fraction (Yb) = 0.271 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.634(In)
Specified peak 6-hour rainfall = 1.810(In)
Specified peak 24-hour rainfall = 2.540(In)

Rainfall depth area reduction factors:
Using a total area of 15.24(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.128(In)
1-hour factor = 0.999 Adjusted rainfall = 1.389(In)
3-hour factor = 1.000 Adjusted rainfall = 1.634(In)
6-hour factor = 1.000 Adjusted rainfall = 1.810(In)
24-hour factor = 1.000 Adjusted rainfall = 2.540(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 184.31 (CFS))	
1	1.022	1.883
2	4.663	6.712
3	11.803	13.159
4	27.532	28.990
5	44.632	31.517
6	56.079	21.097
7	63.676	14.002
8	69.235	10.246
9	73.676	8.186
10	77.279	6.641
11	80.209	5.399
12	82.668	4.532
13	84.803	3.935

14	86.724	3.540
15	88.373	3.040
16	89.695	2.436
17	90.873	2.171
18	91.955	1.996
19	92.921	1.779
20	93.807	1.634
21	94.536	1.344
22	95.231	1.280
23	95.848	1.139
24	96.380	0.979
25	96.889	0.938
26	97.275	0.712
27	97.642	0.677
28	97.917	0.506
29	98.121	0.376
30	98.333	0.391
31	98.575	0.446
32	98.821	0.452
33	99.066	0.452
34	99.311	0.452
35	99.525	0.394
36	99.657	0.243
37	99.784	0.235
38	99.912	0.235
39	100.000	0.162

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6591	0.6591
2	0.8114	0.1523
3	0.9164	0.1050
4	0.9990	0.0826
5	1.0682	0.0692
6	1.1282	0.0601
7	1.1816	0.0534
8	1.2299	0.0483
9	1.2742	0.0442
10	1.3151	0.0409
11	1.3532	0.0381
12	1.3890	0.0358
13	1.4056	0.0165
14	1.4210	0.0155
15	1.4356	0.0146
16	1.4494	0.0138
17	1.4624	0.0131
18	1.4749	0.0124
19	1.4867	0.0118
20	1.4980	0.0113
21	1.5089	0.0109
22	1.5193	0.0104
23	1.5293	0.0100
24	1.5390	0.0097
25	1.5483	0.0093
26	1.5573	0.0090
27	1.5660	0.0087
28	1.5745	0.0084
29	1.5827	0.0082
30	1.5906	0.0080

31	1.5984	0.0077
32	1.6059	0.0075
33	1.6132	0.0073
34	1.6204	0.0071
35	1.6273	0.0070
36	1.6341	0.0068
37	1.6407	0.0066
38	1.6472	0.0065
39	1.6535	0.0063
40	1.6597	0.0062
41	1.6657	0.0061
42	1.6717	0.0059
43	1.6775	0.0058
44	1.6832	0.0057
45	1.6888	0.0056
46	1.6942	0.0055
47	1.6996	0.0054
48	1.7049	0.0053
49	1.7101	0.0052
50	1.7152	0.0051
51	1.7202	0.0050
52	1.7251	0.0049
53	1.7300	0.0049
54	1.7348	0.0048
55	1.7395	0.0047
56	1.7441	0.0046
57	1.7486	0.0046
58	1.7531	0.0045
59	1.7576	0.0044
60	1.7619	0.0044
61	1.7662	0.0043
62	1.7705	0.0042
63	1.7746	0.0042
64	1.7788	0.0041
65	1.7828	0.0041
66	1.7868	0.0040
67	1.7908	0.0040
68	1.7947	0.0039
69	1.7986	0.0039
70	1.8024	0.0038
71	1.8062	0.0038
72	1.8099	0.0037
73	1.8160	0.0061
74	1.8221	0.0060
75	1.8281	0.0060
76	1.8340	0.0059
77	1.8399	0.0059
78	1.8457	0.0058
79	1.8514	0.0058
80	1.8571	0.0057
81	1.8628	0.0056
82	1.8684	0.0056
83	1.8739	0.0055
84	1.8794	0.0055
85	1.8849	0.0054
86	1.8903	0.0054
87	1.8956	0.0053
88	1.9009	0.0053
89	1.9062	0.0053

90	1.9114	0.0052
91	1.9165	0.0052
92	1.9217	0.0051
93	1.9268	0.0051
94	1.9318	0.0050
95	1.9368	0.0050
96	1.9418	0.0050
97	1.9467	0.0049
98	1.9516	0.0049
99	1.9564	0.0048
100	1.9612	0.0048
101	1.9660	0.0048
102	1.9708	0.0047
103	1.9755	0.0047
104	1.9801	0.0047
105	1.9848	0.0046
106	1.9894	0.0046
107	1.9939	0.0046
108	1.9985	0.0045
109	2.0030	0.0045
110	2.0075	0.0045
111	2.0119	0.0044
112	2.0163	0.0044
113	2.0207	0.0044
114	2.0251	0.0044
115	2.0294	0.0043
116	2.0337	0.0043
117	2.0380	0.0043
118	2.0422	0.0042
119	2.0464	0.0042
120	2.0506	0.0042
121	2.0548	0.0042
122	2.0589	0.0041
123	2.0630	0.0041
124	2.0671	0.0041
125	2.0712	0.0041
126	2.0752	0.0040
127	2.0792	0.0040
128	2.0832	0.0040
129	2.0872	0.0040
130	2.0911	0.0039
131	2.0951	0.0039
132	2.0990	0.0039
133	2.1028	0.0039
134	2.1067	0.0039
135	2.1105	0.0038
136	2.1143	0.0038
137	2.1181	0.0038
138	2.1219	0.0038
139	2.1256	0.0037
140	2.1294	0.0037
141	2.1331	0.0037
142	2.1368	0.0037
143	2.1404	0.0037
144	2.1441	0.0036
145	2.1477	0.0036
146	2.1513	0.0036
147	2.1549	0.0036
148	2.1585	0.0036

149	2.1620	0.0036
150	2.1656	0.0035
151	2.1691	0.0035
152	2.1726	0.0035
153	2.1761	0.0035
154	2.1796	0.0035
155	2.1830	0.0035
156	2.1864	0.0034
157	2.1899	0.0034
158	2.1933	0.0034
159	2.1967	0.0034
160	2.2000	0.0034
161	2.2034	0.0034
162	2.2067	0.0033
163	2.2100	0.0033
164	2.2133	0.0033
165	2.2166	0.0033
166	2.2199	0.0033
167	2.2232	0.0033
168	2.2264	0.0032
169	2.2296	0.0032
170	2.2329	0.0032
171	2.2361	0.0032
172	2.2393	0.0032
173	2.2424	0.0032
174	2.2456	0.0032
175	2.2487	0.0031
176	2.2519	0.0031
177	2.2550	0.0031
178	2.2581	0.0031
179	2.2612	0.0031
180	2.2643	0.0031
181	2.2673	0.0031
182	2.2704	0.0031
183	2.2734	0.0030
184	2.2765	0.0030
185	2.2795	0.0030
186	2.2825	0.0030
187	2.2855	0.0030
188	2.2885	0.0030
189	2.2914	0.0030
190	2.2944	0.0030
191	2.2974	0.0029
192	2.3003	0.0029
193	2.3032	0.0029
194	2.3061	0.0029
195	2.3090	0.0029
196	2.3119	0.0029
197	2.3148	0.0029
198	2.3177	0.0029
199	2.3205	0.0029
200	2.3234	0.0028
201	2.3262	0.0028
202	2.3290	0.0028
203	2.3318	0.0028
204	2.3346	0.0028
205	2.3374	0.0028
206	2.3402	0.0028
207	2.3430	0.0028

208	2.3457	0.0028
209	2.3485	0.0028
210	2.3512	0.0027
211	2.3540	0.0027
212	2.3567	0.0027
213	2.3594	0.0027
214	2.3621	0.0027
215	2.3648	0.0027
216	2.3675	0.0027
217	2.3701	0.0027
218	2.3728	0.0027
219	2.3755	0.0027
220	2.3781	0.0026
221	2.3808	0.0026
222	2.3834	0.0026
223	2.3860	0.0026
224	2.3886	0.0026
225	2.3912	0.0026
226	2.3938	0.0026
227	2.3964	0.0026
228	2.3990	0.0026
229	2.4015	0.0026
230	2.4041	0.0026
231	2.4066	0.0026
232	2.4092	0.0025
233	2.4117	0.0025
234	2.4143	0.0025
235	2.4168	0.0025
236	2.4193	0.0025
237	2.4218	0.0025
238	2.4243	0.0025
239	2.4268	0.0025
240	2.4292	0.0025
241	2.4317	0.0025
242	2.4342	0.0025
243	2.4366	0.0025
244	2.4391	0.0024
245	2.4415	0.0024
246	2.4439	0.0024
247	2.4464	0.0024
248	2.4488	0.0024
249	2.4512	0.0024
250	2.4536	0.0024
251	2.4560	0.0024
252	2.4584	0.0024
253	2.4608	0.0024
254	2.4631	0.0024
255	2.4655	0.0024
256	2.4679	0.0024
257	2.4702	0.0024
258	2.4726	0.0023
259	2.4749	0.0023
260	2.4772	0.0023
261	2.4796	0.0023
262	2.4819	0.0023
263	2.4842	0.0023
264	2.4865	0.0023
265	2.4888	0.0023
266	2.4911	0.0023

267	2.4934	0.0023
268	2.4957	0.0023
269	2.4979	0.0023
270	2.5002	0.0023
271	2.5025	0.0023
272	2.5047	0.0023
273	2.5070	0.0022
274	2.5092	0.0022
275	2.5114	0.0022
276	2.5137	0.0022
277	2.5159	0.0022
278	2.5181	0.0022
279	2.5203	0.0022
280	2.5225	0.0022
281	2.5247	0.0022
282	2.5269	0.0022
283	2.5291	0.0022
284	2.5313	0.0022
285	2.5335	0.0022
286	2.5356	0.0022
287	2.5378	0.0022
288	2.5400	0.0022

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0022	0.0006	0.0016
2	0.0022	0.0006	0.0016
3	0.0022	0.0006	0.0016
4	0.0022	0.0006	0.0016
5	0.0022	0.0006	0.0016
6	0.0022	0.0006	0.0016
7	0.0022	0.0006	0.0016
8	0.0022	0.0006	0.0016
9	0.0022	0.0006	0.0016
10	0.0022	0.0006	0.0016
11	0.0022	0.0006	0.0016
12	0.0023	0.0006	0.0016
13	0.0023	0.0006	0.0017
14	0.0023	0.0006	0.0017
15	0.0023	0.0006	0.0017
16	0.0023	0.0006	0.0017
17	0.0023	0.0006	0.0017
18	0.0023	0.0006	0.0017
19	0.0023	0.0006	0.0017
20	0.0023	0.0006	0.0017
21	0.0023	0.0006	0.0017
22	0.0024	0.0006	0.0017
23	0.0024	0.0006	0.0017
24	0.0024	0.0006	0.0017
25	0.0024	0.0006	0.0017
26	0.0024	0.0007	0.0017
27	0.0024	0.0007	0.0018
28	0.0024	0.0007	0.0018
29	0.0024	0.0007	0.0018
30	0.0024	0.0007	0.0018
31	0.0025	0.0007	0.0018
32	0.0025	0.0007	0.0018

33	0.0025	0.0007	0.0018
34	0.0025	0.0007	0.0018
35	0.0025	0.0007	0.0018
36	0.0025	0.0007	0.0018
37	0.0025	0.0007	0.0018
38	0.0025	0.0007	0.0018
39	0.0026	0.0007	0.0019
40	0.0026	0.0007	0.0019
41	0.0026	0.0007	0.0019
42	0.0026	0.0007	0.0019
43	0.0026	0.0007	0.0019
44	0.0026	0.0007	0.0019
45	0.0026	0.0007	0.0019
46	0.0026	0.0007	0.0019
47	0.0027	0.0007	0.0019
48	0.0027	0.0007	0.0019
49	0.0027	0.0007	0.0020
50	0.0027	0.0007	0.0020
51	0.0027	0.0007	0.0020
52	0.0027	0.0007	0.0020
53	0.0027	0.0007	0.0020
54	0.0028	0.0007	0.0020
55	0.0028	0.0008	0.0020
56	0.0028	0.0008	0.0020
57	0.0028	0.0008	0.0020
58	0.0028	0.0008	0.0020
59	0.0028	0.0008	0.0021
60	0.0028	0.0008	0.0021
61	0.0029	0.0008	0.0021
62	0.0029	0.0008	0.0021
63	0.0029	0.0008	0.0021
64	0.0029	0.0008	0.0021
65	0.0029	0.0008	0.0021
66	0.0029	0.0008	0.0021
67	0.0030	0.0008	0.0022
68	0.0030	0.0008	0.0022
69	0.0030	0.0008	0.0022
70	0.0030	0.0008	0.0022
71	0.0030	0.0008	0.0022
72	0.0031	0.0008	0.0022
73	0.0031	0.0008	0.0022
74	0.0031	0.0008	0.0023
75	0.0031	0.0008	0.0023
76	0.0031	0.0009	0.0023
77	0.0032	0.0009	0.0023
78	0.0032	0.0009	0.0023
79	0.0032	0.0009	0.0023
80	0.0032	0.0009	0.0023
81	0.0032	0.0009	0.0024
82	0.0033	0.0009	0.0024
83	0.0033	0.0009	0.0024
84	0.0033	0.0009	0.0024
85	0.0033	0.0009	0.0024
86	0.0034	0.0009	0.0024
87	0.0034	0.0009	0.0025
88	0.0034	0.0009	0.0025
89	0.0034	0.0009	0.0025
90	0.0035	0.0009	0.0025
91	0.0035	0.0009	0.0025

92	0.0035	0.0010	0.0026
93	0.0035	0.0010	0.0026
94	0.0036	0.0010	0.0026
95	0.0036	0.0010	0.0026
96	0.0036	0.0010	0.0026
97	0.0036	0.0010	0.0027
98	0.0037	0.0010	0.0027
99	0.0037	0.0010	0.0027
100	0.0037	0.0010	0.0027
101	0.0038	0.0010	0.0027
102	0.0038	0.0010	0.0028
103	0.0038	0.0010	0.0028
104	0.0039	0.0010	0.0028
105	0.0039	0.0011	0.0028
106	0.0039	0.0011	0.0029
107	0.0040	0.0011	0.0029
108	0.0040	0.0011	0.0029
109	0.0040	0.0011	0.0029
110	0.0041	0.0011	0.0030
111	0.0041	0.0011	0.0030
112	0.0041	0.0011	0.0030
113	0.0042	0.0011	0.0031
114	0.0042	0.0011	0.0031
115	0.0043	0.0012	0.0031
116	0.0043	0.0012	0.0031
117	0.0044	0.0012	0.0032
118	0.0044	0.0012	0.0032
119	0.0044	0.0012	0.0032
120	0.0045	0.0012	0.0033
121	0.0045	0.0012	0.0033
122	0.0046	0.0012	0.0033
123	0.0046	0.0013	0.0034
124	0.0047	0.0013	0.0034
125	0.0047	0.0013	0.0035
126	0.0048	0.0013	0.0035
127	0.0048	0.0013	0.0035
128	0.0049	0.0013	0.0036
129	0.0050	0.0013	0.0036
130	0.0050	0.0014	0.0036
131	0.0051	0.0014	0.0037
132	0.0051	0.0014	0.0037
133	0.0052	0.0014	0.0038
134	0.0053	0.0014	0.0038
135	0.0053	0.0015	0.0039
136	0.0054	0.0015	0.0039
137	0.0055	0.0015	0.0040
138	0.0055	0.0015	0.0040
139	0.0056	0.0015	0.0041
140	0.0057	0.0015	0.0042
141	0.0058	0.0016	0.0042
142	0.0059	0.0016	0.0043
143	0.0060	0.0016	0.0044
144	0.0060	0.0016	0.0044
145	0.0037	0.0010	0.0027
146	0.0038	0.0010	0.0027
147	0.0039	0.0010	0.0028
148	0.0039	0.0011	0.0029
149	0.0040	0.0011	0.0029
150	0.0041	0.0011	0.0030

151	0.0042	0.0011	0.0030
152	0.0042	0.0012	0.0031
153	0.0044	0.0012	0.0032
154	0.0044	0.0012	0.0032
155	0.0046	0.0012	0.0033
156	0.0046	0.0013	0.0034
157	0.0048	0.0013	0.0035
158	0.0049	0.0013	0.0035
159	0.0050	0.0014	0.0037
160	0.0051	0.0014	0.0037
161	0.0053	0.0014	0.0038
162	0.0054	0.0015	0.0039
163	0.0056	0.0015	0.0041
164	0.0057	0.0015	0.0041
165	0.0059	0.0016	0.0043
166	0.0061	0.0016	0.0044
167	0.0063	0.0017	0.0046
168	0.0065	0.0018	0.0047
169	0.0068	0.0018	0.0050
170	0.0070	0.0019	0.0051
171	0.0073	0.0020	0.0053
172	0.0075	0.0020	0.0055
173	0.0080	0.0022	0.0058
174	0.0082	0.0022	0.0060
175	0.0087	0.0024	0.0064
176	0.0090	0.0024	0.0066
177	0.0097	0.0026	0.0070
178	0.0100	0.0027	0.0073
179	0.0109	0.0029	0.0079
180	0.0113	0.0031	0.0082
181	0.0124	0.0034	0.0090
182	0.0131	0.0035	0.0095
183	0.0146	0.0040	0.0106
184	0.0155	0.0042	0.0113
185	0.0358	0.0097	0.0261
186	0.0381	0.0104	0.0278
187	0.0442	0.0105	0.0337
188	0.0483	0.0105	0.0378
189	0.0601	0.0105	0.0496
190	0.0692	0.0105	0.0587
191	0.1050	0.0105	0.0945
192	0.1523	0.0105	0.1418
193	0.6591	0.0105	0.6486
194	0.0826	0.0105	0.0721
195	0.0534	0.0105	0.0429
196	0.0409	0.0105	0.0304
197	0.0165	0.0045	0.0121
198	0.0138	0.0037	0.0100
199	0.0118	0.0032	0.0086
200	0.0104	0.0028	0.0076
201	0.0093	0.0025	0.0068
202	0.0084	0.0023	0.0062
203	0.0077	0.0021	0.0056
204	0.0071	0.0019	0.0052
205	0.0066	0.0018	0.0048
206	0.0062	0.0017	0.0045
207	0.0058	0.0016	0.0042
208	0.0055	0.0015	0.0040
209	0.0052	0.0014	0.0038

210	0.0049	0.0013	0.0036
211	0.0047	0.0013	0.0034
212	0.0045	0.0012	0.0033
213	0.0043	0.0012	0.0031
214	0.0041	0.0011	0.0030
215	0.0040	0.0011	0.0029
216	0.0038	0.0010	0.0028
217	0.0061	0.0017	0.0045
218	0.0059	0.0016	0.0043
219	0.0058	0.0016	0.0042
220	0.0056	0.0015	0.0041
221	0.0054	0.0015	0.0040
222	0.0053	0.0014	0.0039
223	0.0052	0.0014	0.0038
224	0.0050	0.0014	0.0037
225	0.0049	0.0013	0.0036
226	0.0048	0.0013	0.0035
227	0.0047	0.0013	0.0034
228	0.0046	0.0012	0.0034
229	0.0045	0.0012	0.0033
230	0.0044	0.0012	0.0032
231	0.0043	0.0012	0.0032
232	0.0042	0.0012	0.0031
233	0.0042	0.0011	0.0030
234	0.0041	0.0011	0.0030
235	0.0040	0.0011	0.0029
236	0.0039	0.0011	0.0029
237	0.0039	0.0011	0.0028
238	0.0038	0.0010	0.0028
239	0.0037	0.0010	0.0027
240	0.0037	0.0010	0.0027
241	0.0036	0.0010	0.0026
242	0.0036	0.0010	0.0026
243	0.0035	0.0010	0.0026
244	0.0035	0.0009	0.0025
245	0.0034	0.0009	0.0025
246	0.0034	0.0009	0.0025
247	0.0033	0.0009	0.0024
248	0.0033	0.0009	0.0024
249	0.0032	0.0009	0.0024
250	0.0032	0.0009	0.0023
251	0.0031	0.0009	0.0023
252	0.0031	0.0008	0.0023
253	0.0031	0.0008	0.0022
254	0.0030	0.0008	0.0022
255	0.0030	0.0008	0.0022
256	0.0030	0.0008	0.0022
257	0.0029	0.0008	0.0021
258	0.0029	0.0008	0.0021
259	0.0029	0.0008	0.0021
260	0.0028	0.0008	0.0021
261	0.0028	0.0008	0.0020
262	0.0028	0.0007	0.0020
263	0.0027	0.0007	0.0020
264	0.0027	0.0007	0.0020
265	0.0027	0.0007	0.0019
266	0.0026	0.0007	0.0019
267	0.0026	0.0007	0.0019
268	0.0026	0.0007	0.0019

269	0.0026	0.0007	0.0019
270	0.0025	0.0007	0.0019
271	0.0025	0.0007	0.0018
272	0.0025	0.0007	0.0018
273	0.0025	0.0007	0.0018
274	0.0024	0.0007	0.0018
275	0.0024	0.0007	0.0018
276	0.0024	0.0007	0.0018
277	0.0024	0.0006	0.0017
278	0.0024	0.0006	0.0017
279	0.0023	0.0006	0.0017
280	0.0023	0.0006	0.0017
281	0.0023	0.0006	0.0017
282	0.0023	0.0006	0.0017
283	0.0023	0.0006	0.0016
284	0.0022	0.0006	0.0016
285	0.0022	0.0006	0.0016
286	0.0022	0.0006	0.0016
287	0.0022	0.0006	0.0016
288	0.0022	0.0006	0.0016

Total soil rain loss = 0.44(In)
Total effective rainfall = 2.10(In)
Peak flow rate in flood hydrograph = 29.53(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0009	0.08	Q				
0+25	0.0018	0.13	Q				
0+30	0.0029	0.16	Q				
0+35	0.0042	0.19	Q				
0+40	0.0056	0.20	Q				
0+45	0.0071	0.22	Q				
0+50	0.0087	0.23	Q				
0+55	0.0103	0.24	Q				
1+ 0	0.0120	0.25	Q				
1+ 5	0.0137	0.25	Q				
1+10	0.0155	0.26	Q				
1+15	0.0173	0.27	Q				
1+20	0.0192	0.27	Q				
1+25	0.0211	0.27	Q				
1+30	0.0230	0.28	Q				
1+35	0.0250	0.28	Q				
1+40	0.0269	0.29	Q				
1+45	0.0289	0.29	Q				
1+50	0.0309	0.29	Q				
1+55	0.0330	0.30	Q				
2+ 0	0.0350	0.30	Q				

2+ 5	0.0371	0.30	Q				
2+10	0.0392	0.30	Q				
2+15	0.0413	0.31	Q				
2+20	0.0435	0.31	Q				
2+25	0.0456	0.31	Q				
2+30	0.0478	0.31	Q				
2+35	0.0499	0.31	Q				
2+40	0.0521	0.32	Q				
2+45	0.0543	0.32	Q				
2+50	0.0565	0.32	Q				
2+55	0.0587	0.32	Q				
3+ 0	0.0610	0.33	Q				
3+ 5	0.0632	0.33	Q				
3+10	0.0655	0.33	Q				
3+15	0.0678	0.33	QV				
3+20	0.0701	0.33	QV				
3+25	0.0724	0.33	QV				
3+30	0.0747	0.34	QV				
3+35	0.0770	0.34	QV				
3+40	0.0793	0.34	QV				
3+45	0.0817	0.34	QV				
3+50	0.0840	0.34	QV				
3+55	0.0864	0.34	QV				
4+ 0	0.0888	0.35	QV				
4+ 5	0.0912	0.35	QV				
4+10	0.0936	0.35	QV				
4+15	0.0960	0.35	QV				
4+20	0.0984	0.35	QV				
4+25	0.1009	0.35	QV				
4+30	0.1033	0.36	QV				
4+35	0.1058	0.36	QV				
4+40	0.1083	0.36	QV				
4+45	0.1108	0.36	QV				
4+50	0.1133	0.36	QV				
4+55	0.1158	0.37	QV				
5+ 0	0.1183	0.37	QV				
5+ 5	0.1209	0.37	QV				
5+10	0.1234	0.37	QV				
5+15	0.1260	0.37	QV				
5+20	0.1286	0.38	QV				
5+25	0.1312	0.38	QV				
5+30	0.1338	0.38	Q V				
5+35	0.1364	0.38	Q V				
5+40	0.1391	0.38	Q V				
5+45	0.1418	0.39	Q V				
5+50	0.1444	0.39	Q V				
5+55	0.1471	0.39	Q V				
6+ 0	0.1498	0.39	Q V				
6+ 5	0.1526	0.40	Q V				
6+10	0.1553	0.40	Q V				
6+15	0.1581	0.40	Q V				
6+20	0.1609	0.40	Q V				
6+25	0.1636	0.41	Q V				
6+30	0.1665	0.41	Q V				
6+35	0.1693	0.41	Q V				
6+40	0.1721	0.41	Q V				
6+45	0.1750	0.42	Q V				
6+50	0.1779	0.42	Q V				
6+55	0.1808	0.42	Q V				

7+ 0	0.1837	0.42	Q V	|	|	|	|
7+ 5	0.1866	0.43	Q V	|	|	|	|
7+10	0.1896	0.43	Q V	|	|	|	|
7+15	0.1926	0.43	Q V	|	|	|	|
7+20	0.1956	0.44	Q V	|	|	|	|
7+25	0.1986	0.44	Q V	|	|	|	|
7+30	0.2016	0.44	Q V	|	|	|	|
7+35	0.2047	0.44	Q V	|	|	|	|
7+40	0.2078	0.45	Q V	|	|	|	|
7+45	0.2109	0.45	Q V	|	|	|	|
7+50	0.2140	0.45	Q V	|	|	|	|
7+55	0.2172	0.46	Q V	|	|	|	|
8+ 0	0.2204	0.46	Q V	|	|	|	|
8+ 5	0.2235	0.46	Q V	|	|	|	|
8+10	0.2268	0.47	Q V	|	|	|	|
8+15	0.2300	0.47	Q V	|	|	|	|
8+20	0.2333	0.47	Q V	|	|	|	|
8+25	0.2366	0.48	Q V	|	|	|	|
8+30	0.2399	0.48	Q V	|	|	|	|
8+35	0.2432	0.49	Q V	|	|	|	|
8+40	0.2466	0.49	Q V	|	|	|	|
8+45	0.2500	0.49	Q V	|	|	|	|
8+50	0.2534	0.50	Q V	|	|	|	|
8+55	0.2569	0.50	Q V	|	|	|	|
9+ 0	0.2604	0.51	Q V	|	|	|	|
9+ 5	0.2639	0.51	Q V	|	|	|	|
9+10	0.2674	0.51	Q V	|	|	|	|
9+15	0.2710	0.52	Q V	|	|	|	|
9+20	0.2746	0.52	Q V	|	|	|	|
9+25	0.2782	0.53	Q V	|	|	|	|
9+30	0.2819	0.53	Q V	|	|	|	|
9+35	0.2856	0.54	Q V	|	|	|	|
9+40	0.2893	0.54	Q V	|	|	|	|
9+45	0.2931	0.55	Q V	|	|	|	|
9+50	0.2969	0.55	Q V	|	|	|	|
9+55	0.3007	0.56	Q V	|	|	|	|
10+ 0	0.3046	0.56	Q V	|	|	|	|
10+ 5	0.3085	0.57	Q V	|	|	|	|
10+10	0.3125	0.57	Q V	|	|	|	|
10+15	0.3165	0.58	Q V	|	|	|	|
10+20	0.3205	0.58	Q V	|	|	|	|
10+25	0.3246	0.59	Q V	|	|	|	|
10+30	0.3287	0.60	Q V	|	|	|	|
10+35	0.3328	0.60	Q V	|	|	|	|
10+40	0.3370	0.61	Q V	|	|	|	|
10+45	0.3413	0.62	Q V	|	|	|	|
10+50	0.3456	0.62	Q V	|	|	|	|
10+55	0.3499	0.63	Q V	|	|	|	|
11+ 0	0.3543	0.64	Q V	|	|	|	|
11+ 5	0.3587	0.64	Q V	|	|	|	|
11+10	0.3632	0.65	Q V	|	|	|	|
11+15	0.3677	0.66	Q V	|	|	|	|
11+20	0.3723	0.67	Q V	|	|	|	|
11+25	0.3770	0.68	Q V	|	|	|	|
11+30	0.3817	0.68	Q V	|	|	|	|
11+35	0.3865	0.69	Q V	|	|	|	|
11+40	0.3913	0.70	Q V	|	|	|	|
11+45	0.3962	0.71	Q V	|	|	|	|
11+50	0.4011	0.72	Q V	|	|	|	|

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11+55       0.4061      0.73  Q     V   |          |          |          |
12+ 0       0.4112      0.74  Q     V   |          |          |          |
12+ 5       0.4164      0.75  Q     V   |          |          |          |
12+10       0.4215      0.74  Q     V   |          |          |          |
12+15       0.4265      0.73  Q     V   |          |          |          |
12+20       0.4313      0.69  Q     V   |          |          |          |
12+25       0.4357      0.65  Q     V   |          |          |          |
12+30       0.4400      0.62  Q     V   |          |          |          |
12+35       0.4441      0.60  Q     V   |          |          |          |
12+40       0.4482      0.60  Q     V   |          |          |          |
12+45       0.4523      0.59  Q     V   |          |          |          |
12+50       0.4564      0.59  Q     V   |          |          |          |
12+55       0.4605      0.59  Q     V   |          |          |          |
13+ 0       0.4645      0.59  Q     V   |          |          |          |
13+ 5       0.4687      0.60  Q      V  |          |          |          |
13+10       0.4728      0.60  Q      V  |          |          |          |
13+15       0.4770      0.61  Q      V  |          |          |          |
13+20       0.4813      0.62  Q      V  |          |          |          |
13+25       0.4857      0.63  Q      V  |          |          |          |
13+30       0.4901      0.64  Q      V  |          |          |          |
13+35       0.4946      0.65  Q      V  |          |          |          |
13+40       0.4992      0.67  Q      V  |          |          |          |
13+45       0.5038      0.68  Q      V  |          |          |          |
13+50       0.5086      0.70  Q      V  |          |          |          |
13+55       0.5135      0.71  Q      V  |          |          |          |
14+ 0       0.5186      0.73  Q      V  |          |          |          |
14+ 5       0.5237      0.75  Q      V  |          |          |          |
14+10       0.5290      0.77  |Q     V  |          |          |          |
14+15       0.5345      0.79  |Q      V |          |          |          |
14+20       0.5401      0.82  |Q      V |          |          |          |
14+25       0.5459      0.84  |Q      V |          |          |          |
14+30       0.5519      0.87  |Q      V |          |          |          |
14+35       0.5582      0.90  |Q      V |          |          |          |
14+40       0.5646      0.94  |Q      V |          |          |          |
14+45       0.5713      0.98  |Q      V |          |          |          |
14+50       0.5783      1.02  |Q      V |          |          |          |
14+55       0.5856      1.06  |Q      V |          |          |          |
15+ 0       0.5933      1.11  |Q      V |          |          |          |
15+ 5       0.6013      1.17  |Q       V|          |          |          |
15+10       0.6098      1.23  |Q       V|          |          |          |
15+15       0.6187      1.30  |Q       V|          |          |          |
15+20       0.6282      1.38  |Q       V|          |          |          |
15+25       0.6385      1.50  |Q       V|          |          |          |
15+30       0.6502      1.70  | Q      V|          |          |          |
15+35       0.6640      2.01  | Q      V|          |          |          |
15+40       0.6818      2.58  |  Q      V          |          |          |
15+45       0.7044      3.28  |   Q     V          |          |          |
15+50       0.7320      4.01  |    Q    V          |          |          |
15+55       0.7656      4.88  |     Q   |V         |          |          |
16+ 0       0.8077      6.12  |       Q | V        |          |          |
16+ 5       0.8686      8.83  |         |Q V       |          |          |
16+10       0.9622     13.59  |         |   V   Q  |          |          |
16+15       1.0958     19.40  |         |     V    |    Q     |          |
16+20       1.2951     28.94  |         |        V |          |       Q  |
16+25       1.4985     29.53  |         |          | V        |        Q |
16+30       1.6515     22.21  |         |          |   V    Q |          |
16+35       1.7659     16.61  |         |          | Q   V    |          |
16+40       1.8552     12.97  |         |      Q   |      V   |          |
16+45       1.9278     10.55  |         |   Q      |       V  |          |
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16+50       1.9882      8.77  |         |Q        |        V|         |
16+55       2.0392      7.40  |        Q|         |         V         |
17+ 0       2.0832      6.40  |       Q |         |         |V        |
17+ 5       2.1221      5.64  |      Q  |         |         |V        |
17+10       2.1569      5.06  |     Q   |         |         | V       |
17+15       2.1876      4.46  |    Q    |         |         | V       |
17+20       2.2142      3.86  |    Q    |         |         |  V      |
17+25       2.2382      3.49  |   Q     |         |         |  V      |
17+30       2.2603      3.20  |   Q     |         |         |  V      |
17+35       2.2803      2.91  |  Q      |         |         |   V     |
17+40       2.2987      2.67  |  Q      |         |         |   V     |
17+45       2.3150      2.37  |  Q      |         |         |   V     |
17+50       2.3302      2.21  | Q       |         |         |   V     |
17+55       2.3441      2.02  | Q       |         |         |    V    |
18+ 0       2.3567      1.82  | Q       |         |         |    V    |
18+ 5       2.3684      1.70  | Q       |         |         |    V    |
18+10       2.3788      1.50  | Q       |         |         |    V    |
18+15       2.3885      1.42  |Q        |         |         |    V    |
18+20       2.3976      1.31  |Q        |         |         |    V    |
18+25       2.4061      1.24  |Q        |         |         |     V   |
18+30       2.4146      1.24  |Q        |         |         |     V   |
18+35       2.4233      1.26  |Q        |         |         |     V   |
18+40       2.4319      1.24  |Q        |         |         |     V   |
18+45       2.4402      1.22  |Q        |         |         |     V   |
18+50       2.4483      1.18  |Q        |         |         |     V   |
18+55       2.4559      1.10  |Q        |         |         |     V   |
19+ 0       2.4627      0.98  |Q        |         |         |     V   |
19+ 5       2.4691      0.93  |Q        |         |         |      V  |
19+10       2.4752      0.89  |Q        |         |         |      V  |
19+15       2.4807      0.80  |Q        |         |         |      V  |
19+20       2.4854      0.68  Q         |         |         |      V  |
19+25       2.4899      0.66  Q         |         |         |      V  |
19+30       2.4943      0.64  Q         |         |         |      V  |
19+35       2.4986      0.62  Q         |         |         |      V  |
19+40       2.5028      0.61  Q         |         |         |      V  |
19+45       2.5069      0.60  Q         |         |         |      V  |
19+50       2.5109      0.58  Q         |         |         |      V  |
19+55       2.5148      0.57  Q         |         |         |      V  |
20+ 0       2.5187      0.56  Q         |         |         |      V  |
20+ 5       2.5225      0.55  Q         |         |         |      V  |
20+10       2.5263      0.54  Q         |         |         |      V  |
20+15       2.5300      0.54  Q         |         |         |      V  |
20+20       2.5336      0.53  Q         |         |         |      V  |
20+25       2.5372      0.52  Q         |         |         |       V |
20+30       2.5407      0.51  Q         |         |         |       V |
20+35       2.5441      0.50  Q         |         |         |       V |
20+40       2.5475      0.49  Q         |         |         |       V |
20+45       2.5509      0.49  Q         |         |         |       V |
20+50       2.5542      0.48  Q         |         |         |       V |
20+55       2.5574      0.47  Q         |         |         |       V |
21+ 0       2.5606      0.47  Q         |         |         |       V |
21+ 5       2.5638      0.46  Q         |         |         |       V |
21+10       2.5669      0.45  Q         |         |         |       V |
21+15       2.5700      0.45  Q         |         |         |       V |
21+20       2.5730      0.44  Q         |         |         |       V |
21+25       2.5760      0.43  Q         |         |         |       V |
21+30       2.5790      0.43  Q         |         |         |       V |
21+35       2.5819      0.42  Q         |         |         |       V |
21+40       2.5847      0.42  Q         |         |         |       V |
```

21+45	2.5876	0.41	Q	|	|	|	V |
21+50	2.5904	0.41	Q	|	|	|	V |
21+55	2.5932	0.40	Q	|	|	|	V |
22+ 0	2.5959	0.40	Q	|	|	|	V |
22+ 5	2.5986	0.39	Q	|	|	|	V |
22+10	2.6013	0.39	Q	|	|	|	V |
22+15	2.6039	0.38	Q	|	|	|	V|
22+20	2.6065	0.38	Q	|	|	|	V|
22+25	2.6091	0.37	Q	|	|	|	V|
22+30	2.6116	0.37	Q	|	|	|	V|
22+35	2.6142	0.37	Q	|	|	|	V|
22+40	2.6167	0.36	Q	|	|	|	V|
22+45	2.6191	0.36	Q	|	|	|	V|
22+50	2.6216	0.35	Q	|	|	|	V|
22+55	2.6240	0.35	Q	|	|	|	V|
23+ 0	2.6264	0.35	Q	|	|	|	V|
23+ 5	2.6288	0.34	Q	|	|	|	V|
23+10	2.6311	0.34	Q	|	|	|	V|
23+15	2.6334	0.34	Q	|	|	|	V|
23+20	2.6357	0.33	Q	|	|	|	V|
23+25	2.6380	0.33	Q	|	|	|	V|
23+30	2.6403	0.33	Q	|	|	|	V|
23+35	2.6425	0.32	Q	|	|	|	V|
23+40	2.6447	0.32	Q	|	|	|	V|
23+45	2.6469	0.32	Q	|	|	|	V|
23+50	2.6491	0.32	Q	|	|	|	V|
23+55	2.6513	0.31	Q	|	|	|	V|
24+ 0	2.6534	0.31	Q	|	|	|	V|
24+ 5	2.6555	0.31	Q	|	|	|	V|
24+10	2.6575	0.29	Q	|	|	|	V|
24+15	2.6594	0.27	Q	|	|	|	V|
24+20	2.6609	0.22	Q	|	|	|	V|
24+25	2.6620	0.17	Q	|	|	|	V|
24+30	2.6630	0.14	Q	|	|	|	V|
24+35	2.6637	0.11	Q	|	|	|	V|
24+40	2.6644	0.10	Q	|	|	|	V|
24+45	2.6650	0.08	Q	|	|	|	V|
24+50	2.6654	0.07	Q	|	|	|	V|
24+55	2.6659	0.06	Q	|	|	|	V|
25+ 0	2.6662	0.05	Q	|	|	|	V|
25+ 5	2.6666	0.05	Q	|	|	|	V|
25+10	2.6668	0.04	Q	|	|	|	V|
25+15	2.6671	0.04	Q	|	|	|	V|
25+20	2.6673	0.03	Q	|	|	|	V|
25+25	2.6675	0.03	Q	|	|	|	V|
25+30	2.6677	0.02	Q	|	|	|	V|
25+35	2.6678	0.02	Q	|	|	|	V|
25+40	2.6680	0.02	Q	|	|	|	V|
25+45	2.6681	0.02	Q	|	|	|	V|
25+50	2.6682	0.01	Q	|	|	|	V|
25+55	2.6683	0.01	Q	|	|	|	V|
26+ 0	2.6683	0.01	Q	|	|	|	V|
26+ 5	2.6684	0.01	Q	|	|	|	V|
26+10	2.6685	0.01	Q	|	|	|	V|
26+15	2.6685	0.01	Q	|	|	|	V|
26+20	2.6685	0.01	Q	|	|	|	V|
26+25	2.6686	0.01	Q	|	|	|	V|
26+30	2.6686	0.00	Q	|	|	|	V|
26+35	2.6687	0.00	Q	|	|	|	V|

26+40	2.6687	0.00	Q	|	|	|	V|
26+45	2.6687	0.00	Q	|	|	|	V|
26+50	2.6687	0.00	Q	|	|	|	V|
26+55	2.6687	0.00	Q	|	|	|	V|
27+ 0	2.6687	0.00	Q	|	|	|	V|
27+ 5	2.6687	0.00	Q	|	|	|	V|
27+10	2.6687	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 30
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)	
Rainfall data for year 100			
135.00	1	1.40	
Rainfall data for year 100			
135.00	6	1.82	
Rainfall data for year 100			
135.00	24	2.57	

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
87.7	97.5	135.00	1.000	0.049	0.895	0.044

Area-averaged adjusted loss rate Fm (In/Hr) = 0.044

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
120.83	0.895	87.7	97.5	0.25	0.891
14.17	0.105	98.0	98.0	0.20	0.911

Area-averaged catchment yield fraction, Y = 0.893
Area-averaged low loss fraction, Yb = 0.107
User entry of time of concentration = 1.080 (hours)
++
Watershed area = 135.00(Ac.)
Catchment Lag time = 0.864 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 9.6451
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.044(In/Hr)
Average low loss rate fraction (Yb) = 0.107 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.644(In)
Specified peak 6-hour rainfall = 1.820(In)
Specified peak 24-hour rainfall = 2.570(In)

Rainfall depth area reduction factors:
Using a total area of 135.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.994 Adjusted rainfall = 0.660(In)
30-minute factor = 0.994 Adjusted rainfall = 1.130(In)
1-hour factor = 0.994 Adjusted rainfall = 1.391(In)
3-hour factor = 0.999 Adjusted rainfall = 1.643(In)
6-hour factor = 1.000 Adjusted rainfall = 1.819(In)
24-hour factor = 1.000 Adjusted rainfall = 2.570(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1632.66 (CFS))	
1	0.424	6.929
2	1.464	16.979
3	3.115	26.952
4	5.377	36.932
5	8.283	47.447
6	12.500	68.848
7	19.124	108.146
8	28.533	153.620
9	37.277	142.760
10	44.637	120.149
11	50.584	97.096
12	55.603	81.955
13	59.596	65.181

14	62.925	54.355
15	65.806	47.039
16	68.344	41.441
17	70.690	38.296
18	72.758	33.759
19	74.602	30.110
20	76.290	27.556
21	77.905	26.379
22	79.273	22.322
23	80.546	20.786
24	81.767	19.933
25	82.821	17.210
26	83.862	17.001
27	84.837	15.917
28	85.763	15.117
29	86.671	14.817
30	87.462	12.928
31	88.234	12.598
32	88.928	11.333
33	89.508	9.465
34	90.085	9.419
35	90.634	8.971
36	91.174	8.818
37	91.695	8.499
38	92.161	7.611
39	92.624	7.554
40	93.063	7.173
41	93.487	6.929
42	93.898	6.709
43	94.237	5.529
44	94.565	5.354
45	94.893	5.354
46	95.221	5.354
47	95.544	5.279
48	95.812	4.365
49	96.062	4.094
50	96.313	4.094
51	96.564	4.094
52	96.814	4.078
53	97.015	3.279
54	97.188	2.834
55	97.362	2.834
56	97.535	2.834
57	97.709	2.834
58	97.846	2.234
59	97.942	1.575
60	98.039	1.575
61	98.135	1.575
62	98.232	1.575
63	98.334	1.673
64	98.450	1.883
65	98.565	1.890
66	98.681	1.890
67	98.797	1.890
68	98.912	1.890
69	99.028	1.890
70	99.144	1.890
71	99.260	1.890
72	99.375	1.890

73	99.486	1.808
74	99.556	1.134
75	99.616	0.984
76	99.676	0.984
77	99.737	0.984
78	99.797	0.984
79	99.857	0.984
80	99.917	0.984
81	100.000	0.492

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6601	0.6601
2	0.8127	0.1526
3	0.9178	0.1051
4	1.0005	0.0827
5	1.0698	0.0693
6	1.1300	0.0601
7	1.1834	0.0535
8	1.2318	0.0484
9	1.2761	0.0443
10	1.3171	0.0410
11	1.3553	0.0382
12	1.3911	0.0358
13	1.4081	0.0170
14	1.4240	0.0159
15	1.4390	0.0150
16	1.4531	0.0141
17	1.4665	0.0134
18	1.4793	0.0128
19	1.4914	0.0122
20	1.5031	0.0116
21	1.5142	0.0111
22	1.5249	0.0107
23	1.5352	0.0103
24	1.5451	0.0099
25	1.5547	0.0096
26	1.5640	0.0093
27	1.5730	0.0090
28	1.5817	0.0087
29	1.5901	0.0084
30	1.5983	0.0082
31	1.6062	0.0080
32	1.6140	0.0077
33	1.6215	0.0075
34	1.6289	0.0073
35	1.6360	0.0072
36	1.6430	0.0070
37	1.6497	0.0066
38	1.6561	0.0065
39	1.6625	0.0063
40	1.6687	0.0062
41	1.6747	0.0061
42	1.6807	0.0059
43	1.6865	0.0058
44	1.6922	0.0057
45	1.6978	0.0056
46	1.7033	0.0055
47	1.7087	0.0054

48	1.7140	0.0053
49	1.7192	0.0052
50	1.7243	0.0051
51	1.7293	0.0050
52	1.7343	0.0049
53	1.7391	0.0049
54	1.7439	0.0048
55	1.7486	0.0047
56	1.7533	0.0046
57	1.7578	0.0046
58	1.7623	0.0045
59	1.7668	0.0044
60	1.7711	0.0044
61	1.7754	0.0043
62	1.7797	0.0042
63	1.7839	0.0042
64	1.7880	0.0041
65	1.7921	0.0041
66	1.7961	0.0040
67	1.8001	0.0040
68	1.8040	0.0039
69	1.8079	0.0039
70	1.8117	0.0038
71	1.8155	0.0038
72	1.8192	0.0037
73	1.8255	0.0063
74	1.8317	0.0062
75	1.8378	0.0061
76	1.8439	0.0061
77	1.8499	0.0060
78	1.8559	0.0060
79	1.8618	0.0059
80	1.8676	0.0058
81	1.8734	0.0058
82	1.8791	0.0057
83	1.8848	0.0057
84	1.8904	0.0056
85	1.8960	0.0056
86	1.9016	0.0055
87	1.9070	0.0055
88	1.9125	0.0054
89	1.9179	0.0054
90	1.9232	0.0053
91	1.9285	0.0053
92	1.9338	0.0053
93	1.9390	0.0052
94	1.9442	0.0052
95	1.9493	0.0051
96	1.9544	0.0051
97	1.9594	0.0051
98	1.9644	0.0050
99	1.9694	0.0050
100	1.9744	0.0049
101	1.9793	0.0049
102	1.9841	0.0049
103	1.9890	0.0048
104	1.9937	0.0048
105	1.9985	0.0048
106	2.0032	0.0047

107	2.0079	0.0047
108	2.0126	0.0047
109	2.0172	0.0046
110	2.0218	0.0046
111	2.0264	0.0046
112	2.0309	0.0045
113	2.0354	0.0045
114	2.0399	0.0045
115	2.0443	0.0044
116	2.0487	0.0044
117	2.0531	0.0044
118	2.0575	0.0044
119	2.0618	0.0043
120	2.0661	0.0043
121	2.0704	0.0043
122	2.0746	0.0042
123	2.0788	0.0042
124	2.0830	0.0042
125	2.0872	0.0042
126	2.0914	0.0041
127	2.0955	0.0041
128	2.0996	0.0041
129	2.1037	0.0041
130	2.1077	0.0041
131	2.1117	0.0040
132	2.1157	0.0040
133	2.1197	0.0040
134	2.1237	0.0040
135	2.1276	0.0039
136	2.1315	0.0039
137	2.1354	0.0039
138	2.1393	0.0039
139	2.1431	0.0039
140	2.1470	0.0038
141	2.1508	0.0038
142	2.1546	0.0038
143	2.1583	0.0038
144	2.1621	0.0037
145	2.1658	0.0037
146	2.1695	0.0037
147	2.1732	0.0037
148	2.1769	0.0037
149	2.1806	0.0037
150	2.1842	0.0036
151	2.1878	0.0036
152	2.1914	0.0036
153	2.1950	0.0036
154	2.1986	0.0036
155	2.2021	0.0035
156	2.2056	0.0035
157	2.2091	0.0035
158	2.2126	0.0035
159	2.2161	0.0035
160	2.2196	0.0035
161	2.2230	0.0034
162	2.2265	0.0034
163	2.2299	0.0034
164	2.2333	0.0034
165	2.2367	0.0034

166	2.2400	0.0034
167	2.2434	0.0034
168	2.2467	0.0033
169	2.2501	0.0033
170	2.2534	0.0033
171	2.2567	0.0033
172	2.2599	0.0033
173	2.2632	0.0033
174	2.2665	0.0033
175	2.2697	0.0032
176	2.2729	0.0032
177	2.2761	0.0032
178	2.2793	0.0032
179	2.2825	0.0032
180	2.2857	0.0032
181	2.2888	0.0032
182	2.2920	0.0031
183	2.2951	0.0031
184	2.2982	0.0031
185	2.3013	0.0031
186	2.3044	0.0031
187	2.3075	0.0031
188	2.3106	0.0031
189	2.3136	0.0031
190	2.3167	0.0030
191	2.3197	0.0030
192	2.3227	0.0030
193	2.3257	0.0030
194	2.3287	0.0030
195	2.3317	0.0030
196	2.3347	0.0030
197	2.3376	0.0030
198	2.3406	0.0030
199	2.3435	0.0029
200	2.3465	0.0029
201	2.3494	0.0029
202	2.3523	0.0029
203	2.3552	0.0029
204	2.3581	0.0029
205	2.3609	0.0029
206	2.3638	0.0029
207	2.3666	0.0029
208	2.3695	0.0028
209	2.3723	0.0028
210	2.3751	0.0028
211	2.3780	0.0028
212	2.3808	0.0028
213	2.3836	0.0028
214	2.3863	0.0028
215	2.3891	0.0028
216	2.3919	0.0028
217	2.3946	0.0028
218	2.3974	0.0027
219	2.4001	0.0027
220	2.4028	0.0027
221	2.4055	0.0027
222	2.4083	0.0027
223	2.4109	0.0027
224	2.4136	0.0027

225	2.4163	0.0027
226	2.4190	0.0027
227	2.4217	0.0027
228	2.4243	0.0027
229	2.4269	0.0026
230	2.4296	0.0026
231	2.4322	0.0026
232	2.4348	0.0026
233	2.4374	0.0026
234	2.4400	0.0026
235	2.4426	0.0026
236	2.4452	0.0026
237	2.4478	0.0026
238	2.4504	0.0026
239	2.4529	0.0026
240	2.4555	0.0026
241	2.4580	0.0025
242	2.4606	0.0025
243	2.4631	0.0025
244	2.4656	0.0025
245	2.4681	0.0025
246	2.4706	0.0025
247	2.4731	0.0025
248	2.4756	0.0025
249	2.4781	0.0025
250	2.4806	0.0025
251	2.4830	0.0025
252	2.4855	0.0025
253	2.4880	0.0025
254	2.4904	0.0024
255	2.4928	0.0024
256	2.4953	0.0024
257	2.4977	0.0024
258	2.5001	0.0024
259	2.5025	0.0024
260	2.5049	0.0024
261	2.5073	0.0024
262	2.5097	0.0024
263	2.5121	0.0024
264	2.5145	0.0024
265	2.5168	0.0024
266	2.5192	0.0024
267	2.5216	0.0024
268	2.5239	0.0023
269	2.5263	0.0023
270	2.5286	0.0023
271	2.5309	0.0023
272	2.5332	0.0023
273	2.5356	0.0023
274	2.5379	0.0023
275	2.5402	0.0023
276	2.5425	0.0023
277	2.5448	0.0023
278	2.5470	0.0023
279	2.5493	0.0023
280	2.5516	0.0023
281	2.5539	0.0023
282	2.5561	0.0023
283	2.5584	0.0023

284	2.5606	0.0022
285	2.5629	0.0022
286	2.5651	0.0022
287	2.5673	0.0022
288	2.5696	0.0022

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0022	0.0002	0.0020
2	0.0022	0.0002	0.0020
3	0.0022	0.0002	0.0020
4	0.0022	0.0002	0.0020
5	0.0023	0.0002	0.0020
6	0.0023	0.0002	0.0020
7	0.0023	0.0002	0.0020
8	0.0023	0.0002	0.0020
9	0.0023	0.0002	0.0021
10	0.0023	0.0002	0.0021
11	0.0023	0.0002	0.0021
12	0.0023	0.0002	0.0021
13	0.0023	0.0002	0.0021
14	0.0023	0.0003	0.0021
15	0.0024	0.0003	0.0021
16	0.0024	0.0003	0.0021
17	0.0024	0.0003	0.0021
18	0.0024	0.0003	0.0021
19	0.0024	0.0003	0.0021
20	0.0024	0.0003	0.0021
21	0.0024	0.0003	0.0022
22	0.0024	0.0003	0.0022
23	0.0024	0.0003	0.0022
24	0.0024	0.0003	0.0022
25	0.0025	0.0003	0.0022
26	0.0025	0.0003	0.0022
27	0.0025	0.0003	0.0022
28	0.0025	0.0003	0.0022
29	0.0025	0.0003	0.0022
30	0.0025	0.0003	0.0022
31	0.0025	0.0003	0.0023
32	0.0025	0.0003	0.0023
33	0.0026	0.0003	0.0023
34	0.0026	0.0003	0.0023
35	0.0026	0.0003	0.0023
36	0.0026	0.0003	0.0023
37	0.0026	0.0003	0.0023
38	0.0026	0.0003	0.0023
39	0.0026	0.0003	0.0023
40	0.0026	0.0003	0.0024
41	0.0027	0.0003	0.0024
42	0.0027	0.0003	0.0024
43	0.0027	0.0003	0.0024
44	0.0027	0.0003	0.0024
45	0.0027	0.0003	0.0024
46	0.0027	0.0003	0.0024
47	0.0027	0.0003	0.0024
48	0.0027	0.0003	0.0025
49	0.0028	0.0003	0.0025

50	0.0028	0.0003	0.0025
51	0.0028	0.0003	0.0025
52	0.0028	0.0003	0.0025
53	0.0028	0.0003	0.0025
54	0.0028	0.0003	0.0025
55	0.0029	0.0003	0.0025
56	0.0029	0.0003	0.0026
57	0.0029	0.0003	0.0026
58	0.0029	0.0003	0.0026
59	0.0029	0.0003	0.0026
60	0.0029	0.0003	0.0026
61	0.0030	0.0003	0.0026
62	0.0030	0.0003	0.0026
63	0.0030	0.0003	0.0027
64	0.0030	0.0003	0.0027
65	0.0030	0.0003	0.0027
66	0.0030	0.0003	0.0027
67	0.0031	0.0003	0.0027
68	0.0031	0.0003	0.0027
69	0.0031	0.0003	0.0028
70	0.0031	0.0003	0.0028
71	0.0031	0.0003	0.0028
72	0.0031	0.0003	0.0028
73	0.0032	0.0003	0.0028
74	0.0032	0.0003	0.0028
75	0.0032	0.0003	0.0029
76	0.0032	0.0003	0.0029
77	0.0033	0.0003	0.0029
78	0.0033	0.0003	0.0029
79	0.0033	0.0004	0.0029
80	0.0033	0.0004	0.0030
81	0.0033	0.0004	0.0030
82	0.0034	0.0004	0.0030
83	0.0034	0.0004	0.0030
84	0.0034	0.0004	0.0030
85	0.0034	0.0004	0.0031
86	0.0034	0.0004	0.0031
87	0.0035	0.0004	0.0031
88	0.0035	0.0004	0.0031
89	0.0035	0.0004	0.0032
90	0.0035	0.0004	0.0032
91	0.0036	0.0004	0.0032
92	0.0036	0.0004	0.0032
93	0.0036	0.0004	0.0032
94	0.0037	0.0004	0.0033
95	0.0037	0.0004	0.0033
96	0.0037	0.0004	0.0033
97	0.0037	0.0004	0.0033
98	0.0038	0.0004	0.0034
99	0.0038	0.0004	0.0034
100	0.0038	0.0004	0.0034
101	0.0039	0.0004	0.0035
102	0.0039	0.0004	0.0035
103	0.0039	0.0004	0.0035
104	0.0040	0.0004	0.0035
105	0.0040	0.0004	0.0036
106	0.0040	0.0004	0.0036
107	0.0041	0.0004	0.0036
108	0.0041	0.0004	0.0037

109	0.0041	0.0004	0.0037
110	0.0042	0.0004	0.0037
111	0.0042	0.0005	0.0038
112	0.0042	0.0005	0.0038
113	0.0043	0.0005	0.0038
114	0.0043	0.0005	0.0039
115	0.0044	0.0005	0.0039
116	0.0044	0.0005	0.0039
117	0.0045	0.0005	0.0040
118	0.0045	0.0005	0.0040
119	0.0046	0.0005	0.0041
120	0.0046	0.0005	0.0041
121	0.0047	0.0005	0.0042
122	0.0047	0.0005	0.0042
123	0.0048	0.0005	0.0043
124	0.0048	0.0005	0.0043
125	0.0049	0.0005	0.0043
126	0.0049	0.0005	0.0044
127	0.0050	0.0005	0.0044
128	0.0050	0.0005	0.0045
129	0.0051	0.0005	0.0045
130	0.0051	0.0005	0.0046
131	0.0052	0.0006	0.0047
132	0.0053	0.0006	0.0047
133	0.0053	0.0006	0.0048
134	0.0054	0.0006	0.0048
135	0.0055	0.0006	0.0049
136	0.0055	0.0006	0.0049
137	0.0056	0.0006	0.0050
138	0.0057	0.0006	0.0051
139	0.0058	0.0006	0.0052
140	0.0058	0.0006	0.0052
141	0.0060	0.0006	0.0053
142	0.0060	0.0006	0.0054
143	0.0061	0.0007	0.0055
144	0.0062	0.0007	0.0055
145	0.0037	0.0004	0.0033
146	0.0038	0.0004	0.0034
147	0.0039	0.0004	0.0035
148	0.0039	0.0004	0.0035
149	0.0040	0.0004	0.0036
150	0.0041	0.0004	0.0036
151	0.0042	0.0004	0.0037
152	0.0042	0.0005	0.0038
153	0.0044	0.0005	0.0039
154	0.0044	0.0005	0.0040
155	0.0046	0.0005	0.0041
156	0.0046	0.0005	0.0041
157	0.0048	0.0005	0.0043
158	0.0049	0.0005	0.0043
159	0.0050	0.0005	0.0045
160	0.0051	0.0005	0.0046
161	0.0053	0.0006	0.0047
162	0.0054	0.0006	0.0048
163	0.0056	0.0006	0.0050
164	0.0057	0.0006	0.0051
165	0.0059	0.0006	0.0053
166	0.0061	0.0006	0.0054
167	0.0063	0.0007	0.0057

168	0.0065	0.0007	0.0058
169	0.0070	0.0007	0.0062
170	0.0072	0.0008	0.0064
171	0.0075	0.0008	0.0067
172	0.0077	0.0008	0.0069
173	0.0082	0.0009	0.0073
174	0.0084	0.0009	0.0075
175	0.0090	0.0010	0.0080
176	0.0093	0.0010	0.0083
177	0.0099	0.0011	0.0089
178	0.0103	0.0011	0.0092
179	0.0111	0.0012	0.0100
180	0.0116	0.0012	0.0104
181	0.0128	0.0014	0.0114
182	0.0134	0.0014	0.0120
183	0.0150	0.0016	0.0134
184	0.0159	0.0017	0.0142
185	0.0358	0.0036	0.0322
186	0.0382	0.0036	0.0346
187	0.0443	0.0036	0.0407
188	0.0484	0.0036	0.0447
189	0.0601	0.0036	0.0565
190	0.0693	0.0036	0.0656
191	0.1051	0.0036	0.1015
192	0.1526	0.0036	0.1489
193	0.6601	0.0036	0.6565
194	0.0827	0.0036	0.0791
195	0.0535	0.0036	0.0498
196	0.0410	0.0036	0.0373
197	0.0170	0.0018	0.0152
198	0.0141	0.0015	0.0126
199	0.0122	0.0013	0.0109
200	0.0107	0.0011	0.0096
201	0.0096	0.0010	0.0086
202	0.0087	0.0009	0.0078
203	0.0080	0.0008	0.0071
204	0.0073	0.0008	0.0066
205	0.0066	0.0007	0.0059
206	0.0062	0.0007	0.0055
207	0.0058	0.0006	0.0052
208	0.0055	0.0006	0.0049
209	0.0052	0.0006	0.0046
210	0.0049	0.0005	0.0044
211	0.0047	0.0005	0.0042
212	0.0045	0.0005	0.0040
213	0.0043	0.0005	0.0038
214	0.0041	0.0004	0.0037
215	0.0040	0.0004	0.0035
216	0.0038	0.0004	0.0034
217	0.0063	0.0007	0.0056
218	0.0061	0.0006	0.0054
219	0.0059	0.0006	0.0053
220	0.0057	0.0006	0.0051
221	0.0056	0.0006	0.0050
222	0.0054	0.0006	0.0049
223	0.0053	0.0006	0.0047
224	0.0052	0.0006	0.0046
225	0.0051	0.0005	0.0045
226	0.0049	0.0005	0.0044

227	0.0048	0.0005	0.0043
228	0.0047	0.0005	0.0042
229	0.0046	0.0005	0.0041
230	0.0045	0.0005	0.0040
231	0.0044	0.0005	0.0040
232	0.0044	0.0005	0.0039
233	0.0043	0.0005	0.0038
234	0.0042	0.0004	0.0037
235	0.0041	0.0004	0.0037
236	0.0041	0.0004	0.0036
237	0.0040	0.0004	0.0036
238	0.0039	0.0004	0.0035
239	0.0039	0.0004	0.0034
240	0.0038	0.0004	0.0034
241	0.0037	0.0004	0.0033
242	0.0037	0.0004	0.0033
243	0.0036	0.0004	0.0032
244	0.0036	0.0004	0.0032
245	0.0035	0.0004	0.0031
246	0.0035	0.0004	0.0031
247	0.0034	0.0004	0.0031
248	0.0034	0.0004	0.0030
249	0.0033	0.0004	0.0030
250	0.0033	0.0004	0.0029
251	0.0032	0.0003	0.0029
252	0.0032	0.0003	0.0029
253	0.0032	0.0003	0.0028
254	0.0031	0.0003	0.0028
255	0.0031	0.0003	0.0028
256	0.0030	0.0003	0.0027
257	0.0030	0.0003	0.0027
258	0.0030	0.0003	0.0027
259	0.0029	0.0003	0.0026
260	0.0029	0.0003	0.0026
261	0.0029	0.0003	0.0026
262	0.0028	0.0003	0.0025
263	0.0028	0.0003	0.0025
264	0.0028	0.0003	0.0025
265	0.0028	0.0003	0.0025
266	0.0027	0.0003	0.0024
267	0.0027	0.0003	0.0024
268	0.0027	0.0003	0.0024
269	0.0026	0.0003	0.0024
270	0.0026	0.0003	0.0023
271	0.0026	0.0003	0.0023
272	0.0026	0.0003	0.0023
273	0.0025	0.0003	0.0023
274	0.0025	0.0003	0.0023
275	0.0025	0.0003	0.0022
276	0.0025	0.0003	0.0022
277	0.0025	0.0003	0.0022
278	0.0024	0.0003	0.0022
279	0.0024	0.0003	0.0022
280	0.0024	0.0003	0.0021
281	0.0024	0.0003	0.0021
282	0.0023	0.0003	0.0021
283	0.0023	0.0002	0.0021
284	0.0023	0.0002	0.0021
285	0.0023	0.0002	0.0020

286	0.0023	0.0002	0.0020
287	0.0023	0.0002	0.0020
288	0.0022	0.0002	0.0020

Total soil rain loss = 0.17(In)
Total effective rainfall = 2.40(In)
Peak flow rate in flood hydrograph = 172.53(CFS)

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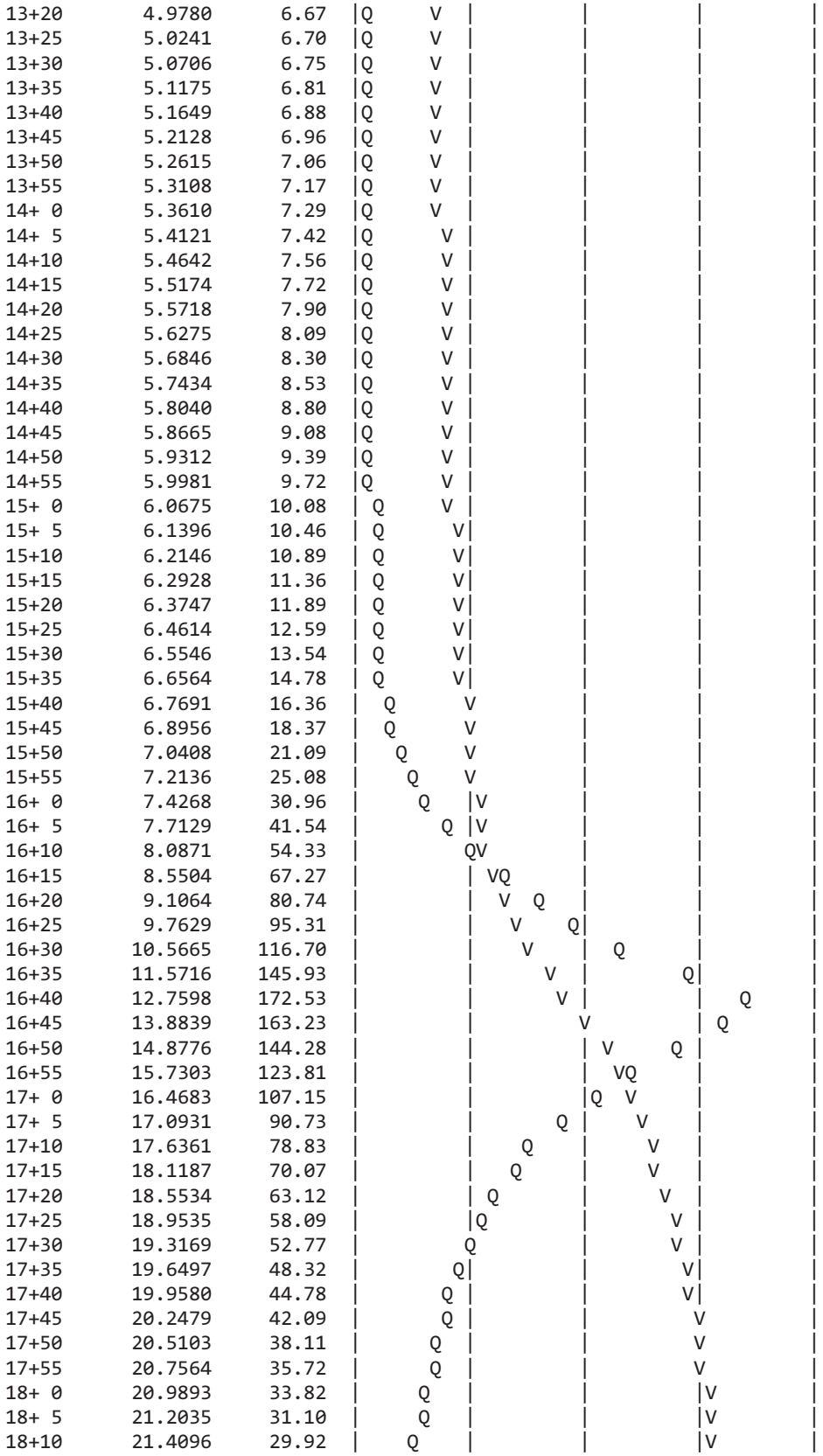
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q				
0+10	0.0004	0.05	Q				
0+15	0.0011	0.10	Q				
0+20	0.0023	0.18	Q				
0+25	0.0042	0.27	Q				
0+30	0.0070	0.41	Q				
0+35	0.0113	0.62	Q				
0+40	0.0177	0.93	Q				
0+45	0.0261	1.22	Q				
0+50	0.0362	1.46	Q				
0+55	0.0476	1.66	Q				
1+ 0	0.0602	1.83	Q				
1+ 5	0.0738	1.97	Q				
1+10	0.0881	2.08	Q				
1+15	0.1032	2.19	Q				
1+20	0.1189	2.28	Q				
1+25	0.1351	2.36	Q				
1+30	0.1519	2.44	Q				
1+35	0.1692	2.51	Q				
1+40	0.1869	2.57	Q				
1+45	0.2051	2.64	Q				
1+50	0.2236	2.69	Q				
1+55	0.2425	2.74	Q				
2+ 0	0.2618	2.80	Q				
2+ 5	0.2814	2.84	Q				
2+10	0.3012	2.89	Q				
2+15	0.3214	2.93	Q				
2+20	0.3419	2.97	Q				
2+25	0.3627	3.02	Q				
2+30	0.3837	3.06	Q				
2+35	0.4050	3.09	Q				
2+40	0.4266	3.13	Q				
2+45	0.4484	3.16	Q				
2+50	0.4704	3.19	Q				
2+55	0.4926	3.23	Q				
3+ 0	0.5150	3.26	Q				
3+ 5	0.5377	3.29	Q				
3+10	0.5606	3.32	Q				
3+15	0.5836	3.35	Q				
3+20	0.6069	3.38	Q				
3+25	0.6304	3.41	Q				

3+30	0.6541	3.44	Q	|	|	|	|
3+35	0.6779	3.46	QV	|	|	|	|
3+40	0.7020	3.49	QV	|	|	|	|
3+45	0.7262	3.52	QV	|	|	|	|
3+50	0.7506	3.55	QV	|	|	|	|
3+55	0.7752	3.57	QV	|	|	|	|
4+ 0	0.8000	3.60	QV	|	|	|	|
4+ 5	0.8250	3.62	QV	|	|	|	|
4+10	0.8501	3.65	QV	|	|	|	|
4+15	0.8754	3.68	QV	|	|	|	|
4+20	0.9009	3.70	QV	|	|	|	|
4+25	0.9266	3.73	QV	|	|	|	|
4+30	0.9524	3.75	QV	|	|	|	|
4+35	0.9784	3.77	QV	|	|	|	|
4+40	1.0046	3.80	QV	|	|	|	|
4+45	1.0309	3.82	QV	|	|	|	|
4+50	1.0574	3.85	QV	|	|	|	|
4+55	1.0841	3.87	QV	|	|	|	|
5+ 0	1.1109	3.89	QV	|	|	|	|
5+ 5	1.1379	3.92	QV	|	|	|	|
5+10	1.1650	3.94	QV	|	|	|	|
5+15	1.1923	3.96	QV	|	|	|	|
5+20	1.2198	3.99	QV	|	|	|	|
5+25	1.2474	4.01	QV	|	|	|	|
5+30	1.2753	4.04	QV	|	|	|	|
5+35	1.3033	4.07	QV	|	|	|	|
5+40	1.3314	4.09	QV	|	|	|	|
5+45	1.3598	4.12	Q V	|	|	|	|
5+50	1.3883	4.14	Q V	|	|	|	|
5+55	1.4170	4.17	Q V	|	|	|	|
6+ 0	1.4460	4.20	Q V	|	|	|	|
6+ 5	1.4750	4.22	Q V	|	|	|	|
6+10	1.5043	4.25	Q V	|	|	|	|
6+15	1.5338	4.28	Q V	|	|	|	|
6+20	1.5634	4.30	Q V	|	|	|	|
6+25	1.5933	4.33	Q V	|	|	|	|
6+30	1.6233	4.36	Q V	|	|	|	|
6+35	1.6535	4.39	Q V	|	|	|	|
6+40	1.6839	4.41	Q V	|	|	|	|
6+45	1.7145	4.44	Q V	|	|	|	|
6+50	1.7452	4.47	Q V	|	|	|	|
6+55	1.7762	4.50	Q V	|	|	|	|
7+ 0	1.8073	4.52	Q V	|	|	|	|
7+ 5	1.8387	4.55	Q V	|	|	|	|
7+10	1.8702	4.58	Q V	|	|	|	|
7+15	1.9020	4.61	Q V	|	|	|	|
7+20	1.9339	4.64	Q V	|	|	|	|
7+25	1.9660	4.67	Q V	|	|	|	|
7+30	1.9984	4.70	Q V	|	|	|	|
7+35	2.0309	4.73	Q V	|	|	|	|
7+40	2.0637	4.76	Q V	|	|	|	|
7+45	2.0967	4.79	Q V	|	|	|	|
7+50	2.1299	4.82	Q V	|	|	|	|
7+55	2.1634	4.86	Q V	|	|	|	|
8+ 0	2.1970	4.89	Q V	|	|	|	|
8+ 5	2.2309	4.92	Q V	|	|	|	|
8+10	2.2651	4.96	Q V	|	|	|	|
8+15	2.2994	4.99	Q V	|	|	|	|
8+20	2.3340	5.03	|Q V	|	|	|	|

8+25	2.3689	5.06	Q V	|	|	|	|
8+30	2.4040	5.10	Q V	|	|	|	|
8+35	2.4394	5.14	Q V	|	|	|	|
8+40	2.4750	5.17	Q V	|	|	|	|
8+45	2.5109	5.21	Q V	|	|	|	|
8+50	2.5471	5.25	Q V	|	|	|	|
8+55	2.5835	5.29	Q V	|	|	|	|
9+ 0	2.6202	5.33	Q V	|	|	|	|
9+ 5	2.6572	5.37	Q V	|	|	|	|
9+10	2.6945	5.41	Q V	|	|	|	|
9+15	2.7321	5.46	Q V	|	|	|	|
9+20	2.7700	5.50	Q V	|	|	|	|
9+25	2.8082	5.55	Q V	|	|	|	|
9+30	2.8467	5.59	Q V	|	|	|	|
9+35	2.8855	5.64	Q V	|	|	|	|
9+40	2.9247	5.68	Q V	|	|	|	|
9+45	2.9642	5.73	Q V	|	|	|	|
9+50	3.0040	5.78	Q V	|	|	|	|
9+55	3.0441	5.83	Q V	|	|	|	|
10+ 0	3.0846	5.88	Q V	|	|	|	|
10+ 5	3.1255	5.93	Q V	|	|	|	|
10+10	3.1668	5.99	Q V	|	|	|	|
10+15	3.2084	6.04	Q V	|	|	|	|
10+20	3.2504	6.10	Q V	|	|	|	|
10+25	3.2928	6.15	Q V	|	|	|	|
10+30	3.3355	6.21	Q V	|	|	|	|
10+35	3.3787	6.27	Q V	|	|	|	|
10+40	3.4224	6.33	Q V	|	|	|	|
10+45	3.4664	6.40	Q V	|	|	|	|
10+50	3.5109	6.46	Q V	|	|	|	|
10+55	3.5558	6.52	Q V	|	|	|	|
11+ 0	3.6012	6.59	Q V	|	|	|	|
11+ 5	3.6471	6.66	Q V	|	|	|	|
11+10	3.6934	6.73	Q V	|	|	|	|
11+15	3.7402	6.80	Q V	|	|	|	|
11+20	3.7876	6.87	Q V	|	|	|	|
11+25	3.8355	6.95	Q V	|	|	|	|
11+30	3.8839	7.03	Q V	|	|	|	|
11+35	3.9328	7.11	Q V	|	|	|	|
11+40	3.9823	7.19	Q V	|	|	|	|
11+45	4.0324	7.27	Q V	|	|	|	|
11+50	4.0831	7.36	Q V	|	|	|	|
11+55	4.1344	7.45	Q V	|	|	|	|
12+ 0	4.1863	7.54	Q V	|	|	|	|
12+ 5	4.2388	7.62	Q V	|	|	|	|
12+10	4.2917	7.68	Q V	|	|	|	|
12+15	4.3448	7.71	Q V	|	|	|	|
12+20	4.3980	7.73	Q V	|	|	|	|
12+25	4.4512	7.72	Q V	|	|	|	|
12+30	4.5041	7.67	Q V	|	|	|	|
12+35	4.5559	7.53	Q V	|	|	|	|
12+40	4.6061	7.28	Q V	|	|	|	|
12+45	4.6547	7.06	Q V	|	|	|	|
12+50	4.7021	6.89	Q V	|	|	|	|
12+55	4.7488	6.77	Q V	|	|	|	|
13+ 0	4.7948	6.69	Q V	|	|	|	|
13+ 5	4.8406	6.65	Q V	|	|	|	|
13+10	4.8863	6.64	Q V	|	|	|	|
13+15	4.9321	6.64	Q V	|	|	|	|

13+20	4.9780	6.67	
13+25	5.0241	6.70	
13+30	5.0706	6.75	
13+35	5.1175	6.81	
13+40	5.1649	6.88	
13+45	5.2128	6.96	
13+50	5.2615	7.06	
13+55	5.3108	7.17	
14+ 0	5.3610	7.29	
14+ 5	5.4121	7.42	
14+10	5.4642	7.56	
14+15	5.5174	7.72	
14+20	5.5718	7.90	
14+25	5.6275	8.09	
14+30	5.6846	8.30	
14+35	5.7434	8.53	
14+40	5.8040	8.80	
14+45	5.8665	9.08	
14+50	5.9312	9.39	
14+55	5.9981	9.72	
15+ 0	6.0675	10.08	
15+ 5	6.1396	10.46	
15+10	6.2146	10.89	
15+15	6.2928	11.36	
15+20	6.3747	11.89	
15+25	6.4614	12.59	
15+30	6.5546	13.54	
15+35	6.6564	14.78	
15+40	6.7691	16.36	
15+45	6.8956	18.37	
15+50	7.0408	21.09	
15+55	7.2136	25.08	
16+ 0	7.4268	30.96	
16+ 5	7.7129	41.54	
16+10	8.0871	54.33	
16+15	8.5504	67.27	
16+20	9.1064	80.74	
16+25	9.7629	95.31	
16+30	10.5665	116.70	
16+35	11.5716	145.93	
16+40	12.7598	172.53	
16+45	13.8839	163.23	
16+50	14.8776	144.28	
16+55	15.7303	123.81	
17+ 0	16.4683	107.15	
17+ 5	17.0931	90.73	
17+10	17.6361	78.83	
17+15	18.1187	70.07	
17+20	18.5534	63.12	
17+25	18.9535	58.09	
17+30	19.3169	52.77	
17+35	19.6497	48.32	
17+40	19.9580	44.78	
17+45	20.2479	42.09	
17+50	20.5103	38.11	
17+55	20.7564	35.72	
18+ 0	20.9893	33.82	
18+ 5	21.2035	31.10	
18+10	21.4096	29.92	

```
18+15      21.6051     28.39  |    Q    |         |         | V       |
18+20      21.7917     27.09  |    Q    |         |         | V       |
18+25      21.9713     26.08  |    Q    |         |         | V       |
18+30      22.1387     24.31  |   Q     |         |         | V       |
18+35      22.3003     23.47  |   Q     |         |         |  V      |
18+40      22.4536     22.26  |   Q     |         |         |  V      |
18+45      22.5970     20.82  |   Q     |         |         |  V      |
18+50      22.7377     20.43  |   Q     |         |         |  V      |
18+55      22.8743     19.83  |  Q      |         |         |  V      |
19+ 0      23.0077     19.37  |  Q      |         |         |   V     |
19+ 5      23.1373     18.81  |  Q      |         |         |   V     |
19+10      23.2609     17.96  |  Q      |         |         |   V     |
19+15      23.3818     17.56  |  Q      |         |         |   V     |
19+20      23.4987     16.98  |  Q      |         |         |   V     |
19+25      23.6121     16.45  |  Q      |         |         |    V    |
19+30      23.7217     15.92  |  Q      |         |         |    V    |
19+35      23.8244     14.91  | Q       |         |         |    V    |
19+40      23.9243     14.51  | Q       |         |         |    V    |
19+45      24.0223     14.22  | Q       |         |         |    V    |
19+50      24.1180     13.91  | Q       |         |         |    V    |
19+55      24.2112     13.53  | Q       |         |         |    V    |
20+ 0      24.2988     12.72  | Q       |         |         |     V   |
20+ 5      24.3835     12.29  | Q       |         |         |     V   |
20+10      24.4664     12.03  | Q       |         |         |     V   |
20+15      24.5473     11.75  | Q       |         |         |     V   |
20+20      24.6260     11.43  | Q       |         |         |     V   |
20+25      24.6997     10.70  | Q       |         |         |     V   |
20+30      24.7698     10.19  | Q       |         |         |     V   |
20+35      24.8384      9.96  |Q        |         |         |     V   |
20+40      24.9055      9.73  |Q        |         |         |     V   |
20+45      24.9707      9.47  |Q        |         |         |      V  |
20+50      25.0320      8.90  |Q        |         |         |      V  |
20+55      25.0894      8.34  |Q        |         |         |      V  |
21+ 0      25.1458      8.19  |Q        |         |         |      V  |
21+ 5      25.2014      8.07  |Q        |         |         |      V  |
21+10      25.2565      7.99  |Q        |         |         |      V  |
21+15      25.3115      7.99  |Q        |         |         |      V  |
21+20      25.3669      8.04  |Q        |         |         |      V  |
21+25      25.4218      7.97  |Q        |         |         |      V  |
21+30      25.4761      7.88  |Q        |         |         |      V  |
21+35      25.5297      7.79  |Q        |         |         |      V  |
21+40      25.5826      7.68  |Q        |         |         |      V  |
21+45      25.6348      7.57  |Q        |         |         |       V |
21+50      25.6861      7.46  |Q        |         |         |       V |
21+55      25.7366      7.33  |Q        |         |         |       V |
22+ 0      25.7860      7.18  |Q        |         |         |       V |
22+ 5      25.8338      6.93  |Q        |         |         |       V |
22+10      25.8777      6.38  |Q        |         |         |       V |
22+15      25.9200      6.14  |Q        |         |         |       V |
22+20      25.9614      6.00  |Q        |         |         |       V |
22+25      26.0019      5.88  |Q        |         |         |       V |
22+30      26.0415      5.75  |Q        |         |         |       V |
22+35      26.0802      5.62  |Q        |         |         |       V |
22+40      26.1176      5.44  |Q        |         |         |       V |
22+45      26.1520      4.99  Q        |         |         |       V |
22+50      26.1836      4.58  Q        |         |         |       V |
22+55      26.2144      4.47  Q        |         |         |       V |
23+ 0      26.2446      4.38  Q        |         |         |       V |
23+ 5      26.2742      4.31  Q        |         |         |       V |
```

23+10	26.3035	4.25	Q	|	|	|	V|
23+15	26.3325	4.20	Q	|	|	|	V|
23+20	26.3611	4.15	Q	|	|	|	V|
23+25	26.3893	4.10	Q	|	|	|	V|
23+30	26.4173	4.06	Q	|	|	|	V|
23+35	26.4449	4.01	Q	|	|	|	V|
23+40	26.4723	3.97	Q	|	|	|	V|
23+45	26.4994	3.93	Q	|	|	|	V|
23+50	26.5262	3.89	Q	|	|	|	V|
23+55	26.5527	3.86	Q	|	|	|	V|
24+ 0	26.5790	3.82	Q	|	|	|	V|
24+ 5	26.6050	3.77	Q	|	|	|	V|
24+10	26.6305	3.70	Q	|	|	|	V|
24+15	26.6553	3.61	Q	|	|	|	V|
24+20	26.6795	3.50	Q	|	|	|	V|
24+25	26.7027	3.38	Q	|	|	|	V|
24+30	26.7248	3.21	Q	|	|	|	V|
24+35	26.7453	2.97	Q	|	|	|	V|
24+40	26.7634	2.64	Q	|	|	|	V|
24+45	26.7795	2.33	Q	|	|	|	V|
24+50	26.7937	2.07	Q	|	|	|	V|
24+55	26.8065	1.85	Q	|	|	|	V|
25+ 0	26.8180	1.67	Q	|	|	|	V|
25+ 5	26.8285	1.53	Q	|	|	|	V|
25+10	26.8382	1.40	Q	|	|	|	V|
25+15	26.8471	1.30	Q	|	|	|	V|
25+20	26.8554	1.20	Q	|	|	|	V|
25+25	26.8630	1.11	Q	|	|	|	V|
25+30	26.8702	1.03	Q	|	|	|	V|
25+35	26.8768	0.96	Q	|	|	|	V|
25+40	26.8830	0.90	Q	|	|	|	V|
25+45	26.8888	0.84	Q	|	|	|	V|
25+50	26.8942	0.79	Q	|	|	|	V|
25+55	26.8993	0.74	Q	|	|	|	V|
26+ 0	26.9040	0.69	Q	|	|	|	V|
26+ 5	26.9085	0.65	Q	|	|	|	V|
26+10	26.9127	0.61	Q	|	|	|	V|
26+15	26.9166	0.57	Q	|	|	|	V|
26+20	26.9203	0.54	Q	|	|	|	V|
26+25	26.9238	0.50	Q	|	|	|	V|
26+30	26.9270	0.47	Q	|	|	|	V|
26+35	26.9301	0.44	Q	|	|	|	V|
26+40	26.9329	0.41	Q	|	|	|	V|
26+45	26.9356	0.39	Q	|	|	|	V|
26+50	26.9382	0.37	Q	|	|	|	V|
26+55	26.9406	0.35	Q	|	|	|	V|
27+ 0	26.9428	0.33	Q	|	|	|	V|
27+ 5	26.9449	0.31	Q	|	|	|	V|
27+10	26.9469	0.29	Q	|	|	|	V|
27+15	26.9488	0.27	Q	|	|	|	V|
27+20	26.9505	0.25	Q	|	|	|	V|
27+25	26.9522	0.24	Q	|	|	|	V|
27+30	26.9537	0.22	Q	|	|	|	V|
27+35	26.9552	0.21	Q	|	|	|	V|
27+40	26.9565	0.20	Q	|	|	|	V|
27+45	26.9578	0.18	Q	|	|	|	V|
27+50	26.9590	0.17	Q	|	|	|	V|
27+55	26.9601	0.16	Q	|	|	|	V|
28+ 0	26.9611	0.15	Q	|	|	|	V|

28+ 5	26.9621	0.14	Q	|	|	|	V|
28+10	26.9630	0.13	Q	|	|	|	V|
28+15	26.9639	0.12	Q	|	|	|	V|
28+20	26.9646	0.11	Q	|	|	|	V|
28+25	26.9654	0.11	Q	|	|	|	V|
28+30	26.9660	0.10	Q	|	|	|	V|
28+35	26.9667	0.09	Q	|	|	|	V|
28+40	26.9673	0.09	Q	|	|	|	V|
28+45	26.9678	0.08	Q	|	|	|	V|
28+50	26.9683	0.07	Q	|	|	|	V|
28+55	26.9688	0.07	Q	|	|	|	V|
29+ 0	26.9693	0.07	Q	|	|	|	V|
29+ 5	26.9697	0.06	Q	|	|	|	V|
29+10	26.9701	0.06	Q	|	|	|	V|
29+15	26.9705	0.06	Q	|	|	|	V|
29+20	26.9709	0.05	Q	|	|	|	V|
29+25	26.9712	0.05	Q	|	|	|	V|
29+30	26.9715	0.04	Q	|	|	|	V|
29+35	26.9718	0.04	Q	|	|	|	V|
29+40	26.9720	0.04	Q	|	|	|	V|
29+45	26.9722	0.03	Q	|	|	|	V|
29+50	26.9724	0.03	Q	|	|	|	V|
29+55	26.9726	0.02	Q	|	|	|	V|
30+ 0	26.9727	0.02	Q	|	|	|	V|
30+ 5	26.9728	0.02	Q	|	|	|	V|
30+10	26.9729	0.01	Q	|	|	|	V|
30+15	26.9730	0.01	Q	|	|	|	V|
30+20	26.9730	0.01	Q	|	|	|	V|
30+25	26.9731	0.01	Q	|	|	|	V|
30+30	26.9731	0.00	Q	|	|	|	V|
30+35	26.9731	0.00	Q	|	|	|	V|
30+40	26.9731	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 31
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
634.87	1	1.40
Rainfall data for year 100		
634.87	6	1.83
Rainfall data for year 100		
634.87	24	2.60

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.9	90.1	634.87	1.000	0.190	0.907	0.172

Area-averaged adjusted loss rate Fm (In/Hr) = 0.172

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
575.83	0.907	73.9	90.1	1.10	0.627
59.04	0.093	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.653
Area-averaged low loss fraction, Yb = 0.347
User entry of time of concentration = 1.970 (hours)
++
Watershed area = 634.87(Ac.)
Catchment Lag time = 1.576 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 5.2876
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.172(In/Hr)
Average low loss rate fraction (Yb) = 0.347 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.650(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.600(In)

Rainfall depth area reduction factors:
Using a total area of 634.87(Ac.) (Ref: fig. E-4)

5-minute factor = 0.970 Adjusted rainfall = 0.645(In)
30-minute factor = 0.970 Adjusted rainfall = 1.103(In)
1-hour factor = 0.970 Adjusted rainfall = 1.358(In)
3-hour factor = 0.996 Adjusted rainfall = 1.644(In)
6-hour factor = 0.998 Adjusted rainfall = 1.826(In)
24-hour factor = 0.999 Adjusted rainfall = 2.598(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 7677.96 (CFS))	
1	0.233	17.863
2	0.698	35.727
3	1.249	42.295
4	2.109	66.054
5	3.013	69.407
6	4.212	92.077
7	5.524	100.684
8	7.027	115.412
9	8.802	136.259
10	10.816	154.672
11	14.033	246.998
12	17.450	262.355
13	22.182	363.314

14	27.596	415.727
15	32.715	393.020
16	37.257	348.676
17	41.666	338.564
18	45.222	272.997
19	48.603	259.641
20	51.617	231.372
21	54.366	211.111
22	56.927	196.641
23	58.985	158.001
24	60.991	154.003
25	62.719	132.653
26	64.369	126.667
27	65.892	117.001
28	67.288	107.180
29	68.659	105.234
30	69.937	98.096
31	71.198	96.853
32	72.312	85.547
33	73.370	81.197
34	74.375	77.215
35	75.307	71.498
36	76.231	70.980
37	77.124	68.549
38	78.009	67.979
39	78.772	58.552
40	79.470	53.590
41	80.168	53.590
42	80.866	53.590
43	81.551	52.612
44	82.141	45.331
45	82.712	43.846
46	83.284	43.846
47	83.855	43.846
48	84.409	42.583
49	84.919	39.165
50	85.427	38.974
51	85.935	38.974
52	86.442	38.974
53	86.908	35.778
54	87.331	32.479
55	87.754	32.479
56	88.177	32.479
57	88.596	32.196
58	88.942	26.558
59	89.260	24.359
60	89.577	24.359
61	89.894	24.359
62	90.208	24.126
63	90.507	22.910
64	90.803	22.735
65	91.099	22.735
66	91.395	22.735
67	91.677	21.675
68	91.932	19.547
69	92.186	19.487
70	92.440	19.487
71	92.693	19.482
72	92.935	18.551

73	93.168	17.863
74	93.400	17.863
75	93.633	17.863
76	93.862	17.612
77	94.053	14.656
78	94.233	13.803
79	94.413	13.803
80	94.593	13.803
81	94.772	13.803
82	94.952	13.803
83	95.132	13.803
84	95.312	13.803
85	95.491	13.803
86	95.654	12.500
87	95.792	10.573
88	95.929	10.556
89	96.067	10.556
90	96.204	10.556
91	96.342	10.556
92	96.479	10.556
93	96.617	10.556
94	96.754	10.556
95	96.888	10.241
96	96.989	7.817
97	97.085	7.308
98	97.180	7.308
99	97.275	7.308
100	97.370	7.308
101	97.465	7.308
102	97.561	7.308
103	97.656	7.308
104	97.751	7.308
105	97.826	5.735
106	97.878	4.060
107	97.931	4.060
108	97.984	4.060
109	98.037	4.060
110	98.090	4.060
111	98.143	4.060
112	98.196	4.060
113	98.249	4.060
114	98.303	4.173
115	98.365	4.781
116	98.429	4.872
117	98.492	4.872
118	98.556	4.872
119	98.619	4.872
120	98.682	4.872
121	98.746	4.872
122	98.809	4.872
123	98.873	4.872
124	98.936	4.872
125	99.000	4.872
126	99.063	4.872
127	99.127	4.872
128	99.190	4.872
129	99.254	4.872
130	99.317	4.872
131	99.380	4.872

132	99.444	4.872
133	99.502	4.429
134	99.537	2.710
135	99.570	2.537
136	99.603	2.537
137	99.636	2.537
138	99.669	2.537
139	99.702	2.537
140	99.735	2.537
141	99.768	2.537
142	99.801	2.537
143	99.834	2.537
144	99.867	2.537
145	99.900	2.537
146	99.933	2.537
147	99.967	2.537
148	100.000	1.269

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6445	0.6445
2	0.7935	0.1490
3	0.8962	0.1026
4	0.9769	0.0808
5	1.0446	0.0676
6	1.1033	0.0587
7	1.1555	0.0522
8	1.2028	0.0472
9	1.2460	0.0433
10	1.2860	0.0400
11	1.3233	0.0373
12	1.3583	0.0350
13	1.3773	0.0190
14	1.3952	0.0178
15	1.4120	0.0168
16	1.4279	0.0159
17	1.4430	0.0151
18	1.4574	0.0144
19	1.4711	0.0137
20	1.4843	0.0132
21	1.4969	0.0126
22	1.5090	0.0121
23	1.5207	0.0117
24	1.5320	0.0113
25	1.5429	0.0109
26	1.5534	0.0105
27	1.5636	0.0102
28	1.5735	0.0099
29	1.5831	0.0096
30	1.5925	0.0093
31	1.6016	0.0091
32	1.6104	0.0088
33	1.6190	0.0086
34	1.6274	0.0084
35	1.6356	0.0082
36	1.6437	0.0080
37	1.6505	0.0069
38	1.6572	0.0067
39	1.6638	0.0066

40	1.6702	0.0064
41	1.6765	0.0063
42	1.6826	0.0062
43	1.6887	0.0060
44	1.6946	0.0059
45	1.7004	0.0058
46	1.7061	0.0057
47	1.7117	0.0056
48	1.7172	0.0055
49	1.7226	0.0054
50	1.7279	0.0053
51	1.7331	0.0052
52	1.7382	0.0051
53	1.7432	0.0050
54	1.7482	0.0050
55	1.7531	0.0049
56	1.7579	0.0048
57	1.7626	0.0047
58	1.7673	0.0047
59	1.7719	0.0046
60	1.7764	0.0045
61	1.7809	0.0045
62	1.7853	0.0044
63	1.7897	0.0043
64	1.7939	0.0043
65	1.7982	0.0042
66	1.8024	0.0042
67	1.8065	0.0041
68	1.8106	0.0041
69	1.8146	0.0040
70	1.8186	0.0040
71	1.8225	0.0039
72	1.8264	0.0039
73	1.8328	0.0064
74	1.8391	0.0063
75	1.8454	0.0063
76	1.8516	0.0062
77	1.8578	0.0062
78	1.8639	0.0061
79	1.8700	0.0060
80	1.8759	0.0060
81	1.8819	0.0059
82	1.8878	0.0059
83	1.8936	0.0058
84	1.8994	0.0058
85	1.9051	0.0057
86	1.9107	0.0057
87	1.9164	0.0056
88	1.9219	0.0056
89	1.9275	0.0055
90	1.9330	0.0055
91	1.9384	0.0054
92	1.9438	0.0054
93	1.9491	0.0053
94	1.9544	0.0053
95	1.9597	0.0053
96	1.9649	0.0052
97	1.9701	0.0052
98	1.9753	0.0051

99	1.9804	0.0051
100	1.9854	0.0051
101	1.9905	0.0050
102	1.9954	0.0050
103	2.0004	0.0050
104	2.0053	0.0049
105	2.0102	0.0049
106	2.0151	0.0048
107	2.0199	0.0048
108	2.0246	0.0048
109	2.0294	0.0047
110	2.0341	0.0047
111	2.0388	0.0047
112	2.0435	0.0047
113	2.0481	0.0046
114	2.0527	0.0046
115	2.0572	0.0046
116	2.0618	0.0045
117	2.0663	0.0045
118	2.0707	0.0045
119	2.0752	0.0044
120	2.0796	0.0044
121	2.0840	0.0044
122	2.0884	0.0044
123	2.0927	0.0043
124	2.0970	0.0043
125	2.1013	0.0043
126	2.1056	0.0043
127	2.1098	0.0042
128	2.1140	0.0042
129	2.1182	0.0042
130	2.1224	0.0042
131	2.1265	0.0041
132	2.1306	0.0041
133	2.1347	0.0041
134	2.1388	0.0041
135	2.1428	0.0040
136	2.1468	0.0040
137	2.1508	0.0040
138	2.1548	0.0040
139	2.1588	0.0040
140	2.1627	0.0039
141	2.1666	0.0039
142	2.1705	0.0039
143	2.1744	0.0039
144	2.1783	0.0039
145	2.1821	0.0038
146	2.1859	0.0038
147	2.1897	0.0038
148	2.1935	0.0038
149	2.1972	0.0038
150	2.2010	0.0037
151	2.2047	0.0037
152	2.2084	0.0037
153	2.2121	0.0037
154	2.2157	0.0037
155	2.2194	0.0036
156	2.2230	0.0036
157	2.2266	0.0036

158	2.2302	0.0036
159	2.2338	0.0036
160	2.2374	0.0036
161	2.2409	0.0035
162	2.2445	0.0035
163	2.2480	0.0035
164	2.2515	0.0035
165	2.2549	0.0035
166	2.2584	0.0035
167	2.2619	0.0035
168	2.2653	0.0034
169	2.2687	0.0034
170	2.2721	0.0034
171	2.2755	0.0034
172	2.2789	0.0034
173	2.2823	0.0034
174	2.2856	0.0033
175	2.2889	0.0033
176	2.2922	0.0033
177	2.2956	0.0033
178	2.2988	0.0033
179	2.3021	0.0033
180	2.3054	0.0033
181	2.3086	0.0032
182	2.3119	0.0032
183	2.3151	0.0032
184	2.3183	0.0032
185	2.3215	0.0032
186	2.3247	0.0032
187	2.3278	0.0032
188	2.3310	0.0032
189	2.3341	0.0031
190	2.3373	0.0031
191	2.3404	0.0031
192	2.3435	0.0031
193	2.3466	0.0031
194	2.3497	0.0031
195	2.3528	0.0031
196	2.3558	0.0031
197	2.3589	0.0030
198	2.3619	0.0030
199	2.3649	0.0030
200	2.3680	0.0030
201	2.3710	0.0030
202	2.3740	0.0030
203	2.3769	0.0030
204	2.3799	0.0030
205	2.3829	0.0030
206	2.3858	0.0029
207	2.3888	0.0029
208	2.3917	0.0029
209	2.3946	0.0029
210	2.3975	0.0029
211	2.4004	0.0029
212	2.4033	0.0029
213	2.4062	0.0029
214	2.4090	0.0029
215	2.4119	0.0029
216	2.4147	0.0028

217	2.4176	0.0028
218	2.4204	0.0028
219	2.4232	0.0028
220	2.4260	0.0028
221	2.4288	0.0028
222	2.4316	0.0028
223	2.4344	0.0028
224	2.4372	0.0028
225	2.4399	0.0028
226	2.4427	0.0028
227	2.4454	0.0027
228	2.4482	0.0027
229	2.4509	0.0027
230	2.4536	0.0027
231	2.4563	0.0027
232	2.4590	0.0027
233	2.4617	0.0027
234	2.4644	0.0027
235	2.4670	0.0027
236	2.4697	0.0027
237	2.4724	0.0027
238	2.4750	0.0026
239	2.4777	0.0026
240	2.4803	0.0026
241	2.4829	0.0026
242	2.4855	0.0026
243	2.4881	0.0026
244	2.4907	0.0026
245	2.4933	0.0026
246	2.4959	0.0026
247	2.4985	0.0026
248	2.5010	0.0026
249	2.5036	0.0026
250	2.5062	0.0026
251	2.5087	0.0025
252	2.5112	0.0025
253	2.5138	0.0025
254	2.5163	0.0025
255	2.5188	0.0025
256	2.5213	0.0025
257	2.5238	0.0025
258	2.5263	0.0025
259	2.5288	0.0025
260	2.5313	0.0025
261	2.5337	0.0025
262	2.5362	0.0025
263	2.5387	0.0025
264	2.5411	0.0025
265	2.5436	0.0024
266	2.5460	0.0024
267	2.5484	0.0024
268	2.5508	0.0024
269	2.5533	0.0024
270	2.5557	0.0024
271	2.5581	0.0024
272	2.5605	0.0024
273	2.5629	0.0024
274	2.5652	0.0024
275	2.5676	0.0024

276	2.5700	0.0024
277	2.5723	0.0024
278	2.5747	0.0024
279	2.5771	0.0024
280	2.5794	0.0023
281	2.5817	0.0023
282	2.5841	0.0023
283	2.5864	0.0023
284	2.5887	0.0023
285	2.5910	0.0023
286	2.5933	0.0023
287	2.5956	0.0023
288	2.5979	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0008	0.0015
2	0.0023	0.0008	0.0015
3	0.0023	0.0008	0.0015
4	0.0023	0.0008	0.0015
5	0.0023	0.0008	0.0015
6	0.0023	0.0008	0.0015
7	0.0024	0.0008	0.0015
8	0.0024	0.0008	0.0015
9	0.0024	0.0008	0.0015
10	0.0024	0.0008	0.0016
11	0.0024	0.0008	0.0016
12	0.0024	0.0008	0.0016
13	0.0024	0.0008	0.0016
14	0.0024	0.0008	0.0016
15	0.0024	0.0008	0.0016
16	0.0024	0.0008	0.0016
17	0.0025	0.0008	0.0016
18	0.0025	0.0009	0.0016
19	0.0025	0.0009	0.0016
20	0.0025	0.0009	0.0016
21	0.0025	0.0009	0.0016
22	0.0025	0.0009	0.0016
23	0.0025	0.0009	0.0016
24	0.0025	0.0009	0.0016
25	0.0025	0.0009	0.0017
26	0.0025	0.0009	0.0017
27	0.0026	0.0009	0.0017
28	0.0026	0.0009	0.0017
29	0.0026	0.0009	0.0017
30	0.0026	0.0009	0.0017
31	0.0026	0.0009	0.0017
32	0.0026	0.0009	0.0017
33	0.0026	0.0009	0.0017
34	0.0026	0.0009	0.0017
35	0.0027	0.0009	0.0017
36	0.0027	0.0009	0.0017
37	0.0027	0.0009	0.0018
38	0.0027	0.0009	0.0018
39	0.0027	0.0009	0.0018
40	0.0027	0.0009	0.0018
41	0.0027	0.0009	0.0018

42	0.0027	0.0010	0.0018
43	0.0028	0.0010	0.0018
44	0.0028	0.0010	0.0018
45	0.0028	0.0010	0.0018
46	0.0028	0.0010	0.0018
47	0.0028	0.0010	0.0018
48	0.0028	0.0010	0.0018
49	0.0028	0.0010	0.0019
50	0.0029	0.0010	0.0019
51	0.0029	0.0010	0.0019
52	0.0029	0.0010	0.0019
53	0.0029	0.0010	0.0019
54	0.0029	0.0010	0.0019
55	0.0029	0.0010	0.0019
56	0.0029	0.0010	0.0019
57	0.0030	0.0010	0.0019
58	0.0030	0.0010	0.0019
59	0.0030	0.0010	0.0020
60	0.0030	0.0010	0.0020
61	0.0030	0.0011	0.0020
62	0.0030	0.0011	0.0020
63	0.0031	0.0011	0.0020
64	0.0031	0.0011	0.0020
65	0.0031	0.0011	0.0020
66	0.0031	0.0011	0.0020
67	0.0031	0.0011	0.0021
68	0.0032	0.0011	0.0021
69	0.0032	0.0011	0.0021
70	0.0032	0.0011	0.0021
71	0.0032	0.0011	0.0021
72	0.0032	0.0011	0.0021
73	0.0033	0.0011	0.0021
74	0.0033	0.0011	0.0021
75	0.0033	0.0011	0.0022
76	0.0033	0.0011	0.0022
77	0.0033	0.0012	0.0022
78	0.0034	0.0012	0.0022
79	0.0034	0.0012	0.0022
80	0.0034	0.0012	0.0022
81	0.0034	0.0012	0.0022
82	0.0035	0.0012	0.0023
83	0.0035	0.0012	0.0023
84	0.0035	0.0012	0.0023
85	0.0035	0.0012	0.0023
86	0.0035	0.0012	0.0023
87	0.0036	0.0012	0.0023
88	0.0036	0.0012	0.0024
89	0.0036	0.0013	0.0024
90	0.0036	0.0013	0.0024
91	0.0037	0.0013	0.0024
92	0.0037	0.0013	0.0024
93	0.0037	0.0013	0.0024
94	0.0038	0.0013	0.0025
95	0.0038	0.0013	0.0025
96	0.0038	0.0013	0.0025
97	0.0039	0.0013	0.0025
98	0.0039	0.0013	0.0025
99	0.0039	0.0014	0.0026
100	0.0039	0.0014	0.0026

101	0.0040	0.0014	0.0026
102	0.0040	0.0014	0.0026
103	0.0040	0.0014	0.0026
104	0.0041	0.0014	0.0027
105	0.0041	0.0014	0.0027
106	0.0041	0.0014	0.0027
107	0.0042	0.0015	0.0027
108	0.0042	0.0015	0.0028
109	0.0043	0.0015	0.0028
110	0.0043	0.0015	0.0028
111	0.0043	0.0015	0.0028
112	0.0044	0.0015	0.0029
113	0.0044	0.0015	0.0029
114	0.0044	0.0015	0.0029
115	0.0045	0.0016	0.0029
116	0.0045	0.0016	0.0030
117	0.0046	0.0016	0.0030
118	0.0046	0.0016	0.0030
119	0.0047	0.0016	0.0031
120	0.0047	0.0016	0.0031
121	0.0048	0.0017	0.0031
122	0.0048	0.0017	0.0031
123	0.0049	0.0017	0.0032
124	0.0049	0.0017	0.0032
125	0.0050	0.0017	0.0033
126	0.0050	0.0017	0.0033
127	0.0051	0.0018	0.0033
128	0.0051	0.0018	0.0034
129	0.0052	0.0018	0.0034
130	0.0053	0.0018	0.0034
131	0.0053	0.0019	0.0035
132	0.0054	0.0019	0.0035
133	0.0055	0.0019	0.0036
134	0.0055	0.0019	0.0036
135	0.0056	0.0019	0.0037
136	0.0057	0.0020	0.0037
137	0.0058	0.0020	0.0038
138	0.0058	0.0020	0.0038
139	0.0059	0.0021	0.0039
140	0.0060	0.0021	0.0039
141	0.0061	0.0021	0.0040
142	0.0062	0.0021	0.0040
143	0.0063	0.0022	0.0041
144	0.0063	0.0022	0.0041
145	0.0039	0.0013	0.0025
146	0.0039	0.0014	0.0026
147	0.0040	0.0014	0.0026
148	0.0041	0.0014	0.0027
149	0.0042	0.0014	0.0027
150	0.0042	0.0015	0.0028
151	0.0043	0.0015	0.0028
152	0.0044	0.0015	0.0029
153	0.0045	0.0016	0.0030
154	0.0046	0.0016	0.0030
155	0.0047	0.0016	0.0031
156	0.0048	0.0017	0.0031
157	0.0050	0.0017	0.0032
158	0.0050	0.0017	0.0033
159	0.0052	0.0018	0.0034

160	0.0053	0.0018	0.0035
161	0.0055	0.0019	0.0036
162	0.0056	0.0019	0.0037
163	0.0058	0.0020	0.0038
164	0.0059	0.0020	0.0039
165	0.0062	0.0021	0.0040
166	0.0063	0.0022	0.0041
167	0.0066	0.0023	0.0043
168	0.0067	0.0023	0.0044
169	0.0080	0.0028	0.0052
170	0.0082	0.0028	0.0054
171	0.0086	0.0030	0.0056
172	0.0088	0.0031	0.0058
173	0.0093	0.0032	0.0061
174	0.0096	0.0033	0.0063
175	0.0102	0.0035	0.0067
176	0.0105	0.0037	0.0069
177	0.0113	0.0039	0.0074
178	0.0117	0.0041	0.0076
179	0.0126	0.0044	0.0082
180	0.0132	0.0046	0.0086
181	0.0144	0.0050	0.0094
182	0.0151	0.0052	0.0099
183	0.0168	0.0058	0.0110
184	0.0178	0.0062	0.0116
185	0.0350	0.0121	0.0229
186	0.0373	0.0129	0.0244
187	0.0433	0.0144	0.0289
188	0.0472	0.0144	0.0329
189	0.0587	0.0144	0.0444
190	0.0676	0.0144	0.0533
191	0.1026	0.0144	0.0883
192	0.1490	0.0144	0.1346
193	0.6445	0.0144	0.6302
194	0.0808	0.0144	0.0664
195	0.0522	0.0144	0.0379
196	0.0400	0.0139	0.0261
197	0.0190	0.0066	0.0124
198	0.0159	0.0055	0.0104
199	0.0137	0.0048	0.0090
200	0.0121	0.0042	0.0079
201	0.0109	0.0038	0.0071
202	0.0099	0.0034	0.0065
203	0.0091	0.0031	0.0059
204	0.0084	0.0029	0.0055
205	0.0069	0.0024	0.0045
206	0.0064	0.0022	0.0042
207	0.0060	0.0021	0.0039
208	0.0057	0.0020	0.0037
209	0.0054	0.0019	0.0035
210	0.0051	0.0018	0.0033
211	0.0049	0.0017	0.0032
212	0.0047	0.0016	0.0031
213	0.0045	0.0015	0.0029
214	0.0043	0.0015	0.0028
215	0.0041	0.0014	0.0027
216	0.0040	0.0014	0.0026
217	0.0064	0.0022	0.0042
218	0.0062	0.0022	0.0041

219	0.0060	0.0021	0.0040
220	0.0059	0.0020	0.0038
221	0.0057	0.0020	0.0037
222	0.0056	0.0019	0.0036
223	0.0054	0.0019	0.0036
224	0.0053	0.0018	0.0035
225	0.0052	0.0018	0.0034
226	0.0051	0.0018	0.0033
227	0.0050	0.0017	0.0032
228	0.0048	0.0017	0.0032
229	0.0047	0.0016	0.0031
230	0.0047	0.0016	0.0030
231	0.0046	0.0016	0.0030
232	0.0045	0.0016	0.0029
233	0.0044	0.0015	0.0029
234	0.0043	0.0015	0.0028
235	0.0042	0.0015	0.0028
236	0.0042	0.0014	0.0027
237	0.0041	0.0014	0.0027
238	0.0040	0.0014	0.0026
239	0.0040	0.0014	0.0026
240	0.0039	0.0014	0.0025
241	0.0038	0.0013	0.0025
242	0.0038	0.0013	0.0025
243	0.0037	0.0013	0.0024
244	0.0037	0.0013	0.0024
245	0.0036	0.0013	0.0024
246	0.0036	0.0012	0.0023
247	0.0035	0.0012	0.0023
248	0.0035	0.0012	0.0023
249	0.0034	0.0012	0.0022
250	0.0034	0.0012	0.0022
251	0.0033	0.0012	0.0022
252	0.0033	0.0011	0.0021
253	0.0032	0.0011	0.0021
254	0.0032	0.0011	0.0021
255	0.0032	0.0011	0.0021
256	0.0031	0.0011	0.0020
257	0.0031	0.0011	0.0020
258	0.0031	0.0011	0.0020
259	0.0030	0.0010	0.0020
260	0.0030	0.0010	0.0020
261	0.0030	0.0010	0.0019
262	0.0029	0.0010	0.0019
263	0.0029	0.0010	0.0019
264	0.0029	0.0010	0.0019
265	0.0028	0.0010	0.0019
266	0.0028	0.0010	0.0018
267	0.0028	0.0010	0.0018
268	0.0028	0.0010	0.0018
269	0.0027	0.0009	0.0018
270	0.0027	0.0009	0.0018
271	0.0027	0.0009	0.0017
272	0.0026	0.0009	0.0017
273	0.0026	0.0009	0.0017
274	0.0026	0.0009	0.0017
275	0.0026	0.0009	0.0017
276	0.0026	0.0009	0.0017
277	0.0025	0.0009	0.0017

278	0.0025	0.0009	0.0016
279	0.0025	0.0009	0.0016
280	0.0025	0.0009	0.0016
281	0.0024	0.0008	0.0016
282	0.0024	0.0008	0.0016
283	0.0024	0.0008	0.0016
284	0.0024	0.0008	0.0016
285	0.0024	0.0008	0.0015
286	0.0023	0.0008	0.0015
287	0.0023	0.0008	0.0015
288	0.0023	0.0008	0.0015

Total soil rain loss = 0.60(In)
Total effective rainfall = 2.00(In)
Peak flow rate in flood hydrograph = 467.11(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	125.0	250.0	375.0	500.0
0+ 5	0.0002	0.03	Q				
0+10	0.0007	0.08	Q				
0+15	0.0017	0.14	Q				
0+20	0.0034	0.24	Q				
0+25	0.0058	0.35	Q				
0+30	0.0092	0.49	Q				
0+35	0.0136	0.64	Q				
0+40	0.0192	0.82	Q				
0+45	0.0263	1.02	Q				
0+50	0.0349	1.26	Q				
0+55	0.0462	1.64	Q				
1+ 0	0.0602	2.04	Q				
1+ 5	0.0781	2.59	Q				
1+10	0.1002	3.22	Q				
1+15	0.1266	3.82	Q				
1+20	0.1566	4.36	Q				
1+25	0.1903	4.89	Q				
1+30	0.2269	5.32	Q				
1+35	0.2663	5.73	Q				
1+40	0.3083	6.10	Q				
1+45	0.3527	6.44	Q				
1+50	0.3992	6.76	Q				
1+55	0.4476	7.02	Q				
2+ 0	0.4977	7.28	Q				
2+ 5	0.5494	7.51	Q				
2+10	0.6027	7.73	Q				
2+15	0.6574	7.94	Q				
2+20	0.7134	8.13	Q				
2+25	0.7707	8.33	Q				
2+30	0.8293	8.51	Q				
2+35	0.8892	8.69	Q				
2+40	0.9501	8.85	Q				
2+45	1.0122	9.01	Q				

2+50	1.0753	9.17	Q				
2+55	1.1395	9.31	Q				
3+ 0	1.2046	9.46	Q				
3+ 5	1.2708	9.60	Q				
3+10	1.3379	9.75	Q				
3+15	1.4059	9.88	Q				
3+20	1.4748	10.00	Q				
3+25	1.5445	10.13	Q				
3+30	1.6151	10.25	Q				
3+35	1.6866	10.38	Q				
3+40	1.7588	10.49	Q				
3+45	1.8318	10.60	Q				
3+50	1.9056	10.72	Q				
3+55	1.9802	10.83	Q				
4+ 0	2.0556	10.94	Q				
4+ 5	2.1317	11.05	Q				
4+10	2.2086	11.16	Q				
4+15	2.2863	11.27	Q				
4+20	2.3647	11.38	Q				
4+25	2.4438	11.49	Q				
4+30	2.5237	11.59	Q				
4+35	2.6042	11.70	Q				
4+40	2.6855	11.80	QV				
4+45	2.7675	11.91	QV				
4+50	2.8502	12.01	QV				
4+55	2.9336	12.10	QV				
5+ 0	3.0176	12.20	QV				
5+ 5	3.1022	12.29	QV				
5+10	3.1875	12.39	QV				
5+15	3.2735	12.49	QV				
5+20	3.3602	12.58	|Q				
5+25	3.4475	12.68	|Q				
5+30	3.5355	12.78	|Q				
5+35	3.6242	12.88	|Q				
5+40	3.7136	12.97	|Q				
5+45	3.8036	13.07	|Q				
5+50	3.8942	13.17	|Q				
5+55	3.9856	13.26	|Q				
6+ 0	4.0776	13.36	|Q				
6+ 5	4.1703	13.46	|Q				
6+10	4.2637	13.56	|Q				
6+15	4.3577	13.66	|Q				
6+20	4.4525	13.76	|Q				
6+25	4.5479	13.86	|Q				
6+30	4.6440	13.95	|Q				
6+35	4.7408	14.05	|Q				
6+40	4.8382	14.15	|Q				
6+45	4.9363	14.25	|Q				
6+50	5.0352	14.35	|Q				
6+55	5.1347	14.45	|Q				
7+ 0	5.2350	14.56	|Q				
7+ 5	5.3359	14.66	|QV				
7+10	5.4376	14.77	|QV				
7+15	5.5400	14.87	|QV				
7+20	5.6432	14.97	|QV				
7+25	5.7470	15.08	|QV				
7+30	5.8516	15.18	|QV				
7+35	5.9569	15.29	|QV				
7+40	6.0629	15.40	|QV				

7+45	6.1698	15.51	|QV	|	|	|	|
7+50	6.2774	15.62	|QV	|	|	|	|
7+55	6.3857	15.74	|QV	|	|	|	|
8+ 0	6.4949	15.85	|QV	|	|	|	|
8+ 5	6.6048	15.96	|QV	|	|	|	|
8+10	6.7155	16.07	|QV	|	|	|	|
8+15	6.8270	16.19	|QV	|	|	|	|
8+20	6.9393	16.30	|QV	|	|	|	|
8+25	7.0524	16.42	|QV	|	|	|	|
8+30	7.1663	16.54	|QV	|	|	|	|
8+35	7.2810	16.66	|QV	|	|	|	|
8+40	7.3967	16.79	|QV	|	|	|	|
8+45	7.5131	16.91	|QV	|	|	|	|
8+50	7.6304	17.03	|QV	|	|	|	|
8+55	7.7486	17.16	|QV	|	|	|	|
9+ 0	7.8676	17.28	|QV	|	|	|	|
9+ 5	7.9876	17.41	|Q V	|	|	|	|
9+10	8.1084	17.54	|Q V	|	|	|	|
9+15	8.2301	17.68	|Q V	|	|	|	|
9+20	8.3528	17.81	|Q V	|	|	|	|
9+25	8.4764	17.95	|Q V	|	|	|	|
9+30	8.6010	18.09	|Q V	|	|	|	|
9+35	8.7266	18.23	|Q V	|	|	|	|
9+40	8.8532	18.38	|Q V	|	|	|	|
9+45	8.9808	18.53	|Q V	|	|	|	|
9+50	9.1094	18.68	|Q V	|	|	|	|
9+55	9.2391	18.83	|Q V	|	|	|	|
10+ 0	9.3699	18.99	|Q V	|	|	|	|
10+ 5	9.5017	19.15	|Q V	|	|	|	|
10+10	9.6347	19.31	|Q V	|	|	|	|
10+15	9.7689	19.48	|Q V	|	|	|	|
10+20	9.9042	19.65	|Q V	|	|	|	|
10+25	10.0407	19.82	|Q V	|	|	|	|
10+30	10.1783	19.99	|Q V	|	|	|	|
10+35	10.3173	20.17	|Q V	|	|	|	|
10+40	10.4575	20.35	|Q V	|	|	|	|
10+45	10.5989	20.54	|Q V	|	|	|	|
10+50	10.7417	20.73	|Q V	|	|	|	|
10+55	10.8858	20.93	|Q V	|	|	|	|
11+ 0	11.0313	21.12	|Q V	|	|	|	|
11+ 5	11.1782	21.33	|Q V	|	|	|	|
11+10	11.3265	21.53	|Q V	|	|	|	|
11+15	11.4762	21.74	|Q V	|	|	|	|
11+20	11.6273	21.95	|Q V	|	|	|	|
11+25	11.7800	22.17	|Q V	|	|	|	|
11+30	11.9342	22.39	|Q V	|	|	|	|
11+35	12.0900	22.62	|Q V	|	|	|	|
11+40	12.2474	22.85	|Q V	|	|	|	|
11+45	12.4065	23.10	|Q V	|	|	|	|
11+50	12.5672	23.34	|Q V	|	|	|	|
11+55	12.7297	23.59	|Q V	|	|	|	|
12+ 0	12.8940	23.85	|Q V	|	|	|	|
12+ 5	13.0599	24.09	|Q V	|	|	|	|
12+10	13.2272	24.30	|Q V	|	|	|	|
12+15	13.3960	24.51	|Q V	|	|	|	|
12+20	13.5659	24.68	|Q V	|	|	|	|
12+25	13.7371	24.85	|Q V	|	|	|	|
12+30	13.9091	24.99	|Q V	|	|	|	|
12+35	14.0821	25.12	| Q V	|	|	|	|

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12+40      14.2559     25.23  | Q  V    |          |          |          |
12+45      14.4302     25.32  | Q  V    |          |          |          |
12+50      14.6050     25.38  | Q  V    |          |          |          |
12+55      14.7792     25.29  | Q  V    |          |          |          |
13+ 0      14.9526     25.18  | Q  V    |          |          |          |
13+ 5      15.1241     24.90  |Q   V    |          |          |          |
13+10      15.2931     24.54  |Q   V    |          |          |          |
13+15      15.4599     24.22  |Q   V    |          |          |          |
13+20      15.6251     23.98  |Q   V    |          |          |          |
13+25      15.7887     23.77  |Q   V    |          |          |          |
13+30      15.9517     23.67  |Q    V   |          |          |          |
13+35      16.1142     23.60  |Q    V   |          |          |          |
13+40      16.2767     23.58  |Q    V   |          |          |          |
13+45      16.4393     23.62  |Q    V   |          |          |          |
13+50      16.6025     23.69  |Q    V   |          |          |          |
13+55      16.7666     23.84  |Q    V   |          |          |          |
14+ 0      16.9319     24.00  |Q    V   |          |          |          |
14+ 5      17.0989     24.24  |Q    V   |          |          |          |
14+10      17.2677     24.51  |Q    V   |          |          |          |
14+15      17.4387     24.83  |Q    V   |          |          |          |
14+20      17.6122     25.20  | Q   V   |          |          |          |
14+25      17.7885     25.60  | Q   V   |          |          |          |
14+30      17.9680     26.06  | Q   V   |          |          |          |
14+35      18.1509     26.56  | Q   V   |          |          |          |
14+40      18.3376     27.11  | Q   V   |          |          |          |
14+45      18.5286     27.74  | Q    V  |          |          |          |
14+50      18.7243     28.42  | Q    V  |          |          |          |
14+55      18.9256     29.22  | Q    V  |          |          |          |
15+ 0      19.1329     30.09  | Q    V  |          |          |          |
15+ 5      19.3471     31.11  | Q    V  |          |          |          |
15+10      19.5690     32.22  | Q    V  |          |          |          |
15+15      19.7993     33.43  | Q    V  |          |          |          |
15+20      20.0384     34.72  | Q    V  |          |          |          |
15+25      20.2884     36.30  | Q    V  |          |          |          |
15+30      20.5512     38.15  |  Q   V  |          |          |          |
15+35      20.8286     40.28  |  Q   V  |          |          |          |
15+40      21.1241     42.90  |  Q   V  |          |          |          |
15+45      21.4410     46.01  |  Q    V |          |          |          |
15+50      21.7848     49.93  |  Q    V |          |          |          |
15+55      22.1640     55.05  |   Q   V |          |          |          |
16+ 0      22.5931     62.31  |   Q   V |          |          |          |
16+ 5      23.1457     80.24  |     Q V |          |          |          |
16+10      23.8260     98.78  |      Q V|          |          |          |
16+15      24.6025    112.75  |        Q|          |          |          |
16+20      25.5372    135.72  |        VQ          |          |          |
16+25      26.5674    149.59  |         VQ         |          |          |
16+30      27.7662    174.06  |         V  Q       |          |          |
16+35      29.0908    192.33  |         |V   Q     |          |          |
16+40      30.5682    214.52  |         |V     Q   |          |          |
16+45      32.2434    243.24  |         | V      Q|          |          |
16+50      34.1278    273.62  |         | V       |Q         |          |
16+55      36.4849    342.24  |         |  V      |      Q   |          |
17+ 0      39.0359    370.41  |         |   V     |        Q |          |
17+ 5      42.0465    437.13  |         |    V    |          |   Q      |
17+10      45.2635    467.11  |         |      V  |          |      Q   |
17+15      48.3486    447.96  |         |       V |          |    Q     |
17+20      51.1924    412.93  |         |        V|          |  Q       |
17+25      53.8907    391.79  |         |         V          |Q         |
17+30      56.2461    342.00  |         |          |V     Q  |          |
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17+35	58.4529	320.43	|	|	| V Q	|	|	|	|
17+40	60.4681	292.60	|	|	| VQ	|	|	|	|
17+45	62.3235	269.40	|	|	|Q V	|	|	|	|
17+50	64.0441	249.84	|	|	Q| V	|	|	|	|
17+55	65.5535	219.17	|	|	Q | V	|	|	|	|
18+ 0	66.9846	207.79	|	|	Q | V	|	|	|	|
18+ 5	68.2851	188.84	|	|	Q | V	|	|	|	|
18+10	69.5165	178.79	|	|	Q | V	|	|	|	|
18+15	70.6727	167.88	|	|	Q | V	|	|	|	|
18+20	71.7587	157.69	|	|	Q | V	|	|	|	|
18+25	72.8070	152.22	|	|	Q | V	|	|	|	|
18+30	73.8014	144.38	|	|	Q| V	|	|	|	|
18+35	74.7619	139.46	|	|	Q| V	|	|	|	|
18+40	75.6547	129.65	|	|	Q V	|	|	|	|
18+45	76.5077	123.85	|	|	Q| V	|	|	|	|
18+50	77.3251	118.68	|	|	Q| V	|	|	|	|
18+55	78.1045	113.18	|	|	Q| V	|	|	|	|
19+ 0	78.8667	110.67	|	|	Q | V	|	|	|	|
19+ 5	79.6059	107.32	|	|	Q | V	|	|	|	|
19+10	80.3269	104.68	|	|	Q | V	|	|	|	|
19+15	80.9989	97.57	|	|	Q V	|	|	|	|
19+20	81.6409	93.22	|	|	Q V	|	|	|	|
19+25	82.2733	91.83	|	|	Q V	|	|	|	|
19+30	82.8951	90.29	|	|	Q V	|	|	|	|
19+35	83.5015	88.04	|	|	Q V	|	|	|	|
19+40	84.0709	82.69	|	|	Q V	|	|	|	|
19+45	84.6264	80.65	|	|	Q V	|	|	|	|
19+50	85.1744	79.56	|	|	Q V	|	|	|	|
19+55	85.7141	78.37	|	|	Q V	|	|	|	|
20+ 0	86.2409	76.49	|	|	Q V	|	|	|	|
20+ 5	86.7476	73.58	|	|	Q V	|	|	|	|
20+10	87.2465	72.43	|	|	Q V	|	|	|	|
20+15	87.7377	71.33	|	|	Q V	|	|	|	|
20+20	88.2199	70.01	|	|	Q V	|	|	|	|
20+25	88.6812	66.98	|	|	Q V	|	|	|	|
20+30	89.1223	64.05	|	|	Q V	|	|	|	|
20+35	89.5561	62.98	|	|	Q V	|	|	|	|
20+40	89.9818	61.82	|	|	Q V	|	|	|	|
20+45	90.3968	60.25	|	|	Q V	|	|	|	|
20+50	90.7825	56.00	|	|	Q V	|	|	|	|
20+55	91.1532	53.83	|	|	Q V	|	|	|	|
21+ 0	91.5184	53.03	|	|	Q V	|	|	|	|
21+ 5	91.8786	52.31	|	|	Q V	|	|	|	|
21+10	92.2334	51.51	|	|	Q V	|	|	|	|
21+15	92.5794	50.24	|	|	Q V	|	|	|	|
21+20	92.9207	49.55	|	|	Q V	|	|	|	|
21+25	93.2578	48.95	|	|	Q V	|	|	|	|
21+30	93.5901	48.25	|	|	Q V	|	|	|	|
21+35	93.9134	46.94	|	|	Q V	|	|	|	|
21+40	94.2244	45.16	|	|	Q V	|	|	|	|
21+45	94.5312	44.54	|	|	Q V	|	|	|	|
21+50	94.8341	43.99	|	|	Q V	|	|	|	|
21+55	95.1330	43.40	|	|	Q V	|	|	|	|
22+ 0	95.4245	42.33	|	|	Q V	|	|	|	|
22+ 5	95.7098	41.42	|	|	Q V	|	|	|	|
22+10	95.9914	40.89	|	|	Q V	|	|	|	|
22+15	96.2687	40.27	|	|	Q V	|	|	|	|
22+20	96.5399	39.38	|	|	Q V	|	|	|	|
22+25	96.7957	37.15	|	|	Q V	|	|	|	|

22+30	97.0447	36.15	Q				V
22+35	97.2906	35.70	Q				V
22+40	97.5338	35.32	Q				V
22+45	97.7746	34.97	Q				V
22+50	98.0130	34.61	Q				V
22+55	98.2488	34.23	Q				V
23+ 0	98.4815	33.79	Q				V
23+ 5	98.7103	33.23	Q				V
23+10	98.9303	31.94	Q				V
23+15	99.1399	30.43	Q				V
23+20	99.3465	30.01	Q				V
23+25	99.5508	29.66	Q				V
23+30	99.7529	29.35	Q				V
23+35	99.9530	29.05	Q				V
23+40	100.1508	28.72	Q				V
23+45	100.3462	28.37	Q				V
23+50	100.5384	27.91	Q				V
23+55	100.7255	27.17	Q				V
24+ 0	100.9003	25.38	Q				V
24+ 5	101.0703	24.68	Q				V
24+10	101.2376	24.29	Q				V
24+15	101.4025	23.94	Q				V
24+20	101.5649	23.58	Q				V
24+25	101.7247	23.21	Q				V
24+30	101.8816	22.78	Q				V
24+35	102.0350	22.27	Q				V
24+40	102.1838	21.62	Q				V
24+45	102.3221	20.08	Q				V
24+50	102.4501	18.58	Q				V
24+55	102.5737	17.94	Q				V
25+ 0	102.6933	17.36	Q				V
25+ 5	102.8081	16.68	Q				V
25+10	102.9180	15.95	Q				V
25+15	103.0232	15.27	Q				V
25+20	103.1243	14.68	Q				V
25+25	103.2217	14.15	Q				V
25+30	103.3168	13.80	Q				V
25+35	103.4113	13.72	Q				V
25+40	103.5035	13.39	Q				V
25+45	103.5932	13.02	Q				V
25+50	103.6805	12.67	Q				V
25+55	103.7657	12.37	Q				V
26+ 0	103.8489	12.08	Q				V
26+ 5	103.9302	11.81	Q				V
26+10	104.0098	11.55	Q				V
26+15	104.0877	11.31	Q				V
26+20	104.1640	11.08	Q				V
26+25	104.2388	10.85	Q				V
26+30	104.3119	10.62	Q				V
26+35	104.3833	10.37	Q				V
26+40	104.4532	10.14	Q				V
26+45	104.5213	9.90	Q				V
26+50	104.5877	9.64	Q				V
26+55	104.6521	9.35	Q				V
27+ 0	104.7140	8.99	Q				V
27+ 5	104.7713	8.32	Q				V
27+10	104.8198	7.04	Q				V
27+15	104.8658	6.68	Q				V
27+20	104.9104	6.47	Q				V

27+25	104.9537	6.30	Q	|	|	|	V|
27+30	104.9960	6.15	Q	|	|	|	V|
27+35	105.0374	6.00	Q	|	|	|	V|
27+40	105.0777	5.86	Q	|	|	|	V|
27+45	105.1171	5.71	Q	|	|	|	V|
27+50	105.1553	5.55	Q	|	|	|	V|
27+55	105.1924	5.38	Q	|	|	|	V|
28+ 0	105.2282	5.20	Q	|	|	|	V|
28+ 5	105.2626	5.00	Q	|	|	|	V|
28+10	105.2953	4.75	Q	|	|	|	V|
28+15	105.3256	4.39	Q	|	|	|	V|
28+20	105.3487	3.35	Q	|	|	|	V|
28+25	105.3652	2.40	Q	|	|	|	V|
28+30	105.3804	2.21	Q	|	|	|	V|
28+35	105.3947	2.07	Q	|	|	|	V|
28+40	105.4082	1.96	Q	|	|	|	V|
28+45	105.4212	1.88	Q	|	|	|	V|
28+50	105.4336	1.81	Q	|	|	|	V|
28+55	105.4456	1.74	Q	|	|	|	V|
29+ 0	105.4572	1.68	Q	|	|	|	V|
29+ 5	105.4684	1.62	Q	|	|	|	V|
29+10	105.4791	1.56	Q	|	|	|	V|
29+15	105.4895	1.51	Q	|	|	|	V|
29+20	105.4995	1.45	Q	|	|	|	V|
29+25	105.5092	1.40	Q	|	|	|	V|
29+30	105.5185	1.35	Q	|	|	|	V|
29+35	105.5274	1.30	Q	|	|	|	V|
29+40	105.5361	1.26	Q	|	|	|	V|
29+45	105.5445	1.22	Q	|	|	|	V|
29+50	105.5525	1.17	Q	|	|	|	V|
29+55	105.5603	1.13	Q	|	|	|	V|
30+ 0	105.5679	1.09	Q	|	|	|	V|
30+ 5	105.5751	1.06	Q	|	|	|	V|
30+10	105.5822	1.02	Q	|	|	|	V|
30+15	105.5890	0.98	Q	|	|	|	V|
30+20	105.5955	0.95	Q	|	|	|	V|
30+25	105.6018	0.91	Q	|	|	|	V|
30+30	105.6078	0.88	Q	|	|	|	V|
30+35	105.6137	0.85	Q	|	|	|	V|
30+40	105.6193	0.82	Q	|	|	|	V|
30+45	105.6247	0.79	Q	|	|	|	V|
30+50	105.6300	0.76	Q	|	|	|	V|
30+55	105.6350	0.73	Q	|	|	|	V|
31+ 0	105.6398	0.70	Q	|	|	|	V|
31+ 5	105.6444	0.67	Q	|	|	|	V|
31+10	105.6488	0.64	Q	|	|	|	V|
31+15	105.6531	0.62	Q	|	|	|	V|
31+20	105.6572	0.60	Q	|	|	|	V|
31+25	105.6612	0.57	Q	|	|	|	V|
31+30	105.6650	0.55	Q	|	|	|	V|
31+35	105.6686	0.53	Q	|	|	|	V|
31+40	105.6721	0.51	Q	|	|	|	V|
31+45	105.6755	0.49	Q	|	|	|	V|
31+50	105.6787	0.47	Q	|	|	|	V|
31+55	105.6817	0.45	Q	|	|	|	V|
32+ 0	105.6847	0.43	Q	|	|	|	V|
32+ 5	105.6875	0.41	Q	|	|	|	V|
32+10	105.6903	0.40	Q	|	|	|	V|
32+15	105.6929	0.38	Q	|	|	|	V|

32+20	105.6955	0.37	Q	|	|	|	V|
32+25	105.6979	0.35	Q	|	|	|	V|
32+30	105.7002	0.34	Q	|	|	|	V|
32+35	105.7025	0.32	Q	|	|	|	V|
32+40	105.7046	0.31	Q	|	|	|	V|
32+45	105.7066	0.30	Q	|	|	|	V|
32+50	105.7086	0.29	Q	|	|	|	V|
32+55	105.7106	0.28	Q	|	|	|	V|
33+ 0	105.7124	0.27	Q	|	|	|	V|
33+ 5	105.7142	0.26	Q	|	|	|	V|
33+10	105.7160	0.25	Q	|	|	|	V|
33+15	105.7177	0.25	Q	|	|	|	V|
33+20	105.7193	0.24	Q	|	|	|	V|
33+25	105.7209	0.23	Q	|	|	|	V|
33+30	105.7224	0.22	Q	|	|	|	V|
33+35	105.7239	0.21	Q	|	|	|	V|
33+40	105.7253	0.20	Q	|	|	|	V|
33+45	105.7266	0.19	Q	|	|	|	V|
33+50	105.7279	0.18	Q	|	|	|	V|
33+55	105.7291	0.17	Q	|	|	|	V|
34+ 0	105.7302	0.17	Q	|	|	|	V|
34+ 5	105.7313	0.16	Q	|	|	|	V|
34+10	105.7323	0.15	Q	|	|	|	V|
34+15	105.7333	0.14	Q	|	|	|	V|
34+20	105.7342	0.13	Q	|	|	|	V|
34+25	105.7350	0.12	Q	|	|	|	V|
34+30	105.7358	0.11	Q	|	|	|	V|
34+35	105.7366	0.11	Q	|	|	|	V|
34+40	105.7372	0.10	Q	|	|	|	V|
34+45	105.7379	0.09	Q	|	|	|	V|
34+50	105.7384	0.08	Q	|	|	|	V|
34+55	105.7389	0.07	Q	|	|	|	V|
35+ 0	105.7394	0.07	Q	|	|	|	V|
35+ 5	105.7398	0.06	Q	|	|	|	V|
35+10	105.7402	0.05	Q	|	|	|	V|
35+15	105.7405	0.05	Q	|	|	|	V|
35+20	105.7408	0.05	Q	|	|	|	V|
35+25	105.7411	0.04	Q	|	|	|	V|
35+30	105.7414	0.04	Q	|	|	|	V|
35+35	105.7416	0.03	Q	|	|	|	V|
35+40	105.7418	0.03	Q	|	|	|	V|
35+45	105.7420	0.03	Q	|	|	|	V|
35+50	105.7421	0.02	Q	|	|	|	V|
35+55	105.7422	0.02	Q	|	|	|	V|
36+ 0	105.7423	0.01	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 32
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
24.36	1	1.39
Rainfall data for year 100		
24.36	6	1.83
Rainfall data for year 100		
24.36	24	2.60

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	24.36	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
21.92	0.900	91.0	98.2	0.18	0.920
2.44	0.100	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.919
Area-averaged low loss fraction, Yb = 0.081
User entry of time of concentration = 0.650 (hours)
++
Watershed area = 24.36(Ac.)
Catchment Lag time = 0.520 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.0256
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.081 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.645(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.600(In)

Rainfall depth area reduction factors:
Using a total area of 24.36(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.128(In)
1-hour factor = 0.999 Adjusted rainfall = 1.388(In)
3-hour factor = 1.000 Adjusted rainfall = 1.645(In)
6-hour factor = 1.000 Adjusted rainfall = 1.830(In)
24-hour factor = 1.000 Adjusted rainfall = 2.600(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 294.60 (CFS))	
1	0.736	2.169
2	3.163	7.148
3	7.243	12.021
4	14.463	21.271
5	28.208	40.493
6	42.044	40.761
7	52.111	29.659
8	59.430	21.562
9	64.732	15.619
10	69.014	12.613
11	72.646	10.702
12	75.630	8.790
13	78.276	7.794

14	80.458	6.428
15	82.396	5.710
16	84.112	5.054
17	85.685	4.634
18	87.133	4.266
19	88.405	3.750
20	89.450	3.077
21	90.395	2.784
22	91.293	2.646
23	92.108	2.399
24	92.865	2.232
25	93.576	2.092
26	94.194	1.823
27	94.739	1.605
28	95.284	1.605
29	95.775	1.445
30	96.192	1.229
31	96.608	1.228
32	96.984	1.107
33	97.275	0.857
34	97.563	0.850
35	97.822	0.762
36	97.989	0.491
37	98.149	0.472
38	98.315	0.487
39	98.504	0.557
40	98.696	0.567
41	98.888	0.567
42	99.081	0.567
43	99.273	0.567
44	99.461	0.553
45	99.582	0.358
46	99.682	0.295
47	99.782	0.295
48	99.883	0.295
49	100.000	0.148

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6588	0.6588
2	0.8111	0.1523
3	0.9160	0.1049
4	0.9986	0.0826
5	1.0677	0.0691
6	1.1277	0.0600
7	1.1811	0.0534
8	1.2294	0.0483
9	1.2736	0.0442
10	1.3145	0.0409
11	1.3526	0.0381
12	1.3884	0.0358
13	1.4057	0.0173
14	1.4219	0.0162
15	1.4371	0.0152
16	1.4515	0.0144
17	1.4651	0.0136
18	1.4781	0.0130
19	1.4905	0.0124
20	1.5023	0.0119

21	1.5137	0.0114
22	1.5246	0.0109
23	1.5351	0.0105
24	1.5452	0.0101
25	1.5550	0.0098
26	1.5645	0.0094
27	1.5736	0.0091
28	1.5825	0.0089
29	1.5911	0.0086
30	1.5994	0.0083
31	1.6075	0.0081
32	1.6154	0.0079
33	1.6231	0.0077
34	1.6306	0.0075
35	1.6379	0.0073
36	1.6451	0.0071
37	1.6520	0.0069
38	1.6588	0.0068
39	1.6654	0.0066
40	1.6719	0.0065
41	1.6783	0.0064
42	1.6845	0.0062
43	1.6906	0.0061
44	1.6966	0.0060
45	1.7024	0.0059
46	1.7082	0.0058
47	1.7138	0.0057
48	1.7194	0.0056
49	1.7248	0.0055
50	1.7302	0.0054
51	1.7355	0.0053
52	1.7407	0.0052
53	1.7458	0.0051
54	1.7508	0.0050
55	1.7557	0.0049
56	1.7606	0.0049
57	1.7654	0.0048
58	1.7701	0.0047
59	1.7747	0.0047
60	1.7793	0.0046
61	1.7839	0.0045
62	1.7883	0.0045
63	1.7927	0.0044
64	1.7971	0.0043
65	1.8013	0.0043
66	1.8056	0.0042
67	1.8097	0.0042
68	1.8139	0.0041
69	1.8179	0.0041
70	1.8220	0.0040
71	1.8259	0.0040
72	1.8299	0.0039
73	1.8363	0.0064
74	1.8426	0.0063
75	1.8489	0.0063
76	1.8551	0.0062
77	1.8613	0.0062
78	1.8673	0.0061
79	1.8734	0.0060

80	1.8794	0.0060
81	1.8853	0.0059
82	1.8912	0.0059
83	1.8970	0.0058
84	1.9027	0.0058
85	1.9085	0.0057
86	1.9141	0.0057
87	1.9197	0.0056
88	1.9253	0.0056
89	1.9308	0.0055
90	1.9363	0.0055
91	1.9417	0.0054
92	1.9471	0.0054
93	1.9524	0.0053
94	1.9577	0.0053
95	1.9630	0.0053
96	1.9682	0.0052
97	1.9734	0.0052
98	1.9785	0.0051
99	1.9836	0.0051
100	1.9887	0.0051
101	1.9937	0.0050
102	1.9987	0.0050
103	2.0036	0.0049
104	2.0085	0.0049
105	2.0134	0.0049
106	2.0183	0.0048
107	2.0231	0.0048
108	2.0278	0.0048
109	2.0326	0.0047
110	2.0373	0.0047
111	2.0420	0.0047
112	2.0466	0.0046
113	2.0512	0.0046
114	2.0558	0.0046
115	2.0604	0.0046
116	2.0649	0.0045
117	2.0694	0.0045
118	2.0739	0.0045
119	2.0783	0.0044
120	2.0827	0.0044
121	2.0871	0.0044
122	2.0914	0.0044
123	2.0958	0.0043
124	2.1001	0.0043
125	2.1044	0.0043
126	2.1086	0.0043
127	2.1128	0.0042
128	2.1170	0.0042
129	2.1212	0.0042
130	2.1254	0.0042
131	2.1295	0.0041
132	2.1336	0.0041
133	2.1377	0.0041
134	2.1418	0.0041
135	2.1458	0.0040
136	2.1498	0.0040
137	2.1538	0.0040
138	2.1578	0.0040

139	2.1617	0.0040
140	2.1657	0.0039
141	2.1696	0.0039
142	2.1735	0.0039
143	2.1773	0.0039
144	2.1812	0.0038
145	2.1850	0.0038
146	2.1888	0.0038
147	2.1926	0.0038
148	2.1964	0.0038
149	2.2001	0.0038
150	2.2038	0.0037
151	2.2076	0.0037
152	2.2113	0.0037
153	2.2149	0.0037
154	2.2186	0.0037
155	2.2222	0.0036
156	2.2259	0.0036
157	2.2295	0.0036
158	2.2330	0.0036
159	2.2366	0.0036
160	2.2402	0.0036
161	2.2437	0.0035
162	2.2472	0.0035
163	2.2507	0.0035
164	2.2542	0.0035
165	2.2577	0.0035
166	2.2612	0.0035
167	2.2646	0.0034
168	2.2680	0.0034
169	2.2715	0.0034
170	2.2749	0.0034
171	2.2782	0.0034
172	2.2816	0.0034
173	2.2850	0.0034
174	2.2883	0.0033
175	2.2916	0.0033
176	2.2949	0.0033
177	2.2982	0.0033
178	2.3015	0.0033
179	2.3048	0.0033
180	2.3080	0.0033
181	2.3113	0.0032
182	2.3145	0.0032
183	2.3177	0.0032
184	2.3209	0.0032
185	2.3241	0.0032
186	2.3273	0.0032
187	2.3305	0.0032
188	2.3336	0.0032
189	2.3367	0.0031
190	2.3399	0.0031
191	2.3430	0.0031
192	2.3461	0.0031
193	2.3492	0.0031
194	2.3523	0.0031
195	2.3553	0.0031
196	2.3584	0.0031
197	2.3614	0.0030

198	2.3645	0.0030
199	2.3675	0.0030
200	2.3705	0.0030
201	2.3735	0.0030
202	2.3765	0.0030
203	2.3794	0.0030
204	2.3824	0.0030
205	2.3854	0.0030
206	2.3883	0.0029
207	2.3912	0.0029
208	2.3942	0.0029
209	2.3971	0.0029
210	2.4000	0.0029
211	2.4029	0.0029
212	2.4057	0.0029
213	2.4086	0.0029
214	2.4115	0.0029
215	2.4143	0.0029
216	2.4172	0.0028
217	2.4200	0.0028
218	2.4228	0.0028
219	2.4256	0.0028
220	2.4284	0.0028
221	2.4312	0.0028
222	2.4340	0.0028
223	2.4368	0.0028
224	2.4395	0.0028
225	2.4423	0.0028
226	2.4450	0.0027
227	2.4478	0.0027
228	2.4505	0.0027
229	2.4532	0.0027
230	2.4559	0.0027
231	2.4586	0.0027
232	2.4613	0.0027
233	2.4640	0.0027
234	2.4667	0.0027
235	2.4693	0.0027
236	2.4720	0.0027
237	2.4747	0.0026
238	2.4773	0.0026
239	2.4799	0.0026
240	2.4826	0.0026
241	2.4852	0.0026
242	2.4878	0.0026
243	2.4904	0.0026
244	2.4930	0.0026
245	2.4956	0.0026
246	2.4981	0.0026
247	2.5007	0.0026
248	2.5033	0.0026
249	2.5058	0.0026
250	2.5084	0.0025
251	2.5109	0.0025
252	2.5134	0.0025
253	2.5160	0.0025
254	2.5185	0.0025
255	2.5210	0.0025
256	2.5235	0.0025

257	2.5260	0.0025
258	2.5285	0.0025
259	2.5309	0.0025
260	2.5334	0.0025
261	2.5359	0.0025
262	2.5383	0.0025
263	2.5408	0.0025
264	2.5432	0.0024
265	2.5457	0.0024
266	2.5481	0.0024
267	2.5505	0.0024
268	2.5529	0.0024
269	2.5553	0.0024
270	2.5578	0.0024
271	2.5601	0.0024
272	2.5625	0.0024
273	2.5649	0.0024
274	2.5673	0.0024
275	2.5697	0.0024
276	2.5720	0.0024
277	2.5744	0.0024
278	2.5767	0.0024
279	2.5791	0.0023
280	2.5814	0.0023
281	2.5838	0.0023
282	2.5861	0.0023
283	2.5884	0.0023
284	2.5907	0.0023
285	2.5930	0.0023
286	2.5953	0.0023
287	2.5976	0.0023
288	2.5999	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0002	0.0021
2	0.0023	0.0002	0.0021
3	0.0023	0.0002	0.0021
4	0.0023	0.0002	0.0021
5	0.0023	0.0002	0.0021
6	0.0023	0.0002	0.0021
7	0.0023	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0022
12	0.0024	0.0002	0.0022
13	0.0024	0.0002	0.0022
14	0.0024	0.0002	0.0022
15	0.0024	0.0002	0.0022
16	0.0024	0.0002	0.0022
17	0.0024	0.0002	0.0022
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0025	0.0002	0.0023
22	0.0025	0.0002	0.0023

23	0.0025	0.0002	0.0023
24	0.0025	0.0002	0.0023
25	0.0025	0.0002	0.0023
26	0.0025	0.0002	0.0023
27	0.0026	0.0002	0.0023
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0026	0.0002	0.0024
31	0.0026	0.0002	0.0024
32	0.0026	0.0002	0.0024
33	0.0026	0.0002	0.0024
34	0.0026	0.0002	0.0024
35	0.0026	0.0002	0.0024
36	0.0027	0.0002	0.0024
37	0.0027	0.0002	0.0025
38	0.0027	0.0002	0.0025
39	0.0027	0.0002	0.0025
40	0.0027	0.0002	0.0025
41	0.0027	0.0002	0.0025
42	0.0027	0.0002	0.0025
43	0.0028	0.0002	0.0025
44	0.0028	0.0002	0.0025
45	0.0028	0.0002	0.0026
46	0.0028	0.0002	0.0026
47	0.0028	0.0002	0.0026
48	0.0028	0.0002	0.0026
49	0.0028	0.0002	0.0026
50	0.0029	0.0002	0.0026
51	0.0029	0.0002	0.0026
52	0.0029	0.0002	0.0026
53	0.0029	0.0002	0.0027
54	0.0029	0.0002	0.0027
55	0.0029	0.0002	0.0027
56	0.0029	0.0002	0.0027
57	0.0030	0.0002	0.0027
58	0.0030	0.0002	0.0027
59	0.0030	0.0002	0.0028
60	0.0030	0.0002	0.0028
61	0.0030	0.0002	0.0028
62	0.0030	0.0002	0.0028
63	0.0031	0.0002	0.0028
64	0.0031	0.0002	0.0028
65	0.0031	0.0003	0.0029
66	0.0031	0.0003	0.0029
67	0.0031	0.0003	0.0029
68	0.0032	0.0003	0.0029
69	0.0032	0.0003	0.0029
70	0.0032	0.0003	0.0029
71	0.0032	0.0003	0.0030
72	0.0032	0.0003	0.0030
73	0.0033	0.0003	0.0030
74	0.0033	0.0003	0.0030
75	0.0033	0.0003	0.0030
76	0.0033	0.0003	0.0030
77	0.0033	0.0003	0.0031
78	0.0034	0.0003	0.0031
79	0.0034	0.0003	0.0031
80	0.0034	0.0003	0.0031
81	0.0034	0.0003	0.0032

82	0.0034	0.0003	0.0032
83	0.0035	0.0003	0.0032
84	0.0035	0.0003	0.0032
85	0.0035	0.0003	0.0032
86	0.0035	0.0003	0.0033
87	0.0036	0.0003	0.0033
88	0.0036	0.0003	0.0033
89	0.0036	0.0003	0.0033
90	0.0036	0.0003	0.0033
91	0.0037	0.0003	0.0034
92	0.0037	0.0003	0.0034
93	0.0037	0.0003	0.0034
94	0.0038	0.0003	0.0034
95	0.0038	0.0003	0.0035
96	0.0038	0.0003	0.0035
97	0.0038	0.0003	0.0035
98	0.0039	0.0003	0.0036
99	0.0039	0.0003	0.0036
100	0.0039	0.0003	0.0036
101	0.0040	0.0003	0.0037
102	0.0040	0.0003	0.0037
103	0.0040	0.0003	0.0037
104	0.0041	0.0003	0.0037
105	0.0041	0.0003	0.0038
106	0.0041	0.0003	0.0038
107	0.0042	0.0003	0.0038
108	0.0042	0.0003	0.0039
109	0.0043	0.0003	0.0039
110	0.0043	0.0003	0.0039
111	0.0043	0.0003	0.0040
112	0.0044	0.0004	0.0040
113	0.0044	0.0004	0.0041
114	0.0044	0.0004	0.0041
115	0.0045	0.0004	0.0041
116	0.0045	0.0004	0.0042
117	0.0046	0.0004	0.0042
118	0.0046	0.0004	0.0042
119	0.0047	0.0004	0.0043
120	0.0047	0.0004	0.0043
121	0.0048	0.0004	0.0044
122	0.0048	0.0004	0.0044
123	0.0049	0.0004	0.0045
124	0.0049	0.0004	0.0045
125	0.0050	0.0004	0.0046
126	0.0050	0.0004	0.0046
127	0.0051	0.0004	0.0047
128	0.0051	0.0004	0.0047
129	0.0052	0.0004	0.0048
130	0.0053	0.0004	0.0048
131	0.0053	0.0004	0.0049
132	0.0054	0.0004	0.0049
133	0.0055	0.0004	0.0050
134	0.0055	0.0004	0.0051
135	0.0056	0.0005	0.0052
136	0.0057	0.0005	0.0052
137	0.0058	0.0005	0.0053
138	0.0058	0.0005	0.0053
139	0.0059	0.0005	0.0054
140	0.0060	0.0005	0.0055

141	0.0061	0.0005	0.0056
142	0.0062	0.0005	0.0057
143	0.0063	0.0005	0.0058
144	0.0063	0.0005	0.0058
145	0.0039	0.0003	0.0036
146	0.0040	0.0003	0.0037
147	0.0041	0.0003	0.0037
148	0.0041	0.0003	0.0038
149	0.0042	0.0003	0.0039
150	0.0043	0.0003	0.0039
151	0.0044	0.0004	0.0040
152	0.0045	0.0004	0.0041
153	0.0046	0.0004	0.0042
154	0.0047	0.0004	0.0043
155	0.0048	0.0004	0.0044
156	0.0049	0.0004	0.0045
157	0.0050	0.0004	0.0046
158	0.0051	0.0004	0.0047
159	0.0053	0.0004	0.0048
160	0.0054	0.0004	0.0049
161	0.0056	0.0004	0.0051
162	0.0057	0.0005	0.0052
163	0.0059	0.0005	0.0054
164	0.0060	0.0005	0.0055
165	0.0062	0.0005	0.0057
166	0.0064	0.0005	0.0058
167	0.0066	0.0005	0.0061
168	0.0068	0.0005	0.0062
169	0.0071	0.0006	0.0066
170	0.0073	0.0006	0.0067
171	0.0077	0.0006	0.0071
172	0.0079	0.0006	0.0073
173	0.0083	0.0007	0.0077
174	0.0086	0.0007	0.0079
175	0.0091	0.0007	0.0084
176	0.0094	0.0008	0.0087
177	0.0101	0.0008	0.0093
178	0.0105	0.0008	0.0097
179	0.0114	0.0009	0.0104
180	0.0119	0.0010	0.0109
181	0.0130	0.0010	0.0119
182	0.0136	0.0011	0.0125
183	0.0152	0.0012	0.0140
184	0.0162	0.0013	0.0149
185	0.0358	0.0027	0.0331
186	0.0381	0.0027	0.0354
187	0.0442	0.0027	0.0415
188	0.0483	0.0027	0.0456
189	0.0600	0.0027	0.0573
190	0.0691	0.0027	0.0665
191	0.1049	0.0027	0.1022
192	0.1523	0.0027	0.1496
193	0.6588	0.0027	0.6561
194	0.0826	0.0027	0.0799
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0382
197	0.0173	0.0014	0.0159
198	0.0144	0.0012	0.0132
199	0.0124	0.0010	0.0114

200	0.0109	0.0009	0.0100
201	0.0098	0.0008	0.0090
202	0.0089	0.0007	0.0081
203	0.0081	0.0007	0.0075
204	0.0075	0.0006	0.0069
205	0.0069	0.0006	0.0064
206	0.0065	0.0005	0.0060
207	0.0061	0.0005	0.0056
208	0.0058	0.0005	0.0053
209	0.0055	0.0004	0.0050
210	0.0052	0.0004	0.0048
211	0.0049	0.0004	0.0045
212	0.0047	0.0004	0.0043
213	0.0045	0.0004	0.0042
214	0.0043	0.0004	0.0040
215	0.0042	0.0003	0.0038
216	0.0040	0.0003	0.0037
217	0.0064	0.0005	0.0059
218	0.0062	0.0005	0.0057
219	0.0060	0.0005	0.0055
220	0.0059	0.0005	0.0054
221	0.0057	0.0005	0.0053
222	0.0056	0.0004	0.0051
223	0.0054	0.0004	0.0050
224	0.0053	0.0004	0.0049
225	0.0052	0.0004	0.0048
226	0.0051	0.0004	0.0046
227	0.0049	0.0004	0.0045
228	0.0048	0.0004	0.0045
229	0.0047	0.0004	0.0044
230	0.0046	0.0004	0.0043
231	0.0046	0.0004	0.0042
232	0.0045	0.0004	0.0041
233	0.0044	0.0004	0.0040
234	0.0043	0.0003	0.0040
235	0.0042	0.0003	0.0039
236	0.0042	0.0003	0.0038
237	0.0041	0.0003	0.0038
238	0.0040	0.0003	0.0037
239	0.0040	0.0003	0.0036
240	0.0039	0.0003	0.0036
241	0.0038	0.0003	0.0035
242	0.0038	0.0003	0.0035
243	0.0037	0.0003	0.0034
244	0.0037	0.0003	0.0034
245	0.0036	0.0003	0.0033
246	0.0036	0.0003	0.0033
247	0.0035	0.0003	0.0032
248	0.0035	0.0003	0.0032
249	0.0034	0.0003	0.0031
250	0.0034	0.0003	0.0031
251	0.0033	0.0003	0.0031
252	0.0033	0.0003	0.0030
253	0.0032	0.0003	0.0030
254	0.0032	0.0003	0.0029
255	0.0032	0.0003	0.0029
256	0.0031	0.0003	0.0029
257	0.0031	0.0002	0.0028
258	0.0031	0.0002	0.0028

259	0.0030	0.0002	0.0028
260	0.0030	0.0002	0.0027
261	0.0030	0.0002	0.0027
262	0.0029	0.0002	0.0027
263	0.0029	0.0002	0.0027
264	0.0029	0.0002	0.0026
265	0.0028	0.0002	0.0026
266	0.0028	0.0002	0.0026
267	0.0028	0.0002	0.0025
268	0.0027	0.0002	0.0025
269	0.0027	0.0002	0.0025
270	0.0027	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0026	0.0002	0.0024
273	0.0026	0.0002	0.0024
274	0.0026	0.0002	0.0024
275	0.0026	0.0002	0.0024
276	0.0025	0.0002	0.0023
277	0.0025	0.0002	0.0023
278	0.0025	0.0002	0.0023
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0024	0.0002	0.0022
282	0.0024	0.0002	0.0022
283	0.0024	0.0002	0.0022
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0023	0.0002	0.0022
287	0.0023	0.0002	0.0021
288	0.0023	0.0002	0.0021

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.47(In)
Peak flow rate in flood hydrograph = 42.85(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|
0+15	0.0005	0.04	Q	|	|	|	|
0+20	0.0011	0.09	Q	|	|	|	|
0+25	0.0023	0.18	Q	|	|	|	|
0+30	0.0041	0.26	Q	|	|	|	|
0+35	0.0063	0.33	Q	|	|	|	|
0+40	0.0089	0.37	Q	|	|	|	|
0+45	0.0117	0.41	Q	|	|	|	|
0+50	0.0147	0.43	Q	|	|	|	|
0+55	0.0179	0.46	Q	|	|	|	|
1+ 0	0.0212	0.48	Q	|	|	|	|
1+ 5	0.0246	0.50	Q	|	|	|	|
1+10	0.0281	0.51	Q	|	|	|	|

1+15	0.0317	0.53	Q				
1+20	0.0355	0.54	Q				
1+25	0.0393	0.55	Q				
1+30	0.0431	0.56	Q				
1+35	0.0471	0.57	Q				
1+40	0.0511	0.58	Q				
1+45	0.0552	0.59	Q				
1+50	0.0593	0.60	Q				
1+55	0.0635	0.61	Q				
2+ 0	0.0677	0.61	Q				
2+ 5	0.0720	0.62	Q				
2+10	0.0763	0.63	Q				
2+15	0.0806	0.63	Q				
2+20	0.0850	0.64	Q				
2+25	0.0895	0.64	Q				
2+30	0.0940	0.65	Q				
2+35	0.0985	0.66	Q				
2+40	0.1030	0.66	Q				
2+45	0.1076	0.67	Q				
2+50	0.1122	0.67	Q				
2+55	0.1169	0.68	Q				
3+ 0	0.1215	0.68	Q				
3+ 5	0.1263	0.68	QV				
3+10	0.1310	0.69	QV				
3+15	0.1357	0.69	QV				
3+20	0.1405	0.70	QV				
3+25	0.1454	0.70	QV				
3+30	0.1502	0.70	QV				
3+35	0.1551	0.71	QV				
3+40	0.1600	0.71	QV				
3+45	0.1650	0.72	QV				
3+50	0.1699	0.72	QV				
3+55	0.1749	0.73	QV				
4+ 0	0.1800	0.73	QV				
4+ 5	0.1850	0.73	QV				
4+10	0.1901	0.74	QV				
4+15	0.1952	0.74	QV				
4+20	0.2004	0.75	QV				
4+25	0.2055	0.75	QV				
4+30	0.2107	0.75	QV				
4+35	0.2159	0.76	QV				
4+40	0.2212	0.76	QV				
4+45	0.2264	0.76	QV				
4+50	0.2317	0.77	QV				
4+55	0.2370	0.77	QV				
5+ 0	0.2424	0.78	QV				
5+ 5	0.2478	0.78	QV				
5+10	0.2532	0.78	Q V				
5+15	0.2586	0.79	Q V				
5+20	0.2641	0.79	Q V				
5+25	0.2696	0.80	Q V				
5+30	0.2751	0.80	Q V				
5+35	0.2806	0.81	Q V				
5+40	0.2862	0.81	Q V				
5+45	0.2918	0.82	Q V				
5+50	0.2975	0.82	Q V				
5+55	0.3032	0.83	Q V				
6+ 0	0.3089	0.83	Q V				
6+ 5	0.3146	0.83	Q V				

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 6+10       0.3204      0.84  Q V       |          |          |          |
 6+15       0.3262      0.84  Q V       |          |          |          |
 6+20       0.3321      0.85  Q V       |          |          |          |
 6+25       0.3380      0.85  Q V       |          |          |          |
 6+30       0.3439      0.86  Q V       |          |          |          |
 6+35       0.3499      0.87  Q V       |          |          |          |
 6+40       0.3558      0.87  Q V       |          |          |          |
 6+45       0.3619      0.88  Q V       |          |          |          |
 6+50       0.3679      0.88  Q V       |          |          |          |
 6+55       0.3741      0.89  Q V       |          |          |          |
 7+ 0       0.3802      0.89  Q  V      |          |          |          |
 7+ 5       0.3864      0.90  Q  V      |          |          |          |
 7+10       0.3926      0.90  Q  V      |          |          |          |
 7+15       0.3989      0.91  Q  V      |          |          |          |
 7+20       0.4052      0.92  Q  V      |          |          |          |
 7+25       0.4115      0.92  Q  V      |          |          |          |
 7+30       0.4179      0.93  Q  V      |          |          |          |
 7+35       0.4244      0.93  Q  V      |          |          |          |
 7+40       0.4308      0.94  Q  V      |          |          |          |
 7+45       0.4374      0.95  Q  V      |          |          |          |
 7+50       0.4439      0.95  Q  V      |          |          |          |
 7+55       0.4506      0.96  Q  V      |          |          |          |
 8+ 0       0.4572      0.97  Q  V      |          |          |          |
 8+ 5       0.4639      0.97  Q  V      |          |          |          |
 8+10       0.4707      0.98  Q  V      |          |          |          |
 8+15       0.4775      0.99  Q  V      |          |          |          |
 8+20       0.4844      1.00  Q  V      |          |          |          |
 8+25       0.4913      1.00  Q  V      |          |          |          |
 8+30       0.4982      1.01  Q  V      |          |          |          |
 8+35       0.5052      1.02  Q   V     |          |          |          |
 8+40       0.5123      1.03  Q   V     |          |          |          |
 8+45       0.5194      1.03  Q   V     |          |          |          |
 8+50       0.5266      1.04  Q   V     |          |          |          |
 8+55       0.5338      1.05  Q   V     |          |          |          |
 9+ 0       0.5411      1.06  Q   V     |          |          |          |
 9+ 5       0.5485      1.07  Q   V     |          |          |          |
 9+10       0.5559      1.08  Q   V     |          |          |          |
 9+15       0.5634      1.09  Q   V     |          |          |          |
 9+20       0.5709      1.09  Q   V     |          |          |          |
 9+25       0.5785      1.10  Q   V     |          |          |          |
 9+30       0.5862      1.11  Q   V     |          |          |          |
 9+35       0.5939      1.12  Q   V     |          |          |          |
 9+40       0.6017      1.13  Q   V     |          |          |          |
 9+45       0.6096      1.14  Q   V     |          |          |          |
 9+50       0.6175      1.15  Q   V     |          |          |          |
 9+55       0.6255      1.16  Q   V     |          |          |          |
10+ 0       0.6336      1.17  Q    V    |          |          |          |
10+ 5       0.6418      1.19  Q    V    |          |          |          |
10+10       0.6500      1.20  Q    V    |          |          |          |
10+15       0.6583      1.21  Q    V    |          |          |          |
10+20       0.6667      1.22  Q    V    |          |          |          |
10+25       0.6752      1.23  Q    V    |          |          |          |
10+30       0.6838      1.24  Q    V    |          |          |          |
10+35       0.6924      1.26  |Q   V    |          |          |          |
10+40       0.7012      1.27  |Q   V    |          |          |          |
10+45       0.7100      1.28  |Q   V    |          |          |          |
10+50       0.7189      1.30  |Q   V    |          |          |          |
10+55       0.7279      1.31  |Q   V    |          |          |          |
11+ 0       0.7371      1.32  |Q   V    |          |          |          |
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11+ 5       0.7463      1.34  |Q   V    |          |          |          |
11+10       0.7556      1.35  |Q    V   |          |          |          |
11+15       0.7650      1.37  |Q    V   |          |          |          |
11+20       0.7745      1.38  |Q    V   |          |          |          |
11+25       0.7842      1.40  |Q    V   |          |          |          |
11+30       0.7939      1.42  |Q    V   |          |          |          |
11+35       0.8038      1.43  |Q    V   |          |          |          |
11+40       0.8138      1.45  |Q    V   |          |          |          |
11+45       0.8239      1.47  |Q    V   |          |          |          |
11+50       0.8342      1.49  |Q    V   |          |          |          |
11+55       0.8446      1.51  |Q    V   |          |          |          |
12+ 0       0.8551      1.53  |Q    V   |          |          |          |
12+ 5       0.8657      1.54  |Q    V   |          |          |          |
12+10       0.8764      1.55  |Q    V   |          |          |          |
12+15       0.8870      1.54  |Q     V  |          |          |          |
12+20       0.8974      1.51  |Q     V  |          |          |          |
12+25       0.9073      1.44  |Q     V  |          |          |          |
12+30       0.9167      1.37  |Q     V  |          |          |          |
12+35       0.9258      1.32  |Q     V  |          |          |          |
12+40       0.9347      1.29  |Q     V  |          |          |          |
12+45       0.9435      1.27  |Q     V  |          |          |          |
12+50       0.9522      1.27  |Q     V  |          |          |          |
12+55       0.9609      1.26  |Q     V  |          |          |          |
13+ 0       0.9696      1.27  |Q     V  |          |          |          |
13+ 5       0.9784      1.27  |Q     V  |          |          |          |
13+10       0.9872      1.28  |Q     V  |          |          |          |
13+15       0.9961      1.29  |Q     V  |          |          |          |
13+20       1.0051      1.31  |Q      V |          |          |          |
13+25       1.0142      1.32  |Q      V |          |          |          |
13+30       1.0234      1.34  |Q      V |          |          |          |
13+35       1.0328      1.36  |Q      V |          |          |          |
13+40       1.0424      1.39  |Q      V |          |          |          |
13+45       1.0521      1.41  |Q      V |          |          |          |
13+50       1.0620      1.44  |Q      V |          |          |          |
13+55       1.0721      1.47  |Q      V |          |          |          |
14+ 0       1.0825      1.50  |Q      V |          |          |          |
14+ 5       1.0931      1.54  |Q      V |          |          |          |
14+10       1.1039      1.58  |Q      V |          |          |          |
14+15       1.1151      1.62  |Q      V |          |          |          |
14+20       1.1266      1.67  |Q      V |          |          |          |
14+25       1.1384      1.72  |Q       V|          |          |          |
14+30       1.1506      1.77  |Q       V|          |          |          |
14+35       1.1632      1.83  |Q       V|          |          |          |
14+40       1.1762      1.89  |Q       V|          |          |          |
14+45       1.1898      1.96  |Q       V|          |          |          |
14+50       1.2038      2.04  |Q       V|          |          |          |
14+55       1.2184      2.12  |Q       V|          |          |          |
15+ 0       1.2336      2.21  |Q       V|          |          |          |
15+ 5       1.2496      2.32  |Q       V|          |          |          |
15+10       1.2663      2.43  |Q        V          |          |          |
15+15       1.2839      2.56  | Q       V          |          |          |
15+20       1.3025      2.70  | Q       V          |          |          |
15+25       1.3225      2.90  | Q       V          |          |          |
15+30       1.3447      3.21  | Q       V          |          |          |
15+35       1.3698      3.64  | Q       V          |          |          |
15+40       1.3993      4.29  |  Q      |V          |          |          |
15+45       1.4361      5.35  |   Q     |V          |          |          |
15+50       1.4815      6.58  |    Q    |V          |          |          |
15+55       1.5360      7.92  |     Q   | V         |          |          |
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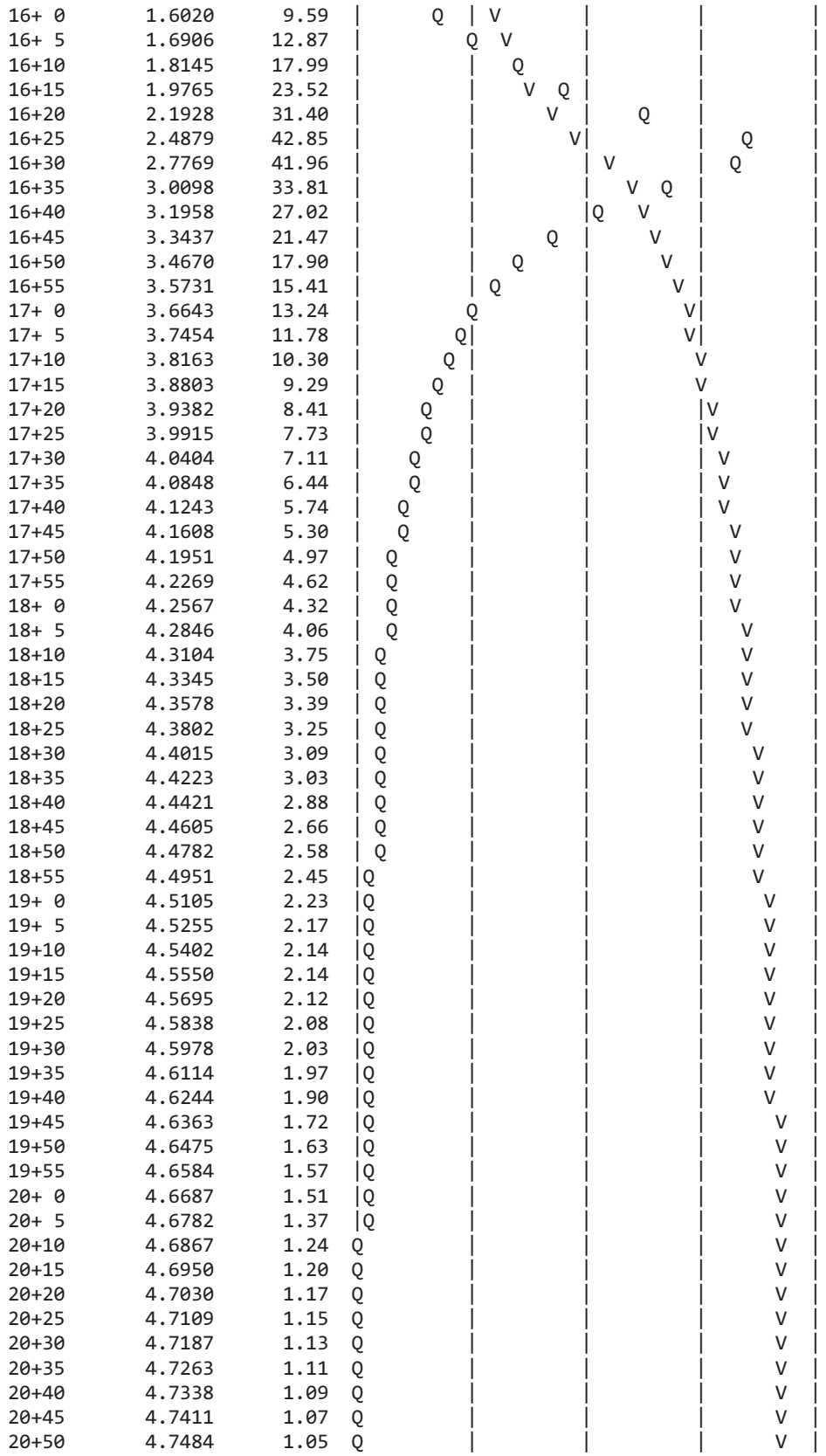
16+ 0	1.6020	9.59	
16+ 5	1.6906	12.87	
16+10	1.8145	17.99	
16+15	1.9765	23.52	
16+20	2.1928	31.40	
16+25	2.4879	42.85	
16+30	2.7769	41.96	
16+35	3.0098	33.81	
16+40	3.1958	27.02	
16+45	3.3437	21.47	
16+50	3.4670	17.90	
16+55	3.5731	15.41	
17+ 0	3.6643	13.24	
17+ 5	3.7454	11.78	
17+10	3.8163	10.30	
17+15	3.8803	9.29	
17+20	3.9382	8.41	
17+25	3.9915	7.73	
17+30	4.0404	7.11	
17+35	4.0848	6.44	
17+40	4.1243	5.74	
17+45	4.1608	5.30	
17+50	4.1951	4.97	
17+55	4.2269	4.62	
18+ 0	4.2567	4.32	
18+ 5	4.2846	4.06	
18+10	4.3104	3.75	
18+15	4.3345	3.50	
18+20	4.3578	3.39	
18+25	4.3802	3.25	
18+30	4.4015	3.09	
18+35	4.4223	3.03	
18+40	4.4421	2.88	
18+45	4.4605	2.66	
18+50	4.4782	2.58	
18+55	4.4951	2.45	
19+ 0	4.5105	2.23	
19+ 5	4.5255	2.17	
19+10	4.5402	2.14	
19+15	4.5550	2.14	
19+20	4.5695	2.12	
19+25	4.5838	2.08	
19+30	4.5978	2.03	
19+35	4.6114	1.97	
19+40	4.6244	1.90	
19+45	4.6363	1.72	
19+50	4.6475	1.63	
19+55	4.6584	1.57	
20+ 0	4.6687	1.51	
20+ 5	4.6782	1.37	
20+10	4.6867	1.24	
20+15	4.6950	1.20	
20+20	4.7030	1.17	
20+25	4.7109	1.15	
20+30	4.7187	1.13	
20+35	4.7263	1.11	
20+40	4.7338	1.09	
20+45	4.7411	1.07	
20+50	4.7484	1.05	

20+55	4.7555	1.04	Q	|	|	|	V |
21+ 0	4.7626	1.02	Q	|	|	|	V |
21+ 5	4.7695	1.01	Q	|	|	|	V |
21+10	4.7763	0.99	Q	|	|	|	V |
21+15	4.7831	0.98	Q	|	|	|	V |
21+20	4.7897	0.96	Q	|	|	|	V |
21+25	4.7962	0.95	Q	|	|	|	V |
21+30	4.8027	0.94	Q	|	|	|	V |
21+35	4.8091	0.93	Q	|	|	|	V |
21+40	4.8154	0.92	Q	|	|	|	V |
21+45	4.8216	0.90	Q	|	|	|	V |
21+50	4.8278	0.89	Q	|	|	|	V |
21+55	4.8339	0.88	Q	|	|	|	V |
22+ 0	4.8399	0.87	Q	|	|	|	V |
22+ 5	4.8458	0.86	Q	|	|	|	V |
22+10	4.8517	0.85	Q	|	|	|	V |
22+15	4.8574	0.84	Q	|	|	|	V |
22+20	4.8632	0.83	Q	|	|	|	V |
22+25	4.8688	0.82	Q	|	|	|	V |
22+30	4.8744	0.81	Q	|	|	|	V |
22+35	4.8799	0.80	Q	|	|	|	V |
22+40	4.8854	0.79	Q	|	|	|	V|
22+45	4.8908	0.78	Q	|	|	|	V|
22+50	4.8961	0.78	Q	|	|	|	V|
22+55	4.9014	0.77	Q	|	|	|	V|
23+ 0	4.9067	0.76	Q	|	|	|	V|
23+ 5	4.9118	0.75	Q	|	|	|	V|
23+10	4.9170	0.74	Q	|	|	|	V|
23+15	4.9220	0.74	Q	|	|	|	V|
23+20	4.9271	0.73	Q	|	|	|	V|
23+25	4.9320	0.72	Q	|	|	|	V|
23+30	4.9370	0.72	Q	|	|	|	V|
23+35	4.9419	0.71	Q	|	|	|	V|
23+40	4.9467	0.70	Q	|	|	|	V|
23+45	4.9515	0.70	Q	|	|	|	V|
23+50	4.9562	0.69	Q	|	|	|	V|
23+55	4.9609	0.68	Q	|	|	|	V|
24+ 0	4.9656	0.68	Q	|	|	|	V|
24+ 5	4.9702	0.67	Q	|	|	|	V|
24+10	4.9746	0.65	Q	|	|	|	V|
24+15	4.9789	0.62	Q	|	|	|	V|
24+20	4.9828	0.57	Q	|	|	|	V|
24+25	4.9860	0.48	Q	|	|	|	V|
24+30	4.9887	0.39	Q	|	|	|	V|
24+35	4.9909	0.32	Q	|	|	|	V|
24+40	4.9928	0.27	Q	|	|	|	V|
24+45	4.9944	0.24	Q	|	|	|	V|
24+50	4.9958	0.21	Q	|	|	|	V|
24+55	4.9971	0.18	Q	|	|	|	V|
25+ 0	4.9982	0.16	Q	|	|	|	V|
25+ 5	4.9992	0.15	Q	|	|	|	V|
25+10	5.0001	0.13	Q	|	|	|	V|
25+15	5.0010	0.12	Q	|	|	|	V|
25+20	5.0017	0.11	Q	|	|	|	V|
25+25	5.0024	0.10	Q	|	|	|	V|
25+30	5.0029	0.09	Q	|	|	|	V|
25+35	5.0035	0.08	Q	|	|	|	V|
25+40	5.0040	0.07	Q	|	|	|	V|
25+45	5.0044	0.06	Q	|	|	|	V|

25+50	5.0048	0.06	Q	|	|	|	V|
25+55	5.0052	0.05	Q	|	|	|	V|
26+ 0	5.0055	0.05	Q	|	|	|	V|
26+ 5	5.0058	0.04	Q	|	|	|	V|
26+10	5.0060	0.04	Q	|	|	|	V|
26+15	5.0063	0.03	Q	|	|	|	V|
26+20	5.0065	0.03	Q	|	|	|	V|
26+25	5.0067	0.03	Q	|	|	|	V|
26+30	5.0069	0.02	Q	|	|	|	V|
26+35	5.0070	0.02	Q	|	|	|	V|
26+40	5.0071	0.02	Q	|	|	|	V|
26+45	5.0073	0.02	Q	|	|	|	V|
26+50	5.0074	0.02	Q	|	|	|	V|
26+55	5.0075	0.01	Q	|	|	|	V|
27+ 0	5.0075	0.01	Q	|	|	|	V|
27+ 5	5.0076	0.01	Q	|	|	|	V|
27+10	5.0077	0.01	Q	|	|	|	V|
27+15	5.0078	0.01	Q	|	|	|	V|
27+20	5.0078	0.01	Q	|	|	|	V|
27+25	5.0079	0.01	Q	|	|	|	V|
27+30	5.0079	0.01	Q	|	|	|	V|
27+35	5.0079	0.00	Q	|	|	|	V|
27+40	5.0079	0.00	Q	|	|	|	V|
27+45	5.0080	0.00	Q	|	|	|	V|
27+50	5.0080	0.00	Q	|	|	|	V|
27+55	5.0080	0.00	Q	|	|	|	V|
28+ 0	5.0080	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 33
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
30.86	1	1.39
Rainfall data for year 100		
30.86	6	1.83
Rainfall data for year 100		
30.86	24	2.60

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	30.86	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
27.77	0.900	91.0	98.2	0.18	0.920
3.09	0.100	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.919
Area-averaged low loss fraction, Yb = 0.081
User entry of time of concentration = 0.730 (hours)
++
Watershed area = 30.86(Ac.)
Catchment Lag time = 0.584 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 14.2694
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.081 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.645(In)
Specified peak 6-hour rainfall = 1.830(In)
Specified peak 24-hour rainfall = 2.600(In)

Rainfall depth area reduction factors:
Using a total area of 30.86(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.127(In)
1-hour factor = 0.999 Adjusted rainfall = 1.388(In)
3-hour factor = 1.000 Adjusted rainfall = 1.645(In)
6-hour factor = 1.000 Adjusted rainfall = 1.830(In)
24-hour factor = 1.000 Adjusted rainfall = 2.600(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 373.21 (CFS))	
1	0.637	2.376
2	2.631	7.443
3	5.934	12.327
4	11.014	18.961
5	20.649	35.958
6	34.202	50.581
7	45.334	41.546
8	53.638	30.990
9	59.846	23.170
10	64.549	17.554
11	68.414	14.424
12	71.777	12.550
13	74.581	10.465

14	77.062	9.260
15	79.212	8.023
16	81.086	6.996
17	82.728	6.129
18	84.249	5.678
19	85.642	5.199
20	86.952	4.887
21	88.102	4.292
22	89.107	3.753
23	89.962	3.190
24	90.779	3.046
25	91.565	2.935
26	92.266	2.616
27	92.936	2.501
28	93.566	2.352
29	94.127	2.094
30	94.612	1.811
31	95.097	1.811
32	95.570	1.765
33	95.958	1.446
34	96.329	1.385
35	96.700	1.385
36	97.018	1.188
37	97.275	0.959
38	97.532	0.959
39	97.777	0.914
40	97.936	0.596
41	98.079	0.533
42	98.222	0.533
43	98.377	0.581
44	98.549	0.639
45	98.720	0.639
46	98.891	0.639
47	99.062	0.639
48	99.234	0.639
49	99.405	0.639
50	99.539	0.503
51	99.629	0.333
52	99.718	0.333
53	99.807	0.333
54	99.896	0.333
55	100.000	0.166

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6586	0.6586
2	0.8109	0.1522
3	0.9157	0.1049
4	0.9983	0.0825
5	1.0674	0.0691
6	1.1274	0.0600
7	1.1808	0.0534
8	1.2290	0.0483
9	1.2732	0.0442
10	1.3141	0.0409
11	1.3522	0.0381
12	1.3880	0.0358
13	1.4053	0.0173
14	1.4215	0.0162

15	1.4367	0.0152
16	1.4511	0.0144
17	1.4648	0.0137
18	1.4778	0.0130
19	1.4902	0.0124
20	1.5021	0.0119
21	1.5135	0.0114
22	1.5244	0.0109
23	1.5349	0.0105
24	1.5450	0.0101
25	1.5548	0.0098
26	1.5643	0.0095
27	1.5734	0.0092
28	1.5823	0.0089
29	1.5909	0.0086
30	1.5993	0.0084
31	1.6074	0.0081
32	1.6153	0.0079
33	1.6230	0.0077
34	1.6305	0.0075
35	1.6379	0.0073
36	1.6450	0.0072
37	1.6519	0.0069
38	1.6587	0.0068
39	1.6654	0.0066
40	1.6718	0.0065
41	1.6782	0.0064
42	1.6844	0.0062
43	1.6905	0.0061
44	1.6965	0.0060
45	1.7024	0.0059
46	1.7081	0.0058
47	1.7138	0.0057
48	1.7193	0.0056
49	1.7248	0.0055
50	1.7301	0.0054
51	1.7354	0.0053
52	1.7406	0.0052
53	1.7457	0.0051
54	1.7507	0.0050
55	1.7557	0.0049
56	1.7605	0.0049
57	1.7653	0.0048
58	1.7700	0.0047
59	1.7747	0.0047
60	1.7793	0.0046
61	1.7838	0.0045
62	1.7883	0.0045
63	1.7927	0.0044
64	1.7970	0.0043
65	1.8013	0.0043
66	1.8055	0.0042
67	1.8097	0.0042
68	1.8138	0.0041
69	1.8179	0.0041
70	1.8219	0.0040
71	1.8259	0.0040
72	1.8298	0.0039
73	1.8362	0.0064

74	1.8426	0.0063
75	1.8488	0.0063
76	1.8551	0.0062
77	1.8612	0.0062
78	1.8673	0.0061
79	1.8733	0.0060
80	1.8793	0.0060
81	1.8853	0.0059
82	1.8911	0.0059
83	1.8969	0.0058
84	1.9027	0.0058
85	1.9084	0.0057
86	1.9141	0.0057
87	1.9197	0.0056
88	1.9253	0.0056
89	1.9308	0.0055
90	1.9363	0.0055
91	1.9417	0.0054
92	1.9471	0.0054
93	1.9524	0.0053
94	1.9577	0.0053
95	1.9630	0.0053
96	1.9682	0.0052
97	1.9734	0.0052
98	1.9785	0.0051
99	1.9836	0.0051
100	1.9886	0.0051
101	1.9937	0.0050
102	1.9987	0.0050
103	2.0036	0.0049
104	2.0085	0.0049
105	2.0134	0.0049
106	2.0182	0.0048
107	2.0230	0.0048
108	2.0278	0.0048
109	2.0325	0.0047
110	2.0373	0.0047
111	2.0419	0.0047
112	2.0466	0.0046
113	2.0512	0.0046
114	2.0558	0.0046
115	2.0603	0.0046
116	2.0649	0.0045
117	2.0694	0.0045
118	2.0738	0.0045
119	2.0783	0.0044
120	2.0827	0.0044
121	2.0871	0.0044
122	2.0914	0.0044
123	2.0957	0.0043
124	2.1000	0.0043
125	2.1043	0.0043
126	2.1086	0.0043
127	2.1128	0.0042
128	2.1170	0.0042
129	2.1212	0.0042
130	2.1253	0.0042
131	2.1295	0.0041
132	2.1336	0.0041

133	2.1377	0.0041
134	2.1417	0.0041
135	2.1458	0.0040
136	2.1498	0.0040
137	2.1538	0.0040
138	2.1577	0.0040
139	2.1617	0.0040
140	2.1656	0.0039
141	2.1695	0.0039
142	2.1734	0.0039
143	2.1773	0.0039
144	2.1811	0.0038
145	2.1850	0.0038
146	2.1888	0.0038
147	2.1926	0.0038
148	2.1963	0.0038
149	2.2001	0.0038
150	2.2038	0.0037
151	2.2075	0.0037
152	2.2112	0.0037
153	2.2149	0.0037
154	2.2186	0.0037
155	2.2222	0.0036
156	2.2258	0.0036
157	2.2294	0.0036
158	2.2330	0.0036
159	2.2366	0.0036
160	2.2401	0.0036
161	2.2437	0.0035
162	2.2472	0.0035
163	2.2507	0.0035
164	2.2542	0.0035
165	2.2577	0.0035
166	2.2611	0.0035
167	2.2646	0.0034
168	2.2680	0.0034
169	2.2714	0.0034
170	2.2748	0.0034
171	2.2782	0.0034
172	2.2816	0.0034
173	2.2849	0.0034
174	2.2883	0.0033
175	2.2916	0.0033
176	2.2949	0.0033
177	2.2982	0.0033
178	2.3015	0.0033
179	2.3048	0.0033
180	2.3080	0.0033
181	2.3113	0.0032
182	2.3145	0.0032
183	2.3177	0.0032
184	2.3209	0.0032
185	2.3241	0.0032
186	2.3273	0.0032
187	2.3304	0.0032
188	2.3336	0.0032
189	2.3367	0.0031
190	2.3398	0.0031
191	2.3430	0.0031

192	2.3461	0.0031
193	2.3492	0.0031
194	2.3522	0.0031
195	2.3553	0.0031
196	2.3584	0.0031
197	2.3614	0.0030
198	2.3644	0.0030
199	2.3674	0.0030
200	2.3705	0.0030
201	2.3735	0.0030
202	2.3764	0.0030
203	2.3794	0.0030
204	2.3824	0.0030
205	2.3853	0.0030
206	2.3883	0.0029
207	2.3912	0.0029
208	2.3941	0.0029
209	2.3970	0.0029
210	2.3999	0.0029
211	2.4028	0.0029
212	2.4057	0.0029
213	2.4086	0.0029
214	2.4114	0.0029
215	2.4143	0.0029
216	2.4171	0.0028
217	2.4200	0.0028
218	2.4228	0.0028
219	2.4256	0.0028
220	2.4284	0.0028
221	2.4312	0.0028
222	2.4340	0.0028
223	2.4367	0.0028
224	2.4395	0.0028
225	2.4423	0.0028
226	2.4450	0.0027
227	2.4477	0.0027
228	2.4505	0.0027
229	2.4532	0.0027
230	2.4559	0.0027
231	2.4586	0.0027
232	2.4613	0.0027
233	2.4640	0.0027
234	2.4667	0.0027
235	2.4693	0.0027
236	2.4720	0.0027
237	2.4746	0.0026
238	2.4773	0.0026
239	2.4799	0.0026
240	2.4825	0.0026
241	2.4851	0.0026
242	2.4878	0.0026
243	2.4904	0.0026
244	2.4929	0.0026
245	2.4955	0.0026
246	2.4981	0.0026
247	2.5007	0.0026
248	2.5032	0.0026
249	2.5058	0.0026
250	2.5083	0.0025

251	2.5109	0.0025
252	2.5134	0.0025
253	2.5159	0.0025
254	2.5184	0.0025
255	2.5210	0.0025
256	2.5235	0.0025
257	2.5260	0.0025
258	2.5284	0.0025
259	2.5309	0.0025
260	2.5334	0.0025
261	2.5359	0.0025
262	2.5383	0.0025
263	2.5408	0.0025
264	2.5432	0.0024
265	2.5456	0.0024
266	2.5481	0.0024
267	2.5505	0.0024
268	2.5529	0.0024
269	2.5553	0.0024
270	2.5577	0.0024
271	2.5601	0.0024
272	2.5625	0.0024
273	2.5649	0.0024
274	2.5673	0.0024
275	2.5696	0.0024
276	2.5720	0.0024
277	2.5744	0.0024
278	2.5767	0.0024
279	2.5791	0.0023
280	2.5814	0.0023
281	2.5837	0.0023
282	2.5861	0.0023
283	2.5884	0.0023
284	2.5907	0.0023
285	2.5930	0.0023
286	2.5953	0.0023
287	2.5976	0.0023
288	2.5999	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0002	0.0021
2	0.0023	0.0002	0.0021
3	0.0023	0.0002	0.0021
4	0.0023	0.0002	0.0021
5	0.0023	0.0002	0.0021
6	0.0023	0.0002	0.0021
7	0.0023	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0022
12	0.0024	0.0002	0.0022
13	0.0024	0.0002	0.0022
14	0.0024	0.0002	0.0022
15	0.0024	0.0002	0.0022
16	0.0024	0.0002	0.0022

17	0.0024	0.0002	0.0022
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0025	0.0002	0.0023
22	0.0025	0.0002	0.0023
23	0.0025	0.0002	0.0023
24	0.0025	0.0002	0.0023
25	0.0025	0.0002	0.0023
26	0.0025	0.0002	0.0023
27	0.0026	0.0002	0.0023
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0026	0.0002	0.0024
31	0.0026	0.0002	0.0024
32	0.0026	0.0002	0.0024
33	0.0026	0.0002	0.0024
34	0.0026	0.0002	0.0024
35	0.0026	0.0002	0.0024
36	0.0027	0.0002	0.0024
37	0.0027	0.0002	0.0025
38	0.0027	0.0002	0.0025
39	0.0027	0.0002	0.0025
40	0.0027	0.0002	0.0025
41	0.0027	0.0002	0.0025
42	0.0027	0.0002	0.0025
43	0.0028	0.0002	0.0025
44	0.0028	0.0002	0.0025
45	0.0028	0.0002	0.0026
46	0.0028	0.0002	0.0026
47	0.0028	0.0002	0.0026
48	0.0028	0.0002	0.0026
49	0.0028	0.0002	0.0026
50	0.0029	0.0002	0.0026
51	0.0029	0.0002	0.0026
52	0.0029	0.0002	0.0026
53	0.0029	0.0002	0.0027
54	0.0029	0.0002	0.0027
55	0.0029	0.0002	0.0027
56	0.0029	0.0002	0.0027
57	0.0030	0.0002	0.0027
58	0.0030	0.0002	0.0027
59	0.0030	0.0002	0.0028
60	0.0030	0.0002	0.0028
61	0.0030	0.0002	0.0028
62	0.0030	0.0002	0.0028
63	0.0031	0.0002	0.0028
64	0.0031	0.0002	0.0028
65	0.0031	0.0003	0.0029
66	0.0031	0.0003	0.0029
67	0.0031	0.0003	0.0029
68	0.0032	0.0003	0.0029
69	0.0032	0.0003	0.0029
70	0.0032	0.0003	0.0029
71	0.0032	0.0003	0.0030
72	0.0032	0.0003	0.0030
73	0.0033	0.0003	0.0030
74	0.0033	0.0003	0.0030
75	0.0033	0.0003	0.0030

76	0.0033	0.0003	0.0030
77	0.0033	0.0003	0.0031
78	0.0034	0.0003	0.0031
79	0.0034	0.0003	0.0031
80	0.0034	0.0003	0.0031
81	0.0034	0.0003	0.0032
82	0.0034	0.0003	0.0032
83	0.0035	0.0003	0.0032
84	0.0035	0.0003	0.0032
85	0.0035	0.0003	0.0032
86	0.0035	0.0003	0.0033
87	0.0036	0.0003	0.0033
88	0.0036	0.0003	0.0033
89	0.0036	0.0003	0.0033
90	0.0036	0.0003	0.0033
91	0.0037	0.0003	0.0034
92	0.0037	0.0003	0.0034
93	0.0037	0.0003	0.0034
94	0.0038	0.0003	0.0034
95	0.0038	0.0003	0.0035
96	0.0038	0.0003	0.0035
97	0.0038	0.0003	0.0035
98	0.0039	0.0003	0.0036
99	0.0039	0.0003	0.0036
100	0.0039	0.0003	0.0036
101	0.0040	0.0003	0.0037
102	0.0040	0.0003	0.0037
103	0.0040	0.0003	0.0037
104	0.0041	0.0003	0.0037
105	0.0041	0.0003	0.0038
106	0.0041	0.0003	0.0038
107	0.0042	0.0003	0.0038
108	0.0042	0.0003	0.0039
109	0.0043	0.0003	0.0039
110	0.0043	0.0003	0.0039
111	0.0043	0.0003	0.0040
112	0.0044	0.0004	0.0040
113	0.0044	0.0004	0.0041
114	0.0044	0.0004	0.0041
115	0.0045	0.0004	0.0041
116	0.0045	0.0004	0.0042
117	0.0046	0.0004	0.0042
118	0.0046	0.0004	0.0042
119	0.0047	0.0004	0.0043
120	0.0047	0.0004	0.0043
121	0.0048	0.0004	0.0044
122	0.0048	0.0004	0.0044
123	0.0049	0.0004	0.0045
124	0.0049	0.0004	0.0045
125	0.0050	0.0004	0.0046
126	0.0050	0.0004	0.0046
127	0.0051	0.0004	0.0047
128	0.0051	0.0004	0.0047
129	0.0052	0.0004	0.0048
130	0.0053	0.0004	0.0048
131	0.0053	0.0004	0.0049
132	0.0054	0.0004	0.0049
133	0.0055	0.0004	0.0050
134	0.0055	0.0004	0.0051

135	0.0056	0.0005	0.0052
136	0.0057	0.0005	0.0052
137	0.0058	0.0005	0.0053
138	0.0058	0.0005	0.0053
139	0.0059	0.0005	0.0054
140	0.0060	0.0005	0.0055
141	0.0061	0.0005	0.0056
142	0.0062	0.0005	0.0057
143	0.0063	0.0005	0.0058
144	0.0063	0.0005	0.0058
145	0.0039	0.0003	0.0036
146	0.0040	0.0003	0.0037
147	0.0041	0.0003	0.0037
148	0.0041	0.0003	0.0038
149	0.0042	0.0003	0.0039
150	0.0043	0.0003	0.0039
151	0.0044	0.0004	0.0040
152	0.0045	0.0004	0.0041
153	0.0046	0.0004	0.0042
154	0.0047	0.0004	0.0043
155	0.0048	0.0004	0.0044
156	0.0049	0.0004	0.0045
157	0.0050	0.0004	0.0046
158	0.0051	0.0004	0.0047
159	0.0053	0.0004	0.0048
160	0.0054	0.0004	0.0049
161	0.0056	0.0004	0.0051
162	0.0057	0.0005	0.0052
163	0.0059	0.0005	0.0054
164	0.0060	0.0005	0.0055
165	0.0062	0.0005	0.0057
166	0.0064	0.0005	0.0058
167	0.0066	0.0005	0.0061
168	0.0068	0.0005	0.0062
169	0.0072	0.0006	0.0066
170	0.0073	0.0006	0.0067
171	0.0077	0.0006	0.0071
172	0.0079	0.0006	0.0073
173	0.0084	0.0007	0.0077
174	0.0086	0.0007	0.0079
175	0.0092	0.0007	0.0084
176	0.0095	0.0008	0.0087
177	0.0101	0.0008	0.0093
178	0.0105	0.0008	0.0097
179	0.0114	0.0009	0.0105
180	0.0119	0.0010	0.0109
181	0.0130	0.0011	0.0120
182	0.0137	0.0011	0.0126
183	0.0152	0.0012	0.0140
184	0.0162	0.0013	0.0149
185	0.0358	0.0027	0.0331
186	0.0381	0.0027	0.0354
187	0.0442	0.0027	0.0415
188	0.0483	0.0027	0.0456
189	0.0600	0.0027	0.0573
190	0.0691	0.0027	0.0664
191	0.1049	0.0027	0.1022
192	0.1522	0.0027	0.1496
193	0.6586	0.0027	0.6559

194	0.0825	0.0027	0.0799
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0382
197	0.0173	0.0014	0.0159
198	0.0144	0.0012	0.0132
199	0.0124	0.0010	0.0114
200	0.0109	0.0009	0.0100
201	0.0098	0.0008	0.0090
202	0.0089	0.0007	0.0082
203	0.0081	0.0007	0.0075
204	0.0075	0.0006	0.0069
205	0.0069	0.0006	0.0064
206	0.0065	0.0005	0.0060
207	0.0061	0.0005	0.0056
208	0.0058	0.0005	0.0053
209	0.0055	0.0004	0.0050
210	0.0052	0.0004	0.0048
211	0.0049	0.0004	0.0045
212	0.0047	0.0004	0.0043
213	0.0045	0.0004	0.0042
214	0.0043	0.0004	0.0040
215	0.0042	0.0003	0.0038
216	0.0040	0.0003	0.0037
217	0.0064	0.0005	0.0059
218	0.0062	0.0005	0.0057
219	0.0060	0.0005	0.0055
220	0.0059	0.0005	0.0054
221	0.0057	0.0005	0.0053
222	0.0056	0.0004	0.0051
223	0.0054	0.0004	0.0050
224	0.0053	0.0004	0.0049
225	0.0052	0.0004	0.0048
226	0.0051	0.0004	0.0046
227	0.0049	0.0004	0.0045
228	0.0048	0.0004	0.0045
229	0.0047	0.0004	0.0044
230	0.0046	0.0004	0.0043
231	0.0046	0.0004	0.0042
232	0.0045	0.0004	0.0041
233	0.0044	0.0004	0.0040
234	0.0043	0.0003	0.0040
235	0.0042	0.0003	0.0039
236	0.0042	0.0003	0.0038
237	0.0041	0.0003	0.0038
238	0.0040	0.0003	0.0037
239	0.0040	0.0003	0.0036
240	0.0039	0.0003	0.0036
241	0.0038	0.0003	0.0035
242	0.0038	0.0003	0.0035
243	0.0037	0.0003	0.0034
244	0.0037	0.0003	0.0034
245	0.0036	0.0003	0.0033
246	0.0036	0.0003	0.0033
247	0.0035	0.0003	0.0032
248	0.0035	0.0003	0.0032
249	0.0034	0.0003	0.0031
250	0.0034	0.0003	0.0031
251	0.0033	0.0003	0.0031
252	0.0033	0.0003	0.0030

253	0.0032	0.0003	0.0030
254	0.0032	0.0003	0.0029
255	0.0032	0.0003	0.0029
256	0.0031	0.0003	0.0029
257	0.0031	0.0002	0.0028
258	0.0031	0.0002	0.0028
259	0.0030	0.0002	0.0028
260	0.0030	0.0002	0.0027
261	0.0030	0.0002	0.0027
262	0.0029	0.0002	0.0027
263	0.0029	0.0002	0.0027
264	0.0029	0.0002	0.0026
265	0.0028	0.0002	0.0026
266	0.0028	0.0002	0.0026
267	0.0028	0.0002	0.0025
268	0.0027	0.0002	0.0025
269	0.0027	0.0002	0.0025
270	0.0027	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0026	0.0002	0.0024
273	0.0026	0.0002	0.0024
274	0.0026	0.0002	0.0024
275	0.0026	0.0002	0.0024
276	0.0025	0.0002	0.0023
277	0.0025	0.0002	0.0023
278	0.0025	0.0002	0.0023
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0024	0.0002	0.0022
282	0.0024	0.0002	0.0022
283	0.0024	0.0002	0.0022
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0023	0.0002	0.0022
287	0.0023	0.0002	0.0021
288	0.0023	0.0002	0.0021

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.47(In)
Peak flow rate in flood hydrograph = 52.22(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	15.0	30.0	45.0	60.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0002	0.02	Q	|	|	|	|
0+15	0.0005	0.05	Q	|	|	|	|
0+20	0.0011	0.09	Q	|	|	|	|
0+25	0.0022	0.16	Q	|	|	|	|
0+30	0.0041	0.27	Q	|	|	|	|
0+35	0.0065	0.36	Q	|	|	|	|
0+40	0.0095	0.42	Q	|	|	|	|

0+45	0.0127	0.48	Q				
0+50	0.0163	0.51	Q				
0+55	0.0201	0.55	Q				
1+ 0	0.0240	0.58	Q				
1+ 5	0.0281	0.60	Q				
1+10	0.0324	0.62	Q				
1+15	0.0368	0.64	Q				
1+20	0.0414	0.66	Q				
1+25	0.0460	0.67	Q				
1+30	0.0507	0.69	Q				
1+35	0.0556	0.70	Q				
1+40	0.0605	0.72	Q				
1+45	0.0655	0.73	Q				
1+50	0.0706	0.74	Q				
1+55	0.0758	0.75	Q				
2+ 0	0.0810	0.76	Q				
2+ 5	0.0863	0.77	Q				
2+10	0.0916	0.78	Q				
2+15	0.0970	0.78	Q				
2+20	0.1025	0.79	Q				
2+25	0.1080	0.80	Q				
2+30	0.1135	0.81	Q				
2+35	0.1192	0.82	Q				
2+40	0.1248	0.82	Q				
2+45	0.1305	0.83	Q				
2+50	0.1363	0.84	Q				
2+55	0.1421	0.84	Q				
3+ 0	0.1479	0.85	Q				
3+ 5	0.1538	0.85	Q				
3+10	0.1598	0.86	QV				
3+15	0.1657	0.87	QV				
3+20	0.1717	0.87	QV				
3+25	0.1778	0.88	QV				
3+30	0.1838	0.88	QV				
3+35	0.1900	0.89	QV				
3+40	0.1961	0.89	QV				
3+45	0.2023	0.90	QV				
3+50	0.2085	0.90	QV				
3+55	0.2148	0.91	QV				
4+ 0	0.2211	0.92	QV				
4+ 5	0.2274	0.92	QV				
4+10	0.2338	0.93	QV				
4+15	0.2402	0.93	QV				
4+20	0.2467	0.94	QV				
4+25	0.2532	0.94	QV				
4+30	0.2597	0.95	QV				
4+35	0.2663	0.95	QV				
4+40	0.2729	0.96	QV				
4+45	0.2795	0.96	QV				
4+50	0.2862	0.97	QV				
4+55	0.2929	0.97	QV				
5+ 0	0.2997	0.98	QV				
5+ 5	0.3064	0.98	QV				
5+10	0.3132	0.99	QV				
5+15	0.3201	0.99	Q V				
5+20	0.3270	1.00	Q V				
5+25	0.3339	1.01	Q V				
5+30	0.3408	1.01	Q V				
5+35	0.3478	1.02	Q V				

5+40	0.3549	1.02	Q V	|	|	|	|
5+45	0.3620	1.03	Q V	|	|	|	|
5+50	0.3691	1.03	Q V	|	|	|	|
5+55	0.3762	1.04	Q V	|	|	|	|
6+ 0	0.3834	1.05	Q V	|	|	|	|
6+ 5	0.3907	1.05	Q V	|	|	|	|
6+10	0.3980	1.06	Q V	|	|	|	|
6+15	0.4053	1.06	Q V	|	|	|	|
6+20	0.4126	1.07	Q V	|	|	|	|
6+25	0.4201	1.08	Q V	|	|	|	|
6+30	0.4275	1.08	Q V	|	|	|	|
6+35	0.4350	1.09	Q V	|	|	|	|
6+40	0.4426	1.10	Q V	|	|	|	|
6+45	0.4501	1.10	Q V	|	|	|	|
6+50	0.4578	1.11	Q V	|	|	|	|
6+55	0.4655	1.12	Q V	|	|	|	|
7+ 0	0.4732	1.12	Q V	|	|	|	|
7+ 5	0.4810	1.13	Q V	|	|	|	|
7+10	0.4888	1.14	Q V	|	|	|	|
7+15	0.4967	1.15	Q V	|	|	|	|
7+20	0.5047	1.15	Q V	|	|	|	|
7+25	0.5126	1.16	Q V	|	|	|	|
7+30	0.5207	1.17	Q V	|	|	|	|
7+35	0.5288	1.18	Q V	|	|	|	|
7+40	0.5369	1.18	Q V	|	|	|	|
7+45	0.5451	1.19	Q V	|	|	|	|
7+50	0.5534	1.20	Q V	|	|	|	|
7+55	0.5617	1.21	Q V	|	|	|	|
8+ 0	0.5701	1.22	Q V	|	|	|	|
8+ 5	0.5786	1.23	Q V	|	|	|	|
8+10	0.5871	1.23	Q V	|	|	|	|
8+15	0.5956	1.24	Q V	|	|	|	|
8+20	0.6042	1.25	Q V	|	|	|	|
8+25	0.6129	1.26	Q V	|	|	|	|
8+30	0.6217	1.27	Q V	|	|	|	|
8+35	0.6305	1.28	Q V	|	|	|	|
8+40	0.6394	1.29	Q V	|	|	|	|
8+45	0.6483	1.30	Q V	|	|	|	|
8+50	0.6574	1.31	Q V	|	|	|	|
8+55	0.6665	1.32	Q V	|	|	|	|
9+ 0	0.6756	1.33	Q V	|	|	|	|
9+ 5	0.6849	1.34	Q V	|	|	|	|
9+10	0.6942	1.35	Q V	|	|	|	|
9+15	0.7036	1.36	Q V	|	|	|	|
9+20	0.7130	1.37	Q V	|	|	|	|
9+25	0.7226	1.39	Q V	|	|	|	|
9+30	0.7322	1.40	Q V	|	|	|	|
9+35	0.7419	1.41	Q V	|	|	|	|
9+40	0.7517	1.42	Q V	|	|	|	|
9+45	0.7616	1.43	Q V	|	|	|	|
9+50	0.7716	1.45	Q V	|	|	|	|
9+55	0.7816	1.46	Q V	|	|	|	|
10+ 0	0.7918	1.47	Q V	|	|	|	|
10+ 5	0.8020	1.49	Q V	|	|	|	|
10+10	0.8124	1.50	|Q V	|	|	|	|
10+15	0.8228	1.52	|Q V	|	|	|	|
10+20	0.8333	1.53	|Q V	|	|	|	|
10+25	0.8440	1.54	|Q V	|	|	|	|
10+30	0.8547	1.56	|Q V	|	|	|	|

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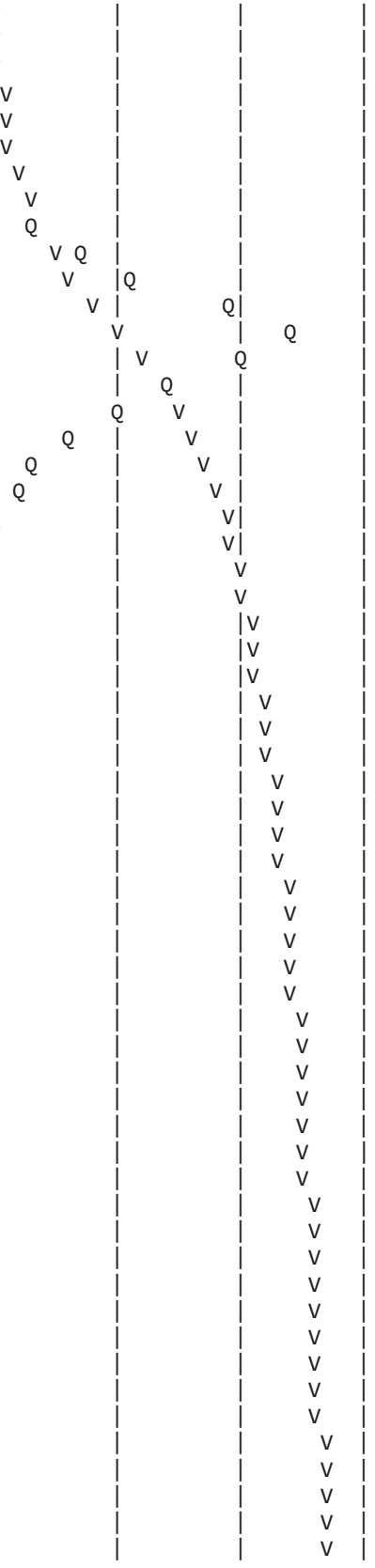
10+35       0.8656      1.58  |Q   V    |          |          |          |
10+40       0.8765      1.59  |Q   V    |          |          |          |
10+45       0.8876      1.61  |Q   V    |          |          |          |
10+50       0.8988      1.62  |Q   V    |          |          |          |
10+55       0.9101      1.64  |Q   V    |          |          |          |
11+ 0       0.9215      1.66  |Q   V    |          |          |          |
11+ 5       0.9331      1.68  |Q   V    |          |          |          |
11+10       0.9448      1.70  |Q   V    |          |          |          |
11+15       0.9566      1.71  |Q    V   |          |          |          |
11+20       0.9685      1.73  |Q    V   |          |          |          |
11+25       0.9806      1.75  |Q    V   |          |          |          |
11+30       0.9928      1.77  |Q    V   |          |          |          |
11+35       1.0052      1.80  |Q    V   |          |          |          |
11+40       1.0177      1.82  |Q    V   |          |          |          |
11+45       1.0304      1.84  |Q    V   |          |          |          |
11+50       1.0432      1.86  |Q    V   |          |          |          |
11+55       1.0562      1.89  |Q    V   |          |          |          |
12+ 0       1.0694      1.91  |Q    V   |          |          |          |
12+ 5       1.0827      1.93  |Q    V   |          |          |          |
12+10       1.0960      1.94  |Q    V   |          |          |          |
12+15       1.1094      1.94  |Q    V   |          |          |          |
12+20       1.1226      1.92  |Q     V  |          |          |          |
12+25       1.1354      1.86  |Q     V  |          |          |          |
12+30       1.1477      1.77  |Q     V  |          |          |          |
12+35       1.1594      1.70  |Q     V  |          |          |          |
12+40       1.1708      1.66  |Q     V  |          |          |          |
12+45       1.1820      1.63  |Q     V  |          |          |          |
12+50       1.1931      1.62  |Q     V  |          |          |          |
12+55       1.2042      1.61  |Q     V  |          |          |          |
13+ 0       1.2153      1.61  |Q     V  |          |          |          |
13+ 5       1.2264      1.61  |Q     V  |          |          |          |
13+10       1.2376      1.62  |Q     V  |          |          |          |
13+15       1.2488      1.63  |Q     V  |          |          |          |
13+20       1.2602      1.65  |Q     V  |          |          |          |
13+25       1.2717      1.67  |Q      V |          |          |          |
13+30       1.2833      1.69  |Q      V |          |          |          |
13+35       1.2951      1.71  |Q      V |          |          |          |
13+40       1.3071      1.74  |Q      V |          |          |          |
13+45       1.3193      1.77  |Q      V |          |          |          |
13+50       1.3317      1.80  |Q      V |          |          |          |
13+55       1.3444      1.84  |Q      V |          |          |          |
14+ 0       1.3573      1.88  |Q      V |          |          |          |
14+ 5       1.3706      1.92  |Q      V |          |          |          |
14+10       1.3841      1.97  |Q      V |          |          |          |
14+15       1.3980      2.02  |Q      V |          |          |          |
14+20       1.4123      2.07  |Q      V |          |          |          |
14+25       1.4270      2.13  |Q      V |          |          |          |
14+30       1.4421      2.20  |Q       V|          |          |          |
14+35       1.4577      2.27  |Q       V|          |          |          |
14+40       1.4739      2.34  |Q       V|          |          |          |
14+45       1.4906      2.43  |Q       V|          |          |          |
14+50       1.5079      2.52  |Q       V|          |          |          |
14+55       1.5259      2.61  |Q       V|          |          |          |
15+ 0       1.5447      2.72  |Q       V|          |          |          |
15+ 5       1.5643      2.84  |Q       V|          |          |          |
15+10       1.5848      2.98  |Q       V|          |          |          |
15+15       1.6063      3.13  | Q       V          |          |          |
15+20       1.6290      3.30  | Q       V          |          |          |
15+25       1.6533      3.53  | Q       V          |          |          |
```

15+30	1.6800	3.88	
15+35	1.7100	4.35	
15+40	1.7444	5.00	
15+45	1.7859	6.03	
15+50	1.8374	7.47	
15+55	1.8998	9.06	
16+ 0	1.9755	10.99	
16+ 5	2.0761	14.62	
16+10	2.2139	20.01	
16+15	2.3906	25.66	
16+20	2.6158	32.69	
16+25	2.9211	44.33	
16+30	3.2807	52.22	
16+35	3.5940	45.48	
16+40	3.8497	37.13	
16+45	4.0571	30.11	
16+50	4.2258	24.51	
16+55	4.3691	20.81	
17+ 0	4.4948	18.24	
17+ 5	4.6042	15.89	
17+10	4.7022	14.23	
17+15	4.7898	12.71	
17+20	4.8684	11.43	
17+25	4.9397	10.35	
17+30	5.0057	9.58	
17+35	5.0668	8.86	
17+40	5.1237	8.26	
17+45	5.1755	7.53	
17+50	5.2228	6.87	
17+55	5.2658	6.25	
18+ 0	5.3065	5.90	
18+ 5	5.3450	5.60	
18+10	5.3810	5.22	
18+15	5.4153	4.98	
18+20	5.4480	4.74	
18+25	5.4789	4.49	
18+30	5.5084	4.29	
18+35	5.5375	4.22	
18+40	5.5658	4.10	
18+45	5.5921	3.83	
18+50	5.6176	3.70	
18+55	5.6423	3.59	
19+ 0	5.6655	3.37	
19+ 5	5.6872	3.15	
19+10	5.7082	3.05	
19+15	5.7283	2.93	
19+20	5.7467	2.67	
19+25	5.7645	2.58	
19+30	5.7819	2.53	
19+35	5.7992	2.52	
19+40	5.8165	2.51	
19+45	5.8336	2.47	
19+50	5.8503	2.43	
19+55	5.8667	2.38	
20+ 0	5.8827	2.32	
20+ 5	5.8982	2.25	
20+10	5.9127	2.10	
20+15	5.9260	1.94	
20+20	5.9390	1.88	

20+25	5.9515	1.82	|Q	|	|	|	V |
20+30	5.9636	1.75	|Q	|	|	|	V |
20+35	5.9746	1.59	|Q	|	|	|	V |
20+40	5.9846	1.45	Q	|	|	|	V |
20+45	5.9943	1.41	Q	|	|	|	V |
20+50	6.0038	1.38	Q	|	|	|	V |
20+55	6.0131	1.35	Q	|	|	|	V |
21+ 0	6.0222	1.33	Q	|	|	|	V |
21+ 5	6.0312	1.30	Q	|	|	|	V |
21+10	6.0400	1.28	Q	|	|	|	V |
21+15	6.0487	1.27	Q	|	|	|	V |
21+20	6.0573	1.25	Q	|	|	|	V |
21+25	6.0658	1.23	Q	|	|	|	V |
21+30	6.0741	1.21	Q	|	|	|	V |
21+35	6.0824	1.19	Q	|	|	|	V |
21+40	6.0905	1.18	Q	|	|	|	V |
21+45	6.0985	1.16	Q	|	|	|	V |
21+50	6.1064	1.15	Q	|	|	|	V |
21+55	6.1142	1.13	Q	|	|	|	V |
22+ 0	6.1219	1.12	Q	|	|	|	V |
22+ 5	6.1296	1.11	Q	|	|	|	V |
22+10	6.1371	1.10	Q	|	|	|	V |
22+15	6.1446	1.08	Q	|	|	|	V |
22+20	6.1519	1.07	Q	|	|	|	V |
22+25	6.1592	1.06	Q	|	|	|	V |
22+30	6.1664	1.05	Q	|	|	|	V |
22+35	6.1735	1.03	Q	|	|	|	V |
22+40	6.1806	1.02	Q	|	|	|	V |
22+45	6.1875	1.01	Q	|	|	|	V|
22+50	6.1944	1.00	Q	|	|	|	V|
22+55	6.2012	0.99	Q	|	|	|	V|
23+ 0	6.2080	0.98	Q	|	|	|	V|
23+ 5	6.2146	0.97	Q	|	|	|	V|
23+10	6.2212	0.96	Q	|	|	|	V|
23+15	6.2277	0.95	Q	|	|	|	V|
23+20	6.2342	0.94	Q	|	|	|	V|
23+25	6.2406	0.93	Q	|	|	|	V|
23+30	6.2469	0.92	Q	|	|	|	V|
23+35	6.2532	0.91	Q	|	|	|	V|
23+40	6.2594	0.90	Q	|	|	|	V|
23+45	6.2656	0.89	Q	|	|	|	V|
23+50	6.2716	0.88	Q	|	|	|	V|
23+55	6.2777	0.88	Q	|	|	|	V|
24+ 0	6.2837	0.87	Q	|	|	|	V|
24+ 5	6.2896	0.86	Q	|	|	|	V|
24+10	6.2953	0.83	Q	|	|	|	V|
24+15	6.3008	0.80	Q	|	|	|	V|
24+20	6.3060	0.75	Q	|	|	|	V|
24+25	6.3106	0.67	Q	|	|	|	V|
24+30	6.3145	0.56	Q	|	|	|	V|
24+35	6.3177	0.47	Q	|	|	|	V|
24+40	6.3204	0.40	Q	|	|	|	V|
24+45	6.3228	0.35	Q	|	|	|	V|
24+50	6.3249	0.31	Q	|	|	|	V|
24+55	6.3268	0.27	Q	|	|	|	V|
25+ 0	6.3284	0.24	Q	|	|	|	V|
25+ 5	6.3299	0.22	Q	|	|	|	V|
25+10	6.3313	0.20	Q	|	|	|	V|
25+15	6.3325	0.18	Q	|	|	|	V|

25+20	6.3337	0.16	Q	|	|	|	V|
25+25	6.3347	0.15	Q	|	|	|	V|
25+30	6.3356	0.14	Q	|	|	|	V|
25+35	6.3365	0.12	Q	|	|	|	V|
25+40	6.3372	0.11	Q	|	|	|	V|
25+45	6.3380	0.10	Q	|	|	|	V|
25+50	6.3386	0.09	Q	|	|	|	V|
25+55	6.3392	0.09	Q	|	|	|	V|
26+ 0	6.3397	0.08	Q	|	|	|	V|
26+ 5	6.3402	0.07	Q	|	|	|	V|
26+10	6.3407	0.07	Q	|	|	|	V|
26+15	6.3411	0.06	Q	|	|	|	V|
26+20	6.3415	0.05	Q	|	|	|	V|
26+25	6.3418	0.05	Q	|	|	|	V|
26+30	6.3421	0.05	Q	|	|	|	V|
26+35	6.3424	0.04	Q	|	|	|	V|
26+40	6.3426	0.04	Q	|	|	|	V|
26+45	6.3429	0.03	Q	|	|	|	V|
26+50	6.3431	0.03	Q	|	|	|	V|
26+55	6.3433	0.03	Q	|	|	|	V|
27+ 0	6.3434	0.02	Q	|	|	|	V|
27+ 5	6.3436	0.02	Q	|	|	|	V|
27+10	6.3437	0.02	Q	|	|	|	V|
27+15	6.3439	0.02	Q	|	|	|	V|
27+20	6.3440	0.02	Q	|	|	|	V|
27+25	6.3441	0.02	Q	|	|	|	V|
27+30	6.3442	0.01	Q	|	|	|	V|
27+35	6.3443	0.01	Q	|	|	|	V|
27+40	6.3443	0.01	Q	|	|	|	V|
27+45	6.3444	0.01	Q	|	|	|	V|
27+50	6.3445	0.01	Q	|	|	|	V|
27+55	6.3445	0.01	Q	|	|	|	V|
28+ 0	6.3446	0.01	Q	|	|	|	V|
28+ 5	6.3446	0.00	Q	|	|	|	V|
28+10	6.3446	0.00	Q	|	|	|	V|
28+15	6.3446	0.00	Q	|	|	|	V|
28+20	6.3446	0.00	Q	|	|	|	V|
28+25	6.3446	0.00	Q	|	|	|	V|
28+30	6.3447	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 34
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
107.23	1	1.40
Rainfall data for year 100		
107.23	6	1.84
Rainfall data for year 100		
107.23	24	2.61

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
88.0	97.6	107.23	1.000	0.048	0.900	0.043

Area-averaged adjusted loss rate Fm (In/Hr) = 0.043

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
96.51	0.900	88.0	97.6	0.25	0.895
10.72	0.100	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.897
Area-averaged low loss fraction, Yb = 0.103
User entry of time of concentration = 1.210 (hours)
++
Watershed area = 107.23(Ac.)
Catchment Lag time = 0.968 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 8.6088
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.043(In/Hr)
Average low loss rate fraction (Yb) = 0.103 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.655(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.610(In)

Rainfall depth area reduction factors:
Using a total area of 107.23(Ac.) (Ref: fig. E-4)

5-minute factor = 0.995 Adjusted rainfall = 0.661(In)
30-minute factor = 0.995 Adjusted rainfall = 1.131(In)
1-hour factor = 0.995 Adjusted rainfall = 1.393(In)
3-hour factor = 0.999 Adjusted rainfall = 1.654(In)
6-hour factor = 1.000 Adjusted rainfall = 1.839(In)
24-hour factor = 1.000 Adjusted rainfall = 2.610(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1296.81 (CFS))	
1	0.379	4.912
2	1.240	11.165
3	2.619	17.884
4	4.472	24.037
5	6.765	29.724
6	9.657	37.514
7	14.313	60.371
8	20.727	83.188
9	29.371	112.093
10	37.107	100.318
11	43.826	87.137
12	49.285	70.786
13	53.957	60.595

14	57.925	51.459
15	61.162	41.979
16	63.932	35.916
17	66.400	32.004
18	68.638	29.029
19	70.720	27.000
20	72.574	24.041
21	74.249	21.723
22	75.774	19.771
23	77.241	19.027
24	78.596	17.570
25	79.741	14.845
26	80.877	14.737
27	81.937	13.736
28	82.868	12.082
29	83.798	12.057
30	84.680	11.440
31	85.507	10.719
32	86.333	10.715
33	87.083	9.727
34	87.772	8.931
35	88.458	8.905
36	89.037	7.501
37	89.553	6.698
38	90.069	6.685
39	90.561	6.378
40	91.043	6.252
41	91.521	6.199
42	91.949	5.551
43	92.362	5.359
44	92.772	5.316
45	93.156	4.982
46	93.535	4.912
47	93.901	4.752
48	94.203	3.916
49	94.496	3.796
50	94.789	3.796
51	95.081	3.796
52	95.374	3.796
53	95.648	3.559
54	95.875	2.936
55	96.099	2.903
56	96.323	2.903
57	96.546	2.903
58	96.770	2.903
59	96.965	2.525
60	97.120	2.012
61	97.275	2.010
62	97.430	2.010
63	97.585	2.010
64	97.739	2.004
65	97.853	1.469
66	97.939	1.116
67	98.025	1.116
68	98.111	1.116
69	98.197	1.116
70	98.284	1.127
71	98.383	1.286
72	98.486	1.340

73	98.590	1.340
74	98.693	1.340
75	98.796	1.340
76	98.900	1.340
77	99.003	1.340
78	99.106	1.340
79	99.210	1.340
80	99.313	1.340
81	99.416	1.340
82	99.508	1.188
83	99.564	0.729
84	99.618	0.698
85	99.672	0.698
86	99.725	0.698
87	99.779	0.698
88	99.833	0.698
89	99.887	0.698
90	99.941	0.698
91	100.000	0.349

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6610	0.6610
2	0.8138	0.1528
3	0.9190	0.1053
4	1.0019	0.0828
5	1.0712	0.0694
6	1.1314	0.0602
7	1.1850	0.0536
8	1.2334	0.0484
9	1.2778	0.0444
10	1.3188	0.0410
11	1.3571	0.0383
12	1.3930	0.0359
13	1.4105	0.0176
14	1.4270	0.0165
15	1.4425	0.0155
16	1.4571	0.0146
17	1.4710	0.0139
18	1.4842	0.0132
19	1.4969	0.0126
20	1.5089	0.0121
21	1.5205	0.0116
22	1.5316	0.0111
23	1.5423	0.0107
24	1.5526	0.0103
25	1.5626	0.0100
26	1.5722	0.0096
27	1.5815	0.0093
28	1.5905	0.0090
29	1.5993	0.0088
30	1.6078	0.0085
31	1.6161	0.0083
32	1.6241	0.0081
33	1.6320	0.0078
34	1.6396	0.0076
35	1.6471	0.0075
36	1.6543	0.0073
37	1.6613	0.0069

38	1.6681	0.0068
39	1.6747	0.0066
40	1.6812	0.0065
41	1.6876	0.0064
42	1.6938	0.0062
43	1.6999	0.0061
44	1.7059	0.0060
45	1.7118	0.0059
46	1.7176	0.0058
47	1.7232	0.0057
48	1.7288	0.0056
49	1.7342	0.0055
50	1.7396	0.0054
51	1.7449	0.0053
52	1.7501	0.0052
53	1.7552	0.0051
54	1.7602	0.0050
55	1.7651	0.0049
56	1.7700	0.0049
57	1.7748	0.0048
58	1.7795	0.0047
59	1.7842	0.0047
60	1.7888	0.0046
61	1.7933	0.0045
62	1.7978	0.0045
63	1.8022	0.0044
64	1.8065	0.0043
65	1.8108	0.0043
66	1.8151	0.0042
67	1.8192	0.0042
68	1.8234	0.0041
69	1.8274	0.0041
70	1.8315	0.0040
71	1.8355	0.0040
72	1.8394	0.0039
73	1.8458	0.0064
74	1.8521	0.0063
75	1.8584	0.0063
76	1.8646	0.0062
77	1.8708	0.0062
78	1.8769	0.0061
79	1.8830	0.0060
80	1.8889	0.0060
81	1.8949	0.0059
82	1.9007	0.0059
83	1.9066	0.0058
84	1.9123	0.0058
85	1.9181	0.0057
86	1.9237	0.0057
87	1.9293	0.0056
88	1.9349	0.0056
89	1.9404	0.0055
90	1.9459	0.0055
91	1.9513	0.0054
92	1.9567	0.0054
93	1.9621	0.0053
94	1.9674	0.0053
95	1.9726	0.0053
96	1.9779	0.0052

97	1.9830	0.0052
98	1.9882	0.0051
99	1.9933	0.0051
100	1.9983	0.0051
101	2.0034	0.0050
102	2.0084	0.0050
103	2.0133	0.0049
104	2.0182	0.0049
105	2.0231	0.0049
106	2.0279	0.0048
107	2.0327	0.0048
108	2.0375	0.0048
109	2.0423	0.0047
110	2.0470	0.0047
111	2.0517	0.0047
112	2.0563	0.0046
113	2.0609	0.0046
114	2.0655	0.0046
115	2.0701	0.0046
116	2.0746	0.0045
117	2.0791	0.0045
118	2.0836	0.0045
119	2.0880	0.0044
120	2.0924	0.0044
121	2.0968	0.0044
122	2.1012	0.0044
123	2.1055	0.0043
124	2.1098	0.0043
125	2.1141	0.0043
126	2.1183	0.0043
127	2.1226	0.0042
128	2.1268	0.0042
129	2.1310	0.0042
130	2.1351	0.0042
131	2.1392	0.0041
132	2.1433	0.0041
133	2.1474	0.0041
134	2.1515	0.0041
135	2.1555	0.0040
136	2.1596	0.0040
137	2.1635	0.0040
138	2.1675	0.0040
139	2.1715	0.0040
140	2.1754	0.0039
141	2.1793	0.0039
142	2.1832	0.0039
143	2.1871	0.0039
144	2.1909	0.0038
145	2.1948	0.0038
146	2.1986	0.0038
147	2.2024	0.0038
148	2.2061	0.0038
149	2.2099	0.0038
150	2.2136	0.0037
151	2.2173	0.0037
152	2.2210	0.0037
153	2.2247	0.0037
154	2.2284	0.0037
155	2.2320	0.0036

156	2.2356	0.0036
157	2.2392	0.0036
158	2.2428	0.0036
159	2.2464	0.0036
160	2.2499	0.0036
161	2.2535	0.0035
162	2.2570	0.0035
163	2.2605	0.0035
164	2.2640	0.0035
165	2.2675	0.0035
166	2.2709	0.0035
167	2.2744	0.0034
168	2.2778	0.0034
169	2.2812	0.0034
170	2.2846	0.0034
171	2.2880	0.0034
172	2.2914	0.0034
173	2.2947	0.0034
174	2.2981	0.0033
175	2.3014	0.0033
176	2.3047	0.0033
177	2.3080	0.0033
178	2.3113	0.0033
179	2.3146	0.0033
180	2.3178	0.0033
181	2.3211	0.0032
182	2.3243	0.0032
183	2.3275	0.0032
184	2.3307	0.0032
185	2.3339	0.0032
186	2.3371	0.0032
187	2.3402	0.0032
188	2.3434	0.0032
189	2.3465	0.0031
190	2.3497	0.0031
191	2.3528	0.0031
192	2.3559	0.0031
193	2.3590	0.0031
194	2.3620	0.0031
195	2.3651	0.0031
196	2.3682	0.0031
197	2.3712	0.0030
198	2.3742	0.0030
199	2.3773	0.0030
200	2.3803	0.0030
201	2.3833	0.0030
202	2.3862	0.0030
203	2.3892	0.0030
204	2.3922	0.0030
205	2.3951	0.0030
206	2.3981	0.0029
207	2.4010	0.0029
208	2.4039	0.0029
209	2.4068	0.0029
210	2.4097	0.0029
211	2.4126	0.0029
212	2.4155	0.0029
213	2.4184	0.0029
214	2.4212	0.0029

215	2.4241	0.0028
216	2.4269	0.0028
217	2.4298	0.0028
218	2.4326	0.0028
219	2.4354	0.0028
220	2.4382	0.0028
221	2.4410	0.0028
222	2.4438	0.0028
223	2.4465	0.0028
224	2.4493	0.0028
225	2.4521	0.0028
226	2.4548	0.0027
227	2.4575	0.0027
228	2.4603	0.0027
229	2.4630	0.0027
230	2.4657	0.0027
231	2.4684	0.0027
232	2.4711	0.0027
233	2.4738	0.0027
234	2.4764	0.0027
235	2.4791	0.0027
236	2.4818	0.0027
237	2.4844	0.0026
238	2.4871	0.0026
239	2.4897	0.0026
240	2.4923	0.0026
241	2.4949	0.0026
242	2.4975	0.0026
243	2.5001	0.0026
244	2.5027	0.0026
245	2.5053	0.0026
246	2.5079	0.0026
247	2.5105	0.0026
248	2.5130	0.0026
249	2.5156	0.0026
250	2.5181	0.0025
251	2.5207	0.0025
252	2.5232	0.0025
253	2.5257	0.0025
254	2.5282	0.0025
255	2.5307	0.0025
256	2.5332	0.0025
257	2.5357	0.0025
258	2.5382	0.0025
259	2.5407	0.0025
260	2.5432	0.0025
261	2.5456	0.0025
262	2.5481	0.0025
263	2.5505	0.0025
264	2.5530	0.0024
265	2.5554	0.0024
266	2.5578	0.0024
267	2.5603	0.0024
268	2.5627	0.0024
269	2.5651	0.0024
270	2.5675	0.0024
271	2.5699	0.0024
272	2.5723	0.0024
273	2.5747	0.0024

274	2.5770	0.0024
275	2.5794	0.0024
276	2.5818	0.0024
277	2.5841	0.0024
278	2.5865	0.0024
279	2.5888	0.0023
280	2.5912	0.0023
281	2.5935	0.0023
282	2.5958	0.0023
283	2.5981	0.0023
284	2.6005	0.0023
285	2.6028	0.0023
286	2.6051	0.0023
287	2.6074	0.0023
288	2.6097	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0002	0.0021
2	0.0023	0.0002	0.0021
3	0.0023	0.0002	0.0021
4	0.0023	0.0002	0.0021
5	0.0023	0.0002	0.0021
6	0.0023	0.0002	0.0021
7	0.0023	0.0002	0.0021
8	0.0024	0.0002	0.0021
9	0.0024	0.0002	0.0021
10	0.0024	0.0002	0.0021
11	0.0024	0.0002	0.0021
12	0.0024	0.0002	0.0021
13	0.0024	0.0002	0.0022
14	0.0024	0.0002	0.0022
15	0.0024	0.0002	0.0022
16	0.0024	0.0003	0.0022
17	0.0024	0.0003	0.0022
18	0.0025	0.0003	0.0022
19	0.0025	0.0003	0.0022
20	0.0025	0.0003	0.0022
21	0.0025	0.0003	0.0022
22	0.0025	0.0003	0.0022
23	0.0025	0.0003	0.0022
24	0.0025	0.0003	0.0023
25	0.0025	0.0003	0.0023
26	0.0025	0.0003	0.0023
27	0.0026	0.0003	0.0023
28	0.0026	0.0003	0.0023
29	0.0026	0.0003	0.0023
30	0.0026	0.0003	0.0023
31	0.0026	0.0003	0.0023
32	0.0026	0.0003	0.0023
33	0.0026	0.0003	0.0024
34	0.0026	0.0003	0.0024
35	0.0026	0.0003	0.0024
36	0.0027	0.0003	0.0024
37	0.0027	0.0003	0.0024
38	0.0027	0.0003	0.0024
39	0.0027	0.0003	0.0024

40	0.0027	0.0003	0.0024
41	0.0027	0.0003	0.0024
42	0.0027	0.0003	0.0025
43	0.0028	0.0003	0.0025
44	0.0028	0.0003	0.0025
45	0.0028	0.0003	0.0025
46	0.0028	0.0003	0.0025
47	0.0028	0.0003	0.0025
48	0.0028	0.0003	0.0025
49	0.0028	0.0003	0.0025
50	0.0028	0.0003	0.0026
51	0.0029	0.0003	0.0026
52	0.0029	0.0003	0.0026
53	0.0029	0.0003	0.0026
54	0.0029	0.0003	0.0026
55	0.0029	0.0003	0.0026
56	0.0029	0.0003	0.0026
57	0.0030	0.0003	0.0027
58	0.0030	0.0003	0.0027
59	0.0030	0.0003	0.0027
60	0.0030	0.0003	0.0027
61	0.0030	0.0003	0.0027
62	0.0030	0.0003	0.0027
63	0.0031	0.0003	0.0027
64	0.0031	0.0003	0.0028
65	0.0031	0.0003	0.0028
66	0.0031	0.0003	0.0028
67	0.0031	0.0003	0.0028
68	0.0032	0.0003	0.0028
69	0.0032	0.0003	0.0028
70	0.0032	0.0003	0.0029
71	0.0032	0.0003	0.0029
72	0.0032	0.0003	0.0029
73	0.0033	0.0003	0.0029
74	0.0033	0.0003	0.0029
75	0.0033	0.0003	0.0030
76	0.0033	0.0003	0.0030
77	0.0033	0.0003	0.0030
78	0.0034	0.0003	0.0030
79	0.0034	0.0003	0.0030
80	0.0034	0.0004	0.0030
81	0.0034	0.0004	0.0031
82	0.0034	0.0004	0.0031
83	0.0035	0.0004	0.0031
84	0.0035	0.0004	0.0031
85	0.0035	0.0004	0.0032
86	0.0035	0.0004	0.0032
87	0.0036	0.0004	0.0032
88	0.0036	0.0004	0.0032
89	0.0036	0.0004	0.0033
90	0.0036	0.0004	0.0033
91	0.0037	0.0004	0.0033
92	0.0037	0.0004	0.0033
93	0.0037	0.0004	0.0033
94	0.0038	0.0004	0.0034
95	0.0038	0.0004	0.0034
96	0.0038	0.0004	0.0034
97	0.0038	0.0004	0.0035
98	0.0039	0.0004	0.0035

99	0.0039	0.0004	0.0035
100	0.0039	0.0004	0.0035
101	0.0040	0.0004	0.0036
102	0.0040	0.0004	0.0036
103	0.0040	0.0004	0.0036
104	0.0041	0.0004	0.0036
105	0.0041	0.0004	0.0037
106	0.0041	0.0004	0.0037
107	0.0042	0.0004	0.0037
108	0.0042	0.0004	0.0038
109	0.0043	0.0004	0.0038
110	0.0043	0.0004	0.0038
111	0.0043	0.0004	0.0039
112	0.0044	0.0004	0.0039
113	0.0044	0.0005	0.0040
114	0.0044	0.0005	0.0040
115	0.0045	0.0005	0.0040
116	0.0045	0.0005	0.0041
117	0.0046	0.0005	0.0041
118	0.0046	0.0005	0.0041
119	0.0047	0.0005	0.0042
120	0.0047	0.0005	0.0042
121	0.0048	0.0005	0.0043
122	0.0048	0.0005	0.0043
123	0.0049	0.0005	0.0044
124	0.0049	0.0005	0.0044
125	0.0050	0.0005	0.0045
126	0.0050	0.0005	0.0045
127	0.0051	0.0005	0.0046
128	0.0051	0.0005	0.0046
129	0.0052	0.0005	0.0047
130	0.0053	0.0005	0.0047
131	0.0053	0.0006	0.0048
132	0.0054	0.0006	0.0048
133	0.0055	0.0006	0.0049
134	0.0055	0.0006	0.0050
135	0.0056	0.0006	0.0050
136	0.0057	0.0006	0.0051
137	0.0058	0.0006	0.0052
138	0.0058	0.0006	0.0052
139	0.0059	0.0006	0.0053
140	0.0060	0.0006	0.0054
141	0.0061	0.0006	0.0055
142	0.0062	0.0006	0.0055
143	0.0063	0.0006	0.0056
144	0.0063	0.0007	0.0057
145	0.0039	0.0004	0.0035
146	0.0040	0.0004	0.0036
147	0.0041	0.0004	0.0037
148	0.0041	0.0004	0.0037
149	0.0042	0.0004	0.0038
150	0.0043	0.0004	0.0038
151	0.0044	0.0005	0.0040
152	0.0045	0.0005	0.0040
153	0.0046	0.0005	0.0041
154	0.0047	0.0005	0.0042
155	0.0048	0.0005	0.0043
156	0.0049	0.0005	0.0044
157	0.0050	0.0005	0.0045

158	0.0051	0.0005	0.0046
159	0.0053	0.0005	0.0047
160	0.0054	0.0006	0.0048
161	0.0056	0.0006	0.0050
162	0.0057	0.0006	0.0051
163	0.0059	0.0006	0.0053
164	0.0060	0.0006	0.0054
165	0.0062	0.0006	0.0056
166	0.0064	0.0007	0.0057
167	0.0066	0.0007	0.0060
168	0.0068	0.0007	0.0061
169	0.0073	0.0008	0.0065
170	0.0075	0.0008	0.0067
171	0.0078	0.0008	0.0070
172	0.0081	0.0008	0.0072
173	0.0085	0.0009	0.0076
174	0.0088	0.0009	0.0079
175	0.0093	0.0010	0.0084
176	0.0096	0.0010	0.0086
177	0.0103	0.0011	0.0092
178	0.0107	0.0011	0.0096
179	0.0116	0.0012	0.0104
180	0.0121	0.0012	0.0108
181	0.0132	0.0014	0.0119
182	0.0139	0.0014	0.0125
183	0.0155	0.0016	0.0139
184	0.0165	0.0017	0.0148
185	0.0359	0.0036	0.0323
186	0.0383	0.0036	0.0347
187	0.0444	0.0036	0.0408
188	0.0484	0.0036	0.0449
189	0.0602	0.0036	0.0567
190	0.0694	0.0036	0.0658
191	0.1053	0.0036	0.1017
192	0.1528	0.0036	0.1492
193	0.6610	0.0036	0.6574
194	0.0828	0.0036	0.0793
195	0.0536	0.0036	0.0500
196	0.0410	0.0036	0.0375
197	0.0176	0.0018	0.0158
198	0.0146	0.0015	0.0131
199	0.0126	0.0013	0.0113
200	0.0111	0.0011	0.0100
201	0.0100	0.0010	0.0089
202	0.0090	0.0009	0.0081
203	0.0083	0.0009	0.0074
204	0.0076	0.0008	0.0069
205	0.0069	0.0007	0.0062
206	0.0065	0.0007	0.0058
207	0.0061	0.0006	0.0055
208	0.0058	0.0006	0.0052
209	0.0055	0.0006	0.0049
210	0.0052	0.0005	0.0047
211	0.0049	0.0005	0.0044
212	0.0047	0.0005	0.0042
213	0.0045	0.0005	0.0041
214	0.0043	0.0004	0.0039
215	0.0042	0.0004	0.0037
216	0.0040	0.0004	0.0036

217	0.0064	0.0007	0.0058
218	0.0062	0.0006	0.0056
219	0.0060	0.0006	0.0054
220	0.0059	0.0006	0.0053
221	0.0057	0.0006	0.0051
222	0.0056	0.0006	0.0050
223	0.0054	0.0006	0.0049
224	0.0053	0.0005	0.0048
225	0.0052	0.0005	0.0046
226	0.0051	0.0005	0.0045
227	0.0049	0.0005	0.0044
228	0.0048	0.0005	0.0043
229	0.0047	0.0005	0.0043
230	0.0046	0.0005	0.0042
231	0.0046	0.0005	0.0041
232	0.0045	0.0005	0.0040
233	0.0044	0.0005	0.0039
234	0.0043	0.0004	0.0039
235	0.0042	0.0004	0.0038
236	0.0042	0.0004	0.0037
237	0.0041	0.0004	0.0037
238	0.0040	0.0004	0.0036
239	0.0040	0.0004	0.0035
240	0.0039	0.0004	0.0035
241	0.0038	0.0004	0.0034
242	0.0038	0.0004	0.0034
243	0.0037	0.0004	0.0033
244	0.0037	0.0004	0.0033
245	0.0036	0.0004	0.0032
246	0.0036	0.0004	0.0032
247	0.0035	0.0004	0.0031
248	0.0035	0.0004	0.0031
249	0.0034	0.0004	0.0031
250	0.0034	0.0003	0.0030
251	0.0033	0.0003	0.0030
252	0.0033	0.0003	0.0029
253	0.0032	0.0003	0.0029
254	0.0032	0.0003	0.0029
255	0.0032	0.0003	0.0028
256	0.0031	0.0003	0.0028
257	0.0031	0.0003	0.0028
258	0.0031	0.0003	0.0027
259	0.0030	0.0003	0.0027
260	0.0030	0.0003	0.0027
261	0.0030	0.0003	0.0026
262	0.0029	0.0003	0.0026
263	0.0029	0.0003	0.0026
264	0.0029	0.0003	0.0026
265	0.0028	0.0003	0.0025
266	0.0028	0.0003	0.0025
267	0.0028	0.0003	0.0025
268	0.0027	0.0003	0.0025
269	0.0027	0.0003	0.0024
270	0.0027	0.0003	0.0024
271	0.0027	0.0003	0.0024
272	0.0026	0.0003	0.0024
273	0.0026	0.0003	0.0023
274	0.0026	0.0003	0.0023
275	0.0026	0.0003	0.0023

276	0.0025	0.0003	0.0023
277	0.0025	0.0003	0.0023
278	0.0025	0.0003	0.0022
279	0.0025	0.0003	0.0022
280	0.0025	0.0003	0.0022
281	0.0024	0.0003	0.0022
282	0.0024	0.0002	0.0022
283	0.0024	0.0002	0.0021
284	0.0024	0.0002	0.0021
285	0.0024	0.0002	0.0021
286	0.0023	0.0002	0.0021
287	0.0023	0.0002	0.0021
288	0.0023	0.0002	0.0021

Total soil rain loss = 0.17(In)
Total effective rainfall = 2.44(In)
Peak flow rate in flood hydrograph = 127.68(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.01	Q				
0+10	0.0003	0.03	Q				
0+15	0.0008	0.07	Q				
0+20	0.0016	0.12	Q				
0+25	0.0028	0.18	Q				
0+30	0.0046	0.26	Q				
0+35	0.0073	0.38	Q				
0+40	0.0111	0.56	Q				
0+45	0.0165	0.79	Q				
0+50	0.0234	1.00	Q				
0+55	0.0315	1.18	Q				
1+ 0	0.0407	1.33	Q				
1+ 5	0.0507	1.46	Q				
1+10	0.0615	1.57	Q				
1+15	0.0730	1.66	Q				
1+20	0.0850	1.74	Q				
1+25	0.0975	1.82	Q				
1+30	0.1105	1.88	Q				
1+35	0.1239	1.95	Q				
1+40	0.1377	2.00	Q				
1+45	0.1518	2.06	Q				
1+50	0.1663	2.11	Q				
1+55	0.1812	2.15	Q				
2+ 0	0.1963	2.20	Q				
2+ 5	0.2117	2.24	Q				
2+10	0.2274	2.28	Q				
2+15	0.2434	2.32	Q				
2+20	0.2595	2.35	Q				
2+25	0.2760	2.38	Q				
2+30	0.2926	2.42	Q				
2+35	0.3095	2.45	Q				

2+40	0.3266	2.48	Q				
2+45	0.3439	2.51	Q				
2+50	0.3614	2.54	Q				
2+55	0.3792	2.57	Q				
3+ 0	0.3971	2.60	Q				
3+ 5	0.4151	2.63	Q				
3+10	0.4334	2.65	Q				
3+15	0.4518	2.68	Q				
3+20	0.4704	2.70	Q				
3+25	0.4892	2.73	Q				
3+30	0.5081	2.75	Q				
3+35	0.5272	2.77	Q				
3+40	0.5465	2.80	QV				
3+45	0.5659	2.82	QV				
3+50	0.5855	2.84	QV				
3+55	0.6052	2.87	QV				
4+ 0	0.6251	2.89	QV				
4+ 5	0.6451	2.91	QV				
4+10	0.6653	2.93	QV				
4+15	0.6857	2.95	QV				
4+20	0.7061	2.97	QV				
4+25	0.7268	3.00	QV				
4+30	0.7476	3.02	QV				
4+35	0.7685	3.04	QV				
4+40	0.7896	3.06	QV				
4+45	0.8108	3.08	QV				
4+50	0.8321	3.10	QV				
4+55	0.8536	3.12	QV				
5+ 0	0.8753	3.14	QV				
5+ 5	0.8971	3.16	QV				
5+10	0.9190	3.18	QV				
5+15	0.9410	3.20	QV				
5+20	0.9633	3.22	QV				
5+25	0.9856	3.24	QV				
5+30	1.0081	3.26	QV				
5+35	1.0307	3.28	QV				
5+40	1.0535	3.30	QV				
5+45	1.0763	3.32	QV				
5+50	1.0994	3.34	Q V				
5+55	1.1225	3.37	Q V				
6+ 0	1.1459	3.39	Q V				
6+ 5	1.1693	3.41	Q V				
6+10	1.1930	3.43	Q V				
6+15	1.2167	3.45	Q V				
6+20	1.2407	3.47	Q V				
6+25	1.2648	3.50	Q V				
6+30	1.2890	3.52	Q V				
6+35	1.3134	3.54	Q V				
6+40	1.3380	3.57	Q V				
6+45	1.3627	3.59	Q V				
6+50	1.3876	3.61	Q V				
6+55	1.4126	3.64	Q V				
7+ 0	1.4378	3.66	Q V				
7+ 5	1.4632	3.68	Q V				
7+10	1.4888	3.71	Q V				
7+15	1.5145	3.73	Q V				
7+20	1.5404	3.76	Q V				
7+25	1.5664	3.78	Q V				
7+30	1.5926	3.81	Q V				

7+35	1.6190	3.83	Q V	|	|	|	|
7+40	1.6456	3.86	Q V	|	|	|	|
7+45	1.6724	3.88	Q V	|	|	|	|
7+50	1.6993	3.91	Q V	|	|	|	|
7+55	1.7264	3.94	Q V	|	|	|	|
8+ 0	1.7537	3.96	Q V	|	|	|	|
8+ 5	1.7811	3.99	Q V	|	|	|	|
8+10	1.8088	4.02	Q V	|	|	|	|
8+15	1.8366	4.04	Q V	|	|	|	|
8+20	1.8647	4.07	Q V	|	|	|	|
8+25	1.8929	4.10	Q V	|	|	|	|
8+30	1.9214	4.13	Q V	|	|	|	|
8+35	1.9500	4.16	Q V	|	|	|	|
8+40	1.9788	4.19	Q V	|	|	|	|
8+45	2.0079	4.22	Q V	|	|	|	|
8+50	2.0372	4.25	Q V	|	|	|	|
8+55	2.0667	4.28	Q V	|	|	|	|
9+ 0	2.0964	4.31	Q V	|	|	|	|
9+ 5	2.1263	4.35	Q V	|	|	|	|
9+10	2.1565	4.38	Q V	|	|	|	|
9+15	2.1869	4.41	Q V	|	|	|	|
9+20	2.2175	4.45	Q V	|	|	|	|
9+25	2.2484	4.48	Q V	|	|	|	|
9+30	2.2795	4.52	Q V	|	|	|	|
9+35	2.3109	4.56	Q V	|	|	|	|
9+40	2.3426	4.59	Q V	|	|	|	|
9+45	2.3745	4.63	Q V	|	|	|	|
9+50	2.4066	4.67	Q V	|	|	|	|
9+55	2.4391	4.71	Q V	|	|	|	|
10+ 0	2.4718	4.75	Q V	|	|	|	|
10+ 5	2.5048	4.79	Q V	|	|	|	|
10+10	2.5381	4.83	Q V	|	|	|	|
10+15	2.5717	4.88	Q V	|	|	|	|
10+20	2.6056	4.92	Q V	|	|	|	|
10+25	2.6398	4.97	Q V	|	|	|	|
10+30	2.6743	5.01	|Q V	|	|	|	|
10+35	2.7092	5.06	|Q V	|	|	|	|
10+40	2.7443	5.11	|Q V	|	|	|	|
10+45	2.7799	5.16	|Q V	|	|	|	|
10+50	2.8157	5.21	|Q V	|	|	|	|
10+55	2.8519	5.26	|Q V	|	|	|	|
11+ 0	2.8885	5.31	|Q V	|	|	|	|
11+ 5	2.9255	5.36	|Q V	|	|	|	|
11+10	2.9628	5.42	|Q V	|	|	|	|
11+15	3.0005	5.48	|Q V	|	|	|	|
11+20	3.0386	5.53	|Q V	|	|	|	|
11+25	3.0771	5.59	|Q V	|	|	|	|
11+30	3.1161	5.65	|Q V	|	|	|	|
11+35	3.1555	5.72	|Q V	|	|	|	|
11+40	3.1953	5.78	|Q V	|	|	|	|
11+45	3.2356	5.85	|Q V	|	|	|	|
11+50	3.2763	5.92	|Q V	|	|	|	|
11+55	3.3175	5.99	|Q V	|	|	|	|
12+ 0	3.3592	6.06	|Q V	|	|	|	|
12+ 5	3.4014	6.12	|Q V	|	|	|	|
12+10	3.4439	6.17	|Q V	|	|	|	|
12+15	3.4866	6.21	|Q V	|	|	|	|
12+20	3.5296	6.23	|Q V	|	|	|	|
12+25	3.5726	6.25	|Q V	|	|	|	|

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12+30      3.6156     6.24  |Q    V   |         |         |         |
12+35      3.6582     6.19  |Q    V   |         |         |         |
12+40      3.7002     6.09  |Q    V   |         |         |         |
12+45      3.7409     5.92  |Q    V   |         |         |         |
12+50      3.7807     5.78  |Q    V   |         |         |         |
12+55      3.8197     5.66  |Q     V  |         |         |         |
13+ 0      3.8582     5.59  |Q     V  |         |         |         |
13+ 5      3.8964     5.54  |Q     V  |         |         |         |
13+10      3.9343     5.51  |Q     V  |         |         |         |
13+15      3.9723     5.51  |Q     V  |         |         |         |
13+20      4.0103     5.52  |Q     V  |         |         |         |
13+25      4.0485     5.55  |Q     V  |         |         |         |
13+30      4.0870     5.58  |Q     V  |         |         |         |
13+35      4.1257     5.62  |Q     V  |         |         |         |
13+40      4.1648     5.68  |Q     V  |         |         |         |
13+45      4.2044     5.74  |Q     V  |         |         |         |
13+50      4.2444     5.81  |Q     V  |         |         |         |
13+55      4.2850     5.89  |Q     V  |         |         |         |
14+ 0      4.3262     5.98  |Q     V  |         |         |         |
14+ 5      4.3681     6.08  |Q      V |         |         |         |
14+10      4.4107     6.19  |Q      V |         |         |         |
14+15      4.4542     6.32  |Q      V |         |         |         |
14+20      4.4986     6.45  |Q      V |         |         |         |
14+25      4.5441     6.59  |Q      V |         |         |         |
14+30      4.5905     6.75  |Q      V |         |         |         |
14+35      4.6382     6.93  |Q      V |         |         |         |
14+40      4.6872     7.12  |Q      V |         |         |         |
14+45      4.7377     7.33  |Q      V |         |         |         |
14+50      4.7898     7.56  |Q      V |         |         |         |
14+55      4.8435     7.80  |Q      V |         |         |         |
15+ 0      4.8991     8.07  |Q      V |         |         |         |
15+ 5      4.9567     8.37  |Q       V|         |         |         |
15+10      5.0165     8.69  |Q       V|         |         |         |
15+15      5.0788     9.04  |Q       V|         |         |         |
15+20      5.1438     9.43  |Q       V|         |         |         |
15+25      5.2123     9.95  |Q       V|         |         |         |
15+30      5.2854    10.62  | Q      V|         |         |         |
15+35      5.3646    11.50  | Q      V|         |         |         |
15+40      5.4512    12.58  | Q       V         |         |         |
15+45      5.5472    13.94  | Q       V         |         |         |
15+50      5.6550    15.65  |  Q      V         |         |         |
15+55      5.7801    18.16  |  Q      V         |         |         |
16+ 0      5.9298    21.75  |   Q     V         |         |         |
16+ 5      6.1306    29.15  |    Q    |V        |         |         |
16+10      6.3896    37.61  |      Q  |V        |         |         |
16+15      6.7099    46.51  |        Q| V       |         |         |
16+20      7.0895    55.11  |         |Q V      |         |         |
16+25      7.5304    64.02  |         | QV      |         |         |
16+30      8.0459    74.86  |         |   Q     |         |         |
16+35      8.6927    93.90  |         |    V  Q |         |         |
16+40      9.4589   111.26  |         |      V  | Q       |         |
16+45     10.3382   127.68  |         |       V |    Q    |         |
16+50     11.1556   118.67  |         |         V  Q      |         |
16+55     11.8901   106.65  |         |         |Q        |         |
17+ 0     12.5254    92.25  |         |       Q | V       |         |
17+ 5     13.0829    80.94  |         |     Q   |   V     |         |
17+10     13.5704    70.79  |         |   Q     |   V     |         |
17+15     13.9924    61.26  |         | Q       |    V    |         |
17+20     14.3673    54.44  |         Q         |     V   |         |
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17+25      14.7076     49.41  |        Q|         |     V   |         |
17+30      15.0200     45.37  |        Q|         |      V  |         |
17+35      15.3103     42.15  |       Q |         |       V |         |
17+40      15.5766     38.66  |      Q  |         |       V |         |
17+45      15.8227     35.74  |      Q  |         |        V|         |
17+50      16.0517     33.24  |     Q   |         |        V|         |
17+55      16.2685     31.48  |     Q   |         |        V|         |
18+ 0      16.4711     29.42  |    Q    |         |         V         |
18+ 5      16.6562     26.88  |    Q    |         |         V         |
18+10      16.8343     25.85  |    Q    |         |         V         |
18+15      17.0025     24.43  |   Q     |         |         |V        |
18+20      17.1595     22.79  |   Q     |         |         |V        |
18+25      17.3119     22.12  |   Q     |         |         |V        |
18+30      17.4579     21.20  |   Q     |         |         | V       |
18+35      17.5977     20.31  |   Q     |         |         | V       |
18+40      17.7345     19.86  |  Q      |         |         | V       |
18+45      17.8651     18.96  |  Q      |         |         | V       |
18+50      17.9901     18.15  |  Q      |         |         |  V      |
18+55      18.1120     17.70  |  Q      |         |         |  V      |
19+ 0      18.2257     16.52  |  Q      |         |         |  V      |
19+ 5      18.3340     15.73  |  Q      |         |         |  V      |
19+10      18.4401     15.41  |  Q      |         |         |  V      |
19+15      18.5431     14.95  | Q       |         |         |   V     |
19+20      18.6436     14.60  | Q       |         |         |   V     |
19+25      18.7419     14.27  | Q       |         |         |   V     |
19+30      18.8357     13.63  | Q       |         |         |   V     |
19+35      18.9271     13.26  | Q       |         |         |   V     |
19+40      19.0164     12.98  | Q       |         |         |   V     |
19+45      19.1028     12.54  | Q       |         |         |    V    |
19+50      19.1870     12.23  | Q       |         |         |    V    |
19+55      19.2686     11.85  | Q       |         |         |    V    |
20+ 0      19.3453     11.13  | Q       |         |         |    V    |
20+ 5      19.4200     10.85  | Q       |         |         |    V    |
20+10      19.4934     10.65  | Q       |         |         |    V    |
20+15      19.5654     10.46  | Q       |         |         |    V    |
20+20      19.6359     10.24  | Q       |         |         |     V   |
20+25      19.7039      9.88  |Q        |         |         |     V   |
20+30      19.7682      9.33  |Q        |         |         |     V   |
20+35      19.8310      9.13  |Q        |         |         |     V   |
20+40      19.8927      8.96  |Q        |         |         |     V   |
20+45      19.9532      8.78  |Q        |         |         |     V   |
20+50      20.0122      8.57  |Q        |         |         |     V   |
20+55      20.0684      8.15  |Q        |         |         |     V   |
21+ 0      20.1213      7.68  |Q        |         |         |     V   |
21+ 5      20.1730      7.51  |Q        |         |         |      V  |
21+10      20.2237      7.36  |Q        |         |         |      V  |
21+15      20.2733      7.21  |Q        |         |         |      V  |
21+20      20.3217      7.02  |Q        |         |         |      V  |
21+25      20.3669      6.56  |Q        |         |         |      V  |
21+30      20.4099      6.24  |Q        |         |         |      V  |
21+35      20.4521      6.13  |Q        |         |         |      V  |
21+40      20.4937      6.05  |Q        |         |         |      V  |
21+45      20.5350      5.99  |Q        |         |         |      V  |
21+50      20.5760      5.96  |Q        |         |         |      V  |
21+55      20.6174      6.01  |Q        |         |         |      V  |
22+ 0      20.6586      5.99  |Q        |         |         |      V  |
22+ 5      20.6995      5.94  |Q        |         |         |      V  |
22+10      20.7400      5.88  |Q        |         |         |       V |
22+15      20.7801      5.82  |Q        |         |         |       V |
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22+20	20.8197	5.75	|Q	|	|	|	V |
22+25	20.8588	5.67	|Q	|	|	|	V |
22+30	20.8973	5.60	|Q	|	|	|	V |
22+35	20.9353	5.52	|Q	|	|	|	V |
22+40	20.9726	5.42	|Q	|	|	|	V |
22+45	21.0092	5.31	|Q	|	|	|	V |
22+50	21.0443	5.09	|Q	|	|	|	V |
22+55	21.0768	4.73	Q	|	|	|	V |
23+ 0	21.1085	4.60	Q	|	|	|	V |
23+ 5	21.1396	4.51	Q	|	|	|	V |
23+10	21.1701	4.43	Q	|	|	|	V |
23+15	21.2001	4.36	Q	|	|	|	V |
23+20	21.2296	4.27	Q	|	|	|	V |
23+25	21.2584	4.18	Q	|	|	|	V|
23+30	21.2863	4.06	Q	|	|	|	V|
23+35	21.3120	3.74	Q	|	|	|	V|
23+40	21.3358	3.45	Q	|	|	|	V|
23+45	21.3590	3.37	Q	|	|	|	V|
23+50	21.3818	3.31	Q	|	|	|	V|
23+55	21.4043	3.26	Q	|	|	|	V|
24+ 0	21.4265	3.22	Q	|	|	|	V|
24+ 5	21.4484	3.18	Q	|	|	|	V|
24+10	21.4699	3.12	Q	|	|	|	V|
24+15	21.4909	3.05	Q	|	|	|	V|
24+20	21.5113	2.97	Q	|	|	|	V|
24+25	21.5312	2.88	Q	|	|	|	V|
24+30	21.5503	2.78	Q	|	|	|	V|
24+35	21.5684	2.63	Q	|	|	|	V|
24+40	21.5851	2.43	Q	|	|	|	V|
24+45	21.6001	2.18	Q	|	|	|	V|
24+50	21.6136	1.95	Q	|	|	|	V|
24+55	21.6257	1.76	Q	|	|	|	V|
25+ 0	21.6366	1.59	Q	|	|	|	V|
25+ 5	21.6467	1.45	Q	|	|	|	V|
25+10	21.6559	1.34	Q	|	|	|	V|
25+15	21.6644	1.24	Q	|	|	|	V|
25+20	21.6723	1.15	Q	|	|	|	V|
25+25	21.6797	1.07	Q	|	|	|	V|
25+30	21.6866	1.01	Q	|	|	|	V|
25+35	21.6931	0.94	Q	|	|	|	V|
25+40	21.6992	0.88	Q	|	|	|	V|
25+45	21.7049	0.83	Q	|	|	|	V|
25+50	21.7102	0.78	Q	|	|	|	V|
25+55	21.7152	0.73	Q	|	|	|	V|
26+ 0	21.7200	0.69	Q	|	|	|	V|
26+ 5	21.7244	0.65	Q	|	|	|	V|
26+10	21.7286	0.61	Q	|	|	|	V|
26+15	21.7326	0.58	Q	|	|	|	V|
26+20	21.7364	0.55	Q	|	|	|	V|
26+25	21.7399	0.52	Q	|	|	|	V|
26+30	21.7433	0.49	Q	|	|	|	V|
26+35	21.7465	0.46	Q	|	|	|	V|
26+40	21.7494	0.43	Q	|	|	|	V|
26+45	21.7523	0.41	Q	|	|	|	V|
26+50	21.7549	0.39	Q	|	|	|	V|
26+55	21.7574	0.36	Q	|	|	|	V|
27+ 0	21.7598	0.35	Q	|	|	|	V|
27+ 5	21.7621	0.33	Q	|	|	|	V|
27+10	21.7642	0.31	Q	|	|	|	V|

27+15	21.7663	0.30	Q	|	|	|	V|
27+20	21.7682	0.28	Q	|	|	|	V|
27+25	21.7700	0.26	Q	|	|	|	V|
27+30	21.7717	0.25	Q	|	|	|	V|
27+35	21.7733	0.24	Q	|	|	|	V|
27+40	21.7749	0.22	Q	|	|	|	V|
27+45	21.7763	0.21	Q	|	|	|	V|
27+50	21.7777	0.20	Q	|	|	|	V|
27+55	21.7790	0.19	Q	|	|	|	V|
28+ 0	21.7802	0.18	Q	|	|	|	V|
28+ 5	21.7814	0.17	Q	|	|	|	V|
28+10	21.7825	0.16	Q	|	|	|	V|
28+15	21.7835	0.15	Q	|	|	|	V|
28+20	21.7845	0.14	Q	|	|	|	V|
28+25	21.7854	0.13	Q	|	|	|	V|
28+30	21.7862	0.12	Q	|	|	|	V|
28+35	21.7870	0.12	Q	|	|	|	V|
28+40	21.7878	0.11	Q	|	|	|	V|
28+45	21.7885	0.10	Q	|	|	|	V|
28+50	21.7891	0.10	Q	|	|	|	V|
28+55	21.7898	0.09	Q	|	|	|	V|
29+ 0	21.7904	0.09	Q	|	|	|	V|
29+ 5	21.7909	0.08	Q	|	|	|	V|
29+10	21.7914	0.08	Q	|	|	|	V|
29+15	21.7919	0.07	Q	|	|	|	V|
29+20	21.7924	0.07	Q	|	|	|	V|
29+25	21.7928	0.06	Q	|	|	|	V|
29+30	21.7932	0.06	Q	|	|	|	V|
29+35	21.7936	0.06	Q	|	|	|	V|
29+40	21.7940	0.05	Q	|	|	|	V|
29+45	21.7943	0.05	Q	|	|	|	V|
29+50	21.7947	0.05	Q	|	|	|	V|
29+55	21.7950	0.05	Q	|	|	|	V|
30+ 0	21.7953	0.04	Q	|	|	|	V|
30+ 5	21.7955	0.04	Q	|	|	|	V|
30+10	21.7958	0.04	Q	|	|	|	V|
30+15	21.7960	0.03	Q	|	|	|	V|
30+20	21.7962	0.03	Q	|	|	|	V|
30+25	21.7964	0.03	Q	|	|	|	V|
30+30	21.7966	0.02	Q	|	|	|	V|
30+35	21.7967	0.02	Q	|	|	|	V|
30+40	21.7968	0.02	Q	|	|	|	V|
30+45	21.7969	0.02	Q	|	|	|	V|
30+50	21.7970	0.01	Q	|	|	|	V|
30+55	21.7971	0.01	Q	|	|	|	V|
31+ 0	21.7972	0.01	Q	|	|	|	V|
31+ 5	21.7972	0.01	Q	|	|	|	V|
31+10	21.7973	0.01	Q	|	|	|	V|
31+15	21.7973	0.01	Q	|	|	|	V|
31+20	21.7973	0.00	Q	|	|	|	V|
31+25	21.7973	0.00	Q	|	|	|	V|
31+30	21.7973	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 35
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
33.10	1	1.39
Rainfall data for year 100		
33.10	6	1.84
Rainfall data for year 100		
33.10	24	2.62

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	33.10	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
29.79	0.900	91.0	98.2	0.18	0.921
3.31	0.100	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.920
Area-averaged low loss fraction, Yb = 0.080
User entry of time of concentration = 0.580 (hours)
++
Watershed area = 33.10(Ac.)
Catchment Lag time = 0.464 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 17.9598
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.080 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.651(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.620(In)

Rainfall depth area reduction factors:
Using a total area of 33.10(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998 Adjusted rainfall = 0.659(In)
30-minute factor = 0.998 Adjusted rainfall = 1.127(In)
1-hour factor = 0.998 Adjusted rainfall = 1.388(In)
3-hour factor = 1.000 Adjusted rainfall = 1.650(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.620(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 400.30 (CFS))	
1	0.857	3.429
2	3.791	11.748
3	8.920	20.529
4	19.662	43.003
5	36.203	66.211
6	49.017	51.298
7	58.041	36.124
8	64.275	24.953
9	69.111	19.360
10	73.109	16.002
11	76.367	13.044
12	79.157	11.168
13	81.486	9.322

14	83.485	8.002
15	85.300	7.267
16	86.956	6.630
17	88.391	5.744
18	89.558	4.670
19	90.606	4.196
20	91.593	3.952
21	92.472	3.517
22	93.290	3.275
23	94.033	2.973
24	94.650	2.471
25	95.260	2.444
26	95.807	2.188
27	96.274	1.870
28	96.739	1.862
29	97.113	1.497
30	97.437	1.294
31	97.750	1.253
32	97.957	0.831
33	98.137	0.719
34	98.323	0.744
35	98.535	0.851
36	98.751	0.863
37	98.966	0.863
38	99.182	0.863
39	99.397	0.863
40	99.559	0.646
41	99.671	0.449
42	99.783	0.449
43	99.896	0.449
44	100.000	0.418

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6585	0.6585
2	0.8108	0.1522
3	0.9156	0.1049
4	0.9982	0.0825
5	1.0673	0.0691
6	1.1273	0.0600
7	1.1806	0.0534
8	1.2289	0.0483
9	1.2731	0.0442
10	1.3140	0.0409
11	1.3521	0.0381
12	1.3878	0.0358
13	1.4055	0.0176
14	1.4220	0.0165
15	1.4376	0.0156
16	1.4523	0.0147
17	1.4662	0.0140
18	1.4795	0.0133
19	1.4922	0.0127
20	1.5043	0.0121
21	1.5159	0.0116
22	1.5271	0.0112
23	1.5379	0.0107
24	1.5482	0.0104
25	1.5582	0.0100

26	1.5679	0.0097
27	1.5773	0.0094
28	1.5863	0.0091
29	1.5951	0.0088
30	1.6037	0.0086
31	1.6120	0.0083
32	1.6201	0.0081
33	1.6280	0.0079
34	1.6357	0.0077
35	1.6432	0.0075
36	1.6505	0.0073
37	1.6576	0.0071
38	1.6645	0.0069
39	1.6713	0.0068
40	1.6780	0.0066
41	1.6845	0.0065
42	1.6908	0.0064
43	1.6971	0.0062
44	1.7032	0.0061
45	1.7092	0.0060
46	1.7151	0.0059
47	1.7209	0.0058
48	1.7266	0.0057
49	1.7322	0.0056
50	1.7377	0.0055
51	1.7431	0.0054
52	1.7484	0.0053
53	1.7536	0.0052
54	1.7587	0.0051
55	1.7638	0.0051
56	1.7688	0.0050
57	1.7737	0.0049
58	1.7785	0.0048
59	1.7833	0.0048
60	1.7880	0.0047
61	1.7926	0.0046
62	1.7972	0.0046
63	1.8017	0.0045
64	1.8062	0.0045
65	1.8106	0.0044
66	1.8149	0.0043
67	1.8192	0.0043
68	1.8234	0.0042
69	1.8276	0.0042
70	1.8317	0.0041
71	1.8358	0.0041
72	1.8398	0.0040
73	1.8463	0.0065
74	1.8527	0.0064
75	1.8591	0.0064
76	1.8653	0.0063
77	1.8716	0.0062
78	1.8777	0.0062
79	1.8839	0.0061
80	1.8899	0.0061
81	1.8959	0.0060
82	1.9018	0.0059
83	1.9077	0.0059
84	1.9136	0.0058

85	1.9193	0.0058
86	1.9251	0.0057
87	1.9308	0.0057
88	1.9364	0.0056
89	1.9420	0.0056
90	1.9475	0.0055
91	1.9530	0.0055
92	1.9585	0.0054
93	1.9639	0.0054
94	1.9692	0.0054
95	1.9746	0.0053
96	1.9798	0.0053
97	1.9851	0.0052
98	1.9903	0.0052
99	1.9954	0.0052
100	2.0006	0.0051
101	2.0056	0.0051
102	2.0107	0.0050
103	2.0157	0.0050
104	2.0207	0.0050
105	2.0256	0.0049
106	2.0305	0.0049
107	2.0354	0.0049
108	2.0402	0.0048
109	2.0450	0.0048
110	2.0498	0.0048
111	2.0545	0.0047
112	2.0592	0.0047
113	2.0639	0.0047
114	2.0685	0.0046
115	2.0731	0.0046
116	2.0777	0.0046
117	2.0823	0.0046
118	2.0868	0.0045
119	2.0913	0.0045
120	2.0957	0.0045
121	2.1002	0.0044
122	2.1046	0.0044
123	2.1090	0.0044
124	2.1133	0.0044
125	2.1177	0.0043
126	2.1220	0.0043
127	2.1263	0.0043
128	2.1305	0.0043
129	2.1348	0.0042
130	2.1390	0.0042
131	2.1431	0.0042
132	2.1473	0.0042
133	2.1514	0.0041
134	2.1556	0.0041
135	2.1596	0.0041
136	2.1637	0.0041
137	2.1678	0.0040
138	2.1718	0.0040
139	2.1758	0.0040
140	2.1798	0.0040
141	2.1837	0.0040
142	2.1877	0.0039
143	2.1916	0.0039

144	2.1955	0.0039
145	2.1994	0.0039
146	2.2032	0.0039
147	2.2070	0.0038
148	2.2109	0.0038
149	2.2147	0.0038
150	2.2184	0.0038
151	2.2222	0.0038
152	2.2259	0.0037
153	2.2297	0.0037
154	2.2334	0.0037
155	2.2371	0.0037
156	2.2407	0.0037
157	2.2444	0.0037
158	2.2480	0.0036
159	2.2516	0.0036
160	2.2553	0.0036
161	2.2588	0.0036
162	2.2624	0.0036
163	2.2660	0.0036
164	2.2695	0.0035
165	2.2730	0.0035
166	2.2765	0.0035
167	2.2800	0.0035
168	2.2835	0.0035
169	2.2869	0.0035
170	2.2904	0.0034
171	2.2938	0.0034
172	2.2972	0.0034
173	2.3006	0.0034
174	2.3040	0.0034
175	2.3074	0.0034
176	2.3107	0.0034
177	2.3141	0.0033
178	2.3174	0.0033
179	2.3207	0.0033
180	2.3240	0.0033
181	2.3273	0.0033
182	2.3306	0.0033
183	2.3338	0.0033
184	2.3371	0.0032
185	2.3403	0.0032
186	2.3435	0.0032
187	2.3467	0.0032
188	2.3499	0.0032
189	2.3531	0.0032
190	2.3563	0.0032
191	2.3594	0.0032
192	2.3626	0.0031
193	2.3657	0.0031
194	2.3688	0.0031
195	2.3719	0.0031
196	2.3750	0.0031
197	2.3781	0.0031
198	2.3812	0.0031
199	2.3842	0.0031
200	2.3873	0.0030
201	2.3903	0.0030
202	2.3934	0.0030

203	2.3964	0.0030
204	2.3994	0.0030
205	2.4024	0.0030
206	2.4053	0.0030
207	2.4083	0.0030
208	2.4113	0.0030
209	2.4142	0.0030
210	2.4172	0.0029
211	2.4201	0.0029
212	2.4230	0.0029
213	2.4259	0.0029
214	2.4288	0.0029
215	2.4317	0.0029
216	2.4346	0.0029
217	2.4375	0.0029
218	2.4403	0.0029
219	2.4432	0.0028
220	2.4460	0.0028
221	2.4488	0.0028
222	2.4517	0.0028
223	2.4545	0.0028
224	2.4573	0.0028
225	2.4601	0.0028
226	2.4629	0.0028
227	2.4656	0.0028
228	2.4684	0.0028
229	2.4711	0.0028
230	2.4739	0.0027
231	2.4766	0.0027
232	2.4794	0.0027
233	2.4821	0.0027
234	2.4848	0.0027
235	2.4875	0.0027
236	2.4902	0.0027
237	2.4929	0.0027
238	2.4956	0.0027
239	2.4982	0.0027
240	2.5009	0.0027
241	2.5035	0.0027
242	2.5062	0.0026
243	2.5088	0.0026
244	2.5114	0.0026
245	2.5141	0.0026
246	2.5167	0.0026
247	2.5193	0.0026
248	2.5219	0.0026
249	2.5245	0.0026
250	2.5271	0.0026
251	2.5296	0.0026
252	2.5322	0.0026
253	2.5348	0.0026
254	2.5373	0.0026
255	2.5398	0.0025
256	2.5424	0.0025
257	2.5449	0.0025
258	2.5474	0.0025
259	2.5499	0.0025
260	2.5525	0.0025
261	2.5550	0.0025

262	2.5574	0.0025
263	2.5599	0.0025
264	2.5624	0.0025
265	2.5649	0.0025
266	2.5673	0.0025
267	2.5698	0.0025
268	2.5723	0.0025
269	2.5747	0.0024
270	2.5771	0.0024
271	2.5796	0.0024
272	2.5820	0.0024
273	2.5844	0.0024
274	2.5868	0.0024
275	2.5892	0.0024
276	2.5916	0.0024
277	2.5940	0.0024
278	2.5964	0.0024
279	2.5988	0.0024
280	2.6011	0.0024
281	2.6035	0.0024
282	2.6059	0.0024
283	2.6082	0.0024
284	2.6106	0.0023
285	2.6129	0.0023
286	2.6152	0.0023
287	2.6176	0.0023
288	2.6199	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0002	0.0021
2	0.0023	0.0002	0.0021
3	0.0023	0.0002	0.0022
4	0.0023	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0022
12	0.0024	0.0002	0.0022
13	0.0024	0.0002	0.0022
14	0.0024	0.0002	0.0022
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0025	0.0002	0.0023
22	0.0025	0.0002	0.0023
23	0.0025	0.0002	0.0023
24	0.0026	0.0002	0.0023
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0026	0.0002	0.0024

28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0026	0.0002	0.0024
31	0.0026	0.0002	0.0024
32	0.0026	0.0002	0.0024
33	0.0027	0.0002	0.0024
34	0.0027	0.0002	0.0025
35	0.0027	0.0002	0.0025
36	0.0027	0.0002	0.0025
37	0.0027	0.0002	0.0025
38	0.0027	0.0002	0.0025
39	0.0027	0.0002	0.0025
40	0.0027	0.0002	0.0025
41	0.0028	0.0002	0.0025
42	0.0028	0.0002	0.0026
43	0.0028	0.0002	0.0026
44	0.0028	0.0002	0.0026
45	0.0028	0.0002	0.0026
46	0.0028	0.0002	0.0026
47	0.0028	0.0002	0.0026
48	0.0029	0.0002	0.0026
49	0.0029	0.0002	0.0026
50	0.0029	0.0002	0.0027
51	0.0029	0.0002	0.0027
52	0.0029	0.0002	0.0027
53	0.0029	0.0002	0.0027
54	0.0030	0.0002	0.0027
55	0.0030	0.0002	0.0027
56	0.0030	0.0002	0.0027
57	0.0030	0.0002	0.0028
58	0.0030	0.0002	0.0028
59	0.0030	0.0002	0.0028
60	0.0030	0.0002	0.0028
61	0.0031	0.0002	0.0028
62	0.0031	0.0002	0.0028
63	0.0031	0.0002	0.0029
64	0.0031	0.0003	0.0029
65	0.0031	0.0003	0.0029
66	0.0032	0.0003	0.0029
67	0.0032	0.0003	0.0029
68	0.0032	0.0003	0.0029
69	0.0032	0.0003	0.0030
70	0.0032	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0033	0.0003	0.0030
73	0.0033	0.0003	0.0030
74	0.0033	0.0003	0.0030
75	0.0033	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0034	0.0003	0.0031
78	0.0034	0.0003	0.0031
79	0.0034	0.0003	0.0032
80	0.0034	0.0003	0.0032
81	0.0035	0.0003	0.0032
82	0.0035	0.0003	0.0032
83	0.0035	0.0003	0.0032
84	0.0035	0.0003	0.0033
85	0.0036	0.0003	0.0033
86	0.0036	0.0003	0.0033

87	0.0036	0.0003	0.0033
88	0.0036	0.0003	0.0033
89	0.0037	0.0003	0.0034
90	0.0037	0.0003	0.0034
91	0.0037	0.0003	0.0034
92	0.0037	0.0003	0.0034
93	0.0038	0.0003	0.0035
94	0.0038	0.0003	0.0035
95	0.0038	0.0003	0.0035
96	0.0039	0.0003	0.0035
97	0.0039	0.0003	0.0036
98	0.0039	0.0003	0.0036
99	0.0040	0.0003	0.0036
100	0.0040	0.0003	0.0037
101	0.0040	0.0003	0.0037
102	0.0040	0.0003	0.0037
103	0.0041	0.0003	0.0038
104	0.0041	0.0003	0.0038
105	0.0042	0.0003	0.0038
106	0.0042	0.0003	0.0038
107	0.0042	0.0003	0.0039
108	0.0043	0.0003	0.0039
109	0.0043	0.0003	0.0040
110	0.0043	0.0003	0.0040
111	0.0044	0.0004	0.0040
112	0.0044	0.0004	0.0041
113	0.0045	0.0004	0.0041
114	0.0045	0.0004	0.0041
115	0.0046	0.0004	0.0042
116	0.0046	0.0004	0.0042
117	0.0046	0.0004	0.0043
118	0.0047	0.0004	0.0043
119	0.0047	0.0004	0.0044
120	0.0048	0.0004	0.0044
121	0.0048	0.0004	0.0044
122	0.0049	0.0004	0.0045
123	0.0049	0.0004	0.0045
124	0.0050	0.0004	0.0046
125	0.0050	0.0004	0.0046
126	0.0051	0.0004	0.0047
127	0.0052	0.0004	0.0047
128	0.0052	0.0004	0.0048
129	0.0053	0.0004	0.0049
130	0.0053	0.0004	0.0049
131	0.0054	0.0004	0.0050
132	0.0054	0.0004	0.0050
133	0.0055	0.0004	0.0051
134	0.0056	0.0004	0.0051
135	0.0057	0.0005	0.0052
136	0.0057	0.0005	0.0053
137	0.0058	0.0005	0.0054
138	0.0059	0.0005	0.0054
139	0.0060	0.0005	0.0055
140	0.0061	0.0005	0.0056
141	0.0062	0.0005	0.0057
142	0.0062	0.0005	0.0057
143	0.0064	0.0005	0.0058
144	0.0064	0.0005	0.0059
145	0.0040	0.0003	0.0037

146	0.0041	0.0003	0.0037
147	0.0042	0.0003	0.0038
148	0.0042	0.0003	0.0039
149	0.0043	0.0003	0.0040
150	0.0044	0.0004	0.0040
151	0.0045	0.0004	0.0041
152	0.0046	0.0004	0.0042
153	0.0047	0.0004	0.0043
154	0.0048	0.0004	0.0044
155	0.0049	0.0004	0.0045
156	0.0050	0.0004	0.0046
157	0.0051	0.0004	0.0047
158	0.0052	0.0004	0.0048
159	0.0054	0.0004	0.0050
160	0.0055	0.0004	0.0051
161	0.0057	0.0005	0.0052
162	0.0058	0.0005	0.0053
163	0.0060	0.0005	0.0055
164	0.0061	0.0005	0.0056
165	0.0064	0.0005	0.0059
166	0.0065	0.0005	0.0060
167	0.0068	0.0005	0.0062
168	0.0069	0.0006	0.0064
169	0.0073	0.0006	0.0067
170	0.0075	0.0006	0.0069
171	0.0079	0.0006	0.0073
172	0.0081	0.0006	0.0074
173	0.0086	0.0007	0.0079
174	0.0088	0.0007	0.0081
175	0.0094	0.0008	0.0086
176	0.0097	0.0008	0.0089
177	0.0104	0.0008	0.0095
178	0.0107	0.0009	0.0099
179	0.0116	0.0009	0.0107
180	0.0121	0.0010	0.0112
181	0.0133	0.0011	0.0122
182	0.0140	0.0011	0.0128
183	0.0156	0.0012	0.0143
184	0.0165	0.0013	0.0152
185	0.0358	0.0027	0.0331
186	0.0381	0.0027	0.0354
187	0.0442	0.0027	0.0415
188	0.0483	0.0027	0.0456
189	0.0600	0.0027	0.0573
190	0.0691	0.0027	0.0664
191	0.1049	0.0027	0.1022
192	0.1522	0.0027	0.1495
193	0.6585	0.0027	0.6559
194	0.0825	0.0027	0.0799
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0382
197	0.0176	0.0014	0.0162
198	0.0147	0.0012	0.0135
199	0.0127	0.0010	0.0117
200	0.0112	0.0009	0.0103
201	0.0100	0.0008	0.0092
202	0.0091	0.0007	0.0083
203	0.0083	0.0007	0.0077
204	0.0077	0.0006	0.0071

205	0.0071	0.0006	0.0065
206	0.0066	0.0005	0.0061
207	0.0062	0.0005	0.0057
208	0.0059	0.0005	0.0054
209	0.0056	0.0004	0.0051
210	0.0053	0.0004	0.0049
211	0.0051	0.0004	0.0047
212	0.0048	0.0004	0.0045
213	0.0046	0.0004	0.0043
214	0.0045	0.0004	0.0041
215	0.0043	0.0003	0.0039
216	0.0041	0.0003	0.0038
217	0.0065	0.0005	0.0060
218	0.0063	0.0005	0.0058
219	0.0061	0.0005	0.0056
220	0.0059	0.0005	0.0055
221	0.0058	0.0005	0.0053
222	0.0056	0.0005	0.0052
223	0.0055	0.0004	0.0051
224	0.0054	0.0004	0.0049
225	0.0052	0.0004	0.0048
226	0.0051	0.0004	0.0047
227	0.0050	0.0004	0.0046
228	0.0049	0.0004	0.0045
229	0.0048	0.0004	0.0044
230	0.0047	0.0004	0.0043
231	0.0046	0.0004	0.0042
232	0.0045	0.0004	0.0042
233	0.0044	0.0004	0.0041
234	0.0044	0.0003	0.0040
235	0.0043	0.0003	0.0039
236	0.0042	0.0003	0.0039
237	0.0041	0.0003	0.0038
238	0.0041	0.0003	0.0037
239	0.0040	0.0003	0.0037
240	0.0039	0.0003	0.0036
241	0.0039	0.0003	0.0036
242	0.0038	0.0003	0.0035
243	0.0038	0.0003	0.0035
244	0.0037	0.0003	0.0034
245	0.0037	0.0003	0.0034
246	0.0036	0.0003	0.0033
247	0.0036	0.0003	0.0033
248	0.0035	0.0003	0.0032
249	0.0035	0.0003	0.0032
250	0.0034	0.0003	0.0031
251	0.0034	0.0003	0.0031
252	0.0033	0.0003	0.0031
253	0.0033	0.0003	0.0030
254	0.0032	0.0003	0.0030
255	0.0032	0.0003	0.0029
256	0.0032	0.0003	0.0029
257	0.0031	0.0003	0.0029
258	0.0031	0.0002	0.0028
259	0.0031	0.0002	0.0028
260	0.0030	0.0002	0.0028
261	0.0030	0.0002	0.0028
262	0.0030	0.0002	0.0027
263	0.0029	0.0002	0.0027

264	0.0029	0.0002	0.0027
265	0.0029	0.0002	0.0026
266	0.0028	0.0002	0.0026
267	0.0028	0.0002	0.0026
268	0.0028	0.0002	0.0026
269	0.0028	0.0002	0.0025
270	0.0027	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0024
274	0.0026	0.0002	0.0024
275	0.0026	0.0002	0.0024
276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0025	0.0002	0.0023
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0024	0.0002	0.0022
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022
288	0.0023	0.0002	0.0021

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.49(In)
Peak flow rate in flood hydrograph = 65.27(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

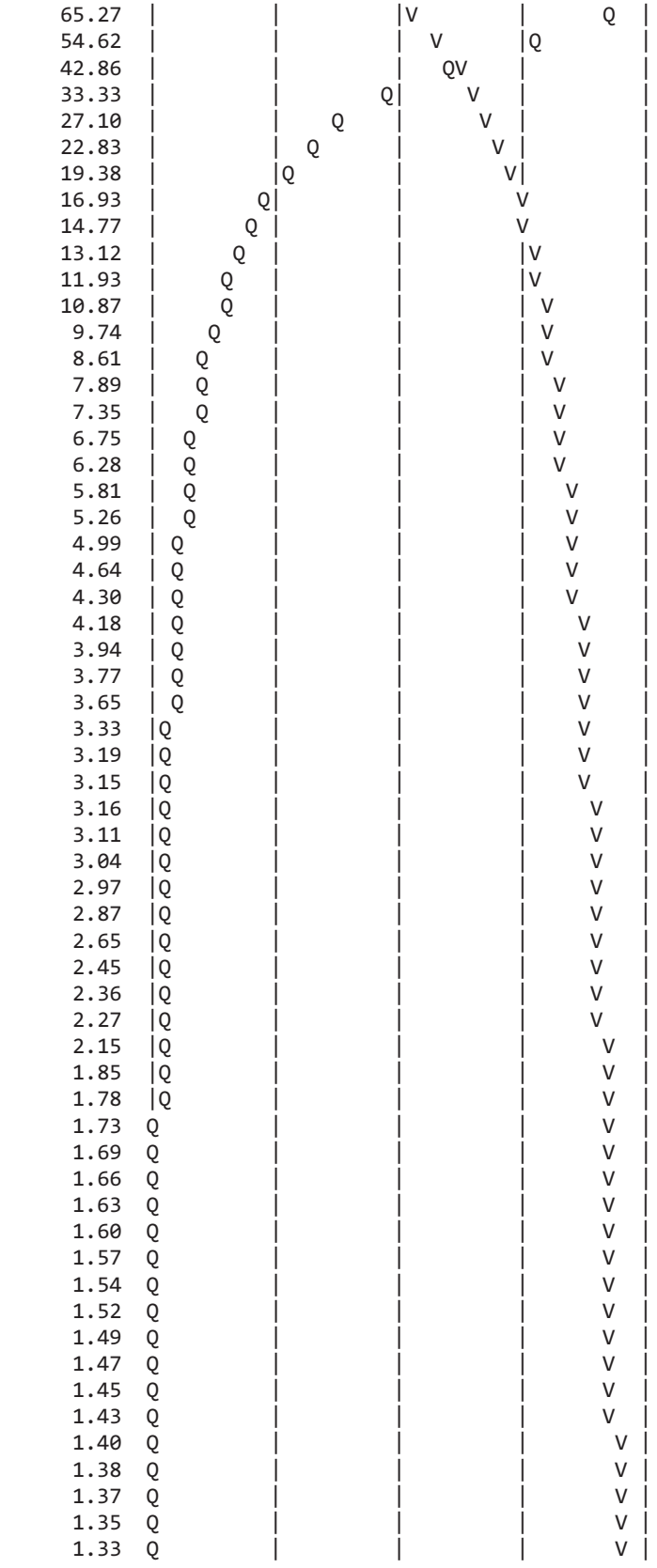
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	17.5	35.0	52.5	70.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0003	0.03	Q	|	|	|	|
0+15	0.0008	0.08	Q	|	|	|	|
0+20	0.0020	0.17	Q	|	|	|	|
0+25	0.0041	0.31	Q	|	|	|	|
0+30	0.0070	0.42	Q	|	|	|	|
0+35	0.0104	0.50	Q	|	|	|	|
0+40	0.0143	0.56	Q	|	|	|	|
0+45	0.0184	0.60	Q	|	|	|	|
0+50	0.0228	0.64	Q	|	|	|	|
0+55	0.0274	0.67	Q	|	|	|	|
1+ 0	0.0321	0.69	Q	|	|	|	|
1+ 5	0.0370	0.71	Q	|	|	|	|
1+10	0.0421	0.73	Q	|	|	|	|
1+15	0.0473	0.75	Q	|	|	|	|
1+20	0.0526	0.77	Q	|	|	|	|
1+25	0.0580	0.79	Q	|	|	|	|
1+30	0.0635	0.80	Q	|	|	|	|
1+35	0.0691	0.81	Q	|	|	|	|

1+40	0.0748	0.82	Q				
1+45	0.0805	0.83	Q				
1+50	0.0863	0.84	Q				
1+55	0.0922	0.85	Q				
2+ 0	0.0982	0.86	Q				
2+ 5	0.1042	0.87	Q				
2+10	0.1103	0.88	Q				
2+15	0.1164	0.89	Q				
2+20	0.1225	0.90	Q				
2+25	0.1288	0.90	Q				
2+30	0.1350	0.91	Q				
2+35	0.1414	0.92	Q				
2+40	0.1477	0.92	Q				
2+45	0.1541	0.93	Q				
2+50	0.1605	0.93	Q				
2+55	0.1670	0.94	Q				
3+ 0	0.1735	0.95	QV				
3+ 5	0.1801	0.95	QV				
3+10	0.1867	0.96	QV				
3+15	0.1933	0.97	QV				
3+20	0.2000	0.97	QV				
3+25	0.2068	0.98	QV				
3+30	0.2135	0.98	QV				
3+35	0.2203	0.99	QV				
3+40	0.2272	0.99	QV				
3+45	0.2340	1.00	QV				
3+50	0.2409	1.00	QV				
3+55	0.2479	1.01	QV				
4+ 0	0.2548	1.01	QV				
4+ 5	0.2618	1.02	QV				
4+10	0.2689	1.02	QV				
4+15	0.2760	1.03	QV				
4+20	0.2831	1.03	QV				
4+25	0.2902	1.04	QV				
4+30	0.2974	1.04	QV				
4+35	0.3046	1.05	QV				
4+40	0.3119	1.05	QV				
4+45	0.3192	1.06	QV				
4+50	0.3265	1.06	QV				
4+55	0.3339	1.07	QV				
5+ 0	0.3413	1.08	QV				
5+ 5	0.3488	1.08	Q V				
5+10	0.3562	1.09	Q V				
5+15	0.3638	1.09	Q V				
5+20	0.3713	1.10	Q V				
5+25	0.3790	1.11	Q V				
5+30	0.3866	1.11	Q V				
5+35	0.3943	1.12	Q V				
5+40	0.4021	1.12	Q V				
5+45	0.4098	1.13	Q V				
5+50	0.4177	1.14	Q V				
5+55	0.4256	1.14	Q V				
6+ 0	0.4335	1.15	Q V				
6+ 5	0.4414	1.16	Q V				
6+10	0.4495	1.16	Q V				
6+15	0.4575	1.17	Q V				
6+20	0.4656	1.18	Q V				
6+25	0.4738	1.18	Q V				
6+30	0.4820	1.19	Q V				

6+35	0.4903	1.20	Q V	|	|	|	|
6+40	0.4986	1.21	Q V	|	|	|	|
6+45	0.5069	1.21	Q V	|	|	|	|
6+50	0.5153	1.22	Q V	|	|	|	|
6+55	0.5238	1.23	Q V	|	|	|	|
7+ 0	0.5323	1.24	Q V	|	|	|	|
7+ 5	0.5409	1.25	Q V	|	|	|	|
7+10	0.5495	1.25	Q V	|	|	|	|
7+15	0.5582	1.26	Q V	|	|	|	|
7+20	0.5670	1.27	Q V	|	|	|	|
7+25	0.5758	1.28	Q V	|	|	|	|
7+30	0.5846	1.29	Q V	|	|	|	|
7+35	0.5936	1.30	Q V	|	|	|	|
7+40	0.6026	1.30	Q V	|	|	|	|
7+45	0.6116	1.31	Q V	|	|	|	|
7+50	0.6207	1.32	Q V	|	|	|	|
7+55	0.6299	1.33	Q V	|	|	|	|
8+ 0	0.6391	1.34	Q V	|	|	|	|
8+ 5	0.6484	1.35	Q V	|	|	|	|
8+10	0.6578	1.36	Q V	|	|	|	|
8+15	0.6673	1.37	Q V	|	|	|	|
8+20	0.6768	1.38	Q V	|	|	|	|
8+25	0.6864	1.39	Q V	|	|	|	|
8+30	0.6960	1.40	Q V	|	|	|	|
8+35	0.7057	1.41	Q V	|	|	|	|
8+40	0.7156	1.42	Q V	|	|	|	|
8+45	0.7254	1.44	Q V	|	|	|	|
8+50	0.7354	1.45	Q V	|	|	|	|
8+55	0.7454	1.46	Q V	|	|	|	|
9+ 0	0.7556	1.47	Q V	|	|	|	|
9+ 5	0.7658	1.48	Q V	|	|	|	|
9+10	0.7761	1.49	Q V	|	|	|	|
9+15	0.7864	1.51	Q V	|	|	|	|
9+20	0.7969	1.52	Q V	|	|	|	|
9+25	0.8074	1.53	Q V	|	|	|	|
9+30	0.8181	1.55	Q V	|	|	|	|
9+35	0.8288	1.56	Q V	|	|	|	|
9+40	0.8397	1.57	Q V	|	|	|	|
9+45	0.8506	1.59	Q V	|	|	|	|
9+50	0.8616	1.60	Q V	|	|	|	|
9+55	0.8727	1.62	Q V	|	|	|	|
10+ 0	0.8840	1.63	Q V	|	|	|	|
10+ 5	0.8953	1.65	Q V	|	|	|	|
10+10	0.9067	1.66	Q V	|	|	|	|
10+15	0.9183	1.68	Q V	|	|	|	|
10+20	0.9300	1.69	Q V	|	|	|	|
10+25	0.9417	1.71	Q V	|	|	|	|
10+30	0.9536	1.73	Q V	|	|	|	|
10+35	0.9657	1.75	Q V	|	|	|	|
10+40	0.9778	1.76	|Q V	|	|	|	|
10+45	0.9901	1.78	|Q V	|	|	|	|
10+50	1.0025	1.80	|Q V	|	|	|	|
10+55	1.0150	1.82	|Q V	|	|	|	|
11+ 0	1.0277	1.84	|Q V	|	|	|	|
11+ 5	1.0405	1.86	|Q V	|	|	|	|
11+10	1.0535	1.88	|Q V	|	|	|	|
11+15	1.0666	1.90	|Q V	|	|	|	|
11+20	1.0798	1.93	|Q V	|	|	|	|
11+25	1.0932	1.95	|Q V	|	|	|	|

```
11+30       1.1068      1.97  |Q    V   |          |          |          |
11+35       1.1206      2.00  |Q    V   |          |          |          |
11+40       1.1345      2.02  |Q    V   |          |          |          |
11+45       1.1486      2.05  |Q    V   |          |          |          |
11+50       1.1628      2.07  |Q    V   |          |          |          |
11+55       1.1773      2.10  |Q    V   |          |          |          |
12+ 0       1.1919      2.13  |Q    V   |          |          |          |
12+ 5       1.2067      2.15  |Q     V  |          |          |          |
12+10       1.2215      2.15  |Q     V  |          |          |          |
12+15       1.2362      2.13  |Q     V  |          |          |          |
12+20       1.2504      2.06  |Q     V  |          |          |          |
12+25       1.2638      1.94  |Q     V  |          |          |          |
12+30       1.2766      1.85  |Q     V  |          |          |          |
12+35       1.2889      1.80  |Q     V  |          |          |          |
12+40       1.3011      1.77  |Q     V  |          |          |          |
12+45       1.3132      1.75  |Q     V  |          |          |          |
12+50       1.3252      1.75  Q      V  |          |          |          |
12+55       1.3373      1.75  Q      V  |          |          |          |
13+ 0       1.3494      1.75  |Q     V  |          |          |          |
13+ 5       1.3615      1.77  |Q     V  |          |          |          |
13+10       1.3738      1.78  |Q      V |          |          |          |
13+15       1.3862      1.80  |Q      V |          |          |          |
13+20       1.3988      1.82  |Q      V |          |          |          |
13+25       1.4115      1.85  |Q      V |          |          |          |
13+30       1.4244      1.88  |Q      V |          |          |          |
13+35       1.4376      1.91  |Q      V |          |          |          |
13+40       1.4510      1.95  |Q      V |          |          |          |
13+45       1.4647      1.98  |Q      V |          |          |          |
13+50       1.4786      2.03  |Q      V |          |          |          |
13+55       1.4929      2.07  |Q      V |          |          |          |
14+ 0       1.5075      2.12  |Q      V |          |          |          |
14+ 5       1.5224      2.17  |Q      V |          |          |          |
14+10       1.5378      2.23  |Q      V |          |          |          |
14+15       1.5536      2.29  |Q       V|          |          |          |
14+20       1.5699      2.36  |Q       V|          |          |          |
14+25       1.5867      2.44  |Q       V|          |          |          |
14+30       1.6040      2.52  |Q       V|          |          |          |
14+35       1.6219      2.61  |Q       V|          |          |          |
14+40       1.6405      2.70  |Q       V|          |          |          |
14+45       1.6598      2.80  |Q       V|          |          |          |
14+50       1.6799      2.91  |Q       V|          |          |          |
14+55       1.7008      3.04  |Q       V|          |          |          |
15+ 0       1.7227      3.17  |Q        V          |          |          |
15+ 5       1.7456      3.32  |Q        V          |          |          |
15+10       1.7696      3.49  |Q        V          |          |          |
15+15       1.7950      3.68  | Q       V          |          |          |
15+20       1.8218      3.90  | Q       V          |          |          |
15+25       1.8507      4.20  | Q       V          |          |          |
15+30       1.8829      4.67  | Q       V          |          |          |
15+35       1.9198      5.36  |  Q      |V          |          |          |
15+40       1.9646      6.50  |  Q      |V          |          |          |
15+45       2.0209      8.18  |   Q     |V          |          |          |
15+50       2.0891      9.90  |    Q    | V         |          |          |
15+55       2.1706     11.83  |     Q   | V         |          |          |
16+ 0       2.2691     14.30  |       Q |  V        |          |          |
16+ 5       2.4028     19.41  |         |Q  V       |          |          |
16+10       2.5942     27.80  |         |    Q      |          |          |
16+15       2.8502     37.17  |         |     V     |Q         |          |
16+20       3.2137     52.78  |         |       V   |          Q          |
```

16+25	3.6632	65.27	
16+30	4.0393	54.62	
16+35	4.3345	42.86	
16+40	4.5641	33.33	
16+45	4.7507	27.10	
16+50	4.9079	22.83	
16+55	5.0414	19.38	
17+ 0	5.1579	16.93	
17+ 5	5.2597	14.77	
17+10	5.3500	13.12	
17+15	5.4322	11.93	
17+20	5.5071	10.87	
17+25	5.5742	9.74	
17+30	5.6335	8.61	
17+35	5.6878	7.89	
17+40	5.7384	7.35	
17+45	5.7849	6.75	
17+50	5.8282	6.28	
17+55	5.8682	5.81	
18+ 0	5.9044	5.26	
18+ 5	5.9388	4.99	
18+10	5.9708	4.64	
18+15	6.0004	4.30	
18+20	6.0292	4.18	
18+25	6.0563	3.94	
18+30	6.0823	3.77	
18+35	6.1074	3.65	
18+40	6.1303	3.33	
18+45	6.1523	3.19	
18+50	6.1740	3.15	
18+55	6.1958	3.16	
19+ 0	6.2172	3.11	
19+ 5	6.2381	3.04	
19+10	6.2586	2.97	
19+15	6.2783	2.87	
19+20	6.2965	2.65	
19+25	6.3134	2.45	
19+30	6.3297	2.36	
19+35	6.3453	2.27	
19+40	6.3601	2.15	
19+45	6.3728	1.85	
19+50	6.3851	1.78	
19+55	6.3970	1.73	
20+ 0	6.4087	1.69	
20+ 5	6.4201	1.66	
20+10	6.4313	1.63	
20+15	6.4423	1.60	
20+20	6.4531	1.57	
20+25	6.4637	1.54	
20+30	6.4742	1.52	
20+35	6.4845	1.49	
20+40	6.4946	1.47	
20+45	6.5046	1.45	
20+50	6.5144	1.43	
20+55	6.5241	1.40	
21+ 0	6.5336	1.38	
21+ 5	6.5430	1.37	
21+10	6.5523	1.35	
21+15	6.5614	1.33	

21+20	6.5705	1.31	Q	|	|	|	V |
21+25	6.5794	1.29	Q	|	|	|	V |
21+30	6.5882	1.28	Q	|	|	|	V |
21+35	6.5969	1.26	Q	|	|	|	V |
21+40	6.6054	1.25	Q	|	|	|	V |
21+45	6.6139	1.23	Q	|	|	|	V |
21+50	6.6223	1.21	Q	|	|	|	V |
21+55	6.6305	1.20	Q	|	|	|	V |
22+ 0	6.6387	1.18	Q	|	|	|	V |
22+ 5	6.6467	1.17	Q	|	|	|	V |
22+10	6.6547	1.16	Q	|	|	|	V |
22+15	6.6625	1.14	Q	|	|	|	V |
22+20	6.6703	1.13	Q	|	|	|	V |
22+25	6.6780	1.12	Q	|	|	|	V |
22+30	6.6856	1.10	Q	|	|	|	V |
22+35	6.6931	1.09	Q	|	|	|	V|
22+40	6.7006	1.08	Q	|	|	|	V|
22+45	6.7079	1.07	Q	|	|	|	V|
22+50	6.7152	1.06	Q	|	|	|	V|
22+55	6.7224	1.05	Q	|	|	|	V|
23+ 0	6.7295	1.04	Q	|	|	|	V|
23+ 5	6.7366	1.02	Q	|	|	|	V|
23+10	6.7436	1.01	Q	|	|	|	V|
23+15	6.7505	1.00	Q	|	|	|	V|
23+20	6.7573	1.00	Q	|	|	|	V|
23+25	6.7641	0.99	Q	|	|	|	V|
23+30	6.7709	0.98	Q	|	|	|	V|
23+35	6.7775	0.97	Q	|	|	|	V|
23+40	6.7841	0.96	Q	|	|	|	V|
23+45	6.7907	0.95	Q	|	|	|	V|
23+50	6.7971	0.94	Q	|	|	|	V|
23+55	6.8036	0.93	Q	|	|	|	V|
24+ 0	6.8099	0.92	Q	|	|	|	V|
24+ 5	6.8162	0.91	Q	|	|	|	V|
24+10	6.8222	0.88	Q	|	|	|	V|
24+15	6.8279	0.83	Q	|	|	|	V|
24+20	6.8329	0.73	Q	|	|	|	V|
24+25	6.8369	0.58	Q	|	|	|	V|
24+30	6.8401	0.47	Q	|	|	|	V|
24+35	6.8428	0.38	Q	|	|	|	V|
24+40	6.8450	0.33	Q	|	|	|	V|
24+45	6.8470	0.28	Q	|	|	|	V|
24+50	6.8487	0.25	Q	|	|	|	V|
24+55	6.8502	0.22	Q	|	|	|	V|
25+ 0	6.8515	0.19	Q	|	|	|	V|
25+ 5	6.8527	0.17	Q	|	|	|	V|
25+10	6.8537	0.15	Q	|	|	|	V|
25+15	6.8547	0.14	Q	|	|	|	V|
25+20	6.8555	0.12	Q	|	|	|	V|
25+25	6.8562	0.11	Q	|	|	|	V|
25+30	6.8569	0.10	Q	|	|	|	V|
25+35	6.8575	0.09	Q	|	|	|	V|
25+40	6.8580	0.08	Q	|	|	|	V|
25+45	6.8585	0.07	Q	|	|	|	V|
25+50	6.8589	0.06	Q	|	|	|	V|
25+55	6.8593	0.05	Q	|	|	|	V|
26+ 0	6.8596	0.05	Q	|	|	|	V|
26+ 5	6.8599	0.04	Q	|	|	|	V|
26+10	6.8602	0.04	Q	|	|	|	V|

26+15	6.8604	0.03	Q	|	|	|	V|
26+20	6.8606	0.03	Q	|	|	|	V|
26+25	6.8608	0.03	Q	|	|	|	V|
26+30	6.8610	0.02	Q	|	|	|	V|
26+35	6.8611	0.02	Q	|	|	|	V|
26+40	6.8612	0.02	Q	|	|	|	V|
26+45	6.8613	0.02	Q	|	|	|	V|
26+50	6.8614	0.01	Q	|	|	|	V|
26+55	6.8615	0.01	Q	|	|	|	V|
27+ 0	6.8616	0.01	Q	|	|	|	V|
27+ 5	6.8617	0.01	Q	|	|	|	V|
27+10	6.8617	0.01	Q	|	|	|	V|
27+15	6.8618	0.01	Q	|	|	|	V|
27+20	6.8618	0.00	Q	|	|	|	V|
27+25	6.8618	0.00	Q	|	|	|	V|
27+30	6.8618	0.00	Q	|	|	|	V|
27+35	6.8618	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 36
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.57	1	1.39
Rainfall data for year 100		
3.57	6	1.84
Rainfall data for year 100		
3.57	24	2.62

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	3.57	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.21	0.900	91.0	98.2	0.18	0.921
0.36	0.100	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.920
Area-averaged low loss fraction, Yb = 0.080
User entry of time of concentration = 0.270 (hours)
++
Watershed area = 3.57(Ac.)
Catchment Lag time = 0.216 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 38.5802
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.080 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.651(In)
Specified peak 6-hour rainfall = 1.840(In)
Specified peak 24-hour rainfall = 2.620(In)

Rainfall depth area reduction factors:
Using a total area of 3.57(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.651(In)
6-hour factor = 1.000 Adjusted rainfall = 1.840(In)
24-hour factor = 1.000 Adjusted rainfall = 2.620(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 43.17 (CFS))	
1	2.595	1.121
2	17.110	6.267
3	47.025	12.916
4	64.168	7.401
5	73.585	4.066
6	79.873	2.715
7	84.321	1.920
8	87.824	1.512
9	90.350	1.091
10	92.386	0.879
11	94.047	0.717
12	95.367	0.570
13	96.438	0.462

14	97.275	0.361
15	97.884	0.263
16	98.288	0.174
17	98.739	0.195
18	99.202	0.200
19	99.584	0.165
20	99.827	0.105
21	100.000	0.075

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6595	0.6595
2	0.8119	0.1524
3	0.9169	0.1050
4	0.9996	0.0826
5	1.0688	0.0692
6	1.1288	0.0601
7	1.1823	0.0534
8	1.2306	0.0483
9	1.2749	0.0443
10	1.3158	0.0409
11	1.3540	0.0382
12	1.3898	0.0358
13	1.4073	0.0175
14	1.4237	0.0164
15	1.4392	0.0155
16	1.4538	0.0146
17	1.4677	0.0139
18	1.4809	0.0132
19	1.4935	0.0126
20	1.5056	0.0120
21	1.5171	0.0116
22	1.5282	0.0111
23	1.5389	0.0107
24	1.5492	0.0103
25	1.5591	0.0099
26	1.5687	0.0096
27	1.5780	0.0093
28	1.5870	0.0090
29	1.5958	0.0087
30	1.6043	0.0085
31	1.6126	0.0083
32	1.6206	0.0080
33	1.6284	0.0078
34	1.6361	0.0076
35	1.6435	0.0074
36	1.6508	0.0073
37	1.6579	0.0071
38	1.6648	0.0069
39	1.6716	0.0068
40	1.6782	0.0066
41	1.6847	0.0065
42	1.6911	0.0064
43	1.6973	0.0062
44	1.7035	0.0061
45	1.7095	0.0060
46	1.7154	0.0059
47	1.7211	0.0058
48	1.7268	0.0057

49	1.7324	0.0056
50	1.7379	0.0055
51	1.7433	0.0054
52	1.7486	0.0053
53	1.7538	0.0052
54	1.7590	0.0051
55	1.7640	0.0051
56	1.7690	0.0050
57	1.7739	0.0049
58	1.7787	0.0048
59	1.7835	0.0048
60	1.7882	0.0047
61	1.7928	0.0046
62	1.7974	0.0046
63	1.8019	0.0045
64	1.8064	0.0044
65	1.8108	0.0044
66	1.8151	0.0043
67	1.8194	0.0043
68	1.8236	0.0042
69	1.8278	0.0042
70	1.8319	0.0041
71	1.8360	0.0041
72	1.8400	0.0040
73	1.8465	0.0065
74	1.8529	0.0064
75	1.8592	0.0064
76	1.8655	0.0063
77	1.8717	0.0062
78	1.8779	0.0062
79	1.8840	0.0061
80	1.8901	0.0061
81	1.8961	0.0060
82	1.9020	0.0059
83	1.9079	0.0059
84	1.9137	0.0058
85	1.9195	0.0058
86	1.9252	0.0057
87	1.9309	0.0057
88	1.9366	0.0056
89	1.9421	0.0056
90	1.9477	0.0055
91	1.9532	0.0055
92	1.9586	0.0054
93	1.9640	0.0054
94	1.9694	0.0054
95	1.9747	0.0053
96	1.9800	0.0053
97	1.9852	0.0052
98	1.9904	0.0052
99	1.9956	0.0052
100	2.0007	0.0051
101	2.0058	0.0051
102	2.0108	0.0050
103	2.0158	0.0050
104	2.0208	0.0050
105	2.0258	0.0049
106	2.0307	0.0049
107	2.0355	0.0049

108	2.0404	0.0048
109	2.0452	0.0048
110	2.0499	0.0048
111	2.0547	0.0047
112	2.0594	0.0047
113	2.0640	0.0047
114	2.0687	0.0046
115	2.0733	0.0046
116	2.0779	0.0046
117	2.0824	0.0046
118	2.0869	0.0045
119	2.0914	0.0045
120	2.0959	0.0045
121	2.1003	0.0044
122	2.1047	0.0044
123	2.1091	0.0044
124	2.1135	0.0044
125	2.1178	0.0043
126	2.1221	0.0043
127	2.1264	0.0043
128	2.1307	0.0043
129	2.1349	0.0042
130	2.1391	0.0042
131	2.1433	0.0042
132	2.1474	0.0042
133	2.1516	0.0041
134	2.1557	0.0041
135	2.1598	0.0041
136	2.1639	0.0041
137	2.1679	0.0040
138	2.1719	0.0040
139	2.1759	0.0040
140	2.1799	0.0040
141	2.1839	0.0040
142	2.1878	0.0039
143	2.1917	0.0039
144	2.1956	0.0039
145	2.1995	0.0039
146	2.2033	0.0039
147	2.2072	0.0038
148	2.2110	0.0038
149	2.2148	0.0038
150	2.2186	0.0038
151	2.2223	0.0038
152	2.2261	0.0037
153	2.2298	0.0037
154	2.2335	0.0037
155	2.2372	0.0037
156	2.2409	0.0037
157	2.2445	0.0037
158	2.2482	0.0036
159	2.2518	0.0036
160	2.2554	0.0036
161	2.2590	0.0036
162	2.2625	0.0036
163	2.2661	0.0036
164	2.2696	0.0035
165	2.2732	0.0035
166	2.2767	0.0035

167	2.2801	0.0035
168	2.2836	0.0035
169	2.2871	0.0035
170	2.2905	0.0034
171	2.2939	0.0034
172	2.2974	0.0034
173	2.3008	0.0034
174	2.3041	0.0034
175	2.3075	0.0034
176	2.3109	0.0034
177	2.3142	0.0033
178	2.3175	0.0033
179	2.3208	0.0033
180	2.3241	0.0033
181	2.3274	0.0033
182	2.3307	0.0033
183	2.3340	0.0033
184	2.3372	0.0032
185	2.3404	0.0032
186	2.3436	0.0032
187	2.3469	0.0032
188	2.3500	0.0032
189	2.3532	0.0032
190	2.3564	0.0032
191	2.3596	0.0032
192	2.3627	0.0031
193	2.3658	0.0031
194	2.3689	0.0031
195	2.3721	0.0031
196	2.3751	0.0031
197	2.3782	0.0031
198	2.3813	0.0031
199	2.3844	0.0031
200	2.3874	0.0030
201	2.3904	0.0030
202	2.3935	0.0030
203	2.3965	0.0030
204	2.3995	0.0030
205	2.4025	0.0030
206	2.4055	0.0030
207	2.4084	0.0030
208	2.4114	0.0030
209	2.4144	0.0030
210	2.4173	0.0029
211	2.4202	0.0029
212	2.4231	0.0029
213	2.4260	0.0029
214	2.4289	0.0029
215	2.4318	0.0029
216	2.4347	0.0029
217	2.4376	0.0029
218	2.4404	0.0029
219	2.4433	0.0028
220	2.4461	0.0028
221	2.4490	0.0028
222	2.4518	0.0028
223	2.4546	0.0028
224	2.4574	0.0028
225	2.4602	0.0028

226	2.4630	0.0028
227	2.4657	0.0028
228	2.4685	0.0028
229	2.4713	0.0028
230	2.4740	0.0027
231	2.4767	0.0027
232	2.4795	0.0027
233	2.4822	0.0027
234	2.4849	0.0027
235	2.4876	0.0027
236	2.4903	0.0027
237	2.4930	0.0027
238	2.4957	0.0027
239	2.4983	0.0027
240	2.5010	0.0027
241	2.5037	0.0027
242	2.5063	0.0026
243	2.5089	0.0026
244	2.5116	0.0026
245	2.5142	0.0026
246	2.5168	0.0026
247	2.5194	0.0026
248	2.5220	0.0026
249	2.5246	0.0026
250	2.5272	0.0026
251	2.5297	0.0026
252	2.5323	0.0026
253	2.5349	0.0026
254	2.5374	0.0026
255	2.5400	0.0025
256	2.5425	0.0025
257	2.5450	0.0025
258	2.5475	0.0025
259	2.5500	0.0025
260	2.5526	0.0025
261	2.5551	0.0025
262	2.5575	0.0025
263	2.5600	0.0025
264	2.5625	0.0025
265	2.5650	0.0025
266	2.5674	0.0025
267	2.5699	0.0025
268	2.5724	0.0025
269	2.5748	0.0024
270	2.5772	0.0024
271	2.5797	0.0024
272	2.5821	0.0024
273	2.5845	0.0024
274	2.5869	0.0024
275	2.5893	0.0024
276	2.5917	0.0024
277	2.5941	0.0024
278	2.5965	0.0024
279	2.5989	0.0024
280	2.6012	0.0024
281	2.6036	0.0024
282	2.6060	0.0024
283	2.6083	0.0024
284	2.6107	0.0023

285	2.6130	0.0023
286	2.6153	0.0023
287	2.6177	0.0023
288	2.6200	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0002	0.0021
2	0.0023	0.0002	0.0021
3	0.0023	0.0002	0.0022
4	0.0023	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0022
12	0.0024	0.0002	0.0022
13	0.0024	0.0002	0.0022
14	0.0024	0.0002	0.0022
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0025	0.0002	0.0023
22	0.0025	0.0002	0.0023
23	0.0025	0.0002	0.0023
24	0.0026	0.0002	0.0023
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0026	0.0002	0.0024
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0026	0.0002	0.0024
31	0.0026	0.0002	0.0024
32	0.0026	0.0002	0.0024
33	0.0027	0.0002	0.0024
34	0.0027	0.0002	0.0025
35	0.0027	0.0002	0.0025
36	0.0027	0.0002	0.0025
37	0.0027	0.0002	0.0025
38	0.0027	0.0002	0.0025
39	0.0027	0.0002	0.0025
40	0.0027	0.0002	0.0025
41	0.0028	0.0002	0.0025
42	0.0028	0.0002	0.0026
43	0.0028	0.0002	0.0026
44	0.0028	0.0002	0.0026
45	0.0028	0.0002	0.0026
46	0.0028	0.0002	0.0026
47	0.0028	0.0002	0.0026
48	0.0029	0.0002	0.0026
49	0.0029	0.0002	0.0026
50	0.0029	0.0002	0.0027

51	0.0029	0.0002	0.0027
52	0.0029	0.0002	0.0027
53	0.0029	0.0002	0.0027
54	0.0030	0.0002	0.0027
55	0.0030	0.0002	0.0027
56	0.0030	0.0002	0.0027
57	0.0030	0.0002	0.0028
58	0.0030	0.0002	0.0028
59	0.0030	0.0002	0.0028
60	0.0030	0.0002	0.0028
61	0.0031	0.0002	0.0028
62	0.0031	0.0002	0.0028
63	0.0031	0.0002	0.0029
64	0.0031	0.0003	0.0029
65	0.0031	0.0003	0.0029
66	0.0032	0.0003	0.0029
67	0.0032	0.0003	0.0029
68	0.0032	0.0003	0.0029
69	0.0032	0.0003	0.0030
70	0.0032	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0033	0.0003	0.0030
73	0.0033	0.0003	0.0030
74	0.0033	0.0003	0.0030
75	0.0033	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0034	0.0003	0.0031
78	0.0034	0.0003	0.0031
79	0.0034	0.0003	0.0032
80	0.0034	0.0003	0.0032
81	0.0035	0.0003	0.0032
82	0.0035	0.0003	0.0032
83	0.0035	0.0003	0.0032
84	0.0035	0.0003	0.0033
85	0.0036	0.0003	0.0033
86	0.0036	0.0003	0.0033
87	0.0036	0.0003	0.0033
88	0.0036	0.0003	0.0033
89	0.0037	0.0003	0.0034
90	0.0037	0.0003	0.0034
91	0.0037	0.0003	0.0034
92	0.0037	0.0003	0.0034
93	0.0038	0.0003	0.0035
94	0.0038	0.0003	0.0035
95	0.0038	0.0003	0.0035
96	0.0039	0.0003	0.0035
97	0.0039	0.0003	0.0036
98	0.0039	0.0003	0.0036
99	0.0040	0.0003	0.0036
100	0.0040	0.0003	0.0037
101	0.0040	0.0003	0.0037
102	0.0040	0.0003	0.0037
103	0.0041	0.0003	0.0038
104	0.0041	0.0003	0.0038
105	0.0042	0.0003	0.0038
106	0.0042	0.0003	0.0038
107	0.0042	0.0003	0.0039
108	0.0043	0.0003	0.0039
109	0.0043	0.0003	0.0040

110	0.0043	0.0003	0.0040
111	0.0044	0.0004	0.0040
112	0.0044	0.0004	0.0041
113	0.0045	0.0004	0.0041
114	0.0045	0.0004	0.0041
115	0.0046	0.0004	0.0042
116	0.0046	0.0004	0.0042
117	0.0046	0.0004	0.0043
118	0.0047	0.0004	0.0043
119	0.0047	0.0004	0.0044
120	0.0048	0.0004	0.0044
121	0.0048	0.0004	0.0044
122	0.0049	0.0004	0.0045
123	0.0049	0.0004	0.0045
124	0.0050	0.0004	0.0046
125	0.0050	0.0004	0.0046
126	0.0051	0.0004	0.0047
127	0.0052	0.0004	0.0047
128	0.0052	0.0004	0.0048
129	0.0053	0.0004	0.0049
130	0.0053	0.0004	0.0049
131	0.0054	0.0004	0.0050
132	0.0054	0.0004	0.0050
133	0.0055	0.0004	0.0051
134	0.0056	0.0004	0.0051
135	0.0057	0.0005	0.0052
136	0.0057	0.0005	0.0053
137	0.0058	0.0005	0.0054
138	0.0059	0.0005	0.0054
139	0.0060	0.0005	0.0055
140	0.0061	0.0005	0.0056
141	0.0062	0.0005	0.0057
142	0.0062	0.0005	0.0057
143	0.0064	0.0005	0.0058
144	0.0064	0.0005	0.0059
145	0.0040	0.0003	0.0037
146	0.0041	0.0003	0.0037
147	0.0042	0.0003	0.0038
148	0.0042	0.0003	0.0039
149	0.0043	0.0003	0.0040
150	0.0044	0.0004	0.0040
151	0.0045	0.0004	0.0041
152	0.0046	0.0004	0.0042
153	0.0047	0.0004	0.0043
154	0.0048	0.0004	0.0044
155	0.0049	0.0004	0.0045
156	0.0050	0.0004	0.0046
157	0.0051	0.0004	0.0047
158	0.0052	0.0004	0.0048
159	0.0054	0.0004	0.0050
160	0.0055	0.0004	0.0050
161	0.0057	0.0005	0.0052
162	0.0058	0.0005	0.0053
163	0.0060	0.0005	0.0055
164	0.0061	0.0005	0.0056
165	0.0064	0.0005	0.0059
166	0.0065	0.0005	0.0060
167	0.0068	0.0005	0.0062
168	0.0069	0.0006	0.0064

169	0.0073	0.0006	0.0067
170	0.0074	0.0006	0.0068
171	0.0078	0.0006	0.0072
172	0.0080	0.0006	0.0074
173	0.0085	0.0007	0.0078
174	0.0087	0.0007	0.0080
175	0.0093	0.0007	0.0086
176	0.0096	0.0008	0.0088
177	0.0103	0.0008	0.0095
178	0.0107	0.0009	0.0098
179	0.0116	0.0009	0.0106
180	0.0120	0.0010	0.0111
181	0.0132	0.0011	0.0121
182	0.0139	0.0011	0.0128
183	0.0155	0.0012	0.0142
184	0.0164	0.0013	0.0151
185	0.0358	0.0027	0.0331
186	0.0382	0.0027	0.0355
187	0.0443	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1497
193	0.6595	0.0027	0.6568
194	0.0826	0.0027	0.0800
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0383
197	0.0175	0.0014	0.0161
198	0.0146	0.0012	0.0135
199	0.0126	0.0010	0.0116
200	0.0111	0.0009	0.0102
201	0.0099	0.0008	0.0091
202	0.0090	0.0007	0.0083
203	0.0083	0.0007	0.0076
204	0.0076	0.0006	0.0070
205	0.0071	0.0006	0.0065
206	0.0066	0.0005	0.0061
207	0.0062	0.0005	0.0057
208	0.0059	0.0005	0.0054
209	0.0056	0.0004	0.0051
210	0.0053	0.0004	0.0049
211	0.0051	0.0004	0.0047
212	0.0048	0.0004	0.0044
213	0.0046	0.0004	0.0043
214	0.0044	0.0004	0.0041
215	0.0043	0.0003	0.0039
216	0.0041	0.0003	0.0038
217	0.0065	0.0005	0.0060
218	0.0063	0.0005	0.0058
219	0.0061	0.0005	0.0056
220	0.0059	0.0005	0.0055
221	0.0058	0.0005	0.0053
222	0.0056	0.0005	0.0052
223	0.0055	0.0004	0.0051
224	0.0054	0.0004	0.0049
225	0.0052	0.0004	0.0048
226	0.0051	0.0004	0.0047
227	0.0050	0.0004	0.0046

228	0.0049	0.0004	0.0045
229	0.0048	0.0004	0.0044
230	0.0047	0.0004	0.0043
231	0.0046	0.0004	0.0042
232	0.0045	0.0004	0.0042
233	0.0044	0.0004	0.0041
234	0.0044	0.0003	0.0040
235	0.0043	0.0003	0.0039
236	0.0042	0.0003	0.0039
237	0.0041	0.0003	0.0038
238	0.0041	0.0003	0.0037
239	0.0040	0.0003	0.0037
240	0.0039	0.0003	0.0036
241	0.0039	0.0003	0.0036
242	0.0038	0.0003	0.0035
243	0.0038	0.0003	0.0035
244	0.0037	0.0003	0.0034
245	0.0037	0.0003	0.0034
246	0.0036	0.0003	0.0033
247	0.0036	0.0003	0.0033
248	0.0035	0.0003	0.0032
249	0.0035	0.0003	0.0032
250	0.0034	0.0003	0.0031
251	0.0034	0.0003	0.0031
252	0.0033	0.0003	0.0031
253	0.0033	0.0003	0.0030
254	0.0032	0.0003	0.0030
255	0.0032	0.0003	0.0029
256	0.0032	0.0003	0.0029
257	0.0031	0.0003	0.0029
258	0.0031	0.0002	0.0028
259	0.0031	0.0002	0.0028
260	0.0030	0.0002	0.0028
261	0.0030	0.0002	0.0028
262	0.0030	0.0002	0.0027
263	0.0029	0.0002	0.0027
264	0.0029	0.0002	0.0027
265	0.0029	0.0002	0.0026
266	0.0028	0.0002	0.0026
267	0.0028	0.0002	0.0026
268	0.0028	0.0002	0.0026
269	0.0028	0.0002	0.0025
270	0.0027	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0024
274	0.0026	0.0002	0.0024
275	0.0026	0.0002	0.0024
276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0025	0.0002	0.0023
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0024	0.0002	0.0022
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0024	0.0002	0.0022

287	0.0024	0.0002	0.0022
288	0.0023	0.0002	0.0021

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.49(In)
Peak flow rate in flood hydrograph = 11.06(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0004	0.04	Q				
0+20	0.0008	0.06	Q				
0+25	0.0013	0.07	Q				
0+30	0.0018	0.07	Q				
0+35	0.0024	0.08	Q				
0+40	0.0029	0.08	Q				
0+45	0.0035	0.08	Q				
0+50	0.0041	0.09	Q				
0+55	0.0047	0.09	Q				
1+ 0	0.0053	0.09	Q				
1+ 5	0.0060	0.09	Q				
1+10	0.0066	0.09	Q				
1+15	0.0073	0.09	Q				
1+20	0.0079	0.09	Q				
1+25	0.0086	0.10	Q				
1+30	0.0092	0.10	Q				
1+35	0.0099	0.10	Q				
1+40	0.0106	0.10	Q				
1+45	0.0113	0.10	Q				
1+50	0.0119	0.10	Q				
1+55	0.0126	0.10	Q				
2+ 0	0.0133	0.10	Q				
2+ 5	0.0140	0.10	Q				
2+10	0.0147	0.10	Q				
2+15	0.0154	0.10	Q				
2+20	0.0161	0.10	Q				
2+25	0.0168	0.10	Q				
2+30	0.0175	0.10	Q				
2+35	0.0182	0.10	Q				
2+40	0.0189	0.10	QV				
2+45	0.0196	0.10	QV				
2+50	0.0204	0.10	QV				
2+55	0.0211	0.10	QV				
3+ 0	0.0218	0.11	QV				
3+ 5	0.0225	0.11	QV				
3+10	0.0233	0.11	QV				
3+15	0.0240	0.11	QV				
3+20	0.0247	0.11	QV				
3+25	0.0255	0.11	QV				
3+30	0.0262	0.11	QV				

3+35	0.0270	0.11	QV				
3+40	0.0277	0.11	QV				
3+45	0.0285	0.11	QV				
3+50	0.0292	0.11	QV				
3+55	0.0300	0.11	QV				
4+ 0	0.0308	0.11	QV				
4+ 5	0.0315	0.11	QV				
4+10	0.0323	0.11	QV				
4+15	0.0331	0.11	QV				
4+20	0.0339	0.11	QV				
4+25	0.0347	0.11	QV				
4+30	0.0355	0.11	QV				
4+35	0.0363	0.12	QV				
4+40	0.0371	0.12	Q V				
4+45	0.0379	0.12	Q V				
4+50	0.0387	0.12	Q V				
4+55	0.0395	0.12	Q V				
5+ 0	0.0403	0.12	Q V				
5+ 5	0.0411	0.12	Q V				
5+10	0.0419	0.12	Q V				
5+15	0.0428	0.12	Q V				
5+20	0.0436	0.12	Q V				
5+25	0.0445	0.12	Q V				
5+30	0.0453	0.12	Q V				
5+35	0.0461	0.12	Q V				
5+40	0.0470	0.12	Q V				
5+45	0.0479	0.12	Q V				
5+50	0.0487	0.13	Q V				
5+55	0.0496	0.13	Q V				
6+ 0	0.0505	0.13	Q V				
6+ 5	0.0514	0.13	Q V				
6+10	0.0522	0.13	Q V				
6+15	0.0531	0.13	Q V				
6+20	0.0540	0.13	Q V				
6+25	0.0549	0.13	Q V				
6+30	0.0558	0.13	Q V				
6+35	0.0568	0.13	Q V				
6+40	0.0577	0.13	Q V				
6+45	0.0586	0.13	Q V				
6+50	0.0595	0.14	Q V				
6+55	0.0605	0.14	Q V				
7+ 0	0.0614	0.14	Q V				
7+ 5	0.0624	0.14	Q V				
7+10	0.0633	0.14	Q V				
7+15	0.0643	0.14	Q V				
7+20	0.0653	0.14	Q V				
7+25	0.0662	0.14	Q V				
7+30	0.0672	0.14	Q V				
7+35	0.0682	0.14	Q V				
7+40	0.0692	0.14	Q V				
7+45	0.0702	0.15	Q V				
7+50	0.0712	0.15	Q V				
7+55	0.0722	0.15	Q V				
8+ 0	0.0733	0.15	Q V				
8+ 5	0.0743	0.15	Q V				
8+10	0.0753	0.15	Q V				
8+15	0.0764	0.15	Q V				
8+20	0.0775	0.15	Q V				
8+25	0.0785	0.15	Q V				

```
 8+30      0.0796     0.16  Q   V    |         |         |         |
 8+35      0.0807     0.16  Q   V    |         |         |         |
 8+40      0.0818     0.16  Q   V    |         |         |         |
 8+45      0.0829     0.16  Q   V    |         |         |         |
 8+50      0.0840     0.16  Q   V    |         |         |         |
 8+55      0.0851     0.16  Q   V    |         |         |         |
 9+ 0      0.0862     0.16  Q   V    |         |         |         |
 9+ 5      0.0874     0.17  Q   V    |         |         |         |
 9+10      0.0885     0.17  Q   V    |         |         |         |
 9+15      0.0897     0.17  Q   V    |         |         |         |
 9+20      0.0908     0.17  Q   V    |         |         |         |
 9+25      0.0920     0.17  Q   V    |         |         |         |
 9+30      0.0932     0.17  Q    V   |         |         |         |
 9+35      0.0944     0.17  Q    V   |         |         |         |
 9+40      0.0956     0.18  Q    V   |         |         |         |
 9+45      0.0968     0.18  Q    V   |         |         |         |
 9+50      0.0981     0.18  Q    V   |         |         |         |
 9+55      0.0993     0.18  Q    V   |         |         |         |
10+ 0      0.1006     0.18  Q    V   |         |         |         |
10+ 5      0.1019     0.18  Q    V   |         |         |         |
10+10      0.1031     0.19  Q    V   |         |         |         |
10+15      0.1044     0.19  Q    V   |         |         |         |
10+20      0.1057     0.19  Q    V   |         |         |         |
10+25      0.1071     0.19  Q    V   |         |         |         |
10+30      0.1084     0.19  Q    V   |         |         |         |
10+35      0.1098     0.20  Q    V   |         |         |         |
10+40      0.1111     0.20  Q     V  |         |         |         |
10+45      0.1125     0.20  Q     V  |         |         |         |
10+50      0.1139     0.20  Q     V  |         |         |         |
10+55      0.1153     0.21  Q     V  |         |         |         |
11+ 0      0.1167     0.21  Q     V  |         |         |         |
11+ 5      0.1182     0.21  Q     V  |         |         |         |
11+10      0.1197     0.21  Q     V  |         |         |         |
11+15      0.1211     0.22  Q     V  |         |         |         |
11+20      0.1226     0.22  Q     V  |         |         |         |
11+25      0.1242     0.22  Q     V  |         |         |         |
11+30      0.1257     0.22  Q     V  |         |         |         |
11+35      0.1272     0.23  Q     V  |         |         |         |
11+40      0.1288     0.23  Q     V  |         |         |         |
11+45      0.1304     0.23  Q      V |         |         |         |
11+50      0.1320     0.24  Q      V |         |         |         |
11+55      0.1337     0.24  Q      V |         |         |         |
12+ 0      0.1354     0.24  Q      V |         |         |         |
12+ 5      0.1370     0.24  Q      V |         |         |         |
12+10      0.1386     0.23  Q      V |         |         |         |
12+15      0.1400     0.21  Q      V |         |         |         |
12+20      0.1414     0.19  Q      V |         |         |         |
12+25      0.1426     0.19  Q      V |         |         |         |
12+30      0.1439     0.18  Q      V |         |         |         |
12+35      0.1451     0.18  Q      V |         |         |         |
12+40      0.1464     0.18  Q      V |         |         |         |
12+45      0.1476     0.18  Q      V |         |         |         |
12+50      0.1489     0.18  Q       V|         |         |         |
12+55      0.1502     0.19  Q       V|         |         |         |
13+ 0      0.1515     0.19  Q       V|         |         |         |
13+ 5      0.1528     0.19  Q       V|         |         |         |
13+10      0.1541     0.19  Q       V|         |         |         |
13+15      0.1555     0.20  Q       V|         |         |         |
13+20      0.1569     0.20  Q       V|         |         |         |
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13+25       0.1583      0.21  Q       V |          |          |          |
13+30       0.1598      0.21  Q       V |          |          |          |
13+35       0.1613      0.22  Q       V |          |          |          |
13+40       0.1628      0.22  Q       V |          |          |          |
13+45       0.1643      0.23  Q       V |          |          |          |
13+50       0.1660      0.23  Q       V |          |          |          |
13+55       0.1676      0.24  Q        V|          |          |          |
14+ 0       0.1693      0.25  Q        V|          |          |          |
14+ 5       0.1711      0.26  Q        V|          |          |          |
14+10       0.1729      0.26  Q        V|          |          |          |
14+15       0.1748      0.27  Q        V|          |          |          |
14+20       0.1767      0.28  Q        V|          |          |          |
14+25       0.1787      0.29  Q        V|          |          |          |
14+30       0.1808      0.30  Q        V|          |          |          |
14+35       0.1830      0.32  Q        V|          |          |          |
14+40       0.1852      0.33  Q         V          |          |          |
14+45       0.1876      0.34  Q         V          |          |          |
14+50       0.1901      0.36  Q         V          |          |          |
14+55       0.1927      0.38  Q         V          |          |          |
15+ 0       0.1954      0.40  Q         V          |          |          |
15+ 5       0.1983      0.42  Q         V          |          |          |
15+10       0.2014      0.45  Q         V          |          |          |
15+15       0.2047      0.48  Q         |V         |          |          |
15+20       0.2082      0.51  |Q        |V         |          |          |
15+25       0.2121      0.57  |Q        |V         |          |          |
15+30       0.2170      0.71  |Q        |V         |          |          |
15+35       0.2238      0.99  |Q        | V        |          |          |
15+40       0.2321      1.21  | Q       | V        |          |          |
15+45       0.2419      1.43  | Q       |  V       |          |          |
15+50       0.2535      1.67  |  Q      |  V       |          |          |
15+55       0.2674      2.02  |   Q     |   V      |          |          |
16+ 0       0.2851      2.57  |    Q    |    V     |          |          |
16+ 5       0.3131      4.07  |       Q |     V    |          |          |
16+10       0.3654      7.58  |         |    Q   V |          |          |
16+15       0.4415     11.06  |         |          | QV       |          |
16+20       0.4932      7.51  |         |    Q     |     V    |          |
16+25       0.5281      5.07  |         Q          |       V  |          |
16+30       0.5540      3.76  |      Q  |          |        V |          |
16+35       0.5732      2.79  |    Q    |          |         V          |
16+40       0.5885      2.21  |   Q     |          |         |V         |
16+45       0.6005      1.74  |  Q      |          |         | V        |
16+50       0.6105      1.45  | Q       |          |         | V        |
16+55       0.6189      1.23  | Q       |          |         |  V       |
17+ 0       0.6261      1.03  | Q       |          |         |  V       |
17+ 5       0.6321      0.88  |Q        |          |         |   V      |
17+10       0.6373      0.75  |Q        |          |         |   V      |
17+15       0.6416      0.63  |Q        |          |         |   V      |
17+20       0.6452      0.53  |Q        |          |         |   V      |
17+25       0.6487      0.50  |Q        |          |         |    V     |
17+30       0.6519      0.47  Q         |          |         |    V     |
17+35       0.6547      0.41  Q         |          |         |    V     |
17+40       0.6571      0.35  Q         |          |         |    V     |
17+45       0.6592      0.30  Q         |          |         |    V     |
17+50       0.6608      0.23  Q         |          |         |    V     |
17+55       0.6623      0.21  Q         |          |         |    V     |
18+ 0       0.6636      0.20  Q         |          |         |    V     |
18+ 5       0.6650      0.19  Q         |          |         |    V     |
18+10       0.6663      0.20  Q         |          |         |     V    |
18+15       0.6678      0.22  Q         |          |         |     V    |
```

18+20	0.6694	0.23	Q	|	|	|	V |
18+25	0.6710	0.23	Q	|	|	|	V |
18+30	0.6726	0.23	Q	|	|	|	V |
18+35	0.6742	0.23	Q	|	|	|	V |
18+40	0.6757	0.22	Q	|	|	|	V |
18+45	0.6772	0.22	Q	|	|	|	V |
18+50	0.6787	0.22	Q	|	|	|	V |
18+55	0.6802	0.21	Q	|	|	|	V |
19+ 0	0.6816	0.21	Q	|	|	|	V |
19+ 5	0.6830	0.21	Q	|	|	|	V |
19+10	0.6844	0.20	Q	|	|	|	V |
19+15	0.6858	0.20	Q	|	|	|	V |
19+20	0.6871	0.19	Q	|	|	|	V |
19+25	0.6884	0.19	Q	|	|	|	V |
19+30	0.6897	0.19	Q	|	|	|	V |
19+35	0.6910	0.18	Q	|	|	|	V |
19+40	0.6922	0.18	Q	|	|	|	V |
19+45	0.6934	0.18	Q	|	|	|	V |
19+50	0.6946	0.17	Q	|	|	|	V |
19+55	0.6958	0.17	Q	|	|	|	V |
20+ 0	0.6970	0.17	Q	|	|	|	V |
20+ 5	0.6981	0.16	Q	|	|	|	V |
20+10	0.6992	0.16	Q	|	|	|	V |
20+15	0.7003	0.16	Q	|	|	|	V |
20+20	0.7014	0.16	Q	|	|	|	V |
20+25	0.7024	0.15	Q	|	|	|	V |
20+30	0.7035	0.15	Q	|	|	|	V |
20+35	0.7045	0.15	Q	|	|	|	V |
20+40	0.7055	0.15	Q	|	|	|	V |
20+45	0.7065	0.15	Q	|	|	|	V |
20+50	0.7075	0.14	Q	|	|	|	V |
20+55	0.7085	0.14	Q	|	|	|	V |
21+ 0	0.7095	0.14	Q	|	|	|	V |
21+ 5	0.7104	0.14	Q	|	|	|	V |
21+10	0.7113	0.14	Q	|	|	|	V |
21+15	0.7123	0.13	Q	|	|	|	V |
21+20	0.7132	0.13	Q	|	|	|	V |
21+25	0.7141	0.13	Q	|	|	|	V |
21+30	0.7150	0.13	Q	|	|	|	V |
21+35	0.7158	0.13	Q	|	|	|	V |
21+40	0.7167	0.13	Q	|	|	|	V |
21+45	0.7176	0.12	Q	|	|	|	V |
21+50	0.7184	0.12	Q	|	|	|	V |
21+55	0.7192	0.12	Q	|	|	|	V |
22+ 0	0.7201	0.12	Q	|	|	|	V |
22+ 5	0.7209	0.12	Q	|	|	|	V |
22+10	0.7217	0.12	Q	|	|	|	V|
22+15	0.7225	0.12	Q	|	|	|	V|
22+20	0.7233	0.12	Q	|	|	|	V|
22+25	0.7241	0.11	Q	|	|	|	V|
22+30	0.7248	0.11	Q	|	|	|	V|
22+35	0.7256	0.11	Q	|	|	|	V|
22+40	0.7264	0.11	Q	|	|	|	V|
22+45	0.7271	0.11	Q	|	|	|	V|
22+50	0.7279	0.11	Q	|	|	|	V|
22+55	0.7286	0.11	Q	|	|	|	V|
23+ 0	0.7293	0.11	Q	|	|	|	V|
23+ 5	0.7301	0.11	Q	|	|	|	V|
23+10	0.7308	0.10	Q	|	|	|	V|

23+15	0.7315	0.10	Q	|	|	|	V|
23+20	0.7322	0.10	Q	|	|	|	V|
23+25	0.7329	0.10	Q	|	|	|	V|
23+30	0.7336	0.10	Q	|	|	|	V|
23+35	0.7343	0.10	Q	|	|	|	V|
23+40	0.7350	0.10	Q	|	|	|	V|
23+45	0.7356	0.10	Q	|	|	|	V|
23+50	0.7363	0.10	Q	|	|	|	V|
23+55	0.7370	0.10	Q	|	|	|	V|
24+ 0	0.7376	0.10	Q	|	|	|	V|
24+ 5	0.7383	0.09	Q	|	|	|	V|
24+10	0.7388	0.08	Q	|	|	|	V|
24+15	0.7392	0.05	Q	|	|	|	V|
24+20	0.7394	0.03	Q	|	|	|	V|
24+25	0.7396	0.03	Q	|	|	|	V|
24+30	0.7397	0.02	Q	|	|	|	V|
24+35	0.7398	0.01	Q	|	|	|	V|
24+40	0.7399	0.01	Q	|	|	|	V|
24+45	0.7400	0.01	Q	|	|	|	V|
24+50	0.7400	0.01	Q	|	|	|	V|
24+55	0.7400	0.01	Q	|	|	|	V|
25+ 0	0.7401	0.00	Q	|	|	|	V|
25+ 5	0.7401	0.00	Q	|	|	|	V|
25+10	0.7401	0.00	Q	|	|	|	V|
25+15	0.7401	0.00	Q	|	|	|	V|
25+20	0.7401	0.00	Q	|	|	|	V|
25+25	0.7401	0.00	Q	|	|	|	V|
25+30	0.7401	0.00	Q	|	|	|	V|
25+35	0.7402	0.00	Q	|	|	|	V|
25+40	0.7402	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 37
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
10.24	1	1.39
Rainfall data for year 100		
10.24	6	1.85
Rainfall data for year 100		
10.24	24	2.63

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	10.42	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
9.38	0.900	91.0	98.2	0.18	0.921
1.04	0.100	98.0	98.0	0.20	0.913

Area-averaged catchment yield fraction, Y = 0.920
Area-averaged low loss fraction, Yb = 0.080
User entry of time of concentration = 0.420 (hours)
++
Watershed area = 10.42(Ac.)
Catchment Lag time = 0.336 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 24.8016
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.080 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.656(In)
Specified peak 6-hour rainfall = 1.850(In)
Specified peak 24-hour rainfall = 2.630(In)

Rainfall depth area reduction factors:
Using a total area of 10.24(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.128(In)
1-hour factor = 1.000 Adjusted rainfall = 1.389(In)
3-hour factor = 1.000 Adjusted rainfall = 1.656(In)
6-hour factor = 1.000 Adjusted rainfall = 1.850(In)
24-hour factor = 1.000 Adjusted rainfall = 2.630(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 126.02 (CFS))	
1	1.335	1.683
2	6.486	6.491
3	19.281	16.123
4	40.808	27.128
5	55.671	18.730
6	64.734	11.421
7	71.090	8.010
8	75.918	6.084
9	79.726	4.798
10	82.745	3.805
11	85.299	3.219
12	87.516	2.794
13	89.299	2.247

14	90.749	1.828
15	92.061	1.652
16	93.214	1.453
17	94.212	1.257
18	95.057	1.065
19	95.828	0.971
20	96.474	0.815
21	97.049	0.724
22	97.498	0.566
23	97.877	0.478
24	98.128	0.316
25	98.393	0.333
26	98.689	0.374
27	98.987	0.375
28	99.285	0.375
29	99.539	0.321
30	99.698	0.200
31	99.853	0.195
32	100.000	0.185

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6593	0.6593
2	0.8116	0.1524
3	0.9166	0.1050
4	0.9992	0.0826
5	1.0684	0.0692
6	1.1285	0.0601
7	1.1819	0.0534
8	1.2302	0.0483
9	1.2745	0.0442
10	1.3154	0.0409
11	1.3535	0.0382
12	1.3893	0.0358
13	1.4072	0.0179
14	1.4240	0.0168
15	1.4398	0.0158
16	1.4548	0.0149
17	1.4689	0.0142
18	1.4824	0.0135
19	1.4953	0.0129
20	1.5076	0.0123
21	1.5194	0.0118
22	1.5308	0.0113
23	1.5417	0.0109
24	1.5522	0.0105
25	1.5624	0.0102
26	1.5722	0.0098
27	1.5817	0.0095
28	1.5910	0.0092
29	1.5999	0.0090
30	1.6086	0.0087
31	1.6171	0.0085
32	1.6253	0.0082
33	1.6333	0.0080
34	1.6411	0.0078
35	1.6488	0.0076
36	1.6562	0.0074
37	1.6635	0.0073

38	1.6706	0.0071
39	1.6775	0.0069
40	1.6843	0.0068
41	1.6909	0.0067
42	1.6975	0.0065
43	1.7038	0.0064
44	1.7101	0.0063
45	1.7163	0.0061
46	1.7223	0.0060
47	1.7282	0.0059
48	1.7340	0.0058
49	1.7397	0.0057
50	1.7454	0.0056
51	1.7509	0.0055
52	1.7563	0.0054
53	1.7617	0.0053
54	1.7669	0.0053
55	1.7721	0.0052
56	1.7772	0.0051
57	1.7822	0.0050
58	1.7872	0.0050
59	1.7921	0.0049
60	1.7969	0.0048
61	1.8016	0.0047
62	1.8063	0.0047
63	1.8109	0.0046
64	1.8155	0.0046
65	1.8200	0.0045
66	1.8244	0.0044
67	1.8288	0.0044
68	1.8331	0.0043
69	1.8374	0.0043
70	1.8416	0.0042
71	1.8458	0.0042
72	1.8499	0.0041
73	1.8564	0.0065
74	1.8628	0.0064
75	1.8692	0.0064
76	1.8755	0.0063
77	1.8817	0.0062
78	1.8879	0.0062
79	1.8940	0.0061
80	1.9001	0.0061
81	1.9061	0.0060
82	1.9120	0.0059
83	1.9179	0.0059
84	1.9237	0.0058
85	1.9295	0.0058
86	1.9353	0.0057
87	1.9410	0.0057
88	1.9466	0.0056
89	1.9522	0.0056
90	1.9577	0.0055
91	1.9632	0.0055
92	1.9687	0.0055
93	1.9741	0.0054
94	1.9795	0.0054
95	1.9848	0.0053
96	1.9901	0.0053

97	1.9953	0.0052
98	2.0005	0.0052
99	2.0057	0.0052
100	2.0108	0.0051
101	2.0159	0.0051
102	2.0209	0.0050
103	2.0259	0.0050
104	2.0309	0.0050
105	2.0358	0.0049
106	2.0407	0.0049
107	2.0456	0.0049
108	2.0504	0.0048
109	2.0552	0.0048
110	2.0600	0.0048
111	2.0647	0.0047
112	2.0695	0.0047
113	2.0741	0.0047
114	2.0788	0.0046
115	2.0834	0.0046
116	2.0880	0.0046
117	2.0925	0.0046
118	2.0970	0.0045
119	2.1015	0.0045
120	2.1060	0.0045
121	2.1104	0.0044
122	2.1149	0.0044
123	2.1192	0.0044
124	2.1236	0.0044
125	2.1279	0.0043
126	2.1322	0.0043
127	2.1365	0.0043
128	2.1408	0.0043
129	2.1450	0.0042
130	2.1492	0.0042
131	2.1534	0.0042
132	2.1576	0.0042
133	2.1617	0.0041
134	2.1658	0.0041
135	2.1699	0.0041
136	2.1740	0.0041
137	2.1780	0.0040
138	2.1820	0.0040
139	2.1860	0.0040
140	2.1900	0.0040
141	2.1940	0.0040
142	2.1979	0.0039
143	2.2018	0.0039
144	2.2057	0.0039
145	2.2096	0.0039
146	2.2135	0.0039
147	2.2173	0.0038
148	2.2211	0.0038
149	2.2249	0.0038
150	2.2287	0.0038
151	2.2325	0.0038
152	2.2362	0.0037
153	2.2399	0.0037
154	2.2436	0.0037
155	2.2473	0.0037

156	2.2510	0.0037
157	2.2547	0.0037
158	2.2583	0.0036
159	2.2619	0.0036
160	2.2655	0.0036
161	2.2691	0.0036
162	2.2727	0.0036
163	2.2762	0.0036
164	2.2798	0.0035
165	2.2833	0.0035
166	2.2868	0.0035
167	2.2903	0.0035
168	2.2937	0.0035
169	2.2972	0.0035
170	2.3006	0.0034
171	2.3041	0.0034
172	2.3075	0.0034
173	2.3109	0.0034
174	2.3143	0.0034
175	2.3176	0.0034
176	2.3210	0.0034
177	2.3243	0.0033
178	2.3276	0.0033
179	2.3310	0.0033
180	2.3343	0.0033
181	2.3375	0.0033
182	2.3408	0.0033
183	2.3441	0.0033
184	2.3473	0.0032
185	2.3505	0.0032
186	2.3538	0.0032
187	2.3570	0.0032
188	2.3602	0.0032
189	2.3633	0.0032
190	2.3665	0.0032
191	2.3697	0.0032
192	2.3728	0.0031
193	2.3759	0.0031
194	2.3790	0.0031
195	2.3822	0.0031
196	2.3852	0.0031
197	2.3883	0.0031
198	2.3914	0.0031
199	2.3945	0.0031
200	2.3975	0.0030
201	2.4005	0.0030
202	2.4036	0.0030
203	2.4066	0.0030
204	2.4096	0.0030
205	2.4126	0.0030
206	2.4156	0.0030
207	2.4185	0.0030
208	2.4215	0.0030
209	2.4244	0.0029
210	2.4274	0.0029
211	2.4303	0.0029
212	2.4332	0.0029
213	2.4361	0.0029
214	2.4390	0.0029

215	2.4419	0.0029
216	2.4448	0.0029
217	2.4477	0.0029
218	2.4505	0.0029
219	2.4534	0.0028
220	2.4562	0.0028
221	2.4590	0.0028
222	2.4619	0.0028
223	2.4647	0.0028
224	2.4675	0.0028
225	2.4703	0.0028
226	2.4730	0.0028
227	2.4758	0.0028
228	2.4786	0.0028
229	2.4813	0.0028
230	2.4841	0.0027
231	2.4868	0.0027
232	2.4895	0.0027
233	2.4923	0.0027
234	2.4950	0.0027
235	2.4977	0.0027
236	2.5004	0.0027
237	2.5030	0.0027
238	2.5057	0.0027
239	2.5084	0.0027
240	2.5111	0.0027
241	2.5137	0.0027
242	2.5163	0.0026
243	2.5190	0.0026
244	2.5216	0.0026
245	2.5242	0.0026
246	2.5268	0.0026
247	2.5294	0.0026
248	2.5320	0.0026
249	2.5346	0.0026
250	2.5372	0.0026
251	2.5398	0.0026
252	2.5423	0.0026
253	2.5449	0.0026
254	2.5474	0.0025
255	2.5500	0.0025
256	2.5525	0.0025
257	2.5550	0.0025
258	2.5576	0.0025
259	2.5601	0.0025
260	2.5626	0.0025
261	2.5651	0.0025
262	2.5676	0.0025
263	2.5701	0.0025
264	2.5725	0.0025
265	2.5750	0.0025
266	2.5775	0.0025
267	2.5799	0.0025
268	2.5824	0.0024
269	2.5848	0.0024
270	2.5872	0.0024
271	2.5897	0.0024
272	2.5921	0.0024
273	2.5945	0.0024

274	2.5969	0.0024
275	2.5993	0.0024
276	2.6017	0.0024
277	2.6041	0.0024
278	2.6065	0.0024
279	2.6089	0.0024
280	2.6112	0.0024
281	2.6136	0.0024
282	2.6160	0.0024
283	2.6183	0.0024
284	2.6206	0.0023
285	2.6230	0.0023
286	2.6253	0.0023
287	2.6276	0.0023
288	2.6300	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0002	0.0021
2	0.0023	0.0002	0.0021
3	0.0023	0.0002	0.0022
4	0.0023	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0022
12	0.0024	0.0002	0.0022
13	0.0024	0.0002	0.0022
14	0.0024	0.0002	0.0022
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0025	0.0002	0.0023
22	0.0025	0.0002	0.0023
23	0.0025	0.0002	0.0023
24	0.0025	0.0002	0.0023
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0026	0.0002	0.0024
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0026	0.0002	0.0024
31	0.0026	0.0002	0.0024
32	0.0026	0.0002	0.0024
33	0.0027	0.0002	0.0024
34	0.0027	0.0002	0.0025
35	0.0027	0.0002	0.0025
36	0.0027	0.0002	0.0025
37	0.0027	0.0002	0.0025
38	0.0027	0.0002	0.0025
39	0.0027	0.0002	0.0025

40	0.0027	0.0002	0.0025
41	0.0028	0.0002	0.0025
42	0.0028	0.0002	0.0026
43	0.0028	0.0002	0.0026
44	0.0028	0.0002	0.0026
45	0.0028	0.0002	0.0026
46	0.0028	0.0002	0.0026
47	0.0028	0.0002	0.0026
48	0.0029	0.0002	0.0026
49	0.0029	0.0002	0.0026
50	0.0029	0.0002	0.0027
51	0.0029	0.0002	0.0027
52	0.0029	0.0002	0.0027
53	0.0029	0.0002	0.0027
54	0.0029	0.0002	0.0027
55	0.0030	0.0002	0.0027
56	0.0030	0.0002	0.0027
57	0.0030	0.0002	0.0028
58	0.0030	0.0002	0.0028
59	0.0030	0.0002	0.0028
60	0.0030	0.0002	0.0028
61	0.0031	0.0002	0.0028
62	0.0031	0.0002	0.0028
63	0.0031	0.0002	0.0029
64	0.0031	0.0002	0.0029
65	0.0031	0.0003	0.0029
66	0.0032	0.0003	0.0029
67	0.0032	0.0003	0.0029
68	0.0032	0.0003	0.0029
69	0.0032	0.0003	0.0030
70	0.0032	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0033	0.0003	0.0030
73	0.0033	0.0003	0.0030
74	0.0033	0.0003	0.0030
75	0.0033	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0034	0.0003	0.0031
78	0.0034	0.0003	0.0031
79	0.0034	0.0003	0.0032
80	0.0034	0.0003	0.0032
81	0.0035	0.0003	0.0032
82	0.0035	0.0003	0.0032
83	0.0035	0.0003	0.0032
84	0.0035	0.0003	0.0033
85	0.0036	0.0003	0.0033
86	0.0036	0.0003	0.0033
87	0.0036	0.0003	0.0033
88	0.0036	0.0003	0.0033
89	0.0037	0.0003	0.0034
90	0.0037	0.0003	0.0034
91	0.0037	0.0003	0.0034
92	0.0037	0.0003	0.0034
93	0.0038	0.0003	0.0035
94	0.0038	0.0003	0.0035
95	0.0038	0.0003	0.0035
96	0.0039	0.0003	0.0035
97	0.0039	0.0003	0.0036
98	0.0039	0.0003	0.0036

99	0.0040	0.0003	0.0036
100	0.0040	0.0003	0.0037
101	0.0040	0.0003	0.0037
102	0.0040	0.0003	0.0037
103	0.0041	0.0003	0.0038
104	0.0041	0.0003	0.0038
105	0.0042	0.0003	0.0038
106	0.0042	0.0003	0.0038
107	0.0042	0.0003	0.0039
108	0.0043	0.0003	0.0039
109	0.0043	0.0003	0.0040
110	0.0043	0.0003	0.0040
111	0.0044	0.0004	0.0040
112	0.0044	0.0004	0.0041
113	0.0045	0.0004	0.0041
114	0.0045	0.0004	0.0041
115	0.0046	0.0004	0.0042
116	0.0046	0.0004	0.0042
117	0.0046	0.0004	0.0043
118	0.0047	0.0004	0.0043
119	0.0047	0.0004	0.0044
120	0.0048	0.0004	0.0044
121	0.0048	0.0004	0.0044
122	0.0049	0.0004	0.0045
123	0.0049	0.0004	0.0045
124	0.0050	0.0004	0.0046
125	0.0050	0.0004	0.0046
126	0.0051	0.0004	0.0047
127	0.0052	0.0004	0.0047
128	0.0052	0.0004	0.0048
129	0.0053	0.0004	0.0049
130	0.0053	0.0004	0.0049
131	0.0054	0.0004	0.0050
132	0.0055	0.0004	0.0050
133	0.0055	0.0004	0.0051
134	0.0056	0.0004	0.0051
135	0.0057	0.0005	0.0052
136	0.0057	0.0005	0.0053
137	0.0058	0.0005	0.0054
138	0.0059	0.0005	0.0054
139	0.0060	0.0005	0.0055
140	0.0061	0.0005	0.0056
141	0.0062	0.0005	0.0057
142	0.0062	0.0005	0.0057
143	0.0064	0.0005	0.0058
144	0.0064	0.0005	0.0059
145	0.0041	0.0003	0.0038
146	0.0042	0.0003	0.0038
147	0.0043	0.0003	0.0039
148	0.0043	0.0003	0.0040
149	0.0044	0.0004	0.0041
150	0.0045	0.0004	0.0041
151	0.0046	0.0004	0.0042
152	0.0047	0.0004	0.0043
153	0.0048	0.0004	0.0044
154	0.0049	0.0004	0.0045
155	0.0050	0.0004	0.0046
156	0.0051	0.0004	0.0047
157	0.0053	0.0004	0.0048

158	0.0053	0.0004	0.0049
159	0.0055	0.0004	0.0051
160	0.0056	0.0004	0.0052
161	0.0058	0.0005	0.0054
162	0.0059	0.0005	0.0054
163	0.0061	0.0005	0.0057
164	0.0063	0.0005	0.0058
165	0.0065	0.0005	0.0060
166	0.0067	0.0005	0.0061
167	0.0069	0.0006	0.0064
168	0.0071	0.0006	0.0065
169	0.0074	0.0006	0.0069
170	0.0076	0.0006	0.0070
171	0.0080	0.0006	0.0074
172	0.0082	0.0007	0.0076
173	0.0087	0.0007	0.0080
174	0.0090	0.0007	0.0082
175	0.0095	0.0008	0.0088
176	0.0098	0.0008	0.0090
177	0.0105	0.0008	0.0097
178	0.0109	0.0009	0.0100
179	0.0118	0.0009	0.0109
180	0.0123	0.0010	0.0113
181	0.0135	0.0011	0.0124
182	0.0142	0.0011	0.0130
183	0.0158	0.0013	0.0145
184	0.0168	0.0013	0.0154
185	0.0358	0.0027	0.0331
186	0.0382	0.0027	0.0355
187	0.0442	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1497
193	0.6593	0.0027	0.6566
194	0.0826	0.0027	0.0799
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0382
197	0.0179	0.0014	0.0165
198	0.0149	0.0012	0.0137
199	0.0129	0.0010	0.0118
200	0.0113	0.0009	0.0104
201	0.0102	0.0008	0.0094
202	0.0092	0.0007	0.0085
203	0.0085	0.0007	0.0078
204	0.0078	0.0006	0.0072
205	0.0073	0.0006	0.0067
206	0.0068	0.0005	0.0062
207	0.0064	0.0005	0.0059
208	0.0060	0.0005	0.0055
209	0.0057	0.0005	0.0053
210	0.0054	0.0004	0.0050
211	0.0052	0.0004	0.0048
212	0.0050	0.0004	0.0046
213	0.0047	0.0004	0.0044
214	0.0046	0.0004	0.0042
215	0.0044	0.0004	0.0040
216	0.0042	0.0003	0.0039

217	0.0065	0.0005	0.0060
218	0.0063	0.0005	0.0058
219	0.0061	0.0005	0.0056
220	0.0059	0.0005	0.0055
221	0.0058	0.0005	0.0053
222	0.0056	0.0005	0.0052
223	0.0055	0.0004	0.0051
224	0.0054	0.0004	0.0049
225	0.0052	0.0004	0.0048
226	0.0051	0.0004	0.0047
227	0.0050	0.0004	0.0046
228	0.0049	0.0004	0.0045
229	0.0048	0.0004	0.0044
230	0.0047	0.0004	0.0043
231	0.0046	0.0004	0.0042
232	0.0045	0.0004	0.0042
233	0.0044	0.0004	0.0041
234	0.0044	0.0003	0.0040
235	0.0043	0.0003	0.0039
236	0.0042	0.0003	0.0039
237	0.0041	0.0003	0.0038
238	0.0041	0.0003	0.0037
239	0.0040	0.0003	0.0037
240	0.0039	0.0003	0.0036
241	0.0039	0.0003	0.0036
242	0.0038	0.0003	0.0035
243	0.0038	0.0003	0.0035
244	0.0037	0.0003	0.0034
245	0.0037	0.0003	0.0034
246	0.0036	0.0003	0.0033
247	0.0036	0.0003	0.0033
248	0.0035	0.0003	0.0032
249	0.0035	0.0003	0.0032
250	0.0034	0.0003	0.0031
251	0.0034	0.0003	0.0031
252	0.0033	0.0003	0.0031
253	0.0033	0.0003	0.0030
254	0.0032	0.0003	0.0030
255	0.0032	0.0003	0.0029
256	0.0032	0.0003	0.0029
257	0.0031	0.0003	0.0029
258	0.0031	0.0002	0.0028
259	0.0031	0.0002	0.0028
260	0.0030	0.0002	0.0028
261	0.0030	0.0002	0.0028
262	0.0030	0.0002	0.0027
263	0.0029	0.0002	0.0027
264	0.0029	0.0002	0.0027
265	0.0029	0.0002	0.0026
266	0.0028	0.0002	0.0026
267	0.0028	0.0002	0.0026
268	0.0028	0.0002	0.0026
269	0.0028	0.0002	0.0025
270	0.0027	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0024
274	0.0026	0.0002	0.0024
275	0.0026	0.0002	0.0024

276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0025	0.0002	0.0023
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0024	0.0002	0.0023
283	0.0024	0.0002	0.0022
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022
288	0.0023	0.0002	0.0021

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.50(In)
Peak flow rate in flood hydrograph = 25.11(CFS)

++

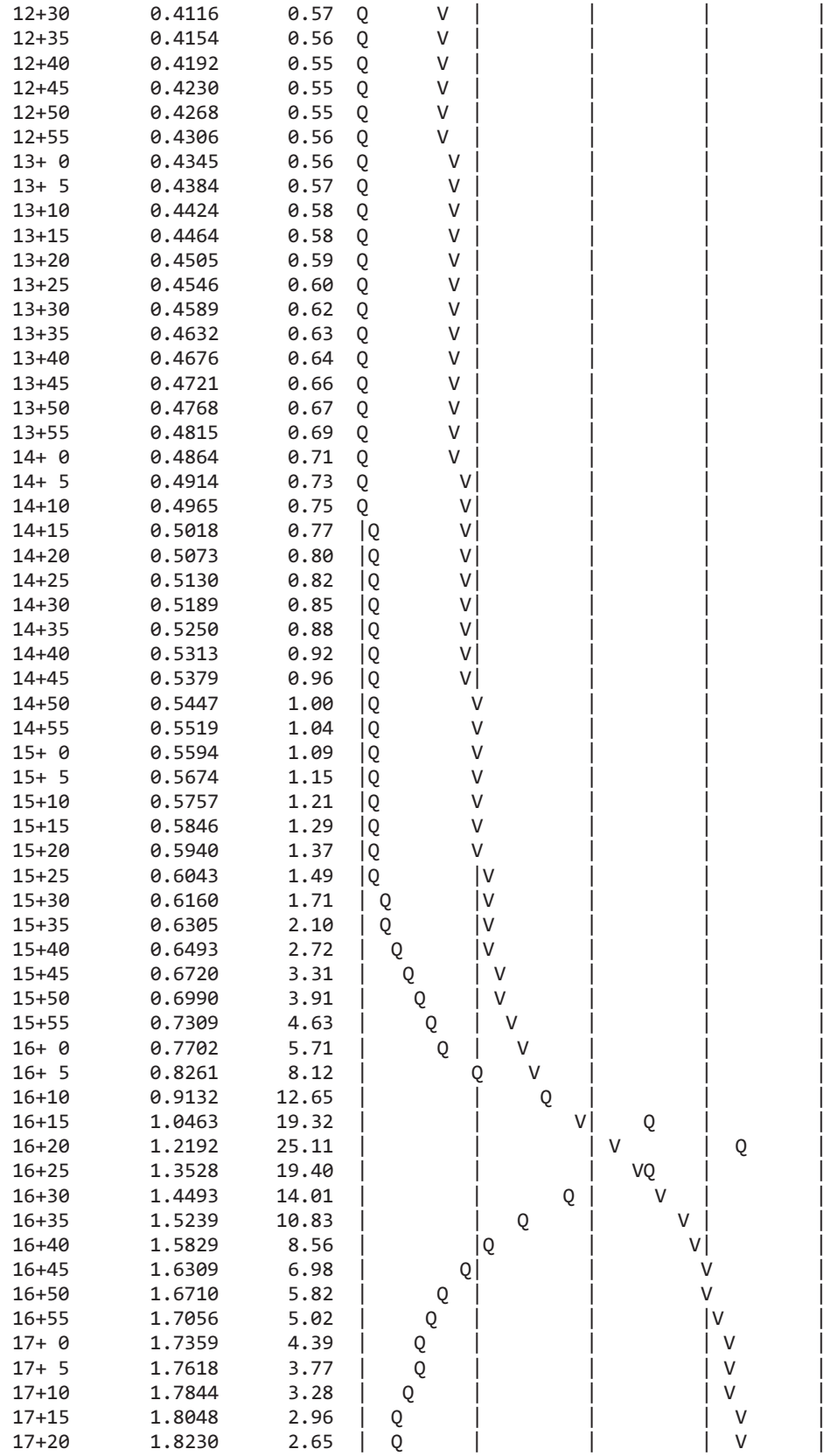
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0005	0.05	Q	|	|	|	|
0+20	0.0013	0.11	Q	|	|	|	|
0+25	0.0023	0.15	Q	|	|	|	|
0+30	0.0035	0.18	Q	|	|	|	|
0+35	0.0048	0.19	Q	|	|	|	|
0+40	0.0063	0.21	Q	|	|	|	|
0+45	0.0078	0.22	Q	|	|	|	|
0+50	0.0093	0.23	Q	|	|	|	|
0+55	0.0109	0.23	Q	|	|	|	|
1+ 0	0.0126	0.24	Q	|	|	|	|
1+ 5	0.0143	0.25	Q	|	|	|	|
1+10	0.0160	0.25	Q	|	|	|	|
1+15	0.0178	0.26	Q	|	|	|	|
1+20	0.0196	0.26	Q	|	|	|	|
1+25	0.0214	0.26	Q	|	|	|	|
1+30	0.0233	0.27	Q	|	|	|	|
1+35	0.0252	0.27	Q	|	|	|	|
1+40	0.0270	0.27	Q	|	|	|	|
1+45	0.0289	0.28	Q	|	|	|	|
1+50	0.0309	0.28	Q	|	|	|	|
1+55	0.0328	0.28	Q	|	|	|	|
2+ 0	0.0348	0.28	Q	|	|	|	|
2+ 5	0.0367	0.29	Q	|	|	|	|
2+10	0.0387	0.29	Q	|	|	|	|
2+15	0.0407	0.29	Q	|	|	|	|
2+20	0.0427	0.29	Q	|	|	|	|
2+25	0.0447	0.29	Q	|	|	|	|
2+30	0.0468	0.30	Q	|	|	|	|
2+35	0.0488	0.30	Q	|	|	|	|

2+40	0.0509	0.30	Q				
2+45	0.0529	0.30	Q				
2+50	0.0550	0.30	QV				
2+55	0.0571	0.30	QV				
3+ 0	0.0592	0.30	QV				
3+ 5	0.0613	0.31	QV				
3+10	0.0634	0.31	QV				
3+15	0.0655	0.31	QV				
3+20	0.0677	0.31	QV				
3+25	0.0698	0.31	QV				
3+30	0.0720	0.31	QV				
3+35	0.0741	0.31	QV				
3+40	0.0763	0.32	QV				
3+45	0.0785	0.32	QV				
3+50	0.0807	0.32	QV				
3+55	0.0829	0.32	QV				
4+ 0	0.0851	0.32	QV				
4+ 5	0.0873	0.32	QV				
4+10	0.0896	0.33	QV				
4+15	0.0918	0.33	QV				
4+20	0.0941	0.33	QV				
4+25	0.0964	0.33	QV				
4+30	0.0986	0.33	QV				
4+35	0.1009	0.33	QV				
4+40	0.1033	0.34	QV				
4+45	0.1056	0.34	QV				
4+50	0.1079	0.34	QV				
4+55	0.1103	0.34	Q V				
5+ 0	0.1126	0.34	Q V				
5+ 5	0.1150	0.34	Q V				
5+10	0.1174	0.35	Q V				
5+15	0.1198	0.35	Q V				
5+20	0.1222	0.35	Q V				
5+25	0.1246	0.35	Q V				
5+30	0.1270	0.35	Q V				
5+35	0.1295	0.36	Q V				
5+40	0.1320	0.36	Q V				
5+45	0.1344	0.36	Q V				
5+50	0.1369	0.36	Q V				
5+55	0.1395	0.36	Q V				
6+ 0	0.1420	0.37	Q V				
6+ 5	0.1445	0.37	Q V				
6+10	0.1471	0.37	Q V				
6+15	0.1496	0.37	Q V				
6+20	0.1522	0.38	Q V				
6+25	0.1548	0.38	Q V				
6+30	0.1574	0.38	Q V				
6+35	0.1601	0.38	Q V				
6+40	0.1627	0.38	Q V				
6+45	0.1654	0.39	Q V				
6+50	0.1681	0.39	Q V				
6+55	0.1708	0.39	Q V				
7+ 0	0.1735	0.39	Q V				
7+ 5	0.1762	0.40	Q V				
7+10	0.1790	0.40	Q V				
7+15	0.1818	0.40	Q V				
7+20	0.1846	0.41	Q V				
7+25	0.1874	0.41	Q V				
7+30	0.1902	0.41	Q V				

7+35	0.1931	0.41	Q	V				
7+40	0.1959	0.42	Q	V				
7+45	0.1988	0.42	Q	V				
7+50	0.2017	0.42	Q	V				
7+55	0.2047	0.43	Q	V				
8+ 0	0.2076	0.43	Q	V				
8+ 5	0.2106	0.43	Q	V				
8+10	0.2136	0.44	Q	V				
8+15	0.2166	0.44	Q	V				
8+20	0.2197	0.44	Q	V				
8+25	0.2227	0.45	Q	V				
8+30	0.2258	0.45	Q	V				
8+35	0.2289	0.45	Q	V				
8+40	0.2321	0.46	Q	V				
8+45	0.2352	0.46	Q	V				
8+50	0.2384	0.46	Q	V				
8+55	0.2416	0.47	Q	V				
9+ 0	0.2449	0.47	Q	V				
9+ 5	0.2482	0.47	Q	V				
9+10	0.2515	0.48	Q	V				
9+15	0.2548	0.48	Q	V				
9+20	0.2581	0.49	Q	V				
9+25	0.2615	0.49	Q	V				
9+30	0.2649	0.50	Q	V				
9+35	0.2684	0.50	Q	V				
9+40	0.2718	0.50	Q	V				
9+45	0.2753	0.51	Q	V				
9+50	0.2789	0.51	Q	V				
9+55	0.2825	0.52	Q	V				
10+ 0	0.2861	0.52	Q	V				
10+ 5	0.2897	0.53	Q	V				
10+10	0.2934	0.53	Q	V				
10+15	0.2971	0.54	Q	V				
10+20	0.3008	0.54	Q	V				
10+25	0.3046	0.55	Q	V				
10+30	0.3085	0.56	Q	V				
10+35	0.3123	0.56	Q	V				
10+40	0.3162	0.57	Q	V				
10+45	0.3202	0.57	Q	V				
10+50	0.3242	0.58	Q	V				
10+55	0.3282	0.59	Q	V				
11+ 0	0.3323	0.59	Q	V				
11+ 5	0.3364	0.60	Q	V				
11+10	0.3406	0.61	Q	V				
11+15	0.3448	0.61	Q	V				
11+20	0.3491	0.62	Q	V				
11+25	0.3534	0.63	Q	V				
11+30	0.3578	0.64	Q	V				
11+35	0.3623	0.64	Q	V				
11+40	0.3668	0.65	Q	V				
11+45	0.3713	0.66	Q	V				
11+50	0.3759	0.67	Q	V				
11+55	0.3806	0.68	Q	V				
12+ 0	0.3853	0.69	Q	V				
12+ 5	0.3901	0.69	Q	V				
12+10	0.3949	0.69	Q	V				
12+15	0.3994	0.66	Q	V				
12+20	0.4037	0.61	Q	V				
12+25	0.4077	0.58	Q	V				


12+30 0.4116 0.57
12+35 0.4154 0.56
12+40 0.4192 0.55
12+45 0.4230 0.55
12+50 0.4268 0.55
12+55 0.4306 0.56
13+ 0 0.4345 0.56
13+ 5 0.4384 0.57
13+10 0.4424 0.58
13+15 0.4464 0.58
13+20 0.4505 0.59
13+25 0.4546 0.60
13+30 0.4589 0.62
13+35 0.4632 0.63
13+40 0.4676 0.64
13+45 0.4721 0.66
13+50 0.4768 0.67
13+55 0.4815 0.69
14+ 0 0.4864 0.71
14+ 5 0.4914 0.73
14+10 0.4965 0.75
14+15 0.5018 0.77
14+20 0.5073 0.80
14+25 0.5130 0.82
14+30 0.5189 0.85
14+35 0.5250 0.88
14+40 0.5313 0.92
14+45 0.5379 0.96
14+50 0.5447 1.00
14+55 0.5519 1.04
15+ 0 0.5594 1.09
15+ 5 0.5674 1.15
15+10 0.5757 1.21
15+15 0.5846 1.29
15+20 0.5940 1.37
15+25 0.6043 1.49
15+30 0.6160 1.71
15+35 0.6305 2.10
15+40 0.6493 2.72
15+45 0.6720 3.31
15+50 0.6990 3.91
15+55 0.7309 4.63
16+ 0 0.7702 5.71
16+ 5 0.8261 8.12
16+10 0.9132 12.65
16+15 1.0463 19.32
16+20 1.2192 25.11
16+25 1.3528 19.40
16+30 1.4493 14.01
16+35 1.5239 10.83
16+40 1.5829 8.56
16+45 1.6309 6.98
16+50 1.6710 5.82
16+55 1.7056 5.02
17+ 0 1.7359 4.39
17+ 5 1.7618 3.77
17+10 1.7844 3.28
17+15 1.8048 2.96
17+20 1.8230 2.65

```
17+25       1.8394      2.37  |  Q      |         |         |  V      |
17+30       1.8540      2.12  | Q       |         |         |   V     |
17+35       1.8673      1.94  | Q       |         |         |   V     |
17+40       1.8792      1.73  | Q       |         |         |   V     |
17+45       1.8901      1.57  | Q       |         |         |   V     |
17+50       1.8997      1.39  |Q        |         |         |    V    |
17+55       1.9083      1.25  |Q        |         |         |    V    |
18+ 0       1.9159      1.10  |Q        |         |         |    V    |
18+ 5       1.9232      1.06  |Q        |         |         |    V    |
18+10       1.9304      1.05  |Q        |         |         |    V    |
18+15       1.9376      1.04  |Q        |         |         |    V    |
18+20       1.9449      1.05  |Q        |         |         |    V    |
18+25       1.9518      1.01  |Q        |         |         |     V   |
18+30       1.9582      0.92  |Q        |         |         |     V   |
18+35       1.9642      0.88  |Q        |         |         |     V   |
18+40       1.9700      0.83  |Q        |         |         |     V   |
18+45       1.9748      0.70  Q         |         |         |     V   |
18+50       1.9794      0.67  Q         |         |         |     V   |
18+55       1.9839      0.65  Q         |         |         |     V   |
19+ 0       1.9883      0.64  Q         |         |         |     V   |
19+ 5       1.9926      0.62  Q         |         |         |     V   |
19+10       1.9968      0.61  Q         |         |         |     V   |
19+15       2.0009      0.60  Q         |         |         |     V   |
19+20       2.0050      0.59  Q         |         |         |     V   |
19+25       2.0089      0.58  Q         |         |         |      V  |
19+30       2.0128      0.56  Q         |         |         |      V  |
19+35       2.0166      0.55  Q         |         |         |      V  |
19+40       2.0204      0.54  Q         |         |         |      V  |
19+45       2.0241      0.53  Q         |         |         |      V  |
19+50       2.0277      0.53  Q         |         |         |      V  |
19+55       2.0312      0.52  Q         |         |         |      V  |
20+ 0       2.0347      0.51  Q         |         |         |      V  |
20+ 5       2.0382      0.50  Q         |         |         |      V  |
20+10       2.0415      0.49  Q         |         |         |      V  |
20+15       2.0449      0.48  Q         |         |         |      V  |
20+20       2.0481      0.47  Q         |         |         |      V  |
20+25       2.0514      0.47  Q         |         |         |      V  |
20+30       2.0545      0.46  Q         |         |         |      V  |
20+35       2.0577      0.45  Q         |         |         |      V  |
20+40       2.0607      0.45  Q         |         |         |       V |
20+45       2.0638      0.44  Q         |         |         |       V |
20+50       2.0667      0.43  Q         |         |         |       V |
20+55       2.0697      0.43  Q         |         |         |       V |
21+ 0       2.0726      0.42  Q         |         |         |       V |
21+ 5       2.0754      0.41  Q         |         |         |       V |
21+10       2.0783      0.41  Q         |         |         |       V |
21+15       2.0810      0.40  Q         |         |         |       V |
21+20       2.0838      0.40  Q         |         |         |       V |
21+25       2.0865      0.39  Q         |         |         |       V |
21+30       2.0892      0.39  Q         |         |         |       V |
21+35       2.0918      0.38  Q         |         |         |       V |
21+40       2.0944      0.38  Q         |         |         |       V |
21+45       2.0970      0.37  Q         |         |         |       V |
21+50       2.0995      0.37  Q         |         |         |       V |
21+55       2.1020      0.36  Q         |         |         |       V |
22+ 0       2.1045      0.36  Q         |         |         |       V |
22+ 5       2.1070      0.36  Q         |         |         |       V |
22+10       2.1094      0.35  Q         |         |         |       V |
22+15       2.1118      0.35  Q         |         |         |       V |
```

22+20	2.1142	0.34	Q	|	|	|	V |
22+25	2.1165	0.34	Q	|	|	|	V|
22+30	2.1188	0.34	Q	|	|	|	V|
22+35	2.1211	0.33	Q	|	|	|	V|
22+40	2.1234	0.33	Q	|	|	|	V|
22+45	2.1257	0.33	Q	|	|	|	V|
22+50	2.1279	0.32	Q	|	|	|	V|
22+55	2.1301	0.32	Q	|	|	|	V|
23+ 0	2.1323	0.32	Q	|	|	|	V|
23+ 5	2.1344	0.31	Q	|	|	|	V|
23+10	2.1366	0.31	Q	|	|	|	V|
23+15	2.1387	0.31	Q	|	|	|	V|
23+20	2.1408	0.31	Q	|	|	|	V|
23+25	2.1429	0.30	Q	|	|	|	V|
23+30	2.1450	0.30	Q	|	|	|	V|
23+35	2.1470	0.30	Q	|	|	|	V|
23+40	2.1490	0.29	Q	|	|	|	V|
23+45	2.1511	0.29	Q	|	|	|	V|
23+50	2.1530	0.29	Q	|	|	|	V|
23+55	2.1550	0.29	Q	|	|	|	V|
24+ 0	2.1570	0.28	Q	|	|	|	V|
24+ 5	2.1589	0.28	Q	|	|	|	V|
24+10	2.1607	0.26	Q	|	|	|	V|
24+15	2.1623	0.23	Q	|	|	|	V|
24+20	2.1634	0.17	Q	|	|	|	V|
24+25	2.1643	0.13	Q	|	|	|	V|
24+30	2.1650	0.10	Q	|	|	|	V|
24+35	2.1655	0.08	Q	|	|	|	V|
24+40	2.1660	0.07	Q	|	|	|	V|
24+45	2.1664	0.06	Q	|	|	|	V|
24+50	2.1667	0.05	Q	|	|	|	V|
24+55	2.1670	0.04	Q	|	|	|	V|
25+ 0	2.1673	0.04	Q	|	|	|	V|
25+ 5	2.1675	0.03	Q	|	|	|	V|
25+10	2.1677	0.03	Q	|	|	|	V|
25+15	2.1678	0.02	Q	|	|	|	V|
25+20	2.1679	0.02	Q	|	|	|	V|
25+25	2.1681	0.02	Q	|	|	|	V|
25+30	2.1681	0.01	Q	|	|	|	V|
25+35	2.1682	0.01	Q	|	|	|	V|
25+40	2.1683	0.01	Q	|	|	|	V|
25+45	2.1684	0.01	Q	|	|	|	V|
25+50	2.1684	0.01	Q	|	|	|	V|
25+55	2.1684	0.01	Q	|	|	|	V|
26+ 0	2.1685	0.01	Q	|	|	|	V|
26+ 5	2.1685	0.00	Q	|	|	|	V|
26+10	2.1685	0.00	Q	|	|	|	V|
26+15	2.1686	0.00	Q	|	|	|	V|
26+20	2.1686	0.00	Q	|	|	|	V|
26+25	2.1686	0.00	Q	|	|	|	V|
26+30	2.1686	0.00	Q	|	|	|	V|
26+35	2.1686	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 38
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DAT: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
12.30	1	1.39
Rainfall data for year 100		
12.30	6	1.85
Rainfall data for year 100		
12.30	24	2.64

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	12.30	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
11.07	0.900	91.0	98.2	0.18	0.921
1.23	0.100	98.0	98.0	0.20	0.913

Area-averaged catchment yield fraction, Y = 0.920
Area-averaged low loss fraction, Yb = 0.080
User entry of time of concentration = 0.480 (hours)
++
Watershed area = 12.30(Ac.)
Catchment Lag time = 0.384 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 21.7014
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.080 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.656(In)
Specified peak 6-hour rainfall = 1.850(In)
Specified peak 24-hour rainfall = 2.640(In)

Rainfall depth area reduction factors:
Using a total area of 12.30(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.659(In)
30-minute factor = 0.999 Adjusted rainfall = 1.128(In)
1-hour factor = 0.999 Adjusted rainfall = 1.389(In)
3-hour factor = 1.000 Adjusted rainfall = 1.656(In)
6-hour factor = 1.000 Adjusted rainfall = 1.850(In)
24-hour factor = 1.000 Adjusted rainfall = 2.640(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 148.75 (CFS))	
1	1.111	1.653
2	5.164	6.029
3	13.587	12.530
4	31.738	27.001
5	48.298	24.632
6	59.038	15.977
7	66.079	10.473
8	71.449	7.988
9	75.653	6.254
10	79.095	5.121
11	81.874	4.134
12	84.223	3.494
13	86.323	3.124

14	88.131	2.689
15	89.580	2.156
16	90.837	1.869
17	91.986	1.710
18	93.007	1.518
19	93.930	1.373
20	94.688	1.128
21	95.420	1.089
22	96.031	0.909
23	96.595	0.839
24	97.080	0.720
25	97.470	0.581
26	97.824	0.525
27	98.051	0.338
28	98.271	0.327
29	98.522	0.374
30	98.782	0.387
31	99.043	0.387
32	99.303	0.387
33	99.529	0.336
34	99.669	0.208
35	99.804	0.202
36	100.000	0.101

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6592	0.6592
2	0.8116	0.1524
3	0.9165	0.1050
4	0.9991	0.0826
5	1.0683	0.0692
6	1.1284	0.0601
7	1.1818	0.0534
8	1.2301	0.0483
9	1.2743	0.0442
10	1.3153	0.0409
11	1.3534	0.0381
12	1.3892	0.0358
13	1.4071	0.0179
14	1.4239	0.0168
15	1.4397	0.0158
16	1.4546	0.0149
17	1.4688	0.0142
18	1.4823	0.0135
19	1.4952	0.0129
20	1.5075	0.0123
21	1.5193	0.0118
22	1.5307	0.0114
23	1.5416	0.0109
24	1.5521	0.0105
25	1.5623	0.0102
26	1.5722	0.0098
27	1.5817	0.0095
28	1.5909	0.0092
29	1.5999	0.0090
30	1.6086	0.0087
31	1.6170	0.0085
32	1.6253	0.0082
33	1.6333	0.0080

34	1.6411	0.0078
35	1.6487	0.0076
36	1.6562	0.0074
37	1.6634	0.0073
38	1.6705	0.0071
39	1.6775	0.0069
40	1.6843	0.0068
41	1.6909	0.0067
42	1.6974	0.0065
43	1.7038	0.0064
44	1.7101	0.0063
45	1.7162	0.0061
46	1.7223	0.0060
47	1.7282	0.0059
48	1.7340	0.0058
49	1.7397	0.0057
50	1.7453	0.0056
51	1.7509	0.0055
52	1.7563	0.0054
53	1.7616	0.0053
54	1.7669	0.0053
55	1.7721	0.0052
56	1.7772	0.0051
57	1.7822	0.0050
58	1.7872	0.0050
59	1.7921	0.0049
60	1.7969	0.0048
61	1.8016	0.0047
62	1.8063	0.0047
63	1.8109	0.0046
64	1.8155	0.0046
65	1.8200	0.0045
66	1.8244	0.0044
67	1.8288	0.0044
68	1.8331	0.0043
69	1.8374	0.0043
70	1.8416	0.0042
71	1.8458	0.0042
72	1.8499	0.0041
73	1.8565	0.0066
74	1.8630	0.0065
75	1.8694	0.0064
76	1.8758	0.0064
77	1.8821	0.0063
78	1.8883	0.0062
79	1.8945	0.0062
80	1.9006	0.0061
81	1.9067	0.0061
82	1.9127	0.0060
83	1.9186	0.0060
84	1.9245	0.0059
85	1.9304	0.0059
86	1.9362	0.0058
87	1.9419	0.0058
88	1.9477	0.0057
89	1.9533	0.0057
90	1.9589	0.0056
91	1.9645	0.0056
92	1.9700	0.0055

93	1.9755	0.0055
94	1.9809	0.0054
95	1.9863	0.0054
96	1.9916	0.0053
97	1.9969	0.0053
98	2.0022	0.0053
99	2.0074	0.0052
100	2.0126	0.0052
101	2.0177	0.0051
102	2.0228	0.0051
103	2.0279	0.0051
104	2.0329	0.0050
105	2.0379	0.0050
106	2.0429	0.0050
107	2.0478	0.0049
108	2.0527	0.0049
109	2.0576	0.0049
110	2.0624	0.0048
111	2.0672	0.0048
112	2.0719	0.0048
113	2.0767	0.0047
114	2.0814	0.0047
115	2.0860	0.0047
116	2.0907	0.0046
117	2.0953	0.0046
118	2.0999	0.0046
119	2.1044	0.0046
120	2.1089	0.0045
121	2.1134	0.0045
122	2.1179	0.0045
123	2.1223	0.0044
124	2.1268	0.0044
125	2.1311	0.0044
126	2.1355	0.0044
127	2.1398	0.0043
128	2.1441	0.0043
129	2.1484	0.0043
130	2.1527	0.0043
131	2.1569	0.0042
132	2.1611	0.0042
133	2.1653	0.0042
134	2.1695	0.0042
135	2.1736	0.0041
136	2.1778	0.0041
137	2.1818	0.0041
138	2.1859	0.0041
139	2.1900	0.0041
140	2.1940	0.0040
141	2.1980	0.0040
142	2.2020	0.0040
143	2.2060	0.0040
144	2.2099	0.0039
145	2.2138	0.0039
146	2.2178	0.0039
147	2.2216	0.0039
148	2.2255	0.0039
149	2.2294	0.0038
150	2.2332	0.0038
151	2.2370	0.0038

152	2.2408	0.0038
153	2.2446	0.0038
154	2.2483	0.0038
155	2.2520	0.0037
156	2.2558	0.0037
157	2.2595	0.0037
158	2.2631	0.0037
159	2.2668	0.0037
160	2.2705	0.0036
161	2.2741	0.0036
162	2.2777	0.0036
163	2.2813	0.0036
164	2.2849	0.0036
165	2.2885	0.0036
166	2.2920	0.0035
167	2.2955	0.0035
168	2.2991	0.0035
169	2.3026	0.0035
170	2.3060	0.0035
171	2.3095	0.0035
172	2.3130	0.0035
173	2.3164	0.0034
174	2.3198	0.0034
175	2.3233	0.0034
176	2.3267	0.0034
177	2.3300	0.0034
178	2.3334	0.0034
179	2.3368	0.0034
180	2.3401	0.0033
181	2.3434	0.0033
182	2.3467	0.0033
183	2.3501	0.0033
184	2.3533	0.0033
185	2.3566	0.0033
186	2.3599	0.0033
187	2.3631	0.0032
188	2.3664	0.0032
189	2.3696	0.0032
190	2.3728	0.0032
191	2.3760	0.0032
192	2.3792	0.0032
193	2.3823	0.0032
194	2.3855	0.0032
195	2.3887	0.0031
196	2.3918	0.0031
197	2.3949	0.0031
198	2.3980	0.0031
199	2.4011	0.0031
200	2.4042	0.0031
201	2.4073	0.0031
202	2.4104	0.0031
203	2.4134	0.0031
204	2.4165	0.0030
205	2.4195	0.0030
206	2.4225	0.0030
207	2.4255	0.0030
208	2.4285	0.0030
209	2.4315	0.0030
210	2.4345	0.0030

211	2.4375	0.0030
212	2.4404	0.0030
213	2.4434	0.0029
214	2.4463	0.0029
215	2.4492	0.0029
216	2.4522	0.0029
217	2.4551	0.0029
218	2.4580	0.0029
219	2.4608	0.0029
220	2.4637	0.0029
221	2.4666	0.0029
222	2.4694	0.0029
223	2.4723	0.0028
224	2.4751	0.0028
225	2.4780	0.0028
226	2.4808	0.0028
227	2.4836	0.0028
228	2.4864	0.0028
229	2.4892	0.0028
230	2.4920	0.0028
231	2.4948	0.0028
232	2.4975	0.0028
233	2.5003	0.0028
234	2.5030	0.0027
235	2.5058	0.0027
236	2.5085	0.0027
237	2.5112	0.0027
238	2.5139	0.0027
239	2.5166	0.0027
240	2.5193	0.0027
241	2.5220	0.0027
242	2.5247	0.0027
243	2.5274	0.0027
244	2.5300	0.0027
245	2.5327	0.0027
246	2.5353	0.0026
247	2.5380	0.0026
248	2.5406	0.0026
249	2.5432	0.0026
250	2.5459	0.0026
251	2.5485	0.0026
252	2.5511	0.0026
253	2.5537	0.0026
254	2.5562	0.0026
255	2.5588	0.0026
256	2.5614	0.0026
257	2.5640	0.0026
258	2.5665	0.0026
259	2.5691	0.0025
260	2.5716	0.0025
261	2.5741	0.0025
262	2.5767	0.0025
263	2.5792	0.0025
264	2.5817	0.0025
265	2.5842	0.0025
266	2.5867	0.0025
267	2.5892	0.0025
268	2.5917	0.0025
269	2.5941	0.0025

270	2.5966	0.0025
271	2.5991	0.0025
272	2.6015	0.0025
273	2.6040	0.0025
274	2.6064	0.0024
275	2.6089	0.0024
276	2.6113	0.0024
277	2.6137	0.0024
278	2.6161	0.0024
279	2.6185	0.0024
280	2.6210	0.0024
281	2.6233	0.0024
282	2.6257	0.0024
283	2.6281	0.0024
284	2.6305	0.0024
285	2.6329	0.0024
286	2.6352	0.0024
287	2.6376	0.0024
288	2.6400	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022
2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0025	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0026	0.0002	0.0024
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0026	0.0002	0.0024
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0027	0.0002	0.0024
31	0.0027	0.0002	0.0025
32	0.0027	0.0002	0.0025
33	0.0027	0.0002	0.0025
34	0.0027	0.0002	0.0025
35	0.0027	0.0002	0.0025

36	0.0027	0.0002	0.0025
37	0.0027	0.0002	0.0025
38	0.0028	0.0002	0.0025
39	0.0028	0.0002	0.0026
40	0.0028	0.0002	0.0026
41	0.0028	0.0002	0.0026
42	0.0028	0.0002	0.0026
43	0.0028	0.0002	0.0026
44	0.0028	0.0002	0.0026
45	0.0029	0.0002	0.0026
46	0.0029	0.0002	0.0026
47	0.0029	0.0002	0.0027
48	0.0029	0.0002	0.0027
49	0.0029	0.0002	0.0027
50	0.0029	0.0002	0.0027
51	0.0029	0.0002	0.0027
52	0.0030	0.0002	0.0027
53	0.0030	0.0002	0.0027
54	0.0030	0.0002	0.0028
55	0.0030	0.0002	0.0028
56	0.0030	0.0002	0.0028
57	0.0030	0.0002	0.0028
58	0.0031	0.0002	0.0028
59	0.0031	0.0002	0.0028
60	0.0031	0.0002	0.0028
61	0.0031	0.0002	0.0029
62	0.0031	0.0002	0.0029
63	0.0031	0.0003	0.0029
64	0.0032	0.0003	0.0029
65	0.0032	0.0003	0.0029
66	0.0032	0.0003	0.0029
67	0.0032	0.0003	0.0030
68	0.0032	0.0003	0.0030
69	0.0033	0.0003	0.0030
70	0.0033	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0033	0.0003	0.0031
73	0.0033	0.0003	0.0031
74	0.0034	0.0003	0.0031
75	0.0034	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0034	0.0003	0.0032
78	0.0034	0.0003	0.0032
79	0.0035	0.0003	0.0032
80	0.0035	0.0003	0.0032
81	0.0035	0.0003	0.0032
82	0.0035	0.0003	0.0033
83	0.0036	0.0003	0.0033
84	0.0036	0.0003	0.0033
85	0.0036	0.0003	0.0033
86	0.0036	0.0003	0.0033
87	0.0037	0.0003	0.0034
88	0.0037	0.0003	0.0034
89	0.0037	0.0003	0.0034
90	0.0037	0.0003	0.0034
91	0.0038	0.0003	0.0035
92	0.0038	0.0003	0.0035
93	0.0038	0.0003	0.0035
94	0.0038	0.0003	0.0035

95	0.0039	0.0003	0.0036
96	0.0039	0.0003	0.0036
97	0.0039	0.0003	0.0036
98	0.0040	0.0003	0.0037
99	0.0040	0.0003	0.0037
100	0.0040	0.0003	0.0037
101	0.0041	0.0003	0.0038
102	0.0041	0.0003	0.0038
103	0.0041	0.0003	0.0038
104	0.0042	0.0003	0.0038
105	0.0042	0.0003	0.0039
106	0.0042	0.0003	0.0039
107	0.0043	0.0003	0.0039
108	0.0043	0.0003	0.0040
109	0.0044	0.0003	0.0040
110	0.0044	0.0003	0.0040
111	0.0044	0.0004	0.0041
112	0.0045	0.0004	0.0041
113	0.0045	0.0004	0.0042
114	0.0046	0.0004	0.0042
115	0.0046	0.0004	0.0042
116	0.0046	0.0004	0.0043
117	0.0047	0.0004	0.0043
118	0.0047	0.0004	0.0044
119	0.0048	0.0004	0.0044
120	0.0048	0.0004	0.0044
121	0.0049	0.0004	0.0045
122	0.0049	0.0004	0.0045
123	0.0050	0.0004	0.0046
124	0.0050	0.0004	0.0046
125	0.0051	0.0004	0.0047
126	0.0051	0.0004	0.0047
127	0.0052	0.0004	0.0048
128	0.0053	0.0004	0.0048
129	0.0053	0.0004	0.0049
130	0.0054	0.0004	0.0050
131	0.0055	0.0004	0.0050
132	0.0055	0.0004	0.0051
133	0.0056	0.0004	0.0052
134	0.0057	0.0004	0.0052
135	0.0058	0.0005	0.0053
136	0.0058	0.0005	0.0053
137	0.0059	0.0005	0.0054
138	0.0060	0.0005	0.0055
139	0.0061	0.0005	0.0056
140	0.0061	0.0005	0.0056
141	0.0062	0.0005	0.0057
142	0.0063	0.0005	0.0058
143	0.0064	0.0005	0.0059
144	0.0065	0.0005	0.0060
145	0.0041	0.0003	0.0038
146	0.0042	0.0003	0.0038
147	0.0043	0.0003	0.0039
148	0.0043	0.0003	0.0040
149	0.0044	0.0004	0.0041
150	0.0045	0.0004	0.0041
151	0.0046	0.0004	0.0043
152	0.0047	0.0004	0.0043
153	0.0048	0.0004	0.0044

154	0.0049	0.0004	0.0045
155	0.0050	0.0004	0.0046
156	0.0051	0.0004	0.0047
157	0.0053	0.0004	0.0048
158	0.0053	0.0004	0.0049
159	0.0055	0.0004	0.0051
160	0.0056	0.0004	0.0052
161	0.0058	0.0005	0.0054
162	0.0059	0.0005	0.0055
163	0.0061	0.0005	0.0057
164	0.0063	0.0005	0.0058
165	0.0065	0.0005	0.0060
166	0.0067	0.0005	0.0061
167	0.0069	0.0006	0.0064
168	0.0071	0.0006	0.0065
169	0.0074	0.0006	0.0069
170	0.0076	0.0006	0.0070
171	0.0080	0.0006	0.0074
172	0.0082	0.0007	0.0076
173	0.0087	0.0007	0.0080
174	0.0090	0.0007	0.0082
175	0.0095	0.0008	0.0088
176	0.0098	0.0008	0.0091
177	0.0105	0.0008	0.0097
178	0.0109	0.0009	0.0101
179	0.0118	0.0009	0.0109
180	0.0123	0.0010	0.0113
181	0.0135	0.0011	0.0124
182	0.0142	0.0011	0.0131
183	0.0158	0.0013	0.0145
184	0.0168	0.0013	0.0154
185	0.0358	0.0027	0.0331
186	0.0381	0.0027	0.0355
187	0.0442	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1497
193	0.6592	0.0027	0.6565
194	0.0826	0.0027	0.0799
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0382
197	0.0179	0.0014	0.0165
198	0.0149	0.0012	0.0138
199	0.0129	0.0010	0.0119
200	0.0114	0.0009	0.0104
201	0.0102	0.0008	0.0094
202	0.0092	0.0007	0.0085
203	0.0085	0.0007	0.0078
204	0.0078	0.0006	0.0072
205	0.0073	0.0006	0.0067
206	0.0068	0.0005	0.0063
207	0.0064	0.0005	0.0059
208	0.0060	0.0005	0.0056
209	0.0057	0.0005	0.0053
210	0.0054	0.0004	0.0050
211	0.0052	0.0004	0.0048
212	0.0050	0.0004	0.0046

213	0.0047	0.0004	0.0044
214	0.0046	0.0004	0.0042
215	0.0044	0.0003	0.0040
216	0.0042	0.0003	0.0039
217	0.0066	0.0005	0.0060
218	0.0064	0.0005	0.0059
219	0.0062	0.0005	0.0057
220	0.0060	0.0005	0.0055
221	0.0059	0.0005	0.0054
222	0.0057	0.0005	0.0052
223	0.0056	0.0004	0.0051
224	0.0054	0.0004	0.0050
225	0.0053	0.0004	0.0049
226	0.0052	0.0004	0.0048
227	0.0051	0.0004	0.0047
228	0.0050	0.0004	0.0046
229	0.0049	0.0004	0.0045
230	0.0048	0.0004	0.0044
231	0.0047	0.0004	0.0043
232	0.0046	0.0004	0.0042
233	0.0045	0.0004	0.0041
234	0.0044	0.0004	0.0041
235	0.0043	0.0003	0.0040
236	0.0043	0.0003	0.0039
237	0.0042	0.0003	0.0039
238	0.0041	0.0003	0.0038
239	0.0041	0.0003	0.0037
240	0.0040	0.0003	0.0037
241	0.0039	0.0003	0.0036
242	0.0039	0.0003	0.0036
243	0.0038	0.0003	0.0035
244	0.0038	0.0003	0.0035
245	0.0037	0.0003	0.0034
246	0.0036	0.0003	0.0034
247	0.0036	0.0003	0.0033
248	0.0035	0.0003	0.0033
249	0.0035	0.0003	0.0032
250	0.0035	0.0003	0.0032
251	0.0034	0.0003	0.0031
252	0.0034	0.0003	0.0031
253	0.0033	0.0003	0.0031
254	0.0033	0.0003	0.0030
255	0.0032	0.0003	0.0030
256	0.0032	0.0003	0.0030
257	0.0032	0.0003	0.0029
258	0.0031	0.0002	0.0029
259	0.0031	0.0002	0.0029
260	0.0031	0.0002	0.0028
261	0.0030	0.0002	0.0028
262	0.0030	0.0002	0.0028
263	0.0030	0.0002	0.0027
264	0.0029	0.0002	0.0027
265	0.0029	0.0002	0.0027
266	0.0029	0.0002	0.0026
267	0.0028	0.0002	0.0026
268	0.0028	0.0002	0.0026
269	0.0028	0.0002	0.0026
270	0.0028	0.0002	0.0025
271	0.0027	0.0002	0.0025

272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0025
274	0.0027	0.0002	0.0025
275	0.0026	0.0002	0.0024
276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0026	0.0002	0.0024
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0025	0.0002	0.0023
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022
288	0.0024	0.0002	0.0022

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.51(In)
Peak flow rate in flood hydrograph = 26.59(CFS)

++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0004	0.04	Q	|	|	|	|
0+20	0.0011	0.10	Q	|	|	|	|
0+25	0.0022	0.16	Q	|	|	|	|
0+30	0.0035	0.19	Q	|	|	|	|
0+35	0.0050	0.21	Q	|	|	|	|
0+40	0.0066	0.23	Q	|	|	|	|
0+45	0.0083	0.25	Q	|	|	|	|
0+50	0.0101	0.26	Q	|	|	|	|
0+55	0.0120	0.27	Q	|	|	|	|
1+ 0	0.0139	0.28	Q	|	|	|	|
1+ 5	0.0159	0.29	Q	|	|	|	|
1+10	0.0179	0.29	Q	|	|	|	|
1+15	0.0199	0.30	Q	|	|	|	|
1+20	0.0220	0.30	Q	|	|	|	|
1+25	0.0242	0.31	Q	|	|	|	|
1+30	0.0263	0.31	Q	|	|	|	|
1+35	0.0285	0.32	Q	|	|	|	|
1+40	0.0307	0.32	Q	|	|	|	|
1+45	0.0330	0.33	Q	|	|	|	|
1+50	0.0352	0.33	Q	|	|	|	|
1+55	0.0375	0.33	Q	|	|	|	|
2+ 0	0.0398	0.33	Q	|	|	|	|
2+ 5	0.0422	0.34	Q	|	|	|	|
2+10	0.0445	0.34	Q	|	|	|	|
2+15	0.0469	0.34	Q	|	|	|	|

2+20	0.0492	0.34	Q				
2+25	0.0516	0.35	Q				
2+30	0.0540	0.35	Q				
2+35	0.0564	0.35	Q				
2+40	0.0589	0.35	Q				
2+45	0.0613	0.36	Q				
2+50	0.0638	0.36	Q				
2+55	0.0663	0.36	QV				
3+ 0	0.0688	0.36	QV				
3+ 5	0.0713	0.36	QV				
3+10	0.0738	0.37	QV				
3+15	0.0763	0.37	QV				
3+20	0.0789	0.37	QV				
3+25	0.0814	0.37	QV				
3+30	0.0840	0.37	QV				
3+35	0.0866	0.37	QV				
3+40	0.0892	0.38	QV				
3+45	0.0918	0.38	QV				
3+50	0.0944	0.38	QV				
3+55	0.0970	0.38	QV				
4+ 0	0.0997	0.38	QV				
4+ 5	0.1023	0.39	QV				
4+10	0.1050	0.39	QV				
4+15	0.1077	0.39	QV				
4+20	0.1104	0.39	QV				
4+25	0.1131	0.39	QV				
4+30	0.1158	0.40	QV				
4+35	0.1185	0.40	QV				
4+40	0.1213	0.40	QV				
4+45	0.1241	0.40	QV				
4+50	0.1268	0.40	QV				
4+55	0.1296	0.41	Q V				
5+ 0	0.1324	0.41	Q V				
5+ 5	0.1353	0.41	Q V				
5+10	0.1381	0.41	Q V				
5+15	0.1410	0.41	Q V				
5+20	0.1438	0.42	Q V				
5+25	0.1467	0.42	Q V				
5+30	0.1496	0.42	Q V				
5+35	0.1525	0.42	Q V				
5+40	0.1555	0.43	Q V				
5+45	0.1584	0.43	Q V				
5+50	0.1614	0.43	Q V				
5+55	0.1644	0.43	Q V				
6+ 0	0.1674	0.44	Q V				
6+ 5	0.1704	0.44	Q V				
6+10	0.1734	0.44	Q V				
6+15	0.1765	0.44	Q V				
6+20	0.1796	0.45	Q V				
6+25	0.1827	0.45	Q V				
6+30	0.1858	0.45	Q V				
6+35	0.1889	0.45	Q V				
6+40	0.1921	0.46	Q V				
6+45	0.1952	0.46	Q V				
6+50	0.1984	0.46	Q V				
6+55	0.2016	0.47	Q V				
7+ 0	0.2049	0.47	Q V				
7+ 5	0.2081	0.47	Q V				
7+10	0.2114	0.48	Q V				

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 7+15       0.2147      0.48  Q  V      |          |          |          |
 7+20       0.2180      0.48  Q  V      |          |          |          |
 7+25       0.2214      0.49  Q  V      |          |          |          |
 7+30       0.2247      0.49  Q  V      |          |          |          |
 7+35       0.2281      0.49  Q  V      |          |          |          |
 7+40       0.2315      0.50  Q  V      |          |          |          |
 7+45       0.2350      0.50  Q  V      |          |          |          |
 7+50       0.2384      0.50  Q  V      |          |          |          |
 7+55       0.2419      0.51  Q  V      |          |          |          |
 8+ 0       0.2454      0.51  Q  V      |          |          |          |
 8+ 5       0.2490      0.51  Q  V      |          |          |          |
 8+10       0.2525      0.52  Q  V      |          |          |          |
 8+15       0.2561      0.52  Q  V      |          |          |          |
 8+20       0.2597      0.52  Q   V      |          |          |          |
 8+25       0.2634      0.53  Q   V      |          |          |          |
 8+30       0.2670      0.53  Q   V      |          |          |          |
 8+35       0.2707      0.54  Q   V      |          |          |          |
 8+40       0.2745      0.54  Q   V      |          |          |          |
 8+45       0.2782      0.55  Q   V      |          |          |          |
 8+50       0.2820      0.55  Q   V      |          |          |          |
 8+55       0.2858      0.55  Q   V      |          |          |          |
 9+ 0       0.2897      0.56  Q   V      |          |          |          |
 9+ 5       0.2935      0.56  Q   V      |          |          |          |
 9+10       0.2975      0.57  Q   V      |          |          |          |
 9+15       0.3014      0.57  Q   V      |          |          |          |
 9+20       0.3054      0.58  Q   V      |          |          |          |
 9+25       0.3094      0.58  Q   V      |          |          |          |
 9+30       0.3134      0.59  Q   V      |          |          |          |
 9+35       0.3175      0.59  Q   V      |          |          |          |
 9+40       0.3216      0.60  Q    V     |          |          |          |
 9+45       0.3258      0.60  Q    V     |          |          |          |
 9+50       0.3300      0.61  Q    V     |          |          |          |
 9+55       0.3342      0.61  Q    V     |          |          |          |
10+ 0       0.3385      0.62  Q    V     |          |          |          |
10+ 5       0.3428      0.63  Q    V     |          |          |          |
10+10       0.3472      0.63  Q    V     |          |          |          |
10+15       0.3516      0.64  Q    V     |          |          |          |
10+20       0.3560      0.65  Q    V     |          |          |          |
10+25       0.3605      0.65  Q    V     |          |          |          |
10+30       0.3650      0.66  Q    V     |          |          |          |
10+35       0.3696      0.66  Q    V     |          |          |          |
10+40       0.3742      0.67  Q    V     |          |          |          |
10+45       0.3789      0.68  Q    V     |          |          |          |
10+50       0.3836      0.69  Q    V     |          |          |          |
10+55       0.3884      0.69  Q     V    |          |          |          |
11+ 0       0.3932      0.70  Q     V    |          |          |          |
11+ 5       0.3981      0.71  Q     V    |          |          |          |
11+10       0.4031      0.72  Q     V    |          |          |          |
11+15       0.4081      0.73  Q     V    |          |          |          |
11+20       0.4131      0.73  Q     V    |          |          |          |
11+25       0.4182      0.74  Q     V    |          |          |          |
11+30       0.4234      0.75  |Q    V    |          |          |          |
11+35       0.4287      0.76  |Q    V    |          |          |          |
11+40       0.4340      0.77  |Q    V    |          |          |          |
11+45       0.4394      0.78  |Q    V    |          |          |          |
11+50       0.4448      0.79  |Q    V    |          |          |          |
11+55       0.4503      0.80  |Q     V   |          |          |          |
12+ 0       0.4559      0.81  |Q     V   |          |          |          |
12+ 5       0.4616      0.82  |Q     V   |          |          |          |
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12+10       0.4672      0.82  |Q     V  |          |          |          |
12+15       0.4727      0.80  |Q     V  |          |          |          |
12+20       0.4779      0.75  |Q     V  |          |          |          |
12+25       0.4828      0.71  Q      V  |          |          |          |
12+30       0.4874      0.68  Q      V  |          |          |          |
12+35       0.4920      0.67  Q      V  |          |          |          |
12+40       0.4966      0.66  Q      V  |          |          |          |
12+45       0.5011      0.66  Q      V  |          |          |          |
12+50       0.5056      0.66  Q      V  |          |          |          |
12+55       0.5102      0.66  Q      V  |          |          |          |
13+ 0       0.5148      0.66  Q       V |          |          |          |
13+ 5       0.5194      0.67  Q       V |          |          |          |
13+10       0.5240      0.68  Q       V |          |          |          |
13+15       0.5288      0.69  Q       V |          |          |          |
13+20       0.5336      0.70  Q       V |          |          |          |
13+25       0.5384      0.71  Q       V |          |          |          |
13+30       0.5434      0.72  Q       V |          |          |          |
13+35       0.5484      0.73  Q       V |          |          |          |
13+40       0.5536      0.75  Q       V |          |          |          |
13+45       0.5589      0.77  |Q      V |          |          |          |
13+50       0.5643      0.78  |Q      V |          |          |          |
13+55       0.5698      0.80  |Q      V |          |          |          |
14+ 0       0.5755      0.82  |Q      V |          |          |          |
14+ 5       0.5813      0.84  |Q       V|          |          |          |
14+10       0.5872      0.87  |Q       V|          |          |          |
14+15       0.5934      0.89  |Q       V|          |          |          |
14+20       0.5998      0.92  |Q       V|          |          |          |
14+25       0.6063      0.95  |Q       V|          |          |          |
14+30       0.6131      0.99  |Q       V|          |          |          |
14+35       0.6201      1.02  |Q       V|          |          |          |
14+40       0.6274      1.06  |Q       V|          |          |          |
14+45       0.6350      1.10  |Q       V|          |          |          |
14+50       0.6429      1.15  |Q        V          |          |          |
14+55       0.6511      1.20  |Q        V          |          |          |
15+ 0       0.6598      1.25  |Q        V          |          |          |
15+ 5       0.6688      1.32  |Q        V          |          |          |
15+10       0.6784      1.39  |Q        V          |          |          |
15+15       0.6885      1.47  |Q        V          |          |          |
15+20       0.6992      1.56  | Q       V          |          |          |
15+25       0.7108      1.69  | Q       |V         |          |          |
15+30       0.7240      1.91  | Q       |V         |          |          |
15+35       0.7395      2.26  |  Q      |V         |          |          |
15+40       0.7594      2.89  |  Q      |V         |          |          |
15+45       0.7839      3.56  |   Q     | V        |          |          |
15+50       0.8132      4.25  |    Q    | V        |          |          |
15+55       0.8478      5.02  |     Q   |  V       |          |          |
16+ 0       0.8901      6.14  |       Q |  V       |          |          |
16+ 5       0.9488      8.53  |         |Q  V      |          |          |
16+10       1.0371     12.82  |         |     VQ   |          |          |
16+15       1.1629     18.25  |         |       V  |   Q      |          |
16+20       1.3460     26.59  |         |         V|          |    Q     |
16+25       1.5142     24.43  |         |          |  V       | Q        |
16+30       1.6399     18.25  |         |          |   QV     |          |
16+35       1.7349     13.78  |         |        Q |      V   |          |
16+40       1.8107     11.02  |         |   Q      |       V  |          |
16+45       1.8724      8.96  |         |Q         |        V |          |
16+50       1.9243      7.53  |         Q          |        V |          |
16+55       1.9683      6.39  |       Q  |         |         V|          |
17+ 0       2.0067      5.57  |      Q   |         |          |V         |
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17+ 5       2.0410      4.98  |     Q   |         |         |V        |
17+10       2.0712      4.39  |    Q    |         |         | V       |
17+15       2.0975      3.82  |    Q    |         |         | V       |
17+20       2.1211      3.42  |   Q     |         |         |  V      |
17+25       2.1426      3.13  |   Q     |         |         |  V      |
17+30       2.1622      2.84  |  Q      |         |         |  V      |
17+35       2.1800      2.59  |  Q      |         |         |  V      |
17+40       2.1960      2.32  |  Q      |         |         |   V     |
17+45       2.2109      2.16  | Q       |         |         |   V     |
17+50       2.2243      1.95  | Q       |         |         |   V     |
17+55       2.2366      1.80  | Q       |         |         |   V     |
18+ 0       2.2479      1.63  | Q       |         |         |    V    |
18+ 5       2.2580      1.47  |Q        |         |         |    V    |
18+10       2.2674      1.37  |Q        |         |         |    V    |
18+15       2.2759      1.23  |Q        |         |         |    V    |
18+20       2.2843      1.23  |Q        |         |         |    V    |
18+25       2.2931      1.27  |Q        |         |         |    V    |
18+30       2.3018      1.26  |Q        |         |         |    V    |
18+35       2.3103      1.24  |Q        |         |         |     V   |
18+40       2.3186      1.21  |Q        |         |         |     V   |
18+45       2.3265      1.14  |Q        |         |         |     V   |
18+50       2.3335      1.02  |Q        |         |         |     V   |
18+55       2.3402      0.97  |Q        |         |         |     V   |
19+ 0       2.3461      0.87  |Q        |         |         |     V   |
19+ 5       2.3515      0.78  |Q        |         |         |     V   |
19+10       2.3567      0.75  |Q        |         |         |     V   |
19+15       2.3617      0.73  Q         |         |         |     V   |
19+20       2.3666      0.71  Q         |         |         |     V   |
19+25       2.3714      0.70  Q         |         |         |     V   |
19+30       2.3762      0.68  Q         |         |         |      V  |
19+35       2.3808      0.67  Q         |         |         |      V  |
19+40       2.3853      0.66  Q         |         |         |      V  |
19+45       2.3898      0.65  Q         |         |         |      V  |
19+50       2.3942      0.64  Q         |         |         |      V  |
19+55       2.3985      0.62  Q         |         |         |      V  |
20+ 0       2.4027      0.61  Q         |         |         |      V  |
20+ 5       2.4069      0.60  Q         |         |         |      V  |
20+10       2.4110      0.59  Q         |         |         |      V  |
20+15       2.4150      0.58  Q         |         |         |      V  |
20+20       2.4189      0.57  Q         |         |         |      V  |
20+25       2.4228      0.57  Q         |         |         |      V  |
20+30       2.4267      0.56  Q         |         |         |      V  |
20+35       2.4304      0.55  Q         |         |         |      V  |
20+40       2.4341      0.54  Q         |         |         |      V  |
20+45       2.4378      0.53  Q         |         |         |      V  |
20+50       2.4414      0.52  Q         |         |         |       V |
20+55       2.4450      0.52  Q         |         |         |       V |
21+ 0       2.4485      0.51  Q         |         |         |       V |
21+ 5       2.4520      0.50  Q         |         |         |       V |
21+10       2.4554      0.50  Q         |         |         |       V |
21+15       2.4587      0.49  Q         |         |         |       V |
21+20       2.4621      0.48  Q         |         |         |       V |
21+25       2.4653      0.48  Q         |         |         |       V |
21+30       2.4686      0.47  Q         |         |         |       V |
21+35       2.4718      0.46  Q         |         |         |       V |
21+40       2.4749      0.46  Q         |         |         |       V |
21+45       2.4780      0.45  Q         |         |         |       V |
21+50       2.4811      0.45  Q         |         |         |       V |
21+55       2.4841      0.44  Q         |         |         |       V |
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22+ 0	2.4871	0.44	Q	|	|	|	V |
22+ 5	2.4901	0.43	Q	|	|	|	V |
22+10	2.4930	0.43	Q	|	|	|	V |
22+15	2.4959	0.42	Q	|	|	|	V |
22+20	2.4988	0.42	Q	|	|	|	V |
22+25	2.5016	0.41	Q	|	|	|	V |
22+30	2.5044	0.41	Q	|	|	|	V|
22+35	2.5072	0.40	Q	|	|	|	V|
22+40	2.5100	0.40	Q	|	|	|	V|
22+45	2.5127	0.39	Q	|	|	|	V|
22+50	2.5154	0.39	Q	|	|	|	V|
22+55	2.5180	0.39	Q	|	|	|	V|
23+ 0	2.5207	0.38	Q	|	|	|	V|
23+ 5	2.5233	0.38	Q	|	|	|	V|
23+10	2.5259	0.38	Q	|	|	|	V|
23+15	2.5284	0.37	Q	|	|	|	V|
23+20	2.5310	0.37	Q	|	|	|	V|
23+25	2.5335	0.37	Q	|	|	|	V|
23+30	2.5360	0.36	Q	|	|	|	V|
23+35	2.5384	0.36	Q	|	|	|	V|
23+40	2.5409	0.36	Q	|	|	|	V|
23+45	2.5433	0.35	Q	|	|	|	V|
23+50	2.5457	0.35	Q	|	|	|	V|
23+55	2.5481	0.35	Q	|	|	|	V|
24+ 0	2.5505	0.34	Q	|	|	|	V|
24+ 5	2.5528	0.34	Q	|	|	|	V|
24+10	2.5550	0.32	Q	|	|	|	V|
24+15	2.5570	0.29	Q	|	|	|	V|
24+20	2.5586	0.23	Q	|	|	|	V|
24+25	2.5598	0.18	Q	|	|	|	V|
24+30	2.5607	0.14	Q	|	|	|	V|
24+35	2.5615	0.12	Q	|	|	|	V|
24+40	2.5622	0.10	Q	|	|	|	V|
24+45	2.5628	0.08	Q	|	|	|	V|
24+50	2.5633	0.07	Q	|	|	|	V|
24+55	2.5637	0.06	Q	|	|	|	V|
25+ 0	2.5641	0.05	Q	|	|	|	V|
25+ 5	2.5644	0.05	Q	|	|	|	V|
25+10	2.5647	0.04	Q	|	|	|	V|
25+15	2.5649	0.04	Q	|	|	|	V|
25+20	2.5651	0.03	Q	|	|	|	V|
25+25	2.5653	0.03	Q	|	|	|	V|
25+30	2.5655	0.02	Q	|	|	|	V|
25+35	2.5656	0.02	Q	|	|	|	V|
25+40	2.5657	0.02	Q	|	|	|	V|
25+45	2.5658	0.02	Q	|	|	|	V|
25+50	2.5659	0.01	Q	|	|	|	V|
25+55	2.5660	0.01	Q	|	|	|	V|
26+ 0	2.5661	0.01	Q	|	|	|	V|
26+ 5	2.5661	0.01	Q	|	|	|	V|
26+10	2.5662	0.01	Q	|	|	|	V|
26+15	2.5662	0.01	Q	|	|	|	V|
26+20	2.5662	0.01	Q	|	|	|	V|
26+25	2.5663	0.00	Q	|	|	|	V|
26+30	2.5663	0.00	Q	|	|	|	V|
26+35	2.5663	0.00	Q	|	|	|	V|
26+40	2.5663	0.00	Q	|	|	|	V|
26+45	2.5663	0.00	Q	|	|	|	V|
26+50	2.5663	0.00	Q	|	|	|	V|

26+55	2.5663	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 39
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
277.99	1	1.40
Rainfall data for year 100		
277.99	6	1.86
Rainfall data for year 100		
277.99	24	2.65

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
85.1	97.0	277.99	1.000	0.059	0.900	0.053

Area-averaged adjusted loss rate Fm (In/Hr) = 0.053

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
250.19	0.900	85.1	97.0	0.31	0.873
27.80	0.100	98.0	98.0	0.20	0.913

Area-averaged catchment yield fraction, Y = 0.877
Area-averaged low loss fraction, Yb = 0.123
User entry of time of concentration = 1.440 (hours)
++
Watershed area = 277.99(Ac.)
Catchment Lag time = 1.152 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.2338
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.053(In/Hr)
Average low loss rate fraction (Yb) = 0.123 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.666(In)
Specified peak 6-hour rainfall = 1.860(In)
Specified peak 24-hour rainfall = 2.650(In)

Rainfall depth area reduction factors:
Using a total area of 277.99(Ac.) (Ref: fig. E-4)

5-minute factor = 0.987 Adjusted rainfall = 0.656(In)
30-minute factor = 0.987 Adjusted rainfall = 1.122(In)
1-hour factor = 0.987 Adjusted rainfall = 1.382(In)
3-hour factor = 0.998 Adjusted rainfall = 1.664(In)
6-hour factor = 0.999 Adjusted rainfall = 1.858(In)
24-hour factor = 1.000 Adjusted rainfall = 2.649(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 3361.94 (CFS))	
1	0.318	10.701
2	0.976	22.121
3	2.038	35.701
4	3.339	43.736
5	5.073	58.290
6	7.079	67.438
7	9.507	81.638
8	13.222	124.899
9	18.032	161.697
10	24.870	229.907
11	32.035	240.873
12	38.309	210.942
13	43.863	186.711

14	48.487	155.436
15	52.543	136.369
16	56.206	123.143
17	59.133	98.426
18	61.776	88.849
19	64.053	76.564
20	66.140	70.133
21	68.043	64.001
22	69.826	59.948
23	71.521	56.970
24	72.999	49.686
25	74.389	46.734
26	75.665	42.904
27	76.905	41.680
28	78.104	40.315
29	79.114	33.940
30	80.068	32.102
31	81.023	32.102
32	81.908	29.759
33	82.691	26.297
34	83.472	26.265
35	84.245	25.983
36	84.953	23.804
37	85.647	23.347
38	86.342	23.347
39	86.980	21.463
40	87.559	19.456
41	88.138	19.456
42	88.696	18.778
43	89.146	15.134
44	89.580	14.592
45	90.014	14.589
46	90.432	14.038
47	90.837	13.619
48	91.242	13.619
49	91.636	13.250
50	91.987	11.817
51	92.335	11.673
52	92.682	11.661
53	93.010	11.044
54	93.328	10.701
55	93.647	10.701
56	93.947	10.098
57	94.196	8.375
58	94.442	8.269
59	94.688	8.269
60	94.934	8.269
61	95.180	8.269
62	95.426	8.269
63	95.654	7.658
64	95.843	6.365
65	96.031	6.323
66	96.219	6.323
67	96.407	6.323
68	96.595	6.323
69	96.783	6.323
70	96.949	5.570
71	97.080	4.392
72	97.210	4.378

73	97.340	4.378
74	97.470	4.378
75	97.601	4.378
76	97.731	4.378
77	97.834	3.466
78	97.906	2.433
79	97.979	2.432
80	98.051	2.432
81	98.123	2.432
82	98.196	2.432
83	98.268	2.433
84	98.348	2.702
85	98.435	2.918
86	98.522	2.918
87	98.609	2.918
88	98.695	2.918
89	98.782	2.918
90	98.869	2.918
91	98.956	2.918
92	99.043	2.918
93	99.130	2.918
94	99.216	2.918
95	99.303	2.918
96	99.390	2.918
97	99.476	2.881
98	99.533	1.932
99	99.578	1.520
100	99.624	1.520
101	99.669	1.520
102	99.714	1.520
103	99.759	1.520
104	99.804	1.520
105	99.850	1.520
106	99.895	1.520
107	99.940	1.520
108	100.000	0.760

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6557	0.6557
2	0.8072	0.1516
3	0.9116	0.1044
4	0.9938	0.0822
5	1.0626	0.0688
6	1.1223	0.0597
7	1.1755	0.0531
8	1.2235	0.0480
9	1.2675	0.0440
10	1.3082	0.0407
11	1.3462	0.0379
12	1.3818	0.0356
13	1.4006	0.0188
14	1.4182	0.0177
15	1.4349	0.0166
16	1.4506	0.0157
17	1.4655	0.0149
18	1.4798	0.0142
19	1.4933	0.0136
20	1.5063	0.0130

21	1.5188	0.0125
22	1.5308	0.0120
23	1.5423	0.0115
24	1.5535	0.0111
25	1.5642	0.0108
26	1.5746	0.0104
27	1.5847	0.0101
28	1.5945	0.0098
29	1.6040	0.0095
30	1.6132	0.0092
31	1.6221	0.0090
32	1.6309	0.0087
33	1.6394	0.0085
34	1.6477	0.0083
35	1.6558	0.0081
36	1.6637	0.0079
37	1.6710	0.0073
38	1.6781	0.0071
39	1.6851	0.0070
40	1.6919	0.0068
41	1.6986	0.0067
42	1.7051	0.0065
43	1.7115	0.0064
44	1.7178	0.0063
45	1.7240	0.0062
46	1.7301	0.0061
47	1.7360	0.0060
48	1.7419	0.0058
49	1.7476	0.0057
50	1.7533	0.0056
51	1.7588	0.0056
52	1.7643	0.0055
53	1.7697	0.0054
54	1.7749	0.0053
55	1.7801	0.0052
56	1.7853	0.0051
57	1.7903	0.0051
58	1.7953	0.0050
59	1.8002	0.0049
60	1.8051	0.0048
61	1.8098	0.0048
62	1.8145	0.0047
63	1.8192	0.0046
64	1.8238	0.0046
65	1.8283	0.0045
66	1.8327	0.0045
67	1.8371	0.0044
68	1.8415	0.0044
69	1.8458	0.0043
70	1.8500	0.0042
71	1.8542	0.0042
72	1.8584	0.0041
73	1.8650	0.0066
74	1.8715	0.0065
75	1.8779	0.0064
76	1.8843	0.0064
77	1.8906	0.0063
78	1.8968	0.0062
79	1.9030	0.0062

80	1.9091	0.0061
81	1.9152	0.0061
82	1.9212	0.0060
83	1.9272	0.0060
84	1.9331	0.0059
85	1.9390	0.0059
86	1.9448	0.0058
87	1.9505	0.0058
88	1.9562	0.0057
89	1.9619	0.0057
90	1.9675	0.0056
91	1.9731	0.0056
92	1.9786	0.0055
93	1.9841	0.0055
94	1.9895	0.0054
95	1.9949	0.0054
96	2.0003	0.0053
97	2.0056	0.0053
98	2.0108	0.0053
99	2.0161	0.0052
100	2.0212	0.0052
101	2.0264	0.0051
102	2.0315	0.0051
103	2.0366	0.0051
104	2.0416	0.0050
105	2.0466	0.0050
106	2.0516	0.0050
107	2.0565	0.0049
108	2.0614	0.0049
109	2.0663	0.0049
110	2.0711	0.0048
111	2.0759	0.0048
112	2.0807	0.0048
113	2.0854	0.0047
114	2.0901	0.0047
115	2.0948	0.0047
116	2.0994	0.0046
117	2.1040	0.0046
118	2.1086	0.0046
119	2.1132	0.0046
120	2.1177	0.0045
121	2.1222	0.0045
122	2.1267	0.0045
123	2.1311	0.0044
124	2.1355	0.0044
125	2.1399	0.0044
126	2.1443	0.0044
127	2.1486	0.0043
128	2.1530	0.0043
129	2.1572	0.0043
130	2.1615	0.0043
131	2.1657	0.0042
132	2.1700	0.0042
133	2.1742	0.0042
134	2.1783	0.0042
135	2.1825	0.0041
136	2.1866	0.0041
137	2.1907	0.0041
138	2.1948	0.0041

139	2.1988	0.0041
140	2.2029	0.0040
141	2.2069	0.0040
142	2.2109	0.0040
143	2.2148	0.0040
144	2.2188	0.0040
145	2.2227	0.0039
146	2.2266	0.0039
147	2.2305	0.0039
148	2.2344	0.0039
149	2.2382	0.0039
150	2.2421	0.0038
151	2.2459	0.0038
152	2.2497	0.0038
153	2.2535	0.0038
154	2.2572	0.0038
155	2.2609	0.0037
156	2.2647	0.0037
157	2.2684	0.0037
158	2.2721	0.0037
159	2.2757	0.0037
160	2.2794	0.0037
161	2.2830	0.0036
162	2.2866	0.0036
163	2.2902	0.0036
164	2.2938	0.0036
165	2.2974	0.0036
166	2.3009	0.0036
167	2.3045	0.0035
168	2.3080	0.0035
169	2.3115	0.0035
170	2.3150	0.0035
171	2.3185	0.0035
172	2.3219	0.0035
173	2.3254	0.0034
174	2.3288	0.0034
175	2.3322	0.0034
176	2.3356	0.0034
177	2.3390	0.0034
178	2.3424	0.0034
179	2.3457	0.0034
180	2.3491	0.0033
181	2.3524	0.0033
182	2.3557	0.0033
183	2.3590	0.0033
184	2.3623	0.0033
185	2.3656	0.0033
186	2.3689	0.0033
187	2.3721	0.0033
188	2.3753	0.0032
189	2.3786	0.0032
190	2.3818	0.0032
191	2.3850	0.0032
192	2.3882	0.0032
193	2.3913	0.0032
194	2.3945	0.0032
195	2.3977	0.0032
196	2.4008	0.0031
197	2.4039	0.0031

198	2.4070	0.0031
199	2.4101	0.0031
200	2.4132	0.0031
201	2.4163	0.0031
202	2.4194	0.0031
203	2.4224	0.0031
204	2.4255	0.0030
205	2.4285	0.0030
206	2.4315	0.0030
207	2.4346	0.0030
208	2.4376	0.0030
209	2.4405	0.0030
210	2.4435	0.0030
211	2.4465	0.0030
212	2.4495	0.0030
213	2.4524	0.0029
214	2.4553	0.0029
215	2.4583	0.0029
216	2.4612	0.0029
217	2.4641	0.0029
218	2.4670	0.0029
219	2.4699	0.0029
220	2.4728	0.0029
221	2.4756	0.0029
222	2.4785	0.0029
223	2.4813	0.0029
224	2.4842	0.0028
225	2.4870	0.0028
226	2.4898	0.0028
227	2.4927	0.0028
228	2.4955	0.0028
229	2.4983	0.0028
230	2.5010	0.0028
231	2.5038	0.0028
232	2.5066	0.0028
233	2.5093	0.0028
234	2.5121	0.0027
235	2.5148	0.0027
236	2.5176	0.0027
237	2.5203	0.0027
238	2.5230	0.0027
239	2.5257	0.0027
240	2.5284	0.0027
241	2.5311	0.0027
242	2.5338	0.0027
243	2.5364	0.0027
244	2.5391	0.0027
245	2.5418	0.0027
246	2.5444	0.0026
247	2.5471	0.0026
248	2.5497	0.0026
249	2.5523	0.0026
250	2.5549	0.0026
251	2.5575	0.0026
252	2.5601	0.0026
253	2.5627	0.0026
254	2.5653	0.0026
255	2.5679	0.0026
256	2.5705	0.0026

257	2.5730	0.0026
258	2.5756	0.0026
259	2.5781	0.0025
260	2.5807	0.0025
261	2.5832	0.0025
262	2.5858	0.0025
263	2.5883	0.0025
264	2.5908	0.0025
265	2.5933	0.0025
266	2.5958	0.0025
267	2.5983	0.0025
268	2.6008	0.0025
269	2.6032	0.0025
270	2.6057	0.0025
271	2.6082	0.0025
272	2.6106	0.0025
273	2.6131	0.0025
274	2.6155	0.0024
275	2.6180	0.0024
276	2.6204	0.0024
277	2.6228	0.0024
278	2.6252	0.0024
279	2.6277	0.0024
280	2.6301	0.0024
281	2.6325	0.0024
282	2.6349	0.0024
283	2.6372	0.0024
284	2.6396	0.0024
285	2.6420	0.0024
286	2.6444	0.0024
287	2.6467	0.0024
288	2.6491	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0003	0.0021
2	0.0024	0.0003	0.0021
3	0.0024	0.0003	0.0021
4	0.0024	0.0003	0.0021
5	0.0024	0.0003	0.0021
6	0.0024	0.0003	0.0021
7	0.0024	0.0003	0.0021
8	0.0024	0.0003	0.0021
9	0.0024	0.0003	0.0021
10	0.0024	0.0003	0.0021
11	0.0025	0.0003	0.0022
12	0.0025	0.0003	0.0022
13	0.0025	0.0003	0.0022
14	0.0025	0.0003	0.0022
15	0.0025	0.0003	0.0022
16	0.0025	0.0003	0.0022
17	0.0025	0.0003	0.0022
18	0.0025	0.0003	0.0022
19	0.0025	0.0003	0.0022
20	0.0025	0.0003	0.0022
21	0.0026	0.0003	0.0022
22	0.0026	0.0003	0.0022

23	0.0026	0.0003	0.0023
24	0.0026	0.0003	0.0023
25	0.0026	0.0003	0.0023
26	0.0026	0.0003	0.0023
27	0.0026	0.0003	0.0023
28	0.0026	0.0003	0.0023
29	0.0026	0.0003	0.0023
30	0.0027	0.0003	0.0023
31	0.0027	0.0003	0.0023
32	0.0027	0.0003	0.0024
33	0.0027	0.0003	0.0024
34	0.0027	0.0003	0.0024
35	0.0027	0.0003	0.0024
36	0.0027	0.0003	0.0024
37	0.0027	0.0003	0.0024
38	0.0028	0.0003	0.0024
39	0.0028	0.0003	0.0024
40	0.0028	0.0003	0.0024
41	0.0028	0.0003	0.0025
42	0.0028	0.0003	0.0025
43	0.0028	0.0003	0.0025
44	0.0028	0.0003	0.0025
45	0.0029	0.0004	0.0025
46	0.0029	0.0004	0.0025
47	0.0029	0.0004	0.0025
48	0.0029	0.0004	0.0025
49	0.0029	0.0004	0.0026
50	0.0029	0.0004	0.0026
51	0.0029	0.0004	0.0026
52	0.0030	0.0004	0.0026
53	0.0030	0.0004	0.0026
54	0.0030	0.0004	0.0026
55	0.0030	0.0004	0.0026
56	0.0030	0.0004	0.0027
57	0.0030	0.0004	0.0027
58	0.0031	0.0004	0.0027
59	0.0031	0.0004	0.0027
60	0.0031	0.0004	0.0027
61	0.0031	0.0004	0.0027
62	0.0031	0.0004	0.0027
63	0.0032	0.0004	0.0028
64	0.0032	0.0004	0.0028
65	0.0032	0.0004	0.0028
66	0.0032	0.0004	0.0028
67	0.0032	0.0004	0.0028
68	0.0032	0.0004	0.0028
69	0.0033	0.0004	0.0029
70	0.0033	0.0004	0.0029
71	0.0033	0.0004	0.0029
72	0.0033	0.0004	0.0029
73	0.0033	0.0004	0.0029
74	0.0034	0.0004	0.0029
75	0.0034	0.0004	0.0030
76	0.0034	0.0004	0.0030
77	0.0034	0.0004	0.0030
78	0.0034	0.0004	0.0030
79	0.0035	0.0004	0.0030
80	0.0035	0.0004	0.0031
81	0.0035	0.0004	0.0031

82	0.0035	0.0004	0.0031
83	0.0036	0.0004	0.0031
84	0.0036	0.0004	0.0031
85	0.0036	0.0004	0.0032
86	0.0036	0.0004	0.0032
87	0.0037	0.0005	0.0032
88	0.0037	0.0005	0.0032
89	0.0037	0.0005	0.0033
90	0.0037	0.0005	0.0033
91	0.0038	0.0005	0.0033
92	0.0038	0.0005	0.0033
93	0.0038	0.0005	0.0034
94	0.0039	0.0005	0.0034
95	0.0039	0.0005	0.0034
96	0.0039	0.0005	0.0034
97	0.0040	0.0005	0.0035
98	0.0040	0.0005	0.0035
99	0.0040	0.0005	0.0035
100	0.0040	0.0005	0.0035
101	0.0041	0.0005	0.0036
102	0.0041	0.0005	0.0036
103	0.0041	0.0005	0.0036
104	0.0042	0.0005	0.0037
105	0.0042	0.0005	0.0037
106	0.0042	0.0005	0.0037
107	0.0043	0.0005	0.0038
108	0.0043	0.0005	0.0038
109	0.0044	0.0005	0.0038
110	0.0044	0.0005	0.0039
111	0.0044	0.0005	0.0039
112	0.0045	0.0005	0.0039
113	0.0045	0.0006	0.0040
114	0.0046	0.0006	0.0040
115	0.0046	0.0006	0.0040
116	0.0046	0.0006	0.0041
117	0.0047	0.0006	0.0041
118	0.0047	0.0006	0.0042
119	0.0048	0.0006	0.0042
120	0.0048	0.0006	0.0042
121	0.0049	0.0006	0.0043
122	0.0049	0.0006	0.0043
123	0.0050	0.0006	0.0044
124	0.0050	0.0006	0.0044
125	0.0051	0.0006	0.0045
126	0.0051	0.0006	0.0045
127	0.0052	0.0006	0.0046
128	0.0053	0.0006	0.0046
129	0.0053	0.0007	0.0047
130	0.0054	0.0007	0.0047
131	0.0055	0.0007	0.0048
132	0.0055	0.0007	0.0048
133	0.0056	0.0007	0.0049
134	0.0057	0.0007	0.0050
135	0.0058	0.0007	0.0051
136	0.0058	0.0007	0.0051
137	0.0059	0.0007	0.0052
138	0.0060	0.0007	0.0052
139	0.0061	0.0007	0.0053
140	0.0061	0.0008	0.0054

141	0.0062	0.0008	0.0055
142	0.0063	0.0008	0.0055
143	0.0064	0.0008	0.0056
144	0.0065	0.0008	0.0057
145	0.0041	0.0005	0.0036
146	0.0042	0.0005	0.0037
147	0.0043	0.0005	0.0038
148	0.0044	0.0005	0.0038
149	0.0045	0.0005	0.0039
150	0.0045	0.0006	0.0040
151	0.0046	0.0006	0.0041
152	0.0047	0.0006	0.0041
153	0.0048	0.0006	0.0042
154	0.0049	0.0006	0.0043
155	0.0051	0.0006	0.0044
156	0.0051	0.0006	0.0045
157	0.0053	0.0006	0.0046
158	0.0054	0.0007	0.0047
159	0.0056	0.0007	0.0049
160	0.0056	0.0007	0.0050
161	0.0058	0.0007	0.0051
162	0.0060	0.0007	0.0052
163	0.0062	0.0008	0.0054
164	0.0063	0.0008	0.0055
165	0.0065	0.0008	0.0057
166	0.0067	0.0008	0.0059
167	0.0070	0.0009	0.0061
168	0.0071	0.0009	0.0063
169	0.0079	0.0010	0.0069
170	0.0081	0.0010	0.0071
171	0.0085	0.0010	0.0075
172	0.0087	0.0011	0.0077
173	0.0092	0.0011	0.0081
174	0.0095	0.0012	0.0083
175	0.0101	0.0012	0.0088
176	0.0104	0.0013	0.0091
177	0.0111	0.0014	0.0098
178	0.0115	0.0014	0.0101
179	0.0125	0.0015	0.0109
180	0.0130	0.0016	0.0114
181	0.0142	0.0017	0.0125
182	0.0149	0.0018	0.0131
183	0.0166	0.0020	0.0146
184	0.0177	0.0022	0.0155
185	0.0356	0.0044	0.0312
186	0.0379	0.0044	0.0335
187	0.0440	0.0044	0.0396
188	0.0480	0.0044	0.0436
189	0.0597	0.0044	0.0553
190	0.0688	0.0044	0.0644
191	0.1044	0.0044	0.1000
192	0.1516	0.0044	0.1471
193	0.6557	0.0044	0.6512
194	0.0822	0.0044	0.0778
195	0.0531	0.0044	0.0487
196	0.0407	0.0044	0.0363
197	0.0188	0.0023	0.0165
198	0.0157	0.0019	0.0138
199	0.0136	0.0017	0.0119

200	0.0120	0.0015	0.0105
201	0.0108	0.0013	0.0094
202	0.0098	0.0012	0.0086
203	0.0090	0.0011	0.0079
204	0.0083	0.0010	0.0073
205	0.0073	0.0009	0.0064
206	0.0068	0.0008	0.0060
207	0.0064	0.0008	0.0056
208	0.0061	0.0007	0.0053
209	0.0057	0.0007	0.0050
210	0.0055	0.0007	0.0048
211	0.0052	0.0006	0.0046
212	0.0050	0.0006	0.0044
213	0.0048	0.0006	0.0042
214	0.0046	0.0006	0.0040
215	0.0044	0.0005	0.0039
216	0.0042	0.0005	0.0037
217	0.0066	0.0008	0.0058
218	0.0064	0.0008	0.0056
219	0.0062	0.0008	0.0054
220	0.0060	0.0007	0.0053
221	0.0059	0.0007	0.0051
222	0.0057	0.0007	0.0050
223	0.0056	0.0007	0.0049
224	0.0054	0.0007	0.0048
225	0.0053	0.0007	0.0047
226	0.0052	0.0006	0.0046
227	0.0051	0.0006	0.0045
228	0.0050	0.0006	0.0044
229	0.0049	0.0006	0.0043
230	0.0048	0.0006	0.0042
231	0.0047	0.0006	0.0041
232	0.0046	0.0006	0.0040
233	0.0045	0.0006	0.0039
234	0.0044	0.0005	0.0039
235	0.0043	0.0005	0.0038
236	0.0043	0.0005	0.0037
237	0.0042	0.0005	0.0037
238	0.0041	0.0005	0.0036
239	0.0041	0.0005	0.0036
240	0.0040	0.0005	0.0035
241	0.0039	0.0005	0.0034
242	0.0039	0.0005	0.0034
243	0.0038	0.0005	0.0033
244	0.0038	0.0005	0.0033
245	0.0037	0.0005	0.0032
246	0.0037	0.0004	0.0032
247	0.0036	0.0004	0.0032
248	0.0036	0.0004	0.0031
249	0.0035	0.0004	0.0031
250	0.0035	0.0004	0.0030
251	0.0034	0.0004	0.0030
252	0.0034	0.0004	0.0030
253	0.0033	0.0004	0.0029
254	0.0033	0.0004	0.0029
255	0.0033	0.0004	0.0029
256	0.0032	0.0004	0.0028
257	0.0032	0.0004	0.0028
258	0.0031	0.0004	0.0028

259	0.0031	0.0004	0.0027
260	0.0031	0.0004	0.0027
261	0.0030	0.0004	0.0027
262	0.0030	0.0004	0.0026
263	0.0030	0.0004	0.0026
264	0.0029	0.0004	0.0026
265	0.0029	0.0004	0.0026
266	0.0029	0.0004	0.0025
267	0.0029	0.0003	0.0025
268	0.0028	0.0003	0.0025
269	0.0028	0.0003	0.0025
270	0.0028	0.0003	0.0024
271	0.0027	0.0003	0.0024
272	0.0027	0.0003	0.0024
273	0.0027	0.0003	0.0024
274	0.0027	0.0003	0.0023
275	0.0026	0.0003	0.0023
276	0.0026	0.0003	0.0023
277	0.0026	0.0003	0.0023
278	0.0026	0.0003	0.0023
279	0.0025	0.0003	0.0022
280	0.0025	0.0003	0.0022
281	0.0025	0.0003	0.0022
282	0.0025	0.0003	0.0022
283	0.0025	0.0003	0.0022
284	0.0024	0.0003	0.0021
285	0.0024	0.0003	0.0021
286	0.0024	0.0003	0.0021
287	0.0024	0.0003	0.0021
288	0.0024	0.0003	0.0021

Total soil rain loss = 0.21(In)
Total effective rainfall = 2.44(In)
Peak flow rate in flood hydrograph = 283.08(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0002	0.02	Q	|	|	|	|
0+10	0.0006	0.07	Q	|	|	|	|
0+15	0.0016	0.14	Q	|	|	|	|
0+20	0.0032	0.23	Q	|	|	|	|
0+25	0.0056	0.35	Q	|	|	|	|
0+30	0.0090	0.49	Q	|	|	|	|
0+35	0.0136	0.67	Q	|	|	|	|
0+40	0.0200	0.93	Q	|	|	|	|
0+45	0.0287	1.26	Q	|	|	|	|
0+50	0.0407	1.74	Q	|	|	|	|
0+55	0.0562	2.25	Q	|	|	|	|
1+ 0	0.0747	2.69	Q	|	|	|	|
1+ 5	0.0960	3.09	Q	|	|	|	|
1+10	0.1195	3.42	Q	|	|	|	|

1+15	0.1451	3.72	Q	|	|	|	|
1+20	0.1726	3.99	Q	|	|	|	|
1+25	0.2015	4.20	Q	|	|	|	|
1+30	0.2319	4.40	Q	|	|	|	|
1+35	0.2634	4.58	Q	|	|	|	|
1+40	0.2961	4.74	Q	|	|	|	|
1+45	0.3298	4.90	Q	|	|	|	|
1+50	0.3645	5.04	Q	|	|	|	|
1+55	0.4002	5.18	Q	|	|	|	|
2+ 0	0.4367	5.30	Q	|	|	|	|
2+ 5	0.4740	5.42	Q	|	|	|	|
2+10	0.5121	5.53	Q	|	|	|	|
2+15	0.5509	5.64	Q	|	|	|	|
2+20	0.5905	5.75	Q	|	|	|	|
2+25	0.6307	5.84	Q	|	|	|	|
2+30	0.6716	5.93	Q	|	|	|	|
2+35	0.7131	6.02	Q	|	|	|	|
2+40	0.7552	6.11	Q	|	|	|	|
2+45	0.7978	6.19	Q	|	|	|	|
2+50	0.8410	6.27	Q	|	|	|	|
2+55	0.8848	6.35	Q	|	|	|	|
3+ 0	0.9291	6.43	Q	|	|	|	|
3+ 5	0.9739	6.51	Q	|	|	|	|
3+10	1.0192	6.58	Q	|	|	|	|
3+15	1.0651	6.66	Q	|	|	|	|
3+20	1.1114	6.73	Q	|	|	|	|
3+25	1.1582	6.80	Q	|	|	|	|
3+30	1.2055	6.87	Q	|	|	|	|
3+35	1.2533	6.93	Q	|	|	|	|
3+40	1.3014	6.99	Q	|	|	|	|
3+45	1.3500	7.05	Q	|	|	|	|
3+50	1.3990	7.11	Q	|	|	|	|
3+55	1.4484	7.18	QV	|	|	|	|
4+ 0	1.4982	7.24	QV	|	|	|	|
4+ 5	1.5485	7.30	QV	|	|	|	|
4+10	1.5992	7.36	QV	|	|	|	|
4+15	1.6503	7.42	QV	|	|	|	|
4+20	1.7017	7.48	QV	|	|	|	|
4+25	1.7536	7.53	|Q	|	|	|	|
4+30	1.8059	7.59	|Q	|	|	|	|
4+35	1.8586	7.65	|Q	|	|	|	|
4+40	1.9117	7.71	|Q	|	|	|	|
4+45	1.9652	7.76	|Q	|	|	|	|
4+50	2.0190	7.82	|Q	|	|	|	|
4+55	2.0733	7.88	|Q	|	|	|	|
5+ 0	2.1279	7.93	|Q	|	|	|	|
5+ 5	2.1829	7.99	|Q	|	|	|	|
5+10	2.2384	8.05	|Q	|	|	|	|
5+15	2.2942	8.10	|Q	|	|	|	|
5+20	2.3504	8.16	|Q	|	|	|	|
5+25	2.4069	8.21	|Q	|	|	|	|
5+30	2.4639	8.27	|Q	|	|	|	|
5+35	2.5212	8.33	|Q	|	|	|	|
5+40	2.5790	8.38	|Q	|	|	|	|
5+45	2.6371	8.44	|Q	|	|	|	|
5+50	2.6956	8.50	|Q	|	|	|	|
5+55	2.7545	8.55	|Q	|	|	|	|
6+ 0	2.8138	8.61	|Q	|	|	|	|
6+ 5	2.8734	8.66	|QV	|	|	|	|

6+10	2.9335	8.72	QV				
6+15	2.9939	8.78	QV				
6+20	3.0548	8.83	QV				
6+25	3.1160	8.89	QV				
6+30	3.1776	8.95	QV				
6+35	3.2396	9.00	QV				
6+40	3.3020	9.06	QV				
6+45	3.3648	9.12	QV				
6+50	3.4280	9.18	QV				
6+55	3.4916	9.23	QV				
7+ 0	3.5556	9.29	QV				
7+ 5	3.6201	9.36	QV				
7+10	3.6849	9.42	QV				
7+15	3.7502	9.48	QV				
7+20	3.8160	9.55	QV				
7+25	3.8821	9.61	QV				
7+30	3.9488	9.68	QV				
7+35	4.0159	9.74	QV				
7+40	4.0834	9.81	QV				
7+45	4.1515	9.88	QV				
7+50	4.2200	9.95	QV				
7+55	4.2890	10.02	Q V				
8+ 0	4.3585	10.09	Q V				
8+ 5	4.4285	10.16	Q V				
8+10	4.4990	10.23	Q V				
8+15	4.5699	10.31	Q V				
8+20	4.6414	10.38	Q V				
8+25	4.7134	10.45	Q V				
8+30	4.7859	10.53	Q V				
8+35	4.8590	10.61	Q V				
8+40	4.9326	10.68	Q V				
8+45	5.0067	10.76	Q V				
8+50	5.0813	10.84	Q V				
8+55	5.1566	10.92	Q V				
9+ 0	5.2324	11.01	Q V				
9+ 5	5.3087	11.09	Q V				
9+10	5.3857	11.17	Q V				
9+15	5.4632	11.25	Q V				
9+20	5.5413	11.34	Q V				
9+25	5.6200	11.43	Q V				
9+30	5.6993	11.52	Q V				
9+35	5.7792	11.61	Q V				
9+40	5.8598	11.70	Q V				
9+45	5.9410	11.79	Q V				
9+50	6.0229	11.89	Q V				
9+55	6.1055	11.99	Q V				
10+ 0	6.1887	12.09	Q V				
10+ 5	6.2727	12.19	Q V				
10+10	6.3573	12.29	Q V				
10+15	6.4427	12.40	Q V				
10+20	6.5289	12.51	Q V				
10+25	6.6158	12.62	Q V				
10+30	6.7035	12.73	Q V				
10+35	6.7919	12.85	Q V				
10+40	6.8812	12.96	Q V				
10+45	6.9713	13.08	Q V				
10+50	7.0623	13.21	Q V				
10+55	7.1541	13.33	Q V				
11+ 0	7.2468	13.46	Q V				

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11+ 5       7.3405     13.59  |Q   V    |          |          |          |
11+10       7.4350     13.73  |Q   V    |          |          |          |
11+15       7.5305     13.87  |Q   V    |          |          |          |
11+20       7.6270     14.01  |Q   V    |          |          |          |
11+25       7.7245     14.16  |Q   V    |          |          |          |
11+30       7.8230     14.30  |Q   V    |          |          |          |
11+35       7.9226     14.46  |Q   V    |          |          |          |
11+40       8.0233     14.61  |Q   V    |          |          |          |
11+45       8.1250     14.77  |Q   V    |          |          |          |
11+50       8.2279     14.94  |Q   V    |          |          |          |
11+55       8.3320     15.11  | Q  V    |          |          |          |
12+ 0       8.4372     15.28  | Q  V    |          |          |          |
12+ 5       8.5436     15.44  | Q   V   |          |          |          |
12+10       8.6509     15.58  | Q   V   |          |          |          |
12+15       8.7589     15.69  | Q   V   |          |          |          |
12+20       8.8676     15.79  | Q   V   |          |          |          |
12+25       8.9769     15.86  | Q   V   |          |          |          |
12+30       9.0865     15.91  | Q   V   |          |          |          |
12+35       9.1963     15.94  | Q   V   |          |          |          |
12+40       9.3057     15.88  | Q   V   |          |          |          |
12+45       9.4141     15.75  | Q   V   |          |          |          |
12+50       9.5206     15.47  | Q   V   |          |          |          |
12+55       9.6250     15.16  | Q   V   |          |          |          |
13+ 0       9.7278     14.92  |Q    V   |          |          |          |
13+ 5       9.8293     14.74  |Q    V   |          |          |          |
13+10       9.9300     14.63  |Q     V  |          |          |          |
13+15      10.0303     14.56  |Q     V  |          |          |          |
13+20      10.1303     14.53  |Q     V  |          |          |          |
13+25      10.2306     14.55  |Q     V  |          |          |          |
13+30      10.3312     14.61  |Q     V  |          |          |          |
13+35      10.4325     14.70  |Q     V  |          |          |          |
13+40      10.5345     14.81  |Q     V  |          |          |          |
13+45      10.6374     14.95  |Q     V  |          |          |          |
13+50      10.7415     15.11  | Q    V  |          |          |          |
13+55      10.8467     15.28  | Q    V  |          |          |          |
14+ 0      10.9534     15.49  | Q    V  |          |          |          |
14+ 5      11.0616     15.72  | Q    V  |          |          |          |
14+10      11.1716     15.97  | Q    V  |          |          |          |
14+15      11.2836     16.26  | Q    V  |          |          |          |
14+20      11.3977     16.56  | Q     V |          |          |          |
14+25      11.5142     16.91  | Q     V |          |          |          |
14+30      11.6333     17.29  | Q     V |          |          |          |
14+35      11.7552     17.71  | Q     V |          |          |          |
14+40      11.8804     18.17  | Q     V |          |          |          |
14+45      12.0091     18.69  | Q     V |          |          |          |
14+50      12.1419     19.28  | Q     V |          |          |          |
14+55      12.2790     19.91  | Q     V |          |          |          |
15+ 0      12.4207     20.58  | Q     V |          |          |          |
15+ 5      12.5674     21.30  | Q     V |          |          |          |
15+10      12.7195     22.08  | Q      V|          |          |          |
15+15      12.8774     22.93  |  Q     V|          |          |          |
15+20      13.0417     23.86  |  Q     V|          |          |          |
15+25      13.2141     25.03  |  Q     V|          |          |          |
15+30      13.3965     26.49  |  Q     V|          |          |          |
15+35      13.5916     28.32  |  Q     V|          |          |          |
15+40      13.8017     30.51  |   Q    V|          |          |          |
15+45      14.0308     33.26  |   Q    V|          |          |          |
15+50      14.2829     36.61  |   Q     V          |          |          |
15+55      14.5654     41.02  |    Q    V          |          |          |
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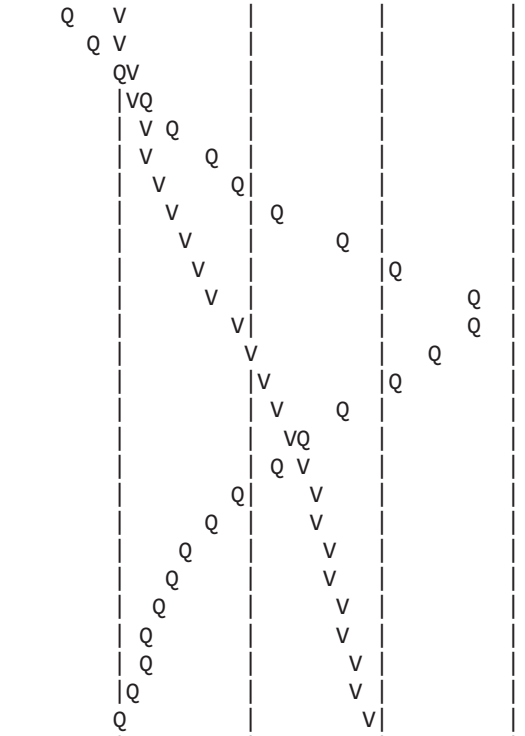
16+ 0	14.8920	47.42	
16+ 5	15.3137	61.23	
16+10	15.8452	77.17	
16+15	16.4982	94.82	
16+20	17.2550	109.88	
16+25	18.1397	128.46	
16+30	19.1397	145.21	
16+35	20.2857	166.39	
16+40	21.6897	203.86	
16+45	23.3186	236.52	
16+50	25.2415	279.21	
16+55	27.1911	283.08	
17+ 0	28.9768	259.27	
17+ 5	30.5987	235.50	
17+10	32.0249	207.09	
17+15	33.3031	185.60	
17+20	34.4602	168.00	
17+25	35.4633	145.65	
17+30	36.3777	132.77	
17+35	37.2026	119.78	
17+40	37.9661	110.85	
17+45	38.6754	102.99	
17+50	39.3412	96.68	
17+55	39.9695	91.22	
18+ 0	40.5470	83.85	
18+ 5	41.0921	79.16	
18+10	41.6049	74.45	
18+15	42.0960	71.31	
18+20	42.5651	68.11	
18+25	42.9959	62.55	
18+30	43.4077	59.80	
18+35	43.8080	58.12	
18+40	44.1890	55.32	
18+45	44.5494	52.33	
18+50	44.9038	51.46	
18+55	45.2512	50.45	
19+ 0	45.5850	48.46	
19+ 5	45.9116	47.43	
19+10	46.2318	46.49	
19+15	46.5381	44.47	
19+20	46.8308	42.49	
19+25	47.1167	41.52	
19+30	47.3926	40.06	
19+35	47.6486	37.16	
19+40	47.8972	36.11	
19+45	48.1411	35.42	
19+50	48.3787	34.49	
19+55	48.6109	33.72	
20+ 0	48.8391	33.13	
20+ 5	49.0614	32.28	
20+10	49.2744	30.93	
20+15	49.4831	30.31	
20+20	49.6881	29.77	
20+25	49.8872	28.91	
20+30	50.0816	28.22	
20+35	50.2721	27.67	
20+40	50.4562	26.73	
20+45	50.6302	25.27	
20+50	50.8008	24.77	

20+55	50.9687	24.38	Q			V
21+ 0	51.1341	24.02	Q			V
21+ 5	51.2971	23.66	Q			V
21+10	51.4570	23.22	Q			V
21+15	51.6113	22.41	Q			V
21+20	51.7579	21.28	Q			V
21+25	51.9018	20.89	Q			V
21+30	52.0434	20.56	Q			V
21+35	52.1828	20.24	Q			V
21+40	52.3199	19.91	Q			V
21+45	52.4541	19.49	Q			V
21+50	52.5825	18.63	Q			V
21+55	52.7037	17.61	Q			V
22+ 0	52.8227	17.27	Q			V
22+ 5	52.9396	16.97	Q			V
22+10	53.0545	16.69	Q			V
22+15	53.1674	16.39	Q			V
22+20	53.2778	16.03	Q			V
22+25	53.3822	15.17	Q			V
22+30	53.4808	14.32	Q			V
22+35	53.5779	14.09	Q			V
22+40	53.6737	13.91	Q			V
22+45	53.7685	13.77	Q			V
22+50	53.8626	13.66	Q			V
22+55	53.9561	13.59	Q			V
23+ 0	54.0502	13.66	Q			V
23+ 5	54.1445	13.69	Q			V
23+10	54.2382	13.60	Q			V
23+15	54.3311	13.49	Q			V
23+20	54.4233	13.38	Q			V
23+25	54.5146	13.26	Q			V
23+30	54.6051	13.13	Q			V
23+35	54.6946	13.00	Q			V
23+40	54.7831	12.86	Q			V
23+45	54.8706	12.71	Q			V
23+50	54.9570	12.55	Q			V
23+55	55.0422	12.37	Q			V
24+ 0	55.1259	12.15	Q			V
24+ 5	55.2074	11.84	Q			V
24+10	55.2834	11.02	Q			V
24+15	55.3558	10.52	Q			V
24+20	55.4264	10.25	Q			V
24+25	55.4950	9.96	Q			V
24+30	55.5616	9.68	Q			V
24+35	55.6261	9.36	Q			V
24+40	55.6878	8.96	Q			V
24+45	55.7461	8.47	Q			V
24+50	55.7999	7.80	Q			V
24+55	55.8485	7.06	Q			V
25+ 0	55.8897	5.97	Q			V
25+ 5	55.9240	4.99	Q			V
25+10	55.9552	4.53	Q			V
25+15	55.9838	4.15	Q			V
25+20	56.0102	3.83	Q			V
25+25	56.0348	3.57	Q			V
25+30	56.0578	3.34	Q			V
25+35	56.0794	3.14	Q			V
25+40	56.0998	2.96	Q			V
25+45	56.1191	2.80	Q			V

25+50	56.1373	2.64	Q	|	|	|	V|
25+55	56.1545	2.49	Q	|	|	|	V|
26+ 0	56.1708	2.37	Q	|	|	|	V|
26+ 5	56.1862	2.25	Q	|	|	|	V|
26+10	56.2009	2.13	Q	|	|	|	V|
26+15	56.2149	2.02	Q	|	|	|	V|
26+20	56.2281	1.92	Q	|	|	|	V|
26+25	56.2407	1.83	Q	|	|	|	V|
26+30	56.2527	1.74	Q	|	|	|	V|
26+35	56.2641	1.66	Q	|	|	|	V|
26+40	56.2750	1.58	Q	|	|	|	V|
26+45	56.2855	1.51	Q	|	|	|	V|
26+50	56.2954	1.44	Q	|	|	|	V|
26+55	56.3049	1.38	Q	|	|	|	V|
27+ 0	56.3140	1.31	Q	|	|	|	V|
27+ 5	56.3226	1.25	Q	|	|	|	V|
27+10	56.3308	1.19	Q	|	|	|	V|
27+15	56.3385	1.13	Q	|	|	|	V|
27+20	56.3460	1.08	Q	|	|	|	V|
27+25	56.3530	1.03	Q	|	|	|	V|
27+30	56.3597	0.98	Q	|	|	|	V|
27+35	56.3662	0.93	Q	|	|	|	V|
27+40	56.3723	0.89	Q	|	|	|	V|
27+45	56.3782	0.85	Q	|	|	|	V|
27+50	56.3838	0.81	Q	|	|	|	V|
27+55	56.3892	0.78	Q	|	|	|	V|
28+ 0	56.3943	0.74	Q	|	|	|	V|
28+ 5	56.3991	0.71	Q	|	|	|	V|
28+10	56.4038	0.67	Q	|	|	|	V|
28+15	56.4082	0.64	Q	|	|	|	V|
28+20	56.4124	0.61	Q	|	|	|	V|
28+25	56.4165	0.58	Q	|	|	|	V|
28+30	56.4203	0.56	Q	|	|	|	V|
28+35	56.4239	0.53	Q	|	|	|	V|
28+40	56.4274	0.50	Q	|	|	|	V|
28+45	56.4307	0.48	Q	|	|	|	V|
28+50	56.4338	0.46	Q	|	|	|	V|
28+55	56.4368	0.44	Q	|	|	|	V|
29+ 0	56.4397	0.41	Q	|	|	|	V|
29+ 5	56.4424	0.39	Q	|	|	|	V|
29+10	56.4449	0.37	Q	|	|	|	V|
29+15	56.4474	0.35	Q	|	|	|	V|
29+20	56.4497	0.34	Q	|	|	|	V|
29+25	56.4519	0.32	Q	|	|	|	V|
29+30	56.4540	0.30	Q	|	|	|	V|
29+35	56.4560	0.29	Q	|	|	|	V|
29+40	56.4578	0.27	Q	|	|	|	V|
29+45	56.4596	0.26	Q	|	|	|	V|
29+50	56.4613	0.24	Q	|	|	|	V|
29+55	56.4628	0.23	Q	|	|	|	V|
30+ 0	56.4644	0.22	Q	|	|	|	V|
30+ 5	56.4658	0.21	Q	|	|	|	V|
30+10	56.4672	0.20	Q	|	|	|	V|
30+15	56.4684	0.19	Q	|	|	|	V|
30+20	56.4697	0.18	Q	|	|	|	V|
30+25	56.4708	0.17	Q	|	|	|	V|
30+30	56.4719	0.16	Q	|	|	|	V|
30+35	56.4730	0.15	Q	|	|	|	V|
30+40	56.4740	0.15	Q	|	|	|	V|

30+45	56.4750	0.14	Q	|	|	|	V|
30+50	56.4759	0.14	Q	|	|	|	V|
30+55	56.4768	0.13	Q	|	|	|	V|
31+ 0	56.4776	0.12	Q	|	|	|	V|
31+ 5	56.4784	0.12	Q	|	|	|	V|
31+10	56.4792	0.11	Q	|	|	|	V|
31+15	56.4799	0.10	Q	|	|	|	V|
31+20	56.4805	0.09	Q	|	|	|	V|
31+25	56.4811	0.09	Q	|	|	|	V|
31+30	56.4817	0.08	Q	|	|	|	V|
31+35	56.4822	0.07	Q	|	|	|	V|
31+40	56.4827	0.07	Q	|	|	|	V|
31+45	56.4831	0.06	Q	|	|	|	V|
31+50	56.4835	0.05	Q	|	|	|	V|
31+55	56.4838	0.05	Q	|	|	|	V|
32+ 0	56.4841	0.04	Q	|	|	|	V|
32+ 5	56.4843	0.04	Q	|	|	|	V|
32+10	56.4845	0.03	Q	|	|	|	V|
32+15	56.4847	0.03	Q	|	|	|	V|
32+20	56.4849	0.02	Q	|	|	|	V|
32+25	56.4850	0.02	Q	|	|	|	V|
32+30	56.4852	0.02	Q	|	|	|	V|
32+35	56.4853	0.01	Q	|	|	|	V|
32+40	56.4853	0.01	Q	|	|	|	V|
32+45	56.4854	0.01	Q	|	|	|	V|
32+50	56.4854	0.00	Q	|	|	|	V|
32+55	56.4854	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 40
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.40	1	1.40
Rainfall data for year 100		
3.40	6	1.86
Rainfall data for year 100		
3.40	24	2.65

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	3.40	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.06	0.900	91.0	98.2	0.18	0.922
0.34	0.100	98.0	98.0	0.20	0.913

Area-averaged catchment yield fraction, Y = 0.921
Area-averaged low loss fraction, Yb = 0.079
User entry of time of concentration = 0.260 (hours)
++
Watershed area = 3.40(Ac.)
Catchment Lag time = 0.208 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 40.0641
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.079 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.666(In)
Specified peak 6-hour rainfall = 1.860(In)
Specified peak 24-hour rainfall = 2.650(In)

Rainfall depth area reduction factors:
Using a total area of 3.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.664(In)
30-minute factor = 1.000 Adjusted rainfall = 1.137(In)
1-hour factor = 1.000 Adjusted rainfall = 1.400(In)
3-hour factor = 1.000 Adjusted rainfall = 1.666(In)
6-hour factor = 1.000 Adjusted rainfall = 1.860(In)
24-hour factor = 1.000 Adjusted rainfall = 2.650(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 41.12 (CFS))	
1	2.755	1.133
2	18.770	6.585
3	49.245	12.531
4	65.688	6.761
5	74.847	3.766
6	80.916	2.495
7	85.280	1.795
8	88.633	1.379
9	91.058	0.997
10	93.036	0.813
11	94.603	0.644
12	95.871	0.521
13	96.878	0.414

14	97.624	0.307
15	98.109	0.200
16	98.552	0.182
17	99.033	0.198
18	99.481	0.184
19	99.757	0.114
20	100.000	0.100

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6642	0.6642
2	0.8177	0.1535
3	0.9235	0.1058
4	1.0068	0.0832
5	1.0765	0.0697
6	1.1370	0.0605
7	1.1908	0.0538
8	1.2395	0.0487
9	1.2840	0.0446
10	1.3253	0.0412
11	1.3637	0.0384
12	1.3998	0.0361
13	1.4177	0.0179
14	1.4344	0.0168
15	1.4502	0.0158
16	1.4652	0.0149
17	1.4793	0.0142
18	1.4928	0.0135
19	1.5057	0.0129
20	1.5180	0.0123
21	1.5298	0.0118
22	1.5411	0.0113
23	1.5520	0.0109
24	1.5625	0.0105
25	1.5727	0.0102
26	1.5825	0.0098
27	1.5920	0.0095
28	1.6012	0.0092
29	1.6102	0.0089
30	1.6189	0.0087
31	1.6273	0.0084
32	1.6355	0.0082
33	1.6435	0.0080
34	1.6513	0.0078
35	1.6589	0.0076
36	1.6664	0.0074
37	1.6736	0.0073
38	1.6807	0.0071
39	1.6877	0.0069
40	1.6944	0.0068
41	1.7011	0.0066
42	1.7076	0.0065
43	1.7140	0.0064
44	1.7203	0.0063
45	1.7264	0.0061
46	1.7324	0.0060
47	1.7383	0.0059
48	1.7442	0.0058
49	1.7499	0.0057

50	1.7555	0.0056
51	1.7610	0.0055
52	1.7664	0.0054
53	1.7718	0.0053
54	1.7770	0.0053
55	1.7822	0.0052
56	1.7873	0.0051
57	1.7923	0.0050
58	1.7973	0.0049
59	1.8022	0.0049
60	1.8070	0.0048
61	1.8117	0.0047
62	1.8164	0.0047
63	1.8210	0.0046
64	1.8256	0.0046
65	1.8301	0.0045
66	1.8345	0.0044
67	1.8389	0.0044
68	1.8432	0.0043
69	1.8475	0.0043
70	1.8517	0.0042
71	1.8559	0.0042
72	1.8600	0.0041
73	1.8665	0.0066
74	1.8730	0.0065
75	1.8795	0.0064
76	1.8858	0.0064
77	1.8921	0.0063
78	1.8984	0.0062
79	1.9046	0.0062
80	1.9107	0.0061
81	1.9168	0.0061
82	1.9228	0.0060
83	1.9287	0.0060
84	1.9347	0.0059
85	1.9405	0.0059
86	1.9463	0.0058
87	1.9521	0.0058
88	1.9578	0.0057
89	1.9634	0.0057
90	1.9690	0.0056
91	1.9746	0.0056
92	1.9801	0.0055
93	1.9856	0.0055
94	1.9910	0.0054
95	1.9964	0.0054
96	2.0018	0.0053
97	2.0071	0.0053
98	2.0123	0.0053
99	2.0175	0.0052
100	2.0227	0.0052
101	2.0279	0.0051
102	2.0330	0.0051
103	2.0381	0.0051
104	2.0431	0.0050
105	2.0481	0.0050
106	2.0531	0.0050
107	2.0580	0.0049
108	2.0629	0.0049

109	2.0677	0.0049
110	2.0726	0.0048
111	2.0774	0.0048
112	2.0821	0.0048
113	2.0869	0.0047
114	2.0916	0.0047
115	2.0962	0.0047
116	2.1009	0.0046
117	2.1055	0.0046
118	2.1101	0.0046
119	2.1146	0.0046
120	2.1191	0.0045
121	2.1236	0.0045
122	2.1281	0.0045
123	2.1325	0.0044
124	2.1369	0.0044
125	2.1413	0.0044
126	2.1457	0.0044
127	2.1500	0.0043
128	2.1543	0.0043
129	2.1586	0.0043
130	2.1629	0.0043
131	2.1671	0.0042
132	2.1713	0.0042
133	2.1755	0.0042
134	2.1797	0.0042
135	2.1838	0.0041
136	2.1880	0.0041
137	2.1920	0.0041
138	2.1961	0.0041
139	2.2002	0.0041
140	2.2042	0.0040
141	2.2082	0.0040
142	2.2122	0.0040
143	2.2162	0.0040
144	2.2201	0.0039
145	2.2240	0.0039
146	2.2280	0.0039
147	2.2318	0.0039
148	2.2357	0.0039
149	2.2396	0.0038
150	2.2434	0.0038
151	2.2472	0.0038
152	2.2510	0.0038
153	2.2548	0.0038
154	2.2585	0.0038
155	2.2622	0.0037
156	2.2660	0.0037
157	2.2697	0.0037
158	2.2733	0.0037
159	2.2770	0.0037
160	2.2807	0.0036
161	2.2843	0.0036
162	2.2879	0.0036
163	2.2915	0.0036
164	2.2951	0.0036
165	2.2986	0.0036
166	2.3022	0.0035
167	2.3057	0.0035

168	2.3093	0.0035
169	2.3128	0.0035
170	2.3162	0.0035
171	2.3197	0.0035
172	2.3232	0.0035
173	2.3266	0.0034
174	2.3300	0.0034
175	2.3334	0.0034
176	2.3368	0.0034
177	2.3402	0.0034
178	2.3436	0.0034
179	2.3470	0.0034
180	2.3503	0.0033
181	2.3536	0.0033
182	2.3569	0.0033
183	2.3602	0.0033
184	2.3635	0.0033
185	2.3668	0.0033
186	2.3701	0.0033
187	2.3733	0.0032
188	2.3765	0.0032
189	2.3798	0.0032
190	2.3830	0.0032
191	2.3862	0.0032
192	2.3893	0.0032
193	2.3925	0.0032
194	2.3957	0.0032
195	2.3988	0.0031
196	2.4020	0.0031
197	2.4051	0.0031
198	2.4082	0.0031
199	2.4113	0.0031
200	2.4144	0.0031
201	2.4175	0.0031
202	2.4205	0.0031
203	2.4236	0.0031
204	2.4266	0.0030
205	2.4297	0.0030
206	2.4327	0.0030
207	2.4357	0.0030
208	2.4387	0.0030
209	2.4417	0.0030
210	2.4447	0.0030
211	2.4476	0.0030
212	2.4506	0.0030
213	2.4535	0.0029
214	2.4565	0.0029
215	2.4594	0.0029
216	2.4623	0.0029
217	2.4652	0.0029
218	2.4681	0.0029
219	2.4710	0.0029
220	2.4739	0.0029
221	2.4767	0.0029
222	2.4796	0.0029
223	2.4824	0.0028
224	2.4853	0.0028
225	2.4881	0.0028
226	2.4909	0.0028

227	2.4937	0.0028
228	2.4965	0.0028
229	2.4993	0.0028
230	2.5021	0.0028
231	2.5049	0.0028
232	2.5076	0.0028
233	2.5104	0.0028
234	2.5131	0.0027
235	2.5159	0.0027
236	2.5186	0.0027
237	2.5213	0.0027
238	2.5240	0.0027
239	2.5267	0.0027
240	2.5294	0.0027
241	2.5321	0.0027
242	2.5348	0.0027
243	2.5375	0.0027
244	2.5401	0.0027
245	2.5428	0.0027
246	2.5454	0.0026
247	2.5481	0.0026
248	2.5507	0.0026
249	2.5533	0.0026
250	2.5559	0.0026
251	2.5586	0.0026
252	2.5612	0.0026
253	2.5637	0.0026
254	2.5663	0.0026
255	2.5689	0.0026
256	2.5715	0.0026
257	2.5740	0.0026
258	2.5766	0.0026
259	2.5791	0.0025
260	2.5817	0.0025
261	2.5842	0.0025
262	2.5867	0.0025
263	2.5892	0.0025
264	2.5918	0.0025
265	2.5943	0.0025
266	2.5968	0.0025
267	2.5992	0.0025
268	2.6017	0.0025
269	2.6042	0.0025
270	2.6067	0.0025
271	2.6091	0.0025
272	2.6116	0.0025
273	2.6140	0.0024
274	2.6165	0.0024
275	2.6189	0.0024
276	2.6213	0.0024
277	2.6238	0.0024
278	2.6262	0.0024
279	2.6286	0.0024
280	2.6310	0.0024
281	2.6334	0.0024
282	2.6358	0.0024
283	2.6382	0.0024
284	2.6405	0.0024
285	2.6429	0.0024

286	2.6453	0.0024	
287	2.6476	0.0024	
288	2.6500	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022
2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0026	0.0002	0.0024
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0026	0.0002	0.0024
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0027	0.0002	0.0024
31	0.0027	0.0002	0.0025
32	0.0027	0.0002	0.0025
33	0.0027	0.0002	0.0025
34	0.0027	0.0002	0.0025
35	0.0027	0.0002	0.0025
36	0.0027	0.0002	0.0025
37	0.0027	0.0002	0.0025
38	0.0028	0.0002	0.0025
39	0.0028	0.0002	0.0026
40	0.0028	0.0002	0.0026
41	0.0028	0.0002	0.0026
42	0.0028	0.0002	0.0026
43	0.0028	0.0002	0.0026
44	0.0028	0.0002	0.0026
45	0.0029	0.0002	0.0026
46	0.0029	0.0002	0.0026
47	0.0029	0.0002	0.0027
48	0.0029	0.0002	0.0027
49	0.0029	0.0002	0.0027
50	0.0029	0.0002	0.0027
51	0.0029	0.0002	0.0027

52	0.0030	0.0002	0.0027
53	0.0030	0.0002	0.0027
54	0.0030	0.0002	0.0028
55	0.0030	0.0002	0.0028
56	0.0030	0.0002	0.0028
57	0.0030	0.0002	0.0028
58	0.0031	0.0002	0.0028
59	0.0031	0.0002	0.0028
60	0.0031	0.0002	0.0028
61	0.0031	0.0002	0.0029
62	0.0031	0.0002	0.0029
63	0.0031	0.0002	0.0029
64	0.0032	0.0003	0.0029
65	0.0032	0.0003	0.0029
66	0.0032	0.0003	0.0029
67	0.0032	0.0003	0.0030
68	0.0032	0.0003	0.0030
69	0.0033	0.0003	0.0030
70	0.0033	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0033	0.0003	0.0031
73	0.0033	0.0003	0.0031
74	0.0034	0.0003	0.0031
75	0.0034	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0034	0.0003	0.0032
78	0.0034	0.0003	0.0032
79	0.0035	0.0003	0.0032
80	0.0035	0.0003	0.0032
81	0.0035	0.0003	0.0032
82	0.0035	0.0003	0.0033
83	0.0036	0.0003	0.0033
84	0.0036	0.0003	0.0033
85	0.0036	0.0003	0.0033
86	0.0036	0.0003	0.0033
87	0.0037	0.0003	0.0034
88	0.0037	0.0003	0.0034
89	0.0037	0.0003	0.0034
90	0.0037	0.0003	0.0034
91	0.0038	0.0003	0.0035
92	0.0038	0.0003	0.0035
93	0.0038	0.0003	0.0035
94	0.0038	0.0003	0.0035
95	0.0039	0.0003	0.0036
96	0.0039	0.0003	0.0036
97	0.0039	0.0003	0.0036
98	0.0040	0.0003	0.0037
99	0.0040	0.0003	0.0037
100	0.0040	0.0003	0.0037
101	0.0041	0.0003	0.0038
102	0.0041	0.0003	0.0038
103	0.0041	0.0003	0.0038
104	0.0042	0.0003	0.0038
105	0.0042	0.0003	0.0039
106	0.0042	0.0003	0.0039
107	0.0043	0.0003	0.0039
108	0.0043	0.0003	0.0040
109	0.0044	0.0003	0.0040
110	0.0044	0.0003	0.0040

111	0.0044	0.0004	0.0041
112	0.0045	0.0004	0.0041
113	0.0045	0.0004	0.0042
114	0.0046	0.0004	0.0042
115	0.0046	0.0004	0.0042
116	0.0046	0.0004	0.0043
117	0.0047	0.0004	0.0043
118	0.0047	0.0004	0.0044
119	0.0048	0.0004	0.0044
120	0.0048	0.0004	0.0044
121	0.0049	0.0004	0.0045
122	0.0049	0.0004	0.0045
123	0.0050	0.0004	0.0046
124	0.0050	0.0004	0.0046
125	0.0051	0.0004	0.0047
126	0.0051	0.0004	0.0047
127	0.0052	0.0004	0.0048
128	0.0053	0.0004	0.0048
129	0.0053	0.0004	0.0049
130	0.0054	0.0004	0.0050
131	0.0055	0.0004	0.0050
132	0.0055	0.0004	0.0051
133	0.0056	0.0004	0.0052
134	0.0057	0.0004	0.0052
135	0.0058	0.0005	0.0053
136	0.0058	0.0005	0.0053
137	0.0059	0.0005	0.0054
138	0.0060	0.0005	0.0055
139	0.0061	0.0005	0.0056
140	0.0061	0.0005	0.0056
141	0.0062	0.0005	0.0057
142	0.0063	0.0005	0.0058
143	0.0064	0.0005	0.0059
144	0.0065	0.0005	0.0060
145	0.0041	0.0003	0.0038
146	0.0042	0.0003	0.0038
147	0.0043	0.0003	0.0039
148	0.0043	0.0003	0.0040
149	0.0044	0.0004	0.0041
150	0.0045	0.0004	0.0041
151	0.0046	0.0004	0.0042
152	0.0047	0.0004	0.0043
153	0.0048	0.0004	0.0044
154	0.0049	0.0004	0.0045
155	0.0050	0.0004	0.0046
156	0.0051	0.0004	0.0047
157	0.0053	0.0004	0.0048
158	0.0053	0.0004	0.0049
159	0.0055	0.0004	0.0051
160	0.0056	0.0004	0.0052
161	0.0058	0.0005	0.0054
162	0.0059	0.0005	0.0054
163	0.0061	0.0005	0.0057
164	0.0063	0.0005	0.0058
165	0.0065	0.0005	0.0060
166	0.0066	0.0005	0.0061
167	0.0069	0.0006	0.0064
168	0.0071	0.0006	0.0065
169	0.0074	0.0006	0.0068

170	0.0076	0.0006	0.0070
171	0.0080	0.0006	0.0074
172	0.0082	0.0007	0.0076
173	0.0087	0.0007	0.0080
174	0.0089	0.0007	0.0082
175	0.0095	0.0008	0.0088
176	0.0098	0.0008	0.0090
177	0.0105	0.0008	0.0097
178	0.0109	0.0009	0.0100
179	0.0118	0.0009	0.0109
180	0.0123	0.0010	0.0113
181	0.0135	0.0011	0.0124
182	0.0142	0.0011	0.0130
183	0.0158	0.0013	0.0145
184	0.0168	0.0013	0.0154
185	0.0361	0.0027	0.0334
186	0.0384	0.0027	0.0358
187	0.0446	0.0027	0.0419
188	0.0487	0.0027	0.0460
189	0.0605	0.0027	0.0578
190	0.0697	0.0027	0.0670
191	0.1058	0.0027	0.1031
192	0.1535	0.0027	0.1508
193	0.6642	0.0027	0.6615
194	0.0832	0.0027	0.0806
195	0.0538	0.0027	0.0511
196	0.0412	0.0027	0.0386
197	0.0179	0.0014	0.0165
198	0.0149	0.0012	0.0137
199	0.0129	0.0010	0.0118
200	0.0113	0.0009	0.0104
201	0.0102	0.0008	0.0093
202	0.0092	0.0007	0.0085
203	0.0084	0.0007	0.0078
204	0.0078	0.0006	0.0072
205	0.0073	0.0006	0.0067
206	0.0068	0.0005	0.0063
207	0.0064	0.0005	0.0059
208	0.0060	0.0005	0.0055
209	0.0057	0.0005	0.0053
210	0.0054	0.0004	0.0050
211	0.0052	0.0004	0.0048
212	0.0049	0.0004	0.0046
213	0.0047	0.0004	0.0044
214	0.0046	0.0004	0.0042
215	0.0044	0.0003	0.0040
216	0.0042	0.0003	0.0039
217	0.0066	0.0005	0.0060
218	0.0064	0.0005	0.0059
219	0.0062	0.0005	0.0057
220	0.0060	0.0005	0.0055
221	0.0059	0.0005	0.0054
222	0.0057	0.0005	0.0053
223	0.0056	0.0004	0.0051
224	0.0054	0.0004	0.0050
225	0.0053	0.0004	0.0049
226	0.0052	0.0004	0.0048
227	0.0051	0.0004	0.0047
228	0.0050	0.0004	0.0046

229	0.0049	0.0004	0.0045
230	0.0048	0.0004	0.0044
231	0.0047	0.0004	0.0043
232	0.0046	0.0004	0.0042
233	0.0045	0.0004	0.0041
234	0.0044	0.0004	0.0041
235	0.0043	0.0003	0.0040
236	0.0043	0.0003	0.0039
237	0.0042	0.0003	0.0039
238	0.0041	0.0003	0.0038
239	0.0041	0.0003	0.0037
240	0.0040	0.0003	0.0037
241	0.0039	0.0003	0.0036
242	0.0039	0.0003	0.0036
243	0.0038	0.0003	0.0035
244	0.0038	0.0003	0.0035
245	0.0037	0.0003	0.0034
246	0.0036	0.0003	0.0034
247	0.0036	0.0003	0.0033
248	0.0035	0.0003	0.0033
249	0.0035	0.0003	0.0032
250	0.0035	0.0003	0.0032
251	0.0034	0.0003	0.0031
252	0.0034	0.0003	0.0031
253	0.0033	0.0003	0.0031
254	0.0033	0.0003	0.0030
255	0.0032	0.0003	0.0030
256	0.0032	0.0003	0.0030
257	0.0032	0.0003	0.0029
258	0.0031	0.0002	0.0029
259	0.0031	0.0002	0.0029
260	0.0031	0.0002	0.0028
261	0.0030	0.0002	0.0028
262	0.0030	0.0002	0.0028
263	0.0030	0.0002	0.0027
264	0.0029	0.0002	0.0027
265	0.0029	0.0002	0.0027
266	0.0029	0.0002	0.0026
267	0.0028	0.0002	0.0026
268	0.0028	0.0002	0.0026
269	0.0028	0.0002	0.0026
270	0.0028	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0025
274	0.0027	0.0002	0.0025
275	0.0026	0.0002	0.0024
276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0026	0.0002	0.0024
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0025	0.0002	0.0023
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022

288 0.0024 0.0002 0.0022

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.52(In)
Peak flow rate in flood hydrograph = 10.74(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0004	0.04	Q				
0+20	0.0008	0.06	Q				
0+25	0.0013	0.07	Q				
0+30	0.0018	0.07	Q				
0+35	0.0023	0.08	Q				
0+40	0.0029	0.08	Q				
0+45	0.0035	0.08	Q				
0+50	0.0040	0.08	Q				
0+55	0.0046	0.09	Q				
1+ 0	0.0052	0.09	Q				
1+ 5	0.0059	0.09	Q				
1+10	0.0065	0.09	Q				
1+15	0.0071	0.09	Q				
1+20	0.0077	0.09	Q				
1+25	0.0084	0.09	Q				
1+30	0.0090	0.09	Q				
1+35	0.0097	0.09	Q				
1+40	0.0103	0.09	Q				
1+45	0.0110	0.10	Q				
1+50	0.0116	0.10	Q				
1+55	0.0123	0.10	Q				
2+ 0	0.0130	0.10	Q				
2+ 5	0.0136	0.10	Q				
2+10	0.0143	0.10	Q				
2+15	0.0150	0.10	Q				
2+20	0.0156	0.10	Q				
2+25	0.0163	0.10	Q				
2+30	0.0170	0.10	Q				
2+35	0.0177	0.10	Q				
2+40	0.0184	0.10	QV				
2+45	0.0191	0.10	QV				
2+50	0.0198	0.10	QV				
2+55	0.0205	0.10	QV				
3+ 0	0.0212	0.10	QV				
3+ 5	0.0219	0.10	QV				
3+10	0.0226	0.10	QV				
3+15	0.0233	0.10	QV				
3+20	0.0240	0.10	QV				
3+25	0.0247	0.10	QV				
3+30	0.0254	0.10	QV				
3+35	0.0261	0.11	QV				

3+40	0.0269	0.11	QV				
3+45	0.0276	0.11	QV				
3+50	0.0283	0.11	QV				
3+55	0.0291	0.11	QV				
4+ 0	0.0298	0.11	QV				
4+ 5	0.0306	0.11	QV				
4+10	0.0313	0.11	QV				
4+15	0.0321	0.11	QV				
4+20	0.0328	0.11	QV				
4+25	0.0336	0.11	QV				
4+30	0.0344	0.11	QV				
4+35	0.0351	0.11	QV				
4+40	0.0359	0.11	Q V				
4+45	0.0367	0.11	Q V				
4+50	0.0375	0.11	Q V				
4+55	0.0382	0.11	Q V				
5+ 0	0.0390	0.11	Q V				
5+ 5	0.0398	0.12	Q V				
5+10	0.0406	0.12	Q V				
5+15	0.0414	0.12	Q V				
5+20	0.0422	0.12	Q V				
5+25	0.0430	0.12	Q V				
5+30	0.0439	0.12	Q V				
5+35	0.0447	0.12	Q V				
5+40	0.0455	0.12	Q V				
5+45	0.0463	0.12	Q V				
5+50	0.0472	0.12	Q V				
5+55	0.0480	0.12	Q V				
6+ 0	0.0489	0.12	Q V				
6+ 5	0.0497	0.12	Q V				
6+10	0.0506	0.12	Q V				
6+15	0.0514	0.13	Q V				
6+20	0.0523	0.13	Q V				
6+25	0.0532	0.13	Q V				
6+30	0.0540	0.13	Q V				
6+35	0.0549	0.13	Q V				
6+40	0.0558	0.13	Q V				
6+45	0.0567	0.13	Q V				
6+50	0.0576	0.13	Q V				
6+55	0.0585	0.13	Q V				
7+ 0	0.0594	0.13	Q V				
7+ 5	0.0604	0.13	Q V				
7+10	0.0613	0.13	Q V				
7+15	0.0622	0.14	Q V				
7+20	0.0631	0.14	Q V				
7+25	0.0641	0.14	Q V				
7+30	0.0650	0.14	Q V				
7+35	0.0660	0.14	Q V				
7+40	0.0670	0.14	Q V				
7+45	0.0679	0.14	Q V				
7+50	0.0689	0.14	Q V				
7+55	0.0699	0.14	Q V				
8+ 0	0.0709	0.14	Q V				
8+ 5	0.0719	0.15	Q V				
8+10	0.0729	0.15	Q V				
8+15	0.0739	0.15	Q V				
8+20	0.0749	0.15	Q V				
8+25	0.0760	0.15	Q V				
8+30	0.0770	0.15	Q V				

8+35	0.0780	0.15	Q	V				
8+40	0.0791	0.15	Q	V				
8+45	0.0802	0.15	Q	V				
8+50	0.0812	0.16	Q	V				
8+55	0.0823	0.16	Q	V				
9+ 0	0.0834	0.16	Q	V				
9+ 5	0.0845	0.16	Q	V				
9+10	0.0856	0.16	Q	V				
9+15	0.0867	0.16	Q	V				
9+20	0.0879	0.16	Q	V				
9+25	0.0890	0.17	Q	V				
9+30	0.0902	0.17	Q	V				
9+35	0.0913	0.17	Q	V				
9+40	0.0925	0.17	Q	V				
9+45	0.0937	0.17	Q	V				
9+50	0.0949	0.17	Q	V				
9+55	0.0961	0.17	Q	V				
10+ 0	0.0973	0.18	Q	V				
10+ 5	0.0985	0.18	Q	V				
10+10	0.0998	0.18	Q	V				
10+15	0.1010	0.18	Q	V				
10+20	0.1023	0.18	Q	V				
10+25	0.1036	0.19	Q	V				
10+30	0.1049	0.19	Q	V				
10+35	0.1062	0.19	Q	V				
10+40	0.1075	0.19	Q	V				
10+45	0.1088	0.19	Q	V				
10+50	0.1102	0.20	Q	V				
10+55	0.1115	0.20	Q	V				
11+ 0	0.1129	0.20	Q	V				
11+ 5	0.1143	0.20	Q	V				
11+10	0.1157	0.21	Q	V				
11+15	0.1172	0.21	Q	V				
11+20	0.1186	0.21	Q	V				
11+25	0.1201	0.21	Q	V				
11+30	0.1216	0.22	Q	V				
11+35	0.1231	0.22	Q	V				
11+40	0.1246	0.22	Q	V				
11+45	0.1261	0.22	Q	V				
11+50	0.1277	0.23	Q	V				
11+55	0.1293	0.23	Q	V				
12+ 0	0.1309	0.23	Q	V				
12+ 5	0.1325	0.23	Q	V				
12+10	0.1341	0.22	Q	V				
12+15	0.1354	0.20	Q	V				
12+20	0.1367	0.19	Q	V				
12+25	0.1379	0.18	Q	V				
12+30	0.1392	0.18	Q	V				
12+35	0.1404	0.18	Q	V				
12+40	0.1416	0.18	Q	V				
12+45	0.1428	0.18	Q	V				
12+50	0.1440	0.18	Q	V				
12+55	0.1453	0.18	Q	V				
13+ 0	0.1465	0.18	Q	V				
13+ 5	0.1478	0.19	Q	V				
13+10	0.1491	0.19	Q	V				
13+15	0.1505	0.19	Q	V				
13+20	0.1518	0.20	Q	V				
13+25	0.1532	0.20	Q	V				

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13+30       0.1546      0.21  Q       V |          |          |          |
13+35       0.1561      0.21  Q       V |          |          |          |
13+40       0.1576      0.22  Q       V |          |          |          |
13+45       0.1591      0.22  Q       V |          |          |          |
13+50       0.1607      0.23  Q        V|          |          |          |
13+55       0.1623      0.24  Q        V|          |          |          |
14+ 0       0.1640      0.24  Q        V|          |          |          |
14+ 5       0.1657      0.25  Q        V|          |          |          |
14+10       0.1675      0.26  Q        V|          |          |          |
14+15       0.1693      0.27  Q        V|          |          |          |
14+20       0.1712      0.28  Q        V|          |          |          |
14+25       0.1732      0.29  Q        V|          |          |          |
14+30       0.1752      0.30  Q        V|          |          |          |
14+35       0.1774      0.31  Q        V|          |          |          |
14+40       0.1796      0.32  Q         V          |          |          |
14+45       0.1819      0.34  Q         V          |          |          |
14+50       0.1843      0.35  Q         V          |          |          |
14+55       0.1869      0.37  Q         V          |          |          |
15+ 0       0.1895      0.39  Q         V          |          |          |
15+ 5       0.1924      0.41  Q         V          |          |          |
15+10       0.1954      0.44  Q         V          |          |          |
15+15       0.1986      0.47  Q         |V         |          |          |
15+20       0.2020      0.50  Q         |V         |          |          |
15+25       0.2059      0.56  |Q        |V         |          |          |
15+30       0.2108      0.71  |Q        |V         |          |          |
15+35       0.2175      0.97  |Q        | V        |          |          |
15+40       0.2256      1.18  | Q       | V        |          |          |
15+45       0.2352      1.39  | Q       |  V       |          |          |
15+50       0.2464      1.63  |  Q      |  V       |          |          |
15+55       0.2601      1.98  |  Q      |   V      |          |          |
16+ 0       0.2775      2.53  |    Q    |    V     |          |          |
16+ 5       0.3052      4.02  |       Q |      V   |          |          |
16+10       0.3580      7.67  |         |    Q    V|          |          |
16+15       0.4320     10.74  |         |         |Q  V       |          |
16+20       0.4804      7.03  |         |   Q     |     V    |          |
16+25       0.5133      4.77  |        Q|         |       V  |          |
16+30       0.5376      3.52  |      Q  |         |         V|          |
16+35       0.5556      2.62  |    Q    |         |         |V          |
16+40       0.5698      2.06  |   Q     |         |         |V          |
16+45       0.5811      1.63  |  Q      |         |         | V         |
16+50       0.5905      1.36  | Q       |         |         |  V        |
16+55       0.5983      1.14  | Q       |         |         |  V        |
17+ 0       0.6049      0.96  |Q        |         |         |  V        |
17+ 5       0.6106      0.82  |Q        |         |         |   V       |
17+10       0.6152      0.68  |Q        |         |         |   V       |
17+15       0.6191      0.56  |Q        |         |         |   V       |
17+20       0.6227      0.51  |Q        |         |         |   V       |
17+25       0.6260      0.48  Q         |         |         |    V      |
17+30       0.6290      0.44  Q         |         |         |    V      |
17+35       0.6315      0.36  Q         |         |         |    V      |
17+40       0.6337      0.32  Q         |         |         |    V      |
17+45       0.6353      0.24  Q         |         |         |    V      |
17+50       0.6368      0.22  Q         |         |         |    V      |
17+55       0.6382      0.20  Q         |         |         |    V      |
18+ 0       0.6396      0.19  Q         |         |         |    V      |
18+ 5       0.6408      0.19  Q         |         |         |    V      |
18+10       0.6422      0.19  Q         |         |         |     V     |
18+15       0.6436      0.21  Q         |         |         |     V     |
18+20       0.6452      0.22  Q         |         |         |     V     |
```

18+25	0.6467	0.22	Q	|	|	|	V |
18+30	0.6482	0.22	Q	|	|	|	V |
18+35	0.6497	0.22	Q	|	|	|	V |
18+40	0.6512	0.22	Q	|	|	|	V |
18+45	0.6527	0.21	Q	|	|	|	V |
18+50	0.6541	0.21	Q	|	|	|	V |
18+55	0.6556	0.21	Q	|	|	|	V |
19+ 0	0.6570	0.20	Q	|	|	|	V |
19+ 5	0.6583	0.20	Q	|	|	|	V |
19+10	0.6597	0.19	Q	|	|	|	V |
19+15	0.6610	0.19	Q	|	|	|	V |
19+20	0.6622	0.19	Q	|	|	|	V |
19+25	0.6635	0.18	Q	|	|	|	V |
19+30	0.6647	0.18	Q	|	|	|	V |
19+35	0.6660	0.18	Q	|	|	|	V |
19+40	0.6672	0.17	Q	|	|	|	V |
19+45	0.6683	0.17	Q	|	|	|	V |
19+50	0.6695	0.17	Q	|	|	|	V |
19+55	0.6706	0.16	Q	|	|	|	V |
20+ 0	0.6717	0.16	Q	|	|	|	V |
20+ 5	0.6728	0.16	Q	|	|	|	V |
20+10	0.6739	0.16	Q	|	|	|	V |
20+15	0.6749	0.15	Q	|	|	|	V |
20+20	0.6760	0.15	Q	|	|	|	V |
20+25	0.6770	0.15	Q	|	|	|	V |
20+30	0.6780	0.15	Q	|	|	|	V |
20+35	0.6790	0.14	Q	|	|	|	V |
20+40	0.6800	0.14	Q	|	|	|	V |
20+45	0.6809	0.14	Q	|	|	|	V |
20+50	0.6819	0.14	Q	|	|	|	V |
20+55	0.6828	0.14	Q	|	|	|	V |
21+ 0	0.6837	0.13	Q	|	|	|	V |
21+ 5	0.6847	0.13	Q	|	|	|	V |
21+10	0.6856	0.13	Q	|	|	|	V |
21+15	0.6864	0.13	Q	|	|	|	V |
21+20	0.6873	0.13	Q	|	|	|	V |
21+25	0.6882	0.13	Q	|	|	|	V |
21+30	0.6890	0.12	Q	|	|	|	V |
21+35	0.6899	0.12	Q	|	|	|	V |
21+40	0.6907	0.12	Q	|	|	|	V |
21+45	0.6916	0.12	Q	|	|	|	V |
21+50	0.6924	0.12	Q	|	|	|	V |
21+55	0.6932	0.12	Q	|	|	|	V |
22+ 0	0.6940	0.12	Q	|	|	|	V |
22+ 5	0.6948	0.11	Q	|	|	|	V |
22+10	0.6955	0.11	Q	|	|	|	V|
22+15	0.6963	0.11	Q	|	|	|	V|
22+20	0.6971	0.11	Q	|	|	|	V|
22+25	0.6978	0.11	Q	|	|	|	V|
22+30	0.6986	0.11	Q	|	|	|	V|
22+35	0.6993	0.11	Q	|	|	|	V|
22+40	0.7001	0.11	Q	|	|	|	V|
22+45	0.7008	0.11	Q	|	|	|	V|
22+50	0.7015	0.10	Q	|	|	|	V|
22+55	0.7022	0.10	Q	|	|	|	V|
23+ 0	0.7029	0.10	Q	|	|	|	V|
23+ 5	0.7036	0.10	Q	|	|	|	V|
23+10	0.7043	0.10	Q	|	|	|	V|
23+15	0.7050	0.10	Q	|	|	|	V|

23+20	0.7057	0.10	Q	|	|	|	V|
23+25	0.7064	0.10	Q	|	|	|	V|
23+30	0.7070	0.10	Q	|	|	|	V|
23+35	0.7077	0.10	Q	|	|	|	V|
23+40	0.7083	0.10	Q	|	|	|	V|
23+45	0.7090	0.09	Q	|	|	|	V|
23+50	0.7096	0.09	Q	|	|	|	V|
23+55	0.7103	0.09	Q	|	|	|	V|
24+ 0	0.7109	0.09	Q	|	|	|	V|
24+ 5	0.7115	0.09	Q	|	|	|	V|
24+10	0.7120	0.07	Q	|	|	|	V|
24+15	0.7124	0.05	Q	|	|	|	V|
24+20	0.7126	0.03	Q	|	|	|	V|
24+25	0.7127	0.02	Q	|	|	|	V|
24+30	0.7129	0.02	Q	|	|	|	V|
24+35	0.7130	0.01	Q	|	|	|	V|
24+40	0.7130	0.01	Q	|	|	|	V|
24+45	0.7131	0.01	Q	|	|	|	V|
24+50	0.7131	0.01	Q	|	|	|	V|
24+55	0.7132	0.00	Q	|	|	|	V|
25+ 0	0.7132	0.00	Q	|	|	|	V|
25+ 5	0.7132	0.00	Q	|	|	|	V|
25+10	0.7132	0.00	Q	|	|	|	V|
25+15	0.7132	0.00	Q	|	|	|	V|
25+20	0.7132	0.00	Q	|	|	|	V|
25+25	0.7132	0.00	Q	|	|	|	V|
25+30	0.7133	0.00	Q	|	|	|	V|
25+35	0.7133	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 41
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
2.26	1	1.39
Rainfall data for year 100		
2.26	6	1.86
Rainfall data for year 100		
2.26	24	2.65

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	2.26	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
2.03	0.900	91.0	98.2	0.18	0.922
0.23	0.100	98.0	98.0	0.20	0.913

Area-averaged catchment yield fraction, Y = 0.921
Area-averaged low loss fraction, Yb = 0.079
User entry of time of concentration = 0.240 (hours)
++
Watershed area = 2.26(Ac.)
Catchment Lag time = 0.192 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 43.4028
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.079 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.662(In)
Specified peak 6-hour rainfall = 1.860(In)
Specified peak 24-hour rainfall = 2.650(In)

Rainfall depth area reduction factors:
Using a total area of 2.26(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.662(In)
6-hour factor = 1.000 Adjusted rainfall = 1.860(In)
24-hour factor = 1.000 Adjusted rainfall = 2.650(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 27.33 (CFS))	
1	3.137	0.857
2	22.663	5.337
3	53.668	8.474
4	68.764	4.126
5	77.374	2.353
6	83.049	1.551
7	87.227	1.142
8	90.208	0.815
9	92.496	0.625
10	94.309	0.495
11	95.725	0.387
12	96.837	0.304
13	97.647	0.221

14	98.161	0.140
15	98.652	0.134
16	99.173	0.142
17	99.599	0.116
18	100.000	0.110

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6595	0.6595
2	0.8119	0.1524
3	0.9170	0.1050
4	0.9996	0.0827
5	1.0688	0.0692
6	1.1289	0.0601
7	1.1823	0.0534
8	1.2307	0.0483
9	1.2749	0.0443
10	1.3159	0.0409
11	1.3540	0.0382
12	1.3899	0.0358
13	1.4081	0.0182
14	1.4251	0.0171
15	1.4412	0.0161
16	1.4564	0.0152
17	1.4709	0.0144
18	1.4846	0.0137
19	1.4977	0.0131
20	1.5103	0.0125
21	1.5223	0.0120
22	1.5339	0.0116
23	1.5450	0.0111
24	1.5557	0.0107
25	1.5661	0.0104
26	1.5761	0.0100
27	1.5858	0.0097
28	1.5952	0.0094
29	1.6043	0.0091
30	1.6132	0.0089
31	1.6218	0.0086
32	1.6302	0.0084
33	1.6384	0.0082
34	1.6464	0.0080
35	1.6542	0.0078
36	1.6618	0.0076
37	1.6692	0.0074
38	1.6764	0.0073
39	1.6835	0.0071
40	1.6905	0.0069
41	1.6973	0.0068
42	1.7039	0.0067
43	1.7105	0.0065
44	1.7169	0.0064
45	1.7232	0.0063
46	1.7293	0.0062
47	1.7354	0.0061
48	1.7413	0.0059
49	1.7472	0.0058
50	1.7529	0.0057
51	1.7586	0.0057

52	1.7641	0.0056
53	1.7696	0.0055
54	1.7750	0.0054
55	1.7803	0.0053
56	1.7855	0.0052
57	1.7907	0.0051
58	1.7957	0.0051
59	1.8007	0.0050
60	1.8057	0.0049
61	1.8105	0.0049
62	1.8153	0.0048
63	1.8200	0.0047
64	1.8247	0.0047
65	1.8293	0.0046
66	1.8339	0.0045
67	1.8384	0.0045
68	1.8428	0.0044
69	1.8472	0.0044
70	1.8515	0.0043
71	1.8558	0.0043
72	1.8600	0.0042
73	1.8665	0.0066
74	1.8730	0.0065
75	1.8795	0.0064
76	1.8858	0.0064
77	1.8921	0.0063
78	1.8984	0.0062
79	1.9046	0.0062
80	1.9107	0.0061
81	1.9168	0.0061
82	1.9228	0.0060
83	1.9288	0.0060
84	1.9347	0.0059
85	1.9405	0.0059
86	1.9463	0.0058
87	1.9521	0.0058
88	1.9578	0.0057
89	1.9634	0.0057
90	1.9690	0.0056
91	1.9746	0.0056
92	1.9801	0.0055
93	1.9856	0.0055
94	1.9910	0.0054
95	1.9964	0.0054
96	2.0018	0.0053
97	2.0071	0.0053
98	2.0123	0.0053
99	2.0176	0.0052
100	2.0227	0.0052
101	2.0279	0.0051
102	2.0330	0.0051
103	2.0381	0.0051
104	2.0431	0.0050
105	2.0481	0.0050
106	2.0531	0.0050
107	2.0580	0.0049
108	2.0629	0.0049
109	2.0677	0.0049
110	2.0726	0.0048

111	2.0774	0.0048
112	2.0821	0.0048
113	2.0869	0.0047
114	2.0916	0.0047
115	2.0962	0.0047
116	2.1009	0.0046
117	2.1055	0.0046
118	2.1101	0.0046
119	2.1146	0.0046
120	2.1191	0.0045
121	2.1236	0.0045
122	2.1281	0.0045
123	2.1325	0.0044
124	2.1370	0.0044
125	2.1413	0.0044
126	2.1457	0.0044
127	2.1500	0.0043
128	2.1543	0.0043
129	2.1586	0.0043
130	2.1629	0.0043
131	2.1671	0.0042
132	2.1713	0.0042
133	2.1755	0.0042
134	2.1797	0.0042
135	2.1838	0.0041
136	2.1880	0.0041
137	2.1921	0.0041
138	2.1961	0.0041
139	2.2002	0.0041
140	2.2042	0.0040
141	2.2082	0.0040
142	2.2122	0.0040
143	2.2162	0.0040
144	2.2201	0.0039
145	2.2241	0.0039
146	2.2280	0.0039
147	2.2318	0.0039
148	2.2357	0.0039
149	2.2396	0.0038
150	2.2434	0.0038
151	2.2472	0.0038
152	2.2510	0.0038
153	2.2548	0.0038
154	2.2585	0.0038
155	2.2622	0.0037
156	2.2660	0.0037
157	2.2697	0.0037
158	2.2734	0.0037
159	2.2770	0.0037
160	2.2807	0.0036
161	2.2843	0.0036
162	2.2879	0.0036
163	2.2915	0.0036
164	2.2951	0.0036
165	2.2987	0.0036
166	2.3022	0.0035
167	2.3057	0.0035
168	2.3093	0.0035
169	2.3128	0.0035

170	2.3162	0.0035
171	2.3197	0.0035
172	2.3232	0.0035
173	2.3266	0.0034
174	2.3300	0.0034
175	2.3335	0.0034
176	2.3369	0.0034
177	2.3402	0.0034
178	2.3436	0.0034
179	2.3470	0.0034
180	2.3503	0.0033
181	2.3536	0.0033
182	2.3569	0.0033
183	2.3602	0.0033
184	2.3635	0.0033
185	2.3668	0.0033
186	2.3701	0.0033
187	2.3733	0.0032
188	2.3765	0.0032
189	2.3798	0.0032
190	2.3830	0.0032
191	2.3862	0.0032
192	2.3894	0.0032
193	2.3925	0.0032
194	2.3957	0.0032
195	2.3988	0.0031
196	2.4020	0.0031
197	2.4051	0.0031
198	2.4082	0.0031
199	2.4113	0.0031
200	2.4144	0.0031
201	2.4175	0.0031
202	2.4205	0.0031
203	2.4236	0.0031
204	2.4266	0.0030
205	2.4297	0.0030
206	2.4327	0.0030
207	2.4357	0.0030
208	2.4387	0.0030
209	2.4417	0.0030
210	2.4447	0.0030
211	2.4476	0.0030
212	2.4506	0.0030
213	2.4535	0.0029
214	2.4565	0.0029
215	2.4594	0.0029
216	2.4623	0.0029
217	2.4652	0.0029
218	2.4681	0.0029
219	2.4710	0.0029
220	2.4739	0.0029
221	2.4767	0.0029
222	2.4796	0.0029
223	2.4824	0.0028
224	2.4853	0.0028
225	2.4881	0.0028
226	2.4909	0.0028
227	2.4937	0.0028
228	2.4965	0.0028

229	2.4993	0.0028
230	2.5021	0.0028
231	2.5049	0.0028
232	2.5076	0.0028
233	2.5104	0.0028
234	2.5131	0.0027
235	2.5159	0.0027
236	2.5186	0.0027
237	2.5213	0.0027
238	2.5240	0.0027
239	2.5268	0.0027
240	2.5294	0.0027
241	2.5321	0.0027
242	2.5348	0.0027
243	2.5375	0.0027
244	2.5401	0.0027
245	2.5428	0.0027
246	2.5454	0.0026
247	2.5481	0.0026
248	2.5507	0.0026
249	2.5533	0.0026
250	2.5560	0.0026
251	2.5586	0.0026
252	2.5612	0.0026
253	2.5638	0.0026
254	2.5663	0.0026
255	2.5689	0.0026
256	2.5715	0.0026
257	2.5740	0.0026
258	2.5766	0.0026
259	2.5791	0.0025
260	2.5817	0.0025
261	2.5842	0.0025
262	2.5867	0.0025
263	2.5893	0.0025
264	2.5918	0.0025
265	2.5943	0.0025
266	2.5968	0.0025
267	2.5993	0.0025
268	2.6017	0.0025
269	2.6042	0.0025
270	2.6067	0.0025
271	2.6091	0.0025
272	2.6116	0.0025
273	2.6140	0.0024
274	2.6165	0.0024
275	2.6189	0.0024
276	2.6213	0.0024
277	2.6238	0.0024
278	2.6262	0.0024
279	2.6286	0.0024
280	2.6310	0.0024
281	2.6334	0.0024
282	2.6358	0.0024
283	2.6382	0.0024
284	2.6405	0.0024
285	2.6429	0.0024
286	2.6453	0.0024
287	2.6476	0.0024

288	2.6500	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022
2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0024	0.0002	0.0022
10	0.0024	0.0002	0.0022
11	0.0024	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0025	0.0002	0.0023
19	0.0025	0.0002	0.0023
20	0.0025	0.0002	0.0023
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0026	0.0002	0.0024
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0026	0.0002	0.0024
28	0.0026	0.0002	0.0024
29	0.0026	0.0002	0.0024
30	0.0027	0.0002	0.0024
31	0.0027	0.0002	0.0025
32	0.0027	0.0002	0.0025
33	0.0027	0.0002	0.0025
34	0.0027	0.0002	0.0025
35	0.0027	0.0002	0.0025
36	0.0027	0.0002	0.0025
37	0.0027	0.0002	0.0025
38	0.0028	0.0002	0.0025
39	0.0028	0.0002	0.0026
40	0.0028	0.0002	0.0026
41	0.0028	0.0002	0.0026
42	0.0028	0.0002	0.0026
43	0.0028	0.0002	0.0026
44	0.0028	0.0002	0.0026
45	0.0029	0.0002	0.0026
46	0.0029	0.0002	0.0026
47	0.0029	0.0002	0.0027
48	0.0029	0.0002	0.0027
49	0.0029	0.0002	0.0027
50	0.0029	0.0002	0.0027
51	0.0029	0.0002	0.0027
52	0.0030	0.0002	0.0027
53	0.0030	0.0002	0.0027

54	0.0030	0.0002	0.0028
55	0.0030	0.0002	0.0028
56	0.0030	0.0002	0.0028
57	0.0030	0.0002	0.0028
58	0.0031	0.0002	0.0028
59	0.0031	0.0002	0.0028
60	0.0031	0.0002	0.0028
61	0.0031	0.0002	0.0029
62	0.0031	0.0002	0.0029
63	0.0031	0.0002	0.0029
64	0.0032	0.0003	0.0029
65	0.0032	0.0003	0.0029
66	0.0032	0.0003	0.0029
67	0.0032	0.0003	0.0030
68	0.0032	0.0003	0.0030
69	0.0033	0.0003	0.0030
70	0.0033	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0033	0.0003	0.0031
73	0.0033	0.0003	0.0031
74	0.0034	0.0003	0.0031
75	0.0034	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0034	0.0003	0.0032
78	0.0034	0.0003	0.0032
79	0.0035	0.0003	0.0032
80	0.0035	0.0003	0.0032
81	0.0035	0.0003	0.0032
82	0.0035	0.0003	0.0033
83	0.0036	0.0003	0.0033
84	0.0036	0.0003	0.0033
85	0.0036	0.0003	0.0033
86	0.0036	0.0003	0.0033
87	0.0037	0.0003	0.0034
88	0.0037	0.0003	0.0034
89	0.0037	0.0003	0.0034
90	0.0037	0.0003	0.0034
91	0.0038	0.0003	0.0035
92	0.0038	0.0003	0.0035
93	0.0038	0.0003	0.0035
94	0.0038	0.0003	0.0035
95	0.0039	0.0003	0.0036
96	0.0039	0.0003	0.0036
97	0.0039	0.0003	0.0036
98	0.0040	0.0003	0.0037
99	0.0040	0.0003	0.0037
100	0.0040	0.0003	0.0037
101	0.0041	0.0003	0.0038
102	0.0041	0.0003	0.0038
103	0.0041	0.0003	0.0038
104	0.0042	0.0003	0.0038
105	0.0042	0.0003	0.0039
106	0.0042	0.0003	0.0039
107	0.0043	0.0003	0.0039
108	0.0043	0.0003	0.0040
109	0.0044	0.0003	0.0040
110	0.0044	0.0003	0.0040
111	0.0044	0.0004	0.0041
112	0.0045	0.0004	0.0041

113	0.0045	0.0004	0.0042
114	0.0046	0.0004	0.0042
115	0.0046	0.0004	0.0042
116	0.0046	0.0004	0.0043
117	0.0047	0.0004	0.0043
118	0.0047	0.0004	0.0044
119	0.0048	0.0004	0.0044
120	0.0048	0.0004	0.0044
121	0.0049	0.0004	0.0045
122	0.0049	0.0004	0.0045
123	0.0050	0.0004	0.0046
124	0.0050	0.0004	0.0046
125	0.0051	0.0004	0.0047
126	0.0051	0.0004	0.0047
127	0.0052	0.0004	0.0048
128	0.0053	0.0004	0.0048
129	0.0053	0.0004	0.0049
130	0.0054	0.0004	0.0050
131	0.0055	0.0004	0.0050
132	0.0055	0.0004	0.0051
133	0.0056	0.0004	0.0052
134	0.0057	0.0004	0.0052
135	0.0058	0.0005	0.0053
136	0.0058	0.0005	0.0053
137	0.0059	0.0005	0.0054
138	0.0060	0.0005	0.0055
139	0.0061	0.0005	0.0056
140	0.0061	0.0005	0.0056
141	0.0062	0.0005	0.0057
142	0.0063	0.0005	0.0058
143	0.0064	0.0005	0.0059
144	0.0065	0.0005	0.0060
145	0.0042	0.0003	0.0039
146	0.0043	0.0003	0.0039
147	0.0044	0.0003	0.0040
148	0.0044	0.0004	0.0041
149	0.0045	0.0004	0.0042
150	0.0046	0.0004	0.0042
151	0.0047	0.0004	0.0044
152	0.0048	0.0004	0.0044
153	0.0049	0.0004	0.0045
154	0.0050	0.0004	0.0046
155	0.0051	0.0004	0.0047
156	0.0052	0.0004	0.0048
157	0.0054	0.0004	0.0050
158	0.0055	0.0004	0.0050
159	0.0057	0.0004	0.0052
160	0.0057	0.0005	0.0053
161	0.0059	0.0005	0.0055
162	0.0061	0.0005	0.0056
163	0.0063	0.0005	0.0058
164	0.0064	0.0005	0.0059
165	0.0067	0.0005	0.0061
166	0.0068	0.0005	0.0063
167	0.0071	0.0006	0.0065
168	0.0073	0.0006	0.0067
169	0.0076	0.0006	0.0070
170	0.0078	0.0006	0.0072
171	0.0082	0.0006	0.0075

172	0.0084	0.0007	0.0077
173	0.0089	0.0007	0.0082
174	0.0091	0.0007	0.0084
175	0.0097	0.0008	0.0089
176	0.0100	0.0008	0.0092
177	0.0107	0.0009	0.0099
178	0.0111	0.0009	0.0102
179	0.0120	0.0010	0.0111
180	0.0125	0.0010	0.0116
181	0.0137	0.0011	0.0126
182	0.0144	0.0011	0.0133
183	0.0161	0.0013	0.0148
184	0.0171	0.0014	0.0157
185	0.0358	0.0027	0.0331
186	0.0382	0.0027	0.0355
187	0.0443	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1498
193	0.6595	0.0027	0.6568
194	0.0827	0.0027	0.0800
195	0.0534	0.0027	0.0508
196	0.0409	0.0027	0.0383
197	0.0182	0.0014	0.0168
198	0.0152	0.0012	0.0140
199	0.0131	0.0010	0.0121
200	0.0116	0.0009	0.0106
201	0.0104	0.0008	0.0095
202	0.0094	0.0007	0.0087
203	0.0086	0.0007	0.0079
204	0.0080	0.0006	0.0073
205	0.0074	0.0006	0.0068
206	0.0069	0.0006	0.0064
207	0.0065	0.0005	0.0060
208	0.0062	0.0005	0.0057
209	0.0058	0.0005	0.0054
210	0.0056	0.0004	0.0051
211	0.0053	0.0004	0.0049
212	0.0051	0.0004	0.0047
213	0.0049	0.0004	0.0045
214	0.0047	0.0004	0.0043
215	0.0045	0.0004	0.0041
216	0.0043	0.0003	0.0040
217	0.0066	0.0005	0.0060
218	0.0064	0.0005	0.0059
219	0.0062	0.0005	0.0057
220	0.0060	0.0005	0.0055
221	0.0059	0.0005	0.0054
222	0.0057	0.0005	0.0053
223	0.0056	0.0004	0.0051
224	0.0054	0.0004	0.0050
225	0.0053	0.0004	0.0049
226	0.0052	0.0004	0.0048
227	0.0051	0.0004	0.0047
228	0.0050	0.0004	0.0046
229	0.0049	0.0004	0.0045
230	0.0048	0.0004	0.0044

231	0.0047	0.0004	0.0043
232	0.0046	0.0004	0.0042
233	0.0045	0.0004	0.0041
234	0.0044	0.0004	0.0041
235	0.0043	0.0003	0.0040
236	0.0043	0.0003	0.0039
237	0.0042	0.0003	0.0039
238	0.0041	0.0003	0.0038
239	0.0041	0.0003	0.0037
240	0.0040	0.0003	0.0037
241	0.0039	0.0003	0.0036
242	0.0039	0.0003	0.0036
243	0.0038	0.0003	0.0035
244	0.0038	0.0003	0.0035
245	0.0037	0.0003	0.0034
246	0.0036	0.0003	0.0034
247	0.0036	0.0003	0.0033
248	0.0035	0.0003	0.0033
249	0.0035	0.0003	0.0032
250	0.0035	0.0003	0.0032
251	0.0034	0.0003	0.0031
252	0.0034	0.0003	0.0031
253	0.0033	0.0003	0.0031
254	0.0033	0.0003	0.0030
255	0.0032	0.0003	0.0030
256	0.0032	0.0003	0.0030
257	0.0032	0.0003	0.0029
258	0.0031	0.0002	0.0029
259	0.0031	0.0002	0.0029
260	0.0031	0.0002	0.0028
261	0.0030	0.0002	0.0028
262	0.0030	0.0002	0.0028
263	0.0030	0.0002	0.0027
264	0.0029	0.0002	0.0027
265	0.0029	0.0002	0.0027
266	0.0029	0.0002	0.0026
267	0.0028	0.0002	0.0026
268	0.0028	0.0002	0.0026
269	0.0028	0.0002	0.0026
270	0.0028	0.0002	0.0025
271	0.0027	0.0002	0.0025
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0025
274	0.0027	0.0002	0.0025
275	0.0026	0.0002	0.0024
276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0026	0.0002	0.0024
279	0.0025	0.0002	0.0023
280	0.0025	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0025	0.0002	0.0023
284	0.0024	0.0002	0.0022
285	0.0024	0.0002	0.0022
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022
288	0.0024	0.0002	0.0022

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.52(In)
Peak flow rate in flood hydrograph = 7.17(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0006	0.04	Q				
0+25	0.0009	0.05	Q				
0+30	0.0013	0.05	Q				
0+35	0.0016	0.05	Q				
0+40	0.0020	0.05	Q				
0+45	0.0024	0.06	Q				
0+50	0.0028	0.06	Q				
0+55	0.0032	0.06	Q				
1+ 0	0.0036	0.06	Q				
1+ 5	0.0040	0.06	Q				
1+10	0.0044	0.06	Q				
1+15	0.0048	0.06	Q				
1+20	0.0053	0.06	Q				
1+25	0.0057	0.06	Q				
1+30	0.0061	0.06	Q				
1+35	0.0065	0.06	Q				
1+40	0.0070	0.06	Q				
1+45	0.0074	0.06	Q				
1+50	0.0079	0.06	Q				
1+55	0.0083	0.06	Q				
2+ 0	0.0087	0.06	Q				
2+ 5	0.0092	0.06	Q				
2+10	0.0096	0.06	Q				
2+15	0.0101	0.06	Q				
2+20	0.0105	0.07	Q				
2+25	0.0110	0.07	Q				
2+30	0.0114	0.07	Q				
2+35	0.0119	0.07	QV				
2+40	0.0123	0.07	QV				
2+45	0.0128	0.07	QV				
2+50	0.0133	0.07	QV				
2+55	0.0137	0.07	QV				
3+ 0	0.0142	0.07	QV				
3+ 5	0.0147	0.07	QV				
3+10	0.0151	0.07	QV				
3+15	0.0156	0.07	QV				
3+20	0.0161	0.07	QV				
3+25	0.0166	0.07	QV				
3+30	0.0170	0.07	QV				
3+35	0.0175	0.07	QV				
3+40	0.0180	0.07	QV				
3+45	0.0185	0.07	QV				

3+50	0.0190	0.07	QV	|	|	|	|
3+55	0.0195	0.07	QV	|	|	|	|
4+ 0	0.0200	0.07	QV	|	|	|	|
4+ 5	0.0205	0.07	QV	|	|	|	|
4+10	0.0210	0.07	QV	|	|	|	|
4+15	0.0215	0.07	QV	|	|	|	|
4+20	0.0220	0.07	QV	|	|	|	|
4+25	0.0225	0.07	QV	|	|	|	|
4+30	0.0230	0.07	QV	|	|	|	|
4+35	0.0235	0.07	QV	|	|	|	|
4+40	0.0240	0.07	Q V	|	|	|	|
4+45	0.0245	0.08	Q V	|	|	|	|
4+50	0.0250	0.08	Q V	|	|	|	|
4+55	0.0256	0.08	Q V	|	|	|	|
5+ 0	0.0261	0.08	Q V	|	|	|	|
5+ 5	0.0266	0.08	Q V	|	|	|	|
5+10	0.0271	0.08	Q V	|	|	|	|
5+15	0.0277	0.08	Q V	|	|	|	|
5+20	0.0282	0.08	Q V	|	|	|	|
5+25	0.0288	0.08	Q V	|	|	|	|
5+30	0.0293	0.08	Q V	|	|	|	|
5+35	0.0299	0.08	Q V	|	|	|	|
5+40	0.0304	0.08	Q V	|	|	|	|
5+45	0.0310	0.08	Q V	|	|	|	|
5+50	0.0315	0.08	Q V	|	|	|	|
5+55	0.0321	0.08	Q V	|	|	|	|
6+ 0	0.0326	0.08	Q V	|	|	|	|
6+ 5	0.0332	0.08	Q V	|	|	|	|
6+10	0.0338	0.08	Q V	|	|	|	|
6+15	0.0343	0.08	Q V	|	|	|	|
6+20	0.0349	0.08	Q V	|	|	|	|
6+25	0.0355	0.08	Q V	|	|	|	|
6+30	0.0361	0.08	Q V	|	|	|	|
6+35	0.0367	0.09	Q V	|	|	|	|
6+40	0.0373	0.09	Q V	|	|	|	|
6+45	0.0379	0.09	Q V	|	|	|	|
6+50	0.0385	0.09	Q V	|	|	|	|
6+55	0.0391	0.09	Q V	|	|	|	|
7+ 0	0.0397	0.09	Q V	|	|	|	|
7+ 5	0.0403	0.09	Q V	|	|	|	|
7+10	0.0409	0.09	Q V	|	|	|	|
7+15	0.0415	0.09	Q V	|	|	|	|
7+20	0.0421	0.09	Q V	|	|	|	|
7+25	0.0428	0.09	Q V	|	|	|	|
7+30	0.0434	0.09	Q V	|	|	|	|
7+35	0.0440	0.09	Q V	|	|	|	|
7+40	0.0447	0.09	Q V	|	|	|	|
7+45	0.0453	0.09	Q V	|	|	|	|
7+50	0.0460	0.09	Q V	|	|	|	|
7+55	0.0466	0.10	Q V	|	|	|	|
8+ 0	0.0473	0.10	Q V	|	|	|	|
8+ 5	0.0480	0.10	Q V	|	|	|	|
8+10	0.0486	0.10	Q V	|	|	|	|
8+15	0.0493	0.10	Q V	|	|	|	|
8+20	0.0500	0.10	Q V	|	|	|	|
8+25	0.0507	0.10	Q V	|	|	|	|
8+30	0.0514	0.10	Q V	|	|	|	|
8+35	0.0521	0.10	Q V	|	|	|	|
8+40	0.0528	0.10	Q V	|	|	|	|

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 8+45       0.0535      0.10  Q   V     |          |          |          |
 8+50       0.0542      0.10  Q   V     |          |          |          |
 8+55       0.0549      0.10  Q   V     |          |          |          |
 9+ 0       0.0557      0.11  Q   V     |          |          |          |
 9+ 5       0.0564      0.11  Q   V     |          |          |          |
 9+10       0.0571      0.11  Q   V     |          |          |          |
 9+15       0.0579      0.11  Q   V     |          |          |          |
 9+20       0.0586      0.11  Q   V     |          |          |          |
 9+25       0.0594      0.11  Q    V    |          |          |          |
 9+30       0.0601      0.11  Q    V    |          |          |          |
 9+35       0.0609      0.11  Q    V    |          |          |          |
 9+40       0.0617      0.11  Q    V    |          |          |          |
 9+45       0.0625      0.11  Q    V    |          |          |          |
 9+50       0.0633      0.12  Q    V    |          |          |          |
 9+55       0.0641      0.12  Q    V    |          |          |          |
10+ 0       0.0649      0.12  Q    V    |          |          |          |
10+ 5       0.0657      0.12  Q    V    |          |          |          |
10+10       0.0665      0.12  Q    V    |          |          |          |
10+15       0.0674      0.12  Q    V    |          |          |          |
10+20       0.0682      0.12  Q    V    |          |          |          |
10+25       0.0691      0.12  Q    V    |          |          |          |
10+30       0.0699      0.13  Q    V    |          |          |          |
10+35       0.0708      0.13  Q    V    |          |          |          |
10+40       0.0717      0.13  Q     V   |          |          |          |
10+45       0.0726      0.13  Q     V   |          |          |          |
10+50       0.0735      0.13  Q     V   |          |          |          |
10+55       0.0744      0.13  Q     V   |          |          |          |
11+ 0       0.0753      0.13  Q     V   |          |          |          |
11+ 5       0.0762      0.14  Q     V   |          |          |          |
11+10       0.0772      0.14  Q     V   |          |          |          |
11+15       0.0781      0.14  Q     V   |          |          |          |
11+20       0.0791      0.14  Q     V   |          |          |          |
11+25       0.0801      0.14  Q     V   |          |          |          |
11+30       0.0811      0.14  Q     V   |          |          |          |
11+35       0.0821      0.15  Q     V   |          |          |          |
11+40       0.0831      0.15  Q      V  |          |          |          |
11+45       0.0841      0.15  Q      V  |          |          |          |
11+50       0.0852      0.15  Q      V  |          |          |          |
11+55       0.0862      0.15  Q      V  |          |          |          |
12+ 0       0.0873      0.16  Q      V  |          |          |          |
12+ 5       0.0884      0.16  Q      V  |          |          |          |
12+10       0.0894      0.15  Q      V  |          |          |          |
12+15       0.0903      0.13  Q      V  |          |          |          |
12+20       0.0912      0.12  Q      V  |          |          |          |
12+25       0.0920      0.12  Q      V  |          |          |          |
12+30       0.0928      0.12  Q      V  |          |          |          |
12+35       0.0936      0.12  Q      V  |          |          |          |
12+40       0.0944      0.12  Q      V  |          |          |          |
12+45       0.0953      0.12  Q       V |          |          |          |
12+50       0.0961      0.12  Q       V |          |          |          |
12+55       0.0970      0.12  Q       V |          |          |          |
13+ 0       0.0978      0.12  Q       V |          |          |          |
13+ 5       0.0987      0.13  Q       V |          |          |          |
13+10       0.0996      0.13  Q       V |          |          |          |
13+15       0.1005      0.13  Q       V |          |          |          |
13+20       0.1014      0.13  Q       V |          |          |          |
13+25       0.1024      0.14  Q       V |          |          |          |
13+30       0.1033      0.14  Q       V |          |          |          |
13+35       0.1043      0.14  Q       V |          |          |          |
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13+40       0.1054      0.15  Q       V |          |          |          |
13+45       0.1064      0.15  Q       V |          |          |          |
13+50       0.1075      0.16  Q        V|          |          |          |
13+55       0.1086      0.16  Q        V|          |          |          |
14+ 0       0.1097      0.17  Q        V|          |          |          |
14+ 5       0.1109      0.17  Q        V|          |          |          |
14+10       0.1121      0.18  Q        V|          |          |          |
14+15       0.1134      0.18  Q        V|          |          |          |
14+20       0.1147      0.19  Q        V|          |          |          |
14+25       0.1160      0.20  Q        V|          |          |          |
14+30       0.1174      0.20  Q        V|          |          |          |
14+35       0.1189      0.21  Q         V          |          |          |
14+40       0.1204      0.22  Q         V          |          |          |
14+45       0.1220      0.23  Q         V          |          |          |
14+50       0.1237      0.24  Q         V          |          |          |
14+55       0.1254      0.25  |Q        V          |          |          |
15+ 0       0.1273      0.27  |Q        V          |          |          |
15+ 5       0.1292      0.28  |Q        V          |          |          |
15+10       0.1313      0.30  |Q        |V         |          |          |
15+15       0.1335      0.32  |Q        |V         |          |          |
15+20       0.1359      0.34  |Q        |V         |          |          |
15+25       0.1385      0.38  |Q        |V         |          |          |
15+30       0.1419      0.50  |Q        |V         |          |          |
15+35       0.1466      0.68  | Q       | V        |          |          |
15+40       0.1522      0.81  |  Q      | V        |          |          |
15+45       0.1587      0.95  |  Q      |  V       |          |          |
15+50       0.1664      1.12  |   Q     |   V      |          |          |
15+55       0.1757      1.35  |    Q    |   V      |          |          |
16+ 0       0.1878      1.75  |     Q   |    V     |          |          |
16+ 5       0.2073      2.83  |         |Q     V   |          |          |
16+10       0.2463      5.66  |         |          V Q        |          |
16+15       0.2957      7.17  |         |          |   V   Q  |          |
16+20       0.3260      4.41  |         |      Q   |       V  |          |
16+25       0.3469      3.03  |         | Q        |         V|          |
16+30       0.3622      2.22  |       Q |          |          V          |
16+35       0.3736      1.66  |     Q   |          |          |V         |
16+40       0.3824      1.27  |    Q    |          |          | V        |
16+45       0.3894      1.03  |   Q     |          |          | V        |
16+50       0.3953      0.85  |  Q      |          |          |  V       |
16+55       0.4001      0.70  | Q       |          |          |  V       |
17+ 0       0.4042      0.59  | Q       |          |          |   V      |
17+ 5       0.4075      0.49  |Q        |          |          |   V      |
17+10       0.4103      0.40  |Q        |          |          |   V      |
17+15       0.4128      0.36  |Q        |          |          |   V      |
17+20       0.4151      0.34  |Q        |          |          |    V     |
17+25       0.4172      0.30  |Q        |          |          |    V     |
17+30       0.4190      0.26  |Q        |          |          |    V     |
17+35       0.4202      0.18  Q         |          |          |    V     |
17+40       0.4214      0.16  Q         |          |          |    V     |
17+45       0.4224      0.15  Q         |          |          |    V     |
17+50       0.4234      0.14  Q         |          |          |    V     |
17+55       0.4243      0.13  Q         |          |          |    V     |
18+ 0       0.4252      0.13  Q         |          |          |    V     |
18+ 5       0.4260      0.12  Q         |          |          |    V     |
18+10       0.4269      0.13  Q         |          |          |     V    |
18+15       0.4279      0.14  Q         |          |          |     V    |
18+20       0.4290      0.15  Q         |          |          |     V    |
18+25       0.4300      0.15  Q         |          |          |     V    |
18+30       0.4310      0.15  Q         |          |          |     V    |
```

18+35	0.4320	0.15	Q	|	|	|	V |
18+40	0.4330	0.14	Q	|	|	|	V |
18+45	0.4340	0.14	Q	|	|	|	V |
18+50	0.4349	0.14	Q	|	|	|	V |
18+55	0.4359	0.14	Q	|	|	|	V |
19+ 0	0.4368	0.13	Q	|	|	|	V |
19+ 5	0.4377	0.13	Q	|	|	|	V |
19+10	0.4386	0.13	Q	|	|	|	V |
19+15	0.4395	0.13	Q	|	|	|	V |
19+20	0.4403	0.12	Q	|	|	|	V |
19+25	0.4411	0.12	Q	|	|	|	V |
19+30	0.4420	0.12	Q	|	|	|	V |
19+35	0.4428	0.12	Q	|	|	|	V |
19+40	0.4436	0.11	Q	|	|	|	V |
19+45	0.4443	0.11	Q	|	|	|	V |
19+50	0.4451	0.11	Q	|	|	|	V |
19+55	0.4458	0.11	Q	|	|	|	V |
20+ 0	0.4466	0.11	Q	|	|	|	V |
20+ 5	0.4473	0.10	Q	|	|	|	V |
20+10	0.4480	0.10	Q	|	|	|	V |
20+15	0.4487	0.10	Q	|	|	|	V |
20+20	0.4494	0.10	Q	|	|	|	V |
20+25	0.4501	0.10	Q	|	|	|	V |
20+30	0.4507	0.10	Q	|	|	|	V |
20+35	0.4514	0.10	Q	|	|	|	V |
20+40	0.4520	0.09	Q	|	|	|	V |
20+45	0.4527	0.09	Q	|	|	|	V |
20+50	0.4533	0.09	Q	|	|	|	V |
20+55	0.4539	0.09	Q	|	|	|	V |
21+ 0	0.4545	0.09	Q	|	|	|	V |
21+ 5	0.4551	0.09	Q	|	|	|	V |
21+10	0.4557	0.09	Q	|	|	|	V |
21+15	0.4563	0.09	Q	|	|	|	V |
21+20	0.4569	0.08	Q	|	|	|	V |
21+25	0.4575	0.08	Q	|	|	|	V |
21+30	0.4580	0.08	Q	|	|	|	V |
21+35	0.4586	0.08	Q	|	|	|	V |
21+40	0.4591	0.08	Q	|	|	|	V |
21+45	0.4597	0.08	Q	|	|	|	V |
21+50	0.4602	0.08	Q	|	|	|	V |
21+55	0.4608	0.08	Q	|	|	|	V |
22+ 0	0.4613	0.08	Q	|	|	|	V |
22+ 5	0.4618	0.08	Q	|	|	|	V |
22+10	0.4623	0.08	Q	|	|	|	V|
22+15	0.4628	0.07	Q	|	|	|	V|
22+20	0.4634	0.07	Q	|	|	|	V|
22+25	0.4639	0.07	Q	|	|	|	V|
22+30	0.4643	0.07	Q	|	|	|	V|
22+35	0.4648	0.07	Q	|	|	|	V|
22+40	0.4653	0.07	Q	|	|	|	V|
22+45	0.4658	0.07	Q	|	|	|	V|
22+50	0.4663	0.07	Q	|	|	|	V|
22+55	0.4668	0.07	Q	|	|	|	V|
23+ 0	0.4672	0.07	Q	|	|	|	V|
23+ 5	0.4677	0.07	Q	|	|	|	V|
23+10	0.4681	0.07	Q	|	|	|	V|
23+15	0.4686	0.07	Q	|	|	|	V|
23+20	0.4691	0.07	Q	|	|	|	V|
23+25	0.4695	0.06	Q	|	|	|	V|

23+30	0.4699	0.06	Q	|	|	|	V|
23+35	0.4704	0.06	Q	|	|	|	V|
23+40	0.4708	0.06	Q	|	|	|	V|
23+45	0.4713	0.06	Q	|	|	|	V|
23+50	0.4717	0.06	Q	|	|	|	V|
23+55	0.4721	0.06	Q	|	|	|	V|
24+ 0	0.4725	0.06	Q	|	|	|	V|
24+ 5	0.4729	0.06	Q	|	|	|	V|
24+10	0.4733	0.05	Q	|	|	|	V|
24+15	0.4735	0.03	Q	|	|	|	V|
24+20	0.4736	0.02	Q	|	|	|	V|
24+25	0.4737	0.01	Q	|	|	|	V|
24+30	0.4737	0.01	Q	|	|	|	V|
24+35	0.4738	0.01	Q	|	|	|	V|
24+40	0.4738	0.01	Q	|	|	|	V|
24+45	0.4739	0.00	Q	|	|	|	V|
24+50	0.4739	0.00	Q	|	|	|	V|
24+55	0.4739	0.00	Q	|	|	|	V|
25+ 0	0.4739	0.00	Q	|	|	|	V|
25+ 5	0.4739	0.00	Q	|	|	|	V|
25+10	0.4739	0.00	Q	|	|	|	V|
25+15	0.4740	0.00	Q	|	|	|	V|
25+20	0.4740	0.00	Q	|	|	|	V|
25+25	0.4740	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 42
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
124.33	1	1.39
Rainfall data for year 100		
124.33	6	1.87
Rainfall data for year 100		
124.33	24	2.67

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
89.6	97.9	124.33	1.000	0.041	0.900	0.037

Area-averaged adjusted loss rate Fm (In/Hr) = 0.037

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
111.90	0.900	89.6	97.9	0.21	0.910
12.43	0.100	98.0	98.0	0.20	0.914

Area-averaged catchment yield fraction, Y = 0.911
Area-averaged low loss fraction, Yb = 0.089
User entry of time of concentration = 0.930 (hours)
++
Watershed area = 124.33(Ac.)
Catchment Lag time = 0.744 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 11.2007
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.037(In/Hr)
Average low loss rate fraction (Yb) = 0.089 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.670(In)

Rainfall depth area reduction factors:
Using a total area of 124.33(Ac.) (Ref: fig. E-4)

5-minute factor = 0.994 Adjusted rainfall = 0.656(In)
30-minute factor = 0.994 Adjusted rainfall = 1.122(In)
1-hour factor = 0.994 Adjusted rainfall = 1.382(In)
3-hour factor = 0.999 Adjusted rainfall = 1.666(In)
6-hour factor = 1.000 Adjusted rainfall = 1.869(In)
24-hour factor = 1.000 Adjusted rainfall = 2.670(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1503.62 (CFS))	
1	0.493	7.410
2	1.829	20.085
3	3.969	32.177
4	6.932	44.555
5	11.125	63.045
6	18.306	107.979
7	28.965	160.273
8	38.966	150.374
9	46.928	119.726
10	53.332	96.278
11	58.460	77.110
12	62.478	60.416
13	65.842	50.582

14	68.770	44.023
15	71.424	39.915
16	73.703	34.267
17	75.724	30.383
18	77.626	28.600
19	79.252	24.452
20	80.731	22.231
21	82.097	20.550
22	83.308	18.205
23	84.487	17.722
24	85.569	16.271
25	86.626	15.897
26	87.549	13.884
27	88.440	13.395
28	89.181	11.140
29	89.853	10.105
30	90.504	9.779
31	91.131	9.431
32	91.733	9.050
33	92.273	8.125
34	92.805	7.993
35	93.303	7.488
36	93.791	7.340
37	94.200	6.153
38	94.581	5.726
39	94.962	5.726
40	95.343	5.726
41	95.693	5.269
42	95.986	4.400
43	96.277	4.379
44	96.568	4.379
45	96.853	4.292
46	97.073	3.307
47	97.275	3.031
48	97.477	3.031
49	97.678	3.031
50	97.844	2.491
51	97.956	1.691
52	98.068	1.684
53	98.180	1.684
54	98.294	1.716
55	98.425	1.967
56	98.560	2.021
57	98.694	2.021
58	98.828	2.021
59	98.963	2.021
60	99.097	2.021
61	99.232	2.021
62	99.366	2.021
63	99.492	1.898
64	99.570	1.172
65	99.640	1.053
66	99.710	1.053
67	99.780	1.053
68	99.850	1.053
69	99.920	1.053
70	100.000	0.526

Peak Unit	Adjusted mass rainfall	Unit rainfall

Number	(In)	(In)
1	0.6557	0.6557
2	0.8073	0.1516
3	0.9117	0.1044
4	0.9939	0.0822
5	1.0627	0.0688
6	1.1225	0.0597
7	1.1756	0.0531
8	1.2236	0.0480
9	1.2676	0.0440
10	1.3083	0.0407
11	1.3463	0.0379
12	1.3819	0.0356
13	1.4009	0.0190
14	1.4186	0.0178
15	1.4354	0.0168
16	1.4512	0.0159
17	1.4663	0.0151
18	1.4806	0.0143
19	1.4943	0.0137
20	1.5074	0.0131
21	1.5200	0.0126
22	1.5321	0.0121
23	1.5437	0.0116
24	1.5549	0.0112
25	1.5658	0.0108
26	1.5763	0.0105
27	1.5864	0.0102
28	1.5963	0.0099
29	1.6058	0.0096
30	1.6151	0.0093
31	1.6242	0.0090
32	1.6330	0.0088
33	1.6415	0.0086
34	1.6499	0.0084
35	1.6581	0.0082
36	1.6660	0.0080
37	1.6736	0.0076
38	1.6811	0.0074
39	1.6883	0.0073
40	1.6954	0.0071
41	1.7024	0.0070
42	1.7092	0.0068
43	1.7159	0.0067
44	1.7225	0.0066
45	1.7289	0.0064
46	1.7352	0.0063
47	1.7415	0.0062
48	1.7476	0.0061
49	1.7536	0.0060
50	1.7594	0.0059
51	1.7652	0.0058
52	1.7709	0.0057
53	1.7766	0.0056
54	1.7821	0.0055
55	1.7875	0.0054
56	1.7929	0.0054
57	1.7981	0.0053
58	1.8033	0.0052

59	1.8085	0.0051
60	1.8135	0.0051
61	1.8185	0.0050
62	1.8234	0.0049
63	1.8283	0.0049
64	1.8331	0.0048
65	1.8378	0.0047
66	1.8425	0.0047
67	1.8471	0.0046
68	1.8516	0.0045
69	1.8561	0.0045
70	1.8605	0.0044
71	1.8649	0.0044
72	1.8693	0.0043
73	1.8759	0.0066
74	1.8825	0.0066
75	1.8890	0.0065
76	1.8954	0.0064
77	1.9018	0.0064
78	1.9081	0.0063
79	1.9144	0.0063
80	1.9206	0.0062
81	1.9267	0.0061
82	1.9328	0.0061
83	1.9389	0.0060
84	1.9448	0.0060
85	1.9508	0.0059
86	1.9566	0.0059
87	1.9625	0.0058
88	1.9682	0.0058
89	1.9740	0.0057
90	1.9796	0.0057
91	1.9853	0.0056
92	1.9909	0.0056
93	1.9964	0.0055
94	2.0019	0.0055
95	2.0073	0.0055
96	2.0128	0.0054
97	2.0181	0.0054
98	2.0235	0.0053
99	2.0287	0.0053
100	2.0340	0.0052
101	2.0392	0.0052
102	2.0444	0.0052
103	2.0495	0.0051
104	2.0546	0.0051
105	2.0597	0.0051
106	2.0647	0.0050
107	2.0697	0.0050
108	2.0746	0.0050
109	2.0796	0.0049
110	2.0844	0.0049
111	2.0893	0.0049
112	2.0941	0.0048
113	2.0989	0.0048
114	2.1037	0.0048
115	2.1084	0.0047
116	2.1131	0.0047
117	2.1178	0.0047

118	2.1224	0.0046
119	2.1270	0.0046
120	2.1316	0.0046
121	2.1361	0.0046
122	2.1407	0.0045
123	2.1452	0.0045
124	2.1496	0.0045
125	2.1541	0.0044
126	2.1585	0.0044
127	2.1629	0.0044
128	2.1672	0.0044
129	2.1716	0.0043
130	2.1759	0.0043
131	2.1802	0.0043
132	2.1845	0.0043
133	2.1887	0.0042
134	2.1929	0.0042
135	2.1971	0.0042
136	2.2013	0.0042
137	2.2054	0.0041
138	2.2096	0.0041
139	2.2137	0.0041
140	2.2178	0.0041
141	2.2218	0.0041
142	2.2259	0.0040
143	2.2299	0.0040
144	2.2339	0.0040
145	2.2378	0.0040
146	2.2418	0.0040
147	2.2457	0.0039
148	2.2497	0.0039
149	2.2536	0.0039
150	2.2574	0.0039
151	2.2613	0.0039
152	2.2651	0.0038
153	2.2690	0.0038
154	2.2728	0.0038
155	2.2765	0.0038
156	2.2803	0.0038
157	2.2841	0.0037
158	2.2878	0.0037
159	2.2915	0.0037
160	2.2952	0.0037
161	2.2989	0.0037
162	2.3025	0.0037
163	2.3062	0.0036
164	2.3098	0.0036
165	2.3134	0.0036
166	2.3170	0.0036
167	2.3206	0.0036
168	2.3242	0.0036
169	2.3277	0.0035
170	2.3313	0.0035
171	2.3348	0.0035
172	2.3383	0.0035
173	2.3418	0.0035
174	2.3452	0.0035
175	2.3487	0.0035
176	2.3521	0.0034

177	2.3556	0.0034
178	2.3590	0.0034
179	2.3624	0.0034
180	2.3658	0.0034
181	2.3691	0.0034
182	2.3725	0.0034
183	2.3758	0.0033
184	2.3792	0.0033
185	2.3825	0.0033
186	2.3858	0.0033
187	2.3891	0.0033
188	2.3924	0.0033
189	2.3956	0.0033
190	2.3989	0.0033
191	2.4021	0.0032
192	2.4053	0.0032
193	2.4086	0.0032
194	2.4118	0.0032
195	2.4149	0.0032
196	2.4181	0.0032
197	2.4213	0.0032
198	2.4244	0.0032
199	2.4276	0.0031
200	2.4307	0.0031
201	2.4338	0.0031
202	2.4369	0.0031
203	2.4400	0.0031
204	2.4431	0.0031
205	2.4462	0.0031
206	2.4493	0.0031
207	2.4523	0.0031
208	2.4553	0.0030
209	2.4584	0.0030
210	2.4614	0.0030
211	2.4644	0.0030
212	2.4674	0.0030
213	2.4704	0.0030
214	2.4734	0.0030
215	2.4763	0.0030
216	2.4793	0.0030
217	2.4822	0.0029
218	2.4852	0.0029
219	2.4881	0.0029
220	2.4910	0.0029
221	2.4939	0.0029
222	2.4968	0.0029
223	2.4997	0.0029
224	2.5026	0.0029
225	2.5054	0.0029
226	2.5083	0.0029
227	2.5111	0.0028
228	2.5140	0.0028
229	2.5168	0.0028
230	2.5196	0.0028
231	2.5224	0.0028
232	2.5252	0.0028
233	2.5280	0.0028
234	2.5308	0.0028
235	2.5336	0.0028

236	2.5364	0.0028
237	2.5391	0.0028
238	2.5419	0.0027
239	2.5446	0.0027
240	2.5474	0.0027
241	2.5501	0.0027
242	2.5528	0.0027
243	2.5555	0.0027
244	2.5582	0.0027
245	2.5609	0.0027
246	2.5636	0.0027
247	2.5662	0.0027
248	2.5689	0.0027
249	2.5716	0.0027
250	2.5742	0.0027
251	2.5769	0.0026
252	2.5795	0.0026
253	2.5821	0.0026
254	2.5847	0.0026
255	2.5874	0.0026
256	2.5900	0.0026
257	2.5926	0.0026
258	2.5952	0.0026
259	2.5977	0.0026
260	2.6003	0.0026
261	2.6029	0.0026
262	2.6054	0.0026
263	2.6080	0.0026
264	2.6105	0.0025
265	2.6131	0.0025
266	2.6156	0.0025
267	2.6181	0.0025
268	2.6206	0.0025
269	2.6232	0.0025
270	2.6257	0.0025
271	2.6282	0.0025
272	2.6306	0.0025
273	2.6331	0.0025
274	2.6356	0.0025
275	2.6381	0.0025
276	2.6405	0.0025
277	2.6430	0.0025
278	2.6454	0.0024
279	2.6479	0.0024
280	2.6503	0.0024
281	2.6528	0.0024
282	2.6552	0.0024
283	2.6576	0.0024
284	2.6600	0.0024
285	2.6624	0.0024
286	2.6648	0.0024
287	2.6672	0.0024
288	2.6696	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022

2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0022
9	0.0025	0.0002	0.0022
10	0.0025	0.0002	0.0022
11	0.0025	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0026	0.0002	0.0023
19	0.0026	0.0002	0.0023
20	0.0026	0.0002	0.0023
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0026	0.0002	0.0024
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0027	0.0002	0.0024
28	0.0027	0.0002	0.0024
29	0.0027	0.0002	0.0024
30	0.0027	0.0002	0.0025
31	0.0027	0.0002	0.0025
32	0.0027	0.0002	0.0025
33	0.0027	0.0002	0.0025
34	0.0027	0.0002	0.0025
35	0.0028	0.0002	0.0025
36	0.0028	0.0002	0.0025
37	0.0028	0.0002	0.0025
38	0.0028	0.0002	0.0025
39	0.0028	0.0003	0.0026
40	0.0028	0.0003	0.0026
41	0.0028	0.0003	0.0026
42	0.0028	0.0003	0.0026
43	0.0029	0.0003	0.0026
44	0.0029	0.0003	0.0026
45	0.0029	0.0003	0.0026
46	0.0029	0.0003	0.0026
47	0.0029	0.0003	0.0027
48	0.0029	0.0003	0.0027
49	0.0030	0.0003	0.0027
50	0.0030	0.0003	0.0027
51	0.0030	0.0003	0.0027
52	0.0030	0.0003	0.0027
53	0.0030	0.0003	0.0027
54	0.0030	0.0003	0.0028
55	0.0031	0.0003	0.0028
56	0.0031	0.0003	0.0028
57	0.0031	0.0003	0.0028
58	0.0031	0.0003	0.0028
59	0.0031	0.0003	0.0028
60	0.0031	0.0003	0.0029

61	0.0032	0.0003	0.0029
62	0.0032	0.0003	0.0029
63	0.0032	0.0003	0.0029
64	0.0032	0.0003	0.0029
65	0.0032	0.0003	0.0029
66	0.0032	0.0003	0.0030
67	0.0033	0.0003	0.0030
68	0.0033	0.0003	0.0030
69	0.0033	0.0003	0.0030
70	0.0033	0.0003	0.0030
71	0.0033	0.0003	0.0030
72	0.0034	0.0003	0.0031
73	0.0034	0.0003	0.0031
74	0.0034	0.0003	0.0031
75	0.0034	0.0003	0.0031
76	0.0034	0.0003	0.0031
77	0.0035	0.0003	0.0032
78	0.0035	0.0003	0.0032
79	0.0035	0.0003	0.0032
80	0.0035	0.0003	0.0032
81	0.0036	0.0003	0.0032
82	0.0036	0.0003	0.0033
83	0.0036	0.0003	0.0033
84	0.0036	0.0003	0.0033
85	0.0037	0.0003	0.0033
86	0.0037	0.0003	0.0034
87	0.0037	0.0003	0.0034
88	0.0037	0.0003	0.0034
89	0.0038	0.0003	0.0034
90	0.0038	0.0003	0.0034
91	0.0038	0.0003	0.0035
92	0.0038	0.0003	0.0035
93	0.0039	0.0003	0.0035
94	0.0039	0.0003	0.0036
95	0.0039	0.0004	0.0036
96	0.0040	0.0004	0.0036
97	0.0040	0.0004	0.0036
98	0.0040	0.0004	0.0037
99	0.0041	0.0004	0.0037
100	0.0041	0.0004	0.0037
101	0.0041	0.0004	0.0038
102	0.0041	0.0004	0.0038
103	0.0042	0.0004	0.0038
104	0.0042	0.0004	0.0038
105	0.0043	0.0004	0.0039
106	0.0043	0.0004	0.0039
107	0.0043	0.0004	0.0040
108	0.0044	0.0004	0.0040
109	0.0044	0.0004	0.0040
110	0.0044	0.0004	0.0040
111	0.0045	0.0004	0.0041
112	0.0045	0.0004	0.0041
113	0.0046	0.0004	0.0042
114	0.0046	0.0004	0.0042
115	0.0047	0.0004	0.0043
116	0.0047	0.0004	0.0043
117	0.0048	0.0004	0.0043
118	0.0048	0.0004	0.0044
119	0.0049	0.0004	0.0044

120	0.0049	0.0004	0.0045
121	0.0050	0.0004	0.0045
122	0.0050	0.0004	0.0045
123	0.0051	0.0005	0.0046
124	0.0051	0.0005	0.0046
125	0.0052	0.0005	0.0047
126	0.0052	0.0005	0.0047
127	0.0053	0.0005	0.0048
128	0.0053	0.0005	0.0049
129	0.0054	0.0005	0.0049
130	0.0055	0.0005	0.0050
131	0.0055	0.0005	0.0050
132	0.0056	0.0005	0.0051
133	0.0057	0.0005	0.0052
134	0.0057	0.0005	0.0052
135	0.0058	0.0005	0.0053
136	0.0059	0.0005	0.0054
137	0.0060	0.0005	0.0054
138	0.0060	0.0005	0.0055
139	0.0061	0.0005	0.0056
140	0.0062	0.0006	0.0056
141	0.0063	0.0006	0.0058
142	0.0064	0.0006	0.0058
143	0.0065	0.0006	0.0059
144	0.0066	0.0006	0.0060
145	0.0043	0.0004	0.0039
146	0.0044	0.0004	0.0040
147	0.0045	0.0004	0.0041
148	0.0045	0.0004	0.0041
149	0.0047	0.0004	0.0042
150	0.0047	0.0004	0.0043
151	0.0049	0.0004	0.0044
152	0.0049	0.0004	0.0045
153	0.0051	0.0005	0.0046
154	0.0051	0.0005	0.0047
155	0.0053	0.0005	0.0048
156	0.0054	0.0005	0.0049
157	0.0055	0.0005	0.0050
158	0.0056	0.0005	0.0051
159	0.0058	0.0005	0.0053
160	0.0059	0.0005	0.0054
161	0.0061	0.0005	0.0056
162	0.0062	0.0006	0.0057
163	0.0064	0.0006	0.0059
164	0.0066	0.0006	0.0060
165	0.0068	0.0006	0.0062
166	0.0070	0.0006	0.0063
167	0.0073	0.0006	0.0066
168	0.0074	0.0007	0.0068
169	0.0080	0.0007	0.0073
170	0.0082	0.0007	0.0074
171	0.0086	0.0008	0.0078
172	0.0088	0.0008	0.0080
173	0.0093	0.0008	0.0085
174	0.0096	0.0009	0.0087
175	0.0102	0.0009	0.0093
176	0.0105	0.0009	0.0096
177	0.0112	0.0010	0.0102
178	0.0116	0.0010	0.0106

179	0.0126	0.0011	0.0114
180	0.0131	0.0012	0.0119
181	0.0143	0.0013	0.0131
182	0.0151	0.0013	0.0137
183	0.0168	0.0015	0.0153
184	0.0178	0.0016	0.0162
185	0.0356	0.0031	0.0325
186	0.0379	0.0031	0.0349
187	0.0440	0.0031	0.0409
188	0.0480	0.0031	0.0450
189	0.0597	0.0031	0.0567
190	0.0688	0.0031	0.0657
191	0.1044	0.0031	0.1013
192	0.1516	0.0031	0.1485
193	0.6557	0.0031	0.6526
194	0.0822	0.0031	0.0791
195	0.0531	0.0031	0.0500
196	0.0407	0.0031	0.0376
197	0.0190	0.0017	0.0173
198	0.0159	0.0014	0.0144
199	0.0137	0.0012	0.0125
200	0.0121	0.0011	0.0110
201	0.0108	0.0010	0.0099
202	0.0099	0.0009	0.0090
203	0.0090	0.0008	0.0082
204	0.0084	0.0007	0.0076
205	0.0076	0.0007	0.0069
206	0.0071	0.0006	0.0065
207	0.0067	0.0006	0.0061
208	0.0063	0.0006	0.0058
209	0.0060	0.0005	0.0055
210	0.0057	0.0005	0.0052
211	0.0054	0.0005	0.0050
212	0.0052	0.0005	0.0047
213	0.0050	0.0004	0.0045
214	0.0048	0.0004	0.0044
215	0.0046	0.0004	0.0042
216	0.0044	0.0004	0.0040
217	0.0066	0.0006	0.0060
218	0.0064	0.0006	0.0059
219	0.0063	0.0006	0.0057
220	0.0061	0.0005	0.0055
221	0.0059	0.0005	0.0054
222	0.0058	0.0005	0.0053
223	0.0056	0.0005	0.0051
224	0.0055	0.0005	0.0050
225	0.0054	0.0005	0.0049
226	0.0052	0.0005	0.0048
227	0.0051	0.0005	0.0047
228	0.0050	0.0004	0.0046
229	0.0049	0.0004	0.0045
230	0.0048	0.0004	0.0044
231	0.0047	0.0004	0.0043
232	0.0046	0.0004	0.0042
233	0.0046	0.0004	0.0041
234	0.0045	0.0004	0.0041
235	0.0044	0.0004	0.0040
236	0.0043	0.0004	0.0039
237	0.0042	0.0004	0.0039

238	0.0042	0.0004	0.0038
239	0.0041	0.0004	0.0037
240	0.0040	0.0004	0.0037
241	0.0040	0.0004	0.0036
242	0.0039	0.0003	0.0036
243	0.0039	0.0003	0.0035
244	0.0038	0.0003	0.0035
245	0.0037	0.0003	0.0034
246	0.0037	0.0003	0.0034
247	0.0036	0.0003	0.0033
248	0.0036	0.0003	0.0033
249	0.0035	0.0003	0.0032
250	0.0035	0.0003	0.0032
251	0.0035	0.0003	0.0031
252	0.0034	0.0003	0.0031
253	0.0034	0.0003	0.0031
254	0.0033	0.0003	0.0030
255	0.0033	0.0003	0.0030
256	0.0033	0.0003	0.0030
257	0.0032	0.0003	0.0029
258	0.0032	0.0003	0.0029
259	0.0031	0.0003	0.0029
260	0.0031	0.0003	0.0028
261	0.0031	0.0003	0.0028
262	0.0030	0.0003	0.0028
263	0.0030	0.0003	0.0027
264	0.0030	0.0003	0.0027
265	0.0029	0.0003	0.0027
266	0.0029	0.0003	0.0027
267	0.0029	0.0003	0.0026
268	0.0029	0.0003	0.0026
269	0.0028	0.0003	0.0026
270	0.0028	0.0002	0.0026
271	0.0028	0.0002	0.0025
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0025
274	0.0027	0.0002	0.0025
275	0.0027	0.0002	0.0024
276	0.0027	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0026	0.0002	0.0024
279	0.0026	0.0002	0.0024
280	0.0026	0.0002	0.0023
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0025	0.0002	0.0023
284	0.0025	0.0002	0.0023
285	0.0025	0.0002	0.0022
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022
288	0.0024	0.0002	0.0022

Total soil rain loss = 0.15(In)
Total effective rainfall = 2.52(In)
Peak flow rate in flood hydrograph = 175.86(CFS)

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24 - H O U R S T O R M

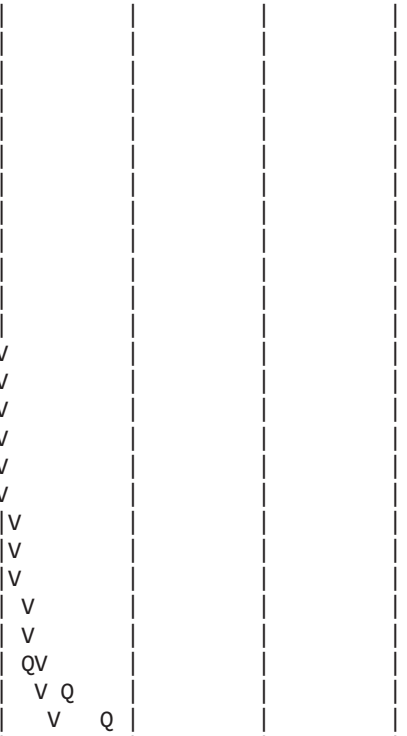
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0001	0.02	Q				
0+10	0.0005	0.06	Q				
0+15	0.0014	0.13	Q				
0+20	0.0030	0.23	Q				
0+25	0.0055	0.37	Q				
0+30	0.0096	0.60	Q				
0+35	0.0162	0.95	Q				
0+40	0.0250	1.28	Q				
0+45	0.0357	1.55	Q				
0+50	0.0478	1.76	Q				
0+55	0.0611	1.94	Q				
1+ 0	0.0754	2.08	Q				
1+ 5	0.0905	2.19	Q				
1+10	0.1064	2.30	Q				
1+15	0.1228	2.39	Q				
1+20	0.1399	2.48	Q				
1+25	0.1575	2.55	Q				
1+30	0.1756	2.63	Q				
1+35	0.1941	2.69	Q				
1+40	0.2130	2.75	Q				
1+45	0.2324	2.81	Q				
1+50	0.2520	2.86	Q				
1+55	0.2721	2.91	Q				
2+ 0	0.2924	2.95	Q				
2+ 5	0.3131	3.00	Q				
2+10	0.3340	3.04	Q				
2+15	0.3553	3.09	Q				
2+20	0.3768	3.12	Q				
2+25	0.3986	3.16	Q				
2+30	0.4205	3.19	Q				
2+35	0.4428	3.23	Q				
2+40	0.4652	3.26	Q				
2+45	0.4879	3.29	Q				
2+50	0.5108	3.33	Q				
2+55	0.5339	3.36	Q				
3+ 0	0.5573	3.39	Q				
3+ 5	0.5808	3.42	Q				
3+10	0.6045	3.44	Q				
3+15	0.6284	3.47	Q				
3+20	0.6525	3.50	QV				
3+25	0.6768	3.53	QV				
3+30	0.7013	3.55	QV				
3+35	0.7259	3.58	QV				
3+40	0.7507	3.60	QV				
3+45	0.7757	3.63	QV				
3+50	0.8009	3.65	QV				
3+55	0.8262	3.68	QV				
4+ 0	0.8517	3.70	QV				
4+ 5	0.8774	3.73	QV				
4+10	0.9032	3.75	QV				
4+15	0.9292	3.77	QV				
4+20	0.9554	3.79	QV				

4+25	0.9816	3.82	QV				
4+30	1.0081	3.84	QV				
4+35	1.0347	3.86	QV				
4+40	1.0615	3.89	QV				
4+45	1.0884	3.91	QV				
4+50	1.1155	3.93	QV				
4+55	1.1427	3.96	QV				
5+ 0	1.1702	3.98	QV				
5+ 5	1.1978	4.01	QV				
5+10	1.2256	4.03	QV				
5+15	1.2535	4.06	QV				
5+20	1.2817	4.08	QV				
5+25	1.3099	4.11	Q V				
5+30	1.3384	4.13	Q V				
5+35	1.3670	4.16	Q V				
5+40	1.3958	4.18	Q V				
5+45	1.4248	4.21	Q V				
5+50	1.4539	4.23	Q V				
5+55	1.4832	4.25	Q V				
6+ 0	1.5127	4.28	Q V				
6+ 5	1.5423	4.30	Q V				
6+10	1.5721	4.33	Q V				
6+15	1.6021	4.35	Q V				
6+20	1.6322	4.38	Q V				
6+25	1.6625	4.40	Q V				
6+30	1.6930	4.43	Q V				
6+35	1.7237	4.45	Q V				
6+40	1.7546	4.48	Q V				
6+45	1.7856	4.51	Q V				
6+50	1.8168	4.53	Q V				
6+55	1.8483	4.56	Q V				
7+ 0	1.8799	4.59	Q V				
7+ 5	1.9117	4.62	Q V				
7+10	1.9437	4.65	Q V				
7+15	1.9759	4.68	Q V				
7+20	2.0083	4.71	Q V				
7+25	2.0409	4.74	Q V				
7+30	2.0738	4.77	Q V				
7+35	2.1068	4.80	Q V				
7+40	2.1401	4.83	Q V				
7+45	2.1736	4.86	Q V				
7+50	2.2073	4.90	Q V				
7+55	2.2412	4.93	Q V				
8+ 0	2.2754	4.96	Q V				
8+ 5	2.3098	5.00	Q V				
8+10	2.3445	5.03	|Q V				
8+15	2.3794	5.07	|Q V				
8+20	2.4145	5.10	|Q V				
8+25	2.4499	5.14	|Q V				
8+30	2.4856	5.18	|Q V				
8+35	2.5215	5.22	|Q V				
8+40	2.5577	5.25	|Q V				
8+45	2.5941	5.29	|Q V				
8+50	2.6309	5.33	|Q V				
8+55	2.6679	5.37	|Q V				
9+ 0	2.7052	5.41	|Q V				
9+ 5	2.7427	5.46	|Q V				
9+10	2.7806	5.50	|Q V				
9+15	2.8188	5.54	|Q V				

9+20	2.8573	5.59	Q V				
9+25	2.8961	5.63	Q V				
9+30	2.9352	5.68	Q V				
9+35	2.9747	5.73	Q V				
9+40	3.0144	5.78	Q V				
9+45	3.0546	5.83	Q V				
9+50	3.0950	5.88	Q V				
9+55	3.1358	5.93	Q V				
10+ 0	3.1770	5.98	Q V				
10+ 5	3.2186	6.03	Q V				
10+10	3.2605	6.09	Q V				
10+15	3.3028	6.14	Q V				
10+20	3.3455	6.20	Q V				
10+25	3.3886	6.26	Q V				
10+30	3.4321	6.32	Q V				
10+35	3.4760	6.38	Q V				
10+40	3.5204	6.44	Q V				
10+45	3.5652	6.50	Q V				
10+50	3.6104	6.57	Q V				
10+55	3.6561	6.64	Q V				
11+ 0	3.7023	6.71	Q V				
11+ 5	3.7490	6.78	Q V				
11+10	3.7961	6.85	Q V				
11+15	3.8438	6.92	Q V				
11+20	3.8920	7.00	Q V				
11+25	3.9407	7.08	Q V				
11+30	3.9900	7.15	Q V				
11+35	4.0398	7.24	Q V				
11+40	4.0902	7.32	Q V				
11+45	4.1413	7.41	Q V				
11+50	4.1929	7.50	Q V				
11+55	4.2452	7.59	Q V				
12+ 0	4.2981	7.68	Q V				
12+ 5	4.3516	7.77	Q V				
12+10	4.4054	7.82	Q V				
12+15	4.4595	7.86	Q V				
12+20	4.5137	7.86	Q V				
12+25	4.5677	7.84	Q V				
12+30	4.6208	7.71	Q V				
12+35	4.6723	7.48	Q V				
12+40	4.7223	7.26	Q V				
12+45	4.7713	7.11	Q V				
12+50	4.8196	7.02	Q V				
12+55	4.8676	6.96	Q V				
13+ 0	4.9154	6.95	Q V				
13+ 5	4.9634	6.96	Q V				
13+10	5.0114	6.98	Q V				
13+15	5.0598	7.02	Q V				
13+20	5.1085	7.08	Q V				
13+25	5.1578	7.15	Q V				
13+30	5.2075	7.22	Q V				
13+35	5.2579	7.31	Q V				
13+40	5.3090	7.42	Q V				
13+45	5.3608	7.53	Q V				
13+50	5.4136	7.66	Q V				
13+55	5.4672	7.79	Q V				
14+ 0	5.5219	7.94	Q V				
14+ 5	5.5777	8.10	Q V				
14+10	5.6347	8.28	Q V				

14+15	5.6930	8.47	
14+20	5.7528	8.68	
14+25	5.8142	8.91	
14+30	5.8774	9.17	
14+35	5.9425	9.46	
14+40	6.0098	9.77	
14+45	6.0793	10.09	
14+50	6.1512	10.44	
14+55	6.2258	10.82	
15+ 0	6.3031	11.23	
15+ 5	6.3836	11.69	
15+10	6.4675	12.18	
15+15	6.5552	12.74	
15+20	6.6472	13.35	
15+25	6.7447	14.16	
15+30	6.8497	15.24	
15+35	6.9643	16.65	
15+40	7.0913	18.44	
15+45	7.2345	20.80	
15+50	7.4013	24.22	
15+55	7.6021	29.15	
16+ 0	7.8454	35.33	
16+ 5	8.1656	46.48	
16+10	8.5864	61.11	
16+15	9.1095	75.95	
16+20	9.7421	91.85	
16+25	10.5163	112.41	
16+30	11.5180	145.45	
16+35	12.7291	175.86	
16+40	13.8764	166.58	
16+45	14.8598	142.79	
16+50	15.6973	121.60	
16+55	16.4036	102.55	
17+ 0	16.9969	86.16	
17+ 5	17.5137	75.03	
17+10	17.9740	66.84	
17+15	18.3921	60.71	
17+20	18.7669	54.42	
17+25	19.1084	49.58	
17+30	19.4260	46.12	
17+35	19.7131	41.69	
17+40	19.9786	38.55	
17+45	20.2261	35.94	
17+50	20.4547	33.20	
17+55	20.6726	31.63	
18+ 0	20.8768	29.65	
18+ 5	21.0716	28.29	
18+10	21.2517	26.15	
18+15	21.4228	24.85	
18+20	21.5796	22.76	
18+25	21.7276	21.49	
18+30	21.8710	20.82	
18+35	22.0107	20.29	
18+40	22.1468	19.76	
18+45	22.2771	18.92	
18+50	22.4043	18.47	
18+55	22.5269	17.80	
19+ 0	22.6458	17.26	
19+ 5	22.7573	16.20	

```
19+10      22.8646     15.58  |  Q      |         |         |    V    |
19+15      22.9695     15.23  |  Q      |         |         |    V    |
19+20      23.0718     14.85  | Q       |         |         |    V    |
19+25      23.1697     14.21  | Q       |         |         |    V    |
19+30      23.2620     13.40  | Q       |         |         |    V    |
19+35      23.3519     13.06  | Q       |         |         |    V    |
19+40      23.4395     12.72  | Q       |         |         |    V    |
19+45      23.5241     12.29  | Q       |         |         |     V   |
19+50      23.6028     11.42  | Q       |         |         |     V   |
19+55      23.6784     10.98  | Q       |         |         |     V   |
20+ 0      23.7521     10.70  | Q       |         |         |     V   |
20+ 5      23.8237     10.40  | Q       |         |         |     V   |
20+10      23.8913      9.82  |Q        |         |         |     V   |
20+15      23.9544      9.15  |Q        |         |         |     V   |
20+20      24.0161      8.97  |Q        |         |         |     V   |
20+25      24.0769      8.83  |Q        |         |         |     V   |
20+30      24.1371      8.74  |Q        |         |         |      V  |
20+35      24.1977      8.79  |Q        |         |         |      V  |
20+40      24.2577      8.71  |Q        |         |         |      V  |
20+45      24.3169      8.60  |Q        |         |         |      V  |
20+50      24.3752      8.47  |Q        |         |         |      V  |
20+55      24.4327      8.34  |Q        |         |         |      V  |
21+ 0      24.4892      8.20  |Q        |         |         |      V  |
21+ 5      24.5447      8.05  |Q        |         |         |      V  |
21+10      24.5988      7.86  |Q        |         |         |      V  |
21+15      24.6509      7.56  |Q        |         |         |      V  |
21+20      24.6988      6.96  |Q        |         |         |      V  |
21+25      24.7450      6.71  |Q        |         |         |      V  |
21+30      24.7902      6.55  |Q        |         |         |       V |
21+35      24.8342      6.40  |Q        |         |         |       V |
21+40      24.8771      6.23  |Q        |         |         |       V |
21+45      24.9187      6.04  |Q        |         |         |       V |
21+50      24.9569      5.55  |Q        |         |         |       V |
21+55      24.9921      5.10  |Q        |         |         |       V |
22+ 0      25.0264      4.98  Q        |         |         |       V |
22+ 5      25.0599      4.87  Q        |         |         |       V |
22+10      25.0929      4.79  Q        |         |         |       V |
22+15      25.1254      4.72  Q        |         |         |       V |
22+20      25.1574      4.65  Q        |         |         |       V |
22+25      25.1891      4.59  Q        |         |         |       V |
22+30      25.2202      4.53  Q        |         |         |       V |
22+35      25.2510      4.47  Q        |         |         |       V |
22+40      25.2815      4.42  Q        |         |         |       V |
22+45      25.3115      4.37  Q        |         |         |       V |
22+50      25.3413      4.32  Q        |         |         |       V |
22+55      25.3707      4.27  Q        |         |         |       V |
23+ 0      25.3997      4.22  Q        |         |         |       V |
23+ 5      25.4285      4.18  Q        |         |         |        V|
23+10      25.4570      4.13  Q        |         |         |        V|
23+15      25.4852      4.09  Q        |         |         |        V|
23+20      25.5130      4.05  Q        |         |         |        V|
23+25      25.5406      4.01  Q        |         |         |        V|
23+30      25.5680      3.97  Q        |         |         |        V|
23+35      25.5950      3.93  Q        |         |         |        V|
23+40      25.6218      3.89  Q        |         |         |        V|
23+45      25.6483      3.85  Q        |         |         |        V|
23+50      25.6746      3.81  Q        |         |         |        V|
23+55      25.7006      3.78  Q        |         |         |        V|
24+ 0      25.7263      3.74  Q        |         |         |        V|
```

24+ 5	25.7517	3.69	Q	|	|	|	V|
24+10	25.7766	3.61	Q	|	|	|	V|
24+15	25.8007	3.51	Q	|	|	|	V|
24+20	25.8240	3.38	Q	|	|	|	V|
24+25	25.8461	3.21	Q	|	|	|	V|
24+30	25.8664	2.95	Q	|	|	|	V|
24+35	25.8841	2.57	Q	|	|	|	V|
24+40	25.8994	2.22	Q	|	|	|	V|
24+45	25.9128	1.94	Q	|	|	|	V|
24+50	25.9246	1.72	Q	|	|	|	V|
24+55	25.9352	1.53	Q	|	|	|	V|
25+ 0	25.9447	1.39	Q	|	|	|	V|
25+ 5	25.9534	1.26	Q	|	|	|	V|
25+10	25.9614	1.16	Q	|	|	|	V|
25+15	25.9687	1.06	Q	|	|	|	V|
25+20	25.9754	0.98	Q	|	|	|	V|
25+25	25.9816	0.90	Q	|	|	|	V|
25+30	25.9874	0.83	Q	|	|	|	V|
25+35	25.9927	0.77	Q	|	|	|	V|
25+40	25.9976	0.71	Q	|	|	|	V|
25+45	26.0022	0.66	Q	|	|	|	V|
25+50	26.0064	0.62	Q	|	|	|	V|
25+55	26.0104	0.57	Q	|	|	|	V|
26+ 0	26.0140	0.53	Q	|	|	|	V|
26+ 5	26.0174	0.49	Q	|	|	|	V|
26+10	26.0206	0.46	Q	|	|	|	V|
26+15	26.0235	0.43	Q	|	|	|	V|
26+20	26.0262	0.40	Q	|	|	|	V|
26+25	26.0288	0.37	Q	|	|	|	V|
26+30	26.0312	0.35	Q	|	|	|	V|
26+35	26.0334	0.32	Q	|	|	|	V|
26+40	26.0355	0.30	Q	|	|	|	V|
26+45	26.0374	0.28	Q	|	|	|	V|
26+50	26.0392	0.26	Q	|	|	|	V|
26+55	26.0409	0.24	Q	|	|	|	V|
27+ 0	26.0424	0.22	Q	|	|	|	V|
27+ 5	26.0439	0.21	Q	|	|	|	V|
27+10	26.0452	0.19	Q	|	|	|	V|
27+15	26.0465	0.18	Q	|	|	|	V|
27+20	26.0476	0.17	Q	|	|	|	V|
27+25	26.0487	0.15	Q	|	|	|	V|
27+30	26.0496	0.14	Q	|	|	|	V|
27+35	26.0505	0.13	Q	|	|	|	V|
27+40	26.0514	0.12	Q	|	|	|	V|
27+45	26.0521	0.11	Q	|	|	|	V|
27+50	26.0528	0.10	Q	|	|	|	V|
27+55	26.0535	0.10	Q	|	|	|	V|
28+ 0	26.0541	0.09	Q	|	|	|	V|
28+ 5	26.0547	0.08	Q	|	|	|	V|
28+10	26.0552	0.07	Q	|	|	|	V|
28+15	26.0557	0.07	Q	|	|	|	V|
28+20	26.0561	0.07	Q	|	|	|	V|
28+25	26.0565	0.06	Q	|	|	|	V|
28+30	26.0569	0.06	Q	|	|	|	V|
28+35	26.0573	0.05	Q	|	|	|	V|
28+40	26.0576	0.05	Q	|	|	|	V|
28+45	26.0579	0.04	Q	|	|	|	V|
28+50	26.0582	0.04	Q	|	|	|	V|
28+55	26.0584	0.03	Q	|	|	|	V|

```
   29+ 0      26.0586      0.03  Q         |         |         |        V|
   29+ 5      26.0588      0.02  Q         |         |         |        V|
   29+10      26.0589      0.02  Q         |         |         |        V|
   29+15      26.0590      0.02  Q         |         |         |        V|
   29+20      26.0591      0.01  Q         |         |         |        V|
   29+25      26.0592      0.01  Q         |         |         |        V|
   29+30      26.0592      0.01  Q         |         |         |        V|
   29+35      26.0593      0.01  Q         |         |         |        V|
   29+40      26.0593      0.00  Q         |         |         |        V|
   29+45      26.0593      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 43
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
6.95	1	1.39
Rainfall data for year 100		
6.95	6	1.87
Rainfall data for year 100		
6.95	24	2.67

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	6.95	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
6.25	0.900	91.0	98.2	0.18	0.922
0.69	0.100	98.0	98.0	0.20	0.914

Area-averaged catchment yield fraction, Y = 0.921
Area-averaged low loss fraction, Yb = 0.079
User entry of time of concentration = 0.430 (hours)
++
Watershed area = 6.95(Ac.)
Catchment Lag time = 0.344 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 24.2248
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.079 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.670(In)

Rainfall depth area reduction factors:
Using a total area of 6.95(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.667(In)
6-hour factor = 1.000 Adjusted rainfall = 1.870(In)
24-hour factor = 1.000 Adjusted rainfall = 2.670(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 84.05 (CFS))	
1	1.293	1.087
2	6.230	4.150
3	18.095	9.973
4	39.265	17.793
5	54.453	12.766
6	63.786	7.844
7	70.239	5.423
8	75.156	4.133
9	79.052	3.275
10	82.131	2.588
11	84.704	2.163
12	86.963	1.899
13	88.833	1.572

14	90.306	1.238
15	91.641	1.122
16	92.810	0.983
17	93.858	0.881
18	94.714	0.719
19	95.520	0.678
20	96.182	0.556
21	96.799	0.519
22	97.275	0.400
23	97.703	0.359
24	97.993	0.244
25	98.236	0.205
26	98.513	0.232
27	98.803	0.244
28	99.094	0.244
29	99.384	0.244
30	99.591	0.174
31	99.743	0.127
32	99.894	0.127
33	100.000	0.089

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6594	0.6594
2	0.8118	0.1524
3	0.9168	0.1050
4	0.9994	0.0826
5	1.0686	0.0692
6	1.1287	0.0601
7	1.1821	0.0534
8	1.2304	0.0483
9	1.2747	0.0443
10	1.3156	0.0409
11	1.3537	0.0382
12	1.3895	0.0358
13	1.4081	0.0186
14	1.4255	0.0174
15	1.4419	0.0164
16	1.4574	0.0155
17	1.4722	0.0147
18	1.4862	0.0140
19	1.4996	0.0134
20	1.5124	0.0128
21	1.5247	0.0123
22	1.5365	0.0118
23	1.5478	0.0114
24	1.5588	0.0110
25	1.5694	0.0106
26	1.5796	0.0102
27	1.5895	0.0099
28	1.5991	0.0096
29	1.6085	0.0093
30	1.6175	0.0091
31	1.6264	0.0088
32	1.6350	0.0086
33	1.6433	0.0084
34	1.6515	0.0082
35	1.6594	0.0080
36	1.6672	0.0078

37	1.6748	0.0076
38	1.6822	0.0074
39	1.6894	0.0073
40	1.6965	0.0071
41	1.7035	0.0070
42	1.7103	0.0068
43	1.7170	0.0067
44	1.7235	0.0065
45	1.7299	0.0064
46	1.7363	0.0063
47	1.7425	0.0062
48	1.7485	0.0061
49	1.7545	0.0060
50	1.7604	0.0059
51	1.7662	0.0058
52	1.7719	0.0057
53	1.7775	0.0056
54	1.7830	0.0055
55	1.7884	0.0054
56	1.7937	0.0053
57	1.7990	0.0053
58	1.8042	0.0052
59	1.8093	0.0051
60	1.8144	0.0050
61	1.8193	0.0050
62	1.8242	0.0049
63	1.8291	0.0048
64	1.8338	0.0048
65	1.8386	0.0047
66	1.8432	0.0047
67	1.8478	0.0046
68	1.8523	0.0045
69	1.8568	0.0045
70	1.8613	0.0044
71	1.8656	0.0044
72	1.8700	0.0043
73	1.8766	0.0066
74	1.8832	0.0066
75	1.8897	0.0065
76	1.8961	0.0064
77	1.9025	0.0064
78	1.9088	0.0063
79	1.9151	0.0063
80	1.9213	0.0062
81	1.9274	0.0061
82	1.9335	0.0061
83	1.9395	0.0060
84	1.9455	0.0060
85	1.9514	0.0059
86	1.9573	0.0059
87	1.9631	0.0058
88	1.9689	0.0058
89	1.9746	0.0057
90	1.9803	0.0057
91	1.9859	0.0056
92	1.9915	0.0056
93	1.9970	0.0055
94	2.0025	0.0055
95	2.0080	0.0055

96	2.0134	0.0054
97	2.0188	0.0054
98	2.0241	0.0053
99	2.0294	0.0053
100	2.0346	0.0052
101	2.0398	0.0052
102	2.0450	0.0052
103	2.0501	0.0051
104	2.0552	0.0051
105	2.0603	0.0051
106	2.0653	0.0050
107	2.0703	0.0050
108	2.0753	0.0050
109	2.0802	0.0049
110	2.0851	0.0049
111	2.0899	0.0049
112	2.0947	0.0048
113	2.0995	0.0048
114	2.1043	0.0048
115	2.1090	0.0047
116	2.1137	0.0047
117	2.1184	0.0047
118	2.1230	0.0046
119	2.1276	0.0046
120	2.1322	0.0046
121	2.1367	0.0046
122	2.1413	0.0045
123	2.1458	0.0045
124	2.1502	0.0045
125	2.1547	0.0044
126	2.1591	0.0044
127	2.1635	0.0044
128	2.1678	0.0044
129	2.1722	0.0043
130	2.1765	0.0043
131	2.1808	0.0043
132	2.1851	0.0043
133	2.1893	0.0042
134	2.1935	0.0042
135	2.1977	0.0042
136	2.2019	0.0042
137	2.2060	0.0041
138	2.2101	0.0041
139	2.2143	0.0041
140	2.2183	0.0041
141	2.2224	0.0041
142	2.2264	0.0040
143	2.2304	0.0040
144	2.2344	0.0040
145	2.2384	0.0040
146	2.2424	0.0040
147	2.2463	0.0039
148	2.2502	0.0039
149	2.2541	0.0039
150	2.2580	0.0039
151	2.2619	0.0039
152	2.2657	0.0038
153	2.2695	0.0038
154	2.2733	0.0038

155	2.2771	0.0038
156	2.2809	0.0038
157	2.2846	0.0037
158	2.2883	0.0037
159	2.2921	0.0037
160	2.2958	0.0037
161	2.2994	0.0037
162	2.3031	0.0037
163	2.3067	0.0036
164	2.3104	0.0036
165	2.3140	0.0036
166	2.3176	0.0036
167	2.3211	0.0036
168	2.3247	0.0036
169	2.3283	0.0035
170	2.3318	0.0035
171	2.3353	0.0035
172	2.3388	0.0035
173	2.3423	0.0035
174	2.3458	0.0035
175	2.3492	0.0035
176	2.3527	0.0034
177	2.3561	0.0034
178	2.3595	0.0034
179	2.3629	0.0034
180	2.3663	0.0034
181	2.3697	0.0034
182	2.3730	0.0034
183	2.3764	0.0033
184	2.3797	0.0033
185	2.3830	0.0033
186	2.3863	0.0033
187	2.3896	0.0033
188	2.3929	0.0033
189	2.3961	0.0033
190	2.3994	0.0033
191	2.4026	0.0032
192	2.4058	0.0032
193	2.4091	0.0032
194	2.4123	0.0032
195	2.4154	0.0032
196	2.4186	0.0032
197	2.4218	0.0032
198	2.4249	0.0032
199	2.4281	0.0031
200	2.4312	0.0031
201	2.4343	0.0031
202	2.4374	0.0031
203	2.4405	0.0031
204	2.4436	0.0031
205	2.4467	0.0031
206	2.4497	0.0031
207	2.4528	0.0030
208	2.4558	0.0030
209	2.4589	0.0030
210	2.4619	0.0030
211	2.4649	0.0030
212	2.4679	0.0030
213	2.4709	0.0030

214	2.4738	0.0030
215	2.4768	0.0030
216	2.4798	0.0030
217	2.4827	0.0029
218	2.4856	0.0029
219	2.4886	0.0029
220	2.4915	0.0029
221	2.4944	0.0029
222	2.4973	0.0029
223	2.5002	0.0029
224	2.5030	0.0029
225	2.5059	0.0029
226	2.5088	0.0029
227	2.5116	0.0028
228	2.5144	0.0028
229	2.5173	0.0028
230	2.5201	0.0028
231	2.5229	0.0028
232	2.5257	0.0028
233	2.5285	0.0028
234	2.5313	0.0028
235	2.5341	0.0028
236	2.5368	0.0028
237	2.5396	0.0028
238	2.5423	0.0027
239	2.5451	0.0027
240	2.5478	0.0027
241	2.5505	0.0027
242	2.5532	0.0027
243	2.5559	0.0027
244	2.5586	0.0027
245	2.5613	0.0027
246	2.5640	0.0027
247	2.5667	0.0027
248	2.5694	0.0027
249	2.5720	0.0027
250	2.5747	0.0026
251	2.5773	0.0026
252	2.5799	0.0026
253	2.5826	0.0026
254	2.5852	0.0026
255	2.5878	0.0026
256	2.5904	0.0026
257	2.5930	0.0026
258	2.5956	0.0026
259	2.5982	0.0026
260	2.6007	0.0026
261	2.6033	0.0026
262	2.6059	0.0026
263	2.6084	0.0026
264	2.6110	0.0025
265	2.6135	0.0025
266	2.6160	0.0025
267	2.6185	0.0025
268	2.6211	0.0025
269	2.6236	0.0025
270	2.6261	0.0025
271	2.6286	0.0025
272	2.6311	0.0025

273	2.6335	0.0025
274	2.6360	0.0025
275	2.6385	0.0025
276	2.6409	0.0025
277	2.6434	0.0025
278	2.6458	0.0024
279	2.6483	0.0024
280	2.6507	0.0024
281	2.6532	0.0024
282	2.6556	0.0024
283	2.6580	0.0024
284	2.6604	0.0024
285	2.6628	0.0024
286	2.6652	0.0024
287	2.6676	0.0024
288	2.6700	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022
2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0022
5	0.0024	0.0002	0.0022
6	0.0024	0.0002	0.0022
7	0.0024	0.0002	0.0022
8	0.0024	0.0002	0.0023
9	0.0025	0.0002	0.0023
10	0.0025	0.0002	0.0023
11	0.0025	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0025	0.0002	0.0023
16	0.0025	0.0002	0.0023
17	0.0025	0.0002	0.0023
18	0.0026	0.0002	0.0024
19	0.0026	0.0002	0.0024
20	0.0026	0.0002	0.0024
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0026	0.0002	0.0024
25	0.0026	0.0002	0.0024
26	0.0026	0.0002	0.0024
27	0.0027	0.0002	0.0024
28	0.0027	0.0002	0.0025
29	0.0027	0.0002	0.0025
30	0.0027	0.0002	0.0025
31	0.0027	0.0002	0.0025
32	0.0027	0.0002	0.0025
33	0.0027	0.0002	0.0025
34	0.0027	0.0002	0.0025
35	0.0028	0.0002	0.0025
36	0.0028	0.0002	0.0025
37	0.0028	0.0002	0.0026
38	0.0028	0.0002	0.0026

39	0.0028	0.0002	0.0026
40	0.0028	0.0002	0.0026
41	0.0028	0.0002	0.0026
42	0.0028	0.0002	0.0026
43	0.0029	0.0002	0.0026
44	0.0029	0.0002	0.0026
45	0.0029	0.0002	0.0027
46	0.0029	0.0002	0.0027
47	0.0029	0.0002	0.0027
48	0.0029	0.0002	0.0027
49	0.0030	0.0002	0.0027
50	0.0030	0.0002	0.0027
51	0.0030	0.0002	0.0028
52	0.0030	0.0002	0.0028
53	0.0030	0.0002	0.0028
54	0.0030	0.0002	0.0028
55	0.0030	0.0002	0.0028
56	0.0031	0.0002	0.0028
57	0.0031	0.0002	0.0028
58	0.0031	0.0002	0.0029
59	0.0031	0.0002	0.0029
60	0.0031	0.0002	0.0029
61	0.0032	0.0002	0.0029
62	0.0032	0.0002	0.0029
63	0.0032	0.0003	0.0029
64	0.0032	0.0003	0.0029
65	0.0032	0.0003	0.0030
66	0.0032	0.0003	0.0030
67	0.0033	0.0003	0.0030
68	0.0033	0.0003	0.0030
69	0.0033	0.0003	0.0030
70	0.0033	0.0003	0.0031
71	0.0033	0.0003	0.0031
72	0.0034	0.0003	0.0031
73	0.0034	0.0003	0.0031
74	0.0034	0.0003	0.0031
75	0.0034	0.0003	0.0032
76	0.0034	0.0003	0.0032
77	0.0035	0.0003	0.0032
78	0.0035	0.0003	0.0032
79	0.0035	0.0003	0.0032
80	0.0035	0.0003	0.0033
81	0.0036	0.0003	0.0033
82	0.0036	0.0003	0.0033
83	0.0036	0.0003	0.0033
84	0.0036	0.0003	0.0033
85	0.0037	0.0003	0.0034
86	0.0037	0.0003	0.0034
87	0.0037	0.0003	0.0034
88	0.0037	0.0003	0.0034
89	0.0038	0.0003	0.0035
90	0.0038	0.0003	0.0035
91	0.0038	0.0003	0.0035
92	0.0038	0.0003	0.0035
93	0.0039	0.0003	0.0036
94	0.0039	0.0003	0.0036
95	0.0039	0.0003	0.0036
96	0.0040	0.0003	0.0036
97	0.0040	0.0003	0.0037

98	0.0040	0.0003	0.0037
99	0.0041	0.0003	0.0037
100	0.0041	0.0003	0.0038
101	0.0041	0.0003	0.0038
102	0.0041	0.0003	0.0038
103	0.0042	0.0003	0.0039
104	0.0042	0.0003	0.0039
105	0.0043	0.0003	0.0039
106	0.0043	0.0003	0.0040
107	0.0043	0.0003	0.0040
108	0.0044	0.0003	0.0040
109	0.0044	0.0003	0.0041
110	0.0044	0.0003	0.0041
111	0.0045	0.0004	0.0041
112	0.0045	0.0004	0.0042
113	0.0046	0.0004	0.0042
114	0.0046	0.0004	0.0042
115	0.0047	0.0004	0.0043
116	0.0047	0.0004	0.0043
117	0.0048	0.0004	0.0044
118	0.0048	0.0004	0.0044
119	0.0049	0.0004	0.0045
120	0.0049	0.0004	0.0045
121	0.0050	0.0004	0.0046
122	0.0050	0.0004	0.0046
123	0.0051	0.0004	0.0047
124	0.0051	0.0004	0.0047
125	0.0052	0.0004	0.0048
126	0.0052	0.0004	0.0048
127	0.0053	0.0004	0.0049
128	0.0053	0.0004	0.0049
129	0.0054	0.0004	0.0050
130	0.0055	0.0004	0.0050
131	0.0055	0.0004	0.0051
132	0.0056	0.0004	0.0051
133	0.0057	0.0004	0.0052
134	0.0057	0.0005	0.0053
135	0.0058	0.0005	0.0054
136	0.0059	0.0005	0.0054
137	0.0060	0.0005	0.0055
138	0.0060	0.0005	0.0056
139	0.0061	0.0005	0.0057
140	0.0062	0.0005	0.0057
141	0.0063	0.0005	0.0058
142	0.0064	0.0005	0.0059
143	0.0065	0.0005	0.0060
144	0.0066	0.0005	0.0061
145	0.0043	0.0003	0.0040
146	0.0044	0.0003	0.0040
147	0.0045	0.0004	0.0041
148	0.0045	0.0004	0.0042
149	0.0047	0.0004	0.0043
150	0.0047	0.0004	0.0043
151	0.0048	0.0004	0.0045
152	0.0049	0.0004	0.0045
153	0.0050	0.0004	0.0046
154	0.0051	0.0004	0.0047
155	0.0053	0.0004	0.0049
156	0.0053	0.0004	0.0049

157	0.0055	0.0004	0.0051
158	0.0056	0.0004	0.0052
159	0.0058	0.0005	0.0053
160	0.0059	0.0005	0.0054
161	0.0061	0.0005	0.0056
162	0.0062	0.0005	0.0057
163	0.0064	0.0005	0.0059
164	0.0065	0.0005	0.0060
165	0.0068	0.0005	0.0063
166	0.0070	0.0005	0.0064
167	0.0073	0.0006	0.0067
168	0.0074	0.0006	0.0068
169	0.0078	0.0006	0.0072
170	0.0080	0.0006	0.0073
171	0.0084	0.0007	0.0077
172	0.0086	0.0007	0.0079
173	0.0091	0.0007	0.0084
174	0.0093	0.0007	0.0086
175	0.0099	0.0008	0.0091
176	0.0102	0.0008	0.0094
177	0.0110	0.0009	0.0101
178	0.0114	0.0009	0.0105
179	0.0123	0.0010	0.0113
180	0.0128	0.0010	0.0118
181	0.0140	0.0011	0.0129
182	0.0147	0.0012	0.0136
183	0.0164	0.0013	0.0151
184	0.0174	0.0014	0.0160
185	0.0358	0.0027	0.0331
186	0.0382	0.0027	0.0355
187	0.0443	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1497
193	0.6594	0.0027	0.6567
194	0.0826	0.0027	0.0800
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0383
197	0.0186	0.0015	0.0171
198	0.0155	0.0012	0.0143
199	0.0134	0.0011	0.0123
200	0.0118	0.0009	0.0109
201	0.0106	0.0008	0.0098
202	0.0096	0.0008	0.0089
203	0.0088	0.0007	0.0081
204	0.0082	0.0006	0.0075
205	0.0076	0.0006	0.0070
206	0.0071	0.0006	0.0065
207	0.0067	0.0005	0.0062
208	0.0063	0.0005	0.0058
209	0.0060	0.0005	0.0055
210	0.0057	0.0004	0.0052
211	0.0054	0.0004	0.0050
212	0.0052	0.0004	0.0048
213	0.0050	0.0004	0.0046
214	0.0048	0.0004	0.0044
215	0.0046	0.0004	0.0042

216	0.0044	0.0003	0.0041
217	0.0066	0.0005	0.0061
218	0.0064	0.0005	0.0059
219	0.0063	0.0005	0.0058
220	0.0061	0.0005	0.0056
221	0.0059	0.0005	0.0055
222	0.0058	0.0005	0.0053
223	0.0056	0.0004	0.0052
224	0.0055	0.0004	0.0051
225	0.0054	0.0004	0.0049
226	0.0052	0.0004	0.0048
227	0.0051	0.0004	0.0047
228	0.0050	0.0004	0.0046
229	0.0049	0.0004	0.0045
230	0.0048	0.0004	0.0044
231	0.0047	0.0004	0.0044
232	0.0046	0.0004	0.0043
233	0.0046	0.0004	0.0042
234	0.0045	0.0004	0.0041
235	0.0044	0.0003	0.0040
236	0.0043	0.0003	0.0040
237	0.0042	0.0003	0.0039
238	0.0042	0.0003	0.0038
239	0.0041	0.0003	0.0038
240	0.0040	0.0003	0.0037
241	0.0040	0.0003	0.0037
242	0.0039	0.0003	0.0036
243	0.0039	0.0003	0.0036
244	0.0038	0.0003	0.0035
245	0.0037	0.0003	0.0035
246	0.0037	0.0003	0.0034
247	0.0036	0.0003	0.0034
248	0.0036	0.0003	0.0033
249	0.0035	0.0003	0.0033
250	0.0035	0.0003	0.0032
251	0.0035	0.0003	0.0032
252	0.0034	0.0003	0.0031
253	0.0034	0.0003	0.0031
254	0.0033	0.0003	0.0031
255	0.0033	0.0003	0.0030
256	0.0033	0.0003	0.0030
257	0.0032	0.0003	0.0030
258	0.0032	0.0003	0.0029
259	0.0031	0.0002	0.0029
260	0.0031	0.0002	0.0029
261	0.0031	0.0002	0.0028
262	0.0030	0.0002	0.0028
263	0.0030	0.0002	0.0028
264	0.0030	0.0002	0.0027
265	0.0029	0.0002	0.0027
266	0.0029	0.0002	0.0027
267	0.0029	0.0002	0.0027
268	0.0029	0.0002	0.0026
269	0.0028	0.0002	0.0026
270	0.0028	0.0002	0.0026
271	0.0028	0.0002	0.0026
272	0.0027	0.0002	0.0025
273	0.0027	0.0002	0.0025
274	0.0027	0.0002	0.0025

275	0.0027	0.0002	0.0025
276	0.0026	0.0002	0.0024
277	0.0026	0.0002	0.0024
278	0.0026	0.0002	0.0024
279	0.0026	0.0002	0.0024
280	0.0026	0.0002	0.0024
281	0.0025	0.0002	0.0023
282	0.0025	0.0002	0.0023
283	0.0025	0.0002	0.0023
284	0.0025	0.0002	0.0023
285	0.0025	0.0002	0.0023
286	0.0024	0.0002	0.0022
287	0.0024	0.0002	0.0022
288	0.0024	0.0002	0.0022

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.54(In)
Peak flow rate in flood hydrograph = 16.57(CFS)

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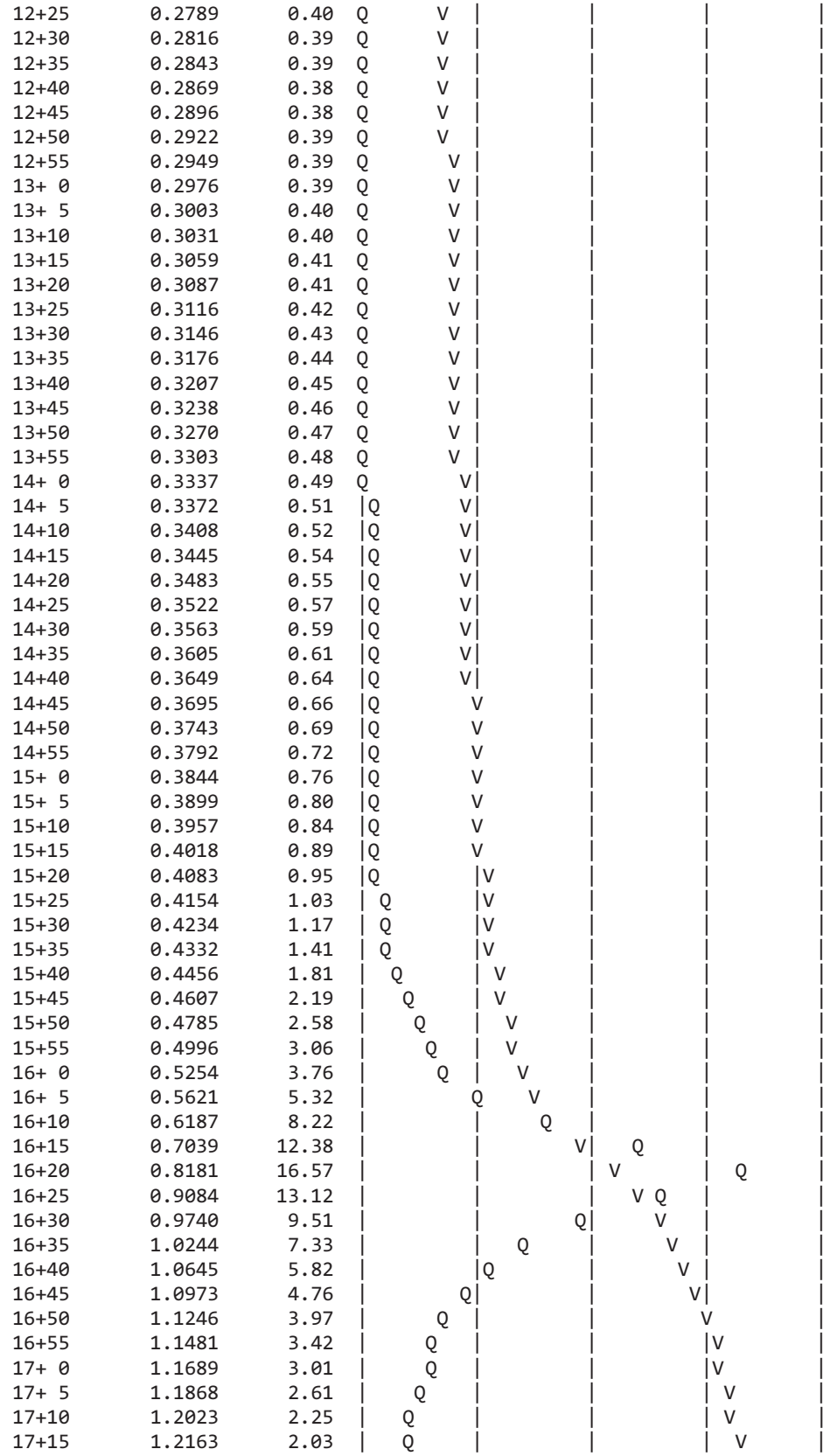
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.03	Q				
0+20	0.0008	0.07	Q				
0+25	0.0015	0.10	Q				
0+30	0.0023	0.12	Q				
0+35	0.0032	0.13	Q				
0+40	0.0042	0.14	Q				
0+45	0.0052	0.15	Q				
0+50	0.0063	0.15	Q				
0+55	0.0074	0.16	Q				
1+ 0	0.0085	0.16	Q				
1+ 5	0.0097	0.17	Q				
1+10	0.0109	0.17	Q				
1+15	0.0121	0.18	Q				
1+20	0.0133	0.18	Q				
1+25	0.0146	0.18	Q				
1+30	0.0158	0.18	Q				
1+35	0.0171	0.19	Q				
1+40	0.0184	0.19	Q				
1+45	0.0197	0.19	Q				
1+50	0.0210	0.19	Q				
1+55	0.0223	0.19	Q				
2+ 0	0.0237	0.19	Q				
2+ 5	0.0250	0.20	Q				
2+10	0.0264	0.20	Q				
2+15	0.0277	0.20	Q				
2+20	0.0291	0.20	Q				
2+25	0.0305	0.20	Q				
2+30	0.0319	0.20	Q				

2+35	0.0333	0.20	Q	|	|	|	|
2+40	0.0347	0.20	Q	|	|	|	|
2+45	0.0361	0.21	Q	|	|	|	|
2+50	0.0375	0.21	QV	|	|	|	|
2+55	0.0390	0.21	QV	|	|	|	|
3+ 0	0.0404	0.21	QV	|	|	|	|
3+ 5	0.0418	0.21	QV	|	|	|	|
3+10	0.0433	0.21	QV	|	|	|	|
3+15	0.0448	0.21	QV	|	|	|	|
3+20	0.0462	0.21	QV	|	|	|	|
3+25	0.0477	0.21	QV	|	|	|	|
3+30	0.0492	0.21	QV	|	|	|	|
3+35	0.0506	0.22	QV	|	|	|	|
3+40	0.0521	0.22	QV	|	|	|	|
3+45	0.0536	0.22	QV	|	|	|	|
3+50	0.0551	0.22	QV	|	|	|	|
3+55	0.0567	0.22	QV	|	|	|	|
4+ 0	0.0582	0.22	QV	|	|	|	|
4+ 5	0.0597	0.22	QV	|	|	|	|
4+10	0.0612	0.22	QV	|	|	|	|
4+15	0.0628	0.22	QV	|	|	|	|
4+20	0.0643	0.23	QV	|	|	|	|
4+25	0.0659	0.23	QV	|	|	|	|
4+30	0.0675	0.23	QV	|	|	|	|
4+35	0.0690	0.23	QV	|	|	|	|
4+40	0.0706	0.23	QV	|	|	|	|
4+45	0.0722	0.23	QV	|	|	|	|
4+50	0.0738	0.23	Q V	|	|	|	|
4+55	0.0754	0.23	Q V	|	|	|	|
5+ 0	0.0770	0.23	Q V	|	|	|	|
5+ 5	0.0787	0.24	Q V	|	|	|	|
5+10	0.0803	0.24	Q V	|	|	|	|
5+15	0.0819	0.24	Q V	|	|	|	|
5+20	0.0836	0.24	Q V	|	|	|	|
5+25	0.0852	0.24	Q V	|	|	|	|
5+30	0.0869	0.24	Q V	|	|	|	|
5+35	0.0886	0.24	Q V	|	|	|	|
5+40	0.0903	0.25	Q V	|	|	|	|
5+45	0.0920	0.25	Q V	|	|	|	|
5+50	0.0937	0.25	Q V	|	|	|	|
5+55	0.0954	0.25	Q V	|	|	|	|
6+ 0	0.0971	0.25	Q V	|	|	|	|
6+ 5	0.0989	0.25	Q V	|	|	|	|
6+10	0.1006	0.25	Q V	|	|	|	|
6+15	0.1024	0.26	Q V	|	|	|	|
6+20	0.1042	0.26	Q V	|	|	|	|
6+25	0.1059	0.26	Q V	|	|	|	|
6+30	0.1077	0.26	Q V	|	|	|	|
6+35	0.1095	0.26	Q V	|	|	|	|
6+40	0.1114	0.26	Q V	|	|	|	|
6+45	0.1132	0.27	Q V	|	|	|	|
6+50	0.1150	0.27	Q V	|	|	|	|
6+55	0.1169	0.27	Q V	|	|	|	|
7+ 0	0.1187	0.27	Q V	|	|	|	|
7+ 5	0.1206	0.27	Q V	|	|	|	|
7+10	0.1225	0.27	Q V	|	|	|	|
7+15	0.1244	0.28	Q V	|	|	|	|
7+20	0.1263	0.28	Q V	|	|	|	|
7+25	0.1282	0.28	Q V	|	|	|	|

7+30	0.1302	0.28	Q	V				
7+35	0.1321	0.28	Q	V				
7+40	0.1341	0.29	Q	V				
7+45	0.1361	0.29	Q	V				
7+50	0.1381	0.29	Q	V				
7+55	0.1401	0.29	Q	V				
8+ 0	0.1421	0.29	Q	V				
8+ 5	0.1441	0.30	Q	V				
8+10	0.1462	0.30	Q	V				
8+15	0.1482	0.30	Q	V				
8+20	0.1503	0.30	Q	V				
8+25	0.1524	0.30	Q	V				
8+30	0.1545	0.31	Q	V				
8+35	0.1567	0.31	Q	V				
8+40	0.1588	0.31	Q	V				
8+45	0.1610	0.31	Q	V				
8+50	0.1632	0.32	Q	V				
8+55	0.1654	0.32	Q	V				
9+ 0	0.1676	0.32	Q	V				
9+ 5	0.1698	0.32	Q	V				
9+10	0.1721	0.33	Q	V				
9+15	0.1743	0.33	Q	V				
9+20	0.1766	0.33	Q	V				
9+25	0.1789	0.34	Q	V				
9+30	0.1813	0.34	Q	V				
9+35	0.1836	0.34	Q	V				
9+40	0.1860	0.34	Q	V				
9+45	0.1884	0.35	Q	V				
9+50	0.1908	0.35	Q	V				
9+55	0.1933	0.35	Q	V				
10+ 0	0.1957	0.36	Q	V				
10+ 5	0.1982	0.36	Q	V				
10+10	0.2007	0.36	Q	V				
10+15	0.2033	0.37	Q	V				
10+20	0.2058	0.37	Q	V				
10+25	0.2084	0.38	Q	V				
10+30	0.2110	0.38	Q	V				
10+35	0.2137	0.38	Q	V				
10+40	0.2163	0.39	Q	V				
10+45	0.2190	0.39	Q	V				
10+50	0.2218	0.40	Q	V				
10+55	0.2245	0.40	Q	V				
11+ 0	0.2273	0.40	Q	V				
11+ 5	0.2301	0.41	Q	V				
11+10	0.2330	0.41	Q	V				
11+15	0.2359	0.42	Q	V				
11+20	0.2388	0.42	Q	V				
11+25	0.2418	0.43	Q	V				
11+30	0.2448	0.43	Q	V				
11+35	0.2478	0.44	Q	V				
11+40	0.2508	0.45	Q	V				
11+45	0.2540	0.45	Q	V				
11+50	0.2571	0.46	Q	V				
11+55	0.2603	0.46	Q	V				
12+ 0	0.2635	0.47	Q	V				
12+ 5	0.2668	0.47	Q	V				
12+10	0.2700	0.47	Q	V				
12+15	0.2732	0.46	Q	V				
12+20	0.2761	0.42	Q	V				



12+25	0.2789	0.40	Q V | | | |
12+30	0.2816	0.39	Q V | | | |
12+35	0.2843	0.39	Q V | | | |
12+40	0.2869	0.38	Q V | | | |
12+45	0.2896	0.38	Q V | | | |
12+50	0.2922	0.39	Q V | | | |
12+55	0.2949	0.39	Q V | | | |
13+ 0	0.2976	0.39	Q V | | | |
13+ 5	0.3003	0.40	Q V | | | |
13+10	0.3031	0.40	Q V | | | |
13+15	0.3059	0.41	Q V | | | |
13+20	0.3087	0.41	Q V | | | |
13+25	0.3116	0.42	Q V | | | |
13+30	0.3146	0.43	Q V | | | |
13+35	0.3176	0.44	Q V | | | |
13+40	0.3207	0.45	Q V | | | |
13+45	0.3238	0.46	Q V | | | |
13+50	0.3270	0.47	Q V | | | |
13+55	0.3303	0.48	Q V | | | |
14+ 0	0.3337	0.49	Q V| | | |
14+ 5	0.3372	0.51	|Q V| | | |
14+10	0.3408	0.52	|Q V| | | |
14+15	0.3445	0.54	|Q V| | | |
14+20	0.3483	0.55	|Q V| | | |
14+25	0.3522	0.57	|Q V| | | |
14+30	0.3563	0.59	|Q V| | | |
14+35	0.3605	0.61	|Q V| | | |
14+40	0.3649	0.64	|Q V| | | |
14+45	0.3695	0.66	|Q V | | |
14+50	0.3743	0.69	|Q V | | |
14+55	0.3792	0.72	|Q V | | |
15+ 0	0.3844	0.76	|Q V | | |
15+ 5	0.3899	0.80	|Q V | | |
15+10	0.3957	0.84	|Q V | | |
15+15	0.4018	0.89	|Q V | | |
15+20	0.4083	0.95	|Q |V | | |
15+25	0.4154	1.03	| Q |V | | |
15+30	0.4234	1.17	| Q |V | | |
15+35	0.4332	1.41	| Q |V | | |
15+40	0.4456	1.81	| Q | V | | |
15+45	0.4607	2.19	| Q | V | | |
15+50	0.4785	2.58	| Q | V | | |
15+55	0.4996	3.06	| Q | V | | |
16+ 0	0.5254	3.76	| Q | V | | |
16+ 5	0.5621	5.32	| Q V | | |
16+10	0.6187	8.22	| | Q | | |
16+15	0.7039	12.38	| | V| Q | |
16+20	0.8181	16.57	| | | V | Q |
16+25	0.9084	13.12	| | | V Q | |
16+30	0.9740	9.51	| | Q| V | |
16+35	1.0244	7.33	| Q | V | |
16+40	1.0645	5.82	|Q | V | |
16+45	1.0973	4.76	Q| | V| |
16+50	1.1246	3.97	Q | | V |
16+55	1.1481	3.42	Q | | |V |
17+ 0	1.1689	3.01	Q | | |V |
17+ 5	1.1868	2.61	Q | | | V |
17+10	1.2023	2.25	Q | | | V |
17+15	1.2163	2.03	Q | | | V |

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17+20       1.2289      1.82  |  Q      |         |         |  V      |
17+25       1.2402      1.65  |  Q      |         |         |  V      |
17+30       1.2503      1.46  | Q       |         |         |   V     |
17+35       1.2596      1.35  | Q       |         |         |   V     |
17+40       1.2679      1.20  | Q       |         |         |   V     |
17+45       1.2755      1.11  | Q       |         |         |   V     |
17+50       1.2823      0.98  |Q        |         |         |   V     |
17+55       1.2884      0.89  |Q        |         |         |    V    |
18+ 0       1.2938      0.78  |Q        |         |         |    V    |
18+ 5       1.2988      0.73  |Q        |         |         |    V    |
18+10       1.3038      0.72  |Q        |         |         |    V    |
18+15       1.3087      0.72  |Q        |         |         |    V    |
18+20       1.3137      0.72  |Q        |         |         |    V    |
18+25       1.3186      0.72  |Q        |         |         |    V    |
18+30       1.3232      0.66  |Q        |         |         |     V   |
18+35       1.3274      0.61  |Q        |         |         |     V   |
18+40       1.3314      0.59  |Q        |         |         |     V   |
18+45       1.3352      0.54  |Q        |         |         |     V   |
18+50       1.3384      0.47  Q         |         |         |     V   |
18+55       1.3415      0.45  Q         |         |         |     V   |
19+ 0       1.3446      0.44  Q         |         |         |     V   |
19+ 5       1.3475      0.43  Q         |         |         |     V   |
19+10       1.3504      0.42  Q         |         |         |     V   |
19+15       1.3532      0.41  Q         |         |         |     V   |
19+20       1.3560      0.40  Q         |         |         |     V   |
19+25       1.3587      0.40  Q         |         |         |      V  |
19+30       1.3614      0.39  Q         |         |         |      V  |
19+35       1.3640      0.38  Q         |         |         |      V  |
19+40       1.3666      0.37  Q         |         |         |      V  |
19+45       1.3691      0.37  Q         |         |         |      V  |
19+50       1.3716      0.36  Q         |         |         |      V  |
19+55       1.3741      0.35  Q         |         |         |      V  |
20+ 0       1.3765      0.35  Q         |         |         |      V  |
20+ 5       1.3788      0.34  Q         |         |         |      V  |
20+10       1.3811      0.34  Q         |         |         |      V  |
20+15       1.3834      0.33  Q         |         |         |      V  |
20+20       1.3857      0.33  Q         |         |         |      V  |
20+25       1.3879      0.32  Q         |         |         |      V  |
20+30       1.3900      0.32  Q         |         |         |      V  |
20+35       1.3922      0.31  Q         |         |         |      V  |
20+40       1.3943      0.31  Q         |         |         |      V  |
20+45       1.3964      0.30  Q         |         |         |       V |
20+50       1.3984      0.30  Q         |         |         |       V |
20+55       1.4005      0.29  Q         |         |         |       V |
21+ 0       1.4024      0.29  Q         |         |         |       V |
21+ 5       1.4044      0.28  Q         |         |         |       V |
21+10       1.4063      0.28  Q         |         |         |       V |
21+15       1.4083      0.28  Q         |         |         |       V |
21+20       1.4101      0.27  Q         |         |         |       V |
21+25       1.4120      0.27  Q         |         |         |       V |
21+30       1.4138      0.27  Q         |         |         |       V |
21+35       1.4156      0.26  Q         |         |         |       V |
21+40       1.4174      0.26  Q         |         |         |       V |
21+45       1.4192      0.26  Q         |         |         |       V |
21+50       1.4209      0.25  Q         |         |         |       V |
21+55       1.4227      0.25  Q         |         |         |       V |
22+ 0       1.4244      0.25  Q         |         |         |       V |
22+ 5       1.4261      0.24  Q         |         |         |       V |
22+10       1.4277      0.24  Q         |         |         |       V |
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22+15	1.4294	0.24	Q	|	|	|	V |
22+20	1.4310	0.24	Q	|	|	|	V |
22+25	1.4326	0.23	Q	|	|	|	V|
22+30	1.4342	0.23	Q	|	|	|	V|
22+35	1.4358	0.23	Q	|	|	|	V|
22+40	1.4374	0.23	Q	|	|	|	V|
22+45	1.4389	0.22	Q	|	|	|	V|
22+50	1.4404	0.22	Q	|	|	|	V|
22+55	1.4419	0.22	Q	|	|	|	V|
23+ 0	1.4434	0.22	Q	|	|	|	V|
23+ 5	1.4449	0.22	Q	|	|	|	V|
23+10	1.4464	0.21	Q	|	|	|	V|
23+15	1.4479	0.21	Q	|	|	|	V|
23+20	1.4493	0.21	Q	|	|	|	V|
23+25	1.4507	0.21	Q	|	|	|	V|
23+30	1.4522	0.21	Q	|	|	|	V|
23+35	1.4536	0.20	Q	|	|	|	V|
23+40	1.4550	0.20	Q	|	|	|	V|
23+45	1.4563	0.20	Q	|	|	|	V|
23+50	1.4577	0.20	Q	|	|	|	V|
23+55	1.4591	0.20	Q	|	|	|	V|
24+ 0	1.4604	0.20	Q	|	|	|	V|
24+ 5	1.4617	0.19	Q	|	|	|	V|
24+10	1.4630	0.18	Q	|	|	|	V|
24+15	1.4641	0.16	Q	|	|	|	V|
24+20	1.4649	0.12	Q	|	|	|	V|
24+25	1.4655	0.09	Q	|	|	|	V|
24+30	1.4660	0.07	Q	|	|	|	V|
24+35	1.4664	0.06	Q	|	|	|	V|
24+40	1.4667	0.05	Q	|	|	|	V|
24+45	1.4670	0.04	Q	|	|	|	V|
24+50	1.4672	0.03	Q	|	|	|	V|
24+55	1.4674	0.03	Q	|	|	|	V|
25+ 0	1.4676	0.03	Q	|	|	|	V|
25+ 5	1.4678	0.02	Q	|	|	|	V|
25+10	1.4679	0.02	Q	|	|	|	V|
25+15	1.4680	0.02	Q	|	|	|	V|
25+20	1.4681	0.01	Q	|	|	|	V|
25+25	1.4682	0.01	Q	|	|	|	V|
25+30	1.4682	0.01	Q	|	|	|	V|
25+35	1.4683	0.01	Q	|	|	|	V|
25+40	1.4684	0.01	Q	|	|	|	V|
25+45	1.4684	0.01	Q	|	|	|	V|
25+50	1.4684	0.01	Q	|	|	|	V|
25+55	1.4685	0.00	Q	|	|	|	V|
26+ 0	1.4685	0.00	Q	|	|	|	V|
26+ 5	1.4685	0.00	Q	|	|	|	V|
26+10	1.4685	0.00	Q	|	|	|	V|
26+15	1.4685	0.00	Q	|	|	|	V|
26+20	1.4686	0.00	Q	|	|	|	V|
26+25	1.4686	0.00	Q	|	|	|	V|
26+30	1.4686	0.00	Q	|	|	|	V|
26+35	1.4686	0.00	Q	|	|	|	V|
26+40	1.4686	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 44
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
6.47	1	1.39
Rainfall data for year 100		
6.47	6	1.87
Rainfall data for year 100		
6.47	24	2.68

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	6.47	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
5.82	0.900	91.0	98.2	0.18	0.922
0.65	0.100	98.0	98.0	0.20	0.914

Area-averaged catchment yield fraction, Y = 0.922
Area-averaged low loss fraction, Yb = 0.078
User entry of time of concentration = 0.380 (hours)
++
Watershed area = 6.47(Ac.)
Catchment Lag time = 0.304 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 27.4123
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.078 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.680(In)

Rainfall depth area reduction factors:
Using a total area of 6.47(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.667(In)
6-hour factor = 1.000 Adjusted rainfall = 1.870(In)
24-hour factor = 1.000 Adjusted rainfall = 2.680(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 78.25 (CFS))	
1	1.539	1.204
2	7.808	4.905
3	24.928	13.395
4	47.091	17.342
5	60.457	10.459
6	68.608	6.378
7	74.508	4.617
8	78.995	3.511
9	82.450	2.704
10	85.298	2.228
11	87.725	1.900
12	89.613	1.477
13	91.183	1.228

14	92.558	1.076
15	93.766	0.946
16	94.746	0.767
17	95.641	0.700
18	96.373	0.573
19	97.022	0.508
20	97.522	0.391
21	97.919	0.311
22	98.194	0.215
23	98.501	0.240
24	98.830	0.257
25	99.159	0.257
26	99.471	0.244
27	99.665	0.152
28	99.836	0.134
29	100.000	0.128

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6594	0.6594
2	0.8118	0.1524
3	0.9168	0.1050
4	0.9994	0.0826
5	1.0686	0.0692
6	1.1287	0.0601
7	1.1821	0.0534
8	1.2304	0.0483
9	1.2747	0.0443
10	1.3156	0.0409
11	1.3538	0.0382
12	1.3896	0.0358
13	1.4081	0.0186
14	1.4256	0.0174
15	1.4420	0.0164
16	1.4575	0.0155
17	1.4722	0.0147
18	1.4862	0.0140
19	1.4996	0.0134
20	1.5124	0.0128
21	1.5247	0.0123
22	1.5365	0.0118
23	1.5478	0.0114
24	1.5588	0.0110
25	1.5694	0.0106
26	1.5796	0.0102
27	1.5895	0.0099
28	1.5992	0.0096
29	1.6085	0.0093
30	1.6176	0.0091
31	1.6264	0.0088
32	1.6350	0.0086
33	1.6433	0.0084
34	1.6515	0.0082
35	1.6594	0.0080
36	1.6672	0.0078
37	1.6748	0.0076
38	1.6822	0.0074
39	1.6894	0.0073
40	1.6965	0.0071

41	1.7035	0.0070
42	1.7103	0.0068
43	1.7170	0.0067
44	1.7235	0.0065
45	1.7300	0.0064
46	1.7363	0.0063
47	1.7425	0.0062
48	1.7485	0.0061
49	1.7545	0.0060
50	1.7604	0.0059
51	1.7662	0.0058
52	1.7719	0.0057
53	1.7775	0.0056
54	1.7830	0.0055
55	1.7884	0.0054
56	1.7937	0.0053
57	1.7990	0.0053
58	1.8042	0.0052
59	1.8093	0.0051
60	1.8144	0.0050
61	1.8193	0.0050
62	1.8242	0.0049
63	1.8291	0.0048
64	1.8338	0.0048
65	1.8386	0.0047
66	1.8432	0.0047
67	1.8478	0.0046
68	1.8523	0.0045
69	1.8568	0.0045
70	1.8613	0.0044
71	1.8656	0.0044
72	1.8700	0.0043
73	1.8767	0.0067
74	1.8833	0.0066
75	1.8899	0.0066
76	1.8964	0.0065
77	1.9028	0.0064
78	1.9092	0.0064
79	1.9156	0.0063
80	1.9218	0.0063
81	1.9280	0.0062
82	1.9342	0.0062
83	1.9403	0.0061
84	1.9463	0.0060
85	1.9523	0.0060
86	1.9582	0.0059
87	1.9641	0.0059
88	1.9700	0.0058
89	1.9757	0.0058
90	1.9815	0.0057
91	1.9872	0.0057
92	1.9928	0.0056
93	1.9984	0.0056
94	2.0040	0.0056
95	2.0095	0.0055
96	2.0150	0.0055
97	2.0204	0.0054
98	2.0258	0.0054
99	2.0311	0.0053

100	2.0364	0.0053
101	2.0417	0.0053
102	2.0469	0.0052
103	2.0521	0.0052
104	2.0573	0.0052
105	2.0624	0.0051
106	2.0675	0.0051
107	2.0725	0.0050
108	2.0775	0.0050
109	2.0825	0.0050
110	2.0874	0.0049
111	2.0924	0.0049
112	2.0972	0.0049
113	2.1021	0.0048
114	2.1069	0.0048
115	2.1117	0.0048
116	2.1164	0.0048
117	2.1212	0.0047
118	2.1258	0.0047
119	2.1305	0.0047
120	2.1351	0.0046
121	2.1397	0.0046
122	2.1443	0.0046
123	2.1489	0.0045
124	2.1534	0.0045
125	2.1579	0.0045
126	2.1624	0.0045
127	2.1668	0.0044
128	2.1712	0.0044
129	2.1756	0.0044
130	2.1800	0.0044
131	2.1843	0.0043
132	2.1886	0.0043
133	2.1929	0.0043
134	2.1972	0.0043
135	2.2014	0.0042
136	2.2057	0.0042
137	2.2099	0.0042
138	2.2140	0.0042
139	2.2182	0.0042
140	2.2223	0.0041
141	2.2264	0.0041
142	2.2305	0.0041
143	2.2346	0.0041
144	2.2386	0.0040
145	2.2427	0.0040
146	2.2467	0.0040
147	2.2506	0.0040
148	2.2546	0.0040
149	2.2586	0.0039
150	2.2625	0.0039
151	2.2664	0.0039
152	2.2703	0.0039
153	2.2741	0.0039
154	2.2780	0.0038
155	2.2818	0.0038
156	2.2856	0.0038
157	2.2894	0.0038
158	2.2932	0.0038

159	2.2970	0.0038
160	2.3007	0.0037
161	2.3044	0.0037
162	2.3081	0.0037
163	2.3118	0.0037
164	2.3155	0.0037
165	2.3192	0.0037
166	2.3228	0.0036
167	2.3264	0.0036
168	2.3300	0.0036
169	2.3336	0.0036
170	2.3372	0.0036
171	2.3408	0.0036
172	2.3443	0.0035
173	2.3478	0.0035
174	2.3514	0.0035
175	2.3549	0.0035
176	2.3583	0.0035
177	2.3618	0.0035
178	2.3653	0.0035
179	2.3687	0.0034
180	2.3721	0.0034
181	2.3756	0.0034
182	2.3790	0.0034
183	2.3823	0.0034
184	2.3857	0.0034
185	2.3891	0.0034
186	2.3924	0.0033
187	2.3958	0.0033
188	2.3991	0.0033
189	2.4024	0.0033
190	2.4057	0.0033
191	2.4090	0.0033
192	2.4122	0.0033
193	2.4155	0.0033
194	2.4187	0.0032
195	2.4219	0.0032
196	2.4252	0.0032
197	2.4284	0.0032
198	2.4316	0.0032
199	2.4347	0.0032
200	2.4379	0.0032
201	2.4411	0.0032
202	2.4442	0.0031
203	2.4474	0.0031
204	2.4505	0.0031
205	2.4536	0.0031
206	2.4567	0.0031
207	2.4598	0.0031
208	2.4629	0.0031
209	2.4659	0.0031
210	2.4690	0.0031
211	2.4720	0.0030
212	2.4751	0.0030
213	2.4781	0.0030
214	2.4811	0.0030
215	2.4841	0.0030
216	2.4871	0.0030
217	2.4901	0.0030

218	2.4931	0.0030
219	2.4960	0.0030
220	2.4990	0.0030
221	2.5019	0.0029
222	2.5049	0.0029
223	2.5078	0.0029
224	2.5107	0.0029
225	2.5136	0.0029
226	2.5165	0.0029
227	2.5194	0.0029
228	2.5223	0.0029
229	2.5251	0.0029
230	2.5280	0.0029
231	2.5308	0.0028
232	2.5337	0.0028
233	2.5365	0.0028
234	2.5393	0.0028
235	2.5422	0.0028
236	2.5450	0.0028
237	2.5478	0.0028
238	2.5505	0.0028
239	2.5533	0.0028
240	2.5561	0.0028
241	2.5588	0.0028
242	2.5616	0.0028
243	2.5643	0.0027
244	2.5671	0.0027
245	2.5698	0.0027
246	2.5725	0.0027
247	2.5752	0.0027
248	2.5779	0.0027
249	2.5806	0.0027
250	2.5833	0.0027
251	2.5860	0.0027
252	2.5887	0.0027
253	2.5913	0.0027
254	2.5940	0.0027
255	2.5966	0.0026
256	2.5993	0.0026
257	2.6019	0.0026
258	2.6045	0.0026
259	2.6071	0.0026
260	2.6098	0.0026
261	2.6124	0.0026
262	2.6150	0.0026
263	2.6175	0.0026
264	2.6201	0.0026
265	2.6227	0.0026
266	2.6253	0.0026
267	2.6278	0.0026
268	2.6304	0.0026
269	2.6329	0.0025
270	2.6355	0.0025
271	2.6380	0.0025
272	2.6405	0.0025
273	2.6430	0.0025
274	2.6455	0.0025
275	2.6480	0.0025
276	2.6505	0.0025

277	2.6530	0.0025
278	2.6555	0.0025
279	2.6580	0.0025
280	2.6605	0.0025
281	2.6629	0.0025
282	2.6654	0.0025
283	2.6678	0.0025
284	2.6703	0.0024
285	2.6727	0.0024
286	2.6751	0.0024
287	2.6776	0.0024
288	2.6800	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022
2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0023
5	0.0025	0.0002	0.0023
6	0.0025	0.0002	0.0023
7	0.0025	0.0002	0.0023
8	0.0025	0.0002	0.0023
9	0.0025	0.0002	0.0023
10	0.0025	0.0002	0.0023
11	0.0025	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0026	0.0002	0.0024
16	0.0026	0.0002	0.0024
17	0.0026	0.0002	0.0024
18	0.0026	0.0002	0.0024
19	0.0026	0.0002	0.0024
20	0.0026	0.0002	0.0024
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0027	0.0002	0.0024
25	0.0027	0.0002	0.0025
26	0.0027	0.0002	0.0025
27	0.0027	0.0002	0.0025
28	0.0027	0.0002	0.0025
29	0.0027	0.0002	0.0025
30	0.0027	0.0002	0.0025
31	0.0027	0.0002	0.0025
32	0.0028	0.0002	0.0025
33	0.0028	0.0002	0.0026
34	0.0028	0.0002	0.0026
35	0.0028	0.0002	0.0026
36	0.0028	0.0002	0.0026
37	0.0028	0.0002	0.0026
38	0.0028	0.0002	0.0026
39	0.0028	0.0002	0.0026
40	0.0029	0.0002	0.0026
41	0.0029	0.0002	0.0027
42	0.0029	0.0002	0.0027

43	0.0029	0.0002	0.0027
44	0.0029	0.0002	0.0027
45	0.0029	0.0002	0.0027
46	0.0029	0.0002	0.0027
47	0.0030	0.0002	0.0027
48	0.0030	0.0002	0.0027
49	0.0030	0.0002	0.0028
50	0.0030	0.0002	0.0028
51	0.0030	0.0002	0.0028
52	0.0030	0.0002	0.0028
53	0.0031	0.0002	0.0028
54	0.0031	0.0002	0.0028
55	0.0031	0.0002	0.0028
56	0.0031	0.0002	0.0029
57	0.0031	0.0002	0.0029
58	0.0031	0.0002	0.0029
59	0.0032	0.0002	0.0029
60	0.0032	0.0002	0.0029
61	0.0032	0.0003	0.0029
62	0.0032	0.0003	0.0030
63	0.0032	0.0003	0.0030
64	0.0032	0.0003	0.0030
65	0.0033	0.0003	0.0030
66	0.0033	0.0003	0.0030
67	0.0033	0.0003	0.0030
68	0.0033	0.0003	0.0031
69	0.0033	0.0003	0.0031
70	0.0034	0.0003	0.0031
71	0.0034	0.0003	0.0031
72	0.0034	0.0003	0.0031
73	0.0034	0.0003	0.0032
74	0.0034	0.0003	0.0032
75	0.0035	0.0003	0.0032
76	0.0035	0.0003	0.0032
77	0.0035	0.0003	0.0032
78	0.0035	0.0003	0.0033
79	0.0036	0.0003	0.0033
80	0.0036	0.0003	0.0033
81	0.0036	0.0003	0.0033
82	0.0036	0.0003	0.0033
83	0.0037	0.0003	0.0034
84	0.0037	0.0003	0.0034
85	0.0037	0.0003	0.0034
86	0.0037	0.0003	0.0034
87	0.0038	0.0003	0.0035
88	0.0038	0.0003	0.0035
89	0.0038	0.0003	0.0035
90	0.0038	0.0003	0.0035
91	0.0039	0.0003	0.0036
92	0.0039	0.0003	0.0036
93	0.0039	0.0003	0.0036
94	0.0039	0.0003	0.0036
95	0.0040	0.0003	0.0037
96	0.0040	0.0003	0.0037
97	0.0040	0.0003	0.0037
98	0.0041	0.0003	0.0037
99	0.0041	0.0003	0.0038
100	0.0041	0.0003	0.0038
101	0.0042	0.0003	0.0038

102	0.0042	0.0003	0.0039
103	0.0042	0.0003	0.0039
104	0.0043	0.0003	0.0039
105	0.0043	0.0003	0.0040
106	0.0043	0.0003	0.0040
107	0.0044	0.0003	0.0040
108	0.0044	0.0003	0.0041
109	0.0045	0.0004	0.0041
110	0.0045	0.0004	0.0041
111	0.0045	0.0004	0.0042
112	0.0046	0.0004	0.0042
113	0.0046	0.0004	0.0043
114	0.0047	0.0004	0.0043
115	0.0047	0.0004	0.0044
116	0.0048	0.0004	0.0044
117	0.0048	0.0004	0.0044
118	0.0048	0.0004	0.0045
119	0.0049	0.0004	0.0045
120	0.0049	0.0004	0.0046
121	0.0050	0.0004	0.0046
122	0.0050	0.0004	0.0046
123	0.0051	0.0004	0.0047
124	0.0052	0.0004	0.0047
125	0.0052	0.0004	0.0048
126	0.0053	0.0004	0.0049
127	0.0053	0.0004	0.0049
128	0.0054	0.0004	0.0050
129	0.0055	0.0004	0.0050
130	0.0055	0.0004	0.0051
131	0.0056	0.0004	0.0052
132	0.0056	0.0004	0.0052
133	0.0057	0.0005	0.0053
134	0.0058	0.0005	0.0053
135	0.0059	0.0005	0.0054
136	0.0059	0.0005	0.0055
137	0.0060	0.0005	0.0056
138	0.0061	0.0005	0.0056
139	0.0062	0.0005	0.0057
140	0.0063	0.0005	0.0058
141	0.0064	0.0005	0.0059
142	0.0064	0.0005	0.0059
143	0.0066	0.0005	0.0061
144	0.0066	0.0005	0.0061
145	0.0043	0.0003	0.0040
146	0.0044	0.0003	0.0040
147	0.0045	0.0004	0.0041
148	0.0045	0.0004	0.0042
149	0.0047	0.0004	0.0043
150	0.0047	0.0004	0.0043
151	0.0048	0.0004	0.0045
152	0.0049	0.0004	0.0045
153	0.0050	0.0004	0.0046
154	0.0051	0.0004	0.0047
155	0.0053	0.0004	0.0049
156	0.0053	0.0004	0.0049
157	0.0055	0.0004	0.0051
158	0.0056	0.0004	0.0052
159	0.0058	0.0005	0.0053
160	0.0059	0.0005	0.0054

161	0.0061	0.0005	0.0056
162	0.0062	0.0005	0.0057
163	0.0064	0.0005	0.0059
164	0.0065	0.0005	0.0060
165	0.0068	0.0005	0.0063
166	0.0070	0.0005	0.0064
167	0.0073	0.0006	0.0067
168	0.0074	0.0006	0.0068
169	0.0078	0.0006	0.0072
170	0.0080	0.0006	0.0073
171	0.0084	0.0007	0.0077
172	0.0086	0.0007	0.0079
173	0.0091	0.0007	0.0084
174	0.0093	0.0007	0.0086
175	0.0099	0.0008	0.0091
176	0.0102	0.0008	0.0094
177	0.0110	0.0009	0.0101
178	0.0114	0.0009	0.0105
179	0.0123	0.0010	0.0113
180	0.0128	0.0010	0.0118
181	0.0140	0.0011	0.0129
182	0.0147	0.0012	0.0136
183	0.0164	0.0013	0.0151
184	0.0174	0.0014	0.0160
185	0.0358	0.0027	0.0331
186	0.0382	0.0027	0.0355
187	0.0443	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1497
193	0.6594	0.0027	0.6567
194	0.0826	0.0027	0.0800
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0383
197	0.0186	0.0015	0.0171
198	0.0155	0.0012	0.0143
199	0.0134	0.0011	0.0123
200	0.0118	0.0009	0.0109
201	0.0106	0.0008	0.0098
202	0.0096	0.0008	0.0089
203	0.0088	0.0007	0.0081
204	0.0082	0.0006	0.0075
205	0.0076	0.0006	0.0070
206	0.0071	0.0006	0.0065
207	0.0067	0.0005	0.0062
208	0.0063	0.0005	0.0058
209	0.0060	0.0005	0.0055
210	0.0057	0.0004	0.0052
211	0.0054	0.0004	0.0050
212	0.0052	0.0004	0.0048
213	0.0050	0.0004	0.0046
214	0.0048	0.0004	0.0044
215	0.0046	0.0004	0.0042
216	0.0044	0.0003	0.0041
217	0.0067	0.0005	0.0062
218	0.0065	0.0005	0.0060
219	0.0063	0.0005	0.0058

220	0.0062	0.0005	0.0057
221	0.0060	0.0005	0.0055
222	0.0058	0.0005	0.0054
223	0.0057	0.0004	0.0052
224	0.0056	0.0004	0.0051
225	0.0054	0.0004	0.0050
226	0.0053	0.0004	0.0049
227	0.0052	0.0004	0.0048
228	0.0051	0.0004	0.0047
229	0.0050	0.0004	0.0046
230	0.0049	0.0004	0.0045
231	0.0048	0.0004	0.0044
232	0.0047	0.0004	0.0043
233	0.0046	0.0004	0.0042
234	0.0045	0.0004	0.0042
235	0.0044	0.0003	0.0041
236	0.0044	0.0003	0.0040
237	0.0043	0.0003	0.0040
238	0.0042	0.0003	0.0039
239	0.0042	0.0003	0.0038
240	0.0041	0.0003	0.0038
241	0.0040	0.0003	0.0037
242	0.0040	0.0003	0.0037
243	0.0039	0.0003	0.0036
244	0.0038	0.0003	0.0035
245	0.0038	0.0003	0.0035
246	0.0037	0.0003	0.0034
247	0.0037	0.0003	0.0034
248	0.0036	0.0003	0.0034
249	0.0036	0.0003	0.0033
250	0.0035	0.0003	0.0033
251	0.0035	0.0003	0.0032
252	0.0035	0.0003	0.0032
253	0.0034	0.0003	0.0031
254	0.0034	0.0003	0.0031
255	0.0033	0.0003	0.0031
256	0.0033	0.0003	0.0030
257	0.0033	0.0003	0.0030
258	0.0032	0.0003	0.0030
259	0.0032	0.0002	0.0029
260	0.0031	0.0002	0.0029
261	0.0031	0.0002	0.0029
262	0.0031	0.0002	0.0028
263	0.0030	0.0002	0.0028
264	0.0030	0.0002	0.0028
265	0.0030	0.0002	0.0027
266	0.0030	0.0002	0.0027
267	0.0029	0.0002	0.0027
268	0.0029	0.0002	0.0027
269	0.0029	0.0002	0.0026
270	0.0028	0.0002	0.0026
271	0.0028	0.0002	0.0026
272	0.0028	0.0002	0.0026
273	0.0028	0.0002	0.0025
274	0.0027	0.0002	0.0025
275	0.0027	0.0002	0.0025
276	0.0027	0.0002	0.0025
277	0.0027	0.0002	0.0025
278	0.0026	0.0002	0.0024

279	0.0026	0.0002	0.0024
280	0.0026	0.0002	0.0024
281	0.0026	0.0002	0.0024
282	0.0026	0.0002	0.0024
283	0.0025	0.0002	0.0023
284	0.0025	0.0002	0.0023
285	0.0025	0.0002	0.0023
286	0.0025	0.0002	0.0023
287	0.0025	0.0002	0.0023
288	0.0024	0.0002	0.0022

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.55(In)
Peak flow rate in flood hydrograph = 15.91(CFS)

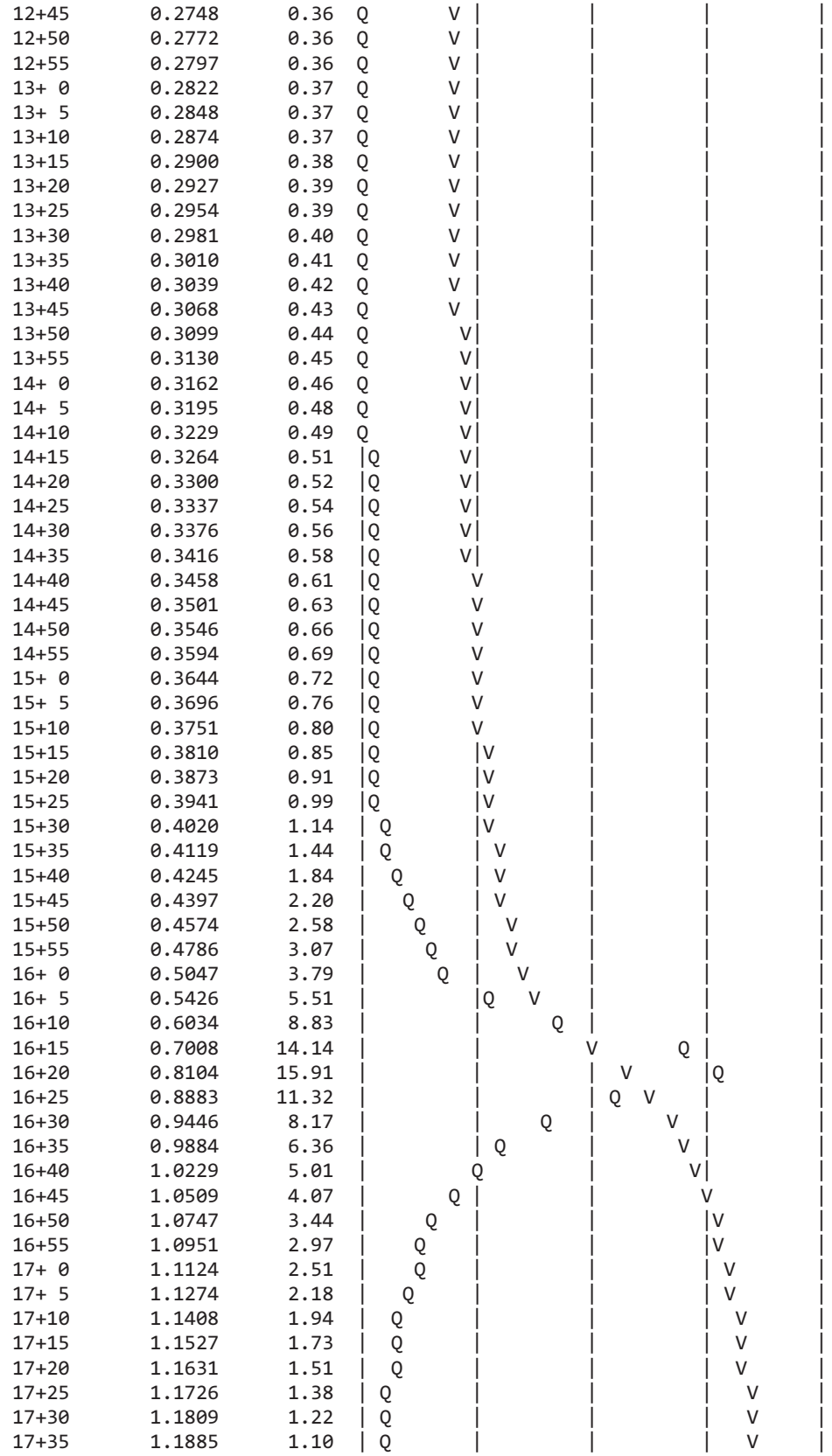
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0004	0.04	Q				
0+20	0.0010	0.08	Q				
0+25	0.0017	0.11	Q				
0+30	0.0025	0.12	Q				
0+35	0.0034	0.13	Q				
0+40	0.0044	0.14	Q				
0+45	0.0054	0.15	Q				
0+50	0.0065	0.15	Q				
0+55	0.0075	0.16	Q				
1+ 0	0.0086	0.16	Q				
1+ 5	0.0098	0.16	Q				
1+10	0.0109	0.17	Q				
1+15	0.0121	0.17	Q				
1+20	0.0133	0.17	Q				
1+25	0.0145	0.17	Q				
1+30	0.0157	0.18	Q				
1+35	0.0169	0.18	Q				
1+40	0.0182	0.18	Q				
1+45	0.0194	0.18	Q				
1+50	0.0207	0.18	Q				
1+55	0.0219	0.18	Q				
2+ 0	0.0232	0.19	Q				
2+ 5	0.0245	0.19	Q				
2+10	0.0258	0.19	Q				
2+15	0.0271	0.19	Q				
2+20	0.0284	0.19	Q				
2+25	0.0297	0.19	Q				
2+30	0.0310	0.19	Q				
2+35	0.0324	0.19	Q				
2+40	0.0337	0.19	Q				
2+45	0.0350	0.19	QV				
2+50	0.0364	0.20	QV				

2+55	0.0377	0.20	QV				
3+ 0	0.0391	0.20	QV				
3+ 5	0.0405	0.20	QV				
3+10	0.0418	0.20	QV				
3+15	0.0432	0.20	QV				
3+20	0.0446	0.20	QV				
3+25	0.0460	0.20	QV				
3+30	0.0474	0.20	QV				
3+35	0.0488	0.20	QV				
3+40	0.0502	0.20	QV				
3+45	0.0516	0.21	QV				
3+50	0.0531	0.21	QV				
3+55	0.0545	0.21	QV				
4+ 0	0.0559	0.21	QV				
4+ 5	0.0574	0.21	QV				
4+10	0.0588	0.21	QV				
4+15	0.0603	0.21	QV				
4+20	0.0618	0.21	QV				
4+25	0.0632	0.21	QV				
4+30	0.0647	0.22	QV				
4+35	0.0662	0.22	QV				
4+40	0.0677	0.22	QV				
4+45	0.0692	0.22	Q V				
4+50	0.0707	0.22	Q V				
4+55	0.0723	0.22	Q V				
5+ 0	0.0738	0.22	Q V				
5+ 5	0.0753	0.22	Q V				
5+10	0.0769	0.22	Q V				
5+15	0.0784	0.23	Q V				
5+20	0.0800	0.23	Q V				
5+25	0.0816	0.23	Q V				
5+30	0.0832	0.23	Q V				
5+35	0.0847	0.23	Q V				
5+40	0.0863	0.23	Q V				
5+45	0.0880	0.23	Q V				
5+50	0.0896	0.24	Q V				
5+55	0.0912	0.24	Q V				
6+ 0	0.0928	0.24	Q V				
6+ 5	0.0945	0.24	Q V				
6+10	0.0961	0.24	Q V				
6+15	0.0978	0.24	Q V				
6+20	0.0995	0.24	Q V				
6+25	0.1012	0.25	Q V				
6+30	0.1029	0.25	Q V				
6+35	0.1046	0.25	Q V				
6+40	0.1063	0.25	Q V				
6+45	0.1080	0.25	Q V				
6+50	0.1098	0.25	Q V				
6+55	0.1115	0.25	Q V				
7+ 0	0.1133	0.26	Q V				
7+ 5	0.1151	0.26	Q V				
7+10	0.1169	0.26	Q V				
7+15	0.1186	0.26	Q V				
7+20	0.1205	0.26	Q V				
7+25	0.1223	0.26	Q V				
7+30	0.1241	0.27	Q V				
7+35	0.1260	0.27	Q V				
7+40	0.1278	0.27	Q V				
7+45	0.1297	0.27	Q V				

7+50	0.1316	0.27	Q	V				
7+55	0.1335	0.28	Q	V				
8+ 0	0.1354	0.28	Q	V				
8+ 5	0.1373	0.28	Q	V				
8+10	0.1393	0.28	Q	V				
8+15	0.1412	0.28	Q	V				
8+20	0.1432	0.29	Q	V				
8+25	0.1452	0.29	Q	V				
8+30	0.1472	0.29	Q	V				
8+35	0.1492	0.29	Q	V				
8+40	0.1513	0.30	Q	V				
8+45	0.1533	0.30	Q	V				
8+50	0.1554	0.30	Q	V				
8+55	0.1575	0.30	Q	V				
9+ 0	0.1596	0.31	Q	V				
9+ 5	0.1617	0.31	Q	V				
9+10	0.1638	0.31	Q	V				
9+15	0.1660	0.31	Q	V				
9+20	0.1681	0.32	Q	V				
9+25	0.1703	0.32	Q	V				
9+30	0.1726	0.32	Q	V				
9+35	0.1748	0.32	Q	V				
9+40	0.1770	0.33	Q	V				
9+45	0.1793	0.33	Q	V				
9+50	0.1816	0.33	Q	V				
9+55	0.1839	0.34	Q	V				
10+ 0	0.1863	0.34	Q	V				
10+ 5	0.1886	0.34	Q	V				
10+10	0.1910	0.35	Q	V				
10+15	0.1934	0.35	Q	V				
10+20	0.1958	0.35	Q	V				
10+25	0.1983	0.36	Q	V				
10+30	0.2008	0.36	Q	V				
10+35	0.2033	0.36	Q	V				
10+40	0.2058	0.37	Q	V				
10+45	0.2084	0.37	Q	V				
10+50	0.2110	0.38	Q	V				
10+55	0.2136	0.38	Q	V				
11+ 0	0.2162	0.38	Q	V				
11+ 5	0.2189	0.39	Q	V				
11+10	0.2216	0.39	Q	V				
11+15	0.2243	0.40	Q	V				
11+20	0.2271	0.40	Q	V				
11+25	0.2299	0.41	Q	V				
11+30	0.2328	0.41	Q	V				
11+35	0.2356	0.42	Q	V				
11+40	0.2385	0.42	Q	V				
11+45	0.2415	0.43	Q	V				
11+50	0.2445	0.43	Q	V				
11+55	0.2475	0.44	Q	V				
12+ 0	0.2506	0.45	Q	V				
12+ 5	0.2537	0.45	Q	V				
12+10	0.2567	0.44	Q	V				
12+15	0.2596	0.42	Q	V				
12+20	0.2623	0.39	Q	V				
12+25	0.2649	0.37	Q	V				
12+30	0.2674	0.36	Q	V				
12+35	0.2698	0.36	Q	V				
12+40	0.2723	0.36	Q	V				


12+45 0.2748 0.36
12+50 0.2772 0.36
12+55 0.2797 0.36
13+ 0 0.2822 0.37
13+ 5 0.2848 0.37
13+10 0.2874 0.37
13+15 0.2900 0.38
13+20 0.2927 0.39
13+25 0.2954 0.39
13+30 0.2981 0.40
13+35 0.3010 0.41
13+40 0.3039 0.42
13+45 0.3068 0.43
13+50 0.3099 0.44
13+55 0.3130 0.45
14+ 0 0.3162 0.46
14+ 5 0.3195 0.48
14+10 0.3229 0.49
14+15 0.3264 0.51
14+20 0.3300 0.52
14+25 0.3337 0.54
14+30 0.3376 0.56
14+35 0.3416 0.58
14+40 0.3458 0.61
14+45 0.3501 0.63
14+50 0.3546 0.66
14+55 0.3594 0.69
15+ 0 0.3644 0.72
15+ 5 0.3696 0.76
15+10 0.3751 0.80
15+15 0.3810 0.85
15+20 0.3873 0.91
15+25 0.3941 0.99
15+30 0.4020 1.14
15+35 0.4119 1.44
15+40 0.4245 1.84
15+45 0.4397 2.20
15+50 0.4574 2.58
15+55 0.4786 3.07
16+ 0 0.5047 3.79
16+ 5 0.5426 5.51
16+10 0.6034 8.83
16+15 0.7008 14.14
16+20 0.8104 15.91
16+25 0.8883 11.32
16+30 0.9446 8.17
16+35 0.9884 6.36
16+40 1.0229 5.01
16+45 1.0509 4.07
16+50 1.0747 3.44
16+55 1.0951 2.97
17+ 0 1.1124 2.51
17+ 5 1.1274 2.18
17+10 1.1408 1.94
17+15 1.1527 1.73
17+20 1.1631 1.51
17+25 1.1726 1.38
17+30 1.1809 1.22
17+35 1.1885 1.10

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17+40       1.1951      0.96  |Q        |         |         |   V     |
17+45       1.2010      0.85  |Q        |         |         |    V    |
17+50       1.2062      0.75  |Q        |         |         |    V    |
17+55       1.2112      0.73  |Q        |         |         |    V    |
18+ 0       1.2160      0.70  |Q        |         |         |    V    |
18+ 5       1.2206      0.67  |Q        |         |         |    V    |
18+10       1.2250      0.63  |Q        |         |         |    V    |
18+15       1.2290      0.58  |Q        |         |         |    V    |
18+20       1.2329      0.57  |Q        |         |         |    V    |
18+25       1.2367      0.55  |Q        |         |         |     V   |
18+30       1.2399      0.46  Q        |         |         |     V   |
18+35       1.2430      0.45  Q        |         |         |     V   |
18+40       1.2460      0.44  Q        |         |         |     V   |
18+45       1.2490      0.43  Q        |         |         |     V   |
18+50       1.2519      0.42  Q        |         |         |     V   |
18+55       1.2547      0.41  Q        |         |         |     V   |
19+ 0       1.2575      0.40  Q        |         |         |     V   |
19+ 5       1.2602      0.40  Q        |         |         |     V   |
19+10       1.2629      0.39  Q        |         |         |     V   |
19+15       1.2655      0.38  Q        |         |         |     V   |
19+20       1.2681      0.37  Q        |         |         |     V   |
19+25       1.2706      0.37  Q        |         |         |      V  |
19+30       1.2731      0.36  Q        |         |         |      V  |
19+35       1.2756      0.35  Q        |         |         |      V  |
19+40       1.2779      0.35  Q        |         |         |      V  |
19+45       1.2803      0.34  Q        |         |         |      V  |
19+50       1.2826      0.34  Q        |         |         |      V  |
19+55       1.2849      0.33  Q        |         |         |      V  |
20+ 0       1.2871      0.32  Q        |         |         |      V  |
20+ 5       1.2893      0.32  Q        |         |         |      V  |
20+10       1.2915      0.31  Q        |         |         |      V  |
20+15       1.2936      0.31  Q        |         |         |      V  |
20+20       1.2957      0.30  Q        |         |         |      V  |
20+25       1.2977      0.30  Q        |         |         |      V  |
20+30       1.2998      0.29  Q        |         |         |      V  |
20+35       1.3018      0.29  Q        |         |         |      V  |
20+40       1.3037      0.29  Q        |         |         |       V |
20+45       1.3057      0.28  Q        |         |         |       V |
20+50       1.3076      0.28  Q        |         |         |       V |
20+55       1.3095      0.27  Q        |         |         |       V |
21+ 0       1.3113      0.27  Q        |         |         |       V |
21+ 5       1.3131      0.27  Q        |         |         |       V |
21+10       1.3149      0.26  Q        |         |         |       V |
21+15       1.3167      0.26  Q        |         |         |       V |
21+20       1.3185      0.26  Q        |         |         |       V |
21+25       1.3202      0.25  Q        |         |         |       V |
21+30       1.3219      0.25  Q        |         |         |       V |
21+35       1.3236      0.25  Q        |         |         |       V |
21+40       1.3253      0.24  Q        |         |         |       V |
21+45       1.3269      0.24  Q        |         |         |       V |
21+50       1.3286      0.24  Q        |         |         |       V |
21+55       1.3302      0.23  Q        |         |         |       V |
22+ 0       1.3318      0.23  Q        |         |         |       V |
22+ 5       1.3334      0.23  Q        |         |         |       V |
22+10       1.3349      0.23  Q        |         |         |       V |
22+15       1.3365      0.22  Q        |         |         |       V |
22+20       1.3380      0.22  Q        |         |         |       V |
22+25       1.3395      0.22  Q        |         |         |        V|
22+30       1.3410      0.22  Q        |         |         |        V|
```

22+35	1.3425	0.21	Q	|	|	|	V|
22+40	1.3439	0.21	Q	|	|	|	V|
22+45	1.3454	0.21	Q	|	|	|	V|
22+50	1.3468	0.21	Q	|	|	|	V|
22+55	1.3482	0.21	Q	|	|	|	V|
23+ 0	1.3496	0.20	Q	|	|	|	V|
23+ 5	1.3510	0.20	Q	|	|	|	V|
23+10	1.3524	0.20	Q	|	|	|	V|
23+15	1.3538	0.20	Q	|	|	|	V|
23+20	1.3551	0.20	Q	|	|	|	V|
23+25	1.3565	0.19	Q	|	|	|	V|
23+30	1.3578	0.19	Q	|	|	|	V|
23+35	1.3591	0.19	Q	|	|	|	V|
23+40	1.3604	0.19	Q	|	|	|	V|
23+45	1.3617	0.19	Q	|	|	|	V|
23+50	1.3630	0.19	Q	|	|	|	V|
23+55	1.3643	0.18	Q	|	|	|	V|
24+ 0	1.3655	0.18	Q	|	|	|	V|
24+ 5	1.3668	0.18	Q	|	|	|	V|
24+10	1.3679	0.17	Q	|	|	|	V|
24+15	1.3689	0.14	Q	|	|	|	V|
24+20	1.3695	0.10	Q	|	|	|	V|
24+25	1.3700	0.07	Q	|	|	|	V|
24+30	1.3704	0.06	Q	|	|	|	V|
24+35	1.3707	0.05	Q	|	|	|	V|
24+40	1.3710	0.04	Q	|	|	|	V|
24+45	1.3712	0.03	Q	|	|	|	V|
24+50	1.3714	0.03	Q	|	|	|	V|
24+55	1.3716	0.02	Q	|	|	|	V|
25+ 0	1.3717	0.02	Q	|	|	|	V|
25+ 5	1.3718	0.02	Q	|	|	|	V|
25+10	1.3719	0.01	Q	|	|	|	V|
25+15	1.3720	0.01	Q	|	|	|	V|
25+20	1.3720	0.01	Q	|	|	|	V|
25+25	1.3721	0.01	Q	|	|	|	V|
25+30	1.3721	0.01	Q	|	|	|	V|
25+35	1.3722	0.01	Q	|	|	|	V|
25+40	1.3722	0.00	Q	|	|	|	V|
25+45	1.3722	0.00	Q	|	|	|	V|
25+50	1.3723	0.00	Q	|	|	|	V|
25+55	1.3723	0.00	Q	|	|	|	V|
26+ 0	1.3723	0.00	Q	|	|	|	V|
26+ 5	1.3723	0.00	Q	|	|	|	V|
26+10	1.3723	0.00	Q	|	|	|	V|
26+15	1.3723	0.00	Q	|	|	|	V|
26+20	1.3723	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 45
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.49	1	1.39
Rainfall data for year 100		
3.49	6	1.87
Rainfall data for year 100		
3.49	24	2.68

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	3.49	1.000	0.036	0.900	0.032

Area-averaged adjusted loss rate Fm (In/Hr) = 0.032

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.14	0.900	91.0	98.2	0.18	0.922
0.35	0.100	98.0	98.0	0.20	0.914

Area-averaged catchment yield fraction, Y = 0.922
Area-averaged low loss fraction, Yb = 0.078
User entry of time of concentration = 0.250 (hours)
++
Watershed area = 3.49(Ac.)
Catchment Lag time = 0.200 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 41.6667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.032(In/Hr)
Average low loss rate fraction (Yb) = 0.078 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.667(In)
Specified peak 6-hour rainfall = 1.870(In)
Specified peak 24-hour rainfall = 2.680(In)

Rainfall depth area reduction factors:
Using a total area of 3.49(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.659(In)
30-minute factor = 1.000 Adjusted rainfall = 1.129(In)
1-hour factor = 1.000 Adjusted rainfall = 1.390(In)
3-hour factor = 1.000 Adjusted rainfall = 1.667(In)
6-hour factor = 1.000 Adjusted rainfall = 1.870(In)
24-hour factor = 1.000 Adjusted rainfall = 2.680(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 42.21 (CFS))	
1	2.935	1.239
2	20.613	7.462
3	51.467	13.022
4	67.222	6.650
5	76.108	3.751
6	81.970	2.474
7	86.247	1.805
8	89.430	1.344
9	91.773	0.989
10	93.683	0.806
11	95.168	0.627
12	96.358	0.502
13	97.275	0.387

14	97.918	0.272
15	98.357	0.185
16	98.850	0.208
17	99.345	0.209
18	99.682	0.142
19	100.000	0.134

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6595	0.6595
2	0.8119	0.1524
3	0.9169	0.1050
4	0.9996	0.0826
5	1.0688	0.0692
6	1.1288	0.0601
7	1.1823	0.0534
8	1.2306	0.0483
9	1.2749	0.0443
10	1.3158	0.0409
11	1.3540	0.0382
12	1.3898	0.0358
13	1.4083	0.0186
14	1.4257	0.0174
15	1.4421	0.0164
16	1.4576	0.0155
17	1.4723	0.0147
18	1.4863	0.0140
19	1.4997	0.0134
20	1.5125	0.0128
21	1.5248	0.0123
22	1.5366	0.0118
23	1.5480	0.0114
24	1.5589	0.0110
25	1.5695	0.0106
26	1.5797	0.0102
27	1.5896	0.0099
28	1.5992	0.0096
29	1.6086	0.0093
30	1.6176	0.0091
31	1.6264	0.0088
32	1.6350	0.0086
33	1.6434	0.0084
34	1.6515	0.0081
35	1.6595	0.0080
36	1.6672	0.0078
37	1.6748	0.0076
38	1.6822	0.0074
39	1.6895	0.0073
40	1.6966	0.0071
41	1.7035	0.0070
42	1.7103	0.0068
43	1.7170	0.0067
44	1.7236	0.0065
45	1.7300	0.0064
46	1.7363	0.0063
47	1.7425	0.0062
48	1.7486	0.0061
49	1.7545	0.0060
50	1.7604	0.0059

51	1.7662	0.0058
52	1.7719	0.0057
53	1.7775	0.0056
54	1.7830	0.0055
55	1.7884	0.0054
56	1.7938	0.0053
57	1.7990	0.0053
58	1.8042	0.0052
59	1.8093	0.0051
60	1.8144	0.0050
61	1.8193	0.0050
62	1.8243	0.0049
63	1.8291	0.0048
64	1.8339	0.0048
65	1.8386	0.0047
66	1.8432	0.0047
67	1.8478	0.0046
68	1.8524	0.0045
69	1.8568	0.0045
70	1.8613	0.0044
71	1.8657	0.0044
72	1.8700	0.0043
73	1.8767	0.0067
74	1.8833	0.0066
75	1.8899	0.0066
76	1.8964	0.0065
77	1.9029	0.0064
78	1.9092	0.0064
79	1.9156	0.0063
80	1.9218	0.0063
81	1.9280	0.0062
82	1.9342	0.0062
83	1.9403	0.0061
84	1.9463	0.0060
85	1.9523	0.0060
86	1.9583	0.0059
87	1.9641	0.0059
88	1.9700	0.0058
89	1.9758	0.0058
90	1.9815	0.0057
91	1.9872	0.0057
92	1.9928	0.0056
93	1.9984	0.0056
94	2.0040	0.0056
95	2.0095	0.0055
96	2.0150	0.0055
97	2.0204	0.0054
98	2.0258	0.0054
99	2.0311	0.0053
100	2.0364	0.0053
101	2.0417	0.0053
102	2.0469	0.0052
103	2.0521	0.0052
104	2.0573	0.0052
105	2.0624	0.0051
106	2.0675	0.0051
107	2.0725	0.0050
108	2.0775	0.0050
109	2.0825	0.0050

110	2.0875	0.0049
111	2.0924	0.0049
112	2.0973	0.0049
113	2.1021	0.0048
114	2.1069	0.0048
115	2.1117	0.0048
116	2.1164	0.0048
117	2.1212	0.0047
118	2.1259	0.0047
119	2.1305	0.0047
120	2.1352	0.0046
121	2.1398	0.0046
122	2.1443	0.0046
123	2.1489	0.0045
124	2.1534	0.0045
125	2.1579	0.0045
126	2.1624	0.0045
127	2.1668	0.0044
128	2.1712	0.0044
129	2.1756	0.0044
130	2.1800	0.0044
131	2.1843	0.0043
132	2.1886	0.0043
133	2.1929	0.0043
134	2.1972	0.0043
135	2.2014	0.0042
136	2.2057	0.0042
137	2.2099	0.0042
138	2.2140	0.0042
139	2.2182	0.0042
140	2.2223	0.0041
141	2.2264	0.0041
142	2.2305	0.0041
143	2.2346	0.0041
144	2.2386	0.0040
145	2.2427	0.0040
146	2.2467	0.0040
147	2.2507	0.0040
148	2.2546	0.0040
149	2.2586	0.0039
150	2.2625	0.0039
151	2.2664	0.0039
152	2.2703	0.0039
153	2.2742	0.0039
154	2.2780	0.0038
155	2.2818	0.0038
156	2.2856	0.0038
157	2.2894	0.0038
158	2.2932	0.0038
159	2.2970	0.0038
160	2.3007	0.0037
161	2.3044	0.0037
162	2.3082	0.0037
163	2.3118	0.0037
164	2.3155	0.0037
165	2.3192	0.0037
166	2.3228	0.0036
167	2.3264	0.0036
168	2.3300	0.0036

169	2.3336	0.0036
170	2.3372	0.0036
171	2.3408	0.0036
172	2.3443	0.0035
173	2.3479	0.0035
174	2.3514	0.0035
175	2.3549	0.0035
176	2.3584	0.0035
177	2.3618	0.0035
178	2.3653	0.0035
179	2.3687	0.0034
180	2.3722	0.0034
181	2.3756	0.0034
182	2.3790	0.0034
183	2.3824	0.0034
184	2.3857	0.0034
185	2.3891	0.0034
186	2.3924	0.0033
187	2.3958	0.0033
188	2.3991	0.0033
189	2.4024	0.0033
190	2.4057	0.0033
191	2.4090	0.0033
192	2.4122	0.0033
193	2.4155	0.0033
194	2.4187	0.0032
195	2.4220	0.0032
196	2.4252	0.0032
197	2.4284	0.0032
198	2.4316	0.0032
199	2.4348	0.0032
200	2.4379	0.0032
201	2.4411	0.0032
202	2.4442	0.0031
203	2.4474	0.0031
204	2.4505	0.0031
205	2.4536	0.0031
206	2.4567	0.0031
207	2.4598	0.0031
208	2.4629	0.0031
209	2.4660	0.0031
210	2.4690	0.0031
211	2.4721	0.0030
212	2.4751	0.0030
213	2.4781	0.0030
214	2.4811	0.0030
215	2.4841	0.0030
216	2.4871	0.0030
217	2.4901	0.0030
218	2.4931	0.0030
219	2.4961	0.0030
220	2.4990	0.0030
221	2.5019	0.0029
222	2.5049	0.0029
223	2.5078	0.0029
224	2.5107	0.0029
225	2.5136	0.0029
226	2.5165	0.0029
227	2.5194	0.0029

228	2.5223	0.0029
229	2.5252	0.0029
230	2.5280	0.0029
231	2.5309	0.0028
232	2.5337	0.0028
233	2.5365	0.0028
234	2.5394	0.0028
235	2.5422	0.0028
236	2.5450	0.0028
237	2.5478	0.0028
238	2.5505	0.0028
239	2.5533	0.0028
240	2.5561	0.0028
241	2.5589	0.0028
242	2.5616	0.0028
243	2.5644	0.0027
244	2.5671	0.0027
245	2.5698	0.0027
246	2.5725	0.0027
247	2.5752	0.0027
248	2.5779	0.0027
249	2.5806	0.0027
250	2.5833	0.0027
251	2.5860	0.0027
252	2.5887	0.0027
253	2.5913	0.0027
254	2.5940	0.0027
255	2.5966	0.0026
256	2.5993	0.0026
257	2.6019	0.0026
258	2.6045	0.0026
259	2.6072	0.0026
260	2.6098	0.0026
261	2.6124	0.0026
262	2.6150	0.0026
263	2.6176	0.0026
264	2.6201	0.0026
265	2.6227	0.0026
266	2.6253	0.0026
267	2.6278	0.0026
268	2.6304	0.0026
269	2.6329	0.0025
270	2.6355	0.0025
271	2.6380	0.0025
272	2.6405	0.0025
273	2.6430	0.0025
274	2.6455	0.0025
275	2.6480	0.0025
276	2.6505	0.0025
277	2.6530	0.0025
278	2.6555	0.0025
279	2.6580	0.0025
280	2.6605	0.0025
281	2.6629	0.0025
282	2.6654	0.0025
283	2.6678	0.0025
284	2.6703	0.0024
285	2.6727	0.0024
286	2.6751	0.0024

287	2.6776	0.0024	
288	2.6800	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0002	0.0022
2	0.0024	0.0002	0.0022
3	0.0024	0.0002	0.0022
4	0.0024	0.0002	0.0023
5	0.0025	0.0002	0.0023
6	0.0025	0.0002	0.0023
7	0.0025	0.0002	0.0023
8	0.0025	0.0002	0.0023
9	0.0025	0.0002	0.0023
10	0.0025	0.0002	0.0023
11	0.0025	0.0002	0.0023
12	0.0025	0.0002	0.0023
13	0.0025	0.0002	0.0023
14	0.0025	0.0002	0.0023
15	0.0026	0.0002	0.0024
16	0.0026	0.0002	0.0024
17	0.0026	0.0002	0.0024
18	0.0026	0.0002	0.0024
19	0.0026	0.0002	0.0024
20	0.0026	0.0002	0.0024
21	0.0026	0.0002	0.0024
22	0.0026	0.0002	0.0024
23	0.0026	0.0002	0.0024
24	0.0027	0.0002	0.0024
25	0.0027	0.0002	0.0025
26	0.0027	0.0002	0.0025
27	0.0027	0.0002	0.0025
28	0.0027	0.0002	0.0025
29	0.0027	0.0002	0.0025
30	0.0027	0.0002	0.0025
31	0.0027	0.0002	0.0025
32	0.0028	0.0002	0.0025
33	0.0028	0.0002	0.0026
34	0.0028	0.0002	0.0026
35	0.0028	0.0002	0.0026
36	0.0028	0.0002	0.0026
37	0.0028	0.0002	0.0026
38	0.0028	0.0002	0.0026
39	0.0028	0.0002	0.0026
40	0.0029	0.0002	0.0026
41	0.0029	0.0002	0.0027
42	0.0029	0.0002	0.0027
43	0.0029	0.0002	0.0027
44	0.0029	0.0002	0.0027
45	0.0029	0.0002	0.0027
46	0.0029	0.0002	0.0027
47	0.0030	0.0002	0.0027
48	0.0030	0.0002	0.0027
49	0.0030	0.0002	0.0028
50	0.0030	0.0002	0.0028
51	0.0030	0.0002	0.0028
52	0.0030	0.0002	0.0028

53	0.0031	0.0002	0.0028
54	0.0031	0.0002	0.0028
55	0.0031	0.0002	0.0028
56	0.0031	0.0002	0.0029
57	0.0031	0.0002	0.0029
58	0.0031	0.0002	0.0029
59	0.0032	0.0002	0.0029
60	0.0032	0.0002	0.0029
61	0.0032	0.0003	0.0029
62	0.0032	0.0003	0.0030
63	0.0032	0.0003	0.0030
64	0.0032	0.0003	0.0030
65	0.0033	0.0003	0.0030
66	0.0033	0.0003	0.0030
67	0.0033	0.0003	0.0030
68	0.0033	0.0003	0.0031
69	0.0033	0.0003	0.0031
70	0.0034	0.0003	0.0031
71	0.0034	0.0003	0.0031
72	0.0034	0.0003	0.0031
73	0.0034	0.0003	0.0032
74	0.0034	0.0003	0.0032
75	0.0035	0.0003	0.0032
76	0.0035	0.0003	0.0032
77	0.0035	0.0003	0.0032
78	0.0035	0.0003	0.0033
79	0.0036	0.0003	0.0033
80	0.0036	0.0003	0.0033
81	0.0036	0.0003	0.0033
82	0.0036	0.0003	0.0033
83	0.0037	0.0003	0.0034
84	0.0037	0.0003	0.0034
85	0.0037	0.0003	0.0034
86	0.0037	0.0003	0.0034
87	0.0038	0.0003	0.0035
88	0.0038	0.0003	0.0035
89	0.0038	0.0003	0.0035
90	0.0038	0.0003	0.0035
91	0.0039	0.0003	0.0036
92	0.0039	0.0003	0.0036
93	0.0039	0.0003	0.0036
94	0.0039	0.0003	0.0036
95	0.0040	0.0003	0.0037
96	0.0040	0.0003	0.0037
97	0.0040	0.0003	0.0037
98	0.0041	0.0003	0.0037
99	0.0041	0.0003	0.0038
100	0.0041	0.0003	0.0038
101	0.0042	0.0003	0.0038
102	0.0042	0.0003	0.0039
103	0.0042	0.0003	0.0039
104	0.0043	0.0003	0.0039
105	0.0043	0.0003	0.0040
106	0.0043	0.0003	0.0040
107	0.0044	0.0003	0.0040
108	0.0044	0.0003	0.0041
109	0.0045	0.0004	0.0041
110	0.0045	0.0004	0.0041
111	0.0045	0.0004	0.0042

112	0.0046	0.0004	0.0042
113	0.0046	0.0004	0.0043
114	0.0047	0.0004	0.0043
115	0.0047	0.0004	0.0044
116	0.0048	0.0004	0.0044
117	0.0048	0.0004	0.0044
118	0.0048	0.0004	0.0045
119	0.0049	0.0004	0.0045
120	0.0049	0.0004	0.0046
121	0.0050	0.0004	0.0046
122	0.0050	0.0004	0.0046
123	0.0051	0.0004	0.0047
124	0.0052	0.0004	0.0047
125	0.0052	0.0004	0.0048
126	0.0053	0.0004	0.0049
127	0.0053	0.0004	0.0049
128	0.0054	0.0004	0.0050
129	0.0055	0.0004	0.0050
130	0.0055	0.0004	0.0051
131	0.0056	0.0004	0.0052
132	0.0056	0.0004	0.0052
133	0.0057	0.0005	0.0053
134	0.0058	0.0005	0.0053
135	0.0059	0.0005	0.0054
136	0.0059	0.0005	0.0055
137	0.0060	0.0005	0.0056
138	0.0061	0.0005	0.0056
139	0.0062	0.0005	0.0057
140	0.0063	0.0005	0.0058
141	0.0064	0.0005	0.0059
142	0.0064	0.0005	0.0059
143	0.0066	0.0005	0.0061
144	0.0066	0.0005	0.0061
145	0.0043	0.0003	0.0040
146	0.0044	0.0003	0.0040
147	0.0045	0.0004	0.0041
148	0.0045	0.0004	0.0042
149	0.0047	0.0004	0.0043
150	0.0047	0.0004	0.0043
151	0.0048	0.0004	0.0045
152	0.0049	0.0004	0.0045
153	0.0050	0.0004	0.0046
154	0.0051	0.0004	0.0047
155	0.0053	0.0004	0.0049
156	0.0053	0.0004	0.0049
157	0.0055	0.0004	0.0051
158	0.0056	0.0004	0.0052
159	0.0058	0.0005	0.0053
160	0.0059	0.0005	0.0054
161	0.0061	0.0005	0.0056
162	0.0062	0.0005	0.0057
163	0.0064	0.0005	0.0059
164	0.0065	0.0005	0.0060
165	0.0068	0.0005	0.0063
166	0.0070	0.0005	0.0064
167	0.0073	0.0006	0.0067
168	0.0074	0.0006	0.0068
169	0.0078	0.0006	0.0072
170	0.0080	0.0006	0.0073

171	0.0084	0.0007	0.0077
172	0.0086	0.0007	0.0079
173	0.0091	0.0007	0.0083
174	0.0093	0.0007	0.0086
175	0.0099	0.0008	0.0091
176	0.0102	0.0008	0.0094
177	0.0110	0.0009	0.0101
178	0.0114	0.0009	0.0105
179	0.0123	0.0010	0.0113
180	0.0128	0.0010	0.0118
181	0.0140	0.0011	0.0129
182	0.0147	0.0012	0.0136
183	0.0164	0.0013	0.0151
184	0.0174	0.0014	0.0160
185	0.0358	0.0027	0.0331
186	0.0382	0.0027	0.0355
187	0.0443	0.0027	0.0416
188	0.0483	0.0027	0.0456
189	0.0601	0.0027	0.0574
190	0.0692	0.0027	0.0665
191	0.1050	0.0027	0.1023
192	0.1524	0.0027	0.1497
193	0.6595	0.0027	0.6568
194	0.0826	0.0027	0.0800
195	0.0534	0.0027	0.0507
196	0.0409	0.0027	0.0383
197	0.0186	0.0015	0.0171
198	0.0155	0.0012	0.0143
199	0.0134	0.0010	0.0123
200	0.0118	0.0009	0.0109
201	0.0106	0.0008	0.0097
202	0.0096	0.0008	0.0089
203	0.0088	0.0007	0.0081
204	0.0081	0.0006	0.0075
205	0.0076	0.0006	0.0070
206	0.0071	0.0006	0.0065
207	0.0067	0.0005	0.0062
208	0.0063	0.0005	0.0058
209	0.0060	0.0005	0.0055
210	0.0057	0.0004	0.0052
211	0.0054	0.0004	0.0050
212	0.0052	0.0004	0.0048
213	0.0050	0.0004	0.0046
214	0.0048	0.0004	0.0044
215	0.0046	0.0004	0.0042
216	0.0044	0.0003	0.0041
217	0.0067	0.0005	0.0062
218	0.0065	0.0005	0.0060
219	0.0063	0.0005	0.0058
220	0.0062	0.0005	0.0057
221	0.0060	0.0005	0.0055
222	0.0058	0.0005	0.0054
223	0.0057	0.0004	0.0052
224	0.0056	0.0004	0.0051
225	0.0054	0.0004	0.0050
226	0.0053	0.0004	0.0049
227	0.0052	0.0004	0.0048
228	0.0051	0.0004	0.0047
229	0.0050	0.0004	0.0046

230	0.0049	0.0004	0.0045
231	0.0048	0.0004	0.0044
232	0.0047	0.0004	0.0043
233	0.0046	0.0004	0.0042
234	0.0045	0.0004	0.0042
235	0.0044	0.0003	0.0041
236	0.0044	0.0003	0.0040
237	0.0043	0.0003	0.0040
238	0.0042	0.0003	0.0039
239	0.0042	0.0003	0.0038
240	0.0041	0.0003	0.0038
241	0.0040	0.0003	0.0037
242	0.0040	0.0003	0.0037
243	0.0039	0.0003	0.0036
244	0.0038	0.0003	0.0035
245	0.0038	0.0003	0.0035
246	0.0037	0.0003	0.0034
247	0.0037	0.0003	0.0034
248	0.0036	0.0003	0.0034
249	0.0036	0.0003	0.0033
250	0.0035	0.0003	0.0033
251	0.0035	0.0003	0.0032
252	0.0035	0.0003	0.0032
253	0.0034	0.0003	0.0031
254	0.0034	0.0003	0.0031
255	0.0033	0.0003	0.0031
256	0.0033	0.0003	0.0030
257	0.0033	0.0003	0.0030
258	0.0032	0.0003	0.0030
259	0.0032	0.0002	0.0029
260	0.0031	0.0002	0.0029
261	0.0031	0.0002	0.0029
262	0.0031	0.0002	0.0028
263	0.0030	0.0002	0.0028
264	0.0030	0.0002	0.0028
265	0.0030	0.0002	0.0027
266	0.0030	0.0002	0.0027
267	0.0029	0.0002	0.0027
268	0.0029	0.0002	0.0027
269	0.0029	0.0002	0.0026
270	0.0028	0.0002	0.0026
271	0.0028	0.0002	0.0026
272	0.0028	0.0002	0.0026
273	0.0028	0.0002	0.0025
274	0.0027	0.0002	0.0025
275	0.0027	0.0002	0.0025
276	0.0027	0.0002	0.0025
277	0.0027	0.0002	0.0025
278	0.0026	0.0002	0.0024
279	0.0026	0.0002	0.0024
280	0.0026	0.0002	0.0024
281	0.0026	0.0002	0.0024
282	0.0026	0.0002	0.0024
283	0.0025	0.0002	0.0023
284	0.0025	0.0002	0.0023
285	0.0025	0.0002	0.0023
286	0.0025	0.0002	0.0023
287	0.0025	0.0002	0.0023
288	0.0024	0.0002	0.0022

Total soil rain loss = 0.13(In)
Total effective rainfall = 2.55(In)
Peak flow rate in flood hydrograph = 11.04(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.00	Q				
0+10	0.0002	0.02	Q				
0+15	0.0005	0.05	Q				
0+20	0.0009	0.06	Q				
0+25	0.0014	0.07	Q				
0+30	0.0020	0.08	Q				
0+35	0.0025	0.08	Q				
0+40	0.0031	0.09	Q				
0+45	0.0037	0.09	Q				
0+50	0.0043	0.09	Q				
0+55	0.0050	0.09	Q				
1+ 0	0.0056	0.09	Q				
1+ 5	0.0063	0.09	Q				
1+10	0.0069	0.10	Q				
1+15	0.0076	0.10	Q				
1+20	0.0083	0.10	Q				
1+25	0.0089	0.10	Q				
1+30	0.0096	0.10	Q				
1+35	0.0103	0.10	Q				
1+40	0.0110	0.10	Q				
1+45	0.0117	0.10	Q				
1+50	0.0124	0.10	Q				
1+55	0.0131	0.10	Q				
2+ 0	0.0138	0.10	Q				
2+ 5	0.0145	0.10	Q				
2+10	0.0152	0.10	Q				
2+15	0.0159	0.10	Q				
2+20	0.0166	0.10	Q				
2+25	0.0173	0.10	Q				
2+30	0.0181	0.10	Q				
2+35	0.0188	0.10	QV				
2+40	0.0195	0.11	QV				
2+45	0.0202	0.11	QV				
2+50	0.0210	0.11	QV				
2+55	0.0217	0.11	QV				
3+ 0	0.0224	0.11	QV				
3+ 5	0.0232	0.11	QV				
3+10	0.0239	0.11	QV				
3+15	0.0247	0.11	QV				
3+20	0.0254	0.11	QV				
3+25	0.0262	0.11	QV				
3+30	0.0269	0.11	QV				
3+35	0.0277	0.11	QV				
3+40	0.0285	0.11	QV				

3+45	0.0293	0.11	QV				
3+50	0.0300	0.11	QV				
3+55	0.0308	0.11	QV				
4+ 0	0.0316	0.11	QV				
4+ 5	0.0324	0.11	QV				
4+10	0.0332	0.11	QV				
4+15	0.0340	0.12	QV				
4+20	0.0348	0.12	QV				
4+25	0.0356	0.12	QV				
4+30	0.0364	0.12	QV				
4+35	0.0372	0.12	Q V				
4+40	0.0380	0.12	Q V				
4+45	0.0388	0.12	Q V				
4+50	0.0396	0.12	Q V				
4+55	0.0405	0.12	Q V				
5+ 0	0.0413	0.12	Q V				
5+ 5	0.0422	0.12	Q V				
5+10	0.0430	0.12	Q V				
5+15	0.0438	0.12	Q V				
5+20	0.0447	0.12	Q V				
5+25	0.0456	0.12	Q V				
5+30	0.0464	0.13	Q V				
5+35	0.0473	0.13	Q V				
5+40	0.0482	0.13	Q V				
5+45	0.0490	0.13	Q V				
5+50	0.0499	0.13	Q V				
5+55	0.0508	0.13	Q V				
6+ 0	0.0517	0.13	Q V				
6+ 5	0.0526	0.13	Q V				
6+10	0.0535	0.13	Q V				
6+15	0.0544	0.13	Q V				
6+20	0.0553	0.13	Q V				
6+25	0.0562	0.13	Q V				
6+30	0.0572	0.13	Q V				
6+35	0.0581	0.14	Q V				
6+40	0.0590	0.14	Q V				
6+45	0.0600	0.14	Q V				
6+50	0.0609	0.14	Q V				
6+55	0.0619	0.14	Q V				
7+ 0	0.0628	0.14	Q V				
7+ 5	0.0638	0.14	Q V				
7+10	0.0648	0.14	Q V				
7+15	0.0658	0.14	Q V				
7+20	0.0668	0.14	Q V				
7+25	0.0678	0.14	Q V				
7+30	0.0688	0.15	Q V				
7+35	0.0698	0.15	Q V				
7+40	0.0708	0.15	Q V				
7+45	0.0718	0.15	Q V				
7+50	0.0728	0.15	Q V				
7+55	0.0739	0.15	Q V				
8+ 0	0.0749	0.15	Q V				
8+ 5	0.0760	0.15	Q V				
8+10	0.0770	0.15	Q V				
8+15	0.0781	0.16	Q V				
8+20	0.0792	0.16	Q V				
8+25	0.0803	0.16	Q V				
8+30	0.0814	0.16	Q V				
8+35	0.0825	0.16	Q V				

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 8+40       0.0836      0.16  Q   V     |          |          |          |
 8+45       0.0847      0.16  Q   V     |          |          |          |
 8+50       0.0858      0.16  Q   V     |          |          |          |
 8+55       0.0870      0.17  Q   V     |          |          |          |
 9+ 0       0.0881      0.17  Q   V     |          |          |          |
 9+ 5       0.0893      0.17  Q   V     |          |          |          |
 9+10       0.0905      0.17  Q   V     |          |          |          |
 9+15       0.0916      0.17  Q   V     |          |          |          |
 9+20       0.0928      0.17  Q    V    |          |          |          |
 9+25       0.0940      0.17  Q    V    |          |          |          |
 9+30       0.0952      0.18  Q    V    |          |          |          |
 9+35       0.0965      0.18  Q    V    |          |          |          |
 9+40       0.0977      0.18  Q    V    |          |          |          |
 9+45       0.0990      0.18  Q    V    |          |          |          |
 9+50       0.1002      0.18  Q    V    |          |          |          |
 9+55       0.1015      0.18  Q    V    |          |          |          |
10+ 0       0.1028      0.19  Q    V    |          |          |          |
10+ 5       0.1041      0.19  Q    V    |          |          |          |
10+10       0.1054      0.19  Q    V    |          |          |          |
10+15       0.1067      0.19  Q    V    |          |          |          |
10+20       0.1080      0.19  Q    V    |          |          |          |
10+25       0.1094      0.20  Q    V    |          |          |          |
10+30       0.1107      0.20  Q    V    |          |          |          |
10+35       0.1121      0.20  Q     V   |          |          |          |
10+40       0.1135      0.20  Q     V   |          |          |          |
10+45       0.1149      0.20  Q     V   |          |          |          |
10+50       0.1163      0.21  Q     V   |          |          |          |
10+55       0.1178      0.21  Q     V   |          |          |          |
11+ 0       0.1192      0.21  Q     V   |          |          |          |
11+ 5       0.1207      0.21  Q     V   |          |          |          |
11+10       0.1222      0.22  Q     V   |          |          |          |
11+15       0.1237      0.22  Q     V   |          |          |          |
11+20       0.1252      0.22  Q     V   |          |          |          |
11+25       0.1268      0.22  Q     V   |          |          |          |
11+30       0.1283      0.23  Q     V   |          |          |          |
11+35       0.1299      0.23  Q      V  |          |          |          |
11+40       0.1315      0.23  Q      V  |          |          |          |
11+45       0.1331      0.24  Q      V  |          |          |          |
11+50       0.1348      0.24  Q      V  |          |          |          |
11+55       0.1365      0.24  Q      V  |          |          |          |
12+ 0       0.1382      0.25  Q      V  |          |          |          |
12+ 5       0.1399      0.25  Q      V  |          |          |          |
12+10       0.1415      0.23  Q      V  |          |          |          |
12+15       0.1429      0.21  Q      V  |          |          |          |
12+20       0.1443      0.20  Q      V  |          |          |          |
12+25       0.1456      0.19  Q      V  |          |          |          |
12+30       0.1469      0.19  Q      V  |          |          |          |
12+35       0.1482      0.19  Q       V |          |          |          |
12+40       0.1495      0.19  Q       V |          |          |          |
12+45       0.1508      0.19  Q       V |          |          |          |
12+50       0.1521      0.19  Q       V |          |          |          |
12+55       0.1534      0.19  Q       V |          |          |          |
13+ 0       0.1548      0.20  Q       V |          |          |          |
13+ 5       0.1562      0.20  Q       V |          |          |          |
13+10       0.1576      0.20  Q       V |          |          |          |
13+15       0.1590      0.21  Q       V |          |          |          |
13+20       0.1605      0.21  Q       V |          |          |          |
13+25       0.1620      0.22  Q       V |          |          |          |
13+30       0.1635      0.22  Q       V |          |          |          |
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13+35       0.1651      0.23  Q       V |          |          |          |
13+40       0.1667      0.23  Q        V|          |          |          |
13+45       0.1684      0.24  Q        V|          |          |          |
13+50       0.1701      0.25  Q        V|          |          |          |
13+55       0.1718      0.25  Q        V|          |          |          |
14+ 0       0.1736      0.26  Q        V|          |          |          |
14+ 5       0.1755      0.27  Q        V|          |          |          |
14+10       0.1774      0.28  Q        V|          |          |          |
14+15       0.1793      0.29  Q        V|          |          |          |
14+20       0.1814      0.30  Q        V|          |          |          |
14+25       0.1835      0.31  Q        V|          |          |          |
14+30       0.1857      0.32  Q         V          |          |          |
14+35       0.1880      0.33  Q         V          |          |          |
14+40       0.1904      0.35  Q         V          |          |          |
14+45       0.1929      0.36  Q         V          |          |          |
14+50       0.1955      0.38  Q         V          |          |          |
14+55       0.1983      0.40  Q         V          |          |          |
15+ 0       0.2011      0.42  Q         V          |          |          |
15+ 5       0.2042      0.44  Q         |V         |          |          |
15+10       0.2074      0.47  Q         |V         |          |          |
15+15       0.2109      0.50  |Q        |V         |          |          |
15+20       0.2146      0.54  |Q        |V         |          |          |
15+25       0.2187      0.60  |Q        |V         |          |          |
15+30       0.2240      0.76  |Q        | V        |          |          |
15+35       0.2310      1.03  | Q       | V        |          |          |
15+40       0.2395      1.23  | Q       | V        |          |          |
15+45       0.2495      1.45  | Q       |  V       |          |          |
15+50       0.2612      1.70  |  Q      |   V      |          |          |
15+55       0.2753      2.05  |   Q     |   V      |          |          |
16+ 0       0.2935      2.64  |    Q    |    V     |          |          |
16+ 5       0.3227      4.24  |       Q |      V   |          |          |
16+10       0.3796      8.26  |         |     Q   V          |          |
16+15       0.4556     11.04  |         |         | Q V      |          |
16+20       0.5037      6.99  |         |  Q      |      V   |          |
16+25       0.5366      4.77  |        Q|         |       V  |          |
16+30       0.5607      3.51  |      Q  |         |         V          |
16+35       0.5789      2.63  |    Q    |         |         |V         |
16+40       0.5930      2.05  |   Q     |         |         | V        |
16+45       0.6042      1.64  |  Q      |         |         | V        |
16+50       0.6137      1.37  | Q       |         |         |  V       |
16+55       0.6215      1.14  | Q       |         |         |  V       |
17+ 0       0.6281      0.96  |Q        |         |         |  V       |
17+ 5       0.6336      0.81  |Q        |         |         |   V      |
17+10       0.6383      0.67  |Q        |         |         |   V      |
17+15       0.6422      0.57  |Q        |         |         |   V      |
17+20       0.6459      0.54  |Q        |         |         |   V      |
17+25       0.6493      0.49  Q         |         |         |    V     |
17+30       0.6521      0.42  Q         |         |         |    V     |
17+35       0.6547      0.37  Q         |         |         |    V     |
17+40       0.6566      0.27  Q         |         |         |    V     |
17+45       0.6583      0.25  Q         |         |         |    V     |
17+50       0.6598      0.23  Q         |         |         |    V     |
17+55       0.6613      0.22  Q         |         |         |    V     |
18+ 0       0.6627      0.20  Q         |         |         |    V     |
18+ 5       0.6641      0.20  Q         |         |         |    V     |
18+10       0.6655      0.21  Q         |         |         |    V     |
18+15       0.6671      0.23  Q         |         |         |     V    |
18+20       0.6687      0.23  Q         |         |         |     V    |
18+25       0.6703      0.24  Q         |         |         |     V    |
```

18+30	0.6720	0.23	Q	|	|	|	V |
18+35	0.6735	0.23	Q	|	|	|	V |
18+40	0.6751	0.23	Q	|	|	|	V |
18+45	0.6767	0.22	Q	|	|	|	V |
18+50	0.6782	0.22	Q	|	|	|	V |
18+55	0.6797	0.22	Q	|	|	|	V |
19+ 0	0.6811	0.21	Q	|	|	|	V |
19+ 5	0.6825	0.21	Q	|	|	|	V |
19+10	0.6839	0.20	Q	|	|	|	V |
19+15	0.6853	0.20	Q	|	|	|	V |
19+20	0.6867	0.20	Q	|	|	|	V |
19+25	0.6880	0.19	Q	|	|	|	V |
19+30	0.6893	0.19	Q	|	|	|	V |
19+35	0.6906	0.19	Q	|	|	|	V |
19+40	0.6918	0.18	Q	|	|	|	V |
19+45	0.6931	0.18	Q	|	|	|	V |
19+50	0.6943	0.18	Q	|	|	|	V |
19+55	0.6954	0.17	Q	|	|	|	V |
20+ 0	0.6966	0.17	Q	|	|	|	V |
20+ 5	0.6978	0.17	Q	|	|	|	V |
20+10	0.6989	0.16	Q	|	|	|	V |
20+15	0.7000	0.16	Q	|	|	|	V |
20+20	0.7011	0.16	Q	|	|	|	V |
20+25	0.7022	0.16	Q	|	|	|	V |
20+30	0.7032	0.15	Q	|	|	|	V |
20+35	0.7043	0.15	Q	|	|	|	V |
20+40	0.7053	0.15	Q	|	|	|	V |
20+45	0.7063	0.15	Q	|	|	|	V |
20+50	0.7073	0.14	Q	|	|	|	V |
20+55	0.7083	0.14	Q	|	|	|	V |
21+ 0	0.7093	0.14	Q	|	|	|	V |
21+ 5	0.7102	0.14	Q	|	|	|	V |
21+10	0.7112	0.14	Q	|	|	|	V |
21+15	0.7121	0.14	Q	|	|	|	V |
21+20	0.7130	0.13	Q	|	|	|	V |
21+25	0.7139	0.13	Q	|	|	|	V |
21+30	0.7148	0.13	Q	|	|	|	V |
21+35	0.7157	0.13	Q	|	|	|	V |
21+40	0.7166	0.13	Q	|	|	|	V |
21+45	0.7175	0.13	Q	|	|	|	V |
21+50	0.7183	0.12	Q	|	|	|	V |
21+55	0.7192	0.12	Q	|	|	|	V |
22+ 0	0.7200	0.12	Q	|	|	|	V |
22+ 5	0.7208	0.12	Q	|	|	|	V |
22+10	0.7217	0.12	Q	|	|	|	V |
22+15	0.7225	0.12	Q	|	|	|	V|
22+20	0.7233	0.12	Q	|	|	|	V|
22+25	0.7241	0.12	Q	|	|	|	V|
22+30	0.7249	0.11	Q	|	|	|	V|
22+35	0.7257	0.11	Q	|	|	|	V|
22+40	0.7264	0.11	Q	|	|	|	V|
22+45	0.7272	0.11	Q	|	|	|	V|
22+50	0.7280	0.11	Q	|	|	|	V|
22+55	0.7287	0.11	Q	|	|	|	V|
23+ 0	0.7294	0.11	Q	|	|	|	V|
23+ 5	0.7302	0.11	Q	|	|	|	V|
23+10	0.7309	0.11	Q	|	|	|	V|
23+15	0.7316	0.11	Q	|	|	|	V|
23+20	0.7324	0.10	Q	|	|	|	V|

23+25	0.7331	0.10	Q	|	|	|	V|
23+30	0.7338	0.10	Q	|	|	|	V|
23+35	0.7345	0.10	Q	|	|	|	V|
23+40	0.7352	0.10	Q	|	|	|	V|
23+45	0.7359	0.10	Q	|	|	|	V|
23+50	0.7365	0.10	Q	|	|	|	V|
23+55	0.7372	0.10	Q	|	|	|	V|
24+ 0	0.7379	0.10	Q	|	|	|	V|
24+ 5	0.7385	0.09	Q	|	|	|	V|
24+10	0.7391	0.08	Q	|	|	|	V|
24+15	0.7394	0.05	Q	|	|	|	V|
24+20	0.7396	0.03	Q	|	|	|	V|
24+25	0.7398	0.02	Q	|	|	|	V|
24+30	0.7399	0.02	Q	|	|	|	V|
24+35	0.7400	0.01	Q	|	|	|	V|
24+40	0.7400	0.01	Q	|	|	|	V|
24+45	0.7401	0.01	Q	|	|	|	V|
24+50	0.7401	0.01	Q	|	|	|	V|
24+55	0.7402	0.00	Q	|	|	|	V|
25+ 0	0.7402	0.00	Q	|	|	|	V|
25+ 5	0.7402	0.00	Q	|	|	|	V|
25+10	0.7402	0.00	Q	|	|	|	V|
25+15	0.7402	0.00	Q	|	|	|	V|
25+20	0.7402	0.00	Q	|	|	|	V|
25+25	0.7402	0.00	Q	|	|	|	V|
25+30	0.7402	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 46
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3782.66	1	1.29
Rainfall data for year 100		
3782.66	6	2.16
Rainfall data for year 100		
3782.66	24	3.27

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
87.0	97.4	3782.66	1.000	0.051	0.981	0.050

Area-averaged adjusted loss rate Fm (In/Hr) = 0.050

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3710.03	0.981	87.0	97.4	0.27	0.909
72.63	0.019	98.0	98.0	0.20	0.929

Area-averaged catchment yield fraction, Y = 0.909
Area-averaged low loss fraction, Yb = 0.091
++
Watercourse length = 35115.00(Ft.)
Length from concentration point to centroid = 20362.00(Ft.)
Elevation difference along watercourse = 2044.90(Ft.)
Mannings friction factor along watercourse = 0.030
Watershed area = 3782.66(Ac.)
Catchment Lag time = 0.832 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 10.0169
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.050(In/Hr)
Average low loss rate fraction (Yb) = 0.091 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.170
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.830

Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.770(In)
Specified peak 6-hour rainfall = 2.160(In)
Specified peak 24-hour rainfall = 3.270(In)

Rainfall depth area reduction factors:
Using a total area of 3782.66(Ac.) (Ref: fig. E-4)

5-minute factor = 0.831 Adjusted rainfall = 0.509(In)
30-minute factor = 0.831 Adjusted rainfall = 0.871(In)
1-hour factor = 0.831 Adjusted rainfall = 1.072(In)
3-hour factor = 0.978 Adjusted rainfall = 1.730(In)
6-hour factor = 0.989 Adjusted rainfall = 2.135(In)
24-hour factor = 0.995 Adjusted rainfall = 3.254(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 45746.54 (CFS))	
1	0.474	216.686
2	1.623	525.660
3	3.400	813.175
4	5.787	1091.995
5	8.853	1402.404

6	13.492	2122.091
7	20.491	3201.751
8	29.652	4190.896
9	38.141	3883.423
10	46.231	3700.946
11	52.842	3024.301
12	57.803	2269.453
13	61.701	1783.477
14	64.962	1491.412
15	67.802	1299.220
16	70.337	1159.998
17	72.634	1050.683
18	74.667	929.813
19	76.472	826.111
20	78.199	790.060
21	79.714	692.687
22	81.056	614.223
23	82.364	598.309
24	83.492	515.984
25	84.594	504.189
26	85.620	469.420
27	86.582	439.909
28	87.520	428.964
29	88.338	374.133
30	89.139	366.478
31	89.834	317.956
32	90.442	278.059
33	91.040	273.799
34	91.593	253.124
35	92.141	250.318
36	92.643	229.951
37	93.110	213.723
38	93.569	209.826
39	93.988	191.503
40	94.401	189.046
41	94.752	160.618
42	95.055	138.663
43	95.358	138.663
44	95.661	138.663
45	95.964	138.571
46	96.227	120.334
47	96.461	106.678
48	96.694	106.678
49	96.927	106.678
50	97.160	106.559
51	97.350	87.195
52	97.510	73.135
53	97.670	73.135
54	97.830	73.135
55	97.990	73.011
56	98.112	56.145
57	98.209	44.266
58	98.306	44.266
59	98.403	44.266
60	98.499	44.289
61	98.602	46.943
62	98.709	48.757
63	98.815	48.757
64	98.922	48.757

65	99.028	48.747
66	99.133	47.816
67	99.236	47.199
68	99.339	47.199
69	99.442	47.199
70	99.547	47.641
71	99.617	32.275
72	99.669	23.771
73	99.721	23.771
74	99.773	23.771
75	99.825	23.771
76	99.877	23.771
77	99.929	23.771
78	100.000	11.886

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5086	0.5086
2	0.6262	0.1176
3	0.7071	0.0810
4	0.7709	0.0637
5	0.8243	0.0534
6	0.8706	0.0463
7	0.9118	0.0412
8	0.9491	0.0373
9	0.9832	0.0341
10	1.0148	0.0316
11	1.0442	0.0294
12	1.0718	0.0276
13	1.1099	0.0381
14	1.1463	0.0364
15	1.1814	0.0350
16	1.2151	0.0337
17	1.2476	0.0325
18	1.2791	0.0315
19	1.3096	0.0305
20	1.3392	0.0296
21	1.3680	0.0288
22	1.3960	0.0280
23	1.4234	0.0273
24	1.4500	0.0267
25	1.4761	0.0260
26	1.5015	0.0255
27	1.5264	0.0249
28	1.5508	0.0244
29	1.5747	0.0239
30	1.5982	0.0234
31	1.6212	0.0230
32	1.6438	0.0226
33	1.6660	0.0222
34	1.6878	0.0218
35	1.7093	0.0215
36	1.7304	0.0211
37	1.7448	0.0144
38	1.7590	0.0142
39	1.7729	0.0139
40	1.7866	0.0137
41	1.8000	0.0134
42	1.8132	0.0132

43	1.8262	0.0130
44	1.8390	0.0128
45	1.8516	0.0126
46	1.8640	0.0124
47	1.8762	0.0122
48	1.8882	0.0120
49	1.9000	0.0118
50	1.9117	0.0117
51	1.9232	0.0115
52	1.9346	0.0114
53	1.9458	0.0112
54	1.9568	0.0111
55	1.9678	0.0109
56	1.9785	0.0108
57	1.9892	0.0106
58	1.9997	0.0105
59	2.0101	0.0104
60	2.0204	0.0103
61	2.0305	0.0102
62	2.0406	0.0100
63	2.0505	0.0099
64	2.0603	0.0098
65	2.0700	0.0097
66	2.0796	0.0096
67	2.0891	0.0095
68	2.0986	0.0094
69	2.1079	0.0093
70	2.1171	0.0092
71	2.1262	0.0091
72	2.1353	0.0090
73	2.1442	0.0090
74	2.1531	0.0089
75	2.1619	0.0088
76	2.1706	0.0087
77	2.1793	0.0086
78	2.1878	0.0086
79	2.1963	0.0085
80	2.2047	0.0084
81	2.2131	0.0083
82	2.2213	0.0083
83	2.2295	0.0082
84	2.2377	0.0081
85	2.2457	0.0081
86	2.2537	0.0080
87	2.2616	0.0079
88	2.2695	0.0079
89	2.2773	0.0078
90	2.2851	0.0077
91	2.2928	0.0077
92	2.3004	0.0076
93	2.3080	0.0076
94	2.3155	0.0075
95	2.3229	0.0075
96	2.3303	0.0074
97	2.3377	0.0074
98	2.3450	0.0073
99	2.3522	0.0072
100	2.3594	0.0072
101	2.3666	0.0071

102	2.3737	0.0071
103	2.3807	0.0070
104	2.3877	0.0070
105	2.3947	0.0070
106	2.4016	0.0069
107	2.4084	0.0069
108	2.4152	0.0068
109	2.4220	0.0068
110	2.4288	0.0067
111	2.4354	0.0067
112	2.4421	0.0066
113	2.4487	0.0066
114	2.4553	0.0066
115	2.4618	0.0065
116	2.4683	0.0065
117	2.4747	0.0064
118	2.4811	0.0064
119	2.4875	0.0064
120	2.4938	0.0063
121	2.5001	0.0063
122	2.5064	0.0063
123	2.5126	0.0062
124	2.5188	0.0062
125	2.5250	0.0062
126	2.5311	0.0061
127	2.5372	0.0061
128	2.5432	0.0061
129	2.5492	0.0060
130	2.5552	0.0060
131	2.5612	0.0060
132	2.5671	0.0059
133	2.5730	0.0059
134	2.5789	0.0059
135	2.5847	0.0058
136	2.5905	0.0058
137	2.5963	0.0058
138	2.6020	0.0057
139	2.6077	0.0057
140	2.6134	0.0057
141	2.6191	0.0057
142	2.6247	0.0056
143	2.6303	0.0056
144	2.6359	0.0056
145	2.6415	0.0055
146	2.6470	0.0055
147	2.6525	0.0055
148	2.6579	0.0055
149	2.6634	0.0054
150	2.6688	0.0054
151	2.6742	0.0054
152	2.6796	0.0054
153	2.6849	0.0053
154	2.6902	0.0053
155	2.6955	0.0053
156	2.7008	0.0053
157	2.7061	0.0052
158	2.7113	0.0052
159	2.7165	0.0052
160	2.7217	0.0052

161	2.7268	0.0052
162	2.7320	0.0051
163	2.7371	0.0051
164	2.7422	0.0051
165	2.7472	0.0051
166	2.7523	0.0050
167	2.7573	0.0050
168	2.7623	0.0050
169	2.7673	0.0050
170	2.7723	0.0050
171	2.7772	0.0049
172	2.7821	0.0049
173	2.7871	0.0049
174	2.7919	0.0049
175	2.7968	0.0049
176	2.8016	0.0048
177	2.8065	0.0048
178	2.8113	0.0048
179	2.8161	0.0048
180	2.8208	0.0048
181	2.8256	0.0048
182	2.8303	0.0047
183	2.8351	0.0047
184	2.8398	0.0047
185	2.8444	0.0047
186	2.8491	0.0047
187	2.8537	0.0046
188	2.8584	0.0046
189	2.8630	0.0046
190	2.8676	0.0046
191	2.8722	0.0046
192	2.8767	0.0046
193	2.8813	0.0045
194	2.8858	0.0045
195	2.8903	0.0045
196	2.8948	0.0045
197	2.8993	0.0045
198	2.9037	0.0045
199	2.9082	0.0044
200	2.9126	0.0044
201	2.9170	0.0044
202	2.9214	0.0044
203	2.9258	0.0044
204	2.9302	0.0044
205	2.9346	0.0044
206	2.9389	0.0043
207	2.9432	0.0043
208	2.9476	0.0043
209	2.9519	0.0043
210	2.9561	0.0043
211	2.9604	0.0043
212	2.9647	0.0043
213	2.9689	0.0042
214	2.9731	0.0042
215	2.9773	0.0042
216	2.9816	0.0042
217	2.9857	0.0042
218	2.9899	0.0042
219	2.9941	0.0042

220	2.9982	0.0041
221	3.0024	0.0041
222	3.0065	0.0041
223	3.0106	0.0041
224	3.0147	0.0041
225	3.0188	0.0041
226	3.0228	0.0041
227	3.0269	0.0041
228	3.0309	0.0040
229	3.0350	0.0040
230	3.0390	0.0040
231	3.0430	0.0040
232	3.0470	0.0040
233	3.0510	0.0040
234	3.0550	0.0040
235	3.0589	0.0040
236	3.0629	0.0039
237	3.0668	0.0039
238	3.0707	0.0039
239	3.0747	0.0039
240	3.0786	0.0039
241	3.0825	0.0039
242	3.0863	0.0039
243	3.0902	0.0039
244	3.0941	0.0039
245	3.0979	0.0038
246	3.1017	0.0038
247	3.1056	0.0038
248	3.1094	0.0038
249	3.1132	0.0038
250	3.1170	0.0038
251	3.1208	0.0038
252	3.1245	0.0038
253	3.1283	0.0038
254	3.1321	0.0038
255	3.1358	0.0037
256	3.1395	0.0037
257	3.1433	0.0037
258	3.1470	0.0037
259	3.1507	0.0037
260	3.1544	0.0037
261	3.1580	0.0037
262	3.1617	0.0037
263	3.1654	0.0037
264	3.1690	0.0037
265	3.1727	0.0036
266	3.1763	0.0036
267	3.1799	0.0036
268	3.1835	0.0036
269	3.1872	0.0036
270	3.1907	0.0036
271	3.1943	0.0036
272	3.1979	0.0036
273	3.2015	0.0036
274	3.2050	0.0036
275	3.2086	0.0036
276	3.2121	0.0035
277	3.2157	0.0035
278	3.2192	0.0035

279	3.2227	0.0035
280	3.2262	0.0035
281	3.2297	0.0035
282	3.2332	0.0035
283	3.2367	0.0035
284	3.2401	0.0035
285	3.2436	0.0035
286	3.2471	0.0035
287	3.2505	0.0034
288	3.2539	0.0034

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0034	0.0003	0.0031
2	0.0034	0.0003	0.0031
3	0.0035	0.0003	0.0031
4	0.0035	0.0003	0.0032
5	0.0035	0.0003	0.0032
6	0.0035	0.0003	0.0032
7	0.0035	0.0003	0.0032
8	0.0035	0.0003	0.0032
9	0.0035	0.0003	0.0032
10	0.0036	0.0003	0.0032
11	0.0036	0.0003	0.0032
12	0.0036	0.0003	0.0033
13	0.0036	0.0003	0.0033
14	0.0036	0.0003	0.0033
15	0.0036	0.0003	0.0033
16	0.0036	0.0003	0.0033
17	0.0037	0.0003	0.0033
18	0.0037	0.0003	0.0033
19	0.0037	0.0003	0.0033
20	0.0037	0.0003	0.0034
21	0.0037	0.0003	0.0034
22	0.0037	0.0003	0.0034
23	0.0037	0.0003	0.0034
24	0.0038	0.0003	0.0034
25	0.0038	0.0003	0.0034
26	0.0038	0.0003	0.0034
27	0.0038	0.0003	0.0035
28	0.0038	0.0003	0.0035
29	0.0038	0.0003	0.0035
30	0.0038	0.0004	0.0035
31	0.0039	0.0004	0.0035
32	0.0039	0.0004	0.0035
33	0.0039	0.0004	0.0035
34	0.0039	0.0004	0.0036
35	0.0039	0.0004	0.0036
36	0.0039	0.0004	0.0036
37	0.0040	0.0004	0.0036
38	0.0040	0.0004	0.0036
39	0.0040	0.0004	0.0036
40	0.0040	0.0004	0.0037
41	0.0040	0.0004	0.0037
42	0.0041	0.0004	0.0037
43	0.0041	0.0004	0.0037
44	0.0041	0.0004	0.0037

45	0.0041	0.0004	0.0037
46	0.0041	0.0004	0.0038
47	0.0042	0.0004	0.0038
48	0.0042	0.0004	0.0038
49	0.0042	0.0004	0.0038
50	0.0042	0.0004	0.0038
51	0.0042	0.0004	0.0039
52	0.0043	0.0004	0.0039
53	0.0043	0.0004	0.0039
54	0.0043	0.0004	0.0039
55	0.0043	0.0004	0.0039
56	0.0043	0.0004	0.0039
57	0.0044	0.0004	0.0040
58	0.0044	0.0004	0.0040
59	0.0044	0.0004	0.0040
60	0.0044	0.0004	0.0040
61	0.0045	0.0004	0.0041
62	0.0045	0.0004	0.0041
63	0.0045	0.0004	0.0041
64	0.0045	0.0004	0.0041
65	0.0046	0.0004	0.0041
66	0.0046	0.0004	0.0042
67	0.0046	0.0004	0.0042
68	0.0046	0.0004	0.0042
69	0.0047	0.0004	0.0042
70	0.0047	0.0004	0.0043
71	0.0047	0.0004	0.0043
72	0.0047	0.0004	0.0043
73	0.0048	0.0004	0.0043
74	0.0048	0.0004	0.0044
75	0.0048	0.0004	0.0044
76	0.0048	0.0004	0.0044
77	0.0049	0.0004	0.0044
78	0.0049	0.0004	0.0045
79	0.0049	0.0004	0.0045
80	0.0050	0.0005	0.0045
81	0.0050	0.0005	0.0046
82	0.0050	0.0005	0.0046
83	0.0051	0.0005	0.0046
84	0.0051	0.0005	0.0046
85	0.0051	0.0005	0.0047
86	0.0052	0.0005	0.0047
87	0.0052	0.0005	0.0047
88	0.0052	0.0005	0.0048
89	0.0053	0.0005	0.0048
90	0.0053	0.0005	0.0048
91	0.0053	0.0005	0.0049
92	0.0054	0.0005	0.0049
93	0.0054	0.0005	0.0049
94	0.0054	0.0005	0.0049
95	0.0055	0.0005	0.0050
96	0.0055	0.0005	0.0050
97	0.0056	0.0005	0.0051
98	0.0056	0.0005	0.0051
99	0.0057	0.0005	0.0051
100	0.0057	0.0005	0.0052
101	0.0057	0.0005	0.0052
102	0.0058	0.0005	0.0052
103	0.0058	0.0005	0.0053

104	0.0059	0.0005	0.0053
105	0.0059	0.0005	0.0054
106	0.0060	0.0005	0.0054
107	0.0060	0.0005	0.0055
108	0.0061	0.0006	0.0055
109	0.0061	0.0006	0.0056
110	0.0062	0.0006	0.0056
111	0.0062	0.0006	0.0057
112	0.0063	0.0006	0.0057
113	0.0063	0.0006	0.0058
114	0.0064	0.0006	0.0058
115	0.0064	0.0006	0.0059
116	0.0065	0.0006	0.0059
117	0.0066	0.0006	0.0060
118	0.0066	0.0006	0.0060
119	0.0067	0.0006	0.0061
120	0.0067	0.0006	0.0061
121	0.0068	0.0006	0.0062
122	0.0069	0.0006	0.0062
123	0.0070	0.0006	0.0063
124	0.0070	0.0006	0.0064
125	0.0071	0.0006	0.0065
126	0.0071	0.0007	0.0065
127	0.0072	0.0007	0.0066
128	0.0073	0.0007	0.0066
129	0.0074	0.0007	0.0067
130	0.0075	0.0007	0.0068
131	0.0076	0.0007	0.0069
132	0.0076	0.0007	0.0069
133	0.0077	0.0007	0.0070
134	0.0078	0.0007	0.0071
135	0.0079	0.0007	0.0072
136	0.0080	0.0007	0.0073
137	0.0081	0.0007	0.0074
138	0.0082	0.0007	0.0075
139	0.0083	0.0008	0.0076
140	0.0084	0.0008	0.0076
141	0.0086	0.0008	0.0078
142	0.0086	0.0008	0.0079
143	0.0088	0.0008	0.0080
144	0.0089	0.0008	0.0081
145	0.0090	0.0008	0.0082
146	0.0091	0.0008	0.0083
147	0.0093	0.0008	0.0085
148	0.0094	0.0009	0.0086
149	0.0096	0.0009	0.0087
150	0.0097	0.0009	0.0088
151	0.0099	0.0009	0.0090
152	0.0100	0.0009	0.0091
153	0.0103	0.0009	0.0093
154	0.0104	0.0009	0.0094
155	0.0106	0.0010	0.0097
156	0.0108	0.0010	0.0098
157	0.0111	0.0010	0.0101
158	0.0112	0.0010	0.0102
159	0.0115	0.0010	0.0105
160	0.0117	0.0011	0.0106
161	0.0120	0.0011	0.0109
162	0.0122	0.0011	0.0111

163	0.0126	0.0011	0.0114
164	0.0128	0.0012	0.0116
165	0.0132	0.0012	0.0120
166	0.0134	0.0012	0.0122
167	0.0139	0.0013	0.0126
168	0.0142	0.0013	0.0129
169	0.0211	0.0019	0.0192
170	0.0215	0.0020	0.0195
171	0.0222	0.0020	0.0202
172	0.0226	0.0021	0.0205
173	0.0234	0.0021	0.0213
174	0.0239	0.0022	0.0217
175	0.0249	0.0023	0.0226
176	0.0255	0.0023	0.0231
177	0.0267	0.0024	0.0242
178	0.0273	0.0025	0.0248
179	0.0288	0.0026	0.0262
180	0.0296	0.0027	0.0269
181	0.0315	0.0029	0.0286
182	0.0325	0.0030	0.0296
183	0.0350	0.0032	0.0318
184	0.0364	0.0033	0.0331
185	0.0276	0.0025	0.0251
186	0.0294	0.0027	0.0268
187	0.0341	0.0031	0.0310
188	0.0373	0.0034	0.0339
189	0.0463	0.0042	0.0421
190	0.0534	0.0042	0.0492
191	0.0810	0.0042	0.0768
192	0.1176	0.0042	0.1134
193	0.5086	0.0042	0.5044
194	0.0637	0.0042	0.0595
195	0.0412	0.0037	0.0375
196	0.0316	0.0029	0.0287
197	0.0381	0.0035	0.0346
198	0.0337	0.0031	0.0306
199	0.0305	0.0028	0.0277
200	0.0280	0.0026	0.0255
201	0.0260	0.0024	0.0237
202	0.0244	0.0022	0.0222
203	0.0230	0.0021	0.0209
204	0.0218	0.0020	0.0198
205	0.0144	0.0013	0.0131
206	0.0137	0.0012	0.0124
207	0.0130	0.0012	0.0118
208	0.0124	0.0011	0.0113
209	0.0118	0.0011	0.0108
210	0.0114	0.0010	0.0103
211	0.0109	0.0010	0.0099
212	0.0105	0.0010	0.0096
213	0.0102	0.0009	0.0092
214	0.0098	0.0009	0.0089
215	0.0095	0.0009	0.0086
216	0.0092	0.0008	0.0084
217	0.0090	0.0008	0.0082
218	0.0087	0.0008	0.0079
219	0.0085	0.0008	0.0077
220	0.0083	0.0008	0.0075
221	0.0081	0.0007	0.0073

222	0.0079	0.0007	0.0072
223	0.0077	0.0007	0.0070
224	0.0075	0.0007	0.0068
225	0.0074	0.0007	0.0067
226	0.0072	0.0007	0.0065
227	0.0070	0.0006	0.0064
228	0.0069	0.0006	0.0063
229	0.0068	0.0006	0.0062
230	0.0066	0.0006	0.0060
231	0.0065	0.0006	0.0059
232	0.0064	0.0006	0.0058
233	0.0063	0.0006	0.0057
234	0.0062	0.0006	0.0056
235	0.0061	0.0006	0.0055
236	0.0060	0.0005	0.0054
237	0.0059	0.0005	0.0054
238	0.0058	0.0005	0.0053
239	0.0057	0.0005	0.0052
240	0.0056	0.0005	0.0051
241	0.0055	0.0005	0.0050
242	0.0055	0.0005	0.0050
243	0.0054	0.0005	0.0049
244	0.0053	0.0005	0.0048
245	0.0052	0.0005	0.0048
246	0.0052	0.0005	0.0047
247	0.0051	0.0005	0.0046
248	0.0050	0.0005	0.0046
249	0.0050	0.0005	0.0045
250	0.0049	0.0004	0.0045
251	0.0049	0.0004	0.0044
252	0.0048	0.0004	0.0044
253	0.0048	0.0004	0.0043
254	0.0047	0.0004	0.0043
255	0.0046	0.0004	0.0042
256	0.0046	0.0004	0.0042
257	0.0045	0.0004	0.0041
258	0.0045	0.0004	0.0041
259	0.0044	0.0004	0.0040
260	0.0044	0.0004	0.0040
261	0.0044	0.0004	0.0040
262	0.0043	0.0004	0.0039
263	0.0043	0.0004	0.0039
264	0.0042	0.0004	0.0038
265	0.0042	0.0004	0.0038
266	0.0041	0.0004	0.0038
267	0.0041	0.0004	0.0037
268	0.0041	0.0004	0.0037
269	0.0040	0.0004	0.0037
270	0.0040	0.0004	0.0036
271	0.0040	0.0004	0.0036
272	0.0039	0.0004	0.0036
273	0.0039	0.0004	0.0035
274	0.0039	0.0004	0.0035
275	0.0038	0.0003	0.0035
276	0.0038	0.0003	0.0034
277	0.0038	0.0003	0.0034
278	0.0037	0.0003	0.0034
279	0.0037	0.0003	0.0034
280	0.0037	0.0003	0.0033

281	0.0036	0.0003	0.0033
282	0.0036	0.0003	0.0033
283	0.0036	0.0003	0.0033
284	0.0036	0.0003	0.0032
285	0.0035	0.0003	0.0032
286	0.0035	0.0003	0.0032
287	0.0035	0.0003	0.0032
288	0.0035	0.0003	0.0031

Total soil rain loss = 0.24(In)
Total effective rainfall = 3.01(In)
Peak flow rate in flood hydrograph = 3931.61(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1000.0	2000.0	3000.0	4000.0
0+ 5	0.0047	0.68	Q				
0+10	0.0207	2.32	Q				
0+15	0.0542	4.87	Q				
0+20	0.1113	8.30	Q				
0+25	0.1989	12.71	Q				
0+30	0.3324	19.38	Q				
0+35	0.5352	29.45	Q				
0+40	0.8290	42.65	Q				
0+45	1.2073	54.94	Q				
0+50	1.6667	66.70	Q				
0+55	2.1927	76.39	Q				
1+ 0	2.7696	83.76	Q				
1+ 5	3.3869	89.64	Q				
1+10	4.0386	94.63	Q				
1+15	4.7208	99.04	Q				
1+20	5.4304	103.04	VQ				
1+25	6.1653	106.71	VQ				
1+30	6.9230	110.02	VQ				
1+35	7.7013	113.02	VQ				
1+40	8.4997	115.92	VQ				
1+45	9.3160	118.52	VQ				
1+50	10.1486	120.90	VQ				
1+55	10.9974	123.24	VQ				
2+ 0	11.8605	125.33	VQ				
2+ 5	12.7379	127.40	VQ				
2+10	13.6289	129.37	VQ				
2+15	14.5328	131.25	VQ				
2+20	15.4495	133.11	VQ				
2+25	16.3780	134.81	VQ				
2+30	17.3180	136.50	VQ				
2+35	18.2687	138.04	VQ				
2+40	19.2292	139.47	VQ				
2+45	20.1996	140.89	VQ				
2+50	21.1793	142.26	VQ				
2+55	22.1685	143.62	VQ				
3+ 0	23.1667	144.94	VQ				

3+ 5	24.1736	146.21	Q			
3+10	25.1893	147.48	Q			
3+15	26.2134	148.69	Q			
3+20	27.2458	149.92	Q			
3+25	28.2861	151.05	Q			
3+30	29.3339	152.13	Q			
3+35	30.3891	153.22	Q			
3+40	31.4519	154.32	Q			
3+45	32.5223	155.42	Q			
3+50	33.6000	156.48	Q			
3+55	34.6847	157.50	Q			
4+ 0	35.7765	158.53	Q			
4+ 5	36.8755	159.57	Q			
4+10	37.9817	160.62	Q			
4+15	39.0947	161.61	Q			
4+20	40.2144	162.58	Q			
4+25	41.3408	163.55	Q			
4+30	42.4739	164.53	Q			
4+35	43.6138	165.52	Q			
4+40	44.7603	166.47	Q			
4+45	45.9131	167.38	Q			
4+50	47.0722	168.31	Q			
4+55	48.2379	169.25	QV			
5+ 0	49.4100	170.20	QV			
5+ 5	50.5888	171.16	QV			
5+10	51.7744	172.15	QV			
5+15	52.9668	173.14	QV			
5+20	54.1662	174.14	QV			
5+25	55.3724	175.15	QV			
5+30	56.5858	176.18	QV			
5+35	57.8062	177.21	QV			
5+40	59.0339	178.25	QV			
5+45	60.2687	179.30	QV			
5+50	61.5110	180.37	QV			
5+55	62.7603	181.40	QV			
6+ 0	64.0167	182.42	QV			
6+ 5	65.2801	183.45	QV			
6+10	66.5508	184.50	QV			
6+15	67.8287	185.55	QV			
6+20	69.1140	186.62	QV			
6+25	70.4067	187.70	QV			
6+30	71.7067	188.76	Q V			
6+35	73.0138	189.80	Q V			
6+40	74.3282	190.85	Q V			
6+45	75.6499	191.91	Q V			
6+50	76.9790	192.99	Q V			
6+55	78.3157	194.08	Q V			
7+ 0	79.6600	195.19	Q V			
7+ 5	81.0120	196.31	Q V			
7+10	82.3719	197.46	Q V			
7+15	83.7398	198.61	Q V			
7+20	85.1157	199.79	Q V			
7+25	86.4999	200.98	QV			
7+30	87.8924	202.19	QV			
7+35	89.2933	203.41	QV			
7+40	90.7028	204.66	QV			
7+45	92.1210	205.92	QV			
7+50	93.5480	207.21	QV			
7+55	94.9840	208.51	Q V			

```
 8+ 0      96.4292    209.83  | Q V     |         |         |         |
 8+ 5      97.8835    211.17  | Q V     |         |         |         |
 8+10      99.3473    212.54  | Q V     |         |         |         |
 8+15     100.8207    213.93  | Q V     |         |         |         |
 8+20     102.3037    215.34  | Q V     |         |         |         |
 8+25     103.7966    216.77  | Q V     |         |         |         |
 8+30     105.2996    218.23  | Q V     |         |         |         |
 8+35     106.8127    219.71  | Q V     |         |         |         |
 8+40     108.3362    221.22  | Q V     |         |         |         |
 8+45     109.8703    222.74  | Q V     |         |         |         |
 8+50     111.4151    224.31  | Q V     |         |         |         |
 8+55     112.9708    225.89  | Q V     |         |         |         |
 9+ 0     114.5376    227.50  | Q V     |         |         |         |
 9+ 5     116.1157    229.14  | Q V     |         |         |         |
 9+10     117.7053    230.81  | Q V     |         |         |         |
 9+15     119.3066    232.51  | Q  V    |         |         |         |
 9+20     120.9199    234.25  | Q  V    |         |         |         |
 9+25     122.5453    236.01  | Q  V    |         |         |         |
 9+30     124.1831    237.81  | Q  V    |         |         |         |
 9+35     125.8334    239.63  | Q  V    |         |         |         |
 9+40     127.4967    241.51  | Q  V    |         |         |         |
 9+45     129.1730    243.40  | Q  V    |         |         |         |
 9+50     130.8628    245.35  | Q  V    |         |         |         |
 9+55     132.5661    247.32  | Q  V    |         |         |         |
10+ 0     134.2833    249.34  | Q  V    |         |         |         |
10+ 5     136.0147    251.40  | Q  V    |         |         |         |
10+10     137.7606    253.51  | Q  V    |         |         |         |
10+15     139.5213    255.64  | Q  V    |         |         |         |
10+20     141.2970    257.84  | Q  V    |         |         |         |
10+25     143.0882    260.07  | Q   V   |         |         |         |
10+30     144.8951    262.37  | Q   V   |         |         |         |
10+35     146.7181    264.70  | Q   V   |         |         |         |
10+40     148.5575    267.09  | Q   V   |         |         |         |
10+45     150.4138    269.53  | Q   V   |         |         |         |
10+50     152.2873    272.03  | Q   V   |         |         |         |
10+55     154.1783    274.58  | Q   V   |         |         |         |
11+ 0     156.0874    277.21  | Q   V   |         |         |         |
11+ 5     158.0150    279.88  | Q   V   |         |         |         |
11+10     159.9614    282.63  | Q   V   |         |         |         |
11+15     161.9272    285.43  | Q   V   |         |         |         |
11+20     163.9129    288.32  | Q   V   |         |         |         |
11+25     165.9189    291.27  | Q   V   |         |         |         |
11+30     167.9458    294.31  | Q    V  |         |         |         |
11+35     169.9941    297.41  | Q    V  |         |         |         |
11+40     172.0644    300.61  |  Q   V  |         |         |         |
11+45     174.1572    303.88  |  Q   V  |         |         |         |
11+50     176.2733    307.26  |  Q   V  |         |         |         |
11+55     178.4132    310.71  |  Q   V  |         |         |         |
12+ 0     180.5777    314.29  |  Q   V  |         |         |         |
12+ 5     182.7674    317.94  |  Q   V  |         |         |         |
12+10     184.9830    321.71  |  Q   V  |         |         |         |
12+15     187.2253    325.57  |  Q   V  |         |         |         |
12+20     189.4951    329.58  |  Q   V  |         |         |         |
12+25     191.7931    333.67  |  Q    V |         |         |         |
12+30     194.1203    337.91  |  Q    V |         |         |         |
12+35     196.4774    342.24  |  Q    V |         |         |         |
12+40     198.8654    346.74  |  Q    V |         |         |         |
12+45     201.2852    351.36  |  Q    V |         |         |         |
12+50     203.7381    356.17  |  Q    V |         |         |         |
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12+55	206.2253	361.14	Q V				
13+ 0	208.7482	366.33	Q V				
13+ 5	211.3080	371.68	Q V				
13+10	213.9064	377.28	Q V				
13+15	216.5446	383.07	Q V				
13+20	219.2244	389.12	Q V				
13+25	221.9474	395.38	Q V				
13+30	224.7157	401.95	Q V				
13+35	227.5308	408.75	Q V				
13+40	230.3951	415.90	Q V				
13+45	233.3106	423.33	Q V				
13+50	236.2801	431.16	Q V				
13+55	239.3056	439.31	Q V				
14+ 0	242.3905	447.92	Q V				
14+ 5	245.5460	458.18	Q V				
14+10	248.7882	470.77	Q V				
14+15	252.1321	485.54	Q V				
14+20	255.5936	502.60	Q V				
14+25	259.1893	522.10	Q V				
14+30	262.9540	546.64	Q V				
14+35	266.9366	578.27	Q V				
14+40	271.1845	616.79	Q V				
14+45	275.6931	654.65	Q V				
14+50	280.4651	692.89	Q V				
14+55	285.4826	728.54	Q V				
15+ 0	290.7271	761.50	Q V				
15+ 5	296.1902	793.25	Q V				
15+10	301.8746	825.37	Q V				
15+15	307.7866	858.42	Q V				
15+20	313.9393	893.37	Q V				
15+25	320.3310	928.08	Q V				
15+30	326.9585	962.32	Q V				
15+35	333.8227	996.68	Q V				
15+40	340.9370	1033.00	Q V				
15+45	348.3173	1071.61	Q V				
15+50	355.9679	1110.87	Q V				
15+55	363.9043	1152.36	Q V				
16+ 0	372.2220	1207.73	Q V				
16+ 5	381.7116	1377.89	Q V				
16+10	392.7477	1602.45	Q				
16+15	405.3717	1833.00	VQ				
16+20	419.7230	2083.81	V Q				
16+25	436.1275	2381.92	V Q				
16+30	455.9192	2873.76	V Q				
16+35	479.8474	3474.37	V Q				
16+40	506.9246	3931.61	V Q				
16+45	532.8240	3760.59	V Q				
16+50	557.4225	3571.70	V Q				
16+55	579.1352	3152.67	V Q				
17+ 0	597.8236	2713.55	V Q				
17+ 5	614.3840	2404.58	QV				
17+10	629.5164	2197.23	Q V				
17+15	643.5693	2040.48	Q V				
17+20	656.7181	1909.20	Q V				
17+25	669.0554	1791.38	Q V				
17+30	680.5544	1669.65	Q V				
17+35	691.2644	1555.09	Q V				
17+40	701.3576	1465.55	Q V				
17+45	710.7043	1357.14	Q V				

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17+50     719.3967   1262.13  |          | Q        |          V          |
17+55     727.6610   1199.97  |          |Q         |          V          |
18+ 0     735.3732   1119.81  |          |Q         |          |V         |
18+ 5     742.7676   1073.68  |          Q          |          |V         |
18+10     749.8062   1021.99  |          Q          |          |V         |
18+15     756.5217    975.09  |         Q|          |          |V         |
18+20     762.9718    936.56  |         Q|          |          | V        |
18+25     769.0484    882.33  |        Q |          |          | V        |
18+30     774.8912    848.37  |        Q |          |          | V        |
18+35     780.3995    799.81  |       Q  |          |          | V        |
18+40     785.6185    757.81  |       Q  |          |          |  V       |
18+45     790.6667    733.00  |       Q  |          |          |  V       |
18+50     795.5140    703.82  |       Q  |          |          |  V       |
18+55     800.2119    682.14  |      Q   |          |          |  V       |
19+ 0     804.7174    654.20  |      Q   |          |          |  V       |
19+ 5     809.0498    629.06  |      Q   |          |          |   V      |
19+10     813.2497    609.83  |      Q   |          |          |   V      |
19+15     817.2824    585.54  |     Q    |          |          |   V      |
19+20     821.1898    567.37  |     Q    |          |          |   V      |
19+25     824.9048    539.41  |     Q    |          |          |   V      |
19+30     828.4587    516.02  |     Q    |          |          |   V      |
19+35     831.9267    503.56  |     Q    |          |          |    V     |
19+40     835.3149    491.96  |    Q     |          |          |    V     |
19+45     838.6179    479.60  |    Q     |          |          |    V     |
19+50     841.7855    459.94  |    Q     |          |          |    V     |
19+55     844.8379    443.21  |    Q     |          |          |    V     |
20+ 0     847.8221    433.30  |    Q     |          |          |    V     |
20+ 5     850.7401    423.70  |    Q     |          |          |    V     |
20+10     853.5858    413.20  |    Q     |          |          |    V     |
20+15     856.3057    394.92  |  Q       |          |          |     V    |
20+20     858.9224    379.94  |  Q       |          |          |     V    |
20+25     861.4832    371.83  |  Q       |          |          |     V    |
20+30     863.9896    363.94  |  Q       |          |          |     V    |
20+35     866.4359    355.19  |  Q       |          |          |     V    |
20+40     868.7751    339.66  |  Q       |          |          |     V    |
20+45     871.0291    327.27  |  Q       |          |          |     V    |
20+50     873.2392    320.91  |  Q       |          |          |     V    |
20+55     875.4106    315.29  |  Q       |          |          |     V    |
21+ 0     877.5454    309.98  |  Q       |          |          |      V   |
21+ 5     879.6520    305.87  |  Q       |          |          |      V   |
21+10     881.7283    301.48  |  Q       |          |          |      V   |
21+15     883.7711    296.62  | Q        |          |          |      V   |
21+20     885.7819    291.97  | Q        |          |          |      V   |
21+25     887.7607    287.32  | Q        |          |          |      V   |
21+30     889.7051    282.33  | Q        |          |          |      V   |
21+35     891.6159    277.45  | Q        |          |          |      V   |
21+40     893.4953    272.88  | Q        |          |          |      V   |
21+45     895.3410    267.99  | Q        |          |          |      V   |
21+50     897.1499    262.66  | Q        |          |          |      V   |
21+55     898.8783    250.97  | Q        |          |          |      V   |
22+ 0     900.5505    242.80  | Q        |          |          |      V   |
22+ 5     902.1947    238.73  | Q        |          |          |       V  |
22+10     903.8126    234.92  | Q        |          |          |       V  |
22+15     905.4035    230.99  | Q        |          |          |       V  |
22+20     906.9649    226.72  | Q        |          |          |       V  |
22+25     908.4927    221.84  | Q        |          |          |       V  |
22+30     909.9527    211.99  | Q        |          |          |       V  |
22+35     911.3501    202.90  | Q        |          |          |       V  |
22+40     912.7236    199.44  |Q         |          |          |       V  |
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22+45	914.0765	196.44	|Q	|	|	|	V |
22+50	915.4095	193.55	|Q	|	|	|	V |
22+55	916.7235	190.79	|Q	|	|	|	V |
23+ 0	918.0198	188.23	|Q	|	|	|	V |
23+ 5	919.2993	185.78	|Q	|	|	|	V |
23+10	920.5627	183.45	|Q	|	|	|	V |
23+15	921.8106	181.20	|Q	|	|	|	V |
23+20	923.0436	179.03	|Q	|	|	|	V |
23+25	924.2622	176.94	|Q	|	|	|	V |
23+30	925.4674	174.99	|Q	|	|	|	V|
23+35	926.6599	173.16	|Q	|	|	|	V|
23+40	927.8403	171.39	|Q	|	|	|	V|
23+45	929.0089	169.68	|Q	|	|	|	V|
23+50	930.1660	168.01	|Q	|	|	|	V|
23+55	931.3119	166.38	|Q	|	|	|	V|
24+ 0	932.4469	164.80	|Q	|	|	|	V|
24+ 5	933.5666	162.59	|Q	|	|	|	V|
24+10	934.6648	159.46	|Q	|	|	|	V|
24+15	935.7356	155.47	|Q	|	|	|	V|
24+20	936.7733	150.68	|Q	|	|	|	V|
24+25	937.7717	144.97	|Q	|	|	|	V|
24+30	938.7158	137.08	|Q	|	|	|	V|
24+35	939.5829	125.90	|Q	|	|	|	V|
24+40	940.3525	111.74	|Q	|	|	|	V|
24+45	941.0319	98.66	Q	|	|	|	V|
24+50	941.6260	86.25	Q	|	|	|	V|
24+55	942.1498	76.06	Q	|	|	|	V|
25+ 0	942.6202	68.30	Q	|	|	|	V|
25+ 5	943.0481	62.13	Q	|	|	|	V|
25+10	943.4400	56.92	Q	|	|	|	V|
25+15	943.8006	52.35	Q	|	|	|	V|
25+20	944.1330	48.26	Q	|	|	|	V|
25+25	944.4399	44.55	Q	|	|	|	V|
25+30	944.7240	41.25	Q	|	|	|	V|
25+35	944.9878	38.30	Q	|	|	|	V|
25+40	945.2322	35.50	Q	|	|	|	V|
25+45	945.4596	33.02	Q	|	|	|	V|
25+50	945.6718	30.81	Q	|	|	|	V|
25+55	945.8692	28.66	Q	|	|	|	V|
26+ 0	946.0537	26.80	Q	|	|	|	V|
26+ 5	946.2258	24.99	Q	|	|	|	V|
26+10	946.3863	23.30	Q	|	|	|	V|
26+15	946.5359	21.72	Q	|	|	|	V|
26+20	946.6750	20.19	Q	|	|	|	V|
26+25	946.8048	18.85	Q	|	|	|	V|
26+30	946.9256	17.54	Q	|	|	|	V|
26+35	947.0385	16.39	Q	|	|	|	V|
26+40	947.1444	15.38	Q	|	|	|	V|
26+45	947.2435	14.39	Q	|	|	|	V|
26+50	947.3363	13.48	Q	|	|	|	V|
26+55	947.4230	12.58	Q	|	|	|	V|
27+ 0	947.5039	11.75	Q	|	|	|	V|
27+ 5	947.5796	10.99	Q	|	|	|	V|
27+10	947.6501	10.24	Q	|	|	|	V|
27+15	947.7158	9.55	Q	|	|	|	V|
27+20	947.7770	8.88	Q	|	|	|	V|
27+25	947.8342	8.30	Q	|	|	|	V|
27+30	947.8879	7.80	Q	|	|	|	V|
27+35	947.9382	7.30	Q	|	|	|	V|

27+40	947.9851	6.81	Q	|	|	|	V|
27+45	948.0286	6.32	Q	|	|	|	V|
27+50	948.0691	5.89	Q	|	|	|	V|
27+55	948.1071	5.51	Q	|	|	|	V|
28+ 0	948.1424	5.13	Q	|	|	|	V|
28+ 5	948.1751	4.75	Q	|	|	|	V|
28+10	948.2053	4.38	Q	|	|	|	V|
28+15	948.2334	4.07	Q	|	|	|	V|
28+20	948.2596	3.81	Q	|	|	|	V|
28+25	948.2841	3.55	Q	|	|	|	V|
28+30	948.3068	3.30	Q	|	|	|	V|
28+35	948.3277	3.04	Q	|	|	|	V|
28+40	948.3473	2.84	Q	|	|	|	V|
28+45	948.3658	2.68	Q	|	|	|	V|
28+50	948.3831	2.52	Q	|	|	|	V|
28+55	948.3994	2.36	Q	|	|	|	V|
29+ 0	948.4146	2.21	Q	|	|	|	V|
29+ 5	948.4287	2.04	Q	|	|	|	V|
29+10	948.4416	1.88	Q	|	|	|	V|
29+15	948.4534	1.71	Q	|	|	|	V|
29+20	948.4640	1.54	Q	|	|	|	V|
29+25	948.4735	1.38	Q	|	|	|	V|
29+30	948.4819	1.22	Q	|	|	|	V|
29+35	948.4893	1.06	Q	|	|	|	V|
29+40	948.4955	0.91	Q	|	|	|	V|
29+45	948.5007	0.75	Q	|	|	|	V|
29+50	948.5048	0.60	Q	|	|	|	V|
29+55	948.5083	0.50	Q	|	|	|	V|
30+ 0	948.5111	0.42	Q	|	|	|	V|
30+ 5	948.5135	0.34	Q	|	|	|	V|
30+10	948.5153	0.26	Q	|	|	|	V|
30+15	948.5166	0.19	Q	|	|	|	V|
30+20	948.5174	0.11	Q	|	|	|	V|
30+25	948.5176	0.04	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 47
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3500.82	1	1.29
Rainfall data for year 100		
3500.82	6	2.07
Rainfall data for year 100		
3500.82	24	3.03

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
68.9	86.1	3500.82	1.000	0.263	0.977	0.257

Area-averaged adjusted loss rate Fm (In/Hr) = 0.257

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3421.35	0.977	68.9	86.1	1.61	0.561
79.47	0.023	98.0	98.0	0.20	0.923

Area-averaged catchment yield fraction, Y = 0.569
Area-averaged low loss fraction, Yb = 0.431
++
Watercourse length = 38102.00(Ft.)
Length from concentration point to centroid = 19862.00(Ft.)
Elevation difference along watercourse = 2190.20(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 3500.82(Ac.)
Catchment Lag time = 0.994 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 8.3819
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.257(In/Hr)
Average low loss rate fraction (Yb) = 0.431 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.070
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.930

Computed peak 5-minute rainfall = 0.612(In)
Computed peak 30-minute rainfall = 1.048(In)
Specified peak 1-hour rainfall = 1.290(In)
Computed peak 3-hour rainfall = 1.724(In)
Specified peak 6-hour rainfall = 2.070(In)
Specified peak 24-hour rainfall = 3.030(In)

Rainfall depth area reduction factors:
Using a total area of 3500.82(Ac.) (Ref: fig. E-4)

5-minute factor = 0.840 Adjusted rainfall = 0.514(In)
30-minute factor = 0.840 Adjusted rainfall = 0.880(In)
1-hour factor = 0.840 Adjusted rainfall = 1.084(In)
3-hour factor = 0.979 Adjusted rainfall = 1.688(In)
6-hour factor = 0.989 Adjusted rainfall = 2.048(In)
24-hour factor = 0.996 Adjusted rainfall = 3.016(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 42338.04 (CFS))	
1	0.380	160.948
2	1.222	356.405
3	2.556	564.927
4	4.309	742.077
5	6.480	918.954

6	9.191	1147.876
7	13.270	1727.137
8	18.948	2403.919
9	26.917	3373.882
10	34.549	3231.299
11	41.468	2929.399
12	47.495	2551.811
13	52.539	2135.534
14	56.769	1790.580
15	60.125	1420.941
16	63.022	1226.597
17	65.590	1087.093
18	67.855	959.246
19	69.952	887.854
20	71.903	825.896
21	73.622	727.891
22	75.186	662.094
23	76.654	621.320
24	78.073	600.720
25	79.299	519.118
26	80.412	471.416
27	81.523	470.372
28	82.507	416.539
29	83.419	386.246
30	84.330	385.556
31	85.171	356.225
32	85.976	340.680
33	86.778	339.640
34	87.493	302.464
35	88.163	283.900
36	88.830	282.375
37	89.387	235.824
38	89.892	213.919
39	90.397	213.479
40	90.873	201.885
41	91.338	196.743
42	91.801	195.901
43	92.218	176.475
44	92.615	168.353
45	93.012	167.802
46	93.382	156.590
47	93.741	152.170
48	94.097	150.738
49	94.392	124.821
50	94.664	115.192
51	94.936	115.192
52	95.208	115.192
53	95.480	115.192
54	95.749	113.873
55	95.973	94.638
56	96.181	88.293
57	96.390	88.293
58	96.598	88.293
59	96.807	88.293
60	97.011	86.634
61	97.169	66.721
62	97.313	60.897
63	97.457	60.897
64	97.600	60.897

65	97.744	60.897
66	97.884	58.999
67	97.978	39.926
68	98.061	34.991
69	98.143	34.991
70	98.226	34.991
71	98.309	34.991
72	98.392	35.479
73	98.486	39.647
74	98.582	40.598
75	98.678	40.598
76	98.774	40.598
77	98.870	40.598
78	98.965	40.547
79	99.060	40.175
80	99.155	40.101
81	99.250	40.101
82	99.344	40.101
83	99.439	40.101
84	99.528	37.856
85	99.583	23.123
86	99.632	20.627
87	99.681	20.627
88	99.729	20.627
89	99.778	20.627
90	99.827	20.627
91	99.875	20.627
92	99.924	20.627
93	99.973	20.627
94	100.000	11.493

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5143	0.5143
2	0.6331	0.1189
3	0.7150	0.0819
4	0.7795	0.0645
5	0.8334	0.0540
6	0.8803	0.0469
7	0.9220	0.0417
8	0.9596	0.0377
9	0.9942	0.0345
10	1.0261	0.0319
11	1.0558	0.0298
12	1.0838	0.0279
13	1.1193	0.0356
14	1.1533	0.0340
15	1.1859	0.0326
16	1.2172	0.0313
17	1.2473	0.0301
18	1.2764	0.0291
19	1.3046	0.0282
20	1.3319	0.0273
21	1.3584	0.0265
22	1.3841	0.0257
23	1.4092	0.0251
24	1.4336	0.0244
25	1.4574	0.0238
26	1.4806	0.0233

27	1.5033	0.0227
28	1.5256	0.0222
29	1.5473	0.0218
30	1.5686	0.0213
31	1.5895	0.0209
32	1.6100	0.0205
33	1.6302	0.0201
34	1.6499	0.0198
35	1.6693	0.0194
36	1.6884	0.0191
37	1.7013	0.0129
38	1.7140	0.0127
39	1.7265	0.0124
40	1.7387	0.0122
41	1.7507	0.0120
42	1.7624	0.0118
43	1.7740	0.0116
44	1.7854	0.0114
45	1.7966	0.0112
46	1.8076	0.0110
47	1.8185	0.0109
48	1.8292	0.0107
49	1.8397	0.0105
50	1.8501	0.0104
51	1.8603	0.0102
52	1.8704	0.0101
53	1.8803	0.0099
54	1.8902	0.0098
55	1.8998	0.0097
56	1.9094	0.0096
57	1.9188	0.0094
58	1.9281	0.0093
59	1.9373	0.0092
60	1.9464	0.0091
61	1.9554	0.0090
62	1.9643	0.0089
63	1.9730	0.0088
64	1.9817	0.0087
65	1.9903	0.0086
66	1.9987	0.0085
67	2.0071	0.0084
68	2.0154	0.0083
69	2.0236	0.0082
70	2.0317	0.0081
71	2.0398	0.0080
72	2.0477	0.0080
73	2.0557	0.0079
74	2.0635	0.0078
75	2.0712	0.0078
76	2.0789	0.0077
77	2.0865	0.0076
78	2.0941	0.0075
79	2.1015	0.0075
80	2.1089	0.0074
81	2.1163	0.0073
82	2.1235	0.0073
83	2.1307	0.0072
84	2.1379	0.0071
85	2.1449	0.0071

86	2.1520	0.0070
87	2.1589	0.0070
88	2.1658	0.0069
89	2.1727	0.0068
90	2.1795	0.0068
91	2.1862	0.0067
92	2.1929	0.0067
93	2.1995	0.0066
94	2.2061	0.0066
95	2.2127	0.0065
96	2.2191	0.0065
97	2.2256	0.0064
98	2.2320	0.0064
99	2.2383	0.0063
100	2.2446	0.0063
101	2.2508	0.0062
102	2.2570	0.0062
103	2.2632	0.0062
104	2.2693	0.0061
105	2.2754	0.0061
106	2.2814	0.0060
107	2.2874	0.0060
108	2.2934	0.0060
109	2.2993	0.0059
110	2.3052	0.0059
111	2.3110	0.0058
112	2.3168	0.0058
113	2.3226	0.0058
114	2.3283	0.0057
115	2.3340	0.0057
116	2.3396	0.0057
117	2.3453	0.0056
118	2.3508	0.0056
119	2.3564	0.0055
120	2.3619	0.0055
121	2.3674	0.0055
122	2.3728	0.0055
123	2.3783	0.0054
124	2.3836	0.0054
125	2.3890	0.0054
126	2.3943	0.0053
127	2.3996	0.0053
128	2.4049	0.0053
129	2.4101	0.0052
130	2.4153	0.0052
131	2.4205	0.0052
132	2.4256	0.0051
133	2.4308	0.0051
134	2.4359	0.0051
135	2.4409	0.0051
136	2.4460	0.0050
137	2.4510	0.0050
138	2.4560	0.0050
139	2.4609	0.0050
140	2.4659	0.0049
141	2.4708	0.0049
142	2.4756	0.0049
143	2.4805	0.0049
144	2.4853	0.0048

145	2.4902	0.0048
146	2.4949	0.0048
147	2.4997	0.0048
148	2.5044	0.0047
149	2.5092	0.0047
150	2.5139	0.0047
151	2.5185	0.0047
152	2.5232	0.0046
153	2.5278	0.0046
154	2.5324	0.0046
155	2.5370	0.0046
156	2.5416	0.0046
157	2.5461	0.0045
158	2.5506	0.0045
159	2.5551	0.0045
160	2.5596	0.0045
161	2.5641	0.0045
162	2.5685	0.0044
163	2.5729	0.0044
164	2.5773	0.0044
165	2.5817	0.0044
166	2.5861	0.0044
167	2.5904	0.0043
168	2.5947	0.0043
169	2.5990	0.0043
170	2.6033	0.0043
171	2.6076	0.0043
172	2.6118	0.0043
173	2.6161	0.0042
174	2.6203	0.0042
175	2.6245	0.0042
176	2.6287	0.0042
177	2.6328	0.0042
178	2.6370	0.0041
179	2.6411	0.0041
180	2.6452	0.0041
181	2.6493	0.0041
182	2.6534	0.0041
183	2.6575	0.0041
184	2.6615	0.0040
185	2.6656	0.0040
186	2.6696	0.0040
187	2.6736	0.0040
188	2.6776	0.0040
189	2.6815	0.0040
190	2.6855	0.0040
191	2.6894	0.0039
192	2.6934	0.0039
193	2.6973	0.0039
194	2.7012	0.0039
195	2.7051	0.0039
196	2.7089	0.0039
197	2.7128	0.0039
198	2.7166	0.0038
199	2.7204	0.0038
200	2.7243	0.0038
201	2.7281	0.0038
202	2.7318	0.0038
203	2.7356	0.0038

204	2.7394	0.0038
205	2.7431	0.0037
206	2.7469	0.0037
207	2.7506	0.0037
208	2.7543	0.0037
209	2.7580	0.0037
210	2.7617	0.0037
211	2.7653	0.0037
212	2.7690	0.0037
213	2.7726	0.0036
214	2.7763	0.0036
215	2.7799	0.0036
216	2.7835	0.0036
217	2.7871	0.0036
218	2.7907	0.0036
219	2.7942	0.0036
220	2.7978	0.0036
221	2.8013	0.0035
222	2.8049	0.0035
223	2.8084	0.0035
224	2.8119	0.0035
225	2.8154	0.0035
226	2.8189	0.0035
227	2.8224	0.0035
228	2.8258	0.0035
229	2.8293	0.0035
230	2.8328	0.0034
231	2.8362	0.0034
232	2.8396	0.0034
233	2.8430	0.0034
234	2.8464	0.0034
235	2.8498	0.0034
236	2.8532	0.0034
237	2.8566	0.0034
238	2.8599	0.0034
239	2.8633	0.0034
240	2.8666	0.0033
241	2.8700	0.0033
242	2.8733	0.0033
243	2.8766	0.0033
244	2.8799	0.0033
245	2.8832	0.0033
246	2.8865	0.0033
247	2.8898	0.0033
248	2.8930	0.0033
249	2.8963	0.0033
250	2.8995	0.0032
251	2.9028	0.0032
252	2.9060	0.0032
253	2.9092	0.0032
254	2.9124	0.0032
255	2.9156	0.0032
256	2.9188	0.0032
257	2.9220	0.0032
258	2.9252	0.0032
259	2.9283	0.0032
260	2.9315	0.0032
261	2.9346	0.0031
262	2.9378	0.0031

263	2.9409	0.0031
264	2.9440	0.0031
265	2.9471	0.0031
266	2.9502	0.0031
267	2.9533	0.0031
268	2.9564	0.0031
269	2.9595	0.0031
270	2.9625	0.0031
271	2.9656	0.0031
272	2.9687	0.0031
273	2.9717	0.0030
274	2.9747	0.0030
275	2.9778	0.0030
276	2.9808	0.0030
277	2.9838	0.0030
278	2.9868	0.0030
279	2.9898	0.0030
280	2.9928	0.0030
281	2.9958	0.0030
282	2.9988	0.0030
283	3.0017	0.0030
284	3.0047	0.0030
285	3.0076	0.0030
286	3.0106	0.0029
287	3.0135	0.0029
288	3.0165	0.0029

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0029	0.0013	0.0017
2	0.0029	0.0013	0.0017
3	0.0030	0.0013	0.0017
4	0.0030	0.0013	0.0017
5	0.0030	0.0013	0.0017
6	0.0030	0.0013	0.0017
7	0.0030	0.0013	0.0017
8	0.0030	0.0013	0.0017
9	0.0030	0.0013	0.0017
10	0.0030	0.0013	0.0017
11	0.0030	0.0013	0.0017
12	0.0031	0.0013	0.0017
13	0.0031	0.0013	0.0017
14	0.0031	0.0013	0.0018
15	0.0031	0.0013	0.0018
16	0.0031	0.0013	0.0018
17	0.0031	0.0013	0.0018
18	0.0031	0.0013	0.0018
19	0.0031	0.0014	0.0018
20	0.0032	0.0014	0.0018
21	0.0032	0.0014	0.0018
22	0.0032	0.0014	0.0018
23	0.0032	0.0014	0.0018
24	0.0032	0.0014	0.0018
25	0.0032	0.0014	0.0018
26	0.0032	0.0014	0.0018
27	0.0033	0.0014	0.0019
28	0.0033	0.0014	0.0019

29	0.0033	0.0014	0.0019
30	0.0033	0.0014	0.0019
31	0.0033	0.0014	0.0019
32	0.0033	0.0014	0.0019
33	0.0033	0.0014	0.0019
34	0.0034	0.0014	0.0019
35	0.0034	0.0015	0.0019
36	0.0034	0.0015	0.0019
37	0.0034	0.0015	0.0019
38	0.0034	0.0015	0.0019
39	0.0034	0.0015	0.0020
40	0.0034	0.0015	0.0020
41	0.0035	0.0015	0.0020
42	0.0035	0.0015	0.0020
43	0.0035	0.0015	0.0020
44	0.0035	0.0015	0.0020
45	0.0035	0.0015	0.0020
46	0.0035	0.0015	0.0020
47	0.0036	0.0015	0.0020
48	0.0036	0.0015	0.0020
49	0.0036	0.0016	0.0021
50	0.0036	0.0016	0.0021
51	0.0036	0.0016	0.0021
52	0.0037	0.0016	0.0021
53	0.0037	0.0016	0.0021
54	0.0037	0.0016	0.0021
55	0.0037	0.0016	0.0021
56	0.0037	0.0016	0.0021
57	0.0038	0.0016	0.0021
58	0.0038	0.0016	0.0021
59	0.0038	0.0016	0.0022
60	0.0038	0.0016	0.0022
61	0.0038	0.0017	0.0022
62	0.0039	0.0017	0.0022
63	0.0039	0.0017	0.0022
64	0.0039	0.0017	0.0022
65	0.0039	0.0017	0.0022
66	0.0039	0.0017	0.0022
67	0.0040	0.0017	0.0023
68	0.0040	0.0017	0.0023
69	0.0040	0.0017	0.0023
70	0.0040	0.0017	0.0023
71	0.0041	0.0018	0.0023
72	0.0041	0.0018	0.0023
73	0.0041	0.0018	0.0023
74	0.0041	0.0018	0.0024
75	0.0042	0.0018	0.0024
76	0.0042	0.0018	0.0024
77	0.0042	0.0018	0.0024
78	0.0042	0.0018	0.0024
79	0.0043	0.0018	0.0024
80	0.0043	0.0018	0.0024
81	0.0043	0.0019	0.0025
82	0.0043	0.0019	0.0025
83	0.0044	0.0019	0.0025
84	0.0044	0.0019	0.0025
85	0.0044	0.0019	0.0025
86	0.0045	0.0019	0.0025
87	0.0045	0.0019	0.0026

88	0.0045	0.0019	0.0026
89	0.0046	0.0020	0.0026
90	0.0046	0.0020	0.0026
91	0.0046	0.0020	0.0026
92	0.0046	0.0020	0.0026
93	0.0047	0.0020	0.0027
94	0.0047	0.0020	0.0027
95	0.0048	0.0021	0.0027
96	0.0048	0.0021	0.0027
97	0.0048	0.0021	0.0028
98	0.0049	0.0021	0.0028
99	0.0049	0.0021	0.0028
100	0.0049	0.0021	0.0028
101	0.0050	0.0021	0.0028
102	0.0050	0.0022	0.0029
103	0.0051	0.0022	0.0029
104	0.0051	0.0022	0.0029
105	0.0051	0.0022	0.0029
106	0.0052	0.0022	0.0029
107	0.0052	0.0023	0.0030
108	0.0053	0.0023	0.0030
109	0.0053	0.0023	0.0030
110	0.0054	0.0023	0.0030
111	0.0054	0.0023	0.0031
112	0.0055	0.0023	0.0031
113	0.0055	0.0024	0.0031
114	0.0055	0.0024	0.0032
115	0.0056	0.0024	0.0032
116	0.0057	0.0024	0.0032
117	0.0057	0.0025	0.0033
118	0.0058	0.0025	0.0033
119	0.0058	0.0025	0.0033
120	0.0059	0.0025	0.0033
121	0.0060	0.0026	0.0034
122	0.0060	0.0026	0.0034
123	0.0061	0.0026	0.0035
124	0.0061	0.0026	0.0035
125	0.0062	0.0027	0.0035
126	0.0062	0.0027	0.0036
127	0.0063	0.0027	0.0036
128	0.0064	0.0028	0.0036
129	0.0065	0.0028	0.0037
130	0.0065	0.0028	0.0037
131	0.0066	0.0029	0.0038
132	0.0067	0.0029	0.0038
133	0.0068	0.0029	0.0039
134	0.0068	0.0030	0.0039
135	0.0070	0.0030	0.0040
136	0.0070	0.0030	0.0040
137	0.0071	0.0031	0.0041
138	0.0072	0.0031	0.0041
139	0.0073	0.0032	0.0042
140	0.0074	0.0032	0.0042
141	0.0075	0.0032	0.0043
142	0.0076	0.0033	0.0043
143	0.0078	0.0033	0.0044
144	0.0078	0.0034	0.0045
145	0.0080	0.0034	0.0045
146	0.0080	0.0035	0.0046

147	0.0082	0.0035	0.0047
148	0.0083	0.0036	0.0047
149	0.0085	0.0037	0.0048
150	0.0086	0.0037	0.0049
151	0.0088	0.0038	0.0050
152	0.0089	0.0038	0.0050
153	0.0091	0.0039	0.0052
154	0.0092	0.0040	0.0052
155	0.0094	0.0041	0.0054
156	0.0096	0.0041	0.0054
157	0.0098	0.0042	0.0056
158	0.0099	0.0043	0.0057
159	0.0102	0.0044	0.0058
160	0.0104	0.0045	0.0059
161	0.0107	0.0046	0.0061
162	0.0109	0.0047	0.0062
163	0.0112	0.0048	0.0064
164	0.0114	0.0049	0.0065
165	0.0118	0.0051	0.0067
166	0.0120	0.0052	0.0068
167	0.0124	0.0054	0.0071
168	0.0127	0.0055	0.0072
169	0.0191	0.0082	0.0109
170	0.0194	0.0084	0.0110
171	0.0201	0.0087	0.0114
172	0.0205	0.0088	0.0117
173	0.0213	0.0092	0.0121
174	0.0218	0.0094	0.0124
175	0.0227	0.0098	0.0129
176	0.0233	0.0100	0.0132
177	0.0244	0.0105	0.0139
178	0.0251	0.0108	0.0143
179	0.0265	0.0114	0.0151
180	0.0273	0.0118	0.0155
181	0.0291	0.0125	0.0166
182	0.0301	0.0130	0.0172
183	0.0326	0.0140	0.0185
184	0.0340	0.0146	0.0193
185	0.0279	0.0120	0.0159
186	0.0298	0.0128	0.0169
187	0.0345	0.0149	0.0196
188	0.0377	0.0162	0.0214
189	0.0469	0.0202	0.0267
190	0.0540	0.0214	0.0326
191	0.0819	0.0214	0.0605
192	0.1189	0.0214	0.0975
193	0.5143	0.0214	0.4929
194	0.0645	0.0214	0.0431
195	0.0417	0.0180	0.0237
196	0.0319	0.0138	0.0182
197	0.0356	0.0153	0.0202
198	0.0313	0.0135	0.0178
199	0.0282	0.0121	0.0160
200	0.0257	0.0111	0.0146
201	0.0238	0.0103	0.0135
202	0.0222	0.0096	0.0126
203	0.0209	0.0090	0.0119
204	0.0198	0.0085	0.0112
205	0.0129	0.0056	0.0074

206	0.0122	0.0053	0.0069
207	0.0116	0.0050	0.0066
208	0.0110	0.0048	0.0063
209	0.0105	0.0045	0.0060
210	0.0101	0.0043	0.0057
211	0.0097	0.0042	0.0055
212	0.0093	0.0040	0.0053
213	0.0090	0.0039	0.0051
214	0.0087	0.0037	0.0049
215	0.0084	0.0036	0.0048
216	0.0081	0.0035	0.0046
217	0.0079	0.0034	0.0045
218	0.0077	0.0033	0.0044
219	0.0075	0.0032	0.0042
220	0.0073	0.0031	0.0041
221	0.0071	0.0031	0.0040
222	0.0069	0.0030	0.0039
223	0.0067	0.0029	0.0038
224	0.0066	0.0028	0.0037
225	0.0064	0.0028	0.0037
226	0.0063	0.0027	0.0036
227	0.0062	0.0027	0.0035
228	0.0060	0.0026	0.0034
229	0.0059	0.0025	0.0034
230	0.0058	0.0025	0.0033
231	0.0057	0.0025	0.0032
232	0.0056	0.0024	0.0032
233	0.0055	0.0024	0.0031
234	0.0054	0.0023	0.0031
235	0.0053	0.0023	0.0030
236	0.0052	0.0022	0.0030
237	0.0051	0.0022	0.0029
238	0.0050	0.0022	0.0029
239	0.0050	0.0021	0.0028
240	0.0049	0.0021	0.0028
241	0.0048	0.0021	0.0027
242	0.0047	0.0020	0.0027
243	0.0047	0.0020	0.0027
244	0.0046	0.0020	0.0026
245	0.0045	0.0020	0.0026
246	0.0045	0.0019	0.0025
247	0.0044	0.0019	0.0025
248	0.0044	0.0019	0.0025
249	0.0043	0.0019	0.0025
250	0.0043	0.0018	0.0024
251	0.0042	0.0018	0.0024
252	0.0041	0.0018	0.0024
253	0.0041	0.0018	0.0023
254	0.0040	0.0017	0.0023
255	0.0040	0.0017	0.0023
256	0.0040	0.0017	0.0023
257	0.0039	0.0017	0.0022
258	0.0039	0.0017	0.0022
259	0.0038	0.0016	0.0022
260	0.0038	0.0016	0.0022
261	0.0037	0.0016	0.0021
262	0.0037	0.0016	0.0021
263	0.0037	0.0016	0.0021
264	0.0036	0.0016	0.0021

265	0.0036	0.0015	0.0020
266	0.0036	0.0015	0.0020
267	0.0035	0.0015	0.0020
268	0.0035	0.0015	0.0020
269	0.0035	0.0015	0.0020
270	0.0034	0.0015	0.0019
271	0.0034	0.0015	0.0019
272	0.0034	0.0014	0.0019
273	0.0033	0.0014	0.0019
274	0.0033	0.0014	0.0019
275	0.0033	0.0014	0.0019
276	0.0032	0.0014	0.0018
277	0.0032	0.0014	0.0018
278	0.0032	0.0014	0.0018
279	0.0032	0.0014	0.0018
280	0.0031	0.0014	0.0018
281	0.0031	0.0013	0.0018
282	0.0031	0.0013	0.0018
283	0.0031	0.0013	0.0017
284	0.0030	0.0013	0.0017
285	0.0030	0.0013	0.0017
286	0.0030	0.0013	0.0017
287	0.0030	0.0013	0.0017
288	0.0029	0.0013	0.0017

Total soil rain loss = 1.05(In)
Total effective rainfall = 1.97(In)
Peak flow rate in flood hydrograph = 2777.99(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	700.0	1400.0	2100.0	2800.0
0+ 5	0.0018	0.27	Q				
0+10	0.0078	0.86	Q				
0+15	0.0202	1.81	Q				
0+20	0.0413	3.05	Q				
0+25	0.0729	4.59	Q				
0+30	0.1178	6.52	Q				
0+35	0.1828	9.43	Q				
0+40	0.2755	13.47	Q				
0+45	0.4074	19.14	Q				
0+50	0.5768	24.60	Q				
0+55	0.7805	29.58	Q				
1+ 0	1.0142	33.94	Q				
1+ 5	1.2734	37.63	Q				
1+10	1.5541	40.76	Q				
1+15	1.8522	43.28	Q				
1+20	2.1655	45.49	Q				
1+25	2.4925	47.48	Q				
1+30	2.8318	49.27	Q				
1+35	3.1826	50.94	Q				
1+40	3.5443	52.52	Q				

1+45	3.9158	53.94	Q				
1+50	4.2963	55.25	Q				
1+55	4.6855	56.51	Q				
2+ 0	5.0832	57.74	Q				
2+ 5	5.4884	58.84	Q				
2+10	5.9006	59.86	Q				
2+15	6.3200	60.89	Q				
2+20	6.7458	61.83	Q				
2+25	7.1778	62.73	Q				
2+30	7.6160	63.63	Q				
2+35	8.0602	64.49	Q				
2+40	8.5101	65.32	Q				
2+45	8.9657	66.16	Q				
2+50	9.4268	66.95	Q				
2+55	9.8931	67.70	Q				
3+ 0	10.3646	68.46	Q				
3+ 5	10.8408	69.15	Q				
3+10	11.3215	69.80	Q				
3+15	11.8068	70.46	VQ				
3+20	12.2964	71.10	VQ				
3+25	12.7905	71.74	VQ				
3+30	13.2890	72.38	VQ				
3+35	13.7917	72.99	VQ				
3+40	14.2986	73.60	VQ				
3+45	14.8096	74.21	|Q				
3+50	15.3248	74.80	|Q				
3+55	15.8440	75.39	|Q				
4+ 0	16.3673	75.99	|Q				
4+ 5	16.8945	76.54	|Q				
4+10	17.4254	77.08	|Q				
4+15	17.9600	77.63	|Q				
4+20	18.4985	78.19	|Q				
4+25	19.0408	78.74	|Q				
4+30	19.5870	79.30	|Q				
4+35	20.1369	79.84	|Q				
4+40	20.6903	80.37	|Q				
4+45	21.2475	80.90	|Q				
4+50	21.8083	81.44	|Q				
4+55	22.3729	81.98	|Q				
5+ 0	22.9413	82.52	|Q				
5+ 5	23.5132	83.04	|Q				
5+10	24.0886	83.55	|Q				
5+15	24.6676	84.07	|Q				
5+20	25.2503	84.59	|Q				
5+25	25.8365	85.13	|Q				
5+30	26.4264	85.66	|Q				
5+35	27.0198	86.16	|Q				
5+40	27.6167	86.66	|Q				
5+45	28.2171	87.17	|Q				
5+50	28.8210	87.69	|QV				
5+55	29.4285	88.21	|QV				
6+ 0	30.0396	88.73	|QV				
6+ 5	30.6544	89.28	|QV				
6+10	31.2731	89.82	|QV				
6+15	31.8955	90.38	|QV				
6+20	32.5218	90.94	|QV				
6+25	33.1521	91.51	|QV				
6+30	33.7863	92.08	|QV				
6+35	34.4245	92.67	|QV				

6+40	35.0667	93.26	QV				
6+45	35.7131	93.85	QV				
6+50	36.3636	94.46	QV				
6+55	37.0184	95.07	QV				
7+ 0	37.6773	95.68	QV				
7+ 5	38.3405	96.28	QV				
7+10	39.0077	96.89	QV				
7+15	39.6792	97.50	QV				
7+20	40.3549	98.12	QV				
7+25	41.0350	98.75	QV				
7+30	41.7195	99.38	QV				
7+35	42.4084	100.03	QV				
7+40	43.1018	100.69	Q V				
7+45	43.7999	101.35	Q V				
7+50	44.5024	102.01	Q V				
7+55	45.2095	102.66	Q V				
8+ 0	45.9211	103.32	Q V				
8+ 5	46.6373	104.00	Q V				
8+10	47.3582	104.68	Q V				
8+15	48.0839	105.37	Q V				
8+20	48.8145	106.07	Q V				
8+25	49.5499	106.79	Q V				
8+30	50.2904	107.52	Q V				
8+35	51.0360	108.26	Q V				
8+40	51.7867	109.01	Q V				
8+45	52.5427	109.77	Q V				
8+50	53.3041	110.55	Q V				
8+55	54.0709	111.34	Q V				
9+ 0	54.8432	112.14	Q V				
9+ 5	55.6212	112.97	Q V				
9+10	56.4049	113.80	Q V				
9+15	57.1945	114.65	Q V				
9+20	57.9900	115.51	Q V				
9+25	58.7916	116.39	Q V				
9+30	59.5994	117.28	Q V				
9+35	60.4134	118.20	Q V				
9+40	61.2339	119.13	Q V				
9+45	62.0609	120.08	Q V				
9+50	62.8945	121.04	Q V				
9+55	63.7350	122.03	Q V				
10+ 0	64.5823	123.04	Q V				
10+ 5	65.4368	124.07	Q V				
10+10	66.2984	125.11	Q V				
10+15	67.1674	126.18	Q V				
10+20	68.0439	127.27	Q V				
10+25	68.9281	128.39	Q V				
10+30	69.8201	129.52	Q V				
10+35	70.7202	130.69	Q V				
10+40	71.6284	131.87	Q V				
10+45	72.5450	133.09	Q V				
10+50	73.4702	134.33	Q V				
10+55	74.4041	135.61	Q V				
11+ 0	75.3470	136.90	Q V				
11+ 5	76.2991	138.24	Q V				
11+10	77.2605	139.60	Q V				
11+15	78.2316	141.00	Q V				
11+20	79.2125	142.43	Q V				
11+25	80.2036	143.90	Q V				
11+30	81.2050	145.40	Q V				

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11+35      82.2170    146.95  | Q  V    |          |          |          |
11+40      83.2400    148.53  | Q  V    |          |          |          |
11+45      84.2742    150.16  | Q  V    |          |          |          |
11+50      85.3198    151.83  | Q  V    |          |          |          |
11+55      86.3774    153.55  | Q   V   |          |          |          |
12+ 0      87.4470    155.31  | Q   V   |          |          |          |
12+ 5      88.5292    157.13  | Q   V   |          |          |          |
12+10      89.6242    158.99  | Q   V   |          |          |          |
12+15      90.7324    160.91  | Q   V   |          |          |          |
12+20      91.8541    162.87  | Q   V   |          |          |          |
12+25      92.9898    164.91  | Q   V   |          |          |          |
12+30      94.1399    166.99  | Q   V   |          |          |          |
12+35      95.3048    169.14  | Q   V   |          |          |          |
12+40      96.4848    171.34  | Q   V   |          |          |          |
12+45      97.6805    173.61  | Q   V   |          |          |          |
12+50      98.8922    175.94  | Q   V   |          |          |          |
12+55     100.1207    178.38  | Q   V   |          |          |          |
13+ 0     101.3666    180.90  | Q    V  |          |          |          |
13+ 5     102.6306    183.53  | Q    V  |          |          |          |
13+10     103.9133    186.25  | Q    V  |          |          |          |
13+15     105.2156    189.10  | Q    V  |          |          |          |
13+20     106.5382    192.04  | Q    V  |          |          |          |
13+25     107.8821    195.13  | Q    V  |          |          |          |
13+30     109.2479    198.32  | Q    V  |          |          |          |
13+35     110.6368    201.67  | Q    V  |          |          |          |
13+40     112.0496    205.14  | Q    V  |          |          |          |
13+45     113.4876    208.79  | Q    V  |          |          |          |
13+50     114.9516    212.59  |  Q    V |          |          |          |
13+55     116.4433    216.59  |  Q    V |          |          |          |
14+ 0     117.9636    220.75  |  Q    V |          |          |          |
14+ 5     119.5180    225.70  |  Q    V |          |          |          |
14+10     121.1124    231.50  |  Q    V |          |          |          |
14+15     122.7536    238.30  |  Q    V |          |          |          |
14+20     124.4475    245.95  |  Q    V |          |          |          |
14+25     126.2007    254.57  |  Q    V |          |          |          |
14+30     128.0207    264.27  |  Q    V |          |          |          |
14+35     129.9242    276.38  |  Q     V|          |          |          |
14+40     131.9296    291.18  |   Q    V|          |          |          |
14+45     134.0636    309.86  |   Q    V|          |          |          |
14+50     136.3269    328.63  |   Q    V|          |          |          |
14+55     138.7182    347.21  |   Q    V|          |          |          |
15+ 0     141.2334    365.21  |    Q   V|          |          |          |
15+ 5     143.8697    382.79  |    Q    V          |          |          |
15+10     146.6248    400.05  |    Q    V          |          |          |
15+15     149.4987    417.28  |    Q    V          |          |          |
15+20     152.4941    434.94  |     Q   V          |          |          |
15+25     155.6128    452.84  |     Q   V          |          |          |
15+30     158.8549    470.74  |     Q   |V         |          |          |
15+35     162.2257    489.44  |     Q   |V         |          |          |
15+40     165.7321    509.12  |      Q  |V         |          |          |
15+45     169.3882    530.87  |      Q  |V         |          |          |
15+50     173.2115    555.15  |      Q  | V        |          |          |
15+55     177.2427    585.33  |       Q | V        |          |          |
16+ 0     181.5624    627.22  |       Q | V        |          |          |
16+ 5     186.6917    744.78  |         Q  V       |          |          |
16+10     192.7820    884.31  |         | QV       |          |          |
16+15     199.9024   1033.88  |         |  VQ      |          |          |
16+20     207.9978   1175.45  |         |   V Q    |          |          |
16+25     217.1896   1334.66  |         |    V   Q|          |          |
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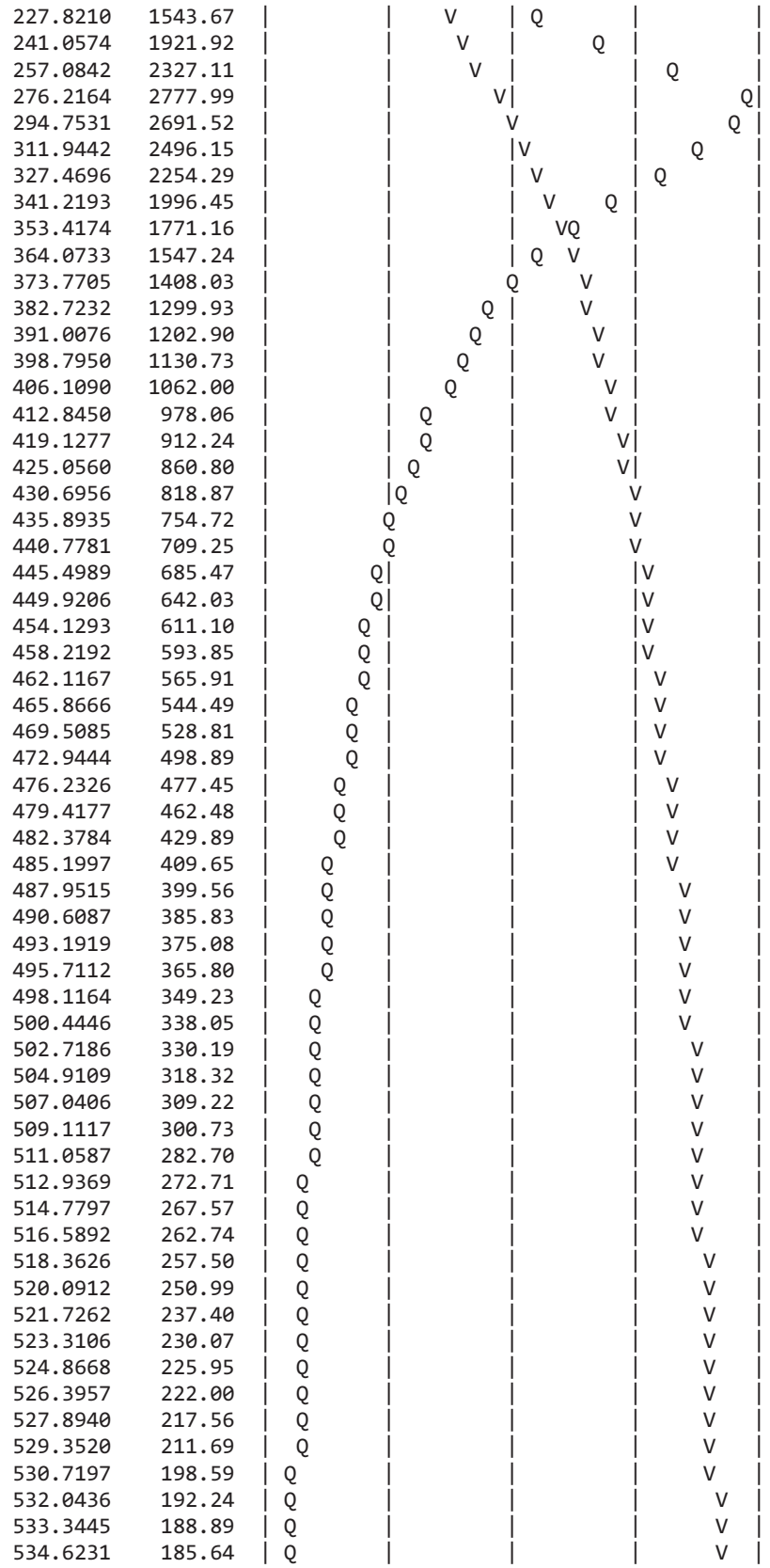
16+30	227.8210	1543.67	
16+35	241.0574	1921.92	
16+40	257.0842	2327.11	
16+45	276.2164	2777.99	
16+50	294.7531	2691.52	
16+55	311.9442	2496.15	
17+ 0	327.4696	2254.29	
17+ 5	341.2193	1996.45	
17+10	353.4174	1771.16	
17+15	364.0733	1547.24	
17+20	373.7705	1408.03	
17+25	382.7232	1299.93	
17+30	391.0076	1202.90	
17+35	398.7950	1130.73	
17+40	406.1090	1062.00	
17+45	412.8450	978.06	
17+50	419.1277	912.24	
17+55	425.0560	860.80	
18+ 0	430.6956	818.87	
18+ 5	435.8935	754.72	
18+10	440.7781	709.25	
18+15	445.4989	685.47	
18+20	449.9206	642.03	
18+25	454.1293	611.10	
18+30	458.2192	593.85	
18+35	462.1167	565.91	
18+40	465.8666	544.49	
18+45	469.5085	528.81	
18+50	472.9444	498.89	
18+55	476.2326	477.45	
19+ 0	479.4177	462.48	
19+ 5	482.3784	429.89	
19+10	485.1997	409.65	
19+15	487.9515	399.56	
19+20	490.6087	385.83	
19+25	493.1919	375.08	
19+30	495.7112	365.80	
19+35	498.1164	349.23	
19+40	500.4446	338.05	
19+45	502.7186	330.19	
19+50	504.9109	318.32	
19+55	507.0406	309.22	
20+ 0	509.1117	300.73	
20+ 5	511.0587	282.70	
20+10	512.9369	272.71	
20+15	514.7797	267.57	
20+20	516.5892	262.74	
20+25	518.3626	257.50	
20+30	520.0912	250.99	
20+35	521.7262	237.40	
20+40	523.3106	230.07	
20+45	524.8668	225.95	
20+50	526.3957	222.00	
20+55	527.8940	217.56	
21+ 0	529.3520	211.69	
21+ 5	530.7197	198.59	
21+10	532.0436	192.24	
21+15	533.3445	188.89	
21+20	534.6231	185.64	

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21+25     535.8752    181.81  | Q       |         |         |      V  |
21+30     537.0908    176.50  | Q       |         |         |      V  |
21+35     538.2237    164.50  | Q       |         |         |      V  |
21+40     539.3206    159.28  | Q       |         |         |      V  |
21+45     540.4002    156.75  | Q       |         |         |      V  |
21+50     541.4642    154.50  | Q       |         |         |      V  |
21+55     542.5137    152.39  | Q       |         |         |      V  |
22+ 0     543.5518    150.74  | Q       |         |         |      V  |
22+ 5     544.5897    150.70  | Q       |         |         |      V  |
22+10     545.6175    149.23  | Q       |         |         |       V |
22+15     546.6319    147.30  | Q       |         |         |       V |
22+20     547.6331    145.37  | Q       |         |         |       V |
22+25     548.6216    143.53  | Q       |         |         |       V |
22+30     549.5974    141.68  | Q       |         |         |       V |
22+35     550.5598    139.75  |Q        |         |         |       V |
22+40     551.5099    137.95  |Q        |         |         |       V |
22+45     552.4474    136.12  |Q        |         |         |       V |
22+50     553.3713    134.15  |Q        |         |         |       V |
22+55     554.2782    131.68  |Q        |         |         |       V |
23+ 0     555.1579    127.72  |Q        |         |         |       V |
23+ 5     555.9764    118.84  |Q        |         |         |       V |
23+10     556.7732    115.70  |Q        |         |         |       V |
23+15     557.5585    114.03  |Q        |         |         |       V |
23+20     558.3330    112.47  |Q        |         |         |       V |
23+25     559.0966    110.87  |Q        |         |         |       V |
23+30     559.8492    109.27  |Q        |         |         |        V|
23+35     560.5903    107.61  |Q        |         |         |        V|
23+40     561.3180    105.67  |Q        |         |         |        V|
23+45     562.0282    103.12  |Q        |         |         |        V|
23+50     562.6932     96.56  |Q        |         |         |        V|
23+55     563.3103     89.60  |Q        |         |         |        V|
24+ 0     563.9166     88.03  |Q        |         |         |        V|
24+ 5     564.5126     86.54  |Q        |         |         |        V|
24+10     565.0966     84.80  |Q        |         |         |        V|
24+15     565.6665     82.74  |Q        |         |         |        V|
24+20     566.2206     80.46  |Q        |         |         |        V|
24+25     566.7574     77.94  |Q        |         |         |        V|
24+30     567.2746     75.10  |Q        |         |         |        V|
24+35     567.7660     71.35  |Q        |         |         |        V|
24+40     568.2241     66.52  Q        |         |         |        V|
24+45     568.6384     60.15  Q        |         |         |        V|
24+50     569.0110     54.10  Q        |         |         |        V|
24+55     569.3461     48.66  Q        |         |         |        V|
25+ 0     569.6485     43.91  Q        |         |         |        V|
25+ 5     569.9232     39.89  Q        |         |         |        V|
25+10     570.1745     36.49  Q        |         |         |        V|
25+15     570.4069     33.73  Q        |         |         |        V|
25+20     570.6227     31.34  Q        |         |         |        V|
25+25     570.8237     29.19  Q        |         |         |        V|
25+30     571.0117     27.29  Q        |         |         |        V|
25+35     571.1875     25.53  Q        |         |         |        V|
25+40     571.3520     23.88  Q        |         |         |        V|
25+45     571.5064     22.42  Q        |         |         |        V|
25+50     571.6516     21.09  Q        |         |         |        V|
25+55     571.7882     19.83  Q        |         |         |        V|
26+ 0     571.9165     18.63  Q        |         |         |        V|
26+ 5     572.0375     17.57  Q        |         |         |        V|
26+10     572.1518     16.60  Q        |         |         |        V|
26+15     572.2596     15.65  Q        |         |         |        V|
```

26+20	572.3615	14.80	Q	|	|	|	V|
26+25	572.4580	14.01	Q	|	|	|	V|
26+30	572.5491	13.22	Q	|	|	|	V|
26+35	572.6351	12.50	Q	|	|	|	V|
26+40	572.7164	11.80	Q	|	|	|	V|
26+45	572.7930	11.12	Q	|	|	|	V|
26+50	572.8654	10.51	Q	|	|	|	V|
26+55	572.9338	9.93	Q	|	|	|	V|
27+ 0	572.9982	9.36	Q	|	|	|	V|
27+ 5	573.0594	8.88	Q	|	|	|	V|
27+10	573.1174	8.43	Q	|	|	|	V|
27+15	573.1725	8.00	Q	|	|	|	V|
27+20	573.2247	7.58	Q	|	|	|	V|
27+25	573.2742	7.18	Q	|	|	|	V|
27+30	573.3210	6.79	Q	|	|	|	V|
27+35	573.3652	6.43	Q	|	|	|	V|
27+40	573.4072	6.09	Q	|	|	|	V|
27+45	573.4468	5.75	Q	|	|	|	V|
27+50	573.4842	5.44	Q	|	|	|	V|
27+55	573.5195	5.13	Q	|	|	|	V|
28+ 0	573.5528	4.83	Q	|	|	|	V|
28+ 5	573.5843	4.58	Q	|	|	|	V|
28+10	573.6143	4.34	Q	|	|	|	V|
28+15	573.6426	4.11	Q	|	|	|	V|
28+20	573.6693	3.88	Q	|	|	|	V|
28+25	573.6945	3.66	Q	|	|	|	V|
28+30	573.7181	3.43	Q	|	|	|	V|
28+35	573.7405	3.24	Q	|	|	|	V|
28+40	573.7616	3.07	Q	|	|	|	V|
28+45	573.7815	2.89	Q	|	|	|	V|
28+50	573.8003	2.72	Q	|	|	|	V|
28+55	573.8178	2.55	Q	|	|	|	V|
29+ 0	573.8342	2.38	Q	|	|	|	V|
29+ 5	573.8497	2.25	Q	|	|	|	V|
29+10	573.8644	2.13	Q	|	|	|	V|
29+15	573.8782	2.01	Q	|	|	|	V|
29+20	573.8913	1.89	Q	|	|	|	V|
29+25	573.9035	1.77	Q	|	|	|	V|
29+30	573.9149	1.66	Q	|	|	|	V|
29+35	573.9257	1.58	Q	|	|	|	V|
29+40	573.9361	1.51	Q	|	|	|	V|
29+45	573.9460	1.43	Q	|	|	|	V|
29+50	573.9554	1.36	Q	|	|	|	V|
29+55	573.9643	1.29	Q	|	|	|	V|
30+ 0	573.9728	1.23	Q	|	|	|	V|
30+ 5	573.9807	1.15	Q	|	|	|	V|
30+10	573.9880	1.07	Q	|	|	|	V|
30+15	573.9949	1.00	Q	|	|	|	V|
30+20	574.0012	0.92	Q	|	|	|	V|
30+25	574.0071	0.84	Q	|	|	|	V|
30+30	574.0124	0.77	Q	|	|	|	V|
30+35	574.0172	0.70	Q	|	|	|	V|
30+40	574.0215	0.63	Q	|	|	|	V|
30+45	574.0253	0.55	Q	|	|	|	V|
30+50	574.0286	0.48	Q	|	|	|	V|
30+55	574.0315	0.41	Q	|	|	|	V|
31+ 0	574.0338	0.35	Q	|	|	|	V|
31+ 5	574.0359	0.30	Q	|	|	|	V|
31+10	574.0378	0.27	Q	|	|	|	V|

31+15	574.0394	0.23	Q	|	|	|	V|
31+20	574.0407	0.20	Q	|	|	|	V|
31+25	574.0418	0.16	Q	|	|	|	V|
31+30	574.0427	0.12	Q	|	|	|	V|
31+35	574.0433	0.09	Q	|	|	|	V|
31+40	574.0437	0.05	Q	|	|	|	V|
31+45	574.0438	0.02	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 48
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
764.55	1	1.40
Rainfall data for year 100		
764.55	6	1.85
Rainfall data for year 100		
764.55	24	2.62

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.7	90.0	764.55	1.000	0.193	0.883	0.170

Area-averaged adjusted loss rate Fm (In/Hr) = 0.170

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
675.02	0.883	73.7	90.0	1.11	0.625
89.53	0.117	98.0	98.0	0.20	0.912

Area-averaged catchment yield fraction, Y = 0.659
Area-averaged low loss fraction, Yb = 0.341
++
Watercourse length = 20795.00(Ft.)
Length from concentration point to centroid = 10119.00(Ft.)
Elevation difference along watercourse = 58.10(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 764.55(Ac.)
Catchment Lag time = 1.086 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.6744
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.170(In/Hr)
Average low loss rate fraction (Yb) = 0.341 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.664(In)
Computed peak 30-minute rainfall = 1.137(In)
Specified peak 1-hour rainfall = 1.400(In)
Computed peak 3-hour rainfall = 1.661(In)
Specified peak 6-hour rainfall = 1.850(In)
Specified peak 24-hour rainfall = 2.620(In)

Rainfall depth area reduction factors:
Using a total area of 764.55(Ac.) (Ref: fig. E-4)

5-minute factor = 0.964 Adjusted rainfall = 0.641(In)
30-minute factor = 0.964 Adjusted rainfall = 1.096(In)
1-hour factor = 0.964 Adjusted rainfall = 1.350(In)
3-hour factor = 0.995 Adjusted rainfall = 1.653(In)
6-hour factor = 0.998 Adjusted rainfall = 1.846(In)
24-hour factor = 0.999 Adjusted rainfall = 2.617(In)

U n i t H y d r o g r a p h

++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 9246.28 (CFS))	
1	0.338	31.222
2	1.055	66.356
3	2.223	107.990
4	3.682	134.858
5	5.569	174.501
6	7.882	213.896
7	10.735	263.782
8	15.337	425.521
9	21.329	553.991
10	29.124	720.728

11	36.078	643.007
12	42.350	579.965
13	47.395	466.497
14	51.874	414.107
15	55.805	363.422
16	58.978	293.445
17	61.785	259.530
18	64.201	223.393
19	66.382	201.643
20	68.389	185.575
21	70.258	172.837
22	71.995	160.626
23	73.531	142.020
24	74.941	130.380
25	76.282	123.973
26	77.577	119.742
27	78.745	107.940
28	79.758	93.714
29	80.771	93.667
30	81.741	89.708
31	82.580	77.499
32	83.408	76.637
33	84.229	75.870
34	84.981	69.533
35	85.718	68.122
36	86.453	67.964
37	87.109	60.710
38	87.723	56.768
39	88.337	56.768
40	88.888	50.903
41	89.349	42.635
42	89.809	42.576
43	90.263	41.973
44	90.695	39.910
45	91.125	39.738
46	91.550	39.297
47	91.929	35.103
48	92.298	34.061
49	92.666	34.034
50	93.015	32.281
51	93.353	31.222
52	93.690	31.222
53	93.998	28.482
54	94.260	24.178
55	94.521	24.126
56	94.782	24.126
57	95.043	24.126
58	95.304	24.126
59	95.560	23.751
60	95.772	19.599
61	95.972	18.450
62	96.171	18.450
63	96.371	18.450
64	96.570	18.450
65	96.770	18.450
66	96.947	16.406
67	97.086	12.838
68	97.224	12.773
69	97.363	12.773

70	97.501	12.773
71	97.639	12.773
72	97.774	12.457
73	97.864	8.357
74	97.941	7.096
75	98.017	7.096
76	98.094	7.096
77	98.171	7.096
78	98.248	7.096
79	98.330	7.571
80	98.421	8.492
81	98.514	8.515
82	98.606	8.515
83	98.698	8.515
84	98.790	8.515
85	98.882	8.515
86	98.974	8.515
87	99.066	8.515
88	99.158	8.515
89	99.250	8.515
90	99.342	8.515
91	99.434	8.515
92	99.513	7.248
93	99.562	4.527
94	99.610	4.435
95	99.658	4.435
96	99.706	4.435
97	99.754	4.435
98	99.802	4.435
99	99.850	4.435
100	99.898	4.435
101	99.946	4.435
102	100.000	2.217

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6405	0.6405
2	0.7886	0.1480
3	0.8906	0.1020
4	0.9708	0.0803
5	1.0380	0.0672
6	1.0964	0.0584
7	1.1483	0.0519
8	1.1952	0.0469
9	1.2382	0.0430
10	1.2780	0.0398
11	1.3150	0.0371
12	1.3498	0.0348
13	1.3699	0.0201
14	1.3888	0.0189
15	1.4066	0.0178
16	1.4235	0.0169
17	1.4395	0.0160
18	1.4548	0.0153
19	1.4694	0.0146
20	1.4833	0.0140
21	1.4968	0.0134
22	1.5097	0.0129
23	1.5221	0.0124

24	1.5341	0.0120
25	1.5457	0.0116
26	1.5570	0.0112
27	1.5678	0.0109
28	1.5784	0.0106
29	1.5887	0.0103
30	1.5986	0.0100
31	1.6083	0.0097
32	1.6178	0.0095
33	1.6270	0.0092
34	1.6360	0.0090
35	1.6448	0.0088
36	1.6534	0.0086
37	1.6606	0.0072
38	1.6676	0.0070
39	1.6745	0.0069
40	1.6812	0.0067
41	1.6878	0.0066
42	1.6943	0.0065
43	1.7006	0.0063
44	1.7069	0.0062
45	1.7130	0.0061
46	1.7189	0.0060
47	1.7248	0.0059
48	1.7306	0.0058
49	1.7363	0.0057
50	1.7418	0.0056
51	1.7473	0.0055
52	1.7527	0.0054
53	1.7580	0.0053
54	1.7632	0.0052
55	1.7684	0.0051
56	1.7734	0.0051
57	1.7784	0.0050
58	1.7833	0.0049
59	1.7882	0.0048
60	1.7930	0.0048
61	1.7977	0.0047
62	1.8023	0.0046
63	1.8069	0.0046
64	1.8114	0.0045
65	1.8159	0.0045
66	1.8203	0.0044
67	1.8246	0.0043
68	1.8289	0.0043
69	1.8332	0.0042
70	1.8373	0.0042
71	1.8415	0.0041
72	1.8456	0.0041
73	1.8520	0.0064
74	1.8584	0.0064
75	1.8647	0.0063
76	1.8709	0.0062
77	1.8771	0.0062
78	1.8832	0.0061
79	1.8892	0.0061
80	1.8952	0.0060
81	1.9012	0.0059
82	1.9071	0.0059

83	1.9129	0.0058
84	1.9187	0.0058
85	1.9244	0.0057
86	1.9301	0.0057
87	1.9357	0.0056
88	1.9413	0.0056
89	1.9469	0.0055
90	1.9524	0.0055
91	1.9578	0.0054
92	1.9632	0.0054
93	1.9686	0.0054
94	1.9739	0.0053
95	1.9791	0.0053
96	1.9844	0.0052
97	1.9896	0.0052
98	1.9947	0.0052
99	1.9998	0.0051
100	2.0049	0.0051
101	2.0099	0.0050
102	2.0149	0.0050
103	2.0199	0.0050
104	2.0248	0.0049
105	2.0297	0.0049
106	2.0346	0.0049
107	2.0394	0.0048
108	2.0442	0.0048
109	2.0489	0.0048
110	2.0537	0.0047
111	2.0583	0.0047
112	2.0630	0.0047
113	2.0676	0.0046
114	2.0722	0.0046
115	2.0768	0.0046
116	2.0813	0.0045
117	2.0858	0.0045
118	2.0903	0.0045
119	2.0948	0.0045
120	2.0992	0.0044
121	2.1036	0.0044
122	2.1080	0.0044
123	2.1123	0.0043
124	2.1166	0.0043
125	2.1209	0.0043
126	2.1252	0.0043
127	2.1294	0.0042
128	2.1336	0.0042
129	2.1378	0.0042
130	2.1420	0.0042
131	2.1461	0.0041
132	2.1502	0.0041
133	2.1543	0.0041
134	2.1584	0.0041
135	2.1624	0.0040
136	2.1665	0.0040
137	2.1705	0.0040
138	2.1745	0.0040
139	2.1784	0.0040
140	2.1824	0.0039
141	2.1863	0.0039

142	2.1902	0.0039
143	2.1941	0.0039
144	2.1979	0.0039
145	2.2017	0.0038
146	2.2056	0.0038
147	2.2094	0.0038
148	2.2131	0.0038
149	2.2169	0.0038
150	2.2206	0.0037
151	2.2244	0.0037
152	2.2281	0.0037
153	2.2318	0.0037
154	2.2354	0.0037
155	2.2391	0.0036
156	2.2427	0.0036
157	2.2463	0.0036
158	2.2499	0.0036
159	2.2535	0.0036
160	2.2571	0.0036
161	2.2606	0.0035
162	2.2641	0.0035
163	2.2677	0.0035
164	2.2712	0.0035
165	2.2746	0.0035
166	2.2781	0.0035
167	2.2816	0.0035
168	2.2850	0.0034
169	2.2884	0.0034
170	2.2918	0.0034
171	2.2952	0.0034
172	2.2986	0.0034
173	2.3019	0.0034
174	2.3053	0.0033
175	2.3086	0.0033
176	2.3119	0.0033
177	2.3152	0.0033
178	2.3185	0.0033
179	2.3218	0.0033
180	2.3251	0.0033
181	2.3283	0.0032
182	2.3316	0.0032
183	2.3348	0.0032
184	2.3380	0.0032
185	2.3412	0.0032
186	2.3444	0.0032
187	2.3475	0.0032
188	2.3507	0.0032
189	2.3538	0.0031
190	2.3570	0.0031
191	2.3601	0.0031
192	2.3632	0.0031
193	2.3663	0.0031
194	2.3694	0.0031
195	2.3725	0.0031
196	2.3755	0.0031
197	2.3786	0.0030
198	2.3816	0.0030
199	2.3846	0.0030
200	2.3876	0.0030

201	2.3906	0.0030
202	2.3936	0.0030
203	2.3966	0.0030
204	2.3996	0.0030
205	2.4026	0.0030
206	2.4055	0.0029
207	2.4084	0.0029
208	2.4114	0.0029
209	2.4143	0.0029
210	2.4172	0.0029
211	2.4201	0.0029
212	2.4230	0.0029
213	2.4258	0.0029
214	2.4287	0.0029
215	2.4316	0.0029
216	2.4344	0.0028
217	2.4372	0.0028
218	2.4401	0.0028
219	2.4429	0.0028
220	2.4457	0.0028
221	2.4485	0.0028
222	2.4513	0.0028
223	2.4541	0.0028
224	2.4568	0.0028
225	2.4596	0.0028
226	2.4623	0.0028
227	2.4651	0.0027
228	2.4678	0.0027
229	2.4705	0.0027
230	2.4733	0.0027
231	2.4760	0.0027
232	2.4787	0.0027
233	2.4813	0.0027
234	2.4840	0.0027
235	2.4867	0.0027
236	2.4894	0.0027
237	2.4920	0.0027
238	2.4947	0.0026
239	2.4973	0.0026
240	2.4999	0.0026
241	2.5026	0.0026
242	2.5052	0.0026
243	2.5078	0.0026
244	2.5104	0.0026
245	2.5130	0.0026
246	2.5155	0.0026
247	2.5181	0.0026
248	2.5207	0.0026
249	2.5232	0.0026
250	2.5258	0.0026
251	2.5283	0.0025
252	2.5309	0.0025
253	2.5334	0.0025
254	2.5359	0.0025
255	2.5384	0.0025
256	2.5409	0.0025
257	2.5434	0.0025
258	2.5459	0.0025
259	2.5484	0.0025

260	2.5509	0.0025
261	2.5533	0.0025
262	2.5558	0.0025
263	2.5583	0.0025
264	2.5607	0.0024
265	2.5632	0.0024
266	2.5656	0.0024
267	2.5680	0.0024
268	2.5704	0.0024
269	2.5729	0.0024
270	2.5753	0.0024
271	2.5777	0.0024
272	2.5801	0.0024
273	2.5824	0.0024
274	2.5848	0.0024
275	2.5872	0.0024
276	2.5896	0.0024
277	2.5919	0.0024
278	2.5943	0.0024
279	2.5966	0.0023
280	2.5990	0.0023
281	2.6013	0.0023
282	2.6036	0.0023
283	2.6060	0.0023
284	2.6083	0.0023
285	2.6106	0.0023
286	2.6129	0.0023
287	2.6152	0.0023
288	2.6175	0.0023

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0023	0.0008	0.0015
2	0.0023	0.0008	0.0015
3	0.0023	0.0008	0.0015
4	0.0023	0.0008	0.0015
5	0.0023	0.0008	0.0015
6	0.0023	0.0008	0.0015
7	0.0023	0.0008	0.0015
8	0.0024	0.0008	0.0016
9	0.0024	0.0008	0.0016
10	0.0024	0.0008	0.0016
11	0.0024	0.0008	0.0016
12	0.0024	0.0008	0.0016
13	0.0024	0.0008	0.0016
14	0.0024	0.0008	0.0016
15	0.0024	0.0008	0.0016
16	0.0024	0.0008	0.0016
17	0.0024	0.0008	0.0016
18	0.0025	0.0008	0.0016
19	0.0025	0.0008	0.0016
20	0.0025	0.0008	0.0016
21	0.0025	0.0009	0.0016
22	0.0025	0.0009	0.0016
23	0.0025	0.0009	0.0017
24	0.0025	0.0009	0.0017
25	0.0025	0.0009	0.0017

26	0.0025	0.0009	0.0017
27	0.0026	0.0009	0.0017
28	0.0026	0.0009	0.0017
29	0.0026	0.0009	0.0017
30	0.0026	0.0009	0.0017
31	0.0026	0.0009	0.0017
32	0.0026	0.0009	0.0017
33	0.0026	0.0009	0.0017
34	0.0026	0.0009	0.0017
35	0.0027	0.0009	0.0017
36	0.0027	0.0009	0.0018
37	0.0027	0.0009	0.0018
38	0.0027	0.0009	0.0018
39	0.0027	0.0009	0.0018
40	0.0027	0.0009	0.0018
41	0.0027	0.0009	0.0018
42	0.0027	0.0009	0.0018
43	0.0028	0.0009	0.0018
44	0.0028	0.0009	0.0018
45	0.0028	0.0010	0.0018
46	0.0028	0.0010	0.0018
47	0.0028	0.0010	0.0019
48	0.0028	0.0010	0.0019
49	0.0028	0.0010	0.0019
50	0.0029	0.0010	0.0019
51	0.0029	0.0010	0.0019
52	0.0029	0.0010	0.0019
53	0.0029	0.0010	0.0019
54	0.0029	0.0010	0.0019
55	0.0029	0.0010	0.0019
56	0.0029	0.0010	0.0019
57	0.0030	0.0010	0.0020
58	0.0030	0.0010	0.0020
59	0.0030	0.0010	0.0020
60	0.0030	0.0010	0.0020
61	0.0030	0.0010	0.0020
62	0.0030	0.0010	0.0020
63	0.0031	0.0010	0.0020
64	0.0031	0.0011	0.0020
65	0.0031	0.0011	0.0020
66	0.0031	0.0011	0.0021
67	0.0031	0.0011	0.0021
68	0.0032	0.0011	0.0021
69	0.0032	0.0011	0.0021
70	0.0032	0.0011	0.0021
71	0.0032	0.0011	0.0021
72	0.0032	0.0011	0.0021
73	0.0033	0.0011	0.0021
74	0.0033	0.0011	0.0022
75	0.0033	0.0011	0.0022
76	0.0033	0.0011	0.0022
77	0.0033	0.0011	0.0022
78	0.0034	0.0011	0.0022
79	0.0034	0.0012	0.0022
80	0.0034	0.0012	0.0022
81	0.0034	0.0012	0.0023
82	0.0035	0.0012	0.0023
83	0.0035	0.0012	0.0023
84	0.0035	0.0012	0.0023

85	0.0035	0.0012	0.0023
86	0.0035	0.0012	0.0023
87	0.0036	0.0012	0.0024
88	0.0036	0.0012	0.0024
89	0.0036	0.0012	0.0024
90	0.0036	0.0012	0.0024
91	0.0037	0.0013	0.0024
92	0.0037	0.0013	0.0024
93	0.0037	0.0013	0.0025
94	0.0038	0.0013	0.0025
95	0.0038	0.0013	0.0025
96	0.0038	0.0013	0.0025
97	0.0039	0.0013	0.0025
98	0.0039	0.0013	0.0026
99	0.0039	0.0013	0.0026
100	0.0039	0.0013	0.0026
101	0.0040	0.0014	0.0026
102	0.0040	0.0014	0.0026
103	0.0040	0.0014	0.0027
104	0.0041	0.0014	0.0027
105	0.0041	0.0014	0.0027
106	0.0041	0.0014	0.0027
107	0.0042	0.0014	0.0028
108	0.0042	0.0014	0.0028
109	0.0043	0.0015	0.0028
110	0.0043	0.0015	0.0028
111	0.0043	0.0015	0.0029
112	0.0044	0.0015	0.0029
113	0.0044	0.0015	0.0029
114	0.0045	0.0015	0.0029
115	0.0045	0.0015	0.0030
116	0.0045	0.0015	0.0030
117	0.0046	0.0016	0.0030
118	0.0046	0.0016	0.0030
119	0.0047	0.0016	0.0031
120	0.0047	0.0016	0.0031
121	0.0048	0.0016	0.0032
122	0.0048	0.0016	0.0032
123	0.0049	0.0017	0.0032
124	0.0049	0.0017	0.0032
125	0.0050	0.0017	0.0033
126	0.0050	0.0017	0.0033
127	0.0051	0.0017	0.0034
128	0.0052	0.0018	0.0034
129	0.0052	0.0018	0.0034
130	0.0053	0.0018	0.0035
131	0.0054	0.0018	0.0035
132	0.0054	0.0018	0.0036
133	0.0055	0.0019	0.0036
134	0.0055	0.0019	0.0036
135	0.0056	0.0019	0.0037
136	0.0057	0.0019	0.0037
137	0.0058	0.0020	0.0038
138	0.0058	0.0020	0.0038
139	0.0059	0.0020	0.0039
140	0.0060	0.0020	0.0040
141	0.0061	0.0021	0.0040
142	0.0062	0.0021	0.0041
143	0.0063	0.0022	0.0041

144	0.0064	0.0022	0.0042
145	0.0041	0.0014	0.0027
146	0.0041	0.0014	0.0027
147	0.0042	0.0014	0.0028
148	0.0043	0.0015	0.0028
149	0.0044	0.0015	0.0029
150	0.0045	0.0015	0.0029
151	0.0046	0.0016	0.0030
152	0.0046	0.0016	0.0031
153	0.0048	0.0016	0.0031
154	0.0048	0.0017	0.0032
155	0.0050	0.0017	0.0033
156	0.0051	0.0017	0.0033
157	0.0052	0.0018	0.0034
158	0.0053	0.0018	0.0035
159	0.0055	0.0019	0.0036
160	0.0056	0.0019	0.0037
161	0.0058	0.0020	0.0038
162	0.0059	0.0020	0.0039
163	0.0061	0.0021	0.0040
164	0.0062	0.0021	0.0041
165	0.0065	0.0022	0.0043
166	0.0066	0.0023	0.0043
167	0.0069	0.0024	0.0045
168	0.0070	0.0024	0.0046
169	0.0086	0.0029	0.0056
170	0.0088	0.0030	0.0058
171	0.0092	0.0031	0.0061
172	0.0095	0.0032	0.0062
173	0.0100	0.0034	0.0066
174	0.0103	0.0035	0.0068
175	0.0109	0.0037	0.0072
176	0.0112	0.0038	0.0074
177	0.0120	0.0041	0.0079
178	0.0124	0.0042	0.0082
179	0.0134	0.0046	0.0088
180	0.0140	0.0048	0.0092
181	0.0153	0.0052	0.0101
182	0.0160	0.0055	0.0106
183	0.0178	0.0061	0.0117
184	0.0189	0.0064	0.0124
185	0.0348	0.0119	0.0229
186	0.0371	0.0127	0.0244
187	0.0430	0.0142	0.0288
188	0.0469	0.0142	0.0328
189	0.0584	0.0142	0.0442
190	0.0672	0.0142	0.0530
191	0.1020	0.0142	0.0878
192	0.1480	0.0142	0.1339
193	0.6405	0.0142	0.6263
194	0.0803	0.0142	0.0661
195	0.0519	0.0142	0.0377
196	0.0398	0.0136	0.0262
197	0.0201	0.0069	0.0132
198	0.0169	0.0058	0.0111
199	0.0146	0.0050	0.0096
200	0.0129	0.0044	0.0085
201	0.0116	0.0040	0.0076
202	0.0106	0.0036	0.0070

203	0.0097	0.0033	0.0064
204	0.0090	0.0031	0.0059
205	0.0072	0.0025	0.0047
206	0.0067	0.0023	0.0044
207	0.0063	0.0022	0.0042
208	0.0060	0.0020	0.0039
209	0.0057	0.0019	0.0037
210	0.0054	0.0018	0.0036
211	0.0051	0.0018	0.0034
212	0.0049	0.0017	0.0032
213	0.0047	0.0016	0.0031
214	0.0045	0.0015	0.0030
215	0.0043	0.0015	0.0029
216	0.0042	0.0014	0.0028
217	0.0064	0.0022	0.0042
218	0.0062	0.0021	0.0041
219	0.0061	0.0021	0.0040
220	0.0059	0.0020	0.0039
221	0.0057	0.0020	0.0038
222	0.0056	0.0019	0.0037
223	0.0054	0.0019	0.0036
224	0.0053	0.0018	0.0035
225	0.0052	0.0018	0.0034
226	0.0051	0.0017	0.0033
227	0.0050	0.0017	0.0033
228	0.0049	0.0017	0.0032
229	0.0048	0.0016	0.0031
230	0.0047	0.0016	0.0031
231	0.0046	0.0016	0.0030
232	0.0045	0.0015	0.0029
233	0.0044	0.0015	0.0029
234	0.0043	0.0015	0.0028
235	0.0042	0.0014	0.0028
236	0.0042	0.0014	0.0027
237	0.0041	0.0014	0.0027
238	0.0040	0.0014	0.0027
239	0.0040	0.0014	0.0026
240	0.0039	0.0013	0.0026
241	0.0038	0.0013	0.0025
242	0.0038	0.0013	0.0025
243	0.0037	0.0013	0.0025
244	0.0037	0.0013	0.0024
245	0.0036	0.0012	0.0024
246	0.0036	0.0012	0.0023
247	0.0035	0.0012	0.0023
248	0.0035	0.0012	0.0023
249	0.0034	0.0012	0.0023
250	0.0034	0.0012	0.0022
251	0.0033	0.0011	0.0022
252	0.0033	0.0011	0.0022
253	0.0032	0.0011	0.0021
254	0.0032	0.0011	0.0021
255	0.0032	0.0011	0.0021
256	0.0031	0.0011	0.0021
257	0.0031	0.0011	0.0020
258	0.0031	0.0010	0.0020
259	0.0030	0.0010	0.0020
260	0.0030	0.0010	0.0020
261	0.0030	0.0010	0.0019

262	0.0029	0.0010	0.0019
263	0.0029	0.0010	0.0019
264	0.0029	0.0010	0.0019
265	0.0028	0.0010	0.0019
266	0.0028	0.0010	0.0018
267	0.0028	0.0009	0.0018
268	0.0028	0.0009	0.0018
269	0.0027	0.0009	0.0018
270	0.0027	0.0009	0.0018
271	0.0027	0.0009	0.0018
272	0.0026	0.0009	0.0017
273	0.0026	0.0009	0.0017
274	0.0026	0.0009	0.0017
275	0.0026	0.0009	0.0017
276	0.0026	0.0009	0.0017
277	0.0025	0.0009	0.0017
278	0.0025	0.0009	0.0016
279	0.0025	0.0008	0.0016
280	0.0025	0.0008	0.0016
281	0.0024	0.0008	0.0016
282	0.0024	0.0008	0.0016
283	0.0024	0.0008	0.0016
284	0.0024	0.0008	0.0016
285	0.0024	0.0008	0.0016
286	0.0023	0.0008	0.0015
287	0.0023	0.0008	0.0015
288	0.0023	0.0008	0.0015

Total soil rain loss = 0.60(In)
Total effective rainfall = 2.02(In)
Peak flow rate in flood hydrograph = 752.60(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

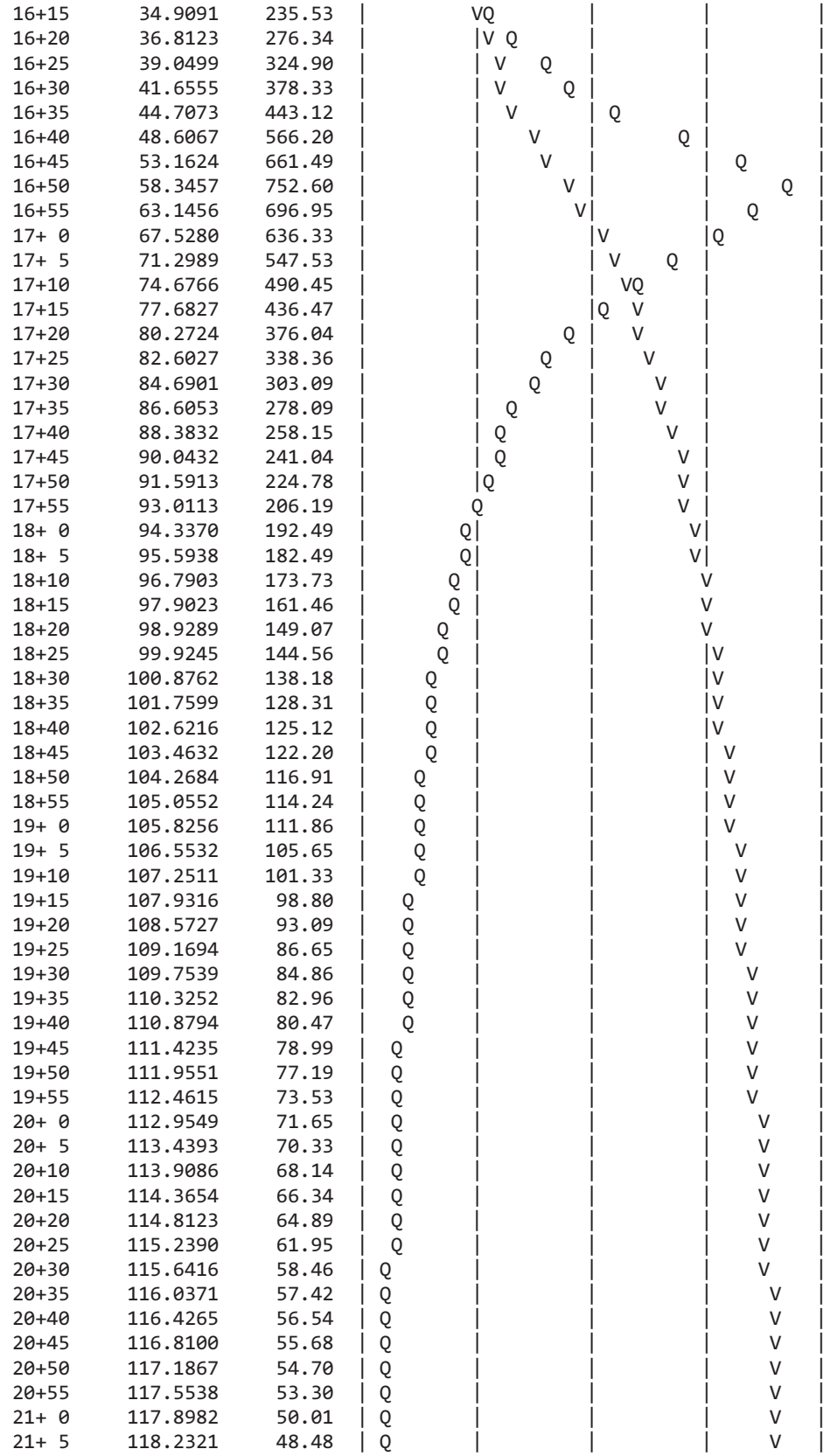
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	200.0	400.0	600.0	800.0
0+ 5	0.0003	0.05	Q	|	|	|	|
0+10	0.0013	0.15	Q	|	|	|	|
0+15	0.0035	0.31	Q	|	|	|	|
0+20	0.0070	0.52	Q	|	|	|	|
0+25	0.0124	0.78	Q	|	|	|	|
0+30	0.0200	1.11	Q	|	|	|	|
0+35	0.0304	1.51	Q	|	|	|	|
0+40	0.0453	2.16	Q	|	|	|	|
0+45	0.0660	3.00	Q	|	|	|	|
0+50	0.0943	4.10	Q	|	|	|	|
0+55	0.1293	5.09	Q	|	|	|	|
1+ 0	0.1705	5.99	Q	|	|	|	|
1+ 5	0.2168	6.71	Q	|	|	|	|
1+10	0.2675	7.37	Q	|	|	|	|
1+15	0.3222	7.94	Q	|	|	|	|
1+20	0.3802	8.42	Q	|	|	|	|
1+25	0.4411	8.84	Q	|	|	|	|

1+30	0.5046	9.22	Q				
1+35	0.5704	9.56	Q				
1+40	0.6385	9.88	Q				
1+45	0.7086	10.18	Q				
1+50	0.7807	10.46	Q				
1+55	0.8545	10.72	Q				
2+ 0	0.9300	10.96	Q				
2+ 5	1.0071	11.20	Q				
2+10	1.0858	11.42	Q				
2+15	1.1659	11.64	Q				
2+20	1.2474	11.83	Q				
2+25	1.3301	12.02	Q				
2+30	1.4142	12.20	Q				
2+35	1.4994	12.37	Q				
2+40	1.5858	12.54	Q				
2+45	1.6734	12.71	Q				
2+50	1.7620	12.87	Q				
2+55	1.8518	13.03	Q				
3+ 0	1.9426	13.19	Q				
3+ 5	2.0345	13.34	Q				
3+10	2.1274	13.49	Q				
3+15	2.2213	13.63	Q				
3+20	2.3161	13.77	Q				
3+25	2.4118	13.90	Q				
3+30	2.5084	14.02	Q				
3+35	2.6059	14.15	Q				
3+40	2.7042	14.28	Q				
3+45	2.8034	14.40	Q				
3+50	2.9034	14.53	Q				
3+55	3.0043	14.65	Q				
4+ 0	3.1061	14.77	Q				
4+ 5	3.2086	14.89	Q				
4+10	3.3120	15.01	QV				
4+15	3.4162	15.13	QV				
4+20	3.5212	15.25	QV				
4+25	3.6270	15.37	QV				
4+30	3.7336	15.48	QV				
4+35	3.8410	15.59	QV				
4+40	3.9491	15.70	QV				
4+45	4.0581	15.82	QV				
4+50	4.1678	15.93	QV				
4+55	4.2783	16.05	QV				
5+ 0	4.3896	16.16	QV				
5+ 5	4.5016	16.27	QV				
5+10	4.6144	16.38	QV				
5+15	4.7280	16.49	QV				
5+20	4.8423	16.60	QV				
5+25	4.9575	16.72	QV				
5+30	5.0734	16.83	QV				
5+35	5.1901	16.94	QV				
5+40	5.3075	17.05	QV				
5+45	5.4256	17.16	QV				
5+50	5.5446	17.27	QV				
5+55	5.6643	17.38	QV				
6+ 0	5.7848	17.50	QV				
6+ 5	5.9061	17.61	QV				
6+10	6.0281	17.72	QV				
6+15	6.1509	17.82	QV				
6+20	6.2744	17.94	QV				

6+25	6.3987	18.05	QV	|	|	|	|
6+30	6.5238	18.16	Q V	|	|	|	|
6+35	6.6497	18.28	Q V	|	|	|	|
6+40	6.7764	18.40	Q V	|	|	|	|
6+45	6.9039	18.52	Q V	|	|	|	|
6+50	7.0323	18.64	Q V	|	|	|	|
6+55	7.1615	18.76	Q V	|	|	|	|
7+ 0	7.2916	18.89	Q V	|	|	|	|
7+ 5	7.4225	19.02	Q V	|	|	|	|
7+10	7.5544	19.14	Q V	|	|	|	|
7+15	7.6871	19.27	Q V	|	|	|	|
7+20	7.8208	19.41	Q V	|	|	|	|
7+25	7.9554	19.54	Q V	|	|	|	|
7+30	8.0909	19.68	Q V	|	|	|	|
7+35	8.2273	19.81	Q V	|	|	|	|
7+40	8.3647	19.95	Q V	|	|	|	|
7+45	8.5031	20.09	|QV	|	|	|	|
7+50	8.6423	20.22	|QV	|	|	|	|
7+55	8.7826	20.36	|QV	|	|	|	|
8+ 0	8.9238	20.50	|QV	|	|	|	|
8+ 5	9.0660	20.65	|QV	|	|	|	|
8+10	9.2092	20.79	|QV	|	|	|	|
8+15	9.3534	20.94	|QV	|	|	|	|
8+20	9.4987	21.09	|QV	|	|	|	|
8+25	9.6450	21.24	|Q V	|	|	|	|
8+30	9.7924	21.40	|Q V	|	|	|	|
8+35	9.9408	21.55	|Q V	|	|	|	|
8+40	10.0902	21.70	|Q V	|	|	|	|
8+45	10.2407	21.86	|Q V	|	|	|	|
8+50	10.3924	22.02	|Q V	|	|	|	|
8+55	10.5451	22.18	|Q V	|	|	|	|
9+ 0	10.6990	22.34	|Q V	|	|	|	|
9+ 5	10.8540	22.51	|Q V	|	|	|	|
9+10	11.0102	22.68	|Q V	|	|	|	|
9+15	11.1676	22.85	|Q V	|	|	|	|
9+20	11.3262	23.03	|Q V	|	|	|	|
9+25	11.4861	23.21	|Q V	|	|	|	|
9+30	11.6472	23.39	|Q V	|	|	|	|
9+35	11.8096	23.58	|Q V	|	|	|	|
9+40	11.9733	23.77	|Q V	|	|	|	|
9+45	12.1383	23.96	|Q V	|	|	|	|
9+50	12.3047	24.16	|Q V	|	|	|	|
9+55	12.4725	24.36	|Q V	|	|	|	|
10+ 0	12.6417	24.57	|Q V	|	|	|	|
10+ 5	12.8124	24.78	|Q V	|	|	|	|
10+10	12.9845	24.99	|Q V	|	|	|	|
10+15	13.1582	25.21	|Q V	|	|	|	|
10+20	13.3333	25.44	|Q V	|	|	|	|
10+25	13.5101	25.66	|Q V	|	|	|	|
10+30	13.6885	25.90	|Q V	|	|	|	|
10+35	13.8684	26.13	|Q V	|	|	|	|
10+40	14.0501	26.38	|Q V	|	|	|	|
10+45	14.2335	26.63	|Q V	|	|	|	|
10+50	14.4186	26.88	|Q V	|	|	|	|
10+55	14.6056	27.14	|Q V	|	|	|	|
11+ 0	14.7943	27.41	|Q V	|	|	|	|
11+ 5	14.9850	27.68	|Q V	|	|	|	|
11+10	15.1776	27.96	|Q V	|	|	|	|
11+15	15.3721	28.25	|Q V	|	|	|	|

11+20	15.5687	28.54	Q V				
11+25	15.7673	28.84	Q V				
11+30	15.9681	29.15	Q V				
11+35	16.1710	29.47	Q V				
11+40	16.3762	29.79	Q V				
11+45	16.5837	30.12	Q V				
11+50	16.7935	30.47	Q V				
11+55	17.0057	30.82	Q V				
12+ 0	17.2205	31.18	Q V				
12+ 5	17.4375	31.50	Q V				
12+10	17.6564	31.78	Q V				
12+15	17.8768	32.00	Q V				
12+20	18.0985	32.20	Q V				
12+25	18.3212	32.33	Q V				
12+30	18.5444	32.42	Q V				
12+35	18.7677	32.43	Q V				
12+40	18.9895	32.20	Q V				
12+45	19.2082	31.76	Q V				
12+50	19.4223	31.08	Q V				
12+55	19.6324	30.51	Q V				
13+ 0	19.8394	30.05	Q V				
13+ 5	20.0444	29.77	Q V				
13+10	20.2482	29.59	Q V				
13+15	20.4513	29.49	Q V				
13+20	20.6546	29.52	Q V				
13+25	20.8585	29.61	Q V				
13+30	21.0636	29.78	Q V				
13+35	21.2702	29.99	Q V				
13+40	21.4786	30.26	Q V				
13+45	21.6890	30.56	Q V				
13+50	21.9019	30.91	Q V				
13+55	22.1175	31.31	Q V				
14+ 0	22.3363	31.76	Q V				
14+ 5	22.5586	32.28	Q V				
14+10	22.7849	32.86	Q V				
14+15	23.0159	33.53	Q V				
14+20	23.2521	34.30	Q V				
14+25	23.4941	35.14	Q V				
14+30	23.7426	36.08	Q V				
14+35	23.9983	37.13	Q V				
14+40	24.2626	38.39	Q V				
14+45	24.5369	39.82	Q V				
14+50	24.8226	41.50	Q V				
14+55	25.1202	43.21	Q V				
15+ 0	25.4302	45.01	Q V				
15+ 5	25.7529	46.85	Q V				
15+10	26.0892	48.83	Q V				
15+15	26.4399	50.93	Q V				
15+20	26.8063	53.20	Q V				
15+25	27.1917	55.96	Q V				
15+30	27.6002	59.32	Q V				
15+35	28.0370	63.43	Q V				
15+40	28.5079	68.37	Q V				
15+45	29.0213	74.55	Q V				
15+50	29.5887	82.38	Q V				
15+55	30.2293	93.01	Q V				
16+ 0	30.9805	109.08	Q V				
16+ 5	31.9861	146.01	Q V				
16+10	33.2870	188.89	QV				



16+15	34.9091	235.53	VQ
16+20	36.8123	276.34	V Q
16+25	39.0499	324.90	V Q
16+30	41.6555	378.33	V Q
16+35	44.7073	443.12	V Q
16+40	48.6067	566.20	V Q
16+45	53.1624	661.49	V Q
16+50	58.3457	752.60	V Q
16+55	63.1456	696.95	V Q
17+ 0	67.5280	636.33	V Q
17+ 5	71.2989	547.53	V Q
17+10	74.6766	490.45	VQ
17+15	77.6827	436.47	Q V
17+20	80.2724	376.04	Q V
17+25	82.6027	338.36	Q V
17+30	84.6901	303.09	Q V
17+35	86.6053	278.09	Q V
17+40	88.3832	258.15	Q V
17+45	90.0432	241.04	Q V
17+50	91.5913	224.78	Q V
17+55	93.0113	206.19	Q V
18+ 0	94.3370	192.49	Q V
18+ 5	95.5938	182.49	Q V
18+10	96.7903	173.73	Q V
18+15	97.9023	161.46	Q V
18+20	98.9289	149.07	Q V
18+25	99.9245	144.56	Q V
18+30	100.8762	138.18	Q V
18+35	101.7599	128.31	Q V
18+40	102.6216	125.12	Q V
18+45	103.4632	122.20	Q V
18+50	104.2684	116.91	Q V
18+55	105.0552	114.24	Q V
19+ 0	105.8256	111.86	Q V
19+ 5	106.5532	105.65	Q V
19+10	107.2511	101.33	Q V
19+15	107.9316	98.80	Q V
19+20	108.5727	93.09	Q V
19+25	109.1694	86.65	Q V
19+30	109.7539	84.86	Q V
19+35	110.3252	82.96	Q V
19+40	110.8794	80.47	Q V
19+45	111.4235	78.99	Q V
19+50	111.9551	77.19	Q V
19+55	112.4615	73.53	Q V
20+ 0	112.9549	71.65	Q V
20+ 5	113.4393	70.33	Q V
20+10	113.9086	68.14	Q V
20+15	114.3654	66.34	Q V
20+20	114.8123	64.89	Q V
20+25	115.2390	61.95	Q V
20+30	115.6416	58.46	Q V
20+35	116.0371	57.42	Q V
20+40	116.4265	56.54	Q V
20+45	116.8100	55.68	Q V
20+50	117.1867	54.70	Q V
20+55	117.5538	53.30	Q V
21+ 0	117.8982	50.01	Q V
21+ 5	118.2321	48.48	Q V

```
21+10     118.5604     47.68  | Q       |         |         |     V   |
21+15     118.8836     46.92  | Q       |         |         |     V   |
21+20     119.2013     46.12  | Q       |         |         |      V  |
21+25     119.5118     45.09  | Q       |         |         |      V  |
21+30     119.8072     42.89  | Q       |         |         |      V  |
21+35     120.0831     40.07  | Q       |         |         |      V  |
21+40     120.3535     39.26  |Q        |         |         |      V  |
21+45     120.6191     38.56  |Q        |         |         |      V  |
21+50     120.8800     37.89  |Q        |         |         |      V  |
21+55     121.1356     37.11  |Q        |         |         |      V  |
22+ 0     121.3833     35.97  |Q        |         |         |      V  |
22+ 5     121.6102     32.95  |Q        |         |         |      V  |
22+10     121.8281     31.64  |Q        |         |         |      V  |
22+15     122.0427     31.16  |Q        |         |         |      V  |
22+20     122.2549     30.80  |Q        |         |         |       V |
22+25     122.4652     30.54  |Q        |         |         |       V |
22+30     122.6743     30.36  |Q        |         |         |       V |
22+35     122.8841     30.46  |Q        |         |         |       V |
22+40     123.0960     30.77  |Q        |         |         |       V |
22+45     123.3066     30.57  |Q        |         |         |       V |
22+50     123.5155     30.33  |Q        |         |         |       V |
22+55     123.7227     30.08  |Q        |         |         |       V |
23+ 0     123.9279     29.80  |Q        |         |         |       V |
23+ 5     124.1311     29.50  |Q        |         |         |       V |
23+10     124.3321     29.19  |Q        |         |         |       V |
23+15     124.5309     28.86  |Q        |         |         |       V |
23+20     124.7272     28.51  |Q        |         |         |       V |
23+25     124.9210     28.13  |Q        |         |         |       V |
23+30     125.1115     27.67  |Q        |         |         |       V |
23+35     125.2978     27.05  |Q        |         |         |       V |
23+40     125.4747     25.69  |Q        |         |         |        V|
23+45     125.6379     23.68  |Q        |         |         |        V|
23+50     125.7975     23.18  |Q        |         |         |        V|
23+55     125.9544     22.79  |Q        |         |         |        V|
24+ 0     126.1090     22.44  |Q        |         |         |        V|
24+ 5     126.2610     22.07  |Q        |         |         |        V|
24+10     126.4098     21.62  |Q        |         |         |        V|
24+15     126.5549     21.07  |Q        |         |         |        V|
24+20     126.6953     20.39  |Q        |         |         |        V|
24+25     126.8295     19.48  Q        |         |         |        V|
24+30     126.9488     17.33  Q        |         |         |        V|
24+35     127.0539     15.25  Q        |         |         |        V|
24+40     127.1521     14.26  Q        |         |         |        V|
24+45     127.2427     13.16  Q        |         |         |        V|
24+50     127.3245     11.88  Q        |         |         |        V|
24+55     127.3987     10.77  Q        |         |         |        V|
25+ 0     127.4659      9.76  Q        |         |         |        V|
25+ 5     127.5275      8.94  Q        |         |         |        V|
25+10     127.5841      8.21  Q        |         |         |        V|
25+15     127.6362      7.57  Q        |         |         |        V|
25+20     127.6848      7.05  Q        |         |         |        V|
25+25     127.7301      6.58  Q        |         |         |        V|
25+30     127.7726      6.17  Q        |         |         |        V|
25+35     127.8126      5.81  Q        |         |         |        V|
25+40     127.8503      5.47  Q        |         |         |        V|
25+45     127.8858      5.15  Q        |         |         |        V|
25+50     127.9192      4.86  Q        |         |         |        V|
25+55     127.9508      4.59  Q        |         |         |        V|
26+ 0     127.9808      4.35  Q        |         |         |        V|
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26+ 5	128.0091	4.12	Q	|	|	|	V|
26+10	128.0359	3.89	Q	|	|	|	V|
26+15	128.0614	3.69	Q	|	|	|	V|
26+20	128.0856	3.52	Q	|	|	|	V|
26+25	128.1086	3.34	Q	|	|	|	V|
26+30	128.1305	3.17	Q	|	|	|	V|
26+35	128.1513	3.02	Q	|	|	|	V|
26+40	128.1710	2.87	Q	|	|	|	V|
26+45	128.1898	2.72	Q	|	|	|	V|
26+50	128.2076	2.59	Q	|	|	|	V|
26+55	128.2246	2.46	Q	|	|	|	V|
27+ 0	128.2406	2.33	Q	|	|	|	V|
27+ 5	128.2558	2.21	Q	|	|	|	V|
27+10	128.2703	2.10	Q	|	|	|	V|
27+15	128.2840	1.99	Q	|	|	|	V|
27+20	128.2971	1.89	Q	|	|	|	V|
27+25	128.3095	1.81	Q	|	|	|	V|
27+30	128.3214	1.73	Q	|	|	|	V|
27+35	128.3327	1.65	Q	|	|	|	V|
27+40	128.3435	1.57	Q	|	|	|	V|
27+45	128.3538	1.49	Q	|	|	|	V|
27+50	128.3636	1.42	Q	|	|	|	V|
27+55	128.3729	1.35	Q	|	|	|	V|
28+ 0	128.3817	1.28	Q	|	|	|	V|
28+ 5	128.3901	1.22	Q	|	|	|	V|
28+10	128.3981	1.16	Q	|	|	|	V|
28+15	128.4057	1.10	Q	|	|	|	V|
28+20	128.4128	1.04	Q	|	|	|	V|
28+25	128.4196	0.99	Q	|	|	|	V|
28+30	128.4261	0.94	Q	|	|	|	V|
28+35	128.4323	0.90	Q	|	|	|	V|
28+40	128.4382	0.85	Q	|	|	|	V|
28+45	128.4437	0.81	Q	|	|	|	V|
28+50	128.4490	0.76	Q	|	|	|	V|
28+55	128.4539	0.72	Q	|	|	|	V|
29+ 0	128.4586	0.68	Q	|	|	|	V|
29+ 5	128.4631	0.65	Q	|	|	|	V|
29+10	128.4673	0.61	Q	|	|	|	V|
29+15	128.4713	0.58	Q	|	|	|	V|
29+20	128.4751	0.55	Q	|	|	|	V|
29+25	128.4786	0.51	Q	|	|	|	V|
29+30	128.4819	0.48	Q	|	|	|	V|
29+35	128.4851	0.46	Q	|	|	|	V|
29+40	128.4881	0.44	Q	|	|	|	V|
29+45	128.4910	0.41	Q	|	|	|	V|
29+50	128.4936	0.39	Q	|	|	|	V|
29+55	128.4962	0.37	Q	|	|	|	V|
30+ 0	128.4986	0.35	Q	|	|	|	V|
30+ 5	128.5008	0.33	Q	|	|	|	V|
30+10	128.5030	0.32	Q	|	|	|	V|
30+15	128.5051	0.30	Q	|	|	|	V|
30+20	128.5071	0.29	Q	|	|	|	V|
30+25	128.5090	0.28	Q	|	|	|	V|
30+30	128.5108	0.26	Q	|	|	|	V|
30+35	128.5125	0.25	Q	|	|	|	V|
30+40	128.5141	0.23	Q	|	|	|	V|
30+45	128.5156	0.22	Q	|	|	|	V|
30+50	128.5170	0.20	Q	|	|	|	V|
30+55	128.5183	0.19	Q	|	|	|	V|

```
   31+ 0     128.5195      0.18  Q         |         |         |        V|
   31+ 5     128.5207      0.16  Q         |         |         |        V|
   31+10     128.5217      0.15  Q         |         |         |        V|
   31+15     128.5226      0.13  Q         |         |         |        V|
   31+20     128.5234      0.12  Q         |         |         |        V|
   31+25     128.5241      0.11  Q         |         |         |        V|
   31+30     128.5248      0.09  Q         |         |         |        V|
   31+35     128.5253      0.08  Q         |         |         |        V|
   31+40     128.5258      0.07  Q         |         |         |        V|
   31+45     128.5262      0.06  Q         |         |         |        V|
   31+50     128.5265      0.05  Q         |         |         |        V|
   31+55     128.5268      0.04  Q         |         |         |        V|
   32+ 0     128.5271      0.04  Q         |         |         |        V|
   32+ 5     128.5273      0.03  Q         |         |         |        V|
   32+10     128.5275      0.02  Q         |         |         |        V|
   32+15     128.5276      0.02  Q         |         |         |        V|
   32+20     128.5276      0.01  Q         |         |         |        V|
   32+25     128.5277      0.00  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 49
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
17446.64	1	1.36
Rainfall data for year 100		
17446.64	6	2.15
Rainfall data for year 100		
17446.64	24	3.24

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
73.7	90.0	17446.64	1.000	0.193	0.976	0.188

Area-averaged adjusted loss rate Fm (In/Hr) = 0.188

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
17020.94	0.976	73.7	90.0	1.11	0.681
425.70	0.024	98.0	98.0	0.20	0.928

Area-averaged catchment yield fraction, Y = 0.687
Area-averaged low loss fraction, Yb = 0.313
++
Watercourse length = 81047.00(Ft.)
Length from concentration point to centroid = 39563.00(Ft.)
Elevation difference along watercourse = 2612.40(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 17446.64(Ac.)
Catchment Lag time = 1.921 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 4.3384
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.188(In/Hr)
Average low loss rate fraction (Yb) = 0.313 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.180
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.820

Computed peak 5-minute rainfall = 0.645(In)
Computed peak 30-minute rainfall = 1.105(In)
Specified peak 1-hour rainfall = 1.360(In)
Computed peak 3-hour rainfall = 1.801(In)
Specified peak 6-hour rainfall = 2.150(In)
Specified peak 24-hour rainfall = 3.240(In)

Rainfall depth area reduction factors:
Using a total area of 17446.64(Ac.) (Ref: fig. E-4)

5-minute factor = 0.568 Adjusted rainfall = 0.367(In)
30-minute factor = 0.594 Adjusted rainfall = 0.656(In)
1-hour factor = 0.605 Adjusted rainfall = 0.823(In)
3-hour factor = 0.908 Adjusted rainfall = 1.635(In)
6-hour factor = 0.957 Adjusted rainfall = 2.057(In)
24-hour factor = 0.974 Adjusted rainfall = 3.155(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 210995.30 (CFS))	
1	0.206	434.623
2	0.618	869.246
3	1.032	873.480
4	1.625	1251.922
5	2.366	1563.169

6	3.121	1592.420
7	4.085	2035.078
8	5.139	2224.011
9	6.236	2313.686
10	7.590	2857.279
11	9.009	2994.395
12	10.558	3267.314
13	12.966	5080.180
14	15.533	5416.978
15	18.413	6076.469
16	22.344	8294.244
17	26.388	8532.086
18	30.323	8302.613
19	33.956	7665.416
20	37.591	7670.467
21	41.160	7530.812
22	44.698	7464.989
23	48.172	7330.347
24	51.074	6122.057
25	53.464	5042.553
26	55.814	4958.843
27	57.760	4106.802
28	59.486	3640.289
29	61.205	3627.504
30	62.699	3153.128
31	64.080	2913.110
32	65.453	2896.212
33	66.692	2614.635
34	67.859	2462.850
35	69.013	2435.140
36	70.072	2234.811
37	71.110	2190.324
38	72.127	2145.936
39	73.038	1921.327
40	73.934	1890.079
41	74.802	1831.740
42	75.579	1639.391
43	76.349	1624.253
44	77.110	1605.926
45	77.852	1565.640
46	78.593	1564.204
47	79.270	1428.065
48	79.853	1229.756
49	80.435	1228.076
50	81.017	1228.076
51	81.599	1228.076
52	82.180	1225.998
53	82.697	1090.094
54	83.175	1008.384
55	83.653	1008.384
56	84.130	1008.384
57	84.608	1008.384
58	85.082	999.269
59	85.510	904.080
60	85.927	878.766
61	86.343	878.766
62	86.760	878.766
63	87.176	878.766
64	87.580	851.291

65	87.932	743.299
66	88.279	732.305
67	88.626	732.305
68	88.973	732.305
69	89.320	732.305
70	89.637	668.545
71	89.902	557.804
72	90.165	555.820
73	90.428	555.820
74	90.692	555.820
75	90.955	555.604
76	91.203	522.906
77	91.440	499.432
78	91.676	499.432
79	91.913	499.432
80	92.150	499.432
81	92.385	495.564
82	92.595	442.883
83	92.797	426.202
84	92.999	426.202
85	93.201	426.202
86	93.403	426.202
87	93.601	418.322
88	93.782	381.170
89	93.960	376.405
90	94.138	376.405
91	94.317	376.405
92	94.495	376.405
93	94.658	343.946
94	94.789	277.008
95	94.920	274.981
96	95.050	274.981
97	95.180	274.981
98	95.311	274.981
99	95.441	274.981
100	95.571	274.981
101	95.702	274.981
102	95.832	274.981
103	95.962	274.981
104	96.092	272.585
105	96.200	228.282
106	96.300	211.636
107	96.400	211.636
108	96.501	211.636
109	96.601	211.636
110	96.701	211.636
111	96.802	211.636
112	96.902	211.636
113	97.002	211.636
114	97.102	211.636
115	97.203	211.636
116	97.294	192.891
117	97.364	147.078
118	97.433	144.996
119	97.501	144.996
120	97.570	144.996
121	97.639	144.996
122	97.708	144.996
123	97.776	144.996

124	97.845	144.996
125	97.914	144.996
126	97.982	144.996
127	98.050	143.559
128	98.100	105.284
129	98.142	88.243
130	98.184	88.243
131	98.226	88.243
132	98.268	88.243
133	98.309	88.243
134	98.351	88.243
135	98.393	88.243
136	98.435	88.243
137	98.477	88.243
138	98.519	88.243
139	98.561	90.306
140	98.607	96.285
141	98.653	96.664
142	98.699	96.664
143	98.744	96.664
144	98.790	96.664
145	98.836	96.664
146	98.882	96.664
147	98.928	96.664
148	98.973	96.664
149	99.019	96.664
150	99.065	96.614
151	99.110	94.490
152	99.154	93.369
153	99.198	93.369
154	99.243	93.369
155	99.287	93.369
156	99.331	93.369
157	99.375	93.369
158	99.420	93.369
159	99.464	93.369
160	99.508	93.369
161	99.552	93.369
162	99.592	83.755
163	99.616	49.556
164	99.638	46.913
165	99.660	46.913
166	99.682	46.913
167	99.705	46.913
168	99.727	46.913
169	99.749	46.913
170	99.771	46.913
171	99.793	46.913
172	99.816	46.913
173	99.838	46.913
174	99.860	46.913
175	99.882	46.913
176	99.905	46.913
177	99.927	46.913
178	99.949	46.913
179	99.971	46.913
180	100.000	23.457

Peak Unit	Adjusted mass rainfall	Unit rainfall

Number	(In)	(In)
1	0.3668	0.3668
2	0.4592	0.0924
3	0.5237	0.0645
4	0.5749	0.0512
5	0.6180	0.0431
6	0.6557	0.0376
7	0.6896	0.0340
8	0.7205	0.0309
9	0.7488	0.0284
10	0.7752	0.0263
11	0.7998	0.0246
12	0.8229	0.0231
13	0.8651	0.0422
14	0.9061	0.0410
15	0.9460	0.0399
16	0.9850	0.0389
17	1.0230	0.0380
18	1.0602	0.0372
19	1.0966	0.0364
20	1.1324	0.0357
21	1.1674	0.0351
22	1.2019	0.0344
23	1.2357	0.0339
24	1.2690	0.0333
25	1.3018	0.0328
26	1.3341	0.0323
27	1.3659	0.0318
28	1.3973	0.0314
29	1.4283	0.0310
30	1.4589	0.0306
31	1.4891	0.0302
32	1.5190	0.0298
33	1.5484	0.0295
34	1.5776	0.0292
35	1.6064	0.0288
36	1.6350	0.0285
37	1.6499	0.0149
38	1.6645	0.0146
39	1.6789	0.0144
40	1.6930	0.0141
41	1.7069	0.0139
42	1.7206	0.0137
43	1.7340	0.0135
44	1.7473	0.0132
45	1.7603	0.0130
46	1.7732	0.0129
47	1.7858	0.0127
48	1.7983	0.0125
49	1.8106	0.0123
50	1.8228	0.0121
51	1.8348	0.0120
52	1.8466	0.0118
53	1.8583	0.0117
54	1.8698	0.0115
55	1.8812	0.0114
56	1.8925	0.0113
57	1.9036	0.0111
58	1.9146	0.0110

59	1.9254	0.0109
60	1.9362	0.0107
61	1.9468	0.0106
62	1.9573	0.0105
63	1.9677	0.0104
64	1.9780	0.0103
65	1.9881	0.0102
66	1.9982	0.0101
67	2.0082	0.0100
68	2.0181	0.0099
69	2.0278	0.0098
70	2.0375	0.0097
71	2.0471	0.0096
72	2.0566	0.0095
73	2.0654	0.0088
74	2.0741	0.0087
75	2.0827	0.0086
76	2.0912	0.0085
77	2.0997	0.0085
78	2.1081	0.0084
79	2.1164	0.0083
80	2.1246	0.0082
81	2.1328	0.0082
82	2.1409	0.0081
83	2.1489	0.0080
84	2.1569	0.0080
85	2.1647	0.0079
86	2.1726	0.0078
87	2.1803	0.0078
88	2.1881	0.0077
89	2.1957	0.0076
90	2.2033	0.0076
91	2.2108	0.0075
92	2.2183	0.0075
93	2.2257	0.0074
94	2.2331	0.0074
95	2.2404	0.0073
96	2.2476	0.0073
97	2.2548	0.0072
98	2.2620	0.0072
99	2.2691	0.0071
100	2.2761	0.0071
101	2.2831	0.0070
102	2.2901	0.0070
103	2.2970	0.0069
104	2.3039	0.0069
105	2.3107	0.0068
106	2.3175	0.0068
107	2.3242	0.0067
108	2.3309	0.0067
109	2.3375	0.0066
110	2.3441	0.0066
111	2.3507	0.0066
112	2.3572	0.0065
113	2.3637	0.0065
114	2.3701	0.0064
115	2.3765	0.0064
116	2.3829	0.0064
117	2.3892	0.0063

118	2.3955	0.0063
119	2.4017	0.0062
120	2.4079	0.0062
121	2.4141	0.0062
122	2.4202	0.0061
123	2.4264	0.0061
124	2.4324	0.0061
125	2.4385	0.0060
126	2.4445	0.0060
127	2.4504	0.0060
128	2.4564	0.0059
129	2.4623	0.0059
130	2.4682	0.0059
131	2.4740	0.0058
132	2.4798	0.0058
133	2.4856	0.0058
134	2.4914	0.0058
135	2.4971	0.0057
136	2.5028	0.0057
137	2.5085	0.0057
138	2.5141	0.0056
139	2.5197	0.0056
140	2.5253	0.0056
141	2.5309	0.0056
142	2.5364	0.0055
143	2.5419	0.0055
144	2.5474	0.0055
145	2.5528	0.0054
146	2.5582	0.0054
147	2.5636	0.0054
148	2.5690	0.0054
149	2.5743	0.0053
150	2.5797	0.0053
151	2.5850	0.0053
152	2.5902	0.0053
153	2.5955	0.0052
154	2.6007	0.0052
155	2.6059	0.0052
156	2.6111	0.0052
157	2.6162	0.0052
158	2.6214	0.0051
159	2.6265	0.0051
160	2.6316	0.0051
161	2.6366	0.0051
162	2.6417	0.0050
163	2.6467	0.0050
164	2.6517	0.0050
165	2.6567	0.0050
166	2.6617	0.0050
167	2.6666	0.0049
168	2.6715	0.0049
169	2.6764	0.0049
170	2.6813	0.0049
171	2.6862	0.0049
172	2.6910	0.0048
173	2.6958	0.0048
174	2.7006	0.0048
175	2.7054	0.0048
176	2.7102	0.0048

177	2.7149	0.0047
178	2.7196	0.0047
179	2.7243	0.0047
180	2.7290	0.0047
181	2.7337	0.0047
182	2.7384	0.0047
183	2.7430	0.0046
184	2.7476	0.0046
185	2.7522	0.0046
186	2.7568	0.0046
187	2.7614	0.0046
188	2.7659	0.0046
189	2.7705	0.0045
190	2.7750	0.0045
191	2.7795	0.0045
192	2.7840	0.0045
193	2.7884	0.0045
194	2.7929	0.0045
195	2.7973	0.0044
196	2.8017	0.0044
197	2.8061	0.0044
198	2.8105	0.0044
199	2.8149	0.0044
200	2.8193	0.0044
201	2.8236	0.0043
202	2.8279	0.0043
203	2.8323	0.0043
204	2.8366	0.0043
205	2.8408	0.0043
206	2.8451	0.0043
207	2.8494	0.0043
208	2.8536	0.0042
209	2.8578	0.0042
210	2.8621	0.0042
211	2.8663	0.0042
212	2.8704	0.0042
213	2.8746	0.0042
214	2.8788	0.0042
215	2.8829	0.0041
216	2.8871	0.0041
217	2.8912	0.0041
218	2.8953	0.0041
219	2.8994	0.0041
220	2.9035	0.0041
221	2.9075	0.0041
222	2.9116	0.0041
223	2.9156	0.0040
224	2.9197	0.0040
225	2.9237	0.0040
226	2.9277	0.0040
227	2.9317	0.0040
228	2.9356	0.0040
229	2.9396	0.0040
230	2.9436	0.0040
231	2.9475	0.0039
232	2.9515	0.0039
233	2.9554	0.0039
234	2.9593	0.0039
235	2.9632	0.0039

236	2.9671	0.0039
237	2.9709	0.0039
238	2.9748	0.0039
239	2.9787	0.0039
240	2.9825	0.0038
241	2.9863	0.0038
242	2.9902	0.0038
243	2.9940	0.0038
244	2.9978	0.0038
245	3.0016	0.0038
246	3.0053	0.0038
247	3.0091	0.0038
248	3.0129	0.0038
249	3.0166	0.0037
250	3.0203	0.0037
251	3.0241	0.0037
252	3.0278	0.0037
253	3.0315	0.0037
254	3.0352	0.0037
255	3.0389	0.0037
256	3.0425	0.0037
257	3.0462	0.0037
258	3.0499	0.0037
259	3.0535	0.0036
260	3.0571	0.0036
261	3.0608	0.0036
262	3.0644	0.0036
263	3.0680	0.0036
264	3.0716	0.0036
265	3.0752	0.0036
266	3.0787	0.0036
267	3.0823	0.0036
268	3.0859	0.0036
269	3.0894	0.0036
270	3.0930	0.0035
271	3.0965	0.0035
272	3.1000	0.0035
273	3.1035	0.0035
274	3.1070	0.0035
275	3.1105	0.0035
276	3.1140	0.0035
277	3.1175	0.0035
278	3.1210	0.0035
279	3.1244	0.0035
280	3.1279	0.0035
281	3.1313	0.0034
282	3.1348	0.0034
283	3.1382	0.0034
284	3.1416	0.0034
285	3.1450	0.0034
286	3.1484	0.0034
287	3.1518	0.0034
288	3.1552	0.0034

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0034	0.0011	0.0023

2	0.0034	0.0011	0.0023
3	0.0034	0.0011	0.0023
4	0.0034	0.0011	0.0023
5	0.0034	0.0011	0.0024
6	0.0034	0.0011	0.0024
7	0.0035	0.0011	0.0024
8	0.0035	0.0011	0.0024
9	0.0035	0.0011	0.0024
10	0.0035	0.0011	0.0024
11	0.0035	0.0011	0.0024
12	0.0035	0.0011	0.0024
13	0.0035	0.0011	0.0024
14	0.0036	0.0011	0.0024
15	0.0036	0.0011	0.0025
16	0.0036	0.0011	0.0025
17	0.0036	0.0011	0.0025
18	0.0036	0.0011	0.0025
19	0.0036	0.0011	0.0025
20	0.0036	0.0011	0.0025
21	0.0037	0.0011	0.0025
22	0.0037	0.0011	0.0025
23	0.0037	0.0012	0.0025
24	0.0037	0.0012	0.0025
25	0.0037	0.0012	0.0026
26	0.0037	0.0012	0.0026
27	0.0037	0.0012	0.0026
28	0.0038	0.0012	0.0026
29	0.0038	0.0012	0.0026
30	0.0038	0.0012	0.0026
31	0.0038	0.0012	0.0026
32	0.0038	0.0012	0.0026
33	0.0038	0.0012	0.0026
34	0.0039	0.0012	0.0026
35	0.0039	0.0012	0.0027
36	0.0039	0.0012	0.0027
37	0.0039	0.0012	0.0027
38	0.0039	0.0012	0.0027
39	0.0039	0.0012	0.0027
40	0.0040	0.0012	0.0027
41	0.0040	0.0012	0.0027
42	0.0040	0.0013	0.0027
43	0.0040	0.0013	0.0028
44	0.0040	0.0013	0.0028
45	0.0041	0.0013	0.0028
46	0.0041	0.0013	0.0028
47	0.0041	0.0013	0.0028
48	0.0041	0.0013	0.0028
49	0.0041	0.0013	0.0028
50	0.0041	0.0013	0.0028
51	0.0042	0.0013	0.0029
52	0.0042	0.0013	0.0029
53	0.0042	0.0013	0.0029
54	0.0042	0.0013	0.0029
55	0.0043	0.0013	0.0029
56	0.0043	0.0013	0.0029
57	0.0043	0.0013	0.0030
58	0.0043	0.0014	0.0030
59	0.0043	0.0014	0.0030
60	0.0044	0.0014	0.0030

61	0.0044	0.0014	0.0030
62	0.0044	0.0014	0.0030
63	0.0044	0.0014	0.0030
64	0.0045	0.0014	0.0031
65	0.0045	0.0014	0.0031
66	0.0045	0.0014	0.0031
67	0.0045	0.0014	0.0031
68	0.0046	0.0014	0.0031
69	0.0046	0.0014	0.0031
70	0.0046	0.0014	0.0032
71	0.0046	0.0015	0.0032
72	0.0047	0.0015	0.0032
73	0.0047	0.0015	0.0032
74	0.0047	0.0015	0.0032
75	0.0047	0.0015	0.0033
76	0.0048	0.0015	0.0033
77	0.0048	0.0015	0.0033
78	0.0048	0.0015	0.0033
79	0.0049	0.0015	0.0033
80	0.0049	0.0015	0.0034
81	0.0049	0.0015	0.0034
82	0.0049	0.0015	0.0034
83	0.0050	0.0016	0.0034
84	0.0050	0.0016	0.0034
85	0.0050	0.0016	0.0035
86	0.0051	0.0016	0.0035
87	0.0051	0.0016	0.0035
88	0.0051	0.0016	0.0035
89	0.0052	0.0016	0.0036
90	0.0052	0.0016	0.0036
91	0.0052	0.0016	0.0036
92	0.0053	0.0017	0.0036
93	0.0053	0.0017	0.0037
94	0.0053	0.0017	0.0037
95	0.0054	0.0017	0.0037
96	0.0054	0.0017	0.0037
97	0.0055	0.0017	0.0038
98	0.0055	0.0017	0.0038
99	0.0056	0.0017	0.0038
100	0.0056	0.0017	0.0038
101	0.0056	0.0018	0.0039
102	0.0057	0.0018	0.0039
103	0.0057	0.0018	0.0039
104	0.0058	0.0018	0.0040
105	0.0058	0.0018	0.0040
106	0.0058	0.0018	0.0040
107	0.0059	0.0019	0.0041
108	0.0059	0.0019	0.0041
109	0.0060	0.0019	0.0041
110	0.0060	0.0019	0.0041
111	0.0061	0.0019	0.0042
112	0.0061	0.0019	0.0042
113	0.0062	0.0019	0.0043
114	0.0062	0.0020	0.0043
115	0.0063	0.0020	0.0043
116	0.0064	0.0020	0.0044
117	0.0064	0.0020	0.0044
118	0.0065	0.0020	0.0044
119	0.0066	0.0021	0.0045

120	0.0066	0.0021	0.0045
121	0.0067	0.0021	0.0046
122	0.0067	0.0021	0.0046
123	0.0068	0.0021	0.0047
124	0.0069	0.0022	0.0047
125	0.0070	0.0022	0.0048
126	0.0070	0.0022	0.0048
127	0.0071	0.0022	0.0049
128	0.0072	0.0022	0.0049
129	0.0073	0.0023	0.0050
130	0.0073	0.0023	0.0050
131	0.0074	0.0023	0.0051
132	0.0075	0.0023	0.0051
133	0.0076	0.0024	0.0052
134	0.0076	0.0024	0.0052
135	0.0078	0.0024	0.0053
136	0.0078	0.0025	0.0054
137	0.0080	0.0025	0.0055
138	0.0080	0.0025	0.0055
139	0.0082	0.0026	0.0056
140	0.0082	0.0026	0.0057
141	0.0084	0.0026	0.0058
142	0.0085	0.0027	0.0058
143	0.0086	0.0027	0.0059
144	0.0087	0.0027	0.0060
145	0.0095	0.0030	0.0065
146	0.0096	0.0030	0.0066
147	0.0098	0.0031	0.0067
148	0.0099	0.0031	0.0068
149	0.0101	0.0032	0.0069
150	0.0102	0.0032	0.0070
151	0.0104	0.0033	0.0071
152	0.0105	0.0033	0.0072
153	0.0107	0.0034	0.0074
154	0.0109	0.0034	0.0075
155	0.0111	0.0035	0.0076
156	0.0113	0.0035	0.0077
157	0.0115	0.0036	0.0079
158	0.0117	0.0037	0.0080
159	0.0120	0.0038	0.0082
160	0.0121	0.0038	0.0083
161	0.0125	0.0039	0.0086
162	0.0127	0.0040	0.0087
163	0.0130	0.0041	0.0090
164	0.0132	0.0042	0.0091
165	0.0137	0.0043	0.0094
166	0.0139	0.0044	0.0095
167	0.0144	0.0045	0.0099
168	0.0146	0.0046	0.0100
169	0.0285	0.0089	0.0196
170	0.0288	0.0090	0.0198
171	0.0295	0.0092	0.0202
172	0.0298	0.0094	0.0205
173	0.0306	0.0096	0.0210
174	0.0310	0.0097	0.0213
175	0.0318	0.0100	0.0219
176	0.0323	0.0101	0.0222
177	0.0333	0.0104	0.0229
178	0.0339	0.0106	0.0232

179	0.0351	0.0110	0.0241
180	0.0357	0.0112	0.0245
181	0.0372	0.0117	0.0255
182	0.0380	0.0119	0.0261
183	0.0399	0.0125	0.0274
184	0.0410	0.0129	0.0282
185	0.0231	0.0073	0.0159
186	0.0246	0.0077	0.0169
187	0.0284	0.0089	0.0195
188	0.0309	0.0097	0.0212
189	0.0376	0.0118	0.0258
190	0.0431	0.0135	0.0296
191	0.0645	0.0157	0.0488
192	0.0924	0.0157	0.0768
193	0.3668	0.0157	0.3512
194	0.0512	0.0157	0.0355
195	0.0340	0.0106	0.0233
196	0.0263	0.0082	0.0181
197	0.0422	0.0132	0.0290
198	0.0389	0.0122	0.0267
199	0.0364	0.0114	0.0250
200	0.0344	0.0108	0.0236
201	0.0328	0.0103	0.0225
202	0.0314	0.0098	0.0216
203	0.0302	0.0095	0.0207
204	0.0292	0.0091	0.0200
205	0.0149	0.0047	0.0102
206	0.0141	0.0044	0.0097
207	0.0135	0.0042	0.0092
208	0.0129	0.0040	0.0088
209	0.0123	0.0039	0.0085
210	0.0118	0.0037	0.0081
211	0.0114	0.0036	0.0078
212	0.0110	0.0034	0.0075
213	0.0106	0.0033	0.0073
214	0.0103	0.0032	0.0071
215	0.0100	0.0031	0.0068
216	0.0097	0.0030	0.0066
217	0.0088	0.0028	0.0060
218	0.0085	0.0027	0.0059
219	0.0083	0.0026	0.0057
220	0.0081	0.0025	0.0056
221	0.0079	0.0025	0.0054
222	0.0077	0.0024	0.0053
223	0.0075	0.0024	0.0052
224	0.0074	0.0023	0.0051
225	0.0072	0.0023	0.0049
226	0.0071	0.0022	0.0048
227	0.0069	0.0022	0.0047
228	0.0068	0.0021	0.0046
229	0.0066	0.0021	0.0046
230	0.0065	0.0020	0.0045
231	0.0064	0.0020	0.0044
232	0.0063	0.0020	0.0043
233	0.0062	0.0019	0.0042
234	0.0061	0.0019	0.0042
235	0.0060	0.0019	0.0041
236	0.0059	0.0018	0.0040
237	0.0058	0.0018	0.0040

238	0.0057	0.0018	0.0039
239	0.0056	0.0018	0.0039
240	0.0055	0.0017	0.0038
241	0.0054	0.0017	0.0037
242	0.0054	0.0017	0.0037
243	0.0053	0.0017	0.0036
244	0.0052	0.0016	0.0036
245	0.0052	0.0016	0.0035
246	0.0051	0.0016	0.0035
247	0.0050	0.0016	0.0034
248	0.0050	0.0016	0.0034
249	0.0049	0.0015	0.0034
250	0.0048	0.0015	0.0033
251	0.0048	0.0015	0.0033
252	0.0047	0.0015	0.0032
253	0.0047	0.0015	0.0032
254	0.0046	0.0014	0.0032
255	0.0046	0.0014	0.0031
256	0.0045	0.0014	0.0031
257	0.0045	0.0014	0.0031
258	0.0044	0.0014	0.0030
259	0.0044	0.0014	0.0030
260	0.0043	0.0014	0.0030
261	0.0043	0.0013	0.0029
262	0.0042	0.0013	0.0029
263	0.0042	0.0013	0.0029
264	0.0042	0.0013	0.0029
265	0.0041	0.0013	0.0028
266	0.0041	0.0013	0.0028
267	0.0040	0.0013	0.0028
268	0.0040	0.0013	0.0028
269	0.0040	0.0012	0.0027
270	0.0039	0.0012	0.0027
271	0.0039	0.0012	0.0027
272	0.0039	0.0012	0.0027
273	0.0038	0.0012	0.0026
274	0.0038	0.0012	0.0026
275	0.0038	0.0012	0.0026
276	0.0037	0.0012	0.0026
277	0.0037	0.0012	0.0025
278	0.0037	0.0012	0.0025
279	0.0036	0.0011	0.0025
280	0.0036	0.0011	0.0025
281	0.0036	0.0011	0.0025
282	0.0036	0.0011	0.0024
283	0.0035	0.0011	0.0024
284	0.0035	0.0011	0.0024
285	0.0035	0.0011	0.0024
286	0.0035	0.0011	0.0024
287	0.0034	0.0011	0.0024
288	0.0034	0.0011	0.0023

Total soil rain loss = 0.87(In)
Total effective rainfall = 2.28(In)
Peak flow rate in flood hydrograph = 7461.43(CFS)

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24 - H O U R S T O R M

R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1875.0	3750.0	5625.0	7500.0
0+ 5	0.0070	1.01	Q				
0+10	0.0279	3.03	Q				
0+15	0.0628	5.07	Q				
0+20	0.1179	8.00	Q				
0+25	0.1983	11.66	Q				
0+30	0.3044	15.41	Q				
0+35	0.4434	20.19	Q				
0+40	0.6186	25.43	Q				
0+45	0.8314	30.90	Q				
0+50	1.0908	37.66	Q				
0+55	1.3990	44.75	Q				
1+ 0	1.7607	52.51	Q				
1+ 5	2.2050	64.51	Q				
1+10	2.7376	77.34	Q				
1+15	3.3694	91.75	Q				
1+20	4.1364	111.36	Q				
1+25	5.0427	131.60	Q				
1+30	6.0853	151.38	Q				
1+35	7.2544	169.75	Q				
1+40	8.5506	188.21	VQ				
1+45	9.9721	206.41	VQ				
1+50	11.5185	224.53	VQ				
1+55	13.1879	242.40	VQ				
2+ 0	14.9616	257.54	VQ				
2+ 5	16.8227	270.23	VQ				
2+10	18.7702	282.78	VQ				
2+15	20.7908	293.39	VQ				
2+20	22.8774	302.97	VQ				
2+25	25.0300	312.56	VQ				
2+30	27.2413	321.09	VQ				
2+35	29.5078	329.09	VQ				
2+40	31.8294	337.10	VQ				
2+45	34.2020	344.49	VQ				
2+50	36.6232	351.56	VQ				
2+55	39.0928	358.60	VQ				
3+ 0	41.6080	365.21	VQ				
3+ 5	44.1682	371.74	VQ				
3+10	46.7729	378.21	V Q				
3+15	49.4188	384.18	V Q				
3+20	52.1056	390.12	V Q				
3+25	54.8325	395.95	V Q				
3+30	57.5967	401.36	V Q				
3+35	60.3982	406.77	V Q				
3+40	63.2368	412.17	V Q				
3+45	66.1122	417.50	V Q				
3+50	69.0245	422.87	V Q				
3+55	71.9717	427.94	V Q				
4+ 0	74.9510	432.58	V Q				
4+ 5	77.9624	437.25	V Q				
4+10	81.0061	441.95	V Q				
4+15	84.0824	446.68	|VQ				
4+20	87.1914	451.43	|VQ				

4+25	90.3313	455.90	VQ			
4+30	93.5007	460.21	VQ			
4+35	96.7001	464.54	VQ			
4+40	99.9295	468.91	VQ			
4+45	103.1892	473.31	VQ			
4+50	106.4792	477.72	VQ			
4+55	109.7983	481.93	VQ			
5+ 0	113.1463	486.12	VQ			
5+ 5	116.5233	490.34	VQ			
5+10	119.9296	494.59	VQ			
5+15	123.3653	498.87	VQ			
5+20	126.8304	503.13	VQ			
5+25	130.3232	507.16	VQ			
5+30	133.8439	511.20	VQ			
5+35	137.3926	515.27	VQ			
5+40	140.9696	519.38	VQ			
5+45	144.5752	523.52	VQ			
5+50	148.2084	527.55	VQ			
5+55	151.8679	531.35	VQ			
6+ 0	155.5538	535.19	VQ			
6+ 5	159.2663	539.06	VQ			
6+10	163.0058	542.97	VQ			
6+15	166.7723	546.91	Q			
6+20	170.5658	550.81	Q			
6+25	174.3860	554.69	Q			
6+30	178.2332	558.62	Q			
6+35	182.1077	562.57	VQ			
6+40	186.0097	566.58	VQ			
6+45	189.9395	570.60	VQ			
6+50	193.8965	574.56	VQ			
6+55	197.8807	578.50	VQ			
7+ 0	201.8924	582.50	VQ			
7+ 5	205.9319	586.53	VQ			
7+10	209.9995	590.61	VQ			
7+15	214.0953	594.72	VQ			
7+20	218.2191	598.78	VQ			
7+25	222.3712	602.88	VQ			
7+30	226.5518	607.02	VQ			
7+35	230.7612	611.21	VQ			
7+40	234.9999	615.45	VQ			
7+45	239.2676	619.67	VQ			
7+50	243.5635	623.78	VQ			
7+55	247.8881	627.93	VQ			
8+ 0	252.2417	632.14	Q			
8+ 5	256.6246	636.40	Q			
8+10	261.0372	640.71	Q			
8+15	265.4799	645.08	Q			
8+20	269.9532	649.51	Q			
8+25	274.4573	653.99	Q			
8+30	278.9927	658.54	Q			
8+35	283.5598	663.14	Q			
8+40	288.1590	667.81	Q			
8+45	292.7901	672.43	Q			
8+50	297.4532	677.08	Q			
8+55	302.1488	681.80	Q			
9+ 0	306.8773	686.58	Q			
9+ 5	311.6393	691.44	Q			
9+10	316.4352	696.37	Q			
9+15	321.2655	701.36	Q			

9+20	326.1308	706.44	Q			
9+25	331.0315	711.59	Q			
9+30	335.9683	716.83	QV			
9+35	340.9417	722.14	QV			
9+40	345.9520	727.49	QV			
9+45	350.9990	732.82	QV			
9+50	356.0833	738.24	QV			
9+55	361.2056	743.75	QV			
10+ 0	366.3664	749.35	QV			
10+ 5	371.5664	755.05	Q			
10+10	376.8064	760.84	Q			
10+15	382.0870	766.74	Q			
10+20	387.4089	772.74	Q			
10+25	392.7728	778.85	Q			
10+30	398.1797	785.07	Q			
10+35	403.6301	791.40	Q			
10+40	409.1243	797.76	Q			
10+45	414.6629	804.20	Q			
10+50	420.2467	810.77	QV			
10+55	425.8766	817.47	QV			
11+ 0	431.5537	824.30	QV			
11+ 5	437.2786	831.27	QV			
11+10	443.0526	838.38	QV			
11+15	448.8766	845.64	QV			
11+20	454.7517	853.06	QV			
11+25	460.6788	860.63	QV			
11+30	466.6593	868.37	QV			
11+35	472.6943	876.28	QV			
11+40	478.7851	884.38	QV			
11+45	484.9329	892.67	QV			
11+50	491.1392	901.15	QV			
11+55	497.4052	909.82	QV			
12+ 0	503.7324	918.71	Q V			
12+ 5	510.1236	927.99	Q V			
12+10	516.5816	937.70	QV			
12+15	523.1080	947.64	QV			
12+20	529.7058	957.99	QV			
12+25	536.3775	968.73	QV			
12+30	543.1252	979.77	QV			
12+35	549.9520	991.26	QV			
12+40	556.8607	1003.14	QV			
12+45	563.8535	1015.35	QV			
12+50	570.9344	1028.15	QV			
12+55	578.1061	1041.33	QV			
13+ 0	585.3720	1055.01	Q V			
13+ 5	592.7401	1069.84	Q V			
13+10	600.2142	1085.24	Q V			
13+15	607.7992	1101.34	Q V			
13+20	615.5050	1118.88	Q V			
13+25	623.3354	1136.98	QV			
13+30	631.2934	1155.50	QV			
13+35	639.3800	1174.17	QV			
13+40	647.5992	1193.43	QV			
13+45	655.9545	1213.20	QV			
13+50	664.4504	1233.60	Q V			
13+55	673.0909	1254.60	Q V			
14+ 0	681.8775	1275.82	Q V			
14+ 5	690.8396	1301.29	Q V			
14+10	700.0100	1331.55	QV			

14+15	709.3925	1362.34	QV | | | |
14+20	719.0162	1397.36	QV | | | |
14+25	728.9075	1436.22	QV | | | |
14+30	739.0746	1476.27	QV | | | |
14+35	749.5527	1521.42	QV| | | |
14+40	760.3627	1569.60	QV| | | |
14+45	771.5186	1619.84	QV| | | |
14+50	783.0649	1676.52	QV| | | |
14+55	795.0213	1736.07	Q| | | |
15+ 0	807.4165	1799.79	Q| | | |
15+ 5	820.3780	1882.01	VQ | | |
15+10	833.9421	1969.51	Q | | |
15+15	848.1665	2065.38	VQ | | |
15+20	863.2099	2184.30	VQ | | |
15+25	879.0663	2302.34	V Q | | |
15+30	895.7027	2415.60	V Q | | |
15+35	913.1058	2526.94	|V Q | | |
15+40	931.2721	2637.74	|V Q | | |
15+45	950.2026	2748.72	|V Q | | |
15+50	969.9416	2866.09	|V Q | | |
15+55	990.5354	2990.22	|V Q | | |
16+ 0	1012.0678	3126.51	| V Q | | |
16+ 5	1035.4134	3389.78	| V Q | | |
16+10	1060.4807	3639.77	| V Q| | |
16+15	1086.3831	3761.03	| V Q | |
16+20	1113.8301	3985.29	| V |Q | |
16+25	1142.5313	4167.42	| V | Q | |
16+30	1171.9552	4272.35	| V | Q | |
16+35	1202.8487	4485.74	| V | Q | |
16+40	1234.5363	4601.05	| V | Q | |
16+45	1266.9036	4699.72	| V | Q | |
16+50	1300.8931	4935.27	| V | Q | |
16+55	1335.9685	5092.95	| V | Q | |
17+ 0	1372.7332	5338.23	| V | Q | |
17+ 5	1414.1374	6011.89	| V | | Q |
17+10	1457.2321	6257.35	| V | | Q |
17+15	1502.7533	6609.68	| V | | Q |
17+20	1553.4167	7356.32	| V | | Q|
17+25	1604.8040	7461.43	| V| | Q|
17+30	1655.5516	7368.56	| V| | Q|
17+35	1704.8359	7156.08	| V | Q |
17+40	1754.1026	7153.53	| |V | Q |
17+45	1802.9522	7092.95	| |V | Q |
17+50	1851.2710	7015.89	| | V | Q |
17+55	1898.4461	6849.83	| | V | Q |
18+ 0	1942.1654	6348.04	| | V | Q |
18+ 5	1982.7417	5891.69	| | V |Q |
18+10	2022.1814	5726.64	| | V Q |
18+15	2058.9984	5345.83	| | V Q | |
18+20	2093.8958	5067.11	| | V Q | |
18+25	2127.6997	4908.33	| | VQ | |
18+30	2159.5665	4627.06	| | Q V | |
18+35	2190.0465	4425.69	| | Q V | |
18+40	2219.5705	4286.89	| | Q V | |
18+45	2247.6689	4079.90	| |Q V | |
18+50	2274.6373	3915.80	| | Q V | |
18+55	2300.7259	3788.07	| | Q V | |
19+ 0	2325.7060	3627.10	| | Q| V | |
19+ 5	2349.9515	3520.44	| | Q | V | |

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19+10    2373.4445   3411.19  |         |       Q |       V |         |
19+15    2395.9234   3263.93  |         |      Q  |       V |         |
19+20    2417.8186   3179.19  |         |     Q   |        V|         |
19+25    2439.0667   3085.22  |         |     Q   |        V|         |
19+30    2459.4676   2962.21  |         |    Q    |        V|         |
19+35    2479.4102   2895.66  |         |    Q    |        V|         |
19+40    2498.9026   2830.30  |         |    Q    |         V         |
19+45    2517.9280   2762.48  |         |   Q     |         V         |
19+50    2536.5268   2700.55  |         |   Q     |         V         |
19+55    2554.4116   2596.87  |         |  Q      |         V         |
20+ 0    2571.5249   2484.85  |         |  Q      |         V         |
20+ 5    2588.3103   2437.24  |         | Q       |         |V        |
20+10    2604.7966   2393.81  |         | Q       |         |V        |
20+15    2620.9904   2351.35  |         | Q       |         |V        |
20+20    2636.8455   2302.16  |         | Q       |         |V        |
20+25    2652.1020   2215.25  |         |Q        |         |V        |
20+30    2666.9195   2151.50  |         |Q        |         | V       |
20+35    2681.4901   2115.65  |         |Q        |         | V       |
20+40    2695.8287   2081.97  |         |Q        |         | V       |
20+45    2709.9292   2047.38  |         Q         |         | V       |
20+50    2723.7488   2006.60  |         Q         |         | V       |
20+55    2737.1334   1943.45  |         Q         |         | V       |
21+ 0    2750.2582   1905.71  |         Q         |         |  V      |
21+ 5    2763.1856   1877.06  |         Q         |         |  V      |
21+10    2775.9225   1849.40  |        Q|         |         |  V      |
21+15    2788.4554   1819.78  |        Q|         |         |  V      |
21+20    2800.7088   1779.19  |        Q|         |         |  V      |
21+25    2812.5459   1718.74  |        Q|         |         |  V      |
21+30    2824.1885   1690.51  |        Q|         |         |   V     |
21+35    2835.6681   1666.85  |       Q |         |         |   V     |
21+40    2846.9814   1642.68  |       Q |         |         |   V     |
21+45    2858.0959   1613.83  |       Q |         |         |   V     |
21+50    2868.8681   1564.13  |       Q |         |         |   V     |
21+55    2879.2358   1505.39  |       Q |         |         |   V     |
22+ 0    2889.4447   1482.32  |      Q  |         |         |   V     |
22+ 5    2899.5114   1461.70  |      Q  |         |         |   V     |
22+10    2909.4370   1441.20  |      Q  |         |         |    V    |
22+15    2919.2073   1418.64  |      Q  |         |         |    V    |
22+20    2928.7608   1387.17  |      Q  |         |         |    V    |
22+25    2938.1338   1360.96  |      Q  |         |         |    V    |
22+30    2947.3816   1342.78  |      Q  |         |         |    V    |
22+35    2956.5078   1325.12  |      Q  |         |         |    V    |
22+40    2965.5075   1306.75  |     Q   |         |         |    V    |
22+45    2974.3586   1285.19  |     Q   |         |         |    V    |
22+50    2982.9713   1250.56  |     Q   |         |         |    V    |
22+55    2991.4370   1229.23  |     Q   |         |         |     V   |
23+ 0    2999.7967   1213.83  |     Q   |         |         |     V   |
23+ 5    3008.0554   1199.16  |     Q   |         |         |     V   |
23+10    3016.2103   1184.09  |     Q   |         |         |     V   |
23+15    3024.2388   1165.74  |     Q   |         |         |     V   |
23+20    3032.0897   1139.95  |     Q   |         |         |     V   |
23+25    3039.8371   1124.92  |    Q    |         |         |     V   |
23+30    3047.4934   1111.70  |    Q    |         |         |     V   |
23+35    3055.0550   1097.94  |    Q    |         |         |     V   |
23+40    3062.5042   1081.62  |    Q    |         |         |     V   |
23+45    3069.7651   1054.28  |    Q    |         |         |      V  |
23+50    3076.7861   1019.46  |    Q    |         |         |      V  |
23+55    3083.7142   1005.96  |    Q    |         |         |      V  |
24+ 0    3090.5616    994.25  |    Q    |         |         |      V  |
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24+ 5	3097.3264	982.24	Q			V
24+10	3103.9992	968.90	Q			V
24+15	3110.5819	955.81	Q			V
24+20	3117.0720	942.36	Q			V
24+25	3123.4649	928.25	Q			V
24+30	3129.7597	914.00	Q			V
24+35	3135.9437	897.92	Q			V
24+40	3141.9975	879.01	Q			V
24+45	3147.8398	848.31	Q			V
24+50	3153.5323	826.56	Q			V
24+55	3159.1138	810.43	Q			V
25+ 0	3164.5851	794.43	Q			V
25+ 5	3169.9195	774.55	Q			V
25+10	3175.1116	753.91	Q			V
25+15	3180.1521	731.88	Q			V
25+20	3185.0062	704.81	Q			V
25+25	3189.6700	677.18	Q			V
25+30	3194.1451	649.79	Q			V
25+35	3198.4337	622.70	Q			V
25+40	3202.4930	589.41	Q			V
25+45	3206.2832	550.34	Q			V
25+50	3209.9050	525.89	Q			V
25+55	3213.3708	503.23	Q			V
26+ 0	3216.7048	484.10	Q			V
26+ 5	3219.9235	467.35	Q			V
26+10	3223.0291	450.94	Q			V
26+15	3226.0362	436.63	Q			V
26+20	3228.9521	423.39	Q			V
26+25	3231.7766	410.11	Q			V
26+30	3234.5125	397.26	Q			V
26+35	3237.1522	383.29	Q			V
26+40	3239.6256	359.13	Q			V
26+45	3241.9920	343.60	Q			V
26+50	3244.2951	334.42	Q			V
26+55	3246.5386	325.75	Q			V
27+ 0	3248.7234	317.23	Q			V
27+ 5	3250.8500	308.79	Q			V
27+10	3252.9205	300.64	Q			V
27+15	3254.9396	293.17	Q			V
27+20	3256.9089	285.94	Q			V
27+25	3258.8305	279.01	Q			V
27+30	3260.7087	272.71	Q			V
27+35	3262.5472	266.96	Q			V
27+40	3264.3562	262.66	Q			V
27+45	3266.1253	256.87	Q			V
27+50	3267.8536	250.95	Q			V
27+55	3269.5436	245.39	Q			V
28+ 0	3271.1993	240.41	Q			V
28+ 5	3272.8208	235.44	Q			V
28+10	3274.4081	230.48	Q			V
28+15	3275.9613	225.51	Q			V
28+20	3277.4802	220.55	Q			V
28+25	3278.9668	215.85	Q			V
28+30	3280.4216	211.25	Q			V
28+35	3281.8405	206.01	Q			V
28+40	3283.2254	201.09	Q			V
28+45	3284.5789	196.52	Q			V
28+50	3285.9019	192.11	Q			V
28+55	3287.1990	188.33	Q			V

29+ 0	3288.4687	184.37	Q	|	|	|	V|
29+ 5	3289.7091	180.11	Q	|	|	|	V|
29+10	3290.9196	175.75	Q	|	|	|	V|
29+15	3292.0987	171.21	Q	|	|	|	V|
29+20	3293.2448	166.42	Q	|	|	|	V|
29+25	3294.3533	160.95	Q	|	|	|	V|
29+30	3295.3991	151.86	Q	|	|	|	V|
29+35	3296.3383	136.37	Q	|	|	|	V|
29+40	3297.2410	131.07	Q	|	|	|	V|
29+45	3298.1161	127.07	Q	|	|	|	V|
29+50	3298.9654	123.32	Q	|	|	|	V|
29+55	3299.7882	119.47	Q	|	|	|	V|
30+ 0	3300.5849	115.68	Q	|	|	|	V|
30+ 5	3301.3558	111.94	Q	|	|	|	V|
30+10	3302.1012	108.23	Q	|	|	|	V|
30+15	3302.8213	104.55	Q	|	|	|	V|
30+20	3303.5187	101.26	Q	|	|	|	V|
30+25	3304.1960	98.35	Q	|	|	|	V|
30+30	3304.8536	95.49	Q	|	|	|	V|
30+35	3305.4933	92.88	Q	|	|	|	V|
30+40	3306.1143	90.18	Q	|	|	|	V|
30+45	3306.7157	87.32	Q	|	|	|	V|
30+50	3307.2948	84.08	Q	|	|	|	V|
30+55	3307.8444	79.80	Q	|	|	|	V|
31+ 0	3308.3158	68.45	Q	|	|	|	V|
31+ 5	3308.7159	58.09	Q	|	|	|	V|
31+10	3309.0977	55.44	Q	|	|	|	V|
31+15	3309.4644	53.24	Q	|	|	|	V|
31+20	3309.8157	51.02	Q	|	|	|	V|
31+25	3310.1505	48.61	Q	|	|	|	V|
31+30	3310.4696	46.33	Q	|	|	|	V|
31+35	3310.7736	44.14	Q	|	|	|	V|
31+40	3311.0630	42.03	Q	|	|	|	V|
31+45	3311.3389	40.06	Q	|	|	|	V|
31+50	3311.6026	38.29	Q	|	|	|	V|
31+55	3311.8546	36.58	Q	|	|	|	V|
32+ 0	3312.0965	35.13	Q	|	|	|	V|
32+ 5	3312.3302	33.93	Q	|	|	|	V|
32+10	3312.5558	32.76	Q	|	|	|	V|
32+15	3312.7736	31.62	Q	|	|	|	V|
32+20	3312.9837	30.51	Q	|	|	|	V|
32+25	3313.1864	29.43	Q	|	|	|	V|
32+30	3313.3817	28.36	Q	|	|	|	V|
32+35	3313.5699	27.32	Q	|	|	|	V|
32+40	3313.7511	26.31	Q	|	|	|	V|
32+45	3313.9261	25.41	Q	|	|	|	V|
32+50	3314.0954	24.58	Q	|	|	|	V|
32+55	3314.2590	23.76	Q	|	|	|	V|
33+ 0	3314.4171	22.96	Q	|	|	|	V|
33+ 5	3314.5699	22.19	Q	|	|	|	V|
33+10	3314.7175	21.43	Q	|	|	|	V|
33+15	3314.8599	20.68	Q	|	|	|	V|
33+20	3314.9973	19.95	Q	|	|	|	V|
33+25	3315.1296	19.22	Q	|	|	|	V|
33+30	3315.2571	18.51	Q	|	|	|	V|
33+35	3315.3798	17.81	Q	|	|	|	V|
33+40	3315.4979	17.16	Q	|	|	|	V|
33+45	3315.6124	16.63	Q	|	|	|	V|
33+50	3315.7234	16.11	Q	|	|	|	V|

33+55	3315.8307	15.59	Q	|	|	|	V|
34+ 0	3315.9347	15.09	Q	|	|	|	V|
34+ 5	3316.0351	14.59	Q	|	|	|	V|
34+10	3316.1322	14.10	Q	|	|	|	V|
34+15	3316.2260	13.61	Q	|	|	|	V|
34+20	3316.3164	13.14	Q	|	|	|	V|
34+25	3316.4036	12.66	Q	|	|	|	V|
34+30	3316.4876	12.20	Q	|	|	|	V|
34+35	3316.5685	11.74	Q	|	|	|	V|
34+40	3316.6469	11.38	Q	|	|	|	V|
34+45	3316.7230	11.06	Q	|	|	|	V|
34+50	3316.7970	10.75	Q	|	|	|	V|
34+55	3316.8689	10.44	Q	|	|	|	V|
35+ 0	3316.9387	10.13	Q	|	|	|	V|
35+ 5	3317.0063	9.83	Q	|	|	|	V|
35+10	3317.0720	9.53	Q	|	|	|	V|
35+15	3317.1356	9.24	Q	|	|	|	V|
35+20	3317.1972	8.94	Q	|	|	|	V|
35+25	3317.2568	8.66	Q	|	|	|	V|
35+30	3317.3145	8.37	Q	|	|	|	V|
35+35	3317.3702	8.09	Q	|	|	|	V|
35+40	3317.4238	7.79	Q	|	|	|	V|
35+45	3317.4755	7.50	Q	|	|	|	V|
35+50	3317.5251	7.21	Q	|	|	|	V|
35+55	3317.5727	6.92	Q	|	|	|	V|
36+ 0	3317.6184	6.63	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 50
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3444.14	1	1.45
Rainfall data for year 100		
3444.14	6	2.64
Rainfall data for year 100		
3444.14	24	4.24

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
88.0	97.6	3444.14	1.000	0.048	1.000	0.048

Area-averaged adjusted loss rate Fm (In/Hr) = 0.048

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3444.14	1.000	88.0	97.6	0.25	0.934

Area-averaged catchment yield fraction, Y = 0.934
Area-averaged low loss fraction, Yb = 0.066
++
Watercourse length = 24414.00(Ft.)
Length from concentration point to centroid = 13905.00(Ft.)
Elevation difference along watercourse = 1760.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 3444.14(Ac.)
Catchment Lag time = 0.702 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 11.8667
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.048(In/Hr)
Average low loss rate fraction (Yb) = 0.066 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.950
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.050

Computed peak 5-minute rainfall = 0.689(In)
Computed peak 30-minute rainfall = 1.179(In)
Specified peak 1-hour rainfall = 1.451(In)
Computed peak 3-hour rainfall = 2.092(In)
Specified peak 6-hour rainfall = 2.636(In)
Specified peak 24-hour rainfall = 4.235(In)

Rainfall depth area reduction factors:
Using a total area of 3444.14(Ac.) (Ref: fig. E-4)

5-minute factor = 0.842 Adjusted rainfall = 0.580(In)
30-minute factor = 0.842 Adjusted rainfall = 0.992(In)
1-hour factor = 0.842 Adjusted rainfall = 1.222(In)
3-hour factor = 0.980 Adjusted rainfall = 2.050(In)
6-hour factor = 0.989 Adjusted rainfall = 2.608(In)
24-hour factor = 0.996 Adjusted rainfall = 4.216(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 41652.57 (CFS))	
1	0.740	308.265
2	2.435	705.927
3	4.806	987.787
4	7.863	1273.040
5	11.639	1573.119
6	16.946	2210.217

7	23.871	2884.545
8	34.448	4405.419
9	49.916	6443.142
10	57.976	3356.832
11	63.349	2238.239
12	67.615	1776.795
13	71.209	1496.913
14	74.138	1220.236
15	76.904	1151.984
16	79.250	977.265
17	81.421	904.052
18	83.294	780.513
19	84.996	708.703
20	86.544	644.903
21	87.961	590.169
22	89.257	539.866
23	90.397	474.770
24	91.472	447.535
25	92.424	396.621
26	93.323	374.716
27	94.088	318.507
28	94.811	301.075
29	95.399	244.948
30	95.961	234.175
31	96.452	204.519
32	96.921	195.125
33	97.287	152.708
34	97.621	139.039
35	97.823	84.187
36	97.979	64.750
37	98.134	64.750
38	98.289	64.715
39	98.429	58.206
40	98.557	53.382
41	98.685	53.382
42	98.814	53.382
43	98.923	45.611
44	99.002	32.811
45	99.080	32.622
46	99.159	32.622
47	99.241	34.197
48	99.336	39.587
49	99.432	40.037
50	99.528	40.037
51	99.620	38.280
52	99.679	24.633
53	99.731	21.748
54	99.783	21.748
55	99.835	21.511
56	99.872	15.178
57	99.901	12.357
58	99.931	12.357
59	99.972	16.945
60	99.977	2.239
61	99.981	1.545
62	99.984	1.545
63	99.988	1.545
64	99.992	1.545
65	99.995	1.545

66	100.000	0.772

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5797	0.5797
2	0.7137	0.1340
3	0.8060	0.0923
4	0.8787	0.0727
5	0.9395	0.0608
6	0.9924	0.0528
7	1.0393	0.0470
8	1.0818	0.0425
9	1.1207	0.0389
10	1.1567	0.0360
11	1.1902	0.0336
12	1.2217	0.0315
13	1.2687	0.0469
14	1.3137	0.0451
15	1.3571	0.0434
16	1.3990	0.0419
17	1.4396	0.0405
18	1.4789	0.0393
19	1.5170	0.0382
20	1.5541	0.0371
21	1.5902	0.0361
22	1.6255	0.0352
23	1.6599	0.0344
24	1.6935	0.0336
25	1.7264	0.0329
26	1.7586	0.0322
27	1.7901	0.0315
28	1.8210	0.0309
29	1.8514	0.0304
30	1.8812	0.0298
31	1.9105	0.0293
32	1.9393	0.0288
33	1.9676	0.0283
34	1.9955	0.0279
35	2.0229	0.0274
36	2.0499	0.0270
37	2.0695	0.0196
38	2.0888	0.0193
39	2.1077	0.0189
40	2.1263	0.0186
41	2.1447	0.0183
42	2.1627	0.0180
43	2.1804	0.0178
44	2.1979	0.0175
45	2.2152	0.0172
46	2.2321	0.0170
47	2.2489	0.0167
48	2.2654	0.0165
49	2.2817	0.0163
50	2.2977	0.0161
51	2.3136	0.0159
52	2.3293	0.0157
53	2.3447	0.0155
54	2.3600	0.0153
55	2.3751	0.0151

56	2.3900	0.0149
57	2.4047	0.0147
58	2.4193	0.0146
59	2.4337	0.0144
60	2.4480	0.0143
61	2.4621	0.0141
62	2.4760	0.0139
63	2.4898	0.0138
64	2.5035	0.0137
65	2.5170	0.0135
66	2.5304	0.0134
67	2.5436	0.0133
68	2.5568	0.0131
69	2.5698	0.0130
70	2.5826	0.0129
71	2.5954	0.0128
72	2.6080	0.0126
73	2.6205	0.0125
74	2.6329	0.0124
75	2.6452	0.0123
76	2.6574	0.0122
77	2.6694	0.0121
78	2.6814	0.0120
79	2.6932	0.0119
80	2.7050	0.0118
81	2.7167	0.0117
82	2.7283	0.0116
83	2.7397	0.0115
84	2.7511	0.0114
85	2.7624	0.0113
86	2.7737	0.0112
87	2.7848	0.0111
88	2.7958	0.0111
89	2.8068	0.0110
90	2.8177	0.0109
91	2.8285	0.0108
92	2.8392	0.0107
93	2.8499	0.0107
94	2.8605	0.0106
95	2.8710	0.0105
96	2.8814	0.0104
97	2.8918	0.0104
98	2.9021	0.0103
99	2.9123	0.0102
100	2.9225	0.0102
101	2.9326	0.0101
102	2.9426	0.0100
103	2.9526	0.0100
104	2.9625	0.0099
105	2.9723	0.0098
106	2.9821	0.0098
107	2.9918	0.0097
108	3.0015	0.0097
109	3.0111	0.0096
110	3.0206	0.0095
111	3.0301	0.0095
112	3.0395	0.0094
113	3.0489	0.0094
114	3.0582	0.0093

115	3.0675	0.0093
116	3.0767	0.0092
117	3.0859	0.0092
118	3.0950	0.0091
119	3.1041	0.0091
120	3.1131	0.0090
121	3.1220	0.0090
122	3.1310	0.0089
123	3.1398	0.0089
124	3.1487	0.0088
125	3.1574	0.0088
126	3.1662	0.0087
127	3.1748	0.0087
128	3.1835	0.0086
129	3.1921	0.0086
130	3.2006	0.0086
131	3.2092	0.0085
132	3.2176	0.0085
133	3.2260	0.0084
134	3.2344	0.0084
135	3.2428	0.0083
136	3.2511	0.0083
137	3.2593	0.0083
138	3.2676	0.0082
139	3.2758	0.0082
140	3.2839	0.0081
141	3.2920	0.0081
142	3.3001	0.0081
143	3.3081	0.0080
144	3.3161	0.0080
145	3.3241	0.0080
146	3.3320	0.0079
147	3.3399	0.0079
148	3.3478	0.0079
149	3.3556	0.0078
150	3.3634	0.0078
151	3.3711	0.0078
152	3.3788	0.0077
153	3.3865	0.0077
154	3.3942	0.0077
155	3.4018	0.0076
156	3.4094	0.0076
157	3.4169	0.0076
158	3.4245	0.0075
159	3.4320	0.0075
160	3.4394	0.0075
161	3.4469	0.0074
162	3.4543	0.0074
163	3.4616	0.0074
164	3.4690	0.0073
165	3.4763	0.0073
166	3.4836	0.0073
167	3.4908	0.0073
168	3.4981	0.0072
169	3.5053	0.0072
170	3.5124	0.0072
171	3.5196	0.0071
172	3.5267	0.0071
173	3.5338	0.0071

174	3.5409	0.0071
175	3.5479	0.0070
176	3.5549	0.0070
177	3.5619	0.0070
178	3.5689	0.0070
179	3.5758	0.0069
180	3.5827	0.0069
181	3.5896	0.0069
182	3.5965	0.0069
183	3.6033	0.0068
184	3.6101	0.0068
185	3.6169	0.0068
186	3.6237	0.0068
187	3.6304	0.0067
188	3.6371	0.0067
189	3.6438	0.0067
190	3.6505	0.0067
191	3.6571	0.0066
192	3.6637	0.0066
193	3.6703	0.0066
194	3.6769	0.0066
195	3.6835	0.0066
196	3.6900	0.0065
197	3.6965	0.0065
198	3.7030	0.0065
199	3.7095	0.0065
200	3.7159	0.0064
201	3.7224	0.0064
202	3.7288	0.0064
203	3.7352	0.0064
204	3.7415	0.0064
205	3.7479	0.0063
206	3.7542	0.0063
207	3.7605	0.0063
208	3.7668	0.0063
209	3.7731	0.0063
210	3.7793	0.0062
211	3.7855	0.0062
212	3.7917	0.0062
213	3.7979	0.0062
214	3.8041	0.0062
215	3.8102	0.0062
216	3.8164	0.0061
217	3.8225	0.0061
218	3.8286	0.0061
219	3.8347	0.0061
220	3.8407	0.0061
221	3.8468	0.0060
222	3.8528	0.0060
223	3.8588	0.0060
224	3.8648	0.0060
225	3.8707	0.0060
226	3.8767	0.0060
227	3.8826	0.0059
228	3.8886	0.0059
229	3.8945	0.0059
230	3.9003	0.0059
231	3.9062	0.0059
232	3.9121	0.0059

233	3.9179	0.0058	
234	3.9237	0.0058	
235	3.9295	0.0058	
236	3.9353	0.0058	
237	3.9411	0.0058	
238	3.9468	0.0058	
239	3.9526	0.0057	
240	3.9583	0.0057	
241	3.9640	0.0057	
242	3.9697	0.0057	
243	3.9754	0.0057	
244	3.9810	0.0057	
245	3.9867	0.0056	
246	3.9923	0.0056	
247	3.9979	0.0056	
248	4.0035	0.0056	
249	4.0091	0.0056	
250	4.0147	0.0056	
251	4.0202	0.0056	
252	4.0258	0.0055	
253	4.0313	0.0055	
254	4.0368	0.0055	
255	4.0423	0.0055	
256	4.0478	0.0055	
257	4.0533	0.0055	
258	4.0587	0.0055	
259	4.0642	0.0054	
260	4.0696	0.0054	
261	4.0750	0.0054	
262	4.0804	0.0054	
263	4.0858	0.0054	
264	4.0912	0.0054	
265	4.0966	0.0054	
266	4.1019	0.0054	
267	4.1073	0.0053	
268	4.1126	0.0053	
269	4.1179	0.0053	
270	4.1232	0.0053	
271	4.1285	0.0053	
272	4.1337	0.0053	
273	4.1390	0.0053	
274	4.1443	0.0052	
275	4.1495	0.0052	
276	4.1547	0.0052	
277	4.1599	0.0052	
278	4.1651	0.0052	
279	4.1703	0.0052	
280	4.1755	0.0052	
281	4.1806	0.0052	
282	4.1858	0.0051	
283	4.1909	0.0051	
284	4.1961	0.0051	
285	4.2012	0.0051	
286	4.2063	0.0051	
287	4.2114	0.0051	
288	4.2164	0.0051	

Unit Period	Unit Rainfall	Unit Soil-Loss	Effective Rainfall

(number)	(In)	(In)	(In)
1	0.0051	0.0003	0.0047
2	0.0051	0.0003	0.0048
3	0.0051	0.0003	0.0048
4	0.0051	0.0003	0.0048
5	0.0051	0.0003	0.0048
6	0.0052	0.0003	0.0048
7	0.0052	0.0003	0.0048
8	0.0052	0.0003	0.0049
9	0.0052	0.0003	0.0049
10	0.0052	0.0003	0.0049
11	0.0053	0.0003	0.0049
12	0.0053	0.0004	0.0049
13	0.0053	0.0004	0.0049
14	0.0053	0.0004	0.0050
15	0.0053	0.0004	0.0050
16	0.0054	0.0004	0.0050
17	0.0054	0.0004	0.0050
18	0.0054	0.0004	0.0050
19	0.0054	0.0004	0.0051
20	0.0054	0.0004	0.0051
21	0.0055	0.0004	0.0051
22	0.0055	0.0004	0.0051
23	0.0055	0.0004	0.0051
24	0.0055	0.0004	0.0051
25	0.0055	0.0004	0.0052
26	0.0056	0.0004	0.0052
27	0.0056	0.0004	0.0052
28	0.0056	0.0004	0.0052
29	0.0056	0.0004	0.0053
30	0.0056	0.0004	0.0053
31	0.0057	0.0004	0.0053
32	0.0057	0.0004	0.0053
33	0.0057	0.0004	0.0053
34	0.0057	0.0004	0.0054
35	0.0058	0.0004	0.0054
36	0.0058	0.0004	0.0054
37	0.0058	0.0004	0.0054
38	0.0058	0.0004	0.0054
39	0.0059	0.0004	0.0055
40	0.0059	0.0004	0.0055
41	0.0059	0.0004	0.0055
42	0.0059	0.0004	0.0055
43	0.0060	0.0004	0.0056
44	0.0060	0.0004	0.0056
45	0.0060	0.0004	0.0056
46	0.0060	0.0004	0.0056
47	0.0061	0.0004	0.0057
48	0.0061	0.0004	0.0057
49	0.0061	0.0004	0.0057
50	0.0062	0.0004	0.0057
51	0.0062	0.0004	0.0058
52	0.0062	0.0004	0.0058
53	0.0062	0.0004	0.0058
54	0.0063	0.0004	0.0058
55	0.0063	0.0004	0.0059
56	0.0063	0.0004	0.0059
57	0.0064	0.0004	0.0059

58	0.0064	0.0004	0.0060
59	0.0064	0.0004	0.0060
60	0.0064	0.0004	0.0060
61	0.0065	0.0004	0.0061
62	0.0065	0.0004	0.0061
63	0.0066	0.0004	0.0061
64	0.0066	0.0004	0.0061
65	0.0066	0.0004	0.0062
66	0.0066	0.0004	0.0062
67	0.0067	0.0004	0.0062
68	0.0067	0.0004	0.0063
69	0.0068	0.0004	0.0063
70	0.0068	0.0005	0.0063
71	0.0068	0.0005	0.0064
72	0.0069	0.0005	0.0064
73	0.0069	0.0005	0.0065
74	0.0069	0.0005	0.0065
75	0.0070	0.0005	0.0065
76	0.0070	0.0005	0.0065
77	0.0071	0.0005	0.0066
78	0.0071	0.0005	0.0066
79	0.0071	0.0005	0.0067
80	0.0072	0.0005	0.0067
81	0.0072	0.0005	0.0067
82	0.0073	0.0005	0.0068
83	0.0073	0.0005	0.0068
84	0.0073	0.0005	0.0069
85	0.0074	0.0005	0.0069
86	0.0074	0.0005	0.0069
87	0.0075	0.0005	0.0070
88	0.0075	0.0005	0.0070
89	0.0076	0.0005	0.0071
90	0.0076	0.0005	0.0071
91	0.0077	0.0005	0.0072
92	0.0077	0.0005	0.0072
93	0.0078	0.0005	0.0073
94	0.0078	0.0005	0.0073
95	0.0079	0.0005	0.0074
96	0.0079	0.0005	0.0074
97	0.0080	0.0005	0.0075
98	0.0080	0.0005	0.0075
99	0.0081	0.0005	0.0076
100	0.0081	0.0005	0.0076
101	0.0082	0.0005	0.0077
102	0.0083	0.0005	0.0077
103	0.0083	0.0006	0.0078
104	0.0084	0.0006	0.0078
105	0.0085	0.0006	0.0079
106	0.0085	0.0006	0.0079
107	0.0086	0.0006	0.0080
108	0.0086	0.0006	0.0081
109	0.0087	0.0006	0.0082
110	0.0088	0.0006	0.0082
111	0.0089	0.0006	0.0083
112	0.0089	0.0006	0.0083
113	0.0090	0.0006	0.0084
114	0.0091	0.0006	0.0085
115	0.0092	0.0006	0.0086
116	0.0092	0.0006	0.0086

117	0.0093	0.0006	0.0087
118	0.0094	0.0006	0.0088
119	0.0095	0.0006	0.0089
120	0.0095	0.0006	0.0089
121	0.0097	0.0006	0.0090
122	0.0097	0.0006	0.0091
123	0.0098	0.0007	0.0092
124	0.0099	0.0007	0.0092
125	0.0100	0.0007	0.0094
126	0.0101	0.0007	0.0094
127	0.0102	0.0007	0.0095
128	0.0103	0.0007	0.0096
129	0.0104	0.0007	0.0097
130	0.0105	0.0007	0.0098
131	0.0107	0.0007	0.0099
132	0.0107	0.0007	0.0100
133	0.0109	0.0007	0.0102
134	0.0110	0.0007	0.0102
135	0.0111	0.0007	0.0104
136	0.0112	0.0007	0.0105
137	0.0114	0.0008	0.0106
138	0.0115	0.0008	0.0107
139	0.0117	0.0008	0.0109
140	0.0118	0.0008	0.0110
141	0.0120	0.0008	0.0112
142	0.0121	0.0008	0.0113
143	0.0123	0.0008	0.0115
144	0.0124	0.0008	0.0116
145	0.0126	0.0008	0.0118
146	0.0128	0.0008	0.0119
147	0.0130	0.0009	0.0121
148	0.0131	0.0009	0.0123
149	0.0134	0.0009	0.0125
150	0.0135	0.0009	0.0126
151	0.0138	0.0009	0.0129
152	0.0139	0.0009	0.0130
153	0.0143	0.0009	0.0133
154	0.0144	0.0010	0.0135
155	0.0147	0.0010	0.0138
156	0.0149	0.0010	0.0139
157	0.0153	0.0010	0.0143
158	0.0155	0.0010	0.0144
159	0.0159	0.0011	0.0148
160	0.0161	0.0011	0.0150
161	0.0165	0.0011	0.0154
162	0.0167	0.0011	0.0156
163	0.0172	0.0011	0.0161
164	0.0175	0.0012	0.0163
165	0.0180	0.0012	0.0168
166	0.0183	0.0012	0.0171
167	0.0189	0.0013	0.0177
168	0.0193	0.0013	0.0180
169	0.0270	0.0018	0.0252
170	0.0274	0.0018	0.0256
171	0.0283	0.0019	0.0264
172	0.0288	0.0019	0.0269
173	0.0298	0.0020	0.0278
174	0.0304	0.0020	0.0283
175	0.0315	0.0021	0.0294

176	0.0322	0.0021	0.0301
177	0.0336	0.0022	0.0314
178	0.0344	0.0023	0.0321
179	0.0361	0.0024	0.0337
180	0.0371	0.0025	0.0346
181	0.0393	0.0026	0.0367
182	0.0405	0.0027	0.0378
183	0.0434	0.0029	0.0405
184	0.0451	0.0030	0.0421
185	0.0315	0.0021	0.0294
186	0.0336	0.0022	0.0313
187	0.0389	0.0026	0.0363
188	0.0425	0.0028	0.0397
189	0.0528	0.0035	0.0493
190	0.0608	0.0040	0.0569
191	0.0923	0.0040	0.0884
192	0.1340	0.0040	0.1300
193	0.5797	0.0040	0.5758
194	0.0727	0.0040	0.0687
195	0.0470	0.0031	0.0438
196	0.0360	0.0024	0.0336
197	0.0469	0.0031	0.0438
198	0.0419	0.0028	0.0391
199	0.0382	0.0025	0.0356
200	0.0352	0.0023	0.0329
201	0.0329	0.0022	0.0307
202	0.0309	0.0021	0.0289
203	0.0293	0.0019	0.0273
204	0.0279	0.0019	0.0260
205	0.0196	0.0013	0.0183
206	0.0186	0.0012	0.0174
207	0.0178	0.0012	0.0166
208	0.0170	0.0011	0.0158
209	0.0163	0.0011	0.0152
210	0.0157	0.0010	0.0146
211	0.0151	0.0010	0.0141
212	0.0146	0.0010	0.0136
213	0.0141	0.0009	0.0132
214	0.0137	0.0009	0.0128
215	0.0133	0.0009	0.0124
216	0.0129	0.0009	0.0120
217	0.0125	0.0008	0.0117
218	0.0122	0.0008	0.0114
219	0.0119	0.0008	0.0111
220	0.0116	0.0008	0.0108
221	0.0113	0.0008	0.0106
222	0.0111	0.0007	0.0103
223	0.0108	0.0007	0.0101
224	0.0106	0.0007	0.0099
225	0.0104	0.0007	0.0097
226	0.0102	0.0007	0.0095
227	0.0100	0.0007	0.0093
228	0.0098	0.0006	0.0091
229	0.0096	0.0006	0.0090
230	0.0094	0.0006	0.0088
231	0.0093	0.0006	0.0087
232	0.0091	0.0006	0.0085
233	0.0090	0.0006	0.0084
234	0.0088	0.0006	0.0082

235	0.0087	0.0006	0.0081
236	0.0086	0.0006	0.0080
237	0.0084	0.0006	0.0079
238	0.0083	0.0006	0.0078
239	0.0082	0.0005	0.0076
240	0.0081	0.0005	0.0075
241	0.0080	0.0005	0.0074
242	0.0079	0.0005	0.0073
243	0.0078	0.0005	0.0072
244	0.0077	0.0005	0.0071
245	0.0076	0.0005	0.0071
246	0.0075	0.0005	0.0070
247	0.0074	0.0005	0.0069
248	0.0073	0.0005	0.0068
249	0.0072	0.0005	0.0067
250	0.0071	0.0005	0.0066
251	0.0070	0.0005	0.0066
252	0.0070	0.0005	0.0065
253	0.0069	0.0005	0.0064
254	0.0068	0.0005	0.0064
255	0.0067	0.0004	0.0063
256	0.0067	0.0004	0.0062
257	0.0066	0.0004	0.0062
258	0.0065	0.0004	0.0061
259	0.0065	0.0004	0.0060
260	0.0064	0.0004	0.0060
261	0.0063	0.0004	0.0059
262	0.0063	0.0004	0.0059
263	0.0062	0.0004	0.0058
264	0.0062	0.0004	0.0058
265	0.0061	0.0004	0.0057
266	0.0061	0.0004	0.0057
267	0.0060	0.0004	0.0056
268	0.0060	0.0004	0.0056
269	0.0059	0.0004	0.0055
270	0.0059	0.0004	0.0055
271	0.0058	0.0004	0.0054
272	0.0058	0.0004	0.0054
273	0.0057	0.0004	0.0053
274	0.0057	0.0004	0.0053
275	0.0056	0.0004	0.0052
276	0.0056	0.0004	0.0052
277	0.0055	0.0004	0.0052
278	0.0055	0.0004	0.0051
279	0.0054	0.0004	0.0051
280	0.0054	0.0004	0.0050
281	0.0054	0.0004	0.0050
282	0.0053	0.0004	0.0050
283	0.0053	0.0004	0.0049
284	0.0052	0.0003	0.0049
285	0.0052	0.0003	0.0049
286	0.0052	0.0003	0.0048
287	0.0051	0.0003	0.0048
288	0.0051	0.0003	0.0048

Total soil rain loss = 0.24(In)
Total effective rainfall = 3.98(In)
Peak flow rate in flood hydrograph = 5599.01(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	1400.0	2800.0	4200.0	5600.0
0+ 5	0.0101	1.46	Q				
0+10	0.0432	4.81	Q				
0+15	0.1087	9.51	Q				
0+20	0.2160	15.58	Q				
0+25	0.3750	23.09	Q				
0+30	0.6066	33.64	Q				
0+35	0.9333	47.43	Q				
0+40	1.4048	68.47	Q				
0+45	2.0883	99.24	Q				
0+50	2.8837	115.48	Q				
0+55	3.7549	126.50	Q				
1+ 0	4.6870	135.35	Q				
1+ 5	5.6714	142.93	VQ				
1+10	6.6989	149.20	VQ				
1+15	7.7678	155.19	VQ				
1+20	8.8722	160.37	VQ				
1+25	10.0102	165.23	VQ				
1+30	11.1776	169.51	VQ				
1+35	12.3724	173.49	VQ				
1+40	13.5925	177.16	VQ				
1+45	14.8363	180.60	VQ				
1+50	16.1022	183.81	VQ				
1+55	17.3883	186.74	VQ				
2+ 0	18.6936	189.54	VQ				
2+ 5	20.0168	192.13	VQ				
2+10	21.3571	194.60	VQ				
2+15	22.7128	196.85	VQ				
2+20	24.0833	199.00	VQ				
2+25	25.4671	200.92	VQ				
2+30	26.8636	202.78	VQ				
2+35	28.2722	204.53	VQ				
2+40	29.6925	206.23	|Q				
2+45	31.1234	207.75	|Q				
2+50	32.5642	209.21	|Q				
2+55	34.0134	210.43	|Q				
3+ 0	35.4703	211.55	|Q				
3+ 5	36.9352	212.70	|Q				
3+10	38.4079	213.83	|Q				
3+15	39.8884	214.97	|Q				
3+20	41.3765	216.07	|Q				
3+25	42.8724	217.21	|Q				
3+30	44.3761	218.33	|Q				
3+35	45.8874	219.45	|Q				
3+40	47.4059	220.49	|Q				
3+45	48.9319	221.57	|Q				
3+50	50.4651	222.63	|Q				
3+55	52.0060	223.73	|Q				
4+ 0	53.5545	224.85	|Q				
4+ 5	55.1110	226.00	|Q				

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4+10      56.6753    227.14  |Q         |          |          |          |
4+15      58.2477    228.31  |QV        |          |          |          |
4+20      59.8276    229.40  |QV        |          |          |          |
4+25      61.4151    230.51  |QV        |          |          |          |
4+30      63.0102    231.61  |QV        |          |          |          |
4+35      64.6131    232.74  |QV        |          |          |          |
4+40      66.2235    233.83  |QV        |          |          |          |
4+45      67.8415    234.94  |QV        |          |          |          |
4+50      69.4672    236.04  |QV        |          |          |          |
4+55      71.1008    237.20  |QV        |          |          |          |
5+ 0      72.7418    238.28  |QV        |          |          |          |
5+ 5      74.3905    239.39  |QV        |          |          |          |
5+10      76.0468    240.49  |QV        |          |          |          |
5+15      77.7109    241.63  |QV        |          |          |          |
5+20      79.3828    242.75  |QV        |          |          |          |
5+25      81.0627    243.92  |QV        |          |          |          |
5+30      82.7505    245.07  |QV        |          |          |          |
5+35      84.4464    246.26  |QV        |          |          |          |
5+40      86.1505    247.43  |Q V       |          |          |          |
5+45      87.8629    248.64  |Q V       |          |          |          |
5+50      89.5836    249.84  |Q V       |          |          |          |
5+55      91.3129    251.09  |Q V       |          |          |          |
6+ 0      93.0506    252.32  |Q V       |          |          |          |
6+ 5      94.7972    253.60  |Q V       |          |          |          |
6+10      96.5525    254.86  |Q V       |          |          |          |
6+15      98.3168    256.18  |Q V       |          |          |          |
6+20     100.0900    257.47  |Q V       |          |          |          |
6+25     101.8725    258.82  |Q V       |          |          |          |
6+30     103.6642    260.15  |Q V       |          |          |          |
6+35     105.4654    261.53  |Q V       |          |          |          |
6+40     107.2760    262.90  |Q V       |          |          |          |
6+45     109.0963    264.32  |Q V       |          |          |          |
6+50     110.9264    265.72  |Q V       |          |          |          |
6+55     112.7665    267.18  |Q V       |          |          |          |
7+ 0      114.6165    268.62  |Q  V      |          |          |          |
7+ 5      116.4768    270.12  |Q  V      |          |          |          |
7+10      118.3474    271.61  |Q  V      |          |          |          |
7+15      120.2286    273.15  |Q  V      |          |          |          |
7+20      122.1203    274.68  |Q  V      |          |          |          |
7+25      124.0230    276.26  |Q  V      |          |          |          |
7+30      125.9364    277.83  |Q  V      |          |          |          |
7+35      127.8612    279.47  |Q  V      |          |          |          |
7+40      129.7970    281.09  | Q V      |          |          |          |
7+45      131.7445    282.77  | Q V      |          |          |          |
7+50      133.7034    284.44  | Q V      |          |          |          |
7+55      135.6743    286.18  | Q V      |          |          |          |
8+ 0      137.6571    287.89  | Q V      |          |          |          |
8+ 5      139.6522    289.68  | Q V      |          |          |          |
8+10      141.6594    291.46  | Q V      |          |          |          |
8+15      143.6794    293.31  | Q  V     |          |          |          |
8+20      145.7121    295.13  | Q  V     |          |          |          |
8+25      147.7578    297.04  | Q  V     |          |          |          |
8+30      149.8166    298.93  | Q  V     |          |          |          |
8+35      151.8889    300.90  | Q  V     |          |          |          |
8+40      153.9747    302.86  | Q  V     |          |          |          |
8+45      156.0745    304.90  | Q  V     |          |          |          |
8+50      158.1883    306.92  | Q  V     |          |          |          |
8+55      160.3165    309.02  | Q  V     |          |          |          |
9+ 0      162.4592    311.12  | Q  V     |          |          |          |
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9+ 5	164.6169	313.30	Q V				
9+10	166.7895	315.46	Q V				
9+15	168.9777	317.73	Q V				
9+20	171.1814	319.97	Q V				
9+25	173.4012	322.32	Q V				
9+30	175.6371	324.65	Q V				
9+35	177.8897	327.08	Q V				
9+40	180.1589	329.50	Q V				
9+45	182.4456	332.03	Q V				
9+50	184.7496	334.54	Q V				
9+55	187.0717	337.17	Q V				
10+ 0	189.4118	339.78	Q V				
10+ 5	191.7708	342.52	Q V				
10+10	194.1484	345.24	Q V				
10+15	196.5457	348.09	Q V				
10+20	198.9626	350.92	Q V				
10+25	201.3999	353.90	Q V				
10+30	203.8575	356.85	Q V				
10+35	206.3366	359.96	Q V				
10+40	208.8369	363.05	Q V				
10+45	211.3596	366.29	Q V				
10+50	213.9045	369.52	Q V				
10+55	216.4728	372.92	Q V				
11+ 0	219.0644	376.30	Q V				
11+ 5	221.6805	379.86	Q V				
11+10	224.3210	383.40	Q V				
11+15	226.9872	387.14	Q V				
11+20	229.6791	390.86	Q V				
11+25	232.3980	394.78	Q V				
11+30	235.1439	398.70	Q V				
11+35	237.9182	402.83	Q V				
11+40	240.7209	406.95	Q V				
11+45	243.5535	411.30	Q V				
11+50	246.4162	415.66	Q V				
11+55	249.3105	420.25	Q V				
12+ 0	252.2365	424.85	Q V				
12+ 5	255.1960	429.73	Q V				
12+10	258.1893	434.62	Q V				
12+15	261.2182	439.81	Q V				
12+20	264.2831	445.02	Q V				
12+25	267.3860	450.54	Q V				
12+30	270.5273	456.11	Q V				
12+35	273.7093	462.03	Q V				
12+40	276.9327	468.03	Q V				
12+45	280.2003	474.46	Q V				
12+50	283.5118	480.84	Q V				
12+55	286.8698	487.58	Q V				
13+ 0	290.2746	494.37	Q V				
13+ 5	293.7291	501.59	Q V				
13+10	297.2338	508.88	Q V				
13+15	300.7920	516.65	Q V				
13+20	304.4043	524.51	Q V				
13+25	308.0745	532.91	Q V				
13+30	311.8033	541.42	Q V				
13+35	315.5948	550.53	Q V				
13+40	319.4501	559.80	Q V				
13+45	323.3740	569.74	Q V				
13+50	327.3675	579.87	Q V				
13+55	331.4362	590.77	Q V				

14+ 0	335.5815	601.91	Q	V				
14+ 5	339.8237	615.96	Q	V				
14+10	344.1829	632.95	Q	V				
14+15	348.6792	652.86	Q	V				
14+20	353.3285	675.08	Q	V				
14+25	358.1533	700.55	Q	V				
14+30	363.1862	730.79	Q	V				
14+35	368.4687	767.01	Q	V				
14+40	374.0751	814.05	Q	V				
14+45	380.1112	876.45	Q	V				
14+50	386.4451	919.67	Q	V				
14+55	393.0421	957.89	Q	V				
15+ 0	399.8898	994.28	Q	V				
15+ 5	406.9948	1031.65	Q	V				
15+10	414.3558	1068.82	Q	V				
15+15	421.9943	1109.10	Q	V				
15+20	429.9180	1150.52	Q	V				
15+25	438.1214	1191.14	Q	V				
15+30	446.5769	1227.73	Q	V				
15+35	455.2933	1265.62	Q	V				
15+40	464.2701	1303.44	Q	V				
15+45	473.5400	1345.99	Q	V				
15+50	483.0953	1387.43	Q	V				
15+55	493.0070	1439.18	Q	V				
16+ 0	503.3264	1498.38	Q	V				
16+ 5	515.0186	1697.71	Q	V				
16+10	528.7593	1995.14	Q	V				
16+15	544.3370	2261.89	Q	V				
16+20	561.8630	2544.77	Q	V				
16+25	581.6463	2872.54	Q					
16+30	604.9368	3381.77	V	Q				
16+35	632.1224	3947.36	V	Q				
16+40	665.1998	4802.83	V	Q				
16+45	703.7605	5599.01	V	Q				
16+50	730.4616	3877.00	V	Q				
16+55	751.9707	3123.12	Q	V				
17+ 0	771.0491	2770.19	Q	V				
17+ 5	788.7787	2574.33	Q	V				
17+10	804.9970	2354.90	Q	V				
17+15	820.3618	2230.98	Q	V				
17+20	834.5600	2061.58	Q	V				
17+25	847.9418	1943.03	Q	V				
17+30	860.3524	1802.03	Q	V				
17+35	871.9824	1688.66	Q	V				
17+40	882.8189	1573.47	Q	V				
17+45	892.8313	1453.79	Q	V				
17+50	902.1929	1359.31	Q	V				
17+55	910.9332	1269.09	Q	V				
18+ 0	919.2158	1202.63	Q	V				
18+ 5	926.9961	1129.70	Q	V				
18+10	934.3916	1073.83	Q	V				
18+15	941.3107	1004.66	Q	V				
18+20	947.9000	956.76	Q	V				
18+25	954.0538	893.54	Q	V				
18+30	959.9406	854.76	Q	V				
18+35	965.5097	808.65	Q	V				
18+40	970.8332	772.97	Q	V				
18+45	975.8084	722.40	Q	V				
18+50	980.5354	686.36	Q	V				

18+55	984.9049	634.44	Q			V
19+ 0	989.0615	603.54	Q			V
19+ 5	993.0873	584.54	Q			V
19+10	996.9925	567.04	Q			V
19+15	1000.7611	547.21	Q			V
19+20	1004.4056	529.17	Q			V
19+25	1007.9503	514.69	Q			V
19+30	1011.3972	500.50	Q			V
19+35	1014.7248	483.17	Q			V
19+40	1017.9267	464.91	Q			V
19+45	1021.0546	454.17	Q			V
19+50	1024.1169	444.64	Q			V
19+55	1027.1253	436.82	Q			V
20+ 0	1030.0932	430.94	Q			V
20+ 5	1033.0047	422.76	Q			V
20+10	1035.8560	414.00	Q			V
20+15	1038.6384	404.01	Q			V
20+20	1041.3190	389.22	Q			V
20+25	1043.9381	380.29	Q			V
20+30	1046.5078	373.12	Q			V
20+35	1049.0281	365.95	Q			V
20+40	1051.4800	356.03	Q			V
20+45	1053.8790	348.32	Q			V
20+50	1056.2356	342.19	Q			V
20+55	1058.5621	337.81	Q			V
21+ 0	1060.7980	324.65	Q			V
21+ 5	1062.9928	318.69	Q			V
21+10	1065.1525	313.59	Q			V
21+15	1067.2799	308.90	Q			V
21+20	1069.3753	304.26	Q			V
21+25	1071.4400	299.78	Q			V
21+30	1073.4724	295.11	Q			V
21+35	1075.4742	290.65	Q			V
21+40	1077.4494	286.80	Q			V
21+45	1079.3992	283.12	Q			V
21+50	1081.3247	279.57	Q			V
21+55	1083.2262	276.10	Q			V
22+ 0	1085.1053	272.85	Q			V
22+ 5	1086.9627	269.70	Q			V
22+10	1088.7992	266.65	Q			V
22+15	1090.6153	263.70	Q			V
22+20	1092.4116	260.83	Q			V
22+25	1094.1888	258.05	Q			V
22+30	1095.9474	255.35	Q			V
22+35	1097.6880	252.73	Q			V
22+40	1099.4110	250.18	Q			V
22+45	1101.1169	247.70	Q			V
22+50	1102.8061	245.28	Q			V
22+55	1104.4791	242.92	Q			V
23+ 0	1106.1364	240.63	Q			V
23+ 5	1107.7781	238.39	Q			V
23+10	1109.4048	236.20	Q			V
23+15	1111.0169	234.06	Q			V
23+20	1112.6145	231.98	Q			V
23+25	1114.1982	229.94	Q			V
23+30	1115.7681	227.95	Q			V
23+35	1117.3246	226.01	Q			V
23+40	1118.8680	224.10	Q			V
23+45	1120.3986	222.24	Q			V

23+50	1121.9166	220.42	|Q	|	|	|	V|
23+55	1123.4223	218.63	|Q	|	|	|	V|
24+ 0	1124.9160	216.88	|Q	|	|	|	V|
24+ 5	1126.3878	213.71	|Q	|	|	|	V|
24+10	1127.8252	208.70	|Q	|	|	|	V|
24+15	1129.2193	202.42	|Q	|	|	|	V|
24+20	1130.5612	194.85	|Q	|	|	|	V|
24+25	1131.8417	185.93	|Q	|	|	|	V|
24+30	1133.0405	174.07	|Q	|	|	|	V|
24+35	1134.1364	159.12	|Q	|	|	|	V|
24+40	1135.0806	137.10	Q	|	|	|	V|
24+45	1135.8078	105.59	Q	|	|	|	V|
24+50	1136.4202	88.91	Q	|	|	|	V|
24+55	1136.9550	77.65	Q	|	|	|	V|
25+ 0	1137.4278	68.65	Q	|	|	|	V|
25+ 5	1137.8482	61.05	Q	|	|	|	V|
25+10	1138.2257	54.81	Q	|	|	|	V|
25+15	1138.5628	48.94	Q	|	|	|	V|
25+20	1138.8654	43.95	Q	|	|	|	V|
25+25	1139.1363	39.34	Q	|	|	|	V|
25+30	1139.3798	35.35	Q	|	|	|	V|
25+35	1139.5983	31.72	Q	|	|	|	V|
25+40	1139.7941	28.43	Q	|	|	|	V|
25+45	1139.9692	25.43	Q	|	|	|	V|
25+50	1140.1254	22.68	Q	|	|	|	V|
25+55	1140.2649	20.26	Q	|	|	|	V|
26+ 0	1140.3888	17.99	Q	|	|	|	V|
26+ 5	1140.4989	15.98	Q	|	|	|	V|
26+10	1140.5959	14.09	Q	|	|	|	V|
26+15	1140.6818	12.47	Q	|	|	|	V|
26+20	1140.7573	10.95	Q	|	|	|	V|
26+25	1140.8242	9.71	Q	|	|	|	V|
26+30	1140.8829	8.53	Q	|	|	|	V|
26+35	1140.9346	7.50	Q	|	|	|	V|
26+40	1140.9795	6.52	Q	|	|	|	V|
26+45	1141.0191	5.75	Q	|	|	|	V|
26+50	1141.0538	5.05	Q	|	|	|	V|
26+55	1141.0856	4.61	Q	|	|	|	V|
27+ 0	1141.1150	4.27	Q	|	|	|	V|
27+ 5	1141.1421	3.93	Q	|	|	|	V|
27+10	1141.1668	3.60	Q	|	|	|	V|
27+15	1141.1895	3.29	Q	|	|	|	V|
27+20	1141.2103	3.02	Q	|	|	|	V|
27+25	1141.2292	2.74	Q	|	|	|	V|
27+30	1141.2461	2.47	Q	|	|	|	V|
27+35	1141.2615	2.23	Q	|	|	|	V|
27+40	1141.2757	2.06	Q	|	|	|	V|
27+45	1141.2888	1.89	Q	|	|	|	V|
27+50	1141.3007	1.73	Q	|	|	|	V|
27+55	1141.3113	1.55	Q	|	|	|	V|
28+ 0	1141.3207	1.35	Q	|	|	|	V|
28+ 5	1141.3286	1.15	Q	|	|	|	V|
28+10	1141.3352	0.96	Q	|	|	|	V|
28+15	1141.3405	0.77	Q	|	|	|	V|
28+20	1141.3449	0.65	Q	|	|	|	V|
28+25	1141.3486	0.54	Q	|	|	|	V|
28+30	1141.3516	0.43	Q	|	|	|	V|
28+35	1141.3539	0.33	Q	|	|	|	V|
28+40	1141.3556	0.25	Q	|	|	|	V|

28+45	1141.3569	0.19	Q	|	|	|	V|
28+50	1141.3579	0.13	Q	|	|	|	V|
28+55	1141.3582	0.05	Q	|	|	|	V|
29+ 0	1141.3585	0.04	Q	|	|	|	V|
29+ 5	1141.3587	0.03	Q	|	|	|	V|
29+10	1141.3589	0.03	Q	|	|	|	V|
29+15	1141.3590	0.02	Q	|	|	|	V|
29+20	1141.3591	0.01	Q	|	|	|	V|
29+25	1141.3591	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 51
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
15350.45	1	1.42
Rainfall data for year 100		
15350.45	6	2.25
Rainfall data for year 100		
15350.45	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.6	93.1	15350.45	1.000	0.133	0.987	0.132

Area-averaged adjusted loss rate Fm (In/Hr) = 0.132

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
15147.82	0.987	78.6	93.1	0.74	0.780
202.63	0.013	98.0	98.0	0.20	0.931

Area-averaged catchment yield fraction, Y = 0.782
Area-averaged low loss fraction, Yb = 0.218
++
Watercourse length = 45387.00(Ft.)
Length from concentration point to centroid = 22710.00(Ft.)
Elevation difference along watercourse = 2686.10(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 15350.45(Ac.)
Catchment Lag time = 1.112 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 7.4948
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.132(In/Hr)
Average low loss rate fraction (Yb) = 0.218 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.420
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.580

Computed peak 5-minute rainfall = 0.674(In)
Computed peak 30-minute rainfall = 1.153(In)
Specified peak 1-hour rainfall = 1.420(In)
Computed peak 3-hour rainfall = 1.883(In)
Specified peak 6-hour rainfall = 2.250(In)
Specified peak 24-hour rainfall = 3.400(In)

Rainfall depth area reduction factors:
Using a total area of 15350.45(Ac.) (Ref: fig. E-4)

5-minute factor = 0.592 Adjusted rainfall = 0.399(In)
30-minute factor = 0.614 Adjusted rainfall = 0.709(In)
1-hour factor = 0.623 Adjusted rainfall = 0.885(In)
3-hour factor = 0.918 Adjusted rainfall = 1.728(In)
6-hour factor = 0.961 Adjusted rainfall = 2.162(In)
24-hour factor = 0.977 Adjusted rainfall = 3.320(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 185644.50 (CFS))	
1	0.391	725.184
2	1.191	1485.986
3	2.342	2136.544
4	3.768	2647.236
5	5.525	3261.968

6	7.648	3941.781
7	10.097	4545.583
8	13.687	6664.526
9	18.221	8417.958
10	24.192	11085.274
11	30.236	11219.257
12	36.417	11474.799
13	43.758	13627.337
14	50.547	12604.827
15	55.093	8438.035
16	58.677	6654.891
17	61.760	5722.671
18	64.361	4829.586
19	66.755	4443.825
20	68.869	3924.810
21	70.796	3577.526
22	72.574	3299.609
23	74.226	3068.111
24	75.782	2887.834
25	77.143	2525.945
26	78.470	2464.392
27	79.766	2405.020
28	80.859	2029.767
29	81.886	1906.737
30	82.913	1906.737
31	83.854	1746.619
32	84.701	1572.880
33	85.548	1572.808
34	86.369	1523.697
35	87.097	1350.772
36	87.816	1335.718
37	88.530	1325.158
38	89.158	1166.399
39	89.758	1113.098
40	90.358	1113.098
41	90.892	992.592
42	91.355	858.296
43	91.817	858.199
44	92.265	832.701
45	92.664	740.717
46	93.059	732.419
47	93.451	727.373
48	93.800	648.294
49	94.135	621.109
50	94.469	621.109
51	94.778	573.381
52	95.057	518.765
53	95.337	518.704
54	95.598	484.152
55	95.790	356.438
56	95.975	344.504
57	96.161	344.504
58	96.346	344.504
59	96.532	344.504
60	96.718	344.504
61	96.884	309.474
62	97.029	268.322
63	97.173	268.257
64	97.318	268.257

65	97.462	268.257
66	97.607	268.257
67	97.749	264.628
68	97.858	202.655
69	97.956	180.322
70	98.053	180.322
71	98.150	180.322
72	98.247	180.322
73	98.344	180.322
74	98.436	170.290
75	98.507	131.347
76	98.575	127.450
77	98.644	127.450
78	98.713	127.450
79	98.781	127.450
80	98.850	127.450
81	98.917	124.221
82	98.982	120.226
83	99.046	120.215
84	99.111	120.215
85	99.176	120.215
86	99.241	120.215
87	99.305	119.778
88	99.365	111.612
89	99.424	108.527
90	99.482	108.527
91	99.541	108.527
92	99.599	108.527
93	99.658	108.527
94	99.711	98.918
95	99.740	54.108
96	99.767	50.437
97	99.794	50.437
98	99.821	50.437
99	99.849	50.437
100	99.876	50.437
101	99.903	50.437
102	99.930	50.437
103	99.957	50.437
104	99.984	50.437
105	100.000	28.841

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.3987	0.3987
2	0.4981	0.0994
3	0.5673	0.0693
4	0.6222	0.0549
5	0.6685	0.0462
6	0.7088	0.0403
7	0.7446	0.0358
8	0.7771	0.0325
9	0.8070	0.0299
10	0.8346	0.0277
11	0.8605	0.0258
12	0.8848	0.0243
13	0.9290	0.0442
14	0.9719	0.0429
15	1.0137	0.0417

16	1.0543	0.0407
17	1.0940	0.0397
18	1.1328	0.0388
19	1.1708	0.0380
20	1.2079	0.0372
21	1.2444	0.0365
22	1.2802	0.0358
23	1.3153	0.0352
24	1.3499	0.0346
25	1.3839	0.0340
26	1.4174	0.0335
27	1.4504	0.0330
28	1.4829	0.0325
29	1.5149	0.0321
30	1.5466	0.0316
31	1.5778	0.0312
32	1.6086	0.0308
33	1.6390	0.0305
34	1.6691	0.0301
35	1.6989	0.0298
36	1.7283	0.0294
37	1.7437	0.0154
38	1.7588	0.0151
39	1.7736	0.0148
40	1.7881	0.0146
41	1.8024	0.0143
42	1.8165	0.0141
43	1.8304	0.0139
44	1.8440	0.0136
45	1.8574	0.0134
46	1.8707	0.0132
47	1.8837	0.0130
48	1.8966	0.0128
49	1.9092	0.0127
50	1.9217	0.0125
51	1.9340	0.0123
52	1.9462	0.0122
53	1.9582	0.0120
54	1.9701	0.0119
55	1.9818	0.0117
56	1.9933	0.0116
57	2.0048	0.0114
58	2.0161	0.0113
59	2.0272	0.0112
60	2.0382	0.0110
61	2.0492	0.0109
62	2.0599	0.0108
63	2.0706	0.0107
64	2.0812	0.0106
65	2.0916	0.0104
66	2.1020	0.0103
67	2.1122	0.0102
68	2.1223	0.0101
69	2.1323	0.0100
70	2.1423	0.0099
71	2.1521	0.0098
72	2.1618	0.0097
73	2.1711	0.0093
74	2.1803	0.0092

75	2.1893	0.0091
76	2.1983	0.0090
77	2.2072	0.0089
78	2.2161	0.0088
79	2.2248	0.0088
80	2.2335	0.0087
81	2.2421	0.0086
82	2.2507	0.0085
83	2.2591	0.0085
84	2.2675	0.0084
85	2.2758	0.0083
86	2.2841	0.0083
87	2.2923	0.0082
88	2.3004	0.0081
89	2.3085	0.0081
90	2.3165	0.0080
91	2.3244	0.0079
92	2.3323	0.0079
93	2.3401	0.0078
94	2.3479	0.0078
95	2.3556	0.0077
96	2.3632	0.0076
97	2.3708	0.0076
98	2.3783	0.0075
99	2.3858	0.0075
100	2.3933	0.0074
101	2.4006	0.0074
102	2.4080	0.0073
103	2.4153	0.0073
104	2.4225	0.0072
105	2.4297	0.0072
106	2.4368	0.0071
107	2.4439	0.0071
108	2.4510	0.0070
109	2.4580	0.0070
110	2.4649	0.0070
111	2.4718	0.0069
112	2.4787	0.0069
113	2.4855	0.0068
114	2.4923	0.0068
115	2.4991	0.0067
116	2.5058	0.0067
117	2.5124	0.0067
118	2.5191	0.0066
119	2.5257	0.0066
120	2.5322	0.0066
121	2.5387	0.0065
122	2.5452	0.0065
123	2.5516	0.0064
124	2.5581	0.0064
125	2.5644	0.0064
126	2.5708	0.0063
127	2.5771	0.0063
128	2.5833	0.0063
129	2.5895	0.0062
130	2.5957	0.0062
131	2.6019	0.0062
132	2.6080	0.0061
133	2.6141	0.0061

134	2.6202	0.0061
135	2.6262	0.0060
136	2.6323	0.0060
137	2.6382	0.0060
138	2.6442	0.0059
139	2.6501	0.0059
140	2.6560	0.0059
141	2.6618	0.0059
142	2.6677	0.0058
143	2.6735	0.0058
144	2.6792	0.0058
145	2.6850	0.0057
146	2.6907	0.0057
147	2.6964	0.0057
148	2.7021	0.0057
149	2.7077	0.0056
150	2.7133	0.0056
151	2.7189	0.0056
152	2.7245	0.0056
153	2.7300	0.0055
154	2.7355	0.0055
155	2.7410	0.0055
156	2.7465	0.0055
157	2.7519	0.0054
158	2.7573	0.0054
159	2.7627	0.0054
160	2.7681	0.0054
161	2.7734	0.0053
162	2.7787	0.0053
163	2.7840	0.0053
164	2.7893	0.0053
165	2.7946	0.0053
166	2.7998	0.0052
167	2.8050	0.0052
168	2.8102	0.0052
169	2.8154	0.0052
170	2.8205	0.0051
171	2.8256	0.0051
172	2.8307	0.0051
173	2.8358	0.0051
174	2.8409	0.0051
175	2.8459	0.0050
176	2.8510	0.0050
177	2.8560	0.0050
178	2.8610	0.0050
179	2.8659	0.0050
180	2.8709	0.0049
181	2.8758	0.0049
182	2.8807	0.0049
183	2.8856	0.0049
184	2.8905	0.0049
185	2.8953	0.0049
186	2.9002	0.0048
187	2.9050	0.0048
188	2.9098	0.0048
189	2.9146	0.0048
190	2.9193	0.0048
191	2.9241	0.0047
192	2.9288	0.0047

193	2.9335	0.0047
194	2.9382	0.0047
195	2.9429	0.0047
196	2.9476	0.0047
197	2.9522	0.0046
198	2.9568	0.0046
199	2.9614	0.0046
200	2.9660	0.0046
201	2.9706	0.0046
202	2.9752	0.0046
203	2.9797	0.0046
204	2.9843	0.0045
205	2.9888	0.0045
206	2.9933	0.0045
207	2.9978	0.0045
208	3.0023	0.0045
209	3.0067	0.0045
210	3.0112	0.0044
211	3.0156	0.0044
212	3.0200	0.0044
213	3.0244	0.0044
214	3.0288	0.0044
215	3.0332	0.0044
216	3.0376	0.0044
217	3.0419	0.0043
218	3.0462	0.0043
219	3.0506	0.0043
220	3.0549	0.0043
221	3.0592	0.0043
222	3.0634	0.0043
223	3.0677	0.0043
224	3.0719	0.0043
225	3.0762	0.0042
226	3.0804	0.0042
227	3.0846	0.0042
228	3.0888	0.0042
229	3.0930	0.0042
230	3.0972	0.0042
231	3.1014	0.0042
232	3.1055	0.0041
233	3.1096	0.0041
234	3.1138	0.0041
235	3.1179	0.0041
236	3.1220	0.0041
237	3.1261	0.0041
238	3.1301	0.0041
239	3.1342	0.0041
240	3.1383	0.0041
241	3.1423	0.0040
242	3.1463	0.0040
243	3.1504	0.0040
244	3.1544	0.0040
245	3.1584	0.0040
246	3.1623	0.0040
247	3.1663	0.0040
248	3.1703	0.0040
249	3.1742	0.0040
250	3.1782	0.0039
251	3.1821	0.0039

252	3.1860	0.0039
253	3.1899	0.0039
254	3.1938	0.0039
255	3.1977	0.0039
256	3.2016	0.0039
257	3.2055	0.0039
258	3.2093	0.0039
259	3.2132	0.0038
260	3.2170	0.0038
261	3.2208	0.0038
262	3.2246	0.0038
263	3.2284	0.0038
264	3.2322	0.0038
265	3.2360	0.0038
266	3.2398	0.0038
267	3.2436	0.0038
268	3.2473	0.0038
269	3.2511	0.0037
270	3.2548	0.0037
271	3.2585	0.0037
272	3.2622	0.0037
273	3.2660	0.0037
274	3.2697	0.0037
275	3.2733	0.0037
276	3.2770	0.0037
277	3.2807	0.0037
278	3.2844	0.0037
279	3.2880	0.0037
280	3.2917	0.0036
281	3.2953	0.0036
282	3.2989	0.0036
283	3.3025	0.0036
284	3.3061	0.0036
285	3.3097	0.0036
286	3.3133	0.0036
287	3.3169	0.0036
288	3.3205	0.0036

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0036	0.0008	0.0028
2	0.0036	0.0008	0.0028
3	0.0036	0.0008	0.0028
4	0.0036	0.0008	0.0028
5	0.0036	0.0008	0.0028
6	0.0036	0.0008	0.0028
7	0.0037	0.0008	0.0029
8	0.0037	0.0008	0.0029
9	0.0037	0.0008	0.0029
10	0.0037	0.0008	0.0029
11	0.0037	0.0008	0.0029
12	0.0037	0.0008	0.0029
13	0.0037	0.0008	0.0029
14	0.0037	0.0008	0.0029
15	0.0038	0.0008	0.0029
16	0.0038	0.0008	0.0030
17	0.0038	0.0008	0.0030

18	0.0038	0.0008	0.0030
19	0.0038	0.0008	0.0030
20	0.0038	0.0008	0.0030
21	0.0039	0.0008	0.0030
22	0.0039	0.0008	0.0030
23	0.0039	0.0008	0.0030
24	0.0039	0.0008	0.0030
25	0.0039	0.0009	0.0031
26	0.0039	0.0009	0.0031
27	0.0040	0.0009	0.0031
28	0.0040	0.0009	0.0031
29	0.0040	0.0009	0.0031
30	0.0040	0.0009	0.0031
31	0.0040	0.0009	0.0031
32	0.0040	0.0009	0.0032
33	0.0041	0.0009	0.0032
34	0.0041	0.0009	0.0032
35	0.0041	0.0009	0.0032
36	0.0041	0.0009	0.0032
37	0.0041	0.0009	0.0032
38	0.0041	0.0009	0.0032
39	0.0042	0.0009	0.0033
40	0.0042	0.0009	0.0033
41	0.0042	0.0009	0.0033
42	0.0042	0.0009	0.0033
43	0.0042	0.0009	0.0033
44	0.0043	0.0009	0.0033
45	0.0043	0.0009	0.0033
46	0.0043	0.0009	0.0034
47	0.0043	0.0009	0.0034
48	0.0043	0.0009	0.0034
49	0.0044	0.0009	0.0034
50	0.0044	0.0010	0.0034
51	0.0044	0.0010	0.0034
52	0.0044	0.0010	0.0035
53	0.0044	0.0010	0.0035
54	0.0045	0.0010	0.0035
55	0.0045	0.0010	0.0035
56	0.0045	0.0010	0.0035
57	0.0045	0.0010	0.0035
58	0.0046	0.0010	0.0036
59	0.0046	0.0010	0.0036
60	0.0046	0.0010	0.0036
61	0.0046	0.0010	0.0036
62	0.0046	0.0010	0.0036
63	0.0047	0.0010	0.0037
64	0.0047	0.0010	0.0037
65	0.0047	0.0010	0.0037
66	0.0047	0.0010	0.0037
67	0.0048	0.0010	0.0037
68	0.0048	0.0010	0.0038
69	0.0048	0.0011	0.0038
70	0.0049	0.0011	0.0038
71	0.0049	0.0011	0.0038
72	0.0049	0.0011	0.0038
73	0.0049	0.0011	0.0039
74	0.0050	0.0011	0.0039
75	0.0050	0.0011	0.0039
76	0.0050	0.0011	0.0039

77	0.0051	0.0011	0.0040
78	0.0051	0.0011	0.0040
79	0.0051	0.0011	0.0040
80	0.0051	0.0011	0.0040
81	0.0052	0.0011	0.0041
82	0.0052	0.0011	0.0041
83	0.0053	0.0011	0.0041
84	0.0053	0.0011	0.0041
85	0.0053	0.0012	0.0042
86	0.0053	0.0012	0.0042
87	0.0054	0.0012	0.0042
88	0.0054	0.0012	0.0042
89	0.0055	0.0012	0.0043
90	0.0055	0.0012	0.0043
91	0.0055	0.0012	0.0043
92	0.0056	0.0012	0.0044
93	0.0056	0.0012	0.0044
94	0.0056	0.0012	0.0044
95	0.0057	0.0012	0.0045
96	0.0057	0.0012	0.0045
97	0.0058	0.0013	0.0045
98	0.0058	0.0013	0.0045
99	0.0059	0.0013	0.0046
100	0.0059	0.0013	0.0046
101	0.0059	0.0013	0.0047
102	0.0060	0.0013	0.0047
103	0.0060	0.0013	0.0047
104	0.0061	0.0013	0.0047
105	0.0061	0.0013	0.0048
106	0.0062	0.0013	0.0048
107	0.0062	0.0014	0.0049
108	0.0063	0.0014	0.0049
109	0.0063	0.0014	0.0050
110	0.0064	0.0014	0.0050
111	0.0064	0.0014	0.0050
112	0.0065	0.0014	0.0051
113	0.0066	0.0014	0.0051
114	0.0066	0.0014	0.0052
115	0.0067	0.0015	0.0052
116	0.0067	0.0015	0.0052
117	0.0068	0.0015	0.0053
118	0.0068	0.0015	0.0053
119	0.0069	0.0015	0.0054
120	0.0070	0.0015	0.0054
121	0.0070	0.0015	0.0055
122	0.0071	0.0015	0.0055
123	0.0072	0.0016	0.0056
124	0.0072	0.0016	0.0057
125	0.0073	0.0016	0.0057
126	0.0074	0.0016	0.0058
127	0.0075	0.0016	0.0059
128	0.0075	0.0016	0.0059
129	0.0076	0.0017	0.0060
130	0.0077	0.0017	0.0060
131	0.0078	0.0017	0.0061
132	0.0079	0.0017	0.0062
133	0.0080	0.0017	0.0063
134	0.0081	0.0018	0.0063
135	0.0082	0.0018	0.0064

136	0.0083	0.0018	0.0065
137	0.0084	0.0018	0.0066
138	0.0085	0.0018	0.0066
139	0.0086	0.0019	0.0067
140	0.0087	0.0019	0.0068
141	0.0088	0.0019	0.0069
142	0.0089	0.0019	0.0070
143	0.0091	0.0020	0.0071
144	0.0092	0.0020	0.0072
145	0.0097	0.0021	0.0076
146	0.0098	0.0021	0.0077
147	0.0100	0.0022	0.0078
148	0.0101	0.0022	0.0079
149	0.0103	0.0023	0.0081
150	0.0104	0.0023	0.0082
151	0.0107	0.0023	0.0083
152	0.0108	0.0023	0.0084
153	0.0110	0.0024	0.0086
154	0.0112	0.0024	0.0087
155	0.0114	0.0025	0.0089
156	0.0116	0.0025	0.0090
157	0.0119	0.0026	0.0093
158	0.0120	0.0026	0.0094
159	0.0123	0.0027	0.0096
160	0.0125	0.0027	0.0098
161	0.0128	0.0028	0.0101
162	0.0130	0.0028	0.0102
163	0.0134	0.0029	0.0105
164	0.0136	0.0030	0.0107
165	0.0141	0.0031	0.0110
166	0.0143	0.0031	0.0112
167	0.0148	0.0032	0.0116
168	0.0151	0.0033	0.0118
169	0.0294	0.0064	0.0230
170	0.0298	0.0065	0.0233
171	0.0305	0.0066	0.0238
172	0.0308	0.0067	0.0241
173	0.0316	0.0069	0.0247
174	0.0321	0.0070	0.0251
175	0.0330	0.0072	0.0258
176	0.0335	0.0073	0.0262
177	0.0346	0.0075	0.0270
178	0.0352	0.0077	0.0275
179	0.0365	0.0079	0.0285
180	0.0372	0.0081	0.0291
181	0.0388	0.0084	0.0303
182	0.0397	0.0086	0.0310
183	0.0417	0.0091	0.0327
184	0.0429	0.0093	0.0336
185	0.0243	0.0053	0.0190
186	0.0258	0.0056	0.0202
187	0.0299	0.0065	0.0234
188	0.0325	0.0071	0.0254
189	0.0403	0.0088	0.0315
190	0.0462	0.0101	0.0362
191	0.0693	0.0110	0.0583
192	0.0994	0.0110	0.0884
193	0.3987	0.0110	0.3877
194	0.0549	0.0110	0.0439

195	0.0358	0.0078	0.0280
196	0.0277	0.0060	0.0216
197	0.0442	0.0096	0.0346
198	0.0407	0.0089	0.0318
199	0.0380	0.0083	0.0297
200	0.0358	0.0078	0.0280
201	0.0340	0.0074	0.0266
202	0.0325	0.0071	0.0254
203	0.0312	0.0068	0.0244
204	0.0301	0.0066	0.0235
205	0.0154	0.0033	0.0120
206	0.0146	0.0032	0.0114
207	0.0139	0.0030	0.0108
208	0.0132	0.0029	0.0103
209	0.0127	0.0028	0.0099
210	0.0122	0.0026	0.0095
211	0.0117	0.0025	0.0092
212	0.0113	0.0025	0.0088
213	0.0109	0.0024	0.0085
214	0.0106	0.0023	0.0083
215	0.0102	0.0022	0.0080
216	0.0099	0.0022	0.0078
217	0.0093	0.0020	0.0072
218	0.0090	0.0020	0.0070
219	0.0088	0.0019	0.0068
220	0.0085	0.0019	0.0067
221	0.0083	0.0018	0.0065
222	0.0081	0.0018	0.0064
223	0.0079	0.0017	0.0062
224	0.0078	0.0017	0.0061
225	0.0076	0.0017	0.0059
226	0.0074	0.0016	0.0058
227	0.0073	0.0016	0.0057
228	0.0071	0.0016	0.0056
229	0.0070	0.0015	0.0055
230	0.0069	0.0015	0.0054
231	0.0067	0.0015	0.0053
232	0.0066	0.0014	0.0052
233	0.0065	0.0014	0.0051
234	0.0064	0.0014	0.0050
235	0.0063	0.0014	0.0049
236	0.0062	0.0013	0.0048
237	0.0061	0.0013	0.0048
238	0.0060	0.0013	0.0047
239	0.0059	0.0013	0.0046
240	0.0058	0.0013	0.0046
241	0.0057	0.0013	0.0045
242	0.0057	0.0012	0.0044
243	0.0056	0.0012	0.0044
244	0.0055	0.0012	0.0043
245	0.0054	0.0012	0.0043
246	0.0054	0.0012	0.0042
247	0.0053	0.0012	0.0041
248	0.0052	0.0011	0.0041
249	0.0052	0.0011	0.0040
250	0.0051	0.0011	0.0040
251	0.0050	0.0011	0.0039
252	0.0050	0.0011	0.0039
253	0.0049	0.0011	0.0039

254	0.0049	0.0011	0.0038
255	0.0048	0.0010	0.0038
256	0.0048	0.0010	0.0037
257	0.0047	0.0010	0.0037
258	0.0047	0.0010	0.0036
259	0.0046	0.0010	0.0036
260	0.0046	0.0010	0.0036
261	0.0045	0.0010	0.0035
262	0.0045	0.0010	0.0035
263	0.0044	0.0010	0.0035
264	0.0044	0.0010	0.0034
265	0.0043	0.0009	0.0034
266	0.0043	0.0009	0.0034
267	0.0043	0.0009	0.0033
268	0.0042	0.0009	0.0033
269	0.0042	0.0009	0.0033
270	0.0041	0.0009	0.0032
271	0.0041	0.0009	0.0032
272	0.0041	0.0009	0.0032
273	0.0040	0.0009	0.0032
274	0.0040	0.0009	0.0031
275	0.0040	0.0009	0.0031
276	0.0039	0.0009	0.0031
277	0.0039	0.0009	0.0031
278	0.0039	0.0008	0.0030
279	0.0038	0.0008	0.0030
280	0.0038	0.0008	0.0030
281	0.0038	0.0008	0.0030
282	0.0038	0.0008	0.0029
283	0.0037	0.0008	0.0029
284	0.0037	0.0008	0.0029
285	0.0037	0.0008	0.0029
286	0.0036	0.0008	0.0029
287	0.0036	0.0008	0.0028
288	0.0036	0.0008	0.0028

Total soil rain loss = 0.63(In)
Total effective rainfall = 2.69(In)
Peak flow rate in flood hydrograph = 10858.87(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

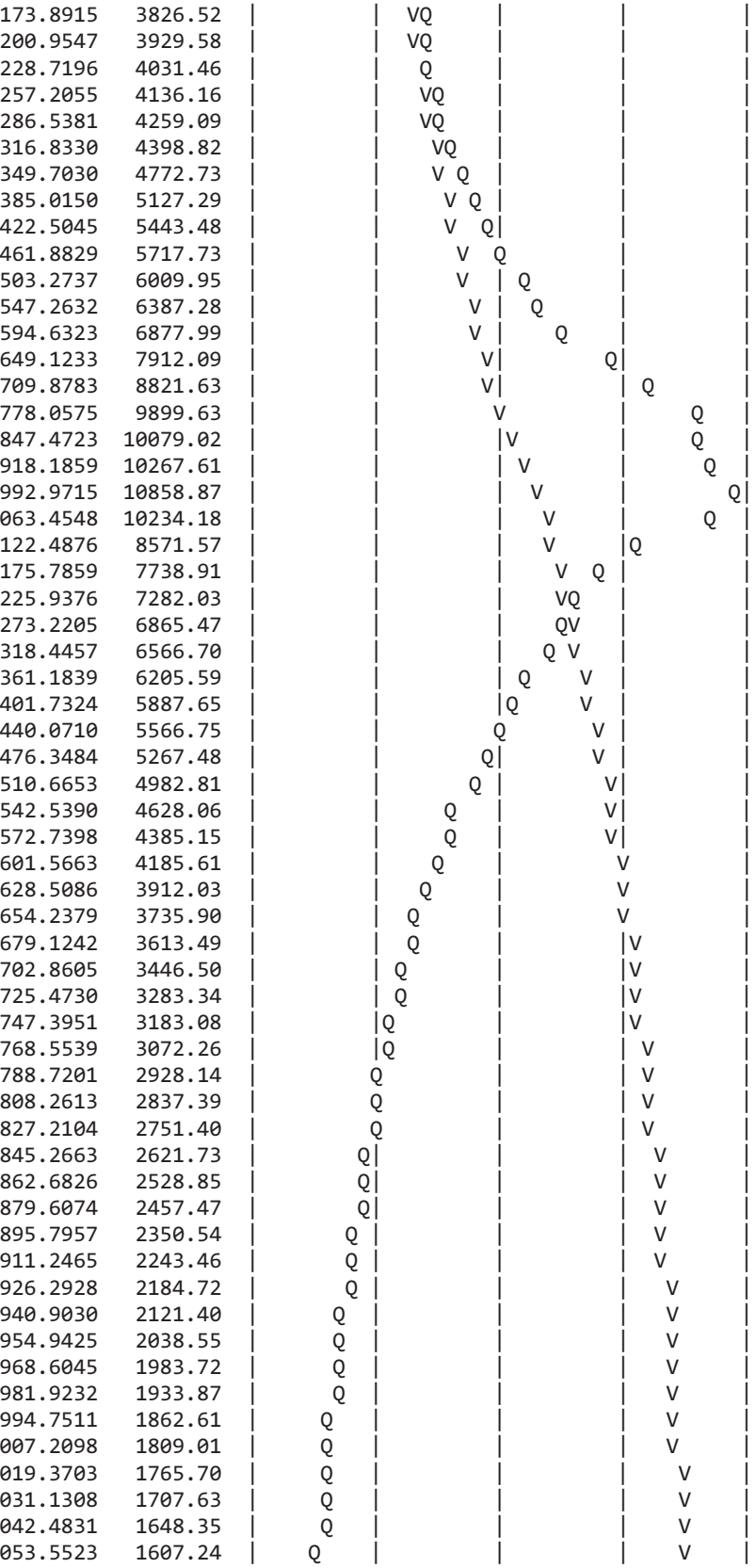
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2725.0	5450.0	8175.0	10900.0
0+ 5	0.0140	2.03	Q	|	|	|	|
0+10	0.0566	6.19	Q	|	|	|	|
0+15	0.1404	12.18	Q	|	|	|	|
0+20	0.2755	19.62	Q	|	|	|	|
0+25	0.4739	28.80	Q	|	|	|	|
0+30	0.7488	39.92	Q	|	|	|	|
0+35	1.1123	52.77	Q	|	|	|	|
0+40	1.6052	71.58	Q	|	|	|	|
0+45	2.2620	95.36	Q	|	|	|	|

0+50	3.1344	126.68	Q				
0+55	4.2259	158.49	Q				
1+ 0	5.5423	191.13	Q				
1+ 5	7.1256	229.90	Q				
1+10	8.9573	265.96	Q				
1+15	10.9581	290.51	VQ				
1+20	13.0943	310.18	VQ				
1+25	15.3486	327.32	VQ				
1+30	17.7042	342.04	VQ				
1+35	20.1541	355.73	VQ				
1+40	22.6888	368.03	VQ				
1+45	25.3018	379.42	VQ				
1+50	27.9883	390.08	VQ				
1+55	30.7440	400.13	VQ				
2+ 0	33.5659	409.73	VQ				
2+ 5	36.4471	418.36	VQ				
2+10	39.3870	426.86	VQ				
2+15	42.3845	435.23	VQ				
2+20	45.4327	442.60	VQ				
2+25	48.5295	449.66	VQ				
2+30	51.6752	456.76	VQ				
2+35	54.8669	463.44	VQ				
2+40	58.1016	469.68	VQ				
2+45	61.3794	475.94	VQ				
2+50	64.6997	482.11	VQ				
2+55	68.0594	487.82	VQ				
3+ 0	71.4583	493.53	VQ				
3+ 5	74.8966	499.24	VQ				
3+10	78.3714	504.54	VQ				
3+15	81.8819	509.72	VQ				
3+20	85.4283	514.94	VQ				
3+25	89.0086	519.85	|Q				
3+30	92.6203	524.42	|Q				
3+35	96.2637	529.02	|Q				
3+40	99.9385	533.58	|Q				
3+45	103.6431	537.91	|Q				
3+50	107.3777	542.26	|Q				
3+55	111.1423	546.62	|VQ				
4+ 0	114.9356	550.79	|VQ				
4+ 5	118.7574	554.92	|VQ				
4+10	122.6078	559.08	|VQ				
4+15	126.4861	563.13	|VQ				
4+20	130.3916	567.08	|VQ				
4+25	134.3244	571.04	|VQ				
4+30	138.2842	574.96	|VQ				
4+35	142.2686	578.53	|VQ				
4+40	146.2777	582.12	|VQ				
4+45	150.3117	585.73	|VQ				
4+50	154.3708	589.39	|VQ				
4+55	158.4553	593.06	|VQ				
5+ 0	162.5654	596.79	|VQ				
5+ 5	166.7006	600.44	|VQ				
5+10	170.8605	604.02	|VQ				
5+15	175.0452	607.62	| Q				
5+20	179.2551	611.28	| Q				
5+25	183.4903	614.95	| Q				
5+30	187.7512	618.68	| Q				
5+35	192.0379	622.42	| Q				
5+40	196.3495	626.05	| Q				

5+45	200.6858	629.63	Q			
5+50	205.0472	633.27	Q			
5+55	209.4338	636.94	Q			
6+ 0	213.8461	640.66	Q			
6+ 5	218.2841	644.41	Q			
6+10	222.7482	648.18	Q			
6+15	227.2377	651.88	Q			
6+20	231.7530	655.63	Q			
6+25	236.2944	659.40	Q			
6+30	240.8621	663.24	Q			
6+35	245.4565	667.11	Q			
6+40	250.0780	671.04	Q			
6+45	254.7267	674.99	Q			
6+50	259.4030	679.00	QV			
6+55	264.1072	683.05	QV			
7+ 0	268.8397	687.16	QV			
7+ 5	273.6008	691.31	QV			
7+10	278.3909	695.53	QV			
7+15	283.2103	699.78	QV			
7+20	288.0594	704.09	QV			
7+25	292.9384	708.43	QV			
7+30	297.8478	712.84	QV			
7+35	302.7879	717.30	QV			
7+40	307.7592	721.84	QV			
7+45	312.7622	726.42	QV			
7+50	317.7970	731.06	QV			
7+55	322.8633	735.62	QV			
8+ 0	327.9615	740.26	QV			
8+ 5	333.0920	744.95	QV			
8+10	338.2554	749.72	QV			
8+15	343.4520	754.55	QV			
8+20	348.6826	759.48	Q V			
8+25	353.9474	764.46	Q V			
8+30	359.2472	769.53	Q V			
8+35	364.5824	774.67	Q V			
8+40	369.9537	779.91	Q V			
8+45	375.3611	785.15	Q V			
8+50	380.8047	790.42	Q V			
8+55	386.2851	795.76	Q V			
9+ 0	391.8031	801.20	Q V			
9+ 5	397.3590	806.72	Q V			
9+10	402.9537	812.36	Q V			
9+15	408.5878	818.07	QV			
9+20	414.2621	823.91	QV			
9+25	419.9772	829.82	QV			
9+30	425.7339	835.87	QV			
9+35	431.5328	842.01	Q V			
9+40	437.3749	848.28	Q V			
9+45	443.2609	854.64	Q V			
9+50	449.1917	861.15	Q V			
9+55	455.1680	867.76	Q V			
10+ 0	461.1908	874.52	Q V			
10+ 5	467.2610	881.39	Q V			
10+10	473.3795	888.42	Q V			
10+15	479.5473	895.56	Q V			
10+20	485.7655	902.88	Q V			
10+25	492.0349	910.32	Q V			
10+30	498.3568	917.94	Q V			
10+35	504.7321	925.69	Q V			

```
10+40     511.1621    933.64  |  Q V    |         |         |         |
10+45     517.6478    941.73  |  Q  V   |         |         |         |
10+50     524.1907    950.03  |  Q  V   |         |         |         |
10+55     530.7919    958.48  |  Q  V   |         |         |         |
11+ 0     537.4527    967.16  |  Q  V   |         |         |         |
11+ 5     544.1744    975.99  |  Q  V   |         |         |         |
11+10     550.9587    985.07  |  Q  V   |         |         |         |
11+15     557.8067    994.33  |  Q  V   |         |         |         |
11+20     564.7202   1003.84  |  Q  V   |         |         |         |
11+25     571.7005   1013.55  |  Q  V   |         |         |         |
11+30     578.7497   1023.53  |  Q  V   |         |         |         |
11+35     585.8690   1033.73  |  Q  V   |         |         |         |
11+40     593.0606   1044.22  |  Q  V   |         |         |         |
11+45     600.3260   1054.94  |  Q  V   |         |         |         |
11+50     607.6675   1065.98  |  Q   V  |         |         |         |
11+55     615.0867   1077.28  |  Q   V  |         |         |         |
12+ 0     622.5862   1088.92  |  Q   V  |         |         |         |
12+ 5     630.1693   1101.07  |   Q  V  |         |         |         |
12+10     637.8403   1113.84  |   Q  V  |         |         |         |
12+15     645.6028   1127.11  |   Q  V  |         |         |         |
12+20     653.4607   1140.97  |   Q  V  |         |         |         |
12+25     661.4178   1155.36  |   Q  V  |         |         |         |
12+30     669.4786   1170.43  |   Q  V  |         |         |         |
12+35     677.6471   1186.06  |   Q  V  |         |         |         |
12+40     685.9313   1202.88  |   Q  V  |         |         |         |
12+45     694.3381   1220.67  |   Q   V |         |         |         |
12+50     702.8772   1239.87  |   Q   V |         |         |         |
12+55     711.5520   1259.59  |   Q   V |         |         |         |
13+ 0     720.3677   1280.04  |   Q   V |         |         |         |
13+ 5     729.3327   1301.71  |   Q   V |         |         |         |
13+10     738.4496   1323.78  |   Q   V |         |         |         |
13+15     747.7137   1345.15  |   Q   V |         |         |         |
13+20     757.1265   1366.75  |    Q  V |         |         |         |
13+25     766.6908   1388.73  |    Q  V |         |         |         |
13+30     776.4107   1411.32  |    Q   V|         |         |         |
13+35     786.2905   1434.55  |    Q   V|         |         |         |
13+40     796.3361   1458.61  |    Q   V|         |         |         |
13+45     806.5525   1483.44  |    Q   V|         |         |         |
13+50     816.9472   1509.30  |    Q   V|         |         |         |
13+55     827.5264   1536.10  |    Q   V|         |         |         |
14+ 0     838.2987   1564.14  |    Q   V|         |         |         |
14+ 5     849.3252   1601.05  |    Q   V|         |         |         |
14+10     860.6726   1647.64  |     Q   V         |         |         |
14+15     872.3988   1702.64  |     Q   V         |         |         |
14+20     884.5533   1764.83  |     Q   V         |         |         |
14+25     897.1932   1835.30  |     Q   V         |         |         |
14+30     910.3835   1915.24  |      Q  V         |         |         |
14+35     924.1829   2003.67  |      Q  V         |         |         |
14+40     938.7657   2117.43  |      Q  V         |         |         |
14+45     954.2792   2252.57  |       Q |V        |         |         |
14+50     970.9430   2419.58  |       Q |V        |         |         |
14+55     988.7880   2591.10  |        Q|V        |         |         |
15+ 0    1007.8598   2769.22  |         QV        |         |         |
15+ 5    1028.3441   2974.32  |         QV        |         |         |
15+10    1050.1972   3173.07  |         |QV       |         |         |
15+15    1073.1427   3331.69  |         | Q       |         |         |
15+20    1097.0880   3476.85  |         | Q       |         |         |
15+25    1121.9209   3605.74  |         |  Q      |         |         |
15+30    1147.5381   3719.62  |         |  Q      |         |         |
```

15+35	1173.8915	3826.52	
15+40	1200.9547	3929.58	
15+45	1228.7196	4031.46	
15+50	1257.2055	4136.16	
15+55	1286.5381	4259.09	
16+ 0	1316.8330	4398.82	
16+ 5	1349.7030	4772.73	
16+10	1385.0150	5127.29	
16+15	1422.5045	5443.48	
16+20	1461.8829	5717.73	
16+25	1503.2737	6009.95	
16+30	1547.2632	6387.28	
16+35	1594.6323	6877.99	
16+40	1649.1233	7912.09	
16+45	1709.8783	8821.63	
16+50	1778.0575	9899.63	
16+55	1847.4723	10079.02	
17+ 0	1918.1859	10267.61	
17+ 5	1992.9715	10858.87	
17+10	2063.4548	10234.18	
17+15	2122.4876	8571.57	
17+20	2175.7859	7738.91	
17+25	2225.9376	7282.03	
17+30	2273.2205	6865.47	
17+35	2318.4457	6566.70	
17+40	2361.1839	6205.59	
17+45	2401.7324	5887.65	
17+50	2440.0710	5566.75	
17+55	2476.3484	5267.48	
18+ 0	2510.6653	4982.81	
18+ 5	2542.5390	4628.06	
18+10	2572.7398	4385.15	
18+15	2601.5663	4185.61	
18+20	2628.5086	3912.03	
18+25	2654.2379	3735.90	
18+30	2679.1242	3613.49	
18+35	2702.8605	3446.50	
18+40	2725.4730	3283.34	
18+45	2747.3951	3183.08	
18+50	2768.5539	3072.26	
18+55	2788.7201	2928.14	
19+ 0	2808.2613	2837.39	
19+ 5	2827.2104	2751.40	
19+10	2845.2663	2621.73	
19+15	2862.6826	2528.85	
19+20	2879.6074	2457.47	
19+25	2895.7957	2350.54	
19+30	2911.2465	2243.46	
19+35	2926.2928	2184.72	
19+40	2940.9030	2121.40	
19+45	2954.9425	2038.55	
19+50	2968.6045	1983.72	
19+55	2981.9232	1933.87	
20+ 0	2994.7511	1862.61	
20+ 5	3007.2098	1809.01	
20+10	3019.3703	1765.70	
20+15	3031.1308	1707.63	
20+20	3042.4831	1648.35	
20+25	3053.5523	1607.24	

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20+30    3064.2676   1555.87  |    Q    |         |         |    V    |
20+35    3074.4487   1478.29  |    Q    |         |         |    V    |
20+40    3084.3788   1441.86  |    Q    |         |         |    V    |
20+45    3094.1125   1413.33  |    Q    |         |         |    V    |
20+50    3103.6561   1385.72  |    Q    |         |         |     V   |
20+55    3112.9980   1356.45  |   Q     |         |         |     V   |
21+ 0    3122.1432   1327.87  |   Q     |         |         |     V   |
21+ 5    3131.0207   1289.02  |   Q     |         |         |     V   |
21+10    3139.6331   1250.52  |   Q     |         |         |     V   |
21+15    3148.0881   1227.67  |   Q     |         |         |     V   |
21+20    3156.3966   1206.39  |   Q     |         |         |     V   |
21+25    3164.5572   1184.92  |   Q     |         |         |     V   |
21+30    3172.5632   1162.47  |   Q     |         |         |     V   |
21+35    3180.4087   1139.16  |   Q     |         |         |      V  |
21+40    3187.9745   1098.56  |   Q     |         |         |      V  |
21+45    3195.3644   1073.01  |  Q      |         |         |      V  |
21+50    3202.6394   1056.34  |  Q      |         |         |      V  |
21+55    3209.8019   1040.00  |  Q      |         |         |      V  |
22+ 0    3216.8469   1022.92  |  Q      |         |         |      V  |
22+ 5    3223.7705   1005.31  |  Q      |         |         |      V  |
22+10    3230.5504    984.44  |  Q      |         |         |      V  |
22+15    3237.1322    955.68  |  Q      |         |         |      V  |
22+20    3243.6037    939.66  |  Q      |         |         |      V  |
22+25    3249.9810    925.97  |  Q      |         |         |      V  |
22+30    3256.2669    912.73  |  Q      |         |         |      V  |
22+35    3262.4603    899.28  |  Q      |         |         |      V  |
22+40    3268.5675    886.76  |  Q      |         |         |       V |
22+45    3274.5835    873.52  |  Q      |         |         |       V |
22+50    3280.5073    860.13  |  Q      |         |         |       V |
22+55    3286.3500    848.37  |  Q      |         |         |       V |
23+ 0    3292.1134    836.84  |  Q      |         |         |       V |
23+ 5    3297.7980    825.40  |  Q      |         |         |       V |
23+10    3303.4050    814.15  | Q       |         |         |       V |
23+15    3308.9404    803.73  | Q       |         |         |       V |
23+20    3314.3889    791.13  | Q       |         |         |       V |
23+25    3319.7637    780.43  | Q       |         |         |       V |
23+30    3325.0732    770.93  | Q       |         |         |       V |
23+35    3330.3166    761.35  | Q       |         |         |       V |
23+40    3335.4915    751.39  | Q       |         |         |       V |
23+45    3340.5898    740.28  | Q       |         |         |       V |
23+50    3345.5832    725.04  | Q       |         |         |       V |
23+55    3350.4020    699.69  | Q       |         |         |       V |
24+ 0    3355.1465    688.90  | Q       |         |         |        V|
24+ 5    3359.8197    678.55  | Q       |         |         |        V|
24+10    3364.4124    666.86  | Q       |         |         |        V|
24+15    3368.9089    652.89  | Q       |         |         |        V|
24+20    3373.3010    637.72  | Q       |         |         |        V|
24+25    3377.5777    620.98  | Q       |         |         |        V|
24+30    3381.7259    602.33  | Q       |         |         |        V|
24+35    3385.7318    581.65  | Q       |         |         |        V|
24+40    3389.5475    554.04  | Q       |         |         |        V|
24+45    3393.0908    514.48  |Q        |         |         |        V|
24+50    3396.3049    466.69  |Q        |         |         |        V|
24+55    3399.2637    429.62  |Q        |         |         |        V|
25+ 0    3401.9689    392.79  |Q        |         |         |        V|
25+ 5    3404.3808    350.20  |Q        |         |         |        V|
25+10    3406.5193    310.51  |Q        |         |         |        V|
25+15    3408.4676    282.89  |Q        |         |         |        V|
25+20    3410.2622    260.59  Q         |         |         |        V|
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25+25	3411.9231	241.16	Q	|	|	|	V|
25+30	3413.4689	224.45	Q	|	|	|	V|
25+35	3414.9085	209.03	Q	|	|	|	V|
25+40	3416.2532	195.24	Q	|	|	|	V|
25+45	3417.5122	182.82	Q	|	|	|	V|
25+50	3418.6942	171.63	Q	|	|	|	V|
25+55	3419.8046	161.23	Q	|	|	|	V|
26+ 0	3420.8477	151.46	Q	|	|	|	V|
26+ 5	3421.8313	142.81	Q	|	|	|	V|
26+10	3422.7572	134.44	Q	|	|	|	V|
26+15	3423.6272	126.32	Q	|	|	|	V|
26+20	3424.4491	119.34	Q	|	|	|	V|
26+25	3425.2259	112.79	Q	|	|	|	V|
26+30	3425.9580	106.31	Q	|	|	|	V|
26+35	3426.6491	100.34	Q	|	|	|	V|
26+40	3427.3028	94.93	Q	|	|	|	V|
26+45	3427.9198	89.58	Q	|	|	|	V|
26+50	3428.5014	84.44	Q	|	|	|	V|
26+55	3429.0512	79.83	Q	|	|	|	V|
27+ 0	3429.5699	75.32	Q	|	|	|	V|
27+ 5	3430.0581	70.88	Q	|	|	|	V|
27+10	3430.5191	66.93	Q	|	|	|	V|
27+15	3430.9541	63.18	Q	|	|	|	V|
27+20	3431.3636	59.46	Q	|	|	|	V|
27+25	3431.7501	56.11	Q	|	|	|	V|
27+30	3432.1163	53.17	Q	|	|	|	V|
27+35	3432.4625	50.27	Q	|	|	|	V|
27+40	3432.7894	47.46	Q	|	|	|	V|
27+45	3433.0989	44.95	Q	|	|	|	V|
27+50	3433.3914	42.48	Q	|	|	|	V|
27+55	3433.6672	40.04	Q	|	|	|	V|
28+ 0	3433.9279	37.86	Q	|	|	|	V|
28+ 5	3434.1743	35.77	Q	|	|	|	V|
28+10	3434.4064	33.70	Q	|	|	|	V|
28+15	3434.6253	31.79	Q	|	|	|	V|
28+20	3434.8323	30.05	Q	|	|	|	V|
28+25	3435.0273	28.32	Q	|	|	|	V|
28+30	3435.2112	26.71	Q	|	|	|	V|
28+35	3435.3866	25.47	Q	|	|	|	V|
28+40	3435.5538	24.27	Q	|	|	|	V|
28+45	3435.7128	23.09	Q	|	|	|	V|
28+50	3435.8638	21.92	Q	|	|	|	V|
28+55	3436.0068	20.76	Q	|	|	|	V|
29+ 0	3436.1419	19.62	Q	|	|	|	V|
29+ 5	3436.2699	18.58	Q	|	|	|	V|
29+10	3436.3915	17.66	Q	|	|	|	V|
29+15	3436.5069	16.76	Q	|	|	|	V|
29+20	3436.6162	15.86	Q	|	|	|	V|
29+25	3436.7193	14.98	Q	|	|	|	V|
29+30	3436.8164	14.10	Q	|	|	|	V|
29+35	3436.9076	13.24	Q	|	|	|	V|
29+40	3436.9940	12.56	Q	|	|	|	V|
29+45	3437.0763	11.95	Q	|	|	|	V|
29+50	3437.1544	11.34	Q	|	|	|	V|
29+55	3437.2284	10.74	Q	|	|	|	V|
30+ 0	3437.2983	10.15	Q	|	|	|	V|
30+ 5	3437.3641	9.56	Q	|	|	|	V|
30+10	3437.4261	9.00	Q	|	|	|	V|
30+15	3437.4851	8.56	Q	|	|	|	V|

30+20	3437.5411	8.13	Q	|	|	|	V|
30+25	3437.5942	7.71	Q	|	|	|	V|
30+30	3437.6444	7.29	Q	|	|	|	V|
30+35	3437.6918	6.88	Q	|	|	|	V|
30+40	3437.7364	6.47	Q	|	|	|	V|
30+45	3437.7782	6.07	Q	|	|	|	V|
30+50	3437.8173	5.69	Q	|	|	|	V|
30+55	3437.8538	5.30	Q	|	|	|	V|
31+ 0	3437.8878	4.93	Q	|	|	|	V|
31+ 5	3437.9191	4.55	Q	|	|	|	V|
31+10	3437.9479	4.18	Q	|	|	|	V|
31+15	3437.9742	3.82	Q	|	|	|	V|
31+20	3437.9982	3.47	Q	|	|	|	V|
31+25	3438.0198	3.15	Q	|	|	|	V|
31+30	3438.0392	2.82	Q	|	|	|	V|
31+35	3438.0564	2.49	Q	|	|	|	V|
31+40	3438.0714	2.17	Q	|	|	|	V|
31+45	3438.0841	1.85	Q	|	|	|	V|
31+50	3438.0949	1.56	Q	|	|	|	V|
31+55	3438.1046	1.40	Q	|	|	|	V|
32+ 0	3438.1132	1.25	Q	|	|	|	V|
32+ 5	3438.1207	1.10	Q	|	|	|	V|
32+10	3438.1273	0.95	Q	|	|	|	V|
32+15	3438.1328	0.80	Q	|	|	|	V|
32+20	3438.1373	0.66	Q	|	|	|	V|
32+25	3438.1409	0.51	Q	|	|	|	V|
32+30	3438.1434	0.37	Q	|	|	|	V|
32+35	3438.1449	0.22	Q	|	|	|	V|
32+40	3438.1455	0.08	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 09/05/17

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6320

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREA 52
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
2128.12	1	1.39
Rainfall data for year 100		
2128.12	6	2.04
Rainfall data for year 100		
2128.12	24	2.93

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
74.8	90.8	2128.12	1.000	0.177	0.970	0.172

Area-averaged adjusted loss rate Fm (In/Hr) = 0.172

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
2065.13	0.970	74.8	90.8	1.01	0.679
62.99	0.030	98.0	98.0	0.20	0.921

Area-averaged catchment yield fraction, Y = 0.686
Area-averaged low loss fraction, Yb = 0.314
++
Watercourse length = 17716.00(Ft.)
Length from concentration point to centroid = 8950.00(Ft.)
Elevation difference along watercourse = 1680.00(Ft.)
Mannings friction factor along watercourse = 0.035
Watershed area = 2128.12(Ac.)
Catchment Lag time = 0.499 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 16.6951
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.172(In/Hr)
Average low loss rate fraction (Yb) = 0.314 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.000
FOOTHILL S-Graph proportion = 0.040
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.960

Computed peak 5-minute rainfall = 0.660(In)
Computed peak 30-minute rainfall = 1.129(In)
Specified peak 1-hour rainfall = 1.390(In)
Computed peak 3-hour rainfall = 1.759(In)
Specified peak 6-hour rainfall = 2.040(In)
Specified peak 24-hour rainfall = 2.930(In)

Rainfall depth area reduction factors:
Using a total area of 2128.12(Ac.) (Ref: fig. E-4)

5-minute factor = 0.900 Adjusted rainfall = 0.594(In)
30-minute factor = 0.900 Adjusted rainfall = 1.016(In)
1-hour factor = 0.900 Adjusted rainfall = 1.251(In)
3-hour factor = 0.987 Adjusted rainfall = 1.736(In)
6-hour factor = 0.993 Adjusted rainfall = 2.026(In)
24-hour factor = 0.997 Adjusted rainfall = 2.922(In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 25736.95 (CFS))	
1	0.788	202.857
2	3.396	671.080
3	7.775	1127.163
4	16.008	2118.909
5	30.716	3785.384

6	44.401	3522.173
7	54.400	2573.305
8	61.321	1781.260
9	66.467	1324.483
10	70.677	1083.411
11	74.156	895.448
12	77.110	760.364
13	79.615	644.663
14	81.772	555.138
15	83.629	477.832
16	85.330	437.953
17	86.896	402.907
18	88.261	351.359
19	89.421	298.546
20	90.415	255.760
21	91.352	241.322
22	92.210	220.851
23	92.996	202.182
24	93.728	188.251
25	94.359	162.548
26	94.912	142.310
27	95.465	142.275
28	95.947	124.140
29	96.371	108.967
30	96.794	108.923
31	97.145	90.446
32	97.438	75.280
33	97.730	75.229
34	97.952	57.168
35	98.118	42.624
36	98.283	42.639
37	98.465	46.855
38	98.660	50.187
39	98.855	50.186
40	99.050	49.993
41	99.243	49.843
42	99.437	49.930
43	99.577	36.004
44	99.677	25.781
45	99.778	25.781
46	99.878	25.781
47	100.000	12.890

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5938	0.5938
2	0.7310	0.1372
3	0.8256	0.0946
4	0.9000	0.0744
5	0.9623	0.0623
6	1.0164	0.0541
7	1.0645	0.0481
8	1.1080	0.0435
9	1.1479	0.0399
10	1.1847	0.0369
11	1.2191	0.0344
12	1.2513	0.0322
13	1.2816	0.0302
14	1.3102	0.0286

15	1.3374	0.0272
16	1.3634	0.0260
17	1.3883	0.0249
18	1.4122	0.0239
19	1.4351	0.0230
20	1.4572	0.0221
21	1.4786	0.0214
22	1.4992	0.0207
23	1.5193	0.0200
24	1.5387	0.0194
25	1.5575	0.0188
26	1.5758	0.0183
27	1.5937	0.0178
28	1.6110	0.0174
29	1.6280	0.0169
30	1.6445	0.0165
31	1.6607	0.0162
32	1.6765	0.0158
33	1.6919	0.0155
34	1.7071	0.0151
35	1.7219	0.0148
36	1.7364	0.0145
37	1.7470	0.0106
38	1.7575	0.0104
39	1.7677	0.0102
40	1.7777	0.0100
41	1.7875	0.0098
42	1.7971	0.0096
43	1.8065	0.0094
44	1.8158	0.0093
45	1.8249	0.0091
46	1.8339	0.0090
47	1.8427	0.0088
48	1.8514	0.0087
49	1.8599	0.0085
50	1.8683	0.0084
51	1.8765	0.0083
52	1.8847	0.0081
53	1.8927	0.0080
54	1.9006	0.0079
55	1.9084	0.0078
56	1.9161	0.0077
57	1.9236	0.0076
58	1.9311	0.0075
59	1.9385	0.0074
60	1.9458	0.0073
61	1.9529	0.0072
62	1.9600	0.0071
63	1.9670	0.0070
64	1.9739	0.0069
65	1.9808	0.0068
66	1.9875	0.0068
67	1.9942	0.0067
68	2.0008	0.0066
69	2.0073	0.0065
70	2.0138	0.0064
71	2.0201	0.0064
72	2.0264	0.0063
73	2.0338	0.0074

74	2.0411	0.0073
75	2.0484	0.0072
76	2.0556	0.0072
77	2.0627	0.0071
78	2.0697	0.0070
79	2.0767	0.0070
80	2.0836	0.0069
81	2.0904	0.0068
82	2.0972	0.0068
83	2.1040	0.0067
84	2.1106	0.0067
85	2.1172	0.0066
86	2.1238	0.0065
87	2.1303	0.0065
88	2.1367	0.0064
89	2.1431	0.0064
90	2.1494	0.0063
91	2.1557	0.0063
92	2.1619	0.0062
93	2.1681	0.0062
94	2.1742	0.0061
95	2.1803	0.0061
96	2.1864	0.0060
97	2.1924	0.0060
98	2.1983	0.0059
99	2.2042	0.0059
100	2.2101	0.0059
101	2.2159	0.0058
102	2.2217	0.0058
103	2.2274	0.0057
104	2.2331	0.0057
105	2.2387	0.0056
106	2.2443	0.0056
107	2.2499	0.0056
108	2.2554	0.0055
109	2.2609	0.0055
110	2.2664	0.0055
111	2.2718	0.0054
112	2.2772	0.0054
113	2.2826	0.0054
114	2.2879	0.0053
115	2.2931	0.0053
116	2.2984	0.0052
117	2.3036	0.0052
118	2.3088	0.0052
119	2.3139	0.0052
120	2.3191	0.0051
121	2.3242	0.0051
122	2.3292	0.0051
123	2.3342	0.0050
124	2.3392	0.0050
125	2.3442	0.0050
126	2.3491	0.0049
127	2.3540	0.0049
128	2.3589	0.0049
129	2.3638	0.0049
130	2.3686	0.0048
131	2.3734	0.0048
132	2.3782	0.0048

133	2.3829	0.0047
134	2.3876	0.0047
135	2.3923	0.0047
136	2.3970	0.0047
137	2.4016	0.0046
138	2.4063	0.0046
139	2.4108	0.0046
140	2.4154	0.0046
141	2.4200	0.0045
142	2.4245	0.0045
143	2.4290	0.0045
144	2.4334	0.0045
145	2.4379	0.0045
146	2.4423	0.0044
147	2.4467	0.0044
148	2.4511	0.0044
149	2.4555	0.0044
150	2.4598	0.0043
151	2.4641	0.0043
152	2.4684	0.0043
153	2.4727	0.0043
154	2.4770	0.0043
155	2.4812	0.0042
156	2.4854	0.0042
157	2.4896	0.0042
158	2.4938	0.0042
159	2.4980	0.0042
160	2.5021	0.0041
161	2.5062	0.0041
162	2.5103	0.0041
163	2.5144	0.0041
164	2.5185	0.0041
165	2.5225	0.0040
166	2.5265	0.0040
167	2.5305	0.0040
168	2.5345	0.0040
169	2.5385	0.0040
170	2.5425	0.0040
171	2.5464	0.0039
172	2.5503	0.0039
173	2.5542	0.0039
174	2.5581	0.0039
175	2.5620	0.0039
176	2.5659	0.0039
177	2.5697	0.0038
178	2.5735	0.0038
179	2.5773	0.0038
180	2.5811	0.0038
181	2.5849	0.0038
182	2.5887	0.0038
183	2.5924	0.0037
184	2.5962	0.0037
185	2.5999	0.0037
186	2.6036	0.0037
187	2.6073	0.0037
188	2.6109	0.0037
189	2.6146	0.0037
190	2.6183	0.0036
191	2.6219	0.0036

192	2.6255	0.0036
193	2.6291	0.0036
194	2.6327	0.0036
195	2.6363	0.0036
196	2.6398	0.0036
197	2.6434	0.0035
198	2.6469	0.0035
199	2.6504	0.0035
200	2.6540	0.0035
201	2.6575	0.0035
202	2.6609	0.0035
203	2.6644	0.0035
204	2.6679	0.0035
205	2.6713	0.0034
206	2.6748	0.0034
207	2.6782	0.0034
208	2.6816	0.0034
209	2.6850	0.0034
210	2.6884	0.0034
211	2.6917	0.0034
212	2.6951	0.0034
213	2.6985	0.0034
214	2.7018	0.0033
215	2.7051	0.0033
216	2.7084	0.0033
217	2.7117	0.0033
218	2.7150	0.0033
219	2.7183	0.0033
220	2.7216	0.0033
221	2.7249	0.0033
222	2.7281	0.0033
223	2.7313	0.0032
224	2.7346	0.0032
225	2.7378	0.0032
226	2.7410	0.0032
227	2.7442	0.0032
228	2.7474	0.0032
229	2.7506	0.0032
230	2.7537	0.0032
231	2.7569	0.0032
232	2.7600	0.0031
233	2.7632	0.0031
234	2.7663	0.0031
235	2.7694	0.0031
236	2.7725	0.0031
237	2.7756	0.0031
238	2.7787	0.0031
239	2.7818	0.0031
240	2.7849	0.0031
241	2.7879	0.0031
242	2.7910	0.0030
243	2.7940	0.0030
244	2.7970	0.0030
245	2.8001	0.0030
246	2.8031	0.0030
247	2.8061	0.0030
248	2.8091	0.0030
249	2.8121	0.0030
250	2.8150	0.0030

251	2.8180	0.0030
252	2.8210	0.0030
253	2.8239	0.0030
254	2.8269	0.0029
255	2.8298	0.0029
256	2.8327	0.0029
257	2.8356	0.0029
258	2.8385	0.0029
259	2.8414	0.0029
260	2.8443	0.0029
261	2.8472	0.0029
262	2.8501	0.0029
263	2.8530	0.0029
264	2.8558	0.0029
265	2.8587	0.0029
266	2.8615	0.0028
267	2.8644	0.0028
268	2.8672	0.0028
269	2.8700	0.0028
270	2.8728	0.0028
271	2.8756	0.0028
272	2.8784	0.0028
273	2.8812	0.0028
274	2.8840	0.0028
275	2.8868	0.0028
276	2.8895	0.0028
277	2.8923	0.0028
278	2.8951	0.0028
279	2.8978	0.0027
280	2.9005	0.0027
281	2.9033	0.0027
282	2.9060	0.0027
283	2.9087	0.0027
284	2.9114	0.0027
285	2.9141	0.0027
286	2.9168	0.0027
287	2.9195	0.0027
288	2.9222	0.0027

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0027	0.0008	0.0018
2	0.0027	0.0008	0.0018
3	0.0027	0.0008	0.0019
4	0.0027	0.0009	0.0019
5	0.0027	0.0009	0.0019
6	0.0027	0.0009	0.0019
7	0.0027	0.0009	0.0019
8	0.0028	0.0009	0.0019
9	0.0028	0.0009	0.0019
10	0.0028	0.0009	0.0019
11	0.0028	0.0009	0.0019
12	0.0028	0.0009	0.0019
13	0.0028	0.0009	0.0019
14	0.0028	0.0009	0.0019
15	0.0028	0.0009	0.0019
16	0.0028	0.0009	0.0020

17	0.0029	0.0009	0.0020
18	0.0029	0.0009	0.0020
19	0.0029	0.0009	0.0020
20	0.0029	0.0009	0.0020
21	0.0029	0.0009	0.0020
22	0.0029	0.0009	0.0020
23	0.0029	0.0009	0.0020
24	0.0029	0.0009	0.0020
25	0.0030	0.0009	0.0020
26	0.0030	0.0009	0.0020
27	0.0030	0.0009	0.0020
28	0.0030	0.0009	0.0021
29	0.0030	0.0009	0.0021
30	0.0030	0.0009	0.0021
31	0.0030	0.0010	0.0021
32	0.0030	0.0010	0.0021
33	0.0031	0.0010	0.0021
34	0.0031	0.0010	0.0021
35	0.0031	0.0010	0.0021
36	0.0031	0.0010	0.0021
37	0.0031	0.0010	0.0021
38	0.0031	0.0010	0.0022
39	0.0032	0.0010	0.0022
40	0.0032	0.0010	0.0022
41	0.0032	0.0010	0.0022
42	0.0032	0.0010	0.0022
43	0.0032	0.0010	0.0022
44	0.0032	0.0010	0.0022
45	0.0033	0.0010	0.0022
46	0.0033	0.0010	0.0022
47	0.0033	0.0010	0.0023
48	0.0033	0.0010	0.0023
49	0.0033	0.0010	0.0023
50	0.0033	0.0010	0.0023
51	0.0034	0.0011	0.0023
52	0.0034	0.0011	0.0023
53	0.0034	0.0011	0.0023
54	0.0034	0.0011	0.0023
55	0.0034	0.0011	0.0023
56	0.0034	0.0011	0.0024
57	0.0035	0.0011	0.0024
58	0.0035	0.0011	0.0024
59	0.0035	0.0011	0.0024
60	0.0035	0.0011	0.0024
61	0.0035	0.0011	0.0024
62	0.0035	0.0011	0.0024
63	0.0036	0.0011	0.0025
64	0.0036	0.0011	0.0025
65	0.0036	0.0011	0.0025
66	0.0036	0.0011	0.0025
67	0.0037	0.0011	0.0025
68	0.0037	0.0012	0.0025
69	0.0037	0.0012	0.0025
70	0.0037	0.0012	0.0026
71	0.0037	0.0012	0.0026
72	0.0038	0.0012	0.0026
73	0.0038	0.0012	0.0026
74	0.0038	0.0012	0.0026
75	0.0038	0.0012	0.0026

76	0.0039	0.0012	0.0026
77	0.0039	0.0012	0.0027
78	0.0039	0.0012	0.0027
79	0.0039	0.0012	0.0027
80	0.0040	0.0012	0.0027
81	0.0040	0.0013	0.0027
82	0.0040	0.0013	0.0028
83	0.0040	0.0013	0.0028
84	0.0041	0.0013	0.0028
85	0.0041	0.0013	0.0028
86	0.0041	0.0013	0.0028
87	0.0042	0.0013	0.0029
88	0.0042	0.0013	0.0029
89	0.0042	0.0013	0.0029
90	0.0042	0.0013	0.0029
91	0.0043	0.0013	0.0029
92	0.0043	0.0013	0.0029
93	0.0043	0.0014	0.0030
94	0.0044	0.0014	0.0030
95	0.0044	0.0014	0.0030
96	0.0044	0.0014	0.0030
97	0.0045	0.0014	0.0031
98	0.0045	0.0014	0.0031
99	0.0045	0.0014	0.0031
100	0.0046	0.0014	0.0031
101	0.0046	0.0014	0.0032
102	0.0046	0.0015	0.0032
103	0.0047	0.0015	0.0032
104	0.0047	0.0015	0.0032
105	0.0048	0.0015	0.0033
106	0.0048	0.0015	0.0033
107	0.0049	0.0015	0.0033
108	0.0049	0.0015	0.0033
109	0.0049	0.0015	0.0034
110	0.0050	0.0016	0.0034
111	0.0050	0.0016	0.0034
112	0.0051	0.0016	0.0035
113	0.0051	0.0016	0.0035
114	0.0052	0.0016	0.0035
115	0.0052	0.0016	0.0036
116	0.0052	0.0016	0.0036
117	0.0053	0.0017	0.0036
118	0.0054	0.0017	0.0037
119	0.0054	0.0017	0.0037
120	0.0055	0.0017	0.0037
121	0.0055	0.0017	0.0038
122	0.0056	0.0017	0.0038
123	0.0056	0.0018	0.0039
124	0.0057	0.0018	0.0039
125	0.0058	0.0018	0.0040
126	0.0058	0.0018	0.0040
127	0.0059	0.0019	0.0040
128	0.0059	0.0019	0.0041
129	0.0060	0.0019	0.0041
130	0.0061	0.0019	0.0042
131	0.0062	0.0019	0.0042
132	0.0062	0.0020	0.0043
133	0.0063	0.0020	0.0043
134	0.0064	0.0020	0.0044

135	0.0065	0.0020	0.0045
136	0.0065	0.0021	0.0045
137	0.0067	0.0021	0.0046
138	0.0067	0.0021	0.0046
139	0.0068	0.0021	0.0047
140	0.0069	0.0022	0.0047
141	0.0070	0.0022	0.0048
142	0.0071	0.0022	0.0049
143	0.0072	0.0023	0.0050
144	0.0073	0.0023	0.0050
145	0.0063	0.0020	0.0043
146	0.0064	0.0020	0.0044
147	0.0065	0.0020	0.0045
148	0.0066	0.0021	0.0045
149	0.0068	0.0021	0.0046
150	0.0068	0.0021	0.0047
151	0.0070	0.0022	0.0048
152	0.0071	0.0022	0.0049
153	0.0073	0.0023	0.0050
154	0.0074	0.0023	0.0051
155	0.0076	0.0024	0.0052
156	0.0077	0.0024	0.0053
157	0.0079	0.0025	0.0054
158	0.0080	0.0025	0.0055
159	0.0083	0.0026	0.0057
160	0.0084	0.0026	0.0058
161	0.0087	0.0027	0.0059
162	0.0088	0.0028	0.0060
163	0.0091	0.0029	0.0063
164	0.0093	0.0029	0.0064
165	0.0096	0.0030	0.0066
166	0.0098	0.0031	0.0067
167	0.0102	0.0032	0.0070
168	0.0104	0.0033	0.0071
169	0.0145	0.0046	0.0100
170	0.0148	0.0047	0.0102
171	0.0155	0.0049	0.0106
172	0.0158	0.0050	0.0108
173	0.0165	0.0052	0.0113
174	0.0169	0.0053	0.0116
175	0.0178	0.0056	0.0122
176	0.0183	0.0058	0.0126
177	0.0194	0.0061	0.0133
178	0.0200	0.0063	0.0137
179	0.0214	0.0067	0.0147
180	0.0221	0.0069	0.0152
181	0.0239	0.0075	0.0164
182	0.0249	0.0078	0.0171
183	0.0272	0.0085	0.0187
184	0.0286	0.0090	0.0196
185	0.0322	0.0101	0.0221
186	0.0344	0.0108	0.0236
187	0.0399	0.0125	0.0273
188	0.0435	0.0137	0.0299
189	0.0541	0.0143	0.0398
190	0.0623	0.0143	0.0480
191	0.0946	0.0143	0.0802
192	0.1372	0.0143	0.1229
193	0.5938	0.0143	0.5794

194	0.0744	0.0143	0.0601
195	0.0481	0.0143	0.0338
196	0.0369	0.0116	0.0253
197	0.0302	0.0095	0.0207
198	0.0260	0.0082	0.0178
199	0.0230	0.0072	0.0157
200	0.0207	0.0065	0.0142
201	0.0188	0.0059	0.0129
202	0.0174	0.0055	0.0119
203	0.0162	0.0051	0.0111
204	0.0151	0.0047	0.0104
205	0.0106	0.0033	0.0073
206	0.0100	0.0031	0.0069
207	0.0094	0.0030	0.0065
208	0.0090	0.0028	0.0061
209	0.0085	0.0027	0.0058
210	0.0081	0.0026	0.0056
211	0.0078	0.0024	0.0053
212	0.0075	0.0023	0.0051
213	0.0072	0.0023	0.0049
214	0.0069	0.0022	0.0047
215	0.0067	0.0021	0.0046
216	0.0064	0.0020	0.0044
217	0.0074	0.0023	0.0051
218	0.0072	0.0023	0.0049
219	0.0070	0.0022	0.0048
220	0.0068	0.0021	0.0047
221	0.0066	0.0021	0.0045
222	0.0064	0.0020	0.0044
223	0.0063	0.0020	0.0043
224	0.0061	0.0019	0.0042
225	0.0060	0.0019	0.0041
226	0.0059	0.0018	0.0040
227	0.0057	0.0018	0.0039
228	0.0056	0.0018	0.0038
229	0.0055	0.0017	0.0038
230	0.0054	0.0017	0.0037
231	0.0053	0.0017	0.0036
232	0.0052	0.0016	0.0036
233	0.0051	0.0016	0.0035
234	0.0050	0.0016	0.0034
235	0.0049	0.0015	0.0034
236	0.0048	0.0015	0.0033
237	0.0047	0.0015	0.0033
238	0.0047	0.0015	0.0032
239	0.0046	0.0014	0.0032
240	0.0045	0.0014	0.0031
241	0.0045	0.0014	0.0031
242	0.0044	0.0014	0.0030
243	0.0043	0.0014	0.0030
244	0.0043	0.0013	0.0029
245	0.0042	0.0013	0.0029
246	0.0041	0.0013	0.0028
247	0.0041	0.0013	0.0028
248	0.0040	0.0013	0.0028
249	0.0040	0.0012	0.0027
250	0.0039	0.0012	0.0027
251	0.0039	0.0012	0.0027
252	0.0038	0.0012	0.0026

253	0.0038	0.0012	0.0026
254	0.0037	0.0012	0.0026
255	0.0037	0.0012	0.0025
256	0.0036	0.0011	0.0025
257	0.0036	0.0011	0.0025
258	0.0036	0.0011	0.0024
259	0.0035	0.0011	0.0024
260	0.0035	0.0011	0.0024
261	0.0034	0.0011	0.0024
262	0.0034	0.0011	0.0023
263	0.0034	0.0011	0.0023
264	0.0033	0.0010	0.0023
265	0.0033	0.0010	0.0023
266	0.0033	0.0010	0.0022
267	0.0032	0.0010	0.0022
268	0.0032	0.0010	0.0022
269	0.0032	0.0010	0.0022
270	0.0031	0.0010	0.0022
271	0.0031	0.0010	0.0021
272	0.0031	0.0010	0.0021
273	0.0031	0.0010	0.0021
274	0.0030	0.0010	0.0021
275	0.0030	0.0009	0.0021
276	0.0030	0.0009	0.0020
277	0.0030	0.0009	0.0020
278	0.0029	0.0009	0.0020
279	0.0029	0.0009	0.0020
280	0.0029	0.0009	0.0020
281	0.0029	0.0009	0.0020
282	0.0028	0.0009	0.0019
283	0.0028	0.0009	0.0019
284	0.0028	0.0009	0.0019
285	0.0028	0.0009	0.0019
286	0.0027	0.0009	0.0019
287	0.0027	0.0009	0.0019
288	0.0027	0.0008	0.0019

Total soil rain loss = 0.68(In)
Total effective rainfall = 2.24(In)
Peak flow rate in flood hydrograph = 3316.92(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	850.0	1700.0	2550.0	3400.0
0+ 5	0.0026	0.37	Q	|	|	|	|
0+10	0.0137	1.61	Q	|	|	|	|
0+15	0.0391	3.69	Q	|	|	|	|
0+20	0.0914	7.60	Q	|	|	|	|
0+25	0.1919	14.60	Q	|	|	|	|
0+30	0.3375	21.13	Q	|	|	|	|
0+35	0.5161	25.95	Q	|	|	|	|
0+40	0.7181	29.32	Q	|	|	|	|

0+45	0.9376	31.87	Q				
0+50	1.1717	33.99	Q				
0+55	1.4180	35.77	Q				
1+ 0	1.6750	37.31	Q				
1+ 5	1.9412	38.65	Q				
1+10	2.2154	39.82	Q				
1+15	2.4968	40.86	Q				
1+20	2.7849	41.83	Q				
1+25	3.0792	42.74	Q				
1+30	3.3792	43.56	Q				
1+35	3.6842	44.29	Q				
1+40	3.9937	44.94	Q				
1+45	4.3075	45.57	Q				
1+50	4.6254	46.16	Q				
1+55	4.9472	46.73	Q				
2+ 0	5.2728	47.27	Q				
2+ 5	5.6017	47.77	Q				
2+10	5.9339	48.23	Q				
2+15	6.2693	48.70	Q				
2+20	6.6076	49.13	Q				
2+25	6.9488	49.54	Q				
2+30	7.2929	49.96	Q				
2+35	7.6396	50.34	Q				
2+40	7.9887	50.70	Q				
2+45	8.3404	51.06	Q				
2+50	8.6943	51.39	Q				
2+55	9.0504	51.70	Q				
3+ 0	9.4085	52.01	Q				
3+ 5	9.7689	52.33	Q				
3+10	10.1315	52.65	QV				
3+15	10.4964	52.99	QV				
3+20	10.8636	53.32	QV				
3+25	11.2332	53.66	QV				
3+30	11.6051	54.00	QV				
3+35	11.9791	54.32	QV				
3+40	12.3553	54.62	QV				
3+45	12.7335	54.92	QV				
3+50	13.1139	55.23	QV				
3+55	13.4962	55.52	QV				
4+ 0	13.8804	55.78	QV				
4+ 5	14.2665	56.05	QV				
4+10	14.6544	56.33	QV				
4+15	15.0442	56.60	QV				
4+20	15.4359	56.88	QV				
4+25	15.8296	57.16	QV				
4+30	16.2253	57.45	QV				
4+35	16.6229	57.74	QV				
4+40	17.0226	58.03	QV				
4+45	17.4243	58.33	QV				
4+50	17.8281	58.63	QV				
4+55	18.2339	58.93	QV				
5+ 0	18.6419	59.24	QV				
5+ 5	19.0520	59.55	QV				
5+10	19.4643	59.86	QV				
5+15	19.8788	60.18	Q V				
5+20	20.2955	60.51	Q V				
5+25	20.7145	60.83	Q V				
5+30	21.1357	61.16	Q V				
5+35	21.5593	61.50	Q V				

5+40	21.9851	61.84	Q V	|	|	|	|
5+45	22.4134	62.19	Q V	|	|	|	|
5+50	22.8441	62.53	Q V	|	|	|	|
5+55	23.2772	62.89	Q V	|	|	|	|
6+ 0	23.7128	63.24	Q V	|	|	|	|
6+ 5	24.1509	63.61	Q V	|	|	|	|
6+10	24.5915	63.98	Q V	|	|	|	|
6+15	25.0347	64.35	Q V	|	|	|	|
6+20	25.4804	64.73	Q V	|	|	|	|
6+25	25.9289	65.11	Q V	|	|	|	|
6+30	26.3800	65.50	Q V	|	|	|	|
6+35	26.8338	65.90	Q V	|	|	|	|
6+40	27.2904	66.30	Q V	|	|	|	|
6+45	27.7498	66.71	Q V	|	|	|	|
6+50	28.2121	67.12	Q V	|	|	|	|
6+55	28.6772	67.54	Q V	|	|	|	|
7+ 0	29.1452	67.96	Q V	|	|	|	|
7+ 5	29.6162	68.39	Q V	|	|	|	|
7+10	30.0903	68.83	Q V	|	|	|	|
7+15	30.5674	69.27	Q V	|	|	|	|
7+20	31.0475	69.72	Q V	|	|	|	|
7+25	31.5309	70.18	Q V	|	|	|	|
7+30	32.0174	70.65	Q V	|	|	|	|
7+35	32.5072	71.12	Q V	|	|	|	|
7+40	33.0003	71.60	Q V	|	|	|	|
7+45	33.4968	72.09	Q V	|	|	|	|
7+50	33.9967	72.58	Q V	|	|	|	|
7+55	34.5001	73.09	Q V	|	|	|	|
8+ 0	35.0069	73.60	Q V	|	|	|	|
8+ 5	35.5174	74.12	Q V	|	|	|	|
8+10	36.0315	74.65	Q V	|	|	|	|
8+15	36.5494	75.19	Q V	|	|	|	|
8+20	37.0710	75.74	Q V	|	|	|	|
8+25	37.5964	76.30	Q V	|	|	|	|
8+30	38.1258	76.86	Q V	|	|	|	|
8+35	38.6591	77.44	Q V	|	|	|	|
8+40	39.1965	78.03	Q V	|	|	|	|
8+45	39.7380	78.63	Q V	|	|	|	|
8+50	40.2837	79.24	Q V	|	|	|	|
8+55	40.8337	79.86	Q V	|	|	|	|
9+ 0	41.3881	80.49	Q V	|	|	|	|
9+ 5	41.9469	81.14	Q V	|	|	|	|
9+10	42.5102	81.79	Q V	|	|	|	|
9+15	43.0781	82.46	Q V	|	|	|	|
9+20	43.6507	83.14	Q V	|	|	|	|
9+25	44.2281	83.84	Q V	|	|	|	|
9+30	44.8104	84.55	Q V	|	|	|	|
9+35	45.3978	85.28	|Q V	|	|	|	|
9+40	45.9902	86.02	|Q V	|	|	|	|
9+45	46.5878	86.77	|Q V	|	|	|	|
9+50	47.1907	87.54	|Q V	|	|	|	|
9+55	47.7990	88.33	|Q V	|	|	|	|
10+ 0	48.4129	89.13	|Q V	|	|	|	|
10+ 5	49.0325	89.96	|Q V	|	|	|	|
10+10	49.6578	90.80	|Q V	|	|	|	|
10+15	50.2891	91.66	|Q V	|	|	|	|
10+20	50.9263	92.54	|Q V	|	|	|	|
10+25	51.5699	93.44	|Q V	|	|	|	|
10+30	52.2197	94.35	|Q V	|	|	|	|

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10+35      52.8760     95.30  |Q   V    |          |          |          |
10+40      53.5390     96.26  |Q   V    |          |          |          |
10+45      54.2088     97.25  |Q   V    |          |          |          |
10+50      54.8855     98.26  |Q   V    |          |          |          |
10+55      55.5694     99.30  |Q   V    |          |          |          |
11+ 0      56.2606    100.36  |Q   V    |          |          |          |
11+ 5      56.9594    101.46  |Q   V    |          |          |          |
11+10      57.6659    102.58  |Q   V    |          |          |          |
11+15      58.3803    103.73  |Q   V    |          |          |          |
11+20      59.1028    104.91  |Q   V    |          |          |          |
11+25      59.8337    106.13  |Q    V   |          |          |          |
11+30      60.5732    107.37  |Q    V   |          |          |          |
11+35      61.3216    108.66  |Q    V   |          |          |          |
11+40      62.0790    109.98  |Q    V   |          |          |          |
11+45      62.8458    111.34  |Q    V   |          |          |          |
11+50      63.6222    112.74  |Q    V   |          |          |          |
11+55      64.4086    114.19  |Q    V   |          |          |          |
12+ 0      65.2053    115.67  |Q    V   |          |          |          |
12+ 5      66.0114    117.05  |Q    V   |          |          |          |
12+10      66.8247    118.09  |Q    V   |          |          |          |
12+15      67.6430    118.83  |Q    V   |          |          |          |
12+20      68.4612    118.80  |Q    V   |          |          |          |
12+25      69.2705    117.50  |Q    V   |          |          |          |
12+30      70.0723    116.43  |Q     V  |          |          |          |
12+35      70.8723    116.16  |Q     V  |          |          |          |
12+40      71.6749    116.54  |Q     V  |          |          |          |
12+45      72.4832    117.36  |Q     V  |          |          |          |
12+50      73.2987    118.42  |Q     V  |          |          |          |
12+55      74.1231    119.70  |Q     V  |          |          |          |
13+ 0      74.9575    121.16  |Q     V  |          |          |          |
13+ 5      75.8032    122.80  |Q     V  |          |          |          |
13+10      76.6612    124.58  |Q     V  |          |          |          |
13+15      77.5326    126.53  |Q     V  |          |          |          |
13+20      78.4182    128.59  |Q     V  |          |          |          |
13+25      79.3192    130.82  |Q      V |          |          |          |
13+30      80.2364    133.17  |Q      V |          |          |          |
13+35      81.1711    135.72  |Q      V |          |          |          |
13+40      82.1244    138.42  |Q      V |          |          |          |
13+45      83.0975    141.30  |Q      V |          |          |          |
13+50      84.0915    144.33  |Q      V |          |          |          |
13+55      85.1079    147.58  |Q      V |          |          |          |
14+ 0      86.1479    151.00  |Q      V |          |          |          |
14+ 5      87.2168    155.20  |Q      V |          |          |          |
14+10      88.3241    160.79  |Q      V |          |          |          |
14+15      89.4802    167.85  |Q       V|          |          |          |
14+20      90.7041    177.72  | Q      V|          |          |          |
14+25      92.0280    192.24  | Q      V|          |          |          |
14+30      93.4509    206.59  | Q      V|          |          |          |
14+35      94.9609    219.25  | Q      V|          |          |          |
14+40      96.5483    230.49  | Q      V|          |          |          |
14+45      98.2101    241.31  | Q      V|          |          |          |
14+50      99.9467    252.15  | Q       V          |          |          |
14+55     101.7609    263.42  |  Q      V          |          |          |
15+ 0     103.6559    275.14  |  Q      V          |          |          |
15+ 5     105.6373    287.71  |  Q      V          |          |          |
15+10     107.7111    301.11  |  Q      V          |          |          |
15+15     109.8866    315.88  |  Q      |V         |          |          |
15+20     112.1736    332.07  |  Q      |V         |          |          |
15+25     114.5871    350.44  |   Q     |V         |          |          |
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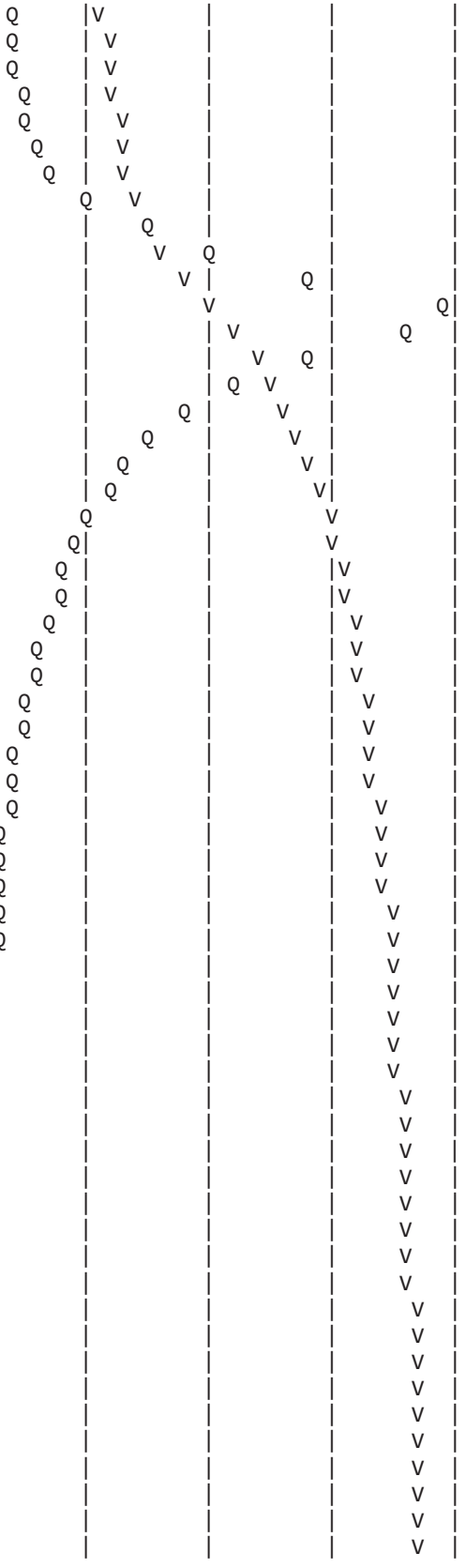
15+30	117.1428	371.09	
15+35	119.8644	395.17	
15+40	122.7793	423.25	
15+45	125.9353	458.25	
15+50	129.3986	502.86	
15+55	133.2971	566.07	
16+ 0	137.8769	664.98	
16+ 5	144.1318	908.22	
16+10	153.1875	1314.89	
16+15	165.3128	1760.59	
16+20	182.1992	2451.91	
16+25	205.0430	3316.92	
16+30	226.3217	3089.66	
16+35	243.2362	2455.98	
16+40	256.3756	1907.85	
16+45	267.1041	1557.78	
16+50	276.3432	1341.52	
16+55	284.4050	1170.56	
17+ 0	291.5561	1038.35	
17+ 5	297.9286	925.28	
17+10	303.6602	832.23	
17+15	308.8383	751.85	
17+20	313.6061	692.29	
17+25	317.9698	633.61	
17+30	321.8945	569.86	
17+35	325.4160	511.33	
17+40	328.6115	463.98	
17+45	331.6034	434.43	
17+50	334.3893	404.51	
17+55	336.9870	377.18	
18+ 0	339.4185	353.06	
18+ 5	341.6573	325.07	
18+10	343.7381	302.14	
18+15	345.7362	290.12	
18+20	347.6024	270.97	
18+25	349.3627	255.60	
18+30	351.0669	247.45	
18+35	352.6524	230.22	
18+40	354.1328	214.95	
18+45	355.5574	206.85	
18+50	356.8703	190.64	
18+55	358.0938	177.65	
19+ 0	359.2865	173.17	
19+ 5	360.4672	171.45	
19+10	361.6335	169.35	
19+15	362.7729	165.44	
19+20	363.8838	161.31	
19+25	364.9636	156.78	
19+30	366.0069	151.49	
19+35	366.9665	139.33	
19+40	367.8593	129.64	
19+45	368.7215	125.19	
19+50	369.5500	120.30	
19+55	370.3023	109.23	
20+ 0	370.9850	99.13	
20+ 5	371.6473	96.16	
20+10	372.2929	93.73	
20+15	372.9235	91.57	
20+20	373.5404	89.58	

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20+25     374.1445     87.71  |Q        |         |         |      V  |
20+30     374.7365     85.97  |Q        |         |         |      V  |
20+35     375.3174     84.34  Q         |         |         |      V  |
20+40     375.8877     82.81  Q         |         |         |      V  |
20+45     376.4481     81.36  Q         |         |         |      V  |
20+50     376.9988     79.97  Q         |         |         |       V |
20+55     377.5406     78.66  Q         |         |         |       V |
21+ 0     378.0739     77.44  Q         |         |         |       V |
21+ 5     378.5991     76.27  Q         |         |         |       V |
21+10     379.1167     75.15  Q         |         |         |       V |
21+15     379.6268     74.07  Q         |         |         |       V |
21+20     380.1299     73.04  Q         |         |         |       V |
21+25     380.6260     72.04  Q         |         |         |       V |
21+30     381.1155     71.08  Q         |         |         |       V |
21+35     381.5986     70.14  Q         |         |         |       V |
21+40     382.0754     69.23  Q         |         |         |       V |
21+45     382.5460     68.34  Q         |         |         |       V |
21+50     383.0108     67.48  Q         |         |         |       V |
21+55     383.4698     66.64  Q         |         |         |       V |
22+ 0     383.9231     65.82  Q         |         |         |       V |
22+ 5     384.3708     65.02  Q         |         |         |       V |
22+10     384.8133     64.24  Q         |         |         |       V |
22+15     385.2505     63.49  Q         |         |         |       V |
22+20     385.6827     62.76  Q         |         |         |       V |
22+25     386.1100     62.04  Q         |         |         |       V |
22+30     386.5326     61.35  Q         |         |         |       V |
22+35     386.9504     60.68  Q         |         |         |        V|
22+40     387.3638     60.02  Q         |         |         |        V|
22+45     387.7728     59.38  Q         |         |         |        V|
22+50     388.1774     58.76  Q         |         |         |        V|
22+55     388.5779     58.15  Q         |         |         |        V|
23+ 0     388.9743     57.56  Q         |         |         |        V|
23+ 5     389.3667     56.98  Q         |         |         |        V|
23+10     389.7552     56.41  Q         |         |         |        V|
23+15     390.1399     55.86  Q         |         |         |        V|
23+20     390.5210     55.32  Q         |         |         |        V|
23+25     390.8983     54.80  Q         |         |         |        V|
23+30     391.2722     54.28  Q         |         |         |        V|
23+35     391.6426     53.78  Q         |         |         |        V|
23+40     392.0096     53.29  Q         |         |         |        V|
23+45     392.3733     52.81  Q         |         |         |        V|
23+50     392.7337     52.34  Q         |         |         |        V|
23+55     393.0910     51.88  Q         |         |         |        V|
24+ 0     393.4451     51.42  Q         |         |         |        V|
24+ 5     393.7937     50.61  Q         |         |         |        V|
24+10     394.1308     48.95  Q         |         |         |        V|
24+15     394.4508     46.47  Q         |         |         |        V|
24+20     394.7414     42.19  Q         |         |         |        V|
24+25     394.9816     34.89  Q         |         |         |        V|
24+30     395.1754     28.13  Q         |         |         |        V|
24+35     395.3349     23.17  Q         |         |         |        V|
24+40     395.4706     19.70  Q         |         |         |        V|
24+45     395.5884     17.10  Q         |         |         |        V|
24+50     395.6915     14.97  Q         |         |         |        V|
24+55     395.7824     13.20  Q         |         |         |        V|
25+ 0     395.8629     11.69  Q         |         |         |        V|
25+ 5     395.9345     10.40  Q         |         |         |        V|
25+10     395.9985      9.30  Q         |         |         |        V|
25+15     396.0560      8.34  Q         |         |         |        V|
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25+20	396.1074	7.46	Q	|	|	|	V|
25+25	396.1533	6.66	Q	|	|	|	V|
25+30	396.1943	5.96	Q	|	|	|	V|
25+35	396.2312	5.36	Q	|	|	|	V|
25+40	396.2646	4.85	Q	|	|	|	V|
25+45	396.2947	4.36	Q	|	|	|	V|
25+50	396.3217	3.92	Q	|	|	|	V|
25+55	396.3459	3.52	Q	|	|	|	V|
26+ 0	396.3675	3.14	Q	|	|	|	V|
26+ 5	396.3869	2.82	Q	|	|	|	V|
26+10	396.4043	2.53	Q	|	|	|	V|
26+15	396.4198	2.25	Q	|	|	|	V|
26+20	396.4336	2.00	Q	|	|	|	V|
26+25	396.4459	1.79	Q	|	|	|	V|
26+30	396.4568	1.57	Q	|	|	|	V|
26+35	396.4663	1.39	Q	|	|	|	V|
26+40	396.4749	1.24	Q	|	|	|	V|
26+45	396.4824	1.09	Q	|	|	|	V|
26+50	396.4892	0.98	Q	|	|	|	V|
26+55	396.4954	0.89	Q	|	|	|	V|
27+ 0	396.5009	0.81	Q	|	|	|	V|
27+ 5	396.5059	0.72	Q	|	|	|	V|
27+10	396.5101	0.62	Q	|	|	|	V|
27+15	396.5137	0.52	Q	|	|	|	V|
27+20	396.5166	0.43	Q	|	|	|	V|
27+25	396.5189	0.33	Q	|	|	|	V|
27+30	396.5206	0.24	Q	|	|	|	V|
27+35	396.5217	0.17	Q	|	|	|	V|
27+40	396.5225	0.12	Q	|	|	|	V|
27+45	396.5230	0.07	Q	|	|	|	V|
27+50	396.5232	0.02	Q	|	|	|	V

TECHNICAL APPENDIX NO. 8

Developed Conditions
Hydrograph Routing Calculations
100-Year, 24-Hour Storm Event

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 09/06/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREAS 49 AND 50 ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: PR50.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++++++++++

Process from Point/Station 1.000 to Point/Station 1.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q				
0+45	1.0442	49.62	Q				
0+50	1.4418	57.74	Q				
0+55	1.8774	63.25	Q				
1+ 0	2.3435	67.68	Q				
1+ 5	2.8357	71.46	VQ				
1+10	3.3495	74.60	VQ				
1+15	3.8839	77.60	VQ				
1+20	4.4361	80.18	VQ				
1+25	5.0051	82.61	VQ				
1+30	5.5888	84.75	VQ				
1+35	6.1862	86.74	VQ				
1+40	6.7962	88.58	VQ				
1+45	7.4181	90.30	VQ				
1+50	8.0511	91.90	VQ				
1+55	8.6941	93.37	VQ				
2+ 0	9.3468	94.77	VQ				
2+ 5	10.0084	96.06	VQ				
2+10	10.6785	97.30	VQ				
2+15	11.3564	98.42	VQ				
2+20	12.0417	99.50	VQ				
2+25	12.7335	100.46	VQ				
2+30	13.4318	101.39	VQ				
2+35	14.1361	102.27	VQ				
2+40	14.8463	103.11	|Q				
2+45	15.5617	103.88	|Q				
2+50	16.2821	104.60	|Q				
2+55	17.0067	105.21	|Q				
3+ 0	17.7352	105.77	|Q				
3+ 5	18.4676	106.35	|Q				
3+10	19.2039	106.92	|Q				
3+15	19.9442	107.49	|Q				
3+20	20.6883	108.04	|Q				
3+25	21.4362	108.60	|Q				
3+30	22.1880	109.16	|Q				
3+35	22.9437	109.72	|Q				
3+40	23.7030	110.24	|Q				
3+45	24.4659	110.78	|Q				
3+50	25.2326	111.31	|Q				
3+55	26.0030	111.87	|Q				
4+ 0	26.7773	112.42	|Q				
4+ 5	27.5555	113.00	|Q				
4+10	28.3377	113.57	|Q				
4+15	29.1239	114.15	|QV				
4+20	29.9138	114.70	|QV				
4+25	30.7076	115.25	|QV				
4+30	31.5051	115.80	|QV				
4+35	32.3065	116.37	|QV				
4+40	33.1117	116.91	|QV				
4+45	33.9208	117.47	|QV				
4+50	34.7336	118.02	|QV				
4+55	35.5504	118.60	|QV				
5+ 0	36.3709	119.14	|QV				
5+ 5	37.1953	119.70	|QV				
5+10	38.0234	120.25	|QV				
5+15	38.8555	120.81	|QV				
5+20	39.6914	121.38	|QV				
5+25	40.5313	121.96	|QV				
5+30	41.3752	122.53	|QV				

5+35	42.2232	123.13	QV				
5+40	43.0752	123.71	Q V				
5+45	43.9315	124.32	Q V				
5+50	44.7918	124.92	Q V				
5+55	45.6564	125.55	Q V				
6+ 0	46.5253	126.16	Q V				
6+ 5	47.3986	126.80	Q V				
6+10	48.2762	127.43	Q V				
6+15	49.1584	128.09	Q V				
6+20	50.0450	128.74	Q V				
6+25	50.9363	129.41	Q V				
6+30	51.8321	130.07	Q V				
6+35	52.7327	130.77	Q V				
6+40	53.6380	131.45	Q V				
6+45	54.5482	132.16	Q V				
6+50	55.4632	132.86	Q V				
6+55	56.3832	133.59	Q V				
7+ 0	57.3082	134.31	Q V				
7+ 5	58.2384	135.06	Q V				
7+10	59.1737	135.80	Q V				
7+15	60.1143	136.58	Q V				
7+20	61.0602	137.34	Q V				
7+25	62.0115	138.13	Q V				
7+30	62.9682	138.92	Q V				
7+35	63.9306	139.74	Q V				
7+40	64.8985	140.54	Q V				
7+45	65.8722	141.39	Q V				
7+50	66.8517	142.22	Q V				
7+55	67.8372	143.09	Q V				
8+ 0	68.8285	143.95	Q V				
8+ 5	69.8261	144.84	Q V				
8+10	70.8297	145.73	Q V				
8+15	71.8397	146.65	Q V				
8+20	72.8560	147.57	Q V				
8+25	73.8789	148.52	Q V				
8+30	74.9083	149.47	Q V				
8+35	75.9445	150.45	Q V				
8+40	76.9874	151.43	Q V				
8+45	78.0373	152.45	Q V				
8+50	79.0941	153.46	Q V				
8+55	80.1583	154.51	Q V				
9+ 0	81.2296	155.56	Q V				
9+ 5	82.3085	156.65	Q V				
9+10	83.3948	157.73	Q V				
9+15	84.4889	158.86	Q V				
9+20	85.5907	159.99	Q V				
9+25	86.7006	161.16	Q V				
9+30	87.8185	162.32	Q V				
9+35	88.9448	163.54	Q V				
9+40	90.0795	164.75	Q V				
9+45	91.2228	166.01	Q V				
9+50	92.3748	167.27	Q V				
9+55	93.5359	168.58	Q V				
10+ 0	94.7059	169.89	Q V				
10+ 5	95.8854	171.26	Q V				
10+10	97.0742	172.62	Q V				
10+15	98.2729	174.04	Q V				
10+20	99.4813	175.46	Q V				
10+25	100.6999	176.95	Q V				

10+30	101.9288	178.43	Q V				
10+35	103.1683	179.98	Q V				
10+40	104.4185	181.52	Q V				
10+45	105.6798	183.15	Q V				
10+50	106.9523	184.76	Q V				
10+55	108.2364	186.46	Q V				
11+ 0	109.5322	188.15	Q V				
11+ 5	110.8402	189.93	Q V				
11+10	112.1605	191.70	Q V				
11+15	113.4936	193.57	Q V				
11+20	114.8396	195.43	Q V				
11+25	116.1990	197.39	Q V				
11+30	117.5719	199.35	Q V				
11+35	118.9591	201.41	Q V				
11+40	120.3604	203.48	Q V				
11+45	121.7768	205.65	Q V				
11+50	123.2081	207.83	Q V				
11+55	124.6552	210.13	Q V				
12+ 0	126.1182	212.43	Q V				
12+ 5	127.5980	214.86	Q V				
12+10	129.0946	217.31	Q V				
12+15	130.6091	219.90	Q V				
12+20	132.1416	222.51	Q V				
12+25	133.6930	225.27	Q V				
12+30	135.2636	228.06	Q V				
12+35	136.8547	231.02	Q V				
12+40	138.4663	234.02	Q V				
12+45	140.1002	237.23	Q V				
12+50	141.7559	240.42	Q V				
12+55	143.4349	243.79	Q V				
13+ 0	145.1373	247.19	Q V				
13+ 5	146.8646	250.80	Q V				
13+10	148.6169	254.44	Q V				
13+15	150.3960	258.33	Q V				
13+20	152.2022	262.25	Q V				
13+25	154.0372	266.45	Q V				
13+30	155.9016	270.71	Q V				
13+35	157.7974	275.27	Q V				
13+40	159.7251	279.90	Q V				
13+45	161.6870	284.87	Q V				
13+50	163.6838	289.93	Q V				
13+55	165.7181	295.38	Q V				
14+ 0	167.7908	300.95	Q V				
14+ 5	169.9119	307.98	Q V				
14+10	172.0914	316.48	Q V				
14+15	174.3396	326.43	Q V				
14+20	176.6643	337.54	Q V				
14+25	179.0766	350.28	Q V				
14+30	181.5931	365.40	Q V				
14+35	184.2343	383.51	Q V				
14+40	187.0375	407.02	Q V				
14+45	190.0556	438.22	Q V				
14+50	193.2225	459.84	Q V				
14+55	196.5210	478.94	Q V				
15+ 0	199.9449	497.14	Q V				
15+ 5	203.4974	515.83	Q V				
15+10	207.1779	534.41	Q V				
15+15	210.9971	554.55	Q V				
15+20	214.9590	575.26	Q V				

15+25	219.0607	595.57	|	Q |	V	|	|	|
15+30	223.2884	613.87	|	Q |	V	|	|	|
15+35	227.6466	632.81	|	Q|	V	|	|	|
15+40	232.1351	651.72	|	Q|	V	|	|	|
15+45	236.7700	673.00	|	Q|	V	|	|	|
15+50	241.5477	693.71	|	Q|	V	|	|	|
15+55	246.5035	719.59	|	Q	V	|	|	|
16+ 0	251.6632	749.19	|	Q	V	|	|	|
16+ 5	257.5093	848.86	|	| Q	V	|	|	|
16+10	264.3796	997.57	|	| Q	V	|	|	|
16+15	272.1685	1130.94	|	| Q	V|	|	|	|
16+20	280.9315	1272.39	|	| QV|	|	|	|
16+25	290.8231	1436.27	|	| Q	|	|	|
16+30	302.4684	1690.89	|	| V	Q	|	|	|
16+35	316.0612	1973.68	|	| | V	Q	|	|	|
16+40	332.5999	2401.42	|	| | V	|	| Q	|
16+45	351.8802	2799.51	|	| | V	|	|	Q
16+50	365.2308	1938.50	|	| | V Q	|	|	|
16+55	375.9853	1561.56	|	| | Q	V	|	|	|
17+ 0	385.5246	1385.10	|	| Q|	V	|	|	|
17+ 5	394.3893	1287.16	|	| Q |	V	|	|	|
17+10	402.4985	1177.45	|	| Q	|	V |	|	|
17+15	410.1809	1115.49	|	| Q	|	V |	|	|
17+20	417.2800	1030.79	|	| Q	|	V|	|	|
17+25	423.9709	971.51	|	| Q	|	V|	|	|
17+30	430.1762	901.01	|	| Q	|	V	|	|
17+35	435.9912	844.33	|	| Q	|	V	|	|
17+40	441.4095	786.74	|	|Q	|	V	|	|
17+45	446.4156	726.90	|	Q	|	|	|V	|
17+50	451.0965	679.66	|	Q|	|	|	|V	|
17+55	455.4666	634.54	|	Q|	|	|	|V	|
18+ 0	459.6079	601.32	|	Q |	|	|	| V	|
18+ 5	463.4980	564.85	|	Q |	|	|	| V	|
18+10	467.1958	536.91	|	Q |	|	|	| V	|
18+15	470.6554	502.33	|	Q |	|	|	| V	|
18+20	473.9500	478.38	|	Q |	|	|	| V	|
18+25	477.0269	446.77	|	Q |	|	|	| V	|
18+30	479.9703	427.38	|	Q |	|	|	| V	|
18+35	482.7549	404.32	|	Q |	|	|	| V	|
18+40	485.4166	386.48	|	Q |	|	|	| V	|
18+45	487.9042	361.20	|	Q |	|	|	| V	|
18+50	490.2677	343.18	|	Q |	|	|	| V	|
18+55	492.4524	317.22	|	Q |	|	|	| V	|
19+ 0	494.5307	301.77	|	Q |	|	|	| V	|
19+ 5	496.5436	292.27	|	Q |	|	|	| V	|
19+10	498.4962	283.52	|	Q |	|	|	| V	|
19+15	500.3806	273.60	|	Q |	|	|	| V	|
19+20	502.2028	264.59	|	Q |	|	|	| V	|
19+25	503.9751	257.35	|	Q |	|	|	| V	|
19+30	505.6986	250.25	|	Q |	|	|	| V	|
19+35	507.3624	241.59	|	Q |	|	|	| V	|
19+40	508.9633	232.45	|	Q |	|	|	| V	|
19+45	510.5273	227.09	|	Q |	|	|	| V	|
19+50	512.0584	222.32	|	Q |	|	|	| V	|
19+55	513.5626	218.41	|	Q |	|	|	| V	|
20+ 0	515.0466	215.47	|	Q |	|	|	| V	|
20+ 5	516.5024	211.38	|	Q |	|	|	| V	|
20+10	517.9280	207.00	|	Q |	|	|	| V	|
20+15	519.3192	202.01	|	Q |	|	|	| V	|

20+20	520.6595	194.61	Q				V
20+25	521.9690	190.14	Q				V
20+30	523.2539	186.56	Q				V
20+35	524.5140	182.97	Q				V
20+40	525.7400	178.01	Q				V
20+45	526.9395	174.16	Q				V
20+50	528.1178	171.09	Q				V
20+55	529.2811	168.91	Q				V
21+ 0	530.3990	162.32	Q				V
21+ 5	531.4964	159.34	Q				V
21+10	532.5763	156.80	Q				V
21+15	533.6400	154.45	Q				V
21+20	534.6877	152.13	Q				V
21+25	535.7200	149.89	Q				V
21+30	536.7362	147.56	Q				V
21+35	537.7371	145.33	Q				V
21+40	538.7247	143.40	Q				V
21+45	539.6996	141.56	Q				V
21+50	540.6623	139.79	Q				V
21+55	541.6131	138.05	Q				V
22+ 0	542.5527	136.42	Q				V
22+ 5	543.4814	134.85	Q				V
22+10	544.3996	133.33	Q				V
22+15	545.3076	131.85	Q				V
22+20	546.2058	130.42	Q				V
22+25	547.0944	129.02	Q				V
22+30	547.9737	127.67	Q				V
22+35	548.8440	126.36	Q				V
22+40	549.7055	125.09	Q				V
22+45	550.5584	123.85	Q				V
22+50	551.4031	122.64	Q				V
22+55	552.2396	121.46	Q				V
23+ 0	553.0682	120.31	Q				V
23+ 5	553.8891	119.19	Q				V
23+10	554.7024	118.10	Q				V
23+15	555.5084	117.03	Q				V
23+20	556.3073	115.99	Q				V
23+25	557.0991	114.97	Q				V
23+30	557.8840	113.98	Q				V
23+35	558.6623	113.00	Q				V
23+40	559.4340	112.05	Q				V
23+45	560.1993	111.12	Q				V
23+50	560.9583	110.21	Q				V
23+55	561.7111	109.32	Q				V
24+ 0	562.4580	108.44	Q				V
24+ 5	563.1939	106.86	Q				V
24+10	563.9126	104.35	Q				V
24+15	564.6096	101.21	Q				V
24+20	565.2806	97.42	Q				V
24+25	565.9208	92.96	Q				V
24+30	566.5203	87.04	Q				V
24+35	567.0682	79.56	Q				V
24+40	567.5403	68.55	Q				V
24+45	567.9039	52.80	Q				V
24+50	568.2101	44.46	Q				V
24+55	568.4775	38.82	Q				V
25+ 0	568.7139	34.33	Q				V
25+ 5	568.9241	30.52	Q				V
25+10	569.1128	27.41	Q				V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 1.000 to Point/Station 1.200
**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:
Length of stream = 41975.00 (Ft.)
Elevation difference = 1032.40 (Ft.)
Slope of channel = 0.024596 (Vert/Horiz)
Channel type - Improved Channel

Channel length = 41975.00(Ft.) Elevation difference = 1032.40(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width = 100.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Manning's 'N' = 0.035
Maximum depth of channel = 3.000(Ft.)
Flow(q) thru subarea = 268.931(CFS)
Depth of flow = 0.580(Ft.)
Average velocity = 4.586(Ft/s)
Total flow rate = 268.931(CFS)
Channel flow top width = 102.319(Ft.)
Depth of flow in channel = 0.58(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity = 4.59(Ft/s)
Travel time = 152.55 min.
Individual channel flow = 268.931(CFS)
Total capacity of improved channels = 268.931(CFS)
Critical Depth in Channel = 0.61(Ft.)

Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea = 2799.507(CFS)
Depth of flow = 2.353(Ft.)
Average velocity = 11.363(Ft/s)
Total flow rate = 2799.507(CFS)
Channel flow top width = 109.412(Ft.)
Depth of flow in channel = 2.35(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity = 11.36(Ft/s)
Travel time = 152.55 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels = 2799.507(CFS)
Critical Depth in Channel = 2.84(Ft.)

********** SCS CONVEX CHANNEL ROUTING **********
Convex method of stream routing data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
where c* = 1 - (1-c)^e and dt = c(length)/velocity

c(v/v+1.7) = 0.8699 Travel time = 61.57 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.3956
dt(routing time-step) = 53.56 (min.), c* = 0.5536

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3668	0.73	O				
0+10	1.4093	2.41	O				
0+15	3.1403	4.76	O				
0+20	5.5567	7.79	O				
0+25	8.6766	11.54	O				
0+30	12.9123	16.82	O				
0+35	18.5357	23.71	O				
0+40	26.6837	34.24	O				
0+45	38.5876	49.62	O				
0+50	48.7724	57.74	O				
0+55	56.5027	63.25	O				
1+ 0	62.4595	67.68	O				
1+ 5	67.2483	71.46	OI				
1+10	71.1566	74.60	|O				
1+15	74.5676	77.60	|O				
1+20	77.5429	80.18	|O				
1+25	80.2253	82.61	|O				
1+30	82.6223	84.75	|O				
1+35	84.8006	86.74	|O				
1+40	86.7972	88.58	|O				
1+45	88.6485	90.30	|O				
1+50	90.3684	91.90	|O				
1+55	91.9547	93.37	|O				
2+ 0	93.4402	94.77	|O				
2+ 5	94.8253	96.06	|O				
2+10	96.1323	97.30	|O				
2+15	97.3431	98.42	|O				
2+20	98.4820	99.50	|O				
2+25	99.5278	100.46	|O				
2+30	100.5110	101.39	|O				
2+35	101.4373	102.27	|O				
2+40	102.3217	103.11	|O				
2+45	103.1435	103.88	|O				
2+50	103.9140	104.60	|O				
2+55	104.6023	105.21	|O				
3+ 0	105.2219	105.77	|O				
3+ 5	105.8159	106.35	|O				
3+10	106.3960	106.92	|O				
3+15	106.9699	107.49	|O				
3+20	107.5321	108.04	|O				
3+25	108.0961	108.60	|O				
3+30	108.6587	109.16	|O				
3+35	109.2192	109.72	|O				

3+40	109.7601	110.24	O				
3+45	110.2986	110.78	O				
3+50	110.8334	111.31	O				
3+55	111.3767	111.87	O				
4+ 0	111.9278	112.42	O				
4+ 5	112.4921	113.00	O				
4+10	113.0597	113.57	O				
4+15	113.6355	114.15	O				
4+20	114.1958	114.70	O				
4+25	114.7531	115.25	O				
4+30	115.3059	115.80	O				
4+35	115.8656	116.37	O				
4+40	116.4180	116.91	O				
4+45	116.9724	117.47	O				
4+50	117.5247	118.02	O				
4+55	118.0909	118.60	O				
5+ 0	118.6437	119.14	O				
5+ 5	119.1976	119.70	O				
5+10	119.7492	120.25	O				
5+15	120.3098	120.81	O				
5+20	120.8715	121.38	O				
5+25	121.4441	121.96	O				
5+30	122.0177	122.53	O				
5+35	122.6015	123.13	O				
5+40	123.1868	123.71	O				
5+45	123.7837	124.32	O				
5+50	124.3830	124.92	O				
5+55	124.9946	125.55	O				
6+ 0	125.6088	126.16	O				
6+ 5	126.2358	126.80	O				
6+10	126.8657	127.43	O				
6+15	127.5088	128.09	O				
6+20	128.1549	128.74	O				
6+25	128.8149	129.41	O				
6+30	129.4780	130.07	O				
6+35	130.1554	130.77	O				
6+40	130.8363	131.45	O				
6+45	131.5320	132.16	O				
6+50	132.2314	132.86	O				
6+55	132.9462	133.59	O				
7+ 0	133.6648	134.31	O				
7+ 5	134.3995	135.06	O				
7+10	135.1384	135.80	O				
7+15	135.8940	136.58	O				
7+20	136.6540	137.34	O				
7+25	137.4314	138.13	O				
7+30	138.2135	138.92	O				
7+35	139.0137	139.74	O				
7+40	139.8190	140.54	OI				
7+45	140.6431	141.39	O				
7+50	141.4728	142.22	O				
7+55	142.3220	143.09	O				
8+ 0	143.1772	143.95	O				
8+ 5	144.0527	144.84	O				
8+10	144.9347	145.73	O				
8+15	145.8380	146.65	O				
8+20	146.7481	147.57	O				
8+25	147.6806	148.52	O				
8+30	148.6204	149.47	O				

8+35	149.5835	150.45	O				
8+40	150.5545	151.43	O				
8+45	151.5501	152.45	O				
8+50	152.5540	153.46	O				
8+55	153.5837	154.51	O				
9+ 0	154.6225	155.56	O				
9+ 5	155.6882	156.65	O				
9+10	156.7638	157.73	O				
9+15	157.8677	158.86	O				
9+20	158.9822	159.99	O				
9+25	160.1265	161.16	O				
9+30	161.2823	162.32	O				
9+35	162.4694	163.54	O				
9+40	163.6690	164.75	O				
9+45	164.9016	166.01	O				
9+50	166.1477	167.27	O				
9+55	167.4287	168.58	O				
10+ 0	168.7243	169.89	O				
10+ 5	170.0569	171.26	O				
10+10	171.4051	172.62	O				
10+15	172.7927	174.04	O				
10+20	174.1973	175.46	O				
10+25	175.6435	176.95	O				
10+30	177.1083	178.43	O				
10+35	178.6174	179.98	O				
10+40	180.1467	181.52	O				
10+45	181.7232	183.15	O				
10+50	183.3216	184.76	O				
10+55	184.9704	186.46	O				
11+ 0	186.6433	188.15	O				
11+ 5	188.3700	189.93	O				
11+10	190.1230	191.70	O				
11+15	191.9337	193.57	O				
11+20	193.7733	195.43	O				
11+25	195.6749	197.39	O				
11+30	197.6081	199.35	O				
11+35	199.6081	201.41	O				
11+40	201.6431	203.48	O				
11+45	203.7500	205.65	O				
11+50	205.8956	207.83	O				
11+55	208.1191	210.13	OI				
12+ 0	210.3853	212.43	O				
12+ 5	212.7384	214.86	O				
12+10	215.1432	217.31	O				
12+15	217.6443	219.90	O				
12+20	220.2026	222.51	O				
12+25	222.8659	225.27	O				
12+30	225.5954	228.06	O				
12+35	228.4437	231.02	O				
12+40	231.3742	234.02	O				
12+45	234.4493	237.23	O				
12+50	237.5891	240.42	O				
12+55	240.8483	243.79	O				
13+ 0	244.1817	247.19	O				
13+ 5	247.6572	250.80	O				
13+10	251.2241	254.44	O				
13+15	254.9546	258.33	O				
13+20	258.7932	262.25	O				
13+25	262.8170	266.45	O				

13+30	266.9666	270.71	O				
13+35	271.3262	275.27	O				
13+40	275.8323	279.90	O				
13+45	280.5782	284.87	O				
13+50	285.4957	289.93	O				
13+55	290.6885	295.38	O				
14+ 0	296.0836	300.95	O				
14+ 5	302.3076	307.98	O				
14+10	309.7131	316.48	O				
14+15	318.4544	326.43	O				
14+20	328.4477	337.54	O				
14+25	339.8741	350.28	OI				
14+30	353.2220	365.40	O				
14+35	369.0521	383.51	O				
14+40	388.8595	407.02	O				
14+45	414.5768	438.22	OI				
14+50	438.5175	459.84	O				
14+55	459.9112	478.94	O				
15+ 0	479.5828	497.14	OI				
15+ 5	498.6825	515.83	O				
15+10	517.5014	534.41	O				
15+15	536.9729	554.55	O				
15+20	557.0994	575.26	OI				
15+25	577.3496	595.57	O				
15+30	596.6205	613.87	O				
15+35	615.6768	632.81	OI				
15+40	634.6547	651.72	O				
15+45	654.7820	673.00	O				
15+50	675.2648	693.71	O				
15+55	698.4663	719.59	OI				
16+ 0	725.0177	749.19	O				
16+ 5	788.4279	848.86	OI				
16+10	896.5306	997.57	O I				
16+15	1019.4169	1130.94	O I				
16+20	1152.1593	1272.39	O I				
16+25	1300.9822	1436.27	O I				
16+30	1503.6877	1690.89	O I				
16+35	1749.2757	1973.68	O I				
16+40	2088.2168	2401.42	O	I			
16+45	2461.4379	2799.51	O	I			
16+50	2216.4226	1938.50	I	O			
16+55	1873.3498	1561.56	I O				
17+ 0	1612.1548	1385.10	I O				
17+ 5	1437.2893	1287.16	I O				
17+10	1299.1026	1177.45	I O				
17+15	1200.6495	1115.49	I O				
17+20	1110.9871	1030.79	IO				
17+25	1036.8333	971.51	IO				
17+30	965.2829	901.01	IO				
17+35	901.2498	844.33	O				
17+40	840.8274	786.74	IO				
17+45	780.8440	726.90	IO				
17+50	727.2638	679.66	IO				
17+55	678.2623	634.54	O				
18+ 0	637.3794	601.32	IO				
18+ 5	599.1087	564.85	O				
18+10	566.1188	536.91	IO				
18+15	532.5909	502.33	O				
18+20	503.8146	478.38	IO				

18+25	473.8651	446.77	O			
18+30	449.1308	427.38	O			
18+35	425.5154	404.32	IO			
18+40	404.8282	386.48	O			
18+45	381.9799	361.20	O			
18+50	361.4310	343.18	IO			
18+55	338.2966	317.22	O			
19+ 0	318.8740	301.77	O			
19+ 5	304.6360	292.27	O			
19+10	293.3970	283.52	O			
19+15	282.9512	273.60	IO			
19+20	273.2497	264.59	O			
19+25	264.8193	257.35	O			
19+30	257.1193	250.25	O			
19+35	248.9668	241.59	O			
19+40	240.2968	232.45	O			
19+45	233.2610	227.09	O			
19+50	227.4508	222.32	O			
19+55	222.6469	218.41	O			
20+ 0	218.8251	215.47	O			
20+ 5	214.9145	211.38	O			
20+10	210.7583	207.00	IO			
20+15	206.1704	202.01	O			
20+20	200.1528	194.61	O			
20+25	194.8428	190.14	O			
20+30	190.4423	186.56	O			
20+35	186.4924	182.97	O			
20+40	182.0545	178.01	O			
20+45	177.8840	174.16	O			
20+50	174.2832	171.09	O			
20+55	171.4188	168.91	O			
21+ 0	166.7231	162.32	O			
21+ 5	162.7915	159.34	O			
21+10	159.6041	156.80	O			
21+15	156.8707	154.45	O			
21+20	154.3654	152.13	O			
21+25	152.0039	149.89	O			
21+30	149.6621	147.56	O			
21+35	147.3774	145.33	O			
21+40	145.2744	143.40	O			
21+45	143.3136	141.56	O			
21+50	141.4522	139.79	IO			
21+55	139.6590	138.05	O			
22+ 0	137.9516	136.42	O			
22+ 5	136.3157	134.85	O			
22+10	134.7393	133.33	O			
22+15	133.2155	131.85	O			
22+20	131.7395	130.42	O			
22+25	130.3081	129.02	O			
22+30	128.9196	127.67	O			
22+35	127.5724	126.36	O			
22+40	126.2635	125.09	O			
22+45	124.9905	123.85	O			
22+50	123.7514	122.64	O			
22+55	122.5445	121.46	O			
23+ 0	121.3685	120.31	O			
23+ 5	120.2219	119.19	O			
23+10	119.1035	118.10	O			
23+15	118.0120	117.03	O			

23+20	116.9464	115.99	|O	|	|	|	|
23+25	115.9057	114.97	|O	|	|	|	|
23+30	114.8888	113.98	|O	|	|	|	|
23+35	113.8949	113.00	|O	|	|	|	|
23+40	112.9231	112.05	|O	|	|	|	|
23+45	111.9727	111.12	|O	|	|	|	|
23+50	111.0427	110.21	|O	|	|	|	|
23+55	110.1325	109.32	|O	|	|	|	|
24+ 0	109.2414	108.44	|O	|	|	|	|
24+ 5	108.0028	106.86	|O	|	|	|	|
24+10	106.1112	104.35	|O	|	|	|	|
24+15	103.5600	101.21	|O	|	|	|	|
24+20	100.3586	97.42	|O	|	|	|	|
24+25	96.4951	92.96	|O	|	|	|	|
24+30	91.5646	87.04	|O	|	|	|	|
24+35	85.3057	79.56	|O	|	|	|	|
24+40	76.5974	68.55	IO	|	|	|	|
24+45	64.2343	52.80	O	|	|	|	|
24+50	53.7158	44.46	O	|	|	|	|
24+55	45.7627	38.82	O	|	|	|	|
25+ 0	39.6636	34.33	O	|	|	|	|
25+ 5	34.8001	30.52	O	|	|	|	|
25+10	30.8672	27.41	O	|	|	|	|
25+15	27.4780	24.47	O	|	|	|	|
25+20	24.5597	21.97	O	|	|	|	|
25+25	21.9708	19.67	O	|	|	|	|
25+30	19.6943	17.67	O	|	|	|	|
25+35	17.6663	15.86	O	|	|	|	|
25+40	15.8414	14.22	O	|	|	|	|
25+45	14.1871	12.71	O	|	|	|	|
25+50	12.6817	11.34	O	|	|	|	|
25+55	11.3320	10.13	O	|	|	|	|
26+ 0	10.0973	9.00	O	|	|	|	|
26+ 5	8.9826	7.99	O	|	|	|	|
26+10	7.9578	7.04	O	|	|	|	|
26+15	7.0466	6.24	O	|	|	|	|
26+20	6.2171	5.48	O	|	|	|	|
26+25	5.4961	4.86	O	|	|	|	|
26+30	4.8457	4.27	O	|	|	|	|
26+35	4.2658	3.75	O	|	|	|	|
26+40	3.7344	3.26	O	|	|	|	|
26+45	3.2782	2.87	O	|	|	|	|
26+50	2.8786	2.52	O	|	|	|	|
26+55	2.5725	2.31	O	|	|	|	|
27+ 0	2.3389	2.13	O	|	|	|	|
27+ 5	2.1409	1.97	O	|	|	|	|
27+10	1.9595	1.80	O	|	|	|	|
27+15	1.7941	1.65	O	|	|	|	|
27+20	1.6428	1.51	O	|	|	|	|
27+25	1.4992	1.37	O	|	|	|	|
27+30	1.3595	1.23	O	|	|	|	|
27+35	1.2314	1.12	O	|	|	|	|
27+40	1.1251	1.03	O	|	|	|	|
27+45	1.0307	0.95	O	|	|	|	|
27+50	0.9420	0.86	O	|	|	|	|
27+55	0.8543	0.78	O	|	|	|	|
28+ 0	0.7609	0.68	O	|	|	|	|
28+ 5	0.6641	0.58	O	|	|	|	|
28+10	0.5662	0.48	O	|	|	|	|

28+15	0.4702	0.38	Q				
28+20	0.3919	0.32	Q				
28+25	0.3268	0.27	Q				
28+30	0.2683	0.22	Q				
28+35	0.2130	0.16	Q				
28+40	0.1671	0.13	Q				
28+45	0.1296	0.10	Q				
28+50	0.0962	0.07	Q				
28+55	0.0595	0.03	Q				
29+ 0	0.0382	0.02	Q				
29+ 5	0.0265	0.02	Q				
29+10	0.0192	0.01	Q				
29+15	0.0139	0.01	Q				
29+20	0.0095	0.01	Q				
29+25	0.0054	0.00	Q				
29+30	0.0025	0.00	Q				
29+35	0.0011	0.00	Q				
29+40	0.0000	0.00	Q				

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2461.438 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 1.200 to Point/Station 1.200
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

********** HYDROGRAPH INFORMATION **********

From study/file name: PR49.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q		0	2124.6	4249.1	6373.7	8498.3
0+ 5	1.0105	1.38	Q					
0+10	3.0340	4.44	Q					
0+15	5.0747	8.21	Q					
0+20	8.0027	13.56	Q					
0+25	11.6641	20.34	Q					
0+30	15.4070	28.32	Q					
0+35	20.1927	38.73	Q					
0+40	25.4343	52.12	Q					
0+45	30.9042	69.49	Q					
0+50	37.6576	86.43	Q					

0+55	44.7541	101.26	Q	|	|	|	|
1+ 0	52.5120	114.97	Q	|	|	|	|
1+ 5	64.5127	131.76	Q	|	|	|	|
1+10	77.3371	148.49	Q	|	|	|	|
1+15	91.7456	166.31	Q	|	|	|	|
1+20	111.3594	188.90	Q	|	|	|	|
1+25	131.5978	211.82	Q	|	|	|	|
1+30	151.3788	234.00	qQ	|	|	|	|
1+35	169.7526	254.55	qQ	|	|	|	|
1+40	188.2095	275.01	qQ	|	|	|	|
1+45	206.4102	295.06	qQ	|	|	|	|
1+50	224.5299	314.90	|Q	|	|	|	|
1+55	242.4043	334.36	|Q	|	|	|	|
2+ 0	257.5413	350.98	|Q	|	|	|	|
2+ 5	270.2292	365.05	|Q	|	|	|	|
2+10	282.7760	378.91	|Q	|	|	|	|
2+15	293.3911	390.73	|Q	|	|	|	|
2+20	302.9705	401.45	|Q	|	|	|	|
2+25	312.5581	412.09	|Q	|	|	|	|
2+30	321.0874	421.60	|Q	|	|	|	|
2+35	329.0947	430.53	|qQ	|	|	|	|
2+40	337.1016	439.42	|qQ	|	|	|	|
2+45	344.4878	447.63	|qQ	|	|	|	|
2+50	351.5589	455.47	|qQ	|	|	|	|
2+55	358.5964	463.20	|qQ	|	|	|	|
3+ 0	365.2050	470.43	|qQ	|	|	|	|
3+ 5	371.7403	477.56	|qQ	|	|	|	|
3+10	378.2075	484.60	|qQ	|	|	|	|
3+15	384.1825	491.15	|qQ	|	|	|	|
3+20	390.1191	497.65	|qQ	|	|	|	|
3+25	395.9481	504.04	|qQ	|	|	|	|
3+30	401.3643	510.02	|qQ	|	|	|	|
3+35	406.7724	515.99	|qQ	|	|	|	|
3+40	412.1708	521.93	|qQ	|	|	|	|
3+45	417.5030	527.80	|qQ	|	|	|	|
3+50	422.8653	533.70	|qQ	|	|	|	|
3+55	427.9387	539.32	| Q	|	|	|	|
4+ 0	432.5846	544.51	| Q	|	|	|	|
4+ 5	437.2524	549.74	| Q	|	|	|	|
4+10	441.9524	555.01	| Q	|	|	|	|
4+15	446.6789	560.31	| Q	|	|	|	|
4+20	451.4336	565.63	| Q	|	|	|	|
4+25	455.8996	570.65	| Q	|	|	|	|
4+30	460.2087	575.51	| Q	|	|	|	|
4+35	464.5440	580.41	| Q	|	|	|	|
4+40	468.9125	585.33	| Q	|	|	|	|
4+45	473.3079	590.28	| Q	|	|	|	|
4+50	477.7163	595.24	| Q	|	|	|	|
4+55	481.9310	600.02	| Q	|	|	|	|
5+ 0	486.1214	604.77	| Q	|	|	|	|
5+ 5	490.3392	609.54	| Q	|	|	|	|
5+10	494.5923	614.34	| Q	|	|	|	|
5+15	498.8737	619.18	| Q	|	|	|	|
5+20	503.1275	624.00	| Q	|	|	|	|
5+25	507.1594	628.60	| Q	|	|	|	|
5+30	511.2023	633.22	| Q	|	|	|	|
5+35	515.2739	637.88	| qQ	|	|	|	|
5+40	519.3832	642.57	| qQ	|	|	|	|
5+45	523.5224	647.31	| qQ	|	|	|	|

5+50	527.5521	651.94	qQ				
5+55	531.3549	656.35	qQ				
6+ 0	535.1919	660.80	qQ				
6+ 5	539.0593	665.30	qQ				
6+10	542.9668	669.83	qQ				
6+15	546.9054	674.41	qQ				
6+20	550.8095	678.96	qQ				
6+25	554.6916	683.51	qQ				
6+30	558.6161	688.09	qQ				
6+35	562.5743	692.73	qQ				
6+40	566.5765	697.41	qQ				
6+45	570.6047	702.14	qQ				
6+50	574.5560	706.79	qQ				
6+55	578.5046	711.45	qQ				
7+ 0	582.4998	716.16	qQ				
7+ 5	586.5324	720.93	qQ				
7+10	590.6135	725.75	qQ				
7+15	594.7152	730.61	qQ				
7+20	598.7808	735.43	qQ				
7+25	602.8757	740.31	qQ				
7+30	607.0225	745.24	qQ				
7+35	611.2114	750.23	qQ				
7+40	615.4542	755.27	qQ				
7+45	619.6656	760.31	qQ				
7+50	623.7774	765.25	qQ				
7+55	627.9297	770.25	qQ				
8+ 0	632.1397	775.32	qQ				
8+ 5	636.3971	780.45	qQ				
8+10	640.7146	785.65	Q				
8+15	645.0818	790.92	Q				
8+20	649.5119	796.26	Q				
8+25	653.9940	801.67	Q				
8+30	658.5419	807.16	Q				
8+35	663.1444	812.73	Q				
8+40	667.8101	818.36	Q				
8+45	672.4303	823.98	Q				
8+50	677.0835	829.64	Q				
8+55	681.7965	835.38	Q				
9+ 0	686.5845	841.21	Q				
9+ 5	691.4355	847.12	Q				
9+10	696.3653	853.13	qQ				
9+15	701.3614	859.23	qQ				
9+20	706.4404	865.42	qQ				
9+25	711.5894	871.72	qQ				
9+30	716.8254	878.11	qQ				
9+35	722.1354	884.60	qQ				
9+40	727.4936	891.16	qQ				
9+45	732.8234	897.73	qQ				
9+50	738.2445	904.39	qQ				
9+55	743.7479	911.18	qQ				
10+ 0	749.3528	918.08	qQ				
10+ 5	755.0450	925.10	qQ				
10+10	760.8445	932.25	qQ				
10+15	766.7367	939.53	qQ				
10+20	772.7424	946.94	qQ				
10+25	778.8468	954.49	qQ				
10+30	785.0716	962.18	qQ				
10+35	791.3981	970.02	qQ				
10+40	797.7633	977.91	qQ				

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10+45     804.2008    985.92  |  qQ     |         |         |         |
10+50     810.7736    994.10  |  qQ     |         |         |         |
10+55     817.4659   1002.44  |  qQ     |         |         |         |
11+ 0     824.3022   1010.95  |  qQ     |         |         |         |
11+ 5     831.2664   1019.64  |  qQ     |         |         |         |
11+10     838.3844   1028.51  |  qQ     |         |         |         |
11+15     845.6395   1037.57  |  qQ     |         |         |         |
11+20     853.0590   1046.83  |   Q     |         |         |         |
11+25     860.6259   1056.30  |   Q     |         |         |         |
11+30     868.3689   1065.98  |   qQ    |         |         |         |
11+35     876.2754   1075.88  |   qQ    |         |         |         |
11+40     884.3849   1086.03  |   qQ    |         |         |         |
11+45     892.6666   1096.42  |   qQ    |         |         |         |
11+50     901.1517   1107.05  |   qQ    |         |         |         |
11+55     909.8223   1117.94  |   qQ    |         |         |         |
12+ 0     918.7122   1129.10  |   qQ    |         |         |         |
12+ 5     927.9934   1140.73  |   qQ    |         |         |         |
12+10     937.7030   1152.85  |   qQ    |         |         |         |
12+15     947.6360   1165.28  |   qQ    |         |         |         |
12+20     957.9947   1178.20  |   qQ    |         |         |         |
12+25     968.7320   1191.60  |   qQ    |         |         |         |
12+30     979.7670   1205.36  |   qQ    |         |         |         |
12+35     991.2572   1219.70  |   qQ    |         |         |         |
12+40    1003.1391   1234.51  |   qQ    |         |         |         |
12+45    1015.3548   1249.80  |   qQ    |         |         |         |
12+50    1028.1502   1265.74  |   qQ    |         |         |         |
12+55    1041.3313   1282.18  |   q Q   |         |         |         |
13+ 0    1055.0094   1299.19  |   q Q   |         |         |         |
13+ 5    1069.8419   1317.50  |    qQ   |         |         |         |
13+10    1085.2430   1336.47  |    qQ   |         |         |         |
13+15    1101.3417   1356.30  |    qQ   |         |         |         |
13+20    1118.8796   1377.67  |    qQ   |         |         |         |
13+25    1136.9845   1399.80  |    qQ   |         |         |         |
13+30    1155.4971   1422.46  |    qQ   |         |         |         |
13+35    1174.1687   1445.49  |    qQ   |         |         |         |
13+40    1193.4252   1469.26  |    qQ   |         |         |         |
13+45    1213.1985   1493.78  |    q Q  |         |         |         |
13+50    1233.6032   1519.10  |    q Q  |         |         |         |
13+55    1254.6021   1545.29  |    q Q  |         |         |         |
14+ 0    1275.8170   1571.90  |     qQ  |         |         |         |
14+ 5    1301.2861   1603.59  |     qQ  |         |         |         |
14+10    1331.5489   1641.26  |     qQ  |         |         |         |
14+15    1362.3354   1680.79  |     qQ  |         |         |         |
14+20    1397.3605   1725.81  |     q Q |         |         |         |
14+25    1436.2208   1776.09  |     q Q |         |         |         |
14+30    1476.2680   1829.49  |     q Q |         |         |         |
14+35    1521.4191   1890.47  |      qQ |         |         |         |
14+40    1569.6017   1958.46  |      q Q|         |         |         |
14+45    1619.8380   2034.41  |      q Q|         |         |         |
14+50    1676.5248   2115.04  |      q Q|         |         |         |
14+55    1736.0650   2195.98  |       q Q         |         |         |
15+ 0    1799.7924   2279.38  |       q Q         |         |         |
15+ 5    1882.0074   2380.69  |       q |Q        |         |         |
15+10    1969.5130   2487.01  |        q|Q        |         |         |
15+15    2065.3760   2602.35  |        q| Q       |         |         |
15+20    2184.3031   2741.40  |         q Q       |         |         |
15+25    2302.3447   2879.69  |         q  Q      |         |         |
15+30    2415.6045   3012.22  |         |q  Q     |         |         |
15+35    2526.9387   3142.62  |         |q  Q     |         |         |
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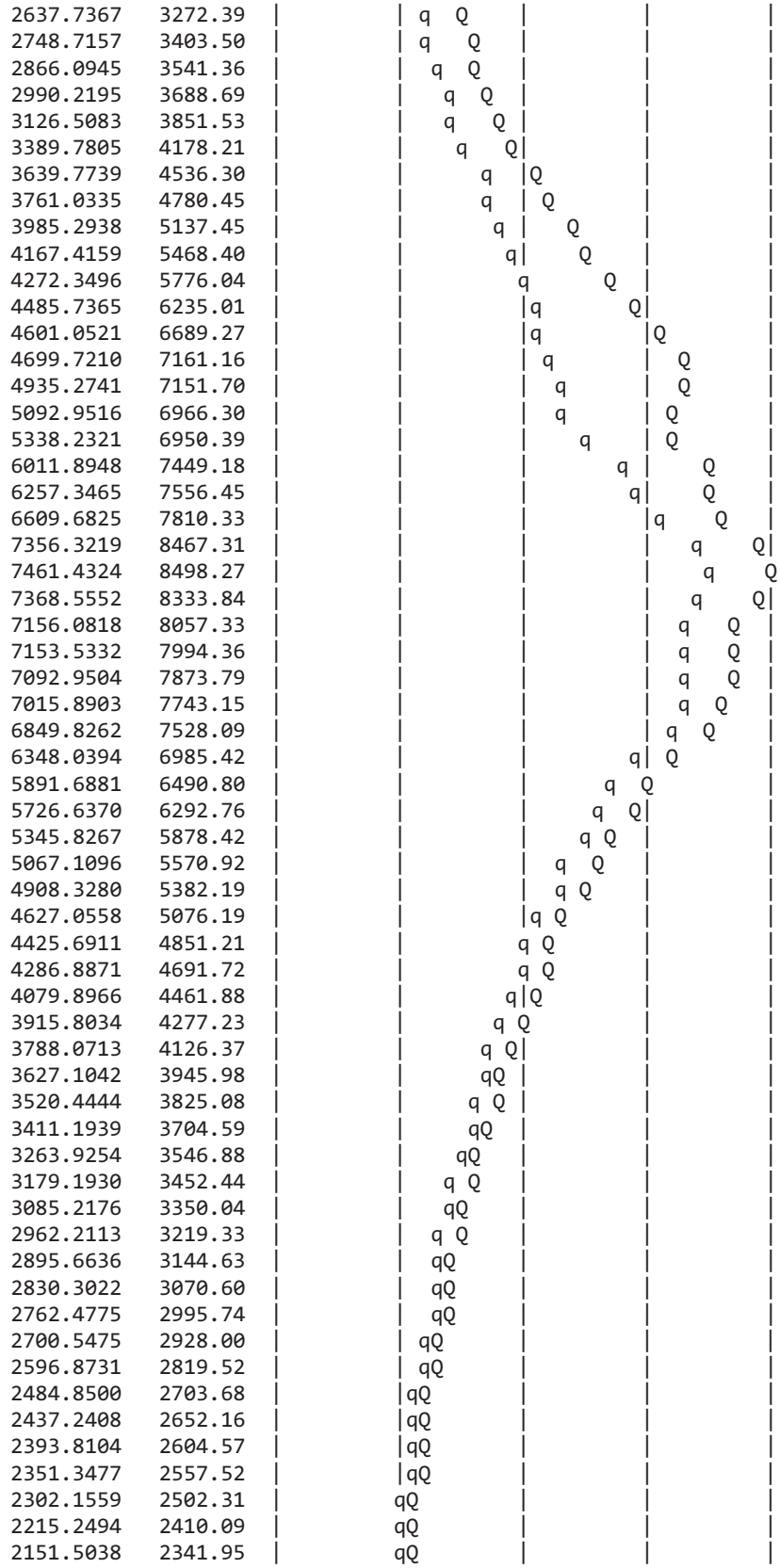
15+40	2637.7367	3272.39	
15+45	2748.7157	3403.50	
15+50	2866.0945	3541.36	
15+55	2990.2195	3688.69	
16+ 0	3126.5083	3851.53	
16+ 5	3389.7805	4178.21	
16+10	3639.7739	4536.30	
16+15	3761.0335	4780.45	
16+20	3985.2938	5137.45	
16+25	4167.4159	5468.40	
16+30	4272.3496	5776.04	
16+35	4485.7365	6235.01	
16+40	4601.0521	6689.27	
16+45	4699.7210	7161.16	
16+50	4935.2741	7151.70	
16+55	5092.9516	6966.30	
17+ 0	5338.2321	6950.39	
17+ 5	6011.8948	7449.18	
17+10	6257.3465	7556.45	
17+15	6609.6825	7810.33	
17+20	7356.3219	8467.31	
17+25	7461.4324	8498.27	
17+30	7368.5552	8333.84	
17+35	7156.0818	8057.33	
17+40	7153.5332	7994.36	
17+45	7092.9504	7873.79	
17+50	7015.8903	7743.15	
17+55	6849.8262	7528.09	
18+ 0	6348.0394	6985.42	
18+ 5	5891.6881	6490.80	
18+10	5726.6370	6292.76	
18+15	5345.8267	5878.42	
18+20	5067.1096	5570.92	
18+25	4908.3280	5382.19	
18+30	4627.0558	5076.19	
18+35	4425.6911	4851.21	
18+40	4286.8871	4691.72	
18+45	4079.8966	4461.88	
18+50	3915.8034	4277.23	
18+55	3788.0713	4126.37	
19+ 0	3627.1042	3945.98	
19+ 5	3520.4444	3825.08	
19+10	3411.1939	3704.59	
19+15	3263.9254	3546.88	
19+20	3179.1930	3452.44	
19+25	3085.2176	3350.04	
19+30	2962.2113	3219.33	
19+35	2895.6636	3144.63	
19+40	2830.3022	3070.60	
19+45	2762.4775	2995.74	
19+50	2700.5475	2928.00	
19+55	2596.8731	2819.52	
20+ 0	2484.8500	2703.68	
20+ 5	2437.2408	2652.16	
20+10	2393.8104	2604.57	
20+15	2351.3477	2557.52	
20+20	2302.1559	2502.31	
20+25	2215.2494	2410.09	
20+30	2151.5038	2341.95	

20+35	2115.6476	2302.14	qQ			
20+40	2081.9684	2264.02	qQ			
20+45	2047.3818	2225.27	qQ			
20+50	2006.6037	2180.89	qQ			
20+55	1943.4542	2114.87	Q			
21+ 0	1905.7143	2072.44	qQ			
21+ 5	1877.0615	2039.85	qQ			
21+10	1849.4019	2009.01	qQ			
21+15	1819.7805	1976.65	qQ			
21+20	1779.1866	1933.55	qQ			
21+25	1718.7432	1870.75	Q			
21+30	1690.5052	1840.17	qQ			
21+35	1666.8457	1814.22	qQ			
21+40	1642.6820	1787.96	qQ			
21+45	1613.8267	1757.14	qQ			
21+50	1564.1301	1705.58	qQ			
21+55	1505.3912	1645.05	Q			
22+ 0	1482.3224	1620.27	qQ			
22+ 5	1461.6957	1598.01	qQ			
22+10	1441.1972	1575.94	qQ			
22+15	1418.6398	1551.86	qQ			
22+20	1387.1725	1518.91	qQ			
22+25	1360.9645	1491.27	qQ			
22+30	1342.7800	1471.70	Q			
22+35	1325.1218	1452.69	Q			
22+40	1306.7499	1433.01	Q			
22+45	1285.1865	1410.18	Q			
22+50	1250.5572	1374.31	qQ			
22+55	1229.2267	1351.77	qQ			
23+ 0	1213.8314	1335.20	qQ			
23+ 5	1199.1626	1319.38	qQ			
23+10	1184.0853	1303.19	qQ			
23+15	1165.7360	1283.75	qQ			
23+20	1139.9463	1256.89	Q			
23+25	1124.9234	1240.83	Q			
23+30	1111.6984	1226.59	Q			
23+35	1097.9413	1211.84	Q			
23+40	1081.6234	1194.55	Q			
23+45	1054.2818	1166.25	qQ			
23+50	1019.4604	1130.50	qQ			
23+55	1005.9556	1116.09	qQ			
24+ 0	994.2457	1103.49	qQ			
24+ 5	982.2441	1090.25	qQ			
24+10	968.8987	1075.01	qQ			
24+15	955.8074	1059.37	Q			
24+20	942.3593	1042.72	Q			
24+25	928.2482	1024.74	Q			
24+30	914.0016	1005.57	Q			
24+35	897.9181	983.22	Q			
24+40	879.0054	955.60	Q			
24+45	848.3055	912.54	qQ			
24+50	826.5577	880.27	qQ			
24+55	810.4293	856.19	qQ			
25+ 0	794.4350	834.10	Q			
25+ 5	774.5470	809.35	Q			
25+10	753.9056	784.77	Q			
25+15	731.8761	759.35	Q			
25+20	704.8089	729.37	Q			
25+25	677.1811	699.15	Q			

25+30	649.7888	669.48	Q				
25+35	622.7005	640.37	qQ				
25+40	589.4105	605.25	Q				
25+45	550.3442	564.53	Q				
25+50	525.8895	538.57	Q				
25+55	503.2347	514.57	Q				
26+ 0	484.0967	494.19	Q				
26+ 5	467.3493	476.33	Q				
26+10	450.9352	458.89	Q				
26+15	436.6254	443.67	Q				
26+20	423.3918	429.61	qQ				
26+25	410.1129	415.61	Q				
26+30	397.2575	402.10	Q				
26+35	383.2900	387.56	Q				
26+40	359.1294	362.86	Q				
26+45	343.6016	346.88	Q				
26+50	334.4151	337.29	Q				
26+55	325.7534	328.33	Q				
27+ 0	317.2336	319.57	Q				
27+ 5	308.7873	310.93	Q				
27+10	300.6378	302.60	Q				
27+15	293.1734	294.97	Q				
27+20	285.9409	287.58	Q				
27+25	279.0117	280.51	Q				
27+30	272.7093	274.07	Q				
27+35	266.9590	268.19	Q				
27+40	262.6578	263.78	Q				
27+45	256.8747	257.91	Q				
27+50	250.9470	251.89	Q				
27+55	245.3921	246.25	Q				
28+ 0	240.4103	241.17	Q				
28+ 5	235.4410	236.11	Q				
28+10	230.4806	231.05	Q				
28+15	225.5143	225.98	Q				
28+20	220.5491	220.94	Q				
28+25	215.8509	216.18	Q				
28+30	211.2481	211.52	Q				
28+35	206.0127	206.23	Q				
28+40	201.0915	201.26	Q				
28+45	196.5235	196.65	Q				
28+50	192.1104	192.21	Q				
28+55	188.3277	188.39	Q				
29+ 0	184.3698	184.41	Q				
29+ 5	180.1088	180.14	Q				
29+10	175.7533	175.77	Q				
29+15	171.2114	171.23	Q				
29+20	166.4173	166.43	Q				
29+25	160.9455	160.95	Q				
29+30	151.8593	151.86	Q				
29+35	136.3684	136.37	Q				
29+40	131.0705	131.07	Q				
29+45	127.0703	127.07	Q				
29+50	123.3172	123.32	Q				
29+55	119.4717	119.47	Q				
30+ 0	115.6769	115.68	Q				
30+ 5	111.9382	111.94	Q				
30+10	108.2330	108.23	Q				
30+15	104.5464	104.55	Q				
30+20	101.2637	101.26	Q				

30+25	98.3505	98.35	Q				
30+30	95.4864	95.49	Q				
30+35	92.8766	92.88	Q				
30+40	90.1781	90.18	Q				
30+45	87.3237	87.32	Q				
30+50	84.0816	84.08	Q				
30+55	79.7992	79.80	Q				
31+ 0	68.4494	68.45	Q				
31+ 5	58.0895	58.09	Q				
31+10	55.4417	55.44	Q				
31+15	53.2421	53.24	Q				
31+20	51.0152	51.02	Q				
31+25	48.6134	48.61	Q				
31+30	46.3253	46.33	Q				
31+35	44.1401	44.14	Q				
31+40	42.0295	42.03	Q				
31+45	40.0569	40.06	Q				
31+50	38.2942	38.29	Q				
31+55	36.5834	36.58	Q				
32+ 0	35.1298	35.13	Q				
32+ 5	33.9285	33.93	Q				
32+10	32.7602	32.76	Q				
32+15	31.6219	31.62	Q				
32+20	30.5110	30.51	Q				
32+25	29.4253	29.43	Q				
32+30	28.3630	28.36	Q				
32+35	27.3223	27.32	Q				
32+40	26.3075	26.31	Q				
32+45	25.4143	25.41	Q				
32+50	24.5769	24.58	Q				
32+55	23.7553	23.76	Q				
33+ 0	22.9589	22.96	Q				
33+ 5	22.1866	22.19	Q				
33+10	21.4275	21.43	Q				
33+15	20.6808	20.68	Q				
33+20	19.9461	19.95	Q				
33+25	19.2226	19.22	Q				
33+30	18.5100	18.51	Q				
33+35	17.8077	17.81	Q				
33+40	17.1589	17.16	Q				
33+45	16.6255	16.63	Q				
33+50	16.1051	16.11	Q				
33+55	15.5924	15.59	Q				
34+ 0	15.0871	15.09	Q				
34+ 5	14.5890	14.59	Q				
34+10	14.0978	14.10	Q				
34+15	13.6132	13.61	Q				
34+20	13.1350	13.14	Q				
34+25	12.6630	12.66	Q				
34+30	12.1970	12.20	Q				
34+35	11.7401	11.74	Q				
34+40	11.3775	11.38	Q				
34+45	11.0592	11.06	Q				
34+50	10.7452	10.75	Q				
34+55	10.4353	10.44	Q				
35+ 0	10.1296	10.13	Q				
35+ 5	9.8277	9.83	Q				
35+10	9.5296	9.53	Q				
35+15	9.2352	9.24	Q				

35+20	8.9443	8.94	Q	|	|	|	|
35+25	8.6569	8.66	Q	|	|	|	|
35+30	8.3729	8.37	Q	|	|	|	|
35+35	8.0873	8.09	Q	|	|	|	|
35+40	7.7911	7.79	Q	|	|	|	|
35+45	7.4972	7.50	Q	|	|	|	|
35+50	7.2064	7.21	Q	|	|	|	|
35+55	6.9187	6.92	Q	|	|	|	|
36+ 0	6.6340	6.63	Q	|	|	|	|
36+ 5	6.3522	6.35	Q	|	|	|	|
36+10	6.0732	6.07	Q	|	|	|	|
36+15	5.7969	5.80	Q	|	|	|	|
36+20	5.5234	5.52	Q	|	|	|	|
36+25	5.2525	5.25	Q	|	|	|	|
36+30	4.9842	4.98	Q	|	|	|	|
36+35	4.7234	4.72	Q	|	|	|	|
36+40	4.4676	4.47	Q	|	|	|	|
36+45	4.2141	4.21	Q	|	|	|	|
36+50	3.9630	3.96	Q	|	|	|	|
36+55	3.7140	3.71	Q	|	|	|	|
37+ 0	3.4673	3.47	Q	|	|	|	|
37+ 5	3.2227	3.22	Q	|	|	|	|
37+10	2.9802	2.98	Q	|	|	|	|
37+15	2.7397	2.74	Q	|	|	|	|
37+20	2.5013	2.50	Q	|	|	|	|
37+25	2.2648	2.26	Q	|	|	|	|
37+30	2.0525	2.05	Q	|	|	|	|
37+35	1.9213	1.92	Q	|	|	|	|
37+40	1.7974	1.80	Q	|	|	|	|
37+45	1.6745	1.67	Q	|	|	|	|
37+50	1.5527	1.55	Q	|	|	|	|
37+55	1.4319	1.43	Q	|	|	|	|
38+ 0	1.3120	1.31	Q	|	|	|	|
38+ 5	1.1932	1.19	Q	|	|	|	|
38+10	1.0753	1.08	Q	|	|	|	|
38+15	0.9584	0.96	Q	|	|	|	|
38+20	0.8424	0.84	Q	|	|	|	|
38+25	0.7273	0.73	Q	|	|	|	|
38+30	0.6131	0.61	Q	|	|	|	|
38+35	0.4997	0.50	Q	|	|	|	|
38+40	0.3873	0.39	Q	|	|	|	|
38+45	0.2756	0.28	Q	|	|	|	|
38+50	0.1648	0.16	Q	|	|	|	|
38+55	0.0548	0.05	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 467
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 8498.266 (CFS)
Total volume = 3888.923 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 09/06/17

164309 - NRG "COOLWATER" SOLAR FACILITY - DAGGETT, CA
PROPOSED CONDITIONS AREAS 50 AND 51 ROUTING
100-YEAR, 24-HOUR STORM EVENT
BY: JDN, DATE: 08-31-17

Program License Serial Number 6320

********** HYDROGRAPH INFORMATION **********

From study/file name: PR50.rte
**********HYDROGRAPH DATA**********
Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5599.015 (CFS)
Total volume = 1141.359 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++++++++++

Process from Point/Station 2.000 to Point/Station 2.000
**** FLOWBY BASIN ROUTING OR SPLIT FLOW ****

A constant split flow fraction of 0.5000 is
being diverted from the main stream into stream number 1
Total volume of excess flow diverted into flowby
basin (stream number 1) is 570.68(Ac.Ft)

++++++++++

P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Volume(Ac.Ft)	Q(CFS)	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.0050	0.73	Q	|	|	|	|
0+10	0.0216	2.41	Q	|	|	|	|
0+15	0.0544	4.76	Q	|	|	|	|
0+20	0.1080	7.79	Q	|	|	|	|
0+25	0.1875	11.54	Q	|	|	|	|
0+30	0.3033	16.82	Q	|	|	|	|
0+35	0.4666	23.71	Q	|	|	|	|

0+40	0.7024	34.24	Q				
0+45	1.0442	49.62	Q				
0+50	1.4418	57.74	Q				
0+55	1.8774	63.25	Q				
1+ 0	2.3435	67.68	Q				
1+ 5	2.8357	71.46	VQ				
1+10	3.3495	74.60	VQ				
1+15	3.8839	77.60	VQ				
1+20	4.4361	80.18	VQ				
1+25	5.0051	82.61	VQ				
1+30	5.5888	84.75	VQ				
1+35	6.1862	86.74	VQ				
1+40	6.7962	88.58	VQ				
1+45	7.4181	90.30	VQ				
1+50	8.0511	91.90	VQ				
1+55	8.6941	93.37	VQ				
2+ 0	9.3468	94.77	VQ				
2+ 5	10.0084	96.06	VQ				
2+10	10.6785	97.30	VQ				
2+15	11.3564	98.42	VQ				
2+20	12.0417	99.50	VQ				
2+25	12.7335	100.46	VQ				
2+30	13.4318	101.39	VQ				
2+35	14.1361	102.27	VQ				
2+40	14.8463	103.11	|Q				
2+45	15.5617	103.88	|Q				
2+50	16.2821	104.60	|Q				
2+55	17.0067	105.21	|Q				
3+ 0	17.7352	105.77	|Q				
3+ 5	18.4676	106.35	|Q				
3+10	19.2039	106.92	|Q				
3+15	19.9442	107.49	|Q				
3+20	20.6883	108.04	|Q				
3+25	21.4362	108.60	|Q				
3+30	22.1880	109.16	|Q				
3+35	22.9437	109.72	|Q				
3+40	23.7030	110.24	|Q				
3+45	24.4659	110.78	|Q				
3+50	25.2326	111.31	|Q				
3+55	26.0030	111.87	|Q				
4+ 0	26.7773	112.42	|Q				
4+ 5	27.5555	113.00	|Q				
4+10	28.3377	113.57	|Q				
4+15	29.1239	114.15	|QV				
4+20	29.9138	114.70	|QV				
4+25	30.7076	115.25	|QV				
4+30	31.5051	115.80	|QV				
4+35	32.3065	116.37	|QV				
4+40	33.1117	116.91	|QV				
4+45	33.9208	117.47	|QV				
4+50	34.7336	118.02	|QV				
4+55	35.5504	118.60	|QV				
5+ 0	36.3709	119.14	|QV				
5+ 5	37.1953	119.70	|QV				
5+10	38.0234	120.25	|QV				
5+15	38.8555	120.81	|QV				
5+20	39.6914	121.38	|QV				
5+25	40.5313	121.96	|QV				
5+30	41.3752	122.53	|QV				

5+35	42.2232	123.13	QV				
5+40	43.0752	123.71	Q V				
5+45	43.9315	124.32	Q V				
5+50	44.7918	124.92	Q V				
5+55	45.6564	125.55	Q V				
6+ 0	46.5253	126.16	Q V				
6+ 5	47.3986	126.80	Q V				
6+10	48.2762	127.43	Q V				
6+15	49.1584	128.09	Q V				
6+20	50.0450	128.74	Q V				
6+25	50.9363	129.41	Q V				
6+30	51.8321	130.07	Q V				
6+35	52.7327	130.77	Q V				
6+40	53.6380	131.45	Q V				
6+45	54.5482	132.16	Q V				
6+50	55.4632	132.86	Q V				
6+55	56.3832	133.59	Q V				
7+ 0	57.3082	134.31	Q V				
7+ 5	58.2384	135.06	Q V				
7+10	59.1737	135.80	Q V				
7+15	60.1143	136.58	Q V				
7+20	61.0602	137.34	Q V				
7+25	62.0115	138.13	Q V				
7+30	62.9682	138.92	Q V				
7+35	63.9306	139.74	Q V				
7+40	64.8985	140.54	Q V				
7+45	65.8722	141.39	Q V				
7+50	66.8517	142.22	Q V				
7+55	67.8372	143.09	Q V				
8+ 0	68.8285	143.95	Q V				
8+ 5	69.8261	144.84	Q V				
8+10	70.8297	145.73	Q V				
8+15	71.8397	146.65	Q V				
8+20	72.8560	147.57	Q V				
8+25	73.8789	148.52	Q V				
8+30	74.9083	149.47	Q V				
8+35	75.9445	150.45	Q V				
8+40	76.9874	151.43	Q V				
8+45	78.0373	152.45	Q V				
8+50	79.0941	153.46	Q V				
8+55	80.1583	154.51	Q V				
9+ 0	81.2296	155.56	Q V				
9+ 5	82.3085	156.65	Q V				
9+10	83.3948	157.73	Q V				
9+15	84.4889	158.86	Q V				
9+20	85.5907	159.99	Q V				
9+25	86.7006	161.16	Q V				
9+30	87.8185	162.32	Q V				
9+35	88.9448	163.54	Q V				
9+40	90.0795	164.75	Q V				
9+45	91.2228	166.01	Q V				
9+50	92.3748	167.27	Q V				
9+55	93.5359	168.58	Q V				
10+ 0	94.7059	169.89	Q V				
10+ 5	95.8854	171.26	Q V				
10+10	97.0742	172.62	Q V				
10+15	98.2729	174.04	Q V				
10+20	99.4813	175.46	Q V				
10+25	100.6999	176.95	Q V				

10+30	101.9288	178.43	Q V				
10+35	103.1683	179.98	Q V				
10+40	104.4185	181.52	Q V				
10+45	105.6798	183.15	Q V				
10+50	106.9523	184.76	Q V				
10+55	108.2364	186.46	Q V				
11+ 0	109.5322	188.15	Q V				
11+ 5	110.8402	189.93	Q V				
11+10	112.1605	191.70	Q V				
11+15	113.4936	193.57	Q V				
11+20	114.8396	195.43	Q V				
11+25	116.1990	197.39	Q V				
11+30	117.5719	199.35	Q V				
11+35	118.9591	201.41	Q V				
11+40	120.3604	203.48	Q V				
11+45	121.7768	205.65	Q V				
11+50	123.2081	207.83	Q V				
11+55	124.6552	210.13	Q V				
12+ 0	126.1182	212.43	Q V				
12+ 5	127.5980	214.86	Q V				
12+10	129.0946	217.31	Q V				
12+15	130.6091	219.90	Q V				
12+20	132.1416	222.51	Q V				
12+25	133.6930	225.27	Q V				
12+30	135.2636	228.06	Q V				
12+35	136.8547	231.02	Q V				
12+40	138.4663	234.02	Q V				
12+45	140.1002	237.23	Q V				
12+50	141.7559	240.42	Q V				
12+55	143.4349	243.79	Q V				
13+ 0	145.1373	247.19	Q V				
13+ 5	146.8646	250.80	Q V				
13+10	148.6169	254.44	Q V				
13+15	150.3960	258.33	Q V				
13+20	152.2022	262.25	Q V				
13+25	154.0372	266.45	Q V				
13+30	155.9016	270.71	Q V				
13+35	157.7974	275.27	Q V				
13+40	159.7251	279.90	Q V				
13+45	161.6870	284.87	Q V				
13+50	163.6838	289.93	Q V				
13+55	165.7181	295.38	Q V				
14+ 0	167.7908	300.95	Q V				
14+ 5	169.9119	307.98	Q V				
14+10	172.0914	316.48	Q V				
14+15	174.3396	326.43	Q V				
14+20	176.6643	337.54	Q V				
14+25	179.0766	350.28	Q V				
14+30	181.5931	365.40	Q V				
14+35	184.2343	383.51	Q V				
14+40	187.0375	407.02	Q V				
14+45	190.0556	438.22	Q V				
14+50	193.2225	459.84	Q V				
14+55	196.5210	478.94	Q V				
15+ 0	199.9449	497.14	Q V				
15+ 5	203.4974	515.83	Q V				
15+10	207.1779	534.41	Q V				
15+15	210.9971	554.55	Q V				
15+20	214.9590	575.26	Q V				

15+25	219.0607	595.57	|	Q |	V	|	|	|
15+30	223.2884	613.87	|	Q |	V	|	|	|
15+35	227.6466	632.81	|	Q|	V	|	|	|
15+40	232.1351	651.72	|	Q|	V	|	|	|
15+45	236.7700	673.00	|	Q|	V	|	|	|
15+50	241.5477	693.71	|	Q|	V	|	|	|
15+55	246.5035	719.59	|	Q	V	|	|	|
16+ 0	251.6632	749.19	|	Q	V	|	|	|
16+ 5	257.5093	848.86	|	| Q	V	|	|	|
16+10	264.3796	997.57	|	| Q	V	|	|	|
16+15	272.1685	1130.94	|	| Q	V|	|	|	|
16+20	280.9315	1272.39	|	| QV|	|	|	|
16+25	290.8231	1436.27	|	| Q	|	|	|
16+30	302.4684	1690.89	|	| V	Q	|	|	|
16+35	316.0612	1973.68	|	| | V	Q	|	|	|
16+40	332.5999	2401.42	|	| | V	|	| Q	|
16+45	351.8802	2799.51	|	| | V	|	|	Q
16+50	365.2308	1938.50	|	| | V	Q	|	|	|
16+55	375.9853	1561.56	|	| | Q	V	|	|	|
17+ 0	385.5246	1385.10	|	| Q|	V	|	|	|
17+ 5	394.3893	1287.16	|	| Q |	V	|	|	|
17+10	402.4985	1177.45	|	| Q	|	V	|	|	|
17+15	410.1809	1115.49	|	| Q	|	V	|	|	|
17+20	417.2800	1030.79	|	| Q	|	V|	|	|
17+25	423.9709	971.51	|	| Q	|	V|	|	|
17+30	430.1762	901.01	|	| Q	|	V	|	|
17+35	435.9912	844.33	|	| Q	|	V	|	|
17+40	441.4095	786.74	|	|Q	|	V	|	|
17+45	446.4156	726.90	|	Q	|	|	|V	|
17+50	451.0965	679.66	|	Q|	|	|	|V	|
17+55	455.4666	634.54	|	Q|	|	|	|V	|
18+ 0	459.6079	601.32	|	Q |	|	|	| V	|
18+ 5	463.4980	564.85	|	Q |	|	|	| V	|
18+10	467.1958	536.91	|	Q |	|	|	| V	|
18+15	470.6554	502.33	|	Q |	|	|	| V	|
18+20	473.9500	478.38	|	Q |	|	|	| V	|
18+25	477.0269	446.77	|	Q |	|	|	| V	|
18+30	479.9703	427.38	|	Q |	|	|	| V	|
18+35	482.7549	404.32	|	Q |	|	|	| V	|
18+40	485.4166	386.48	|	Q |	|	|	| V	|
18+45	487.9042	361.20	|	Q |	|	|	| V	|
18+50	490.2677	343.18	|	Q |	|	|	| V	|
18+55	492.4524	317.22	|	Q |	|	|	| V	|
19+ 0	494.5307	301.77	|	Q |	|	|	| V	|
19+ 5	496.5436	292.27	|	Q |	|	|	| V	|
19+10	498.4962	283.52	|	Q |	|	|	| V	|
19+15	500.3806	273.60	|	Q |	|	|	| V	|
19+20	502.2028	264.59	|	Q |	|	|	| V	|
19+25	503.9751	257.35	|	Q |	|	|	| V	|
19+30	505.6986	250.25	|	Q |	|	|	| V	|
19+35	507.3624	241.59	|	Q |	|	|	| V	|
19+40	508.9633	232.45	|	Q |	|	|	| V	|
19+45	510.5273	227.09	|	Q |	|	|	| V	|
19+50	512.0584	222.32	|	Q |	|	|	| V	|
19+55	513.5626	218.41	|	Q |	|	|	| V	|
20+ 0	515.0466	215.47	|	Q |	|	|	| V	|
20+ 5	516.5024	211.38	|	Q |	|	|	| V	|
20+10	517.9280	207.00	|	Q |	|	|	| V	|
20+15	519.3192	202.01	|	Q |	|	|	| V	|

20+20	520.6595	194.61	Q				V
20+25	521.9690	190.14	Q				V
20+30	523.2539	186.56	Q				V
20+35	524.5140	182.97	Q				V
20+40	525.7400	178.01	Q				V
20+45	526.9395	174.16	Q				V
20+50	528.1178	171.09	Q				V
20+55	529.2811	168.91	Q				V
21+ 0	530.3990	162.32	Q				V
21+ 5	531.4964	159.34	Q				V
21+10	532.5763	156.80	Q				V
21+15	533.6400	154.45	Q				V
21+20	534.6877	152.13	Q				V
21+25	535.7200	149.89	Q				V
21+30	536.7362	147.56	Q				V
21+35	537.7371	145.33	Q				V
21+40	538.7247	143.40	Q				V
21+45	539.6996	141.56	Q				V
21+50	540.6623	139.79	Q				V
21+55	541.6131	138.05	Q				V
22+ 0	542.5527	136.42	Q				V
22+ 5	543.4814	134.85	Q				V
22+10	544.3996	133.33	Q				V
22+15	545.3076	131.85	Q				V
22+20	546.2058	130.42	Q				V
22+25	547.0944	129.02	Q				V
22+30	547.9737	127.67	Q				V
22+35	548.8440	126.36	Q				V
22+40	549.7055	125.09	Q				V
22+45	550.5584	123.85	Q				V
22+50	551.4031	122.64	Q				V
22+55	552.2396	121.46	Q				V
23+ 0	553.0682	120.31	Q				V
23+ 5	553.8891	119.19	Q				V
23+10	554.7024	118.10	Q				V
23+15	555.5084	117.03	Q				V
23+20	556.3073	115.99	Q				V
23+25	557.0991	114.97	Q				V
23+30	557.8840	113.98	Q				V
23+35	558.6623	113.00	Q				V
23+40	559.4340	112.05	Q				V
23+45	560.1993	111.12	Q				V
23+50	560.9583	110.21	Q				V
23+55	561.7111	109.32	Q				V
24+ 0	562.4580	108.44	Q				V
24+ 5	563.1939	106.86	Q				V
24+10	563.9126	104.35	Q				V
24+15	564.6096	101.21	Q				V
24+20	565.2806	97.42	Q				V
24+25	565.9208	92.96	Q				V
24+30	566.5203	87.04	Q				V
24+35	567.0682	79.56	Q				V
24+40	567.5403	68.55	Q				V
24+45	567.9039	52.80	Q				V
24+50	568.2101	44.46	Q				V
24+55	568.4775	38.82	Q				V
25+ 0	568.7139	34.33	Q				V
25+ 5	568.9241	30.52	Q				V
25+10	569.1128	27.41	Q				V

25+15	569.2814	24.47	Q	|	|	|	V|
25+20	569.4327	21.97	Q	|	|	|	V|
25+25	569.5682	19.67	Q	|	|	|	V|
25+30	569.6899	17.67	Q	|	|	|	V|
25+35	569.7991	15.86	Q	|	|	|	V|
25+40	569.8970	14.22	Q	|	|	|	V|
25+45	569.9846	12.71	Q	|	|	|	V|
25+50	570.0627	11.34	Q	|	|	|	V|
25+55	570.1325	10.13	Q	|	|	|	V|
26+ 0	570.1944	9.00	Q	|	|	|	V|
26+ 5	570.2494	7.99	Q	|	|	|	V|
26+10	570.2980	7.04	Q	|	|	|	V|
26+15	570.3409	6.24	Q	|	|	|	V|
26+20	570.3786	5.48	Q	|	|	|	V|
26+25	570.4121	4.86	Q	|	|	|	V|
26+30	570.4415	4.27	Q	|	|	|	V|
26+35	570.4673	3.75	Q	|	|	|	V|
26+40	570.4897	3.26	Q	|	|	|	V|
26+45	570.5095	2.87	Q	|	|	|	V|
26+50	570.5269	2.52	Q	|	|	|	V|
26+55	570.5428	2.31	Q	|	|	|	V|
27+ 0	570.5575	2.13	Q	|	|	|	V|
27+ 5	570.5710	1.97	Q	|	|	|	V|
27+10	570.5834	1.80	Q	|	|	|	V|
27+15	570.5948	1.65	Q	|	|	|	V|
27+20	570.6051	1.51	Q	|	|	|	V|
27+25	570.6146	1.37	Q	|	|	|	V|
27+30	570.6231	1.23	Q	|	|	|	V|
27+35	570.6308	1.12	Q	|	|	|	V|
27+40	570.6379	1.03	Q	|	|	|	V|
27+45	570.6444	0.95	Q	|	|	|	V|
27+50	570.6503	0.86	Q	|	|	|	V|
27+55	570.6557	0.78	Q	|	|	|	V|
28+ 0	570.6603	0.68	Q	|	|	|	V|
28+ 5	570.6643	0.58	Q	|	|	|	V|
28+10	570.6676	0.48	Q	|	|	|	V|
28+15	570.6702	0.38	Q	|	|	|	V|
28+20	570.6725	0.32	Q	|	|	|	V|
28+25	570.6743	0.27	Q	|	|	|	V|
28+30	570.6758	0.22	Q	|	|	|	V|
28+35	570.6769	0.16	Q	|	|	|	V|
28+40	570.6778	0.13	Q	|	|	|	V|
28+45	570.6785	0.10	Q	|	|	|	V|
28+50	570.6789	0.07	Q	|	|	|	V|
28+55	570.6791	0.03	Q	|	|	|	V|
29+ 0	570.6793	0.02	Q	|	|	|	V|
29+ 5	570.6794	0.02	Q	|	|	|	V|
29+10	570.6795	0.01	Q	|	|	|	V|
29+15	570.6795	0.01	Q	|	|	|	V|
29+20	570.6796	0.01	Q	|	|	|	V|
29+25	570.6796	0.00	Q	|	|	|	V|

**********HYDROGRAPH DATA**********

Number of intervals = 353
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2799.507 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.000 to Point/Station 2.100
**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:
Length of stream = 42866.00 (Ft.)
Elevation difference = 1046.10 (Ft.)
Slope of channel = 0.024404 (Vert/Horiz)
Channel type - Improved Channel

Channel length = 42866.00(Ft.) Elevation difference = 1046.10(Ft.)
Channel evaluation using mean flow rate of hydrograph
Channel base width = 100.000(Ft.)
Slope or 'Z' of left channel bank = 2.000
Slope or 'Z' of right channel bank = 2.000
Manning's 'N' = 0.035
Maximum depth of channel = 3.000(Ft.)
Flow(q) thru subarea = 268.931(CFS)
Depth of flow = 0.581(Ft.)
Average velocity = 4.575(Ft/s)
Total flow rate = 268.931(CFS)
Channel flow top width = 102.324(Ft.)
Depth of flow in channel = 0.58(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity = 4.58(Ft/s)
Travel time = 156.15 min.
Individual channel flow = 268.931(CFS)
Total capacity of improved channels = 268.931(CFS)
Critical Depth in Channel = 0.61(Ft.)

Channel evaluation using maximum flow rate of hydrograph
Flow(q) thru subarea = 2799.507(CFS)
Depth of flow = 2.359(Ft.)
Average velocity = 11.335(Ft/s)
Total flow rate = 2799.507(CFS)
Channel flow top width = 109.434(Ft.)
Depth of flow in channel = 2.36(Ft.)
Total number of channels (same dimensions) = 1
Flow Velocity = 11.33(Ft/s)
Travel time = 156.15 min.
Individual channel flow = 2799.507(CFS)
Total capacity of improved channels = 2799.507(CFS)
Critical Depth in Channel = 2.84(Ft.)

********** SCS CONVEX CHANNEL ROUTING **********
Convex method of stream routing data items:
Using equation: Outflow =
O(t+dt) = (1-c*)O(t+dt-dt*) + Input(c*)
where c* = 1 - (1-c)^e and dt = c(length)/velocity

c(v/v+1.7) = 0.8696 Travel time = 63.03 (min.)
dt*(unit time interval) = 5.00(min.), e= 0.3942
dt(routing time-step) = 54.81 (min.), c* = 0.5520

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	699.9	1399.8	2099.6	2799.5
0+ 5	0.3666	0.73	O				
0+10	1.4080	2.41	O				
0+15	3.1372	4.76	O				
0+20	5.5516	7.79	O				
0+25	8.6694	11.54	O				
0+30	12.9025	16.82	O				
0+35	18.5225	23.71	O				
0+40	26.6656	34.24	O				
0+45	38.5617	49.62	O				
0+50	48.7396	57.74	O				
0+55	56.4711	63.25	O				
1+ 0	62.4326	67.68	O				
1+ 5	67.2262	71.46	OI				
1+10	71.1386	74.60	|O				
1+15	74.5528	77.60	|O				
1+20	77.5304	80.18	|O				
1+25	80.2144	82.61	|O				
1+30	82.6127	84.75	|O				
1+35	84.7921	86.74	|O				
1+40	86.7895	88.58	|O				
1+45	88.6415	90.30	|O				
1+50	90.3620	91.90	|O				
1+55	91.9487	93.37	|O				
2+ 0	93.4347	94.77	|O				
2+ 5	94.8202	96.06	|O				
2+10	96.1276	97.30	|O				
2+15	97.3386	98.42	|O				
2+20	98.4778	99.50	|O				
2+25	99.5239	100.46	|O				
2+30	100.5074	101.39	|O				
2+35	101.4339	102.27	|O				
2+40	102.3185	103.11	|O				
2+45	103.1405	103.88	|O				
2+50	103.9112	104.60	|O				
2+55	104.5997	105.21	|O				
3+ 0	105.2195	105.77	|O				
3+ 5	105.8137	106.35	|O				
3+10	106.3940	106.92	|O				
3+15	106.9679	107.49	|O				
3+20	107.5301	108.04	|O				
3+25	108.0942	108.60	|O				
3+30	108.6568	109.16	|O				
3+35	109.2173	109.72	|O				

3+40	109.7583	110.24	O			
3+45	110.2968	110.78	O			
3+50	110.8316	111.31	O			
3+55	111.3749	111.87	O			
4+ 0	111.9260	112.42	O			
4+ 5	112.4902	113.00	O			
4+10	113.0579	113.57	O			
4+15	113.6336	114.15	O			
4+20	114.1939	114.70	O			
4+25	114.7512	115.25	O			
4+30	115.3040	115.80	O			
4+35	115.8637	116.37	O			
4+40	116.4162	116.91	O			
4+45	116.9706	117.47	O			
4+50	117.5228	118.02	O			
4+55	118.0890	118.60	O			
5+ 0	118.6418	119.14	O			
5+ 5	119.1958	119.70	O			
5+10	119.7474	120.25	O			
5+15	120.3079	120.81	O			
5+20	120.8696	121.38	O			
5+25	121.4422	121.96	O			
5+30	122.0158	122.53	O			
5+35	122.5996	123.13	O			
5+40	123.1848	123.71	O			
5+45	123.7818	124.32	O			
5+50	124.3810	124.92	O			
5+55	124.9926	125.55	O			
6+ 0	125.6068	126.16	O			
6+ 5	126.2338	126.80	O			
6+10	126.8636	127.43	O			
6+15	127.5067	128.09	O			
6+20	128.1528	128.74	O			
6+25	128.8127	129.41	O			
6+30	129.4758	130.07	O			
6+35	130.1532	130.77	O			
6+40	130.8341	131.45	O			
6+45	131.5297	132.16	O			
6+50	132.2291	132.86	O			
6+55	132.9438	133.59	O			
7+ 0	133.6625	134.31	O			
7+ 5	134.3972	135.06	O			
7+10	135.1360	135.80	O			
7+15	135.8915	136.58	O			
7+20	136.6515	137.34	O			
7+25	137.4288	138.13	O			
7+30	138.2109	138.92	O			
7+35	139.0111	139.74	O			
7+40	139.8164	140.54	OI			
7+45	140.6405	141.39	O			
7+50	141.4701	142.22	O			
7+55	142.3192	143.09	O			
8+ 0	143.1743	143.95	O			
8+ 5	144.0499	144.84	O			
8+10	144.9318	145.73	O			
8+15	145.8351	146.65	O			
8+20	146.7451	147.57	O			
8+25	147.6776	148.52	O			
8+30	148.6173	149.47	O			

8+35	149.5804	150.45	O				
8+40	150.5514	151.43	O				
8+45	151.5468	152.45	O				
8+50	152.5508	153.46	O				
8+55	153.5804	154.51	O				
9+ 0	154.6191	155.56	O				
9+ 5	155.6848	156.65	O				
9+10	156.7603	157.73	O				
9+15	157.8641	158.86	O				
9+20	158.9786	159.99	O				
9+25	160.1228	161.16	O				
9+30	161.2785	162.32	O				
9+35	162.4656	163.54	O				
9+40	163.6650	164.75	O				
9+45	164.8977	166.01	O				
9+50	166.1436	167.27	O				
9+55	167.4246	168.58	O				
10+ 0	168.7200	169.89	O				
10+ 5	170.0526	171.26	O				
10+10	171.4007	172.62	O				
10+15	172.7882	174.04	O				
10+20	174.1927	175.46	O				
10+25	175.6389	176.95	O				
10+30	177.1036	178.43	O				
10+35	178.6126	179.98	O				
10+40	180.1417	181.52	O				
10+45	181.7181	183.15	O				
10+50	183.3164	184.76	O				
10+55	184.9651	186.46	O				
11+ 0	186.6378	188.15	O				
11+ 5	188.3644	189.93	O				
11+10	190.1173	191.70	O				
11+15	191.9279	193.57	O				
11+20	193.7673	195.43	O				
11+25	195.6688	197.39	O				
11+30	197.6019	199.35	O				
11+35	199.6017	201.41	O				
11+40	201.6365	203.48	O				
11+45	203.7433	205.65	O				
11+50	205.8887	207.83	O				
11+55	208.1120	210.13	OI				
12+ 0	210.3780	212.43	O				
12+ 5	212.7309	214.86	O				
12+10	215.1355	217.31	O				
12+15	217.6363	219.90	O				
12+20	220.1944	222.51	O				
12+25	222.8574	225.27	O				
12+30	225.5866	228.06	O				
12+35	228.4347	231.02	O				
12+40	231.3648	234.02	O				
12+45	234.4396	237.23	O				
12+50	237.5790	240.42	O				
12+55	240.8379	243.79	O				
13+ 0	244.1710	247.19	O				
13+ 5	247.6462	250.80	O				
13+10	251.2127	254.44	O				
13+15	254.9429	258.33	O				
13+20	258.7809	262.25	O				
13+25	262.8044	266.45	O				

13+30	266.9534	270.71	O				
13+35	271.3125	275.27	O				
13+40	275.8180	279.90	O				
13+45	280.5634	284.87	O				
13+50	285.4802	289.93	O				
13+55	290.6722	295.38	O				
14+ 0	296.0666	300.95	O				
14+ 5	302.2895	307.98	O				
14+10	309.6926	316.48	O				
14+15	318.4306	326.43	O				
14+20	328.4200	337.54	O				
14+25	339.8422	350.28	OI				
14+30	353.1852	365.40	O				
14+35	369.0092	383.51	O				
14+40	388.8082	407.02	O				
14+45	414.5130	438.22	OI				
14+50	438.4421	459.84	O				
14+55	459.8353	478.94	O				
15+ 0	479.5109	497.14	OI				
15+ 5	498.6146	515.83	O				
15+10	517.4362	534.41	O				
15+15	536.9086	554.55	O				
15+20	557.0342	575.26	OI				
15+25	577.2832	595.57	O				
15+30	596.5541	613.87	O				
15+35	615.6119	632.81	OI				
15+40	634.5906	651.72	O				
15+45	654.7177	673.00	O				
15+50	675.1985	693.71	O				
15+55	698.3971	719.59	OI				
16+ 0	724.9415	749.19	O				
16+ 5	788.3198	848.86	OI				
16+10	896.3311	997.57	O I				
16+15	1019.1138	1130.94	O I				
16+20	1151.7896	1272.39	O I				
16+25	1300.5605	1436.27	O I				
16+30	1503.1870	1690.89	O I				
16+35	1748.6433	1973.68	O I				
16+40	2087.4145	2401.42	O	I			
16+45	2460.4210	2799.51	O	I			
16+50	2215.6922	1938.50	I	O			
16+55	1873.6139	1561.56	I O				
17+ 0	1612.8535	1385.10	I O				
17+ 5	1438.0147	1287.16	I O				
17+10	1299.7154	1177.45	I O				
17+15	1201.1482	1115.49	I O				
17+20	1111.3813	1030.79	IO				
17+25	1037.1639	971.51	IO				
17+30	965.5639	901.01	IO				
17+35	901.5022	844.33	O				
17+40	841.0550	786.74	IO				
17+45	781.0565	726.90	IO				
17+50	727.4650	679.66	IO				
17+55	678.4472	634.54	O				
18+ 0	637.5465	601.32	IO				
18+ 5	599.2560	564.85	O				
18+10	566.2515	536.91	IO				
18+15	532.7107	502.33	O				
18+20	503.9269	478.38	IO				

18+25	473.9686	446.77	O			
18+30	449.2290	427.38	O			
18+35	425.6035	404.32	IO			
18+40	404.9091	386.48	O			
18+45	382.0553	361.20	O			
18+50	361.5056	343.18	IO			
18+55	338.3692	317.22	O			
19+ 0	318.9469	301.77	O			
19+ 5	304.7004	292.27	O			
19+10	293.4495	283.52	O			
19+15	282.9945	273.60	IO			
19+20	273.2878	264.59	O			
19+25	264.8532	257.35	O			
19+30	257.1494	250.25	O			
19+35	248.9947	241.59	O			
19+40	240.3247	232.45	O			
19+45	233.2884	227.09	O			
19+50	227.4750	222.32	O			
19+55	222.6676	218.41	O			
20+ 0	218.8425	215.47	O			
20+ 5	214.9293	211.38	O			
20+10	210.7723	207.00	IO			
20+15	206.1847	202.01	O			
20+20	200.1687	194.61	O			
20+25	194.8606	190.14	O			
20+30	190.4594	186.56	O			
20+35	186.5077	182.97	O			
20+40	182.0689	178.01	O			
20+45	177.8985	174.16	O			
20+50	174.2969	171.09	O			
20+55	171.4311	168.91	O			
21+ 0	166.7349	162.32	O			
21+ 5	162.8052	159.34	O			
21+10	159.6169	156.80	O			
21+15	156.8819	154.45	O			
21+20	154.3753	152.13	O			
21+25	152.0128	149.89	O			
21+30	149.6704	147.56	O			
21+35	147.3854	145.33	O			
21+40	145.2821	143.40	O			
21+45	143.3207	141.56	O			
21+50	141.4589	139.79	IO			
21+55	139.6654	138.05	O			
22+ 0	137.9577	136.42	O			
22+ 5	136.3215	134.85	O			
22+10	134.7449	133.33	O			
22+15	133.2208	131.85	O			
22+20	131.7447	130.42	O			
22+25	130.3131	129.02	O			
22+30	128.9244	127.67	O			
22+35	127.5771	126.36	O			
22+40	126.2680	125.09	O			
22+45	124.9949	123.85	O			
22+50	123.7557	122.64	O			
22+55	122.5487	121.46	O			
23+ 0	121.3726	120.31	O			
23+ 5	120.2259	119.19	O			
23+10	119.1073	118.10	O			
23+15	118.0158	117.03	O			

23+20	116.9501	115.99	|O	|	|	|	|
23+25	115.9093	114.97	|O	|	|	|	|
23+30	114.8923	113.98	|O	|	|	|	|
23+35	113.8983	113.00	|O	|	|	|	|
23+40	112.9265	112.05	|O	|	|	|	|
23+45	111.9759	111.12	|O	|	|	|	|
23+50	111.0459	110.21	|O	|	|	|	|
23+55	110.1356	109.32	|O	|	|	|	|
24+ 0	109.2445	108.44	|O	|	|	|	|
24+ 5	108.0060	106.86	|O	|	|	|	|
24+10	106.1154	104.35	|O	|	|	|	|
24+15	103.5659	101.21	|O	|	|	|	|
24+20	100.3664	97.42	|O	|	|	|	|
24+25	96.5050	92.96	|O	|	|	|	|
24+30	91.5769	87.04	|O	|	|	|	|
24+35	85.3213	79.56	|O	|	|	|	|
24+40	76.6177	68.55	IO	|	|	|	|
24+45	64.2622	52.80	O	|	|	|	|
24+50	53.7502	44.46	O	|	|	|	|
24+55	45.7955	38.82	O	|	|	|	|
25+ 0	39.6914	34.33	O	|	|	|	|
25+ 5	34.8228	30.52	O	|	|	|	|
25+10	30.8855	27.41	O	|	|	|	|
25+15	27.4930	24.47	O	|	|	|	|
25+20	24.5723	21.97	O	|	|	|	|
25+25	21.9815	19.67	O	|	|	|	|
25+30	19.7036	17.67	O	|	|	|	|
25+35	17.6744	15.86	O	|	|	|	|
25+40	15.8486	14.22	O	|	|	|	|
25+45	14.1935	12.71	O	|	|	|	|
25+50	12.6875	11.34	O	|	|	|	|
25+55	11.3373	10.13	O	|	|	|	|
26+ 0	10.1021	9.00	O	|	|	|	|
26+ 5	8.9869	7.99	O	|	|	|	|
26+10	7.9617	7.04	O	|	|	|	|
26+15	7.0502	6.24	O	|	|	|	|
26+20	6.2203	5.48	O	|	|	|	|
26+25	5.4989	4.86	O	|	|	|	|
26+30	4.8482	4.27	O	|	|	|	|
26+35	4.2681	3.75	O	|	|	|	|
26+40	3.7365	3.26	O	|	|	|	|
26+45	3.2800	2.87	O	|	|	|	|
26+50	2.8802	2.52	O	|	|	|	|
26+55	2.5739	2.31	O	|	|	|	|
27+ 0	2.3401	2.13	O	|	|	|	|
27+ 5	2.1418	1.97	O	|	|	|	|
27+10	1.9603	1.80	O	|	|	|	|
27+15	1.7947	1.65	O	|	|	|	|
27+20	1.6434	1.51	O	|	|	|	|
27+25	1.4997	1.37	O	|	|	|	|
27+30	1.3600	1.23	O	|	|	|	|
27+35	1.2318	1.12	O	|	|	|	|
27+40	1.1255	1.03	O	|	|	|	|
27+45	1.0311	0.95	O	|	|	|	|
27+50	0.9423	0.86	O	|	|	|	|
27+55	0.8547	0.78	O	|	|	|	|
28+ 0	0.7612	0.68	O	|	|	|	|
28+ 5	0.6645	0.58	O	|	|	|	|
28+10	0.5665	0.48	O	|	|	|	|

28+15	0.4706	0.38	Q				
28+20	0.3922	0.32	Q				
28+25	0.3271	0.27	Q				
28+30	0.2685	0.22	Q				
28+35	0.2133	0.16	Q				
28+40	0.1673	0.13	Q				
28+45	0.1297	0.10	Q				
28+50	0.0964	0.07	Q				
28+55	0.0596	0.03	Q				
29+ 0	0.0383	0.02	Q				
29+ 5	0.0266	0.02	Q				
29+10	0.0193	0.01	Q				
29+15	0.0139	0.01	Q				
29+20	0.0095	0.01	Q				
29+25	0.0054	0.00	Q				
29+30	0.0025	0.00	Q				
29+35	0.0011	0.00	Q				
29+40	0.0000	0.00	Q				

**********HYDROGRAPH DATA**********

Number of intervals = 356
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2460.421 (CFS)
Total volume = 570.680 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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Process from Point/Station 2.100 to Point/Station 2.100
**** ADD/COMBINE/RECOVER HYDROGRAPHS ****

********** HYDROGRAPH INFORMATION **********

From study/file name: PR51.rte

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P R I N T O F S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals (CFS)

Time(h+m)	Add q(CFS)	Tot. Q		0	3074.2	6148.4	9222.7	12296.9
0+ 5	2.0272	2.39	Q					
0+10	6.1859	7.59	Q					
0+15	12.1783	15.32	Q					
0+20	19.6178	25.17	Q					
0+25	28.8033	37.47	Q					
0+30	39.9203	52.82	Q					
0+35	52.7660	71.29	Q					
0+40	71.5800	98.25	Q					
0+45	95.3597	133.92	Q					
0+50	126.6819	175.42	Q					

0+55	158.4858	214.96	Q	|	|	|	|
1+ 0	191.1291	253.56	Q	|	|	|	|
1+ 5	229.9022	297.13	Q	|	|	|	|
1+10	265.9624	337.10	qQ	|	|	|	|
1+15	290.5118	365.06	qQ	|	|	|	|
1+20	310.1827	387.71	|Q	|	|	|	|
1+25	327.3188	407.53	|Q	|	|	|	|
1+30	342.0359	424.65	|Q	|	|	|	|
1+35	355.7283	440.52	|Q	|	|	|	|
1+40	368.0343	454.82	|Q	|	|	|	|
1+45	379.4156	468.06	|Q	|	|	|	|
1+50	390.0762	480.44	|Q	|	|	|	|
1+55	400.1301	492.08	|Q	|	|	|	|
2+ 0	409.7323	503.17	|Q	|	|	|	|
2+ 5	418.3597	513.18	|Q	|	|	|	|
2+10	426.8635	522.99	|Q	|	|	|	|
2+15	435.2337	532.57	|Q	|	|	|	|
2+20	442.6031	541.08	|Q	|	|	|	|
2+25	449.6586	549.18	|Q	|	|	|	|
2+30	456.7573	557.26	|Q	|	|	|	|
2+35	463.4374	564.87	|Q	|	|	|	|
2+40	469.6752	571.99	|Q	|	|	|	|
2+45	475.9390	579.08	|Q	|	|	|	|
2+50	482.1076	586.02	|Q	|	|	|	|
2+55	487.8194	592.42	|Q	|	|	|	|
3+ 0	493.5303	598.75	|Q	|	|	|	|
3+ 5	499.2367	605.05	|Q	|	|	|	|
3+10	504.5412	610.94	|Q	|	|	|	|
3+15	509.7212	616.69	|qQ	|	|	|	|
3+20	514.9417	622.47	|qQ	|	|	|	|
3+25	519.8497	627.94	|qQ	|	|	|	|
3+30	524.4231	633.08	|qQ	|	|	|	|
3+35	529.0189	638.24	|qQ	|	|	|	|
3+40	533.5834	643.34	|qQ	|	|	|	|
3+45	537.9140	648.21	|qQ	|	|	|	|
3+50	542.2615	653.09	|qQ	|	|	|	|
3+55	546.6176	657.99	|qQ	|	|	|	|
4+ 0	550.7938	662.72	|qQ	|	|	|	|
4+ 5	554.9168	667.41	|qQ	|	|	|	|
4+10	559.0808	672.14	|qQ	|	|	|	|
4+15	563.1347	676.77	|qQ	|	|	|	|
4+20	567.0779	681.27	|qQ	|	|	|	|
4+25	571.0440	685.80	|qQ	|	|	|	|
4+30	574.9559	690.26	|qQ	|	|	|	|
4+35	578.5346	694.40	|qQ	|	|	|	|
4+40	582.1223	698.54	|qQ	|	|	|	|
4+45	585.7327	702.70	|qQ	|	|	|	|
4+50	589.3868	706.91	|qQ	|	|	|	|
4+55	593.0645	711.15	|qQ	|	|	|	|
5+ 0	596.7873	715.43	|qQ	|	|	|	|
5+ 5	600.4367	719.63	|qQ	|	|	|	|
5+10	604.0174	723.76	|qQ	|	|	|	|
5+15	607.6227	727.93	|qQ	|	|	|	|
5+20	611.2752	732.14	|qQ	|	|	|	|
5+25	614.9536	736.40	| Q	|	|	|	|
5+30	618.6809	740.70	| Q	|	|	|	|
5+35	622.4250	745.02	| Q	|	|	|	|
5+40	626.0463	749.23	| Q	|	|	|	|
5+45	629.6329	753.41	| Q	|	|	|	|

5+50	633.2707	757.65	Q			
5+55	636.9372	761.93	Q			
6+ 0	640.6567	766.26	Q			
6+ 5	644.4061	770.64	Q			
6+10	648.1825	775.05	Q			
6+15	651.8812	779.39	Q			
6+20	655.6257	783.78	Q			
6+25	659.4023	788.22	Q			
6+30	663.2376	792.71	Q			
6+35	667.1065	797.26	Q			
6+40	671.0365	801.87	Q			
6+45	674.9926	806.52	Q			
6+50	679.0009	811.23	Q			
6+55	683.0460	815.99	Q			
7+ 0	687.1571	820.82	Q			
7+ 5	691.3068	825.70	Q			
7+10	695.5251	830.66	Q			
7+15	699.7827	835.67	Q			
7+20	704.0890	840.74	Q			
7+25	708.4291	845.86	Q			
7+30	712.8437	851.05	Q			
7+35	717.3029	856.31	Q			
7+40	721.8398	861.66	Q			
7+45	726.4236	867.06	Q			
7+50	731.0616	872.53	Q			
7+55	735.6239	877.94	Q			
8+ 0	740.2601	883.43	Q			
8+ 5	744.9478	889.00	Q			
8+10	749.7236	894.66	Q			
8+15	754.5538	900.39	Q			
8+20	759.4761	906.22	Q			
8+25	764.4560	912.13	Q			
8+30	769.5324	918.15	Q			
8+35	774.6697	924.25	qQ			
8+40	779.9083	930.46	qQ			
8+45	785.1509	936.70	qQ			
8+50	790.4190	942.97	qQ			
8+55	795.7550	949.34	qQ			
9+ 0	801.2022	955.82	qQ			
9+ 5	806.7214	962.41	qQ			
9+10	812.3576	969.12	qQ			
9+15	818.0703	975.93	qQ			
9+20	823.9064	982.88	qQ			
9+25	829.8237	989.95	qQ			
9+30	835.8712	997.15	qQ			
9+35	842.0053	1004.47	qQ			
9+40	848.2768	1011.94	qQ			
9+45	854.6407	1019.54	qQ			
9+50	861.1499	1027.29	qQ			
9+55	867.7578	1035.18	qQ			
10+ 0	874.5196	1043.24	qQ			
10+ 5	881.3869	1051.44	qQ			
10+10	888.4174	1059.82	qQ			
10+15	895.5610	1068.35	qQ			
10+20	902.8779	1077.07	qQ			
10+25	910.3160	1085.95	qQ			
10+30	917.9386	1095.04	qQ			
10+35	925.6914	1104.30	Q			
10+40	933.6408	1113.78	Q			

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10+45     941.7304   1123.45  |  Q      |         |         |         |
10+50     950.0299   1133.35  |  Q      |         |         |         |
10+55     958.4805   1143.45  |  Q      |         |         |         |
11+ 0     967.1555   1153.79  |  Q      |         |         |         |
11+ 5     975.9939   1164.36  |  Q      |         |         |         |
11+10     985.0728   1175.19  |  Q      |         |         |         |
11+15     994.3286   1186.26  |  Q      |         |         |         |
11+20    1003.8427   1197.61  |  Q      |         |         |         |
11+25    1013.5487   1209.22  |  Q      |         |         |         |
11+30    1023.5326   1221.13  |  Q      |         |         |         |
11+35    1033.7254   1233.33  |  qQ     |         |         |         |
11+40    1044.2180   1245.85  |  qQ     |         |         |         |
11+45    1054.9382   1258.68  |  qQ     |         |         |         |
11+50    1065.9828   1271.87  |  qQ     |         |         |         |
11+55    1077.2763   1285.39  |  qQ     |         |         |         |
12+ 0    1088.9215   1299.30  |  qQ     |         |         |         |
12+ 5    1101.0673   1313.80  |  qQ     |         |         |         |
12+10    1113.8357   1328.97  |  qQ     |         |         |         |
12+15    1127.1121   1344.75  |  qQ     |         |         |         |
12+20    1140.9712   1361.17  |  qQ     |         |         |         |
12+25    1155.3611   1378.22  |  qQ     |         |         |         |
12+30    1170.4292   1396.02  |  qQ     |         |         |         |
12+35    1186.0639   1414.50  |  qQ     |         |         |         |
12+40    1202.8773   1434.24  |  qQ     |         |         |         |
12+45    1220.6650   1455.10  |  qQ     |         |         |         |
12+50    1239.8659   1477.44  |   Q     |         |         |         |
12+55    1259.5911   1500.43  |   Q     |         |         |         |
13+ 0    1280.0422   1524.21  |   Q     |         |         |         |
13+ 5    1301.7087   1549.35  |   qQ    |         |         |         |
13+10    1323.7753   1574.99  |   qQ    |         |         |         |
13+15    1345.1451   1600.09  |   qQ    |         |         |         |
13+20    1366.7494   1625.53  |   qQ    |         |         |         |
13+25    1388.7341   1651.54  |   qQ    |         |         |         |
13+30    1411.3225   1678.28  |   qQ    |         |         |         |
13+35    1434.5512   1705.86  |   qQ    |         |         |         |
13+40    1458.6126   1734.43  |   qQ    |         |         |         |
13+45    1483.4354   1764.00  |   qQ    |         |         |         |
13+50    1509.3024   1794.78  |   qQ    |         |         |         |
13+55    1536.1006   1826.77  |   qQ    |         |         |         |
14+ 0    1564.1395   1860.21  |    qQ   |         |         |         |
14+ 5    1601.0456   1903.34  |    qQ   |         |         |         |
14+10    1647.6434   1957.34  |    qQ   |         |         |         |
14+15    1702.6444   2021.07  |    qQ   |         |         |         |
14+20    1764.8348   2093.25  |    qQ   |         |         |         |
14+25    1835.3046   2175.15  |    q Q  |         |         |         |
14+30    1915.2384   2268.42  |     qQ  |         |         |         |
14+35    2003.6668   2372.68  |     qQ  |         |         |         |
14+40    2117.4259   2506.23  |     q Q |         |         |         |
14+45    2252.5685   2667.08  |      qQ |         |         |         |
14+50    2419.5820   2858.02  |      q Q|         |         |         |
14+55    2591.0970   3050.93  |       qQ|         |         |         |
15+ 0    2769.2247   3248.74  |        qQ         |         |         |
15+ 5    2974.3166   3472.93  |        q|Q        |         |         |
15+10    3173.0721   3690.51  |         q Q       |         |         |
15+15    3331.6855   3868.59  |         q Q       |         |         |
15+20    3476.8478   4033.88  |         |q Q      |         |         |
15+25    3605.7396   4183.02  |         |q Q      |         |         |
15+30    3719.6151   4316.17  |         | q Q     |         |         |
15+35    3826.5172   4442.13  |         | q Q     |         |         |
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15+40	3929.5811	4564.17	|	| q Q	|	|	|
15+45	4031.4553	4686.17	|	| q Q	|	|	|
15+50	4136.1614	4811.36	|	| q Q	|	|	|
15+55	4259.0928	4957.49	|	| q Q	|	|	|
16+ 0	4398.8181	5123.76	|	| q Q	|	|	|
16+ 5	4772.7307	5561.05	|	| q Q	|	|	|
16+10	5127.2931	6023.62	|	| q Q	|	|	|
16+15	5443.4806	6462.59	|	| q |Q	|	|	|
16+20	5717.7344	6869.52	|	| q | Q	|	|	|
16+25	6009.9472	7310.51	|	| q| Q	|	|	|
16+30	6387.2849	7890.47	|	| q Q	|	|	|
16+35	6877.9850	8626.63	|	| | q Q	|	|	|
16+40	7912.0898	9999.50	|	| | q	| Q	|	|
16+45	8821.6307	11282.05	|	| | q	| Q	|	|
16+50	9899.6265	12115.32	|	| | | q Q	|	|	|
16+55	10079.0197	11952.63	|	| | | q Q	|	|	|
17+ 0	10267.6133	11880.47	|	| | | Q q	|	|	|
17+ 5	10858.8742	12296.89	|	| | | q	|	|	|
17+10	10234.1785	11533.89	|	| | | Q q	|	|	|
17+15	8571.5666	9772.71	|	| | q |Q	|	|	|
17+20	7738.9089	8850.29	|	| | q Q	|	|	|
17+25	7282.0252	8319.19	|	| | Q q	|	|	|
17+30	6865.4706	7831.03	|	| | q Q	|	|	|
17+35	6566.6998	7468.20	|	| |q Q	|	|	|
17+40	6205.5912	7046.65	|	| q Q	|	|	|
17+45	5887.6489	6668.71	|	| q|Q	|	|	|
17+50	5566.7531	6294.22	|	| q Q	|	|	|
17+55	5267.4820	5945.93	|	| q Q|	|	|	|
18+ 0	4982.8142	5620.36	|	| q Q |	|	|	|
18+ 5	4628.0637	5227.32	|	| q Q	|	|	|
18+10	4385.1531	4951.40	|	| q Q	|	|	|
18+15	4185.6056	4718.32	|	| q Q	|	|	|
18+20	3912.0310	4415.96	|	| q Q	|	|	|
18+25	3735.8964	4209.86	|	| qQ	|	|	|
18+30	3613.4867	4062.72	|	|q Q	|	|	|
18+35	3446.5036	3872.11	|	|qQ	|	|	|
18+40	3283.3380	3688.25	|	qQ	|	|	|
18+45	3183.0832	3565.14	|	qQ	|	|	|
18+50	3072.2623	3433.77	|	q|Q	|	|	|
18+55	2928.1376	3266.51	|	qQ	|	|	|
19+ 0	2837.3861	3156.33	|	qQ	|	|	|
19+ 5	2751.3999	3056.10	|	qQ|	|	|	|
19+10	2621.7259	2915.18	|	qQ|	|	|	|
19+15	2528.8467	2811.84	|	qQ|	|	|	|
19+20	2457.4709	2730.76	|	qQ |	|	|	|
19+25	2350.5438	2615.40	|	qQ |	|	|	|
19+30	2243.4569	2500.61	|	qQ |	|	|	|
19+35	2184.7192	2433.71	|	Q |	|	|	|
19+40	2121.3992	2361.72	|	qQ |	|	|	|
19+45	2038.5455	2271.83	|	qQ |	|	|	|
19+50	1983.7202	2211.20	|	qQ |	|	|	|
19+55	1933.8723	2156.54	|	qQ |	|	|	|
20+ 0	1862.6105	2081.45	|	Q |	|	|	|
20+ 5	1809.0113	2023.94	|	qQ |	|	|	|
20+10	1765.6959	1976.47	|	qQ |	|	|	|
20+15	1707.6329	1913.82	|	qQ |	|	|	|
20+20	1648.3522	1848.52	|	qQ |	|	|	|
20+25	1607.2368	1802.10	|	Q |	|	|	|
20+30	1555.8715	1746.33	|	Q |	|	|	|

20+35	1478.2855	1664.79	qQ			
20+40	1441.8633	1623.93	qQ			
20+45	1413.3334	1591.23	qQ			
20+50	1385.7221	1560.02	qQ			
20+55	1356.4526	1527.88	Q			
21+ 0	1327.8732	1494.61	Q			
21+ 5	1289.0227	1451.83	Q			
21+10	1250.5152	1410.13	Q			
21+15	1227.6711	1384.55	qQ			
21+20	1206.3882	1360.76	qQ			
21+25	1184.9201	1336.93	qQ			
21+30	1162.4736	1312.14	qQ			
21+35	1139.1613	1286.55	qQ			
21+40	1098.5571	1243.84	qQ			
21+45	1073.0097	1216.33	Q			
21+50	1056.3391	1197.80	Q			
21+55	1039.9954	1179.66	Q			
22+ 0	1022.9207	1160.88	Q			
22+ 5	1005.3136	1141.64	Q			
22+10	984.4444	1119.19	Q			
22+15	955.6765	1088.90	Q			
22+20	939.6639	1071.41	Q			
22+25	925.9718	1056.28	Q			
22+30	912.7266	1041.65	qQ			
22+35	899.2798	1026.86	qQ			
22+40	886.7634	1013.03	qQ			
22+45	873.5191	998.51	qQ			
22+50	860.1324	983.89	qQ			
22+55	848.3656	970.91	qQ			
23+ 0	836.8407	958.21	qQ			
23+ 5	825.4032	945.63	qQ			
23+10	814.1486	933.26	qQ			
23+15	803.7267	921.74	Q			
23+20	791.1255	908.08	Q			
23+25	780.4310	896.34	Q			
23+30	770.9284	885.82	Q			
23+35	761.3466	875.24	Q			
23+40	751.3897	864.32	Q			
23+45	740.2816	852.26	Q			
23+50	725.0402	836.09	Q			
23+55	699.6936	809.83	Q			
24+ 0	688.8976	798.14	Q			
24+ 5	678.5515	786.56	Q			
24+10	666.8558	772.97	Q			
24+15	652.8923	756.46	Q			
24+20	637.7245	738.09	Q			
24+25	620.9767	717.48	Q			
24+30	602.3310	693.91	qQ			
24+35	581.6543	666.98	qQ			
24+40	554.0372	630.65	qQ			
24+45	514.4830	578.75	Q			
24+50	466.6931	520.44	Q			
24+55	429.6156	475.41	Q			
25+ 0	392.7949	432.49	Q			
25+ 5	350.2034	385.03	Q			
25+10	310.5101	341.40	Q			
25+15	282.8929	310.39	qQ			
25+20	260.5870	285.16	Q			
25+25	241.1565	263.14	Q			

25+30	224.4537	244.16	Q				
25+35	209.0311	226.71	Q				
25+40	195.2407	211.09	Q				
25+45	182.8157	197.01	Q				
25+50	171.6267	184.31	Q				
25+55	161.2305	172.57	Q				
26+ 0	151.4602	161.56	Q				
26+ 5	142.8120	151.80	Q				
26+10	134.4363	142.40	Q				
26+15	126.3215	133.37	Q				
26+20	119.3435	125.56	Q				
26+25	112.7881	118.29	Q				
26+30	106.3067	111.15	Q				
26+35	100.3431	104.61	Q				
26+40	94.9296	98.67	Q				
26+45	89.5830	92.86	Q				
26+50	84.4401	87.32	Q				
26+55	79.8341	82.41	Q				
27+ 0	75.3197	77.66	Q				
27+ 5	70.8823	73.02	Q				
27+10	66.9337	68.89	Q				
27+15	63.1752	64.97	Q				
27+20	59.4558	61.10	Q				
27+25	56.1104	57.61	Q				
27+30	53.1741	54.53	Q				
27+35	50.2688	51.50	Q				
27+40	47.4645	48.59	Q				
27+45	44.9454	45.98	Q				
27+50	42.4753	43.42	Q				
27+55	40.0443	40.90	Q				
28+ 0	37.8581	38.62	Q				
28+ 5	35.7698	36.43	Q				
28+10	33.7024	34.27	Q				
28+15	31.7884	32.26	Q				
28+20	30.0456	30.44	Q				
28+25	28.3203	28.65	Q				
28+30	26.7081	26.98	Q				
28+35	25.4678	25.68	Q				
28+40	24.2736	24.44	Q				
28+45	23.0917	23.22	Q				
28+50	21.9216	22.02	Q				
28+55	20.7631	20.82	Q				
29+ 0	19.6159	19.65	Q				
29+ 5	18.5773	18.60	Q				
29+10	17.6636	17.68	Q				
29+15	16.7591	16.77	Q				
29+20	15.8633	15.87	Q				
29+25	14.9761	14.98	Q				
29+30	14.0972	14.10	Q				
29+35	13.2366	13.24	Q				
29+40	12.5566	12.56	Q				
29+45	11.9455	11.95	Q				
29+50	11.3402	11.34	Q				
29+55	10.7406	10.74	Q				
30+ 0	10.1467	10.15	Q				
30+ 5	9.5582	9.56	Q				
30+10	9.0030	9.00	Q				
30+15	8.5615	8.56	Q				
30+20	8.1350	8.13	Q				

30+25	7.7124	7.71	Q	|	|	|	|
30+30	7.2937	7.29	Q	|	|	|	|
30+35	6.8789	6.88	Q	|	|	|	|
30+40	6.4677	6.47	Q	|	|	|	|
30+45	6.0692	6.07	Q	|	|	|	|
30+50	5.6853	5.69	Q	|	|	|	|
30+55	5.3048	5.30	Q	|	|	|	|
31+ 0	4.9275	4.93	Q	|	|	|	|
31+ 5	4.5534	4.55	Q	|	|	|	|
31+10	4.1825	4.18	Q	|	|	|	|
31+15	3.8158	3.82	Q	|	|	|	|
31+20	3.4750	3.47	Q	|	|	|	|
31+25	3.1454	3.15	Q	|	|	|	|
31+30	2.8186	2.82	Q	|	|	|	|
31+35	2.4943	2.49	Q	|	|	|	|
31+40	2.1727	2.17	Q	|	|	|	|
31+45	1.8535	1.85	Q	|	|	|	|
31+50	1.5635	1.56	Q	|	|	|	|
31+55	1.4008	1.40	Q	|	|	|	|
32+ 0	1.2496	1.25	Q	|	|	|	|
32+ 5	1.0996	1.10	Q	|	|	|	|
32+10	0.9507	0.95	Q	|	|	|	|
32+15	0.8030	0.80	Q	|	|	|	|
32+20	0.6564	0.66	Q	|	|	|	|
32+25	0.5110	0.51	Q	|	|	|	|
32+30	0.3666	0.37	Q	|	|	|	|
32+35	0.2233	0.22	Q	|	|	|	|
32+40	0.0810	0.08	Q	|	|	|	|

**********HYDROGRAPH DATA**********

Number of intervals = 392
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 12296.889 (CFS)
Total volume = 4008.825 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	2799.507	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	570.680	0.000	0.000	0.000	0.000

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