

Notes

Electrolysis Surveys

From Sept 1915

To

CROSS SECTION BOOK

1310

No. 2.

W74

Pipe To Rail

Paragam
Miami
Rupert
Saints Mount
Saratoga
Cape May
Brighton
Long Branch
Voltaire

De Foe
Ebas
Fraude
Guzite
~~Saints Mount~~
~~Saints Mount~~
Venus
Capital of Ind.
~~San Clemente~~
Wells
Ward
Warrington
Chatham
Cape Henry
Plover
Wallow
Cruz
Locust
Rosewood

Newton
Aliphant
Pal
Dumby
Russell
Strom
Tennison
Udall
Valtair
Whittr
Xenophon
Yonge
Zouch
Alcott
Bramming
Antis
Dumas

Freeman
Goldsmith
Homer
Ibsen
James
Kingsley
Lyttel (Photo. Blvd)

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

| | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 0 | 0 00 | 0.15 | 0.30 | 0.45 | 0.60 | 0.75 | 0.90 | 1.05 | 1.20 | 1.35 | 0 |
| 1 | 1.50 | 1.65 | 1.80 | 1.95 | 2.10 | 2.25 | 2.40 | 2.55 | 2.70 | 2.85 | 1 |
| 2 | 3.00 | 3.15 | 3.30 | 3.45 | 3.60 | 3.75 | 3.90 | 4.05 | 4.20 | 4.35 | 2 |
| 3 | 4.50 | 4.65 | 4.80 | 4.95 | 5.10 | 5.25 | 5.40 | 5.55 | 5.70 | 5.85 | 3 |
| 4 | 6.00 | 6.15 | 6.30 | 6.45 | 6.60 | 6.75 | 6.90 | 7.05 | 7.20 | 7.35 | 4 |
| 5 | 7.50 | 7.65 | 7.80 | 7.95 | 8.10 | 8.25 | 8.40 | 8.55 | 8.70 | 8.85 | 5 |
| 6 | 9.00 | 9.15 | 9.30 | 9.45 | 9.60 | 9.75 | 9.90 | 10.05 | 10.20 | 10.35 | 6 |
| 7 | 10.50 | 10.65 | 10.80 | 10.95 | 11.10 | 11.25 | 11.40 | 11.55 | 11.70 | 11.85 | 7 |
| 8 | 12.00 | 12.15 | 12.30 | 12.45 | 12.60 | 12.75 | 12.90 | 13.05 | 13.20 | 13.35 | 8 |
| 9 | 13.50 | 13.65 | 13.80 | 13.95 | 14.10 | 14.25 | 14.40 | 14.55 | 14.70 | 14.85 | 9 |
| 10 | 15.00 | 15.15 | 15.30 | 15.45 | 15.60 | 15.75 | 15.90 | 16.05 | 16.20 | 16.35 | 10 |
| 11 | 16.50 | 16.65 | 16.80 | 16.95 | 17.10 | 17.25 | 17.40 | 17.55 | 17.70 | 17.85 | 11 |
| 12 | 18.00 | 18.15 | 18.30 | 18.45 | 18.60 | 18.75 | 18.90 | 19.05 | 19.20 | 19.35 | 12 |
| 13 | 19.50 | 19.65 | 19.80 | 19.95 | 20.10 | 20.25 | 20.40 | 20.55 | 20.70 | 20.85 | 13 |
| 14 | 21.00 | 21.15 | 21.30 | 21.45 | 21.60 | 21.75 | 21.90 | 22.05 | 22.20 | 22.35 | 14 |
| 15 | 22.50 | 22.65 | 22.80 | 22.95 | 23.10 | 23.25 | 23.40 | 23.55 | 23.70 | 23.85 | 15 |
| 16 | 24.00 | 24.15 | 24.30 | 24.45 | 24.60 | 24.75 | 24.90 | 25.05 | 25.20 | 25.35 | 16 |
| 17 | 25.50 | 25.65 | 25.80 | 25.95 | 26.10 | 26.25 | 26.40 | 26.55 | 26.70 | 26.85 | 17 |
| 18 | 27.00 | 27.15 | 27.30 | 27.45 | 27.60 | 27.75 | 27.90 | 28.05 | 28.20 | 28.35 | 18 |
| 19 | 28.50 | 28.65 | 28.80 | 28.95 | 29.10 | 29.25 | 29.40 | 29.55 | 29.70 | 29.85 | 19 |
| 20 | 30.00 | 30.15 | 30.30 | 30.45 | 30.60 | 30.75 | 30.90 | 31.05 | 31.20 | 31.35 | 20 |
| 21 | 31.50 | 31.65 | 31.80 | 31.95 | 32.10 | 32.25 | 32.40 | 32.55 | 32.70 | 32.85 | 21 |
| 22 | 33.00 | 33.15 | 33.30 | 33.45 | 33.60 | 33.75 | 33.90 | 34.05 | 34.20 | 34.35 | 22 |
| 23 | 34.50 | 34.65 | 34.80 | 34.95 | 35.10 | 35.25 | 35.40 | 35.55 | 35.70 | 35.85 | 23 |
| 24 | 36.00 | 36.15 | 36.30 | 36.45 | 36.60 | 36.75 | 36.90 | 37.05 | 37.20 | 37.35 | 24 |
| 25 | 37.50 | 37.65 | 37.80 | 37.95 | 38.10 | 38.25 | 38.40 | 38.55 | 38.70 | 38.85 | 25 |
| 26 | 39.00 | 39.15 | 39.30 | 39.45 | 39.60 | 39.75 | 39.90 | 40.05 | 40.20 | 40.35 | 26 |
| 27 | 40.50 | 40.65 | 40.80 | 40.95 | 41.10 | 41.25 | 41.40 | 41.55 | 41.70 | 41.85 | 27 |
| 28 | 42.00 | 42.15 | 42.30 | 42.45 | 42.60 | 42.75 | 42.90 | 43.05 | 43.20 | 43.35 | 28 |
| 29 | 43.50 | 43.65 | 43.80 | 43.95 | 44.10 | 44.25 | 44.40 | 44.55 | 44.70 | 44.85 | 29 |
| 30 | 45.00 | 45.15 | 45.30 | 45.45 | 45.60 | 45.75 | 45.90 | 46.05 | 46.20 | 46.35 | 30 |
| 31 | 46.50 | 46.65 | 46.80 | 46.95 | 47.10 | 47.25 | 47.40 | 47.55 | 47.70 | 47.85 | 31 |
| 32 | 48.00 | 48.15 | 48.30 | 48.45 | 48.60 | 48.75 | 48.90 | 49.05 | 49.20 | 49.35 | 32 |
| 33 | 49.50 | 49.65 | 49.80 | 49.95 | 50.10 | 50.25 | 50.40 | 50.55 | 50.70 | 50.85 | 33 |
| 34 | 51.00 | 51.15 | 51.30 | 51.45 | 51.60 | 51.75 | 51.90 | 52.05 | 52.20 | 52.35 | 34 |
| 35 | 52.50 | 52.65 | 52.80 | 52.95 | 53.10 | 53.25 | 53.40 | 53.55 | 53.70 | 53.85 | 35 |
| 36 | 54.00 | 54.15 | 54.30 | 54.45 | 54.60 | 54.75 | 54.90 | 55.05 | 55.20 | 55.35 | 36 |
| 37 | 55.50 | 55.65 | 55.80 | 55.95 | 56.10 | 56.25 | 56.40 | 56.55 | 56.70 | 56.85 | 37 |
| 38 | 57.00 | 57.15 | 57.30 | 57.45 | 57.60 | 57.75 | 57.90 | 58.05 | 58.20 | 58.35 | 38 |
| 39 | 58.50 | 58.65 | 58.80 | 58.95 | 59.10 | 59.25 | 59.40 | 59.55 | 59.70 | 59.85 | 39 |
| 40 | 60.00 | 60.15 | 60.30 | 60.45 | 60.60 | 60.75 | 60.90 | 61.05 | 61.20 | 61.35 | 40 |
| 41 | 61.50 | 61.65 | 61.80 | 61.95 | 62.10 | 62.25 | 62.40 | 62.55 | 62.70 | 62.85 | 41 |
| 42 | 63.00 | 63.15 | 63.30 | 63.45 | 63.60 | 63.75 | 63.90 | 64.05 | 64.20 | 64.35 | 42 |
| 43 | 64.50 | 64.65 | 64.80 | 64.95 | 65.10 | 65.25 | 65.40 | 65.55 | 65.70 | 65.85 | 43 |
| 44 | 66.00 | 66.15 | 66.30 | 66.45 | 66.60 | 66.75 | 66.90 | 67.05 | 67.20 | 67.35 | 44 |
| 45 | 67.50 | 67.65 | 67.80 | 67.95 | 68.10 | 68.25 | 68.40 | 68.55 | 68.70 | 68.85 | 45 |
| 46 | 69.00 | 69.15 | 69.30 | 69.45 | 69.60 | 69.75 | 69.90 | 70.05 | 70.20 | 70.35 | 46 |
| 47 | 70.50 | 70.65 | 70.80 | 70.95 | 71.10 | 71.25 | 71.40 | 71.55 | 71.70 | 71.85 | 47 |
| 48 | 72.00 | 72.15 | 72.30 | 72.45 | 72.60 | 72.75 | 72.90 | 73.05 | 73.20 | 73.35 | 48 |
| 49 | 73.50 | 73.65 | 73.80 | 73.95 | 74.10 | 74.25 | 74.40 | 74.55 | 74.70 | 74.85 | 49 |
| 50 | 75.00 | 75.15 | 75.30 | 75.45 | 75.60 | 75.75 | 75.90 | 76.05 | 76.20 | 76.35 | 50 |

Computed by L. Leland Locke.

MICROFILMED

JAN X 6 1965

INDEX

| Car Line | Page |
|--------------------|----------|
| F. St. | 1 to 6 |
| Ferry Line | 7 to 10 |
| H. St. | 11 to 12 |
| National City Line | 13 to 20 |

12.5

2001 12 11

WICKOBIWED

| Reading Made At | Pipe To Rail Car Rolling | F. St. Line Pipe To Earth | Volts Avg | Max | Volts | Time |
|--------------------|-----------------------------|------------------------------|--------------|------|-------|---------|
| On F St. | | | Avg 19/15 | | | |
| 25 | | | 4.14 | 5.20 | .08 | 3:30 PM |
| 25 + 24 | | | 4.03 | 5.80 | .06 | 7 AM |
| SE Cor | | | Avg 21/15 | | | |
| 23 | | | 3.65 | 5.00 | .08 | 8 AM |
| 23 + 22 | | | 3.04 | 4.60 | .06 | 9 AM |
| SE Cor R1 | | | 3.04 | 4.60 | .07 | 10 AM |
| 21 + 20 | | | 3.22 | 4.80 | .10 | 11 AM |
| 20 + 19 | | | 2.60 | 3.60 | .13 | 12 AM |
| 19 + 18 | | | 1.91 | 2.80 | .08 | 1 PM |
| SE Cor 17 | | | 2.23 | 4.00 | .17 | 2 PM |
| SW Cor | | | Avg 23 | | | |
| 16 | | | 3.30 | 5.20 | .07 | 8 AM |
| SE Cor 15 | | | 1.72 | 2.40 | .07 | 9 AM |
| 15 + 14 | | | 1.23 | 2.10 | .08 | 10 AM |

1.
Reading

Made At

On F St.

25

25 + 24

SE Cor

23

23 + 22

SE Cor

21

21 + 20

20 + 19

19 + 18

SE Cor
17

SW Cor
16

SE Cor
15

15 + 14

Reading Pipe To Rail F. St. Line
 Made At Car Pulling Pipe To Earth

Volts
 Avg Max Volts Time

| | | | | |
|--------------|-------|-------|------|---------|
| On F. St. | | | | |
| 14 + 13 | -.73 | -1.10 | - | 11 AM |
| 13 + 12 | 1.56 | +1.10 | -.07 | 1 PM |
| 12 + 11 | +1.39 | +1.90 | -.10 | 2 PM |
| 11 + 10 | 1.49 | +1.00 | -.07 | 3 PM |
| SEC Car 9 | 1.55 | +1.20 | -.08 | 3:45 PM |
| SEC Car 8 | 1.71 | +1.30 | -.10 | 8 AM |
| SEC Car 7 | 1.68 | +1.10 | -.08 | 9 AM |
| 6 + 7 | 1.76 | +1.10 | -.07 | 10 AM |
| 6 + 5 | 1.62 | +1.90 | -.10 | 11 AM |
| 5 + 4 | 1.88 | +1.30 | -.16 | 1 PM |
| 4 + 3 | 1.96 | +1.20 | -.04 | 2 PM |
| SEC Car 2 | 1.00 | +1.60 | - | 3 PM |

Reading
Made fit

On F. St.

14 + 13

13 + 12

12 + 11

11 + 10

SE Cor

9

SE Cor

8

SE Cor

7

6 + 7

6 + 5

5 + 4

4 + 3

SE Cor

2

Reading Pipe to Nail **E. St. Line**
 Made At Car Pelling Pipe to Earth
 Volts
 Avg Max Volts Time

On F St.

1 + 2 +1.08 +1.60 $\pm \frac{16}{24}$ 3:45 PM

SE Cor

Aug 26

Front +1.55 +2.00 +.06 8 AM

Front Union +1.63 +2.20 -.05 9 AM

SE Cor

State +2.16 +2.40 $\pm \frac{0.2}{-0.2}$ 10 AM

SW Cor

Columbia +2.54 +3.50 +.06 11 AM

SE Cor

India +3.06 +3.70 +.07 1 PM

Arctic +3.59 +4.20 — 2 PM

Reading

Made At

On F St.

1 + 2

SE Cor

Front

Front Union

SE Cor

State

SW Cor

Columbia

SE Cor

India

Arctic

| Reading | Pipe To Rail | | Ferry line or Arctic and on H. St. | |
|--------------------|---------------------------|-------|---------------------------------------|--------------------|
| | Car Pulling Pipe To Earth | | | |
| Made At | Volts | | | |
| | Avg | Max | Volts | Time |
| Orkatic | Aug 27/15 | | | |
| SE Cor Broadway | +2.33 | +2.70 | — | 9 ³⁰ AM |
| D + E | +1.10 | +1.20 | +1.32 | 9 AM |
| E + F | +2.11 | +2.40 | +2.04 | 8 AM |
| | Aug 26/15 | | | |
| F + G | +2.18 | +2.50 | +1.08 | 3 ⁴⁵ PM |
| G + H | +2.10 | +2.70 | +1.11 | 3 PM |
| On H | Aug 28/15 | | | |
| NE Cor A | +1.58 | +1.80 | | 1 PM |
| SE Cor 3 | +1.00 | +1.45 | +0.05 | 11 AM |
| NE Cor 2 | +1.06 | +1.40 | — | 10 AM |
| NE Cor 1 | +1.23 | +1.80 | — | 9 AM |
| SE Cor Front | +1.28 | +1.60 | +1.05 | 8 AM |
| | Aug 27/15 | | | |
| Front + Union | +1.33 | +2.10 | +1.06 | 3 ⁴⁵ PM |
| Union + State | — | — | — | — |

Reading

Made At

Ordnance

SE Cor

Broadway

D + E

E + F

F + G

G + H

On H

NE Cor

4

SE Cor

3

NE Cor

2

NE Cor

1

SE Cor

Front

Front + Union

Union + State

Reading Pipe To Rail *Ferry Line On HST*
 Car Pulling Pipe To Earth
 Made At Volts
 Avg Max Volts Time

On H St.

SW Cor
 State +1.85 +2.40 — 3 PM

Columb + India +2.28 +2.60 +.06 2⁰⁰ PM

India + Arctic +2.20 +2.80 +.50 1¹⁵ PM

NE Cor

Arctic +2.02 +2.40 +.07 11³⁰ AM

Atlantic + Calif +2.15 +2.40 +.18 10³⁰ AM

Reading

Made At

On H St.

SW Cor
State

Columb. + India

India + Arctic

NE Cor

Arctic

Atlantic + Calif

Reading Pipe To Rail **H.S.T.** From 25 to 16
 Car Pulling Pipe To Earth
 Made At Volts

| On HST | Avg | Max | Volts | Time |
|---------|-----------|------|-------|---------|
| | Aug 18/15 | | | |
| 25 + 24 | 6.23 | 7.80 | .03 | 2:45 PM |
| 24 + 22 | 3.73 | 7.40 | .34 | 3:28 PM |
| | Aug 19/15 | | | |
| 22 + 21 | 3.28 | 5.60 | .06 | 8 AM |
| 21 + 20 | 3.22 | 6.20 | .18 | 9 AM |
| 20 + 19 | 3.09 | 3.80 | .11 | 10 AM |
| 19 + 18 | 3.47 | 5.40 | .05 | 11 AM |
| 18 + 17 | 2.30 | 3.80 | .04 | 1 PM |
| 17 + 16 | 2.21 | 3.20 | .12 | 2 PM |

Reading

Made At

On HSI

25 + 24

24 + 23

22 + 21

21 + 20

20 + 19

19 + 18

18 + 17

17 + 16

Reading Pipe To Earth ^{National City}
 Made At Car Polling Pipe To Earth _{Line}

Volts
 Avg Max Volts Time

On 13th St.
 SE Cor

Aug 28/15

I -2.45 -3.60 -.26 2^{PM}

M + N -4.26 -5.60 — 2⁴⁵
 2^{PM}

SE Cor 16th
 and

Newton -4.04 -5.20 -.20 3⁴⁵
 PM

on Newton
 Bet Aug 30/15

Beardsly + Sigsbee -6.07 -10.00 -.20 8 AM

Beardsly + Grosby -6.35 -10.00 -.20 9 AM

Grosby + Dewey -8.34 -12.00 -.21 10 AM

Dewey + Evans -9.20 -13.00 -.18 11 AM

Evans + Sampson -6.23 -8.00 -.26 1 PM

Sampson + Seward -7.55 -10.00 -.20 2^{PM}

on Grand Ave

26 + 27 -8.00 -12.00 -.22 3 PM

27 + 28 -8.30 -12.00 -.19 3⁴⁵
 PM
 Aug 31/15

28 + 29 -9.61 -14.00 -.19 8 AM

Reading
Made At

On 13th St
SE Cor
I

M + N

SE Cor 16th
and
Newton
on Newton
Ret

Beardsly + Sigsbee

Beardsly + Crosby

Crosby + Dewey

Dewey + Evans

Evans + Sampson

Sampson + Sgard
on Grand Ave
26 + 27

27 + 28

28 + 29

Reading Pipe To Rail *National City Line*
 Made At Car Pulling Pipe To Earth
 Volts

On Grand Ave *AUG 31/15*
 Avg Max Volts Time

29 + 30 - 9.61 - 13.00 - .30 9 AM

30 + 31 - 12.12 - 26.00 - .28 10 AM

31 + 32 - 14.30 - 25.00 - .29 11 AM

SEC Car

32 - 15.00 - 23.00 - .24 1 PM

Nothing to tie to between 32 and
 National City

On National

Bot

Sept 1/15

Division + 1st - 15.41 - 24.00 - .26 8 AM

1st + 2nd - 24.17 - 38.00 - .30 9 AM

Sept 2nd

3 + 4 - 18.00 - 22.00 - .15 8 AM

4 + 5 - 23.40 - 36.00 - .16 9 AM

5 + 6 - 11.66 - 16.00 - .15 10 AM

6 + 7 - 19.13 - 30.00 - .18 11 AM

Reading
Made At

On Grand Ave

29 + 30

30 + 31

31 + 32

SE Cor

32

Nothing
Noted

On National

Bet

Division + 1st

1st + 2nd

3 + 4

4 + 5

5 + 6

6 + 7

| Reading Made At | Pipe To Rail ^{National City Line} | | Pipe To Earth | Time |
|---|--|-----------|---------------|--------------------|
| | Avg Volts | Max Volts | | |
| 7 + 8 | 14.19 | 24.00 | | 1 PM |
| 8 + 9 | 22.15 | 30.00 | .13 | 2 PM |
| 9 + 10 | 20.00 | 32.00 | | 3 PM |
| 10 + 11 | 22.24 | 38.00 | .17 | 3 ⁴⁵ PM |
| Sept 3/15 | | | | |
| 11 + 12 On 12 th | 23.97 | 38.00 | .16 | 8 AM |
| 1 st + 2 nd Ave | 17.00 | 20.00 | .20 | 9 AM |
| 2 nd + 3 rd Ave | 16.65 | 22.00 | .20 | 10 AM |
| 4 th Ave | 19.54 | 26.00 | | 11 AM |
| 7 th Ave On 8 th Ave | 20.32 | 27.00 | | 1 PM |
| 13 + 8 Ave | 24.65 | 32.00 | | 2 PM |
| 16 th | 23.97 | 34.00 | | 3 PM |
| 17 th | 21.28 | 36.00 | .20 | 3 ⁴⁵ PM |

Reading
Made At

7 + 8

8 + 9

9 + 10

10 + 11

11 + 12

On 12th

1st + 2nd Ave

2nd + 3rd Ave

4th Ave

7th Ave
On 8th Ave

13 + 8 Ave

16th

17th

| Reading Made At | Pipe To Rail | | National City Line | |
|---------------------|---------------------------|--------|-----------------------|-------|
| | Car Pulling Pipe To Earth | | Volts | |
| | Avg | Max | Volts | Time |
| 8 th Ave | Sept. 4/15 | | | |
| 17 + 18 | -23.13 | -34.00 | -.09 | 7 AM |
| 19 | -24.39 | -37.00 | -.22 | 8 AM |
| 19 + 20 | -19.00 | -24.00 | -.15 | 9 AM |
| 20 + 21 | -16.00 | -21.00 | — | 10 AM |
| 21 + 22 | -17.22 | -22.00 | — | 11 AM |
| SE Cor | | | | |
| 23 | -19.54 | -30.00 | — | 12 M |

Reading

Made At

8th Ave

17 + 18

19

19 + 20

20 + 21

21 + 22

SE Cor

23

Reading Pipe to Trail
 Made At Car Tolling Pipe to Earth
 Volts
 Avg Max Volts Time

On Santa Cruz
 Ret

Sept 9/15

Cable + Bacon -6.74 -14.00 -.06 8 AM
 On Bacon

Del Monte + Niag. -5.37 -11.00 -.06 9 AM

Noragansett + Niag. -6.36 -11.00 -.05 10 AM
 +10

Niagara + Newport -6.39 -12.00 -.06 11 AM
 +13

New P. + Santa M. -5.32 -12.00 -.02 1 PM
 +02

Santa Monica + Sai. -6.28 -13.00 — 2 PM

Saratoga + May -5.62 -14.00 -.04 3 PM
 Cape

SE Cor Brighton -5.50 -10.00 -.12 3 45 PM

Sept 10/15

Long Br. + Voltaire -4.71 -9.60 -.05 8 AM
 On Voltaire

Bacon + Cable -5.06 -11.00 -.07 9 AM

Cable + De Poe -5.14 -10.00 -.04 10 AM

De P. + Ebers -4.35 -8.00 -.11 11 AM

Reading

Made At

On Santa Cruze

Bel

Cable + Beacon

Oh Bacon

Del Monte + Waring

Naragansett + Niag.

Niagra + Newport

New P. + Santa M.

Santa Monica + San

Saratoga + ^{Cape} May

SE Cor

Brighton

Long Br. + Voltaire

On Voltaire

Bacon + Cable

Cable + De Foe

De Foe + Ebers

| Reading Made At | Pipe To Rail | | Pipe To Earth | Time |
|---------------------------------|--------------|--------|---------------|--------------------|
| | Avg | Max | | |
| Volts | | | | |
| On Voltaire | | | | |
| Ebers + Froude | -4.00 | -6.00 | -11 | 1 PM |
| Froude + Guizon | -4.11 | -7.60 | — | 2 PM |
| Guiz. + Santa Ba | -4.15 | -5.60 | +16 -04 | 3 PM |
| San Clement Santa Barbara | -4.43 | -8.20 | -30 | 3 ⁴⁵ PM |
| Best | Sept 11/15 | | | |
| Warrington + Chatsworth Blvd | -6.42 | -14.00 | -15 | 8 AM |
| Ch. Blvd + Capistrano | -7.78 | -14.00 | -12 | 9 AM |
| On Macaulay | | | | |
| 6001 Wat Rosecrans | -8.56 | -11.00 | — | 10 AM |
| On Rosecrans | | | | |
| Macaulay + Newell | -8.26 | -12.00 | -18 | 11 AM |
| Elephant | | | | |
| Pole Gurnby | -8.19 | -16.00 | -25 | 1 PM |
| Russell | | | | |
| Sterna Tennyson | -8.32 | -12.00 | — | 2 PM |
| Udall | -7.47 | -15.00 | -20 | 3 PM |
| Voltaire | Sept 13/15 | | | |
| Whittier Ketchikan | -6.00 | -9.00 | -20 | 8 AM |

Reading

Made At

On Voltaire

Ebers + Froide

Froide + Guizon

Guiz. + Santa Ba

San Clement
Santa Barbara

Be. t.

Warrington +

Chatsworth Blvd

Ch. Blvd + Capistrano

On Macaulay

600 Wat
Fosecarans

On Fosecarans

Macaulay +
Newell

Oliphant

Poe

Gurnby

Fussell

Sterne

Tennyson

Udall

Voltaire

Whittier
x Hopkin

| Reading Made At | Pipe To Rail | | Pipe To Earth | |
|-----------------|--------------|-----------|---------------|------|
| | Avg Volts | Max Volts | Avg Volts | Time |

| | | | | |
|-----------------------------------|-------|--------|------|----------------------------|
| Yonge | | | | |
| Zouch | -5.71 | -10.00 | -.16 | 9 AM |
| Olcott | | | | |
| Browning | | | | |
| Curtis | | | | |
| Dumas | | | | |
| Elliot | | | | |
| Freemont | -3.09 | -5.00 | -.14 | 10 AM |
| Goldsmith | | | | |
| Harner | | | | |
| Ibsen | -2.82 | -5.40 | -.17 | 11 AM |
| James | | | | |
| Kingsley | -3.02 | -5.40 | -.16 | 1 PM |
| Loma Portal | -3.00 | -5.60 | -.12 | 2 PM |
| near Switch at Tide St | -2.16 | -4.20 | -.16 | 3 PM |
| 600' E of switch Tide | -1.07 | -1.40 | -.12 | 3 ⁴⁵ PM |
| 500' W of Santa Fe Crossing | | | | Sept 14/15 7:00 8 AM |
| Ortlandcock | | | | |
| Wright | -2.84 | -5.80 | — | 9 AM |
| Clayton | -2.60 | -6.40 | — | 10 AM |

Reading
Made At

Yonge

Zouch

Oleott

Browning

Curtis

Dumas

Elliot

Freemont

Goldsmith

Horner

Ibsen

James

Kingsley

Lorna Portal

near

Switchoat

ridge st

100' E of switchoat

ridge

500' W of

Santa Fe

Crossing

Ortlancock

Wright

Clayton

| Reading Made At | Pipe To Nail | | Pipe To Earth | Time |
|-----------------|--------------|-----|---------------|------|
| | Avg | Max | | |

| | | | | |
|----------|-------|-------|--------------------------|-------|
| Harasthy | -2.93 | -6.60 | ^{+0.4} -1.15 | 11 AM |
|----------|-------|-------|--------------------------|-------|

| | | | | |
|-----------------|-------|-------|---|------|
| Winder + Arctic | -3.26 | -7.40 | — | 1 PM |
|-----------------|-------|-------|---|------|

| | | | | |
|-------|-------|-------|-------|-----------------------|
| India | -2.83 | -4.60 | -1.14 | 2 ^{PM} 20 |
|-------|-------|-------|-------|-----------------------|

Reading

Made At

Harasthy

Winder +
Arctic

India

Reading

Made At

Reading Pipe To Rail

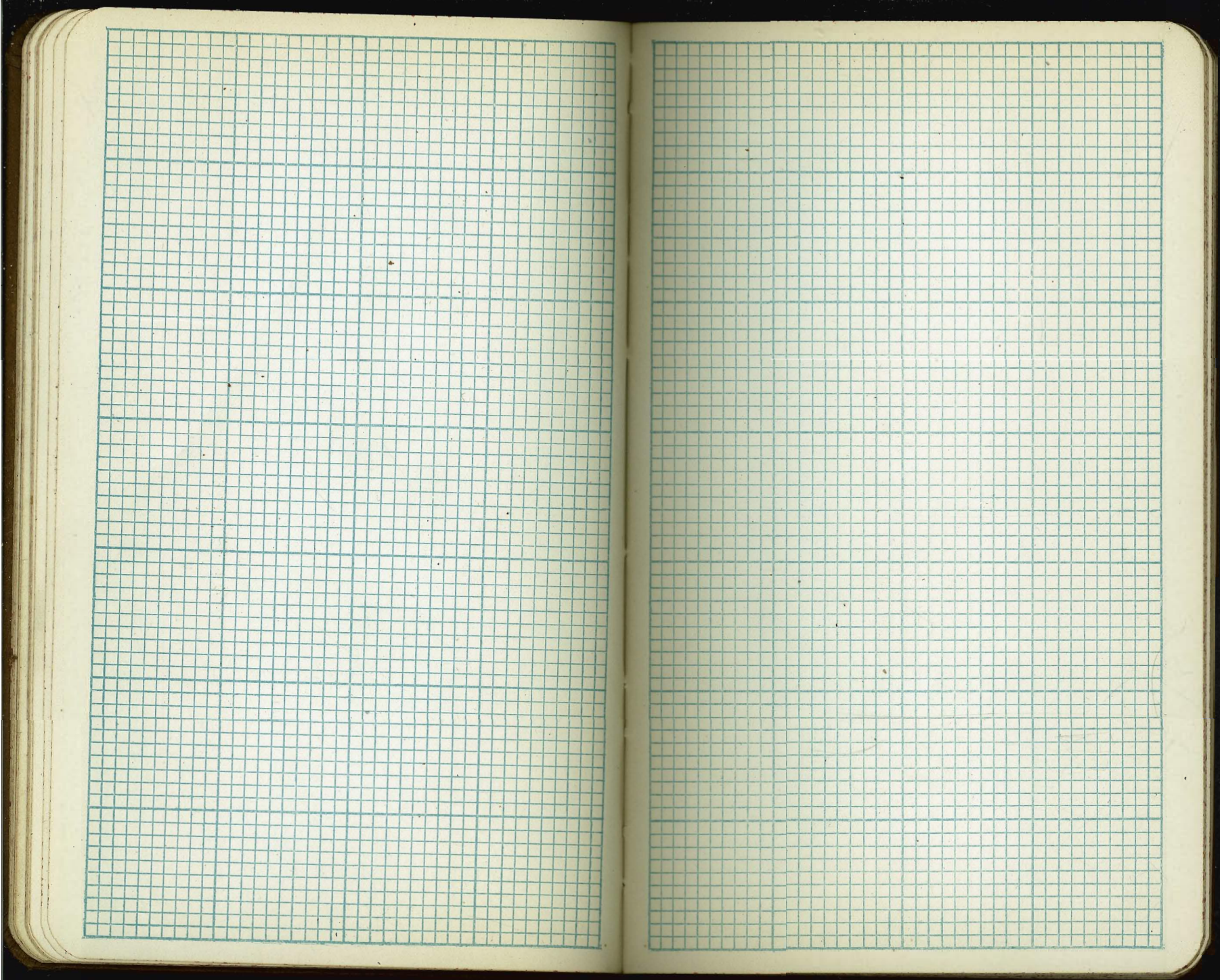
Made At Car Polling Pipe To Earth

Volts

Avg Max Volts Time

Reading

Made At



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 TO 1. ROADWAY OF ANY WIDTH.

| | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | |
|----|------|------|------|------|------|------|------|------|------|------|----|
| 0 | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | 0 |
| 1 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 1 |
| 2 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 2 |
| 3 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 3 |
| 4 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 | 4 |
| 5 | 5.0 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 5 |
| 6 | 6.0 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 | 6 |
| 7 | 7.0 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 | 7 |
| 8 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 8 |
| 9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 | 9 |
| 10 | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 10 |
| 11 | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 11 |
| 12 | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 12 |
| 13 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.9 | 13 |
| 14 | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 14 |
| 15 | 15.0 | 15.1 | 15.2 | 15.3 | 15.4 | 15.5 | 15.6 | 15.7 | 15.8 | 15.9 | 15 |
| 16 | 16.0 | 16.1 | 16.2 | 16.3 | 16.4 | 16.5 | 16.6 | 16.7 | 16.8 | 16.9 | 16 |
| 17 | 17.0 | 17.1 | 17.2 | 17.3 | 17.4 | 17.5 | 17.6 | 17.7 | 17.8 | 17.9 | 17 |
| 18 | 18.0 | 18.1 | 18.2 | 18.3 | 18.4 | 18.5 | 18.6 | 18.7 | 18.8 | 18.9 | 18 |
| 19 | 19.0 | 19.1 | 19.2 | 19.3 | 19.4 | 19.5 | 19.6 | 19.7 | 19.8 | 19.9 | 19 |
| 20 | 20.0 | 20.1 | 20.2 | 20.3 | 20.4 | 20.5 | 20.6 | 20.7 | 20.8 | 20.9 | 20 |
| 21 | 21.0 | 21.1 | 21.2 | 21.3 | 21.4 | 21.5 | 21.6 | 21.7 | 21.8 | 21.9 | 21 |
| 22 | 22.0 | 22.1 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.9 | 22 |
| 23 | 23.0 | 23.1 | 23.2 | 23.3 | 23.4 | 23.5 | 23.6 | 23.7 | 23.8 | 23.9 | 23 |
| 24 | 24.0 | 24.1 | 24.2 | 24.3 | 24.4 | 24.5 | 24.6 | 24.7 | 24.8 | 24.9 | 24 |
| 25 | 25.0 | 25.1 | 25.2 | 25.3 | 25.4 | 25.5 | 25.6 | 25.7 | 25.8 | 25.9 | 25 |
| 26 | 26.0 | 26.1 | 26.2 | 26.3 | 26.4 | 26.5 | 26.6 | 26.7 | 26.8 | 26.9 | 26 |
| 27 | 27.0 | 27.1 | 27.2 | 27.3 | 27.4 | 27.5 | 27.6 | 27.7 | 27.8 | 27.9 | 27 |
| 28 | 28.0 | 28.1 | 28.2 | 28.3 | 28.4 | 28.5 | 28.6 | 28.7 | 28.8 | 28.9 | 28 |
| 29 | 29.0 | 29.1 | 29.2 | 29.3 | 29.4 | 29.5 | 29.6 | 29.7 | 29.8 | 29.9 | 29 |
| 30 | 30.0 | 30.1 | 30.2 | 30.3 | 30.4 | 30.5 | 30.6 | 30.7 | 30.8 | 30.9 | 30 |
| 31 | 31.0 | 31.1 | 31.2 | 31.3 | 31.4 | 31.5 | 31.6 | 31.7 | 31.8 | 31.9 | 31 |
| 32 | 32.0 | 32.1 | 32.2 | 32.3 | 32.4 | 32.5 | 32.6 | 32.7 | 32.8 | 32.9 | 32 |
| 33 | 33.0 | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.6 | 33.7 | 33.8 | 33.9 | 33 |
| 34 | 34.0 | 34.1 | 34.2 | 34.3 | 34.4 | 34.5 | 34.6 | 34.7 | 34.8 | 34.9 | 34 |
| 35 | 35.0 | 35.1 | 35.2 | 35.3 | 35.4 | 35.5 | 35.6 | 35.7 | 35.8 | 35.9 | 35 |
| 36 | 36.0 | 36.1 | 36.2 | 36.3 | 36.4 | 36.5 | 36.6 | 36.7 | 36.8 | 36.9 | 36 |
| 37 | 37.0 | 37.1 | 37.2 | 37.3 | 37.4 | 37.5 | 37.6 | 37.7 | 37.8 | 37.9 | 37 |
| 38 | 38.0 | 38.1 | 38.2 | 38.3 | 38.4 | 38.5 | 38.6 | 38.7 | 38.8 | 38.9 | 38 |
| 39 | 39.0 | 39.1 | 39.2 | 39.3 | 39.4 | 39.5 | 39.6 | 39.7 | 39.8 | 39.9 | 39 |
| 40 | 40.0 | 40.1 | 40.2 | 40.3 | 40.4 | 40.5 | 40.6 | 40.7 | 40.8 | 40.9 | 40 |
| 41 | 41.0 | 41.1 | 41.2 | 41.3 | 41.4 | 41.5 | 41.6 | 41.7 | 41.8 | 41.9 | 41 |
| 42 | 42.0 | 42.1 | 42.2 | 42.3 | 42.4 | 42.5 | 42.6 | 42.7 | 42.8 | 42.9 | 42 |
| 43 | 43.0 | 43.1 | 43.2 | 43.3 | 43.4 | 43.5 | 43.6 | 43.7 | 43.8 | 43.9 | 43 |
| 44 | 44.0 | 44.1 | 44.2 | 44.3 | 44.4 | 44.5 | 44.6 | 44.7 | 44.8 | 44.9 | 44 |
| 45 | 45.0 | 45.1 | 45.2 | 45.3 | 45.4 | 45.5 | 45.6 | 45.7 | 45.8 | 45.9 | 45 |
| 46 | 46.0 | 46.1 | 46.2 | 46.3 | 46.4 | 46.5 | 46.6 | 46.7 | 46.8 | 46.9 | 46 |
| 47 | 47.0 | 47.1 | 47.2 | 47.3 | 47.4 | 47.5 | 47.6 | 47.7 | 47.8 | 47.9 | 47 |
| 48 | 48.0 | 48.1 | 48.2 | 48.3 | 48.4 | 48.5 | 48.6 | 48.7 | 48.8 | 48.9 | 48 |
| 49 | 49.0 | 49.1 | 49.2 | 49.3 | 49.4 | 49.5 | 49.6 | 49.7 | 49.8 | 49.9 | 49 |
| 50 | 50.0 | 50.1 | 50.2 | 50.3 | 50.4 | 50.5 | 50.6 | 50.7 | 50.8 | 50.9 | 50 |