

Book #1

SURVEYS

FIELD NOTES

Robert W. Armstrong
County Surveyor - Engineer



MINING TRANSIT BOOK

LEVEL BOOK #1
ROBERT ARMSTRONG

10

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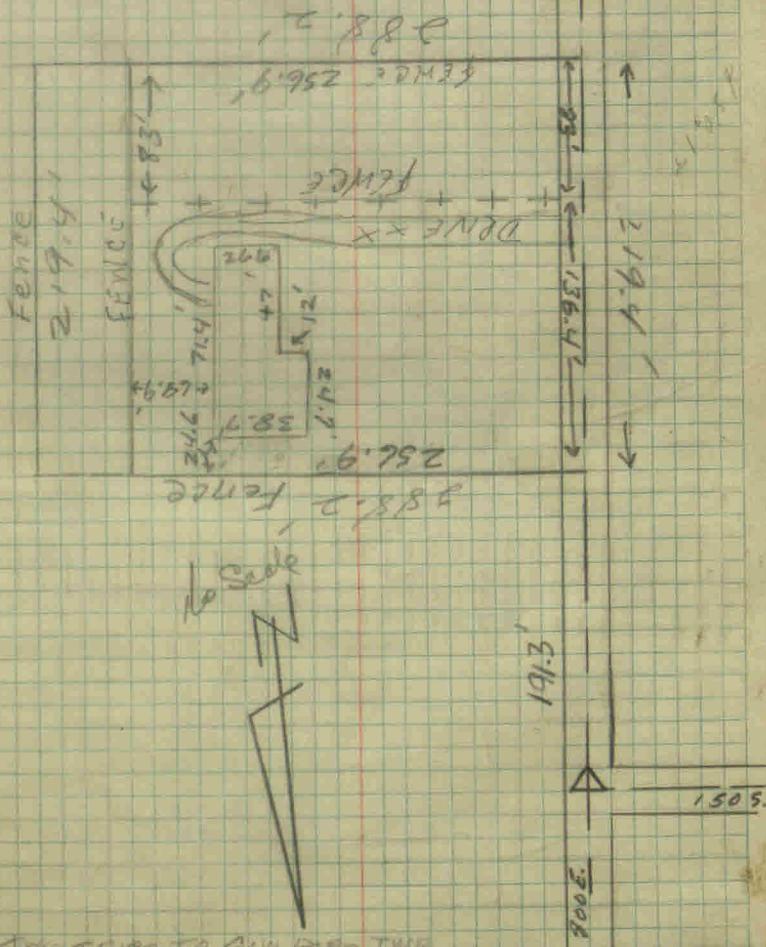
Page Date Owner

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78

18 SEPTEMBER 1968

10-18-65
Survey for Mr. Smith
Dec. 13 TWO TOWNSHIP

#1

35'
ROAD

TWO TOWNSHIP

Completed by
P.L & J.M.

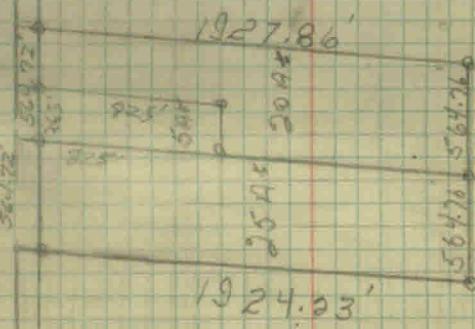
Survey for Joe Franklin²
Sec. 9 Imp. 15 N. R. 1 W.

30'
ROAD

100N.

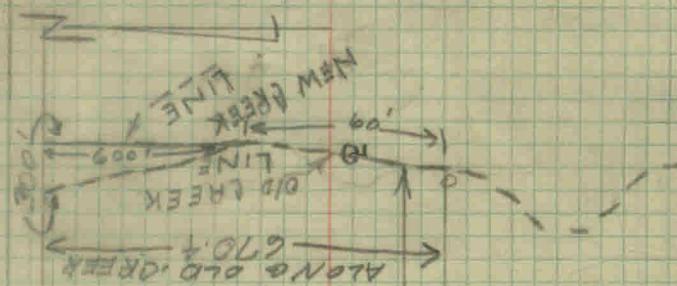
to
grade

200ft.



Completed
By PL & J.M.

Survey for Wildox Ayres 3
Sec 3 T. 17 N R. 16 10-26-65



Topo Line
R/W Line
853.6

FENCE 758.5

No Cr. 1934
1930

576.9
3108

H. Hole
SFC. Line
OF Sec 3
Twp 21 M
R. 16

Comp Jim & Mike

STAKES ARE SET AT EDGE OF BANK

Notation 33' R/W

Notation - 6' from S.L. New Cr. beg.

Notation - 786.5' to fence line

Notation - 917' to fence at
edge of creek bank.

Survey for St. Muncie

Sec. 11 T 15 N R 1 E

10-26-65

4

~~133' 4"~~
~~62' 3"~~
~~19' 6"~~

167.4"

building

30'
64.8'

101'
133' 4"

133' 4"
101'

167.4"

N
Sendo

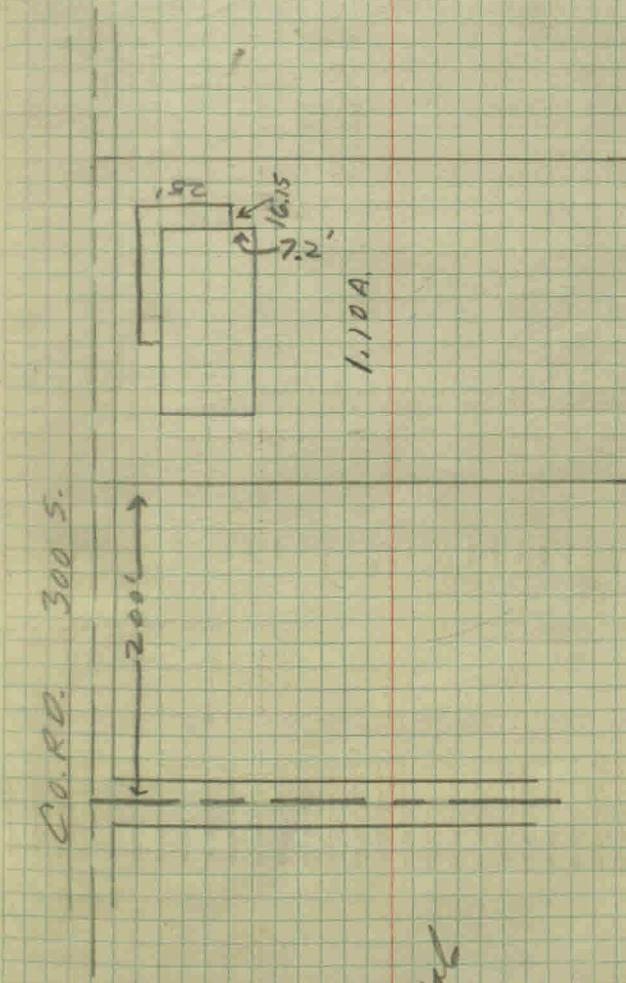
Cong. Jim & wife

NOTATION - 50' from edge of
grass to E. Edge of building

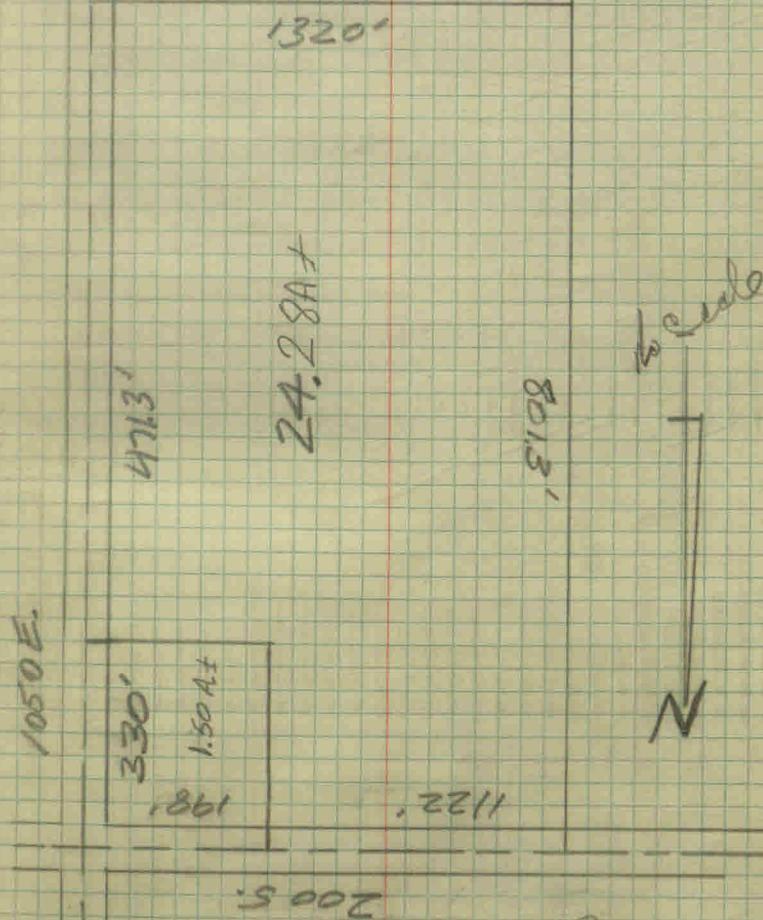
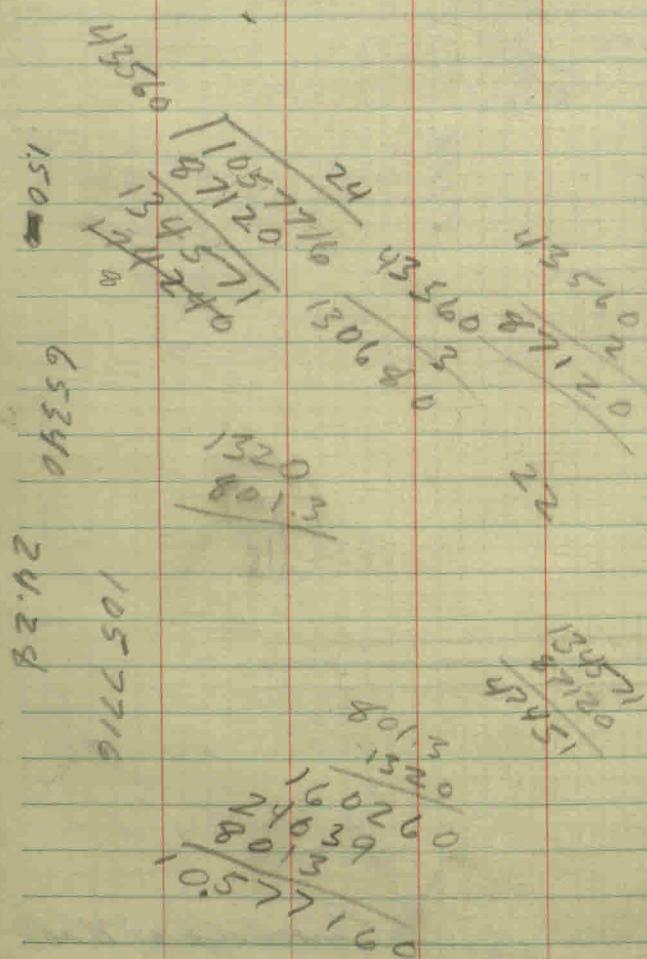
134' from E. Edge of building
To W. Edge of grass

Melation-Drive 20' wide

Survey for Mr. Bernard Trent
Sec. 27 T.15N. R.1E. 10-29-65



Survey for Ralph Poland⁶
Section 20 T 15 N R 2 E 11-1-65



Conroy, Jim & Mike

Revised Survey for Joe Rankin
Sec. 1 T 15 N R 16 W 11-3-65⁷

B2-N2

165'

165'

N
to Bank
Survey by Jim & Mike

8

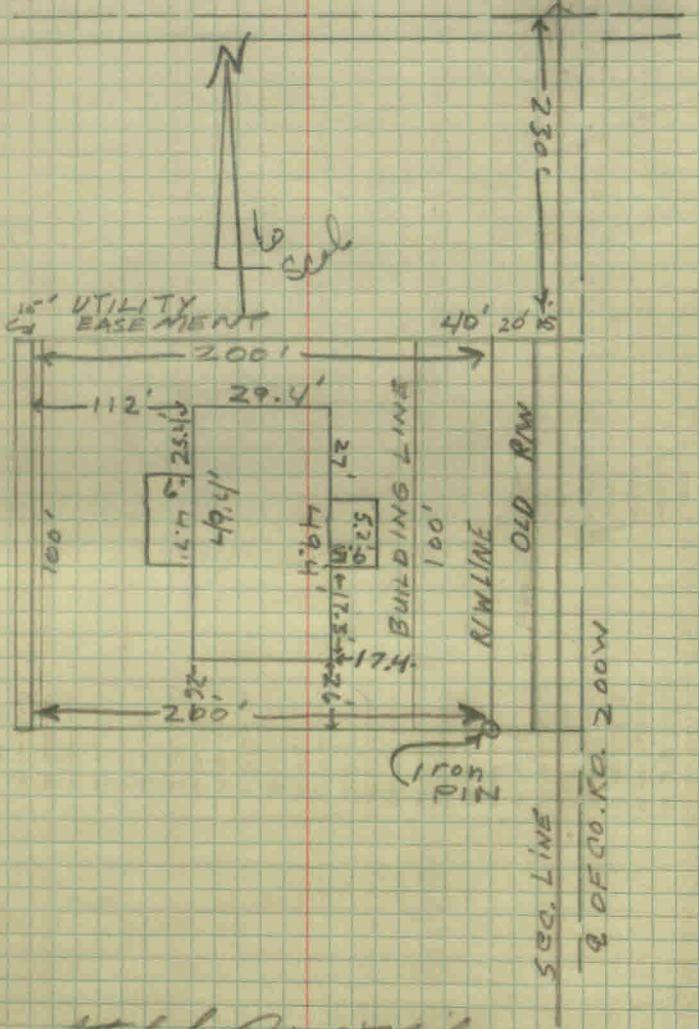
Jim

Survey for Mr. Ray Hill

Sec. 7 T 15N R. 1W

HIWAY 36

11-5-65



Completed by Jim & Mike

9

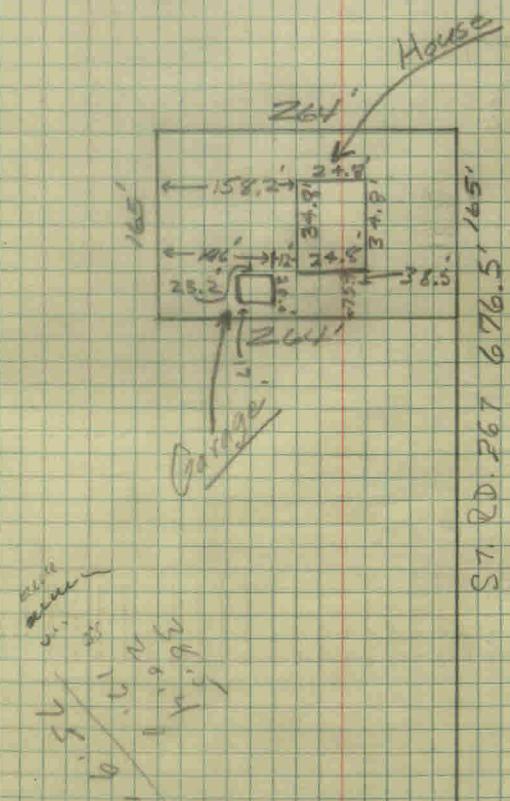
Survey for Mr. La Jole

Sec 8 Twp 15 N. R. 15 E.

11-9-65

~~Lot 10
Block 10
Section 8~~

North



S 79 D 267 6 165'

to Sod

Survey
Site
S 79 D
267 6 165'

Completed by
John & wife

E. H. Hausey, Jr.
Surveyor
Sec 3 T. 15 R. 15

10

Survey for Mr. Carl C. Popp

Sec. 23 Twp. 15 Range 1E.

421.25' 421.25'

21/2'
lot 1
10

No
cells

421.25'

108 A.

421.25'

108

SV
corner
obj

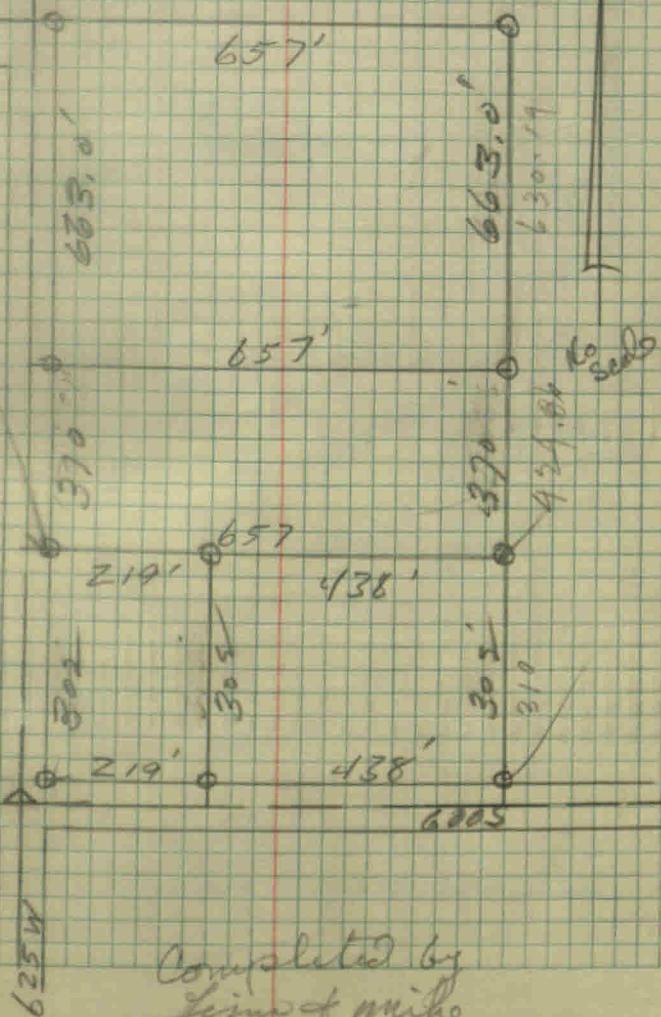
Completed by
Jim & M. A.

~~42*~~
~~37°~~
~~5*~~

Sunray for Paul Rogers
Sec. 4, Twp 10 N. Range 2 W
11-22-65

"

N



Survey for the Carl Cross '12

Sec. 23 Twp. 10 R. 12. 12/19/65

N.W. corner of
NW 1/4 of
Sec. 23 Twp. 10 R. 12.

W. 367. 84'

896. 2' E.G.
PT.

2021.5' S. 89° 50' E.
St. Rd. 267
398.8' 237.6'
1.64' P.T.

S. 86° 55' W. 95'
119.44' 136.5'
2019.7' 2014.98'

2618.22'
P615'

Completed by Bob + Mike + friend

Z

No scales

Survey for Mrs Louise Davis

Completed by Jim & wife

13

12-22-65

318'

250'

50'

277.6'

12
13

14

15

16

17

18

19

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21

22

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97

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99

100

Sec. 19 - 17 - 2 E.

Stake 550 S.

temp 32°

850 E

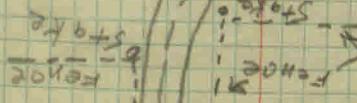
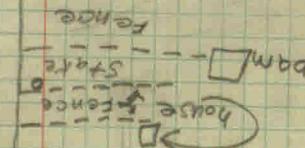
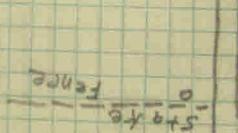
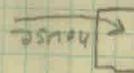
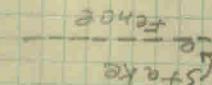
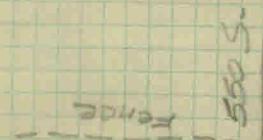
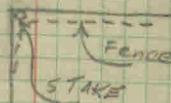


Tenor 31°

14

Dec. 21, 1965

SEC. 146 - 14 - 1 + 2 E.



Completed by Jim & Mike

Temp. 27°

15

Survey for Raymond Alexander

1-7-86

Sec. 25 T17 N R1W

900 N.

200' +

200'

23' 0" STATE LINE
MILLER DUNLON

242.3'

2.5 A+

116' N. N. Stone
Sec. 25

922.3'

FENCE

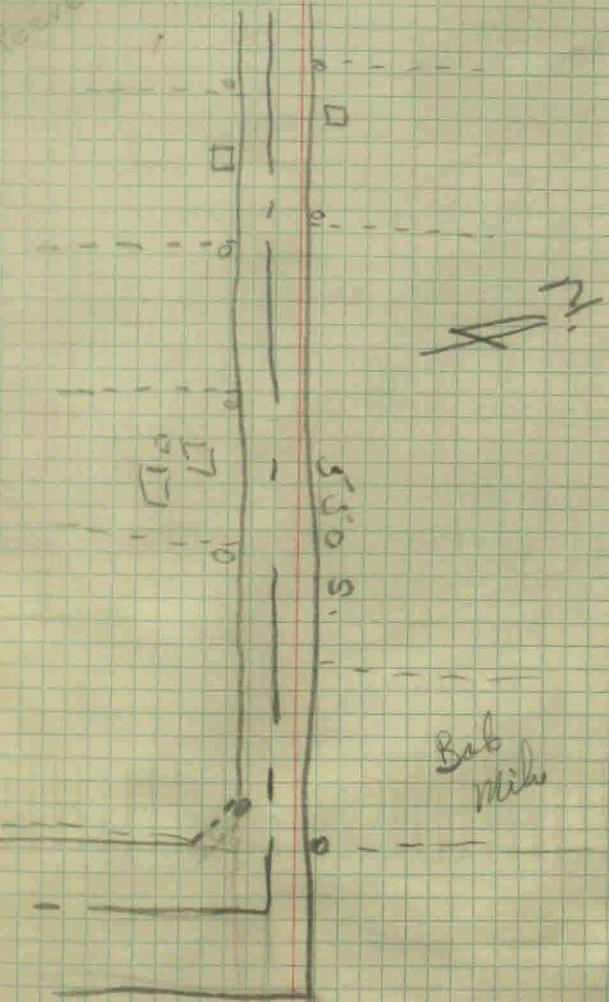
116'
FENCE

Mc DANIEL

Copy Mike & Jim

TEMP 27° 16

completely
Bab & Mike
Reeves Room



Bab
Mike

SW 1/4 OF FOUR MILE MARSH SECTION 17

1-14-60

E. $\frac{1}{2}$ SF.

PT OF NE GH
OF SO. GH.

SEC. 32 - 16 - 2 NW.

293.8'

104.4'
.58 A+

293.8

293.8

204.4'

117A+

293.8

204.4'
54 83.4' 75'

360.0'
164.0'
550.0'
744.1

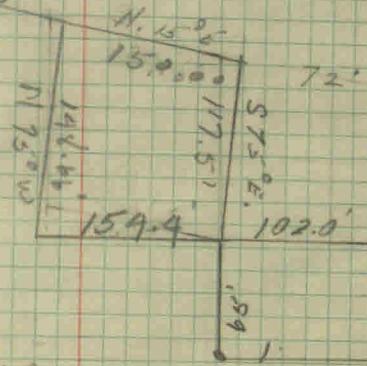
CORR P
110

B0081
M.F.B

DESS - VAUGHN

SEC 28-17-1W 18

~~175.0'~~



159.

151.4

159.4

324.0'

NG - NW - NE
A

Bob
Mike

522.5'

Jess
Vaughan

19

N - N - E -

553.7'

529.3'

90° N. 33°

Bob
Mack

F
COUCH CO.
Mr. C.M. HERRIMAN 20
1-20-66

2664

1753' E. side

CAMPBELL COUNTY

3-15-2E

2345' 2570' 2820' 115' 256'
229' 112.3' 110' 122' 333'
222.3' 280.7' 1.0' 254'

95.5
50
506.5

428.5' 120'

428.5' 142' 6.8' 9.6'
285.4' 142' 1.8' 1.8'
FENCE 269.5' 1.8' 1.8'

road
cross
lawn
21
72
128
103
78

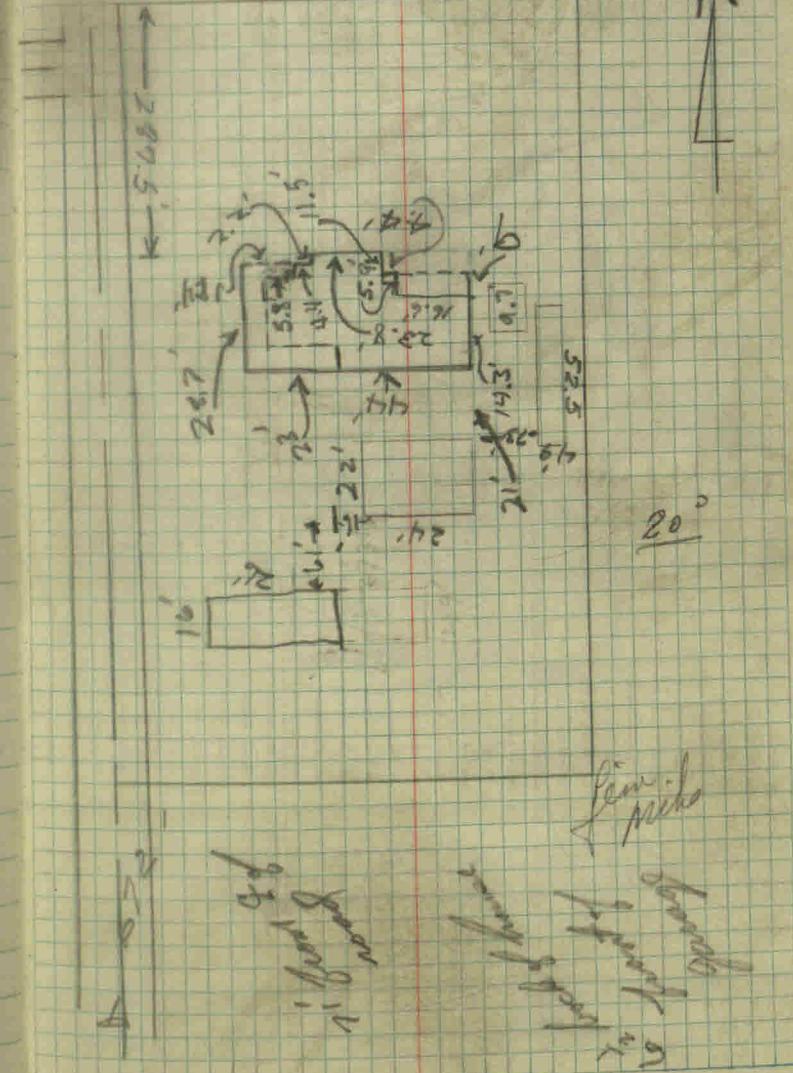
1-6/51

2-3-66

Survey for Mr. Frank Ellis

21

N
4



low rock

front 100'
back 100'

front 100'

back 100'

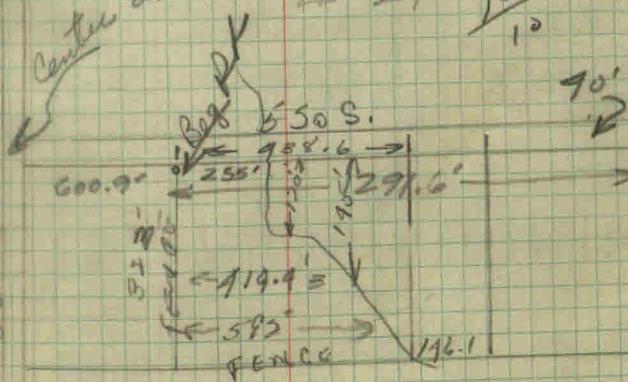
Survey for Mrs. Harry Huggee 22

2-10-66

Wet
60°

110.4
251.4
59.4

See 1 sub 14 R 1 E.
2 125.5
2 151
2 9.2
2 24.70
1.0



70' 110.4
251.0
159.4

255'
251.
195.5

620.9
438.6

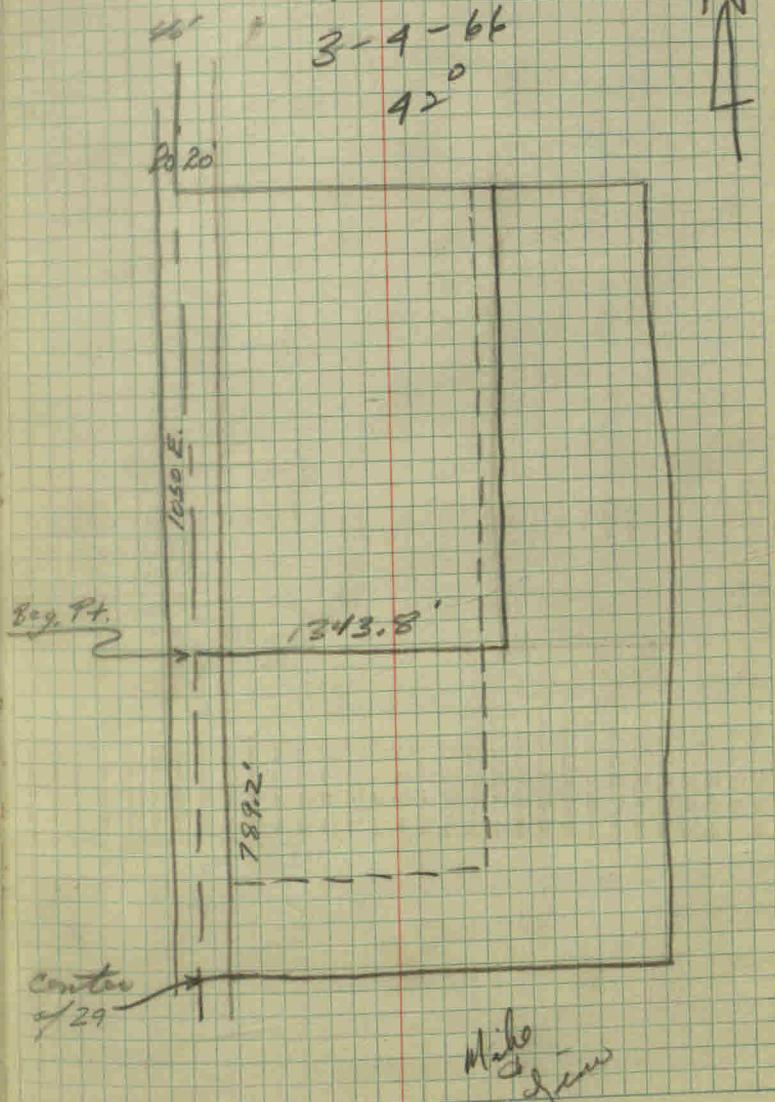
Survey for Harry Gilbert 23
A Pt. N.E. 9 tr of Sec. 29 - 15 - 28.

46° 3-4-66
92°

N
F

~~900.0
10.8
789.2~~

~~340.8
77.0
417.8
926.
1343.8~~



Mike
Jew

Survey for Harold Spaulding 24
2-19-66

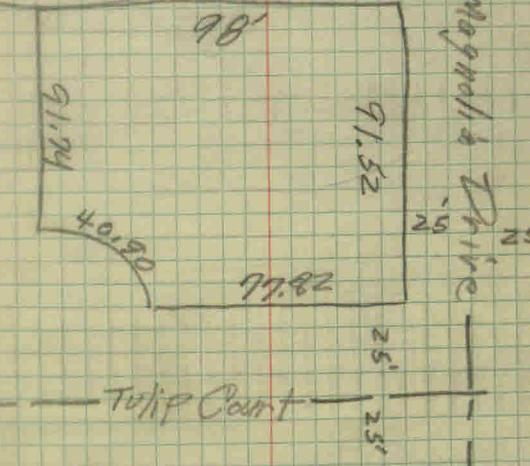
Sugar Grove
Subdivision

L

91.10
77.12
79.28

Lot 1
Line

No Drawings



Tulip Count

Surveyed for
F. E. Rod

SAC 18 F 19 19 - 2 W

25

3 - 4 - 66

2310 X
2190 1205.5' X

2310 X
2190 1206.0' X
1796.0' X 899.0' X 1501.5'

S. Half
Mile Sta.
of 18 - 19 - 2 W.

Center Sta
19 - 19 - 2 W.

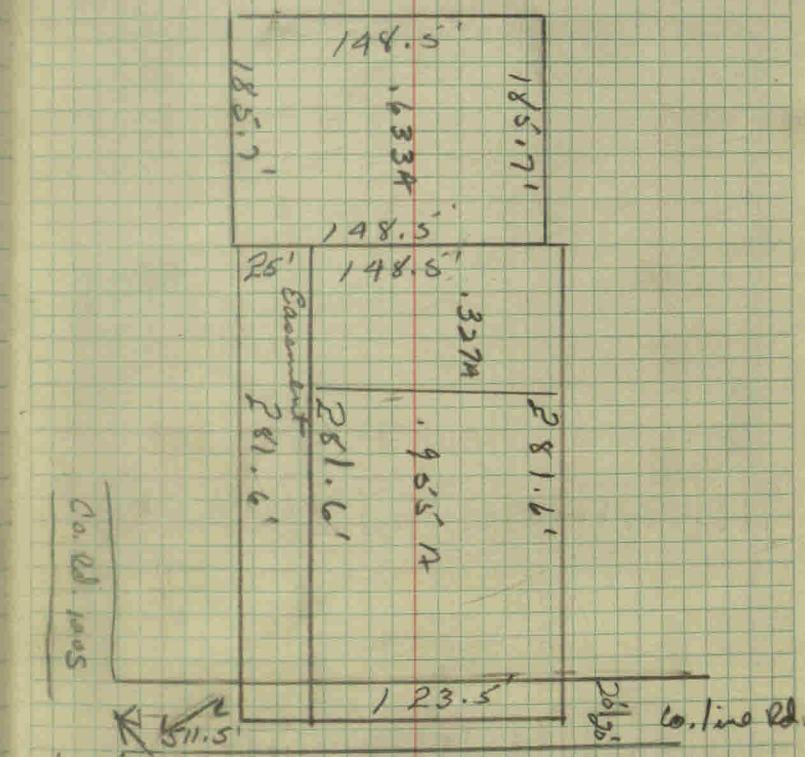
Nike
Line

Adams

3-2-66

Milo +
Fin

26



Note! Revised
from 7-28-65

N
1811.5
S.E. corner of
38 ft of seas
top 15 22 E.

Survey for John Kendall

27

3-3-66



9241

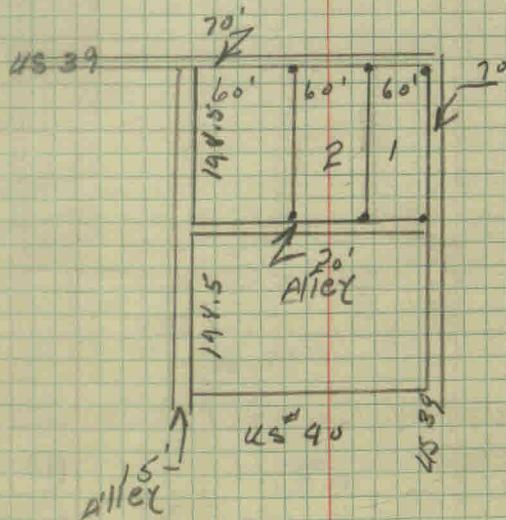
1320'

Jim
Mile

1/16-1/2

Mr John Allen
3-9-66

Block #5 Lots #1 and 2



John
Allen
Debt

Survey for Ciner Shaw
Sec. 6 T15N R1W 3-15-66

29



06.77'

255.91

8A.

706.2'

254.5'

2A

350.3'

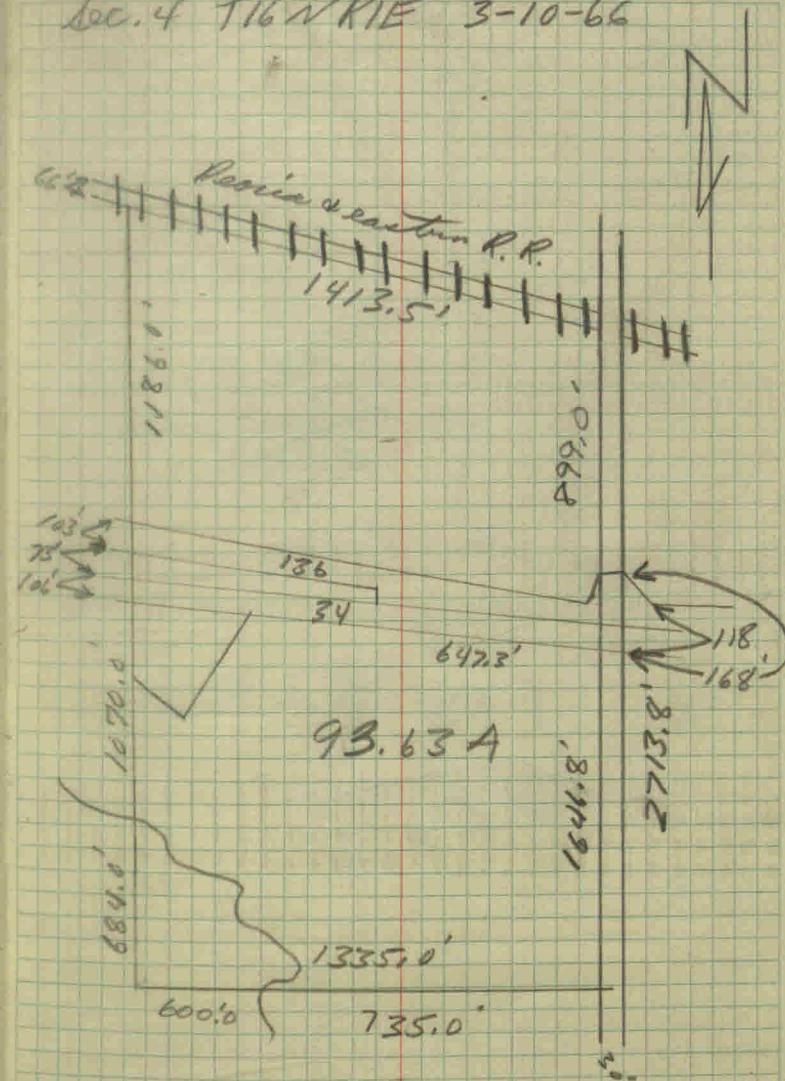
212.52' (41.98)

362.27'

11

Survey for Ch Schier
Sec. 4 T16N R1E 3-10-66

30



Survey for Morris Money 31
Sec. 32 T 16 N R 1 E

N

~~539.0
547.0
1086.0~~

~~539.0
525.0
1064.0~~

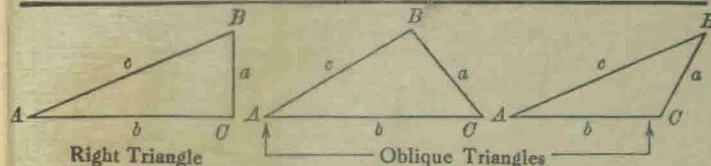
45° 0E.

150 N.
539.0' 547.0'
1084.38
12.64 A.

539.0' 1056.0'
525.0'

262.45'
94.05'
26.30'

TRIGONOMETRIC FORMULÆ



Right Triangle Oblique Triangles

Solution of Right Triangles

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

Given	Required	
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	
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	$\text{area}=\frac{b c \sin A}{2}$
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 $(1 - \cosine \text{ of vertical angle})$. With the same figures as in the preceding example, the following result is obtained. Cosine $5^\circ 10' = .9959$. $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ 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.

