

W
373

MINING
TRANSIT BOOK
No. 422

373

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.

MICROFILMED

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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X Sections Above Core Wall for Nov. 1932
20-34 Estimate.

1-19 X Sections of Rock Embankment
For Nov 1932 Estimate

20-34 X sections between core wall and
upstream rock embankment. Nov. 1932 Est.

35-49 X sections of downstr. rock emb.
for Dec. 1932 Estimate.

50-73 X sections of upstream rock emb.
for Dec 1932 Estimate.

74-75 Additional core wall trench
excavation for Jan 1933 Est.

X Sections of Rock Embankment
Below Upstream Toe Wall, For Nov. 1932 Est.

N4040 ✓

B.M.	S.83	630.83	625.00
5330		3.0	27.8 ✓
5300		3.6	27.2 ✓

N4020 ✓

5345		5.0	25.8 ✓
5340		4.6	26.2 ✓
5320		4.0	26.8 ✓
5295		5.5	25.3 ✓

N4000 ✓

5360		6.5	24.3 ✓ Toe
340		5.6	25.2 ✓
320		5.5	25.3 ✓
5300		5.9	24.9 ✓
5280		6.0	24.8 ✓
5260		5.4	25.4 ✓
5240		4.7	26.1 ✓

Stevens Keeping
Notes for R & C. Co.

Dec 1-1932
Elliott - Notes
Simpson - X
Soper - Red. H/Ch.
Remmen - R.Cb

plotted F.O. - REL.

N 3980
630.83

5365			Toe
5350	5.9	24.9 ✓	
340	5.9	24.9 ✓	
320	5.7	25.1 ✓	
5300	5.4	25.4 ✓	
5280	5.5	25.3 ✓	
5260	4.6	26.2 ✓	
5240	4.7	26.1 ✓	
5220			Toe

N 3960

5375			Toe
5335	6.1	62.47 ✓	
320	5.3	25.5 ✓	
300	5.2	25.6 ✓	
280	4.7	26.1 ✓	
260	4.5	26.3 ✓	
240	4.0	26.8 ✓	
215			Toe

N3940 ✓
630.83

5370			Too
5325	5.1	6257 ✓	
300	4.1	267	
280	4.1	267 ✓	
260	4.1	267 ✓	
5250	3.6	272 ✓	
215			Too

N3920 ✓

5375			Too
5325	4.3	6265 ✓	
5300	4.0	268	
5280	3.9	269 ✓	
5260	3.7	271 ✓	
5250	3.8	270 ✓	
215			Too

630.83 N3900

5385			Toe
5325	4.3	626.5 ✓	
300	4.0	26.8 ✓	
280	3.7	27.1 ✓	
260	4.1	26.7 ✓	
250	4.1	26.7 ✓	
5190			Toe

630.8

N3880

5450	-		Toe
5440	50.9	579.9 ✓	
5420	46.8	84.0 ✓	
5400	45.8	85.0 ✓	
5380	45.8	85.0 ✓	
325	3.8	627.0 ✓	
300	3.9	26.9 ✓	
280	4.0	26.8 ✓	
260	4.2	26.6 ✓	
245	1.4	26.4 ✓	
5190			Toe

No Rock Placed

N3860
630.83

5530		575.0
520	55.0	575.8 ✓
500	54.2	76.6 ✓
480	49.6	81.2 ✓
460	49.6	81.2 ✓
440	49.1	81.7 ✓
420	47.7	83.1 ✓
400	46.8	84.0 ✓
375	46.5	84.3 ✓
320	4.2	626.6 ✓
300	3.9	26.9 ✓
280	4.0	26.8 ✓
260	4.2	26.6 ✓
245	4.2	26.6 ✓
5165		Toe

Toe Wall

5

N3840
630.83

523		575.0	Toe Wall
500		575.0	
480	50.4	580.4	
460	49.4	81.4	
440	49.0	81.8	
420	47.0	83.8	
400	48.2	82.6	
375	45.9	84.9	
320	4.1	626.7	
300	4.0	268	
280	3.8	270	
260	4.1	26.7	
240	4.2	26.6	
5155			Toe

B.M.	11.51	586.51	575.00
5520			11.5 75.0 ✓
500			11.8 74.7 ✓
480			7.8 78.7 ✓
460			5.3 81.2 ✓
440			5.0 81.5 ✓
420			4.9 81.6 ✓
400			4.1 82.4 ✓
380			2.9 83.6 ✓
370			1.7 84.8 ✓
300			626.6
280			626.6
5150			Tee

N3800
586.51

500		575.0
480	7.7	78.8 ✓
460	5.0	81.5 ✓
440	5.0	81.5 ✓
420	5.2	81.3 ✓
400	5.2	81.3 ✓
380	4.0	82.5 ✓
5360	1.0	85.5 ✓

Interpolate 3780 to 3830

5160

700

8

Toe wall

586.51

B.M. 10.97 585.97 11.51 575.00

N3780

5505

586

575.0

500 11.5 74.5 ✓

480 8.1 77.9 ✓

460 4.9 81.1 ✓

440 4.4 81.6 ✓

420 4.9 81.1 ✓

400 4.7 81.3 ✓

380 4.5 81.5 ✓

360 4.7 81.3 ✓

350 4.5 81.5 ✓

↑
level

240 3.0 83.0 ✓

220 3.0 83.0 ✓

200 3.0 83.0 ✓

188 3.3 82.7 ✓

150 toe

7
Toe wall

585.97 N3760

5500		575.0	
480	11.6	74.4	✓
460	4.8	81.2	✓
440	5.0	81.0	✓
420	5.0	81.0	✓
400	4.8	81.2	✓
380	5.0	81.0	✓
360	5.0	81.0	✓
340	4.8	81.2	✓
320	5.3	80.7	✓
300	5.5	80.5	✓
280	6.0	80.0	✓
260	5.9	80.1	✓
240	4.6	81.4	✓
220	3.9	82.1	✓
200	2.6	83.4	✓
190	1.8	84.2	✓
150		700	

10

Toe wall

N3740
585.97

?		575.0
5470		574.9
5440		580.6
5400		580.9
5340		580.4
5280		580.1
5240	5.6	804 ✓
235	2.3	83.7 ✓
200	2.5	83.5 ✓
190	2.9	83.1 ✓
150		

Tac

11
Tac Wall

N3720
585.97

?		575.0
59.70		575.1
440		580.1
400		580.7
340		580.4
280		579.7
255	6.1	79.9 ✓
250	2.6	83.4 ✓
200	3.1	82.9 ✓
190	2.4	83.6 ✓
150		100

Too Well

?		575.0
5470		75.1
455		80.0
440		80.1
400		80.4
340		80.3
280		79.7
270	6.1	79.9 ✓
260	3.5	82.5 ✓
200	2.8	83.2 ✓
190	2.9	83.1 ✓
150		700

Toe Wall

N3680 ✓
585.97

P			575.0	
5475			574.5	
460			79.8	
440			79.7	
400			80.4	
5385	5.2		80.8	✓
5380	2.1		83.9	✓

↑
level

↓				
200	2.8		83.2	✓
190	3.2		82.8	✓
150			700	

T.P. 1.99 585.89 2.07 583.90

14

Toe Wall

N3660

585.89

?	10.9	575.0	Toe Wall
5480	10.9	75.0	
5470	6.6	79.3	
5440	6.2	79.7	
5400	5.5	80.4	
5385	1.8	84.1	
Level 5200	3.6	82.3	
5190	4.0	81.9	
5150			Toe

N3640

?	10.9	75.0	Toe Wall
5480	10.9	75.0	
5475	6.9	79.0	
5400	6.1	79.8	
5390	1.9	84.0	
Level 5280	3.8	82.1	
5190	4.0	81.9	
5155			Toe

N3620

?	10.9	75.0	Toe Wall
5475	6.9	79.0	
5440	6.0	79.9	
5415	6.0	79.9	
5410	2.1	83.8	
Level 5200	3.1	82.8	
5190	3.8	82.1	
5150			Toe

N3600

?	10.9	75.0	Toe Wall
5480	12.2	73.7	
465	6.5	79.4	
440	5.7	80.2	
422	5.6	80.3	
417	2.0	83.9	
200	3.9	82.0	
190	3.9	82.0	
150			Toe

15

N3580

?	10.9	75.0	Top Wall
5475	10.6	75.3	✓
5470	6.1	79.8	✓
5440	5.6	80.3	✓
5420	5.1	80.8	✓
5415	1.6	84.3	✓
↑ Level			
↓ 5200	3.1	82.8	✓
5190	5.0	80.9	✓
5150			Toe

N3560

?	10.9		Top Wall
5485	10.7	75.2	✓
5475	6.5	79.4	✓
5415	5.2	80.7	✓
5410	1.8	84.1	✓
↑ Level			
↓ 5200	4.2	81.7	✓
5190	4.3	81.6	✓
5150			Toe

N3540

?	10.9	75.0	Top Wall
5490	10.9	75.0	✓
5470	6.4	79.5	✓
5440	5.9	80.0	✓
5420	5.2	80.7	✓
5415	1.2	84.7	✓
↑ Level			
↓ 5200	4.0	81.9	✓
5150			Toe

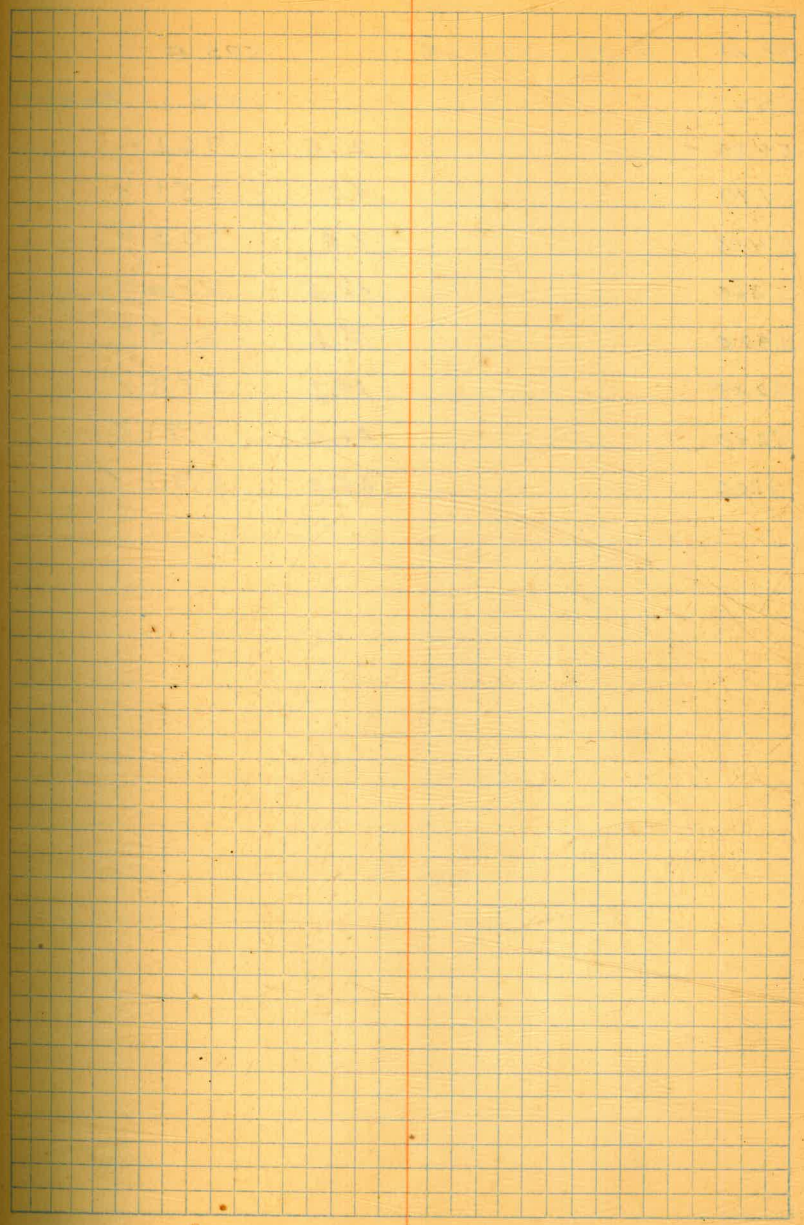
NBS20
585.89

17

?	10.9	75.0 ✓
5500	10.9	75.0 ✓
480	8.9	77.0 ✓
460	6.2	79.7 ✓
440	6.1	79.8 ✓
420	5.1	80.8 ✓
415	2.3	83.6 ✓
400	3.9	82.0 ✓
380	4.4	81.5 ✓
360	4.4	81.5 ✓
340	4.0	81.9 ✓
320	12.2	73.7 ✓
300	14.6	71.3 ✓
280	18.4	67.5 ✓
260	17.3	68.6 ✓
240	18.8	67.1 ✓
220	19.7	66.2 ✓
200	24.1	61.8 ✓
180	28.8	57.1 ✓
160	33.8	52.1 ✓
150	36.9	49.0 ✓ toe

Toe Wall

B.M.	3.18	578.18	575.00
		N3500	
5515		3.2	750 ✓ ^{Too Wall}
500		2.7	755 ✓
480		+1.1	79.3 ✓
460		+1.6	79.8 ✓
450		+1.7	79.9 ✓
440		3.6	746 ✓
420		4.8	734 ✓
400		3.6	74.6 ✓
380		6.1	721 ✓
360		6.7	71.5 ✓
340		13.9	64.3 ✓
320		17.2	61.0 ✓
300		18.6	59.6 ✓
280		17.7	60.5 ✓
260		20.2	58.0 ✓
240		20.0	58.2 ✓
220		20.0	58.2 ✓
200		20.2	58.0 ✓
180		24.8	53.4 ✓
175		27.1	51.7 ✓ ^{Too}



N 3480

B.M.	3.14	578.14	575.0
5525			575. Top Wall
5480		2.0	76.1 ✓
5440		3.0	75.1 ✓
5400		7.8	70.3 ✓
5360		12.5	65.6 ✓
5320		16.2	61.9 ✓
5280		19.2	58.9 ✓
5240		21.0	57.1 ✓
5200		25.0	53.1 ✓

19

X Sections For Nov. 1932 Estimate
Between Core Wall & Upstr. Peak Emb.

N3310

Original Ground

N3320

591.1

5003	3.9	587.2 ✓
5020	3.6	587.5 ✓
5040	3.4	587.7 ✓
5060	+ 0.6	591.7 ✓
5080	+ 1.5	592.6 ✓
5100	+ 2.6	593.7 ✓
5110		0.6

N3340

5003	5.0	586.1 ✓
020	4.7	586.4 ✓
040	4.2	586.9 ✓
060	3.8	587.3 ✓
080	3.7	587.4 ✓
100	3.8	587.3 ✓
120	4.0	587.1 ✓
130		0.6

Dec 5 - 1932

Elliott

Simpson

Seger

Remmen

20

N 3360

591.1

0.6

150		
5140	6.1	585.0
120	5.5	585.6
100	4.9	586.2
080	13.6	577.5

574.8

060	0.0	574.8
040	5.0	569.8
020	4.6	570.2
003	4.3	570.5

N3380

003	16.1	558.7
015	6.1	568.7
040	5.0	569.8
0.60	3.1	571.7
100	3.1	571.7

591.1

120	9.5	81.6
130	6.5	84.6
140	6.9	84.2
160	7.7	83.4
180	8.5	82.6
210		0.6

21

N3400

591.1

0.6

5240

220

11.3

579.8 ✓

200

10.5

80.6 ✓

180

9.6

81.5 ✓

160

11.7

79.4 ✓

150

11.6

79.5 ✓

574.8

130

3.6

71.2 ✓

100

3.6

71.2 ✓

080

5.0

69.8 ✓

060

5.9

68.9 ✓

040

5.9

68.9 ✓

↑
vertical

557.7

↓
040

0.8

56.9 ✓

020

3.3

54.4 ✓

5003

4.3

53.4 ✓

N3420

5008

9.2

48.5 ✓

020

10.6

47.1 ✓

040

11.6

46.1 ✓

060

8.4

49.3 ✓

080

4.8

52.9 ✓

22

N3420

574.8

5100

13.5

56.3 ✓

120

10.4

64.4 ✓

140

7.3

67.5 ✓

160

6.3

68.5 ✓

180

6.0

68.8 ✓

591.1

200

11.3

79.8 ✓

220

12.6

78.5 ✓

240

9.7

81.4 ✓

5255

10.0

81.4 ✓

280

0.6

23

580.8

0.6

5360

350

2.4

578.4

320

1.8

79.0

300

1.3

79.5

280

17.7

63.1

260

15.7

65.1

240

14.8

66.0

220

14.3

66.5

200

13.5

67.3

180

12.0

68.8

561.3

160

+4.4

65.7

140

5.6

55.7

120

9.1

52.2

100

3.6

57.7

080

11.7

49.6

060

13.9

47.4

040

15.4

45.9

020

14.6

46.9

5003

14.9

46.4

580.8

0.6

5440

420

2.8

578.0

400

4.1

76.7

380

5.0

75.8

360

14.5

66.3

340

16.1

64.7

320

18.2

62.6

300

18.9

61.9

280

17.7

63.1

260

16.3

64.5

240

13.0

67.8

561.3

220

1.4

59.9

200

4.2

57.1

180

2.9

58.4

160

8.8

52.5

140

10.1

51.2

120

8.5

52.8

100

12.2

49.1

080

12.6

48.7

552.1

060

10.6

41.5

040

10.6

41.5

025

11.1

41.0

020

19.3

32.8

5003

22.4

29.7

N3480

541.8

5003	13.7	528.1
020	10.0	31.8
025	4.1	37.7
040	4.6	37.2
060	3.6	38.2
080	2.4	39.4

552.1

100	4.2	47.9
5120	2.2	49.9

N3500

5120	2.9	49.2
100	11.8	40.3
080	13.9	38.2

541.8

060	7.1	34.7
040	6.5	35.3
025	5.8	36.0
020	10.3	31.5
5003	13.7	28.1

N3520

541.8

5003	13.5	28.3
020	9.5	32.3
025	5.9	35.9
040	7.5	34.3
060	7.9	33.9
080	8.2	33.6
100	5.8	36.0

552.1

120	3.7	48.4
-----	-----	------

N3540

5120	3.0	49.1
------	-----	------

541.8

100	4.9	36.9
080	7.2	34.6
060	7.7	34.1
040	7.2	34.6
025	6.2	35.6
012	11.9	29.9
5003	13.3	28.5

N3560

541.8

5003	13.2	28.6
012	11.8	30.0
025	5.7	36.1
040	6.2	35.6
060	6.4	35.4
080	3.2	38.6
100	2.3	39.5

552.1

115	2.1	50.0
-----	-----	------

N3580

115	2.2	49.9
-----	-----	------

541.8

100	1.6	40.2
080	4.6	37.2
060	4.4	37.4
040	3.9	37.9
022	3.9	37.9
017	10.1	31.7
5003	13.2	28.6

N3600

541.8

5003	13.5	28.3 [✓]
010	12.4	29.4 [✓]
023	2.2	39.6 [✓]
040	2.4	39.4 [✓]
060	3.4	38.4 [✓]
080	3.6	38.2 [✓]
100	2.3	39.5 [✓]

552.1

115	2.0	50.1 [✓]
-----	-----	-------------------

N3620

140	2.2	49.9 [✓]
120	5.5	46.6 [✓]
100	6.8	45.3 [✓]

541.8

080	3.6	38.2 [✓]
060	3.1	38.7 [✓]
040	2.7	39.1 [✓]
023	2.3	39.5 [✓]
014	11.8	30.0 [✓]
5003	13.3	28.5 [✓]

29

N3640

541.8

5003	12.8	29.0
015	10.7	31.1
022	2.3	39.5
040	2.7	39.1
060	2.9	38.9
080	2.3	39.5

552.1

100	10.2	41.9
120	6.2	45.9
140	2.4	49.7

N3660

140	2.0	50.1
130	0.9	51.2
120	5.9	46.2

541.8

100	2.8	39.0
080	2.5	39.3
060	1.9	39.9
040	1.7	40.1
021	1.7	39.9
014	7.8	32.0
003	11.5	30.3

30

N3680

541.8

5003	10.7	531.1
015	9.0	32.8
021	0.4	41.4
040	0.0	41.8
060	0.1	41.7
080	1.1	40.7
100	0.7	41.1

552.1

110	9.5	42.6
120	1.4	50.7

N3700

125	3.2	48.9
110	8.1	44.0
100	6.2	45.9
080	8.0	44.1
060	7.5	44.6
040	8.5	43.6
022	7.6	44.5

541.8

013	6.9	34.9
003	8.5	33.3

31

N3720

541.8

5003	7.2	534.6 [✓]
012	4.6	37.2 [✓]

552.1

023	3.7	48.4 [✓]
040	3.9	48.2 [✓]
060	4.9	47.2 [✓]
080	5.3	46.8 [✓]
100	4.9	47.2 [✓]
120	4.6	47.5 [✓]

IV 3740

120	4.1	48.0 [✓]
100	2.8	49.3 [✓]
080	3.5	48.6 [✓]
060	3.1	49.0 [✓]
040	2.7	49.4 [✓]
023	2.3	49.8 [✓]
013	13.3	38.8 [✓]
003	15.0	37.1 [✓]

53

32

N3760

550.7

5003	12.6	538.1
013	9.0	41.7
563.1		
020	13.0	50.1
040	13.5	49.6
060	12.9	50.2
080	13.4	49.7
100	13.3	49.8
120	13.3	49.8

N3780

120	11.9	51.2
100	11.9	51.4
080	11.4	51.7
060	10.4	52.7
040	8.6	54.5
017	5.4	57.7
003	19.0	44.1

N3800

003	7.6	53.5
014	+2.2	65.3
020	+1.0	64.1
040	6.5	56.6
060	8.5	54.6
080	9.4	53.7
100	10.7	52.4
120	11.1	52.0

33

12.4
13.6

N3820

563.06

5120		8.2	554.9
100		6.9	56.2
080		6.0	57.1
060		3.9	59.2
	12.91	575.25	0.72
			562.34
040		7.4	67.8
013			579.3
003			77.8

N3840

003			79.7
020			80.8
040			80.4
060		3.4	71.8
080		10.9	64.3
100		11.0	64.2
120		14.2	61.0
140		17.6	57.6

34

N3860

575.25

5140			10.7	564.5	✓
120			6.2	69.0	✓
T.P.	10.86	584.92	1.19	574.06	✓
100			7.1	77.8	✓
080			6.3	78.6	✓
060			4.8	80.1	✓
040				0.6	

N3880

5080				0.0	
100			4.9	80.0	✓
120			5.2	79.7	✓
140			5.3	79.6	✓
150			4.7	80.2	✓
170			9.6	75.3	✓
Check			6.3	578.6	578.5

Core wall state

End Dec 5 - 1932

Down stream Rock Emb.
Monthly Est. Dec. 1932

B.M. 5.33 580.38 575.05

Note: N3410 No Rock Placed

N3420

E4500	5.5	74.9	
4490	5.2	75.2	
480	5.4	75.0	= north

N3440

4530	O.G.		
520	4.9	75.5	
500	5.8	74.6	
470	5.4	75.0	Toe Wall

No Rock Placed

N3460

4567	5.2	75.2	O.G.
560	4.8	75.6	
540	5.1	75.5	
510	5.8	74.6	
480	5.4	75.0	Toe Wall
460	10.2	60.2	
450	34.0	46.4	Toe slope

Dec. 31, 1932

Simpson
Gottschling
Rommers

wing wall of portal structure

562.5

N3480

Run to Bottom of toe trench

↑			
4408	19.7	42.8	
420	14.2	48.3	
440	5.7	56.8	
454	3.5	59.0	
	580.4		X
477	5.2	75.2	
520	5.4	75.0	
555	4.5	75.9	
560	1.0	79.4	
630	1.7	78.7	
635	4.8	75.6	
702	5.1	75.3	
730		0.6	Toe

N3500

4730		0.6	Toe
4705	4.7	75.7	
641	5.7	74.7	
625	1.5	78.9	
560	1.0	79.4	
555	4.8	75.6	

580.38
-12.76

36

567.62
+ 1.54
569.16
- 18.11
559.07
+ 3.92
562.99
- 0.76
561.73
- 9.16
552.57

580.4

N3500 ✓

4520	5.2	75.2	
4493	5.4	75.0	west

562.5

4455	3.0	59.5	
440	6.6	55.9	
415	12.3	50.2	
405	18.2	44.3	

↓
Run to Bottom of toe trench.

N3520 X

Run to Bottom of toe trench

405	17.4	45.1	
440	7.2	55.3	
455	3.0	59.5	

580.4

465	14.2	66.2	
480	11.6	68.8	
498	5.3	75.1	west
520	5.5	74.9	
555	4.3	76.1	
560	1.7	78.7	
630	1.7	78.7	
640	5.6	74.8	

edge toe wall

edge toe wall

580.40

N3520 X

4700	5.4	75.0	
4732		0.6	Toe

N3540

4735		0.6	Toe
4705	5.7	74.7	
4630	4.9	75.5	
625	1.0	79.4	
560	1.0	79.4	
555	4.2	76.2	
504	5.4	75.0	West
475	13.5	66.9	

562.5

455	4.3	58.2	
440	7.8	54.7	
410	16.9	45.6	

Run to Bottom of toe trench

X

edge toe wall

562.5

N3560

Run to Bottom of tee trench

4410	17.3	45.2
440	9.1	53.4
465	2.7	59.8

580.4

508	5.4	75.0 west
555	4.6	75.8
560	1.5	78.9
630	3.2	77.2
635	5.6	74.8
705	6.7	73.7
735	0.6	Toe X

edge tee wall

N3580

4735		0.6, Toe
4705	6.8	73.6
630	6.1	74.3
625	2.5	77.9

580.4

N3580

4565	2.1	78.3	
560	5.3	75.1	
511	5.4	75.0	west
485	13.3	67.1	

562.5

470	2.7	59.8	
440	10.4	52.1	
420	16.2	46.3	X

Run to Bottom of toe trench.

N3600

Run to Bottom of toe trench

4425	19.4	43.1	
440	9.7	52.8	
460	3.5	59.0	
475	10.5	62.0	

580.4

513	5.4	75.0	west
-----	-----	------	------

edge toe wall

580.4

N3600

4550	5.3	75.1	
555	2.0	78.4	
625	3.4	77.0	
630	6.1	74.3	
700	6.8	73.6	X
735		0.6	Toe

N3620

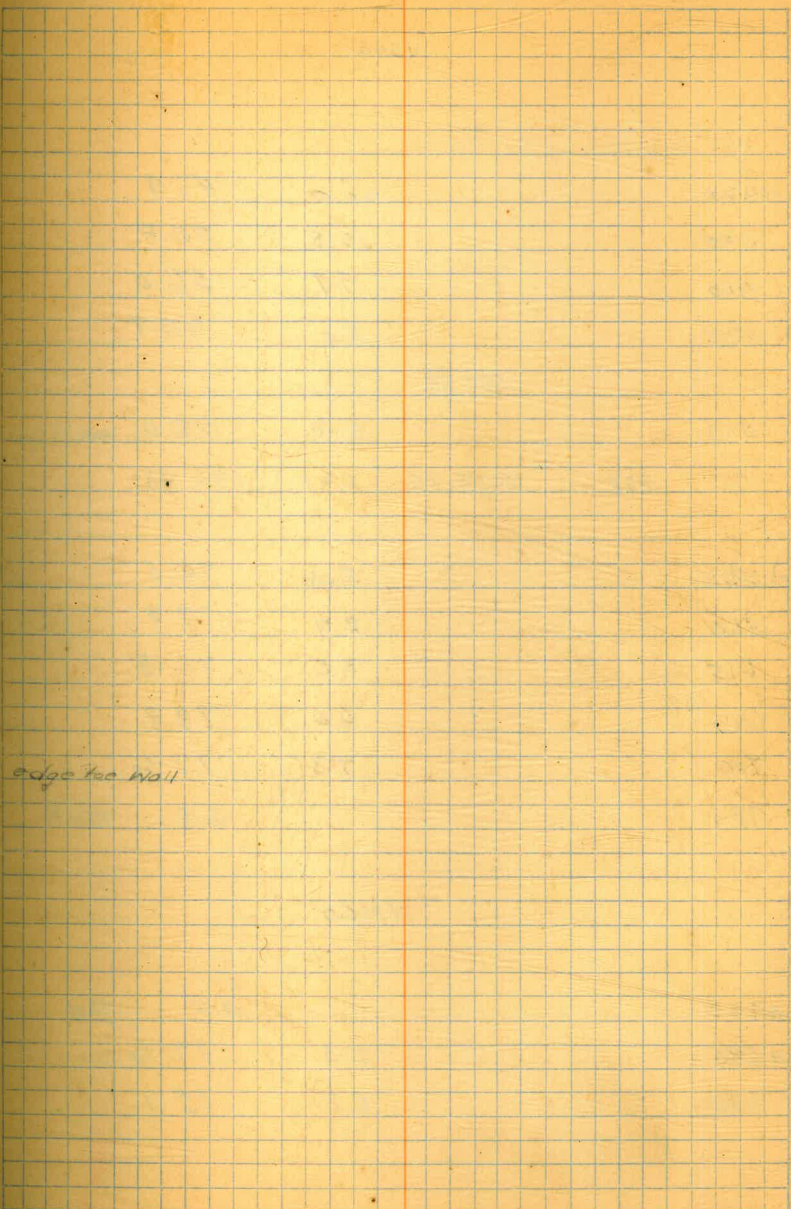
4735		0.6	Toe
4700	7.5	72.9	
625	6.3	74.1	
620	2.8	77.6	
565	3.2	77.2	
560	5.6	74.8	
513	5.4	75.0	west

565.9

480	4.6	61.3	
460	9.4	56.5	
440	14.2	51.7	
430	21.7	44.2	X

↓
Run to Bottom of toe trench

41



edge toe wall

365.9

N3640

Run to Bottom of toe trench,

4420		22.0	43.9
440		15.5	50.4
460		9.9	56.0
475		5.0	60.9
	580.38		
513		5.4	75.0 west
T.P. 488	579.86	5.40	574.98
4555		5.4	74.5
560		2.7	77.2
615		3.6	76.3
620		6.0	73.9
700		7.3	72.6
735			0.6 Toe X

N3660

4725			0.6 Toe
4690		7.3	72.6
610		6.8	73.1

42

edge toe wall

579.86

N3660

4605	3.7	76.2	
555	3.6	76.3	
550	5.8	74.1	
510	4.9	75.0	west
470	6.3	59.6	
460	8.5	57.4	
440	14.4	51.5	
420	22.0	43.9	x

↓
Run to Bottom of toe trench.

565.9

N3680

4420	21.5	44.4	
440	13.1	52.8	
460	8.2	57.7	
470	5.9	60.0	
485	10.5	66.4	

579.86

509	4.9	75.0	west
545	6.4	73.5	
550	3.1	76.8	

edge toe wall

edge toe wall

579.86

N3680

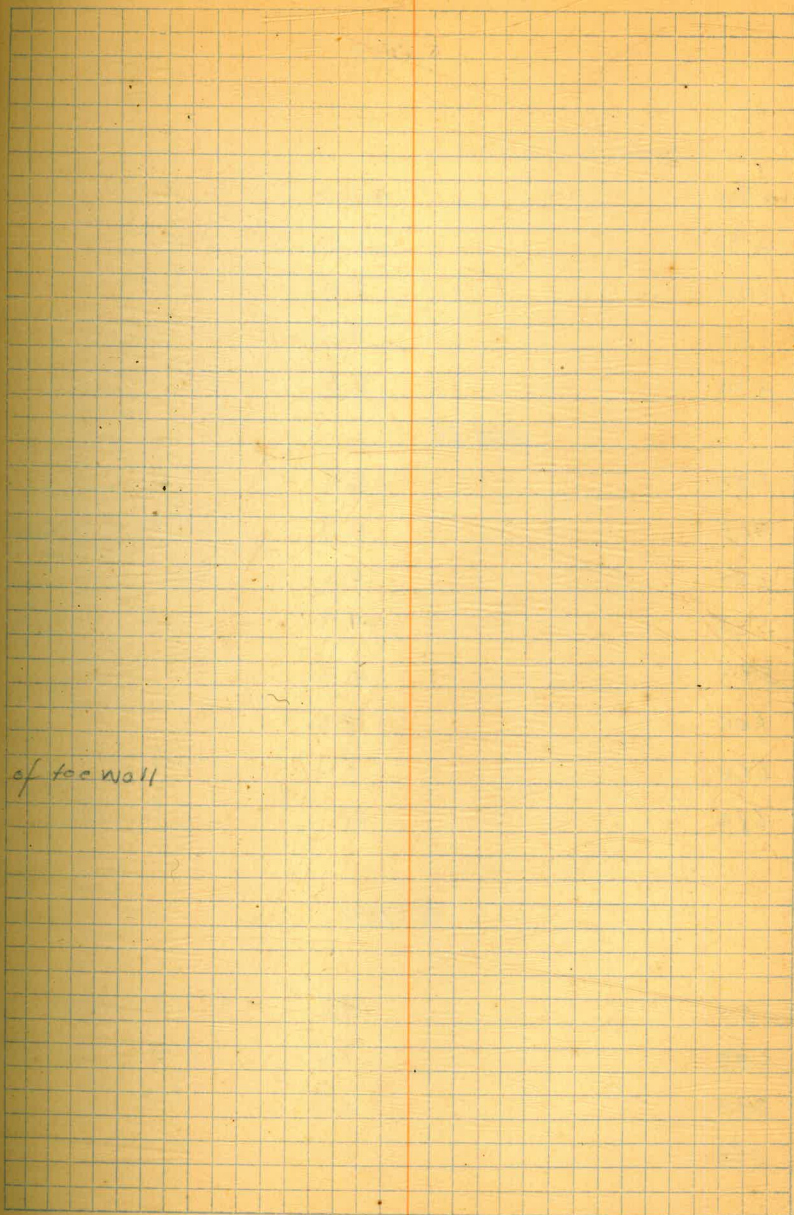
4605	4.0	75.9	
610	7.3	72.6	
685	8.0	71.9	
4715		O.G.	Toe

N3700

4700		O.G.	Toe
4670	7.6	72.3	
605	7.2	72.7	
600	4.1	75.8	
555	4.0	75.9	
550	6.2	73.7	
507	4.9	75.0	west edge
495	8.9	71.0	
480	4.5	61.4	
460	6.0	59.9	
440	10.1	55.8	
430	12.3	53.6	
420	24.3	41.6	

*Run to Bottom of tee trench

44



565.9

N3720

Run to Bottom of the trench.

4420	22.3	43.6	
430	11.0	54.9	
440	8.0	57.9	
450	4.7	61.2	
470	3.5	62.4	
	579.86		
502	2.9	77.0	
505	4.9	75.0	
550	6.2	73.7	
555	4.4	75.5	
595	4.2	75.7	
600	7.2	72.7	
660	8.3	71.6	
682	20.1	59.8	O.G.

N3740

4660	19.6	60.3	O.G.
640	7.6	72.3	
595	6.9	73.0	
590	4.0	75.9	

579.86

N3740

4555	4.2	75.7
550	6.2	73.7
500	4.9	75.0
495	3.8	76.1

565.9

465	3.3	62.6
450	3.6	62.6
440	5.4	60.5
430	6.5	59.4
410	24.7	41.2

↓ Run to Bottom of the trench

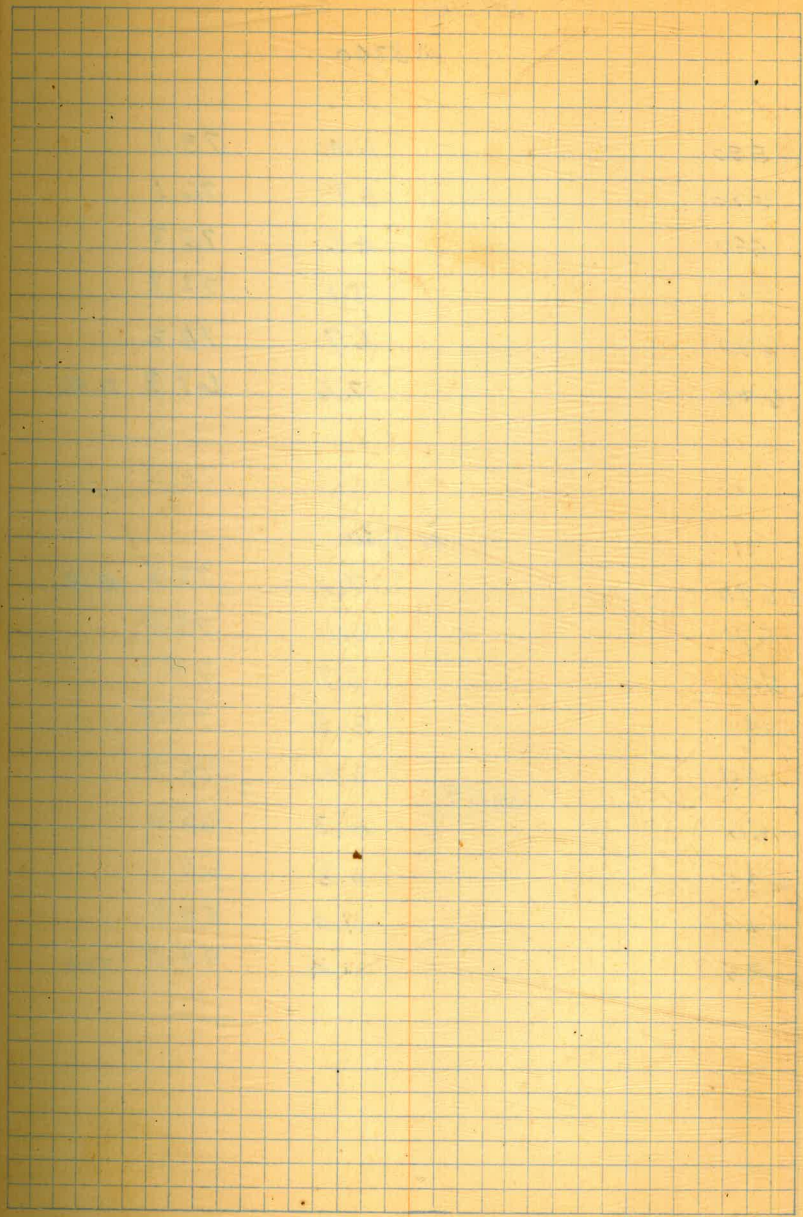
N3760

↓ Run to Bottom of the trench

4405	21.3	44.6
425	6.0	59.9
440	3.1	62.8
465	2.3	63.6

579.86

490	3.0	76.9
500	4.7	75.2



579.86

N3760

4550	6.4	73.5	
555	3.8	76.1	
590	4.2	75.7	
595	7.1	72.7	
630	6.7	73.2	
640	12.6	67.3	O.G.

N3780

4590	7.1	72.8	O.G.
570	6.1	73.8	
540	5.7	74.2	
495	5.5	74.4	
485	3.2	76.7	
460	<u>0.3</u>	65.6	
435	0.8	65.1	
420	11.0	54.9	
395	21.4	44.5	Too

565.89

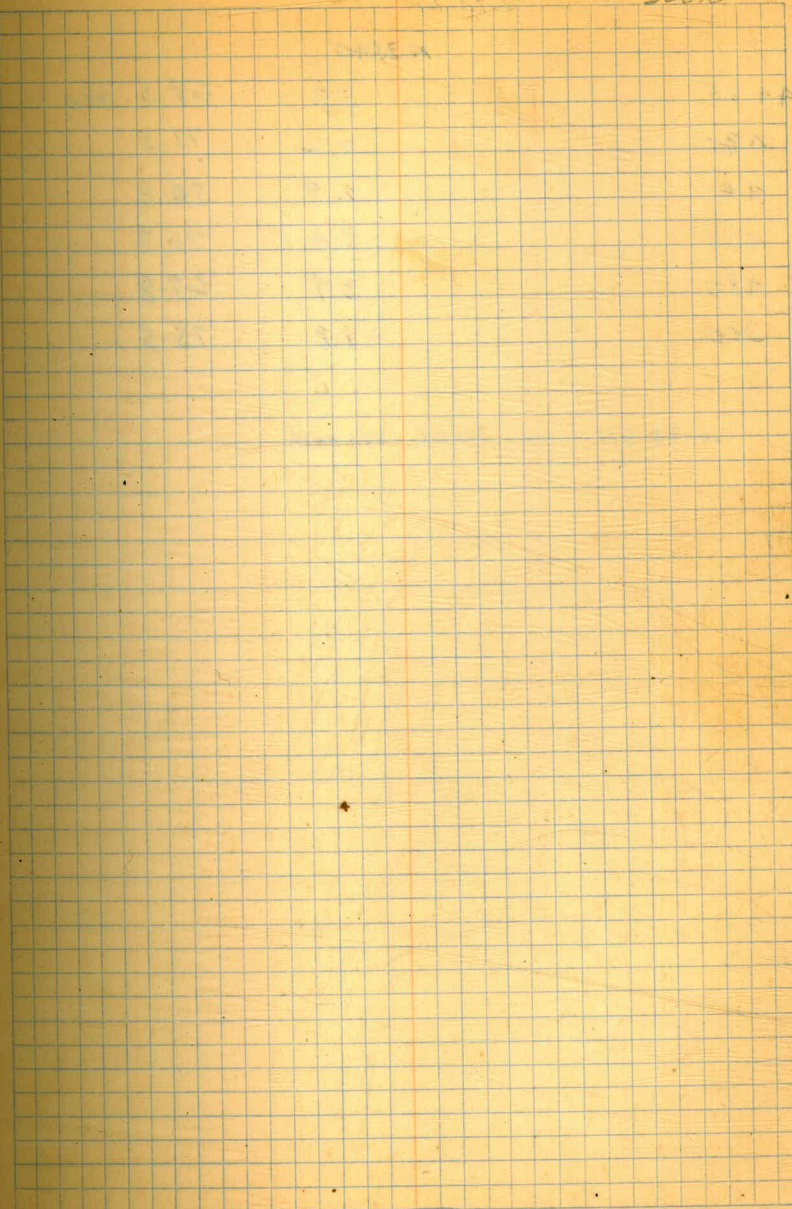
N3800

4400			17.0	48.9	
420			9.8	56.1	
T.P.	8.30	573.70	0.49	565.40	
440			7.1	66.6	
460			6.7	67.0	
475		<u>579.86</u>	3.6	76.3	
500			5.6	74.3	
540			5.7	74.2	o.c.

N3820

4520			5.1	74.8	
500			5.2	74.7	
475			4.1	75.8	
		573.70			
460			5.1	68.6	
440			4.3	69.4	
410			17.7	56.0	Toe

566.6

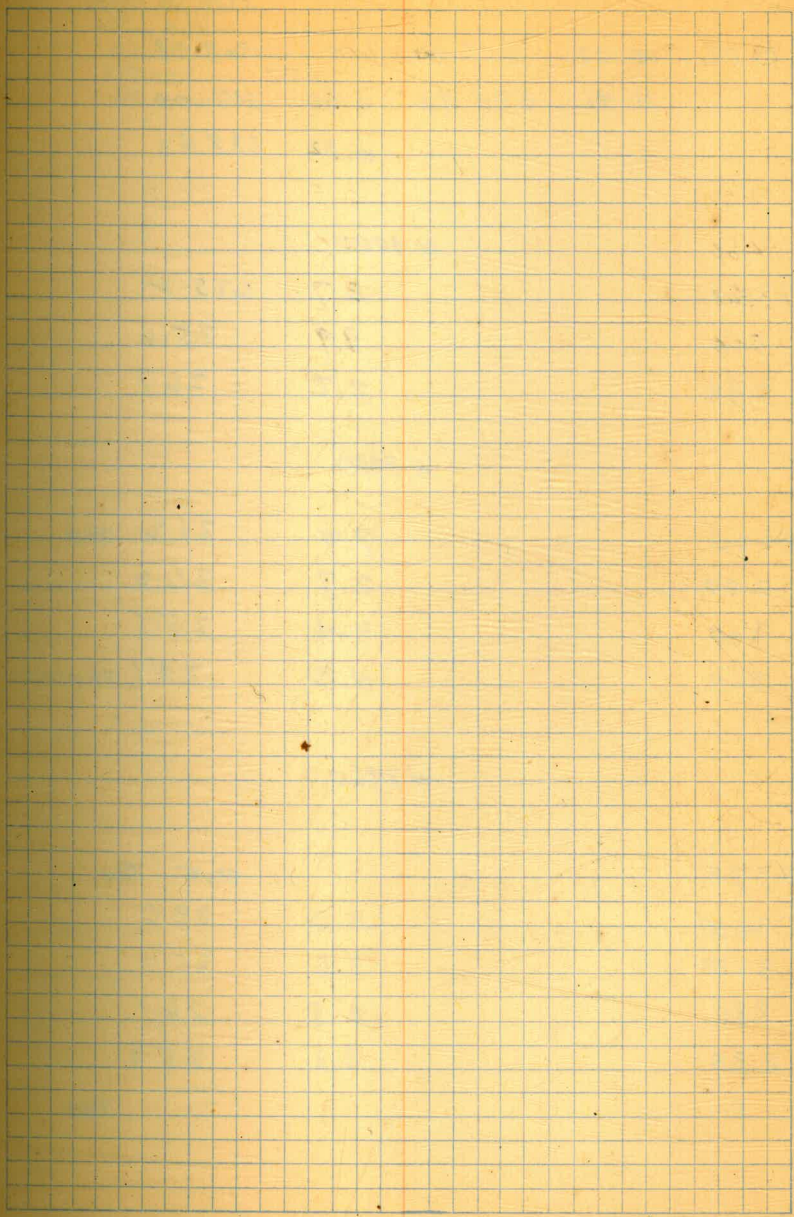


573.70

N3840

4425	5.2	68.5	Toe
430	2.2	71.5	
440	2.9	70.8	
460	3.4	70.3	
480	3.9	69.8	
500	+1.8	75.5	

N 38 50 No Rock Placed



up stream Rock Emb.
Dec. Estimate

50

B.M.	10.02	617.40		607.38
	11.91	628.95	0.36	617.04
			0.32	628.63

N 4000

5350			3.7	625.2
300			3.9	25.0
235			2.2	26.7

N 3980

5220			7.7	21.2	Toe
240			2.7	26.2	
300			3.4	25.5	
360			4.2	24.7	Toe

N 3960

5375				0.6	Toe
345			5.3	23.6	
315			3.5	25.4	
280			2.8	26.1	
235			3.1	25.8	
?					Toe

Dec. 31, 1932

Simpson - Notes
Gottschling - T
Paper - Rod
Rammen - Tape

O.S.

628.95

N3940

?			Too
5238	2.5	26.4	
280	2.0	26.9	
320	2.3	26.6	
330	7.4	21.5	
350	9.7	19.2	
385	0.6		Too

N3920

5395	0.6		Too
365	15.0	13.9	
335	11.7	17.2	
325	2.6	26.3	
280	2.0	26.9	
237	1.9	27.0	
?			Too

N3900

B.M. 2.70 631.33 628.63

5180					Toe
5235			5.0	26.3	
5280			4.4	26.9	
5325			4.8	26.5	
T.P.	0.03	618.80	12.56	618.77	
5340			5.4	13.4	
5376			8.1	10.7	
	10.60	585.6		575.0	
5415			4.4	81.2	Toe

Jan 2 - 1933

52

Elliott-
Soper-
Keriman
Osborn

N3880

631.33

5180

5235

5280

5323

618.80

5340

5385

585.6

5425

5.1 26.2

4.4 26.9

4.6 26.7

8.4 10.4

11.5 07.3

2.4 83.2 Toe

Toe

Toe

3860

631.33

5160

566.3 Toc

5240

4.9 626.4

280

4.6 26.7

5323

4.8 26.5

618.80

5344

11.5 07.3

5402

14.7 04.1

585.6

5430

3.9 581.7

50

4.0 81.6

80

4.5 81.1

90

4.8 80.8

500

9.1 76.5

Toc Wall

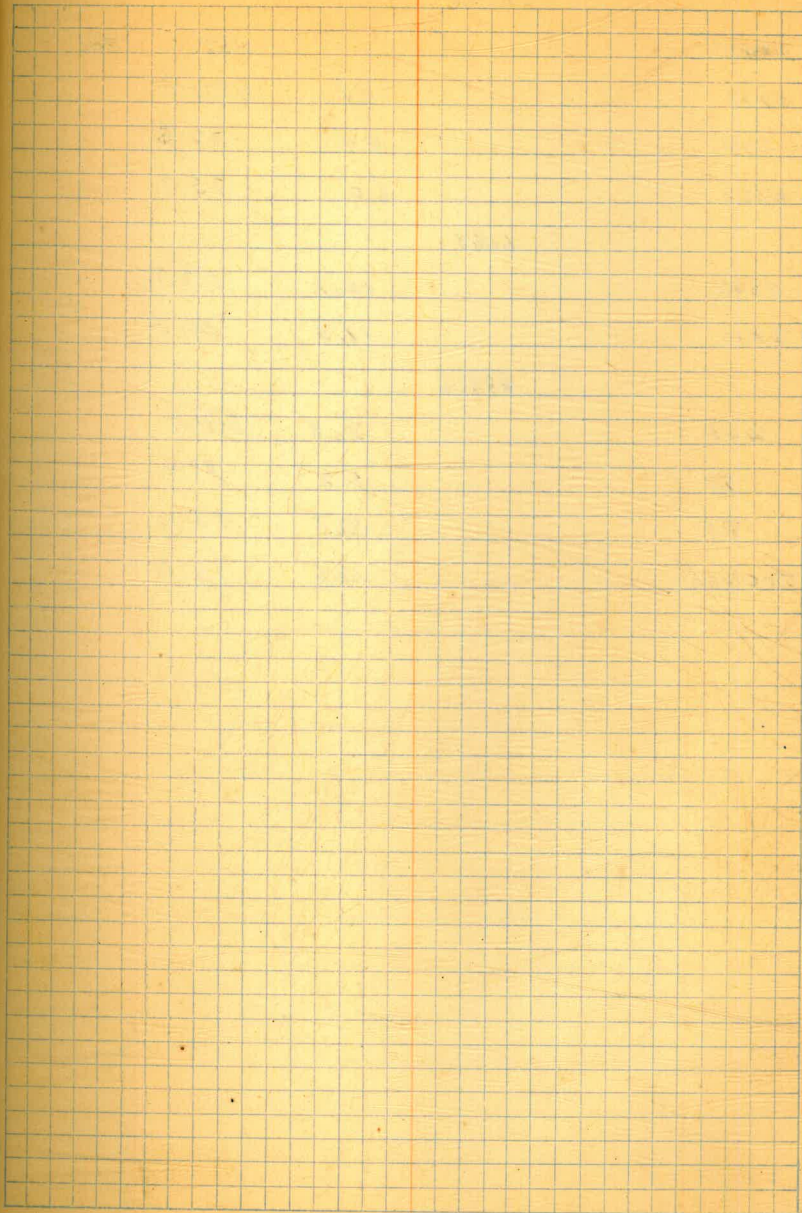
575.0

54

N 3840
631.33

5148		558.0	700
5241	5.0	626.3	
5280	4.8	205	
5322	5.4	25.9	
	618.80		
5344	15.3	03.5	
5408	16.0	02.8	
	585.6		
440	3.8	581.8	
475	4.2	81.4	
485	6.3	79.3	
5500		575.0	
Toe Wall		575.0	

55



N3820

631.33

5145		556.1	Toe
5242	4.4	626.9	
280	4.9	26.4	
5321	6.0	25.3	
	618.8		
5348	16.1	02.7	
5411	18.3	00.5	
	585.6		
5440	3.8	581.9	
70	4.2	81.4	
85	10.6	75.0	
Toe Wall	10.6	75.0	

56

631.3

5143		553.9	Toe
5242		4.8	626.5
280		4.7	26.6
5321		5.9	25.4
	618.8		
5348		16.1	02.7
5411		18.3	00.5
	585.6		
5435		4.2	581.4
5475		4.8	80.8
5485		10.7	74.7
Toe wall		10.6	75.0

N3780

631.3

58

5140		552.8	Toc
5244		4.8	626.5
280		5.3	26.0
5319		5.9	25.4
	New H.I.	585.8	
5380		6.3	581.5
5440		4.2	81.6
470		5.3	80.5
480		11.4	74.4
Toc Wall			575.0

631.3

5140

551.0 ToC

5242

6.0 625.3

280

5.7 25.6

5318

6.0 25.3

585.8

5380

4.6 581.2

5440

4.8 81.0

5465

6.2 79.6

5475

11.9 73.9

Toe wall

575.0

631.3

5143

548.7 Tot

5242

5.9

625.4

5280

6.0

253

5319

6.3

25.0

585.8

5375

4.9

580.9

5430

5.0

80.8

5470

10.8

75.0

Toe Wall

10.8

75.0

631.3

5143

549.1 Toe

5240

6.1

625.2

5280

6.0

25.3

5317

6.9

24.4

585.8

5375

5.0

580.8

5440

5.6

80.2

5470

10.8

575.0

Toe wall

10.8

75.0

N3700

631.3

5143

548.7 Toe

5238

6.3 625.0

280

6.3 25.0

5216

6.7 24.6

585.8

5375

2.5 583.3

5420

2.2 83.6

30

5.4 80.4

5455

5.6 80.2

5465

10.8 75.0

Toe Wall

10.8 75.0

62

631.3

5143			549.4	Top
5235		6.7	624.6	
5280		6.5	24.8	
5316		6.7	24.6	
	585.8			
5370		2.3	583.5	
5420		2.8	83.0	
5430		5.6	80.2	
5460		6.1	79.7	
5470		10.8	75.0	
Top Wall		10.8	75.0	

631.3

5140		550.1	Toe
5233		6.6	624.7
280		6.5	24.8
5314		7.2	24.1
	585.8		
5375		5.4	580.4
90		5.2	80.6
5400		2.2	83.6
10		2.8	83.0
20		5.9	79.9
65		5.8	80.0
80		10.8	75.0
Toe Wall		10.8	75.0

631.3

5140		550.4	Toe
5230	6.3	625.0	
280	6.6	24.7	
5313	7.2	24.1	

585.8

75	5.4	580.4	
5390	5.7	80.1	
5400	2.7	83.1	
5410	3.5	82.3	
5420	6.2	79.6	
5465	5.9	79.9	
5475	10.8	75.0	
Toe Wall	10.8	75.0	x

N 3620

631.3

5136		548.2	Toe
5232	5.7	625.6	
5280	6.6	24.7	
5313	6.0	25.3	
	585.8		
5375	5.6	580.2	
5400	5.7	80.1	
10	2.6	83.2	
25	3.3	82.5	
30	6.0	79.8	
70	6.6	79.2	
80	10.1	75.7	
Toe wall	10.8	75.0	X

66

N3600

631.3

67

5135		549.5	Toe
5232	5.7	625.6	
280	6.4	24.9	
5316	6.2	25.1	
	585.8		
5370	5.2	580.6	
5410	5.2	80.6	
15	0.6	85.2	
25	1.7	84.1	
35	5.4	80.4	
50	5.8	80.0	
5480	10.8	75.0	
Toe Wall	10.8	75.0	X

3580

631.3

68

5138			549.3	Toe
5233		5.6	625.7	
5280		5.8	25.5	
5311		5.4	25.9	
	585.0			
5370		2.5	582.5	
5440		2.5	82.5	
5445		4.9	80.1	
5470		5.4	79.6	
80		10.0	75.0	
ToeWall		10.0	75.0	X

3560
631.3

5140		549.5	ToC
5235	5.7	625.6	
280	5.9	25.4	
5319	5.5	25.8	
	585.0		

5370	2.5	582.5	
40	2.5	82.5	
45	5.4	79.6	
75	5.4	79.6	
5485	10.0	75.0	
Toe Wall	10.0	75.0	X

631.3

5143		549.0	Toe
5236	5.8	625.5	
5280	5.8	25.5	
5314	6.5	24.8	
	585.0		
5365	2.5	582.5	
5445	2.5	82.5	
50	5.4	79.6	
75	5.5	79.5	
85	10.0	75.0	
Toe Wall	10.0	75.0	

X

5140

584.8

Dnstr.
Toe

5365

4.5

580.3

Upstream
Toe

5400

4.2

80.6

5410

1.6

83.2

5445

1.5

83.3

5460

5.2

79.6

5500

9.8

75.0

Toe Wall

9.8

75.0

584.8

5150

Down
Toe

581.0

5370

13.5

67.5

upstr.
Toe

400

9.2

72.2

410

8.5

72.5

35

7.6

73.4

50

1.1

79.9

75

0.7

80.3

85

5.3

75.7

Toe Wall

6.0

75.0

X

581.0

5155				Dnstr Toe
5365	14.0	567.0		upstr Toe
400	10.5	70.5		
40	6.0	75.0		
60 Toe Wall	5.0	76.0		X
	6.0			
	N3460			
5190				Dnstr Toe
5345	15.6	65.4		upstr Toe
↑ No rock				
↓				
5480	6.0	75.0		
Toe Wall	6.0	75.0		X
	N3440			
5250				Dnstr Toe
5340				upstr Toe
↑ No rock				
↓				
5520	6.0	75.0		
Toe Wall	6.0	75.0		X

N3430 is as final X sections show No Rock

Additional Trench Excavation
on Core Wall for Est. #9 Jan 1933

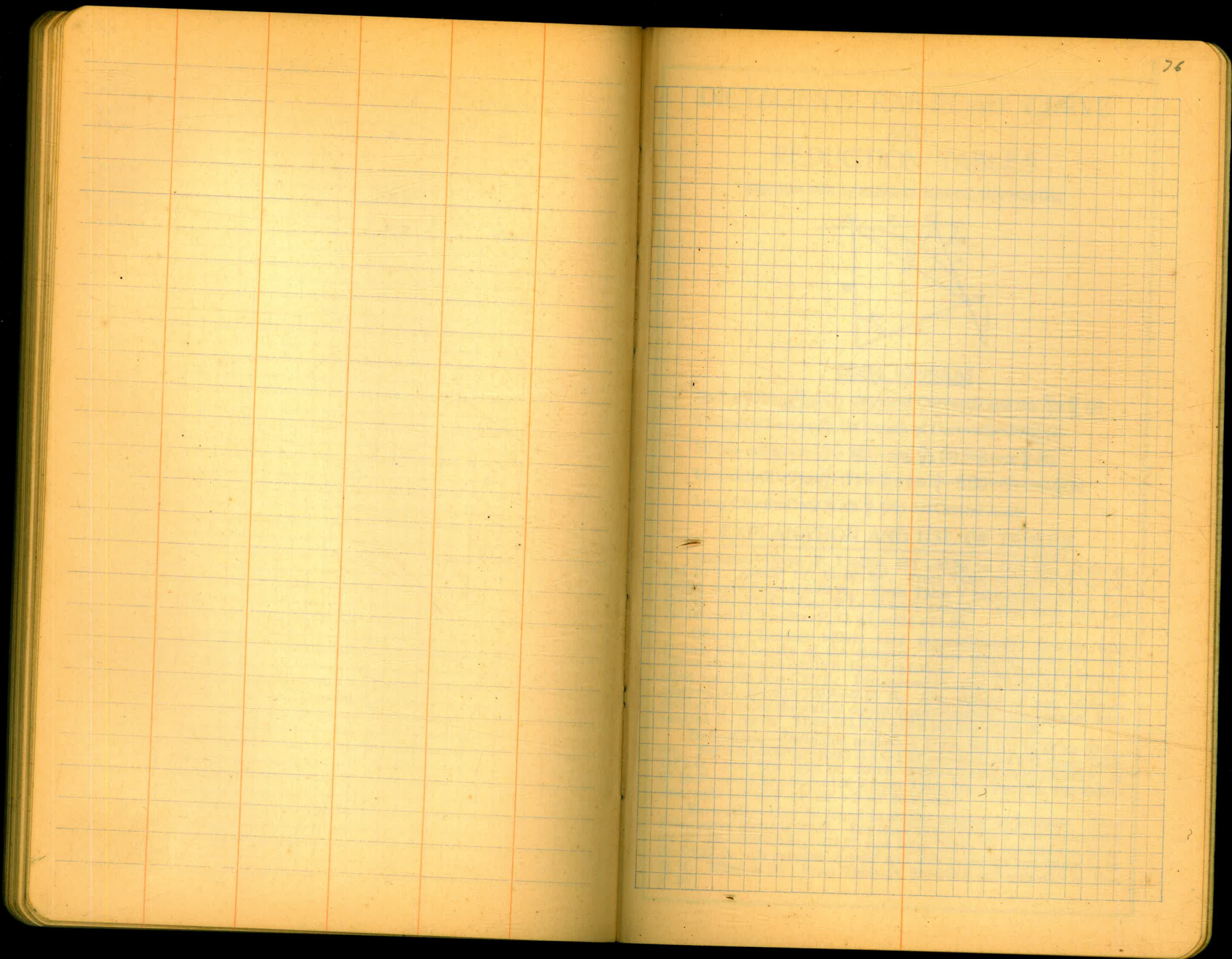
Feb 3 - 1933

24

B.M. N 3350 E 4994E 3350 4997	1.47	581.37		579.90
			6.4	75.0
			11.7	69.7
3360 4995 3360 4997			10.5	70.9
			12.3	69.1
3370 4993 3370 4997			11.3	70.1
			14.1	67.3
3380 4994 3380 4997			20.0	61.4
			21.2	60.4
B.M. 3390 4994 3390 4997	11.81	554.06		542.25
			0.5	53.6
			4.5	49.6
N 3400 4995 3400 4997			4.4	49.7
			5.3	48.8
3410 4994 3410 4997			4.0	50.1
			7.4	46.7
N 3420 E 4993 N 3420 4997			5.2	48.9
			8.1	46.0

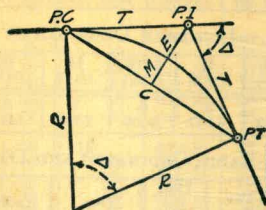
		554.06		
3430 4993			6.0	548.1
3430 4997			10.5	43.6
N 3440 4991			12.6	41.5
3440 4997			15.2	38.9
3450 4990			13.8	40.3
N 3450 4997			19.6	34.5
B.M.	0.57	574.62		574.05
3365 5006			4.2	70.4
3365 5003			6.3	68.3
3375 5003			9.6	65.0
3375 5010			4.7	69.9
B.M.	0.47	552.68		552.21
3420 5003			7.6	45.1
3420 5006			4.9	47.8
3430 5003			9.7	43.0
3430 5012			4.6	48.1

3440	552.68		
5003		11.3	541.4
3440			
5016		6.6	46.1
3450			
5003		17.4	35.3
3450			
5018		9.7	43.0



DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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CURVE FORMULAS

Radius= $R = \frac{50}{\sin. D/2}$ (1) Degree of Curve= D and $\sin. \frac{D}{2} = \frac{50}{R}$ (2)

Tangent= $T = R \tan \frac{\Delta}{2}$ (3) Length of Curve= $L = 100 \frac{\Delta}{D}$ (4)

Middle ordinate= $M = R(1 - \cos. \frac{\Delta}{2})$ (5) $= R \text{vers} \frac{\Delta}{2}$ (6)

External= $E = T \tan \frac{\Delta}{4}$ (7) $= R \div \cos. \frac{\Delta}{2} - R$ (8) $= R \text{exsec} \frac{\Delta}{2}$ (9)

Long Chord= $C = 2 R \sin. \frac{\Delta}{2}$ (10) $\Delta = \text{Central Angle}$

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.—Sta. 161+60.35 to find Sta. of P. C. and P. T. $\Delta = 62^\circ 10'$ $D = 8^\circ 20'$. From Table IV for 1° curve $T = 3454.1$ and $\div 8\frac{1}{2} = 414.49$ ft. From Table V correction=.36 or $T = 414.85$ ft. P. C.—Sta. P. I.— $T = 157 + 45.50$. Also from (4) $L = 746.00$ and P. T.—Sta. P. C. + $L = 164 + 91.50$.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance= $158 - \text{Sta. P. C.} = 54.50$, hence offset= $7.27 (54.50 \div 100)^2 = 2.16$ ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26) = 2.16$ ft.

Deflections.—Deflection angle= $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft.—(in minutes) $.3 \times C \times D^\circ$ or=defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve—.3 $\times 54.5 \times 8\frac{1}{2} = 136.2'$ or $2^\circ 16.2'$, or= $2.50 \times 54.5 = 136.2'$ from Table III. For Sta. 159 deflection angle= $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve $E = 960.6$ for $8^\circ 20' = 960.6 \div 8\frac{1}{2} = 91.27$ and from Table V correction=.10 or $E = 91.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

DISTANCES FROM CENTER OF ROADWAY FOR
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	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 41.9. 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 $41.9 + (20 - 16) \div 2$ or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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