Pettibone Road

LEVEL BOOK
373

KEUFFEL & ESSER CO.

DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	0
1	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	1
2	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	2
3	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	3
4	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	4
5	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	5
6	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	6
7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	7
8	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	8
9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	9
10	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	10
11	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	11
12	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	12
13	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	13
14	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	14
15	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	15
16	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	16
17	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	17
18	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	18
19	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	19
20	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	20
21	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	21
22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
23	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	23
24	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	24
25	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	25
26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
27	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	27
28	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	28
29	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	29
30	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	30
31	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	31
32	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	32
33	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	33
34	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	34
35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

Calculated by Julion A. Hall, M. Am. Soc. C. E.

Pettibone
Road.

Superintendance

Slope stakes Continued
Pettibone Road

BM#9	0.65	978.87		978.22
62			6.79	972.08
T.P.	4.26	971.31	11.82	967.05
63			10.77	960.54
T.P.	13.00	971.27	13.04	958.27
63+50			15.74	955.53
T.P.	0.25	958.52	13.00	958.27
63+50			2.99	955.53
64			6.48	952.04
64+50			8.45	950.07
T.P.	4.76	951.36	11.92	946.60
65			1.73	949.63
BM#10			2.43	948.93 (948.88)
BM#10	2.01	950.89		948.88
66+00			0.89	950.00
67+00			1.56	949.33
BM#10	2.60	951.48		948.88

set stg 66+67 8/1/30

Book 37

Stakes set to Sub grade

curve	F1.6 / 21.0	17.0	25.5	C3.0 / 27.5
1:1 on left	C8.0 / 25.5	23.5	20.0	F2.4 / 22.0
1:1 on left	C5.4 / 26.5	24.5		
			F4.3 / 17.9	F3.8 / 19.9
	F2.2 / 17.5	F3.1 / 15.5	F3.2 / 15.7	F2.4 / 17.7
	F1.5 / 16.5	F2.6 / 14.5	F5.8 / 20.9	F4.5 / 22.9
	F4.9 / 24.3	F6.5 / 22.5	F4.7 / 18.7	F3.3 / 20.7
	F5.7 / 24.1	F6.4 / 22.1	F5.5 / 20.3	F4.9 / 22.3
	F2.2 / 13.5	F3.6 / 16.5	F2.1 / 13.5	F1.6 / 15.5

7/17/30 Rain
Goodrich
Canfield

		951.48			
68+00			2.48	949.00	
69+00			2.48	949.00	
T.P.	5.70	953.60 953.55	3.63	947.85	
70			4.48	949.12	
BM#11			3.89	949.66	949.7
T.P.	8.10	959.40	2.30	951.30	
71			8.18	951.22	
72+00			3.54	955.86	
T.P.	10.68	968.63	1.45	957.95	
73+00			7.49	961.14	
T.P.	12.97	971.14	0.46	968.17	
74			14.72	966.42	
75			9.43	971.71	
T.P.	10.01	983.85	7.30	973.84	
76			6.76	977.09	
BM#12			1.68	982.17	982.15
77				982.86	

F1.4 16.3	F1.6 14.3	F1.9 13.8	F1.1 15.8	
F2.3 17.3	F3.0 15.3	F2.9 15.1	F1.9 17.1	
C0.7 18.7	C.00 ↓6.8	F1.9 13.8	F1.3 15.8	
C1.8 19.0	C0.2 17.0	F2.7 14.7	C0.0 16.7	
C0.5 18.6	F0.1 16.6	C0.1 16.8	F0.6 18.8	
C3.9 23.3	C3.1 21.3	C5.0 24.2	C5.7 24.2	no offset on Right.
F1.1 20	18	18	F1.7 20	
C4.5 25.0	23.0	14.5	F1.1 16.5	
C0.3 16.3	14.5	22.5	F2.9 24.3	
1:1 slope on left 22	20	28.0	30.0	

		Rand Parks	Grade	Elev	
BM#12	0.69	982.84		982.15	
T.P.	8.42	989.86	1.40	981.44	
77			7.00	982.86	
T.P.	12.86	1001.17	1.55	988.31	
78			14.15	987.02	
T.P.	7.00	996.91	11.26	989.91	
79			6.87	990.04	
T.P.	8.88	1003.54 1003.56	2.23	994.68	
79+50			10.80	992.74	
80			7.19	996.35	
BM#13			5.22	998.34	998.32
80+50			2.56	1000.98	
T.P.	9.05	1011.60	0.99	1002.55	
81			5.51	1006.09	
T.P.	12.44	1022.07	1.97	1009.63	
81+50			10.86	1011.21	
82			5.75	1016.32	
T.P.	11.60	1033.17	0.50	1021.57	

1:1 slope on Left	C5.5 / 22.0	20.0	28.0	F6.0 / 30.0	
1:1 slope on Left	C12.9 / 29.5	27.5	20.0	C3.4 / 22.0	
1:1 slope on Left	C4.5 / 20.0	18.0	17.5	F3.3 / 21.5	
1:1 slope on Left	C8.4 / 31.5	29.5	15.0	C0.4 / 17.0	
	F1.0 / 22.5	20.5	17.5	F3.0 / 19.5	
1½ to 1 on Right	F1.0 / 21.5	19.5	23	F6.5 / 28	No offset on Right
	C0.0 / 12.5	15.5	14.5	F1.5 / 16.5	
1:1 slope on Right	C8.8 / 30	29.0	21	F7.4 / 23	
	C4.1 / 17	15	22.5	F3.8 / 22.5	No offset on Right

		1033.17			
83			6.62	1026.55	
T.P.	12.86	1044.94 1044.95	1.08	1032.09	
BM #14			8.16 4.99	1036.78 1039.96	1039.97
T.P.	10.08	1054.78	0.24	1044.70	
85			9.17	1045.61	
86			3.11	1051.67	
T.P.	11.31	1065.31	0.61	1054.00	
87			5.51	1059.80	
T.P.	11.77	1076.08	1.01	1064.31	
88			4.75	1071.33	
T.P.	8.96	1083.81	1.23	1074.85	
BM #15			6.40	1077.41	1077.38
89				1086.15	
90				1088.60	
91				1094.33	
92				1099.94	

C3.7 22.6	C2.6 20.6	F0.4 16.1	C0.1 18.1
C3.6 23.2	C3.0 21.2	C1.6 19.1	C2.3 21.1
C3.5 21.8	C2.1 19.8	C1.2 18.5	C1.8 20.5
C1.8 20.5	C1.2 18.5	C0.0 16.7	C0.7 16.7
C0.9 22.6	C0.3 20.6	F1.9 17.4	F1.6 19.4
C1.1 22.6	C0.3 20.6	F1.4 18.2	F0.7 20.2
—	19.5	18	—
—	19	18	—
—	21	18	—
—	22.5	21	—

	8/1/30 Rang Canfield Ashcraft		P.T.	
B.M. 75	7.15	1084.53		1077.38
89			3.38	1081.15
T.P.	9.55	1092.35	1.73	1082.80
90			3.75	1088.60
T.P.	8.36	1099.21	1.50	1090.85
91			4.88	1094.33
T.P.	8.88	1105.61	2.38	1096.73
92			6.67	1098.94
93			4.17	1101.44
94			2.73	1102.88
T.P.	6.30	1108.77	3.14	1102.47
95			4.45	1104.32
96			3.35	1105.42
T.P.	3.43	1108.43	3.77	1105.00
97			4.35	1104.08
98			8.14	1100.29

C1.3 / 22.8	C0.4 / 20.8	F1.7 / 17.7	F0.8 / 19.7
C0.7 / 21.5	F0.5 / 19.3	F1.5 / 18	F0.8 / 20.0
C0.8 / 22.8	C0.4 / 20.8	F0.3 / 19.8	C0.0 / 21.8
C2.4 / 24.6	C1.6 / 22.6	C0.1 / 20.3	C0.8 / 22.3
C1.4 / 21.6	F0.4 / 19.6	C0.2 / 20.5	C0.4 / 22.5
F0.6 / 20.4	F1.2 / 18.4	C0.3 / 20.6	C0.9 / 22.6
F0.5 / 20.9	F0.9 / 18.9	C0.3 / 20.6	C0.7 / 22.6
F0.3 / 20.4	F1.2 / 18.4	F0.4 / 19.6	C0.2 / 21.6
F0.1 / 20.9	F0.9 / 18.9	C1.3 / 22.1	C2.0 / 24.1
F0.3 / 20.0	F1.5 / 18.0	C1.0 / 21.7	C1.8 / 23.7

BM#6	1.56	1101.79	8.25	1100.18	1100.23
99			5.64	1096.15	
100			7.09	1094.70	
T.P.	8.33	1105.33	4.79	1097.00	
101			6.66	1098.67	
T.P.	8.50	1113.03	0.80	1104.53	
102			7.70	1105.33	
BM#7			4.94	1108.09	1108.03
BM#7	6.59	1114.62		1108.03	
103			3.44	1111.18	
T.P.	9.83	1121.89	2.56	1112.06	
104			6.49	1115.40	
105			2.69	1119.20	
T.P.	10.49	1131.82	0.56	1121.33	
106			6.01	1125.81	
BM#8	9.49	1138.58	2.72	1129.10	1129.09
107			9.34	1135.24	

F2.8 / 20.9	F3.7 / 18.9	C0.1 / 20.3	C0.9 / 22.3
F1.8 / 18.5	F2.5 / 16.5	F3.5 / 18.5	F3.2 / 20.5
F1.0 / 20.0	F1.5 / 18.0	C0.3 / 20.6	C0.9 / 22.6
F2.0 / 19.9	F3.2 / 17.9	F0.7 / 19.2	F0.1 / 21.2
8/2/30			
F0.7 / 19.9	F1.6 / 17.9	F1.1 / 18.6	F0.5 / 20.6
F1.0 / 19.7	F1.7 / 17.7	F1.3 / 18.3	F0.7 / 20.3
F0.6 / 19.6	F1.8 / 17.6	F0.7 / 19.2	C0.1 / 21.2
F1.4 / 18.5	F2.5 / 16.5	F0.6 / 19.3	C0.0 / 21.3
F0.5 / 18.8	F2.3 / 16.8	F1.0 / 18.7	F0.2 / 20.7

T.P.	11.17	1149.03	0.72	1137.86	
108			4.18	1144.85	
T.P.	11.47	1159.90	0.60	1148.43	
109			7.03	1152.87	
110			0.60	1159.30	
107+90 BM #19	11.97	1169.63	2.23	1157.67	1157.66
111			5.12	1164.51	
T.P.	5.96	1173.37	2.22	1167.41	
112			5.62	1167.75	
113			4.34	1169.03	
T.P.	4.47	1171.09	6.75	1166.62	
114			2.72	1168.37	
115			4.35	1166.74	
BM #20 +30	3.76	1167.93	6.92	1164.17	1164.17
116			2.81	1165.12	

CL4 / 23.2	CO.7 / 21.2	FO.4 / 19.6	CO.3 / 21.6
F2.0 / 19.3	F2.0 / 17.3	CO.2 / 20.5	CO.8 / 22.5
F3.0 / 21.9	F4.2 / 19.9	F1.8 / 17.6	F1.0 / 19.6
FO.8 / 19.1	F2.1 / 17.1	FO.2 / 19.9	CO.4 / 21.9
CO.1 / 21.5	FO.5 / 22.5	C1.3 / 22.1	C1.8 / 24.1
FO.9 / 20.7	FO.9 / 18.9	CL6 / 22.6	C2.4 / 24.6
F2.2 / 19.4	F1.9 / 17.4	F1.1 / 18.6	FO.1 / 20.6
F1.3 / 19.7	F1.7 / 17.7	CO.0 / 20.2	CO.6 / 22.2
F1.1 / 20.4	F1.2 / 18.4	CO.2 / 20.5	C1.1 / 22.5

B.M.#20	3.11	1167.28		1164.17	
117			3.69	1163.59	
118			4.66	1162.62	
T.P.	4.56	1165.59	6.25	1161.03	
119			3.84	1161.75	
120			4.71	1160.88	
T.P.	3.52	1163.43	5.68	1159.91	
121			3.53	1159.90	
122			5.10	1158.33	
B.M.#21	4.11	1159.90	7.63	1155.80	1155.79
123			3.24	1156.66	
T.P.	5.10	1159.05	5.95	1153.95	
124			4.05	1155.00	
125			5.72	1153.33	
T.P.	3.65	1155.02	7.68	1151.37	
126			3.36	1151.66	

F1.0 / 19.9	F1.6 / 17.9	C0.2 / 20.5	C0.7 / 22.5
F1.5 / 19.1	F2.1 / 17.1	F0.1 / 20.1	C0.5 / 22.1
F0.2 / 21.2	F0.1 / 19.2	C0.5 / 20.9	C1.2 / 22.9
C0.5 / 21.8	F0.3 / 17.8	C1.4 / 22.3	C1.9 / 24.3
F1.6 / 17.3	F2.0 / 17.3	F0.1 / 20.1	C0.0 / 22.1
F1.3 / 19.1	F2.1 / 17.1	F0.3 / 19.8	C0.3 / 21.8
F1.0 / 19.7	F1.7 / 17.7	C.00 / 20.2	C0.7 / 22.2
F0.8 / 20.3	F1.3 / 18.3	C0.3 / 20.6	C1.0 / 22.6
F1.1 / 19.9	F1.6 / 17.9	F0.2 / 19.9	C0.4 / 21.9
F1.5 / 19.6	F1.8 / 17.6	F0.3 / 19.8	C0.3 / 21.8

		1155.02			
127			5.15	1149.87	
T.P.	5.54	1151.65	8.91	1146.11	
128			4.38	1147.27	
T.P.	2.36	1147.26	6.75	1144.90	
129			2.72	1144.54	
T.P.	2.63	1144.27	5.62	1141.64	
130			2.46	1141.81	
131			5.19	1139.08	
T.P.	3.09	1140.40	6.96	1137.31	
132			3.88	1136.52	
T.P.	3.16	1138.15	5.41	1134.99	
133			3.05	1135.10	
134			3.34	1134.81	
BM#22	5.14	1138.11	5.16	1132.99	1132.97
135			3.42	1134.69	
136			4.17	1133.94	

F0.5 / 21.3	F0.6 / 19.3	F0.4 / 19.6	C0.1 / 21.6
F3.0 / 19.3	F2.7 / 17.3	C6.8 / 22.9	C1.5 / 24.9
F2.3 / 19.0	F2.2 / 17.0	F0.7 / 19.2	F0.3 / 21.2
C0.0 / 20.2	F1.4 / 18.2	F0.5 / 19.5	C0.2 / 21.3
F0.4 / 19.4	F1.9 / 17.4	C1.0 / 21.7	C1.7 / 23.7
C1.4 / 23.4	C0.8 / 21.4	C2.2 / 23.3	C2.9 / 25.5
F0.1 / 20.4	F1.2 / 18.4	F0.6 / 19.3	C0.3 / 21.3
F0.7 / 19.1	F2.1 / 17.1	F0.7 / 19.2	C0.1 / 21.2
F1.3 / 17.9	F1.6 / 17.9	C0.9 / 21.5	C1.7 / 23.5
F0.8 / 20.2	F1.4 / 18.2	C1.4 / 22.3	C2.3 / 24.3

BM #22	4.58	1137.55		1132.97	
137			8.67	1128.88	
T.P.	0.39	1124.83	13.11	1124.44	
138			5.33	1119.50	
T.P.	0.17	1112.75	12.25	1112.58	
139			3.15	1109.60	
T.P.	3.08	1104.30	11.53	1101.22	
140			2.23	1102.07	
T.P.	3.20	1101.18	6.32	1097.98	
141			3.31	1097.87	
T.P.	9.59	1105.01	5.76	1095.42	
142			8.01	1097.00	
143			7.41	1097.60	
BM #23			3.22	1101.79	1101.83
BM #24			9.29	1095.72	1095.81

C4.4 / 27.9	C3.8 / 25.9	C3.9 / 26.0	C4.4 / 28.0
F0.6 / 20.3	F1.3 / 18.3	F1.7 / 17.7	F1.4 / 19.7
C1.3 / 22.9	C0.5 / 20.9	F1.2 / 18.4	F0.6 / 20.4
C1.3 / 22.9	C0.5 / 20.7	F0.4 / 19.6	C0.8 / 21.6
F2.6 / 19.5	F3.0 / 17.5	F3.3 / 18.1	F2.6 / 20.1
C1.1 / 22.8	C0.4 / 20.8	C1.5 / 22.4	C2.2 / 24.4
C4.4 / 27.7	C3.7 / 25.7	C4.8 / 27.4	C5.7 / 29.4

Granulated Slag

Car Initial	No.	Weight		Date Rec'd.
P.R.R.	170018	128000		Oct. 3 1930
B+O	532024	125100		" 3
B+O	430469	128800		" 3
B+O	431850	124100		3
PRR	197601	116400		3
P+L.E	51528	88000		4
B+O	432333	112100		4
B+O	533907	124700		4
B+O		123600		4
Nor	1313	97300		4
P+L E	52919	97800		5
NYC.	402204	83200		5
Nyc	433858	139400		5
P+LE.	50683	88000		5
P+LE	51217	88000		5
B+O	225284	92400		5
B+O	425738	97700		5
B+O	430722	119000		6
B+O	327449	88000		6

Initial	No.	Wgt.	Date Rec'd.
PMcK+Y	61985	88000	Oct. 6 1930
P+LE	51571	88000	6
PMcK+Y	60433	88000	6
P+LE	51956	88000	7
PMcK+Y	62951	96200	7
E	38737	121100	7
PRR	138137	129600	7
B+O	433994	133100	9
B+O	532767	143500	9
B+O	431261	123800	9
Nyc	426582	135000	9
B+O	430096	142400	9
B+O	431268	132900	9
PMcK+Y	60559	88000	9
PRR	146064	88000	9
B+O	432894	146400	13
DC+Y	4086	75000	13
B+O.	224862	88000	13
B+O.	329484	89100	13

Initial	No.	Wgt.	Date Rec'd.
K	65112	88000	Oct 13 1930
B+O	532456	115600	" 13
B+O	532072	126900	" 13
NyC	418964	80000	13
PRR.	719531	125400	13
Nyc	401638	80000	13
B-4	82719	97500	14
P	52592	88000	14
B+O	532761	117800	14
B-4	74636	83800	14
B+O	434326	139900	14
NyC	401454	88400	17
B+O	322410	95300	17
P	11059	80000	20
B/4	75263	80000	20
E	39259	127000	21

Total used

weight 2582,15 Tons

No 46 Slag

Init	No	Wgt.	Date Rec'd.
B+O	223124	110900	Oct. 16 1930
Ny SW	8036	106100	18
E	26115	108100	18
B+O	224934	108200	18
B+O	526608	111300	18
B+O	329615	105100	18
PRR.	163348	107300	18
E	26835	106000	18
E	27497	99500	18
E	28509	113700	18
		102000	18
E	25721	100000	18
B+O	328493	111200	18
PRR	697820	112000	20
PRR	147673	104300	20
PRR.	158581	111500	20
PRR	163935	105200	20
PRR	165425	104300	20
PRR	158858	101200	20

E	27759	115300	Oct. 22	1930
E	27835	101300	22	
E	27255	107500	24	
PRR	156043	108600	24	
PRR	207789	49250	24	½ car
Total used				

Cars to Bainbridge Road

PRR	207789	49250	Oct 24	½ car
PRR	892373	104460	Oct 24	
PRR	724924	104600	" 24	

= 258250

129.1 Tons.

weight - 137905 Ton

Levels for H.V. Painters Drive Pipe

Invert of Pipe			7.60
125 Ft			7.80
Channel Enters Ditch			7.90
" " 50 Ft			6.50
" " 100 Ft			5.90

7L 107.6

0		6.9	7.9	C1.0
0+50		5.8	8.1	C2.3
1		5.8	8.3	C2.5
1+50		4.8	8.5	C3.7
2+00	Invert E	4.7	8.7	C4.0
2+36	" W	6.5	9.5	C3.0

Levels on Culvert at Hudsons

B.M.#10	3.85	952.75		948.88	
			6.1		
Flow S.L.			7.30		
Stake			7.30	5.30	C2.0
Flow R			8.00		
Stake			8.00	6.50	C1.5

Left. & Right

100'	FL=5.0'	FL=6'	20	20
6.2	6.5	6.6	7.7	7.9

26.' from E of Pipe on Left to Backslope on Right.

6.9

7.3

7, 8

7.30
5.30

1800
650
150

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES $1^1/_2$ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

R.