

DREDGING

1046

LEVEL BOOK

373

KEUFFEL & ESSER CO.

DRAWING MATERIALS

AND

SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

Tables for Excavations and Embankments.

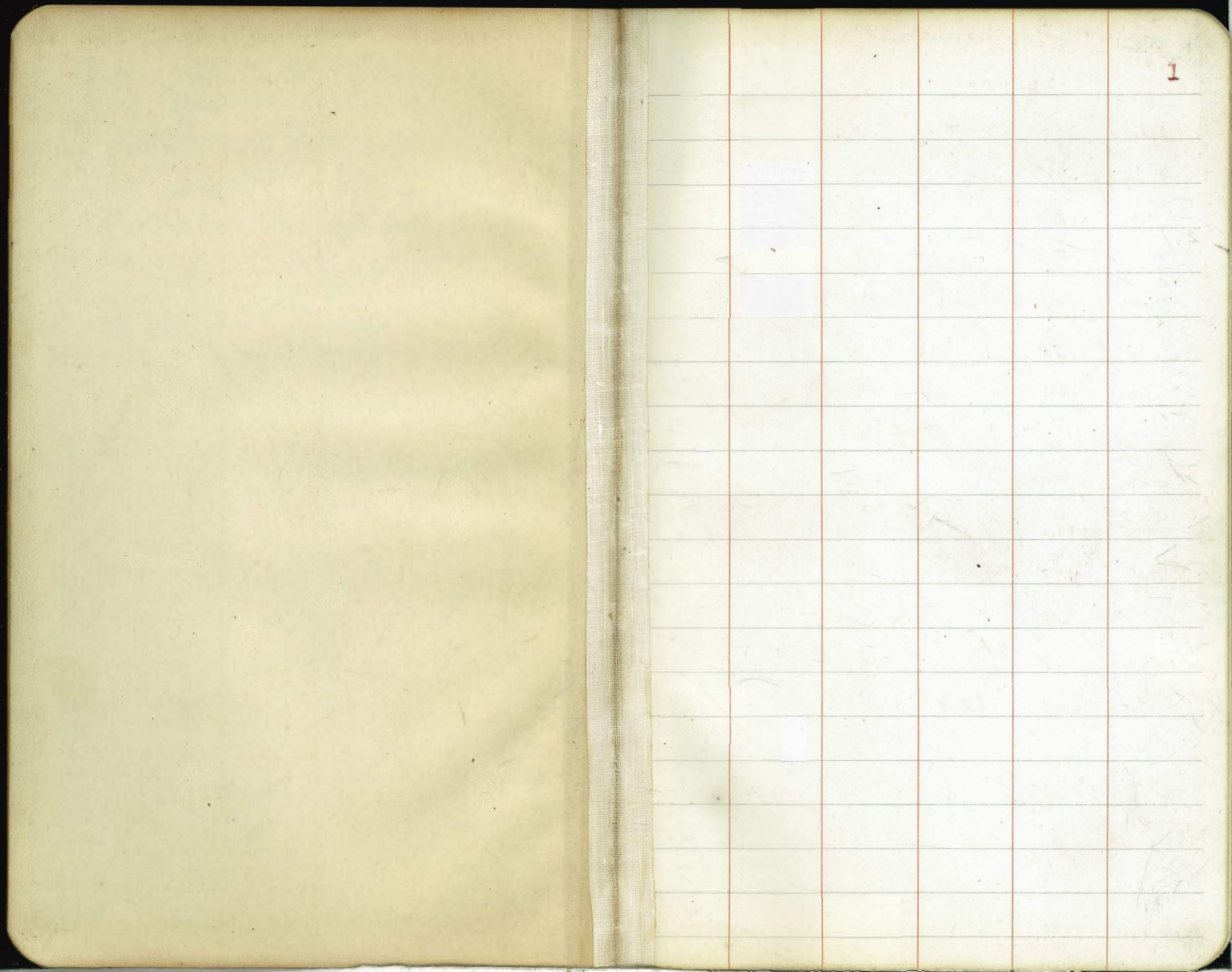
DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SLOPE 1 TO 1.
FOR SINGLE TRENCH EXCAVATION.

"Copyright, 1898, by Keuffel & Esser Co."

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

*Pacific Marine Construction Co.
(Concrete Shipbuilding Plant)*



1

copied from book 1043

Sept 10-11-1918

Davis
Roche
Moore.

9/11

2

	22	+00	
		G=58	
6	75		-17
+50	77		-19
5	72		-14
+50	74		-16
4	70		-12
+50	64		-06
3	60		-02
+50	90		-32
+45	20.0		-14.2
+15	15.0		-9.2
2	15.0		-9.2
1+60	68		-1.0
1+50	48	G=58	+1.0

	21	+50	
		G=92	
6+50	60		-1.8
6	58		-1.6
+50	59		-1.7
5	60		-1.8
+50	59		-1.7
4	65		-2.3
+75	60		-1.8
+65	78		-3.6
+50	110		-6.8
3	20.0		-15.8
+50	21.0		-16.8
2	21.3		-17.1
+50	22.8		-18.6
+25	21.0		-16.8
+20	11.5		-7.3
+05	35		+0.7
1	35		+0.7

9/11

3

21+00

20+00

4+50	65	G=51	-14
4	70		-19
+50	107		-56
3	175		-174
+50	217		-166
2	230		-179
+50	235		-184
+25	100		-49
1	30		+21

1+0	25	G=43	+18
+35	35		+08
+50	180		-137
2	230		-187
+50	220		-177
3	190		-147
+50	140		-97
4	90		-47

19+50

		20+50	
4+50	70	G=52	-18
4	90		-38
+50	130		-78
3	210		-158
+50	217		-165
2	238		-186
+50	240		-188
+25	205		-153
1+20	67		-15

1+50	30	G=38	+08
+95	40		-02
2	192		-154
+08	205		-167
+25	200		-162
+50	145		-107
3	175		-137
+50	190		-152
4	220		-182
+25	210		-172
+50	60		-22

Sept 11. 1918

19+00

4+50	7.7	G=46	-3.1
4	7.0		-2.4
+75	19.0		-14.4
+50	20.0		-15.4
+25	23.0		-18.4
3	16.0		-11.4
+75	5.0		-0.4
2+50	4.8		-0.2

Oct 15 '18
Davis
Roche
Sherwin

4

22+00

7+50	7.5	G=39	-3.6
7	6.7		-2.8
+50	6.0		-2.1
6	6.0		-2.1
+50	6.0		-2.1
+10	8.0		-4.1
5	20.0		-16.1
+50	22.5		-20.6
4	20.0		-16.1
+75	7.5		-3.6
+50	4.5		-0.6
3	4.0		-0.1
+50	4.5		-0.6
+35	4.5		-0.6
+75	7.0		-3.1
+10	9.0		-5.1
✓	11.0		-7.1
+50	7.0		-3.1
+35	4.5		+1.5
+25	1.0		+2.9 ✓

21+75			
750	21.5	G=3.3	-18.2
7	23.5		-20.2
+50	21.0		-17.7
+42	20.0		-16.7
+40	6.0		-2.7
+30	20.0		-16.7
6	21.0		-17.7
+50	23.0		-19.7
5	24.0		-20.7
+50	23.0		-19.7
4	22.5		-19.2
+50	22.5		-19.2
3	20.0		-16.7
+50	18.5		-15.2
2	19.0		-15.7
+50	15.0		-11.7
+25	9.5		-6.2
1	2.0		+1.3

21+50			
7	23.5	G=2.7	-20.8
+50	22.5		-19.8
6	23.5		-20.8
+50	23.5		-20.8
5	22.5		-19.8
+50	21.5		-18.8
4	21.8		-19.1
+50	20.5		-17.8
3	18.0		-15.3
+50	18.5		-15.8
2	18.5		-15.8
+50	18.0		-15.3

2100			
250	17.0	G=1.9	-15.1
3	14.5		-12.6
+50	15.0		-13.1
4	21.0		-19.1
+50	21.0		-19.1
5	21.0		-19.1
+50	22.0		-20.1
6	23.0		-21.1
+50	22.2		-20.3
7	22.2		-20.3
+50	22.5		-20.6
8	21.5		-19.6
+50	15.0		-13.1

2050			
3	16.0	G=2.0	-14.0
+50	14.0		-12.0
4	22.0		-20.0
+50	21.2		-19.2
5	22.0		-20.0
+50	22.5		-20.5
6	23.5		-21.5
+50	22.5		-20.5
7	23.0		-21.0
+50	22.8		-20.8
8	21.5		-19.5

20+00
20+50

250	215	G = 2.8	-18.7
3	215		-18.7
+50	215		-18.7
4	230		-20.2
+50	220		-19.2
5	230		-20.2
+50	235		-20.7
6	242		-21.4
+50	245		-21.7
7	238		-21.0
+50	225		-20.7
8	215		-18.7
+50	115		-8.7

Oct. 15th 1918

Oct. 31st 1918

Sta. from
Yard 000

+
2250

Correct
Sta.

Sta. from
Yard 000

22+00

G=3.9

Correct
Sta. 8

5+25	2.0	G=4.4	+2.4	0+50	6+00	2.0	+1.9	1+25
5+75	2.8		+1.6	1	6+30	6.5	-2.6	+55
6+25	2.8		+1.6	+50	6+40	9.0	5.1	+65
6+75	3.2		+1.2	2	6+50	9.0	5.1	+75
7+25	3.8		+0.6	+50	6+60	8.0	4.1	+85
7+75	4.0		+0.4	3	6+70	10.5	6.6	+95
8+25	4.8		-0.4	+50	6+80	12.0	8.1	2+05
8+75	4.2		+0.2	4	6+95	6.8	2.9	+20
9+25	4.2		+0.2	+50	7+00	7.8	3.9	+25
9+75	4.8		-0.4	5	7+05	6.8	2.9	+30
10+25	6.2		-1.8	+50	7+10	5.4	1.5	+35
10+75	6.4		-2.0	6	7+15	4.5	0.6	+40
11+25	6.5		-2.1	+50	7+50	4.1	0.2	+75
11+75	6.5		-2.1	7	8+00	4.1	0.2	3+25
12+25	7.0		-2.6	+50	+50	5.0	1.1	+75
					+63	6.5	2.6	+88
					+80	9.2	5.6	4+05
					+90	18.8	15.2	+15
				9	20.0		16.4	+25

G=3.6

	22+00				Sta. from Udud Oroo		21+75		9 Correct Sta.
9+50	23.0		19.4		4+75		3.1		
10	9.0		5.4		5+25	6+0	4.0	-0.9	1+75
+30	6.0		2.2		+55	+20	6.0	-2.9	+45
+50	5.4		1.8		+75	+50	16.0	3.0	+75
11	5.4	3.6	1.8		6+25	+70	17.2		+95
					7		18.8	2.8	2+25
					+50		17.8	2.6	+75
					8		19.5		3+25
					+50		22.0		+75
					9		22.0		4+25
					+50		22.0		+75
					10		23.0		5+25
					+50		22.0		+75
					11		22.0		6+25
					+50		23.0		+75
					12		23.0		7+25
					+50		21.5		+75
					13		21.9		8+25
					+50		22.0		+75

21+50

Start from
4 yard 0000

21+00

11

13	213		19.4		8+25								
+50	215		19.6		+75	6	6.2		5.1				1+25
14	210		19.1		9+25	+25	19.0		17.9				+50
+50	215		19.6		+75	+50	18.5		17.4				+75
15	218		19.9		10+25	+90	18.2		17.1				2+15
+50	204		18.5		+75	7	15.8	10	14.8				+25
16	200		18.1		11+25	+50	16.0		15.0				+75
+50	203	19	18.4		+75	8	10.2	9	9.3				3+25
	21.0	25	18.5		12	+50	16.0		15.1				+75
	21.0		18.5		+50	9	20.2		19.3				4+25
	21.0		18.5		13	+50	19.5	8	18.7				+75
	20.5		18.0		+50	10	19.8		19.0				5+25
	22.0		19.5		14	+50	21.4		20.6				+75
	21.5		19.0		+50	11	21.5	7	20.8				6+25
	21.0		18.5		15	+50	22.0		21.3				+75
	21.5		19.0		+50	12	21.2		20.5				7+25
	21.0		18.5		16	+50	20.5	0.6	19.9				+75
	22.5	20.0	20.0		+50	13	20.0		19.4				8+25
						+50	20.0	0.5	19.5				+75

Correct
5.1

		21+00				20+50		12		
14	20.5		20.0	9+25	Sta taken from yard extra				Corrected Sta.	
+50	20.0		19.5	+75		5+90	0.4		0.0	1+15
15	20.5		20.0	10+25		6+05	7.0		-6.6	+30
+50	20.0		19.5	+75		+12	13.8	0.5	13.3	+37
16	20.5		20.0	11+25		+40	18.0	0.5	17.5	+65
+50	18.2		17.7	+75		+50	18.5	0.6	16.9	+75
17	18.0		17.5	12+25		7	18.0	0.7	17.3	2+25
+50	19.0	0.5	18.5	+75		+10	16.2	0.8	15.4	+65
	19.8	1.3	18.5	13		8	12.0	0.9	11.1	3+25
	19.0		18.0	+50		+50	15.5		14.6	+75
	19.0	0.9	18.1	14		+75	20.0		19.1	4
	19.0		18.1	+50		9	21.0		20.1	+25
	19.2		18.3	15		+50	19.6		18.7	+75
	20.5		19.6	+50		10	20.0		19.1	5+25
	19.8		18.9	16		+50	21.0		20.1	+75
	20.6		19.7	+50	11	22.0		21.1	6+25	
					+50	22.0		21.1	+75	
					12	21.2		20.3	7+25	
					+50	21.2		20.3	+75	

the value from
your cross

20+50

Corrected
No.

the value from
your cross

20+0

13

13	20.5		19.6	8+25		1.2			Corrected No.
+50	19.0		18.1	+75	5+85	1.2	0.0		1+10
14	21.0		20.1	9+75	6	7.0	-5.8		+75
+50	19.5		18.6	+75	+25	15.5	13.2		+50
15	20.0		19.1	10+25	+50	19.0	17.8		+75
+50	19.5		18.6	+75	+90	20.0	18.8		2+15
16	19.5		18.6	11+75	7+50	20.0	18.8		+75
+50	19.6	0.9	18.7	+75	8	19.0	17.8		3+25
	18.5	0.7	17.8	12	+50	18.2	17.0		+75
	19.0		18.3	+50	9	21.5	20.2	1.3	4+25
	18.5		17.8	13	+50	20.0	18.7		+75
	18.2	0.6	17.6	+50	10	21.2	19.9		5+25
	18.0		17.4	14	+50	22.0	20.7		+75
	19.5		19.0	+50	11	22.5	21.2		6+25
	18.8	0.5	18.3	15	+50	21.5	20.2		+75
	19.8		19.3	+50	12	22.0	20.6	1.4	7+25
	19.0		18.6	16	+50	21.0	19.6		+75
	20.6	0.4	20.2	+50	13	20.0	18.6		8+25
					+50	20.0	18.6		+75

Also below
from year 1900

20+0

Correct Sta.

Sta. from
Year 1900

19+50

Correct Sta. 14

14	21.0		19.6	9+25			2.3		
+50	20.5		19.1	+75	6	2.0	+0.3		1+25
15	21.5		19.1	10+25	+10	15.0	-12.7		+35
+50	20.0		18.6	+75	+25	18.5	16.2		+50
16	20.5		19.1	11+25	+50	19.5	17.2		+75
+50	20.0	14	18.6	+75	7	19.5	17.2		2+25
	18.0	05	17.5	12	+50	20.0	17.7		+75
	19.0		18.5	+50	8	21.5	19.2		3+25
	18.5	06	17.9	13	+50	18.8	16.5		+75
	18.8		18.2	+50	9	18.5	16.2		4+25
	18.2	07	17.5	14	+50	20.5	18.2		+75
	19.0	8	18.2	+50	10	20.8	18.5		5+25
	19.2		18.3	15	+50	20.0	17.7		+75
	19.5	10	18.5	+50	11	21.5	19.2		6+25
	19.2		18.2	16	+20	20.0	17.7		+45
	21.0		20.0	+50	+50	21.0	18.7		+75
					12	20.5	18.2		7+25
					+50	18.5	16.8	17	+50
					13	21.0	19.3		8

19+50

1345	19.5		17.9
10	19.0	16	17.4
450	20.0		18.4
15	20.5		19.0
450	19.5	15	18.0
10	20.0		18.5
450	19.2		17.8
	19.0	14	17.6
	19.2		17.8
	19.8		18.4
	18.5		17.2
	19.2	13	17.9
	18.5		17.2
	19.5		18.2
	20.0		18.7
	19.0		17.7
	21.0		19.7

8+50

9

+50

10

+50

11

+50

12

+50

13

+50

14

+50

15

+50

16

+50

1+0

+10

+30

+50

2

+50

3

+50

4

+50

+90

5

+50

6

+50

7

+50

8

19+25

15

4.8	6.3	+15
5.0	6.2	+0.7
21.0	6.1	-14.9
22.5	6.0	16.5
23.6	5.8	17.8
22.8	5.6	17.2
23.0	5.5	17.5
23.8	5.0	18.8
21.5	5.2	16.3
22.0	5.3	16.7
15.5	5.4	10.1
8.5	5.5	3.0
9.6		4.1
10.5		5.0
11.0		5.5
11.5		6.0
12.2		6.7
12.8		7.3

Oct 31

1940

16

0 +95	30	42	+1.2
1 +10	40		+0.2
+25	166	43	-12.3
+50	228	44	18.4
2	216	45	17.1
+50	220		17.5
3	218	46	17.2
+50	228		18.2
4	214	47	16.7
+50	220		17.3
+65	20.0	48	15.2
+70	85	49	3.6
5	90	50	4.0
+50	92		4.2
6	10.0		5.0

19+0

Nov. 19, 1918

0+75	5.1	G=80	+ 2.9
1	5.9		+ 2.1
+10	7.0		+ 1.0
+20	11.0		- 3.0
+25	19.0		11.0
+40	23.8		15.8
+50	25.		17.0
2	24.2		16.2
+50	24.0		16.0
3	25.5		17.5
+50	23.8		15.8
4	24.0		16.0
+50	24.3		16.3
+70	24.0		16.0
+80	11.5		3.5
5	11.0		3.0
+50	11.9		3.9
6	12.4		- 4.4

See Oct. 31st sounding for 1918

18+50

11/19

17

1	5.0	G=75	+ 2.5
+10	7.0		+ 0.5
+20	9.0	75	- 1.5
+25	19.5	74	12.1
+30	20.0		12.6
+75	22.2	74	14.8
2	21.0	73	13.7
+50	20.0	74	12.7
3	24.0	73	16.7
+50	23.2	72	16.0
4	23.7		16.5
+30	24.0	72	16.8
+40	12.1	71	5.0
+50	10.2		3.1
5	10.8		3.7
+50	11.1	G=71	4.0

18 + 0

11/19

1	4.8	G=6.8	+2.0
+10	7.3		-0.5
+15	10.0	6.8	3.2
+25	16.1	6.7	9.4
+50	21.4		14.7
2	21.0	6.7	14.3
+50	18.5	6.6	11.9
3	21.0		14.4
+50	21.9	6.6	15.3
+80	21.0	6.5	14.5
4	10.0		3.5
+50	10.8	G=6.5	4.3

17 + 50

11/19

18

1+10	6.0	G=6.3	+0.3
+15	6.7		-0.4
+25	18.9	6.3	12.6
+50	21.0	6.2	14.8
2	21.0		14.8
+50	19.3	6.2	13.1
3	20.5	6.1	14.4
+40	20.0		13.9
+50	16.7	6.1	10.6
+60	9.0	6.0	3.0
4	8.9	G=6.0	2.9

17+0

11/19

1+15	5.0	G=58	+08
+20	5.3	58	+05
+25	17.0	57	-11.3
+50	19.5	57	13.8
2	18.5	56	12.9
+50	18.0	56	12.4
3	20.0	55	14.5
+25	21.0	55	15.5
+50	18.0	54	12.6
+55	17.0	54	11.6
+60	8.0	53	2.7
4	8.2	53	-2.9

16+50

11/19

19

1+15	1.0	G=29	+19
+20	2.0	29	+09
+25	14.5	28	-11.7
+50	17.5	28	14.7
2	18.0	27	15.3
+50	15.7	27	13.0
3	17.0	26	14.4
+60	15.0	25	12.4
+45	5.0	25	2.5
+50	5.2	25	2.7
4	6.0	G=24	3.6

16+0

11/19

1+20	1.0	G=22	+12
+25	15.0	22	-12.8
+50	18.5	21	16.4
2	17.5	20	15.5
+40	16.0	20	14.0
+50	16.0	19	14.1
3	16.0	G=1.8	-14.2

15+50

Nov 19 1918

20

1+20	0.8	G=1.6	+0.8
+25	14.0	15	-12.5
+50	17.0	14	15.6
2	15.5	13	14.2
+40	16.2	12	15.0
+50			
3	16.5	G=1.1	15.4

Dredge

15+50

Dec 2 1918

21

1+20	06	G=0.6	00
+25	11.8	06	- 11.2
+50	14.8	05	14.3
2	14.6	05	14.1
+50	12.8	04	12.2
3	15.2	04	14.8
+50	15.2	02	14.9
+60	36	G=0.3	- 3.3

15

1+13	0.0	G+0.1	+0.10
+20	3.4	+0.1	-3.3
+25	3.6	+0.1	3.3
+50	17.0	0.0	17.0
2	15.0	0.0	15.0
+50	13.5	0.0	13.5
3	14.8	-0.1	14.9
+50	17.0	-0.1	17.1
+62	28	G-0.1	-2.9

14+50

22

1+17	0.0	G-0.2	-0.2
+20	3.0	-0.2	-3.2
+25	6.0	-0.2	-6.2
+50	13.6	-0.3	-13.9
2	14.0	-0.3	-14.3
+50	16.0	-0.4	16.4
3	15.0	-0.4	15.4
+50	15.8	-0.5	16.3
+70	25	G=-0.5	-3.0

- 14 -

Nov 2 1918

14

Nov 16 1918
23

1+18	00	G 50.6	-0.6
+25	118		-12.4
+50	138		14.4
2	140		14.6
+50	140		-14.6

1+25	10.2	G -1.0	11.2
+50	13.0		14.0
2	13.0		14.0
+50	13.6		14.6
3	14.2		15.2
+50	15.0		16.0
+62	1.6		2.6

13 + 50

12/16

1+25	9.0	9-1.1	10.1
+50	12.8		13.9
2	13.1		14.2
+50	13.2		14.3
3	14.0		15.1
+50	14.8		15.9
+62	16		27

- 13 -

12/16

24

1+25	7.0	9-1.4	8.4
+50	12.5		13.9
2	12.0		13.4
+50	13.2		14.6
3	15.4		16.8
+47	12.2		13.6
+51	1.6		3.0

12+50

12/16

1+25	63	G=15	7.8
+50	122		13.7
2	134		14.9
+50	137		14.7
3	15.0		16.5
+45	125		14.0
+57	10		25

12+00

12/16

25

1+25	10.7	G=-16	11.8
+50	12.0		13.6
2	12.9		14.5
+50	11.8		13.4
3	13.1		14.7
+50	14.4		16.0
+62	12.0		13.6
+70	1.2		2.8

11 + 50

12/16

1+25	9.8	G=-1.6	11.4
+50	12.7		13.8
2	13.8		15.4
+50	13.0		14.6
3	13.0		14.6
+50	13.1		14.7
+58	1.1		2.7

11 + 00

Dec 16, 1918 26

1+25	11.7	G=-1.4	12.6
+50	12.8		14.2
2	13.0		14.4
+50	13.7		14.6
3	13.0		14.4
+50	14.5		15.9
+60	0.5		1.9

10+50

Dec 18-1918

1+25	220	G=7.7	14.3
+50	21.8		14.1
2	220		14.3
+50	20.8		13.1
3	224		14.7
+50	24.4		16.7
+58	9.9		2.2

10

12/18/18

27

1+25	220	G=7.5	14.5
+50	23.0		15.5
2	21.5		14.0
+50	20.0		12.5
3			14.5
+48			14.0
+54			2.3

9+50

17/18

1+25	16.0	G=7.2	8.8
+50	21.3		14.1
2	21.0		13.8
+50	20.0		12.8
3	22.0		14.8
+43	23.0		15.8
+48	9.2		2.0

9+00

17/18

28

1+25	18.1	G=6.7	11.4
+50	20.7		13.0
2	21.0		14.3
+50	19.0		12.3
3	21.0		14.3
+45	18.0		11.3
+50	9.0		2.3

8+50

12/18

1+25	200	G=60	14.0
+50	202		14.2
2	20.0		14.0
+50	185		12.5
3	20.5		14.5
+50	190		13.0
+60	78		1.8

8+00

12/18

29

1+25	17.1	G=33	13.8
+50	185		15.2
2	17.4		14.1
+50	17.1		13.8
3	19.1		15.8
+50	180		14.7
+56	5.8		2.5

7450

12/18

1+25	19.2	G=29	16.3
+50	21.2		18.6
2	18.3		15.4
+50	18.0		15.1
3	19.0		16.1
+44	19.0		16.1
+56	4.8		1.9

7400

12/18

30

1+25	14.6	G=2.5	12.1
+50	21.0		18.5
2	21.1		18.6
+50	20.8		18.3
3	21.2		18.7
+38	20.0		17.5
+50	18.2		15.7
+60	4.5		2.0

6+50

Dec 18 1918

1+75	1.5	G=2.1	+0.6
+50	1.5		+0.6
2	2.0		+0.1
+10	2.0		+0.1
+20	13.0		-10.9
+50	16.5		-14.4
3	3.0		-0.9

22+100

Dec 30 1918

31

1+75	2.0	G=0.7	-1.8	+1.3	3.1
+50	0.0		+0.7	+1.3	1.1
+75	4.0		-3.8	+1.0	4.8
2	6.4	0.2	-6.2	+0.8	7.0
+25	2.2	0.3	-1.9	+0.6	2.5
+50	1.0		-0.7	+0.3	1.0
+75	1.0	0.3	-0.7	+0.1	0.8
3	1.0	0.4	-0.6	-0.1	0.5
+25	1.3		-0.9	-0.1	0.8
+50	2.3		-1.9	-0.1	1.8
+75	2.0	0.4	-1.6	-0.6	1.0
4	4.0	0.5	-3.5	-1.1	2.4
+25	14.1		-13.6	-1.1	12.5
+50	18.5	G=0.5	-18.0	-1.1	16.9

21+50

1/30

1+25	6.8	G=-0.1	6.9	+1.0	7.9
+50	11.2		11.3	+0.8	12.1
2	13.3		13.4	-0.8	14.2
+50	13.8		13.9	+0.3	14.2
3	13.8		13.9	-0.2	13.7
+50	17.4		17.5	-0.7	16.8
4	18.2		18.3	-0.7	17.6
+50	19.0	G=-0.1	19.1	-1.2	17.9

21+00

1/30

32

1+25	12.0	G=0.0	12.0	+0.9	12.9
+50	15.0		15.0	+0.9	15.9
2	15.5		15.5	+0.9	16.4
+50	14.5	00	14.5	+0.4	14.9
3	11.2	-0.1	11.3	-0.1	11.2
+50	12.7		12.8	-0.6	12.2
4	18.0		18.1	-1.1	17.0
+50	18.0	G=-0.1	18.1	-1.1	17.0

20+50

17/30

20+00

17/30

33

1+25	60	G=0.1	59	+07	66	1+25	90	G=0.2	88	+08	96
+50	15.2		15.1	+07	15.8	+50	13.8		13.6	+08	14.4
2	17.0		16.9	+07	17.1	2	17.5		17.3	+04	17.7
+50	14.8		14.7	+03	15.0	+50	17.0	0.2	16.8	-01	16.7
3	13.0		12.9	-02	12.7	3	17.3	0.1	17.2	-01	17.1
+50	12.2		12.1	-07	11.4	+50	17.5		17.4	-06	16.8
4	19.0		18.9	-1.2	17.7	4	20.0		19.9	-06	19.3
+50	18.3	G=0.1	18.2	-1.2	17.0	+50	18.5	G=0.1	18.4	-1.6	16.8

		19+50		17/30				19+00		17/10	34
1+25	11.2	G=04	10.8	+13	12.1	1+25	14.8	G=26	12.7	+09	13.1
+50	16.5		16.1	+10	17.1	+50	19.2	26	16.6	+06	17.2
2	16.5		16.1	+05	16.6	2	19.2	25	16.7	+06	17.3
+50	16.7	04	16.3	00	16.3	+50	18.2		15.7	+01	15.8
3	18.2	03	17.9	00	17.9	3	23.8	25	21.3	-04	20.9
+50	17.5		17.2	-05	16.7	+50	23.3	24	20.9	-1.3	19.6
4	16.3		16.0	-16	14.4	4	19.0		16.6	-2.3	14.3
+50	19.8	G=03	19.5	-21	17.4	+50	20.0	G=24	17.6	28	14.8

		18+50		1/30	
1+25	15.8	G=30	12.8	+1.2	14.0
+50	16.8		13.8	+0.9	14.7
2	21.8		18.8	+0.4	19.2
+50	21.8		18.8	-0.1	18.7
3	22.9	G=30	19.9	-0.6	19.3
+50	22.2	G=28	19.4	1.6	17.8
+75	20.0		17.2	1.9	15.3
4	23.2		20.4	0.2	18.2
+45	6.0	G=28	3.2		0.0

		18+00		1/30		35
1+25	22.0	G=36	18.4	+0.8	19.2	
+50	22.0	36	18.4	+0.5	18.9	
2	21.6	35	18.1	+0.5	18.6	
+50	22.7	35	19.2	0.0	19.2	
3	22.8	34	19.4	0.5	17.9	
+50	21.2	34	17.8	2.0	15.8	
4	23.0	33	19.7	2.5	17.1	
+15	6.8	G=33	3.5		0.0	top of bank

17+50

 $\frac{12}{30}$

1+75	22.0	G=4.1	17.9	+0.8	18.7
+50	22.6	4.0	18.6	+0.5	19.1
2	23.0	4.0	19.0	+0.5	19.5
+50	23.0	3.9	19.1	-0.6	18.5
3	23.0	3.9	19.1	1.6	17.5
+50	21.0	3.8	17.2	2.1	15.1
+90	7.0	G=3.8	3.2		0.0

17+00

Dec 30

36

1+75	22.5	G=4.5	18.0	+0.7	18.7
+50	23.0	4.5	18.5	+0.5	19.0
2	22.3	4.4	17.9	0.0	17.9
+50	21.0	4.4	16.6	1.0	15.6
3	22.2	4.3	17.9	2.0	15.9
+50	21.6		17.3	2.5	14.8
+62	7.5	G=4.3	3.2		0.0

		16 +50	Dec 27.					16 +00	17/27	37	
1+25	19.5	G=26	16.9	+0.6	17.5	1+25	20.2	G=24	17.8	+0.1	17.9
+50	21.0		18.4	+0.3	18.7	+50	20.8		18.4	-0.1	18.3
2	21.0		18.4	-0.2	18.2	2	20.5		18.1	-0.6	17.5
+50	19.2	26	16.6	1.2	15.4	+50	19.4	24	17.0	1.1	15.9
3	21.0	27	18.3	1.7	16.6	3	20.7	26	18.7	2.1	16.1
+45	19.0		16.3	2.1	14.2	+50	20.0		17.5	2.6	14.9
+51	5.4	G=27	2.7		0.0	+53	4.0	G=25	1.5		0.0

15+50					15+00					38	
1+25	200	G=23	17.7	0.2	17.5	1+25	186	G=22	16.4	0.3	16.1
+50	210		18.7	0.5	18.2	+50	209		18.7	0.3	18.4
2	200		17.7	1.0	16.7	2	202		18.0	0.8	17.2
+50	196		17.1	1.0	16.1	+50	190		16.8	1.3	15.5
3	210		18.6	2.0	16.6	3	204		18.1	1.8	16.3
+50	195		17.1	2.5	14.6	+50	200		17.7	2.3	15.4
+54	52	G=24	2.8		0.0	+58	50	G=23	2.7		0.0

14+50						14+00					
						17/27					
						39					
1+25	190	G=20	17.0	0.4	16.6	1+25	15.5	G=18	13.7	0.4	13.3
+50	193		17.3	0.6	16.7	+50	18.0		16.2	0.6	15.6
2	200	20	18.0	0.8	17.2	2	19.3		17.5	0.6	16.9
+50	200	21	17.9	1.3	16.6	+50	19.4	18	17.6	1.1	16.5
3	206	21	18.5	1.3	17.2	3	20.0	19	18.1	1.6	16.5
+50	205	22	18.3	2.3	16.0	+50	19.0		17.1	2.1	15.0
+62	50	G=22	2.8		0.0	+66	60	G=19	4.1		0.0

		13+50		17/27	
1+25	150	G=17	13.3	00	133
+50	140		12.3	01	127
2	19.2		17.5	09	166
+50	196	17	17.9	09	170
3	200	18	18.2	19	163
+50	192		17.4	21	153
+66	50	G=18	3.2		00

		13+00		17/27	40
1+25	188	G=15	17.3	01	162
+50	197		18.2	05	177
2	193		17.8	07	171
+50	191	15	17.6	12	164
3	202	16	18.6	17	169
+47	190		17.4	20	154
+50	50	G=16	3.4		00

12+50

12/27

1+25	18.0	G=14	16.6	0.3	16.3
+50	19.7		18.3	0.6	17.7
2	19.8		18.4	1.1	17.3
+50	20.0	14	18.6	1.3	17.3
3	20.0	15	18.5	1.6	16.9
+44	18.0		16.5	2.0	14.5
+53	4.0	G=15	2.5		0.0

12+00

12/27

41

1+25	19.0	G=13	17.7		17.1
+50	19.8		18.5		17.7
2	19.5		18.7		17.2
+50	19.1	13	17.8		16.3
3	20.0	14	18.6		16.6
+50	19.2		17.8		15.3
+69	3.8	G=14	2.4		

11+50

 $\frac{17}{27-18}$

1+25	168	G=12	156	148
+50	200	12	188	178
2	200		188	176
+50	194	12	182	166
3	200	13	187	167
+50	186		171	150
+60	39	G=13	26	

11+00

Dec 27-1918

42

1+25	173	G=10	163
+50	168	10	158
2	154	10	144
+50	145	11	134
3	158	11	147
+50	188	12	176
+60	35	G=12	23

10+50

NOV 28

1+25	17.2	G=4.0	13.2
+50	17.2		13.2
2	18.5		14.5
+50	17.5		13.5
3	19.4		15.4
+50	19.0		15.0
+58	6.2		2.2

10+00

12/28

43

1+25	17.4	G=3.9	13.5
+50	17.9		14.0
2	17.4		13.5
+50	16.0		12.1
3	19.1		15.2
+54	20.2		16.3
+50	5.9		2.0

9+50

17/24

1+25	9.6	G=37	5.9
+50	16.3		12.6
2	17.6	37	13.9
+50	17.2	36	13.6
3	19.0		15.4
+35	19.0		15.4
+43	6.0	G=36	2.4

9+00

17/24

44

1+25	16.8	G=35	13.3
+50	17.1	35	13.6
2	17.2	35	13.7
+50	15.8	34	12.4
3	18.0		14.6
+40	16.0		12.6
+50	5.3	G=34	1.9

8+50

Dec 28

1+25	17.2	G=33	13.9
+50	18.0	33	14.7
2	17.3	32	14.1
+50	15.2	34	12.0
3	17.7	31	14.6
+41	18.2	G=31	15.1
+45	16.2	31	13.1
+51	5.0	31	1.9

8+50

Dec 30

45

1+25	13.3	G=0.2	13.5
+50	14.0		14.2
2	13.2		13.4
+50	12.2		12.4
3	14.7		14.9
+41	14.0		14.2
+49	1.6		1.8

22+00

Jan 6 1919

1+25	10.2	G=53	4.9
+50	5.3		0.0
2	12.0		6.7
+50	6.0		0.7
3	5.8		0.5
+50	8.0		2.7
4	20.0		14.7
+50	20.8		15.5

21+50

1/6/19

46

1+25	11.0	G=55	5.5
+50	16.8		11.3
2	19.0		13.5
+50	19.2		13.7
3	19.6		14.1
+50	19.2		13.7
4	23.8		18.3
+50	23.8		18.3

21+00

1/6/19

20+50

1/6/19

47

1+25	16.3	G=5.6	10.7
+50	19.8		14.2
2	21.0		15.4
+50	19.8		14.2
3	17.0		11.4
+50	19.0		13.4
4	23.2		17.6
+50	24.0		18.4

1+25	11.6	G=5.6	6.0
+50	20.8		15.2
2	21.2		15.6
+50	20.0		14.4
3	18.2		12.6
+50	16.8		11.2
4	24.2		18.6
+50	23.8		18.2

20+00

1/6/19

1+25	13.5	G=5.1	8.4
+50	19.0		13.9
2	22.0		16.9
+50	21.7		16.6
3	21.8		16.7
+50	25.3		20.2
4	25.3		20.2
+50	24.5		19.4

19+50

1/6/19

48

1+25	15.2	G=5.0	10.2
+50	21.0		16.0
2	21.0		16.0
+50	21.0		16.0
3	22.5		17.5
+50	25.0		20.0
4	25.0		20.0
+50	24.8		19.8

19+00

1/6/19

1+25	16.0	G=4.8	11.2
+50	21.5		16.7
2	21.5		16.7
+50	20.1		15.3
3	24.8		20.0
+50	24.4		19.6
4	25.0		20.2
+50	24.2		19.4

18+50

1/6/19

49

1+25	17.8	G=4.7	13.1
+50	24.0		19.3
2	24.0		19.3
+50	24.8		20.1
3	24.8		20.1
+50	24.0		19.3
4	24.8		20.1
+50	24.5		19.8

Dredge in way on Sta 18+00

17+50

1/6/19

1+25	21.3	G=4.4	169
+50	23.0		186
2	23.0		186
+50	22.0		176
3	23.0		186
+50	22.5		181
+85	20.0		156
+90	8.2		38

17+00

Jan 6, 1919

50

1+25	21.0	G=4.0	17.0
+50	22.0		18.0
2	21.8		17.8
+50	20.2		16.2
3	21.5		17.5
+40	22.0		18.0
+50	18.0		14.0
+55	7.0		3.0

17+00

Jan 14 1919

17+50

1/14

51

1+25	21.0	G=57	15.3	+ 0.7	16.0	1+25	20.0	G=54	14.6	+0.8	15.4
+50	22.8	57	17.1	+ 0.5	17.6	+50	22.8		17.4	+0.5	17.9
2	23.8	57	18.1	0.0	18.1	2	23.2	54	17.8	+0.5	18.3
+50	22.0	56	16.4	- 1.0	15.4	+50	24.0	53	18.7	- 0.6	18.1
3	23.4	56	17.8	- 2.0	15.8	3	24.0		18.7	- 1.6	17.1
+42	22.0	55	16.5	2.4	14.1	+50	24.4	53	19.1	2.1	17.0
+50	8.4	G=55	2.9	- 2.5	-	+88	19.5	52	14.3	2.5	11.8
						+94	8.3	G=52	3.1	- 2.5	-

		18+00				18+50				52	
		1/4				1/4					
1+25	11.7	G=4.6	7.1	+0.8	7.9	1+25	22.0	G=4.3	17.7	+1.1	18.8
+50	22.0		17.4	+0.5	17.9	+50	22.8	4.3	18.5	+0.9	19.4
2	23.4	4.6	18.8	+0.5	19.3	2	23.4	4.2	19.2	+0.4	19.6
+50	24.0	4.5	19.5	0.0	19.5	+50	24.0	4.2	19.8	-0.1	19.7
3	24.3		19.8	-1.5	18.3	3	24.0	4.1	19.9	0.6	19.3
+50	24.0	4.5	19.5	-2.0	17.5	+50	24.6	4.1	20.5	1.6	18.9
4	24.0	4.4	19.6	-2.6	17.0	4	24.5	4.0	20.5	2.2	18.3
+25	21.2		16.8	2.9	13.9	+50	23.8	G=4.0	19.8	3.2	16.6
+33	8.2	G=4.4	3.8	-3.0	-	+50	20.0	G=1.3	18.7	3.2	15.5
						+73	5.0		3.7	3.4	-

19+00					1/4	19+50					1/4	53
1+25	21.0	G=39	17.1	+0.9	18.0	1+25	19.2	G=35	15.7	+1.3	17.0	
+50	22.8	39	18.9	+0.6	19.5	+50	21.5	35	18.0	+1.0	19.0	
2	22.7	38	18.9	+0.6	19.5	2	21.0	34	17.6	+0.5	18.1	
+50	22.2	38	18.4	+0.1	18.5	+50	22.0	34	18.6	0.0	18.6	
3	23.7	37	20.0	-0.4	19.6	3	23.0	33	19.7	0.0	19.7	
+50	24.0	37	20.3	1.3	19.0	+50	23.2	33	19.9	-0.5	19.4	
4	23.2	36	19.6	2.3	17.3	4	23.0	32	19.8	-1.6	18.2	
+50	23.2	G=36	19.6	2.8	16.8	+50	23.2	G=32	20.0	-2.1	17.9	

		20 + 00		1/14				20 + 50		1/14		54
1+25	138	G=31	107	+0.8	115	1+25	110	G=0.4	10.6	+0.7	11.3	
+50	18.4	31	15.3	+0.8	16.1	+50	16.0	0.4	15.6	+0.7	16.3	
2	21.0	30	18.0	+0.4	18.4	2	17.8	0.4	17.4	+0.7	17.6	
+50	215	30	18.5	-0.1	18.4	+50	18.0	0.3	17.7	+0.3	18.0	
3	22.0	29	19.1	0.1	19.0	3	17.8	0.3	17.5	-0.2	17.3	
+50	216	29	18.7	0.6	18.1	+46	17.0	0.2	16.8	0.7	16.1	
↓	226	28	19.8	0.6	19.2	+50	11.0	0.2	10.8	0.7	10.1	
+50	224	G=28	19.6	1.6	18.0	+75	17.0	0.2	16.8	1.0	15.8	
						↓	18.6	0.1	18.5	1.2	17.3	
						+50	18.2	G=0.1	18.1	1.2	16.9	

N.B.

Sta.	Sounding	21+00		1/4		21+50		21+50		Jan 14 1919	
		Gauge	Elev. bottom	orig. Surface	cut.						55
1+25	127	G=-0.4	-13.1	+0.9	14.0	1+25	14.5	G=-1.1	15.6	+1.0	16.6
+50	16.2	-0.4	16.6	+0.9	17.5	+50	17.8		18.9	+0.8	19.7
2	17.0	-0.5	17.5	+0.9	18.4	2	17.0		18.1	+0.8	18.9
+50	17.6	0.5	17.9	+0.4	18.3	+50	17.0		18.1	+0.3	18.4
3	17.0	-0.6	17.6	-0.1	17.5	3	17.4		18.5	-0.2	18.3
+50	13.0	-0.7	13.7	0.6	13.1	+50	17.3		18.4	0.7	17.7
4	17.4	-0.7	18.1	1.1	17.0	4	16.8		17.9	0.7	17.2
+50	17.8	G=-0.8	18.6	1.1	17.5	+50	17.0		18.1	1.2	16.9

16+50

Jan 17 1919

1+25	217	G=69	14.8	+0.6	15.4
+50	250	69	18.1	+0.3	18.4
2	250	68	18.2	-0.2	18.0
+50	233	68	16.5	-1.2	15.3
3	250	68	18.2	-1.7	16.5
+37	240	67	17.3	-2.1	15.2
+50	98	G=67	3.1	-2.2	-

16+00

1/17

56

1+25	20.0	G=66	13.4	+0.1	13.5
+50	245		17.9	-0.1	17.8
2	250		18.4	0.6	17.8
+50	236	66	17.0	1.1	15.9
3	250	65	18.5	2.1	16.4
+45	240		17.5	2.5	15.0
+50	94	G=65	2.9	-2.6	-

	15+50		1/17	
1+25	22.2	G=6.3	15.9	-0.2
+50	25.2	63	18.9	0.5
2	24.8	63	18.5	1.0
+50	23.8	62	17.6	1.0
3	25.3	62	19.1	2.0
+50	20.5	61	19.4	2.4
+50	9.0	G=6.1	2.9	2.5

	15+00		1/17		57
1+25	17.0	G=38	13.2	-0.3	12.9
+50	21.2		17.4	0.3	17.1
2	22.0		18.2	0.8	17.6
+50	21.0		17.2	1.3	15.9
3	22.0		18.2	1.8	16.4
+50	20.8		17.0	2.3	14.7
+50	6.0		2.2	2.4	-

14+50

1/17

1+25	10.8	G=35	7.3	-0.4	6.9
+50	17.5		14.0	0.6	13.4
2	21.0	35	17.5	0.8	16.7
+50	21.8	34	17.4	1.3	16.1
3	22.0	34	18.6	1.3	17.3
+50	21.0	33	17.7	2.3	15.4
+61	5.6	G=33	2.3	2.4	-

14+100

1/17

58

1+25	7.0	G=32	3.8	-0.4	3.4
+50	16.5		13.3	0.6	12.7
2	20.5		17.3	0.6	16.7
+50	21.0		17.8	1.1	16.7
3	21.6		18.4	1.6	16.8
+41	21.5		18.3	2.0	16.3
+59	5.6		2.4	2.2	-

13+83

1/17

1475	1.0	G=-0.8	-1.8	-0.3	1.5
+50	10.0		10.8	0.5	10.3
+75	15.0		15.8	0.6	15.2
2	17.0		17.8	0.7	17.1

13+60

1/17

59

1475	0.0	G=-0.8	-0.8	-0.1	0.7
+50	7.1		7.9	0.2	7.7
+75	16.2		17.0	0.5	16.5
2	17.0		17.8	0.8	17.0

	13+50		1/17	
1+25	9.0	G=2.6	6.4	-0.0
+50	14.0	2.6	11.4	0.1
2	20.4	2.5	17.9	0.9
+50	20.7	2.5	18.2	0.9
3	21.0	2.4	18.6	1.9
+4	21.0	2.4	18.6	2.0
+50	18.0	2.3	15.7	2.1
+54	5.0	G=2.3	2.7	2.2

	13+00		1/17		60
1+25	12.0	G=2.3	9.7	-0.1	9.6
+50	19.0	2.3	16.7	0.5	16.2
2	20.2	2.2	18.0	0.7	17.3
+50	20.2	2.2	18.0	1.2	16.8
3	21.0	2.1	18.9	1.7	17.2
+4	20.0	2.1	17.9	2.0	15.9
+51	4.8	G=2.0	2.8	2.0	

	12+50		1/17		
1+25	10.0	G=19	8.1	-0.3	7.8
+50	18.0	11	16.1	0.6	15.5
2	20.5	11	18.6	1.1	17.5
+50	20.0	18	18.7	1.3	16.9
3	20.8	18	19.0	1.6	17.4
+41	18.0	17	16.3	2.0	14.3
+51	4.2	G=1.7	2.5	2.1	-

	12+00		1/17		61
1+25	13.2	G=17	11.5	-0.6	10.9
+50	18.0	17	16.3	0.8	15.5
2	20.0	17	18.3	1.0	17.3
+50	19.2	16	17.6	1.5	16.1
3	20.2	16	18.6	2.0	16.6
+50	20.0	15	18.5	2.5	16.0
+58	4.0	G=1.5	2.5	2.5	-

11+50

1/17

1+25	118	G=13	105	-07	9.8
+50	17.8	13	165	10	155
2	188	12	176	12	164
+50	198	12	186	16	170
3	200	11	189	20	169
+44	190	11	179	21	158
+58	33	G=10	23	22	-

11+00

Jan 17

62

1+25	140	G=10	130	-05	125
+50	153		145	08	137
2	150	10	140	13	127
+50	142	09	133	13	120
3	156	09	147	18	129
+50	190	08	182	23	159
+54	30	G=08	22	24	-

10+30

Jan 20.

1+25	160	G=46	11.4	-0.5	10.9
+50	170		12.4	0.9	11.5
2	185		13.9	1.1	12.8
+50	180		13.4	1.6	11.8
3	200		15.4	1.9	13.5
+44	205		15.9	1.9	14.0
+51	68	G=46	2.2	1.9	-

10+00

1/20

63

1+25	170	G=47	12.3	-0.6	11.7
+50	175		12.8	0.7	12.1
2	178		13.1	1.2	11.9
+50	169	47	12.2	1.7	10.5
3	200	48	15.2	1.7	13.5
+25	205		15.7	1.8	13.9
+40	200		15.2	1.8	13.4
+44	68	G=48	2.0	1.8	-

		9+50		1/20				9+50		1/20	64
1+25	66	G=49	-1.7	-0.6	1.1	1+25	128	G=50	78	-0.8	7.0
+50	14.6		9.7	0.8	8.9	+50	14.5		9.5	0.8	8.7
2	17.0	49	12.1	1.0	11.1	2	17.0		12.0	1.2	10.8
+50	18.0	50	13.0	1.7	11.3	+50	18.0		13.0	1.4	11.6
3	19.5		14.5	1.8	12.7	3	19.2		14.2	1.6	12.6
+60	18.0		13.0	2.0	11.0	+43	19.5		14.5	2.1	12.4
+41	6.8	G=50	18	2.0	-	+44	6.8		18	2.1	-

8+50

1/20

1+25	17.5	G 50	12.5	- 0.7	11.8
+50	19.0		14.0	0.9	13.1
2	18.5		13.5	0.9	12.6
+50	17.6		12.6	1.4	11.2
3	19.5		14.5	1.5	13.0
+44	17.4		12.4	1.8	10.6
+50	6.5		1.5	1.9	-

8+00

1/20

65

1+25	18.3	G=48	13.5	- 1.2	12.3
+50	20.0		15.2	1.3	13.9
2	18.6		13.8	1.3	12.5
+50	18.2		13.4	1.6	11.8
3	19.2		14.4	2.0	12.4
+35	20.0		15.2	2.1	13.1
+48	6.5		1.7	2.1	-

		7+50			1/20/19			7+00			1/20/19	66
1+25	20.7	G=4.7	16.0	- 0.8	15.2	1+25	16.5	G=4.5	12.0	- 0.8	11.2	
+50	22.8		18.1	0.8	17.3	+50	21.2		16.7	0.9	15.8	
2	20.0		15.3	1.0	14.3	2	23.0		18.5	1.1	17.4	
+50	19.8		15.1	1.6	13.5	+50	22.5		18.0	1.4	16.6	
3	20.8		16.1	1.8	14.3	3	22.5		18.0	1.6	16.4	
+45	19.0		14.3	2.1	12.2	+25	22.8		18.3	1.9	16.4	
+48	6.3		1.6	2.1	-	+50	17.0		12.5	2.1	10.4	
						+58	6.0		1.5	2.1		

6+50

Jan. 20 1919

1+25	35	G=42	+0.7	-0.9	
+50	38		+0.6	1.4	
2	50		-0.8	1.7	
+12	60		1.8	+1.0	00
+15	150		10.8	1.7	9.1
+50	19.0		14.8	1.7	13.1
+92	15.2		11.0	1.7	9.3
3+02	6.0		1.8	1.7	00

16+50

Jan 21 1919

67

1+25	19.1	G=40	15.1	
+35	218		17.8	
17+00				
1+25	19.5	G=40	15.5	
+50	21.0		17.0	
+75	21.2		17.2	

17+50

1+25	18.7	G=40	14.7	
+50	21.5		17.5	

18+00

1+25	11.7	G=40	7.7	
+50	21.1		17.1	

18+50

1/21/19

1+25	21.2	G=41	17.1
+50	24.2		18.1
+75	22.7		18.6
2	23.2		19.1

19+00

1/21

68

1+25	20.0	G=29	-17.1	+0.9	18.0
+50	21.5		18.6	+0.6	19.2
2	21.5		18.6	+0.6	19.2
+50	21.2		18.3	+0.1	18.4
3	22.5		19.6	-0.4	19.2
+50	21.2		19.3	-1.3	18.0
4	23.0		20.1	-2.3	17.8
+50	22.5		19.6	-2.8	16.8
5+10	21.5		-19.6	-3.4	16.2
+30	7.5		-4.6	-3.6	-

		19+30		1/21	
1+25	206	G=41	165	+1.3	17.8
+30	218		177	+1.0	18.7
2	220		179	+0.5	18.4
+30	232		191	00	19.1
3	235		194	00	19.4
+30	242		201	-0.5	19.6
4	240		199	-1.6	18.3
+30	243		202	-2.1	18.1
5	245		204	-3.1	17.3
+30	210		169	-3.6	13.3
6	240		199	-4.4	15.3
+25	210		169	-4.9	12.0

		20+00		1/21	39
1+25	145	G=39	106	+0.8	11.6
+35	19.0		151	+0.8	15.9
+50	19.0		151	+0.8	15.9
2	220		181	+0.4	18.5
+30	220		181	-0.1	18.0
3	225		186	-0.1	18.5
+30	225		186	-0.6	18.0
4	240		201	-0.6	19.5
+30	235		196	-1.6	18.0
5	242		203	-2.1	18.2
+30	236		197	-3.1	16.6
6	240		201	-4.5	15.6
+25	240		201	-4.7	15.4

Sta	Sounding	20+50		1/2	cut	21+00		1/2	cut		
		Gauge	Elev.			Gauge	Elev.				
1+25	10.0	G=37	- 6.3	+0.7	7.0	1+25	17.0	G=38	13.2	+0.9	14.1
+50	18.8		15.1	+0.7	15.8	+35	21.0		17.2	+0.9	18.1
2	21.5		17.8	+0.2	18.0	+50	20.2		16.4	+0.9	17.3
+50	21.2	37	17.5	+0.3	17.8	2	21.2	38	17.4	+0.9	18.3
3	21.0	38	17.2	-0.2	17.0	+50	21.2	37	17.5	+0.4	17.9
+50	21.0		17.2	-0.7	16.5	3	22.6		18.9	-0.1	18.8
4	22.8		19.0	-1.2	17.8	+50	23.0		19.3	-0.6	18.7
+50	22.0	38	18.2	-1.2	17.0	4	23.0	37	19.3	-1.1	18.2
5	22.0	39	18.1	-1.2	16.9	+50	22.0	36	18.4	-1.1	17.3
+50	23.0		19.1	-1.7	17.4	5	22.3		18.7	-1.7	17.0
6	24.0	G=39	- 20.1	-3.2	16.9	+50	23.0		19.4	-1.7	17.7
						6	23.5		19.9	-1.7	18.2
						+25	23.0	G=36	19.4	-2.5	16.9

		21+50		1/21				22+00		1/21		71
1+25	190	G=33	-15.7	+1.0	16.7	1+25	18.0	G=31	-14.9	+1.3	16.2	
+50	220		18.7	+0.8	19.5	+50	21.0		17.9	+1.3	19.2	
2	210		17.7	+0.8	18.5	2	20.0		16.9	+0.8	17.7	
+50	20.2		16.9	+0.3	17.2	+50	20.2		17.1	+0.3	17.4	
3	222		18.9	-0.2	18.7	3	22.0		18.9	-0.1	18.8	
+50	222		18.9	-0.7	18.2	+50	21.0		17.9	-0.1	17.8	
4	225		19.2	-0.7	18.5	4	22.0	G=31	18.9	-1.1	17.8	
+50	220		18.7	-1.2	17.5	+33	23.0	G=2.8	20.2	-1.1	19.1	
5	225		19.2	-1.6	17.6	+50	19.8		17.0	-1.1	15.9	
+50	240		20.7	-1.6	19.1	5	12.0		9.2	-1.6	7.6	
6	230		19.7	-1.6	18.1	+25	5.5		2.7	-1.9	0.8	
+25	225		-19.2	-1.9	17.3	+50	5.0		-2.2	-2.1	0.0	

22+50

1/21

1+05	15	G=2.3	+ 0.8	+1.0	0.0
+17	6.0		- 3.7	+1.0	4.7
+25	19.2		16.9	+1.0	17.9
+50	19.8		17.5	+1.0	18.5
2	19.4		17.1	+0.5	17.6
+50	19.5		17.2	+0.5	17.7
3	20.0		17.7	0.0	17.7
+50	21.0		18.7	-0.1	18.6
4	22.0		19.7	-0.6	19.1
+12	21.0		- 1.8	-0.6	18.1
+21	2.0		+ 0.3	-0.6	0.0

23+00

1/21 72

1+07	2.0	G=2.0	0.0	+1.2	1.2
+13	7.0		-5.0	+1.2	6.2
+18	20.0		18.0	+1.2	19.2
+25	30.0		18.0	+1.1	19.1
+50	19.6		17.6	+1.1	18.7
2	30.0		18.0	+0.9	18.9
+50	20.6		18.6	+0.5	19.1
3	20.0		18.0	+0.1	18.1
+33	20.0		18.0	0.0	18.0
+50	2.2		- 0.2	- 0.1	0.0

23+50

Jan 21 1919

1+14	1.0	G=18	+0.8	+1.3	05
+25	17.0		-15.2	+1.3	16.5
+50	30.8		19.0	+1.2	20.2
2	20.0		18.2	+0.8	19.0
+50	20.0		18.2	+0.5	18.7
3	20.0		18.2	+0.3	18.5
+32	19.0		17.2	+0.1	17.3
+47	1.8		00	00	00

23+85

Jan 22 1919

73

1+25	1.2	G=25	+1.3	+1.3	
+50	1.2		+1.3	+1.2	00
+63	2.0		+0.5	+1.1	06
+67	2.2		+0.3	+1.1	08
+75	14.5		-12.0	+1.0	13.0
2	17.5		15.0	+0.9	15.9
+75	20.0		17.5	+0.8	18.3
+50	18.8		16.3	+0.6	16.9
+75	16.2		13.7	+0.5	14.2
+88	17.0		14.5	+0.4	14.9
3	4.8		-2.3	+0.3	2.6

24+20

Jan 22 1919

1+25	1.1	9.26	+1.5	+1.4	
+50	1.2		+1.4	+1.2	
+75	1.3		+1.3	+1.1	
+94	1.4		+1.2	+1.0	00
2	3.2		-0.6	+1.0	1.6
+25	1.28		-10.2	+0.9	11.1
+50	1.28		-10.2	+0.7	10.9
+70	2.0		+0.6	+0.6	00

22+50

Jan. 23 1919

74

1+25	120.6	G=2.1	18.5
+50	21.0		18.9
2	20.8		18.7
+50	21.0		18.9
		22+00	
1+25	17.1	G=2.1	15.0
+30	20.2		18.1
+50	20.6		18.5
2	20.2		18.1
+50	20.2		18.1
		21+50	
1+25	17.5	G=2.1	15.4
+31	20.8		18.7
+50	21.0		18.9
2	21.0		18.9
+50	20.8		18.7

21+00

Jan 22, 1919

1+25	19.0	G=21	16.9
+28	20.8		18.7
+50	20.4		18.3
2	20.4		18.3
+50	21.0		18.9

20+50

1+25	10.8	G=21	8.7
+33	19.1		17.0
+50	20.8		18.7
2	19.8		17.7
+50	19.8		17.7

20+00

1+25	14.1	G=21	12.0
+30	19.0		16.9
+50	20.5		18.4
2	21.0		18.9
+50	20.5		18.4

19+50

1/30/19

75

1+25	21.0	G=21	18.9
+50	21.2		19.1
2	21.0		18.9
+50	21.0		18.9

19+00

1+25	20.8	G=21	18.7
+50	21.6		19.5
2	21.8		19.7
+50	21.0		18.9

18+50

1+25	20.5	G=22	18.3
+50	21.4		19.2
2	21.6		19.4
+50	21.8		19.6

18+00

1/23/19

1+25	168	G=22	146
+29	190		168
+33	202		180
+50	208		186
2	220		198
750	226		204

17+50

1+25	210	G=22	188
+50	210		188
2	200		178
+50	208		186

17+00

Jan. 28 1919

76

1+25	198	G=0.8	190
+50	200		192
2	200		192
+50	200		192
3	192		184
+25	190		182

16+50

1+25	200	G=1.0	190
+35	210		200
+50	202		192
2	200		190
+50	200		190
3	200		190
+25	190		180

16+00

1/28/19

1+25	198	G=17	186
+35	210		198
+50	203		191
2	205		193
+50	194		182
3	198		186
+25	192		180

15+50

1+25	200	G=14	186
+30	210		196
+50	210		196
2	210		196
+50	205		191
3	200		186
+50	200		186

15+00

1/28/19 77

1+25	193	G=16	177
+33	210		194
+50	210		194
2	210		194
+50	182		166
3	200		184
+25	200		184

14+50

1+25	198	G=17	181
+31	210		193
+50	190		173
2	205		188
+50	200		183
3	200		183
+25	200		183

14+00

June 27 1919

1+25	210	G=31	169
+50	216		185
2	216		185
+50	203		172
3	210		179
+25	190		159
+50	210		179

13+50

1+25	200	G=28	172
+30	210		182
+50	212		184
2	220		192
+50	202		174
3	210		182
+25	210		182

13+00

1/27/19 78

1+25	185	G=26	159
+27	200		174
+50	210		184
2	215		189
+50	204		178
3	208		182
+25	208		182

12+50

1+25	200	G=24	176
+50	202		178
2	210		186
+50	194		170
3	204		180
+25	200		176

1/27/19

12+00

1+75	19.8	G=24	17.4
+50	21.1		18.7
2	21.8		19.4
+50	19.0		16.6
3	20.4		18.0
+75	20.6		18.2

11+50

1+75	19.5	G=21	17.4
+28	20.0		17.9
+50	20.8		18.7
2	21.0		18.9
+50	21.0		18.9
3	21.0		18.9
+75	21.8		19.7

1/27/19

79

11+00

1+75	20.0	G=21	17.9
+50	20.5		18.4
2	20.8		18.7
+50	20.6		18.5
3	20.2		18.1
+75	20.8		18.7

10+50

1+75	20.0	G=19	18.1
+50	20.2		18.3
2	20.4		18.5
+50	20.2		18.3
3	21.0		19.1
+75	21.4		19.5

10+00

1+75	20.0	G=17	18.3
+50	21.0		19.3
2	20.6		18.9
+50	20.6		18.9
3	20.6		18.9
+75	21.0		19.3

Jan. 27, 1919

		9+50	
1+25	19.2	G=16	17.6
+50	18.2		16.6
2	19.6		18.0
+50	19.8		18.2
3	20.0		18.4
+25	20.0		18.4

		9+00	
1+25	9.0	G=1.4	7.6
+50	13.0		11.6
2	19.6		18.2
+50	19.0		17.6
3	20.0		18.6
+25	20.0		18.6

Jan 30 1919 30

Excavations inside of bulkhead
Distances are from bulkhead

9+77	15.
9+50	16
9	7.
8+50	17.
8+00	20.
7+50	18.
7+00	13.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ 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.