

270

FIELD BOOK

8435

N^o. 270.

Bena Sch Ho 2 To 18 This Book 270

Mrs Katherine R. Belford widow
and her daughter Katherine B. Belford
on Shingobee Island

Shingobee Island Pg 21

Bena
Belford
Island



PIONEERS
SINCE 1831

Field Book

No. S 1135

88 LEAVES

Made in U. S. A.

Bena School Ho 1 To 19
Shingobee Island - Belford 20 To 26
Albert Kuehl Lot 8 Sec 2-141-31 Pg 27 To 41
Kolderie }
Sundin } Deeds Pg 46-47
Macklin } Sec 34-35-141-31 Pg 42 To

2

Bena Sch Ho 2 To 18 inc

4007

3966

14

3966

Note: This Field Book No 270,
belongs to John W Curo.

Walker Minn

If lost, finder please notify
owner - for reward

Thank you
John W Curo
NOV 1-1944

Index

Addresses Page

Maps

Bena School Pg 5 to 18 inc

Shingobei Island Belford 21 to 25 inc

Mrs Katherine R Belford 21 to 25

Albert Kuehl NW 1/2 of S 1/2 Lot 18-11-41-31 Pg 27 to

James V Lestina Sucker bay 78

Bena

5

Some notes

Sandy Myrl Indian wouldn't work

Mrs M^cFarland is Postmaster

Jim Middleton lived with M^cFarland - old Mrs O K may know where is

Met Mrs Olson of Carr Lake at Bena School nurse of something Don't remember last State Health Dep?

6 Bena Sch Ho

Point	BS +	HI	FS -	Elev	
S/O 1				100.00	Barrel
	0.95	100.95			
B M			5.08	95.87	
TP 1			6.60	94.35	
	1.15	95.50	1.15		
TP 2			4.90	90.60	

~~Outlet pipe 90.60 + 1.2 = 91.8~~

48" Outlet 90.6 + 1.2 = 91.8

B M 95.87

48"

Outlet pipe $90.6 + 0.30 = 90.90$

Should be 9.3 but floor

7

100.93

5.08

94.87

Remarks

100.93

6.60

94.75

& main floor

on Cim Porch slipr

105

on 3rd step down

105

Tap of Perm floor in & Basement

Top Basement

& OUTlet Apr

Top Cement Porch N Side of Bldg

on N edge & porch

9.2

5.4

3.8

Bottom of 8" Drain for Main Bldg OK

Bena Sch Ho Con'd

9

Working for Cass Co Minn
School Board - continued

January 23-1944

Clerk Calls me 7 A.M. in Room
7, Lake Shore Hotel-Walker
where I have been staying
for the past month.

7-50 I find my helper
Ferdinand Zink waiting
Coffee for I & Ferd at Pool
Restaurant 10.00

Lv Walker 8-15 + -

At Cass Lake - Pancakes &
coffee for Ferd and I at
Endion Hotel Cass Lake 4.00

22 miles bet Walker & Cass Lake

9-30 Lv Cass Lake @ 20 miles
+ - at Bena

Ferd starts digging
I check up gear

127.12.40 Dinner for Ferd & I
at Bena 3.60

Jahm W. Cresson

10

Jan 23-1945 continued PM

Ferd digr. I like elevation

Outside the Sch Hs

One Inch Exhaust Pipe

Tap of pipe thro basement
wall @ 7.8 ft West of SE cor
- 1.8 ft above ground

Inside of Basement

Some 1" pipe is 5.7' above
concrete floor of basement
So that:

As Basement floor Elev is
90.60 by adding 5.7' gives us
96.3 Elev for top of 1" pipe.

See Page 7

check this

Outside of Bldg

pt	+	HI	=	Elev
----	---	----	---	------

BM 1

95.87

90.6
52

11

96.3

Elev 96.3

2 1/2
compounds

95.87
Steps
P97

90.60 Floor of Basement
P97

12

117.8
78

11.07

Point

+ S

H I

- S

Elev

BM 1

2.84

98.71

95.87

2.50

96.21

2.74

98.95

98

11.00

87.95

ys

Sta 1

4.6

4.6

94.35

5.8

93.15

π 1

4.2

94.75

1

0.0

99.00

1.0

98.00

1+9

5.0

94.00

2+20

3.0

96.00

6.4

8.4

90.55

5.6

3

96.21

$$\begin{array}{r} 96.21 \\ 2.74 \\ \hline 98.95 \end{array}$$

$$\begin{array}{r} 96.21 \\ 2.74 \\ \hline 98.95 \end{array} \quad \textcircled{13} \quad 95.$$

on Sch Ho can porch

On Top of 1" exhaust pipe OK 96.21

Top of Water

$$\begin{array}{r} 98.95 \text{ HI} \\ - 1.1 \\ \hline 87.95 \end{array}$$

SECOR Sch H Moving N T

90.60

180° R 100'

$$\begin{array}{r} 87.95 \\ 2.65 \\ \hline \end{array}$$

" 200

200' L

7.65

200 R

7.65

40° R 300

5.40

42° L 200 R

Hi water mark in Root Cellar

Main Floor 100.

100.00

Basement Floor

90.60

Water

88.00

14

Jan 26-1945 at Bernice

See MC Peterson Health Officer

Meet DeHart

Reg Surveyor

Bena School

Send Cass Co Map to C. Hy. Ct Ho

Blue Print Floor	100.00
Basement	90.75
Water 16 day normal	87.95
Flood water total rise =	<u>2.80 ft</u>
" El Same as basement floor	

76

Jan 27-1945 at Wacha
Checking

Walker Mamm

17

Jan 29-1945 Monday

Mr Oluf T. Olson

Asst School Can & Walker

Dear Mr Olson Re Bena Sch-Water Levels

Report

1st Elev Carefully Chd for accuracy

2nd Fld Water rise = 2.80' from 1st basement floor

3rd B.P.O. Furnish my Shower Outlet-Schffs 93.15'

I find normal Water Lvl today 97.95'

Total Drop Outlet to Water 5.20

4th To prevent freezing should add

as g'd level 1.2 day is 6 1/2' Ls Sand abv water

5th I'm tickled pink to find we have plenty of drop - for our slaps

Above report correct

Walker Jan 29-1945

Sork Can

John W. Cress

Paul

Your B.P. herewith returned

attached to this brief report

191711144 14 28

18

Jan 29-1945

Bill

Taking Wali levels @ Rena School
Eng work & Expense

Jan 20-23-29-1944

\$ 25.00

Jan 23/45 Wali Wather 1. Rena & return

& return 79 mi @ 5¢

3.95

\$ 28.95

Jahud Boco

See Envelope #24

Paid in Sch Board Check

I pd \$37.21

by Harold May 1957

20 Belford - Notes copied from father's file 332
Belford's 1st Add to Plat of Shingobee Island

Mar 13th 1946 crew J.W.C. T + H. Cuss

Buff X over approx NE cor. lot 1 BIK. 2 being
Sta 1 - BS along foot of stone wall to flag + 60° side
N 79° 04' W Take 1st Hour N° 1

SE cor bears N 61° 14' W 35.1

SW " " N 64° 35' W 59.3

NE " " N 33° 24' W 43.00

Ho. N° 1: 20.3 X 24.4

small porch over cem. steps on S side of house

Driveway

N 19° 01' E 34' to E of driveway on shoulder
of old Co road West side of road

House N° 2

SE Cor bears N 9° 14' W 79.3

SW " " N 23° 44' W 84.8

NE " " N 2° 08' W 88.5

Ho. N° 2 is 24.4 E + W 23.3 NW small
cem. steps on S side Brick foundation

T still at Sta 1 run N 19° 01' E

following the top of bank of cut made by old
Co road Probably the West boundary of said road

Note: We will have to find out where the lot
line comes. later, but we are mighty close to it.

Sta 1 run N 19° 01' E 159.2 to Sta. 2 on brick Ho.
SAKE See pgs 22-

Belford

21

Shingobee Island

Mrs Katherine R Belford

and her daughter Katherine B. Belford

Rush Order

March 14-1946

Mrs Belford telephoned that she
Had to have her tract platted
at Once

I told her I was getting out my
INCOME REPORT
and would try to get to Shingobee
Island 6-30 PM

But I couldn't make it

March 15 1946

Harold and I called on Mrs
Belford and she went over the
ground She wanted a piece and
I figured 5 Lbs @ 35 \$175

She said All right I will
pay you One Hundred Seventy-
five dollars

Sloppy-wet snow

Shingobe Island

Katherine P. Belford

March 16-1944 Sat

Harold and I work on Belford Plot

N 19° 01' E Tang. 344.653 in 100
1 72.3265 in 500

(Continued from page 20)

Tower Sta 2 BS S 19° 01' W on Sta 1

to house No 3

SE corner bears S 52° 10' W 51.5'

NE " " S 75° 07' W 37.6'

porch on N side of house NE cor. porch N 86° 26' W 59.4'

NW cor. porch N 83° 45' W 71.4'

porch 23.3 long 5.2 wide E end of Main house

19.6' to get porch on S side of ho. No 3

from SE cor. chain W. 23.1' to L then S 12' then

W. 15.4 distance bet ho. N 2-2 + N 3 is 24.4'

Circular Driveway

To still over Sta 2 center of driveway

N 19° E 48.6 on shoulder of bank 15 ft S

of Center of Driveway bears N 16° W 46' and

N 45° W 54' cloth line post bears N 51° 36' W 82'

Continued on page 24

24 Continued from Page 22

house No 4

East side of

SE cor N $34^{\circ}27'W$ 96.5-

house 30.7'

SW n N $38^{\circ}44'W$ 111.0

porch on NE

NE n N $21^{\circ}08'W$ 113.1

cor NE 16.5'

House No 5-

SE cor. N $9^{\circ}30'W$ 143.7

SW n. N $13^{\circ}22'W$ 153.8

Cold mist
SE wind
Dark

SE side 18.4 E side 26.2

(see back of my check book for Notes
T. folded sheet of paper

31.3 N of sta 2 to pt for lot cor

Town 100 BS $519^{\circ}01'W$

Tel. Pole house

N $71^{\circ}42'W$ 80.3

Mar. 22-1944 3 PM Harold & I go to

Shingobee Island Town sta 2 BS $519^{\circ}01'$ on

stal. chain N $19^{\circ}01'E$ @ 3.4 & drive 50 hub

50.5 hub - 160h 13 ft N of stone wall 101 H

TA $5^{\circ}30'55'E$ 2 ft hi

SW cor N $15^{\circ}53'E$ 103.5

NW cor N $37^{\circ}06'E$ 123.7

Flg N of Street N $2^{\circ}16'W$ 33.9

12" oak N $5^{\circ}20'41'W$ 93.8

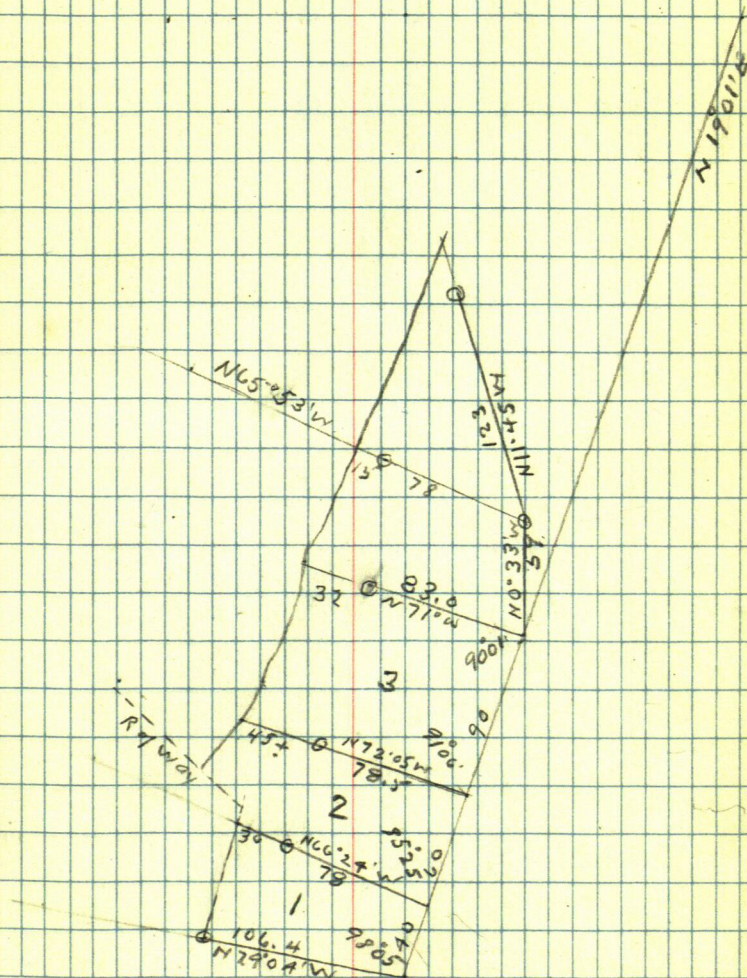
Town sta 2 - took 5 hour sabbath

Driveway N $16^{\circ}30'W$ 44

this is N $4^{\circ}44'W$ 54.

on page 22

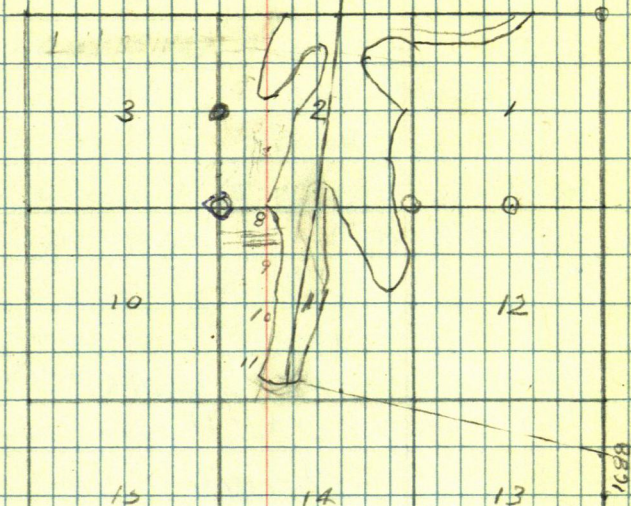
Rec'd 8125 Cash in full
from Mrs Belford



May 10-1947 ^D

27

Albert Kuehl Survey
141-31



28

②

141-31

$N\frac{1}{2}$ of Lot 8
141-31

Christian

Albert Kuehl
 $N\frac{1}{2}$ of $S\frac{1}{2}$ Lot 8-

Arthur G Grupe
 $S\frac{1}{2}$ of $S\frac{1}{2}$ Lot 8
sec 11-141-31

Albert Kuehl³

29

Note: May 10-1947

Albert Kuehl of

has bought the $N\frac{1}{2}$ & $S\frac{1}{2}$ Gov L & S
Sec 11-14-31 wants to build

As it costs too much for a complete survey I offer to put in

Approximate E-W-Cen Line
of his land for \$35.

He pays me \$15 and send me
PO \$20 later

Roads laid and I wait till
Spring

John W. Curo

30 May 10-1947 Sat

Harald and his car takes Walt and Glenford Mille to Sec 11-141-31 to survey $N\frac{1}{2}$ & $S\frac{1}{2}$ Lot 4 Sec 11-141-31 to get roughly the E & W $\frac{1}{2}$ of the Albert Kuehl $N 330$ ft - of $S 660$ ft

They find Ed. Wold a Walker Carpenter already building a small shack for Albert Kuehl and drive back to Walker. They have their lunch with them.

I and my car drive back with them at noon. No one eats dinner.

Mr Churston who owns the $N\frac{1}{2}$ of Lot 4 says that where the old fence enters the west bank of Leech Lake is the True Line bet. Sec 2 and 11-141-31.

Val: This is Meander Corner # 45 where US Water call for port and Bearing lines as follows.

NOR Pine $9^{\circ} S 73^{\circ} W 29$ Lks = 19.14 FT

NP 11 $N 82^{\circ} W 77$ Lks = 50.82 PL

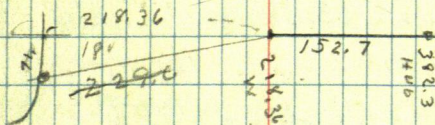
All are gone

Set tall birch stake where old
fence enters water set 3 ft west
of sea wall in line with old fence
running west Harald packs
our "new" Warren Knight T
beamset to top of hill

Set T one Hub so as to see West
port N side of 15" Norway
with old spt blazer on back.
E and West sides almost
grown over Sight east on tall
Birch stake on shore and run
West for reads $5\frac{1}{2}^{\circ}$

Use Vertical Circle

Allen and I chain up hill
West 229.6 Hub on top under T
Vertical Circle reads 18°



$$18^{\circ} \text{ Alp Cosine} = 951057 \times 229.6 = 218.36 \text{ west Hub under T}$$

$$\text{Tang} = 324920 \times 218.36 = 70.95 \text{ UP}$$

$$\text{Sine } 309017 \times 229.6 = 70.95 \text{ UP}$$

32

West random bet Sec 2 + 11 - 141-31

218.36

152.70

371.06

$$218.36 + 268.0 = 486.36 + 350 =$$

$$786.36 \text{ pin} + 49.5 = 835.86 \text{ Hub} + 190.5$$

$$= 1026.36$$

229.60

208.85

20.75

Correction

$$229.6 - 20.75 = 208.85$$

$$382.3 - 20.75 = 361.55$$

$$497.6 - 20.75 = 476.85$$

$$847.1 - 20.75 = 826.35$$

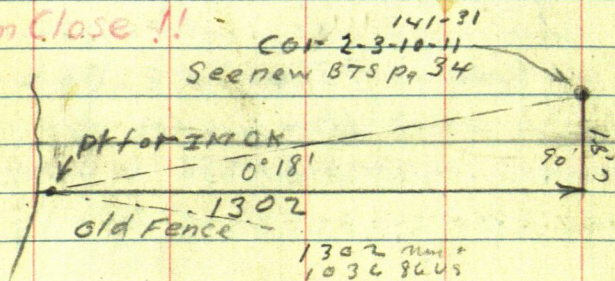
$$998.1 - 20.75 = 977.35$$

$$1288.1 - 20.75 = 1267.35$$

$$1324.33 - 20.75 = 1303.58 \text{ Rough Chain}$$

Call this 1302 Plumb-bob OK

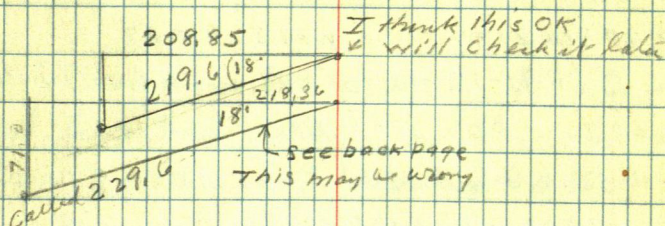
Dam Close !!

 141-31
 CG-2-3-10-11
 See new BTS p. 34


May 10-47 Continued

33

Notes kept on a loose leaf read



$$\text{West } 229.6 + 152.7 = 382.3 \text{ Hub } 361.55$$

$$229.6 + 268.0 = 497.6 \text{ Hub } 476.85$$

$$497.6 + 300 = 797.6 \text{ Pin} + 47.5 = 845.1 \text{ Hub } 826.35$$

$$797.6 + 190.5 = 988.1 \text{ Hub } 967.35 \text{ west}$$

$$988.1 + 300 = 1288.1 \text{ Pin } 1267.35$$

$$+ 35.5 = 1323.6 \text{ Hub Cor Sets } 56'00'' \text{ W } 6.85$$

$$6'06'' \text{ Sine } 106264 \times 6.85 = 0.72 \text{ W}$$

$$\text{Cos } 994338 \times 6.85 = 6.81 \text{ S}$$

$$\text{Tang } 106869 \times 6.81 = 0.73 \text{ W}$$

$$1323.6 + .73 = 1324.33 \text{ W Cor } 56.81$$

$$1324.33 - 20.75 = 1303.58 \text{ Rough Ch}$$

Call this 1302 Plumb-bob Chain OK ^{dam} close

$$18' \text{ Sine } 309017 \times 219.6 = 67.86 \text{ Down}$$

$$\text{Cos } 951057 \times 219.6 = 208.85 \text{ West}$$

$$\text{Tang } 324920 \times 208.85 = 67.86 \text{ UP}$$

$$1302) 6.81 = 0052304147 = 0'18''$$

US Notes 141-31

11-12-13-14

Pop 6 N 45 E 9

Spruce 8 N 85 W 10

WP 24 S 8 W 21

WP 6 S 29 E 28

1/4 Bet 11-12 U 10° 35' @ 40 S at 1/4 Post

NP 24 S 20° W 20

NP 16 S 26 E 14

North 5650 Creek 12' W Runs West

6000 Creek 10 LK wide runs NE

6280 MC Cedar 5 E at 90

7423 Over LK MC NP 7 S 57 E 17 NP 8 N 74 E 14

8000 Cor 1-2-11-12

North Bet 1-2 U 10° 35'

40 = 1/4 JP 8 S 71 E 11 JP 6 S 15 W 9

6728 Int Leech Lake

WP 8 S 82 E 3

Birch 7 S 65 W 21

14-15-22-23-141-31

Pop 8 S 85 W 100

Pop 12 N 37 W 115

JP 8 N 3 1/2 E 134

North bet 14-15 U at 10° 35'

40 = 1/4 JP 8 N 27° E 8 JP 9 S 10 W 23

5486 Creek 78 LK wide runs North

8000 Cor 10-11-14-15 141-31

10-11-14-15-141-31

JP12N23E23

JP7N17W 43

JP10S48E 25

JP12S50W 21

East Random bet 11-14 = 8022

West line line 40-11 set 4x

JP10N12E10

JP10S24E8

North bet 10-11 U 10°35'E

40 set 4x

JP8N17E10

JP8S29W 14

8000 @n 2-3-10-11 - 141-31

NP10N27E15

NP14N70W 19

JP6S15E14

JP9S34W 21

East Random bet 2-11 U 10°35'

8070 int 50 LK 50 of 1-2-11-12

Western line line S 87°39'W Bet 12-11

42 int Lake Set MC

NP10N59W 27

NP14S24E 28

Offet South 100 Opp side brs N 87W

Dist over lake 1908

1950 over lake Set MC

E1m 10 S 43W 15

E1m 6 N 20W 48

36

US Vol 10

West bet 2-11-141-31 Contd

3070 int Leech Lake set nr

Bunch 6 S 78 E 27 Pop 5 N 81 E 68

Offset to 3 chains Course on flog

Over River N 85 W Dist 34.29

6499 Over Lake set Post

NP 9 S 73 W 29

NP 11 N 82 W 71

8070 Co 2-3-10-11-141-31

Nath Random bet 2-3 for 10' 35'

79.87 int 34 W of Co 2-3

Run S. 0' 15 W true Line Bet 2-3

3987 Set 1/4 Co

NP 13 S 74 E 91

NP 16 S 63 W 38

7987 Co 2-3-10-11

9-10-15-16-141-31

WP 16 N 63 E 49

Pop 7 N 51 W 23

Pop 6 S 1/2 W 5

Pop 5 S 53 E 27

West line bet 10-15 ✓ 10' 35'

4000 1/4

YP 14 N 65 E 37

YP 12 S 63 E 65

May 10-1947 continued

At the Corner to Secs 2-3-10-11-141-31
We find old 2x48 haw iron pipe
capped on top and well set in
a very old moss covered mound
plainly in sight

well worn path to this corner
which is well recognized at the
line Cor to 2-3-11-12-141-31
I take New line ¹⁰⁻¹¹

Red Oak 4 N 53° 47' E 19.85 feet

" " 6 N 53° 22' W 22.65 FT

" " 8 S 57° 38' W 23.55 "

White Oak 4 S 56° 40' W 8.60 "

Red Oak 8. S 28° 03' E 39.75 "

to spots Van leads 5° 30' E

Turned from line line East

Sprinkler rain in PM

Walt: Crew work thru without
stopping for dinner Home at 6-PM

Call this 6 Hour @ 75¢ \$4.50

each for Glen & Walt

Harold & I bath Cor

John W. Quir

38

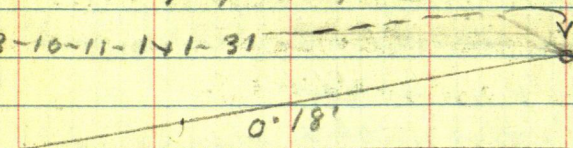
12

May 11-1947 Sunday

I work all day alone in my
office at Ft. H. Walker

Figuring

2-3-10-11-14-31



1302 My chain =

1036.86 Feet U.S. chain

265.94 Short

Correction = 00523041475

208.95 W	hans	S	1.09
361.55	"	"	S 1.89
476.85	"	"	S 2.49
826.35	"	"	S 4.32
967.35	"	"	S 5.06
1267.35	"	"	S 6.62
1302	"	"	S 6.81

May 13-1947

11 AM. Harold and his Car
with JWC and Glen Miller
Lv Walke Cloudy-mist. Cold
Drove to Sec 11-141-31

π over Corrected Hub
Line west Cul. 2 inches
S of E of 12" NP $3\frac{1}{2}$ ft West
Run S $29^{\circ}28'W$

$$\begin{array}{r} @ 90 \text{ pm} + 300 = 390 \text{ pin} + \\ 52.5 - \quad 390.0 \quad 52.5 \\ \hline 442.5 \quad 442.5 \end{array}$$

Hub

442.5 - Three feet west of
road ditch on top 15 ft W of
E of Crooked Road N-S

π over 442.5 RS N $29^{\circ}28'E$
Run S $9^{\circ}30'W$ 300 pm +
195.8 = 495.8 Hub
9 ft E of N S Road

40 Albert K¹⁴ehl

S 29'28'W 442.5

Pin 924 X 442.5 = 40.89 W

Co 8704 X 442.5 = 385.15 S

S 9°30'W 495.8

Pin 650 X 495.8 = 32.23 W

Co 9863 X 495.8 = 489.00

Sub

1 Bought 385.15

489.00

874.15

Run Nort 49.15

42

1

Chas.
miner

August 12-1947

Harold and JWC in Harold's car

Drive to Tenmile Meet

Ted Kolderie 1626 N 53 St Omaha Neb

50' 17 Sec 35 - 100 in 50' 34

Mrs W.E. Macklin 405 Moreland Mankato

200X 250

Lloyd Sundin N#3 Park Eastborough

Wichita Kansas 350 Ft in Sec 35

350 on lake by 250 1/4 4

Harold and I drive back to
Walton Talk with Peterson at
Relief Office Peterson does not
know Henry Rose

Pick up Glen Miller drive back
Kolderie will pay \$35 for survey of
his orig 150 ft and Rose is to pay
for balance of 150 ft P.

We take a chance on Rose

Glen Miller works 3 Hrs 376

© 8010 \$1.80

2

43

Lat 1-Sec 34
141-31

Lat 4 Sec 35
141.31

1549.8

Alderie 100

Alderie 50

100 50

2012

2012

100%

80

350

141

2

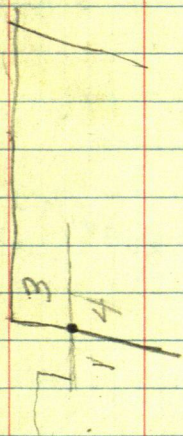
272.88

2000000

Sundin 350

44

3



46

5

Deed

Aug 13. 1947

Rain lost mile Copy deed

See Lot 4 - Sec 35 - 141-31

Ref Bk J. Pg 333

WD \$100 Aug 21-39 Fld Aug 28-1940

Bk 82-D-Pg 147

Everett L Batcheller also known
as E. E. P. & Martha E wife
and Henry Rose Single

To Lloyd Sundin
and Mildred E. Sundin joint
tenants Beg @ mc N 25° E 90° 50'
10 ft of bay

Then so parallel to sec line
to Ten Mile Lake,

Then westerly along shore line
350 ft - 100 foot which is
400 ft - E of said west sec line
measured at right angles to said
section line then North
parallel to sec line 250 ft
then westerly 350 ft 10 ft of bay

Macklin and Deed 47

W09. Aug 24 - 1936 Fld Sept 14
1936 Rk 72 D Pg 640

Everett L. Bacheller and
Martha E. wife and Henry Pore
To Ada L. Macklin

Pt Gov Lot 4 Sec 35 141-31. viz
starting where sec line enters
Ten Mile Lake

Then NELY on shore line to apt
400 ft E of sec line measured
at right angles

then North pt to sec line 250
ft East at right angles to said
West sec line 200 ft Then
So pt to sec line to shore of
Ten Mile Lake

Then SW ly along shore line
to pt of Beg

48 Rain all AM. ⑦

3 PM. Rain stops. Walt Can't go
Sheriff Dep Jack Rodicker picks up
Glenn Miller on a call from Grand
Rapids.

Harold and I in Harold's car LV
Walker alone 3 PM. Cellon Bill
Shofner he can't go nor his son in
law both busy. Harold and I work
alone.

Run lines and put in ties as shown
on Pg 45. This book

Lo

Lloyd Sumelin decides to have her
lot surveyed @ \$35 or
and if Mr Macklin will have her lot
surveyed at the same time I will do
both for \$50. Lloyd says go ahead
and survey his land regardless of Mr
Macklin

Herald and I call again on Bill
Shopree but he or his son can not
help us

We call on on Wilha Eshman but
her to go to Sebeka 60 miles - -

50 August 14-1947

Harold and I call on Glenford Miller at the jail Dan Delury

Can do nothing. Glen will first have to go to Grand Rapids for preliminary hearing

9-30 AM Harold + I pushing Walt Miller & Walkey

Run lines as shown on map on Page

From IM on sec line 250 N
from U.S.M.C. Turn 90° W 100 ft
to NW cor of Kolderie tract
Ties

From NW cor Kolderie 100 ft tract
Run 90° South @ 274.65 Hub 60° spike
@ 279.88 Hub pt for IM on seawall
10 ft north of water
Ties to 279.88

From NW cor Kolderie 100 ft
tract to line Run

West 50 ft Hub 60° spike + 150 =

300 W of sec line run 90°

South @ 102 Hub & Road N 65 W

@ 290 Hub = 60° spike on ridge + 68.4

- 258.4 PI for IM 10 ft N of sea

wall South edge = 268.4 from T

6.6 N of water

Ties to IM.

From Town N 20.12 pt for 1 m
 at NW Cor of the additional 200'
 least which is older in time to
 being from Rose

Then

PM

Town NW Cor of Add 200 ft N
 East @ 150 Hat + 50

Then

@ 150 + 50 = 200 Hat 20.12

N of NW Cor Kalden's orig 100 ft
 least

Then

Warren-Knight π 300' Chicago
steel lap

PM

π over Hut 50 ft West of
Kolderie orig 100 ft least
Run North 20.12 ft for π m

~~Run $1\frac{1}{2} \times 1\frac{1}{2} \times 3.20$ RR spk~~

4" WPN 29.35' E 5.15

6" W oak S 80° 30' W 7.30

- one spat each at base

Then from π run South 50 west of
Kolderie orig 100 ft least

@ 236.7 Hut 60° on ridge

@ 297.7 Hut pt for π m 3.3 N of

So brink of seawall which is

2927

33

201.0 S brink of seawall

2012

2211.2 Total length of

wet soil of and 50 ft adjoining
Kolderie

West 24.9 @ road NE SW
 Hot 60 d @ 150 NW Cor of 200 ft
 strip No
 Note 3" Birch on line spotted

From Trum East 50 ft to
 Point 20.12 ft North of
 Kalders Ore 100 ft
 strip

At NW Cor of Tatal tract
 RR spike Tree
 8" Pap IV $87^{\circ}06'E$ 16.95
 20" NP 5 $2^{\circ}38'W$ 54.42
 Two spots

SW Cor of Tatal tract RR spike
 378.52

NP 6 N $5^{\circ}20'E$ 13.05 Spotal bar
 WP 18 S $70^{\circ}12'W$ 9.50

56

15

297.7
2012
317.82

at NE Cor of west 150 ft

RR spike 317.82 20

Tier

NP18N54°16'E 38.7

W oak 10S61°34'W 17.4 17.4

one spot each at base

11 ft SW from new stake

4 ft N of Birch

SW Cor of Orig 100 ft Kalders Tree

1 x 46" pipe on seawall 279.88

So of NW Cor of 100 ft

10" white Birch 26°46'W 33.23

No spot only 10" Birch here

18°NPN 73°31'W 18.0

Pile of stone

NW Cor of Kalders orig

100 ft tract

1 x 49" Pipe

NP 7S17°21'E 5.55 JP 4 in line

WP 6S 85°13'W 25.42

8" Birch on line North 6.70

RR spike 50 W and down 20.12 V

ATTN: COR of Kolderie 50 ft

Orig liact set 2x30" pipe

See ties on page 45

Pop 16 S 47°40' W 5.15

Oak 4 S 20°35' E 3.73

Ties to 2" pipe on section

249.70 N of MC. Recorded on

250, N Ties U.S.

20" wp S 14°20' W 60.00

18x24" Hard Maple S 49°07' E 62.9

one spot each at base

Reference in and straighten
up orig. and 2" pipe

Find the orig 2x48" pipe bent and we
cannot straighten it

We carefully put in its place a
2x30" pipe driven 2" below ground
surface and put 2. big shovels of
cement around it making top 16" in
diameter slightly crown

Thin from her Kalders since
for the ground

58

Kalderin

17

Time Sheet Contract

August 14-1947 - PM 4, 15

Now for the Lloyd Sundin

Add L. Macklin Survey

bath @ 50.

From common just set at
chain North on sec line 93.7 Hb

Run $S 81^{\circ}40'E$

along crooked road = 0.0.

5 ft to road = $8^{\circ}20'$

Sin 144932

Cor 989442

Tang $146.478 \times 50 = 7.32$

989442) 50.000000 (5

93.70

58.59

35.11

@ 50.53. Hb

Tang $146.478 \times 400 = 58.59$

Recy

50.

W

See 1966

© 91.15 / 146 91.15

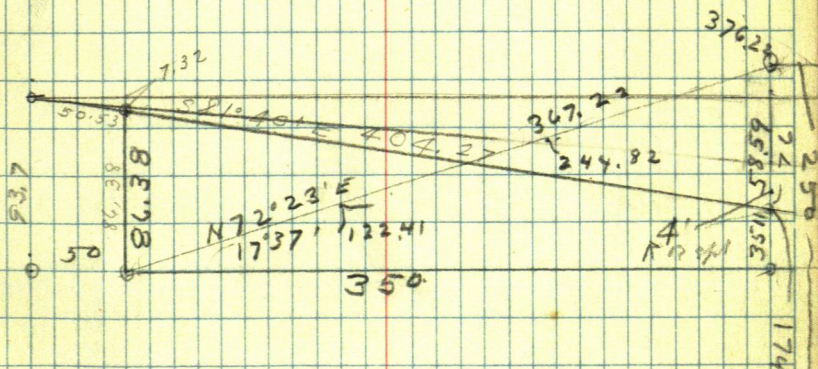
@ 105,10 Hect @ 125 Hect +

30

154-17ab

② $125 + 49 = 174$ So edge

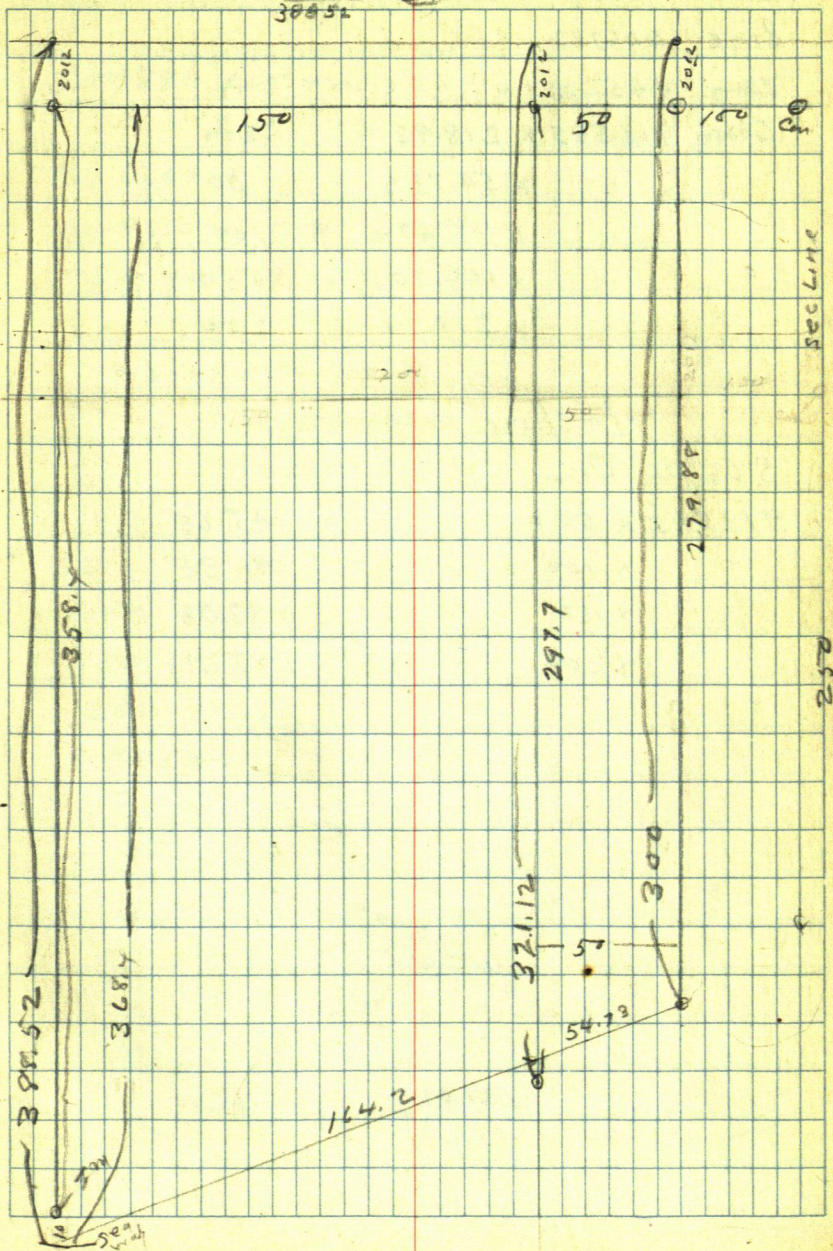
Res well

$$\begin{array}{r} 250 \\ 174 \\ \hline 76 \end{array}$$


3684
20.12
38852

29

65



66

24°00' (25)

Sine 406737

Tang 445229 x 50

Cosine 913545 x 218.93 = 200

" x 54.73.5 = 50

" x 109.47 = 100

" x 164.20.5 = 150

" x 218.94 = 200

via shore

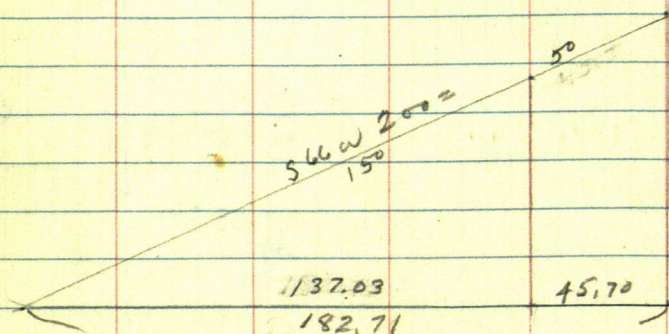
S 66°W Com

913545 x 50 = 45.68

" x 100 = 91.35

" x 150 = 137.03

x 200 = 182.71



$$200 \overline{) 89} = 445 \text{ Tang } 24^\circ$$

$$\sin 406737$$

$$\cos 913545 \overline{) 200} = 218.93$$

$$\text{Tang } 445229$$

$$913545 \times 50 = 45.73$$

$$100 = 91.46$$

$$\text{" } \times 150 = 137.03$$

$$\text{" } \times 200 = 182.71$$

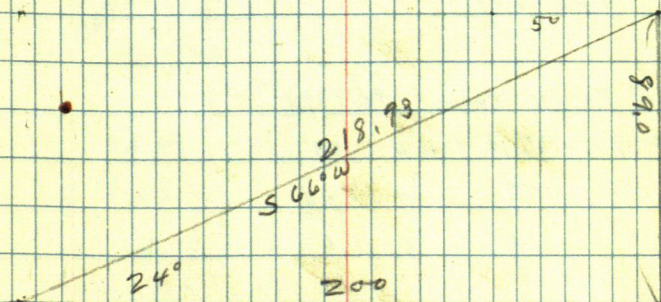
$$50' = 45.73$$

$$100 = 91.46$$

$$150' = 137.03 \quad 137.19$$

$$200' = 182.71$$

$$45.73 \times 4 =$$



68

27

$$81^{\circ}40' = 8^{\circ}20'$$

(Sin 144932

Cor 989442)

Tang 146478

$$989442) 50 (= 50.53$$

$$" 400 (= 404.27$$

$$" 350 (=$$

93.70

732
8638

72°23' 17

Sin 302647

C 953103) 100 (= 104.92

7 317539

953103)

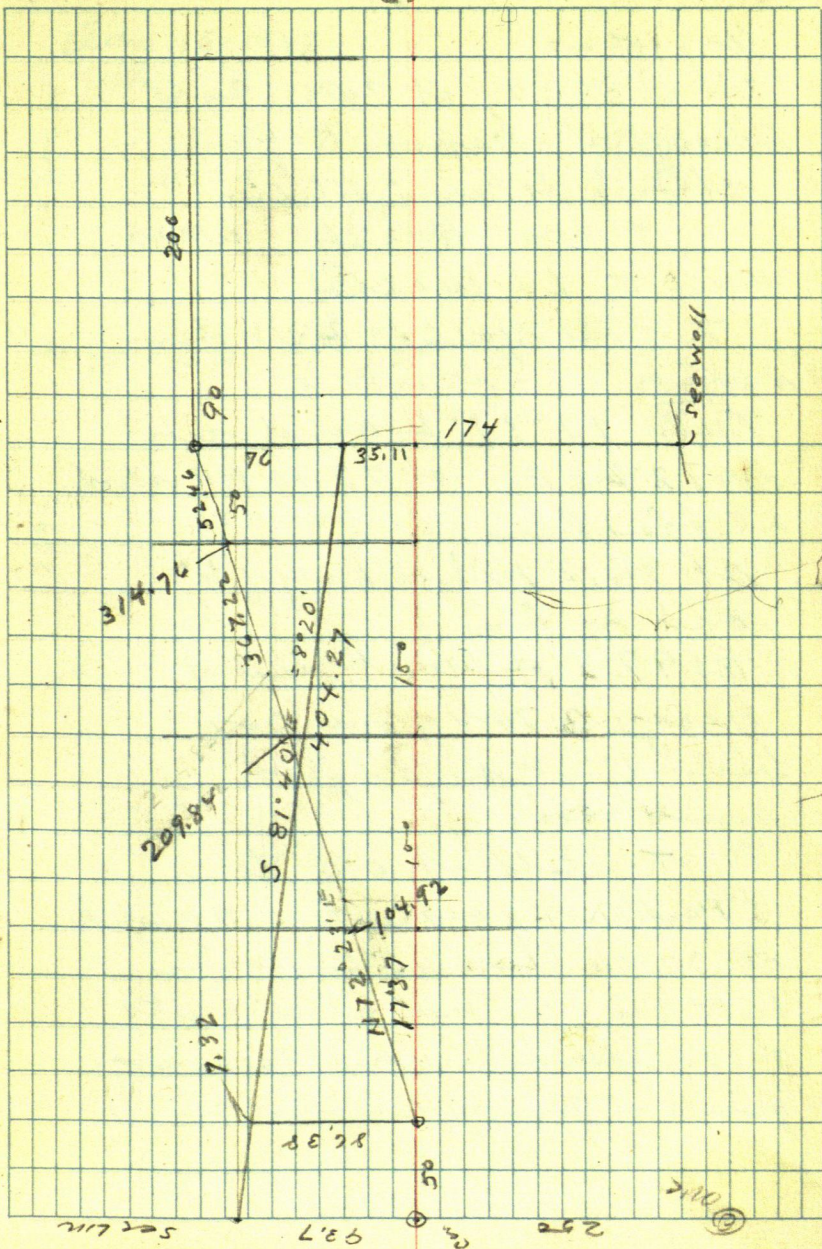
S 0°32' W Tang = 009309

9309 x 105.10 gals E 98

Pg 61

155 " E 1.44

174 " E 1.62



Aug 15-47

Up at 5-30 at 7 am sent
Sheriff at Grand Rapids
about Glena Miller

9 am Harold wait
and I L Walker

T over NW Cn L Under
NW Cn BS West

Turn $17^{\circ}37' L$ and run
 $N 72^{\circ}23' E$ at 72.10 RR spike
on line line

At 74.2 Hit so half of 6"
oak on line

at 97.2 Hit West end of
Garage 2.70 N of SW Cn
being 6" N of average of
small door

T still at 0.0 turn

L Pack T E on line line RR spike
at 72.10. Turn $60^{\circ} L$ over line
hits big tree at west 1.50
To 60 d spike on line line 70.60
from 0.0 Turn $60^{\circ} L$ and run

Aug 15-1947

$$\begin{array}{r} 367.22 \\ 172.10 \\ \hline 195.12 \end{array}$$

$$\begin{array}{r} 7060 \\ 101.50 \\ \hline 172.10 \end{array}$$

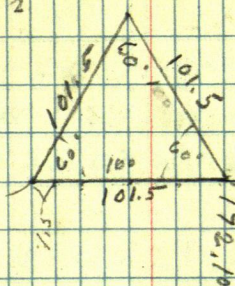
Sec Line



50



70.60



N72°23'E

195.12

195.05 Chd

.07

OK Close CK

250

me

From NW Cor Macklin 200 ft

Run 90° East @ 8.0 IM FOL axle

sets N 0.80 N E Hub

Top of Hill

Trs to NW Cor Macklin Tract

W. Oak 10 N 42° 12' E 25.30

E 1 m 16 N 25° 07' W 20.20

Run S 72 23 W 29.20 8' W P on lin

Turn 1000' E Cham

Run E 170.5 Hub on top under T

+ 29.15 = 200 East

200.0

Set IM for NE Cor Macklin Grant

Trs to NE Cor Macklin Tract

W. O. 9° S 85° 33' W 11.20

Red Oak 8 S 84° 30' E 15.50

To Spot at base Two spots

Run

South 86.4 uphill to Hub under T

on N slope + 15. = 101.4 IM on top

86.4 + 70.20 = 156.6 Hub

on N slope

74

(33)

South 101.4 IM on leg
1 1/4 x 16"

Lat 156.6 Hdt Ties

JP 7 S 29.47 E 2.90

JP 10 S 57.42 W 9.45

Then down sharp Hdt
40.3 = 196.9 pipe on
side hull 12 ft N of Rocky
seaway

Ties

NP 12 N about 20° E 8.50

JP 5 about west 9.55

Set 2 x 30" pipe 12

ft N of Rocky seaway

Tape Ralls int ~~to~~ hull
Ten Hdt Lake

Correct line bet Machlin
 as given on page 61 and 66
 at 167.4 S. of N wheel track
 of road and 6.6 N of seawall
 Ties: JP7 N $43^{\circ}30'E$ 30.87
 JP14 N $74^{\circ}10'W$ 17.70
 old IM - Ford at 1 beam

Ted. Kolderie Kolderie
Deed

also that portion of Lot 1 Sec
34-141-31 described as follows
commencing at the point
where the east sec line of
said sec 34 intersects the N
shore of Ten mile Lake Thence
North along said sec. line
250 ft Thence west at
right angles 100 ft Thence
South parallel to said sec
line to the shore of Ten mile
Lake Thence North easterly
along said shore line to
the place of beginning

W.D. 100 date Aug. 21-39 Filed
Oct. 26 -39 Book 77 D. 607

Everett L. Batcheller also known
as L. S. " & Martha E
Batcheller wife and Henry Rose
single To

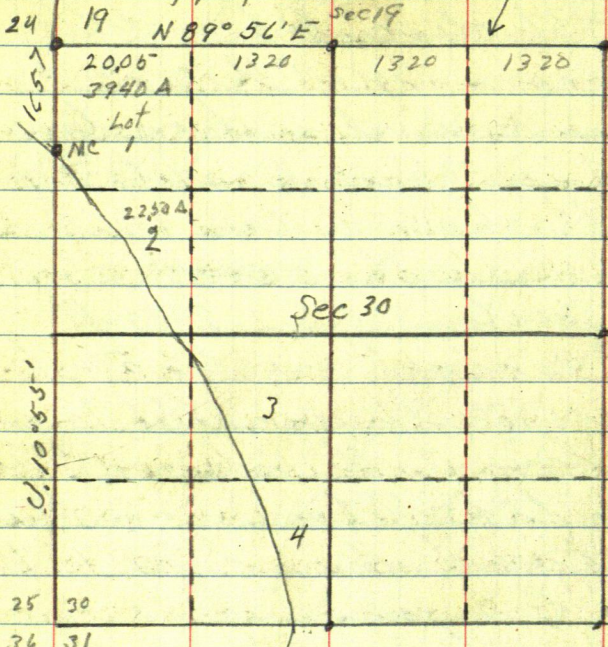
Theodore Kolderie & Helen M Kolderie
as joint Tenants Not Tenants in
common.

That portion of Lot 4- Sec 35

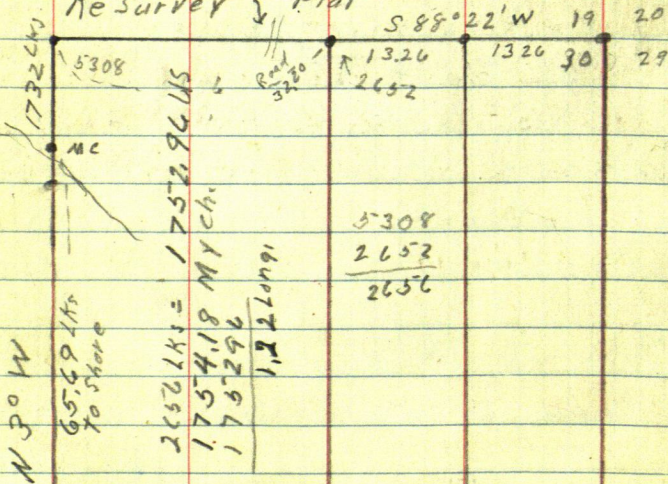
141-31 described as follows
 commencing at the point
 where the west section line of
 said sec 35 intersects the
 north shore of Ten mile Lake
 Thence North ~~250~~ ft along
 said section line 250 ft Thence
 East @ right angles 50 ft
 Thence south parallel to said
 sec line to the shore of Ten
 mile lake Thence southwesterly
 along said shore line to the
 place of beginning

24 78

Copy of Jewett plat



Resurvey & plat



5308
2652
2656

2656 LKs = 175296 LKs
175418 M Y ch.
175296
1222 Long

N 30° W
65.69 LKs
to shore

James V. Lestina
1649 Warren Blvd.
Chicago 12- Ill

Lots 1-2 - Sec 30

144-29

79

Nov 21-1950.

I am in my office at the Court House
Lennard Peterson Reg. of Deeds sends
Mr. James V Lestina of 1649 Warren
Blvd. Chicago Ill up to my office
Mr Lestina owns Lot 1+2-Section
30-144-29.

He had Sarff. put in his corners
and show him his lines. Later
some one from the forest Service
put in a stake for Lestina's NE cor
Sarff's stake is about 300 feet SE
of the stake set by Forest service
so he comes and talks to Peterson
who sends him to me.

We check over Re-survey plat
in Reg. of Deeds Office and I
tell him I will come out to-morrow

80 Lots-1-2 Sec 30
144-29

James V. Lestina
Chicago Ill.

Nov 22-1950

I Lv Walker drive to Cass Lake
then 11 miles East on Highway
No 2 the South 8 miles to Sucker Bay

I find Mr. Lestina getting things
ready to close up his Cabin for the
winter.

Mr. Lestina and I go out and he
shows me the Brass cap Mon.

Set in the re-survey for the M.C.
on N side Sucker bay between Secs
30-144-29 and Sec. 25-144-30

We go N to NW cor Sec 30-144-29
where someone dug out the
Sec. Corner in building private road
We walk East from Sec cor he
shows me the stake set by the
Forest Service man and the stake
set by Sarff We continue E to
the Brass Capped mon. set in the
re-survey for the $\frac{1}{4}$ corner bet sec
19-30-144-29 We continue East
to East $\frac{1}{16}$ cor. = Brass Capped mon
We have a hard time locating
this corner in the deep snow

James V. Lestina
1649 Warren Blvd
Chicago 12-311

81

Nov 22-1950 Continued
we set a flag at this E. $\frac{1}{4}$ and
open up the line W to the $\frac{1}{4}$ Cor
and try to work π on line bet.
the two Brass Capped monuments
we get π on line just before
it gets to dark to see good and
set a flag on the true line bet
Sec 19-30-144-29.

I am to come back in the
morning (Thanksgiving) day and
work. I get into Walker late
the starter locks on the car and
I Lu the car into town and walk
home as all garages are closed

Nov 23-1950

Stormy my car sets in the
street of Walker all day

Nov. 24-1950

I get my car pulled into the
ford Garage and fixed

Nov. 25-1950

I Lr Walker drive to Sucker Bay. Just before I get to Lestina's cabin I meet the Ochler Brothers who are building a logging camp. They tell me Lestina left for Chicago around noon Nov 23 1950. So I go back to Walker and ^{Write} to James K. Lestina - 1649 Warren Blvd Chicago 12 - Ill. to find out if he wants me to go ahead with the surveying and who is to help.

Date — received answer to my letter saying that He. J. V. Lestina left just ahead of the storm. That he wanted me to go ahead with the work, but to wait until I heard from him as he was going to write and get someone to help me.

Dec- 1950 get call from Behley. He is to help. I tell him I will be there tomorrow.

Jameo V Lestina
1649 Warren Blvd
Chicago 12 Ill

Sec 30-144-29 83
Lots 1-2

Dec - 1950

Lr Walker drive to Arl. Oehler's place in sec. 19-144-30 on Sucker Bay Oehler is to help with Lestina's survey in sec. 30-144-29

Travel the Brass Capped Mon. on N side Sec 30 - 144-29

Backsite E on flag on true N line of Sec 30-144-29 and run West. cut line + hub do not chain

Am still at the $\frac{1}{4}$ Cor bet Sec 19-30 144-29 I site E on true line called E+W and take Ties to said $\frac{1}{4}$

Ties to $\frac{1}{4}$ Cor N side Sec 30

Basswood 20 S $83^{\circ}30'E$ 6.9 ^{old New} US B.T.

Balsam 8 N $49^{\circ}36'W$ 32.9 New B.T.

Oehler has to work tomorrow so I tell him I am sending for U.S. Notes before I come back to save cutting a half mile of line or more. He says good. I call Indian Survey office and find they do not have the Notes so I send \$5.00 to Washington D.C. for them I write Lestina and tell him

June 28. 1951

Ed. & I drive to Sucker Bay
James Lestina sends two
men to help

C. L. Thomas

Frank Garden

Thomas & I chain line
beg. @ $\frac{1}{4}$ N Side Sec, 30 chain
West @ 100 p stake. @ 400 stake

@ 445' $\frac{1}{2}$ road. @ 503.1 hub 60° apib

@ 700 pin @ 908 hub 60° apib

@ 847 $\frac{1}{2}$ Forster stake

@ 1000 stake 1300 stake @ 1462.30

hub 60° apib @ 1600 stake @ 1750 hub

Town 1750 IM bears R. (NW) $11^{\circ}36'$ - 4.27

at NW Cor Sec 30

24	19
25	30

Elm 7 N 3° E 63 lks = 41.58 ft

" 20 S $35^{\circ}30'$ E 60 lks = 39.60 ft

Banwood 8 S 54° W 41 lks = 27.06 ft

Elm 8 N $35^{\circ}30'$ W 24 lks = 15.84 ft

70

70

70

5

215

Working for James V. Lestina			1649 Warren Blvd.	
Chicago 12 Ill. Who owns Lot 1-2			-Sec 30	7.144 R. 29
Nov -	22	25	Dec	1950
Harold Curo T.	1	1	1	
CGR - Tools	1	1	1	
James Lesting ex	1			
Arx Oehler ex			1	
Exp. US Notes \$500				
June 28 29			July 6 7 8 9	1951
HJ Curo	1	1	1	
Cot. Tools	1	1		
CL Thomas	1	1		
Frank Gorden	1	1/2		
James Lestina			1	1/2
?				

86

Sec. 30. - 144-29

fig.

11036' 4.27

Sine 201078 X 4.27 = .86

Cosine 979575 X 4.27 = 4.18

Tang 205271

 $1750 + 4.18 = 1754.18$

$$\begin{array}{r} .00049025753 \\ 1754.18 \overline{) 86.0000} \end{array}$$

Corrections = .00049025753

North for each foot West

Hub. 503.1 W goes North .25' to N. line ^{Sec 30}

Hub. 908 W " " .45

Hub. 1462.3 W " " .72 " " "

Hub. 1750. W " " .85795

" 1754.18 W " " .86 to IM

Now I take this to

Sec 19-30 - 144-29 and 24-25-144,30

This

Iron wood 6 N 68°05' W 36.6

Eln 20 N 40°19' E 33.95

Eln 5 S 52°55' W 51.22

Eln 24 S 60° E 31.19

Continue on Page 100 this book

Sec. 2 Paradise Point 141-31⁸⁷

About May 7-1951

John Briney from Paradise Point Resort. Calls at my office to find out if I had done any Surveying in Sec. 2-141-31 in the last 6 months.

I tell him I have not done any work to Sec. 2, in the last 6 years.

Some one who owns land next to him says his buildings are over the line. He wants me to come and run his true lines.

This Deed copied Reg. of Deeds Off.
Vern J Christian & Mae R Christian
to

John O Briney & Wife

That part of Gov't Lot 9 in Sec. 2-T. 141-R-31 described as follows
Beg. at the NE corner of said Lot 9 run West along the N. line of said lot 9 a distance of 300 ft to a pt. thence at Right angles. South parallel with the West line of said

lot 9 a distance of 230 feet to point. Thence at right angles East parallel to the N. line of said lot 9 a distance of approximately 300 ft to the Lake shore of Leech Lake thence Northeasterly along said lake shore to point of Beginning.

He wants this done before fishing season opens next Saturday May 12th 1951

I tell him I will try

May 10th 1959

I get my things together
to go to Paradise Point Resort

Have a call from Cross Lake
they want me before Saturday

I go to Paradise Point

go back up car

P.M.

Take random hub 1323.6
on page 33 this book.

Site E on old random line
and run E 2.6 ft at 60° pitch

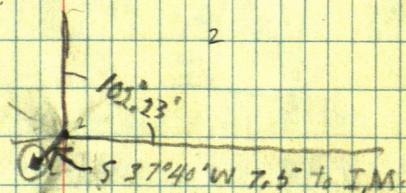
Take 2.6. Run N on old cut out
line

NE angle of the random line:

$102^{\circ}23'$ - Needle reads $19^{\circ}30'$

See Cor 2-3-10-11

IM bears $S 37^{\circ}40' W 7.5' ft.$



@ 530 N pin + 50 = 580 pin - 1.15 -

578.85 hub. 580 + 290 = 870 pin -

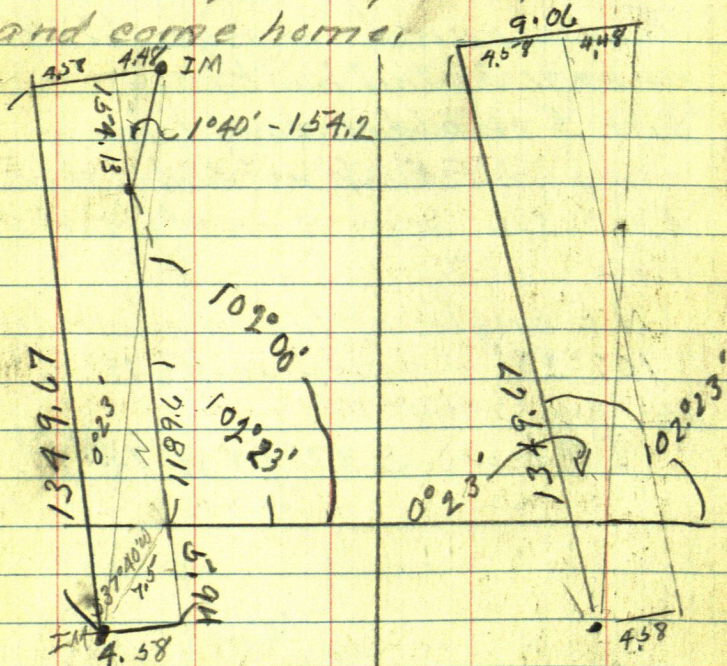
90

- 1.8 = 868.2 hub. 870 + 30 = 900 pin N wheel (too)

old road 900 + 289.6 = 1189.6 hub

Tower hub 1189.6 N the I.M. 5 1/6
Cor. between Sec's 2-3-141-31
bears R 1°40' 154.2

Quit @ 6.15 walk to road
with tools walk back to car
then stop and pick up tools
and come home.



4.58
4.48
9.06

1189.6
15.94
154.13
1349.67

figure in

S $37^{\circ}40'W$ 7.5 Colling our Line
N as North

$37^{\circ}40' 75$

Sine $611067 \times 7.50 = 4.58$ W

Cosine $791579 \times 7.50 = 5.94$ S

Tang, 771959

N $1^{\circ}40'E$ 154.2

Sine $.029085 \times 154.2 = 4.48$ E

Cosine $999577 \times 154.2 = 154.13$ N

Tang, 029097

Corrections

$9.06 \div 1349.67 = .006712752$ West
for each foot N - 458 = True line

Hub 578.85 N 900 E 389 then W 458 = .69 W

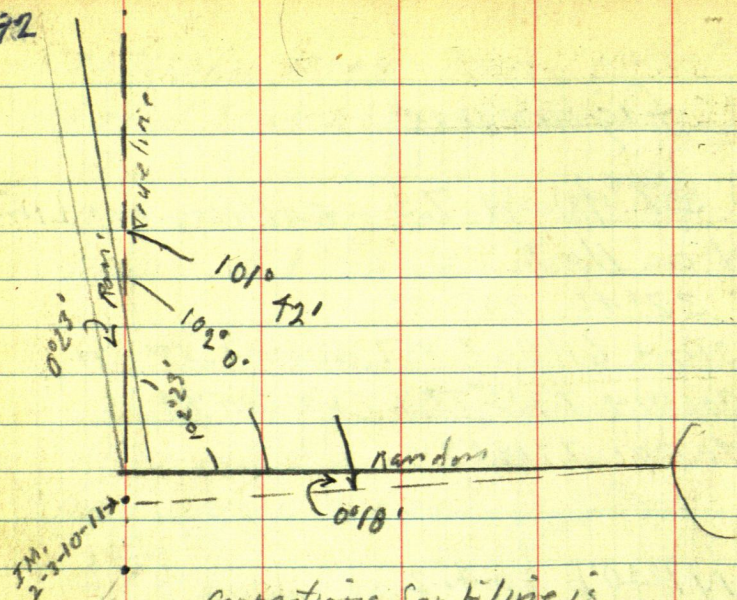
" 868.20 N " E 583 then W 458 = 1.25 E

" 1189.60 N " E 7.99 " W 458 = 3.41 E

" 578.85 N is 584.79 N goes E 392 then W 458 = .66 W

" 868.20 N is 874.14 N goes E 587 then W 458 = 1.29 E

" 1189.60 N is 1195.54 N " E 8.03 " W 458 = 3.45 E



Corrections for E. line is

$$.006712752 = 0^{\circ}23'$$

Corrections for S. line is

$$.00623041475 = 0^{\circ}18' \text{ see page 38}$$

Note these
are N E angles

$102^{\circ}23' = \text{angle of E \& S random lines}$

$102^{\circ}23' - 0^{\circ}23' = 102^{\circ}0' \text{ angle of E True \& S random}$

$102.23 - 0^{\circ}18' = 102^{\circ}05' \text{ angle of S True line and E random}$

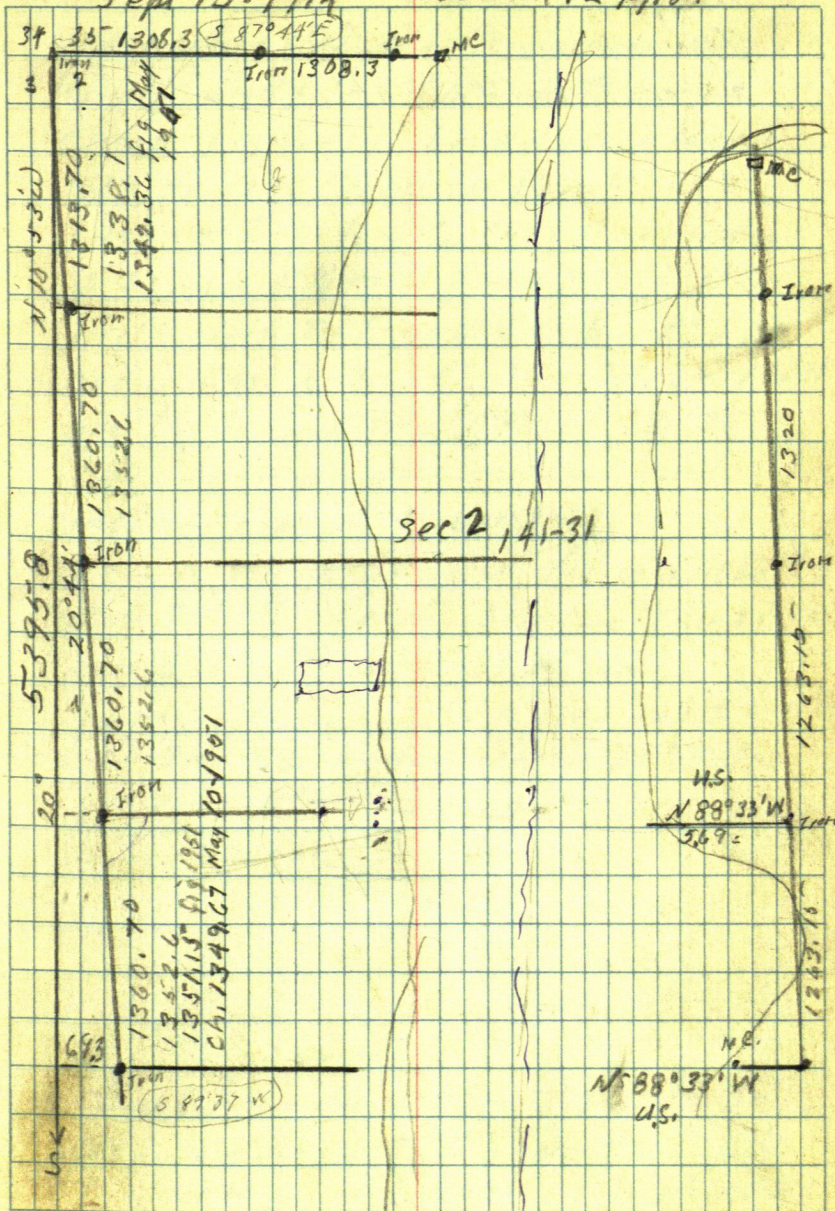
$102^{\circ}23' - 0^{\circ}18' - 0^{\circ}23' = 101^{\circ}42' \text{ angle}$

$\text{of E. True with S True lines}$

Sept 15-1914

see book 92 pg. 89

County Book 93



94

May 10th 1951

I work in the office until
almost midnight

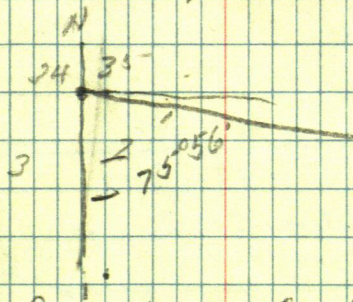
May 11-1951

Up early get gas \$2. Brush hook
handle and file = \$1.00 go to office
check figures. Lr Walker around
9-30 drive to Paradise Point

John & I go to S $\frac{1}{4}$ cor between Secs
2-3 pace N $\frac{1}{4}$ mile find I.M. go N $\frac{1}{4}$
mile find I.M. go N $\frac{1}{4}$ mile find I.M.
cor to Sec. 2-3-141-31 + 34-35-14231
we try to find the W $\frac{1}{4}$ bet 2-35
it has been plowed out we find
1 inch gas pipe at $\frac{1}{4}$ bet 2-35

@ cor to 2-3-34-35 offset 7 ft @ N $\frac{1}{16}$ bet 2-3
offset 7 ft E from Sec cor 2-3-34-35
run E to miss buildings of Sam

Then intersection of N line Sec 2 + offset
line the SE angle reads $75^{\circ}56'$



chain E from Sec. Cor Cor. to 2-3-34-35

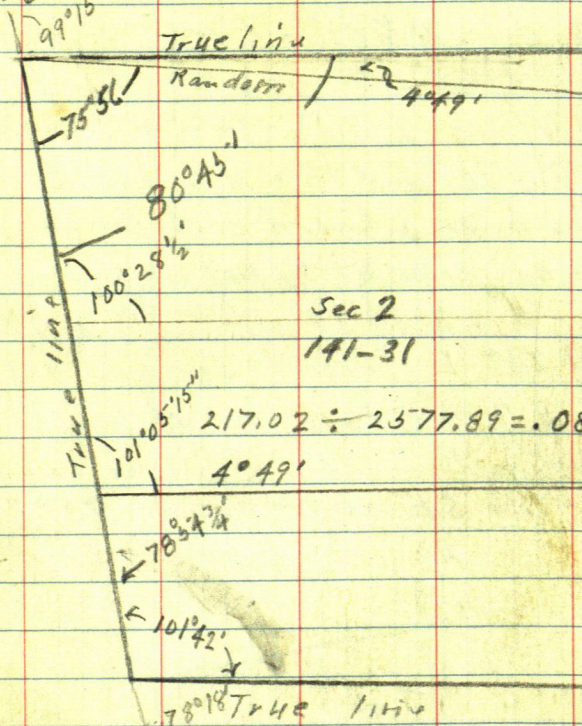
300 pms + 170 = 470 ^{acres plow field} pms + 300 = 770 - field
+ 300 = 1070 pms hay field + 300 = 1370 pms + 300 =

$$\begin{array}{r} 2170.6 \\ 461.5 \\ \hline 2632.1 \end{array}$$

$$1670 \text{ pin} + 300 = 1970 \text{ pin} + 200.6 - 2170.6 \text{ hub}$$

Tough hub, 2170.6 E $\frac{1}{4}$ Cor 1 inch gas pipe
bears, Nor Left $28^{\circ}03'$ - $300 + 161.5$

461.5



$$\begin{array}{r} 2170.6 \\ 407.29 \\ \hline 2577.89 \end{array}$$

$$217.02 \div 2577.89 = .08418512 =$$

Correction N. line Sec 2

Sec Cor

True line

Random 2170.6

$28^{\circ}03'$

$$\text{Sine } 470.242 \times 461.6 = 217.02 \text{ N.}$$

$$\text{Cosine } 882.538 \times 461.6 = 407.29 \text{ E}$$

$$\text{Tang } 532.829$$

1970
200
2170.6

97

Working for John Briney Paradise Point Resort

Twine Street

10 11 12 ^{SUN} 13 14

1967

May

Harold Cyro 1

Car - Tools 1

Exp

John Briney 1

Sat. May 12 - 1951

fig angle at Court House
Donald and I drive to Paradise
Point Resort. John is not ready
to go with us yet. Don and I go
to $S \frac{1}{4}$ IM between Section
2-3-141-31 We correct hub
1189.6. N and set 60 spikes on
true Sec. line bet Sec. 2-3

Travel $S \frac{1}{4}$ IM bet 2-3 Take Trees

Red oak $\nearrow S 49^{\circ}36'W 27.8$ ft

Red oak $\searrow S 18^{\circ}18'E 52.1$ "

to spot at Base Note the section
line between Sec 2-3-141-31 called
N + S.

John comes at 10-30

π still over $S \frac{1}{4}$ site Son and line
Turn $L 78^{\circ}54\frac{3}{4}'$ and run East
on N line Gov't Lot 9. Sec 2-141-31

over swamp to Paradise Point
set spikes on E side of swamp
Trees

Ash 7 SE 2.4

Birch 8 NE 13.95

100

From Page 86 this book
Sec. 30 - 144-29

fig. carried from page 78

W. $\frac{1}{2}$ mile on N line - Sec 30 - 144, 29

My chain 1754.18

U.S. Chain 1752.96

1.22 Long,

1752.96 1.22 0000 0006959,656 +

as orig. Survey plat shows
Lot 1 - as W. 40 longer by 3.30 ft
than E 40 would fig viz

2643.30 - old U.S.

1752.96 New U.S.

890.34 short

$890.34 \div 2643.3 = .33682896$

.33682896

X 1320 US

444.61 short

in E 40

33682896

X 1323.3 US

445.73 short

in W 40

1320.00

- 444.61

875.39 US.

.61

1323.3

- 445.73

877.57 US

+ .61

fig continued

$$877.57 \text{ US} + 875.39 \text{ US} = 1752.96 \text{ US}$$

$$1752.96 \text{ US} = 1754.18 \text{ MARCH}$$

$$- \underline{1752.96}$$

1.22 Long.

$$0006959656 \times 877.57 = .61$$

$$+ \underline{.61}$$

$$878.18$$

$$0006959656 \times 875.39 = .61$$

$$+ \underline{.61}$$

$$876.00$$

$$876.00 + 878.18 = 1754.18$$

NW
30

878.18

876.00

1/4

102

Fig Continued
Correction on Page 86

Hq 908 W goes E 32. ft to
876 W then N. 43° to point
for True W $\frac{1}{16}$ cor North side
sea 30-144-29

June 29/1951

I Lr Walker drive to Sucker Bay
pick up, C.L. Thomas at Lestina
cabin drive to NW Cor Sec 30-144-29

Tower NW Cor I M site East on
true line. US notes Resurvey says
N 88° 22' E for N line Sec 30

Set Var. N 88° 22' W Back site E on
true line and run S 3° E U.S. resurvey
Notes

We cut out and hub this line
hit big trees offset and run about
1 foot West but set all hubs on our
true line at I, M, M.C. & find our
true line misses the I M. 13' 0" off foot
We Lr line as is as we do not take
time to chain the line carry line
past I M about 75 feet to sea wall
set wood stake on sea wall

Ties to M.C. with 35 chain 118

Birch 10 S 58° 22' W 11.20

Robin " 4x9 wire 9' N 87° 22' E 18.00

Copy of U.S. Re-survey of Indian Lands
Sec 30-144-29

588° 22' W

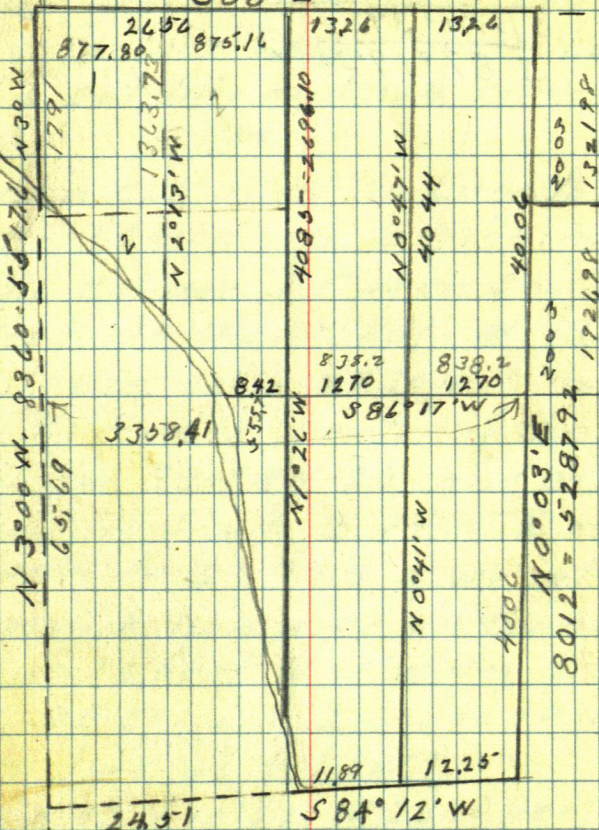

$$AB \cos 5^\circ = 3210.90 \text{ ft}$$

fig. Sec. 30 / 44-29

S 88° 22' W

S 86° 17' W

2 | 174° 39'

S 87° 19' 30" W

Sec 30-14429
Lots-1-2

James V Lestina

707

July 6 1937 Friday

Lr Walker arrive Lestina's cabin on sucker
Bay 10 o'clock No crew James Lestina
helps. beg. at W $\frac{1}{4}$ cor we continue
the W $\frac{1}{4}$ Line South. James Lestina
and I cut line and hub same
P.M.

finish cutting W $\frac{1}{4}$ Line to the
Lake (sucker bay) beginning @
W. $\frac{1}{4}$ corner between Secs. 19-30
144-29 We chain South @ 1363.73
South we set a 2X30 inch iron pipe
for $\frac{1}{4}$ corner center of the NW
 $\frac{1}{4}$ of Sec 30-144-29 and continue
chaining South @ 1495' @ road
NE-SW @ 2292.2 & we set a
2X30 inch iron pipe on the bank
about 35 feet N of water for
N.E. SE cor lot 2. - Sec 30-144-29
with ties as follows

Elm 12 N $10^{\circ}22'$ W 23.10 feet

Elm. 6 N $70^{\circ}45'$ E 20.35 "

Courses taken from N Line
Sec. 30 as E & W. Note we set stakes
every 200 ft.

Home Late

July 7-1951.

up early go to the office make out
statement and certificate of Survey
Girl in engineer office says someone
was in yesterday looking for me, they
said they would be back early this morning
they can not find corners they say
they paid me to put in I do not know
where I wait in office until 10-30
no one shows up. I leave for sucker
bay arrive 11-30 to finish survey of
Lots 1-2- Sec. 30-144-29.

hot as hell.

Over I M $\frac{1}{16}$ Center of NE $\frac{1}{4}$ Sec. 30
site N 2° 13' W on true $\frac{1}{16}$ line and
run West between Lots 1-2. run
S 87° 19 $\frac{1}{2}$ ' W to shore Sucker Bay.
from $\frac{1}{16}$ Center NW $\frac{1}{4}$ chain
S 87° 19 $\frac{1}{2}$ ' W 300 stake 600 stake
+ 160 pm + 511 = 765.1 to I.M.

Spike on top pt for MC 75' E of
water. Set I.M. Take ties
Elm 14 S 0° 56' E 15.6
Oak. 6 N 61° E 21.4

Fig 150 ft strep

30°

Sine 500000

Cosine 866025

Tang

5²⁴

172.44

866025 / 150000000

7 ✓ 1866025

6128175

6339750

6128175

2115750

1732050

3²

866025

3837000

17244

3464100

3464100

372900

866025

17244

3464100

2 3464100

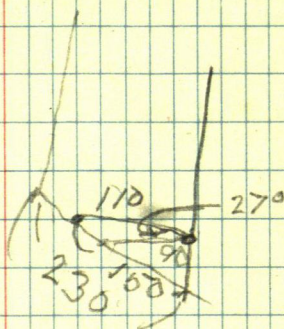
1732050 00

6062175

866025 5-1

1493373

$$\begin{array}{r}
 44 \qquad \qquad \qquad 173.25 \\
 866025 \overline{) 150000000} \\
 \underline{866025} \\
 6339750 \\
 \underline{6062173} \\
 2775760 \\
 \underline{2598075} \\
 1776750 \\
 \underline{1732050} \\
 447000
 \end{array}$$



June 6-1952 Friday

Mr. C.M. Pommerenke

611 Jefferson

Alexandria Minnesota

calls at my Office he owns the
East $\frac{1}{2}$ of lot 2 and the NW $\frac{1}{4}$ of
lot 2 in Section 6 Twp 144-R. 27

says they tell him his cabin
is built off his land. He wants
to know where his lines are

I tell him I will be at his
place to morrow morning

P.M.

Copy Gov't plat of Re-survey in
Register of Deeds office & try to
figure angles & distances
Work until 11-30 p.m.

June 7 - 1952 - Saturday

Up early figure courses & distance
around lot 2 Sec. 6 - 144 - 27 until

9-30 then Lv for G.M. Pommerehne
cabin which is 2 miles East
and about $2\frac{1}{2}$ miles S of Bena

arrive @ 10-50 find men waiting

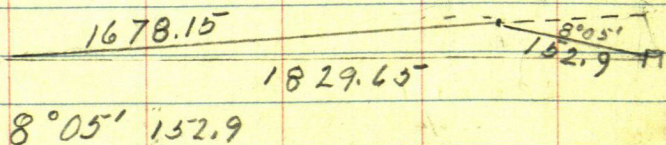
We go to the $\frac{1}{4}$ I.M. N side set 6
NW Cor Govt lot 2 set by Govt surveys
and run East on random line N line
Sec. 6, from $\frac{1}{4}$ run East

@ 300^E stake @ 586.2 hub 60th spike

@ 600^E stake @ 900^E stake @ 1200^E stake

@ 12 15.5 hub - 60th spike @ 1500 + 178.15

hub cement cor - Sta cor to Sec 31-32
on N St. Parallel bears R on S $8^{\circ}05'$
152.9 ft,



$$\text{Sine } 140613 \times 152.9 = 21.50$$

$$\text{Cosine } 990065 \times 152.9 = 151.38$$

$$1829.53$$

Corrections

$$21.5 \div 1829.53 = .011751652 = 0^{\circ}40'$$

Gov't chain between $\frac{1}{4}$ N side Sec 6
144-27 and SE Cor Sec 31-145-27

US chain 1828.20

my chain 1829.65 = 1.45 long

$$1.45 \div 1828.2 = .00079313 \text{ E}$$

for each foot E

.011751652 S for Each foot E

Hub. 586.2 E goes S 6.89

" 1215.5 E " S 14.28

" 1678.15 E " S 19.82

1829.53 E " 21.50

1322.31 feet = N line lot 2 fig from
record plat of Re-survey before
run by my.

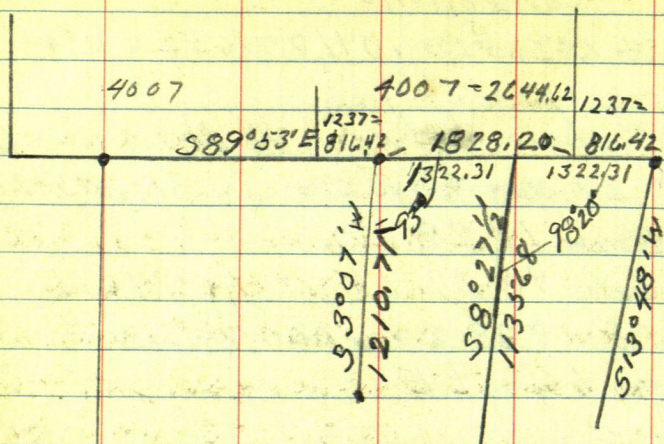
After I run line find 1.45 difference
in chainage

$1322.31 + 1.05 = 1323.36 \text{ E}$ for
 $\frac{1}{4}$ cor.

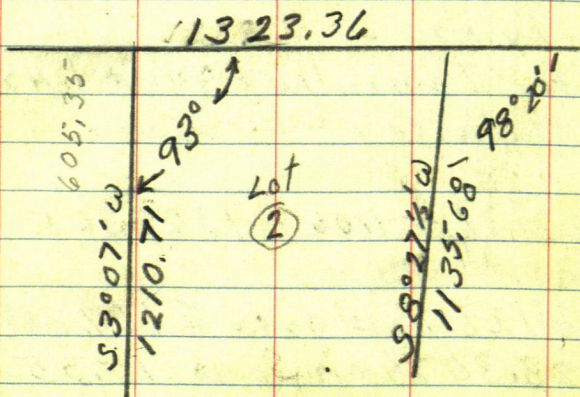
Hub 1215.5 E goes SE 107.86 to

1323.36 then South 15.55

116



S0°11'W



June 8th 1952

up at 6 - Breakfast

Lv cabin 7:10 go to hub 586.2 E of $\frac{1}{4}$
N side Sec. 6-144-27 and correct same
beg @ the $\frac{1}{4}$ IM N side section 6-144-27
run S $30^{\circ}07'W$ @ 138.7 hub 30° spkts
@ 300 stake @ 367.3 hub 60° spkts @ 600
stake @ 605.35 hub 60° spkts pt for IM
SW cor of the NW $\frac{1}{4}$ of Lot 2 - Sec 6-144-27
@ 900 stake @ 906.7 hub 30° spkts N edge
old logging road NW-SE @ 1073 $\frac{1}{2}$ main
road E-SE - W-NW @ 1150.2 hub 30° spkts
@ 1210.71 hub 30° spkts SW cor lot 2 -

Ties to $\frac{1}{4}$ N side Sec 6-144-27

N.P. 85 $43^{\circ}54'W$ 18.7

N.P. 12 N $30^{\circ}29'W$ 40.75

We go to hub 1215.50 E on random line
N line Sec. 6-144-27 & run E 107.86
to 1323.36 E of $\frac{1}{4}$ then run S 15.55
set pt for NE cor Lot 2 Sec. 6-144-27

It still @ 1323.36 E run S $8^{\circ}27'W$
miss the cor NE cor lot 2 - 2.45 ft to the
West @ 300.1 hub we set this hub 2.45
E. on true E N line Town hub. 300.10

BS N on the NE cor lot 2 and continue
S $8^{\circ}27'W$ on true E $\frac{1}{16}$ line

@ 608.05

@ 567.84 set a $2 \times 30'$ IM being
the SE corner of the N $\frac{1}{2}$ of Lot 2
Sec. 6 - 144-27

@ 1008.05 pin - 10.9 = 997.15 hub

@ 1135.68 hub SE cor Lot 2 Sec
6 - 144-27

Turn SE cor lot 2 Site N $8^{\circ}27'E$
Turn L until tape is parallel with
N line Lot 2 continue L 4° and
run S along S line lot 2.

@ 324.45 hub, @ 624.45 stake

63.36 E
1209.05 N

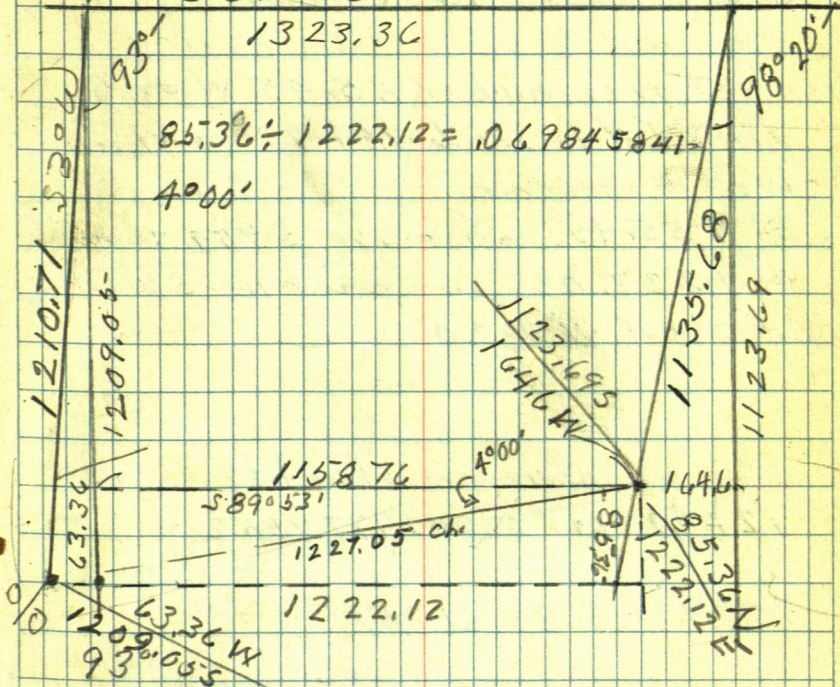
1386.72 E
1209.05 N

S 89° 53'

1323.36

$$85.36 \div 1222.12 = .069845841$$

4° 00'



$$\text{Sine } 052336 \times 1210.71 = 63.36$$

$$\text{Cosine } 998630 \times 1210.71 = 1209.05$$

98° 20'

$$\text{Sine } 144932 \times 1135.68 = 164.60$$

$$\text{Cosine } 989442 \times 1135.68 = 1123.69$$

1386.72 E	1323.36	1209.05 N
164.6	164.6	1123.69
1222.12	1158.76	85.36

Monday June 9-1952

up early breakfast and
go out to work 6-30 cool

Tower hub 655.45 W on S
line Lot 2 Sec 6-144-27 continue
west or random @ 995' to road
@ 955.45 min + 3.85 = 959.30 hub
@ 1227.05 the point for SW cor
Lot 2 sets N 1.20

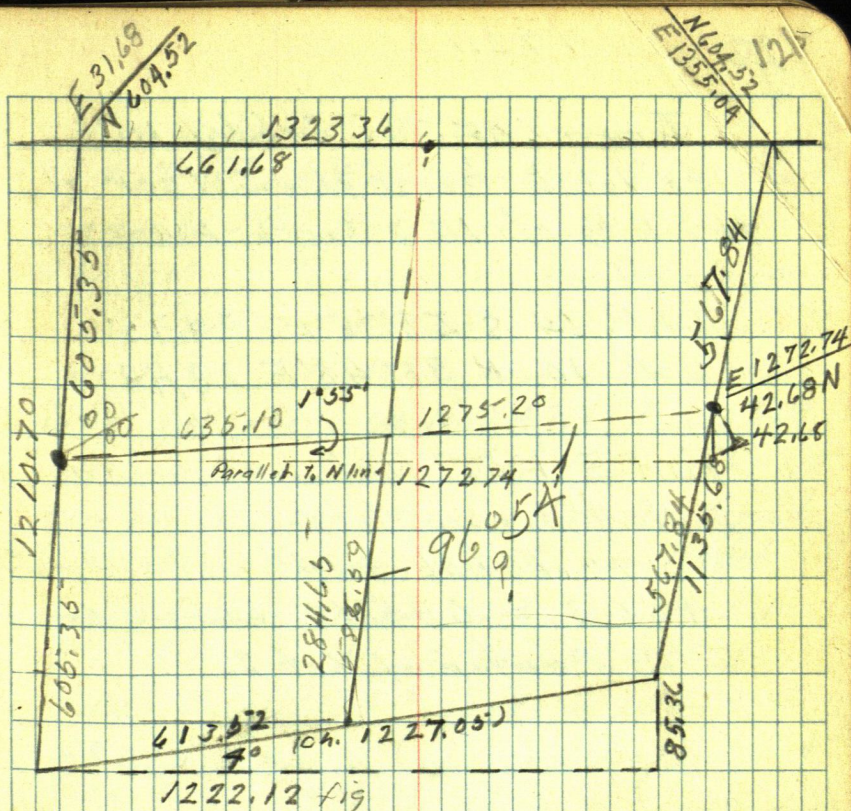
fig

Corrections S line lot 2

$$1.2 \div 1227.05 = 0.0009779552$$

$$1227.05 \div 2 = 613.52$$

Hub 655.45 E goes W 41.93 to 613.52 E
then goes N .60 to pt for SE cor of E 1/2
of Govt lot 2, Sec 6-144-27



$$\begin{aligned} & \sin 1^\circ 06' 97.56'' \\ & \cosine 997.564 \text{ into } 1222.12 = \end{aligned}$$

930

$$\begin{aligned} \sin 1.06^\circ 23' 36'' \times 605.35 &= 31.68 \text{ W} \\ \cosine .998630 \times 605.35 &= 604.52 \text{ S} \end{aligned}$$

8° 20'

$$\begin{aligned} \sin 144932 \times 567.84 &= 82.30 \text{ W} \\ \cosine 989442 \times 567.84 &= 561.84 \text{ S} \end{aligned}$$

$$42.68 \div 1272.74 = .03353395 = 1^\circ 55'$$

122

172.10

Tower 605.35 S of $\frac{1}{4}$ W
 side lot 2 being the SW cor of
 the N $\frac{1}{2}$ of Lot 2 Sec 6-144-27
 Ties

W.P. 14 S $58^{\circ}35'E$ 24.75

W.P. 10 N $31^{\circ}48'E$ 18.48

run E $1^{\circ}55'$ N of line parallel
 to North line of lot 2

@ 172.10 hub. + 300 = 472.10 run
 + 16.3 = 635.10 hub at for
 I.M. Center of Lot 2.

Mon July 28-1952

Pick Fred Nic + Don L Walker
drive to Ted Kolderie's Sec. 34-35-
141-35 To run Sec line between
said Sections 34-35 arrive @ Ted's 10-30
we find I.M.M.C. on shore 10 mi. N
lake. set flag. go N. 249.7 Tover IM
on Sec. line 249.7 N of M.C. Ted's NE
Cor. in Lot 1 sec 34 run N. @ 93.7 find
an old 60' spike continue N bet
Sec. 34-35 From 60' spike 93.7 N
of IM chain N 300 pin + 44.65' =
 344.65 but 60' spike + 137.3 =
 481.95 has 60' spike edge of swamp +
 $320.00 = 801.95$ stake N edge of swamp
cut line until quitting time
go to Walker arrive 5-30

July 29-1952

I go to Register of deeds office
copy descriptions of tracts sold
in Gov't Lot A.

starts to rain so do not go out to
work in woods too wet

124

July 30 - 1952

Fred - Ed. + I Lr Walker drive
to Sec 35-141-31 arrive @ 9:10
continue W line of Sec 35.

North from 80195 N stake @ 942.55
hub 609 spike @ 1206.45 spike 60 d

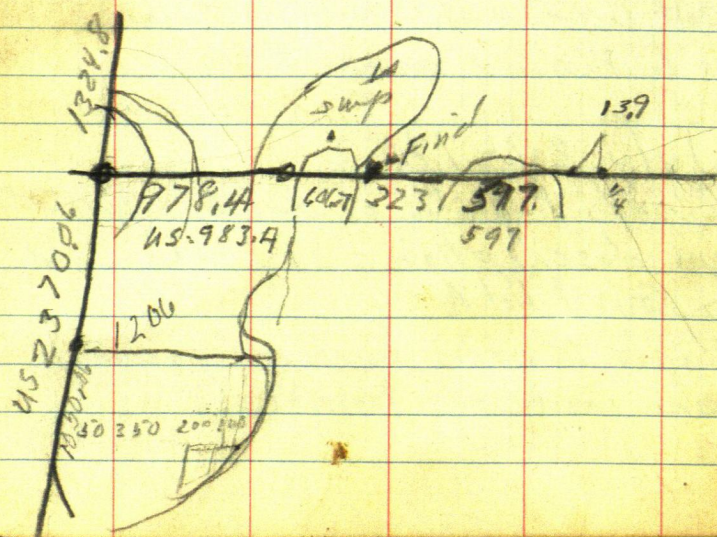
I.M. $\frac{1}{16}$ cor sets 0.20 S. & 48 W of hub

1206.45 + 50 = 1256.45 min +

300 = 1556.5 min + 6.6 = 1563.1

hub 604 spike + 140 \pm = 1700 center

log. NE, SW - @ 1856 Lr swp



$$\begin{array}{r} 2298.5 \\ 70.3 \\ \hline 2368.8 \end{array}$$

$$\begin{array}{r} 1863.1 \\ 454 \\ \hline 1908.5 \end{array}$$

125

July 31 - 1952

Fred - Ed. + I Lv Walker @ 9-
drive to Sec. 35-141-31. I get
Ted Kolderie to take me to Flower
pot bay with boat where I find
IM on N line Sec 35-141-31
MC East of W 1/4 Cor Where I set
tall Flag. back to car @ MC between
Sec. 34-35 where we eat lunch +
go N between 34-35 @ pin 1863.1
chain N 45.4 = 1908.5 hub. @ 2000 enter
ramp E + W @ 1998.5 stake + 300 = 2298.5
+ 70.3 = 2368.8 ^{2290 LV SUP} hub on stop @ 2668.8

Aug. 5 Tue. 1952 35

Fred + I go to Sec. 26-141-31
and continue the W line of 26
N to NW Cor of Sec 26-141-31
Tues 35

WP 16 N 46° 42' E 56.1

" " 6 N 38° W 53.5

Pap 8 S 15° 35' W 23.25

" 8 S 67° 40' E 13.80

Continued on page 129 this book

Everett L Batcheller & wife
to

Ada L Macklin

That part of Lot A Sec 35-141-3
described as follows, Starting at a point
where the west Sec line of said Sec. 35
intersects the N shore of Ten Mile Lake
thence N Werly, along said shore line
to a point which is 400 ft east of
said west sec. line measured at
right angles to said W sec line
Which point last described is
place of beginning thence N
parallel to said W. Sec line 250 ft
thence East at 90° to said sec line
200 ft thence S parallel to W sec line
to the shore of Ten mile lake thence
S Werly along said shore line to
place of beg. With easement of a
strip of land at least 2 rods wide
along the N side of Above described
tract and running S Werly to
connect with Trwp road on E & W
quarter line in sec. 34

Everett L. Batcheller & Martha E. wife
to

Lloyd Sundin & Mildred E Sundin

That part of lot 4 Sec 35-141-31
described as follows Commencing at
the point where the W. Sec. line of Sec. 35
intersects the N. shore of Ten Mile Lake
thence N along said Sec. line 250
ft thence E 90° 50 ft to pt of beg.
thence S parallel to said Sec. line to
shore of Ten Mile Lake; Thence E
along said shore line 350 ft \pm to a
point which is 400 ft E of said W
Sec. line; thence N parallel to said
W Sec. line 250 ft thence Westerly
350 ft to pt of beg.

Containing 2 rd wide along N side
of said tract to Trap road.

Everett L. Batcheller Martha &
Henry Rose
To

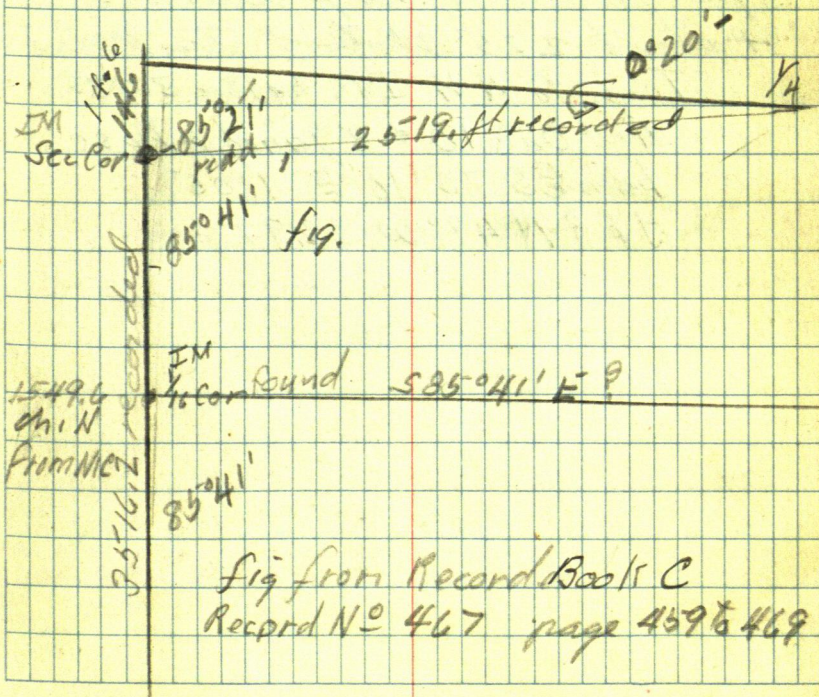
Ada L. Macklin

All that portion of Lot 4 Sec. 35
141-31 described as follows

Commencing at a point where
the West Sec. line of said Sec. 35
intersects the N shore line of Ten
Mile Lake: thence N E along the
said shore line to a point which is
400 ft E of the West Sec. line measured
at right angles to said W. sec. line
thence N parallel to the W. line of said
Lot 4 a distance of 250 ft to a point
thence E @ 90° to W sec. line 200 ft to
pt which shall be known as pt No 1
thence S parallel to the W line Lot 4
to a point on the shore line of Ten Mile L
which pt shall be known as pt of beg.
thence N to point No 1 thence E @ 90°
200 ft thence S parallel to W line to
shore of 10-M. Lake thence SW to beg.
with 2nd easement

We go E at MC N^o 12 I find
the I.M. set by Horst cut line
West in line with flag @ MC N^o
11 and a flag at MC N^o 12.

I work N on line with read
flags and continue N line of
Sec 35 W. with rest our W line
of Sec. 35-14.6 ft N of I.M.
Sec. Cor



130

102.7

141-31

Wed Aug 7th 1952

Fred & I L. Walker 7-30

drive to Sec. 35-141-31 on Terr
into lake.Tover I M N $\frac{1}{4}$ Cor bet Sec
34-35 being NW cor Lot 4
Sec. 35-141-31 run.S $85^{\circ}41'E$ on N line Lot 4@ 306.8 hwb Rail Road spike
on brink @ 360.8 hwb Rail Roadspike at edge of swamp near N & S
+ about 225' water of Terr M & L.Ties to N $\frac{1}{4}$ I M bet sec 34-35

Red Oak 10 + 8 joined @ base

bears S $70^{\circ}10'E$ 11.05'JP8 N $49^{\circ}W$ 23.97

We go to Macklin's NE Cor IM
 Now IM site S on Macklin's E line
 turn 90° L and run

IM called point No 1 in deed,

East @ 90° to W line Lot A @
 102.7 hub, 60° spike @ 151.7 hub
 on brn K. = 60° spike @ 200 =
 Macklin's NE Cor 14" W.P. tree on line

Cor. comes on N edge of seawall
 12 ft from water

The E line of Macklin's 200 ft
 just runs over the sea wall, about 15"
 N to water of Ten mile Lake from NE Cor
 To Macklin's NE corner

W.P. 14 West 17.2 ft

W.P. 5 N about 40° E 25, 35

Iowana Beach

Mr & Mrs. Joe Krieger

Bena Minn.

Lot 1 of Plat of Portage Lake

Plat contains Lot / sec 26 -

145-29 and

Lots 2-3 - Sec. 30 - 145-28

Tower sta ① - on 00 site E on E car
 fence post. and run:
 by @ fence post = NE cor Lot 1 charin
 along road in street 411.9 to Sta ①
 from Sta 1, run $2^{\circ}19' L - 377 + 28.5$
 606.3 to Sta 2

T@ 2 by 2 $^{\circ}19' R$ run 3 $^{\circ}12' E$
 769.1 to Sta ③

Tower ③ by 3 $^{\circ}12' R$ I M Sets
 L 20 $^{\circ}57' - 140 + 5.2$

Note: all stakes were wood
 set in 1925-

Someone drove a 1x8 gas pipe
 where they thought NW cor Lot 1 was
 We find wood post 5x5 round
 Marked 11-10 with a marking iron
 on the rear wall at lake

Tower Sta 1 site S E on fence Cor
411.9 ft S E Var. @ 00

Transect Tel. Turn. L $2^{\circ}19'$ run
NE 606.3 to Sta ②

Tower Sta ② BS SE on Sta ①
Var @ $2^{\circ}19'$ R and run NW
 $3^{\circ}12'$ L 769.1 ft to Sta ③

Tower Sta ③ BS SE on Sta
② Var @ $3^{\circ}12'$ R, run NW $20^{\circ}57'$
L 145.2 to I.M.

Fig.

Tower Sta 1, Back site S $53^{\circ}43'$ E
on fence Cor. Chain NW 411.9 ft
from fence cor. to Sta ①

T still @ Sta 1 run N $56^{\circ}02'$ W
606.3 ft to Sta ②

Tower Sta ② BS S $56^{\circ}02'$ E run
N $56^{\circ}55'$ W 769.1 ft to Sta ③

Tower Sta ③ BS S $56^{\circ}55'$ W run
N $71^{\circ}28'$ W 145.2 to I.M.

Fig Backing Line up

From IM run S $71^{\circ}28'E$ 146.2
Sta ③

Sta ③ sets 137.67 ft East
46.15 " South of IM.

From Sta 3 run S $56^{\circ}55'W$ 769.1
to Sta 2.

Sta 2 sets 782.08 East of IM
465.97 South

from Sta 2 run S $56^{\circ}02'E$ 606.3
to Sta 1

Sta 1 sets 1284.92 E of IM.
804.72 S

from Sta 1 run S $53^{\circ}43'E$ 411.9
to fence cor. post.

fence cor. post sets 1616.96 E of IM.
1048.47 S

Try

Tower Sta D BS - $N 56^{\circ} 02' W$
 on Sta 2 and run $S 78^{\circ} 52' W$ 78.26
 to point which I hope is NE cor Lot 10.
 Tower said point BS $N 78^{\circ} 52' E$ on Sta
 1 and run $S 36^{\circ} 17' W$ 382.7 - Hope
 to hit stake on sea wall bet lots 10-11

From fence cor. post run W
 34.39 then S. 46.24 and look for point
 for corner NW cor Lot 17.

12.5

Nov. 23rd 1953 - Sucker boy 137
Lot 2 Sec. 30 - 144-29 - Fred C Hoffman

Tract IM SW cor 150 ft tract

site N 29° 13' E IM @ SE Cor

sets S 44° 37' E 210 + 12.6

T st. N @ SW IM run S 44° 37' E

42 ft set IM on bank 60 ± water

Tract #2 run N, 23° 43' E 105.2

Tract 105.2 about 1 1/2 ft S of side
of Garage about in center E & W
run. N 54° 30' W 94.8 ft

96 + 25.2

25.2

121.2

Warranted deed. to
Victor Flech & Lois his wife
joint ten.

Fred C Hoffman. the
East 150 feet of Gov't Lot 2
Sec. 30-144-29 deed
SW corner of Tract to
son-in-law.

138

N. line of Lot 2
 587°19'2" W 150'

IM
 NE Cor Cart
 Lot 2 - Sec 30-144-29.

E. line of E. 150 feet of Lot 2. N 20°13'47" E

East 150 feet of
 Gov't Lot 2 Sec. 30-144-29

E. line Lot 2 - S 2°13' E 928.47

IM
 N 54°03'0" W 94
 121.2
 N 25°42' E 105.2
 94
 42
 IM

87-19.30
 2-13-30
 89-32-30

Sucker Leech Bay

IM

Deed filed Jan. 26-1954 139
in Book 111 on page 268

A tract of Land situated in the East
150 feet of Gov't Lot 2 - Sec. 30-144-29
Cass County Minn. described as
beg. at an I.M. on the Bank of Sucker
Bay Beech Lake placed at a point 791.41
ft South and ~~100.70~~ ^{119.47} feet West from the
NE corner of Lot 2 thence $N 2^{\circ} 13' W$
parallel with the East line of Lot 2
121.20 ft to a 2nd I.M. thence $S 54^{\circ} 30' E$
94. ft thence $S 23^{\circ} 43' W$ 105.20 to I.M.
thence $N 44^{\circ} 37' W$ 42. ft to pt of beg
17/100 acre extends to waters edge.

791.41 S - 119.47 W of NE Cor of Lot 2

140 Harold Peterson 1434.46
507
1941 45

Oct 14th 1952

Fred & I Lv Walker @ 9 AM

Had Ogalala drive to

in Section 144-30 where we

pick up Harold Peterson drive to

to to Sec. 19-30 = 244-29 & 24-25

144-30

Tower Brass Capped monument

Site S $89^{\circ}56'E$ on True N line

of Section 30 144-29 and run

N $3^{\circ}W$ on range line bet ranges

29-30. ~~to~~ @ hub @

Cross road, as his line hits lumber
pile we offset West 1 foot

@ hub @ hub hit big

Maple Tree and have to offset another
foot West making this 2 feet W of line

Continue N on line

Offset E. 5 of a foot continue

N. Tower hub BS $S 3^{\circ}E$

Cor. sets N $20^{\circ}16'E$

NE angle $23^{\circ}16'$

US measurement

2758.80

$$\begin{array}{r} 1171.25 \\ 263.25 \\ \hline 2408.00 \end{array}$$

$$\begin{array}{r} 1007.5 \\ 163.25 \\ \hline 844.25 \end{array}$$

$$\begin{array}{r} 297.1 \\ 410.4 \\ \hline \end{array}$$

$$3.2 \quad 141$$

Oct 15-1952

Snows. Fred not home all day in office

Oct 16-1952

Fred can't go I put 10 gal gas in car
\$3.00 pick up Don Curo Lr Walker
10-20 drive to SE Cor Sec. 24-144-30
chain N on our random Range
line bet Rgs 29-30.

@ 300 min @ 330 @ road @ 346.8
646 offset 1 foot W to get around
lumber pile @ 410.4 hub. + 297.1 =
707.5 hub here we offset another foot
W = leg of 2 foot offset + 300 = 1007.5
min + 163.75 = 1071.25 hub back on
line + 263.2 = 1334.45 hub here we
offset 0.50 E. + 300 min + 207 =
1841.45 hub back chain + 21.0
+ 110 + 280 + 122.15 hub = 2063.6
cor into R 2346' — 218 ft

$$\begin{array}{r} 2763.87 \\ 2563.6 \end{array}$$

$$23^{\circ}16'$$

$$\text{Sine } 395011 \times 218 = 86.11$$

$$\text{Cosine } 918676 \times 218 = 200.27$$

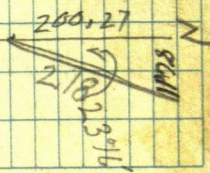


Fig Corrections

@ 2763.87 N Cor sets E 86.11

86.11 + 2763.87 = .03115591

hub 346.9 N goes E 10.81

" 410.4 N goes E 12.79 + 1 ft = 13.79

" 707.5 N " E " + 1 "

" 1071.25 N " E 33.38

" 1334.45 N goes E 41.56

then N 47.48 to L3 8693 = cor

Lower Corner B.S. S 3° E run

S 89° 19½' W to lake

Ties

Birch 30 N 84° 44' W 20.40

Elm 185 27° 10' E 25.75

chain west 270 min + 280 min

(+100 = ~~to~~ road) + 280 + 33.5 IM

M.C. - 10 ft from water

Fred Van RHeenen

Suite 600 Des. Moines Building

Des Moines Iowa

Manager of the Prudential
Insurance Company of America

Has the S 300 ft of the N 400 ft
of Govt lot 3 Sec. 20-140-28
and wants to make a boat cove

Ed-Bob & I drive to Lot 3 sec
20-140-28 find $2\frac{1}{4} \times 48$ " copper
Galv. I.M. on the shore of Woman
Lake with old fence running
East this fence is down

Over I.M. site E along old
fence.

Commencing on the East boundary of the N E $\frac{1}{4}$ of the SW $\frac{1}{4}$ of sec. 27 145-28 where said boundary line is intersected by the N boundary line of State Highway #2 as now laid out and established thereon running thence westerly along the N boundary of said State Highway a distance of 402 ft to a point as the commencement of the tract of land hereby described

thence running N parallel with the E boundary line of the above tract a distance of 28.3 rods westerly parallel with the S boundary line of the above tract a distance of 28.3 rods thence S parallel with E said boundary line a distance of 28.3 rods to the N boundary line of said Highway thence E along N boundary line of said State Highway to pt of beg.

Filed 1945

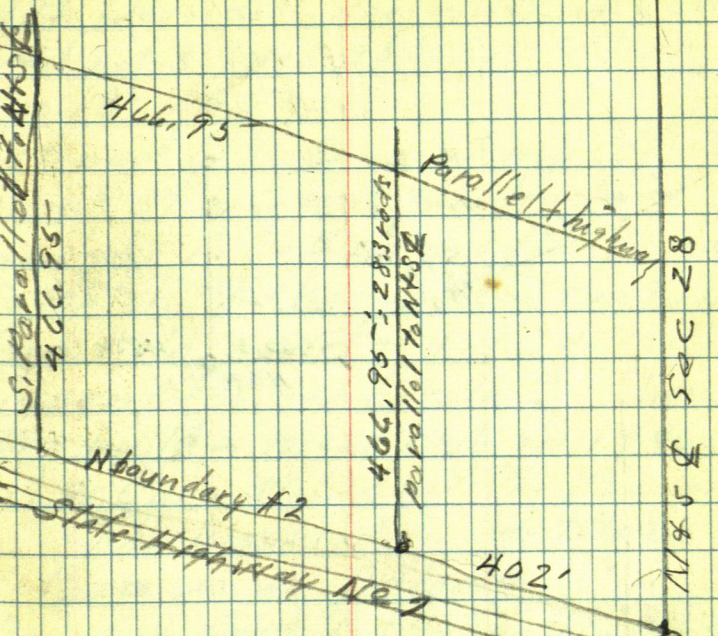
Book 65 of Deeds

Page 194

Book 89 of Deeds

Page 571

N
↑



~~4003 83
 40095
 40095
 233475
 420265
 280170
 280170
 186780
 218042~~

$$\begin{array}{r} 4 \\ 428.\overset{\cdot}{3} \\ -14.5 \\ \hline 1698 \\ 2'83 \\ \hline 466.95- \end{array}$$
$$\begin{array}{r} 123 \\ 43560 \\ \hline 217800 \end{array}$$

196

3.9653

459,30

82°25'

461,95

82°25'
82°25'

old fence

spike

9653

N 89° 31' E

482 1/2 lbs

4 ft from edge of lot

1000 ft

466.95

82°25'

6.5

6.5

①
May-13-1956-

J.B. Daniels who owns NE $\frac{1}{4}$ SW $\frac{1}{4}$
and Lot 3 Less 350X250 Tract in
Sec. 18-145-28

stopped to see me at my Office
about staking out two tracts of
land he is selling on lake Winnib
bigoshish. He has a Resort on the lake
and sold a part of Lot 3 to
Clarence C. and Corole C. Eichmeyer
to build a night club in 1946

J W Curo staked out the 2 acres.

The Description written by
J W Curo is as follows

A part of Gov't Lot 3 Sec. 18-145-28
beg. at a RR spike 670 feet South and 110
ft east from the Temp NW Cor of said
Lot 3 and running thence S 19° E 350
feet to a 2nd RR spike in the center of
the Graded Road thence at 90° Left
run N 71° E 250 To a 2X36" pipe
thence @ 90° Left run N 19° W 350

" 90 $^{\circ}$ Left 250 to pt of beg. = 2 acres
The Westerly 33 ft joins the E of the
road and is considered a Public Hwy.
Lines to NW corner of this 350X250
Tract are

14" J.P. N 54° 57' E 52.60 ft

7' Oak S 65° 30' E 75-15-

2 x 24" pipe N 71° E 33 ft

This to SW Cor of tract

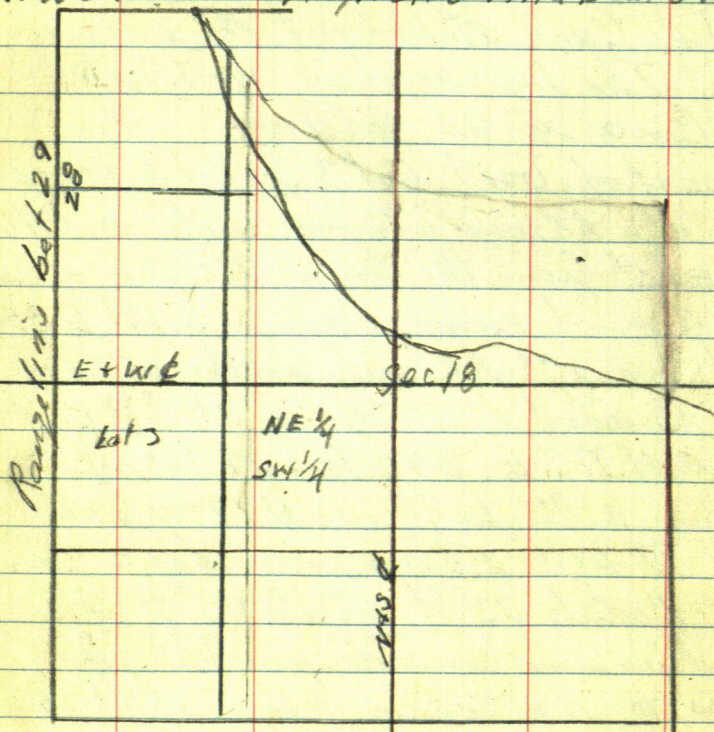
10" J.P. S 64° 10' E 38.65-

11" J.P. N 45° 48' E 31.20

2 x 36" pipe N 71° E 33'

Nail in flat spot at base of all trees

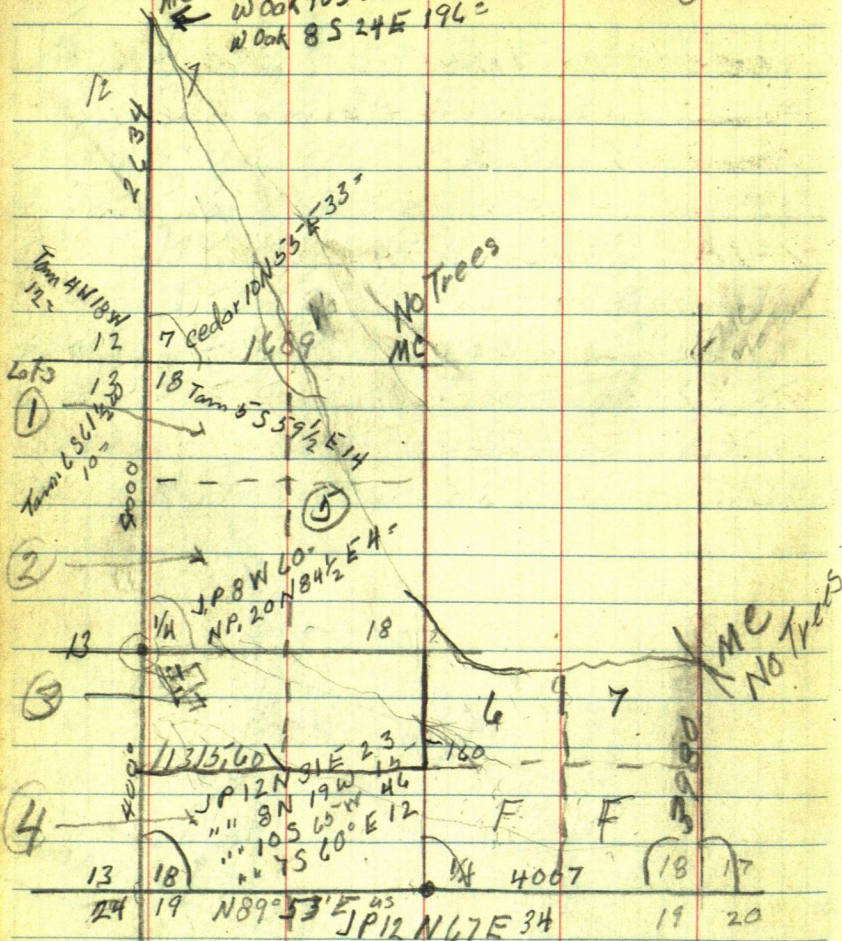
Courses turned from true North Magnetic line bears N 63° 30' E



150

MC 43 Notes
 W Oak 10S 57W 56-
 W Oak 8S 24E 196-

145-28



0°07' = 287.61

Sine 002036 * 287.61

Cosine

Tann 8S 85 1/2 W 5-
 Cedar 6N 3 1/2 E 5-
 Tann 10N 87 1/2 E 9
 " 5S 4 1/2 E 14

Meander lines - Sec 7 - 145-28
commencing on Range line bet
Sec 7-12 run

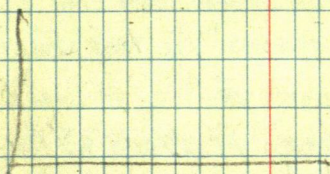
S 32 1/4° E 3100 to MC bet Sec.
7-18 Thence in Sec 18

S 34° E 4300 -

S 83 3/4° E 4000 to MC bet
Sec 17-18 Thence in Sec 17

S 35° - ? - 2000 - S 18° - ? - 1700

S 32° - ? - 925 to MC bet Sec 17-20



2036
28761
2036
12216
14252
16288

2036

28761

K Le Roy & Wiese

2036
12216
14252
16288
4072
58557
396

152

Tuesday May 17-1935

I get 35⁰⁰ at the bank give
Hest 10 get gas at Deep Rock drive
to Judd Resort owned by JH Daniels
after I get Tele. call from Brainerd
Joe at Bay Lake S of Brainerd
wants me to come + set $\frac{1}{4}$ cor M.C.
at Judd Resort I find him gone
and C.C. Eichmeyer was asked to help me
until Judd Daniels gets back Eichmeyer
owns and runs the 88 club in Lot 3
Sec 18 bought land from Judd in 1946
as shown on page 149 We go check with
Fed. Forest Rangers on corners

The $\frac{1}{4}$ J.W. Curo used in his Survey 1946
has rotted off and fell over we cannot
seem to find where it stood. the only
thing I can see to do to reestablish the
point is to back the line J.W.C. ran in
his survey of 88 club property up
and then run a traverse along the road
 $1\frac{1}{2}$ miles to the NE cor of Sec 30 also
being the SE of Sec 19 and fix the
location of the SW cor of Lot 3 and
then run the lines East parallel to S line
Sec 30 - Eichmeyer grants at 4 to get
ready to open this right of way at 5

1260
- 32
12568

1360
5.5
1354.5

153

I drive to Judds Resort to see if Judd
is back yet. Supper and over night
Room #4

Wed. May 18th 1955

Up at 6-30 nice morning no wind

Judd goes to help me. Tower SW cor IM

Eichmayer's 88 Club tract site on SE IM

& run W 33 ft at 60° spike in & road

Tower 60° spike in & site N 71° E on SE IM

and run N 19° W 350' at 60° spike

NW cor of 88 club in & road

T still at 60° spike in & 33 ft W of

I Met SW cor 88 club run S. 19° 41' E

at 60° spike for Traces of road chain

→ later @ 739.5 but 60° spike @ 1354.5 sta @

Move T N 19° W 350 ft BS S 19° E

and run N 40° 15' W 167.2 T over 167.2

BS S 40° 15' E and run N 5° 47' T.

Temp 74 on W side Sec. 18. Eichmayer

cutting brush - Daniels goes get another man

to help. Daniels take one of my brush hooks

to sharpen it while we continue line North

to 1/4 cor sets N 0° 14' W 5° 47'

→ Tower 1354.5 run S 24° 33' E 1256.8

Sta (B)

154 13 steps $\frac{14.60}{71} = 52.9$ 166 93.1 2

Dinner with Judd

Tower A to B BSN $24^{\circ}33'W$ run
 $S 27^{\circ}41'E$ 95.5 St C

Tower C run $S 50^{\circ}46'E$ 1452.9
to D

Tower d, BS. $N 50^{\circ}46'W$ + run $S 50^{\circ}18'E$
1216.6 to E

Tower E run $S 44^{\circ}E$ 1529.1 to F

Tower F " $S 31^{\circ}11'E$ 1692.4 to G

Tower G white post which Rangers say is
the corner Yellow tag shows this to be
the SE cor. Acc. 19, post bears $S 36^{\circ}14'E$
224.6

Nlin. acc. 19 should run. $N 86^{\circ}46'W$

Fig to White Post, near SE cor 19
White Post sets $S 83^{\circ}45'$ and $E 56^{\circ}11'$ 95
if Post is SE corner then

SW cor sets $S 80^{\circ}79.28$ and $E 35^{\circ}13'$
from $\frac{1}{4}$ W side 18.

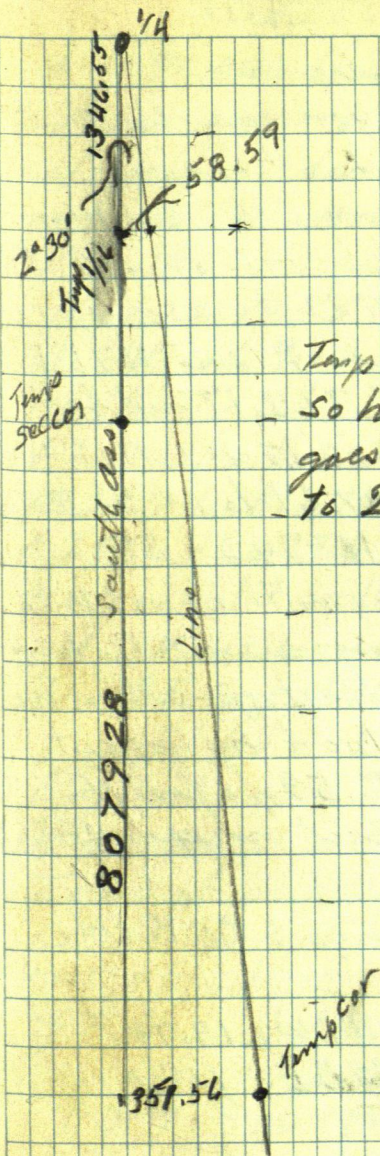
S of $\frac{1}{4}$ would come out $351.56 W$
of SW cor 19

$\frac{8079.28}{351.56} = 0435137$

7.1 192.4

 $\frac{122}{3}$

155



Sta 362.17 S of
 SW cor 88 Club
 is 346.20 W of line
 assumed as South

Temp line is 58.59 E of ass S,
 so hub 362.17 South
 goes W 346.20 then E 58.59
 to 287.61 W To temp S 1/4

15^uMay 19th 1963

1320
13156
<hr/> 2633.6

Crew Le Roy Wiese and
(Cliff) C.S. Eichmeyer as chain + flag

The road grader has taken out
my spikes. Tower IM 33 ft from
E at SW cor 88 club site on IM at
SE cor run S 71° W 33 ft re-set spike
in E Tower spike in E site N 71° E
and run S 19° 41' E 362.17 out hub
in road Tower 362.17 BS N 19° 41' W
and run West 287.61 to pt for temp
S $\frac{1}{16}$ West side Sec. 18-145-28

Le Roy cuts his leg with brushhook
Daniels comes along and takes him
in to the Resort to fix it up. When he
brings him back Judd helps cut
line west. Move T. 59 of a foot N
to get N 89° 53' E into on spike 287.61
and run East.

Ties to IM Temp S $\frac{1}{16}$ W side
Sec. 18-145-29

Oak 5 about N 45° W. 19.70 ft
Poplar 8 about N 10° E. 15.00

East from spike in road
317 hub @ 656.75 hubs

1200
173.4
10266

2640
1499
1152

157

@ 10266 hub under π @ 1200
stoke supper at Judd's drive to Bena
call home drive back to Judd's then
on to Walker. over night at home
Le Gent 15 drive back to Judd's

May 20, 1955 get Gas arrive at
Judd's at 9.03 find crew at Judd's
continue S $\frac{1}{4}$ line Sec. 18. - 145-28
East hit a few J.P. trees which cost
1429.6 hub. @ 1800 in + 250 = 2050 per
+ 287.6 = 2337.6 to hub under π from
SW cor Lot 3 Sec 18 - 145-28

US Measurement figured
The SE cor of the NE $\frac{1}{4}$ of the SW $\frac{1}{4}$
should be a 2635.6 E or 298 ft
E of hub under π

@ 2635.6 pt for IM Temp SE cor NESW
Tower pt for IM Site S $89^{\circ}53'W$ on
Random S $\frac{1}{4}$ line and run North
@ 160 ft at IM 10 ft from brink and
75 from water

This to I.M.

RO 7 S about 60W 8.5

Pop 6 S at 40E 12.3 600+

bank here N $51^{\circ}W$ end of dock
N $43^{\circ}W$

158 Sat 21-1955

Ties to SE Cor RO. 4 East 13.7
RO. 10 S 5.0

Same crew we go to temp $\frac{1}{4}$
W side Sec. 18 where we drive
an $1\frac{1}{2} \times 36$ " pipe and take this

Viz J.P. 14 S about 1° W 11.6

JP 8 East 4.95

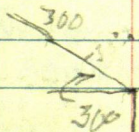
Tower IM Key Site S $2^\circ 6' W$
on random line (run when we
marked out the SS Club grounds)
and ran N $89^\circ 53' E$ 742.

Tower hub

Site N $89^\circ 53' E$

and ran S $23^\circ 02' E$ @ 220 pmi
W side road @ 228 $\frac{1}{2}$

@ 233 ~~spike pt~~ for IM + 165.55



300

cos 86.6025° into 300 = 346.41

Sine 500000 \times 346.41 =

Bena.

159

Oct 24 - 1958 Friday

Gordon L McRae Attorney
at Law - Bemidji Minn. calls
been trying to get me for several days
some time ago an Indian
boy fell out of a W Pine tree at
Bena onto electric wires and
got burnt.

I am to meet McRae at
Bena at 10-AM Sat. Oct 25th
if it is not raining

Oct 25 - 1958

Sat raining in P.M. McRae
come to my home in Walker
he had been to Bena - said it
was not raining in Bemidji
when he left in the morning

he shows me what he
wants the location of W.P.
tree now a four foot stump
the tree the boy climbed he wants
also the location of another W.P. tree
still standing where the fence along
the N side of Main St. Bena
runs.

I tell him I will try and get it Sunday if not raining. I made a map of part of Bema. Sat Oct 25

McRae says if I can get that hitch ready before Tue. morning he can use it if not it would be no use to him

Sunday Oct 26

Hert. John & I drive to Bema it is raining we locate I M at NE cor of Main Street Bema with help we find the I M NW cor after digging up a lot of ground

Monday Oct 27-1958

as I have not been able to locate Don Bethel to help me I keep John out of school to go help me we leave Walker around 6 AM, and drive to Bema

as there is a lot of things in the way to run a line along the S $\frac{1}{4}$ line of Sec 27-145-28 we run in the street

from NW cor. IM being $\frac{1}{4}$ center
 S $\frac{1}{4}$ Sec. 27. East
 East 770.2 ft hub, under T.
 a RCA Light Pole bears N $88^{\circ}02'W$
 180 ft to center.
 a fence post bears N $87^{\circ}22'W$ 188.1
 to center

The pine stump bears N $84^{\circ}45'W$
 105.8 to center of stump

The W Pine tree bears N $80^{\circ}01'W$
 101.9 ft to center

another REA pole bears N $44^{\circ}E$
 15.6 ft to center

fence post bears N $48^{\circ}27'E$ 17.1
 to center

We try to continue our random
 line East but a tree so we turn
 N $0^{\circ}15'$ and run N $89^{\circ}45'E$ 389.5
 set 60 ft spike hub

Tower 389.5 to IM NE cor
 bears N $81^{\circ}25'E$ 136.45

We drive back to Walker
 arrive at 11 o'clock A.M.

Get a phone call from McRae
 that he had been trying to get me
 Sunday as the case was settled
 out of court + will not need sketch

TABLE II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Tangents.

Given A, B, c; to find a, b, C.

Use Law of Sines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)(s-b)(s-c)}{s}} = r$$

$$\cos \frac{1}{2}A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \frac{1}{2}A = \frac{r}{s-a}$$

$$\tan \frac{1}{2}B = \frac{r}{s-b}$$

$$\tan \frac{1}{2}C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \frac{1}{2}ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

PRISMOIDAL FORMULA

$$\text{Vol.} = \frac{h}{6}(B+b+4M)$$

h = altitude; b B = bases; M = midsection

TABLE III
MINUTES IN DECIMALS OF A DEGREE

1'	.0167	11'	.1833	21'	.3500	31'	.5167	41'	.6833	51'	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

TABLE IV
INCHES IN DECIMALS OF A FOOT

$\frac{1}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{15}{16}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$
.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875
1	2	3	4	5	6	7	8	9	10	11
.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875

TABLE XII. - *Salmon*. - Lengths (continued).

Length	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100										
10	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0
11	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0										
12	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																				
13	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																														
14	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																																								
15	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																																																		
16	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																																																												
17	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																																																																						
18	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																																																																																
19	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0																																																																																										
20	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	21.0																																																																																										
21	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	22.0																																																																																										
22	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	23.0																																																																																										
23	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	24.0																																																																																										
24	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	25.0																																																																																										
25	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0																																																																																										
26	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	27.0																																																																																										
27	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	28.0																																																																																										
28	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	29.0																																																																																										
29	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	30.0																																																																																										
30	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	31.0																																																																																										
31	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	32.0																																																																																										
32	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	33.0																																																																																										
33	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	34.0																																																																																										
34	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	35.0																																																																																										
35	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	36.0																																																																																										
36	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	37.0																																																																																										
37	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	38.0																																																																																										
38	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	39.0																																																																																										
39	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	40.0																																																																																										
40	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	41.0																																																																																										
41	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	42.0																																																																																										
42	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	43.0																																																																																										
43	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	44.0																																																																																										
44	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	45.0																																																																																										
45	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	46.0																																																																																										
46	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	47.0																																																																																										
47	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	48.0																																																																																										
48	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	49.0																																																																																										
49	49.0	49.1	49.2	49.3	49.4	49.5	49.6	49.7	49.8	49.9	50.0																																																																																										
50	50.0	50.1	50.2	50.3	50.4	50.5	50.6	50.7	50.8	50.9	51.0																																																																																										
51	51.0	51.1	51.2	51.3	51.4	51.5	51.6	51.7	51.8	51.9	52.0																																																																																										
52	52.0	52.1	52.2	52.3	52.4	52.5	52.6	52.7	52.8	52.9	53.0																																																																																										
53	53.0	53.1	53.2	53.3	53.4	53.5	53.6	53.7	53.8	53.9	54.0																																																																																										
54	54.0	54.1	54.2	54.3	54.4	54.5	54.6	54.7	54.8	54.9	55.0																																																																																										
55	55.0	55.1	55.2	55.3	55.4	55.5	55.6	55.7	55.8	55.9	56.0																																																																																										
56	56.0	56.1	56.2	56.3	56.4	56.5	56.6	56.7	56.8	56.9	57.0																																																																																										
57	57.0	57.1	57.2	57.3	57.4	57.5	57.6	57.7	57.8	57.9	58.0																																																																																										
58	58.0	58.1	58.2	58.3	58.4	58.5	58.6	58.7	58.8	58.9	59.0																																																																																										
59	59.0	59.1	59.2	59.3	59.4	59.5	59.6	59.7	59.8	59.9	60.0																																																																																										
60	60.0	60.1	60.2	60.3	60.4	60.5	60.6	60.7	60.8	60.9	61.0																																																																																										
61	61.0	61.1	61.2	61.3	61.4	61.5	61.6	61.7	61.8	61.9	62.0																																																																																										
62	62.0	62.1	62.2	62.3	62.4	62.5	62.6	62.7	62.8	62.9	63.0																																																																																										
63	63.0	63.1	63.2	63.3	63.4	63.5	63.6	63.7	63.8	63.9	64.0																																																																																										
64	64.0	64.1	64.2	64.3	64.4	64.5	64.6	64.7	64.8	64.9	65.0																																																																																										
65	65.0	65.1	65.2	65.3	65.4	65.5	65.6	65.7	65.8	65.9	66.0																																																																																										
66	66.0	66.1	66.2	66.3	66.4	66.5	66.6	66.7	66.8	66.9	67.0																																																																																										
67	67.0	67.1	67.2	67.3	67.4	67.5	67.6	67.7	67.8	67.9	68.0																																																																																										
68	68.0	68.1	68.2	68.3	68.4	68.5	68.6	68.7	68.8	68.9	69.0																																																																																										
69	69.0	69.1	69.2	69.3	69.4	69.5	69.6	69.7	69.8	69.9	70.0																																																																																										
70	70.0	70.1	70.2	70.3	70.4	70.5	70.6	70.7	70.8	70.9	71.0																																																																																										
71	71.0	71.1	71.2	71.3	71.4	71.5	71.6	71.7	71.8	71.9	72.0																																																																																										
72	72.0	72.1	72.2	72.3	72.4	72.5	72.6	72.7	72.8	72.9	73.0																																																																																										
73	73.0	73.1	73.2	73.3	73.4	73.5	73.6	73.7	73.8	73.9	74.0																																																																																										
74	74.0	74.1	74.2	74.3	74.4	74.5	74.6	74.7	74.8	74.9	75.0																																																																																										
75	75.0	75.1	75.2	75.3	75.4	75.5	75.6	75.7	75.8	75.9	76.0																																																																																										
76	76.0	76.1	76.2	76.3	76.4	76.5	76.6	76.7	76.8	76.9	77.0																																																																																										
77	77.0	77.1	77.2	77.3	77.4	77.5	77.6	77.7	77.8	77.9																																																																																											

WP-14 West 17.2 W
WP, 5 N. 15.5 25.35

3760

15.84

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130. - .9

170 141.1

6

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40



1237

59910

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5862

180

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77

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8° 05'

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245.65

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130-2.3-

127.7 hunk 4

205.3

3330

1320

167

9240

7920

13204

220.4

160
297.3
160

1500

300

140

140

27

1373

1206

1030

2370

1320

1030

1320

220

1340

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2743

1266

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5

1000

176.0

105.0

7100

6300

8000

2370

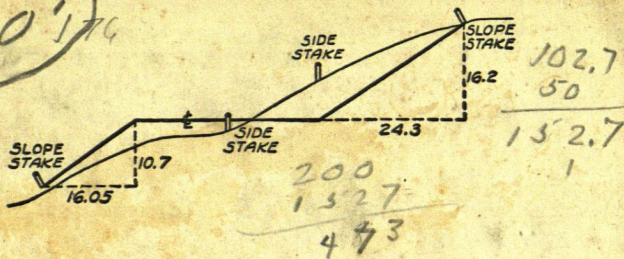
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2688

2298

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388



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

SLOPE $1\frac{1}{4}$ TO 1. ROADWAY OF ANY WIDTH

	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{4}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.