

10Th Street
Book # 3

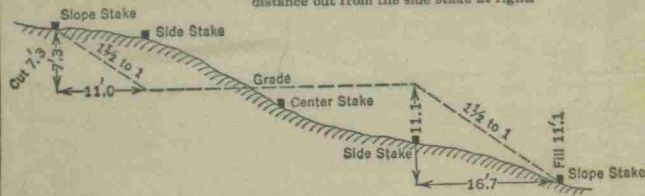
K-E
MINING TRANSIT BOOK
82-0023

LEVEL BOOK #3
10TH STREET

R

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
 Roadway of any Width. Side Slopes 1 1/2 to 1.

In the figure below: opposite 7 under "Cut or Fill" and under 3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



| Cut or Fill | Distance out from Side or Shoulder Stake | | | | | | | | | | Cut or Fill |
|-------------|--|------|------|------|------|------|------|------|------|------|-------------|
| | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | |
| 0 | 0.0 | 0.2 | 0.3 | 0.5 | 0.6 | 0.8 | 0.9 | 1.1 | 1.2 | 1.4 | 0 |
| 1 | 1.5 | 1.7 | 1.8 | 2.0 | 2.1 | 2.3 | 2.4 | 2.6 | 2.7 | 2.9 | 1 |
| 2 | 3.0 | 3.2 | 3.3 | 3.5 | 3.6 | 3.8 | 3.9 | 4.1 | 4.2 | 4.4 | 2 |
| 3 | 4.5 | 4.7 | 4.8 | 5.0 | 5.1 | 5.3 | 5.4 | 5.6 | 5.7 | 5.9 | 3 |
| 4 | 6.0 | 6.2 | 6.3 | 6.5 | 6.6 | 6.8 | 6.9 | 7.1 | 7.2 | 7.4 | 4 |
| 5 | 7.5 | 7.7 | 7.8 | 8.0 | 8.1 | 8.3 | 8.4 | 8.6 | 8.7 | 8.9 | 5 |
| 6 | 9.0 | 9.2 | 9.3 | 9.5 | 9.6 | 9.8 | 9.9 | 10.1 | 10.2 | 10.4 | 6 |
| 7 | 10.5 | 10.7 | 10.8 | 11.0 | 11.1 | 11.3 | 11.4 | 11.6 | 11.7 | 11.9 | 7 |
| 8 | 12.0 | 12.2 | 12.3 | 12.5 | 12.6 | 12.8 | 12.9 | 13.1 | 13.2 | 13.4 | 8 |
| 9 | 13.5 | 13.7 | 13.8 | 14.0 | 14.1 | 14.3 | 14.4 | 14.6 | 14.7 | 14.9 | 9 |
| 10 | 15.0 | 15.2 | 15.3 | 15.5 | 15.6 | 15.8 | 15.9 | 16.1 | 16.2 | 16.4 | 10 |
| 11 | 16.5 | 16.7 | 16.8 | 17.0 | 17.1 | 17.3 | 17.4 | 17.6 | 17.7 | 17.9 | 11 |
| 12 | 18.0 | 18.2 | 18.3 | 18.5 | 18.6 | 18.8 | 18.9 | 19.1 | 19.2 | 19.4 | 12 |
| 13 | 19.5 | 19.7 | 19.8 | 20.0 | 20.1 | 20.3 | 20.4 | 20.6 | 20.7 | 20.9 | 13 |
| 14 | 21.0 | 21.2 | 21.3 | 21.5 | 21.6 | 21.8 | 21.9 | 22.1 | 22.2 | 22.4 | 14 |
| 15 | 22.5 | 22.7 | 22.8 | 23.0 | 23.1 | 23.3 | 23.4 | 23.6 | 23.7 | 23.9 | 15 |
| 16 | 24.0 | 24.2 | 24.3 | 24.5 | 24.6 | 24.8 | 24.9 | 25.1 | 25.2 | 25.4 | 16 |
| 17 | 25.5 | 25.7 | 25.8 | 26.0 | 26.1 | 26.3 | 26.4 | 26.6 | 26.7 | 26.9 | 17 |
| 18 | 27.0 | 27.2 | 27.3 | 27.5 | 27.6 | 27.8 | 27.9 | 28.1 | 28.2 | 28.4 | 18 |
| 19 | 28.5 | 28.7 | 28.8 | 29.0 | 29.1 | 29.3 | 29.4 | 29.6 | 29.7 | 29.9 | 19 |
| 20 | 30.0 | 30.2 | 30.3 | 30.5 | 30.6 | 30.8 | 30.9 | 31.1 | 31.2 | 31.4 | 20 |
| 21 | 31.5 | 31.7 | 31.8 | 32.0 | 32.1 | 32.3 | 32.4 | 32.6 | 32.7 | 32.9 | 21 |
| 22 | 33.0 | 33.2 | 33.3 | 33.5 | 33.6 | 33.8 | 33.9 | 34.1 | 34.2 | 34.4 | 22 |
| 23 | 34.5 | 34.7 | 34.8 | 35.0 | 35.1 | 35.3 | 35.4 | 35.6 | 35.7 | 35.9 | 23 |
| 24 | 36.0 | 36.2 | 36.3 | 36.5 | 36.6 | 36.8 | 36.9 | 37.1 | 37.2 | 37.4 | 24 |
| 25 | 37.5 | 37.7 | 37.8 | 38.0 | 38.1 | 38.3 | 38.4 | 38.6 | 38.7 | 38.9 | 25 |
| 26 | 39.0 | 39.2 | 39.3 | 39.5 | 39.6 | 39.8 | 39.9 | 40.1 | 40.2 | 40.4 | 26 |
| 27 | 40.5 | 40.7 | 40.8 | 41.0 | 41.1 | 41.3 | 41.4 | 41.6 | 41.7 | 41.9 | 27 |
| 28 | 42.0 | 42.2 | 42.3 | 42.5 | 42.6 | 42.8 | 42.9 | 43.1 | 43.2 | 43.4 | 28 |
| 29 | 43.5 | 43.7 | 43.8 | 44.0 | 44.1 | 44.3 | 44.4 | 44.6 | 44.7 | 44.9 | 29 |
| 30 | 45.0 | 45.2 | 45.3 | 45.5 | 45.6 | 45.8 | 45.9 | 46.1 | 46.2 | 46.4 | 30 |
| 31 | 46.5 | 46.7 | 46.8 | 47.0 | 47.1 | 47.3 | 47.4 | 47.6 | 47.7 | 47.9 | 31 |
| 32 | 48.0 | 48.2 | 48.3 | 48.5 | 48.6 | 48.8 | 48.9 | 49.1 | 49.2 | 49.4 | 32 |
| 33 | 49.5 | 49.7 | 49.8 | 50.0 | 50.1 | 50.3 | 50.4 | 50.6 | 50.7 | 50.9 | 33 |
| 34 | 51.0 | 51.2 | 51.3 | 51.5 | 51.6 | 51.8 | 51.9 | 52.1 | 52.2 | 52.4 | 34 |
| 35 | 52.5 | 52.7 | 52.8 | 53.0 | 53.1 | 53.3 | 53.4 | 53.6 | 53.7 | 53.9 | 35 |
| 36 | 54.0 | 54.2 | 54.3 | 54.5 | 54.6 | 54.8 | 54.9 | 55.1 | 55.2 | 55.4 | 36 |
| 37 | 55.5 | 55.7 | 55.8 | 56.0 | 56.1 | 56.3 | 56.4 | 56.6 | 56.7 | 56.9 | 37 |
| 38 | 57.0 | 57.2 | 57.3 | 57.5 | 57.6 | 57.8 | 57.9 | 58.1 | 58.2 | 58.4 | 38 |
| 39 | 58.5 | 58.7 | 58.8 | 59.0 | 59.1 | 59.3 | 59.4 | 59.6 | 59.7 | 59.9 | 39 |
| 40 | 60.0 | 60.2 | 60.3 | 60.5 | 60.6 | 60.8 | 60.9 | 61.1 | 61.2 | 61.4 | 40 |

KEUFFEL & ESSER CO.

For Curve Tables see end of book.

The paper in this book is made of 100% high grade rag stock with a WATER RESISTING surface sizing.

Index

Page nos. 1, 2, 3 Void

Page nos. 4 to 25 = started at 267, Ends 400 F

Page nos. 26 to 27 - 5-1A on County Road 800 E. S.

Page nos. 28 to 29 - 5-1B on County Road 800 E. N.

4-58 Topo. from Sta. 3+00 to Sta. 114+00.
(Corrected to 114+00)

Voied

3400

3426
3428.8
3427

3416.5
3427.5

4400

4490

5400

5415

5428.8

Al-Tim-Bruce-Wally
Ferry

Cloudy 60° Windy



Req. Pt. Spike in center
of Road

20' to Fence

19' to Pole

19' to sign
19' to tele. pole

last
(3)

1" steel Pipe 27' long

£

5+46.

Void

6+00

7+00

7+48

7+46.7

7+72.7
7+79.8

8+00

8+00
8+30

£

2

End tree

End of fence along road
Drive way at 7+79.8
Corrigate tile

House 60
From E

9+00
Void

9+50.5

10+00

3
Tele. pole

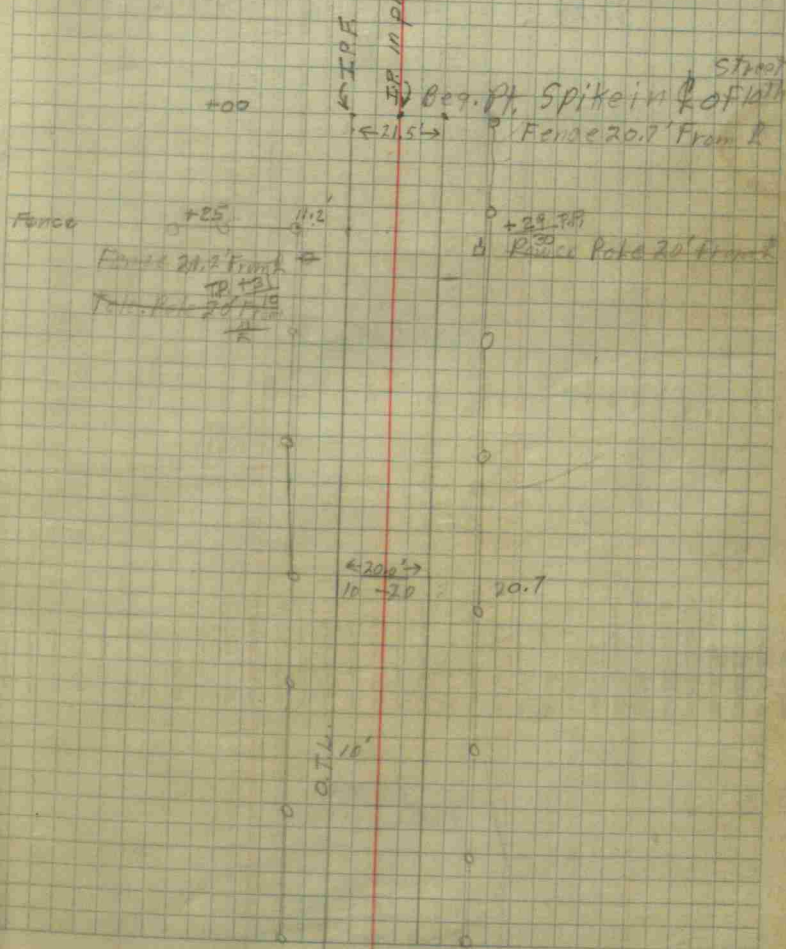
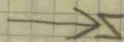
4.

3+00

3+25
3+31

3+29

4+00

AL - Bruce - Tim - Wally - Terry - Mark
6-3-69 Sunny + Cool 55° HI.P.F. is 189.5' From N.E.
Corner of Brick House on
Southwest corner of 200' x 100'
11' from road trees on
Northwest corner of 200'
100' 42.5' to maple tree
in southeast corner

7.

10:00

9+99

11:00

11+11

11+22

11+30

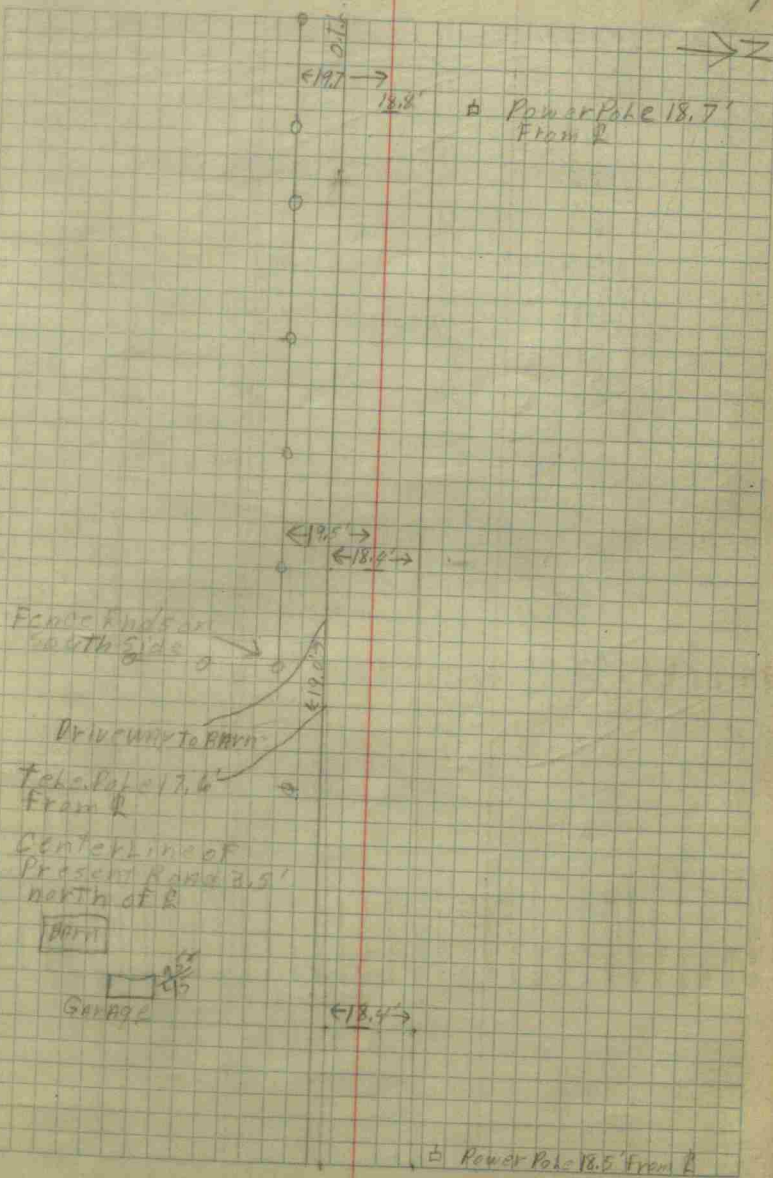
11+48

12:00

12+08

12+27

7



12+34

12+62

12+81
12+86
12+88

13+00

13+28

13+42

13+60

13+68

13+28

13+40

13+55

13+98

17+30

Driveway +34

Evergreen

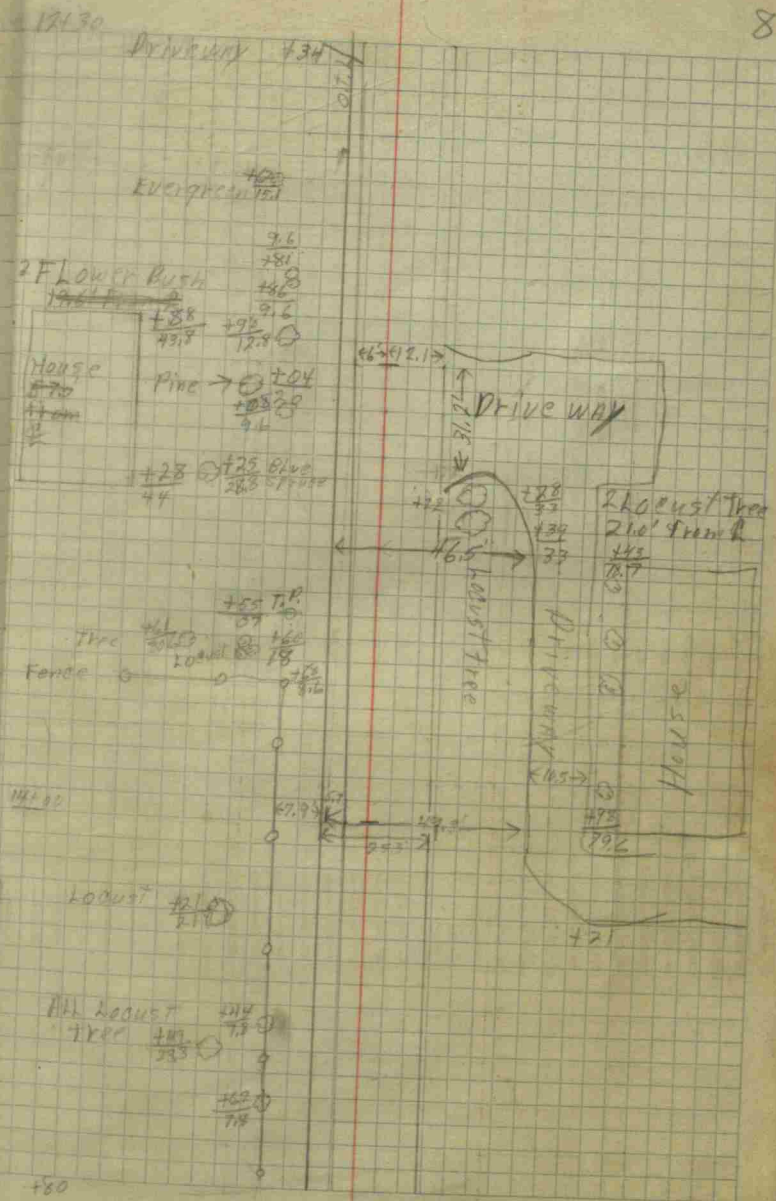
2 Flower Bush

House
Pine → +04
+370
+100
+4+28
+4
+25 Blue
28.3Three
Fence
+55 TR
+160
+19
+16

14+02

LODEST
+210All LODEST
TREE
+100
+33

+80



9.

15100

AL - Tim - Bruce - Wally - Mark - Terry
Partly cloudy - 65°

9

4730

15100

51.7
0

9.6

25.3

30.9

a fence

TR 718
30.4 23.3
Lodun TR 237410
318 TR

16100

11.0

19.6

38.3

7400

108
108 TR
90

on 18.7

32.8

7130

11.

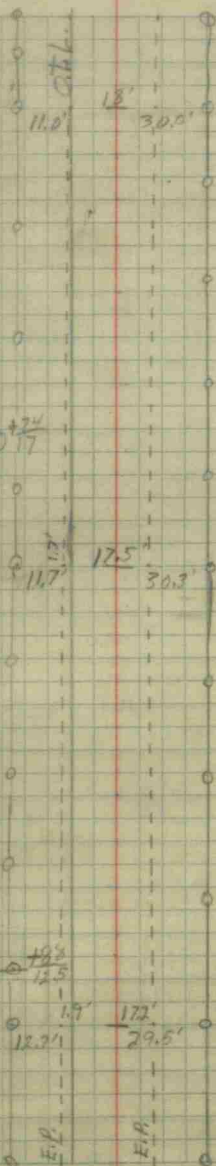
19+80

20+00

21+00

22+00

22+30

Elim Trees 5. $\frac{+24}{17}$
 6-9-69
 H.L. - H.V.L. -
 Tim - mat F
 Wally - Terry

 $\frac{+13}{47}$ 24" Stamp
T.P. $\frac{+102}{12.5}$

12.

2270

0.11

$\frac{136}{245}$ Ash tree

23700

$\frac{20}{12.0}$

$\frac{174}{28.6}$

T.P. $\frac{25}{11}$

24700

$\frac{26}{11}$

$\frac{178}{28}$

24780

12

13.

24480

25420

$$\begin{array}{r} 2.9' \\ 11.3' \\ \hline 17.44' \\ 277' \end{array}$$

$$\begin{array}{r} +22 \\ 26.1 \\ \hline \end{array}$$

Fence

+27

+41

Driveway

T.P.

$$\begin{array}{r} +53 \\ 10.7 \\ \hline \end{array}$$

$$\begin{array}{r} +42 \\ 29.5 \\ \hline \end{array}$$

Fence

26400

$$\begin{array}{r} 2.8' \\ 11.2' \\ \hline 17.8' \\ 280' \end{array}$$

T.P.

$$\begin{array}{r} +50 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} +50 \\ 26 \\ \hline \end{array}$$

pp.

27400

$$\begin{array}{r} 2.9' \\ 12.7' \\ \hline 17.6' \\ 276' \end{array}$$

27430

13

14.

27170

S

Fence

+45

71.0

+76

15

O.T.H.

E.P.

E.P.

+67

28100

House

2.3'

172'

27.7

+44

+46

29.2

-44.8

28.8

Fence

+71

+65

9.5

W.T.L.

Driveway

+87

Fence

27100

+86

2.5'

+98

20.0

+3

+14

+98

+93

+5.5

17.9'

27.5

Driveway

+77

House

+70

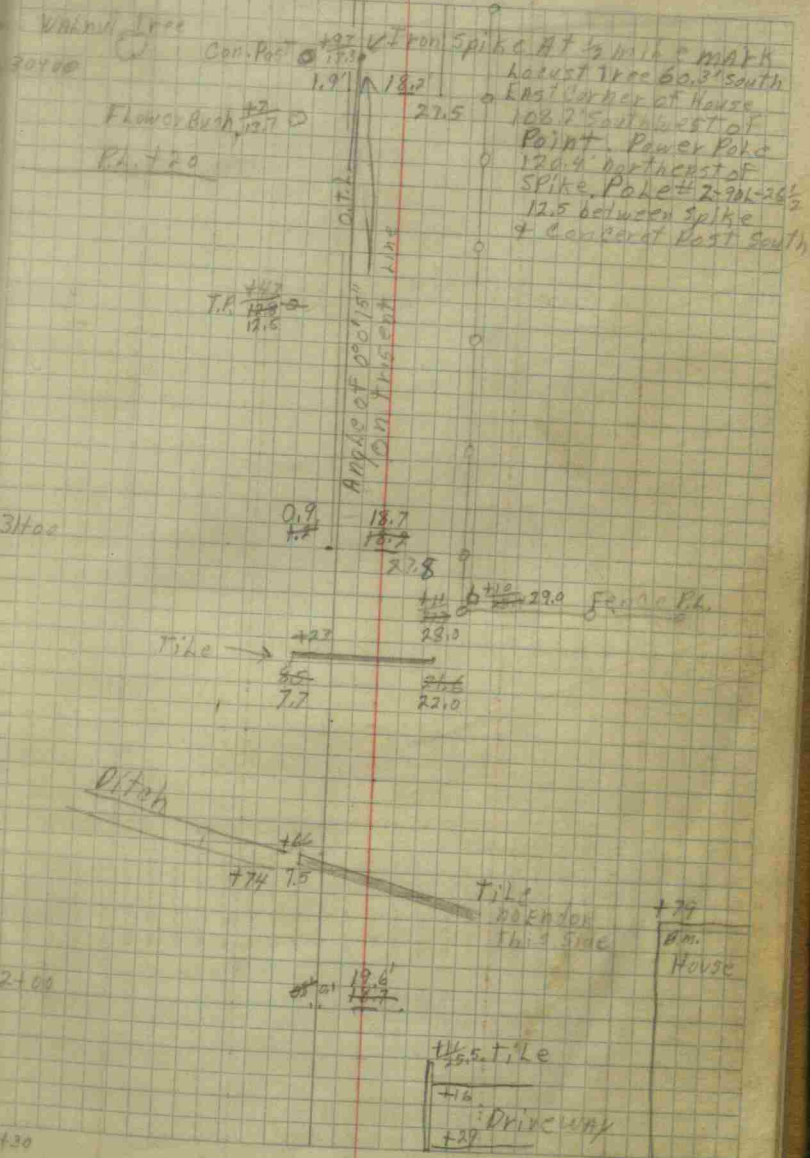
O.T.H.

29180

14

N

29780



16.

6-10-89 Al-Tim-Evose-Mart-Tony
Sunny 65°-75°

Wally 16

33130

#31
#26 END OF TILE

#42

#65
#63 D.T.R.

33400

20.3

#1
#27
#10
#26 P.P. — fence

34400

20.7'

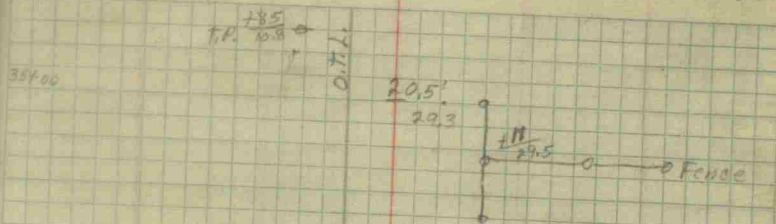
29.2'

34480

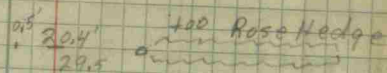
17.

34780

17



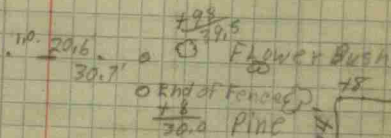
36700



+27
28.2 P.P.

37100

$\frac{+87}{10.8}$ T.P.

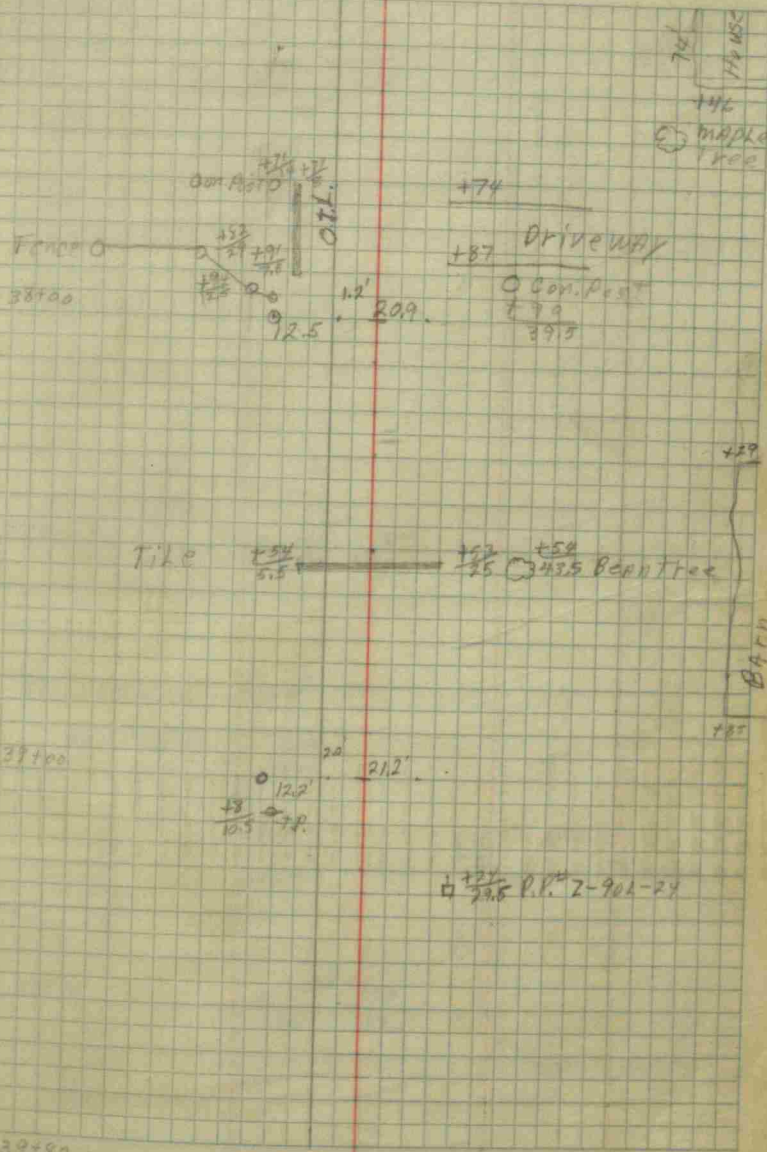


37130

18.

37+70

18



39+80

19.

39+80

19

40+00

$$\begin{array}{r} 2.0 \\ 11.5' \quad \underline{22.0'} \end{array}$$

41+00

$$\begin{array}{r} 2.0 \\ 11.5' \quad \underline{22.1'} \end{array}$$

Fence +340

Drive to field

↑

Put on

DRAWING

$$\begin{array}{r} +31 \\ 25.0 \\ 0.0 \\ \hline 25.0 \\ +31 \\ \hline 56.0 \end{array}$$

Tile

+17

93

Fence

42+00

$$\begin{array}{r} 1.8 \\ 11.4' \quad \underline{22.3'} \\ 32.0' \end{array}$$

42+30

20.

42430

20

11.0

$\frac{+4.8}{31.8}$

43400

3.0
11.3 22.6
32.0

$\frac{+5.6}{9.0} = 9.0$

44400

3.0
11.0 22.7
31.4

44480

21.

4480

45400

| | | |
|---|--------|------|
| | 20 | |
| 0 | 10.8 | 28.0 |
| | | 31.4 |
| | D.T.L. | |

 $\frac{160}{81} \rightarrow$

46400

| | | |
|---|------|----------------------------------|
| | 20 | |
| 0 | 11.0 | 23.0 |
| | | 31.1 |
| | | $\frac{+98}{30.6}$ P.R. Z-904-22 |

| | | |
|-------|---|-----|
| Fence | 0 | +66 |
| | | 117 |

| | |
|-----|------|
| +82 | tree |
| 101 | tree |

47700

| | |
|---|-----|
| 0 | +97 |
| | 46 |

36

| |
|------|
| 22.5 |
| 30.8 |

0

+97

Bent tree

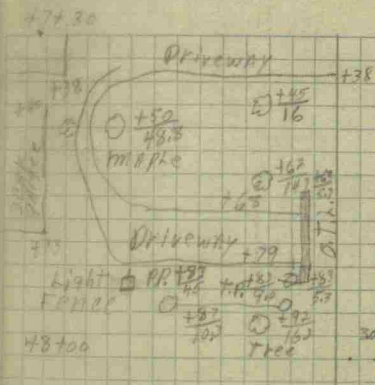
Horse

| | | |
|--------|---|-----|
| Flower | 0 | +19 |
| Pine | 0 | +14 |

47130

+27

21

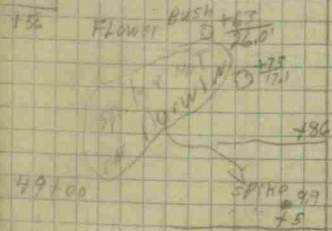


+20

Cedar Tree

70'

House



SPK 97

7.5

PR

7.5

7.5

7.5

30

22.8

50.5

PR 7-901-21

48+00

50700

$\frac{20.6}{30.6}$ 100
 Fence

T.R.
 0.11

$\frac{+70}{135}$ Tree

51100

0.8
 $\frac{20.4}{27.9}$

$\frac{+15}{190.2}$ Fence

+22

$\frac{+55}{477}$ Tree

HOUSE
 HISTORY

+81

Tree

52100

0.8
 $\frac{20.0}{32.0}$ 0 $\frac{+4}{45.5}$
 +5
 +16

$\frac{+22}{30.5}$ A.P.P. $\frac{0+12}{45.5}$ +22
 2-901-20

FENCE IS NOT
 ON DRAWING

52130

24.

52780

24

$\frac{+43}{4.1}$ T.R.

$\frac{+47}{4.7}$ Fence

53700

$\frac{0.8}{19.3}$
 $\frac{29.7}{}$

$\frac{+43}{4.9}$

$\frac{+49}{7.6}$ Tile

54120

$\frac{0.5}{20.6}$
 $\frac{30.3}{}$

$\frac{+47}{9.0}$ T.R. +45

54480

$\frac{+46}{5.0}$ Fence

25.

54780

25

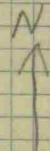
191

1816

Iron Spike in Road
10' south of stone in
center of Road at the
In section of County
Roads 100n + 800E
Spike is 53' NW of
corner porch on house
in southeast corner
of section
stone at section
line between section

26.

S-1A

6-12-69 sunny W. Windy
70°-90° 26A.L. Tim-Bruce-Mark
Wally-Terry86° 00' 15" Angle to O.L.L.
On 100 ft.

0+00 46.0

Iron Spike At Intersection
of County Road
100 ft. + 800 ft.0+21
212 Tree0+33
152 TR176 73
+ 77

House
20 ft
37 ft
20 ft
Tree 165

0+12
205 Tree

1+00

150 8.0

0+18
18

Fence

2+00

716
92

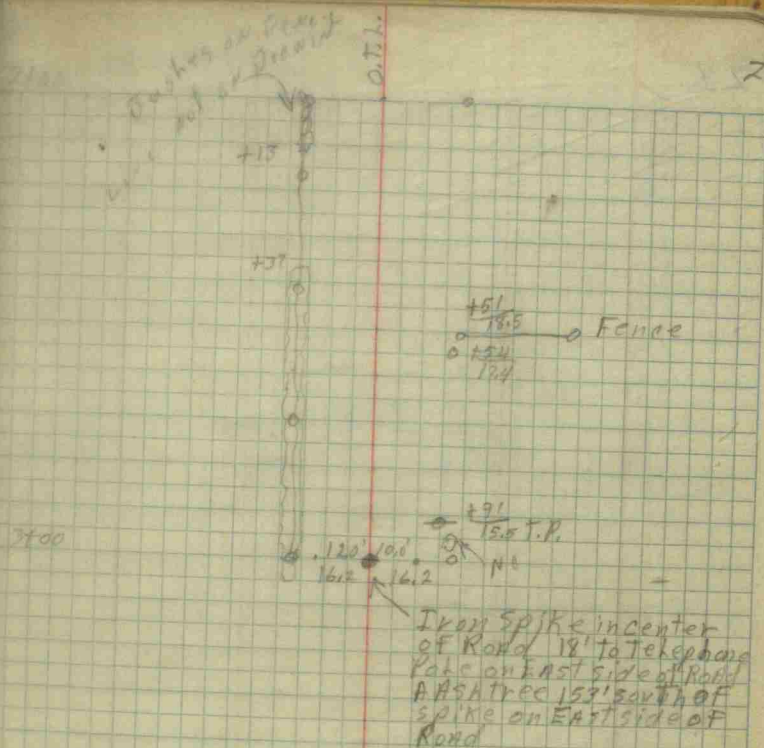
Fence

135

95.0

18.5

0+14
14 Tree



28.

S-1B

28

0100

| | | | | | | | | |
|-------|---|--|---|--|---|--|---|-------|
| Fence | ○ | $\begin{array}{r} 719 \\ +30 \\ \hline 15 \end{array}$ | ○ | $\begin{array}{r} 16 \\ -15.5 \\ \hline \end{array}$ | ○ | $\begin{array}{r} +30 \\ \hline 159 \end{array}$ | ○ | Fence |
|-------|---|--|---|--|---|--|---|-------|

1400

| | | | |
|---|------|------|---|
| ○ | 9.9 | 10.3 | ○ |
| ○ | 13.6 | 14.8 | ○ |

2100

| | | | |
|---|------|------|---|
| ○ | 10.2 | 9.9 | ○ |
| ○ | 14.1 | 14.1 | ○ |

29.

2000

↓
N

29

3000

o 10.8 10.2 o
14.1 14.0

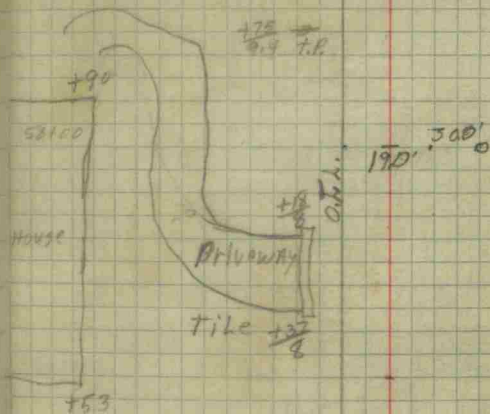
31.

57430

S

31

N

Flng Rate $0 \frac{43}{55.6}$ 

57100

P.P. +3
 9 T.P. 25.5
 Flower
 Bush

19.0 30.1
 +6
 28.4

+29

House

13
 0
 +30
 43

17.0

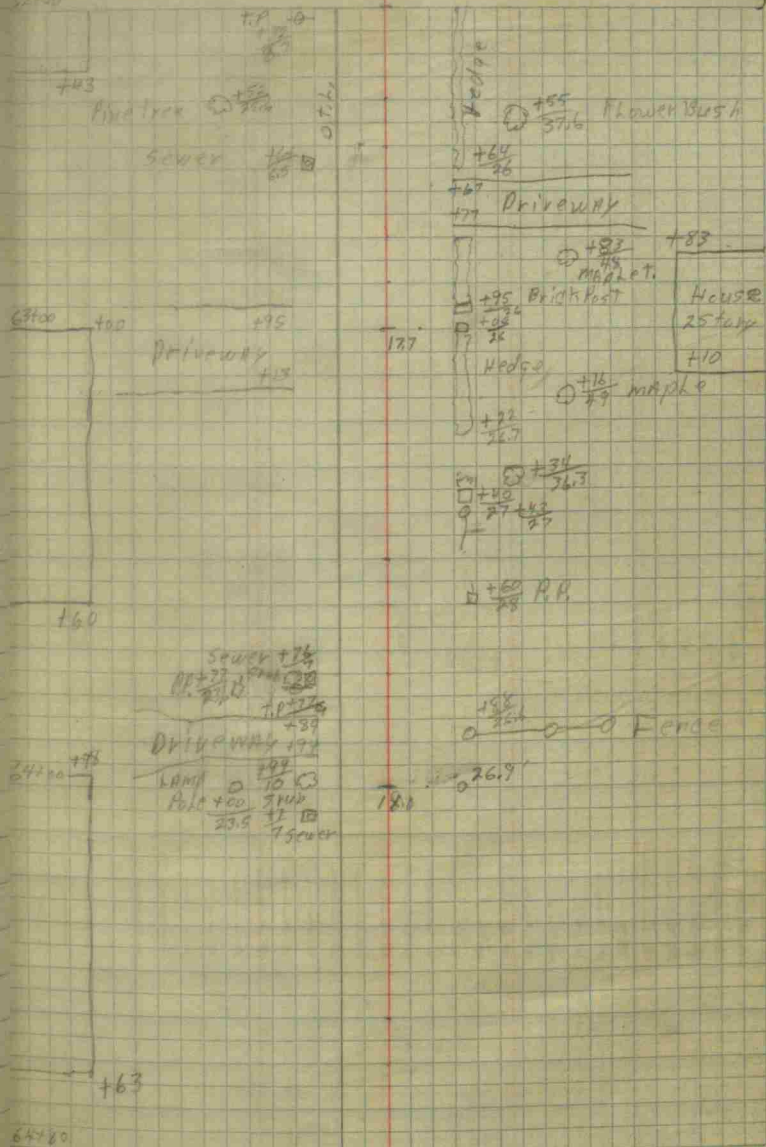
57480 Con. Driveway

Al-Tin - Bruce - Wally + Mark
33. 6-26-69 Sunny midday

5

12

37



| | | | |
|-----|------------|--------|--------|
| | 58.00 | | |
| | 7.75 | | |
| 175 | 65.75 | 09 177 | 0 |
| | 1.25 | | |
| 177 | 67.00 | | |
| | 1.25 | | |
| | 68.25 | | |
| | 1.18 | | |
| | 1.35 | | |
| | 9.3 | | |
| 176 | | | |
| | Olive 0.25 | | |
| | 5.00 | | |
| 178 | | | |
| | 6.25 | | |
| 179 | | | |
| | 6.25 | 09 183 | 0 28.4 |
| | 1.25 | | |
| | 7.50 | | |
| | 1.25 | | |
| | 8.75 | | |
| | 1.25 | | |
| | 10.00 | | |
| | 1.25 | | |
| | 11.25 | | |
| 180 | | | |
| | 11.25 | | |
| | 1.25 | | |
| | 12.50 | | |
| | 1.25 | | |
| | 13.75 | | |
| | 1.25 | | |
| | 15.00 | | |
| | 1.25 | | |
| | 16.25 | | |
| | 1.25 | | |
| | 17.50 | | |
| | 1.25 | | |
| | 18.75 | | |
| | 1.25 | | |
| | 20.00 | | |
| | 1.25 | | |
| | 21.25 | | |
| | 1.25 | | |
| | 22.50 | | |
| | 1.25 | | |
| | 23.75 | | |
| | 1.25 | | |
| | 25.00 | | |
| | 1.25 | | |
| | 26.25 | | |
| | 1.25 | | |
| | 27.50 | | |
| | 1.25 | | |
| | 28.75 | | |
| | 1.25 | | |
| | 30.00 | | |
| | 1.25 | | |
| | 31.25 | | |
| | 1.25 | | |
| | 32.50 | | |
| | 1.25 | | |
| | 33.75 | | |
| | 1.25 | | |
| | 35.00 | | |
| | 1.25 | | |
| | 36.25 | | |
| | 1.25 | | |
| | 37.50 | | |
| | 1.25 | | |
| | 38.75 | | |
| | 1.25 | | |
| | 40.00 | | |
| | 1.25 | | |
| | 41.25 | | |
| | 1.25 | | |
| | 42.50 | | |
| | 1.25 | | |
| | 43.75 | | |
| | 1.25 | | |
| | 45.00 | | |
| | 1.25 | | |
| | 46.25 | | |
| | 1.25 | | |
| | 47.50 | | |
| | 1.25 | | |
| | 48.75 | | |
| | 1.25 | | |
| | 50.00 | | |
| | 1.25 | | |
| | 51.25 | | |
| | 1.25 | | |
| | 52.50 | | |
| | 1.25 | | |
| | 53.75 | | |
| | 1.25 | | |
| | 55.00 | | |
| | 1.25 | | |
| | 56.25 | | |
| | 1.25 | | |
| | 57.50 | | |
| | 1.25 | | |
| | 58.75 | | |
| | 1.25 | | |
| | 60.00 | | |
| | 1.25 | | |
| | 61.25 | | |
| | 1.25 | | |
| | 62.50 | | |
| | 1.25 | | |
| | 63.75 | | |
| | 1.25 | | |
| | 65.00 | | |
| | 1.25 | | |
| | 66.25 | | |
| | 1.25 | | |
| | 67.50 | | |
| | 1.25 | | |
| | 68.75 | | |
| | 1.25 | | |
| | 70.00 | | |
| | 1.25 | | |
| | 71.25 | | |
| | 1.25 | | |
| | 72.50 | | |
| | 1.25 | | |
| | 73.75 | | |
| | 1.25 | | |
| | 75.00 | | |
| | 1.25 | | |
| | 76.25 | | |
| | 1.25 | | |
| | 77.50 | | |
| | 1.25 | | |
| | 78.75 | | |
| | 1.25 | | |
| | 80.00 | | |
| | 1.25 | | |
| | 81.25 | | |
| | 1.25 | | |
| | 82.50 | | |
| | 1.25 | | |
| | 83.75 | | |
| | 1.25 | | |
| | 85.00 | | |
| | 1.25 | | |
| | 86.25 | | |
| | 1.25 | | |
| | 87.50 | | |
| | 1.25 | | |
| | 88.75 | | |
| | 1.25 | | |
| | 90.00 | | |
| | 1.25 | | |
| | 91.25 | | |
| | 1.25 | | |
| | 92.50 | | |
| | 1.25 | | |
| | 93.75 | | |
| | 1.25 | | |
| | 95.00 | | |
| | 1.25 | | |
| | 96.25 | | |
| | 1.25 | | |
| | 97.50 | | |
| | 1.25 | | |
| | 98.75 | | |
| | 1.25 | | |
| | 100.00 | | |

35.

5

67+30

PRIVILEGE

130

+46

+13

7

Rough

Tide

+47

27

O.P.L.

41

+46

25.1 Tide

+88

68+00

+97

0.2 18.0

RP

+47

27

+46

25.1

Tide

0

o Fence

69+00

0.2 18.0

29.0

+47

27

+46

25.1

Tide

69+80

36.

7100 WAS LEFT OUT

$$\underline{\underline{7200 = 7100}}$$

N
36

$$\begin{array}{r} 28 \overline{) 8750} \\ 28 \overline{) 8750} \\ \underline{2800} \\ 5750 \\ \underline{5600} \\ 150 \end{array}$$

$$\begin{array}{r} 28 \overline{) 72400} \\ 28 \overline{) 72400} \\ \underline{28000} \\ 44400 \\ \underline{44800} \\ -400 \end{array}$$

$$\begin{array}{r} +55 \\ +14 \\ \hline 69 \\ \text{Box Elder } 25 \text{ PR } 145 \\ \hline 722 \\ \text{Driveaway } 785 \\ \hline 1507 \\ +87 \\ \hline 1594 \\ \hline 1000 \\ \hline 594 \end{array}$$

$$\begin{array}{r} 28 \overline{) 1594} \\ 28 \overline{) 1594} \\ \underline{2800} \\ 1594 \\ \underline{1400} \\ 194 \\ \underline{168} \\ 26 \end{array}$$

0.8 19

37.

Two P.K. NAIL AT station 7400
 one on north is correct
 o.t.l. From sta. 54791 To 7400 to be corrected
0.9'

73100

744

0+27

5000 1/2

Pine

Spruce

Elm 0 1/2 3/4 5

0+83
0 2/29 Stump

0 29

19.0

Maple

+35

Guywire to P.P. 1/10
A+5/16

75100

19-18.3

0 29

+34
0 1/10
T.P.

75100

+34
0 1/10
P.P.

37

Time 11-45 - 11:45 - 11:45 - 11:45
 6-27-69 N
 Afternoon
 Cloudy + Rain
 @ 7:30

71100

27 179

28.7

114

BUSHES

+32

Tree Stump 0⁺⁴⁰/₂₉

0.17

+32

Fence 190

71400

+5

Stump 0⁺²⁵/₂₀

25 17

29

Maple +33

+35

+25

+67

Drive up 170

Board fence 172

130

78400

0 159

27, 160

30.3

GRAPEVINES

78400

Alt. Tim - Bruce - WALLY - JIMMY
39.4 pounds + Cook 70° 6-30-69

S

78130

N

39

+35
78123

0.711

+57
26

79700

3.2 15.9

30

+36
118

80100

27 157

+22
308 maple

+86
3017 MAPLE

+195
2711

Fence

+75.3 Red Bob

+14
305 maple

Hedge

+26
419 maple

+34

+46

+68
478 MAPLE

80180

40.

80.80

3110

+14
12

0.11

5.0 12.0

+122
102

22 WALK

+25
305

133

2 story

HOUSE

424

+45
224

+120

Fence

82700

3.0 16.0

0.266

+14
12.6

T.R.

+63
31.4

Fence

83400

+24
305

0. End

28,169'

83730

+26

N

40

41.

5

N

71

87470

157

DRIVEWAY
51'
wide

O.T.L.

177

 $\frac{0.291}{15}$

84400

27-17.6

 $\frac{0.17}{18}$ $\frac{4.12}{213}$ P.P.

+37

 $\frac{0.143}{12.9}$ $\frac{1.97}{12}$ P.P.

85400

30-17.4

85480

42.

5.

N.

42

85789

86700

30-17.3

+28
10.8

0.76

1.1

87100

28-16.6 - $\frac{+100}{28.5}$

$\frac{+46}{29}$
 $\frac{+32}{29}$ wildcherry

88100

+92
11.3

3.5-16

88700

43.

5

88700

N
43
$$\begin{array}{r} +64 \\ -27 \\ \hline \end{array}$$

Field Drive

$$\begin{array}{r} +32 \\ -20 \\ \hline \end{array}$$

steel tie

88700

83-16

$$\begin{array}{r} +20 \\ -25 \\ \hline \end{array}$$

$$\begin{array}{r} +26 \\ -30 \\ \hline \end{array}$$

Fence

$$\begin{array}{r} +43 \\ -24 \\ \hline \end{array}$$

tile steel

$$\begin{array}{r} +79 \\ -9 \\ \hline \end{array}$$

$$\begin{array}{r} +80 \\ -29 \\ \hline \end{array}$$

90700

27-16.1

P.K. nail on transit line
at STA. # 90700

HL - Bruce - Tim - Mark, Terry
7-1-69 - Cloudy 72°
44.

O.T.L. is to be correct
0.8' From sta # 74+00 to 90+00
off at sta # 90+00 0.8'
P.K. nail to north is correct

5
90+00

N
44

O.T.L.

91+00

15-17

171-0
15 P.P.

92+00

20-167

92+50

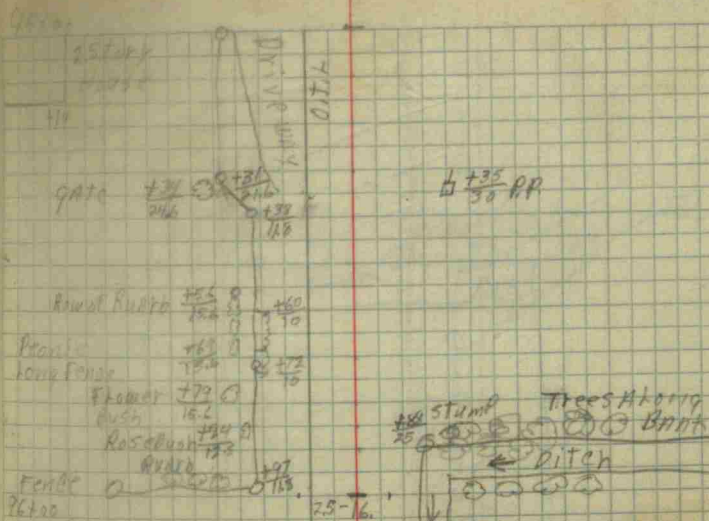
46.

Gravel Drive
in front of House

Ditch From o.t.l. north 23.2'
south Bank of Ditch
to $\pm 27.1'$, to north side 30.5'

| | | |
|-------|------|------|
| | 25.3 | |
| Ditch | ↓ | 31.7 |
| | 22.7 | |

54

N.
76

25700

| | | | |
|-----|-----|-----|-----|
| 246 | ±31 | ±33 | ±35 |
| 246 | ±31 | ±33 | ±35 |

±35
50 RR

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

| | | | |
|-------------|-----|-----|-----|
| Rowel Ridge | ±35 | ±37 | ±40 |
| Rowel Ridge | ±35 | ±37 | ±40 |

49.

N

49

| | | | |
|------|------|-----|-------|
| 161 | 0 | +58 | +58 |
| R.P. | 22.2 | 0 | |
| 14 | 0 | +61 | Hedge |
| 26.0 | 0 | 2.6 | |
| 28.1 | 0 | | |

103760
+3

1.4
1.4
12.7

190
20.5
Maple +95

14
30
Maple

+24

42
29.7
Maple

47
156
Driveway

1063
35.5
R.P.

61
21.7
Fence

104100

10-183

20
50.2
Apple

38
51
Apple

+59

47
152.6
27.6

+59

Blacktop
Driveway

+67

+28

28

47
37.5
Don't walk

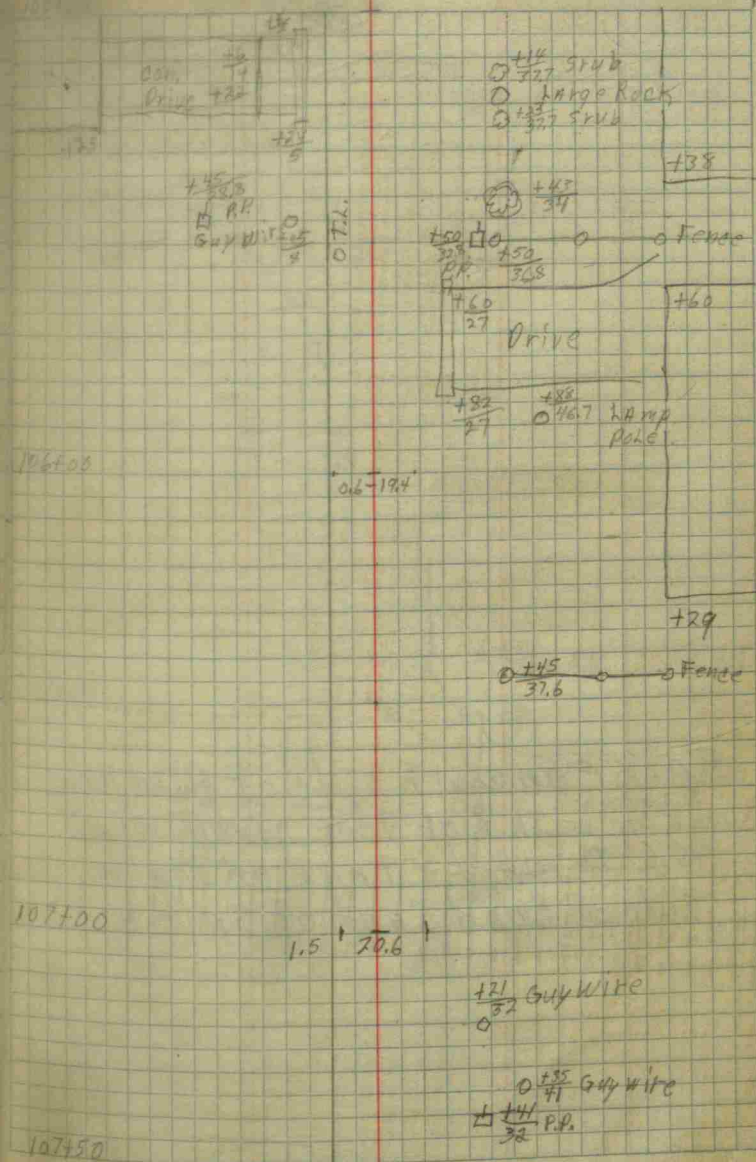
105700

19.2

19
364-50
364-50
+94 +3
364-50

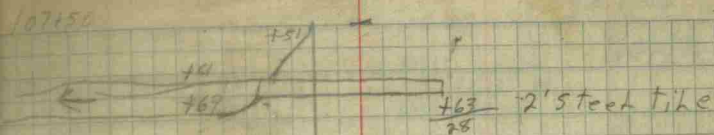
50.

N. 50



51.

Spike on south side of Road 1000
 in line with Φ of 900E north
 46.6' to maple tree on south
 side of Road East of Spike



900E 107+80

108+00

109+00

SPIKE
 AT STA#
 109+25

91
 32.6 P.P.

14
 50

14

900E

37

44
 31 steel tile

51

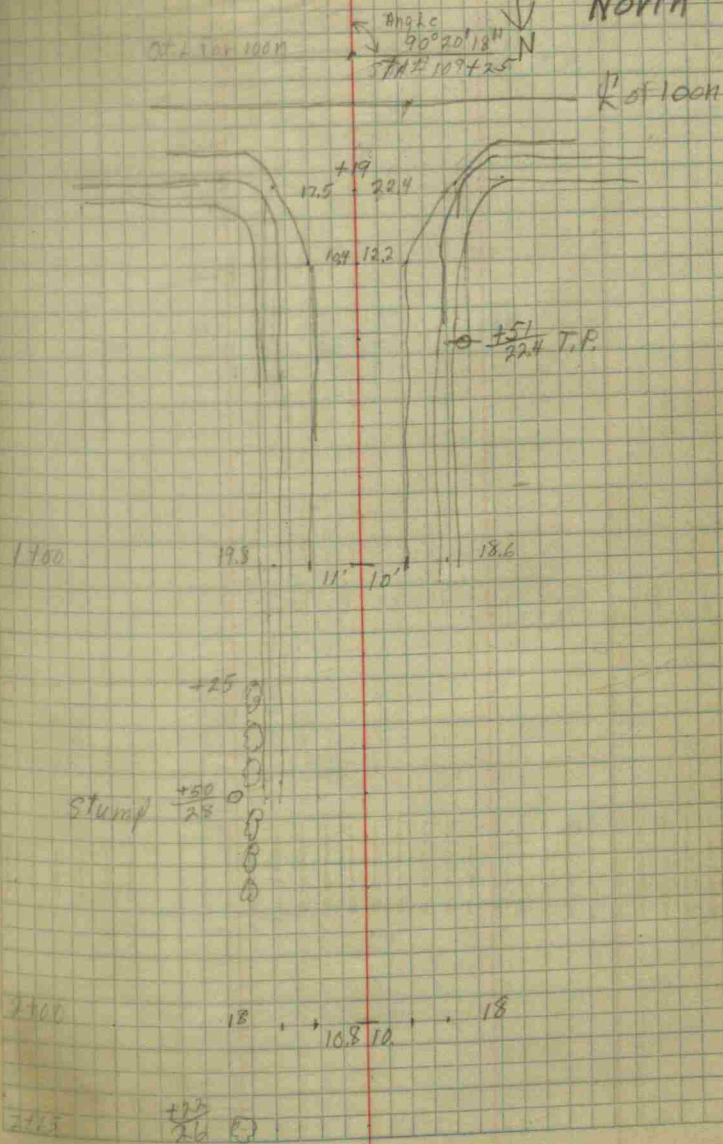
Al-Tim-Bruce-1000

7-3-69 Sunny + warm

52.

S-2B

900E
going North 527



53.

S-2B

53 7

$\frac{+40}{22}$ 7.P.

17' . $\frac{9.7}{9.7}$. 18.5

55.

56

3100

9.0 7.5

NAI
PKA in center of
Road at Sta 546
R.P. 38.7 South and
-On East side Road

AL - Tim - Terry - Wally - M...
7-7-69 Cloudy

56.

Row of small Pine Bush
on south 14.5' from O.T.
Beg. AT +71 To 110+52

Row of Flowers AT +27-16'

109+25

Cedar Tree \odot $\frac{15}{14.5}$ Flower Bush \odot $\frac{103}{9.5}$
+55 Flower Bush \odot $\frac{157}{14.5}$
90 Row Flowers \odot $\frac{14.5}{14.5}$

+75

MAPLE \odot $\frac{106}{14.5}$

Stump \odot $\frac{100}{19.0}$

110+40

+6

Pine \odot $\frac{115}{14.7}$

+30
6.7 P.

+40
6.7 P.

+55

+69

MAPLE \odot $\frac{127}{15}$

111+0

Pine \odot $\frac{107}{13}$

Stump \odot $\frac{100}{15.0}$
Bush \odot $\frac{123}{13}$
Flower \odot $\frac{13}{13}$

111+50

Pine \odot $\frac{146}{21.3}$

22.3

N. 56

ENTR.

\odot $\frac{184}{35}$

\odot $\frac{196}{35}$

\odot $\frac{13}{35}$

\odot $\frac{115}{35}$

\odot $\frac{135}{35.2}$

$\frac{151}{35.2}$ can. walk

+52
28

+53

+64

+67 19.5 Tile Steel

+72
31.7 P.P.

+88
29

+94

+15

+18
27

Flower Bushes

+8

+43

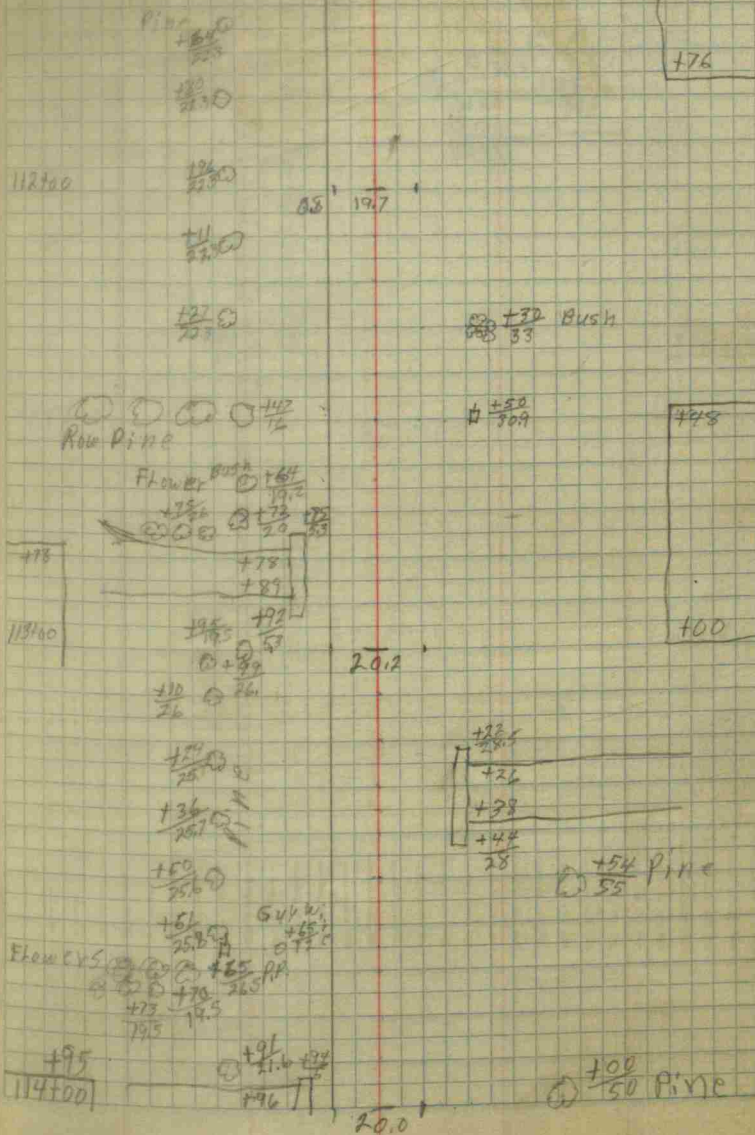
+26

57.

S.
11150

N.

57

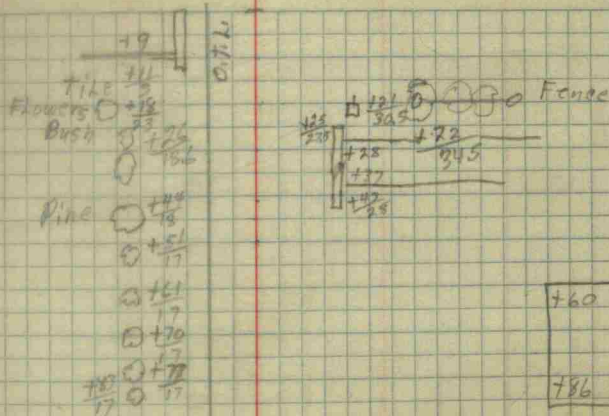


58.

N.

50

114+00



115+00

190

SPike south of nail center
 of ROAD 100 ft Airport ROAD
 47' west of large MAPLE
 tree

6-27-69

48452.0

49J4801 69 Chicago

27244-0 Truck 41.8
 38.0
 79.8

19
 16
 35
 16
 51

22
 17
 39

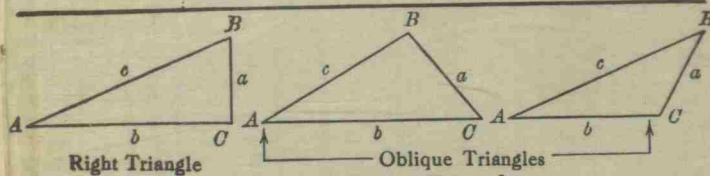
10925
 300

10625

10560
 65

5280
 5280
 10560

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

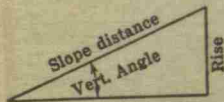
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{a}$, $\text{cosec} = \frac{c}{b}$

| Given | Required | Formulas |
|--------|-----------|--|
| 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 | Formulas |
|--------------|-----------|--|
| A, B, a | b, c, 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. $\cos 5^\circ 10' = .9959$. $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ 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.