

Return to City Engineers Office
San Diego, Cal.

400
LEVEL

F.B.436

Rook's

Published by H. S. CROCKER COMPANY, Stationers, Drawing Materials, and Mathematical Instruments, San Francisco.

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

436

MINUTES.	LKS.	MINUTES.	LKS.	MINUTES.	LKS.
1	21	21	49	41	95
2	4	22	51	42	98
3	7	23	53	43	100
4	9	24	56	44	102
5	11	25	58	45	105
6	14	26	60	46	107
7	16	27	63	47	109
8	18	28	65	48	112
9	21	29	67	49	114
10	23	30	70	50	116
11	25	31	72	51	119
12	28	32	74	52	121
13	30	33	77	53	123
14	32	34	79	54	126
15	35	35	81	55	128
16	37	36	84	56	130
17	39	37	86	57	133
18	42	38	88	58	135
19	44	39	91	59	137
20	46	40	93	60	140

TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

ANGLE	COR. IN LINKS						
0		0		0		0	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07

Crocker Quality

LEVEL BOOK

No. 400



FROM
Loring's Book Store

MANUFACTURED BY

A. S. Crocker & Co.

SAN FRANCISCO
and
SACRAMENTO

Carleton	1
Dickens	9
Emerson	23
Frenelon	35
Goethe	47
Hugo	59
Ingelton	71

12/18/08
Clough
Col Bath
Wardle

Section of Carleton from 1
Bay to W line of Roseville,
Cont from Book 434

100' W. Locust St

	6.51	22.93	B.M. SW Cor. Carleton Locust
SL	29.44	5.6	23.9
c		5.8	24.4
1/4		6.1	23.3
d		6.9	23.0
1/4		6.8	22.6
c		7.4	22.0
NL		7.8	21.6

PLOTTED

150' W. Locust St

NL	7.0	22.1
c	6.4	23.0
1/4	6.3	23.1
d	6.1	23.3
1/4	5.8	23.6
c	5.3	24.1
SL	5.0	24.4

29.11

162' W Locust St

NL	{ 6.4	23.0
	{ 8.9	20.5

175' W Locust St

NL	9.4	24.0
----	-----	------

c	9.0	20.4
---	-----	------

14	9.0	20.4
----	-----	------

ϕ	5.7	23.7
---	-----	------

14	5.6	23.8
----	-----	------

c	5.6	23.8
---	-----	------

SL	5.9	24.0
----	-----	------

185' W Locust St

SL	5.1	24.3
----	-----	------

c	{ 5.0	24.4
	{ 7.7	21.7

14	8.1	21.3
----	-----	------

ϕ	8.1	21.3
---	-----	------

14	8.3	21.1
----	-----	------

c	{ 8.1	21.0
	{ 6.5	22.9

NL	6.7	22.7
----	-----	------

29.11

Carleton

2

200' W Locust St

NL	6.2	23.2
----	-----	------

c	5.8	23.6
---	-----	------

14	5.6	23.8
----	-----	------

ϕ	5.4	24.0
---	-----	------

14	{ 5.1	24.3
	{ 7.8	21.6

c	8.0	21.4
---	-----	------

SL	7.8	21.6
----	-----	------

210' W Locust St

SL	{ 6.7	22.7
	{ 4.7	24.7

c	{ 4.2	22.2
	{ 4.5	24.9

250' W Locust St

SL	3.9	25.5
----	-----	------

c	4.0	25.4
---	-----	------

14	4.4	25.0
----	-----	------

ϕ	5.0	24.4
---	-----	------

14	5.3	24.1
----	-----	------

c	5.4	24.0
---	-----	------

NL	5.7	23.7
----	-----	------

PLOTTED

2944

300' W. Locust - E line Elm St

NK	5.3	24.1
c	4.6	24.8
1/4	4.4	25.0
1/2	3.8	25.6
1/4	3.6	25.8
c	3.0	26.4
5/8	2.7	26.7

W line Elm St

5/8	2.3	27.1
c	2.2	27.1
1/4	2.9	26.5
1/2	3.2	26.2
1/4	3.0	26.4
c	3.7	25.7
NK	4.1	25.3
T.P.	12.87	41.17
	0.84	25.60

41.17

Carleton

3

50' W. Elm St

NK	12.1	29.1
c	11.9	29.3
1/4	11.3	29.9
1/2	10.8	30.4
1/4	10.8	30.4
c	9.9	31.3
5/8	9.8	31.4

100' W Elm St

5/8	4.0	37.2
c	4.6	36.6
1/4	5.0	36.2
1/2	5.7	35.8
1/4	5.9	35.3
c	6.1	35.1
NK	6.6	34.6
T.P.	12.60	53.77
	0.0	41.17

5377

150' W Elm St

NL		11.2	42.6
c		10.2	43.6
1/4		9.2	44.6
2		8.6	45.2
1/4		7.9	45.9
c		7.7	46.1
5L		6.0	47.5
	12.33	66.04	0.06
			53.71

165' W Elm St

5L	66.04	12.7	53.3
c		12.9	53.1
1/4		12.9	53.1
2		13.8	52.2
1/4		13.7	52.3
c		15.2	50.8
NL		16.1	49.9

66.04

Carleton

4

200' W Elm St

NL		8.8	57.2
c		8.0	58.0
1/4		7.2	58.8
2		6.4	59.6
1/4		5.8	60.2
c		5.9	60.1
5L		6.0	60.0
	12.36	78.39	0.01
			66.03

250' W Elm St

5L	78.39	8.7	69.7
c		9.3	69.1
1/4		9.7	69.0
2		9.9	68.5
1/4		10.6	67.8
c		11.1	67.3
NL		11.8	66.6
	12.60	90.56	0.93
			77.76

90.56

300' W. E/m = Skina Willow St

NK	13.7	76.9
c	12.8	77.8
1/4	12.3	78.3
2	11.7	78.9
1/2	11.3	79.3
c	10.8	79.8
5/8	10.5	80.1
TP	10.0	80.6
TP	10.0	80.6

100' W. Willow St

5/8	6.1	94.5
c	6.5	94.1
1/4	2.0	93.6
2	7.1	93.2
1/2	7.7	94.9
c	8.3	92.3

NK	8.3	94.3
TP	12.96	113.00
TP	0.08	100.54

113.00

Carleton

5

50' W. Willow St

NK	11.0	102.0
c	10.7	102.3
1/4	10.1	102.9
2	9.6	103.4
1/2	9.6	103.4
c	9.3	103.7
5/8	8.7	104.3

100' W. Willow St

5/8	0.9	111.1
c	1.1	111.9
1/4	1.4	111.6
2	1.8	111.2
1/2	2.3	110.7
c	2.7	110.3

NK	3.00	110.0
TP	12.93	125.64
TP	0.29	112.71

12564

150' W. Willow St.

NK	8.8	116.8
c	8.3	117.1
1/4	8.2	117.4
2	8.0	117.6
1/4	7.7	117.9
c	7.5	118.1
5/8	7.3	118.3

200' W. Willow St.

5/8	1.6	124.0
c	1.9	123.7
1/4	1.9	123.7
2	2.1	123.5
1/4	2.2	123.4
c	2.3	123.3
NK	2.6	123.0
T.R.	11.84	123.71
		0.77
		124.87

13671

Carleton

6

250' W. Willow St.

NK	8.2	128.5
c	8.2	128.5
1/4	8.2	128.5
2	7.9	128.8
1/4	7.6	129.1
c	7.2	129.5
5/8	7.0	129.7

300' W. Willow = E. Plum St. (76)

5/8	3.1	133.6
c	3.1	133.3
1/4	3.5	133.2
2	3.1	133.3
1/4	3.9	132.8
c	4.1	132.6
NK	4.1	132.6
T.R.	11.94	132.90
		0.75
		135.96

147.90

W. line Plum St

NL	9.9	138.0
c	9.4	138.5
14	9.2	138.7
q	9.0	138.9
14	8.8	139.1
c	8.8	139.1
SL	8.47	139.13

50' W Plum St

SL	4.6	143.3
c	5.0	142.9
14	5.6	142.3
q	5.8	142.1
14	6.3	141.6
c	6.7	141.2
NL	7.0	140.9

147.90

Carleton 7

100' W Plum St

NL	3.2	144.7
c	2.7	145.2
14	2.4	145.5
q	2.2	145.7
14	1.5	146.4
c	1.0	146.9
SL	0.5	147.4
T.P.	7.95	154.90
	0.95	147.45

150' W Plum St

SL	3.5	151.4
c	4.5	150.4
14	5.4	149.5
q	6.1	148.8
14	6.4	148.5
c	7.0	147.9
NL	7.0	147.9

154.90

200 W Plum St

NK	45	150.4
c	41	150.8
H	35	151.4
Q	30	151.9
H	25	152.4
c	20	152.3
SL	20	152.3

250 W Plum St

SL	63	148.6
c	48	150.1
H	37	151.4
Q	27	152.2
H	26	152.3
c	27	152.2
NK	25	152.4

154.90

Carleton
(70') 8

300 W Plum - Ft Clove St

NK	16	153.3
c	18	153.1
H	23	152.6
Q	30	151.9
H	47	150.2
c	62	148.7
SL	72	147.7
TR	10.88	158.62
	7.16	147.74

W Line Clove St

SL	10.4	148.2
c	9.8	148.8
H	8.1	150.5
Q	7.2	151.2
H	5.8	152.8
c	4.2	154.4
NK	3.9	154.7

15862

50' W Cloue St

NL	2.3	156.3
c	2.6	156.0
14	3.2	155.4
q	3.8	154.8
14	4.1	154.5
c	4.6	154.0
S.L.	4.9	153.7
(Public line)		
79' W Cloue St = W. Roseville		
S.L.	4.3	154.3
c	3.3	155.3
14	2.6	156.0
q	2.0	156.6
14	1.5	157.1
c	1.0	157.6
NL	1.0	157.6

12/19/98 { Clough
Coll Bath
Wardie

X Section of Dickens St

9

from Bay to W. line Roseville
 73M 5.44 9.05 3.61 Hub NPH
Scott 4
 200' E Scott St Dickens

NL	9.05	132	-4.1
c		130	-3.9
14		127	-3.6
q		124	-3.3
14		120	-2.9
c		116	-2.5
S.L.		114	-2.3

PLOTTED

150' E Scott

S.L.		100	-0.9
c		100	+0.9
14		100	-0.9
q		101	-1.0
14	1.	98	-0.7
c		102	-1.1
NL		104	-1.3

9.05

100' E Scott St

NL	92	-01
c	92	-01
1/4	91	00
1/2	90	01
3/4	89	02
c	88	03
SL	87	04

50' E Scott St

SL	74	+1.7
c	75	+1.6
1/4	77	+1.4
1/2	78	+1.3
3/4	79	+1.2
c	82	10.9
NL	82	10.9

9.05

Dickens

10

E Line Scott St

NL	7.3	1.8
c	7.0	2.1
1/4	7.1	2.0
1/2	6.8	2.3
3/4	6.7	2.4
c	6.7	2.4
SL	6.5	2.6

W Line Scott St

SL	5.0	4.1
c	5.0	4.1
1/4	5.1	4.0
1/2	5.4	3.7
3/4	5.4	3.7
c	5.5	3.6
NL	5.5	3.6

905

50 W. Scott St

NK	46	4.5
c	4.6	4.5
1/2	4.5	4.6
1/4	4.4	4.7
1/4	4.2	4.9
c	4.0	5.1
5/8	3.9	5.2

100 W. Scott St

5/8	3.0	6.1
c	3.2	5.9
1/4	3.3	5.8
1/2	3.5	5.6
1/4	3.6	5.5
c	3.8	5.3
NK	3.9	5.2

905

Dickens

11

150 W. Scott St

NK	2.9	6.2		
c	2.7	6.4		
1/2	2.7	6.4		
1/4	2.5	6.6		
1/4	2.2	6.9		
c	2.1	7.0		
5/8	2.0	7.1		
7/8	7.75	14.99	1.81	7.29

PLOTTED

200 W. Scott St

5/8	14.99	7.0	8.0
c		7.2	7.8
1/4		7.6	7.4
1/2		7.9	7.1
1/4		8.1	6.9
c		8.0	7.0
NK		8.2	6.8

1499

250' W. Scott St

NL	7.3	7.7
c	7.0	8.0
1/4	6.6	8.4
1/2	6.0	9.0
1/4	6.0	9.0
c	6.5	8.5
5L	6.4	8.6

275' W. Scott St

5L	4.6	10.4
c	5.2	9.8
1/4	4.8	10.2
1/2	5.5	9.5
1/4	5.6	9.4
c	6.1	8.9
NL	6.7	8.3

1499

300' W. Scott - FL

NL	7.2	7.8
c	6.6	8.4
1/4	6.9	8.1
1/2	6.5	8.5
1/4	6.5	8.5
c	6.3	8.7
5L	6.0	9.0
T.P.	8.66	18.60
	5.05	9.94

W. Line Rosecrans St

5L	18.60	8.5	10.1
c		8.5	10.1
1/4		9.0	9.6
1/2		9.0	9.6
1/4		9.0	9.6
c		9.4	9.2
NL		9.7	8.9

Dickens

Graded 12

Rosecrans St

1860

50' W. Rosecrans

NL	8.6	10.0
c	8.6	10.0
H	8.7	9.9
L	8.5	10.1
H	8.1	10.5
c	8.0	10.6
SL	7.7	10.9

100' W. Rosecrans

SL	6.7	11.9
c	6.8	11.8
H	7.3	11.3
L	7.6	11.0
H	8.1	10.5
c	8.0	10.6
NL	8.3	10.3

1860

Dickens

150' W. Rosecrans

NL	7.8	10.8
c	7.5	11.1
H	7.0	11.6
L	6.7	11.9
H	6.3	12.3
c	5.9	12.7
SL	5.5	13.1

PLOTTED

200' W. Rosecrans

SL	4.8	13.8
c	5.2	13.4
H	5.7	12.9
L	6.1	12.5
H	6.2	12.4
c	6.6	12.0
NL	6.3	12.1

18.60

250' W. Rosecrans St

NL	6.1	12.5
c	5.7	12.9
1/4	5.5	13.3
2/4	5.1	13.5
1/4	4.9	13.7
c	4.5	14.1
2/4	3.7	14.9

300' W. Rosecrans St Locust St

2/4	3.6	13.0
c	3.8	14.8
1/4	4.0	14.6
2/4	4.4	14.2
1/4	5.0	13.6
c	5.4	13.2
NL	5.6	13.0

18.60

Dickens St.

W Line Locust St

14

NL	3.8	14.8
c	3.9	14.7
1/4	3.8	14.8
2/4	3.3	15.3
1/4	3.2	15.4
c	2.3	16.3
5/4	2.3	16.3
5/4	2.26	16.34

8.08 27.42

50' W Locust

5/4	8.1	16.3
c	8.1	16.3
1/4	8.1	16.3
2/4	8.2	16.2
1/4	8.4	16.0
c	8.7	15.7
NL	9.0	15.4

24+2

100' W. Locust

N/L	80	16.4
c	80	16.4
1/4	81	16.3
1/4	78	16.6
1/4	76	16.8
c	74	17.0
S/L	72	17.2

150' W. Locust

S/L	6.6	17.8
c	7.3	17.1
1/4	7.6	16.8
1/4	8.0	16.4
1/4	8.1	16.3
c	8.4	16.0
N/L	8.5	15.9

24+2

tokens

200' W. Locust S/L

15

N/L	7.7	16.7
c	7.5	16.9
1/4	7.1	17.3
1/4	6.9	17.5
1/4	6.8	17.6
c	6.7	18.0
S/L	6.2	18.2

PLOTTED

250' W. Locust

S/L	5.6	18.8
c	5.8	18.6
1/4	6.0	18.4
1/4	6.1	18.3
1/4	6.4	18.0
c	6.7	17.8
N/L	7.2	17.2

24.42

300' W. Locust - El. Elm St

NL	6.2	18.2
c	5.0	19.4
1/4	5.0	19.4
1/2	4.8	19.6
1/4	4.7	19.7
c	4.7	19.9
5/8	4.6	19.8

W Line Elm St

5/8	2.1	22.3
c	2.2	22.2
1/4	2.0	22.4
1/2	2.2	22.2
1/4	2.2	22.2
c	2.1	22.3

NL			2.1	22.3
T.P.	12.59	37.93	2.08	22.34

37.93

Ridgelys

16

50' W. Elm St

NL	9.2	25.7
c	9.2	25.7
1/4	9.2	25.7
1/2	9.3	25.6
1/4	9.3	25.6
c	9.3	25.6
5/8	9.1	25.5

100' W. Elm St

5/8	5.5	29.4
c	5.6	29.3
1/4	5.5	29.4
1/2	5.0	29.9
1/4	4.8	30.1
c	4.8	30.1
NL	4.9	30.0

34.93

150' W. Elm St

N/L	0.3	34.6
c	1.1	33.8
1/4	1.9	33.0
2	2.3	32.6
1/2	2.5	32.4
c	2.1	32.8

SL	1.5	33.4
T.P.	12.68	46.26
	1.35	33.59

175' W. Elm St

SL	46.26	10.4	35.9
c		10.9	35.4
1/4		11.4	34.9
2		10.8	35.5
1/4		9.8	36.5
c		9.4	36.9
N/L		8.8	37.5

46.26

Dickens St

17

200' W. Elm St

N/L	7.0	39.3
c	7.1	39.2
1/4	6.0	40.3
2	5.0	41.3
1/2	4.0	42.3
c	3.2	43.1

PLOTTED

SL	2.0	45.3
T.P.	12.63	58.52
	0.37	45.89

225' W. Elm St

SL	6.7	52.1
c	7.4	51.1
1/4	8.1	50.4
2	8.6	49.9
1/4	9.3	49.2
c	9.9	48.6
N/L	11.2	47.3

58.52

250' W Elm St

NL	6.2	52.3
c	5.6	52.9
1/4	4.4	54.1
1/2	3.2	55.2
1/4	2.0	56.5
c	1.6	56.9

JK	12.60	71.08	6.64	57.4
				58.48

300' W Elm - EL Willow St

JK	3.4	67.7
c	4.4	66.7
1/4	4.2	66.9
1/2	5.7	65.4
1/4	7.2	63.9
c	7.5	63.6

NTR	12.70	83.78	8.5	64.6
			0.0	71.08

83.78

Dickens

18

W. Willow St

NL	7.4	76.4		
c	5.0	78.8		
1/4	3.0	80.8		
1/2	0.6	83.2		
T.P.	12.95	96.73	0.0	83.78
1/4	12.2	84.5		
c	11.5	85.2		

JK	10.8	85.9
----	------	------

50' W. Willow St

JK	10.942	11.8	09.7.6	
T.P.	12.71	109.42	0.0	96.71
c	96.73	0.3	96.4	
1/4	2.1	94.6		
1/2	4.3	92.4		
1/4	8.6	88.1		
c	10.5	86.2		

NL	11.3	85.4
----	------	------

109.42

100 W. Willow St

AB	21.00	88.4
C	15.5	93.9
1/4	11.6	97.8
2	8.8	100.6
1/4	6.8	103.2
C	4.3	105.1
SL	3.5	105.9

150 W. Willow St

SL	117.35	1.3	113.0	
C		6.3	111.0	
T.P.	8.25	117.35	0.32	109.10
1/4	109.42	1.5	107.9	
2		4.0	105.4	
1/4		7.9	101.5	
C		13.7	95.7	
NL		16.1	93.3	

117.35

Dickens

19

200 W. Willow St

NL	19.3	98.0
C	16.9	100.4
1/4	14.8	102.5
2	11.2	106.1
1/4	6.2	111.1
C	2.0	115.3
SL	0.0	117.3

PLOTTED

250 W. Willow St

SL	122.85	9.4	120.2
C	117.35	1.8	116.0
1/4		7.0	110.3
2		10.9	106.4
1/4		12.6	104.7
C		12.5	104.8
NL		11.2	106.1

300' W. Williams - E. Plum St

NL		<u>117.35</u>	1.9	115.4
C			3.7	113.9
1/4			5.0	112.3
1/2			7.0	110.3
3/4	12.88	<u>129.58</u>	<u>5.5</u>	<u>111.8</u>
C			0.65	112.70
			13.1	116.5
SL			9.3	120.3

White Plum St

SL			9.8	119.8
C			8.7	120.9
1/4			7.6	122.0
1/2			6.6	123.0
3/4			5.0	124.6
C			2.9	126.7
NL	12.71	<u>140.22</u>	<u>1.6</u>	<u>128.0</u>
			1.57	128.01

14042

Dickens

50' W. Plum St

20

NL			6.0	134.4
C			6.4	134.0
1/4			6.6	133.8
1/2			7.0	133.4
3/4			8.8	131.6
C			10.2	130.2
SL			17.0	129.4

100' W. Plum St

SL			2.9	137.5
C			2.4	138.0
1/4			1.8	138.6
1/2			1.2	139.2
3/4			0.7	139.7
C			0.7	139.7
NL			0.6	139.8
TL	12.91	<u>152.87</u>	<u>0.46</u>	<u>139.96</u>

152.87

150' W. Plum St

NL	8.1	144.8
c	8.3	144.6
14	8.4	144.5
d	8.7	144.2
14	9.1	143.8
c	9.5	143.4
5L	9.9	143.0

200' W. Plum St

5L	5.3	147.6
c	5.0	147.9
14	4.5	148.4
d	4.3	148.6
14	4.0	148.9
c	4.1	148.8
NL	4.2	148.7

152.87

Dickens

21

250' W. Plum St

NL	1.8	151.1
c	0.9	152.0
14	0.8	152.1
d	1.0	151.9
14	1.3	151.6
c	1.3	151.6
5L	2.7	151.2
T.P.	10.30	162.14
	1.83	151.84

PLOTTED

300' W. Plum = F.L. Cloude St. (70)

5L	162.14	8.5	153.6
c		8.0	154.1
14		8.0	154.1
d		8.0	154.1
14		8.2	153.9
c		9.0	153.1
NL		9.7	152.4

162.14

W. line Cloué St

N.L.	8.31	153.83
c	7.7	154.4
1/4	7.0	155.1
1/2	6.1	155.7
3/4	6.0	156.1
c	5.8	156.3
5/8	6.0	156.1

50' W Cloué St

5/8	3.3	158.8
c	3.4	158.7
1/4	3.8	158.3
1/2	4.2	157.9
3/4	4.7	157.4
c	5.5	156.6
N.L.	6.1	156.0

Dickens

22

745' W. Cloué - Mt. Roseville Puerto

N.L.	3.8	158.3
c	3.3	158.8
1/4	2.8	159.3
1/2	2.4	159.7
3/4	2.2	159.9
c	2.0	160.1
5/8	2.0	160.1

PLOTTED

cross-section of Emerson St 70
 from Bay to Wdm of Roseville

	536	683	147
	50'	E of	Scot st
SR		77	-0.9
h		77	-0.9
y		79	-1.1
l		82	-1.4
y		86	-1.8
h	n	90	-2.2
nr	water	94	-3.6
		E line of Scot st (70')	
nr		79	-1.1
h		75	-0.7
y		75	-0.7
l		75	-0.7
y		72	-0.4
h		67	0.1
		64	0.4

683 Emerson
 Wdm of Scot st 23

SR		54	1.4
h		55	1.3
y		57	1.1
l		58	1.0
y		58	1.0
h		60	0.8
nr		65	0.3
		50 W of Scot st	
nr		57	1.1
h		56	1.2
y		54	1.4
l		52	1.6
y		50	1.8
h		48	2.0
SR		45	2.3

P

	100	<u>183</u>	w of	Scott	at
SR				42	2.6
U				45	2.3
Y				46	2.2
L				47	2.1
V				48	2.0
U				50	1.8
SR				51	1.7

	150	<u>183</u>	w of	Scott	at
SR				51	1.7
U				49	1.9
Y				47	2.1
L				45	2.3
V				42	2.6
U				42	2.6
SR				40	2.8

	200	<u>183</u>	w of	Scott	at
SR				34	3.4
U				36	3.2
Y				37	3.1
L				39	2.9
V				41	2.7
U				44	2.4
SR				45	2.3

	250	<u>183</u>	w of	Scott	at
SR				35	3.3
U				32	3.6
Y				31	3.7
L				30	3.8
V				26	4.2
U				30	3.8
SR				29	3.9

Emerson

683

300' w = SE of Rosecrans st (100)

S2		25	4.3
th		30	3.8
"		30	3.8
b		31	3.7
"		33	3.3
th		38	3.0
W2		37	3.1
TP	948	<u>1283</u>	<u>348</u>
			335

w line of Rosecrans st

W2		86	4.2
th		89	3.9
"		85	4.3
b		78	5.0
"		78	5.0
th		80	4.8
S2		75	5.3

12.83

Emerson

25

50' w of Rosecrans st

S2		64	6.4
th		67	6.1
"		69	5.9
b		69	5.9
"		70	5.8
th		75	5.3
W2		74	5.4

100' w of Rosecrans st

W2		68	6.0
th		67	6.1
"		65	6.3
b		66	6.2
"		68	6.0
th		65	6.3
S2		64	6.4

12.83

i	150	w of	Rosecrans	
52			46	8.2
46			48	8.0
4			52	7.6
6			54	7.4
4			51	7.7
46			54	7.4
72			54	7.4

200 w of Rosecrans

22			44	8.4
46			44	8.4
4			41	8.7
6			38	9.0
4			35	9.3
46			33	9.5
52			35	9.3

12.83

Emerson

26

	250	w of	Rosecrans	
52			20	10.8
46			24	10.4
4			26	10.2
6			31	9.7
4			32	9.6
46			32	9.6
72			32	9.6

300 w = E of Grand St (20)

72			25	10.3
46			32	9.6
4			27	10.1
6			24	10.4
4			19	10.9
46			18	11.0
52			12	11.2

884

2128

339

1244

2628

W sim of	Locust	at
S2	89	12.4
H	89	12.4
Y	90	12.3
L	92	12.1
Y	94	11.9
H	93	12.0
m2	93	12.0

50 W of Locust

m2	82	13.1
H	85	12.8
Y	86	12.7
L	86	12.7
Y	86	12.7
H	86	12.8
S2	85	12.8

2128

100 W of Locust

S2	74	13.9
H	74	13.9
Y	73	14.0
L	75	13.8
Y	75	13.8
H	73	14.0
m2	73	14.0

150 W of Locust

m2	60	15.3
H	60	15.3
Y	63	15.0
L	63	15.0
Y	62	15.1
H	63	15.0
S2	64	14.9

Emerson

27

21.28

200' W of Locust st

SR	52	16.1
ll	48	16.5
y	46	16.7
b	47	16.6
7	45	16.8
ll	45	16.8
nl	44	16.9

250' W of Locust

nl	29	18.4
ll	31	18.2
7	33	18.0
b	34	17.9
7	36	17.7
b	38	17.5
	40	17.3

21.28

Emissa

28

300' W = End of Eln st (79)

SR	23	19.0
ll	22	19.1
7	21	19.2
b	20	19.3
4	18	19.5
ll	17	19.6
nl	15	19.8

TP 12.88 3412 004 21.24

W side of Eln st

SR	129	21.2
ll	128	21.3
7	127	21.4
b	124	21.7
	121	22.0
ll	120	22.1
W	1182	22.0 ^W

Bn NW.

Eln

3412

	50'	w of	Elm	
n2			99	24.2
h			101	24.0
y			102	23.9
b			104	23.7
y			105	23.6
h			105	23.6
SL			105	23.6

100' w of

		Elm	
SL		70	27.1
h		75	26.6
y		74	26.7
b		73	26.8
y		75	26.6
h		74	26.7
n2		74	26.7

3412

	150'	w of	Elm	
n2			44	29.7
h			46	29.5
y			47	29.4
b			47	29.4
y			48	29.3
h			47	29.4
SL			39	30.2

TP 1222 4520

	200'	w of	Elm	
			114	32.98
SL			122	33.0
h			126	32.6
y			128	32.4
b			128	32.4
y			125	32.7
h			123	32.9
n2			120	33.2

45.20
 250 W of Elm St
 nr 85- 36.7
 H 87 36.5
 " 93 35.9
 L 89 36.3
 " 83 36.7
 H 77 37.5
 SR 62 39.0

275 W of Elm St
 BR 10 44.2
 H 21 43.1
 " 32 42.0
 L 37 41.5
 " 42 41.0
 H 53 39.9
 nr 56 39.6
 TP 1231 57.37 914 45.66

57.37
 300 W = E of Willow St (70) **30**
 nr 12.60 44.77 ⁷⁴ _{Br Willow}
 H 120 45.4
 " 104 47.0
 L 87 48.7
 " 76 49.8
 H 68 50.6
 SR 60 51.4

TP 1255 69.60 032 57.05
 W of Willow
 SR 033 69.3
 H 110 68.5
 " 21 67.5
 L 28 66.8
 " 34 66.2
 H 45 65.1
 nr 54 64.2
 TP 1217 81.44 022 69.27

81.44

	50	w y	Willow st	
SL			0.8	80.6
ll			0.8	80.6
4			1.2	80.2
6			2.0	79.4
7			3.7	77.7
ll			5.1	76.3
n2			5.9	75.5
TP	1241	93.44	0.19	81.25
	100	w y	Willow st	
n2			7.0	86.7
ll			5.2	88.1
4			4.4	89.3
6			2.6	91.1
7			2.0	91.7
ll			1.0	92.7
SL			0.1	93.6
TP	1282	106.38	0.20	93.46

106.28

Emerson

31

	150	w y	Willow st	
SL			2.8	103.5
ll			3.6	102.7
7			4.5	101.8
6			5.6	100.7
7			7.3	99.6
ll			9.2	97.1
n2			11.1	95.2
	200	w y	Willow	
n2			8.6	97.7
ll			6.2	100.1
7			4.0	102.3
6			2.0	104.3
TP	843	114.25	0.46	105.22
44			7.5	106.8
ll			6.2	108.1
SL			5.3	109.0

114.25

250

W of

Willow

SL	26	111.7
	37	110.6
	52	109.1
6	70	107.3
7	100	104.3
U	134	100.9
NR	192	95.1
300'	W =	92 ft Plum (70')
NR	123	101.0
U	96	104.7
7	70	107.3
1	48	109.4
7	28	111.5
U	12	113.1
SL	00	114.3

114.25

Emerald

32

W of

Plum

NR	123	102.0
U	96	104.7
4	50	109.3
6	27	111.6
TP	1176	<u>1237.6</u>
7	025	114.00
U	118	114.0
U	100	115.8
SL	833	117.43
50'	W of	Plum
SL	49	120.9
U	63	119.5
7	85	117.3
6	110	112.8
7	133	112.5
U	161	109.7
NR	197	106.1

Br SW
Plum

12576

100' w of Plum st

nl	150	110.5
fl	127	113.1
7	104	115.4
6	83	117.5
9	52	120.6
ll	36	122.2
sl	18	124.0

150' w of Plum

sl	70.6	126.4
ll	60	125.8
64	27	123.1
6	48	121.0
4	78	118.0
fl	110	114.8
nl	148	111.0

12576

Emerson

33

175' w of Plum

nl	14.4	111.4
----	------	-------

200' w of Plum

nl	87	117.4
ll	92	116.6
7	91	116.7
6	68	119.0
9	80	122.8

TP 1097 12570

ll	103	124.73
ll	129	122.6
ll	95	126.2
sl	85	127.4

13570

250' w of Plum

SR	67	129.0
th	84	127.3
γ	98	125.9
δ	96	126.1
γ	89	126.8
th	82	127.5
SR	82	127.5

265' w of Plum

SR	66	129.1
th	58	129.9
γ	54	130.3
δ	52	130.5
γ	57	130.0
th	59	129.8
SR	62	129.5

13570

300' w = E line of blow at (70)

SR	11	134.6
th	11	134.6
γ	10	134.7
th	11	134.6
γ	18	133.9
th	25	133.2
SR	27	133.0

7P 1230 149.74 026 135.44

w line of blow

SR	43	143.4
th	45	143.2
γ	49	142.8
γ	60	141.7
γ	68	140.9
th	75	140.2
SR	80	139.7

Census 34

14774

50	w of	blow		
TP	572	15341	005	147.49
22			90	144.41
21			87	144.7
7			80	145.4
6			77	145.7
4			68	146.6
11			62	147.2
32			53	148.1

95' w of blow - Purple line

32			29	130.5
11			30	130.4
			37	149.7
1			45	148.9
			52	148.2
11			56	147.8
m2			64	147.0

blow
blow
w of

Section of Fanelon from Bay ⁵⁴ 35
to W line of Roseville
B.M. 670 4.29 -2.19

W line of Scott 151

51	4.29	6.8	-2.5
c		7.0	-2.7
14		7.0	-2.7
4		7.0	-2.7
10		7.1	-2.8
c		7.2	-2.9
11		7.1	-2.8

50' W Scott 151

11		6.8	-2.5
c		6.7	-2.4
14		6.0	-1.7
2		6.1	-1.8
14		6.2	-1.9
c		6.2	-1.9
51		6.1	-1.8

SW Cor
Scott
Fanelon

929

100' W Scott St

SL	5.3	-1.0
c	5.3	-1.0
ly	5.6	-1.3
q	5.7	-1.4
ly	5.9	-1.6
c	6.0	-1.7
NL	6.2	-1.9

150' W Scott St

NL	5.8	-1.5
c	5.7	-1.4
ly	5.7	-1.4
q	5.5	-1.2
ly	5.4	-1.1
c	5.3	-1.0
SL	5.2	-0.9

Foster

36

200' W Scott St

SL	4.5	-0.2
c	4.6	-0.3
ly	5.0	-0.7
q	5.2	-0.9
ly	5.2	-0.9
c	5.2	-0.9
NL	5.3	-1.0

250' W Scott St

NL	4.7	-0.4
c	4.4	-0.1
ly	3.8	0.5
q	3.6	0.7
ly	4.3	0.0
c	3.6	0.7
SL	3.5	0.8

129

300 W Scott Line ^{Graded} Rosecrans

SL	3.7	0.6
C	3.7	0.6
1/4	3.8	0.5
2	4.2	0.1
1/4	4.4	-0.1
C	3.8	0.5
NL	3.7	0.4

W Line Rosecrans

NL	2.6	1.7
C	2.4	1.9
1/4	2.1	2.2
2	2.0	2.3
1/4	1.9	2.4
C	1.7	2.6
J.L. TP	9.68	11.56
	2.5	2.8
	2.71	1.88

1156

Fandon

37

25 W Rosecrans

SL	7.7	3.9
C	7.9	3.7
1/4	7.6	4.0
2	7.0	4.6
1/4	7.2	4.4
C	7.7	3.9
NL	7.6	4.0

50 W Rosecrans

NL	8.4	3.2
C	8.5	3.1
1/4	8.6	3.0
2	7.8	3.8
1/4	6.9	4.7
C	7.0	4.4
SL	7.5	4.1

1156

100' W Rosecrans

SL	7.5	4.1
c	7.6	4.0
1/4	7.5	4.1
♀	7.6	4.0
1/4	7.6	4.0
c	7.5	4.1
NL	7.6	4.0

150' W Rosecrans St

NL	6.7	4.9
c	6.6	5.0
1/4	6.6	5.0
♀	6.5	5.1
1/4	6.6	5.0
c	6.5	5.1
SL	6.5	5.1

1156

Fenology 38

200' W Rosecrans St

SL	5.9	5.9
c	5.6	6.0
1/4	5.6	6.0
♀	5.5	6.1
1/4	5.6	6.0
c	5.6	6.0
NL	5.5	6.1

250' W Rosecrans

NL	3.6	8.0
c	3.7	7.9
1/4	3.9	7.7
♀	3.8	7.8
1/4	3.7	7.9
c	4.1	7.2
SL	4.1	7.2

1156

300' W Rosecrans - Difficult

SL	1.6	10.0
c	1.6	10.0
1/4	1.7	9.9
2	1.8	9.8
1/4	1.7	9.9
c	1.7	9.9

NL	11.91	23.00	1.6	10.0
			0.77	11.09

N Line Locust St

NL	23.00	10.0	13.0
c	10.0	13.0	
1/4	10.1	12.9	
2	10.2	12.8	
1/4	10.2	12.8	
c	10.3	12.7	
SL	10.4	12.6	

23.00

Fencilon

39

50' W Locust St

SL	8.7	14.3
c	8.6	14.4
1/4	8.5	14.5
2	8.5	14.5
1/4	8.6	14.4
c	8.5	14.5
NL	8.4	14.6

100' W Locust St

NL	6.8	16.7
c	6.5	16.5
1/4	6.6	16.4
2	6.7	16.3
1/4	6.7	16.3
c	6.8	16.2
SL	6.9	16.1

23.00

150' W locust St

SL	50	18.0
c	4.9	18.1
1/4	4.7	18.3
2	4.7	18.3
1/4	4.4	18.6
c	4.2	18.8
NL	4.2	18.8

200' W locust St

NL	1.9	21.1
c	1.9	21.9
1/4	2.0	21.00
2	2.2	20.8
1/4	2.5	20.5
c	2.9	20.1

SL

F.D

12.46

34.79

3.0

20.0

0.67

22.99

34.79

Fenebry 40

250' W locust St

SL	12.5	22.3
c	12.6	22.2
1/4	12.3	22.5
2	12.0	22.8
1/4	11.7	23.1
c	11.6	23.2
NL	11.4	23.4

300' W locust St

NL	9.2	25.6
c	9.5	25.3
1/4	9.9	24.9
2	10.0	24.8
1/4	10.2	24.5
c	10.4	24.4
SL	10.7	24.1

34.79

100' N L m St

SL	7.6	27.2
C	7.3	27.5
1/4	7.1	27.7
Q	6.9	27.9
1/4	6.5	28.3
C	6.1	28.7
NK	5.8	29.0

50' N L m St

NK	3.9	30.9
C	4.0	30.8
1/4	4.4	30.4
Q	4.7	30.1
1/4	5.0	29.8
C	5.1	29.7
J.L.	5.5	29.3

34.79

Fenelon

41

100' N L m St

SL	3.5	31.3
C	3.1	31.4
1/4	3.0	31.8
Q	2.6	32.2
1/4	2.2	32.6
C	1.8	33.0
NK	1.6	33.2
T.P.	12.29	26.55
	0.17	34.62

150' N L m St

NK	16.85	11.4	35.4
C		11.5	35.3
1/4		11.4	35.4
Q		11.4	35.4
1/4		11.4	35.4
C		11.4	35.4
SL		11.6	35.2

46.85

200 W Elm St

SL	6.0	38.8
c	7.9	38.9
1/4	7.8	39.0
2	7.6	39.2
1/4	7.5	39.0
c	8.0	38.8
NL	8.1	38.7

250 W Elm St

NL	7.2	42.6
c	7.2	42.6
1/4	7.0	42.8
2	3.8	43.0
1/4	3.7	43.1
c	3.8	43.0
SL	3.6	43.2
T.P	12.08	38.67
	0.26	46.59

58.67

Fenelon

42

300 W Elm St Willow

SL	10.9	47.8
c	10.9	47.8
1/4	10.8	47.9
2	11.1	47.6
1/4	11.2	47.5
c	11.4	47.3
NL	11.6	47.1

Willow
White Elm St

NL	5.0	53.5
c	4.9	53.8
1/4	4.8	53.9
2	4.8	53.9
1/4	4.6	54.1
c	4.2	54.5
SL	3.8	54.9
T.P	12.73	71.01
	0.57	58.28

7101

50' W W. Willow St

5/	12.1	58.9
c	12.0	59.0
1/4	12.4	58.6
2	12.4	58.6
1/4	12.9	58.1
c	13.0	58.0
N.L.	12.9	59.0

100' W W. Willow St

N.L.	7.7	63.3
c	7.8	63.2
1/4	8.3	62.7
2	9.1	61.9
1/4	9.2	61.8
c	8.1	62.9
5/	6.9	64.1
T.P.	12.03	52.86 0.18 70.83

82.86

Fondron

43

150' W W. Willow St

5/	10.5	72.4
c	10.9	72.0
1/4	11.4	71.5
2	11.9	71.0
1/4	11.8	71.1
c	12.0	70.9
N.L.	12.4	70.5

200' W W. Willow St

N.L.	4.2	78.7
c	3.9	79.0
1/4	3.6	79.3
2	3.3	79.6
1/4	3.3	79.6
c	2.8	80.1
5/	2.1	80.8
T.P.	12.82	95.06 0.22 82.24

95.06

250' W Willow St

S/L 6.3 88.8

c 7.5 87.6

1/4 8.0 87.1

1/2 9.0 86.1

1/4 9.9 85.2

c 8.9 86.2

NL 8.8 86.3

300' Willow - Fk Plum St

NL 2.7 92.4

c 2.7 92.4

1/4 2.7 92.4

1/2 2.2 92.9

1/4 1.2 93.9

c 0.5 94.6

S/L 12.35 107.40 0.0 95.1

T.R. 0.01 95.05

107.00

W Pine Plum St

Faneberg

44

S/L 3.7 103.7

c 4.1 103.3

1/4 4.1 103.3

1/2 3.8 103.6

1/4 3.0 104.4

c 3.2 104.2

NL 12.59 114.97 3.5 103.9

T.R. 0.02 107.59

50' W. Plum St

NL 120.07 6.3 113.7

c 6.8 113.7

1/4 6.9 113.1

1/2 7.1 112.9

1/4 7.8 112.2

c 8.7 111.3

S/L 11.79 131.82 9.3 110.7

T.R. 0.08 119.89

131.90

100 W Plum St

SL	138	118.1
C	123	119.6
1/4	128	119.1
2/4	126	119.3
1/4	117	120.2
C	112	120.7
NK	110	120.9

150 W Plum St

NK	4.4	127.5
C	4.7	127.2
1/4	4.6	127.3
2/4	5.3	126.6
1/4	5.6	126.3
C	6.9	125.0

SL		7.5	124.3
T.P.	12.59	123.26	122.1
			130.67

113.26

Fenelon

45

200 W Plum St

SL	138	129.5
C	117	131.6
1/4	106	132.7
2/4	99	133.4
1/4	103	133.0
C	94	133.9
NK	87	134.6

250 W Plum St

NK	3.8	139.5
C	4.5	138.8
1/4	5.9	137.4
2/4	6.2	137.1
1/4	7.0	136.3
C	8.0	135.3
SL	9.0	134.3

143.26

300' W Plum - E.L. Clouet St

SL		3.7	139.6	
c		2.8	140.5	
1/4		2.2	141.1	
ϕ		1.3	142.0	
1/4		0.6	142.7	
T.P.	12.74	<u>135.54</u>	0.96	142.80
c		12.3	143.2	
NL		12.1	143.4	

W Line Clouet St

NL		8.9	146.6
c		7.9	147.6
1/4		6.8	148.7
ϕ		6.3	149.2
1/4		6.9	148.6
c		7.9	147.6
SL		9.1	146.4

155.84

Fendorn 46

50' W. Clouet St

SL		3.5	152.0
c		3.0	152.5
1/4		2.9	152.6
ϕ		3.4	152.1
1/4		5.0	150.5
c		7.5	148.6
NL		10.5	145.0

70' W. Clouet St - W. Rosville Facelle

NL		10.9	144.6
c		8.1	147.4
1/4		7.1	151.1
ϕ		2.7	152.8
1/4		1.8	153.7
c		1.6	153.9
SL		1.8	153.7

blough
bolbach
Woods
Dec 24/68

Terrestrial of Goethe St (70)

Bay to W. line of Roseville

	172	360	188	70 5m Fusion
		200'	E of	Rosecrans St
sq			50	-2.0
ll			56	-2.0
7			54	-1.8
l			56	-2.0
7			56	-2.0
ll			56	-2.0
nl			56	-2.0
	150'		E of	Rosecrans St
nl			54	-1.8
ll			54	-1.8
7			53	-1.7
l			54	-1.8
7			54	-1.8
ll			53	-1.7
sq			52	-1.6

360

Goethe

47

100' E of Rosecrans St

sq			47	-1.1
ll			48	-1.2
7			54	-1.8
l			50	-1.4
7			53	-1.7
ll			45	-0.9
nl			45	-0.9

50' E of Rosecrans St

nl			40	-0.4
ll			42	-0.6
7			50	-1.4
l			44	-0.8
7			52	-2.0
ll			47	-1.1
sq			45	-0.9

360

E line of Rosecrans St (100)
(Graded)

SL	34	0.2
66	39	-0.3
7	39	-0.9
6	36	0.0
7	40	-0.4
66	36	0.0
SL	33	0.3

W line of Rosecrans St

SL	21	1.5
66	20	1.6
7	24	1.2
6	23	1.3
7	22	1.4
66	16	2.0
SL	18	1.8

TP 857 10,25 1,92 1,68

1035

with 48

2.5' W of Rosecrans St

SL	70	3.3
66	70	3.3
7	77	2.6
6	82	2.0
7	85	1.8
66	80	2.3
SL	72	3.1

50' W of Rosecrans St

SL	77	2.6
66	80	2.3
7	74	2.9
6	74	2.9
7	73	3.0
66	76	2.7
SL	78	2.5

1025

	100'	w of	Rosecrans	
SA			72	3.1
th			72	3.1
γ			72	3.1
h.			71	3.2
γ			70	3.3
th			70	3.3
n2.			70	3.3

150'

		w of	Rosecrans	
n2			57	4.6
th			57	4.6
γ			58	4.5
h			59	4.4
γ			59	4.4
th			60	4.3
se			59	4.4

1025

Gaethe 49

	200'	w of	Rosecrans	
SA			45	5.8
th			45	5.8
γ			44	5.9
h			44	5.9
γ			44	5.9
th			44	5.9
n2			44	5.9

250'

		w of	Rosecrans	
n2			35	6.8
th			34	6.9
γ			34	6.9
h			34	6.9
γ			34	6.9
th			34	6.9
se			33	7.0

1035

	300	w =	Ed. of	Locust St (70)
SL			19	8.4
ll			17	8.6
"			16	8.7
l			16	8.7
7			16	8.7
llh			15	8.8
nl			15	8.8

7P 1183 2092 116 209

W. lin. of Locust St

nl	82	12.7
ll	83	12.6
7	84	12.5
l	85	12.4
7	85	12.4
ll	85	12.4
SL	87	12.2

2092

Guthrie

50

	50	w of	Locust St
SL		62	14.7
ll		62	14.7
7		63	14.6
l		61	14.8
7		62	14.7
ll		62	14.7
nl		61	14.8

100' W. of Locust St

nl	39	17.0
ll	39	17.0
7	40	16.9
l	40	16.9
7	40	16.9
ll	40	16.9
SL	41	16.8

61

20.9v

	150'	w of	Locust st	
SA			20	18.9
H			18	19.1
Y			19	19.0
b			20	18.9
Y			23	18.6
H			23	18.6
n2			23	18.6

7P 1124 31.98 0.18 20.9

	200'	w of	Locust st	
n2			110	21.0
H			110	21.0
Y			110	21.0
b			107	21.3
Y			103	21.7
H			104	21.6
SA			104	21.6

31.98

Locust st

51

	250'	w of	Locust	
SA			86	23.4
H			85	23.5
Y			85	23.5
H			84	23.6
Y			85	23.5
H			85	23.5
n2			87	23.3

300' w - E line of Elm st (70)

n2			60	25.7
H			60	25.8
Y			60	26.0
b			58	26.2
Y			58	26.2
H			58	26.2
SA			58	26.2

31.98

	W line of	Elm	at
SL		21	29.9
HL		15	30.5
Y		21	29.9
L		23	29.7
Y		23	29.7
HL		23	29.7
SL		23	29.7
TP	1196	4161	233 29.5
	30'	w of	Elm
SL		97	31.9
HL		94	32.2
Y		93	32.3
L		90	32.6
Y		87	32.9
HL		82	33.3
SL		81	33.5

41.61

Goethe

52

	100'	W of	Elm	at
SL			55	36.1
HL			60	35.6
Y			60	35.6
L			63	35.3
Y			68	34.8
HL			68	34.8
SL			70	34.6
	150'	w of	Elm	at
SL			41	37.5
HL			39	37.7
Y			37	37.9
L			35	38.1
Y			33	38.3
HL			30	38.6
SL			33	38.3
TP	1227	5-238	130	40.11

6415

	50'	w g	Willow	
SR			11.4	52.8
th			8.4	55.8
"			7.5	56.9
h			6.4	57.8
"			5.8	58.4
th			5.2	59.0
nr			5.0	59.2

75'

		w g	Willow	
SR			3.7	60.5
th			4.1	60.1
"			5.0	59.2
h			5.8	58.4
"			7.1	56.0
th			10.4	53.8
SR			4.0	60.2

6415

Goeth

54

	100'	w g	Willow	
SR			0.8	63.4
th			1.4	62.8
"			5.0	59.2
h			10.0	54.2
"			4.0	60.2
th			2.7	61.5
nr			2.1	62.1
TP	11.35	<u>75.50</u>	0.0	64.15
	150'	w g	Willow	
nr			7.8	67.7
th			11.5	64.0
"			16.5	59.0
h			12.6	62.9
"			10.9	64.6
th			9.4	66.1
SR			8.6	66.9

7550

	200'	w of	Willow	
SL			70.6	76.1
ll			16	73.9
4			5.1	70.4
6			7.0	68.5
7			9.3	66.2
ll			13.8	61.7
nl			2.8	67.7

250' w of Willow

nl			10.0	65.5
ll			7.4	68.1
7			4.6	70.9
6			1.3	74.2

300' w = Ed of Plum

nl			4.6	70.9
ll			5.3	70.2
TP	1300	8804	0.48	75.02

8804

Gaith

55

250' w of Willow

SL			0.5	87.5
ll			4.6	83.4
"			8.3	79.7

300' w of = Ed Plum st (20)

2 1/4			12.0	76.0
6			6.9	81.1
5 1/4			2.8	85.2

W side of Plum st

nl			4.0	84.0
ll			10.0	78.0
7			14.7	73.3
6			8.0	80.0
7			3.5	84.5

50' w of Plum

nl			9.0	79.0
ll			9.5	78.5
4			10.0	78.0
6			8.3	79.7
7			4.8	83.2

TP 924 9689 073 87.61

E line of Plum st

SL 40 92.9

ll 8.6 88.3

W line of Plum st

SL 470 92.29

ll 8.1 88.8

4 12.5 84.4

50' w of Plum

SL 77 89.2

ll 10.8 86.1

TP 340 95.59 470 92.19

75' w of Plum

SL 60 89.6

ll 8.6 88.0

4 13.4 82.2

6 16.3 79.3

9 17.9 80.9

ll 12.6 83.0

22 7.7 87.9

95.59

Goethe 56

100' w of Plum st

22 3.0 92.6

ll 5.6 90.0

7 8.2 87.4

6 10.9 84.7

4 13.6 82.0

ll 10.5 85.1

SL 5.5 90.1

150' w of Plum st

SL 7.0 88.6

ll 9.2 86.3

4 7.3 88.3

6 4.1 91.6

7 2.0 93.6

ll

22

160' w of Plum

SL 9.0 86.6

TP 1045 10604 0.0 95.59

	1350'	10604	w of Plum st	
nl			82	98.8
ll			107	95.3
	200'		w of Plum st	
nl			00	106.0
ll			32	103.8
7			63	99.7
l			92	96.9
7			110	95.0
ll			130	93.0
sl			146	91.4
	250'		w of Plum st	
sl			75	98.5
ll			112	101.8
7			10	105.0
TP	1256	11761	0.99	105.05
l			113	106.3
7			86	109.0
ll			60	111.6
nl			42	113.4

	300'	117.61	w =	227	blow st (70)	57
sl				110	106.6	
ll				86	109.0	
7				65	111.7	
l				37	113.9	
7				04	117.2	
TP	1270	13011		0.20	117.41	
ll				98	120.3	
nl				78	122.3	
				W side of	blow st	
sl				1258	117.53	sw blow
ll				100	120.1	
ll				45	125.6	
l				30	127.1	
7	50'			w of	blow	
sl				55	124.6	
ll				22	127.9	
TP	1230	14239		0.02	130.09	

14239

W side of blow st

2 1/4	118	130.6
-------	-----	-------

2 bh	90	133.4
------	----	-------

2 L	74	135.0
-----	----	-------

50' W of blow

2 L	00	142.7
-----	----	-------

bh	18	140.6
----	----	-------

4	40	138.4
---	----	-------

6	77	134.7
---	----	-------

4	110	131.4
---	-----	-------

70' W of blow = Puckelstein

SL	141	128.3
----	-----	-------

bh	97	132.7
----	----	-------

4	57	136.7
---	----	-------

1	38	138.6
---	----	-------

4	17	140.7
---	----	-------

bh	+05	142.9
----	-----	-------

2 L	+35	145.5
-----	-----	-------

Calcutt
Billgate
Wardle
Dec 23, 08

Cross-section of Hugo St (70')
Bay to W side of Rosemu

	581	749	168	7 Pa Gault
	Wd of	Scatt	st	
SL		115	-4.0	
SL		11.0	-3.5	
"		10.3	-2.8	
L		10.1	-2.6	
"		10.2	-2.7	
SL		10.2	-2.7	
SL		10.2	-2.7	
	50'	Wd of	Scatt	W
SL		95	-2.0	
SL		97	-2.2	
"		99	-2.4	
L		100	-2.5	
"		100	-2.5	
SL		100	-2.5	
SL		100	-2.5	

749

	100	Wd of	Scatt	
SL			98	-2.3
SL			98	-2.3
"			97	-2.2
L		P	93	-1.8
"			93	-1.8
SL			93	-1.8
SL			93	-1.8
	150'	Wd of	Scatt	
SL			87	-1.2
SL			89	-1.4
"			90	-1.5
L			92	-1.7
"			92	-1.7
SL			93	-1.8
SL			94	-1.9

Hugo St
59

749

	200'	w of	Scott st	
SA			84	-0.9
tl			84	-0.9
4			75	0.0
6			83	-0.8
4			85	-1.0
tl			84	-0.9
nl			83	-0.8
nl	250'	w of	Scott st	
nl			77	-0.2
tl			83	-1.0
4			75	0.0
6			73	+0.2
4			81	-0.6
tl			78	-0.3
SA			78	-0.3

749

Hugl 60

	300'	w - Ely	(Ground) Rosecrans st (100)	
SA			69	0.8
tl			70	0.5
4			74	0.1
6			72	0.3
4			75	0.0
tl			75	0.0
nl			70	0.5
		w of	Rosecrans st	
tl			52	2.3
tl			52	2.3
4			52	2.3
6			52	2.3
4			52	2.3
tl			50	2.5
SA			50	2.5

749

	50'	w y	Basecans	W
SL			37	38
ll			37	38
y			37	38
b			38	37
y			39	36
ll			39	36
nl			39	36

	100'	w y	Basecans	W
nl			26	49
ll			26	49
y			26	49
b			26	49
y			27	48
ll			28	47
SL			28	47

749

Hugs

61

	150'	w y	Basecans	W
SL			14	59
ll			15	6.0
y			13	6.2
b			13	6.2
y			12	6.3
ll			12	6.3
nl			12	6.3

	TP	8.24	15.74	0.0	7.49
		200'	w y	Basecans	W
nl				800	7.7
ll				80	7.7
y				81	7.6
b				81	7.6
y				83	7.4
ll				83	7.4
SL				84	7.3

1574

250 w of Basecians

SA		70	8.7
H		70	8.7
Y		68	8.9
L		66	9.1
Y		66	9.1
H		66	9.1
SA		67	9.0

300 w = E 2 of Locust st (20)

n2		51	10.6
H		57	10.6
Y		57	10.6
L		53	10.4
Y		54	10.3
H		58	9.9
SA		60	9.7

Dec 29

1574

w Lin of Locust st

SA		42	11.5
H		40	11.7
Y		38	11.9
L		34	12.3
Y		32	12.5
H		31	12.6
n2		29	12.8

TP 1217 2505 286 12.88 n w of Locust

50 w of Locust st

n2		91	15.9
H		92	15.8
Y		93	15.7
L		92	15.8
Y		93	15.7
H		94	15.6
SA		95	15.5

25-65

100'	w of	locust	
SL		77	17.3
SL		75	17.5
Y		74	17.6
L		73	17.7
Y		74	17.6
SL		74	17.6
SL		74	17.6

150'	w of	locust	
SL		56	19.4
SL		56	19.4
Y		56	19.4
L		56	19.4
Y		56	19.4
SL		56	19.4
SL		56	19.4

25-65

Aug 11

63

200'	w of	locust	
SL		41	21.9
SL		39	21.1
Y		37	21.3
L		37	21.3
Y		37	21.3
SL		37	21.3
SL		36	21.4

250'	w of	locust	
SL		18	23.2
SL		18	23.2
Y		20	23.0
L		20	23.0
Y		20	23.0
SL		21	22.9
SL		22	22.5
T.P.	1245	3708	0.08
			24.92

3738

300' W - Edge Elm St (70')

SL	124	25.0
60	124	25.0
4	122	25.2
6	122	25.2
4	121	25.3
4	121	25.3
ns	121	25.3

W 2' 8' Elm St

ns	939	27.97
4	94	28.0
4	93	28.1
6	94	28.0
7	96	27.8
4	98	27.6
SL	97	27.7

3738

Hugo 64

50' W of Elm

SL	76	29.8
4	78	29.6
4	78	29.6
60	77	29.7
4	76	29.8
4	75	29.9
4	75	29.9

100' W of Elm St

4	58	31.6
4	59	31.5
4	58	31.6
6	59	31.5
4	60	31.4
4	58	31.6
SL	58	31.6

3738

	150'	w-y	Elm	
SL			37	34.2
H			37	33.7
Y			39	33.5
L			40	33.4
Y			40	33.4
bc			39	33.5
n2			39	33.5

200' w of Elm 25

n2			19	35.5
H			19	35.5
Y			20	35.4
L			19	35.5
Y			17	35.7
H			17	36.0
SL			14	36.0

TP 1491 5012 017 37.1

5012

4990

65

	250'	w-y	Elm 24	
SL			11.5	38.6
H			12.0	35.1
Y			12.3	37.8
L			12.6	37.5
Y			12.8	37.8
H			12.9	37.2
n2			12.9	37.2

300' w - E2 of Willow (70')

n2			10.9	39.2
H			10.7	39.2
Y			10.7	39.4
L			10.4	39.7
Y			10.0	40.1
H			10.0	40.1
SL			9.5	40.6

50.12

W2	of	Willow	
52		54	44.7
66		61	44.0
7		58	44.3
66		71	43.0
7		71	43.0
66		71	43.0
72		70	43.0 ¹²

25' W of Willow

72		32	46.9
66		33	46.8
7		36	46.5
6		32	46.9
7		20	45.1
TP	1277	<u>6268</u>	0.1
			<u>4991</u>
66		117	51.0
52		97	53.0

62.68 Hugo 66

50'	W of	Willow	
52		02	62.5
66		04	62.3
7		15	61.2
6		28	59.9
7		38	58.9
66		52	57.5
72		61	56.6

TP	1246	7514	0.0	6268
TP	1270	<u>87.61</u>	0.23	<u>74.91</u>
	100	W of	Willow	
72		147	72.7	
66		129	74.7	
7		124	75.2	
6		119	75.7	
7		101	77.5	
66		92	78.4	
52		88	78.8	
TP	1279	<u>99.25</u>	0.45	<u>87.16</u>

8995

150' w of Willow

SR	75	92.5
H	78	92.2
V	72	92.8
L	70	93.0
V	75	92.5
H	92	90.8
NR	102	89.8

173' w of Willow

SR	07	99.3
H	05	99.5
V	05	99.5
L	1.0	99.0
V	1.0	99.0
H	1.0	99.0
NR	1.8	98.2
TIP	1279	11247
	027	99.64

11247

August

67

200' w of Willow

NR	91	103.4
H	92	103.3
V	93	103.2
L	89	103.6
V	92	103.3
H	94	103.1
SR	94	103.1

250' w of Willow st

SR	39	108.6
H	42	108.3
V	40	108.5
L	41	108.4
V	42	108.3
H	40	108.5
NR	39	108.6

11247

300' W = 92 y Plum at 70'

nl	07	112.1
tl	07	112.1
v	10	111.5
b	12	111.3
y	13	111.2
ll	16	110.9
sl	19	110.6

T.P. 1085 12243 089 111.60

W of Plum

sl	108	111.6
tl	116	111.8
y	118	112.1
l	121	112.3
g	93	113.1
tl	96	112.8
	95	112.9

12243

68

50' W of Plum

nl	112	111.2
tl	116	110.8
v	118	110.6
l	119	110.5
y	120	110.4
ll	123	110.1
sl	127	109.7

100' W of Plum

sl	122	110.2
tl	123	110.1
y	122	110.2
l	118	110.6
v	116	110.8
ll	115	110.9
nl	121	110.3

12243

1300

W of

Plum

nl	115	110.9
hl	110	111.4
7	108	111.6
6	105	111.9
7	104	112.0
hl	103	112.1
SL	103	112.1

200

W of

Plum

SL	57	116.7
hl	59	116.5
7	64	116.0
6	67	115.7
7	74	115.0
hl	77	114.7
nl	82	114.2

12243

250

W of

Plum

nl	21	120.3
hl	16	120.8
7	14	121.0
1	06	121.8
7	05	122.2
hl	00	122.4
SL	+03	122.7

TP

1245

13470

0.18

12225

300

W =

SL of blow W (20)

SL	52	129.2		
hl	54	129.3		
7	59	128.8		
6	65	128.2		
7	72	127.5		
hl	82	126.4		
nl	90	125.7		
TP	1282	14812	0.07	13463

Page

69

1475v

W. line of bloom st

22	137	133.9
11	129	134.6
7	122	135.3
6	113	136.2
4	104	137.1
6h	94	138.1
52	87	138.5

Blm St
blm

53 w of bloom

52	47	142.8
6L	53	142.2
7	62	141.2
6	70	140.5
4	74	140.1
11	86	138.9
22	96	137.9

1475v

68' w = Quelle line

22	79	139.6
11	69	140.6
4	60	141.5
6	55	142.0
7	47	142.8
11	37	143.8
52	33	144.2

Page 70

Along
 half
 mile
 road
 Bay to W. of
 Roseville

Dec 29/08

6.55

7.15

0.50

Bm nr
 Scott

Notes of Scott

n2	6.6	0.5
h	7.5	-0.4
7	7.7	-0.6
h	7.7	-0.6
7	7.9	-0.8
h	7.8	-0.7
SA	7.9	-0.8
50' W of Scott		
SA	7.8	-0.7
h	7.6	-0.5
7	7.5	-0.4
h	6.6	0.5
7	6.0	1.1
h	6.0	1.1
n2	6.7	0.4

7.05

Ingelow

71

100'

W of

Scott

11

n2	6.7	0.4
h	6.8	0.3
7	7.0	0.1
h	7.0	-0.1
7	7.1	0.0
h	7.4	-0.3
SA	7.7	-0.6

150'

W

of Scott

SA	7.0	0.1
h	6.8	0.2
7	6.7	0.4
h	6.6	0.5
7	6.5	0.6
h	6.4	0.7
n2	6.4	0.7

705-
 200 W of South st

SA	53	1.8
H	55	1.6
Y	57	1.4
L	57	1.4
Y	58	1.3
H	61	1.0
SA	62	0.9

250 W of South st

SA	59	1.2
H	52	1.9
Y	43	2.8
L	45	2.6
Y	40	3.1
H	46	2.5
SA	41	3.0

705-
 300 W of (Grade) Rosecans st (top) 72
 Ingelaw

SA	54	1.7
H	55	1.6
Y	57	1.4
L	57	1.4
Y	57	1.4
H	57	1.4
SA	57	1.4
SA	59	1.2

W of Rosecans st

SA	42	2.9
H	43	2.8
Y	45	2.6
L	44	2.7
Y	38	3.3
H	39	3.2
SA	38	3.3

215

25' W of Rosecans

22	31	4.0
24	31	4.0
4	24	4.7
tl	28	4.3
7	24	4.7
tl	27	4.4
SL	31	4.0

50' W of Rosecans

SL	33	3.8
tl	32	3.9
7	30	4.1
1	30	4.1
7	32	3.9
tl	33	3.8
22	36	3.5

205

100' W of Rosecans

22	21	5.0
tl	22	4.9
7	22	4.9
1	22	4.9
7	22	4.9
tl	22	4.9
SL	22	4.9

150' W of Rosecans

SL	12	5.9		
tl	1.1	6.0		
7	1.0	6.1		
6	5.1	6.0		
7	1.0	6.1		
tl	1.0	6.1		
22	0.9	6.2		
Tp	654	1349	007	628

73

1349

	200'	w of	Rosecrans st
NL			6.1 7.4
H			5.9 7.6
Y			6.1 7.4
L			6.2 7.3
Y			6.2 7.3
H			6.2 7.3
SL			6.2 7.3

250' w of Rosecrans st

SL	5.2	8.3
H	4.9	8.6
Y	4.8	8.7
L	4.7	8.8
Y	4.7	8.8
H	4.6	8.9
NL	4.7	8.8

1349

Inglewood
74

	300'	w =	SL of Locust st (70)
NL			36 9.9
H			35 10.0
Y			33 10.2
L			34 10.1
Y			34 10.1
H			35 10.0
SL			35 10.0

W side of Locust

SL	11	12.4
H	14	12.1
Y	15	12.0
L	11	12.4
Y	13	12.2
H	14	12.1
NL	15	12.0

TP 1280 2480 150 12.0 NW Pt Locust

24.80

50 W of Locust St

72	11.3	13.5
66	11.4	13.6
7	11.0	13.8
1	10.9	13.9
7	10.8	14.0
66	10.7	14.1
52	10.5	14.3

100 W of Locust St

52	7.2	17.6
66	7.4	17.4
7	7.5	17.3
1	7.5	17.3
7	8.5	16.3
66	8.9	15.9
72	9.8	15.6

24.80

In yellow

75

150 W of Locust St

32	6.1	18.7
66	6.0	18.8
7	6.2	18.5
1	6.2	18.6
7	5.9	18.9
66	5.8	19.0
52	5.7	19.1

200 W of Locust St

52	3.6	21.2
66	3.7	21.1
7	4.0	20.8
1	4.2	20.6
7	4.4	20.4
66	4.0	20.8
72	4.1	20.7

24.80

250

w of

Sacrest st

n2		25	22.3
tl		23	22.5
y		24	22.4
l		23	22.5
u		23	22.5
tl		20	22.8
S2		18	23.0

TP 1239 3710 009 24.71

300

w of

E line of Elm (30')

S2		122	24.9
tl		122	24.9
y		125	24.6
l		125	24.6
y		123	24.8
tl		122	24.9
n2		123	24.8

3710

Inglewood

w line of

Elm st

n2		91	28.0
tl		93	27.8
y		93	27.8
l		92	27.9
y		91	28.0
tl		91	28.0
S2		90	28.1

50' w of

Elm st

S2		70	30.1
tl		68	30.3
y		69	30.2
tl		69	30.2
y		69	30.2
tl		71	30.0
tl		74	29.7

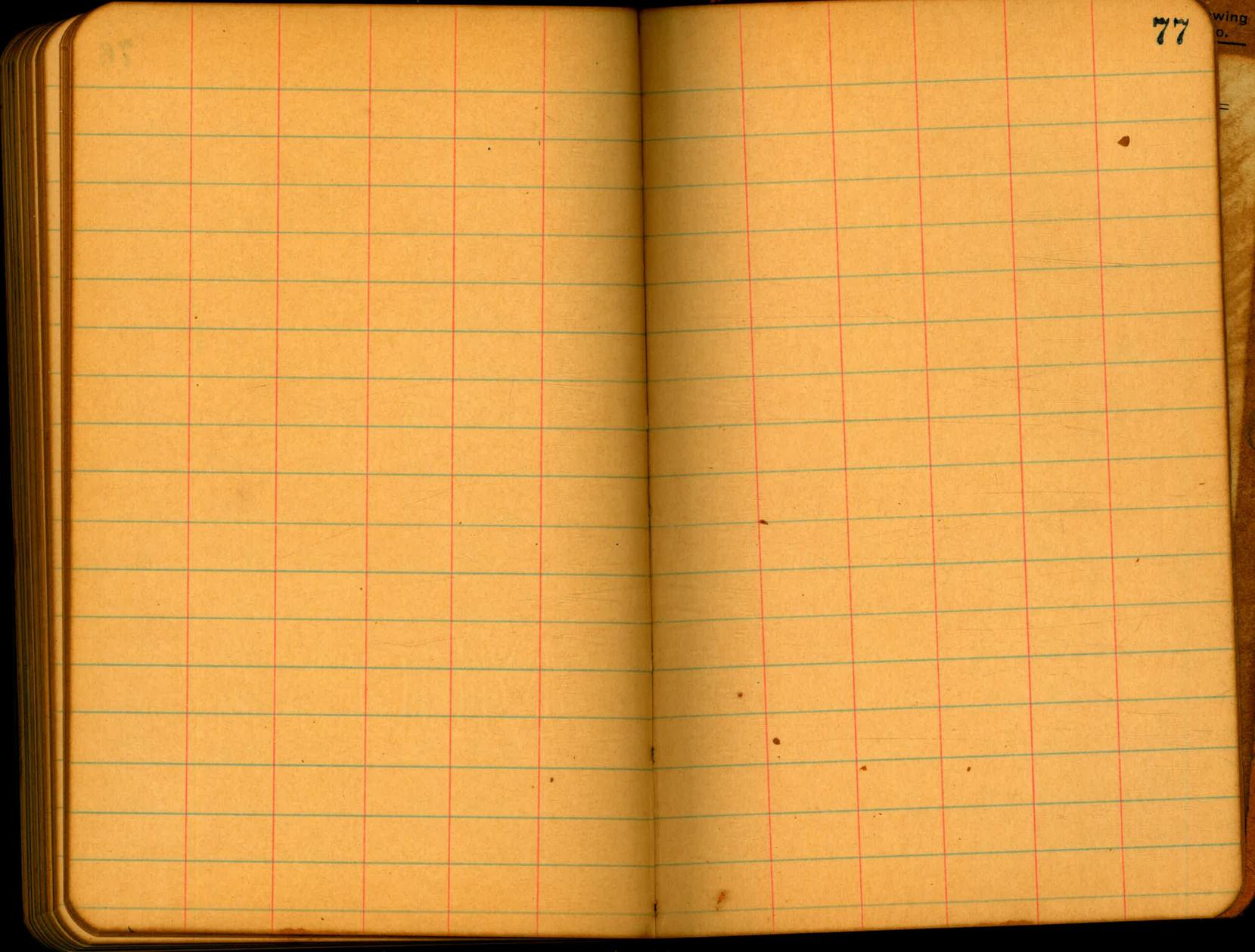
	100	<u>3710</u>	w of	Elm st
nl				52 319
ll				51 32.0
"				48 32.3
l				46 32.5
"				49 32.2
ll				46 32.5
sl				45 32.6
	150'		w of	Elm st
sl				19 35.2
ll				20 35.1
"				24 34.7
l				27 34.4
"				27 34.4
ll				28 34.3
nl				29 34.2
TP	1206	<u>4910</u>		006 <u>3704</u>

	200	<u>4910</u>	w of	Elm st	Engelstow
					76
nl				125 36.6	
ll				120 37.1	
"				123 36.8	
l				122 36.9	
"				117 37.7	
ll				119 37.2	
sl				117 37.7	
	250'		w of	Elm st	
sl				94 39.7	
ll				97 39.4	
"				98 39.3	
l				100 39.1	
"				100 39.1	
ll				100 39.1	
nl				97 39.4	

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wing
o.

77



4910

300' w = E. line of Willow St (70)

nl	75	41.6
ll	74	41.7
y	70	42.1
h	66	42.5
y	68	42.3
ll	69	42.2
sl	73	41.8

W. line of Willow St

sl	28	46.3
ll	27	46.4
y	30	46.1
h	31	46.0
y	35	45.6
ll	38	45.3
nl	40.15	45.00

TP 1297 5797 701 45.00 n.w. of willow

5797

Ingleton

78

50' w of Willow

nl	11.3	46.7
ll	105	47.5
y	9.8	48.2
h	9.5	48.5
y	9.3	48.7
ll	9.1	48.9
sl	9.2	48.8

80' w of Willow

sl	84	49.6
ll	85	49.7
y	87	49.3
h	90	49.0
y	93	48.7
ll	99	48.1
nl	102	47.5

5797

	100'	W of	Willow	
n2			75	50.5
tl			69	51.1
y			62	51.8
t			70	51.0
y			69	51.1
tl			77	50.6
SL			77	50.3
	150'	W of	Willow	
SL			47	53.3
tl			1.8	56.2
	200'	W of	Willow	
SL			2.0	56.0
+6			3.8	54.2
tl			2.6	55.4
TP	12.45	<u>6972</u>	0.70	57.27

6972

Dwyer
79

	150'	W of	Willow st	
S ¹ / ₄			9.9	59.8
b			5.3	64.4
n ¹ / ₄			2.5	67.4
tl			1.60	68.7
n2			0.5	69.2
	200'	W of	Willow st	
S ¹ / ₄			7.8	61.9
b			1.04	70.1
	250'	W of	Willow st	
SL			11.7	58.0
tl			11.0	58.7
y			7.0	62.7
b			0.0	69.7
	300'	W of	E. line of Plummet (70)	
SL			7.9	61.8
+6			9.5	60.2
tl			6.0	63.7
y			2.5	67.2
TP	12.50	<u>8142</u>	0.31	64.91

Change

81.4

list

no. 10

200

200

W of

Willow

11 = 400

72

0.0

81.4

76

3.4

78.0

7

6.7

74.7

250

W of

Willow

72

+3.0

84.7

76

3.5

77.9

7

10.0

71.4

300

W of

E of Plain

72

+5.0

86.7

76

0.7

80.7

7

7.4

74.0

6

12.3

69.1

Continued in

Book

439

7796
 741
 70.55
 321
 500
 7.03
 8578
 741
 76.23
 76.23
 10062
 859
 9202
 15090
 716
 147.74
 3479
 7.63
 27.06
 15560
 893
 146.71
 15560
 168
 75396
 15554
 893
 146.61

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TRAVERSE TABLE FOR TRANSIT BOOK.
From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		1/2 DEGREE.		1/2 DEGREE.		1/2 DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0	99.98	1.75	100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.94	3.49	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.86	5.23	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.76	6.98	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.62	8.72	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.45	10.45	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.25	12.19	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.03	13.92	99.20	12.62	99.14	13.05	99.09	13.49	82
8	98.77	15.64	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.48	17.36	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.16	19.08	98.40	17.79	98.33	18.22	98.25	18.65	79
11	97.81	20.79	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.44	22.50	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.03	24.19	97.34	22.92	97.24	23.34	97.13	22.77	76
14	96.59	25.88	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.13	27.56	96.48	26.30	96.36	26.72	96.25	27.14	74
16	95.63	29.24	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.11	30.90	95.50	29.65	95.37	30.07	95.24	30.49	72
18	94.55	32.56	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.07	34.20	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.57	35.84	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.05	37.46	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.50	39.07	92.55	37.86	92.39	38.27	92.22	38.67	67
23	91.93	40.67	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	42.26	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.73	43.84	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	45.40	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	46.95	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	48.48	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	49.99	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	51.50	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	52.99	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	54.46	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	55.92	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	57.36	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	58.78	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	60.18	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	61.57	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	62.93	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	64.28	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	65.61	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	66.91	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	68.20	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	69.47	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	70.71	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71		70.71						45

Degrees.	DEGREES.		1/2 DEGREE.		1/2 DEGREE.		1/2 DEGREE.		Degrees.
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	