

W
445

ENGINEERS'
LEVEL BOOK
No. 410 F

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

445

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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MICROFILMED

JAN 12 1965

Original

Final X Sections
May 23-1933

1

N 3300 N 3300

B.M.	0.18	641.38		641.20	
5317			5.5	35.9	0.6 ✓?
5310			10.8	30.6	✓
5300			13.6	27.8	✓
5290			14.3	27.1	✓
5280			14.2	27.2	✓

N 3290 N 3290

5270			14.3	27.1	✓
80			14.6	26.8	✓
90			12.7	28.7	✓
5300			9.8	31.6	✓
5312			1.9	39.5	0.6 ✓
	2.29	658.08		655.79	

N 3280

5306			17.0	41.1	0.6 ✓
		641.38			
5300			6.4	35.0	✓
5290			8.9	32.5	✓

✓ Also check after
that is check of
plating

641.38

N3280

5280	13.7	27.7	✓
70	13.8	27.6	✓
60	13.4	28.0	?

N3270

5250	13.2	28.2	?
60	13.0	28.4	?
70	12.6	28.8	?
80	8.1	33.3	✓
90	5.2	36.2	✓

Plotted

658.08

5298	13.6	44.5	0.6 ✓
------	------	------	-------

N3260

5295	11.2	46.9	0.6 ✓
5290	2.5	38.9	✓
80	5.4	36.0	✓
70	7.0	34.4	✓
60	12.2	29.2	✓
50	12.6	28.8	?

Plotted

641.38

641.38

N3250

5240	11.3	30.1	?
50	11.9	29.5	✓
60	6.9	34.5	✓
70	4.4	37.0	✓

658.08

80	15.4	42.7	✓
5286	9.6	48.5	0.6 ✓

Plotted

N3240

5279	9.8	48.3	0.6 ✓
70	16.7	41.4	✓

641.38

60	5.4	36.0	✓
50	9.8	31.6	?
40	10.1	31.3	?
5230	9.1	32.3	✓

N3230

5220	7.0	34.4	?
30	8.1	33.3	?

641.38 N3230

5240	9.1	32.3	✓
50	5.1	36.3	✓
60	2.7	38.7	✓
658.08			
65	16.8	41.3	✓
74	6.4	51.7	0.6 ✓

plotted

641.38 N3220

5270	4.8	53.3	0.6 ✓
60	17.9	40.2	✓
641.38			
50	6.2	35.2	✓
40	5.9	35.5	✓
30	7.2	34.2	✓
5220	6.2	35.2	✓

plotted

N3210

5200	2.3	39.1	✓
10	3.9	37.5	✓
20	5.2	36.2	✓
30	3.3	38.1	✓

641.38 N3210

5240	5.3	36.1	✓
T.P.	12.61	653.81	0.18
641.20			
5250	14.9	38.9	✓
60	9.2	44.6	✓
662.96			
B.M.	7.17	655.79	✓
68	8.7	54.3	✓

plotted

641.38 N3200

5265	7.6	55.4	✓
60	7.5	46.3	✓
50	13.0	40.8	✓
40	15.6	38.2	✓
30	12.7	41.1	✓
20	11.5	42.3	✓
10	13.0	40.8	✓

plotted

641.38 N3200

5200	13.3	40.5	✓
5190	12.3	41.5	✓
80	10.5	43.3	✓

653.81

N3190

5160 5.8 48.0 ✓
 70 7.9 45.9 ✓
 80 9.1 44.7 ✓
 90 8.7 45.1 ✓
 5200 7.1 46.7 ✓
 10 5.3 48.5 ✓
 20 4.8 49.0 ✓
 30 8.6 45.2 ✓
 40 11.6 42.2 ✓
 50 9.0 44.8 ✓

Plotted.

662.96

62 6.1 56.9 O.G. ✓

May 24 - 1933

B.M. 9.36 665.15 ✓ 655.79

N3180

5250 13.0 52.1 O.G. ✓
 40 17.0 48.1 ✓
 30 13.7 51.4 ✓
 20 11.2 53.9 ✓

Plotted.

665.15

N3180

5210 11.3 53.8 ✓
 5200 12.0 53.1 ✓
 5190 13.1 52.0 ✓
 80 13.7 51.4 ✓
 70 14.9 50.2 ✓
 60 13.6 51.5 ✓
 50 14.6 50.5 ✓
 40 13.8 51.3 ✓
 30 12.1 53.0 ✓
 20 10.2 54.9 ✓

Plotted

N3170

5100 5.4 59.7 ✓
 10 7.5 57.6 ✓
 20 9.7 55.4 ✓
 30 10.1 55.0 ✓
 40 11.9 53.2 ✓
 50 10.4 54.7 ✓
 60 9.4 55.7 ✓
 70 8.6 56.5 ✓

Plotted

655.15? N3170

5180	665.15	8.3	56.8	✓
90		6.8	58.3	✓
5100		6.3	58.8	✓
10		6.4	58.7	✓
20		7.5	57.6	✓
30		9.3	55.8	✓
40		10.7	54.4	✓
50		9.8	55.3	0.6 ✓

Plotted

N3160

5227		12.4	67.5	0.6 ✓
20		2.0	63.1	✓
10		1.5	63.6	✓
5200		1.8	63.3	✓
5190		2.1	63.0	✓
80		2.6	62.5	✓
70		3.5	61.6	✓
60		4.5	60.6	✓
50		2.7	62.4	✓

Plotted

End May 24 - 1933 ✓

Final X Sections
 June 28 - 1933
 Elliott-Simpson-Saper - Remington

B.M. 0.49 656.28 655.79
 N3220 (is this big enough for ozzie?)
 O.K.

T.P.	3.94	647.09	13.13	643.15
5190			8.4	38.7
80			8.1	39.0
70			6.8	40.3
60			5.0	42.1
50			6.0	41.1
40			8.2	38.9
30			11.9	35.2
20			13.9	33.2
10			11.5	35.6
5104			9.9	37.2
5100			6.8	40.3
5092			1.6	45.5
5080			1.0	46.1
70			0.7	46.4

plotted

647.09
 N3210

5070			1.4	45.7
80			1.7	45.4
90			2.6	44.5
5100			3.2	43.9
10			3.9	43.2
20			4.1	43.0
30			4.4	42.7
40			4.7	42.4
50			4.7	42.4
60			5.6	41.5
70			6.5	40.6
80			5.0	42.1
90			5.7	41.4

plotted

T.P. 11.78 654.93 3.94 643.15

N3200

5170			9.4	45.5
60			7.3	47.6
50			7.7	47.2

N3200

654.93

5140 9.3 45.6 ✓

30 9.7 45.2 ✓

20 10.6 44.3 ✓

10 10.4 44.5 ✓

5100 9.5 45.4 ✓

5090 7.2 47.7 ✓

80 7.0 47.9 ✓

70 7.1 47.8 ✓

N3190

5003 16.7 38.2 ✓

04 16.7 38.2 ✓

07 8.3 46.6 ✓

5012 4.4 50.5 ✓

5019 3.7 51.2 ✓

25 8.2 46.7 ✓

37 6.2 48.7 ✓

46 0.6 54.3 ✓

60 2.0 52.9 ✓

654.93

N3190

7

5070 2.3 52.6 ✓

77 2.3 52.6 ✓

80 0.5 54.4 ✓

90 10.1 55.0 ✓

5100 3.2 51.7 ✓

10 2.9 52.0 ✓

20 3.2 51.7 ✓

30 3.2 51.7 ✓

40 3.6 51.3 ✓

50 5.6 49.3 ✓

End June 28-1933

N3930

B.M.	7.14	676.14	669.00		
4830		6.1	70.0	✓	✓
20		6.2	69.9	✓	✓
10		6.1	70.0	✓	✓
4800		6.3	69.8	✓	✓

Run to last previous section about E. 4790

N3940

4820		6.1	70.0	✓	✓
4810		6.3	69.8	✓	✓
4800		6.3	69.8	✓	✓
4790		6.3	69.8	✓	✓
4785		6.3	69.8	✓	✓

Run to last previous sect. about E 4750

N3950

4810		5.6	70.5	✓	✓
4800		6.1	70.0	✓	✓
4790		6.3	69.8	✓	✓
4780		6.0	70.1	✓	✓

plotted

676.14 / N3950

4770		6.0	70.1	✓	✓
4760		5.7	70.4	✓	✓

plotted

N4080

B.M.	0.0	650.4	650.4		
5300		6.2	44.2	✓	✓
5290		5.3	45.1	✓	✓
5280		4.7	45.7	✓	✓
5275		4.2	57.6	✓	✓

plotted

plotted

N4070

5255		4.2	changed		
5264		4.7	45.7	✓	✓
70		5.2	45.2	✓	✓
80		5.6	44.8	✓	✓
90		5.9	44.5	✓	✓
5300		6.4	44.0	✓	✓

plotted

from page 11

plotted

see 422/17

650.4 N4060

5300	6.2	44.2
5290	6.0	44.4
80	5.7	44.7
70	5.5	44.9
60	5.5	44.9
50	5.7	44.7

↑
plotted

2718. sup. assumed
at 42.20 ft. with back
apparently on back face
see 42.20

45	5.8	
5235	4.6	
5228	4.3	

N4050

5208	13.6	
13	14.5	
18	6.2	

30	6.2	44.2
40	5.9	44.5
50	5.6	44.8
60	5.5	44.9
70	5.4	45.0
80	5.4	45.0

↑
plotted

650.4 N4050

5290	5.6	44.8
5300	6.4	44.0

plotted.

at station on

More Finales on July 17-1933.
(Some of these sections are higher than O.G.)
B.M. 8.32 672.88 664.56

N4080

5160	3.3
70	3.5
80	3.6
90	3.5
5200	2.8
10	3.8
20	2.2

Void

N4070

5250	15.6
40	12.8
30	10.9
20	9.2
10	9.0
5200	9.9

672.88 N4070

5190	9.0
80	4.2
70	3.4
80	3.4

Void N4060

5160	3.5
70	6.2
90	12.2

T.P. 0.91 660.83 12.96 659.92

90	3.3
5200	4.9
10	3.3
5216	2.9

N4050

5160	14.8
70	0.2
80	6.5
90	9.1

660.83

N4050

5200	11.9
5210	9.9
13	9.3

Void N4040

5190	17.1
80	13.6
70	8.3
5160	0.2

N4030

5160	7.1
70	17.8

July 13-1933
Elliott-Simpson Super. Remmen

N4090

B.M.	7.36	671.92	664.56
5220		1.8	70.1
10		2.1	69.8
5200		2.2	69.7
5190		2.3	69.6
80		2.3	69.6
70		2.0	69.9
5160		1.4	70.5

Plotted

ch. Plotting

N4080

5160		2.4	69.5
70		2.5	69.4
80		2.5	69.4
90		2.6	69.3
5200		2.2	69.7
07		2.8	69.1
10		3.7	68.2
20		6.3	65.6
30		7.8	64.1
40		9.7	62.2

Plotted

from 421/67
approx. on bottom
of 22.2 of ice
70 11/19/32

0.49 659.73

12.68 659.24

659.73

N4070

5255		6.2	53.5
50		5.0	54.7
40		2.0	57.7
35		0.0	59.7
30		4.4	55.3
20		3.5	56.2

Plotted

12.68
11

Cont. on page 8

ch. Plotting

671.9

10		11.7	60.2
5200		9.7	62.2
5190		10.9	61.0
80		5.7	66.2
75		2.8	69.1
60		2.4	69.5

N4060

5160		2.4	69.5
70		3.9	68.0
80		1.3	70.6
85		5.7	54.0
90		3.6	56.1

Plotted

659.73

ch. Plotting

659.73

N4060

5200 5.2 54.5 ✓
 10 5.1 54.6 ✓
 20 9.7 50.0 ✓
 30 11.2 48.5 ✓
 40 14.7 45.0 ✓

Plotted

at plotting 21

N4050

5220 14.8 44.9 ✓
 10 11.0 48.7 ✓
 5200 11.8 47.9 ✓
 5190 9.8 49.9 ✓
 85 9.2 50.5 ✓
 80 6.1 53.6 ✓

Plotted

671.9

at plotting 21

70 12.1 59.8 ✓
 60 6.2 65.7 ✓

at plotting 21

N4040

5160 11.7 60.2 ✓
 65 2.5 57.2 ✓

Plotted

659.7

at plotting 21

659.7

N4040

12

5170 7.0 52.7 ✓
 80 13.0 46.7 ✓
 90 15.3 44.4 ✓

Plotted

at plotting 21

N4030

660.8

5160 7.1 53.7 ✓
 70 17.8 43.0 ✓

at plotting 21

659.73

N4060

5200
10
20
30
40

5.2 54.5
5.1 54.6
9.7 50.0
11.2 48.5
14.7 45.0

Plotted.

✓
✓
✓
✓
✓
all plotted in

N4050

5220
10
5200
5190
85
80

14.8 44.9
11.0 48.7
11.8 47.9
9.8 49.9
9.2 50.5
6.1 53.6

↑
Plotted

671.9

✓
✓
✓
✓
✓
✓
all plotted in

70
60

12.1 59.8
6.2 65.7

↓
Plotted →✓
✓
all plotted in

N4040

5160
65

11.7 60.2
2.5 57.2

659.7

✓
✓
all plotted in

659.7

N4040

5170
80
90

7.0 52.7
13.0 46.7
15.3 44.4

Plotted.

✓
✓
✓
all plotted in

N4030

5160
70

660.8
7.1 53.7
17.8 43.0

✓
✓
all plotted in

12

Final X Sections
July 31-1933

Elliott
Simpson
Seper
Remmen

671.50

N 3170

B.M.	level	Elliott Simpson Seper Remmen
12.98	671.50 ✓	658.52
	Tr. 0.22	671.23 ✓
14.67	685.90 ✓	
	N 3180	
	671.50	
E 5003	18.6	52.9 ✓
05	14.7	56.8 ✓
20	12.8	58.7 ✓
32	11.6	59.9 ✓
40	14.0	57.5 ✓
50	11.9	59.6 ✓
60	11.3	60.2 ✓
70	11.3	60.2 ✓
80	10.0	61.5 ✓
90	11.5	60.0 ✓
92	17.5	54.0 ✓
5100	18.2	53.3 ✓
10	19.3	52.2 ✓
19	21.0	50.5 ✓
20	16.9	54.6 ✓

plotted

5105
5104 also
5100
5095
94
90
80
70
60
50
40
30
20
11
5003

plotted

12.4	59.1 ✓
17.3	54.2 ✓
17.3	54.2 ✓
16.7	54.8 ✓
10.8	60.7 ✓
9.8	61.7 ✓
7.9	63.6 ✓
5.9	65.6 ✓
4.8	66.7 ✓
4.6	66.9 ✓
4.6	66.9 ✓
5.4	66.1 ✓
8.6	62.9 ✓
10.5	61.0 ✓
15.5	56.0 ✓

✓

	671.50	N 3160
5003	14.4	57.1 ✓
10	11.9	59.6 ✓
20	6.8	64.7 ✓
30	5.3	66.2 ✓
40	4.8	66.7 ✓
50	4.7	66.8 ✓
60	4.6	66.9 ✓
70	5.7	65.8 ✓
80	7.4	64.1 ✓
90	8.7	62.8 ✓
99	9.1	62.4 ✓
5100	12.3	59.2 ✓
02	9.1	62.4 ✓
10	7.0	64.5 ✓
20	7.3	64.2 ✓
30	6.8	64.7 ✓
40	3.0	68.5 ✓

P/O Hed.

✓

	671.50	N 3150
5250	5.7	65.8 ✓
40	4.8	66.7 ✓
30	3.8	67.7 ✓
	685.90 ✓	
20	16.2	69.7 ✓
10	14.3	71.6 ✓
5200	13.2	72.7 ✓
5190	13.3	72.6 ✓
80	13.5	72.4 ✓
70	14.0	71.9 ✓
60	14.7	71.2 ✓
	671.50	
50	1.8	69.7 ✓
40	3.3	68.2 ✓
30	4.1	67.4 ✓
20	5.9	65.6 ✓
10	8.3	63.2 ✓
5100	6.1	65.4 ✓
5090	2.1	69.4 ✓

P/O Hed.

✓

671.50 N3150

667.22^u N3220

5080 2.7 668.8

4960 15.5 51.7

685.90

50 12.9 54.3

70 11.5 74.4

45 7.3 59.9

60 11.7 74.2

40 9.4 57.8

50 10.2 75.7

30 6.3 60.9

40 10.0 75.9

20 5.4 61.8

671.50 4.4 67.1

10 3.9 63.3

20 5.0 66.5

4900 7.7 59.5

15 5.5 66.0

4890 4.3 62.9

03 7.7 63.8

4880 2.6 64.6

Don't ink in these two

Plot

Plot

678.27^u N3210

Set B.M., 671.50 4.98 666.52

4880 3.7 74.6

0.70 level 667.22

90 4.6 73.7

11.75 678.27 0.70 666.52

4900 10.7 67.6

10 10.0 68.3

20 11.4 66.9

667.22^u

30 3.1 64.1

40 2.6 64.6

Plot

✓

		667.22	N 3210		
4950	Adel.	6.3	60.9	✓	
60		11.4	55.8	✓	
			N 3200		
4960	↑	4.8	62.4	✓	
50		5.8	61.4	✓	
40	Plotted	4.7	62.5	✓	
30		1.9	65.3	✓	
		678.27			
20		11.4	66.9	✓	
10		3.2	75.1	✓	
4900		3.8	74.5	✓	
4890		0.0	78.3	✓	
80	↓	+1.2	79.5	✓	
			N 3190		
4880	Plotted ↑	+7.2	85.5	✓	
90		75.8	84.1	✓	
4900		+4.8	83.1	✓	
07		+1.9	80.2	✓	
10		2.2	76.1	✓	

		678.27	N 3190		
4920		5.6	72.7	✓	
30		7.0	71.3	✓	
40	Plotted	12.5	65.8	✓	
		667.22			
50		3.6	63.6	✓	
60		5.1	62.1	✓	
70		6.1	61.1	✓	
80	7.6	59.6	✓		
93	Seventeen hour	17.4	49.8	✓	
97		29.0	38.2	✓	
			End July 31	✓	
B.M.	7.54	674.06	666.52	Start Aug 1 Same crew	
			0.16	673.90	
		B.T.	12.19	686.09	
			0.28	685.81	
		level	13.18	698.99	

	4. 699.0		N3180	
4880		9.1	89.9 ✓	
90		9.8	89.2 ✓	
4900		13.0	86.0 ✓	
	B.T 686.1			
10		2.7	83.4 ✓	
20		5.9	80.2 ✓	
30		8.5	77.6 ✓	
40		10.8	75.3 ✓	
50		14.2	71.9 ✓	
	4.X 674.1			
60		5.0	69.1 ✓	
70		10.1	64.0 ✓	
80		11.3	62.8 ✓	
88		14.0	60.1 ✓	
92		16.8	57.3 ✓	
4997		23.2	50.9 ✓	

12/10/1961

	4.X 674.1		N3170	
4997		20.3	53.8 ✓	
95		20.5	53.6 ✓	
94		11.6	62.5 ✓	
88		9.7	64.4 ✓	
80		9.7	64.4 ✓	
72		9.0	65.1 ✓	
70		5.2	68.9 ✓	
60		0.0	74.1 ✓	
	B.T 686.1			
55		4.0	82.1 ✓	
50		3.8	82.3 ✓	
40		1.2	84.9 ✓	
30		1.0	85.1 ✓	
20		0.1	86.0 ✓	
	4. 699.0			
10		12.0	87.0 ✓	
05		11.5	87.5 ✓	
04		8.1	90.9 ✓	
4900		7.7	91.3 ✓	
4890		6.2	92.8 ✓	
80		4.5	94.5 ✓	

12/10/1961

u.
698.99

N3160

u. x
674.1

N3150

12.12

B. x
710.88 ✓

0.23

698.76 ✓

4997

14.8

59.3 ✓

4880

12.8

98.1

95

9.5

64.6 ✓

u.
699.0

90

4.3

94.7 ✓

84

5.7

68.4 ✓

4900

5.0

94.0 ✓

78

+4.0

78.1 ✓

10

5.3

93.7 ✓

72

+6.2

80.3 ✓

20

6.4

92.6 ✓

70

10.5

88.5 ✓

30

6.7

92.3 ✓

60

10.8

88.2 ✓

40

8.7

90.3 ✓

56

10.7

88.3 ✓

50

11.8

87.2 ✓

54

5.3

93.7 ✓

62

13.2

85.8 ✓

50

3.5

95.5 ✓

u. x
674.1

70

0.3

73.8 ✓

40

1.9

97.1 ✓

80

7.9

66.2 ✓

35

+0.3

99.3 ✓

92

10.3

63.8 ✓

34

5.8

93.2 ✓

4997

16.8

57.3 ✓

30

5.8

93.2 ✓

20

B. x
710.9

1.7

97.3 ✓

15

7.8

01.1 ✓

10

12.5

98.4 ✓

u.
4900

14.4

96.5 ✓

	B. T 710.9	N3150	
4990	Plotted	10.4 00.5 ✓	
84		7.9 03.0 ✓	
80		3.1 07.8 ✓ ✓	
		N3140	
4880	Plotted	6.3 04.6 ✓	
90		7.4 03.5 ✓	
4900		9.2 01.7 ✓	
10		8.5 02.4 ✓	
20		2.0 08.9 ✓	
30		12.8 98.1 ✓	
40		9.3 01.6 ✓	
52		11.3 99.6 ✓	
54		8.3 02.6 ✓	
60		9.3 01.6 ✓	
70		10.0 00.9 ✓	
75		674.1 +9.8 83.9 ✓	
82		+7.3 81.4 ✓	
91		+1.9 76.0 ✓	
95			668.2
97		664.3 ✓	

	699.0	N3130		
4997		666.2		
95		81.1		
80		12.6 86.4 ✓		
70		7.2 91.8 ✓		
60		5.3 93.7 ✓		
	B. T 710.9			
50	Plotted	9.4 01.5 ✓		
40		7.5 03.4 ✓		
30		8.5 02.4 ✓		
20		6.0 04.9 ✓		
10		3.0 07.9 ✓		
4900		2.5 08.4 ✓		
4880		0.2 10.7 ✓		
86		+1.3 12.2 ✓		
80		+4.4 15.3 ✓ ✓		
			N3120	
4880		+8.0 18.9 ✓		
90		+8.6 19.5 ✓		
95		+1.3 12.2 ✓ ✓		

x

B. T
710.9

N3120

4900	0.0	10.9	✓
10	1.2	09.7	✓
20	3.3	07.6	✓
30	4.4	06.5	✓
40	6.4	04.5	✓
50	6.8	03.1 4.1	✓
60	12.2	98.7	✓
70	2.1	96.9	✓
80	6.4	92.6	✓
90	10.5	88.5	✓
94	11.3	87.7	✓

Potted

L.
699.0

N3110

4994	9.1	89.9	✓
80	0.0	99.0	✓
70	8.9	02.0	✓
60	7.0	03.9	✓
50	4.4	06.5	✓

B. T
710.9

x 20

B. T
710.9

N3110

4940	2.6	08.3	✓
30	0.6	10.3	✓
20	+4.0	14.9	✓
10	+6.9	17.8	✓
4900	+8.4	19.3	✓
4895	+10.7	21.6	✓
4925	+13.5	24.4	✓
30	+10.1	21.0	✓
40	+1.7	12.6	✓
50	-0.8	10.1 11.7	✓
60	2.2	08.7	✓
70	2.1	08.8	✓
80	6.7	04.2	✓
87	9.8	01.1	✓

Potted

N3100

End Aug!

Final X sections Aug 5-1923
 (No Rocks in these sections
 if they are above 0.6 they
 are dirt)

673.14

N4040

B.M.	8.58	673.14 ✓	664.96	5160
			N4060	50
5170		5.7	674 ✓	40
60		3.7	694 ✓	35
50		3.6	695 ✓	5120
40		3.3	698 ✓	10
30		3.1	700 ✓	5100
20		3.1	700 ✓	5090
5113		2.7	704 ✓	5086

29.
28
1.0
at station m

N4050

5099		2.9	702 ✓	5075
5110		3.0	701 ✓	90
20		3.2	699 ✓	5100
30		3.4	697 ✓	10
40		3.2	699 ✓	20
46		3.1	700 ✓	30
50		5.2	679 ✓	40
60		9.8	633 ✓	50
70		12.9	602 ✓	

plotted

at station m

N4030

2.9	702 ✓
3.0	701 ✓
3.2	699 ✓
3.4	697 ✓
3.4	697 ✓
4.5	686 ✓
13.4	597 ✓
18.0	55.1 ✓

plotted

at station m

673.14

N4020

5135	18.4	54.7	✓
30	14.8	58.3	✓
25	10.0	63.1	✓
20	9.5	63.6	✓
10	7.3	65.8	✓
5105	6.2	66.9	✓
5100	0.0	73.1	✓
5090	1.4	71.7	✓
80	3.0	70.1	✓
5065	2.1	71.0	✓

at planting

N4010

5058	2.8	70.3	✓
70	3.0	70.1	✓
80	1.0	72.1	✓
85	1.4	71.7	✓
90	5.9	67.2	✓
5100	10.1	63.0	✓
10	12.1	61.0	✓
20	15.6	57.5	✓
27	19.0	54.1	✓

at planting

673.14

N4000

5116	19.7	53.4	✓
5110	19.1	54.0	✓
5100	15.7	57.4	✓
5090	10.8	62.3	✓
83	8.9	64.2	✓
80	4.1	69.0	✓
70	2.4	70.7	✓
60	2.7	70.4	✓
5045	2.6	70.5	✓

at planting

N3990

B.M.	7.78	672.34	✓
5085	15.9	56.4	✓
80	11.8	60.5	✓
70	8.6	63.7	✓
60	2.0	70.3	✓
50	1.4	70.9	✓
40	1.5	70.8	✓
5030	1.2	71.1	✓

at planting

Aug 7-1933

672.34

N3980 ✓

5060

5.4

66.9 ✓

5010

675.87

N3960 ✓

5.0

70.9 ✓

50

2.7

69.4 ✓

- 20

8.3

67.6 ✓

40

1.1

71.2 ✓

25

4.8

71.1 ✓

30

1.3

71.0 ✓

N3950 ✓

20

1.1

71.2 ✓

4961

3.7

72.2 ✓

5013

1.1

71.2 ✓

80

4.0

71.9 ✓

continued from page 25

N3970 ✓

7.7 6.47 675.87 ✓

2.74

669.40 ✓

90

8.6

67.3 ✓

4995

4.5

71.4 ✓

49.97

11.1

64.8 ✓

5005

4.5

71.4 ✓

5003

25.9

50.0 ✓

5020

4.8

71.1 ✓

5010

14.5

61.4 ✓

5030

5.3

70.6 ✓

Aug 8 - 1933

5035

5.0

70.9 ✓

B.M.

5.33

674.73

669.40

5040

7.7

68.2 ✓

4832

N3940 ✓

5045

10.7

65.2 ✓

4920

+7.1

71.8

0.6

5050

13.3

62.6 ✓

30

+8.0

82.7

0.6 ✓

35

+1.9

76.6 ✓

50

2.6

72.1 ✓

N3960 ✓

continued from page 25

4978

4.1

71.8 ✓

60

2.8

71.9 ✓

4990

4.3

71.6 ✓

70

2.8

71.9 ✓

2.6

72.1 ✓

collected

collected

674.73

N3940

4980

4.8 69.9 ✓ ✓

70

4990

6572 ✓

80

N3930

85

4840

4.2 70.5 ✓

50

0.6 74.1 ✓

4820

60

1.6 73.1 ✓

30

70

+3.5 78.2 ✓

40

80

+2.4 77.1 ✓

50

85

+1.5 76.2 ✓

60

90

1.5 73.2 ✓

70

4900

2.9 71.8 ✓

80

10

3.2 71.5 ✓

90

20

3.1 71.6 ✓

4900

30

3.0 71.7 ✓

10

40

5.0 69.7 ✓

20

50

8.2 66.5 ✓

30

35

60

9.7 65.0 ✓

40

65

8.0 66.7 ✓ ✓

50

60

24

674.73

N3930

14.6 60.1 ✓ ✓

15.5 59.2 ✓ ✓

54.2

N3920

6.3 68.4 ✓

4.3 70.4 ✓

4.2 70.5 ✓

4.1 70.6 ✓

3.9 70.8 ✓

3.8 70.9 ✓

3.6 71.1 ✓

3.5 71.2 ✓

3.3 71.4 ✓

3.1 71.6 ✓

3.2 71.5 ✓

4.2 70.5 ✓

5.3 69.4 ✓

10.4 64.3 ✓

14.8 59.9 ✓

18.8 55.9 ✓ ✓

674.73 N3910

4830	11.5	63.2 ✓
35	8.0	66.7 ✓
40	9.3	65.4 ✓
50	9.3	65.4 ✓
60	4.9	69.8 ✓
65	5.8	68.9 ✓
70	5.6	69.1 ✓
80	7.0	67.7 ✓
85	6.1	68.6 ✓
90	3.4	71.3 ✓
4900	5.3	69.4 ✓
05	4.0	70.7 ✓
10	7.3	67.4 ✓
.20 same slope ↓	10.8	63.9 ✓ ✓

potted

N3900

4880	18.2	56.5 ✓
86	12.6	62.1 ✓
90	14.5	60.2 ✓ ✓

674.73 N3900

4900	15.3	59.4 ✓ ✓
10	20.4	54.3 ✓ ✓
T.P.	3.73	671.00
4.17	675.17 ✓	

N3950 ✓

4818	+7.4	826 O.G. ✓ ✓
------	------	--------------

N3960 ✓

4811	+13.5	887 O.G. ✓
------	-------	------------

4809	+2.0	772 ✓
------	------	-------

4800	4.6	70.6 ✓
------	-----	--------

4790	4.9	70.3 ✓
------	-----	--------

80	4.7	70.5 ✓
----	-----	--------

70	4.2	71.0 ✓
----	-----	--------

4760	3.8	71.4 ✓ ✓
------	-----	----------

N3970 ✓

4760	3.1	72.1 ✓ ✓
------	-----	----------

70	3.8	71.4 ✓ ✓
----	-----	----------

80	4.5	70.7 ✓ ✓
----	-----	----------

90	4.6	70.6 ✓ ✓
----	-----	----------

potted

675.17

N3970 ✓

4798 0.0 75.2 ✓ ✓

4805 +7.0 82.2 ✓ ✓

N3980

4760 2.1 73.1 ✓

70 3.3 71.9 ✓ ✓

80 4.1 71.1 ✓ ✓

90 4.5 70.7 ✓

98 +0.6 75.8 ✓

4800 +15.6 90.8 ✓ ✓

plotted

B.M. 1.07 709.60 708.53 ✓

13.01 696.57 ✓

1.77 698.36

Set B.M. 8.60 689.76 ✓

T.P. 8.82 689.54 ✓

3.21 692.75

Well #5 2.57 690.18 ✓

2.88 693.06

Set B.M. 2.75 690.31 ✓

9.66 699.97

Plotted

N4080 ✓

5090 5.3 694.7 ✓ *cl. plotting out*

N4070 ✓

5080 5.6 694.4 ✓ *cl. plotting out*

N4060 ✓

5070 4.2 695.8 ✓ *not used*

80 10.0 690.0 ✓ *cl. plotting out*

90 15.1 684.9 ✓ *cl. plotting out*

5100 18.9 681.1 ✓



Sept 27

N4050

699.9

B.M.	9.6)	level 699.92	690.31	✓	5003
T.P.			12.77 687.15	✓	10
	104	688.19		✓	20
		699.9			30
5070			9.2 ^{sec page 57} 690.7	✓	40
80			14.5 685.4	✓	
5090			19.1 680.8	✓	50

N4040

5080			20.0 679.9		60
70			15.4 684.5		58
66			9.1 690.8	✓	5050
60			7.4 692.5	✓	42
50			4.3 695.6		36

N4030

5040			7.5 692.4		30
50			10.9 689.0		20
60			11.6 688.3		10
67			12.3 687.6		5003

27

N4020

6.9	693.0	✓	not used
5.7	694.2	✓	" "
8.0	691.9	✓	" "
7.5	692.4	✓	" "
11.6	688.3	✓	el. plotted
7.2	681.0	✓	not used
10.4	677.8	✓	" "
15.3	672.9	✓	plotted

N4010

15.5	672.7	✓	
11.2	677.0		
2.1	686.1	✓	
1.1	687.1	✓	x not used
+4.9	693.1	✓	x " "
+4.8	693.0	✓	x " "
1.0	687.2	✓	el. plotted

Osburn
Soper
Isabelle
Salgado
Remmen

Final X Sections of Stripping North Abut. 28

Sept. 5, 1934

688.2 N4000

5003	3.8	684.4	✓
12	+3.0	691.2	✓
20	0.4	687.8	✓
30	4.6	683.6	✓

D.M.	12.42	746.28	✓
5009			
20	Hqd. Fill		

N4100 N3990 = 00

14.6	731.7	✓
15.4	730.9	✓

N3990 ✓

N4110

Cont. in 489/4

28	6.6	681.6	✓
20	4.1	684.1	✓
10	5.1	683.1	✓

5025	on Fill		
20			
10			

15.4	30.9	✓
14.1	32.2	✓
10.0	36.3	✓

5003	7.6	680.6	✓
------	-----	-------	---

N3980 ✓

N4120

From Page 62

5010	13.8	674.4	✓
5003	13.8	674.4	✓

5004			
10			
20			
30			

4.4	41.9	✓
5.5	40.8	✓
10.7	35.6	✓
13.8	32.5	✓

N4130

5004			
10			
20			
30			
40			

0.0	746.3	✓
3.3	43.0	✓
6.5	39.8	✓
9.1	37.2	✓
13.6	32.7	✓

746.28 ✓
T.P. 0.11 746.17 ✓ 5060

7.10 753.27 ✓ 70

N 4140

5012 6.6 746.7 ✓ 5070

20 9.2 44.1 ✓ 60

30 12.3 41.0 ✓ 50

40 15.8 37.5 ✓

50 19.8 33.5 ✓

N 4150

5020 5.1 48.3 ✓

25 5.9 47.4 ✓

35 10.5 42.8 ✓

40 12.2 41.1 ✓

50 15.3 38.0 ✓

60 on road fill 17.8 35.5 ✓

N 4160

5035 6.2 47.1 ✓

40 8.2 45.1 ✓

50 11.8 41.5 ✓

N 4160

753.27 ✓

15.5 737.8 ✓

16.2 37.1 ✓

N 4170

8.8 44.5 ✓

5.3 48.0 ✓

6.5 46.8 ✓

29

cl. planting
m

at 41.20
on hill
cl. planting
m

Final Sections South Abut. • Osborne
Soper
Salgado
Isabelle

Sept. 5, 1934

B.M. 1264 73633 ✓ 72369

196 73437 ✓

8.76 743.13 ✓

N 3030

5040

2.1 741.0 ✓ ⁴⁴⁵ ₆₃ *Superior*

50

3.5 39.6 ✓ "

60

7.6 35.5 ✓ "

70

10.5 32.6 ✓ "

78

10.2 32.9 ✓ *used*

N 3040

5012

7.0 36.1 ✓ ⁴⁴⁵ ₆₃ *Superior*

20

7.6 35.5 ✓ *use*

30

7.1 36.0 ✓ "

40

10.6 32.5 ✓ "

50

on fill

11.8 31.3 ✓ [?] ✓

Used - Pg 30-55

X Sections of Hydraulic Fill

Copied from Cont. Record per Simpson.

B.M. 4.89 691.25 686.36

T.P. 6.43 684.82

5.99 690.81

N3190

E 4871

not complete
70' d.
in

6.4 84.4

80

5.5 85.3 o.g.

90

7.9 82.9

95

6.4 84.4

4901

10.2 80.6 w.s.

690.81

N3200

4873

6.3 84.5

80

7.1 83.7

90

7.7 83.1

94

8.0 82.8

4900

10.2 80.6 w.s.

690.81

N3210

4869

2.0

88.8

77

6.1

84.7

90

7.6

83.2

96

8.0

82.8

4900

9.5

81.3

690.81

N3220

4870

2.2

88.6

76

5.2

85.6

80

6.0

84.8

90

7.8

83.0

4900

7.8

83.0

04

7.9

82.9

10

10.0

80.8

690.81

N3230

4869	2.3	88.5
78	5.7	85.1
90	7.3	83.5
4900	7.9	82.9
10	8.4	82.4
15	10.2	80.6

690.81

N3240

4873	2.6	88.2
80	5.7	85.1
90	7.1	83.7
4900	7.5	83.3
10	7.8	83.0
18	8.1	82.7
20	9.1	81.7

690.81

N3250

4890

6.4

84.4

4900

7.3

83.5

10

7.6

83.2

20

7.9

82.9

24

8.2

82.6

30

10.6

80.2

690.81

N3250

4872

1.6

89.2

80

5.0

85.8

690.81

N3260

4873	2.0	88.8
81	5.6	85.2
90	6.7	84.1
4900	7.2	83.6
10	7.6	83.2
20	7.8	83.0
27	8.3	82.5
30	9.5	81.3

690.81

N3270

4873	2.3	88.5
80	5.2	85.6
90	6.6	84.2
4900	7.1	83.7
10	7.5	83.3

690.81

N3270

4920

7.8

83.0

30

8.4

82.4

40

11.7

79.1

690.81

N3280

4872

2.4

88.4

78

5.0

85.8

90

6.0

84.8

4900

6.9

83.9

10

7.5

83.3

20

7.9

82.9

30

8.0

82.8

34

8.4

82.4

40

10.7

80.1

	690.81	N3290
4873		2.6 88.2
82		5.5 85.3
90		6.3 84.5
4900		6.8 84.0
10		7.3 83.5
20		7.8 83.0
30		8.1 82.7
36		8.7 82.1
40		10.2 80.6

	690.81	N3300
4874		2.3 88.5
79		4.7 86.1
90		6.4 84.4

690.81

N3300

4900

6.8

84.0

10

7.3

83.5

20

7.7

83.1

30

8.0

82.8

35

8.4

82.4

40

10.3

80.5

690.81

N3310

4873

2.2

88.6

79

5.0

85.8

90

6.4

84.4

4900

6.8

84.0

10

7.2

83.6

20

7.6

83.2

30

8.0

82.8

35

8.2

82.6

40

10.0

80.8

690.81

N3320

4930

8.1 82.7

34

8.4 82.4

40

10.7 80.1

690.81

N3320

4873

1.9 88.9

79

6.1 84.7

90

6.5 84.3

4900

6.9 83.9

10

7.3 83.5

20

7.8 83.0

690.81

N3330

4872	2.1	88.7
79	4.9	85.9
90	6.5	84.3
4900	7.0	83.8
10	7.5	83.3
20	7.9	82.9
30	8.2	82.6
33	8.4	82.4
40	11.1	79.7

690.81

N3340

4872	2.1	88.7
79	5.2	85.6
90	6.5	84.3
4900	7.0	83.8
10	7.4	83.4
20	7.8	83.0
30	8.2	82.6
35	8.6	82.2
40	10.2	80.6

690.81

N3350

4900

7.1 83.7

10

7.6 83.2

20

7.8 83.0

30

8.1 82.7

37

8.6 82.2

40

10.0 80.8

690.81

N3350

4872

2.1 88.7

80

4.4 86.4

90

6.2 84.6

690.81

N3360

4872	1.6	89.2
79	3.9	86.9
90	5.9	84.9
4900	7.0	83.8
10	7.5	83.3
20	7.9	82.9
30	8.2	82.6
39	8.8	82.0

T.P. 6.57 691.39

684.82

Oct 28, 1933

N3370

4872	2.0	89.4
80	4.8	86.6
90	6.5	84.9
4900	7.6	83.8

691.39

N3370

4910	8.1	83.3
20	8.5	82.9
30	8.8	82.6
40	9.3	82.1
42	9.5	81.9

691.39

N3380

4873	2.2	89.2
80	4.9	86.5
90	7.0	84.4
4900	7.8	83.6
10	8.2	83.2
20	8.5	82.9
30	8.8	82.6
40	9.3	82.1
42	9.4	82.0

691.39

N3390

4940

9.3

82.1

42

9.5

81.9

691.39

N3390

4875

1.7

89.7

85

6.4

85.0

90

7.2

84.2

4900

7.7

83.7

10

8.2

83.2

20

8.7

82.7

30

8.8

82.6

691.39

N3400

4874	1.3	90.1
83	6.4	85.0
90	7.5	83.9
4900	7.9	83.5
10	8.2	83.2
20	8.5	82.9
30	8.9	82.5
40	9.3	82.1
43	9.7	81.7

691.39

N3410

4873	0.8	90.6
80	5.7	85.7
90	7.4	84.0
4900	8.1	83.3
10	8.4	83.0
20	8.6	82.8
30	9.0	82.4
40	9.4	82.0
42	9.8	81.6

691.39

N3420

1900

8.0 83.4

10

8.4 83.0

20

8.7 82.7

30

9.0 82.4

40

9.4 82.0

43

9.7 81.7

691.39

N3420

4872

1.1 90.3

81

5.9 85.5

90

7.5 83.9

691.39

N3430

4873

1.2 89.2

80

6.4 95.0

90

7.4 94.0

4900

7.7 93.7

10

8.3 93.1

20

8.6 82.8

30

9.0 82.4

41

9.6 81.8

691.39

N3440

4871

1.2 90.2

80

5.8 85.6

90

7.5 83.9

4900

8.0 83.4

10

8.3 83.1

20

8.6 82.8

30

9.0 82.4

691.39

N3440

4940

9.4

82.0

44

9.6

81.8

49

691.39

N3450

4872

1.4

90.0

83

7.2

84.2

90

7.5

83.9

4900

7.9

83.5

10

8.2

83.2

20

8.6

82.8

30

9.0

82.4

40

9.3

82.1

45

9.5

81.9

691.39

N3460

4871	1.7	89.7
80	6.3	85.1
90	7.4	84.0
4900	8.0	83.4
10	8.2	83.2
20	8.6	82.8
30	8.9	82.5
40	9.3	82.1
45	9.5	81.9

691.39

N3470

4873	2.2	89.2
80	6.6	84.8
90	7.5	83.9

691.39

N3470

4900	7.7	837
10	8.0	834
20	8.4	830
30	8.8	826
40	9.2	822
47	9.5	819
50	10.8	80.6

691.39

N3480

4872	1.7	897
80	6.3	85.1
90	7.3	84.1
4900	7.8	83.6
10	8.2	83.2
20	8.5	82.9
30	8.8	82.6
40	9.1	82.3
49	9.7	81.7

689.99

N3490

4930

7.4

40

7.8

47

8.2

50

9.5

Nov. 3, 1933

B.M.

5.17

689.99

684.82

N3490

4874

0.9

82

5.0

90

6.0

4900

6.3

10

6.7

20

7.0

689.99

N 3500

4874

0.9

83

5.0

90

5.7

4900

6.2

10

6.7

20

7.0

30

7.4

40

7.9

45

8.3

689.99

N3510

4874

1.8

83

5.4

90

5.8

4900

6.3

10

6.6

20

7.0

30

7.4

40

7.9

43

8.1

689.99

N3520

4900

6.2

10

6.7

20

7.1

30

7.5

40

8.0

43

8.1

689.99

N3520

4874

0.3

82

4.9

90

5.7

689.99

N3530

4873

0.7

80

5.1

90

5.9

4900

6.3

10

6.6

20

7.1

30

7.5

40

8.0

43

8.2

689.99

N3530

4873

0.7

80

5.1

90

5.9

4900

6.3

10

6.6

20

7.1

30

7.5

40

8.0

43

8.2

Simpson
Falgsdo
Remmer.

Final cross-sections after
stripping on North abutment.

Nov. 22, 1933

B.M. 9.00 699.31

690.31

N3990

5020

15.3 84.0 ✓

10

16.2 83.1 ✓

5003

17.5 81.8 ✓

N4000

5003

14.8 84.5 ✓

12

7.6 91.7 ✓

20

11.6 87.7 ✓

30

16.2 83.1 ✓

N4010

5038

14.5 84.8 ✓

30

12.5 86.8 ✓

20

6.8 92.5 ✓

10

8.2 91.1 ✓

5003

11.6 87.7 ✓

699.31

56

N4020

5003

9.2 90.1 ✓

10

8.8 90.5 ✓

20

7.8 91.5 ✓

30

7.5 91.8 ✓

40

10.8 88.5 ✓

50

15.6 83.7 ✓

N4030

5070

15.7 83.6 ✓

60

10.7 88.6 ✓

50

11.2 88.1 ✓

40

5.6 93.7 ✓

34

2.7 96.6 ✓

30

5.8 93.5 ✓

25

0.5 98.8 ✓

20

2.2 97.1 ✓

10

5.9 93.4 ✓

5003

5.1 94.2 ✓

Plotted

Plotted

ch. p. 100
m

ch. p. 100
m

ch. p. 100
m

ch. p. 100
m

not used

ch. p. 100
m

not used

699.31

N4040

5003	+2.0	701.3	✓
10	0.5	98.8	✓
15	0.2	99.1	✓
20	+4.7	04.0	✓
30	+1.7	01.0	✓
40	4.7	94.6	✓
50	6.5	92.8	✓
60	6.8	92.5	✓
70	11.8	87.5	✓ not used
80	15.3	84.0	✓ not used

Plotted

N4050

5003	+3.9	03.2	✓
10	+4.5	03.8	✓
20	+6.1	05.4	✓
30	+6.1	05.4	✓
40	+3.3	02.6	✓
50	4.0	75.3	✓
60	1.6	97.7	✓

at station in

699.31

N4050

5070	9.9	89.4	✓
80	12.7	86.6	✓

ch 21
see Page 21

B.M. 5.80 709.63 ✓

703.83

N4060

5090	19.7	89.9	✓ not used
80	17.4	92.2	✓ " "
70	16.6	93.0	✓ used
60	14.1	95.5	✓

Plotted

50

45

40

30

20

10

50 03

9.0 00.6 ✓

4.0 05.6 ✓

3.8 05.8 ✓

3.3 06.3 ✓

3.6 06.0 ✓

3.7 05.9 ✓

4.2 05.4 ✓

at station in

Dec. 1, 1933.

58

70963

Final Cross-sections

	N4070	
5003	2.7	706.9 ✓
10	2.6	07.0 ✓
20	2.1	07.5 ✓
30	2.7	06.9 ✓
40	3.6	06.0 ✓
50	3.9	05.7 ✓
56	4.3	05.3 ✓
60	8.2	01.4 ✓
70	9.7	699.9 ✓
80	11.6	98.0 ✓
90	15.0	94.6 ✓
	N4080	
5090	10.9	98.7 ✓
80	7.4	702.2 ✓
70	5.6	04.0 ✓
60	4.1	05.5 ✓
50	3.5	06.1 ✓
40	2.5	07.1 ✓
B.M.	5.80	703.83

Plotted

Rec. Elev.
703.83.

B.M.	5.77	709.60	703.83
T.P.			0.28
	13.04	722.36	
	N4080 ✓		
5030		5.9	16.5 ✓
20		1.5	20.9 ✓
10		10.3	12.1 ✓
5003		10.8	11.6 ✓
	N4090		
5003		0.4	22.0 ✓
10		+2.9	25.3 ✓
20		+9.7	32.1 ✓
30		0.5	21.9 ✓
40		6.6	15.8 ✓
50		12.2	10.2 ✓
60		15.3	07.1 ✓
		709.60	
70		5.4	04.2 ✓
80		6.3	03.3 ✓

Plotted

All plotted in

✓ Suspended
see pg 64on Large
✓ Boulder

All plotted in

709.60

N4090

5090

Plotted

6.9

02.7

✓
sh. station
m

5100

6.8

02.8

✓

Final X Sections
July 6 - 1934

Elliott
Simpson
Soper
Remmen

N4020

60

Staff

711.9

711.9

N3980

4940

Plotted

9.9

702.0

ok plotting m

4990

11.4

700.5

✓

ok plotting m

4940

9.9

702.0

ok plotting m

84

6.9

705.0

✓

ok plotting m

N3990

4960

5.0

706.9

ok plotting m

70

Plotted
m

3.8

708.1

✓

50

Plotted

4.2

707.7

ok plotting m

63

+0.7

7126

✓

43

50

706.9

ok plotting m

4997

16.2

6957

✓

N4000

4960

0.5

711.4

ok plotting m

96

16.2

6957

✓

ok plotting m

50

Plotted

+4.1

716.0

ok plotting m

92

Plotted

8.6

703.3

✓

44

+6.6

718.5

ok plotting m

80

5.6

706.3

✓

N4010

4990

16.7

6952

ok plotting m

4997

9.8

702.1

✓

✓

80

9.3

702.6

ok plotting m

90

Plotted

5.5

706.4

✓

✓

70

1.9

710.0

ok plotting m

84

4.5

707.4

✓

✓

60

Plotted

+3.3

715.2

ok plotting m

78

+3.5

715.4

✓

✓

50

+9.0

720.9

ok plotting m

42

+11.3

723.2

ok plotting m

N4040

9.8

702.1

✓

✓

5.5

706.4

✓

✓

4.5

707.4

✓

✓

+3.5

715.4

✓

✓

Final X Sections
July 10-1934

Elliott
Simpson
Remmen 61

N4050

4997	711.9	9.7	702.2 ✓	Plotted ok plotting
96		6.8	705.1 ✓	
92		4.6	707.3 ✓	
85		1.5	710.4 ✓	

N4060

4997		5.9	706.0 ✓	Plotted ok plotting
92		3.9	708.0 ✓	

N4070

4997		4.5	707.4 ✓	Plotted ok plotting
4987		+5.0	716.9 ✓	

N4080

4997		+6.0	717.9 ✓	Plotted ok plotting
B.M.	3.53	753.50	749.97	
Set B.M.		8.75	744.75 ✓	

B.M.	7.45	752.20	744.75
------	------	--------	--------

N4160

5003		3.7	748.5 ✓	Plotted ok plotting
06		+1.4	753.6 ✓	
10		+5.3	757.5 ✓	
15		+6.4	758.6 ✓	
20		+5.4	757.6 ✓	
28		2.0	750.2 ✓	
40		4.2	748.0 ✓	
50		5.0	747.2 ✓	

N4150

5040		4.8	747.4 ✓	Plotted ok plotting
30		4.3	747.9 ✓	
20		4.0	748.2 ✓	
10		2.0	750.2 ✓	
03		5.6	746.6 ✓	

752.2 ✓

N4140

5003

5.8 746.4 ✓ *ok plotting*

10

5.0 747.2 ✓

20

5.0 747.2 ✓ *approved*

30

5.0 747.2 ✓ "

Plotted

N4130

20

5.2 747.0 ✓ *approved*

10

5.0 747.2 ✓ "

Plotted

5003

5.8 746.4 ✓ ✓

N4120

5003

11.9 740.3 ✓ *ok plotting*

07

5.5 746.7 ✓ *approved*

10

5.0 747.2 ✓ "

Plotted

N4110

5010

9.2 743.0 ✓ *ok plotting*

03

20.0 732.2 ✓ *see page 28**Plotted*

N4100

5010

18.2 734.0 ✓ *ok plotting*

03

27.8 724.4 ✓ *ok plotting**Plotted*

752.2 ✓ N4090

62

5003

36.5 715.7 ✓ *ok plotting*

11

27.2 725.0 ✓

Plotted

B.M.

4.50 749.25

744.75

N4110

4997

13.3 736.0 ✓

96

10.8 738.5 ✓ *ok plotting**Plotted*

92

2.0 747.3 ✓

80

0.8 748.5 ✓

N4100

4980

1.9 747.4 ✓ *ok plotting*

88

2.3 747.0 ✓

Plotted

94

7.2 742.1 ✓

97

18.4 730.9 ✓

N4090

4997

25.2 724.1 ✓

96

20.7 728.6 ✓

94

16.3 733.0 ✓ *ok plotting*

86

9.4 739.9 ✓

80

6.8 742.5 ✓

Plotted

749.2 N4080

4970		3.1	746.1 ✓
80		8.7	740.5 ✓
86	Plotted	14.1	735.1 ✓

July 12 - 1934

Elliott
Simpson
Remmen

B.M. 3.45 748.20 ✓ 744.75

4992 22.1 26.1 ✓

N4070

4985 17.6 30.6 ✓

4980 13.7 34.5 ✓

4970 4.3 743.9 ✓

N4060

4970 9.5 738.7 ✓

80 15.9 732.2 ✓

85 24.0 724.2 ✓

T.R. 12.74 735.46 ✓

2.70 738.16 ✓

738.2 N4050

4979 12.0 726.2 ✓

70 3.6 734.6 ✓

N4040

4977 13.7 724.5 ✓

70 10.5 727.7 ✓

67 9.8 728.4 ✓

62 1.2 737.0 ✓

55 2.3 735.9 ✓

N4030

4962 12.6 725.6 ✓

N4020

4960 16.1 722.1 ✓

50 10.5 727.7 ✓

38 4.5 733.7 ✓

Final July 12 - 1934
X Sections

N3090

Staff	0.0	714.5	714.5	4997
4980		5.2	709.3	90
70		2.5	712.0	80
60		+2.0	716.5	
50		+6.8	721.3	
40		+12.5	727.0	4997

Plotted

N3080

4978		+6.5	721.0	95
82		3.5	711.0	4981

Plotted

Levels checked
+ Plotting

N3070

4980		+1.1	715.6	
4978		+12.5	727.0	

Plotted

N3060

Staff	0.0	729.5	729.5	
4997		16.4	713.1	
96		12.9	716.6	
92		9.9	719.6	
82		+3.5	733.0	

Plotted

✓

729.5

N3050

10.6	718.9
2.8	726.7
+10.6	740.1

Plotted

Original
Ground

N3040

5.5	724.0
1.1	728.4
+2.0	731.5
+19.0	748.5

Plotted

Levels checked
+ Plotting

64

Final X Sections

East of Core Wall

9/10/34 *etc.*

B.M.	138	755.86	754.48	5010
		N 3020		20 on fill
5010	3.0	752.9	9/11/34 <i>etc.</i>	
20	4.3	51.6		
30	4.7	51.2		
40	6.0	49.9		
50	9.0	46.9		
60	14.2	41.7		
70	15.2	40.7	✓	

N 3030

5070	23.0	732.9	9/12/34 <i>etc.</i>
60	20.7	35.2	
50	18.7	37.2	
40	15.0	40.9	
30	13.6	42.3	
20	14.3	41.6	
10	12.0	43.9	✓

65

N 3040

		755.86		20.9	735.0	Use
				20.0	736.9	Use E. of 30

West of Core wall

T.P.	177	755.43		753.66		
		N 3040				
		4980		7.2	748.2	Use
		4977		10.5	44.9	"
		70		10.5	44.9	"
		64		8.7	46.7	"
		60		3.3	52.1	" ✓

N 3050

4940	o.g.	4.9	750.5	Use
50		10.9	44.5	"
60		16.4	39.0	"
70		18.3	37.1	"
80		18.3	37.1	✓

N 3060

4970	on fill?	19.4	36.0	not used
60		20.0	35.4	✓

N 3060

755.43

4950 18.4 737.0 ✓

40 15.4 40.0 ✓

30 o.g. 9.2 46.2 ✓

N 3070

4927 o.g. 15.0 740.4 ✓

4930 16.9 38.5 ✓

35 edge of fill 18.4 37.0 ✓

66

Plotting ok ✓

74

FOMS FOMS

703.83
0.45
702.28
13.18

691.10
0.6

691.7

~~691.7~~

917
783
134

917
124

793

917
803
114

FOMS

185
25
925
370
46.25

5145.7
46.2
5191.9

20.7
20
1035
417
5205

3180 = 700.7

118
7
7826
1118
8944
1118
100.62
6

21.7
2.5 | 54.30
50
43
25

5145.7
520
5297.7

700
197
803
783
217
800

5195
5145.7
25 | 4930 | 19.7
25
243
225
180

80.3

