

LEVEL BOOK #4
10TH STREET

In t
frot

Cut

Cut of
FVII

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KE

Index

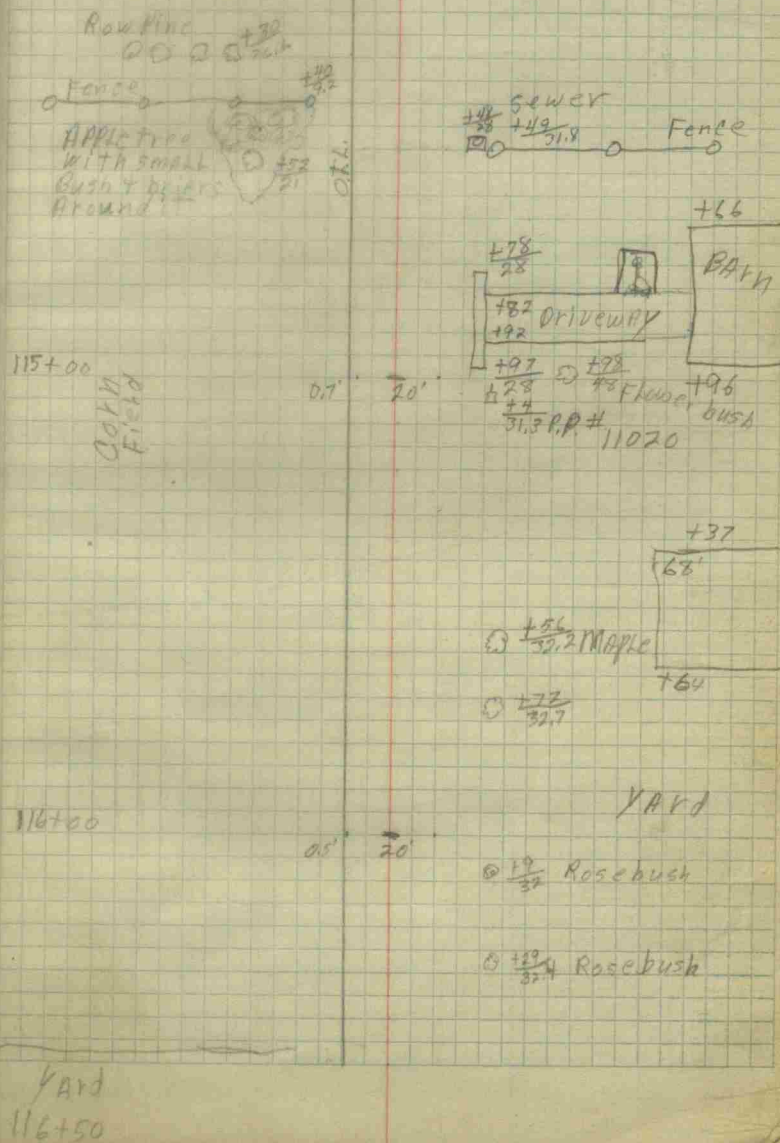
Page	Item
1-44	Topo. & Landmarks Sta. 114+00 to Sta. 207+00 (E. Co. Line)

AL-terry-wally-bruce
1. 7-24-69 Cloudy

115+00 STA. to be
Corrected to 114+00 STA.

31.3 P.P.

5
115+00-114+00



2.

245
15.7

5

116+50

Trash
burner

+79

117+00

+5

YARD

+80

House
Trailer

118+00 YARD

+32

Trash
burner

maple

Corn
Field
119+00

35.5
35.5

35.5
31.5

29.4
21.5

11.8
11

12.2
21

+37

+51

Box Elder

160
31.4

11.8
31

185
266

122
29
126
20

149
31

159
29

131
35

N 2.

15.2
15.2
32.7

Red bud
31.2 P.P. Fence

174

Board Fence

36.7

YARD

+72

12.2
31.5

12.2
11.4
Pine

12.2
31.5

14.9
15.0
15.4
31.6

163
163
Pine

163
31
Maple

163
31
Maple

163
31
Maple

163
31
Maple

163
31
Maple

163
31
Maple

163
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163
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163
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Maple

163
31
Maple

163
31
Maple

163
31
Maple

GARDEN

bean
Field

1.0-79

S.

S

N 3.

119+00

+60

+12

CORN

O.T.A.

GARDEN

BEANS

120+00

D 195 RP.
29.5

1.0-12.3

121+00

1.5-12.9

121+50

+12.5
1.0

Stake are
Correct from
Here on

4.

121750

Bush
Wheat $\frac{+63}{77}$

0

 $\frac{+63}{259}$ P.R.

122700

8.00

1.0711

1.6-128

123700

8.50

2.0779

124700

7.60

1.7-18.3

~~23~~ Title $\frac{+44}{29}$ P.R.

+52

+63

+56 maple in Row

+70

+71

+83

+84

+85

+86

+87

+88

+89

+90

+93 Three with

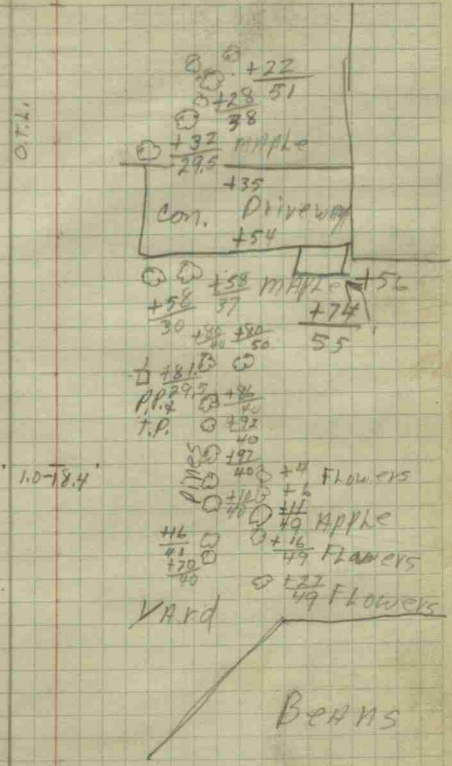
51 Three

Strike

Amount

N 4.

5.

5
124760N
5.

125400

6.7
1.0-7.4

126100

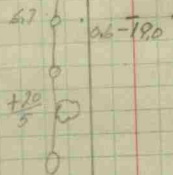
7.0
0.9-1.85B + 43
30 P.H. + T.P.

126450

6.

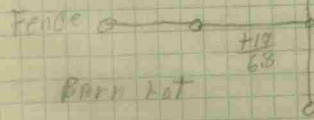
S
126150N
6.

127400



128400

65 0 05-19.4

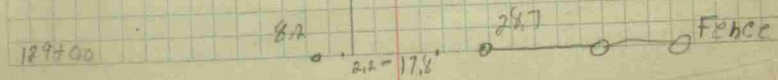
H $\frac{+73}{240}$ P.R. + T.R.

Beans

129400

8.2 21.2 = 17.8

28.7 Fence



AL - Bruce - Tim - MARK - WALLY

Terry - 7-28-69

7.

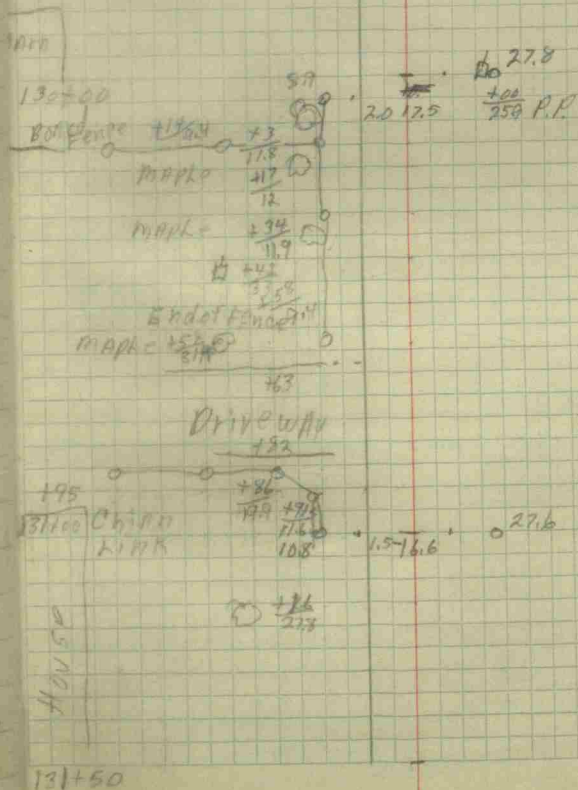
17.5

5
129+00

N

7.

Pasture



A
7 8.

5
131150
N 8.

165
T.N. 155
2.8
MAPLE 175
23
YARD
Ond
2.1
193
1320
MAPLE 199
14.6
2.9-16.5
0 27.8
D $\frac{183}{26.7}$ P.P. + T.P.

17
MAPLE $\frac{151}{15.2}$

MAPLE $\frac{183}{15.3}$
133100 12 0 28-16.7 0 27.4

MAPLE $\frac{132}{15.6}$
D $\frac{124}{26}$ P.P. + T.P.

Pasture
165
9.5

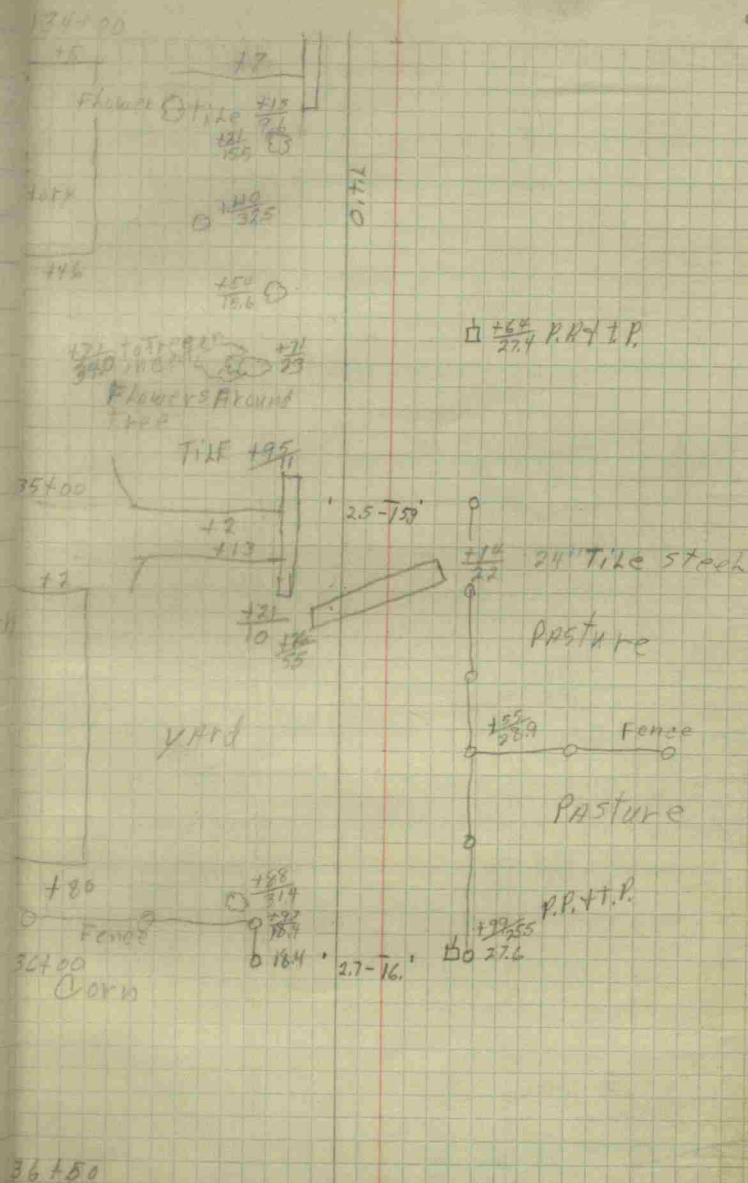
Fence 81
125
D $\frac{181}{27.5}$ Stump

MAPLE $\frac{192}{15.6}$
134100 198 28-16.2 0

P.K. Neil
At this STA on 07.1

9.

AL - Tim - Bruce - Wally - Mark - Terry
 7-29-69 Sunny + Cool

N
9.

10.

Stakes are not 10'

130150

12700

1220

3.2-16'

0 28.8

CORN

138106

0 16.6

3.4-16'

0 29

P.P.T.P.
+43
+38
+42
30 150

+54 Flower
30 Bush
YARD

MAPLE

+28
33.4

+85

2

STORY

+17

+30 MAPLE
35

139100

0 16 3.8-16'

+120
+98
30
+98
30
0 29

+90 MAPLE
35

N
10.

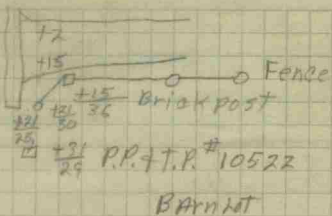
11.

5

141+00

N

11.

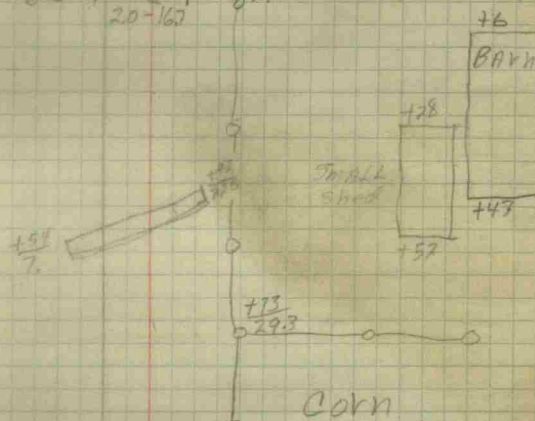


O.T.A.

88

140+00

16' 20-167 29



141+00

155' 15-176 29

141+50

ELM

149
154

12.

N
12.

141+50

ELM +60

+163
28.5 RR J.T.P.

142+00

4" Pipe
MAPC 12153
11-17.6 028.2

Burr Tree +92

Corn

Pasture

143+00

15
1.5-17.2 029.5

710

+26 Tile
20.8

Ditch

144+00

14.0
1.3-18.0 030

13.

S

44400

N

13.

Waldschnecke $\frac{15}{8}$ ○maße $\frac{19}{8}$ ○Stump $\frac{93}{8}$ ●

145400

13.0

1.5-18

0.290

Maßstump $\frac{27}{8}$ ●Stump $\frac{15}{8}$ ●Elm $\frac{14}{8}$ ○Waldschnecke Stump $\frac{15}{8}$ ● $\frac{192}{8}$ ●

146400

12.6

0.9-18

0.30

AL-Tim-Bruce-Wally-Mark-
14. 7-30-69 Sunny 46700

N
14.

P.K. nail on 07
AT STA. # 14674

Stump $\frac{+32}{10}$ •

074.

+21

+35

Stump $\frac{+32}{10}$ •

wild cherry $\frac{+32}{10}$ ○

147700

11' 30.2°
16-183

Stump $\frac{+32}{10}$ •

stump $\frac{+32}{10}$ •

wild cherry $\frac{+32}{10}$ ○

△ $\frac{+29}{26.5}$ P.P.+T.P.

Bookeye Pipe Line Co.
Phone

Lima, Ohio AC 419-223-4015
Macungie, Pa. AC 215-967-3131

Pipe line $\frac{+28}{10.7}$

marker 10.7

+20 Pipe line
20

+32
10

⊙ $\frac{+32}{30}$ E.L.M

Piturne
148100

10' 30.2°
25-19

⊙ $\frac{+3}{26}$ E.L.M

148750

15.

5

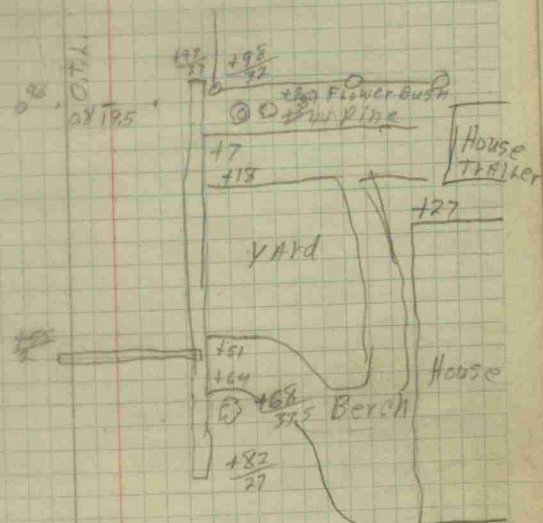
15.

STAKE AT 9'

150+00

P.K. Nail At
 STA. # 150+95 on side.
 STAKE AT 8'

151+00



0.9' 04-188'

0 $\frac{16}{30}$ Gulp wire1 $\frac{18}{29.4}$ House
Going
UP

0.9' 0.6-19.3'

1.05
Drive

16.

Row of Flower along
Fence Beg. AT 35' + 05'
within Pine 45'

Guywire to P.P.
AT STA # 151+58

74.

30

39

40

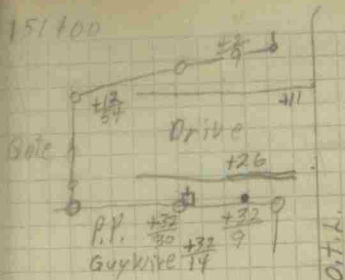
54

27

49.0

S.

151+00



152+00

80

0.5-195'

153+00

8.5

1.0-18.8'

Walnut
trees +39
14

N.

16.

14 Drive

+100 Chain Link

30 + 16

Drive

+27

137 + 37 + 37
33 40 54

Stubs +55

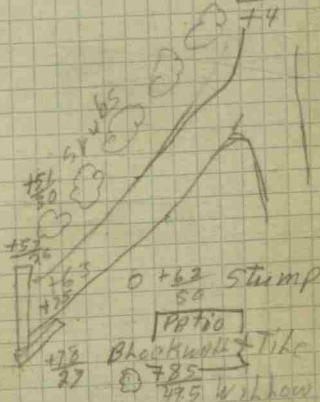
b +58
29.5 Maple
+67
48

Yard

15' x 11'
with
Basement

Maple
+67
48

+4



+95

34

+62

34

+15

34

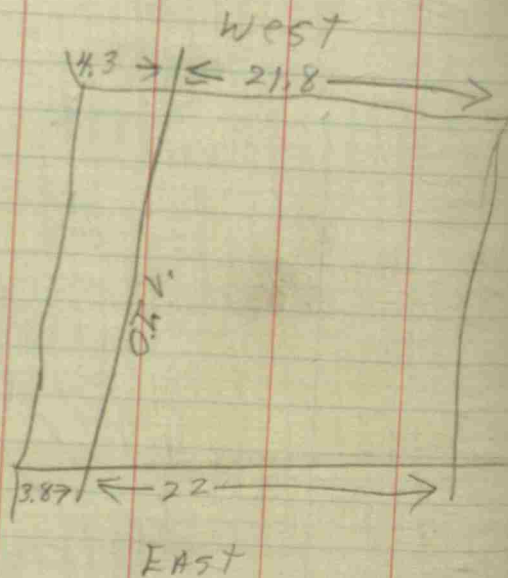
Flowering

Bush

+30 Maple
49

17.

27.



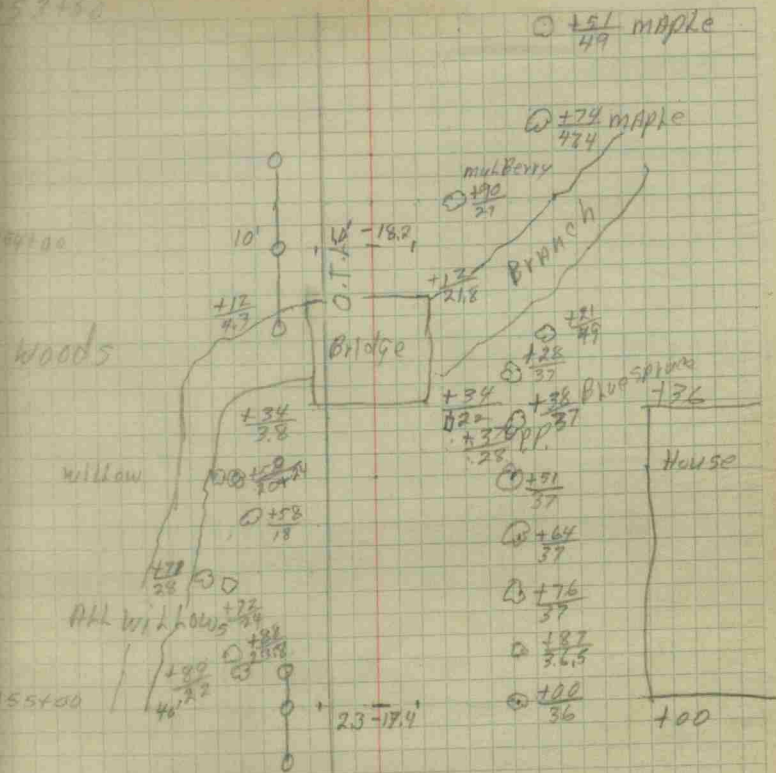
N

17.

53150

69100

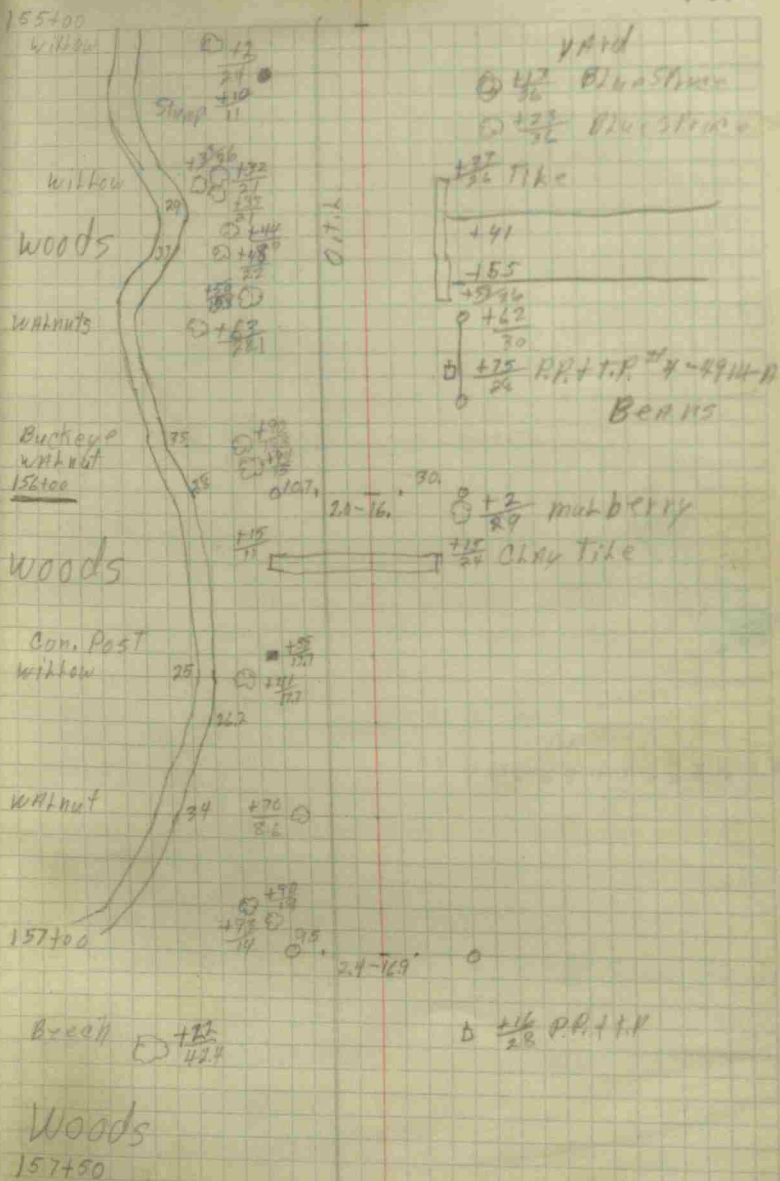
155100



Tim-Al-Bruce-Terry-Wally
18. 7-31-69 Cloudet Creek

S.

N.
18.



35/

10.7

6.6

34.6

19.

13.7

31.

27.9

13.5

11.8

S.

57+50

Woods

Ash

 $\odot \frac{+30}{32}$

158+100

Ash

 $\frac{9.6}{13.7} \odot \frac{0.5}{16.7}$ Ash $\odot \frac{+10}{37}$ $\odot \frac{+12}{157}$

Woods

Maple

 $\odot \frac{+57}{34.4}$

Hickory

 $\odot \frac{+69}{29.4}$

Oak

 $\odot \frac{+21}{14}$

159+100 Ash

 $\odot \frac{+3}{27}$ $\odot \frac{+99.95}{27}$

Ash

 $\odot \frac{+15}{35}$

Woods

Maple

 $\odot \frac{+30}{29.5}$

Hickory

 $\odot \frac{+37}{16}$

Hickory

 $\odot \frac{+53}{32}$

Wild Cherry

 $\odot \frac{+74}{31.2}$

Ash

 $\odot \frac{+85}{11}$

160+100

1.7-18

N.

19.

 $\odot \frac{+54}{27}$ \odot \odot Small Bush Along
Ditchy Bank \odot

Beans

 $\frac{+45}{51.4}$ $\frac{+57}{29}$ $\frac{+58}{60}$

Pasture

 $\frac{+21}{14}$ $\frac{+97}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\frac{+99}{30}$ $\odot \frac{+58}{40}$ Small Bush $\odot \frac{+72}{36.5}$ mulberry

AL. - Tim - Bruce - Willy - Terry -
8-1-69 Sunny + cool
20.

#6

50

14.3

S
160100

pitch
Ash $\frac{16}{20}$ $\frac{8}{10}$
3AT $\frac{17}{20}$ $\frac{67}{100}$
28-7-11 $\frac{10}{100}$
stump $\frac{5}{100}$ $\frac{10}{100}$

woods

maple $\frac{15}{20}$ $\frac{5}{10}$

maple $\frac{167}{100}$ $\frac{165}{100}$ $\frac{10}{100}$

Ash $\frac{170}{20}$ $\frac{170}{100}$

ELM $\frac{105}{100}$

161100

10

CIT.

15-18.2'

Ash $\frac{122}{20}$ $\frac{12}{10}$
Walnut $\frac{134}{20}$ $\frac{12}{10}$

stump $\frac{14}{10}$

Bushes
from +60
32-44
+83
35440

162100

9.50

15-18.7'

0.29.5

Ash $\frac{12}{15}$ $\frac{10}{10}$

Ash $\frac{122}{138}$ $\frac{10}{10}$

Ash $\frac{120}{13.50}$ $\frac{10}{10}$

162450

Ash $\frac{126}{20}$ $\frac{10}{10}$

N

20.

$\frac{12}{20}$ $\frac{16}{20}$ $\frac{16}{20}$ $\frac{16}{20}$
 $\frac{12}{20}$ $\frac{16}{20}$ $\frac{16}{20}$ $\frac{16}{20}$
Small trees

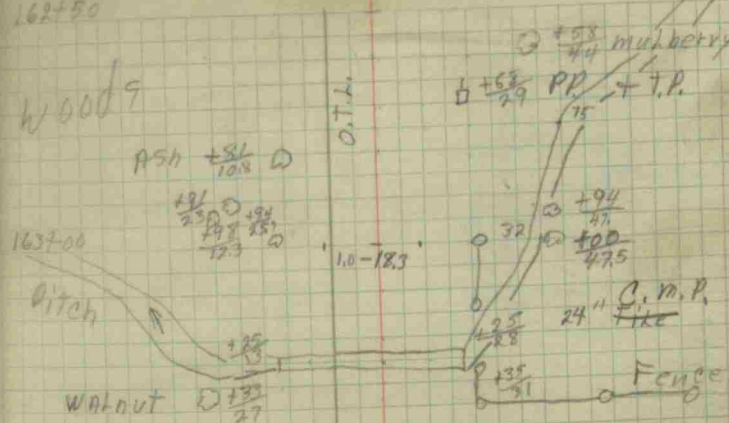
PASTURE
with
SMALL BUSH

$\frac{12}{20}$ P.P. + P.

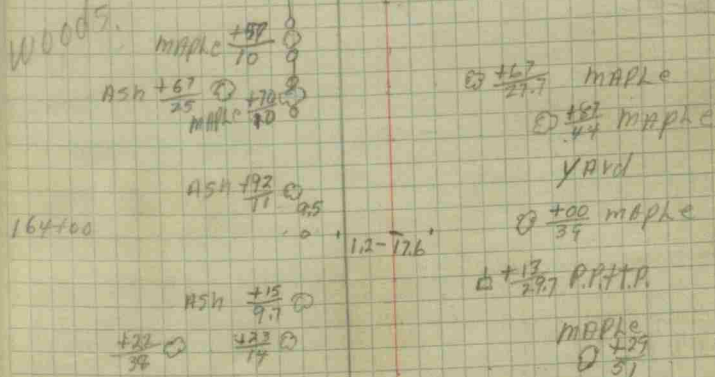
21.

162+50

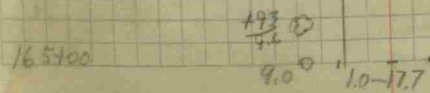
Woods



Woods



Woods

N
21.

+65

+90

22.

31

33

5
165700

WOODS

Walnut $\frac{+34}{71}$ ○
 $\frac{+35}{81}$ $\frac{+32}{85}$ Walnut
 Ash $\frac{+40}{75}$ ○
 Elm $\frac{+44}{29}$ ○
 Walnut $\frac{+59}{10}$ ○
 $\frac{+16}{10}$ ○
 Walnut $\frac{+80}{51}$ ○
 2 maple $\frac{+82}{27}$ ○
 166700 Ash $\frac{+92}{31}$ ○

Walnut ○ $\frac{+25}{36}$
 Walnut ○ $\frac{+22}{23}$
 Ash $\frac{+42}{33}$ ○
 Walnut
 Walnut ○ $\frac{+68}{32}$

167700 Tile $\frac{+93}{5}$ $\frac{+89}{30}$ RR, T.P.
 $\frac{+92}{27}$ 80.6
 9.5 ○ + 1.0 = 9.5
 Ditch
 smelt
 Ash ○ $\frac{+19}{30}$
 167750
 $\frac{+48}{27}$ $\frac{+48}{23}$

N
22.

○ $\frac{+16}{49}$ Barn
 $\frac{+12}{22}$ Drive } $\frac{+75}{75}$
 ○ $\frac{+70}{303}$ +26 Flower
 Behind Fence
 ○ $\frac{+42}{30}$ P.P. + T.P.
 ○ $\frac{+61}{31}$ Fence
 Pasture

○ 30.5

Ditch

1.0 = 18.6

○ $\frac{+42}{27.5}$ Con. w. 1" Iron Pipe
in it

○ $\frac{+17}{30}$ Fence
 ○ $\frac{+80}{32}$ Rial Fence
 +30 Drive
 ○ $\frac{+41}{43}$

23.

47.4

30.7

33.

36.7

47

S

167+50

$\frac{196}{58} \text{ B}$ $\frac{195}{26}$ 9.5 $\frac{110}{94}$
 168+00 10-19.7
 Corn

169+00 Stump $\frac{195}{10}$ 9.1 0.7-19.5 0.31

 $\frac{77.5}{39}$
 $\frac{19.5}{67}$

170+00 8.9 0 19.2 0.31.7

P.K. NAIL ON O.T.L.

N

23.

 $\frac{167}{43}$ MAPLE

+88

+68

+88

+88

+88

37

+100

 $\frac{125}{30}$ P.P.H.T.A

+35

72 +45

+45

30

 $\frac{72}{30.8}$ P.P.H.T.A

24.

8-5-69

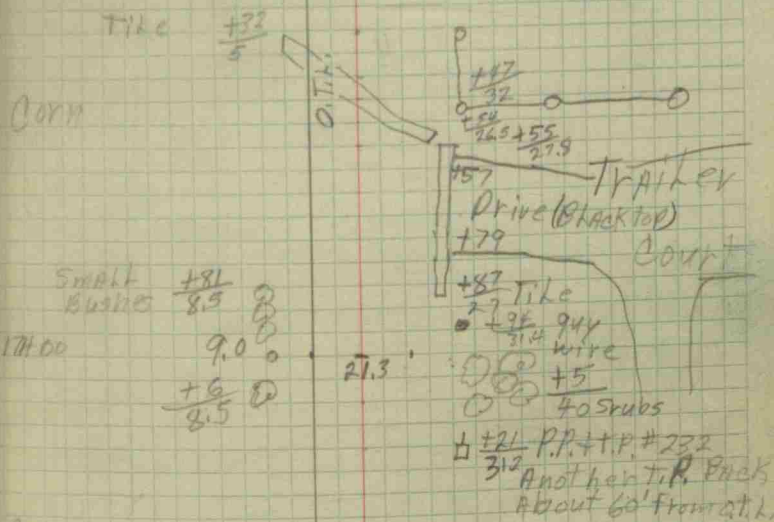
26.5

27.8

stubs + 5 groups
 measurement to
 middle

S.

170+00



Small Bushes $\frac{181}{8.5}$ 2
 9.0 0
 $\frac{16}{2.5}$ 0

171.00

21.3

CORN

172+00

9.0 0 0.5-207

172+50

442 P.P. + T.P.
 30.8

N.
24.

Bronckche
 Mobile Home
 PARK

(GRASS)

+ #1
+ #9
33 pp.

172+50

0.11

Trailer don't
105
(grass) Back
to first
E. W. Street

173+00

8.0

21.7

Amoron
Post
For P.P. $\frac{+35}{6}$ Ⓛ

Ⓛ $\frac{+48}{32.5}$ P.P. + P.P.
+55 Ⓛ $\frac{+48}{39}$ mid. Scrubs
Ⓛ $\frac{+65}{49.5}$

19.5

PARK

LOT

+95

174+00

8.6

20-20

51

Walnut $\frac{+17}{9}$ Ⓛ

BLACK
TOP

56' to store
FRONT
(woods)
+26 WALK
+30

Bushes
AROUND
STUMP $\frac{+69}{8}$ Ⓛ

+50

49

+59 sign Post.

+55 to +73 AT 411

Ⓛ $\frac{+71}{33}$ P.P. + P.P.

175+00

8.8

22.1

26.

1754

Corn

0.71

GRASS

17600

8.0

22.4

$\frac{+35}{34}$ P.P. + T.P.

GRASS

17700

6.8

22

22.9

108' to
Street

177+50



$\frac{+20}{30}$ cc sign Back
OF Strub
+35 Strubs

$\frac{+12}{30}$

177+50

177+00

7.0°
2.2

O.I.L.

225

+55

Drive mobile
EAST PARK

+83

+92

30

tile
P.P. + 1.0

+92

+92 - 106

38-55 Stabs

8-7-69
AL-Bruce-wally-mint
28.

27.3


30

34.7

32.4

173100

28.

$\frac{125}{5}$  $\frac{120}{59}$ scrub
 $\frac{128}{77}$ tiled
 $\frac{128}{77}$ Scrubs
 $\frac{136}{39}$
 $\frac{141}{45}$

+52 Black top Drive
+63

$\frac{171}{50}$ Maple

Yard

+83

2

store

+9

179+20

7.2 0

20-232

$\frac{15}{49}$

$\frac{146}{356}$ P.P.+T.P.

$\frac{167}{46}$ E.L.M.

180+60

7.0 0

30-24

$\frac{117}{73}$ 0

$\frac{130}{0}$

+58

$\frac{134}{347}$ P.P.+T.P.
 $\frac{135}{324}$ underground
Cable

180+50

635-3800
Telephone 9

29.

30.5

63

68.32

71.61.92

-80

29.

181.50

163	+68	00
Underground	32	+71
Apple	59	10

181+00

40-23'

+93.0
 +91.0
 +90.0
 +89.0
 +88.0
 +87.0
 +86.0
 +85.0
 +84.0
 +83.0
 +82.0
 +81.0
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 +8.0
 +7.0
 +6.0
 +5.0
 +4.0
 +3.0
 +2.0
 +1.0
 0
 -1.0
 -2.0
 -3.0
 -4.0
 -5.0
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 -21.0
 -22.0
 -23.0
 -24.0
 -25.0
 -26.0
 -27.0
 -28.0
 -29.0
 -30.0
 -31.0
 -32.0
 -33.0
 -34.0
 -35.0
 -36.0
 -37.0
 -38.0
 -39.0
 -40.0
 -41.0
 -42.0
 -43.0
 -44.0
 -45.0
 -46.0
 -47.0
 -48.0
 -49.0
 -50.0

+51 Beruh

+75

+61

182+00

8.5

3.0-23.5'

37.5

+10

AL-Terry-Bruce-Mally-
30. 8-8-69

S
182100

P.K. nail in top of
wood stump at
182119
1st floor

weeds

OTL

+10

+70

43

$\frac{100}{90}$

+43

P.P. + T.P.

YARD

GRASS

188100

54

33-23

184100

58

30-23

184150

$\frac{+43}{54}$ P.P. + T.P. #13

N

30.

31.

145

31.

18450

0	0	Blue
+52	+52	spruce
47	52	

18500

6.0'

27-228

18600

30-232

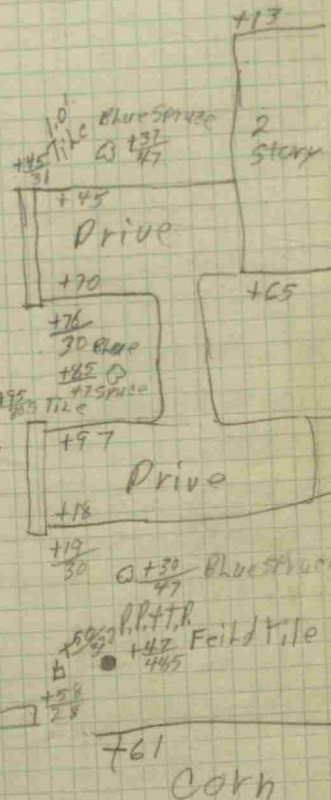
2' Clay tile +69

Ditch

18700

6.0'

25-22



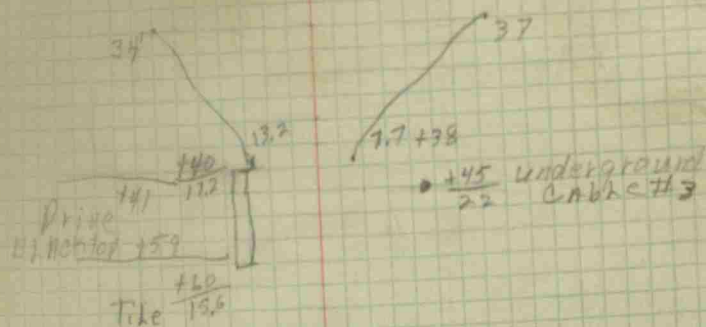
32.

8-7-49

W. S+38

0+02

N

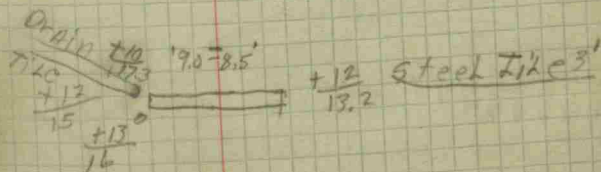
E.
32.

1+00

'9.0-9.0'

Underground
Cable Along
East Side
205' From
STN. #0+45 to 2+00

2+00



2+50

+45
12

33.

W 5-38

E

2150

33.

Drive

$\frac{165}{120}$ "like 11"

2100

8.9-8.8

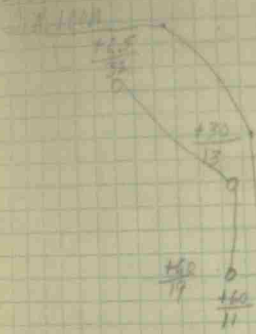
AL-Terry-Bruce-walk
34. C.R. 1050E

P.K. nail in center
of Road 100N 29' to P.K. north

STAKES 18.5' From P
on west side

S-3A

W. 2000



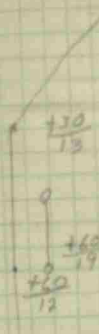
1100

P.K. +23/17.3

2400

2950

P.K.



C.R. 1050E

12.8 11.5-12.9 18.

16.7 11.6-11.5 17.6

+37/12.9 wild cherry

N
↑
34. E

- ① +24/14.8 Wild Cherry
- ② +35.6 Thorn Tree
- ③ +44.2
- ④ 18.2 Wild Cherry
- ⑤ +44.2
- ⑥ +52/16 Thorn trees

35.

P.K. NAIL AT STA. # 3100
Q of Road 1050F

2950

radius $\frac{151}{17.6}$ 0

0 $\frac{191}{17.6}$ Wildcherry

3100

18.6 0 $\frac{102}{11.6}$ 0 17.9

E
35.

36.

187700

Weeds

O. T. H.

188700

6.6 0

33-22.6

$\frac{5+51}{32}$ RR + T.H

189700

7.4 0

30-23

189750

36.

37.


N
37.

189-52

19000 6.5' 0' 35-23.5'

□ $\frac{+66}{32}$ P.P.T.P.# 32-49 WA

19100 7.7' 0' 25-23'


+32 Fence
50
Bushes
Along Fence

19200 8.0' 0' 30-23'

38.

372

38.

192400

Corn

b $\frac{+22}{972}$

193100

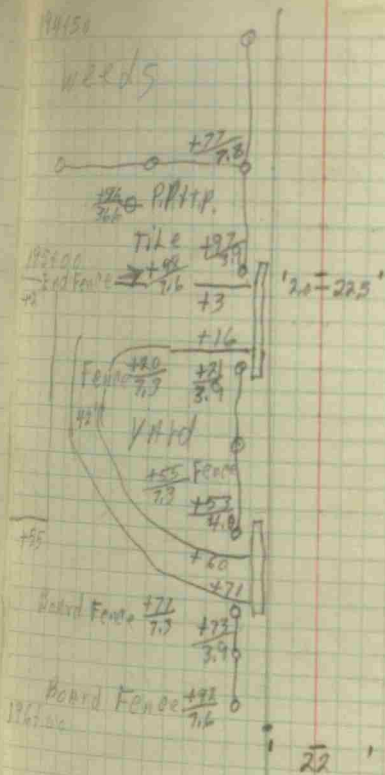
7.00 '28-23

194100

7.40 '26-229'

194150

wood stake with
nail at sta # 195+96
9' to Ash tree southeast



Corn

Corn

Corn

AL - Bruce - MARY - LINDA -

40.

8-11-69

33

Rose bushes
beside drive
AT STA +33 +44

P.K. NAIL
R

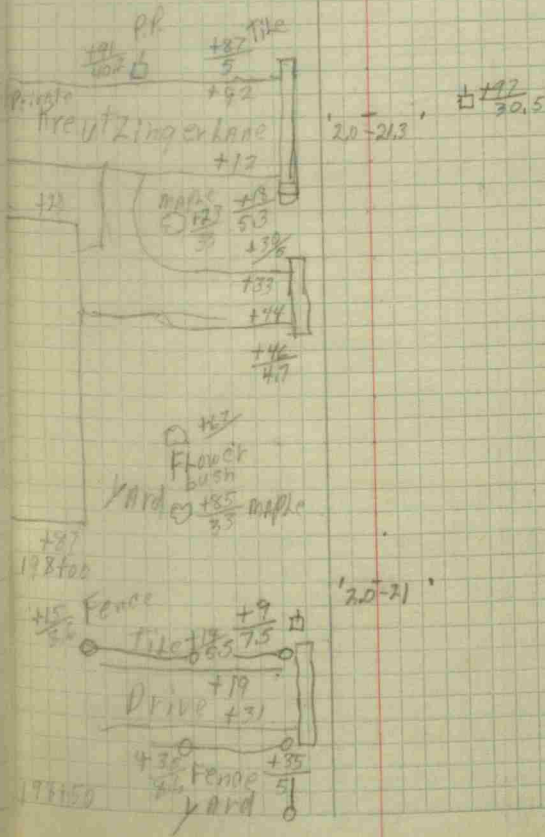
196-00

ASH 110
21

40.

Corn

att.



41.

41.

198150

+55

Pine

Yard

+80

199100

Apple

+30
PineDrive to
FIELD

Clover

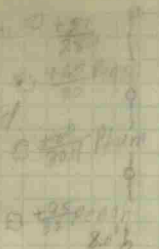
200100

Yard +55

Flower
Bush

+77

201100



05-21.5'

+17
24 R.P. + T.P.

R.P.

Corn

20.5'

20.5'

42.

5.7

25

28

42.

201430

111	712	118
111	118	118
<hr/>		
	435	
T.P. + R.P.	136	136
	8	8
		5

□ $\frac{118}{29}$ P.P. + T.P.

Corn

202100	122	136
	199	
	199	
	100	
	6	
		20

O.T.L.

+11

VARD

+52

+77

Clover

203100

21

□ $\frac{118}{29}$ P.P. + T.P.

203150

111	118	118
	118	118
<hr/>		
	118	
House	118	118
Trailer	145	145

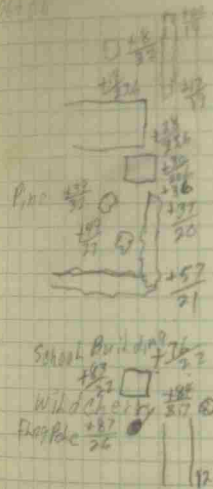
44.

22.

Drive tt+61 to County line
A 12 from a.t.l.

44.

2004-04

b $\frac{102}{20}$ P.P. 17.P

21

32A-4583

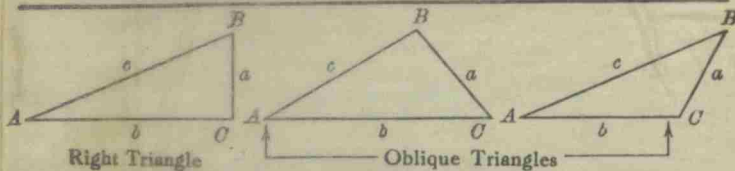
'68 Chev Nova II Would not stop
for flagman + speed

82

1240 A 67 Ford 1/2 ton

180 00	5200
3 00	3
177 00	15600
156 00	
21 00	

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

For Angle A , $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{a}$, $\operatorname{cosec} = \frac{c}{a}$

Given	Required	Formula
a, b	A, B, c	$\tan A = \frac{a}{b} = \cot B, c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A, b = a \cot A, c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A, a = b \tan A, c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A, a = c \sin A, b = c \cos A$

Solution of Oblique Triangles

Given	Required	Formula
A, B, a	b, a, C	$b = \frac{a \sin B}{\sin A}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180^\circ - C, \tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$ $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a + b + c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}, C = 180^\circ - (A + B)$
a, b, c	Area	$s = \frac{a + b + c}{2}, \text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, b, c	Area	$\text{area} = \frac{bc \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL

Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = $5^\circ 10'$. From Table, Page IX, $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft.
Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. $\operatorname{Cosec} 5^\circ 10' = .9959, 1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ ft.
When the rise is known, the horizontal distance is approximately:—the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.