

106

TRANSIT BOOK.

#1

DIETZGEN
TRADE MARK

ENGINEERS'
FIELD BOOK

No. 400

L. MacKey

Surveyor

$$\begin{array}{r} 1980 \\ 1980 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 76.157 \\ 7.400 \\ \hline 83.557 \\ 4.852 \\ \hline 88.409 \\ 2.130 \\ \hline 90.539 \\ 7.000 \\ \hline 97.539 \\ 1.800 \\ \hline 99.339 \\ 1.183 \\ \hline 100.522 \\ 84.146 \\ \hline 184.668 \end{array}$$

Elev. = 84,146

$$= 81.329$$

9. 804

151
No. R. 91.133

1000 20167. 1000 89.865

2 Tel. Pole. Hill, 1 1.8 05

100 739 FT. 119,913

9.541
H. 118. 045

10.726

109998

7571

EUGENE DII

DRAWING MATERIALS, SURVEYING IN

Chicago New York San Francisco

Distances from Center of Road
Roadway 16 feet wide.
For Single Track En

II	0	.1	.2	.3	.4	.5
0	8.0	8.1	8.2	8.3	8.4	8.5
1	9.0	9.1	9.2	9.3	9.4	9.5
2	10.0	10.1	10.2	10.3	10.4	10.5
3	11.0	11.1	11.2	11.3	11.4	11.5
4	12.0	12.1	12.2	12.3	12.4	12.5
5	13.0	13.1	13.2	13.3	13.4	13.5
6	14.0	14.1	14.2	14.3	14.4	14.5
7	15.0	15.1	15.2	15.3	15.4	15.5
8	16.0	16.1	16.2	16.3	16.4	16.5
9	17.0	17.1	17.2	17.3	17.4	17.5
10	18.0	18.1	18.2	18.3	18.4	18.5
11	19.0	19.1	19.2	19.3	19.4	19.5
12	20.0	20.1	20.2	20.3	20.4	20.5
13	21.0	21.1	21.2	21.3	21.4	21.5
14	22.0	22.1	22.2	22.3	22.4	22.5
15	23.0	23.1	23.2	23.3	23.4	23.5
16	24.0	24.1	24.2	24.3	24.4	24.5
17	25.0	25.1	25.2	25.3	25.4	25.5
18	26.0	26.1	26.2	26.3	26.4	26.5
19	27.0	27.1	27.2	27.3	27.4	27.5
20	28.0	28.1	28.2	28.3	28.4	28.5
21	29.0	29.1	29.2	29.3	29.4	29.5
22	30.0	30.1	30.2	30.3	30.4	30.5
23	31.0	31.1	31.2	31.3	31.4	31.5
24	32.0	32.1	32.2	32.3	32.4	32.5
25	33.0	33.1	33.2	33.3	33.4	33.5
26	34.0	34.1	34.2	34.3	34.4	34.5
27	35.0	35.1	35.2	35.3	35.4	35.5
28	36.0	36.1	36.2	36.3	36.4	36.5
29	37.0	37.1	37.2	37.3	37.4	37.5
30	38.0	38.1	38.2	38.3	38.4	38.5
31	39.0	39.1	39.2	39.3	39.4	39.5
32	40.0	40.1	40.2	40.3	40.4	40.5
33	41.0	41.1	41.2	41.3	41.4	41.5
34	42.0	42.1	42.2	42.3	42.4	42.5
35	43.0	43.1	43.2	43.3	43.4	43.5
36	44.0	44.1	44.2	44.3	44.4	44.5
37	45.0	45.1	45.2	45.3	45.4	45.5
38	46.0	46.1	46.2	46.3	46.4	46.5
39	47.0	47.1	47.2	47.3	47.4	47.5
40	48.0	48.1	48.2	48.3	48.4	48.5

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

Copyright, 1914, by Eugene Dietzgen Co.

U.S.G. Bench levels from
 U.S.G. P. B. M. N.W. cor. Arlington
 Dist. Co. to machine's feet

B.M. B.S. F.S. H.I. Elev.

4.18 1.578 66.180 62. feet
 109.998 76.782 65.662
 9.915 0.545 11.120
 Elev. 109.913 76.187 75.782

97.916 110.796 76.187
 9.915 7.400
 100.881 83.587
 0.142 4.857
 100.739 88.439

120711 90.569
 0142 71.040
 119.569 83.499
 85.329
 84.146
 83.329

B.M. in Bench Twp. Elev. = 84.146

mark. = 81.329
 9.804

B.M. Tole, P. B. M. H.I. 91.133
 of West 1/4 112.05
 Elev. = 101.306 FT. Rock, 89.865
 12

B.M. 3rd Tole Pole H.I. 101.065
 Elev. 100.739 FT. 119.913 0.569
 101.306
 9.541

H.I. 110.426

H. 110.845
 FS. 110.347

113990
 109998

Index,

Page

Sta.
109, Nauck Subdivision

		10263
10-60		
	1.085	102190
10-135		112-000
		119-03
11-41		124.7
		131.1
12-27		14-000
	0.25	139-05
1-2		142-00
		14-07
1-15		
		151-007
2-22		17-29
	3,000	155-95

B.M. nail in telephone pole, N.W. cor.

Sumner's yard. Elev. 117.322 datum

Seatever.

	7.271	
9.30		
	5.798	
	1102	

Sunday, Nov. 16, 1919

B.M. in ~~tree~~ ^{tree} Elev. = 152.655'

B.M. S. of Column ~~against~~ ^{near} Elev. = 158.331

Corrected Elev. of B.M.s.

B.M. in Beech tree, west side of Mackey road 100 ft north of intersection with Cherrydale road.
(nail) Elev. = 84.146 ft.

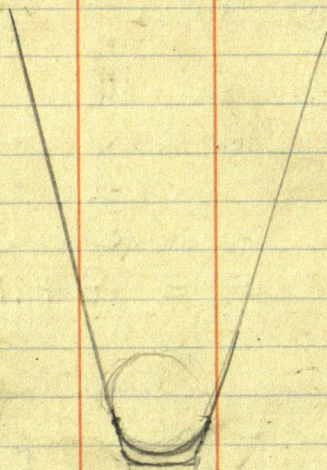
B.M. nail in telephone pole no. 1 on left side of road ascending Mackey hill
Elev. = 101.306 ft.

B.M. 3rd. telephone pole on right of Mackey road (nail)
Elevation = 119.913.

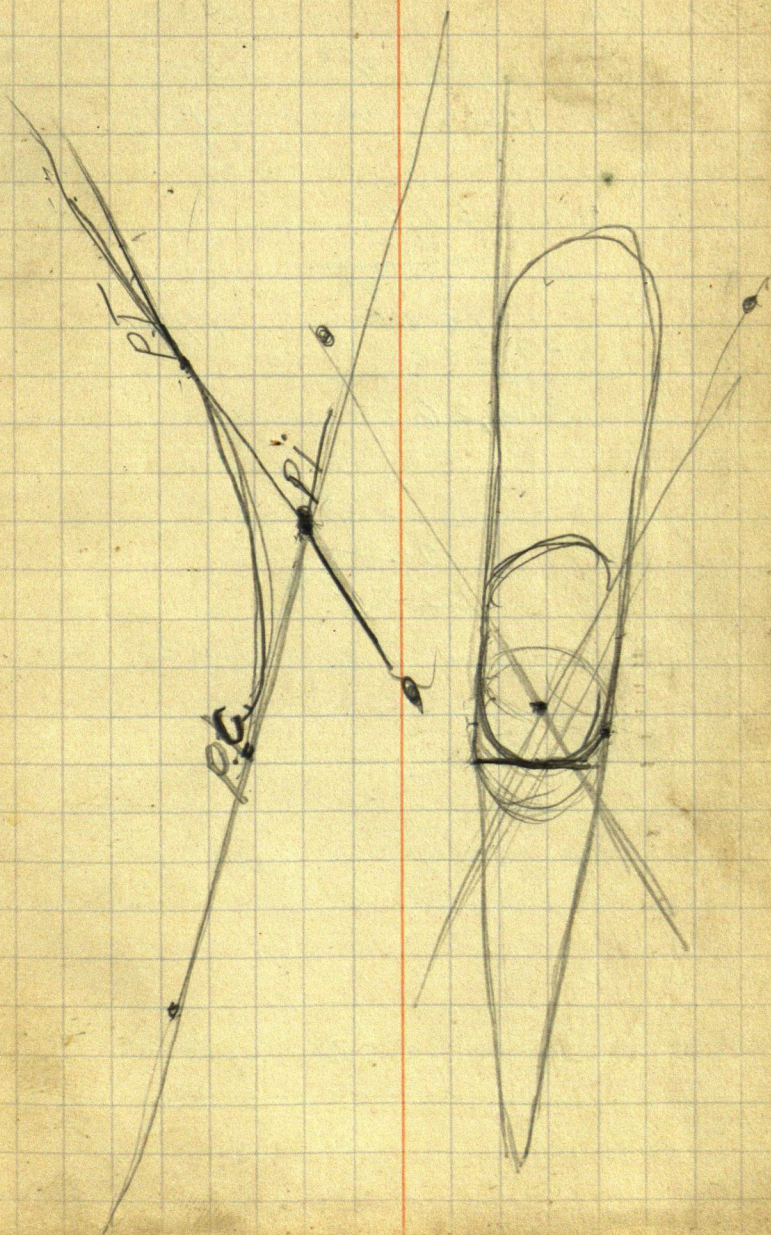
B.M. Telephone pole N.W. cor. Turner House. Elev. 117.322

B.M. in Cherry tree lot 5, Baileys.
Elev. 152.655 ft.

0° 0' 0"



= 180° 26'



115

B.M., B.S. H.I. P.S. 117,322

4.009

121,331

2801

118,530

3.568

122,098

1,281

121817

58,40

5,21

269

5840

90

11680

179

29200

304,2640

313030

900

22330

105

S.E. Cor of Lot 1's.
 5 FT. west of cross mark
 on sidewalk.

$$\begin{array}{r} 741 - 220.98 \\ \hline \end{array}$$

209.98

90

58.98

50

11

50

50

550

59.3

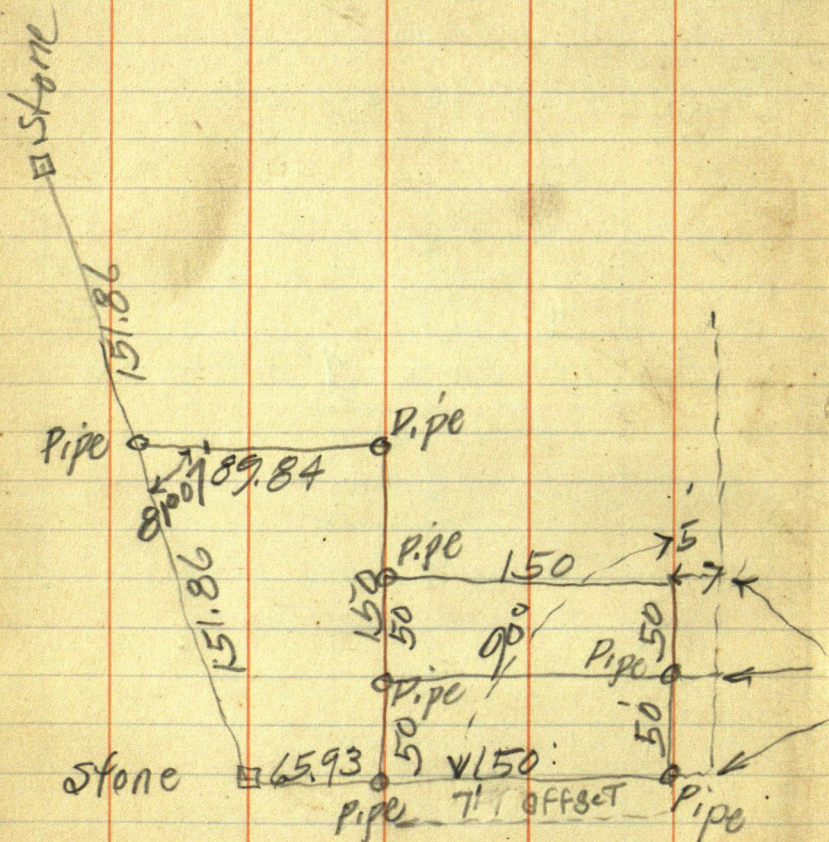
609.3

Drill hole in South
end of concrete walk
7 ft. 10 in. of 10 ft. 10 in.

Drill hole in stone at
N. E. cor. Green house and
and chimney. 10 ft. 10 in.
220.93 ft.
on a 7 ft. 10 in. of 10 ft. 10 in.
Drill hole 90 ft. 10 in.

17

1870
665.93
215.93



81

Cross mark cut in cement
sidewalk

Hand-drawn sketch of a property boundary on lined paper. The sketch shows a horizontal line labeled "330 FT". A vertical line is labeled "50 FT". A diagonal line is labeled "125 FT". A small triangle is marked with "50" and "90". The text "Arlington Bank Bldg" is written vertically along the right side. The text "Main Post" is written vertically along the left side.

67.60 TO 20' line
from W. N. O. D. P. & W.
house. S. W. 207.

10
=

Sta	B.S.	H.I.	F.S.	Elev.	Remarks
B.M.	3.442	103.402	3.516	110.047,	
				99.926	
	3.394	103.320	4.672	96.638	
	4.192	100.830	3.249	97.581	
	6.222	103.503	3.892	99.961	

100.108
 99.961
 00.4039

14590
 14035
 4.55

114.36/
 90
 207.34

13307
 455
 12852

36.001
 90°
 126.01

19.2
 3
 57

azimuth 102.7'

20
 19
 180
 20
 370
 60)

$$\begin{array}{r}
 337.25 \\
 98 \\
 \hline
 248.38 \\
 308.38 \\
 9.1 \\
 \hline
 218.90
 \end{array}$$

$$\begin{array}{r}
 1007.97 \\
 107.03 \\
 \hline
 2 \overline{) 215} \\
 \underline{1007.30} \quad 11
 \end{array}$$

$$\begin{array}{r}
 .01949 \\
 00014 \\
 \hline
 .019630000000 \\
 155392 \\
 \hline
 409070 \\
 387470 \\
 \hline
 206100 \\
 155392 \\
 \hline
 507070 \\
 446176 \\
 \hline
 409040
 \end{array}
 \left. \begin{array}{l} \\ \\ \\ \\ \\ \end{array} \right\} 02.5265$$

.77696)

13

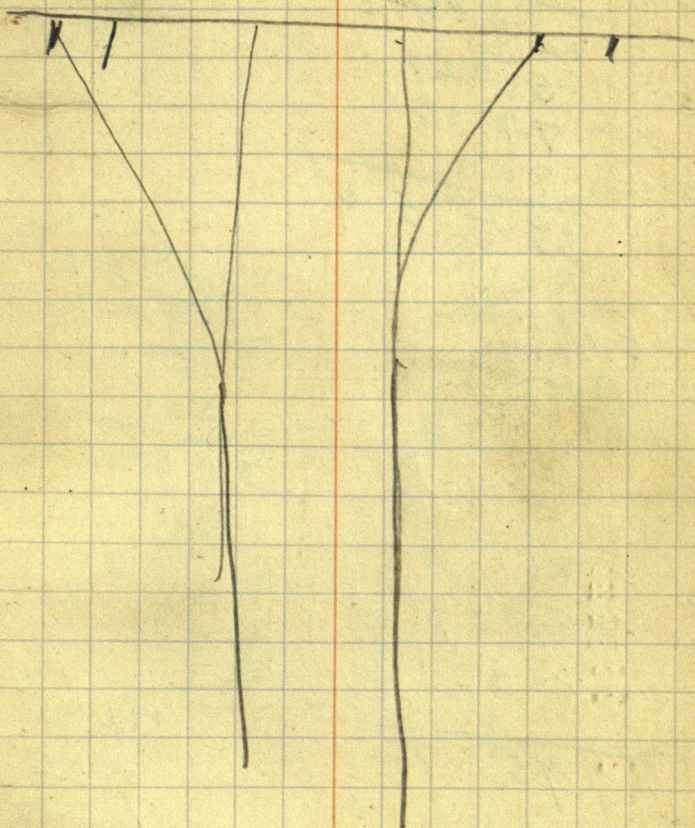
$$\begin{array}{r} 601.33 \quad \square' \\ \underline{575} \\ 16.33 \end{array}$$

$$\begin{array}{r} 240. \\ 168. \\ 72. \\ 36. \\ 20. \\ 35. \\ \underline{24.} \\ 583. \end{array}$$

$$\begin{array}{r} 100 \\ 23 \\ \hline 77 \end{array}$$

47 30 -

14



15

$$\begin{array}{r} 84^{\circ}24' \\ \underline{45} \\ 129^{\circ}24' \\ 36027 \\ 77003 \\ 900 \\ \hline 342054' \end{array}$$

$$\begin{array}{r} 81027 \\ \underline{5034} \\ 87003 \end{array}$$

$$\begin{array}{r} 8000 \\ 871027' W \\ 85036' W \\ \hline 9551 \end{array}$$

$$\begin{array}{r} 81027 \\ \underline{45} \\ 3627 \end{array}$$

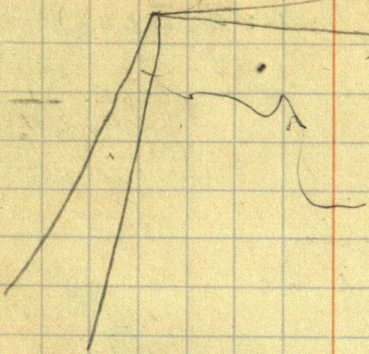
$$\begin{array}{r} 900 \\ \underline{89024} \\ 636 \end{array}$$

$$\begin{array}{r} \cancel{129024} \\ 109009 \\ 36027 \\ 90 \\ \hline 35960 \end{array}$$

$$\begin{array}{r} 19645 \\ \underline{3041} \\ 19645 \\ 117870 \\ 589350 \\ \hline 6013345 \end{array}$$

$$\begin{array}{r} 2 \overline{) 39.29} \\ \underline{19.6} \\ 19.645 \end{array}$$

16



$$\begin{array}{r} 90 \\ \underline{81027} \\ 833 \\ \underline{90} \end{array}$$

$$\begin{array}{r} 98033 \\ \underline{536} \end{array}$$

$$10409$$

$$\begin{array}{r} 56 \end{array}$$

$$\begin{array}{r} 32 \\ \underline{42} \\ 64 \end{array}$$

$$128$$

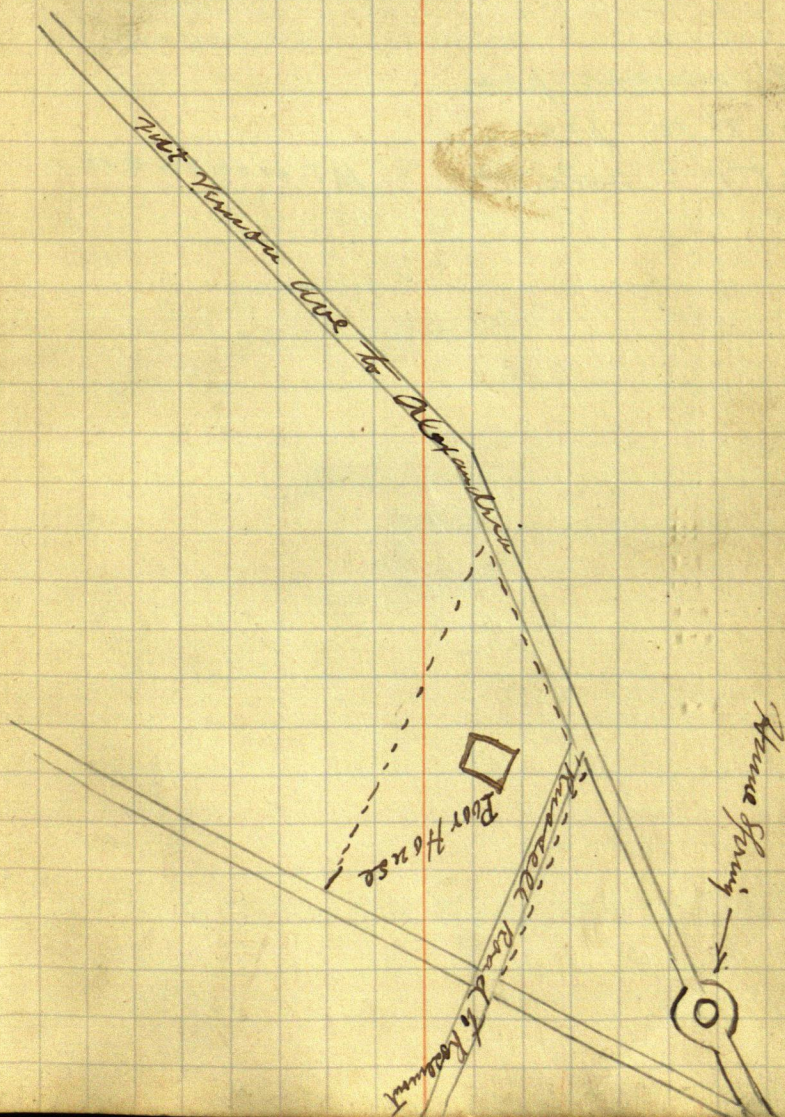
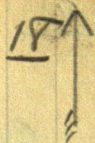
$$\begin{array}{r} 24 \overline{) 1344} \\ \underline{120} \\ 144 \\ \underline{144} \\ 0 \end{array}$$

17

S 26° W 1827.705 To North side of Road.

N 54 1/2° W 510.18

1006-26TH. S.T.N.W.



±9

Beginning from a Temp.
point for ^{N.F.} Cor. to tract Thence.
B26 1/2° W on a random line.

409' intersect p.c.

719470 to p.c.

712800 = center road = M.T. to north ave.

January 29, 1920

Beginning at one inch iron pipe on the right bank of "four mile creek" which is the n.e. corner to a tract of land belonging at present to John Nelson, formerly known as the "Pier House Farm".

From this corner a white oak 16" in dia. bears south $53\frac{1}{2}^{\circ}$ East 24 ft thence from this corner south 28° 26' west

Sta. 1

2

3

4

4+06.77 intersect tack 19 peg set by county surveyor

5

6

7

8

8+27.50 $\frac{1}{2}$ of M.V. Ave bears N $14\frac{3}{4}^{\circ}$ East

9

10

11

Sta. ①
8+27.0

Sta 8



7 1/2 3/4 4

25

2.94

16.5

1470

1764

294

48.510

281.30

269.70

550.00

Jan. 30, 1920

26

16

16 + 85.30

1.80

16 + 86.10 set an iron pipe, this pipe
is 7.5' from face of ~~cut~~ ^{excavation}

Thence from this pipe
E Traverse Road as follows.

N 46° 00' W 269.7 To a. P. I.

0 + 2500 To center of

Russell Road Cus. N 28° 26' E

~~N 46° 00' W~~

N 55° 53' W 281.30' To pipe

which is S. W. Cor. To Tract.

Thence from this point

N 28° 26' E on a five foot of R.S.

Jan. 31st, Too cold for field,

Feb 1st

27

~~N~~~~S~~
N~~E~~
S~~W~~
E

W

S 89° E 1.52

1.52

N 73 1/4° E 1.16

1.05

S 57 1/2° E 2.20

1.755

S 85 1/2° E 1.45

1.45

S 65 1/2° E 2.16

1.96

8.735

66

45810

48810

536910

155779
2100

5877900

117558
123435900

26024

74

180

2900241

22
90
60
4200
2100

360

Allen Land

506'

27

53' 20"

505' 9" 20 W

288.17

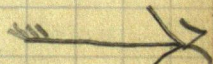
109

Gadeley Land

1537.

1489.35

Payne



289.93

Chain Bridge Road

29

$$1020'53'' = 7$$

59

$$1019'54''58$$

59

$$1018'55''9$$

59

$$1017'56''10$$

59

$$1016'57''11$$

59

$$1015'58''12$$

$$1016'57$$

53

$$1016'04'$$

$$\begin{array}{r} 4009 \\ 3991 \\ \hline 18 \\ 4000 \end{array}$$

492 'Coastal Road

30

Declination given in Ephemeris
is for 7^{am} at Wash,

Longitude = 77° W.

Latitude = $38^{\circ} 54'$

Beginning at an Iron Pipe
in the East side of a 14.7'
Right of way, bearing S 55° 21' E
170.5' and N 34° 05' E 17.3' crossing
a set stone marking the
original N.W. cor. of said tract.

$$\begin{array}{r}
 130.41 \quad 55^{\circ} 21' \\
 \underline{17.3} \\
 113.11 \quad 89060 \\
 \quad 55021 \\
 \hline
 3429
 \end{array}$$

$$\begin{array}{r}
 79060 \\
 \underline{1024} \\
 88036 \\
 \underline{34029} \\
 12305
 \end{array}$$

Sin

$$\begin{array}{r}
 102443 \\
 \underline{11792} \\
 04886 \\
 21987 \\
 19544 \\
 02443 \\
 02443 \\
 \hline
 29052156
 \end{array}$$

Cor.

$$\begin{array}{r}
 130.41 \\
 \underline{14.7} \\
 .99970 / 15.70 \\
 \underline{1.1892} \\
 0
 \end{array}$$

33

232.8

$$\begin{array}{r} 110,052, \\ 4.22 \\ \hline 105,83 = a \end{array}$$

B.M. 100. F.P. 10.052

4.22

$$a = 422$$

4.630

$$b = 405$$

105.402

110.05

100

4.05

05.402

106.00

110,052

103.05

$$\begin{array}{r} 110,052 \\ 103.05 \\ \hline 7.002 = a \end{array}$$

110,052

103.55

6.50

$$\begin{array}{r} 8 \times 11 \\ 11 \\ \hline 2 \end{array}$$

942

10 6.50

10 3.55

2.45

$$\begin{array}{r} 100 \\ 21 \\ \hline 79 \end{array}$$

$$\begin{array}{r} 232.7 \\ 101 \\ \hline 131.7 \\ 21.5 \\ \hline 153.3 \end{array}$$

34

$$\begin{array}{r} 232.7 \overline{) 0.40200} \quad 02 \quad 32 \\ \underline{4656} \\ 7460 \quad 02.3200 \\ \underline{6984} \\ 4768 \\ \underline{4656} \end{array}$$

$$\begin{array}{r} 232 \\ 153 \\ \hline 79 \end{array}$$

$$\begin{array}{r} 131.7 \\ \text{Rate } 12.32\% \\ \hline 2636 \end{array}$$

$$\begin{array}{r} 3954 \\ 2636 \\ \hline 6590 \end{array}$$

$$\begin{array}{r} 153.3 \\ 10232 \\ \hline 3066 \end{array}$$

$$3.55776$$

$$\begin{array}{r} 4599 \\ 3066 \\ \hline 7665 \end{array}$$

$$105.73$$

$$103.05 = a$$

$$\underline{2.78}$$

$$103.55 = b$$

Cut. a

$$a = \text{Cut } 2 \text{ ft } 9 \frac{1}{2}''$$

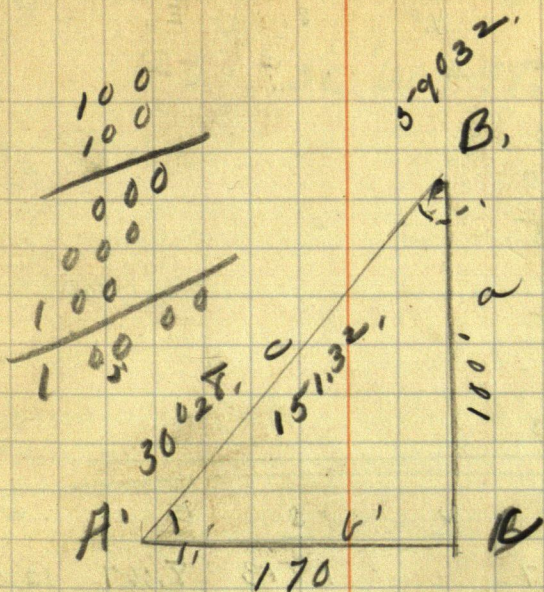
$$b = \text{Cut } 2 \text{ ft } 6''$$

35

9 N. S E W.
6.
0
0.

$$\begin{array}{r} 170 \\ 170 \\ \hline 000 \end{array}$$

$$\begin{array}{r} 1190 \\ 170 \\ \hline 25900 \\ 10,000 \\ \hline 35,900 \end{array}$$



$$\begin{array}{r}
 170 \overline{) 100,000.5882} \\
 \underline{150} \\
 1500 \\
 \underline{1360} \\
 1400 \\
 \underline{1360} \\
 400
 \end{array}$$

37

		N.	S.	E.	W.
S 79° E	1.72	✓			
N 73 1/4° E	1.10	✓			
S 57 1/2° E	2.20	✓			
S 75 1/2° E	1.45		✓	✓	
S 65 1/2° E	2.16	✓			✓
S 290 23' W	25.55				
-----	-----				
N 28° 19' E	22.03				

		<u>N</u>	<u>S</u>	<u>E</u>	<u>W</u>
S 77° 20' E	8.27		1.813	8.067	12.536
S 290 23' W	25.55		22.263		
N -----				10.449	
N 28° 19' E	22.03	<u>19.393</u>		<u>10.449</u>	
		19.393	24.076	18.516	12.536
N 57° 05' W	7.56	466			3.95
	66	<u>24053</u>			18.45
		2			3
	4536				
	4336				
	<u>498.94</u>				

Length of So. Body ³⁸
N 51° 56' W 498.96' f¹⁵

39

$$\begin{array}{r} 130 \overline{) 118.90} \\ \underline{1040} \\ 1190 \\ \underline{1170} \\ 20 \end{array}$$

$$(.89$$

$$\begin{array}{r} 110. \\ \underline{.89} \\ 900 \\ \underline{800} \\ 89.00 \end{array}$$

$$\begin{array}{r} 34029' \\ \underline{900} \\ 12429' \\ \underline{34105} \\ 15834' \end{array}$$

$$\begin{array}{r} 10.0 \\ \underline{89} \\ 11. \end{array}$$

$$\begin{array}{r} 55021' \\ \underline{1024} \\ 5645 \end{array}$$

$$\begin{array}{r} 158^{\circ}34' \\ 123005' \\ \hline 56^{\circ}45' \\ \hline 337^{\circ}24' \end{array}$$

$$\begin{array}{r} 168 \\ \hline 12 \\ \hline 334 \\ \hline 168 \\ \hline 2016 \end{array}$$

41

172

111.

8

E

W.

~~2.1~~

2,905

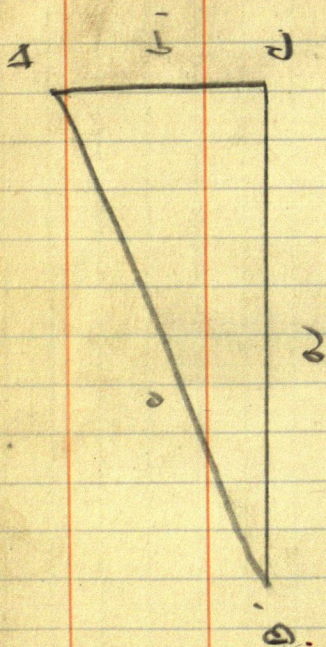
118.88

49

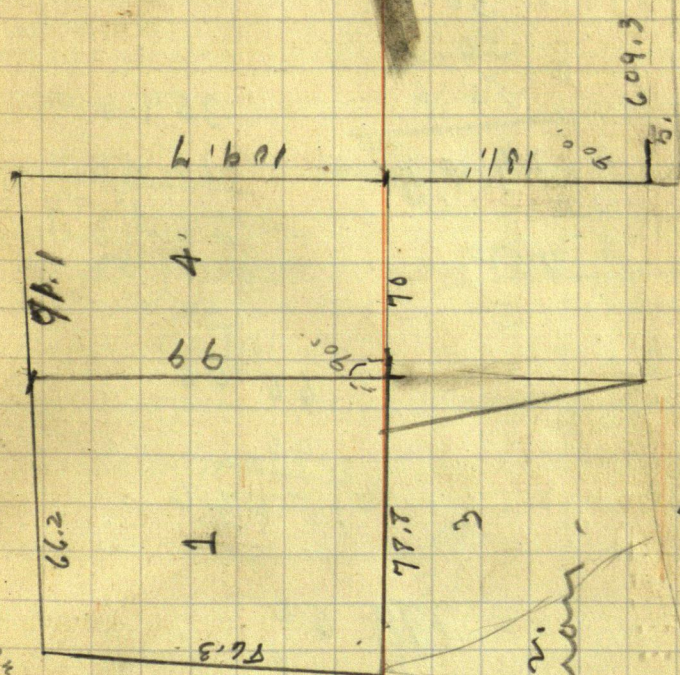
$$\begin{array}{r}
 2,75 \\
 2,125 \\
 \hline
 1375 \\
 550 \\
 550 \\
 \hline
 4,175
 \end{array}$$

$$\begin{array}{r}
 84035 \\
 5725 \\
 \hline
 90000
 \end{array}$$

$$\begin{array}{r}
 2,75 \text{ LRS} \\
 66 \overline{) 18200} \\
 \underline{132} \\
 500 \\
 \underline{462} \\
 380 \\
 \underline{330} \\
 50
 \end{array}$$



$$\begin{array}{r}
 2,75 \\
 1125 \\
 \hline
 1375 \\
 550 \\
 275 \\
 \hline
 2,4375
 \end{array}$$



152.6
100
92.6

Block (1)

Block (1)

57

93.7
50
50.7
50.3
53.6

297.5

73-0

50
17
350
50
73-0

359 6 6
15600 6
203°54'

66°06'
90
15°606

179 6 6
15606
2354

$$\begin{array}{r} 990 \\ 97.1 \\ \hline 1.9 \end{array}$$

52

$$86.3 \bigg) 77.80000 \bigg| 91425$$

$$\begin{array}{r} 7767 \\ \hline \end{array}$$

$$\begin{array}{r} 1230 \\ \hline \end{array}$$

$$\begin{array}{r} 863 \\ \hline \end{array}$$

$$\begin{array}{r} 3670 \\ \hline \end{array}$$

$$\begin{array}{r} 3952 \\ \hline \end{array}$$

$$\begin{array}{r} 2180 \\ \hline \end{array}$$

$$\begin{array}{r} 1726 \\ \hline \end{array}$$

$$\begin{array}{r} 4540 \\ \hline \end{array}$$

$$\begin{array}{r} 9)7 \\ 50)9.00/18 \\ \hline 50 \\ 400 \end{array}$$

$$\begin{array}{r} 118 \\ 50 \\ \hline 9.00 \end{array}$$

$$\begin{array}{r} 118 \\ 70 \\ \hline 12.50 \end{array}$$

$$\begin{array}{r} 109.7 \\ 12.6 \\ \hline 97.1 \end{array}$$

53

6)200
33 1/3

33 4/3
1

5247

99
17
8 2

64021
6202

12 7 13

199 40

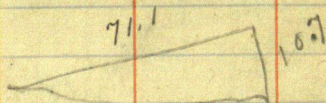
127, 13

5247

71.1
71.1
71.1
71.1
4977
505521

70

10.7
10.7
749
1040
11449



505521
11449
494072
45

7

74003
62034
14637

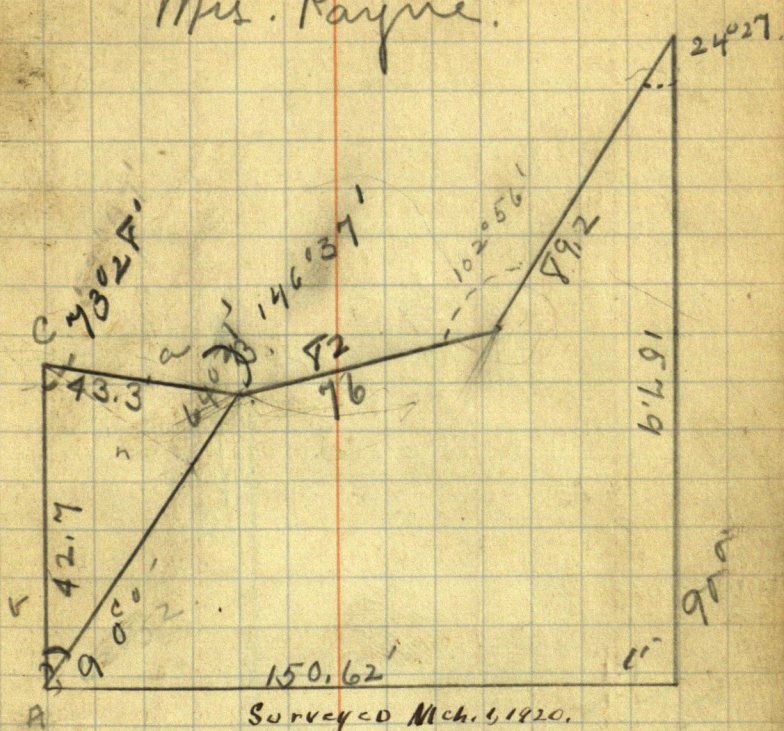
499072
4900
4090

70
70
4900

Lot 1 Block 10.

54

Mrs. Payne.



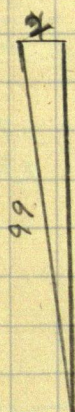
$$\begin{array}{r}
 52^{\circ}47' \\
 24^{\circ}27' \\
 \hline
 77^{\circ}14'
 \end{array}$$

$$\begin{array}{r}
 711 \\
 711 \\
 \hline
 4977 \\
 505521 \\
 \hline
 11449 \\
 494072
 \end{array}$$

55

27.8
69.7
—
96.5

56



Year Book

57

Feb. 21, 1920	Lots. 18 & 19 Block 2 Ft. Myers Heights.	12.50
	000 jobs for General Mackay	5.00
March 4, 20	Lot 1 Block 20 Ft. Myers Heights.	10.00
March 5, 20	Lot 1. Block 1. " " "	12.00
" 27	Herbert Marney	12.00

Calvin M. Buck,
 Road 145 F. H.

$$\begin{array}{r} 5 \times 2 \\ \hline 10 \end{array} \quad \begin{array}{r} 2.75 \\ \hline 2.75 \end{array}$$

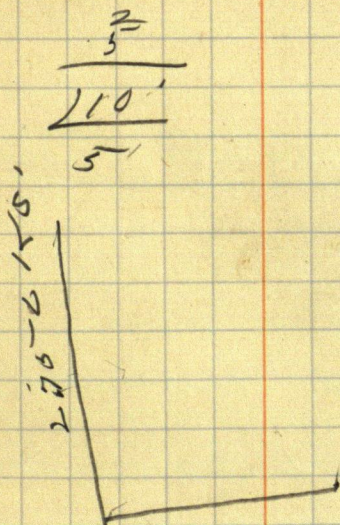
$$2 \frac{3}{4}$$

$$\begin{array}{r} 2 \frac{1}{2} \\ \hline 2.1 \\ \hline 4.1 \\ \hline 5 \end{array}$$

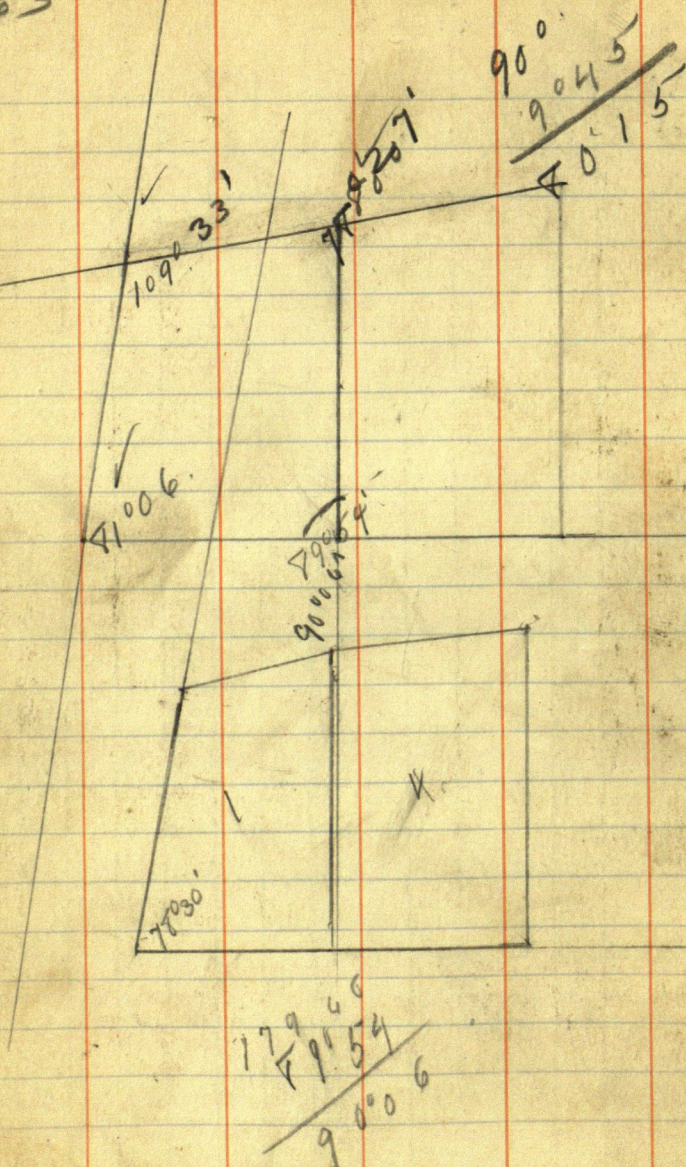
True Meridian.

5-8

South West corner of yellow house,
north side potomac river, beaver,
N 25° 27' W.



63



359°60
281033
78°27

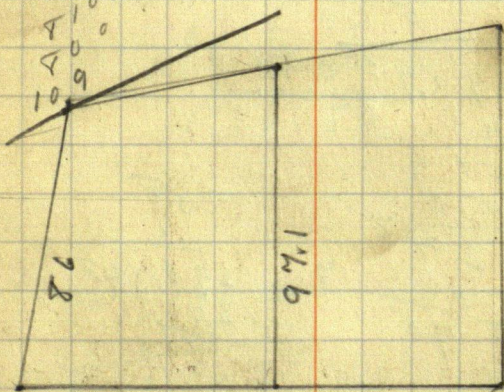
81006

400
1090
90

360°06

15
T
1200

89°54
81006
800
809



179°60
945
170°13

78°47, 360°00'
69002
945

89°54
109033
81006
281033

64

66

Longitude = 77° West

$$\begin{array}{r} 15 \quad) \quad 770 \quad (5 \text{ hrs} \\ \underline{75} \\ 2 \end{array}$$

58.29''

5

$$\begin{array}{r} 60 \quad) \quad 291.45 \quad (4.85 \\ \underline{240} \end{array}$$

$$\begin{array}{r} 514 \\ \underline{480} \\ 345 \\ \underline{300} \\ 45 \end{array}$$

$$\begin{array}{r} 58 \\ \underline{5} \\ 60 \quad) \quad 298.0 \quad (4.96 \\ \underline{240} \\ 580 \end{array}$$

4'45''

$$5^{\circ} 16' 34''$$

$$\underline{4' 48''}$$

$$5^{\circ} 11' 46'' = \text{decl.}$$

$$\underline{55''}$$

$$5^{\circ} 12' 41'' = \text{declination now.}$$

$$5^{\circ} 11' 46''$$

$$\underline{50''}$$

$$5^{\circ} 10' 56''$$

$$5^{\circ} 16' 34'' = 7$$

$$\underline{58''}$$

$$5^{\circ} 15' 46'' = 8$$

$$\underline{58''}$$

$$5^{\circ} 14' 48'' = 9$$

$$\underline{58''}$$

$$5^{\circ} 13' 50'' = 10$$

$$\underline{58''}$$

$$5^{\circ} 12' 52'' = 11$$

$$\underline{58''}$$

$$5^{\circ} 11' 54'' = 12$$

$$\underline{58''}$$

$$5^{\circ} 10' 56'' = 12$$

67

$$\begin{array}{r} 9013 \\ 11013 \\ \hline 101013 \end{array}$$

$$50 \overline{) 200} \quad 4$$

$$\begin{array}{r} 811013 \\ \hline \end{array}$$

$$\begin{array}{r} 699.6 \\ 78.8 \\ \hline 778.4 \\ 004.0 \\ \hline 3113.6 \\ 000.0 \\ \hline 3113.6 \end{array}$$

$$\begin{array}{r} 78047 \\ 1.5 \\ \hline 78032 \end{array}$$

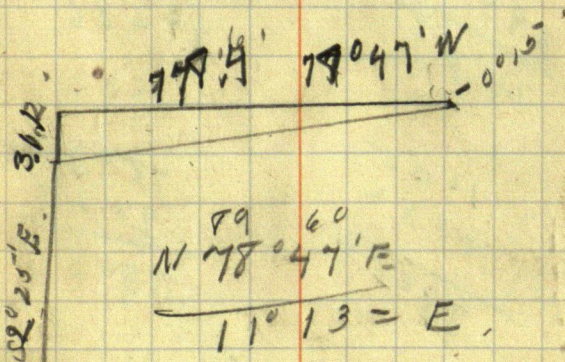
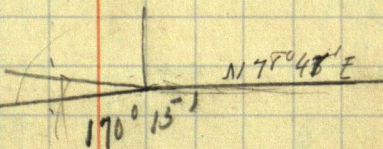
$$\begin{array}{r} 17960 \\ 168047 \\ \hline 1113 \end{array}$$

$$\begin{array}{r} 78047' \\ 90 \\ \hline 168047' \\ 20058 \\ \hline 18945 \end{array}$$

$$\begin{array}{r} 8960 \\ 69002 \\ \hline 2058 \end{array}$$

North

$$\begin{array}{r} 360 \\ 189045 \\ \hline 17015 \end{array}$$



$$\begin{array}{r} 8960 \\ 1113 \\ \hline 7847 \end{array}$$

$$\begin{array}{r} 78047' \\ 90 \\ \hline 168047 \end{array}$$

59

$$777.4 \quad 3.11000000 \quad (039953)$$

$$23352$$

$$\begin{array}{r} 17000 \\ 19900 \\ \hline 4057 \end{array}$$

$$\begin{array}{r} 900 \\ 6902 \\ \hline 20058 \end{array}$$

$$\begin{array}{r} 1025 \\ 7532 \\ \hline 79057 \end{array}$$

$$\begin{array}{r} 79000 \\ 75032 \\ \hline 1128 \\ 8935 \\ \hline 9903 \end{array}$$

$$\begin{array}{r} 69002 \\ 11013 \\ \hline 80015 \end{array}$$

$$\begin{array}{r} 7547 \\ 15 \\ \hline 7532 \end{array}$$

$$\begin{array}{r} 77470 \\ 70056 \\ \hline \end{array}$$

$$\begin{array}{r} 74340 \\ 70056 \\ \hline 42840 \\ 79920 \\ \hline 29200 \end{array}$$

$$\begin{array}{r} 75032 \\ 2025 \\ \hline 77057 \end{array}$$

$$\begin{array}{r}
 99 \\
 70 \\
 \hline
 6930 \\
 374 \\
 \hline
 7304
 \end{array}$$

$$\begin{array}{r}
 99. \\
 .02 \\
 \hline
 198
 \end{array}$$

$$\begin{array}{r}
 6930 \\
 198 \\
 \hline
 7128
 \end{array}$$

$$\begin{array}{r}
 6930 \\
 540 \\
 \hline
 6954 \\
 371 \\
 \hline
 7355
 \end{array}$$

$$\begin{array}{r}
 109.7 \\
 99 \\
 \hline
 2110.7 \\
 5.3 \\
 \hline
 77 \\
 53
 \end{array}$$

$$\begin{array}{r}
 371 \\
 \hline
 376.3
 \end{array}$$

$$\begin{array}{r}
 109.7 \\
 .05 \\
 \hline
 54.75 \\
 109
 \end{array}$$

$$\begin{array}{r}
 5.3 \\
 70 \\
 \hline
 371.0
 \end{array}$$

$$\begin{array}{r}
 20000 \\
 198 \\
 \hline
 200
 \end{array}$$

$$\begin{array}{r}
 90^\circ \\
 70 \\
 \hline
 99.53,
 \end{array}$$

71

$$\begin{array}{r}
 702 \\
 702 \\
 \hline
 1404 \\
 4914 \\
 \hline
 492804
 \end{array}$$

$$\begin{array}{r}
 7025 \\
 7025 \\
 \hline
 35125
 \end{array}$$

$$\begin{array}{r}
 703 \\
 703 \\
 \hline
 2109 \\
 49210 \\
 \hline
 494209
 \end{array}$$

$$\begin{array}{r}
 14050 \\
 491750 \\
 \hline
 49350625
 \end{array}$$

$$\begin{array}{r}
 35960 \\
 26945 \\
 \hline
 90015
 \end{array}$$

$$\begin{array}{r}
 70015 \\
 109033 \\
 79057 \\
 \hline
 26945
 \end{array}$$

$$\begin{array}{r}
 110.77 \\
 16.5 \\
 \hline
 55385 \\
 66462 \\
 11077
 \end{array}$$

$$\begin{array}{r}
 1827.705 \\
 1827.705
 \end{array}$$

$$\begin{array}{r}
 109123 \\
 7959 \\
 189053 \\
 \underline{35960} \\
 27853 \\
 \hline
 7107
 \end{array}$$

$$\begin{array}{r}
 78 \\
 \hline
 49.40.72 \\
 49 \\
 49 \mid 04072
 \end{array}$$

$$\begin{array}{r}
 73 \quad 78032 \\
 \underline{1025} \\
 79571
 \end{array}
 \quad
 \begin{array}{r}
 78032 \\
 \underline{1025} \\
 7957
 \end{array}$$

11028 West

$$\begin{array}{r}
 78032 \\
 900 \\
 \underline{16832}
 \end{array}$$

$$\begin{array}{r}
 79015 \\
 \underline{11028} \\
 78947
 \end{array}$$

$$\begin{array}{r}
 78947 \\
 \underline{8900} \\
 78047
 \end{array}$$

$$\begin{array}{r}
 78047 \\
 \underline{11013} \\
 11013
 \end{array}$$

$$\begin{array}{r}
 179060 \\
 \underline{168032} \\
 11028
 \end{array}$$

9

$$\begin{array}{r}
 900 \\
 \underline{1025} \\
 8800 \\
 \underline{20032} \\
 10933
 \end{array}$$

$$\begin{array}{r}
 92025 \\
 \underline{20054} \\
 113
 \end{array}$$

$$\begin{array}{r}
 91025 \\
 \underline{20038} \\
 11223
 \end{array}$$

$$\begin{array}{r}
 78035 \\
 \underline{11028} \\
 10003
 \end{array}$$

$$\begin{array}{r}
 1800 \\
 \underline{100003} \\
 79571
 \end{array}$$

$$\begin{array}{r}
 179060 \\
 \underline{99003} \\
 78037
 \end{array}$$

$$\begin{array}{r} 900 \\ 75 \overline{) 32} \\ 1702 \end{array}$$

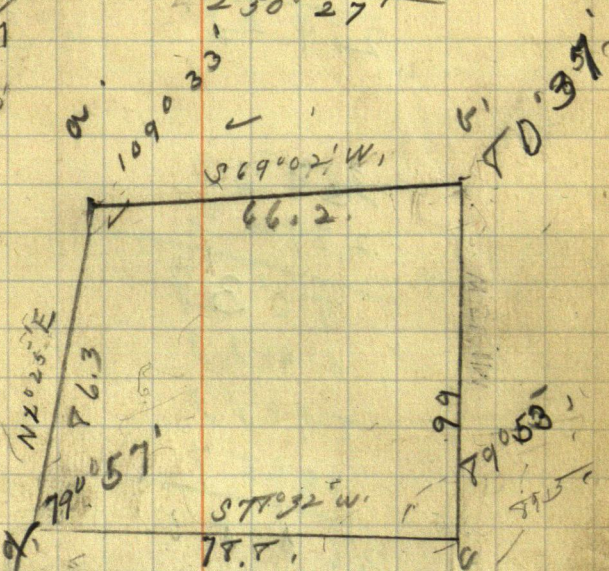
$$\begin{array}{r} 92025 \\ 200 \overline{) 38} \\ 127 \end{array}$$

323

$$\begin{array}{r} 80015 \\ 78 \overline{) 47} \\ 1125 \end{array}$$

$$\begin{array}{r} 359060 \\ 109 \overline{) 33} \\ 25027 \end{array}$$

$$\begin{array}{r} 89064 \\ 102 \overline{) 32} \\ 8842 \end{array}$$



Sum of angles

$$\begin{array}{r} 109033 \\ 79057 \\ 80015 \\ \hline 26945 \end{array}$$

179060

26

$$\begin{array}{r} 109033 \\ 80015 \\ 89015 \\ 80007 \\ \hline 359060 \\ 359060 \\ 270045 \\ \hline 79015 \end{array}$$

75

109° 33

89° 53

79° 57

279 231

193

60

23

602 4131
2023

359° 60

279 23

80° 27

109° 33

89° 53

79° 57

360 400

77

altitude = $46^{\circ}35'$

azimuth = ~~$51^{\circ}35'$~~ $34^{\circ}36'$

$89060'$

$46^{\circ}35'$

$43^{\circ}25'$

16

$43^{\circ}41'$

1016

$42025'$

90°

$38^{\circ}54'$

$51^{\circ}06'$

1.05234

$$\underline{90^{\circ} 0' 16''}$$

$$91^{\circ} 16' = 0'$$

$$43^{\circ} 41' = 2$$

$$51^{\circ} 06' = 1$$

$$\underline{271^{\circ} 6' 03''}$$

$$93^{\circ} 01' 30'' = 5'$$

$$\underline{91^{\circ} 16'}$$

$$1^{\circ} 45' 30'' = 8 - 10,$$

$$1.03054 = \sin 15^{\circ}$$

$$\underline{1.05234}$$

$$1.12216$$

$$1.09162$$

$$0.6108$$

$$5270$$

$$00000$$

$$0.3059$$

$$\underline{0.311584636}$$

79

$$\begin{array}{r} 5.36 \\ 283 \\ \hline 8.19 \end{array}$$

Cello.

B. 4.

$$\begin{array}{r} 100. \\ 8.19 \\ \hline 108.19 = H.I. \\ 7.54 \\ \hline 99.65 \end{array}$$

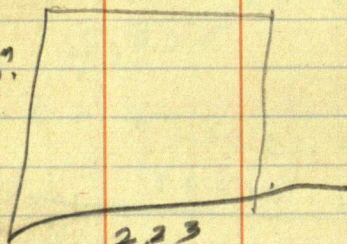
$$\begin{array}{r} 99.65 \\ 4.33 \\ \hline 103.98 \\ 7.76 \\ \hline 96.22 \end{array}$$

$$\begin{array}{r} 275 \\ 223 \\ \hline 52 \end{array}$$

$$\begin{array}{r} 100.00 \\ 96.22 \\ \hline 3.78 \end{array}$$

275

223



$$\begin{array}{r} 223 \\ 52 \\ \hline 171 \\ 223 \\ \hline 4 \end{array}$$

VI

Bearington house.
6.60121

29

altitude $46^{\circ}49'$
latitude = $38^{\circ}56'$

$$D = 3^{\circ}29'56''$$

$$h = 47^{\circ}03'$$

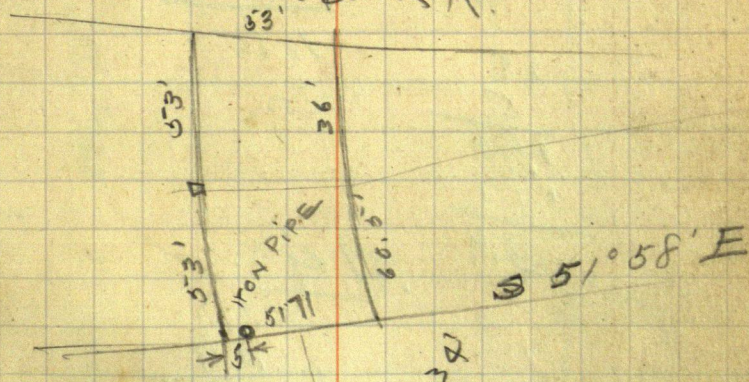
$$L = 38^{\circ}56'$$

$$\begin{array}{r} 15 \\ 6 \\ \hline 175 \\ 196 \end{array}$$

90

S - $51^{\circ} 58'$ E - Bearing of old Mt.
 S - $28^{\circ} 26'$ W - Vernon
 ↓
 RusSEL Rd.

O. D. R. R.



F. E. Beall

12' Alley
 S $28^{\circ} 26'$ W

91

$$\begin{array}{r} 215.3 \\ 212.5 \\ \hline 2.8 \\ 1.8 \\ \hline 4.6 \end{array}$$

$$\begin{array}{r} 1.8 \\ 1.1 \\ \hline 1.1 \end{array}$$

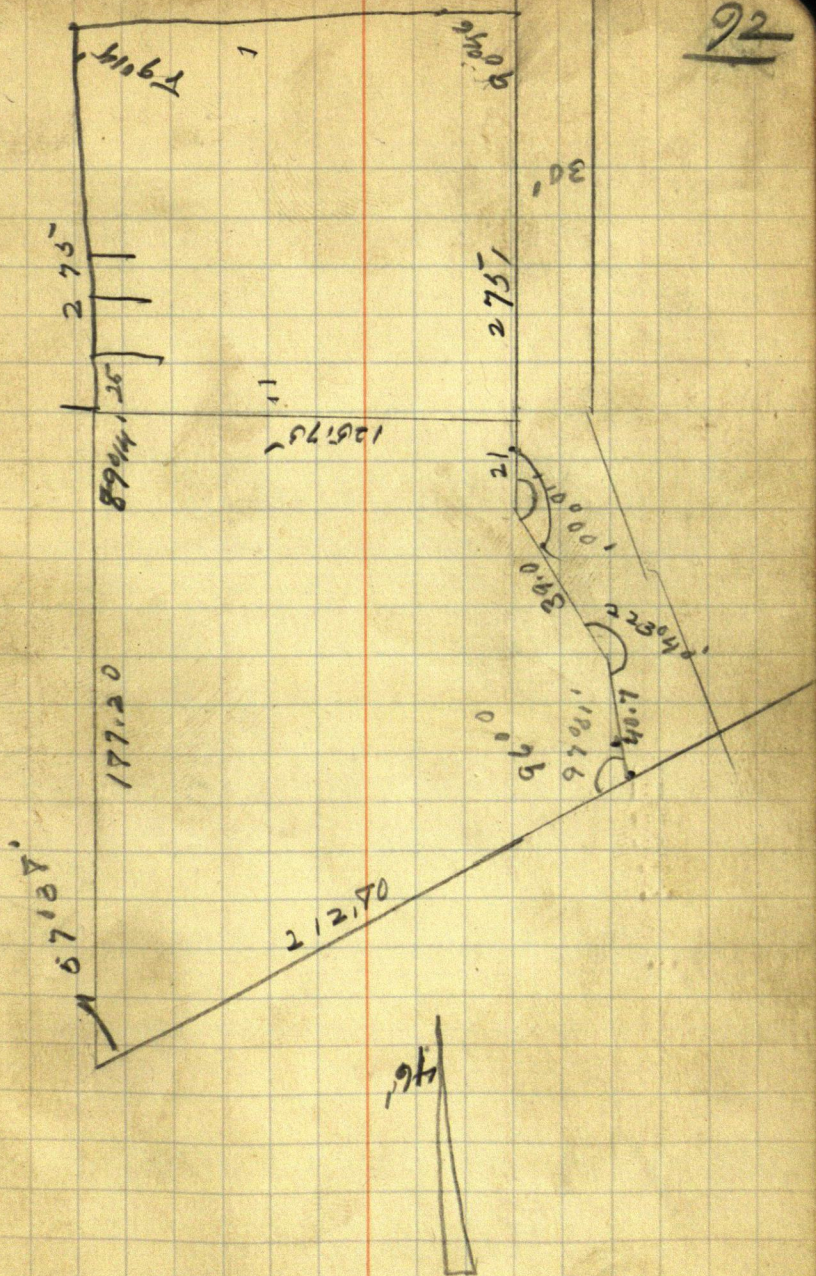
$$\begin{array}{r} 29 \\ 5 \\ \hline 1.45 \\ 1.11 \\ \hline 3.4 \end{array}$$

$$\begin{array}{r} 7 \overline{) 40.} \\ 5 \end{array}$$

$$\begin{array}{r} 57 \\ 480 \\ 350 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 97001 \\ 960 \\ \hline 1001 \end{array}$$

27



107
Property
Line
5 - 46° 17' - E - Haney

109 64 1/2 ft of Pipe, 44 Pipe 17" Long.
West Navack.
R. H. Coward.

20'06"

Portu Bdy N 72°47' W

117.75

200.

122.25

441.00

1033.30

22.9

1056.20

N. W. Cor Lot 1. Block 5.

{ Moves 1,59' N 16°29' W and
14.25' R Δ to Random }

757

$$\begin{array}{r}
 110 \\
 66 \overline{) 70.70} \quad 2.57 \\
 \underline{132} \\
 376 \\
 \underline{330} \\
 500
 \end{array}$$

172

94022'

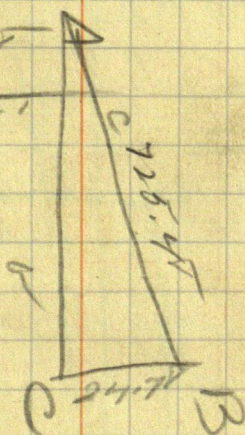
21153

5625

274.78

250

24.75'



111
275

110.95
40.10
100.25
100.25
40.10

521

20 800

20 100

20 100

20

50

15

10

10

10

10

10

10

10

10

10

10

10

10

10

275

100

100

100

25

15

15

15

755

250

800

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

50

50

50

100

50

32.25

100.25

100.25

732.50

100.25

632.25

1056.20 fall 19 ft West of
true pt. for corner.

112

725.48

24.78000 983 415
2 776 49

66
194

301568
290192

264

113680

594

725 48

66

411 320

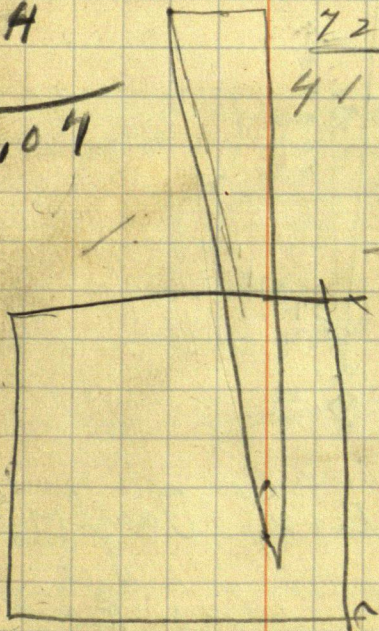
128,04

24853

244

2453

267



1,94

113

James Baker,
Mrs Mary Morris

0 2 0

19
1056.26
766.11
1036.54

A. 1001'

Carter L. Taylor,
Theodore R. R. R.

$$\begin{array}{r}
 257 \overline{) 650000} \quad (194 \\
 \underline{2557} \\
 2430 \\
 \underline{2313} \\
 1170
 \end{array}$$

114

2453

$$\begin{array}{r}
 150 \overline{) 99.90000} \quad (66600 \\
 \underline{900} \times \times \\
 990 \\
 \underline{900} \\
 900 \\
 \underline{900} \\
 000
 \end{array}$$

$$\begin{array}{r}
 237 \\
 194
 \end{array}$$

$$\begin{array}{r}
 1028 \\
 \underline{2343} \\
 2375.8 \\
 \underline{498}
 \end{array}$$

175

N. bound, 128.04'
W. " 170'

21 27'

7.50"
2

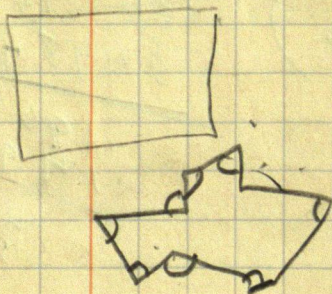
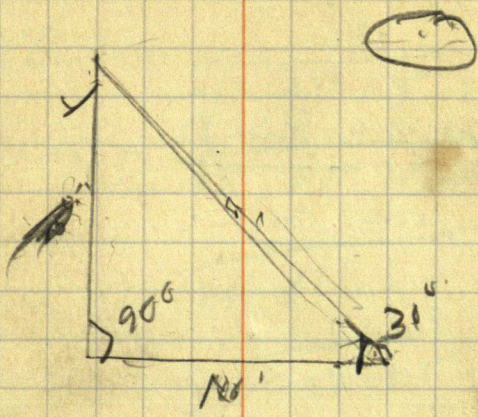
15.10

173135
68200

14427000
585080

434810

4997807000



117

74° 49'

$$\cos A = \frac{\sin D}{\tan L \cdot \tan A}$$

Calc 0001-

99975070)

3689400000⁰⁰
34984649

735200

19093510

14998421

41000890

39982456

10154340

9995614

1887260

615'

alt Dec.

115

$$21036'55'' = 615' \\ 23''$$

47° = Lat,

$$210370'18'' = 715'$$

$$210370'24'' = 730'$$

$$210371'36'' = 740'$$

$$210371'48'' = 750'$$

$$1.000000447 \\ 73720038$$

$$1.26150609$$

$$210381'00'' = 760'$$

$$210381'$$

A

$$210391''$$

Begin. at a set stone
 in the East line of S. B.
 Corbett land which stone
 is also the N.W. Corner of
 the tract purchased by
 Miss Mary Norris from
 John D. Napack and wife
 and thence Running,
 S $16^{\circ}50'E$ 199. ft. to a set
 stone 1 foot due south of
 a Hickory tree and in a
 line of tract belonging
 to J. Linton Grey, thence
 N $73^{\circ}30'E$ along Grey's line
 673. to a set stone. thence
 N $5^{\circ}25'W$ 182. to a stone in
 the north line of Norris
 tract. Thence South $74^{\circ}35'W$
 724. to Beginning. Containing
 three acres more or less.

Recorded in Liber L # 4

P. 314

120

$$\begin{array}{r}
 16050' W - 66 \\
 \underline{83030} \\
 100220'
 \end{array}
 \qquad
 \begin{array}{r}
 66 \overline{) 199.0} \quad (3.01 \\
 \underline{198} \\
 100
 \end{array}$$

$$\begin{array}{r}
 166 \\
 66 \\
 \hline
 996 \\
 996 \\
 \hline
 10956
 \end{array}$$

$$\begin{array}{r}
 301 \overline{) 500.10} \quad (1.66 \\
 \underline{301} \\
 1990 \\
 \underline{1706} \\
 1740
 \end{array}$$

$$3.01 = WBY, = 199'$$

$$S Bay = 109.55'$$

$$\begin{array}{r}
 8455 \\
 1650 \\
 \hline
 10125
 \end{array}$$

$$\begin{array}{r}
 150 \\
 \hline
 281025
 \end{array}$$

$$\begin{array}{r}
 360 \\
 28125 \\
 \hline
 17735
 \end{array}$$

170) 2 13560 (125,12

2 175 0,00

170

4 78

3 46

1 358

13 60

200

170

300

94020'

75

19020

15

0

123

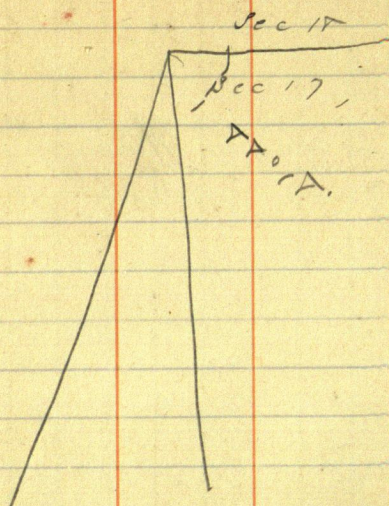
Bts. $1/4$ cor.

Secs. 17 & 20.

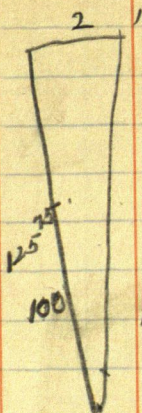
fir 5" S 20° E 16" LKS,
Jack Pine 6" N 19° E 25" LKS

124

129



137



.0116

125.7

0812

0570

0232

0116

145

2

125.7

.01591

2,000,000

1257

7430

6285

11450

11313

1370

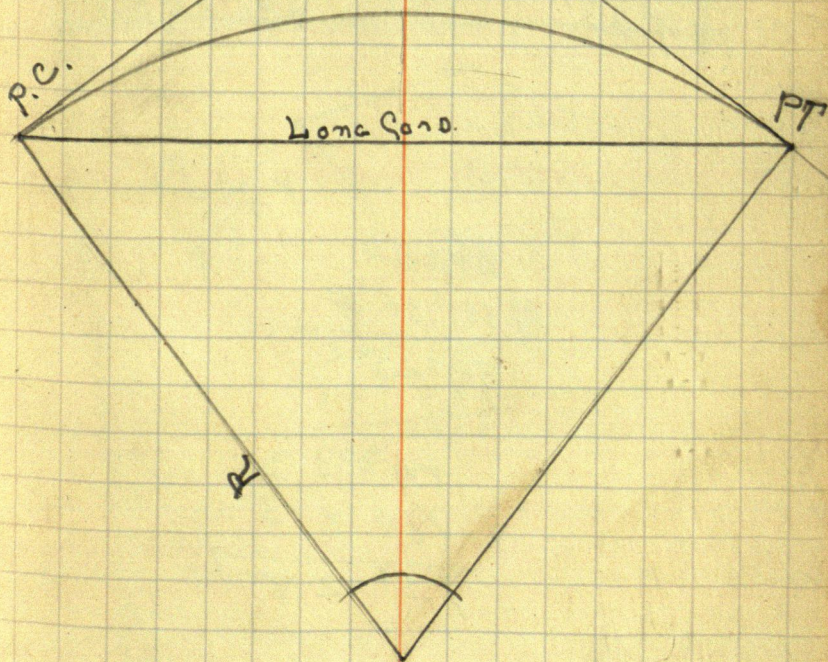
Direct observation on
Sun for Meridian,

$A = \text{Azimuth}$
 $d = \text{Declination}$
 $h = \text{altitude}$
 $L = \text{Latitude}$

$$\cos A = \frac{\sin d}{\cos h \cdot \cos L} - \tan h \cdot \tan L$$

Given angle from
North to Sun.

P.I. Deflection Angle.



1415

79 60

69° 02'

20 58

96.2

60

43.3

199.5

77° 35'

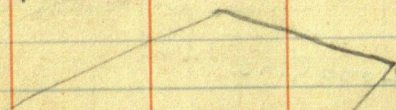
20° 58'

109° 33'

79 40

1025

77° 35'



79 60

N 10° 35' W

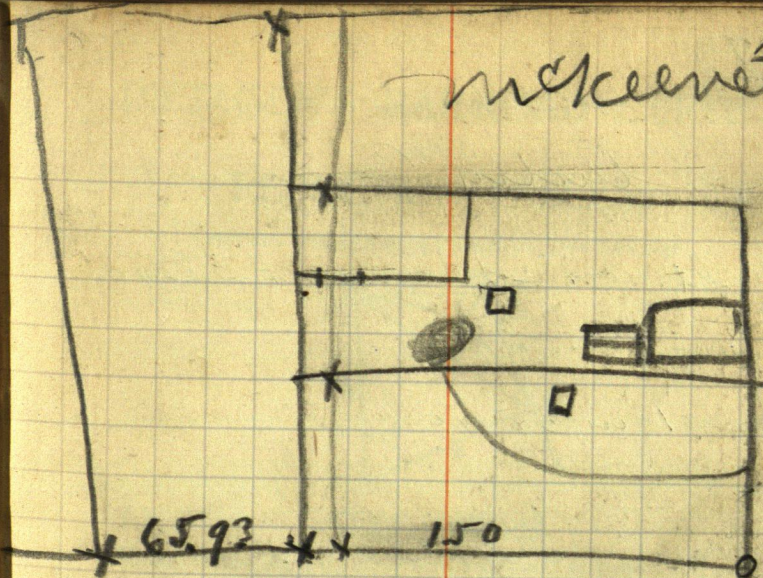
79025'

74003

10035

73° 28'

McKeever ¹⁴⁶⁶



$$\begin{array}{r} 17000 \\ 1025 \overline{) 17000} \\ \underline{10250} \\ 6750 \\ \underline{6750} \\ 0 \end{array}$$

$$\begin{array}{r} 2427 \\ 52047 \\ \underline{150} \\ 25704 \end{array}$$

$$\begin{array}{r} 359060 \\ 25704 \overline{) 359060} \\ \underline{257040} \\ 102020 \\ \underline{102020} \\ 0 \end{array}$$

147

Stadia Constant =

1 ft. on Stadia = 58.40'
on ground.

1 in 58.40

40°20'
90°

13020

214°41'
90°

30441

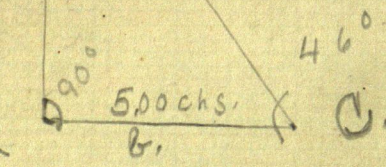
Solution of Right tri. Δ

B 46° A always = 90° .

$$\tan = 1.036$$

$$\text{base} = \frac{5.00}{1.036}$$

$$5.18000 \text{ ans}$$



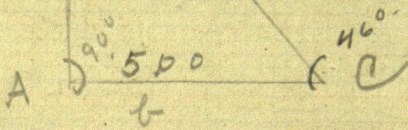
Given C and b. to find c.

$$c = b \times \tan C,$$

B 44° Cotang = 1.036

$$\text{base} = \frac{5.00 \text{ chs.}}{1.036}$$

$$\text{Dist} = 5.1810 \text{ chs. over}$$

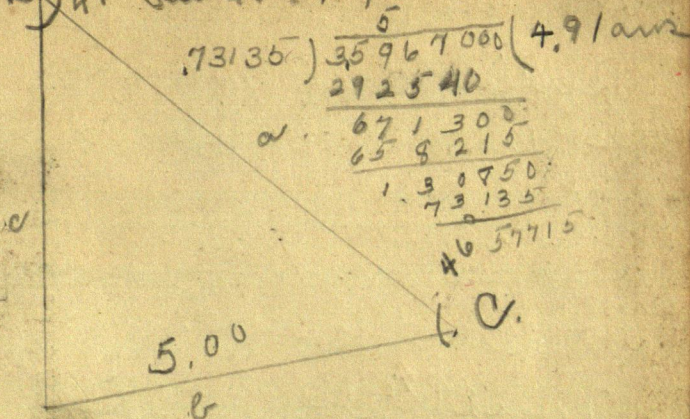


Given B and b. to find c,

$$c = \text{Cotang. } B \times b.$$

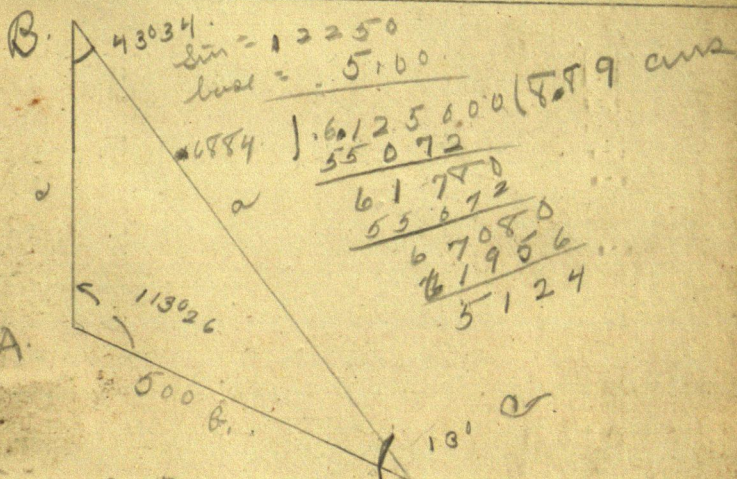
Solution of oblique triangle

$B = 47^\circ \sin 46^\circ = .71934$



Find c and b to find c .

$$\frac{\sin B}{\sin C} = \frac{b}{c}$$



Given C, B, b

Sought c

$$a = \frac{\sin C \times b}{\sin B} \quad \frac{B}{a} = \frac{b}{c}$$

To find rate of grade.
 Divide difference in elev.
 by dist bet points of
 elev.

To find grade,
 multiply length by
 Rate, add or subtract from points
 of elevation

118 53' x
 156 53'
 50 26'
 224 79'

8 1.33
 24
 808.57
 E 1

.00399
 00 37
 41