

W  
395

ENGINEERING  
MINING  
TRANSIT BOOK  
No. 422 F

395

# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and  
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

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

JAN 11 1965

| 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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Excavation Item 3 - p. 44-46

Final Profile So. end core wall 57

Grout holes in So. end core wall 58

Det. Final + Sup Final X Sec.



Continued from Book 394  
Final X Sections

|          |       |        |        |
|----------|-------|--------|--------|
| B.M.     | 12.88 | 552.27 | 539.39 |
| Set B.M. |       | 4.09   | 548.18 |
|          | 12.04 | 560.22 |        |
| Set B.M. |       | 1.21   | 559.01 |
|          |       | N3720  |        |
| B.M.     | 12.04 | 560.22 | 548.18 |

Dec 29 - 1932

ELIOTT  
Gottschling  
Farmers

9.03

|      |     |      |
|------|-----|------|
| 4965 | 9.7 | 50.5 |
| 60   | 9.2 | 51.0 |
| 50   | 8.7 | 51.5 |
| 40   | 7.0 | 53.2 |
| 30   | 6.7 | 53.5 |
| 20   | 5.8 | 54.4 |
| 10   | 6.1 | 54.1 |
| 4900 | 5.9 | 54.3 |
| 4890 | 6.2 | 54.0 |

Plotted

yellow line  
Plotting ch. CBH.  
9.20.34



N3720

560.22

4880

2.3

57.9

B.M.

9.03

568.04

559.01

70

5.2

62.8

60

6.6

61.4

50

7.2

60.8

40

8.5

59.5

30

9.7

58.3

20

9.2

58.8

10

8.5

59.5

4800

8.2

59.8

4790

8.7

59.3

80

8.5

59.5

70

8.2

59.8

60

8.2

59.8

50

8.1

59.9

40

8.0

60.0

30

7.6

60.4

Plated

yellow  
line✓  
✓  
✓  
✓✓  
✓  
✓  
✓✓  
✓  
✓  
✓✓  
✓  
✓  
✓✓  
✓  
✓  
✓

Plotting checked 9-20-34

2



N3730  
568.04

|      |     |      |             |
|------|-----|------|-------------|
| 4730 | 7.7 | 60.3 | See page 44 |
| 40   | 7.7 | 60.3 |             |
| 50   | 7.6 | 60.4 |             |
| 60   | 7.0 | 61.0 |             |
| 70   | 7.6 | 60.4 |             |
| 80   | 7.5 | 60.5 |             |
| 90   | 7.4 | 60.6 |             |
| 4800 | 7.4 | 60.6 |             |
| 10   | 8.6 | 59.4 |             |
| 20   | 8.6 | 59.4 |             |
| 30   | 8.8 | 59.2 |             |
| 40   | 6.2 | 61.8 |             |
| 50   | 5.6 | 62.4 |             |
| 60   | 5.5 | 62.5 |             |
| 70   | 5.3 | 62.7 |             |
| 80   | 4.4 | 63.6 |             |
| 90   | 7.2 | 60.8 |             |

Platted

B.M. 12.04 560.22 548.18

|      |     |      |
|------|-----|------|
| 4900 | 3.4 | 56.8 |
| 4910 | 5.3 | 54.9 |
| 20   | 5.2 | 55.6 |
| 30   | 6.6 | 53.6 |
| 40   | 6.8 | 53.4 |

Platted

C. H. Blotting  
paper  
yellow  
line



3730

560.22

|      |      |        |
|------|------|--------|
| 4950 | 8.2  | 52.0 ✓ |
| 60   | 8.3  | 51.9 ✓ |
| 65   | 9.0  | 51.2 ✓ |
| 74   | 20.2 | 40.0 ✓ |

N3740

|      |       |        |
|------|-------|--------|
| 4974 | 19.7  | 40.5 ✓ |
| 65   | 8.5   | 51.7 ✓ |
| 60   | 8.1   | 52.1 ✓ |
| 50   | 7.5   | 52.7 ✓ |
| 40   | 6.9   | 53.3 ✓ |
| 30   | 5.8   | 54.4 ✓ |
| 20   | 3.2   | 57.0 ✓ |
| B.M. | 10.64 | 574.65 |
|      |       | 564.01 |
| 4740 | 12.8  | 61.8 ✓ |

Platted

Plotting checked.  
yellow line

4

559.01

9.03

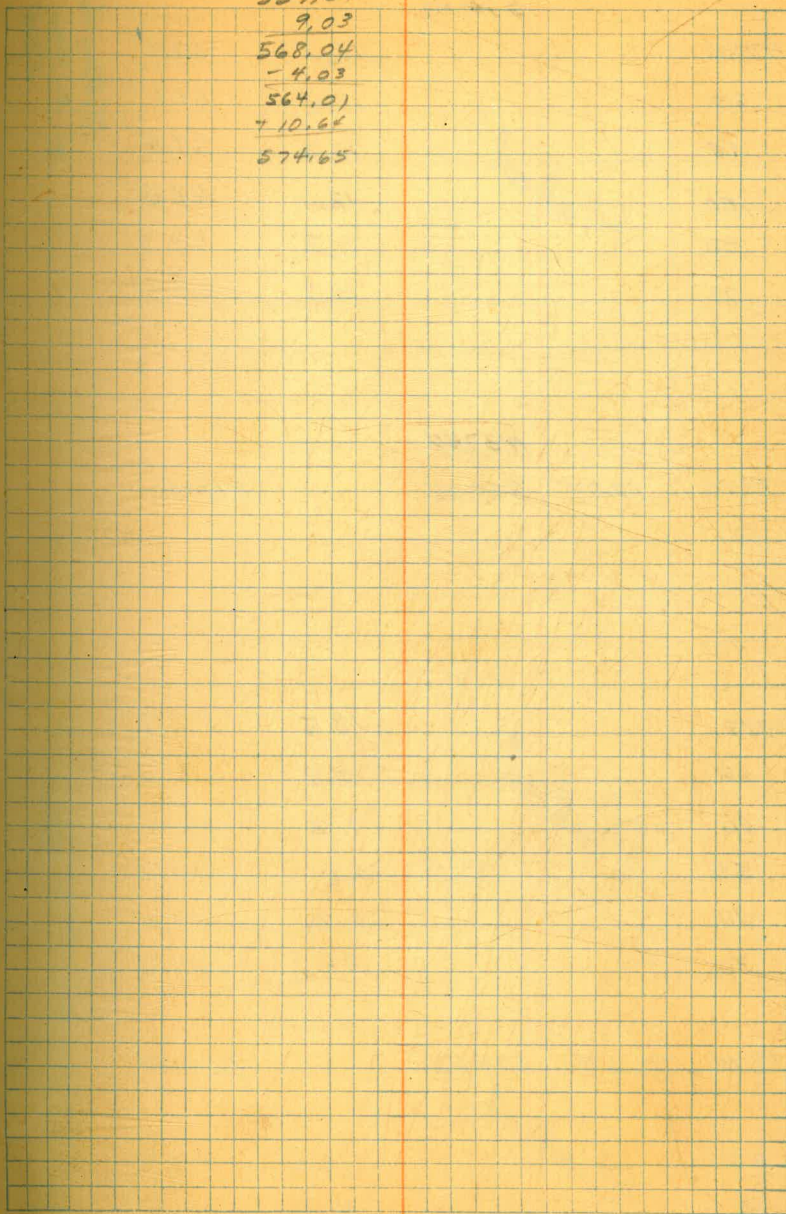
568.04

- 4.03

564.01

+ 10.64

574.65





N3740

574.65

4730

13.5

61.1 ✓

20

13.5

61.1 ✓

10

13.2

61.4 ✓

00

12.1

62.5 ✓

90

11.3

63.3 ✓

80

10.7

63.9 ✓

Platted

Plotting checked  
9-19-34  
C.A.H.

N3750

B.M.

12.04

560.22

548.18

4973

18.5

41.7 ✓

66

7.9

52.3 ✓

60

7.2

53.0 ✓

50

6.6

53.6 ✓

40

6.2

54.0 ✓

30

3.6

56.6 ✓

Platted

Plotting checked  
9-19-34  
C.A.H.

B.M.

10.64

574.65

564.01

4720

12.0

62.6 ✓

10

12.0

62.6 ✓

Platted

4971

16.1

5



N3750  
574.65

|      |         |      |        |
|------|---------|------|--------|
| 4700 |         | 11.6 | 63.0 ✓ |
| 4690 | Platted | 10.6 | 64.0 ✓ |
| 80   |         | 9.8  | 64.8 ✓ |
| 70   |         | 9.1  | 65.5 ✓ |

N3760

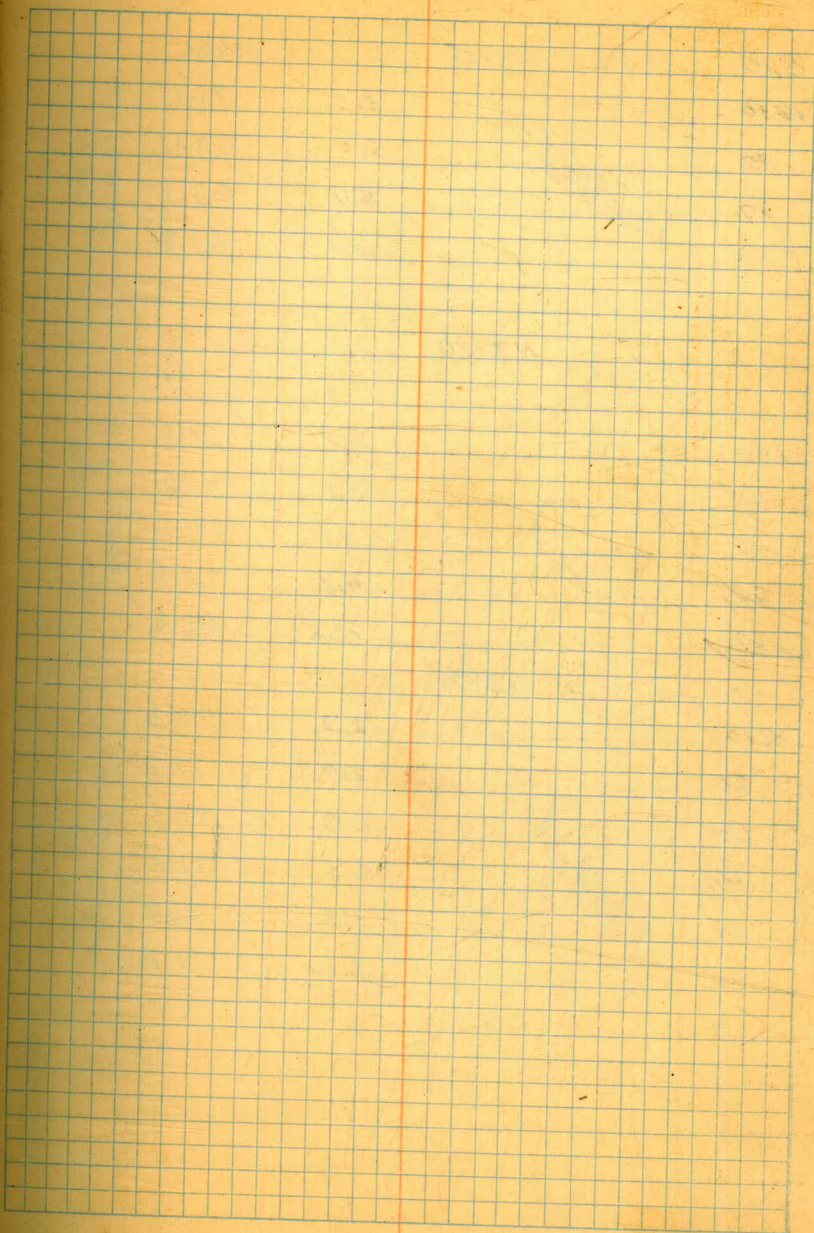
|      |       |        |        |
|------|-------|--------|--------|
| B.M. | 12.04 | 560.22 | 548.18 |
|------|-------|--------|--------|

|      |         |      |        |
|------|---------|------|--------|
| 4971 | Platted | 16.1 | 44.1 ✓ |
| 64   |         | 5.6  | 54.6 ✓ |
| 60   |         | 4.5  | 55.7 ✓ |
| 50   |         | 5.2  | 55.0 ✓ |
| 40   |         | 4.1  | 56.1 ✓ |

|      |       |        |        |
|------|-------|--------|--------|
| B.M. | 10.64 | 574.65 | 564.01 |
|------|-------|--------|--------|

|      |  |     |        |
|------|--|-----|--------|
| 4680 |  | 7.5 | 67.1 ✓ |
| 70   |  | 8.1 | 66.5 ✓ |
| 60   |  | 7.3 | 67.3 ✓ |
| 4650 |  | 8.2 | 66.4 ✓ |

Plotting at -  
9-19-34





N3770

| B.M. | 10.64   | 574.65 | 564.01 |
|------|---------|--------|--------|
| 4630 |         | 3.5    | 71.1 ✓ |
| 40   | Platted | 5.0    | 69.6 ✓ |
| 50   |         | 5.7    | 68.9 ✓ |
| 60   |         | 6.5    | 68.8 ✓ |

 Blotting ok  
 G.P.H.

N3780

|      |         |     |        |
|------|---------|-----|--------|
| 4620 |         | 3.0 | 71.6 ✓ |
| 30   | Platted | 3.6 | 71.0 ✓ |
| 40   |         | 4.0 | 70.6 ✓ |
| 50   |         | 4.0 | 70.6 ✓ |
| 60   |         | 2.8 | 71.8 ✓ |

 Blotting ok  
 G.P.H.

N3790

|      |         |     |        |
|------|---------|-----|--------|
| 4610 |         | 2.3 | 72.3 ✓ |
| 20   | Platted | 2.9 | 71.7 ✓ |
| 30   |         | 3.0 | 71.6 ✓ |
| 40   |         | 3.1 | 71.5 ✓ |
| 50   |         | 3.2 | 71.4 ✓ |
| 60   |         | 3.2 | 71.4 ✓ |

 Lower Elk on  
 Page 53

7



N3800

574.65

4580  
90  
4600

Platted

1.5 73.1  
1.5 73.1  
0.5 74.1

Lower Etc.  
on page 53  
C.B.H.

N3810

4560  
70  
80  
90  
4600

1.0 73.6  
1.2 73.4  
1.6 73.0  
1.5 73.1  
0.5 74.1

Lower Etc. on  
Page 52

T.T. 6.22 579.19 1.68 572.97

N3820

4540  
50  
60  
70  
80

Platted

4.7 74.5  
5.0 74.2  
5.2 74.0  
4.8 74.4  
4.6 74.6

Lower Etc. on  
Page 51  
Dup on page 51

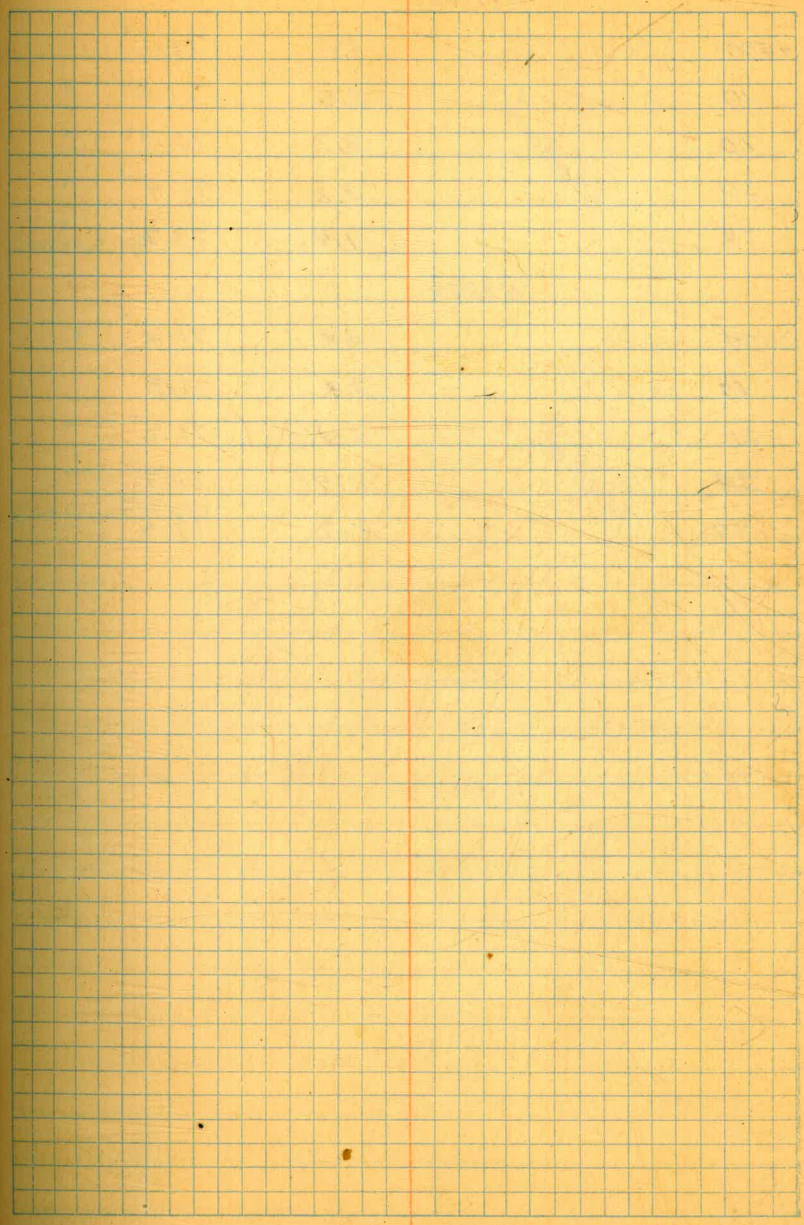
N3830

4520  
30  
40  
50

Platted

4.0 75.2  
4.2 75.0  
4.2 75.0  
4.4 74.8

Lower Etc.  
on page 51  
C.B.H.





N3840

574.65

|      |         |     |          |
|------|---------|-----|----------|
| 4500 |         | 3.5 | 71.1 ✓   |
| 10   | Plotted | 3.6 | 71.0 ✓ ↓ |
| 20   |         | 3.7 | 70.9 ✓ ↓ |
| 30   |         | 3.2 | 71.4 ✓ ↓ |
| 40   |         | 1.4 | 73.2 ✓ ↓ |

N3850

|      |         |     |        |
|------|---------|-----|--------|
| 4500 |         | 3.0 | 71.6 ✓ |
| 10   | Plotted | 3.3 | 71.3 ✓ |
| 20   |         | 3.4 | 71.2 ✓ |
| 30   |         | 2.9 | 71.7 ✓ |
| 40   |         | 2.2 | 72.4 ✓ |

7

Conten. p. 49

Cont. on page 49



See FB 908

Dec 24 - 1932

N3470

|      |      |          |        |          |
|------|------|----------|--------|----------|
| B.M. | 3.41 | 578.41 ✓ | 575.00 |          |
|      | 4.64 | 571.57 ✓ | 11.48  | 566.93 ✓ |
| 5300 |      |          | 9.9    | 61.7 ✓   |
| 290  |      |          | 10.8   | 60.8 ✓   |
| 80   |      |          | 10.5   | 61.1 ✓   |
| 70   |      |          | 9.2    | 62.4 ✓   |
| 60   |      |          | 10.5   | 61.1 ✓   |
| 50   |      |          | 12.1   | 59.5 ✓   |
| 40   |      |          | 10.0   | 61.6 ✓   |
| 30   |      |          | 9.8    | 61.8 ✓   |
| 20   |      |          | 15.1   | 56.5 ✓   |
| 10   |      |          | 16.3   | 55.3 ✓   |
| 5200 |      |          | 17.2   | 54.4 ✓   |

Platted

N3460

|      |  |  |      |                |
|------|--|--|------|----------------|
| 5140 |  |  | 20.0 | 51.6 ✓         |
| 50   |  |  | 18.9 | 52.7 ✓         |
| 60   |  |  | 18.8 | 52.8 ✓         |
| 70   |  |  | 14.9 | 56.7 ✓         |
| 80   |  |  | 13.2 | 58.4 ✓         |
| 90   |  |  | 15.0 | 56.6 ✓         |
| 5200 |  |  | 14.2 | 57.4 ✓         |
| 10   |  |  | 14.2 | 57.4 ✓         |
| 20   |  |  | 10.7 | 60.9 ✓         |
| 30   |  |  | 0.2  | 71.4 ✓ Dornick |

Platted

10

393  
46

from page 64



N3460  
571.57

5240 4.6 67.0 ✓ -  
250 6.2 65.4 ✓ .  
60 7.4 64.2 ✓ .  
70 8.1 63.5 ✓ .  
80 8.7 62.9 ✓ .  
90 9.8 61.8 ✓ .  
5300 9.7 61.9 ✓ .

Platted

N3450

5310 5.9 65.7 ✓ .  
300 8.3 63.3 ✓ .  
290 7.9 63.7 ✓ .  
80 8.3 63.3 ✓ .  
70 7.6 64.0 ✓ .  
60 7.1 64.5 ✓ .  
50 6.8 64.8 ✓ .  
40 6.1 65.5 ✓ .  
30 4.6 67.0 ✓ .  
20 5.5 66.1 ✓ .  
10 7.3 64.3 ✓ .  
5200 9.2<sup>3</sup> 62.2 ✓ .  
5190 7.5 64.1 ✓ .  
80 6.8 64.8 ✓ .  
70 9.4 62.2 ✓ .  
60 13.3 58.3 ✓ .  
50 16.8 54.8 ✓ .  
40 19.7 51.9 ✓ .

Platted

P.  
Jan 63

End Dec 24-1932



Not Final

N3450

Dec 30-1932

Elliott  
Gottschling  
Remmen

12

B.M. 0.52 583.69

583.17

|      |      |      |
|------|------|------|
| 5320 | 14.8 | 68.9 |
| 30   | 13.4 | 70.3 |
| 40   | 12.5 | 71.2 |
| 50   | 9.0  | 74.7 |
| 60   | 8.3  | 75.4 |
| 70   | 8.4  | 75.3 |
| 80   | 5.2  | 78.5 |
| 90   | 5.7  | 78.0 |
| 5400 | 5.8  | 77.9 |
| 10   | 6.0  | 77.7 |
| 20   | 6.7  | 77.0 |
| 30   | 4.5  | 79.2 |
| 40   | 4.0  | 79.7 |
| 50   | 4.7  | 79.0 |
| 60   | 5.3  | 78.4 |
| 70   | 5.6  | 78.1 |

Platted

Superceded on page 38 dated  
Jan 7-33  
E.E.H.

N3440

|      |      |      |
|------|------|------|
| 5463 | +0.8 | 84.5 |
| 5460 | 4.2  | 79.5 |
| 50   | 4.2  | 79.5 |
| 40   | 3.5  | 80.2 |

Platted



Not Final  
3440

583.69

|      |      |        |       |        |
|------|------|--------|-------|--------|
| 54   | 30   | 2.5    | 81.2  | ✓      |
| 20   |      | 2.6    | 81.1  | ✓      |
| 10   |      | 4.2    | 79.5  | ✓      |
| 400  |      | 5.3    | 78.4  | ✓      |
| 5390 |      | 5.1    | 78.6  | ✓      |
| 80   |      | 4.7    | 79.0  | ✓      |
| 70   |      | 4.7    | 79.0  | ✓      |
| 60   |      | 4.7    | 79.0  | ✓      |
| 50   |      | 4.5    | 79.2  | ✓      |
| 40   |      | 5.2    | 78.5  | ✓      |
| 30   |      | 5.8    | 77.9  | ✓      |
| 20   |      | 8.0    | 75.7  | ✓      |
| 10   |      | 10.6   | 73.1  | ✓      |
| T.P. | 6.00 | 577.26 | 12.43 | 571.26 |
| 5300 |      | 7.6    | 69.7  | ✓      |
| 5290 |      | 9.6    | 67.7  | ✓      |
| 80   |      | 10.3   | 67.0  | ✓      |
| 70   |      | 10.9   | 66.4  | ✓      |
| 60   |      | 11.0   | 66.3  | ✓      |
| 50   |      | 10.9   | 66.4  | ✓      |
| 40   |      | 11.1   | 66.2  | ✓      |
| 30   |      | 11.1   | 66.2  | ✓      |
| 20   |      | 10.6   | 66.7  | ✓      |

plated



3440

572.26

|      |      |        |
|------|------|--------|
| 5210 | 10.2 | 67.1 ✓ |
| 5200 | 9.8  | 67.5 ✓ |
| 5190 | 9.3  | 68.0 ✓ |
| 80   | 8.3  | 69.0 ✓ |
| 70   | 9.0  | 68.3 ✓ |
| 60   | 11.4 | 65.9 ✓ |
| 50   | 16.1 | 61.2 ✓ |
| 40   | 22.4 | 54.9 ✓ |
| 30   | 24.5 | 52.8 ✓ |
| 20   | 25.0 | 52.3 ✓ |

*Plotted*

N3430

|      |      |        |
|------|------|--------|
| 5120 | 24.2 | 53.1 ✓ |
| 30   | 19.4 | 57.9 ✓ |
| 40   | 13.9 | 63.4 ✓ |
| 50   | 10.0 | 67.3 ✓ |
| 60   | 8.8  | 68.5 ✓ |
| 70   | 8.7  | 68.6 ✓ |
| 80   | 9.0  | 68.3 ✓ |
| 90   | 9.6  | 67.7 ✓ |
| 5200 | 9.7  | 67.6 ✓ |
| 10   | 7.4  | 69.9 ✓ |
| 20   | 4.4  | 72.9 ✓ |
| 30   | 6.7  | 70.6 ✓ |
| 40   | 7.3  | 70.0 ✓ |





N 3430

577.26

|      |      |        |                   |
|------|------|--------|-------------------|
| 5250 |      | 2.1    | 75.2 <sup>v</sup> |
| 60   |      | 0.6    | 76.7 <sup>v</sup> |
| B.M. | 1.43 | 584.60 | 583.17            |
| 70   |      | 6.5    | 78.1 <sup>v</sup> |
| 80   |      | 5.4    | 79.2 <sup>v</sup> |
| 90   |      | 4.9    | 79.7 <sup>v</sup> |
| 5300 |      | 6.2    | 78.4 <sup>v</sup> |
| 10   |      | 3.4    | 81.2 <sup>v</sup> |
| 20   |      | 2.5    | 82.1 <sup>v</sup> |
| 30   |      | 4.3    | 80.3 <sup>v</sup> |
| 40   |      | 5.0    | 79.6 <sup>v</sup> |
| 50   |      | 4.6    | 80.0 <sup>v</sup> |
| 60   |      | 4.5    | 80.1 <sup>v</sup> |

Planned

N 3420

|      |       |        |                   |
|------|-------|--------|-------------------|
| B.M. | 10.26 | 593.43 | 583.17            |
| 5360 |       | 8.7    | 84.7 <sup>v</sup> |
| 50   |       | 7.6    | 85.8 <sup>v</sup> |
| 40   |       | 6.0    | 87.4 <sup>v</sup> |
| 30   |       | 6.7    | 86.7 <sup>v</sup> |
| 20   |       | 6.0    | 87.4 <sup>v</sup> |
| 10   |       | 6.4    | 87.0 <sup>v</sup> |
| 5300 |       | 5.3    | 88.1 <sup>v</sup> |

3410  
5360

15



N 3420

593.43

|      |      |      |
|------|------|------|
| 5290 | 3.3  | 90.1 |
| 80   | 7.6  | 85.8 |
| 70   | 7.4  | 84.0 |
| 60   | 11.5 | 81.9 |
| 50   | 12.0 | 81.4 |
| 40   | 12.3 | 81.1 |
| 30   | 15.6 | 77.8 |
| 20   | 15.9 | 77.5 |
| 10   | 14.5 | 78.9 |
| 5200 | 14.7 | 78.7 |

577.26

|      |      |      |
|------|------|------|
| 5190 | 3.3  | 74.0 |
| 80   | 7.7  | 69.6 |
| 70   | 8.0  | 69.3 |
| 60   | 8.6  | 68.7 |
| 50   | 9.1  | 68.2 |
| 40   | 8.7  | 68.6 |
| 30   | 9.6  | 67.7 |
| 20   | 19.1 | 58.2 |

N 3410

|      |     |      |
|------|-----|------|
| 5120 | 6.4 | 70.9 |
| 130  | 7.3 | 70.0 |
| 140  | 8.2 | 69.1 |
| 150  | 8.6 | 68.7 |



3410  
577.26

17

|      |      |        |      |                   |
|------|------|--------|------|-------------------|
| 5160 |      |        | 7.4  | 69.9 <sup>✓</sup> |
| 70   |      |        | 3.0  | 74.3 <sup>✓</sup> |
| B.M. | 8.09 | 595.99 |      | 587.90            |
| 80   |      |        | 16.1 | 79.9 <sup>✓</sup> |
| 90   |      |        | 16.2 | 79.8 <sup>✓</sup> |
| 5200 |      |        | 16.3 | 79.7 <sup>✓</sup> |
| 10   |      |        | 16.4 | 79.6 <sup>✓</sup> |
| 20   |      |        | 17.4 | 78.6 <sup>✓</sup> |
| 30   |      |        | 15.0 | 81.0 <sup>✓</sup> |
| 40   |      |        | 11.9 | 84.1 <sup>✓</sup> |
| 50   |      |        | 9.6  | 86.4 <sup>✓</sup> |
| 60   |      |        | 7.6  | 88.4 <sup>✓</sup> |
| 70   |      |        | 7.0  | 89.0 <sup>✓</sup> |
| 80   |      |        | 5.4  | 90.6 <sup>✓</sup> |
| 90   |      |        | 4.8  | 91.2 <sup>✓</sup> |
| 5300 |      |        | 4.8  | 91.2 <sup>✓</sup> |
| 10   |      |        | 5.4  | 90.6 <sup>✓</sup> |
| 20   |      |        | 6.3  | 89.7 <sup>✓</sup> |
| 30   |      |        | 7.1  | 88.9 <sup>✓</sup> |
| 40   |      |        | 7.8  | 88.2 <sup>✓</sup> |
| 50   |      |        | 9.2  | 86.8 <sup>✓</sup> |
| 60   |      |        | 6.2  | 89.8 <sup>✓</sup> |

End Dec 30-1932



Not Final

N3430

|      |       |        |      |         |
|------|-------|--------|------|---------|
| B.M. | 8.01  | 582.99 |      | 574.98  |
| T.P. |       |        | 4.27 | 578.62  |
|      | 13.05 | 591.67 |      |         |
| 5370 |       |        | 9.5  | 582.2 ✓ |
| 80   |       |        | 10.9 | 80.8 ✓  |
| 90   |       |        | 11.5 | 80.2 ✓  |
| 5400 |       |        | 10.0 | 81.7 ✓  |
| 10   |       |        | 9.3  | 82.4 ✓  |
| 20   |       |        | 9.9  | 81.8 ✓  |
| 30   |       |        | 10.0 | 81.7 ✓  |
| 40   |       |        | 10.4 | 81.3 ✓  |
| 46   |       |        | 10.4 | 81.3 ✓  |
| 50   |       |        |      | O.C.    |

N3420

|      |  |  |     |        |
|------|--|--|-----|--------|
| 5370 |  |  | 7.9 | 83.8 ✓ |
| 80   |  |  | 7.4 | 84.3 ✓ |
| 90   |  |  | 6.1 | 85.6 ✓ |
| 5400 |  |  | 7.0 | 84.7 ✓ |
| 10   |  |  | 7.3 | 84.4 ✓ |
| 20   |  |  | 7.4 | 84.3 ✓ |
| 30   |  |  | 7.4 | 84.3 ✓ |
| 40   |  |  |     | O.C.   |

Plotted

Jan 3 - 1932  
 Ellett  
 Soper  
 Remmen



Not Final

N3410

591.67

|      |  |  |     |         |
|------|--|--|-----|---------|
| 5370 |  |  | 1.2 | 590.5 ✓ |
| 80   |  |  | 0.0 | 91.7 ✓  |
| 90   |  |  | 1.8 | 89.9 ✓  |
| 5400 |  |  | 3.6 | 88.1 ✓  |
| 10   |  |  | 2.9 | 88.8 ✓  |
| 20   |  |  | 2.8 | 88.9 ✓  |
| 25   |  |  |     | 0.6     |

N3400

0.6

|      |       |        |      |        |
|------|-------|--------|------|--------|
| 5405 |       |        |      |        |
| 5396 |       |        | 10.2 | 91.9 ✓ |
| T.P. | 13.20 | 603.81 | 1.06 | 590.61 |
| 5390 |       |        | 12.2 | 91.6 ✓ |
| 80   |       |        | 11.1 | 92.7 ✓ |
| 70   |       |        | 9.3  | 94.5 ✓ |
| 60   |       |        | 8.3  | 95.5 ✓ |
| 50   |       |        | 9.2  | 94.6 ✓ |
| 40   |       |        | 11.6 | 92.2 ✓ |
| 30   |       |        | 12.2 | 91.6 ✓ |
| 20   |       |        | 13.2 | 90.6 ✓ |
| B.M. | 3.45  | 594.06 |      | 590.61 |
| 10   |       |        | 2.0  | 92.1 ✓ |
| 5300 |       |        | 1.8  | 92.3 ✓ |

Plathead

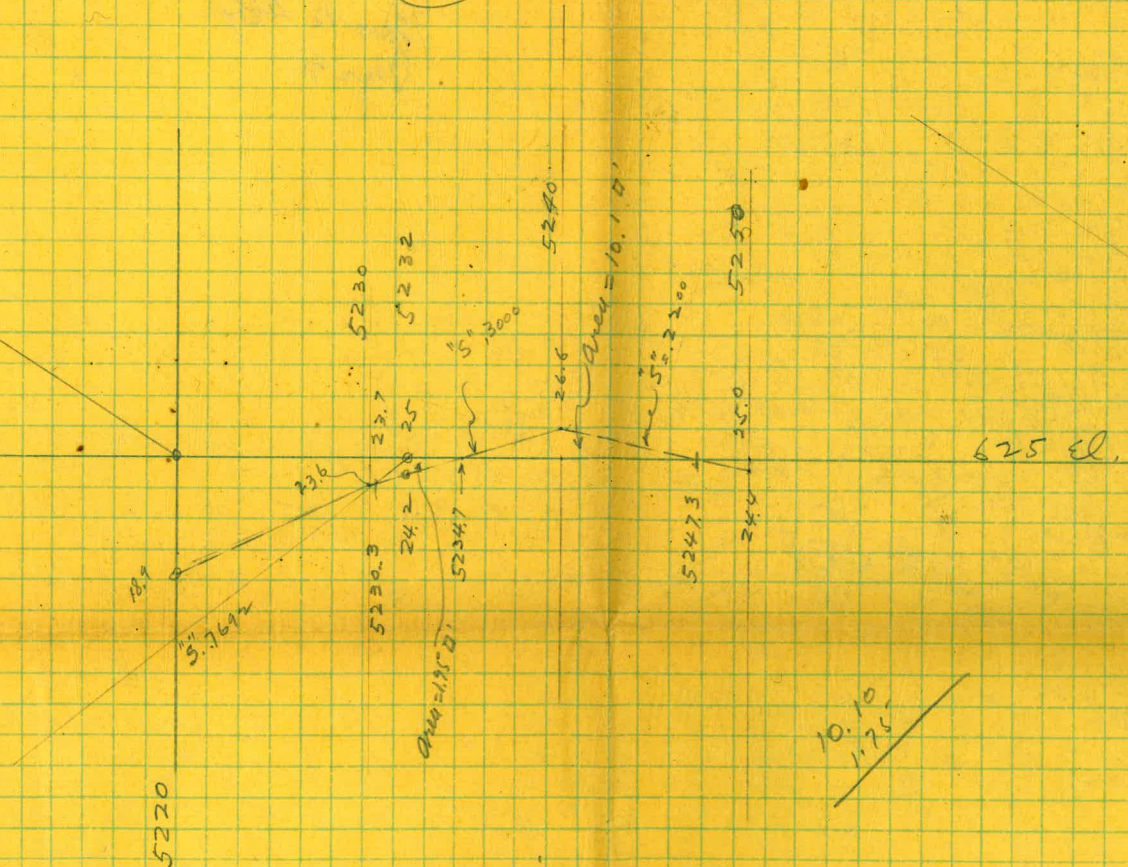
Book List  
Page 71

283



El Capitan Dam  
 July 7, 1934  
 Pinal Rock Estimat

N 3990



Scale 1" = 10'

10.10  
 1.75



*Faint handwritten notes at the top of the page.*

Book 46f  
Page 71

283

Page 71

2530



| Not   |        | Final  |         |
|-------|--------|--------|---------|
| N3410 |        |        |         |
|       | 591.67 |        |         |
| 5370  |        | 1.2    | 590.5 ✓ |
| 80    |        | 0.0    | 91.7 ✓  |
| 90    |        | 1.8    | 89.9 ✓  |
| 5400  |        | 3.6    | 88.1 ✓  |
| 10    |        | 2.9    | 88.8 ✓  |
| 20    |        | 2.8    | 88.9 ✓  |
| 25    |        |        | 0.6     |
|       | N3400  |        | 0.6     |
| 5405  |        |        |         |
| 5396  |        | 10.2   | 91.9 ✓  |
| T.P.  | 13.20  | 603.81 | 1.06    |
|       |        |        | 590.61  |
| 5390  |        | 12.2   | 91.6 ✓  |
| 80    |        | 11.1   | 92.7 ✓  |
| 70    |        | 9.3    | 94.5 ✓  |
| 60    |        | 8.3    | 95.5 ✓  |
| 50    |        | 9.2    | 94.6 ✓  |
| 40    |        | 11.6   | 92.2 ✓  |
| 30    |        | 12.2   | 91.6 ✓  |
| 20    |        | 13.2   | 90.6 ✓  |
| B.M.  | 3.45   | 594.06 | 590.61  |
| 10    |        | 2.0    | 92.1 ✓  |
| 5300  |        | 1.8    | 92.3 ✓  |

Plotted



Not Final

N3400

594.06

|      |      |        |
|------|------|--------|
| 5290 | 2.8  | 591.34 |
| 80   | 2.0  | 92.14  |
| 70   | 2.5  | 91.64  |
| 60   | 2.4  | 91.74  |
| 50   | 4.0  | 90.14  |
| 40   | 5.8  | 88.34  |
| 30   | 8.7  | 85.44  |
| 20   | 10.6 | 83.54  |
| 10   | 13.2 | 80.94  |
| 5200 | 13.4 | 80.74  |
| 5190 | 13.0 | 81.14  |
| 80   | 12.4 | 81.74  |
| 70   | 12.5 | 81.64  |

Plated

N3390

|      |      |       |
|------|------|-------|
| 5170 | 11.1 | 83.04 |
| 80   | 11.4 | 82.74 |
| 90   | 11.0 | 83.14 |
| 200  | 10.6 | 83.54 |
| 10   | 9.7  | 84.44 |
| 20   | 4.6  | 89.54 |
| 30   | 3.1  | 91.04 |
| 40   | 1.9  | 92.24 |
| 50   | 0.5  | 93.64 |
| 60   | 1.5  | 92.64 |



Not Final  
N.3390

594.06

|      |       |        |         |
|------|-------|--------|---------|
| 5270 |       | 1.3    | 592.8 ✓ |
| 80   |       | 1.7    | 92.4 ✓  |
| B.M. | 13.20 | 603.81 | 590.61  |
| 90   |       | 8.8    | 95.0 ✓  |
| 5300 |       | 5.1    | 98.7 ✓  |
| 10   |       | 4.3    | 99.5 ✓  |
| 20   |       | 2.4    | 601.4 ✓ |
| 30   |       | 2.6    | 01.2 ✓  |
| 40   |       | 4.2    | 599.6 ✓ |
| 50   |       | 4.5    | 99.3 ✓  |
| 60   |       | 6.6    | 97.2 ✓  |
| 70   |       | 8.1    | 95.7 ✓  |
| 80   |       | 9.0    | 94.8 ✓  |
| 85   |       | 8.2    | 94.6 ✓  |
| 90   |       |        | 0.6 ✓   |

N3380

|    |  |      |         |
|----|--|------|---------|
| 80 |  |      | 0.6 ✓   |
| 75 |  | 4.3  | 99.5 ✓  |
| 70 |  | 3.4  | 00.4 ✓  |
| 60 |  | 2.0  | 601.8 ✓ |
| 50 |  | 1.5  | 02.3 ✓  |
| 40 |  | 2.0  | 01.8 ✓  |
| 30 |  | 0.3  | 03.5 ✓  |
| 20 |  | +0.3 | 04.1 ✓  |

Platted



N3380

Not Final

603.81

22

|      |      |        |         |
|------|------|--------|---------|
| 5310 |      | +1.6   | 605.4 ✓ |
| 5300 |      | +2.0   | 605.8 ✓ |
| 5290 |      | 0.3    | 603.5 ✓ |
| 80   |      | 4.8    | 599.0 ✓ |
| 70   |      | 7.0    | 96.8 ✓  |
| 60   |      | 8.5    | 95.3 ✓  |
| B.M. | 3.45 | 394.06 | 590.61  |
| 50   |      | 1.0    | 93.1 ✓  |
| 40   |      | 1.1    | 93.0 ✓  |
| 30   |      | 0.8    | 92.3 ✓  |
| 20   |      | 2.2    | 91.9 ✓  |
| 10   |      | 4.2    | 89.9 ✓  |
| 5200 |      | 7.5    | 86.6 ✓  |
| 5190 |      | 8.6    | 85.5 ✓  |
| 80   |      | 11.1   | 83.0 ✓  |
| 70   |      | 11.1   | 83.0 ✓  |

Platford

South of here same as last estimate

End Jan 3 - 1933



Final X Sections  
 Upstr. Rock Emb. So. Abutment  
 N3440

Jan 9-1932  
 Elliott  
 Gotschling  
 Remmen

23

|      |         |        |                |              |
|------|---------|--------|----------------|--------------|
| B.M. | 6.55    | 594.45 | 587.90         |              |
| 5463 |         |        | 0.6<br>584.5   |              |
| 5460 |         | 15.2   | 79.2 ✓         |              |
| 50   | Plotted | 15.2   | 79.2 ✓         |              |
| 40   |         | 14.4   | 80.0 ✓         |              |
| 30   |         | 14.8   | 79.6 ✓         |              |
| 20   |         | 15.3   | 79.1 ✓         |              |
| 10   |         | 16.3   | 78.1 ✓         |              |
| 5400 |         | 17.3   | 77.1 ✓         |              |
| 90   |         | 18.0   | 76.4 ✓         |              |
| 80   |         | 17.5   | 76.9 ✓<br>77.0 |              |
| 70   |         | 16.0   | 78.4 ✓         |              |
| 60   |         | 14.8   | 79.6 ✓         |              |
| 5350 |         | 15.0   | 79.4 ✓         |              |
| 40   |         | 15.8   | 78.6 ✓         |              |
| B.M. | 0.52    | 583.69 | 583.17         |              |
| 30   | Plotted | 5.8    | 77.9 ✓         |              |
| 20   |         | 8.0    | 75.7 ✓         |              |
| 10   |         | 10.6   | 73.1 ✓         |              |
| T.P. |         | 6.0    | 577.26         | 12.43 571.26 |
| 5300 |         |        | 7.6            | 69.7 ✓       |
| 290  |         | 9.6    | 67.7 ✓         |              |



N3440

577.26

|      |         |                         |        |
|------|---------|-------------------------|--------|
| 5280 |         | 10.3                    | 67.0 ✓ |
| 70   | Plotted | 10.9                    | 66.4 ✓ |
| 60   |         | 11.0                    | 66.3 ✓ |
| 50   |         | 10.9                    | 66.4 ✓ |
| 40   |         | 11.1                    | 66.2 ✓ |
| 30   |         | 11.1                    | 66.2 ✓ |
| 20   |         | 10.6                    | 66.7 ✓ |
| 10   |         | 10.2                    | 67.1 ✓ |
| 200  |         | 9.8                     | 67.5 ✓ |
| 190  |         | 9.3                     | 68.0 ✓ |
| 80   |         | 8.3                     | 69.0 ✓ |
| 70   | 9.0     | 68.3                    |        |
| 60   | 11.4    | 65.9 ✓                  |        |
| 50   | 16.1    | 61.2 ✓                  |        |
| 40   | 22.4    | 54.9<br><del>54.9</del> |        |
| 30   | 24.5    | 52.8 ✓                  |        |
| 5120 |         | 25.0 52.3 ✓             |        |

N3430

|      |         |        |                         |
|------|---------|--------|-------------------------|
| B.M. | 6.55    | 594.45 | 587.90                  |
| 5452 |         | 0.6    |                         |
| 5445 | Plotted | 13.2   | 81.2 ✓                  |
| 40   |         | 13.2   | 81.2 ✓                  |
| 30   |         | 12.5   | 81.9<br><del>82.0</del> |

Jan 9-

24



N3430

594.45

|      |         |        |                         |        |
|------|---------|--------|-------------------------|--------|
| 5420 |         | 12.8   | 81.6 ✓                  |        |
| 10   |         | 13.3   | 81.1 ✓                  |        |
| 400  | Plotted | 14.4   | 80.0 ✓                  |        |
| 390  |         | 15.9   | 78.5 ✓                  |        |
| 80   |         | 15.5   | <del>88.9</del><br>87.0 | 78.0 ✓ |
| 70   |         | 13.7   | 80.7 ✓                  |        |
| 360  |         | 12.7   | 81.7 ✓                  |        |
| 50   |         | 12.2   | 82.2 ✓                  |        |
| 40   |         | 13.2   | 81.2 ✓                  |        |
| 30   |         | 12.2   | 82.2 ✓                  |        |
| 20   |         | 12.3   | 82.1 ✓                  |        |
| B.M. |         | 1.43   | 584.60                  | 583.17 |
| 10   |         | 3.4    | 81.2 ✓                  |        |
| 5300 | Plotted | 6.2    | 78.4 ✓                  |        |
| 290  |         | 4.9    | 79.7 ✓                  |        |
| 80   |         | 5.4    | 79.2 ✓                  |        |
| 70   |         | 6.5    | 78.1 ✓                  |        |
| B.M. | 6.00    | 577.26 | 576.26                  |        |
| 60   | Plotted | 0.6    | 76.7 ✓                  |        |
| 50   |         | 2.1    | 75.2 ✓                  |        |
| 40   |         | 7.3    | 70.0 ✓                  |        |
| 30   |         | 6.7    | 70.6 ✓                  |        |
| 20   |         | 4.4    | 72.9 ✓                  |        |
| 10   |         | 7.4    | 69.9 ✓                  |        |
| 5200 |         | 9.7    | 67.6 ✓                  |        |

Jan 9

25



N3430

577.26

|      |  |      |        |
|------|--|------|--------|
| 5190 |  | 9.6  | 67.7 ✓ |
| 80   |  | 9.0  | 68.3 ✓ |
| 70   |  | 8.7  | 68.6 ✓ |
| 60   |  | 8.8  | 68.5 ✓ |
| 50   |  | 10.0 | 67.3 ✓ |
| 40   |  | 13.9 | 63.4 ✓ |
| 30   |  | 19.4 | 57.9 ✓ |
| 20   |  | 24.2 | 53.1 ✓ |

Plotted

N3420

| B.M. | 6.55 | 594.45 | 587.90           |
|------|------|--------|------------------|
| 5440 |      | 0.6    | 93.8             |
| 33   |      | 10.3   | 84.1 ✓           |
| 30   |      | 10.4   | 84.0 ✓           |
| 20   |      | 10.1   | 84.3 ✓           |
| 10   |      | 10.5   | 83.9 ✓<br>84.0 ✓ |
| 5400 |      | 9.6    | 84.8 ✓           |
| 90   |      | 9.2    | 85.2 ✓           |
| 80   |      | 10.3   | 84.1 ✓           |
| 70   |      | 11.0   | 83.4 ✓           |
| 60   |      | 8.8    | 85.6 ✓           |
| 50   |      | 8.3    | 86.1 ✓           |
| 40   |      | 8.3    | 86.1 ✓           |
| 30   |      | 8.3    | 86.1 ✓           |
| 20   |      | 7.7    | 86.7 ✓           |

Plotted

Jan 9

26

Cont. from page 62



N3420

594.45

|      |         |         |        |        |
|------|---------|---------|--------|--------|
| 5310 |         | 8.3     | 86.1 ✓ |        |
| 5200 | Plotted | 9.9     | 84.5 ✓ |        |
| 5290 |         | 4.0     | 90.4 ✓ |        |
| 80   |         | 8.3     | 86.1 ✓ |        |
| 70   |         | 10.6    | 83.8 ✓ |        |
| 60   |         | 11.6    | 82.8 ✓ |        |
| 50   |         | 12.3    | 82.1 ✓ |        |
| 40   |         | 14.0    | 80.4 ✓ |        |
| B.M. |         | 10.26   | 593.43 | 583.17 |
| 30   |         | Plotted | 15.6   | 78.8 ✓ |
| 20   |         |         | 15.9   | 77.5 ✓ |
| 10   | 14.5    |         | 78.9 ✓ |        |
| 5200 | 14.7    |         | 78.7 ✓ |        |
| B.M. | 6.00    |         | 577.26 | 571.26 |
| 5190 |         |         | 3.3    | 74.0 ✓ |
| 80   |         |         | 7.7    | 69.6 ✓ |
| 70   |         |         | 8.0    | 69.3 ✓ |
| 60   |         |         | 8.6    | 68.7 ✓ |
| 50   |         |         | 9.1    | 68.2 ✓ |
| 40   |         | 8.7     | 68.6 ✓ |        |
| 30   |         | 9.6     | 67.7 ✓ |        |
| 20   |         | 19.1    | 58.2 ✓ |        |

Plotting of as shown by 9-18-34 E.P.H.

Jan 9

27

Cont. from page 62



| B.M. | 6.55 | 594.45 | 0.6  | 587.90                    |
|------|------|--------|------|---------------------------|
| 5427 |      |        |      |                           |
| 20   |      |        | 6.6  | 87.8 ✓                    |
| 10   |      |        | 7.1  | 87.3 ✓                    |
| 5400 |      |        | 5.6  | 88.8 ✓                    |
| 5390 |      |        | 5.1  | 89.3 ✓                    |
| 80   |      |        | 2.7  | 91.7 ✓                    |
| 70   |      |        | 3.8  | 90.6 ✓                    |
| 60   |      |        | 6.4  | 88.0 ✓                    |
| 50   |      |        | 8.0  | 86.4 ✓                    |
| 40   |      |        | 7.7  | 86.7 ✓                    |
| 30   |      |        | 7.6  | 86.8 ✓                    |
| 20   |      |        | 6.8  | 87.6 ✓                    |
| 10   |      |        | 5.9  | 88.5 ✓                    |
| 5300 |      |        | 5.3  | 89.1 ✓                    |
| 5290 |      |        | 4.1  | 90.3 ✓                    |
| 80   |      |        | 3.8  | 90.6 ✓                    |
| 70   |      |        | 5.0  | <del>89.4</del><br>85.4 ✓ |
| 60   |      |        | 6.0  | 88.4 ✓                    |
| 50   |      |        | 7.8  | 86.6 ✓                    |
| B.M. | 8.09 | 595.99 |      | 587.90                    |
| 40   |      |        | 11.9 | 84.1 ✓                    |
| 30   |      |        | 15.0 | 81.0 ✓                    |
| 20   |      |        | 17.4 | 78.6 ✓                    |

Plotted

X



N3410

595.99

|      |         |        |        |
|------|---------|--------|--------|
| 5210 |         | 16.4   | 79.6 ✓ |
| 200  |         | 16.3   | 79.7 ✓ |
| 190  |         | 16.2   | 79.8 ✓ |
| 80   |         | 16.1   | 79.9 ✓ |
| B.M. | 6.00    | 577.26 | 571.26 |
| 70   |         | 3.0    | 74.3 ✓ |
| 60   |         | 7.4    | 69.9 ✓ |
| 50   | Plotted | 8.6    | 68.7 ✓ |
| 40   |         | 8.2    | 69.1 ✓ |
| 30   |         | 7.3    | 70.0 ✓ |
| 20   |         | 6.4    | 70.9 ✓ |
|      |         |        |        |

N3400

|      |         |        |        |
|------|---------|--------|--------|
| B.M. | 6.55    | 594.45 | 587.90 |
| 5170 |         | 12.3   | 82.1 ✓ |
| 80   |         | 12.8   | 81.6 ✓ |
| 90   |         | 13.6   | 80.8 ✓ |
| 200  |         | 13.9   | 80.5 ✓ |
| 10   | Plotted | 13.8   | 80.6 ✓ |
| 20   |         | 10.9   | 83.5 ✓ |
| 30   |         | 8.3    | 86.1 ✓ |
| 40   |         | 6.4    | 88.0 ✓ |
| 50   |         | 4.0    | 90.4 ✓ |
| 60   |         | 2.8    | 91.6 ✓ |
| 70   |         | 3.6    | 90.8 ✓ |
| 80   |         | 3.4    | 91.0 ✓ |

Jan 9

29

Cont from Page 61

from 421/23



N3400

594.45

|      |             |                         |   |
|------|-------------|-------------------------|---|
| 5290 | 4.0         | 90.4<br><del>40.4</del> |   |
| 5300 | 3.6         | 90.8 ✓                  |   |
| 10   | 4.8         | 89.6 ✓                  |   |
| 20   | 5.2         | 89.2 ✓                  |   |
| 30   | 5.1         | 89.3 ✓                  |   |
| 40   | 2.8         | 91.6 ✓                  |   |
| 50   | +0.4        | 94.8 ✓                  |   |
| 60   | +1.9        | 96.3 ✓                  |   |
| 70   | +0.5        | 94.9 ✓                  |   |
| 80   | 1.1         | 93.9 ✓                  |   |
| 90   | 2.6         | 91.8 ✓                  |   |
| 99   | 2.8         | 91.6 ✓                  |   |
| 5405 | 0.6<br>+8.0 | 602.4 ✓                 | x |

Plotted

N3390

|      |      |         |   |
|------|------|---------|---|
| 5394 | 0.6  |         |   |
| 86   | +0.9 | 95.3 ✓  |   |
| 80   | +0.5 | 95.9 ✓  |   |
| 70   | +1.7 | 96.1 ✓  |   |
| 60   | +3.7 | 98.1 ✓  |   |
| 50   | +3.8 | 98.2 ✓  |   |
| 40   | +5.1 | 99.5 ✓  |   |
| 30   | +7.0 | 601.4 ✓ |   |
| 20   | +6.0 | 600.4 ✓ | x |

Plotted

Find striping collected as shown

Jan 9

30



N3390

59445

|      |      |              |
|------|------|--------------|
| 5310 | +4.6 | 99.0 ✓       |
| 300  | +4.2 | 98.6 ✓       |
| 290  | +2.0 | 96.9 ✓       |
| 80   | 1.3  | 93.1 ✓       |
| 70   | 2.9  | 91.5 ✓       |
| 60   | 3.6  | 90.8 ✓       |
| 50   | 1.2  | 93.2 ✓       |
| 40   | 2.2  | 92.2 ✓       |
| 30   | 3.2  | 91.2 ✓       |
| 20   | 5.0  | 89.4 ✓       |
| 10   | 10.0 | 84.4 ✓       |
| 5200 | 11.3 | 83.1 ✓       |
| 190  | 12.5 | 81.9<br>82.0 |
| 180  | 11.8 | 82.6 ✓       |
| 170  | 11.4 | 83.0 ✓       |

Plotted

9-18-34  
C.B.K.

Final Striping Plotting CA as shown by.

N3380

|      |      |              |
|------|------|--------------|
| 170  | 11.6 | 82.8 ✓       |
| 80   | 11.5 | 82.9<br>83.0 |
| 90   | 9.5  | 84.9<br>85.0 |
| 5200 | 8.3  | 86.1 ✓       |
| 10   | 5.5  | 88.9<br>89.0 |
| 20   | 3.2  | 91.2 ✓       |
| 30   | 1.0  | 93.4 ✓       |
| 40   | 2.0  | 92.4 ✓       |
| 50   | 3.0  | 91.4 ✓       |
| 60   | 1.2  | 93.2 ✓       |

Plotted

Jan 9

31



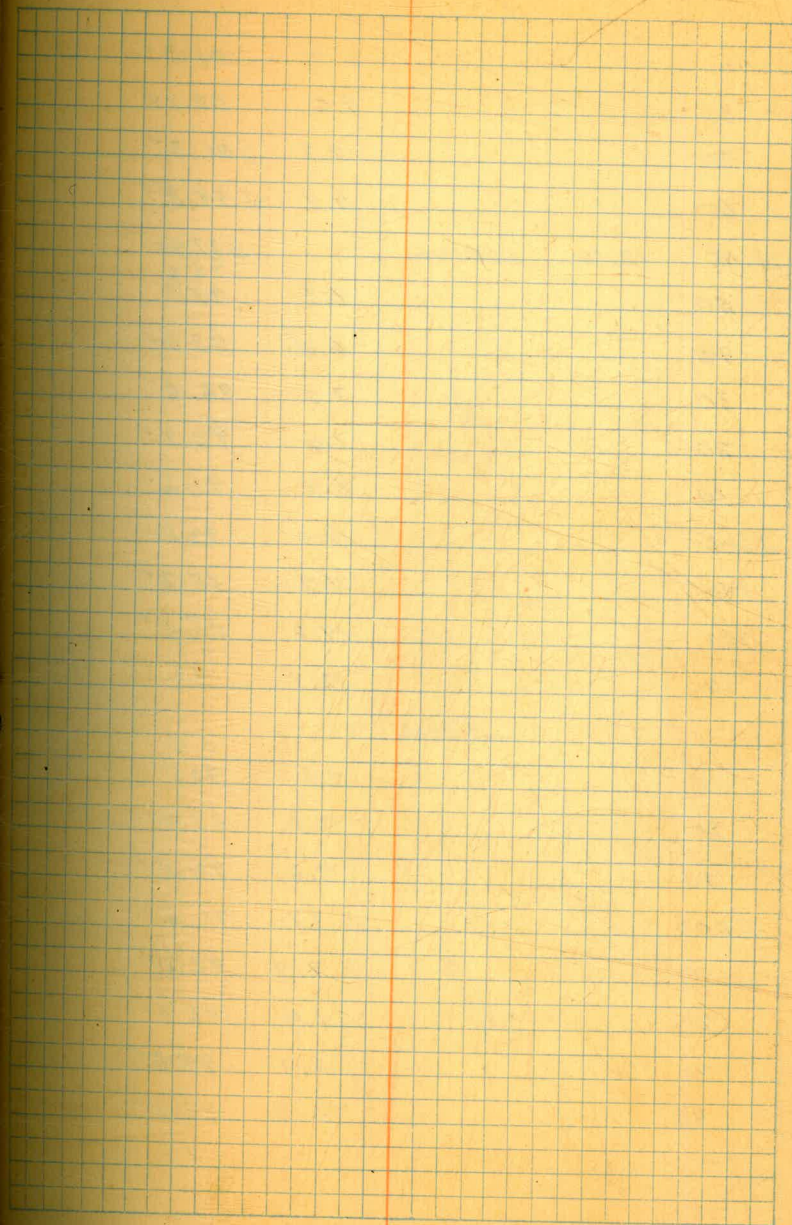
|      |       |        |      |                |
|------|-------|--------|------|----------------|
| B.M. | 12.16 | 600.06 |      | 587.90         |
| 5270 |       |        | 4.3  | 95.8 ✓         |
| T.P. | 12.82 | 611.61 | 1.27 | 598.79         |
| 80   |       |        | 12.6 | 599.0 ✓        |
| 90   |       |        | 10.5 | 601.1 ✓        |
| 5300 |       |        | 6.7  | 04.9 ✓         |
| 10   |       |        | 8.0  | 03.6 ✓         |
| 20   |       |        | 8.7  | 02.9 ✓         |
| 30   |       |        | 8.7  | 02.9 ✓         |
| 40   |       |        | 10.0 | 01.6 ✓         |
| 50   |       |        | 10.1 | 01.5 ✓         |
| 60   |       |        | 9.8  | 01.8 ✓         |
| 70   |       |        | 11.2 | 00.4 ✓         |
| 77   |       |        | 12.0 | 599.6 ✓<br>0.6 |
| 83   |       |        |      |                |

Plotted

N3370

|      |  |  |     |              |
|------|--|--|-----|--------------|
| 71   |  |  |     | 0.6          |
| 68   |  |  | 2.2 | 09.4 ✓       |
| 60   |  |  | 3.1 | 08.5 ✓       |
| 50   |  |  | 3.4 | 08.2 ✓       |
| 40   |  |  | 4.7 | 06.9 ✓       |
| 30   |  |  | 6.8 | 04.8 ✓       |
| 20   |  |  | 6.6 | 05.0<br>04.0 |
| 10   |  |  | 5.7 | 05.9 ✓       |
| 5300 |  |  | 2.2 | 09.4<br>08.7 |

Plotted





N3370

611.61

|      |       |        |      |         |   |
|------|-------|--------|------|---------|---|
| 5290 |       |        | 6.3  | 05.3 ✓  |   |
| 80   |       |        | 9.5  | 02.1 ✓  |   |
| 70   |       |        | 10.3 | 601.3 ✓ |   |
| 60   |       |        | 11.8 | 599.8 ✓ |   |
| B.M. | 12.16 | 600.06 |      | 587.90  |   |
|      |       |        |      | 95.8    |   |
| 50   |       |        | 4.3  | 95.1 ✓  |   |
| 40   |       |        | 6.4  | 93.7 ✓  |   |
| 30   |       |        | 7.5  | 92.6 ✓  |   |
| 20   |       |        | 7.4  | 92.7 ✓  |   |
| 10   |       |        | 8.5  | 91.6 ✓  |   |
| 5200 |       |        | 10.0 | 90.1 ✓  |   |
| 190  |       |        | 11.9 | 88.2 ✓  |   |
| 180  |       |        | 14.6 | 85.5 ✓  |   |
| 70   |       |        | 12.4 | 87.7 ✓  | x |

Plotted

N3360

|      |  |  |      |        |   |
|------|--|--|------|--------|---|
|      |  |  |      | 0.6    |   |
| 75   |  |  | 9.4  | 90.7 ✓ |   |
| 80   |  |  | 12.2 | 87.9 ✓ |   |
| 90   |  |  | 9.6  | 90.5 ✓ |   |
| 5200 |  |  | 8.7  | 91.4 ✓ |   |
| 10   |  |  | 7.9  | 92.2 ✓ |   |
| 20   |  |  | 6.4  | 93.7 ✓ |   |
| 30   |  |  | 5.7  | 94.4 ✓ |   |
| 40   |  |  | 2.3  | 97.8 ✓ | x |

Plotted

Jan 9

33



N 3360

|      | 12.82   | 611.61 | 598.79                    |                           |
|------|---------|--------|---------------------------|---------------------------|
| 5250 |         |        | 7.9                       | 03.7 ✓                    |
| 60   |         |        | 6.3                       | 05.3 ✓                    |
| 70   |         |        | 5.5                       | 06.1 ✓                    |
| 80   |         |        | 4.7                       | 06.9 ✓                    |
| 90   |         |        | 3.8                       | 07.8 ✓                    |
| 5300 |         |        | 4.5                       | <del>06.1</del><br>07.1 ✓ |
| 10   | Plotted |        | 3.2                       | 08.4 ✓                    |
| 20   |         | 2.9    | 08.7 ✓                    |                           |
| 30   |         | 2.4    | 09.2 ✓                    |                           |
| 40   |         | 0.9    | 10.7 ✓                    |                           |
| 50   |         | 0.0    | 11.6 ✓                    |                           |
| 60   |         | 0.5    | <del>11.1</del><br>12.6 ✓ |                           |
| 62   |         |        |                           | X                         |

N 3350

|      |         |        | 0.6    |        |
|------|---------|--------|--------|--------|
| 55   |         |        |        |        |
| 5350 |         |        | +2.8   | 14.4 ✓ |
| 40   |         |        | +2.0   | 13.6 ✓ |
| 30   | Plotted |        | +3.2   | 14.8 ✓ |
| 20   |         | +2.6   | 14.2 ✓ |        |
| 10   |         | +0.6   | 12.2 ✓ |        |
| 5300 |         | +1.2   | 12.8 ✓ |        |
| 5290 |         | 0.8    | 10.8 ✓ |        |
| 80   |         | 2.4    | 09.2 ✓ |        |
| 70   | 3.4     | 08.2 ✓ | X      |        |

Jan 7

34



N3350

611.61

|      |       |        |      |         |
|------|-------|--------|------|---------|
| 5260 |       |        | 3.9  | 07.7✓   |
| 50   |       |        | 3.7  | 07.9✓   |
| 40   |       |        | 5.8  | 05.8✓   |
| 30   |       |        | 12.0 | 599.6✓  |
| B.M. | 12.16 | 600.06 |      | 587.90  |
| 20   |       |        | 4.7  | 95.4✓   |
| 10   |       |        | 5.0  | 95.1✓   |
| 5200 |       |        | 5.6  | 94.5✓ X |

Plotted

N3340

|      |       |        |      |         |
|------|-------|--------|------|---------|
| 5200 |       |        | 1.6  | 98.5✓   |
| 10   |       |        | 4.0  | 96.1✓   |
| 20   |       |        | 2.5  | 97.6✓   |
|      | 12.82 | 611.61 |      | 598.79  |
| 30   |       |        | 5.7  | 05.9✓   |
| 40   |       |        | 1.7  | 09.9✓   |
| 50   |       |        | 1.5  | 10.1✓   |
| 60   |       |        | 1.3  | 10.3✓   |
| T.P. | 11.79 | 623.16 | 0.24 | 611.37  |
| 70   |       |        | 11.5 | 11.7✓   |
| 80   |       |        | 10.8 | 12.4✓   |
| 90   |       |        | 7.6  | 13.6✓   |
| 5300 |       |        | 8.5  | 14.7✓   |
| 10   |       |        | 8.1  | 15.1✓   |
| 20   |       |        | 7.2  | 16.0✓ X |

Plotted

Stripping plates checked as



N3340

623.16

|      |         |     |        |
|------|---------|-----|--------|
| 5330 |         | 7.3 | 15.9 ✓ |
| 39   | Plotted | 5.7 | 17.5 ✓ |
| 46   |         |     | 0.6    |

N3330

0.6

|      |         |      |        |        |
|------|---------|------|--------|--------|
| 37   |         |      |        |        |
| 5330 |         | 3.9  | 19.3 ✓ |        |
| 20   |         | 5.7  | 17.5 ✓ |        |
| 10   |         | 6.0  | 17.2 ✓ |        |
| 5300 | Plotted | 6.0  | 17.2 ✓ |        |
| 5290 |         | 6.6  | 16.6 ✓ |        |
| 80   |         | 5.4  | 17.8 ✓ |        |
| 70   |         | 3.6  | 19.6 ✓ |        |
| 60   |         | 6.4  | 16.8 ✓ |        |
| 50   |         | 9.1  | 14.1 ✓ |        |
| 40   |         | 9.0  | 14.2 ✓ |        |
| 30   |         | 11.9 | 11.3 ✓ |        |
| T.P. |         | 0.24 | 611.61 | 611.37 |
| 20   |         |      | 9.0    | 02.6 ✓ |
| 10   |         | 10.7 | 00.9 ✓ |        |
| 5200 |         | 9.6  | 02.0 ✓ |        |

Final Striping Plotted at 11.30

Jan 9

36



Jan 9 - 1933

37

N3320

11.79

623.16

611.37  
0.6

5280

90

0.4

22.8 ✓

5300

10

2.8

20.4 ✓

20

2.3

20.9 ✓

24

0.0

23.2 ✓

31

0.9

22.3 ✓

0.6

N3310

5317

9.6

10

+4.4

27.6 ✓

5300

Plotted

+2.2

25.4 ✓

5290

+3.2

26.4 ✓

5285

0.6



Final X Sections to supercede any  
previous finals on these coordinates.

Jan 9 - 1933

38

|      |         | N3450 |        |   |
|------|---------|-------|--------|---|
| B.M. | 7.1     | 582.1 | 575.00 |   |
| 5470 |         | 7.6   | 74.5 ✓ |   |
| 60   |         | 6.0   | 76.1 ✓ |   |
| 50   |         | 5.3   | 76.8 ✓ |   |
| 40   |         | 5.0   | 77.1 ✓ |   |
| 30   |         | 3.6   | 78.5 ✓ |   |
| 20   | plotted | 6.7   | 75.4 ✓ |   |
| 10   |         | 7.4   | 74.7 ✓ |   |
| 5400 |         | 6.6   | 75.5 ✓ |   |
| 5390 |         | 9.1   | 73.0 ✓ |   |
| 80   |         | 9.8   | 72.3 ✓ |   |
| 70   |         | 8.0   | 74.1 ✓ |   |
| 60   |         | 5.8   | 76.3 ✓ | x |
|      |         | N3460 |        |   |
| 5380 |         | 8.1   | 74.0 ✓ |   |
| 90   |         | 10.2  | 71.9 ✓ |   |
| 400  | plotted | 10.2  | 71.9 ✓ |   |
| 10   |         | 9.2   | 72.9 ✓ |   |
| 20   |         | 9.2   | 72.9 ✓ |   |
| 30   |         | 10.4  | 71.7 ✓ |   |
| 40   |         | 5.9   | 76.2 ✓ | x |

In Book 393-39

Page 12



Final X sections to supercede any  
previous finals <sup>on</sup> these coordinates  
N3460

39

582.1

5450

7.9

74.2 ✓

60

8.5

73.6 ✓

70

8.7

73.2 ✓

signed

N3470

5390

12.7

69.4 ✓

400

12.7

69.7 ✓

10

12.5

69.6 ✓

20

10.7

71.4 ✓

30

11.9

70.2 ✓

40

10.0

72.1 ✓

Plotted

End Jan 9 - 1932



Final X Section under downstream  
Hydraulic Fill.

N 3430

| B.M. | 3.00 | 565.05 | 562.04      |
|------|------|--------|-------------|
| 4790 |      |        | +2.2 67.2 ✓ |
| 4800 |      |        | 4.0 61.0 ✓  |
| 10   |      |        | 4.6 60.4 ✓  |
| 20   |      |        | 4.8 60.2 ✓  |
| 30   |      |        | 4.6 60.4 ✓  |
| 40   |      |        | 4.5 60.5 ✓  |
| 50   |      |        | 5.0 60.0 ✓  |
| 60   |      |        | 5.8 59.2 ✓  |
| 70   |      |        | 6.2 58.8 ✓  |
| 80   |      |        | 6.3 58.7 ✓  |
| 90   |      |        | 6.2 58.8 ✓  |
| 4900 |      |        | 7.8 57.2 ✓  |
| 10   |      |        | 8.9 56.1 ✓  |
| 20   |      |        | 11.0 54.0 ✓ |
| 30   |      |        | 12.8 52.2 ✓ |
| 40   |      |        | 14.6 50.4 ✓ |
| 50   |      |        | 15.6 49.4 ✓ |
| 60   |      |        | 15.6 49.4 ✓ |
| 70   |      |        | 16.3 48.7 ✓ |
| 80   |      |        | 16.7 48.3 ✓ |
| 90   |      |        | 16.8 48.2 ✓ |
| 4997 |      |        | 17.6 47.4 ✓ |

Plotted

Checked by P. P. M. G. P. M.

Jan 10 - 1933  
Elliott  
Gottschling  
Elliott



565.05

|      |         |      |         |
|------|---------|------|---------|
| 4997 |         | 16.7 | 548.3 ✓ |
| 90   |         | 15.5 | 49.5 ✓  |
| 80   |         | 15.6 | 49.4 ✓  |
| 70   |         | 15.3 | 49.7 ✓  |
| 60   |         | 14.7 | 50.3 ✓  |
| 50   |         | 14.0 | 51.0 ✓  |
| 40   |         | 13.6 | 51.4 ✓  |
| 30   |         | 12.8 | 52.2 ✓  |
| 20   |         | 11.1 | 53.9 ✓  |
| 10   |         | 9.3  | 55.7 ✓  |
| 4900 | Plotted | 7.9  | 57.1 ✓  |
| 90   |         | 7.2  | 57.8 ✓  |
| 80   |         | 6.8  | 58.2 ✓  |
| 70   |         | 6.3  | 58.7 ✓  |
| 60   |         | 6.1  | 58.9 ✓  |
| 50   |         | 5.8  | 59.2 ✓  |
| 40   |         | 4.1  | 60.9 ✓  |
| 30   |         | 4.4  | 60.6 ✓  |
| 20   |         | 4.4  | 60.6 ✓  |
| 10   |         | 4.5  | 60.5 ✓  |
| 4800 |         | 3.3  | 61.7 ✓  |
| 4790 |         | +5.0 | 70.0 ✓  |

Battery ch. 9. 19-34-60H



565.05

|      |       |         |
|------|-------|---------|
| 4790 | + 4.8 | 569.8 ✓ |
| 4800 | 0.0   | 65.0 ✓  |
| 10   | 2.8   | 62.2 ✓  |
| 20   | 3.9   | 61.1 ✓  |
| 30   | 3.9   | 61.1 ✓  |
| 40   | 3.1   | 61.9 ✓  |
| 50   | 5.5   | 59.5 ✓  |
| 60   | 5.9   | 59.1 ✓  |
| 70   | 6.3   | 58.7 ✓  |
| 80   | 6.4   | 58.6 ✓  |
| 90   | 6.9   | 58.1 ✓  |
| 4900 | 7.2   | 57.8 ✓  |
| 10   | 8.2   | 56.8 ✓  |
| 20   | 9.3   | 55.7 ✓  |
| 30   | 9.4   | 55.6 ✓  |
| 40   | 12.3  | 52.7 ✓  |
| 50   | 13.3  | 51.7 ✓  |
| 60   | 13.1  | 51.9 ✓  |
| 70   | 12.7  | 52.3 ✓  |
| 80   | 13.0  | 52.0 ✓  |
| 90   | 13.4  | 51.6 ✓  |
| 97   | 15.1  | 49.9 ✓  |

Plotted

Plotting at Sept 19-34  
at yellow line

Cont. Book 421-56 for 8503 r 06

$$\begin{array}{r} 1 \\ 2 + 49 \\ \hline 51 \\ 150 \end{array}$$

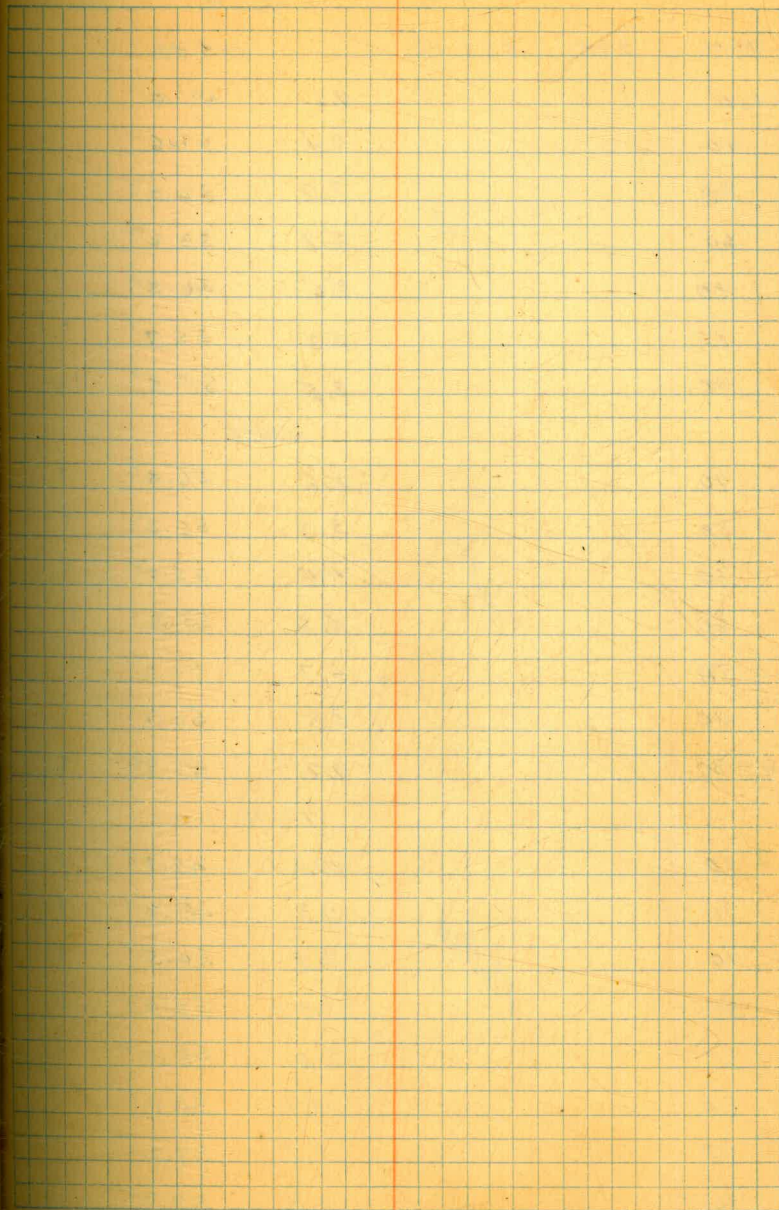


565.05

|      |      |         |
|------|------|---------|
| 4997 | 12.0 | 553.0 ✓ |
| 90   | 11.1 | 539 ✓   |
| 80   | 11.5 | 535 ✓   |
| 70   | 11.1 | 539 ✓   |
| 60   | 9.7  | 553 ✓   |
| 50   | 8.5  | 565 ✓   |
| 40   | 6.2  | 588 ✓   |
| 30   | 7.1  | 579 ✓   |
| 20   | 6.4  | 586 ✓   |
| 10   | 6.2  | 588 ✓   |
| 4900 | 6.3  | 587 ✓   |
| 4890 | 5.4  | 596 ✓   |
| 80   | 4.9  | 601 ✓   |
| 70   | 4.9  | 601 ✓   |
| 60   | 4.4  | 606 ✓   |
| 50   | 1.2  | 638 ✓   |
| 40   | 2.2  | 628 ✓   |
| 30   | 3.1  | 619 ✓   |
| 20   | 1.7  | 633 ✓   |
| 4810 | +3.8 | 688 ✓   |

Plotted

Plotting of 9-19-1934 C.P.H.





## Item 3 - Excavation

44

| B.M. | 3.95 | 558.98 | N3670 |        |
|------|------|--------|-------|--------|
|      |      |        |       | 555.03 |
| 4730 |      |        | 9.6   | 49.4 ✓ |
| 40   |      |        | 7.4   | 51.6 ✓ |
| 50   |      |        | 7.0   | 52.0 ✓ |
| 60   |      |        | 5.8   | 53.2 ✓ |
| 70   |      |        | 4.5   | 54.5 ✓ |
| 80   |      |        | 3.3   | 55.7 ✓ |
| 90   |      |        | 3.5   | 55.5 ✓ |

| N3680 |  |  |     |        |
|-------|--|--|-----|--------|
| 90    |  |  | 2.6 | 56.4 ✓ |
| 80    |  |  | 3.0 | 56.0 ✓ |
| 70    |  |  | 4.0 | 55.0 ✓ |
| 60    |  |  | 5.5 | 53.5 ✓ |
| 50    |  |  | 6.7 | 52.3 ✓ |
| 40    |  |  | 8.3 | 50.7 ✓ |
| 4730  |  |  | 9.2 | 49.8 ✓ |

| N3690 |  |  |      |        |
|-------|--|--|------|--------|
| 4720  |  |  | 10.3 | 48.7 ✓ |
| 30    |  |  | 9.3  | 49.7 ✓ |
| 40    |  |  | 8.5  | 50.5 ✓ |
| 50    |  |  | 7.0  | 52.0 ✓ |
| 60    |  |  | 5.6  | 53.4 ✓ |
| 70    |  |  | 4.1  | 54.9 ✓ |
| 80    |  |  | 1.8  | 57.2 ✓ |
| 90    |  |  | 1.7  | 57.3 ✓ |



## Item 3 - Exc.

45

|      | 558.98  | N 3700<br>N3680 |         |
|------|---------|-----------------|---------|
| 4780 |         | 0.0             | 559.0 ✓ |
| 70   |         | 2.4             | 56.6 ✓  |
| 60   |         | 6.0             | 53.0 ✓  |
| 50   | Plotted | 7.5             | 51.5 ✓  |
| 40   |         | 8.5             | 50.5 ✓  |
| 30   |         | 9.3             | 49.7 ✓  |
| 20   |         | 9.9             | 49.1 ✓  |
| 10   |         | 9.0             | 50.0 ✓  |
|      |         |                 | 9.0     |

|      |         | N 3710<br>N3690 |        |
|------|---------|-----------------|--------|
| 4700 |         | 3.8             | 55.2 ✓ |
| 10   |         | 8.5             | 50.5 ✓ |
| 20   | Plotted | 9.1             | 49.9 ✓ |
| 30   |         | 9.1             | 49.9 ✓ |
| 40   |         | 8.8             | 50.2 ✓ |
| 50   |         | 7.8             | 51.2 ✓ |
| 60   |         | 4.2             | 54.8 ✓ |
| 70   |         | +0.5            | 59.5 ✓ |

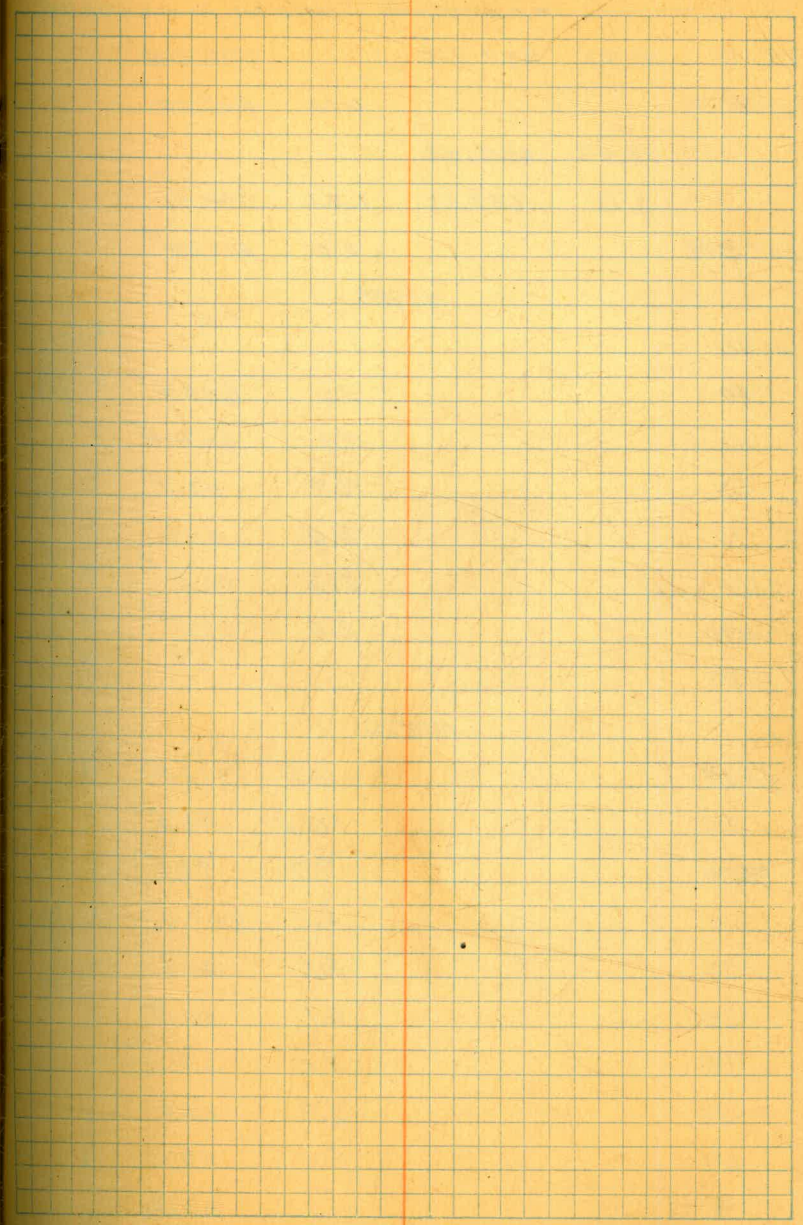
|      |         | 3720<br>3700 |        |        |
|------|---------|--------------|--------|--------|
| 4760 |         | 71.0         | 60.0 ✓ |        |
| 50   |         | 5.5          | 53.5 ✓ |        |
| 40   | Plotted | 8.2          | 50.8 ✓ |        |
| 30   |         | 8.6          | 50.4 ✓ |        |
| 20   |         | 8.4          | 50.6 ✓ |        |
| 10   |         | 7.6          | 51.4 ✓ |        |
| 4700 |         |              | 6.5    | 52.5 ✓ |
| 4690 |         |              | 2.2    | 56.8 ✓ |



Item 3 - Excavation

558.98      3730  
 113770

|      |         |       |         |                            |
|------|---------|-------|---------|----------------------------|
| 4680 |         | 0.5   | 558.5 ✓ | Plotting of 9-19-24 G.H.H. |
| 90   |         | 0.0   | 59.0 ✓  |                            |
| 4700 | Plotted | 6.5   | 52.5 ✓  |                            |
| 10   |         | 7.3   | 51.7 ✓  |                            |
| 20   |         | 6.9   | 52.1 ✓  |                            |
| 30   |         | 5.3   | 53.7 ✓  |                            |
| 40   |         | 2.4   | 56.6 ✓  |                            |
| 50   |         | + 1.7 | 60.7 ✓  |                            |





Final X Sections under downstream  
rock embankment.

To supersede any previous finals on same coords.

B.M. 12.97 588.02 ✓ 575.05

Set B.M. 0.02 588.00 ✓

12.42 600.42 ✓

8.12 607.03 ✓ 1.51 598.91 ✓

Set B.M. 0.0 607.03 ✓

N3880

4650

0.6

40

3.6 603.4 ✓

30

4.6 602.4 ✓

20

4.9 02.1 ✓

10

5.4 01.6 ✓

4600

5.2 01.8 ✓

4590

8.5 98.5 ✓

80

0.6

N3870

4580

0.6

10.6 596.4 ✓

90

10.5 96.5 ✓

4600

9.7 97.3 ✓

10

6.0 601.0 ✓

20

5.1 01.9 ✓

30

6.1 00.9 ✓

40

5.0 02.0 ✓

50

5.3 01.7 ✓

60

5.0 02.0 ✓

70

1.2 05.8 ✓

80

0.6

Plotting checked as shown by 9-19-34 EBA

Plotted

Plotted

Jan 13 - 1933

Elliott  
Gotschling  
Rammen

47



607.03

N3860

0.6

4710

4700

4690

80

70

60

50

40

30

20

10

4600

4590

80

70

60

T.P.

3.35

597.40

12.98

594.05

N3850

0.6

4710

4700

690

80

70

Plotted

+3.8

601.2

+4.0

601.4

+3.6

601.0

0.7

96.7

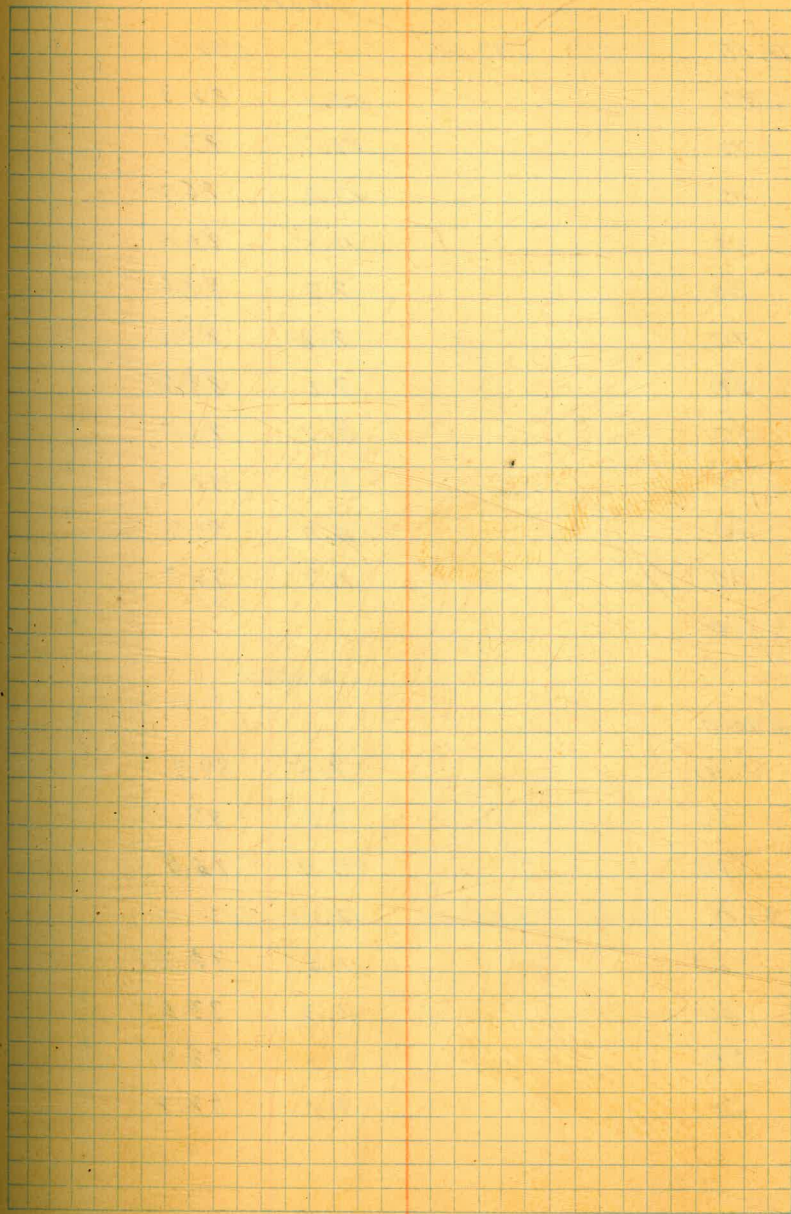


|      | 597.40  | N3850 |         |
|------|---------|-------|---------|
| 4660 |         | 3.5   | 593.9 ✓ |
| 50   |         | 2.6   | 94.8 ✓  |
| 40   |         | 3.5   | 93.9 ✓  |
| 30   |         | 2.5   | 94.9 ✓  |
| 20   |         | 5.4   | 94.0 ✓  |
| 10   |         | 7.0   | 90.4 ✓  |
| 600  | Plotted | 5.5   | 91.9 ✓  |
| 590  |         | 7.8   | 89.6 ✓  |
| 80   |         | 0.2   | 97.2 ✓  |
| B.M. | 0.0     | 588.0 | 588.0   |
| 70   |         | 6.9   | 81.1 ✓  |
| 60   |         | 9.3   | 78.7 ✓  |
| 50   |         | 10.1  | 77.9 ✓  |
| 40   |         | 11.1  | 76.9 ✓  |
| 30   |         | 12.7  | 75.3 ✓  |
| 20   |         | 12.4  | 75.6 ✓  |
|      |         | N3840 |         |
| 4510 |         | 12.3  | 75.7 ✓  |
| 20   |         | 13.3  | 74.7 ✓  |
| 30   |         | 14.6  | 73.4 ✓  |
| 40   |         | 14.2  | 73.8 ✓  |
| 50   | Plotted | 11.9  | 76.1 ✓  |
| 60   |         | 9.8   | 78.2 ✓  |
| 70   |         | 8.5   | 79.5 ✓  |
| 80   |         | 5.6   | 82.4 ✓  |
| 85   |         | 0.0   | 88.0 ✓  |

Large  
Dornick

See page 9

See page 9





N3840

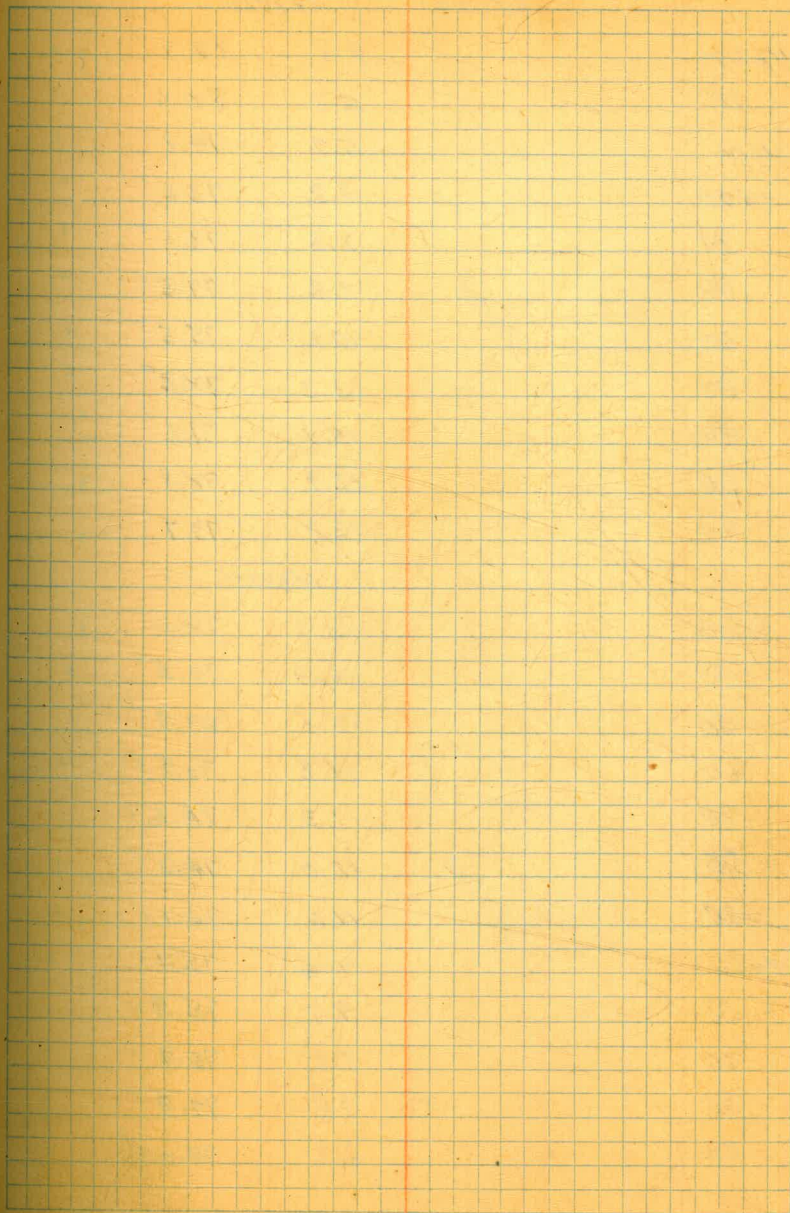
| B.M. | 3.35 | 597.40 |      | 594.05 |   |
|------|------|--------|------|--------|---|
| 4590 |      |        | 15.1 | 82.3   | ✓ |
| 600  |      |        | 13.7 | 83.7   | ✓ |
| 10   |      |        | 12.2 | 85.2   | ✓ |
| 20   |      |        | 10.5 | 86.9   | ✓ |
| 30   |      |        | 8.8  | 88.6   | ✓ |
| 40   |      |        | 8.8  | 88.6   | ✓ |
| 50   |      |        | 8.2  | 89.2   | ✓ |
| 60   |      |        | 8.7  | 88.7   | ✓ |
| 70   |      |        | 6.5  | 90.9   | ✓ |
| 80   |      |        | 5.7  | 91.7   | ✓ |
| 90   |      |        | 1.7  | 95.7   | ✓ |
| 4700 |      |        |      | 0.6    | ✓ |

Plotted

N3830

|      |      |        |       | 0.6    |   |
|------|------|--------|-------|--------|---|
| 4700 |      |        |       | 0.6    | ✓ |
| 4690 |      |        | 7.5   | 89.9   | ✓ |
| 80   |      |        | 9.3   | 88.1   | ✓ |
| 70   |      |        | 12.9  | 84.5   | ✓ |
| T.P. | 0.50 | 585.68 | 12.22 | 585.18 | ✓ |
| 60   |      |        | 1.5   | 84.2   | ✓ |
| 50   |      |        | 2.3   | 83.4   | ✓ |
| 40   |      |        | 2.5   | 83.2   | ✓ |
| 30   |      |        | 3.0   | 82.7   | ✓ |

Plotted





Jan 13

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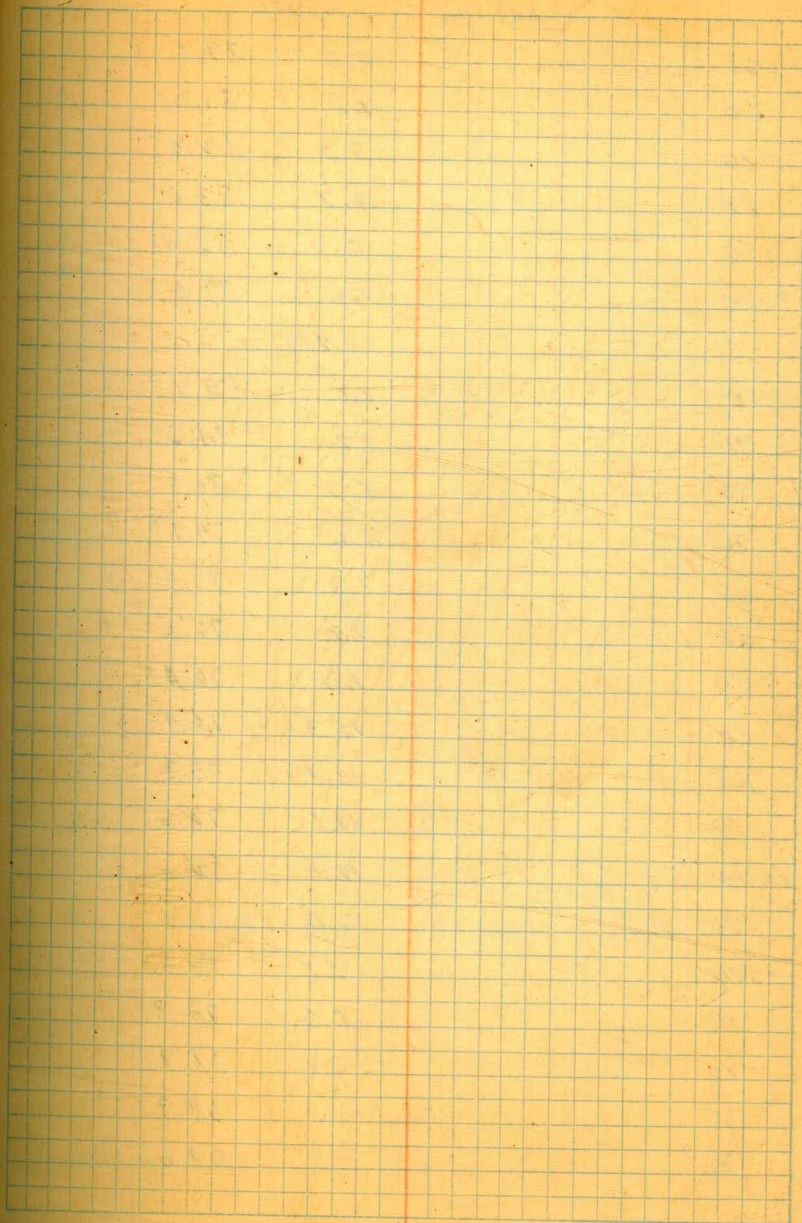
585.68

N3830

|      |         |      |        |   |
|------|---------|------|--------|---|
| 4620 |         | 3.6  | 82.1 ✓ | . |
| 10   |         | 5.1  | 80.6 ✓ | ' |
| 4600 |         | 5.9  | 79.8 ✓ | ' |
| 4590 |         | 7.2  | 78.5 ✓ | ' |
| 80   |         | 7.6  | 78.1 ✓ | ' |
| 70   | Plotted | 8.2  | 77.5 ✓ | ' |
| 60   |         | 10.2 | 75.5 ✓ | ' |
| 50   |         | 13.3 | 74.4 ✓ | ' |
| 40   |         | 14.1 | 71.6 ✓ | ' |
| 30   |         | 12.9 | 77.8 ✓ | ' |
| 20   |         | 12.0 | 73.7 ✓ | ' |

N3820

|      |         |        |        |   |
|------|---------|--------|--------|---|
| 4530 |         | 13.7   | 72.0 ✓ | . |
| 40   |         | 15.3   | 70.4 ✓ | ' |
| 50   |         | 15.8   | 69.9 ✓ | ' |
| 60   |         | 14.8   | 70.9 ✓ | ' |
| 70   |         | 11.3   | 74.4 ✓ | ' |
| 80   | Plotted | 11.0   | 74.7 ✓ | ' |
| 90   |         | 11.6   | 74.1 ✓ | ' |
| 4600 |         | 10.6   | 75.1 ✓ | ' |
| 10   |         | 9.8    | 75.9 ✓ | ' |
| 20   |         | 8.8    | 76.9 ✓ | ' |
| 30   |         | 7.8    | 77.9 ✓ | ' |
| 40   | 6.7     | 79.0 ✓ | '      |   |



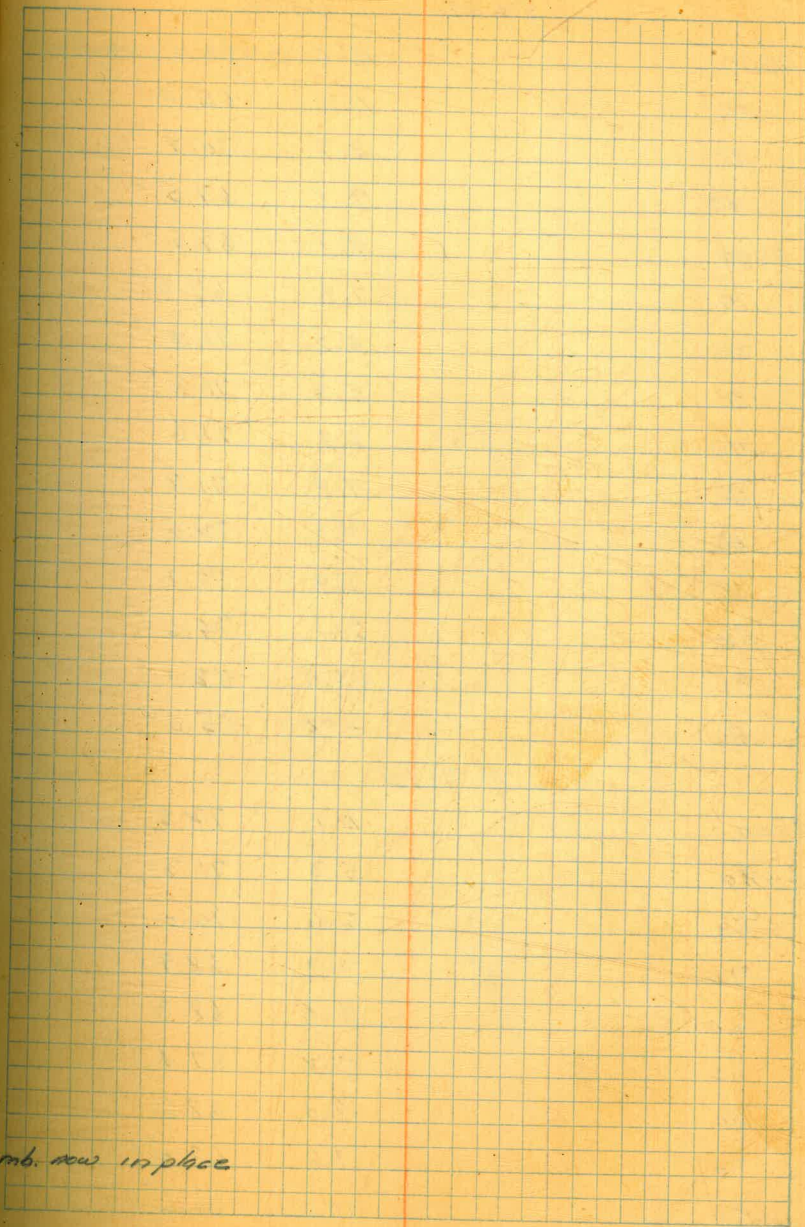


|      | 585.68  | N3820  |       |        |
|------|---------|--------|-------|--------|
| 4650 |         | 6.0    | 79.7  | ✓      |
| 60   |         | 4.7    | 81.0  | ✓      |
| 70   | Plotted | 3.7    | 82.0  | ✓      |
| 80   |         | 2.7    | 83.0  | ✓      |
| 90   |         | 0.7    | 85.0  | ✓      |
| 4700 |         | +1.6   | 87.3  | ✓      |
|      |         | N3810  |       |        |
| 4700 |         | 0.0    | 85.7  | ✓      |
| 90   |         | 1.2    | 84.5  | ✓      |
| 80   |         | 5.0    | 80.7  | ✓      |
| 70   |         | 6.6    | 79.1  | ✓      |
| 60   |         | 7.8    | 77.9  | ✓      |
| 50   |         | 9.2    | 76.5  | ✓      |
| 40   |         | 9.3    | 76.4  | ✓      |
| 30   |         | 11.3   | 74.4  | ✓      |
| 20   | Plotted | 12.4   | 73.3  | ✓      |
| 10   |         | 13.1   | 72.6  | ✓      |
| 4600 |         | 13.7   | 72.0  | ✓      |
| T.P. | 3.61    | 576.63 | 12.66 | 573.02 |
| 4590 |         | 4.0    | 72.6  | ✓      |
| 80   |         | 6.3    | 70.3  | ✓      |
| 70   |         | 7.9    | 68.7  | ✓      |
| 60   |         | 8.3    | 68.3  | ✓      |
| 50   |         | 9.3    | 67.3  | ✓      |

Plotting checked as shown by  
C.B.H.

Top of Peak

Emb. now in place





576.63

N3800

|      |      |      |   |        |
|------|------|------|---|--------|
| 4560 | 10.1 | 66.5 | ✓ | Toe of |
| 70   | 11.2 | 65.4 | ✓ |        |
| 80   | 5.7  | 70.9 | ✓ | Perm   |
| 90   | 9.1  | 67.5 | ✓ |        |
| 4600 | 9.1  | 67.5 | ✓ |        |
| 10   | 7.3  | 69.3 | ✓ |        |
| 20   | 5.2  | 71.4 | ✓ |        |
| 30   | 5.3  | 71.3 | ✓ |        |
| 40   | 5.0  | 71.6 | ✓ |        |
| 50   | 4.8  | 71.8 | ✓ |        |
| 60   | 4.1  | 72.5 | ✓ |        |
| 70   | 2.9  | 73.7 | ✓ |        |
| 80   | 2.0  | 74.6 | ✓ |        |
| 85   | 15.5 | 82.1 | ✓ |        |
| 90   | 18.4 | 85.0 | ✓ |        |

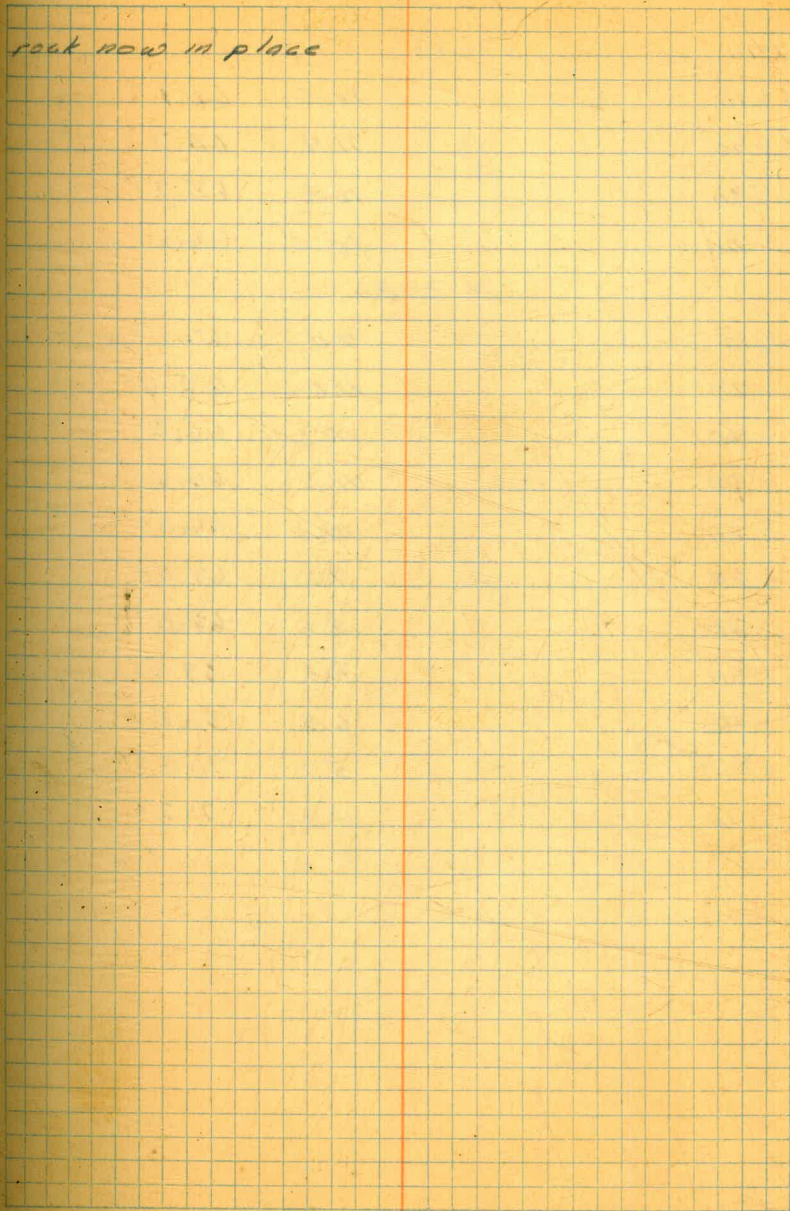
Plotted

N. 3790

|      |      |      |   |  |
|------|------|------|---|--|
| 4700 | 4.1  | 72.5 | ✓ |  |
| 4690 | 5.3  | 71.3 | ✓ |  |
| 80   | 6.6  | 70.0 | ✓ |  |
| 70   | 7.7  | 68.9 | ✓ |  |
| 60   | 8.3  | 68.3 | ✓ |  |
| 50   | 9.7  | 67.4 | ✓ |  |
| 40   | 8.0  | 68.6 | ✓ |  |
| 30   | 8.6  | 68.0 | ✓ |  |
| 70   | 10.0 | 66.6 | ✓ |  |

Plotted

rock now in place





Jan 13

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N. 3790

576.63

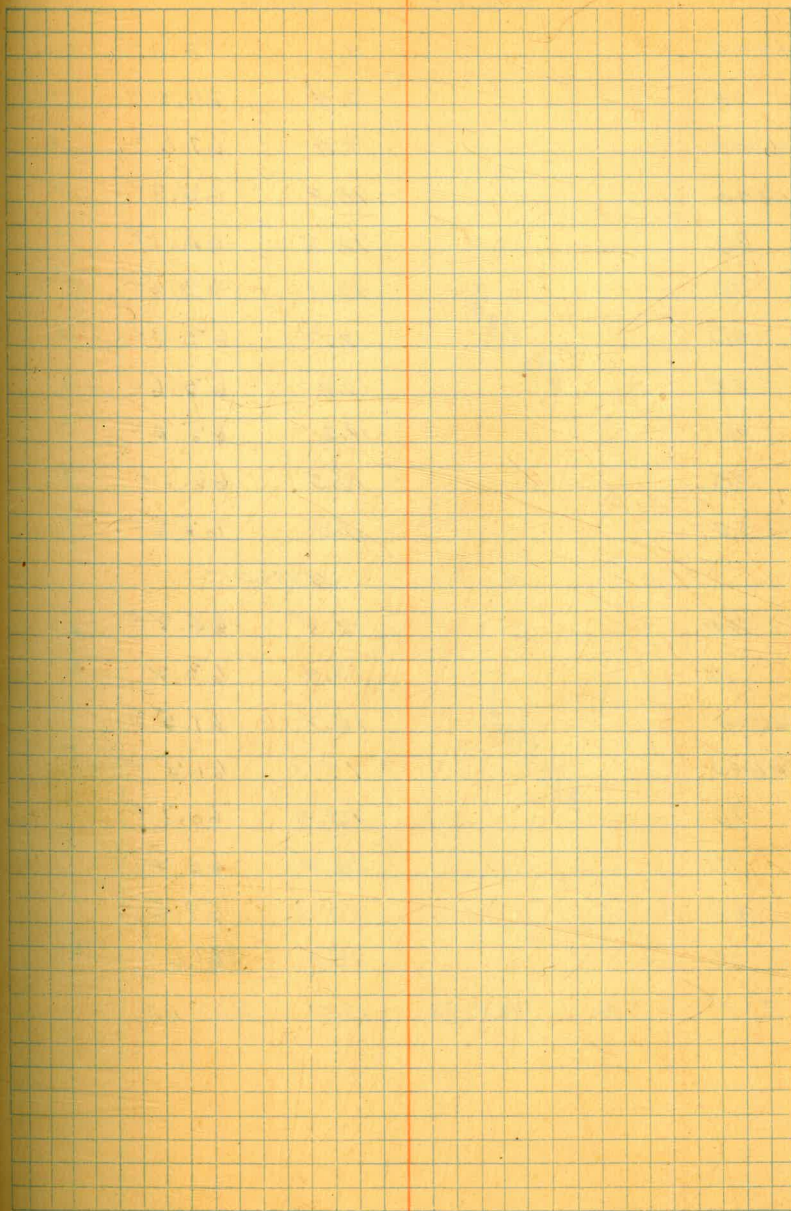
|      |      |        |  |
|------|------|--------|--|
| 4610 | 10.5 | 66.1 ✓ |  |
| 4600 | 11.9 | 64.7 ✓ |  |
| 4590 | 10.9 | 65.7 ✓ |  |
| 80   | 10.0 | 66.6 ✓ |  |

Plotted

N. 3780

|      |      |        |  |
|------|------|--------|--|
| 4610 | 9.0  | 67.6 ✓ |  |
| 20   | 11.0 | 65.6 ✓ |  |
| 30   | 10.2 | 66.4 ✓ |  |
| 40   | 11.0 | 65.6 ✓ |  |
| 50   | 10.6 | 66.0 ✓ |  |
| 60   | 9.5  | 67.1 ✓ |  |
| 70   | 8.6  | 68.0 ✓ |  |
| 80   | 7.1  | 69.5 ✓ |  |
| 90   | 6.2  | 70.4 ✓ |  |
| 4700 | 5.2  | 71.4 ✓ |  |
| 10   | 4.9  | 71.7 ✓ |  |

Plotted





576.63

N3770

|      |         |      |        |  |
|------|---------|------|--------|--|
| 4720 |         | 4.6  | 72.0 ✓ |  |
| 10   |         | 7.4  | 69.2 ✓ |  |
| 4700 |         | 9.0  | 67.6 ✓ |  |
| 4690 |         | 10.8 | 65.8 ✓ |  |
| 80   |         | 12.5 | 64.1 ✓ |  |
| 70   |         | 13.1 | 63.5 ✓ |  |
| 60   | Plotted | 12.7 | 63.9 ✓ |  |
| 50   |         | 13.0 | 63.6 ✓ |  |
| 40   |         | 11.2 | 65.4 ✓ |  |
| 30   |         | 10.5 | 66.1 ✓ |  |
| 4620 |         | 11.0 | 65.6 ✓ |  |

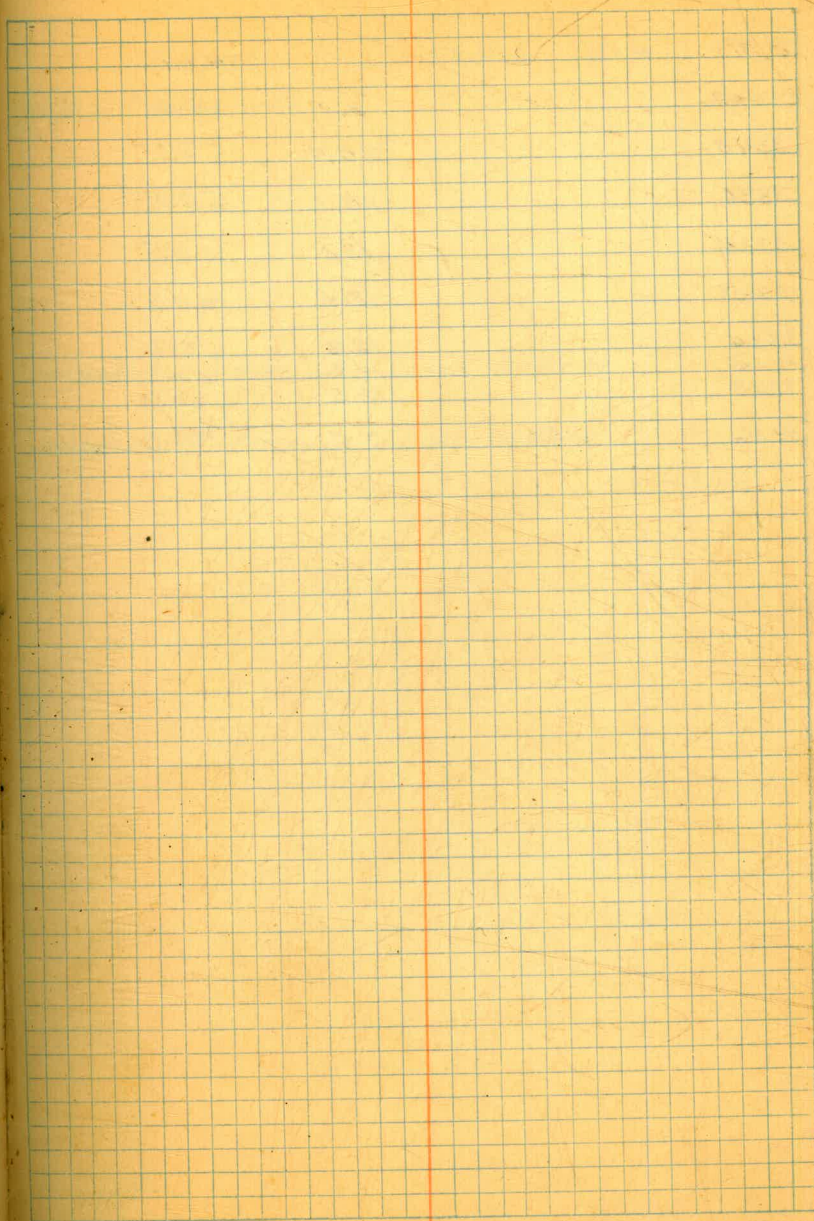
N3760

|      |         |        |        |        |
|------|---------|--------|--------|--------|
| 4720 |         | 12.4   | 64.2 ✓ |        |
| 10   |         | 13.4   | 63.2 ✓ |        |
| 4700 |         | 15.1   | 61.5 ✓ |        |
| 4690 | Plotted | 15.1   | 61.5 ✓ |        |
| 80   |         | 15.9   | 60.7 ✓ |        |
| 70   |         | 16.4   | 60.2 ✓ |        |
| 60   |         | 17.1   | 59.5 ✓ |        |
| 50   |         | 15.0   | 61.6 ✓ |        |
| T.P. | 1.90    | 565.52 | 13.01  | 563.62 |



|      | 565.52  | N3750 |        |
|------|---------|-------|--------|
| 4720 |         | 5.4   | 60.1 ✓ |
| 10   |         | 6.9   | 58.6 ✓ |
| 4700 | Plotted | 6.9   | 58.6 ✓ |
| 4690 |         | 7.9   | 57.6 ✓ |
| 80   |         | 9.2   | 56.3 ✓ |
| 70   |         | 7.7   | 57.8 ✓ |
| 60   |         | 6.5   | 59.0 ✓ |
|      |         | N3740 |        |
| 4730 |         | 7.3   | 58.2 ✓ |
| 20   |         | 9.1   | 56.4 ✓ |
| 10   | Plotted | 11.0  | 54.5 ✓ |
| 4700 |         | 11.1  | 54.4 ✓ |
| 4690 |         | 10.8  | 54.7 ✓ |
| 80   |         | 9.4   | 56.1 ✓ |
| 70   |         | 8.0   | 57.5 ✓ |

Plotting checked 9/19/34 - EBB  
 in shown by





Final Profile So. end Core Wall

| B.M.  | 4.46 | 578.51 | 574.05                                      |
|-------|------|--------|---|
| N3340 |      | 3.1    | 75.4 ✓ <small>read on profile of M.</small> |
| 3340  |      | 20.4   | 58.1 ✓                                      |
| 3336  |      | 20.1   | 58.4 ✓                                      |
| 3334  |      | 18.0   | 60.5 ✓                                      |
| 3328  |      | 18.4   | 60.1 ✓                                      |
| 3324  |      | 15.3   | 63.2 ✓                                      |
| 3314  |      | 14.7   | 63.9 Seam                                   |
| 3317  |      | 12.5   | 66.0 ✓                                      |
| 3316  |      | 7.5    | 71.0 Seam                                   |

Jan 30 - 1933  
Elliott - Simpson

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Top of concrete

on side of trench above bottom

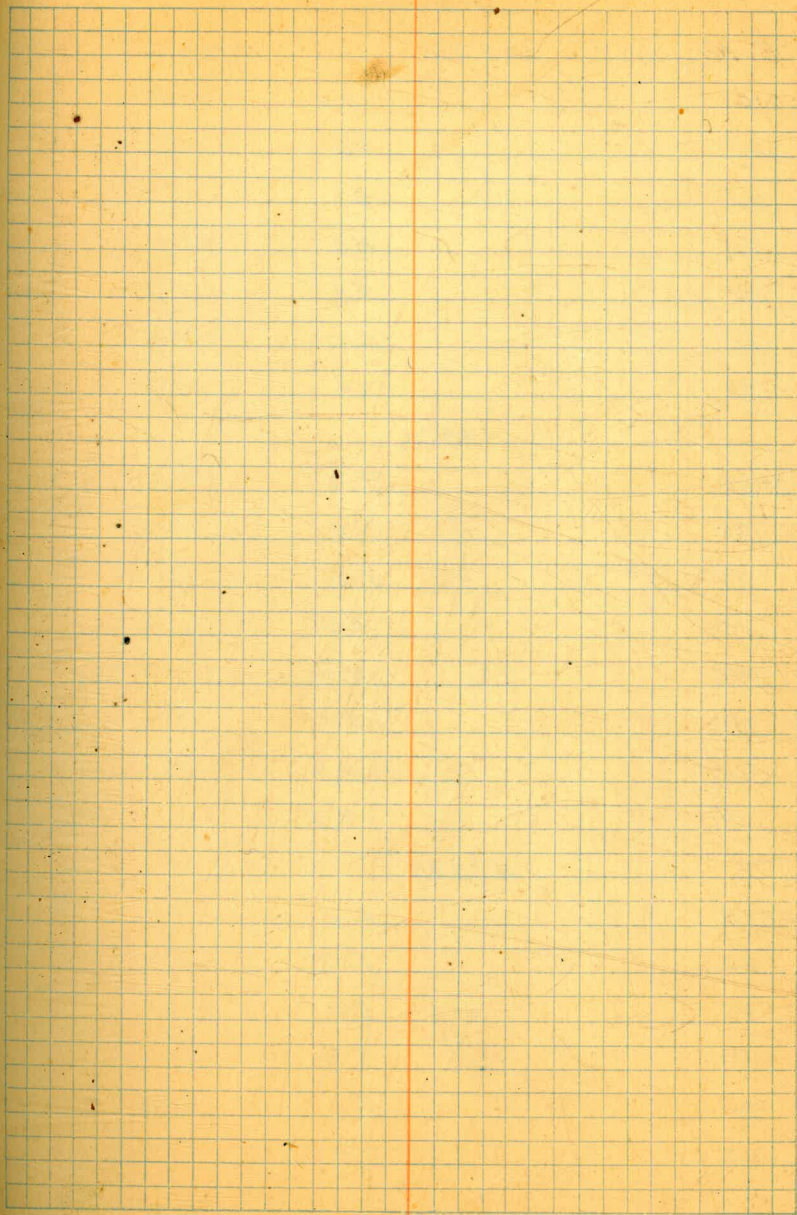
on end of trench above bottom



Location of Grant Holes

|        |   |        |      |        |
|--------|---|--------|------|--------|
| N 3317 | 6 | 578.51 | 12.5 | 66.0 ✓ |
| N 3321 | W |        | 15.2 | 63.3 ✓ |
| N 3326 | E |        | 16.3 | 62.2 ✓ |
| N 3331 | W |        | 17.7 | 60.8 ✓ |

Janso-Elliott-Simpson 58





## Final X Sections

N3360

| B.M. | 0.74 | 574.79 | 574.05 |        |
|------|------|--------|--------|--------|
| 5010 |      |        | 3.9    | 70.9 ✓ |
| 20   |      |        | 4.5    | 70.3 ✓ |
| 30   |      |        | 4.7    | 70.1 ✓ |
| 40   |      |        | 4.6    | 70.2 ✓ |
| 50   |      |        | 4.2    | 70.6 ✓ |
| 60   |      |        | 2.0    | 72.8 ✓ |
| 70   |      |        | 1.4    | 73.4 ✓ |

N3370

|      |  |  |     |        |
|------|--|--|-----|--------|
| 5080 |  |  | 2.4 | 72.4 ✓ |
| 70   |  |  | 3.2 | 71.6 ✓ |
| 60   |  |  | 3.5 | 71.3 ✓ |
| 50   |  |  | 4.4 | 70.4 ✓ |
| 40   |  |  | 4.4 | 70.4 ✓ |
| 30   |  |  | 5.1 | 69.7 ✓ |
| 20   |  |  | 4.9 | 69.9 ✓ |
| 10   |  |  | 4.6 | 70.2 ✓ |

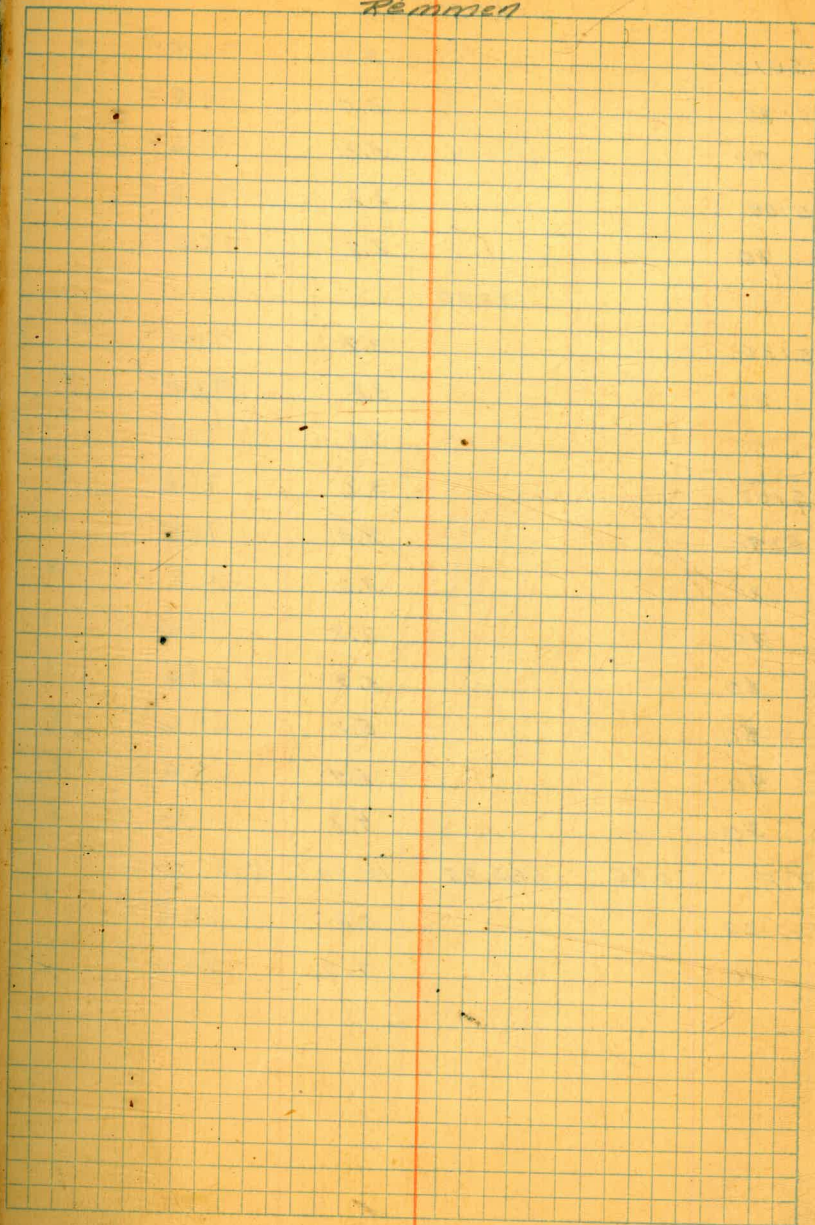
N3380

|      |  |  |     |        |
|------|--|--|-----|--------|
| 5015 |  |  | 6.1 | 68.7 ✓ |
| 20   |  |  | 5.7 | 69.1 ✓ |
| 30   |  |  | 5.0 | 69.8 ✓ |
| 40   |  |  | 4.9 | 69.9 ✓ |
| 50   |  |  | 4.1 | 70.7 ✓ |
| 60   |  |  | 3.8 | 71.0 ✓ |

Jan 30 - 1933

Elliott  
Simpson  
Soper  
Remmen

59



Plotting of 7-19-34 data



Jan 30

N3380

574.79

|      |              |     |        |   |
|------|--------------|-----|--------|---|
| 5070 | plotted<br>✓ | 3.3 | 71.5 ✓ | ✓ |
| 80   |              | 3.0 | 71.8 ✓ | ✓ |
| 90   |              | 3.2 | 71.6 ✓ | ✓ |
| 5100 |              | 3.2 | 71.6 ✓ | ✓ |
| 10   |              | 2.8 | 72.0 ✓ | ✓ |

3390

|      |         |        |        |   |
|------|---------|--------|--------|---|
| 5130 | plotted | 3.9    | 70.9 ✓ | ✓ |
| 20   |         | 3.8    | 71.0 ✓ | ✓ |
| 10   |         | 3.6    | 71.2 ✓ | ✓ |
| 5100 |         | 3.6    | 71.2 ✓ | ✓ |
| 5090 |         | 3.3    | 71.5 ✓ | ✓ |
| 80   |         | 3.0    | 71.8 ✓ | ✓ |
| 70   |         | 2.8    | 72.0 ✓ | ✓ |
| 60   |         | 5.3    | 69.5 ✓ | ✓ |
| 50   |         | 5.2    | 69.6 ✓ | ✓ |
| 40   |         | 5.4    | 69.4 ✓ | ✓ |
| 30   | 4.8     | 70.0 ✓ | ✓      |   |

T.P. 0.85 562.85 12.79 562.00

20 0.0 62.8 ✓

10 7.2 55.6 ✓



## N3400

|      |      | 562.85 |     |        |                   |
|------|------|--------|-----|--------|-------------------|
| 5010 |      |        | 7.7 | 55.1   | ✓                 |
| 20   |      |        | 8.7 | 54.1   | ✓                 |
| 30   |      |        | 7.9 | 54.9   | ✓                 |
| 40   |      |        | 6.1 | 56.7   | ✓                 |
| 50   |      |        | 5.3 | 57.5   | ✓                 |
| 60   |      |        | 5.9 | 56.9   | ✓                 |
| 70   |      |        | 2.2 | 60.6   | ✓                 |
| B.M. | 0.74 | 574.79 |     | 574.05 |                   |
| 80   |      |        | 6.1 | 68.7   | ✓                 |
| 90   |      |        | 2.4 | 72.4   | ✓                 |
| 5100 |      |        | 3.1 | 71.7   | ✓                 |
| 10   |      |        | 3.8 | 71.0   | ✓                 |
| 20   |      |        | 3.9 | 70.9   | ✓                 |
| 30   |      |        | 4.8 | 70.0   | ✓                 |
| 40   |      |        | 4.4 | 70.4   | ✓ $\frac{42}{25}$ |

## N3410

|      |      |        |      |        |   |
|------|------|--------|------|--------|---|
| 5110 |      |        | 7.1  | 67.7   | ✓ |
| 5100 |      |        | 9.5  | 65.3   | ✓ |
| 5090 |      |        | 11.5 | 63.3   | ✓ |
| B.M. | 0.85 | 562.85 |      | 562.00 |   |
| 80   |      |        | 5.2  | 57.6   | ✓ |
| 70   |      |        | 8.2  | 54.6   | ✓ |
| 60   |      |        | 10.4 | 52.4   | ✓ |
| 50   |      |        | 15.2 | 47.6   | ✓ |

Cont on page 29

Cont on page 29



N3410

562.85

|      |  |      |      |   |   |
|------|--|------|------|---|---|
| 5040 |  | 13.6 | 49.2 | ✓ | ✓ |
| 30   |  | 13.6 | 49.2 | ✓ | ✓ |
| 20   |  | 14.5 | 48.3 | ✓ | ✓ |
| 10   |  | 12.9 | 49.9 | ✓ | ✓ |

N3420

|      |      |        |       |        |   |   |
|------|------|--------|-------|--------|---|---|
| T.P. | 3.11 | 553.78 | 12.18 | 550.67 |   |   |
| 5010 |      |        | 5.1   | 48.7   | ✓ | ✓ |
| 20   |      |        | 6.5   | 47.3   | ✓ | ✓ |
| 30   |      |        | 7.1   | 46.7   | ✓ | ✓ |
| 40   |      |        | 7.7   | 46.1   | ✓ | ✓ |
| 50   |      |        | 8.7   | 45.1   | ✓ | ✓ |
| 60   |      |        | 4.5   | 49.3   | ✓ | ✓ |
| 70   |      |        | 1.4   | 52.4   | ✓ | ✓ |
| B.M. | 0.85 | 562.85 |       | 562.00 |   |   |
| 80   |      |        | 9.1   | 53.7   | ✓ | ✓ |
| 90   |      |        | 6.4   | 56.4   | ✓ | ✓ |
| 5100 |      |        | 1.6   | 61.2   | ✓ | ✓ |
| 5110 |      |        | 3.2   | 59.6   | ✓ | ✓ |

N3430

|      |  |  |      |      |   |   |
|------|--|--|------|------|---|---|
| 5110 |  |  | 2.5  | 60.3 | ✓ | ✓ |
| 5100 |  |  | 3.8  | 59.0 | ✓ | ✓ |
| 5090 |  |  | 9.2  | 53.6 | ✓ | ✓ |
| 80   |  |  | 11.9 | 50.9 | ✓ | ✓ |
| 70   |  |  | 12.2 | 50.6 | ✓ | ✓ |

Cont. from Book 421 page 56

Cont. on page 27

Cont. on page 26



## N3430

| B.M. | 3.11 | 553.78 | 550.67 |       |
|------|------|--------|--------|-------|
| 5060 |      | 6.3    | 47.5 ✓ | ✓     |
| 50   |      | 8.6    | 45.2 ✓ | ✓     |
| 40   |      | 8.2    | 45.6 ✓ | ✓     |
| 30   |      | 7.4    | 46.4 ✓ | ✓     |
| 20   |      | 6.3    | 47.5 ✓ | ✓     |
| 10   |      | 6.5    | 47.3 ✓ | ✓ see |

## N3440

|      |  |      |        |   |
|------|--|------|--------|---|
| 5010 |  | 7.4  | 46.4 ✓ | ✓ |
| 20   |  | 7.0  | 46.8 ✓ | ✓ |
| 30   |  | 7.0  | 46.8 ✓ | ✓ |
| 40   |  | 9.1  | 44.7 ✓ | ✓ |
| 50   |  | 10.0 | 43.8 ✓ | ✓ |
| 60   |  | 7.5  | 46.3 ✓ | ✓ |
| 70   |  | 4.7  | 49.1 ✓ | ✓ |
| 80   |  | 4.5  | 49.3 ✓ | ✓ |
| 90   |  | 3.1  | 50.7 ✓ | ✓ |
| 5100 |  | 70.2 | 54.0 ✓ | ✓ |
| 5110 |  | 0.0  | 53.2 ✓ | ✓ |

## N3450

|      |  |     |        |   |
|------|--|-----|--------|---|
| 5130 |  | 1.7 | 52.1 ✓ | ✓ |
| 20   |  | 1.9 | 51.9 ✓ | ✓ |
| 10   |  | 0.8 | 53.0 ✓ | ✓ |
| 5100 |  | 1.0 | 52.8 ✓ | ✓ |

Book 424  
57

on page 11



553.78 N3450

|      |      |      |   |   |
|------|------|------|---|---|
| 5090 | 4.6  | 49.2 | ✓ | . |
| 80   | 4.5  | 49.3 | ✓ | 1 |
| 70   | 5.1  | 48.7 | ✓ | 1 |
| 60   | 8.0  | 45.8 | ✓ | 2 |
| 50   | 8.6  | 45.2 | ✓ | 1 |
| 40   | 9.2  | 44.6 | ✓ | 7 |
| 30   | 8.3  | 45.5 | ✓ | . |
| 20   | 8.9  | 44.9 | ✓ | . |
| 10   | 10.3 | 43.5 | ✓ | . |

*[Handwritten scribbles]*

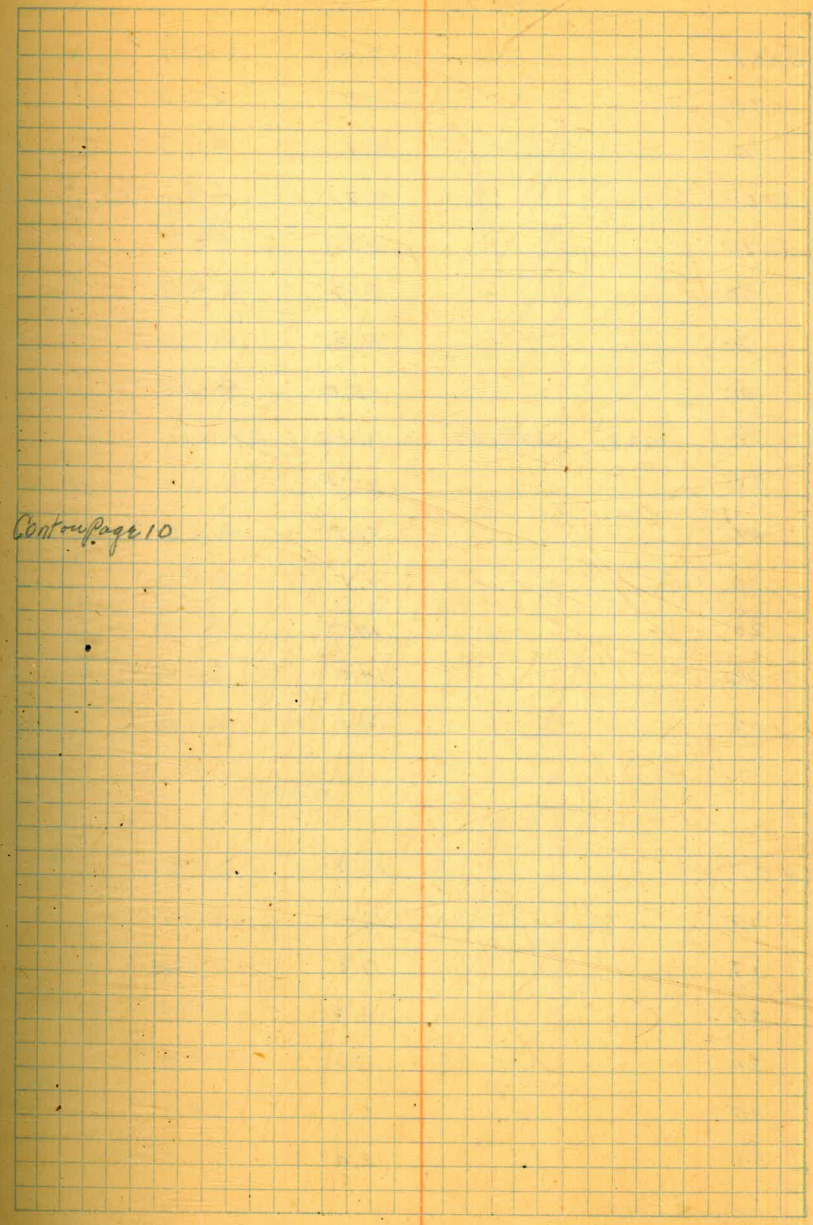
N3460

|      |      |      |   |   |
|------|------|------|---|---|
| 5130 | 2.2  | 51.6 | ✓ | . |
| 20   | 1.0  | 52.8 | ✓ | 1 |
| 10   | 1.9  | 51.9 | ✓ | 1 |
| 5100 | 4.7  | 49.1 | ✓ | 1 |
| 5090 | 5.0  | 48.8 | ✓ | 1 |
| 80   | 5.2  | 48.6 | ✓ | 1 |
| 70   | 7.7  | 46.1 | ✓ | 1 |
| 60   | 11.1 | 42.7 | ✓ | 1 |
| 50   | 12.0 | 41.8 | ✓ | 1 |
| 40   | 11.5 | 42.3 | ✓ | 1 |
| 30   | 12.3 | 41.5 | ✓ | 1 |
| 20   | 15.6 | 38.2 | ✓ | 1 |
| 10   | 19.7 | 34.1 | ✓ | 1 |

*[Handwritten scribbles]*

*[Vertical handwritten note: Plotting on Graph]*

Continue page 10



T.P. 0.68 542.40 12.06 541.72



553.78

N3470

|      |  |      |                  |
|------|--|------|------------------|
| 5130 |  | 3.4  | 504 ✓            |
| 20   |  | 3.8  | 50.0 ✓           |
| 10   |  | 4.1  | 49.7 ✓           |
| 5100 |  | 4.7  | 49.1 ✓           |
| 5090 |  | 5.5  | 48.3 ✓<br>58.3 ✓ |
| 80   |  | 8.9  | 44.9 ✓           |
| 70   |  | 11.2 | 42.6 ✓           |
| 60   |  | 13.0 | 40.8 ✓           |

*20/10/11*

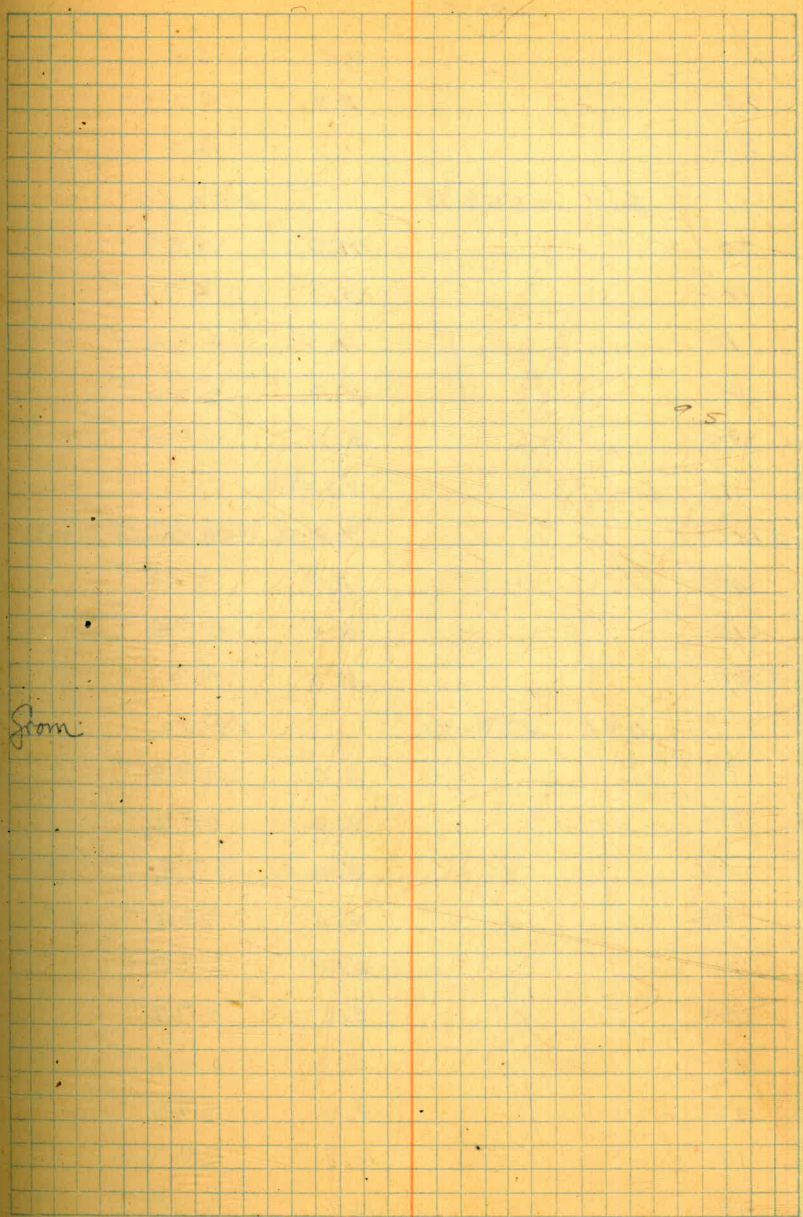
T.P. 0.68 542.40 12.06 541.72

|    |  |      |        |
|----|--|------|--------|
| 50 |  | 2.1  | 40.3 ✓ |
| 40 |  | 1.9  | 40.5 ✓ |
| 30 |  | 4.1  | 38.3 ✓ |
| 24 |  | 4.2  | 38.2 ✓ |
| 20 |  | 10.7 | 31.7 ✓ |
| 10 |  | 14.0 | 28.4 ✓ |
| 03 |  | 14.0 | 28.4 ✓ |

*20/10/11*

N3480

|      |  |      |        |
|------|--|------|--------|
| 5003 |  | 13.9 | 28.5 ✓ |
| 10   |  | 13.4 | 29.0 ✓ |
| 17   |  | 11.8 | 30.6 ✓ |
| 26   |  | 4.4  | 38.0 ✓ |
| 30   |  | 5.0  | 37.4 ✓ |
| 40   |  | 4.0  | 38.4 ✓ |
| 50   |  | 3.9  | 38.5 ✓ |



*Stom*



N3480

542.40

|      |  |     |      |   |   |
|------|--|-----|------|---|---|
| 5060 |  | 4.3 | 38.1 | ✓ | ✓ |
| 70   |  | 2.4 | 40.0 | ✓ | ✓ |
| 80   |  | 1.7 | 40.7 | ✓ | ✓ |

|  |      |        |  |        |  |
|--|------|--------|--|--------|--|
|  | 3.11 | 553.78 |  | 550.67 |  |
|--|------|--------|--|--------|--|

|      |  |      |      |   |   |
|------|--|------|------|---|---|
| 90   |  | 11.5 | 42.3 | ✓ | ✓ |
| 5100 |  | 5.9  | 47.9 | ✓ | ✓ |
| 10   |  | 4.4  | 49.4 | ✓ | ✓ |
| 20   |  | 4.2  | 49.6 | ✓ | ✓ |
| 30   |  | 3.9  | 49.9 | ✓ | ✓ |

N3490

|      |  |      |      |   |   |
|------|--|------|------|---|---|
| 5130 |  | 4.9  | 48.9 | ✓ | ✓ |
| 20   |  | 5.0  | 48.8 | ✓ | ✓ |
| 10   |  | 6.4  | 47.4 | ✓ | ✓ |
| 5100 |  | 10.7 | 43.1 | ✓ | ✓ |

|  |      |        |  |        |  |
|--|------|--------|--|--------|--|
|  | 0.68 | 542.40 |  | 541.72 |  |
|--|------|--------|--|--------|--|

|    |  |      |      |   |   |
|----|--|------|------|---|---|
| 90 |  | 2.6  | 39.8 | ✓ | ✓ |
| 80 |  | 3.2  | 39.2 | ✓ | ✓ |
| 70 |  | 5.2  | 37.2 | ✓ | ✓ |
| 60 |  | 5.6  | 36.8 | ✓ | ✓ |
| 50 |  | 5.4  | 37.0 | ✓ | ✓ |
| 40 |  | 5.2  | 37.2 | ✓ | ✓ |
| 30 |  | 5.8  | 36.6 | ✓ | ✓ |
| 25 |  | 4.9  | 37.5 | ✓ | ✓ |
| 17 |  | 12.7 | 29.7 | ✓ | ✓ |
| 10 |  | 15.7 | 26.7 | ✓ | ✓ |

Cont'm Book 293-44



542.40

|      |      |        |        |   |
|------|------|--------|--------|---|
|      |      |        | N 3490 |   |
| 5003 |      | 15.2   | 27.2   | ✓ |
|      |      |        | N 3500 |   |
| 5003 |      | 15.3   | 27.1   | ✓ |
| 10   |      | 14.7   | 27.7   | ✓ |
| 16   |      | 12.6   | 29.8   | ✓ |
| 24   |      | 6.0    | 36.4   | ✓ |
| 30   |      | 6.5    | 35.9   | ✓ |
| 40   |      | 6.3    | 36.1   | ✓ |
| 50   |      | 7.0    | 35.4   | ✓ |
| 60   |      | 7.3    | 35.1   | ✓ |
| 70   |      | 6.0    | 36.4   | ✓ |
| 80   |      | 4.5    | 37.9   | ✓ |
| 90   |      | 2.8    | 39.6   | ✓ |
| 5100 |      | 2.5    | 39.9   | ✓ |
|      | 3.11 | 553.78 | 550.67 |   |
| 10   |      | 11.2   | 42.6   | ✓ |
| 20   |      | 4.8    | 49.0   | ✓ |
| 30   |      | 4.7    | 49.1   | ✓ |
|      |      | N 3510 |        |   |
| 30   |      | 4.3    | 49.5   | ✓ |
| 20   |      | 4.7    | 49.1   | ✓ |
| 10   |      | 12.2   | 41.6   | ✓ |

Plotting of 8-19-34 22H

Cont in  $\frac{393}{36}$



N3510

|      | 0.68 | 542.40 |      | 541.72 |   |   |
|------|------|--------|------|--------|---|---|
| 5100 |      |        | 4.3  | 38.1   | ✓ | ✓ |
| 90   |      |        | 7.2  | 35.2   | ✓ | ✓ |
| 80   |      |        | 7.9  | 34.5   | ✓ | ✓ |
| 70   |      |        | 8.1  | 34.3   | ✓ | ✓ |
| 60   |      |        | 7.4  | 35.0   | ✓ | ✓ |
| 50   |      |        | 8.5  | 33.9   | ✓ | ✓ |
| 40   |      |        | 7.4  | 35.0   | ✓ | ✓ |
| 30   |      |        | 7.1  | 35.3   | ✓ | ✓ |
| 24   |      |        | 6.9  | 35.5   | ✓ | ✓ |
| 17   |      |        | 13.2 | 29.2   | ✓ | ✓ |
| 10   |      |        | 15.1 | 27.3   | ✓ | ✓ |
| 5003 |      |        | 15.7 | 26.7   | ✓ | ✓ |

N3520

|      |  |  |      |      |   |   |
|------|--|--|------|------|---|---|
| 5003 |  |  | 14.7 | 27.7 | ✓ | ✓ |
| 10   |  |  | 13.8 | 28.6 | ✓ | ✓ |
| 15   |  |  | 12.6 | 29.8 | ✓ | ✓ |
| 23   |  |  | 7.1  | 35.3 | ✓ | ✓ |
| 30   |  |  | 7.3  | 35.1 | ✓ | ✓ |
| 40   |  |  | 7.3  | 35.1 | ✓ | ✓ |
| 50   |  |  | 8.9  | 33.5 | ✓ | ✓ |
| 60   |  |  | 8.8  | 33.6 | ✓ | ✓ |
| 70   |  |  | 8.8  | 33.6 | ✓ | ✓ |
| 80   |  |  | 8.8  | 33.6 | ✓ | ✓ |



542.40

N3520

|      |  |     |      |   |   |
|------|--|-----|------|---|---|
| 5090 |  | 8.0 | 34.4 | ✓ | ✓ |
| 100  |  | 5.9 | 36.5 | ✓ | ✓ |
| 10   |  | 2.7 | 39.7 | ✓ | ✓ |

3.11 553.78

550.67

|    |  |     |      |   |   |
|----|--|-----|------|---|---|
| 20 |  | 5.4 | 48.4 | ✓ | ✓ |
| 30 |  | 5.3 | 48.5 | ✓ | ✓ |

N3530

|      |  |     |      |   |   |
|------|--|-----|------|---|---|
| 5130 |  | 4.7 | 49.1 | ✓ | ✓ |
| 120  |  | 4.8 | 49.0 | ✓ | ✓ |

0.68 542.40

541.72

|     |  |      |      |   |   |
|-----|--|------|------|---|---|
| 110 |  | 0.0  | 42.4 | ✓ | ✓ |
| 100 |  | 5.7  | 36.7 | ✓ | ✓ |
| 090 |  | 8.0  | 34.4 | ✓ | ✓ |
| 80  |  | 8.6  | 33.8 | ✓ | ✓ |
| 70  |  | 8.7  | 33.7 | ✓ | ✓ |
| 60  |  | 9.1  | 33.3 | ✓ | ✓ |
| 50  |  | 8.8  | 33.6 | ✓ | ✓ |
| 40  |  | 7.6  | 34.8 | ✓ | ✓ |
| 30  |  | 7.6  | 34.8 | ✓ | ✓ |
| 21  |  | 8.2  | 34.2 | ✓ | ✓ |
| 15  |  | 12.0 | 30.4 | ✓ | ✓ |
| 10  |  | 13.5 | 28.9 | ✓ | ✓ |
| 03  |  | 14.1 | 28.3 | ✓ | ✓ |



542.40

N3540

|      |  |      |      |   |   |
|------|--|------|------|---|---|
| 5003 |  | 14.5 | 279  | ✓ | . |
| 10   |  | 14.0 | 28.4 | ✓ | . |
| 17   |  | 11.9 | 30.5 | ✓ | . |
| 24   |  | 7.1  | 35.3 | ✓ | . |
| 30   |  | 7.6  | 34.8 | ✓ | . |
| 40   |  | 7.7  | 35.0 | ✓ | . |
| 50   |  | 8.2  | 34.2 | ✓ | . |
| 60   |  | 8.1  | 34.3 | ✓ | . |
| 70   |  | 8.1  | 34.3 | ✓ | . |
| 80   |  | 7.5  | 34.9 | ✓ | . |
| 90   |  | 6.9  | 35.5 | ✓ | . |
| 100  |  | 5.0  | 37.4 | ✓ | . |

Plotted

3.11 553.78 550.67

|     |  |     |      |   |   |
|-----|--|-----|------|---|---|
| 110 |  | 9.6 | 44.2 | ✓ | . |
| 120 |  | 4.7 | 49.1 | ✓ | . |
| 130 |  | 4.7 | 49.1 | ✓ | . |

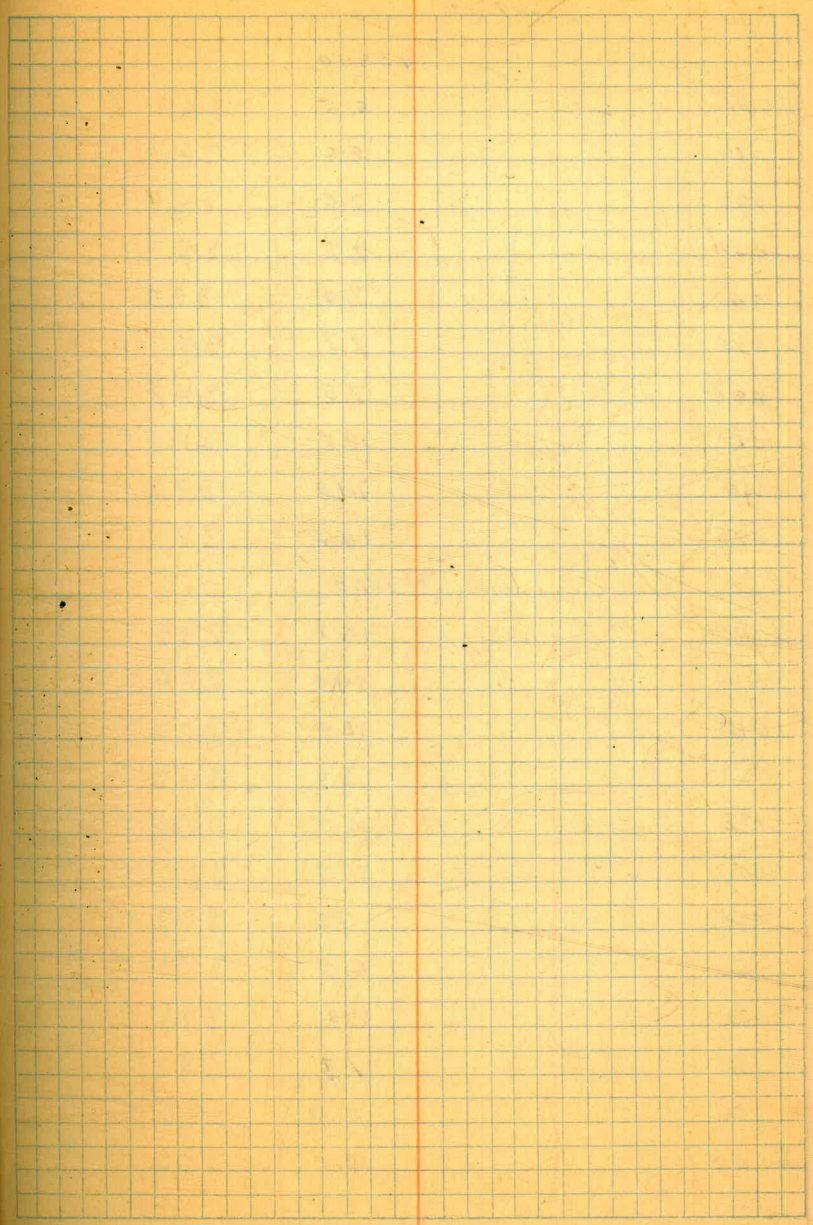
Plotted

N3550

|     |  |     |      |   |   |
|-----|--|-----|------|---|---|
| 130 |  | 4.6 | 49.2 | ✓ | ✓ |
| 115 |  | 4.4 | 49.4 | ✓ | ✓ |
| 110 |  | 8.7 | 45.1 | ✓ | ✓ |

0.68 542.40 541.72

|     |  |     |      |   |   |
|-----|--|-----|------|---|---|
| 100 |  | 2.4 | 40.0 | ✓ | . |
| 090 |  | 3.9 | 38.5 | ✓ | . |





542.40

N3550

|      |      |      |   |   |
|------|------|------|---|---|
| 5080 | 5.5  | 36.9 | ✓ | 1 |
| 070  | 5.6  | 36.8 | ✓ | 1 |
| 060  | 7.6  | 34.8 | ✓ | 1 |
| 050  | 7.7  | 34.7 | ✓ | 1 |
| 040  | 7.1  | 35.0 | ✓ | 1 |
| 030  | 7.7  | 34.7 | ✓ | 1 |
| 022  | 7.5  | 34.9 | ✓ | 1 |
| 017  | 12.6 | 29.8 | ✓ | 1 |
| 010  | 14.2 | 28.2 | ✓ | 1 |
| 003  | 14.5 | 27.9 | ✓ | 1 |

N3560

|      |      |      |   |   |
|------|------|------|---|---|
| 5003 | 14.1 | 28.3 | ✓ | 1 |
| 010  | 14.0 | 28.4 | ✓ | 1 |
| 015  | 12.4 | 30.0 | ✓ | 1 |
| 021  | 8.2  | 34.2 | ✓ | 1 |
| 030  | 6.9  | 35.5 | ✓ | 1 |
| 040  | 6.9  | 35.5 | ✓ | 1 |
| 050  | 7.2  | 35.2 | ✓ | 1 |
| 60   | 6.9  | 35.5 | ✓ | 1 |
| 70   | 4.9  | 37.5 | ✓ | 1 |
| 80   | 4.3  | 38.1 | ✓ | 1 |
| 90   | 3.8  | 38.6 | ✓ | 1 |
| 5100 | 2.8  | 39.6 | ✓ | 1 |



3560

|      |      |        |     |        |   |   |
|------|------|--------|-----|--------|---|---|
|      | 3.11 | 553.78 |     | 550.67 |   |   |
| 5110 |      |        | 6.5 | 47.3   | ✓ | ↓ |
| 15   |      |        | 4.0 | 49.8   | ✓ | ↓ |
| 20   |      |        | 4.1 | 49.7   | ✓ | ↓ |
| 30   |      |        | 4.2 | 49.6   | ✓ | ↓ |

3570

|    |  |  |     |      |   |   |
|----|--|--|-----|------|---|---|
| 30 |  |  | 4.2 | 49.6 | ✓ | ↓ |
| 20 |  |  | 3.8 | 50.0 | ✓ | ↓ |
| 15 |  |  | 3.8 | 50.0 | ✓ | ↓ |
| 10 |  |  | 9.2 | 44.6 | ✓ | ↓ |

0.68 442.40

541.72

|      |  |  |      |      |   |   |
|------|--|--|------|------|---|---|
| 5100 |  |  | 3.2  | 39.2 | ✓ | ↓ |
| 090  |  |  | 3.3  | 39.1 | ✓ | ↓ |
| 080  |  |  | 4.8  | 37.6 | ✓ | ↓ |
| 070  |  |  | 6.4  | 36.0 | ✓ | ↓ |
| 060  |  |  | 6.6  | 35.8 | ✓ | ↓ |
| 050  |  |  | 5.8  | 36.6 | ✓ | ↓ |
| 040  |  |  | 5.9  | 36.5 | ✓ | ↓ |
| 030  |  |  | 5.9  | 36.5 | ✓ | ↓ |
| 023  |  |  | 6.7  | 35.7 | ✓ | ↓ |
| 016  |  |  | 11.7 | 30.7 | ✓ | ↓ |
| 010  |  |  | 13.3 | 29.1 | ✓ | ↓ |
| 003  |  |  | 14.1 | 28.3 | ✓ | ↓ |



542.40 N 3580

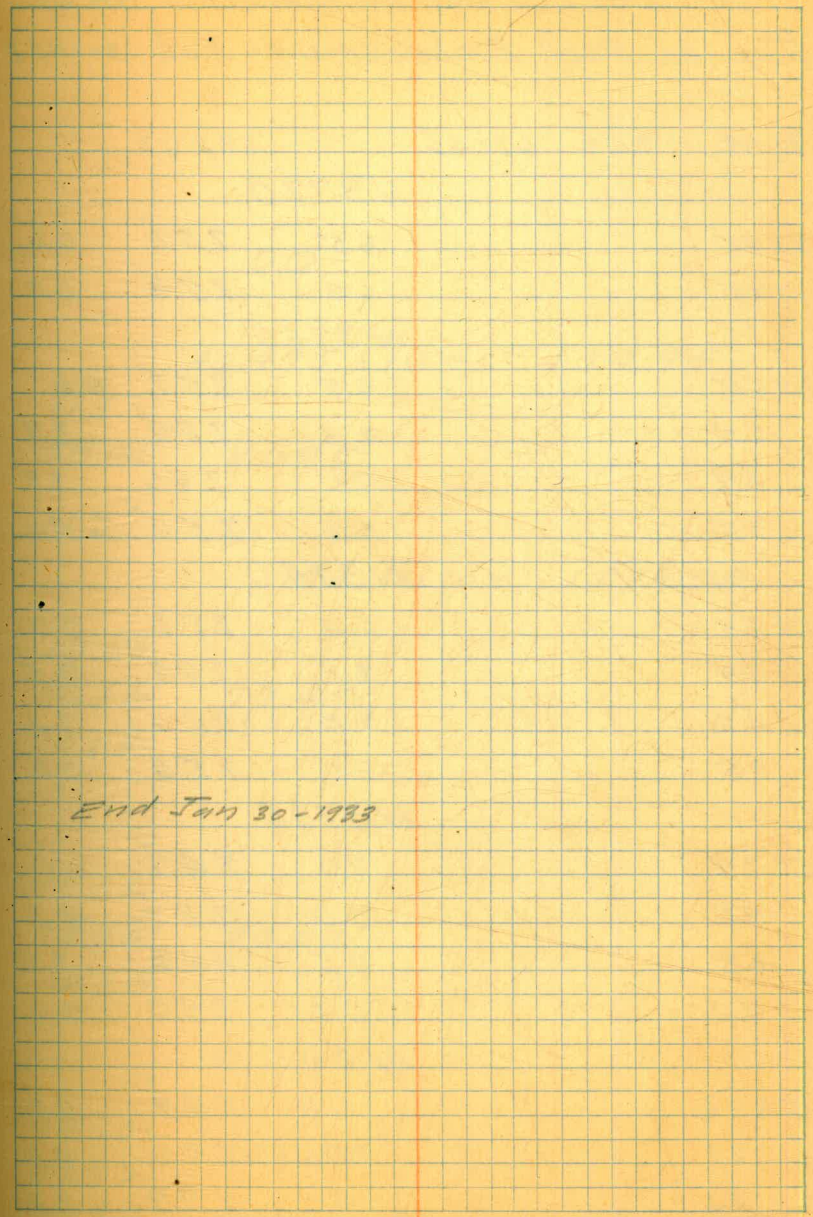
|      |      |        |        |        |   |
|------|------|--------|--------|--------|---|
| 5003 |      | 13.8   | 28.6   | ✓      | ✓ |
| 010  |      | 13.6   | 28.8   | ✓      | ✓ |
| 014  |      | 13.1   | 29.3   | ✓      | ✓ |
| 022  |      | 5.1    | 37.3   | ✓      | ✓ |
| 030  |      | 4.6    | 37.8   | ✓      | ✓ |
| 040  |      | 4.4    | 38.0   | ✓      | ✓ |
| 050  |      | 4.9    | 37.5   | ✓      | ✓ |
| 060  |      | 5.1    | 37.3   | ✓      | ✓ |
| 070  |      | 5.6    | 36.8   | ✓      | ✓ |
| 080  |      | 4.4    | 38.0   | ✓      | ✓ |
| 090  |      | 3.3    | 39.1   | ✓      | ✓ |
| 100  |      | 2.2    | 40.2   | ✓      | ✓ |
|      | 3.11 | 553.78 | 550.67 |        |   |
| 110  |      | 8.1    | 45.7   | ✓      | ✓ |
| 117  |      | 4.0    | 49.8   | ✓      | ✓ |
| 120  |      | 4.0    | 49.8   | ✓      | ✓ |
| 130  |      | 4.0    | 49.8   | ✓      | ✓ |
| B.M. |      | 1.59   | 552.19 | 552.21 |   |

Plotted

Plotted

Plotting checked 9-19-1934 CBH

Cont. in F. Book 421-1.  
CBH



End Jan 30-1933



X- Sections of Material on  
Top of Rock Embankment - Feb. 13-1933

| B.M.  | 3.03 | 631.66 | 622.63 |     |
|-------|------|--------|--------|-----|
| N3770 |      |        |        |     |
| 5265  |      | 6.5    | 25.2   | 0.0 |
| 5235  |      | 6.3    | 25.4   | 0.0 |
| N3760 |      |        |        |     |
| 5265  |      | 6.5    | 25.2   | 0.0 |
| 59    |      | 2.8    | 28.9   | 3.7 |
| 42    |      | 3.1    | 28.6   | 3.2 |
| 35    |      | 6.3    | 25.4   | 0.0 |
| N3740 |      |        |        |     |
| 5265  |      | 6.4    | 25.3   | 0.0 |
| 59    |      | 2.8    | 28.9   | 3.5 |
| 42    |      | 3.1    | 28.6   | 3.1 |
| 35    |      | 6.1    | 25.6   | 0.0 |
| N3700 |      |        |        |     |
| 5239  |      | 7.0    | 24.7   | 0.0 |
| 45    |      | 3.0    | 28.7   | 4.0 |
| 65    |      | 3.5    | 28.2   | 3.2 |
| 70    |      | 6.7    | 25.0   | 0.0 |
| N3660 |      |        |        |     |
| 5276  |      | 6.8    | 24.9   | 0.0 |
| 68    |      | 2.1    | 29.6   | 4.9 |
| 46    |      | 4.0    | 27.7   | 3.4 |
| 39    |      | 7.5    | 24.2   | 0.0 |

| Sq. ft. | Totals-sq. ft. | Cubic ft. |
|---------|----------------|-----------|
|         |                | 0.0       |
|         | 40.475 x 10 =  | 404.75    |
| 11.1    |                |           |
| 58.65   | 80.95          |           |
| 11.2    |                |           |
|         | 79.20 x 20 =   | 1584.00   |
| 10.50   |                |           |
| 56.10   | 77.45          |           |
| 10.85   | 32.72          |           |
| 12.00   |                |           |
| 72.00   | 92.00          |           |
| 8.00    |                |           |
| 19.60   |                |           |
| 91.30   | 122.80         |           |
| 11.90   |                |           |
|         | next page      |           |



631.66

N3620

|      |     |      |     |
|------|-----|------|-----|
| 5240 | 6.9 | 24.8 | 0.0 |
| 46   | 3.9 | 27.8 | 3.0 |
| 74   | 3.5 | 28.2 | 3.2 |
| 81   | 6.7 | 25.0 | 0.0 |

sq. ft.

Totals

Cubic ft.

|       |
|-------|
| 9.00  |
| 86.85 |
| 11.20 |

107.00

N3580

|      |     |      |     |
|------|-----|------|-----|
| 5280 | 6.4 | 25.3 | 0.0 |
| 72   | 2.6 | 29.1 | 3.7 |
| 45   | 3.8 | 27.9 | 3.0 |
| 40   | 6.9 | 24.8 | 0.0 |

|       |
|-------|
| 14.80 |
| 90.45 |
| 7.50  |

112.75

N3540

|      |     |      |     |
|------|-----|------|-----|
| 5238 | 6.5 | 25.2 | 0.0 |
| 43   | 3.6 | 28.1 | 2.9 |
| 72   | 2.4 | 29.3 | 4.2 |
| 80   | 6.6 | 25.1 | 0.0 |

|        |
|--------|
| 7.25   |
| 102.95 |
| 16.80  |

63.50  
127.00

536.77 x 40 = 21470.80

N3520

|      |     |      |     |
|------|-----|------|-----|
| 5284 | 6.2 | 25.5 | 0.0 |
| 73   | 1.5 | 30.2 | 4.7 |
| 32   | 3.5 | 28.2 | 2.6 |
| 28   | 6.1 | 25.6 | 0.0 |

|        |
|--------|
| 25.85  |
| 149.65 |
| 5.20   |

180.70

N3500

|      |     |      |     |
|------|-----|------|-----|
| 5228 | 5.5 | 26.2 | 0.0 |
| 33   | 2.4 | 29.3 | 3.2 |
| 77   | 1.9 | 29.8 | 4.2 |
| 83   | 6.2 | 25.5 | 0.0 |

|        |
|--------|
| 8.00   |
| 162.80 |
| 12.60  |

183.40

N.P.



631.66

N3480

|      |     |      |     |
|------|-----|------|-----|
| 5285 | 6.3 | 25.4 | 0.0 |
| 78   | 2.0 | 29.7 | 4.3 |
| 41   | 3.2 | 28.5 | 3.0 |
| 35   | 6.2 | 25.5 | 0.0 |

N3440

|      |     |      |     |
|------|-----|------|-----|
| 5241 | 6.2 | 25.5 | 0.0 |
| 46   | 3.0 | 28.7 | 3.2 |
| 69   | 2.2 | 29.5 | 3.9 |
| 75   | 6.1 | 25.6 | 0.0 |

N3400

|      |     |      |     |
|------|-----|------|-----|
| 5268 | 5.4 | 26.3 | 0.0 |
| 60   | 1.8 | 29.9 | 3.6 |
| 44   | 2.4 | 29.3 | 3.0 |
| 39   | 5.4 | 26.3 | 0.0 |

N3380

|      |     |      |     |
|------|-----|------|-----|
| 5245 | 5.2 | 26.5 | 0.0 |
| 55   | 5.5 | 26.2 | 0.0 |

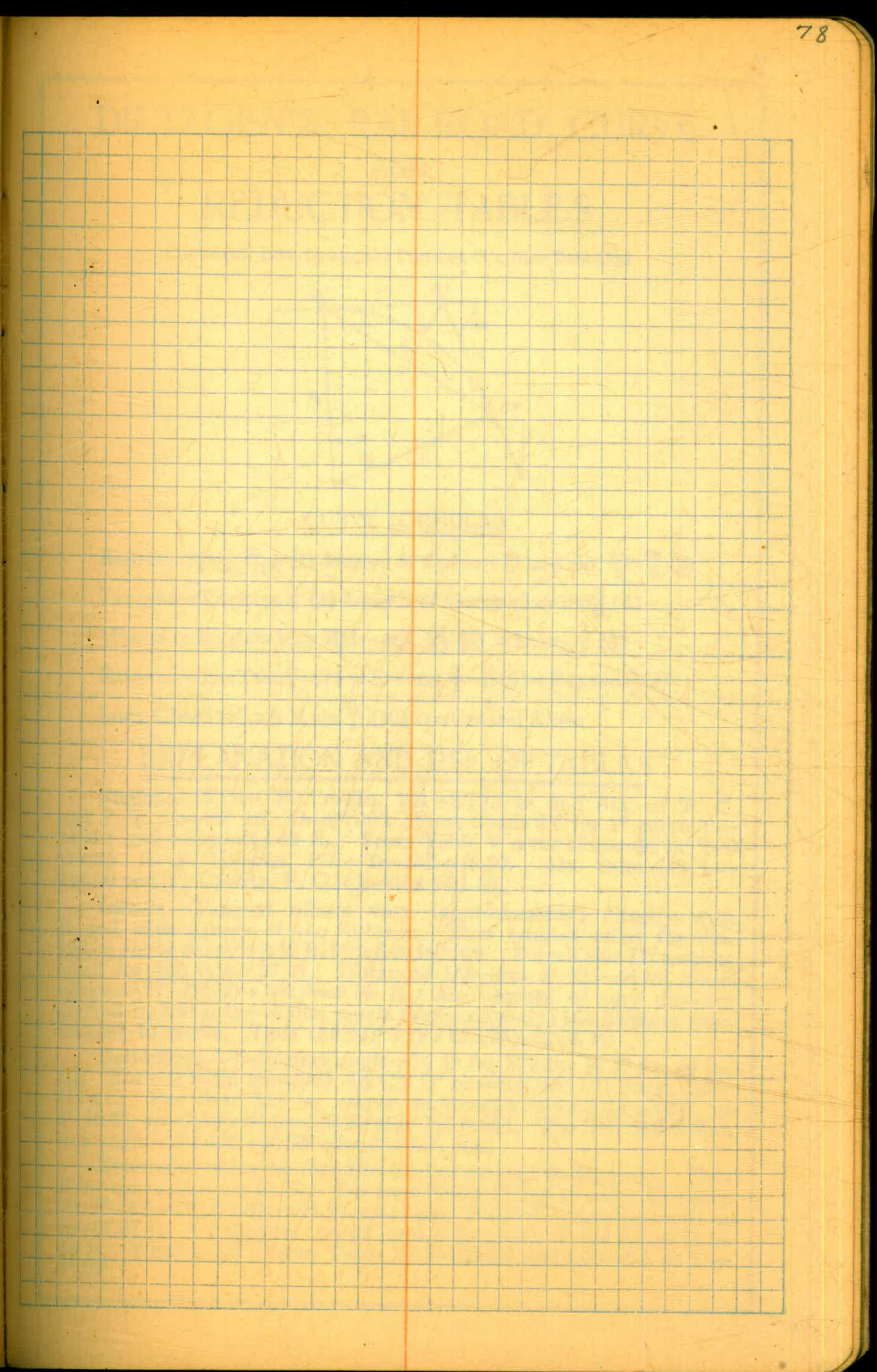
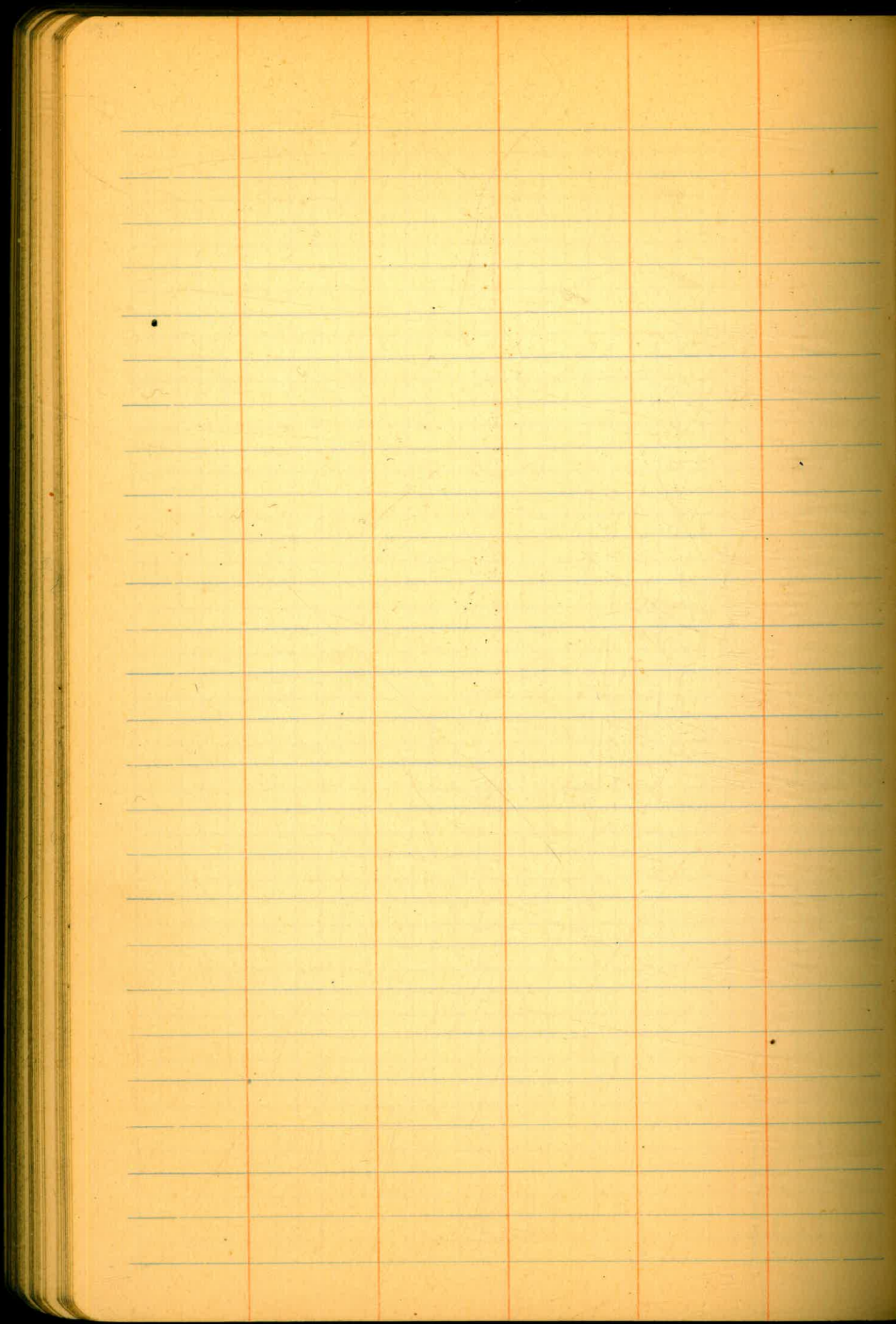
| sq. ft. | Totals        | Cubic ft.                 |
|---------|---------------|---------------------------|
| 15.05   |               |                           |
| 135.05  | 79.55         |                           |
|         | <u>159.10</u> |                           |
| 9.00    |               | 507.15 X 20 = 10,143.00   |
| 8.00    |               |                           |
| 81.65   | 101.35        |                           |
| 11.70   |               |                           |
| 14.40   |               |                           |
| 52.80   | 87.35         |                           |
|         | <u>74.70</u>  |                           |
| 7.50    |               | 218.25 X 40 = 8730.00     |
|         |               |                           |
|         |               | 37.35 X 20 = 747.00       |
| 0.0     | 0.0           |                           |
|         | Total         | <u>43,079.55</u> cub. ft. |
|         |               | <u>1,596</u> Cubic yards  |



This page is a blank ledger with horizontal blue lines and vertical red lines. It features four columns of varying widths. From left to right, the columns are approximately 15%, 35%, 30%, and 20% of the page width. The page is otherwise empty.

This page is a blank grid with a pattern of blue lines forming a grid of approximately 20 columns and 25 rows. The grid covers most of the page, leaving a margin at the top and bottom. The page is otherwise empty.

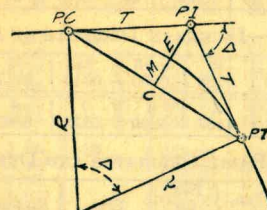






# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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## CURVE FORMULAS

Radius= $R = \frac{50}{\sin. \frac{D}{2}}$  (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)  $\Delta$ =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  $1^\circ$  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—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  $1^\circ$  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   | II |
|----|------|------|------|------|------|------|------|------|------|------|----|
| 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  $41.9 + (20 - 16) \times 2$  or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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