

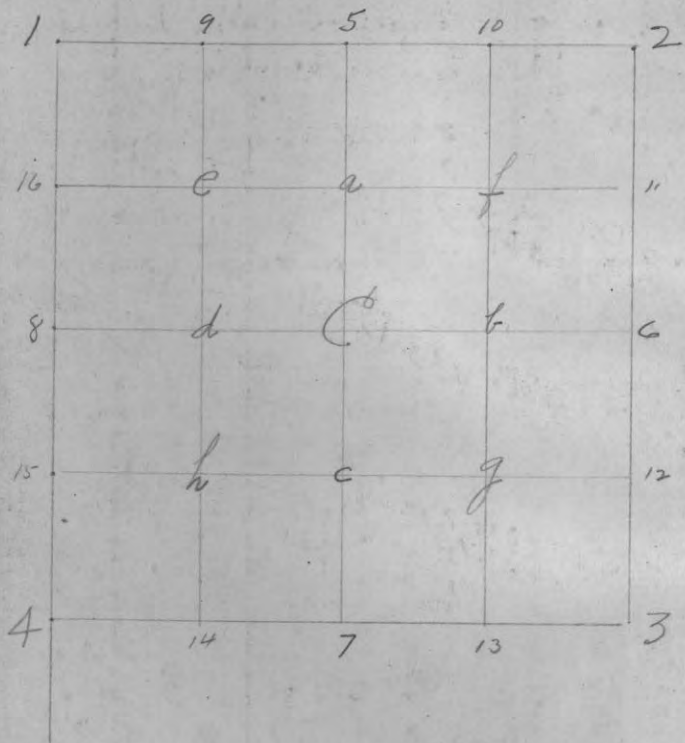
CCCC

1

FIELD BOOK

364 A

Section Diagram



I

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| 1-89 | 6 | 38 | 6 | |
| 7- ⁴⁶ 53 | 1 | 38 | 5 | |
| 11-14 | 31 | 39 | 6 | |
| 12-18 | 1 | 38 | 5 | Polaris Ob. |
| 14-17 | 31 | 39 | 6 | |
| 21 | 8 | 38 | 5 | |
| 25 | 2 | 38 | 5 | |
| 34 | 20 | " | " | |
| 39 | 11 | 38 | 5 | |
| 53 | 6 | 38 | 6 | Range line (South) |
| 56 | 7 | " | " | |
| 48 | 10 | " | 5 | cruising. |
| 32 | 2 | " | " | " |
| 56 | 12 | " | 5 | |
| 60 | 13 | " | " | } Range line |
| 60 | 18 | 38 | 6 | |
| 74-93 | 14 | 38 | 5 | random. |
| 79 | 1-12-13 | " | " | Traverse Project (4) |
| 97 | 23-24 | " | " | " " " |
| 100 | 8-17-18 | 38 | 6 | " (3) |
| 105 | 3 | " | 5 | Tr. line |
| 108 | 4+5 | " | " | Road straightening |
| 113-132 | 34 | 38 | 5 | |
| 110 | 27 | " | " | |
| 120/134 | 5 | " | " | Road #14 |
| 137 | 4 | 38 | 5 | Tr. line |

NW 1/4

June 21st 1938 Fair 75°

Ray # hall with: ^{E.}Duszyński, ^{T.}Troyfter,
Zello & Roseneck.

Check. Tp. cor.

Rec measurements from 4 aug. all come together within .01

More post found 10" W.

→ See page 17 ←

Rm Angls.

S 40° W 220'
N 24 3/4° W 335' 30"
N 13 E ±
S 42 E.

S 0°-52' E
+ 87 3/8

S 89°-00.5' E = 89.5' = 89° 30'

S 0°-56.5' E, Random E

See page 17

Rm S on Random V 2° E (S 0°-52' E)

0.0 Tp cor.

7.97 E Rd.

10.557 hub (075)

12.32 hub at rec. for 8

12.402

12.02 correct W. .086 for 8

Turn post B. Pine 5 N 48 W .77

V 2° E " 3 N 24 E .85°

12.61 fence .723 E of fence cor

2 to S 89°-09' S + E

Var on 0° = 1.08' E

12.27^s fall .01 1/2 W of Sd 8 stake down.

24.239 hub

(.173) = .95 W of fence

27.00 "

(.19 1/4)

PM Same party

31.50 hub at ledge Swampy draw

NW 1/4

Turn - S to W

81°-30' cor. 148

.227

Old post down at aug 7.

in Swale.

Quin. met post + mark.

.5876

V 2 1/2 B. Pine 7° N 24° E .89

W " 5° N 23° W .989 6527

See page 53

31.534 at 2 W 225 to cor

.00714 = Aug. 0°-24 1/2 fall E.
0°-52' E

0°-27 1/2 E = 179°-32.5'

32.32 Rec
31.534 M.

32.32 - 78.6 short

.0243 rec. x 20 = .486

20.

19.514

12.02

Book 3 p 6
Re meas = 32.536 ch 1 Mar 20th '34

June 22nd Fair. 80°

Same party.

XE x G Find Vaughan's? post
in old RR grade NW SE.
checks with one stp - boxing
+ with hole where large tree
has been removed.

New.
V2°25'E
 { Jack pine 6" S 58°W .56'
 " " " S 26½°E .79'
 Grig? N.35W
 hole -

S. on M^cCoys random V2°-10°E
 0.0 Seed Cor. (5-6-31-32)
 4. to 7 meas down slope 6°-20
 = 4 + 2.952 = .018
 7.
 7.53 Enter swamps
 8.70 over "
 " to 9.40 meas up slope. 22°-10°
 .90 x Cos. = .067

12.837 M^cCoys 8 on line. (334)

13.50 hub Rec dist for Temp. 2/8 S.

13.817 st L G .363 for 1/8 Cor.

13.798 " " " " " "
 .019 north

Drive patch post + tie to M^cCoys trees
 } G. Pine 13" N 35½°W 1.133
 } Jack 6" N 35½°W .709

19.00 hub at top of slope to lake.
 Cottage Cor. S 82°W. about 6 ch.

24.44 Rec. for M.C.

21.75 hub + lay off base N 8½° E 6.60 ch

23.243 fall .3' E. of Jam at M^cCoys
 .493 (56) M.C.

Old M^c bet 5+6 on S. shore. Stub of SW
 13 ft. OK with marks. Other gone.

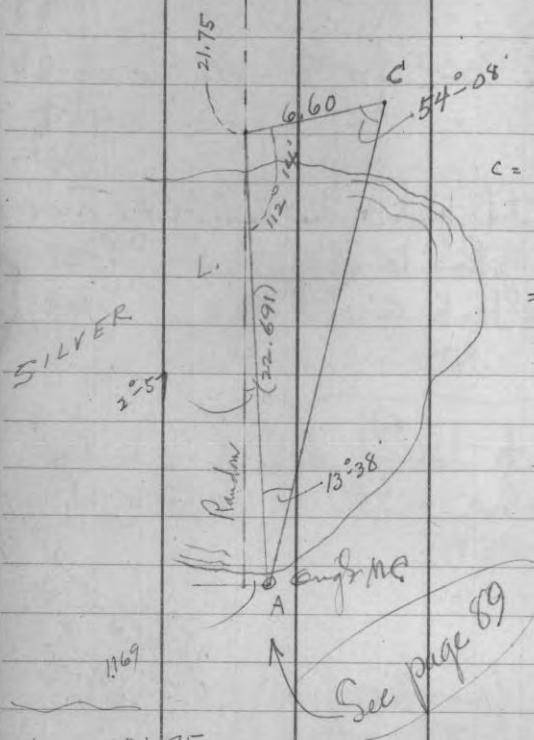
Drive new post by M^cCoys stake + mark
 M^cCoys trees { W. Pine 6" S 10½°W .092
 " 12 N 83°E .33

Var 2°10'E
 Grig S 48½°W .12

map to 65.
 3 points

44.41
 10.74
 50.61
 30.62
 14 to M.C.
 on Sec. h.

⊥



All angles turned
- excess = 1'

$$c = \frac{a \sin C}{\sin A}$$

$$= \frac{6.6 \times 81038}{.22571}$$

$$= 22.691$$

$$\times \sin 2^\circ 51' = 1.169$$

$$\times \cos = 22.66$$

See page 89

21.75
+ 22.66
44.41 fall

1.169 W of AC S. shore

.02632 = Tang. $1^\circ 30.5'$
2 10
 $3^\circ 40'$ E var
true line

44.41 meas. random
43.45 mc
43.45 .96 surp.

.027 1.0 per ch $\times 13.50 = .298$
sta 13.718 $\times .0263 = .363$ correct

cos. $1^\circ 30.5' = .999655$

24
24.24

North $\frac{1}{8}$ line.
June 23rd 1933 Rainy. 70°
Same party.

Run Ely on randoms from N $\frac{1}{8}$ W
by angle E to S. off random. $87^\circ 58'$

0.0 $\frac{1}{8}$ cor.

Set stakes on line every 5.00 ch

| | |
|--------|---------|
| 5.00 | .015 |
| 10.00 | .03 |
| 15.00 | .045 |
| 20.00 | .061 |
| 25.00 | .077 |
| 29.87 | .092 |
| 34.18 | .107 |
| 35.00 | .122 |
| 40.00 | .138 |
| 45.00 | .153 |
| 50.00 | .166 N. |
| 54.40 | .168 |
| 55. | .184 |
| 60. | .199 |
| 65. | .214 |
| 70. | .228 |
| 74.624 | .228 |

Intersect E+W fence
" " N+S " 8.5' E fence cor.

N.B. 8/30/39 Moving E on Range line S. 382 amount to 5-17 1/2 in 74.624

with line correct with assistance of foreman
June 24th AM
Jan. 10th 00306

Sec. 1-38-5

NE 1/4

June 24th 1933 3 hrs.
Ray H. Hall, Hunt. Albans Post.
Run traverse from T_p cor. westerly
as follows:

Assume $\frac{1}{2}$ NE $\frac{1}{4}$ as Meridian.

① N 0°-24 1/2° W on random extended .98

② 269°-12' = S 89°-12' W 20.00
falls in line bet $\frac{1}{2}$ Rd. & E fence.

③ S. 0°-24 1/2° E .98

④ 269°-12' 20.00
to hub.Thence \angle W to N. 80°-36' 95

To temp $\frac{1}{4}$ cor bet 36 + 1 set by SE
creek only. other gone
(Will locate orig. spot definitely later.
with shovel or by true Az. from B.T.)

N. B. ——— HS notes give increase in
mag. var. " 5°-15' E at T_p cor.
7°-20' E at $\frac{1}{4}$ S (36-1)

1-38-5

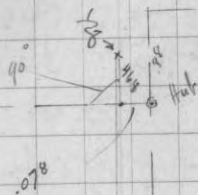
$$\begin{aligned} \sin 80^{\circ}-36' &= .98257 \times .95 = .937 \text{ feet } \angle \\ \cos &= .1633 \quad " = .155 \end{aligned}$$

$$\begin{array}{r} 2/93.7 \\ .46.8 \end{array}$$

$$\begin{array}{r} + 40. \\ 2/40.155 \text{ on rand.} \\ 20.078 \end{array}$$

\therefore correct sta 20.078 N at 90° .468 for $\frac{1}{8}$

$$\begin{array}{r} S 89^{\circ}-12' W \\ 269^{\circ}-12' \end{array}$$



$$\begin{array}{r} \therefore \text{ at } 20.078 \\ + .006 \\ \hline 20.084 \end{array}$$

Turn off Meridian line
at .468 N. = $\frac{1}{8}$ cor.
Approx. $\frac{1}{2}$ Road.

$$\begin{array}{r} \therefore 40.155 / .937 \text{ Tang. } 1^{\circ}-20' \text{ cos. } .99973 \\ .02333 = \end{array}$$

True length = 40.165 ch.
Assumed course N 89°-28' W
true N 89°-57' W

20.082

June 26th 1933 75° Fair

Same crew except Emil Jagers replaces Zello.

1/4 bet. 36 + 1. (4-38-5)

Set A over SE BT stp

Mag. var 4°-47' E (7-20 05 - 2°-33)

Turn N 25° W .30 + fall .01² Wly of peg

Set new post. .30 from stp + about 3 bk. Wly of peg.

line of N+S fence to E .044 = 2.9
" fence W to N. .038 = 2.5

Post as set reads N 25° W from stp on var 2°-55' E.

Trout over post obs. sun. Camp Time @ 9:07 AM.

Set Az of 155° on BT. Assumed
Sun alt obs. 47°-45'
" Az " 106°-50'

② 9:11 AM alt = 48° 18' Az 107°-44'
E Squirrel L. Tower to 281°-53'

Run S after setting E 1/8 on bet 36 + 1
" set by 0° Az. 46°

from sta. 20.084

Mag. var on this line (parallel Range L.)
2°-18' E.

G 1/8 4-1-38-5 200°-30' ch.
Trans Az { Jacks Pine 10" N 59 1/2° W 1.638
V. 1°-37' } Y.P. stp. 24" S 32°-48' E. 353
147° 12'

Wire fence to E .218

Koreman Hunt continues picket line S.

11. Secs. 36-39-5
+ 31 39-6

Offset E 10 lbs from Contact man
in road at Sec 25-39-5

+ Run S by parallel to E Town Road.

0.0 per .10 E of Man

20.00 hub (on 1.10 offset)
comes in W ditch

found cut 19.972 contact E .24 + set 8 in rd.
Jack 4 ^{119 140} 5 60 46 E

J.P. 11/2/38 6" deep Fence post S 73° W 319

20.07 wire fence hrs W.

22.46 E Road S 104°

26.00 hub in same offset

Obs. sun - Camp time 180° assumed for
line S.

① 3:48.5 Alt 39° 43'

Az 261° 35'

② 3:56.7 v 38° 18'

Az 263° 05'

30.00 Tally at 2 hrs

32.00 hub (contact E 445)

continue on same 10 offset

continue on page 14

New's Jack 5 N 64° E 17.2' RC no offset

Polaris Obs.

at Blue Lake Camp in NE NE 1-38-5

June 26th 1933 at 10:03.5 ± 112 Coy time

Hub on campus 300' ± S. of office

← Polaris to 1/2 arrow on front of warehouse

left to right = 1° 08"

(Calc. by K+E Hour Angle gives azimuth
of Polaris at obs. as 0° 59' ±

+ ← 1 08

1/2 arrow = 2° 07' E

Calc. — HC. for June 15th 8:05.2 AM Gurk.

| | |
|-----------|--------------------|
| 26 | 43.1 |
| 11 x 3.92 | 7:22.1 June 26 |
| | 1. |
| | 7:21.1 HC. Blue L. |
| 12: | 4:38.9 hrs |

5.987 x .16 =

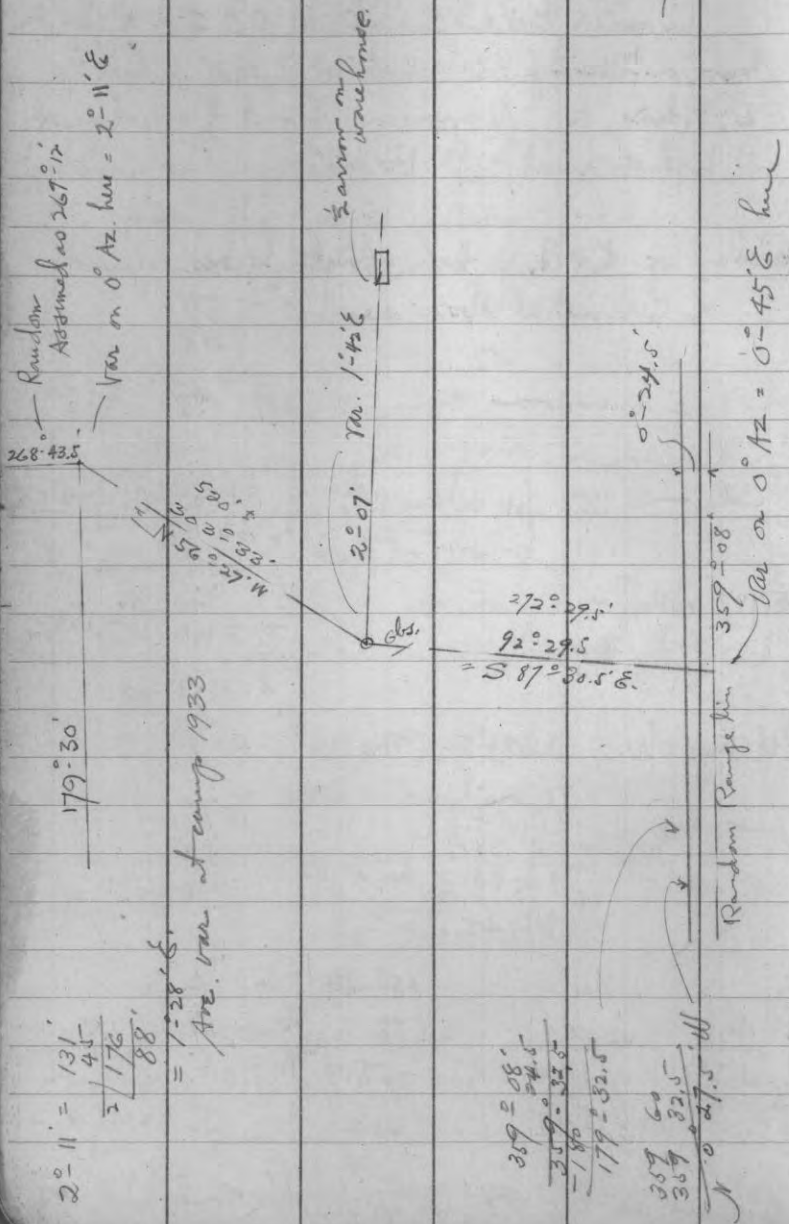
Std time obs. 10:03.5 PM

| | | |
|----------|-------------|-------------------|
| | + .8 | |
| Loc time | 10:04.3 | |
| | + 4 38.9 | |
| | 14:43.2 | hrs x .16 = 14.77 |
| | + 2.3 | 16 |
| | 14:45.5 = ± | 2.35 |

| | | |
|---------|---------|------------|
| 44° | 45° 49' | 46° |
| 14:40 | 55.6 | 57.5 (1.9) |
| 14:45.5 | 57.5 | 0° 58.9 |
| 15:00 | 1° 01.2 | 63.2 |
| | | 5.9 |

∴ Polaris is 0° 59' E of North

Sec 1-38-5



Secs 36 + 31

continued from page 11

June 27th 1933 80° F. Fair

9:30 AM

R. H. Hall with Daszynski, G. Tongfiter, Rosenick + Emil Jerger.

Resume random W-31-39-G after hooking up Polaris results at camp.

Continue S. on random initialed 10 lbs. E of Engl' NWx 31-39-G

32.73 hub + enter Swamp NE + SW.

39.945 correct E at 90° + set 1/4 S.

1/4 Dry Tam. post - scribed

| | | |
|------------------------|---|---|
| true Az Var 1°50' E | { | Spence 3" ^{107°-20'} 572°-40' E .25 ⁸ |
| | | Tam. 3" 524°-08' W 1.16 ⁸ |
| | | old posts by ^{204°-08'} 268°-40' .21 |

40.00 hub on same line + turn = N to E to 2 posts in E winter road to NW + SE.

83°-56' .37²

fail to find any evidence of the stumps.

17

31-39-6 E.
continued

June 29th 1933 Fair 90°
R.H.H. + same party plus Bottom + Range
Continue correcting + staking line. +
set in $\frac{1}{4}$ S. + $8\frac{1}{8}$.

Turn off Az. 0-41.5' at Tp. cor. + run Nly on
line fall about 8" E of $5\frac{1}{8}$
as corrected.

Produce line as corrected at 48.07 (.718 E)
S by B.S. on $\frac{1}{4}$ + check OK with $\frac{1}{8}$

| | | | |
|---------|------|------|-------------------|
| Tp. cor | 39-5 | 39-6 | Mark new bearing: |
| | 38-5 | 38-6 | |

True Az. }
Var. 0-52' E. }
Y. Pine 10" N 40-09' E .98'

April 19th 1935

Plant 3'-9" section of R.R. rail with anchor
- thru bolt holes. (6" exposed)

& set Shaws wooden post just N.
of the monument.

(E web used as exact point)

18

N. line Sec 1 - 38-5

June 30th 1933 fair + warm
R.H.H. with Duszynski, Gerges, Tompfer
+ Roseneck.

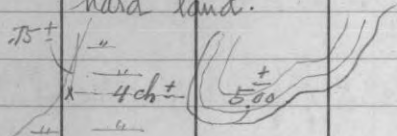
At random sta (20. + 20.) = 40.00
on Az 268° = 43.5' from Tp. cor.
Turn = W to NW to Orig $\frac{1}{4}$ S.

80° - 21' .94°
∴ at 40.159 st = N. to $\frac{1}{4}$ post 1.934
- .02328 = Tang 1°-20'
1-20'
+ 268° = 43.5'
True Az = $\frac{270° - 03.5'}{}$
V = \sphericalangle 89°-57' W. 40.170 ch.

Run N 89°-57' W on Random line from Orig
 $\frac{1}{4}$ bet 36 + 1 bet Tp. 38 + 39 N R 5 E.
(from random traverse).

0.0 = $\frac{1}{4}$ post (Squirrel Hill tower bro 281°-51'
15.00 hub at W. end field. (.003)
(Should have made this 270°-04' :)

17.04 hub at top of slope (.009)
Young W. Pine + Jack growth.

8-38-5
CruisingJuly 1st 1938. AM
Dan Jossart + Rt. Hall.Fail to identify Ough cor $\frac{5}{8} | \frac{4}{9}$ butare able to locate probable loc. by
shape of ponds:Notes must be in error about 5.00 E of
hard land.

Cruise S) 75 paces Road E of W (corduroy).

200 " lv. swamp

220 ± re-enters

345 ± lv. " SE

370 re-enters " SW

615 lv. swamp E+W

780 enters "

790 spect W 12 to an old line

963 ± fall 80 or 10 W. of Ough $\frac{1}{4}$ of

Set temp pine post by stop of both stem.

marks on E one. Good boxing on W one.

Cruise W on about 2° Gran.

1/4 mile to swamp N+S. cedar N+S of line ↓
35 ch ± lv. "

"—————"

→ Bearings for E of # 2-38-5 ←

.075 S of sta 20.896 (page 25)

| | | | | |
|---------------|---|-----------------------|------|---|
| true to. | } | Jack 5" S 46° W | .727 | ✓ |
| | | " 8" N 32° 50' W | .442 | |
| | | " 6" N 80° 10' E | .681 | |
| Var 3° 35' E. | | y. p. stp 20 S 12½° E | .241 | |

(10)

4th Sec 1 - 88-5July 3^d 1933

fair 70°

R.H. Hall with Duszyński, Tompfer,

Rosenek, Geiger

+ Leo Winkler & Louis Pogorelec
4th Sec Tent #24

Continue from Sta 25.89 (014)

① 24°-31' ② 49°-03' ③ 73°-34.5'

27.60'

hub. on shoulder. (015)

30.596

" " summit. (016)

34.457

" " (018)

40.057
34.457
5.599
/ .03740.055 fall .037 N of 9th V post.from 1st post

Origh. loc. S 21 1/2 E

485

72 1/2°

665

40.057 fall 1.4' N. of old post hole
(.0212ch)

| | |
|--------|-------|
| 40.057 | |
| 34.447 | 0038 |
| 5.610 | 02120 |
| | 1283 |
| | 4370 |

| | |
|--------|--------|
| 40.057 | 0°-02' |
| 34.457 | |
| 5.599 | |
| | 2' |

| | |
|----------|--------|
| random | 0°-13' |
| 270°-03' | |
| 269°-50' | |

| |
|------|
| .037 |
| .021 |
| .016 |

diff in setting post
we " N. of 5th V.

| |
|----------|
| 2/40.057 |
| 20.028 |
| - 18.892 |
| 1.136 |

hub ✓

Decide to ignore both MCs since the distance from Origh. bearings is so great and since true courses from " may not bring corners where they were orig. placed - also out of line. The probability of placing corners where they were orig. is less than the probability that the party of 1860 placed them about on true line.

✓

July 5th 1933 Overcast to fair 70°

R.H. with regular crew of 4
+ L. Pogorelec. + M. Wiltgen

Set new cedar post. true Az var 3° 30' E.

New N. P. 22° S 16° 30' E. .642 = 42.37

orig. stp. S 21° E .50 + 174 E .66

Run West on random H 2.) Addy Pt.
270° true N. ± Jack 14° S 43° 20' E
(270° - 01') .763

0.0 Sec cor. = 50.36'

8.414 hub young people
scattering Jack

10.442 hub v 4° 09' E here
or open summit.

13 bottom of open hollow NW + SE

15.00 Tally stake 1/3 up N. slope .056

18.195 pitch hub .068

20.096 st = .075 for 1/2 S → See page 22 ←

20. hub picket.

25 } Tally not lined in

30

3

P.M. Same crew except A. Casadonte replaces
Tonyfter.

35.00 tally stake

39.34 P and S turn ← left to probable

location orig 1/4 S.

10° 04' .865

2/40.192
20.096

40.00 hub on N. slope knob.
line crosses at N. edge shoulder.

2/151
1075

* ∴ 40.192 st. ← S. to possible 1/4 cor. by ✓
dist + course from 2 stps which agree
no marks - stps far gone - soil
has been cultivated.

Will continue this to NWx.

* Set Cedar post Oct. 26th 33.

N.B. D.H. Vaughan in April 1903 ran this

line on 3 1/2° E var. + at NWx fell. 45 N.
(dist 80..30)

∴ his var would be

80.30 / 45

.0056 = Tang 0 19'

3 30

3 49

1 03

2° 46' H H for 1933

3 30 one random

44° in 80.30 = 1.03 in mile.

30
21
30
60
63'

40.192 | .151 000
 .00376
 = 0° 12.9' S.

H 2-38-5

carried snow
meal.

July 6th 1933 fair 80°
Rt. with Duszynski, Guger. (chain) + Wiltgen
Rocneck, Pogorek + Casadonte (ax).

39.34 hub + obs. Sun.
Time my watch 3' fast
Az of line = 90°-01'

① 8:54.8
- 3.
8:51.8 alt 45°-15' Az 104°-24.5'

② 8:56.8
- 3.
8:53.8 alt 45°-36' Az 104°-54'

44.322 hub + obs. Sun. (.1428)

③ 10:12.5
Could not see wires
Centered image.
v 57°-37'
Az 125°-31'

44.60
45.1 enter Swamp N + S.
Spring creek runs N + S.

51.758 hub + leave Swamp N + S. (52.00) (.126)

54.82 " v 2°-57' E
old house wreck bus N 9 1/2° E 3 1/2 or 4 ch. (.121)

60.00 Tally hub

60.287 vtz = S. 11 + det 1/8 S. v post (Pine post)
Time Az. { N. Pine 9° 189°-37' W 2.328 Oct. 26/3
var. 2°-52' E { W. " 9° N 8°-29' W 2.77
(bad fault)

63 1/2 ± top of slope + gain plateau P.M.
64.60' hub on (.101)
69.815 " W end " (.1091)

① Temp 90° Time 2:38 P.M. -3'
Alt. 51°-34'
Az. 245°-59.5'

calc "

② Time 2.40 P.M. -3'
Alt 51°-15' III
Az 246°-34.5'

calc "

76.65 Tang to old road SE + SW. (.076)

77.145 hub + quit for mite. var. 2°-26' E

July 7th 1933. Overcast, 75°

R.H. with Duszynski, Jergen, (Ch.) + Wiltgen, Casadonte, Rosemets + Pogorski.

Tie into Orig. NW x 2.

79.50 enter Swamp.

78.96' hub + turn to cor. $VZ = 45^{\circ} E$.

(Calc random $270^{\circ} - 06'$ per solar results.)

$$\begin{array}{r} 267 - 22.5 \\ 276 \quad 06.0 \\ \hline 4 = 43.5 \end{array}$$

80.38²

fall .069 N. of old post hole (only hole). agreeing reasonably close with remains of 4 oval.

The pine stub has all marks OK

" SE Spruce is down

boxing plain.

Other 2 not so

Set 9 over post hole + ls. on trans.

M.P. $119 \quad 60$
 $125 \quad 40$
S54-20E .21

Sp. N61-30E .187

Sp. $132 \quad 40$
 180
S52 40 W .125

Sp. N51 3/4 W .155

Post on
marked cedar
post
No bearings
nearby
Continue W on
page 105

Rm S. on random W 180° Az.

0.0 Sec. Cor.

Correct W.

1.44 E R.R. bed NW

1.78 E to road to camp 9

2.158 hub on hard ground .018

3.20 + re-enter Swamp Etd.

499.8
7.572 hub in E Grade .038

Trs. 89° about 3ch
Th. SE by

Cedar post for cor. + iron rod

14.434 at W. .072 for 1/8 S. (not set)

1/8/35 } Birch 11" S40E .39
Mag. by 1/8 } B. Ash 5 N49W .264

all ash + cedar
all stamps

14.54 Rec. for 1/8

15.00 Tally stake on line .075

18.90 E. end dry knoll. - few acres +

19.255 hub .096

20.00 re-enter Swamp SW.

22.00 stake on line (11)

15.00
14.434
1.566

Resume on p. 35

calc.

2 80.382

- 40.192

20.09

40.19

20.095

40.192

60.287

35

40.19

Road

270°-06'

40.19

Cup

Cup

80.382

- 40.192

= 40.19

20.095

40.192

60.287

40.19

.151

.069

40.19

.082

.00204 = 0°-07'

∴ Corrections are .151 - figured correct

$$44.322 - 40.192 = 4.13 \times .00204 = .0084 - " = .1435 \text{ d}$$

$$51.758 - " = 11.566 \times " = .0236 - " = .124 \text{ d}$$

$$54.82 - " = 14.628 \times " = .03 - " = .121 \text{ d}$$

$$60.287 - " = 20.095 \times " = .041 - " = .11 \text{ d. v}$$

$$64.601 - " = 24.41 \times " = .05 - " = .111 \text{ S}$$

$$69.815 - " = 29.623 \times " = .06 - " = .091 \text{ S}$$

$$77.145 - " = 36.953 \times " = .075 - " = .076 \text{ S}$$

$$78.961 - " = 38.77 \times " = .079 - " = .072 \text{ d.}$$

Cruise of Road Project in W 1/2

July 8th 1933 Saturday.

AM R.H. Hall with A. Knutson & Bloomquist

Ivanthals post for Cugl ca 2-3-10-41

appears about right. + is about

3 rds. W of C of present rd.

Th. N 1/2 by P.C. no var. pacing on road.
(26 paces per ch. ±)

N 10°

N 12° W

a)

Intersect 4th planted area (E-W)

140 p. = 5.38 ch.

116 p. = 4.46 "

28 " = 1.58 "

N 51° E

N 10° E

N 14° E

80 p. = 3.08 ch

50 = 1.92

54 = 2.08

2-38-5

P.M. Hall + Knutson.

W. 1/8 S on H (not met)

S. on about 3° (runs near W. edge
old Benedict Road opening)

- ① 416 p. = 16.00 ch.
To old grade (S 74° E
+ N 74° W sch ±
Th. N. W. Jy)
- ② S 74° E on " " 87 p. = 3.35
To proposed junction
- ③ S 9° W 311 p = 11.96
@ 35 = 9.04
E trail SSE + NW.
- ④ S 7° W 47 p = 1.81
@ 20 = .77 low spot fill
- ⑤ S 11° W 37 = 1.42
@ 25 = junction
- ⑥ S 13° W 83 = 3.19
- ⑦ S 5° W 31 = 1.19 →
- ⑧ S 17° W 30 = 1.15
- ⑨ S 22° W 67 = 2.90
- ⑩ S 26° W 23 = 1.00
- ⑪ S 50° W 35 = 1.51
- ⑫ S 75° W 100 = 4.34
@ 33 = drain
- ⑬ S 70° W 23 = 1.00

Sec 20-38-5

Sunday, July 9th 1933

R.H. Hall + H.M. Ginnis

6.6 miles x 2 in truck

Find Orig. Cor. 17/16
20/21

Tam. stp. OK boxing + some marks.

Maple hard to define.

Set new painted stake

Tall tam. sample for N 57° E P.C. 22 steps.

(N.B. another orig. tam. 8° stands N — E 28.1 feet)
— did not have tape.

Pace W. by on 2 1/2 ± Grass

80 ± leave swamp (gradually) NW

145 p. = 5.58 ch. to E fire road ✓
for S 15° W P.C.

See page in Book 5

- ⑭ S 54° W 17 = .74
- ⑮ S 42° W 39 to old rd. W. = 1.69
- ⑯ S 25° W 149 new cut off = 6.46
- ⑰ S 17° W 77 = 3.34
- ⑱ S 14° W 54 = 2.34
- ⑲ S 10° W 50 = 2.17
- ⑳ S 51° W 80 = 3.47
- ㉑ S 12° E 116 = 5.02
1.06 @ 88 enter planting
E & W
- ㉒ South 140

To Sec line about 3 rds E of Cor. 2-3-10

Sec. 2-38-5

W random - continued from p. 30

Monday, July 10th 1933 8:15

Overcast 75°

R.H. Hall with Duszynski, Jeger.

Roeneck, Pogorele + McLeod

truck transp.

Continue S. (140° Az)

19.255 hub (Var. 2°-45' E) ^(.096)

28.50 hr. swamp ENE + SW

28.715 hub ^(.143)

30.90 Enter small swamp E+W

33.25 leave " " "

34.29 st. < W. to Orig 1/4 S. 171

^(.00499)

= Tang. 0°-17'

Found 2 old posts (down) & 2 old squared trees.

Fail to find trace of benches to fit notes.

but this is undoubtedly the old cor.

Drove new pine post (on ridge E+W) + mark

| | | | | | |
|------------------------------|---|---------|----|---------|------|
| Perfect Compass 0° var | { | M. Pine | 8" | S 37° W | .485 |
| | | JW " | 6" | S 86° E | .764 |

Substitute Co. Mon

exposed

+ Cedar post along road

4/19/40 rain 10 Am

34.54 Tally stake at no.

37.179 hub ^(.20)40.305 " on " Grove hill (Var. 3°-02' E) ^(.232)Young birch + hemlock - mostly dead.
broken - ridges E+W

Observe Sun 75° F.

Time my watch (25' ahead of Cent. Std.)

① 2:39.5 PM alt 51°-13'

Az 245°-39.5'

calc 245°-37.5 = 2' shy

② 2:41.8 alt 50°-47.5' ✓

Az 246°-13.5'

calc 246°-16.2
2.7' excess

∴ call random due South

45.831 hub on top hill ^(.288)

47.65 old road bis. E+W

forks at line NW + SW

48.00 tally stake. ^(.31)

S 1/8 or W 2 at 37 W of 53.996 page 37

| | | | |
|------------------------------|---|-------------------------------------|--|
| Oct 27 th 1933 | { | Pine post with rocks around near N. | |
| | | rim of gully (has S+W.) | |

| | | | | | |
|---------------|---|---------------|--------------|-------|---|
| var 3°-25' E. | { | W P. stp. 40" | S 18°-45' E. | 1.368 | ✓ |
| | | W " " 18" | N 38°-40' W | .38 | |

S.

July 11th, 1933 Overcast 70°

Same crew + transportation

as July 10th

53.996 at = next .37 for 1/8 S. ✓

→ See page 36 ←

49.652 hub

(.326)

53.00 "

(.361)

55.00 tally picked in E edge
base gully (hs. W) (.381)

59.24 hub on ridge (.424)

62.78 hub on W shoulder of
road at turn. V 3°-20' E (.459)

" his 17°-40'

" " 62°

70.792 hub in hollow (.541)

72.462 " on knoll (.558)

73.58⁹ hub + turn to Singl PT

86°-56'

82° Rec

4°-56' x

.382 = .033

3.622 Exp for 582 W .576

73.702 at = W to corner (.57 Ks)

.57
.171
39.973.712
34.29
39.412

= .01012

= Tang 0°-35'

34.29 / .171

.00469

0°-17'

2 / 39.412
19.706 per ft
- 73.702sta. 53.996 for 1/8 S.
- 34.2919.706 x .01012 = .199
+ .171
(.370) ✓.57
.171
741
37 ✓

| | |
|------------------|------------------------------|
| 37.179 - 34.29 = | 2.889 x .01012 + .171 = .205 |
| 40.305 - " = | 6.015 x " + " = .232 |
| 45.831 - " = | 11.541 x " + .171 = .288 |
| 48.00 - " = | 13.71 x " + " = .31 |
| 49.652 - " = | 15.862 = .326 |
| 53.00 - " = | 18.71 = .361 |
| 55.00 - " = | 20.71 = .381 |
| 59.24 - " = | 24.95 = .424 |
| 62.78 - " = | 28.49 = .459 |
| 70.792 = | 36.582 = .541 |
| 72.462 = | 38.172 = .558 |



July 12th 1933. Overcast 80°
P.H. with same crew

Engl. Co 2-3-10-11 - Set pine post.
Var. 3°-18' E. on 0° Meridian.

New Brings on True Az.

| | | | | |
|--------------|---|----------|-------------|------|
| V 3-18 E. | } | N.P. 9° | N 73° E | .50* |
| | | W.P. 10° | S 22° 03' W | 1.14 |
| | | | (202°-03') | |

May 25 ⊕ W. Pine 7" S 14°-25' E 1.02²
* had been faced + pinned on SE side
in last 7 or 8 yrs.

May 25th 1934 Duszynski, Wojciechowski + Chappelle
⊕ Plant 4 capped + marked iron pipe (Wis. Cons. Com.) 11" Exp.
Stake in place of (OTB+ removed for road.)

Run S 0° 35' W on Random between Secs.
10 + 11. being prolongation
of true HW S 2 Sec 2

0.0 Sec cor post.

4.61⁸ hub (027)

Only spots are E of us

9.12 hub on N. side wet along E 205.
lay off base S 67° 121°-17' 1.00 ch.
↳ S to E. = 59°-19' @ 118°-39'
Stadia 149' ± ✓
calc. 2.288 = 151'

2.28⁸ Over along to hub, flag base 26°-24'
11.408 (066) angle = 25°-48.5' @ 57°-37' (25-48.5)

+ 1.23 to top of ridge - hub

12.638 hub on ridge (073)

15. tally jacket (086)

15.72' hub (09)

thence gradual slope to S.
20.095 hub (Var 3° E here on Mer.)

19.918 at E to Jack post - 186
19.918
39.836
37

Jack post < N to E 46°-29' .257 ch.

19.861 at W. .114 for E 2 ch.

| | | | | |
|-------------------|---|--------------|---------|------|
| P.C. Var. 3° E | } | Jack Pine 7" | N 8° E | .083 |
| | | " " 9" | S 53° W | .299 |
| | | " " 6" | S 36° E | .872 |

25.00 tally stake (144)

29.77 hub (171)

LW 11 38-5
continued

22.60 Φ Rd hrs SE + NW
25.85 Φ " trial NE + SW
27.01 " " E + W
32.00 Stake on line
25.50 } reef of rocks NE + SW
29.55 }

$\frac{29.734}{266}$

LW Sec 11 - 38-5
(Random) continued

July 13th 1933 Overcast 70°
R. Hall with same crew i.e.
Duszyński + Gergen (chain) + Pogorelec.
Roseneck + Donald McLeod, cutters

Continue \S 0°-35' W or random from NW x 11
29.77 hubs $\textcircled{171}$ (var. 3°-33' E on Mer.)

37.70² hubs on ridge $\textcircled{217}$ land gently rolling

39.62 st. \angle E .20 to location of $\textcircled{217}$?
I believe this was the $\frac{1}{4}$ S
but the evidence is hardly conclusive.
- Will correct the line straight.

39.734 st. \angle Westly .22⁸ for $\frac{1}{4}$ S.
 $\frac{1}{25/35}$ not temp part
+ on E (var 3° E)

$\frac{229}{19.867}$
 $\frac{229}{.114}$

40.00 hubs

41.70 " - Only larger W. Pms $\textcircled{24}$ hrs NE by
 \angle N to E 31°-20' .45

P.M.

43.99⁶ hub (253)
 47.00 " on hill (27)
 49.637 valley (265)
 52.08⁸ hub (large pine hub) (299)
 55.50⁵ " in bottom (319)

59.601 at \angle W. 34³ for $\frac{1}{8}$ ϕ .

↓

July 14th 1933

75° 80°

R.H. + same crew

d 5

Continue random S. of (S 0°-35' W) ✓

2 polar shots at

61.183 result in course of (180°-32' + 180°-34') ✓
 call it (35)66.048 hub³⁸ in bottom Ind. N. of(66.40 ^{enter} marsh) small round pump hole (to E)

(67.70 loc. do)

67.93⁵ hub about Ind. S. of slough (39)69.73² " on (40) hog back SW.Young W. P. Spruce
 Balsam.

Var 4°-07' E here on Meridian

74.08⁵ hub

(426)

(V. 4°-20' E " Meridian)

Com. set post as near as possible by Orig B.T.
 S 67° W. (Tam) S 27 $\frac{1}{2}$ ° E .15 ✓
 New Birch 3 S 87 $\frac{1}{2}$ ° E .078 ✓

Other Tam. may be orig
N 8° W.

16

Set on post (.03^{ch} N. of Alboms stake)

79.553 hub + turn = N to W to post
79° 36' 46⁵

$$\sin .78357 = .457$$

$$\cos .1805 = .084$$

79.469 at W to Orig. Sec. Cor. .457

.00895

= Tang 0° 19.7'

correctn West.

S. 0° 35' W

+ 20

S. 0° 55' W true line

2.459
.228 W

79.469

39.734

39.62

.11

.43 W

89.084

.11

.43 W

.11

.43 W

.11

.43 W

.11

.43 W

.228
30
43

Stadia Map of Camp Site.

NE 28E 1-38-5

July 3^d 1933

Check Stadia in K & E

| Meas. | Reading |
|-------|---------|
| 100. | 100. |
| 200 | 202 |
| 300 | 303. |
| 400 | 404 |
| 500 | 506 ± |

Reverse on true Az.

Beginning at (10) $\frac{1}{8}$ cor 1/4 - 1

Stadia =

(1) 129° 17' = S 50° 43' E 475 470'

To hub on old grade (from 94° 46')

99° 53' = S 88° 07' E

To NW x office bldg.

(2) 94° 46' 400'

hub in same = old grade

24° 50' 212' 210.

SW x office

60° 50' S. front mess tent (kitchen)

13° 24' 153
18° 08' 158

S. stake, car parking space

47 Camp in NE NE 1-38-5

Stadia traverse

R still at ①

287°-20' = 172°-40' W

To intersection camp rd. with
rd. on 1/8 line.

337°-05'
43°

103
98

} angles in
camp roads

69°-38' NE tent (pyramidal)

83°-35' SW "

②

58°-54'

261 = 258'

tent near new bldg.

R at ③

294°-13'

SW x office

76°-10'

NE x pyramidal camp

104°-13'

SW x "

47°-54'

246'

244'

fence cor.

Section
report
posts

44°-47'

N. post

126

97°

S "

89

134°

100'

turn in camp road

Secs 10 + 15 - 38-5 E.

Cruising road location

July 15th '33

R. Hall + Henry Albion

Project
10

Commence on random E 10 at
25.00 ch. S. of NE x

Courses by Pocket compass Over

Distance in steps (1000 per 1/2 mile average)

① S 25° W 335 = 13.40 ch.

@ 285 = 11.40

Swamps bro W.

② S 10° W 292 = 11.67

③ South 125 = 5.00

④ S 18° E 470 =

37 to 67 marsh. E+W

223 - 252 " E.

294 sharp ridge - must detour E.

⑤ S 33° W 243 =

145 - 185 Swamp SE + W

(By being 5 or 6 rods West we would cross
together)

⑥ S 30° W ± to marsh 80 =

⑦ S 53° W 190 =

@ 63 over marsh.

10-38-57
 cruising

⑧

~~South~~ 1032
 S6W[±] 1050

@ 300 open marsh to W. of us.

July 17th 1933 Overcast shine 75°
 R.H. Hall with (Duszyński, Jeger) Roseade
 Pogorelec + R = Lead

Correct random E N 1/2 (see page 1)
 P at Only 1/4 S. Vermier or 179° = 32.5' + 138 N 7

0° Meridian → var. ~~178~~ West.
 0° 33' "

My new bearings read

Jack N 20°-30' E .89
 W. Pine N 26°-25' W .989
 Ongh hro N 40°-50' E Rec.

rain meter - all

from 0° Azimuth
 Stokes counted Oct. 23rd 1933

Run South (Azimuth 180°) on random

0.0 1/4 S.

Leave bottom at post.

9:38' hub on ridge
 watch time (3 3/4' fast)

0 9:34 Ahr
 v 50°-09'
 Az 114°-57.5

calc. this obs 114 - 58.5

(2) 9:36.5 v 50°-32'
 Az 115°-38'

calc this obs. 115°-35.5

correct East. 520' S. ±

(.147) = 7.88
 9.38
 17.26 ±

17.297 hub on ridge
 open public barrens.
 Camp. flag bears 353°-05'

19.95 fall .10 W. of an 8' post down

20.009 at E .17 for 1/8 S. cor.

(20.01) Pitch post { Jack 6" N 53° W .673

Oct. 23rd * " 6" S 14 1/2 E .58

133 W. P. stp 40° S 41° E 1.247

20.00 Tally hub in pswale

160

22.106 hub (var. 4°-20' West) (.187)

242

484

17.29

22.13

25.00 Tally picket. (.212)

27.62 @ old R.R. grade hro S 75° W ±
 358 steps to ±
 travelled section

28.098 hub (.238)

358 steps E of
 turn off S 97.5°

30.528 " (.259)

34.417 " (.294)

34.428 B S

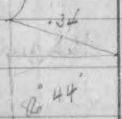
39.19 hub - base of slope S. (.332)

* Somebody's old BT at 1/8 cor S 75° E .252

Identify Angl Cor to Secs 1+12 38-5
6+7 38-6

by old post hole agreeing ± with steps of the
three (Angles)

| | | |
|----------------------------|------------------|-------|
| Turn post var 1°-03' E. | " hrs. S 82° E. | .313 |
| | " " N 62°-50' E. | .993 |
| | " " S 8° W. | 1.011 |
| Remark steps. | .611 + .40 = | |



var 1°-13' E

40.00 Hub - facing on Engl Stak BT

hrs S 84°-36' E .653

Rec. of 77 30 E .31

Sin tan 7°-06' .343

$.1236 \times 31 = .038$

Cos. .9923 .308

40.019

∴ 39.98' at E to cor. .339

40.00 Turn S to E (86°-44') .34

Sin .99838

Cos. .05698

Ang. 0°-29' Corrected E.

∴ Course S 0°-29' E.

$\frac{2 \times 39.98}{29.99} = 2.667$
 $\frac{2 \times 40.019}{20.009} = 1.7$

July 18th 1933

70°

RH with same party

Ride with Hunt's truck

Continue Sly (S 0°-29' E) on random
after setting turn post at Angl cor.
1-6-7-12 is noted.

(Correct last 2 stations N. of cor &
Produce true line S 1°-29' E

0.0 Sec. Cor.

2.00 } along W edge of swamp.
3.00 }

3.60 Picket on ridge

4.50 enters swamp just W of narrows

8.65 hr. " NE + SW.

8.943

hub

S. of marsh
narrows

var. 3°-08' E on 0° Az.
 $.0038 = .25$ at 3°

11.671

hub

on N. shoulder =

$.005$

.33

✓

13.256 hub on NW border of
open plateau (Var 2°-07' E)

20.00 Tally hub ^{.00846 = .56} ^{11 1/8 in.}

3/1/40 Set 1' x 36" iron pipe for 48
5x5" tan post along side
0 Var. x { Y.P. stp 14" 569 W 409
Jack Pine 6" 12 E 1,539

25.988 hub on S low flat hill
Obscure Sun. Time my watch 55°
3 1/4' post with C Std time

① 2:27 v 52°-16'

A2 240°-48.5'

calc. = 240°-48.5' ✓

② 2:29.5 v 51°-55'

Avg 241°-29.5'

Calc = 241°-52'
2.5 excess

11.55

28.45 Enter swamp. E + W.

40.00 Hub - find nothing. continue
picket line by eye - soft bog.

(3141.6) 47.60 picket on N. bank

July 19th 1933 Rainy 70°
Rt. with Juzynski, Gergen, Rosendk
M = Lead + Pogorelc.

Begin on S. bank Kanbeshine river ^{all away}
- to N 40 W 4 ch ± th. N.
Rem W. " S 70 E 3 v ± E.
- sluggish

Q on line - low base newly .60 ch.

↳ N 40 W 52°-15' v ② 104°-31'

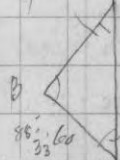
↳ at B. N 6 S E. 88°-33' v 177 04/88 32

776°-48'

-179°-60'

A = 39°-12'

39°-12' x



∴ 47.60

.95

3207.3 = 48.55 hub on S. Bank. → ^{.0206 = 1.36'}

3409.1 55.592 picket on N bank creek (NE)
+ 1.00 over " ✓

3735.1 56.592 picket of " "
Creek to N 17° E 4 ch. visible
" " S 62 W 4 " ✓

60.00

S.

1.68 E

4246 65.848 } R + br. Swamp - E + W.
 56.592 } Hub Var 2° - 10' E.
 7.256 }
 found to be .25' too far E.
 Move R - W. to line
 of sight N.

68.446 hub (.25' too far E) =
 Move R .25' W. to agree
 better with line of pickets.

72.57 hub at N edge Jack flat
 mostly open.
 - River only about 4 ch
 W of line here

Observe Sun
 Time my watch

Temp. 85°

3' fast.

① 3:18.5

vert. 43° - 52'

Az 253° - 46.5

calc 253° - 40.

6.5 shy

② 3:20.5

v 43° - 33'

Az 254° - 14' calc 254° - 08'

6.0 shy

79.98 fall .04 W. of a post.
 80.00 hub + quit for night.

July 20th 1938
 Overcast.

75° Muggy.

RH + same crews ride with Hunt
 dinner out.

80.00² fall .034 W. of true cor. as
 defined by old stake hole agreeing
 with rec. dist from both Sigs.
 - Only W. tree was NW + not SW.

Set new post + mark new

{ Jack Pine 7" S 76° - 35' W .56

{ " 9" S 52° - 00' E 1.69°

Var 3° - 16' E on 0° Meridian

Sigs -

N 64° - 50' E.

1.18

✓ 77.88

N 16° - 10' W

1.01

= 66.66

✓

Az derived from sighting to B.S. over hub.
 72.57 as N 0° - 44.7' W

Run S 0° - 30.5' E on random
 bet 18 + 18.

✓

⊕ 13-38-5 E.

15.417

hub on random
Var 2-15' E on Meridian

.10

20.00

picket on line

20.118 at c W. .1305 for 1/8 S.

Set dry jack post

Time hr.

var.

2:04 E

Jack 7" N 70° 50' W .826

" 12" S 33° 10' E .756

" 7" S 34° 10' E .775

25.00

hub - land level.

low-bushy jack pine growth.

var on 0° Meridian

33.81

look E+W .76 - fail to find

any y. P. BT

34.962

hub

.227

40.000

hub + turn c S to W to a post

63° 56'

Sin. 983 .2588
Cos. 4394 .248

var 1° 05' E

.565 ch.

40.248

at c W. .508 to post found

40.705

⊕ old road NW + S E

Observed Sun at hub

25.00

temp. 90° time my watch 3. post.

Lat = 45° 47' N.

① 2:25 PM

obs. alt 52° 18'

Alt = 52° 17.4'

AZ reads 239° 54.5

calc = 239 48.

6.5 shy ✓

② 2:26.8 PM

obs alt 52° 03'

" = 52° 02.4'

AZ reads 240° 26.5

" calc 240 18.

8.5 shy ✓

transit must be out.

40.000

hub + turn c S to W to a post

63° 56'

Sin. 983 .2588
Cos. 4394 .248

var 1° 05' E

.565 ch.

40.236

at c W. .261 for 1/4 S cor. (⊕ read 60. S. 34.5)

Oct 18th 33

Set dry pine post

Time hr

var 0.45 E

Jack 6" N 31° 30' E .97

" 7" S 72° 25' E .613

" 7" S 57° 33' W .85

July 21st 1938 Moist 70°
 R.H. with same crew
 Continue S 0°-30.5' E on same random.

46.19 look E & W for Singl Bt
 find nothing

46.962 hub + offset W 6" to pass
 W. Pine 16" (Van 0°-40' E) ^{30.5° from hub}

Continue S^{ly} on rd. offset west.

60.00 tally on sing. random

60.355 at x W. ^{39.2° ch.} for 1/8 @ cor.

Oct. 20th Pitch post
 Time Az. {
 Y. Pine 9" S 83° E 1.288
 Jack 6" N 39°-30' E .98
 " 6" N 60°-40' W ^{1.801}

60.908 hub on offset + move A
 E 6" to line ^{1.351}

66.71 hub on line. (Van 0°-57' E) ^{43.3}

70.253 hub ⁴⁵²

71.67 " ⁴⁶⁵

74.11.6 hub ⁴⁸¹

74.42 @ Rd W NW

78.885 hub + c Rt to Singl Cor. as marked
 by Vaughans post V 3 angle

18°-14' @ 36-28 1.67 ch

1.586
 Sin .3129 = .522
 Cos .9498 = 1.586

∴ 80.471 at c West to cor. 13-18-19-24

.522

.00649 = Ang. 0°-22.3'

∴ Random - S 0°-30.5' E.

22.3

S 0°-08.2' E = line bet
 13 + 18

280.473 ch. =

∴ 40.236 " =

20.114 " =

60.354



18-14'
 - 30.5'
 Az 17°-43.5'

89 53.5
 180
 269-53.5
 357.60
 79-06.5
 17-43.5
 107-50'

Comment NE part 88-5

Calculating corrected courses + distances

(True Azimuth)

from Tp cor. we find.

SE cor. Sec 12 is 151.549 and 1.296
SW " " 11 is 153.046 and 162.050(W)

$$\begin{aligned} & 1.497 \div 163.346 \\ & = .00917 = \text{Cor. } S 89^{\circ} - 28.5' W. \\ & \text{Sin } " = .99996 \end{aligned}$$

$$\$ 12 \quad \$ 11 = 163.352$$

$$HS \text{ Rec.} = 80.80 + 80.10 = 160.90$$

$$160.9 \overline{) 2.45^2 \text{ amp.}} \\ \underline{.01525 \text{ perch.}}$$

$$80.80 \times " = \begin{array}{r} 1.233 \\ 80.80 \\ \hline 82.033 \end{array} ?$$

$$80.10 \times " = \begin{array}{r} 1.222 \\ 80.10 \\ \hline 81.322 \end{array} \\ \hline 163.355$$

$$SE \times 1 \text{ is } 71.552 + .586 E$$

$$SW \times 2 \text{ " } 73.586 \quad 161.180 W$$

$$2.034 \div 161.766 \\ = .01258 = \text{Cor. } S 89^{\circ} - 16.7' W$$

caler 161.779

$$HS \text{ Rec} = 80.90 + 80. = \begin{array}{r} 160.90 \\ 160.9 \overline{) 1.879 \text{ amp.}} \\ \underline{.00546} \\ 80.90 \\ \hline .444 \end{array}$$

$$\therefore 81.344 \text{ probable} \\ \begin{array}{r} 80.43 \\ 80.43 \\ \hline 161.77 \end{array}$$

Observations on our prevailing

Course + dist on $W 2 + 11$

$$" \quad " = \begin{array}{r} 17' \\ 35 \\ \hline 52 \end{array}$$

$$\frac{52}{2} = 26' W.$$

$$S \quad " = S 55' W$$

$$\frac{55}{2} = 27.5'$$

$$S \quad 0 = 40' W = \text{Avg course.}$$

$$\text{Meas. } W 2 = 34.29 \quad + \quad 39.414$$

$$\text{Rec} = 34.57 \quad \underline{40.}$$

$$34.57 \overline{) 1.25}$$

$$.00724 \text{ short perch.} \quad .01465 \text{ short perch.}$$

$$\text{Meas. } W 11 = 79.47$$

$$\text{Rec } 80.$$

$$80 \overline{) 1.53} \\ \underline{.00662}$$

$$\therefore .00724$$

$$.01465$$

$$\frac{2}{2} \overline{) 0.2189}$$

$$.01094 \text{ } W 2$$

$$.00662 \text{ " "}$$

$$\frac{2}{2} \overline{) 0.1756}$$

$$.00878 \text{ hypo short } 9'$$

$$\times \quad \underline{80.}$$

$$70.240$$

$$S \quad 0 = 40' W. \quad 79.278 \text{ assumed } W 14$$

(in random course \$ 13 + 14)

$$SW \times \text{ Sec 14 Hyp} = 232.34 S + 162.973 W$$

$$SE \times \text{ " } 13 \text{ Actual} = 232.022 + 1.483 E$$

$$.318 \div 164.456 W$$

$$= \text{Cor } S 89^{\circ} - 53.5' W.$$

$$HS \text{ Rec } = \begin{array}{r} 81.00 \\ 80.60 \\ \hline 161.60 \end{array}$$

$$\begin{array}{r} .0177 \\ 80.60 \\ \hline 80.60 \\ \hline 81.0177 \end{array}$$

$$\frac{2}{2} \overline{) 1.4177}$$

$$.70885$$

$$81.1434$$

$$\frac{82.434}{2} = 81 \quad \times$$

$$164.46 \pm$$

$$- 161.60$$

$$2.86 \div .0177$$

Observations - continued

∴ True Running S. 89°-53.5' W on §13

and @ 2/82.44 temp sec. cor.
2/41.22 temp 1/2 61.83
20.61

20.506 — 102.946
2/41.013 123.45
143.96

@ 82.44 temp 1/4 S.
@ 123.453 " Sec Cor. ✓
@ 164.46

∴ Set temp stakes @

20.61

41.22

61.83

82.44

102.95

123.45

143.96

164.46

Rec 40.50

Rec 81.00

" 121.30

2 spruces p. 30

2 poples

swamp NW §6.

2 Norway p. 33

§ 13 - 38 - 5 E

S 89°-53.5' W ± on Random line
Az 269°-53.5' (Calc to about hit on 2 mi. W.)?

July 24th 1933 Fair 80°

R.H. Hall with same crew - Duszynski &
Genger (chain) & M^r Lead. Pogorelec &
Roseneck - cutting.

Re-set post found at Orig. S^e cor. 13.
+ get ± true Az from Hub 78.885
(Var on 0° Az = ± 45' E.) 2°-13' E.

Picket out true range line N 0°-08' W as
far N. as road (6.10 ch. to § Rd.)

* 10/11/35 Set County mon. 6' exposed with wood post W. side do.

Orig bearings read

19°-13' E 43° E Rec. O.K.
S 5 E OK

but tilted over

S 14³/₄ W Rec

* at 418.5' N of Cor. Set white post + plaque (11' N of § rd. as
re-modelled.)

True Az 11' Pine 12" N 77° E .979

Oct. 23rd 1938

Set new post + mark:

True Az { Jack Pine 9" S 68°-50' W 1.76
" " 10" S 56°-55' E 1.518

+ Complete correction of random §13. ✓

69

 $\$ 13-38-5$

 Random finally determined as $S 89^{\circ}-36.8' W$

0.0 Corner.

Correcting S.

1.869 hub

~~10.2~~ 8"

2.1.2 fall .24 S. of flayed pole

80°

① 9:54.5 km Cent. Stk

v $52^{\circ}-48'$
 Avg. $123^{\circ}-18.5'$
 $123^{\circ} 08'$

calc

calc 10.5 chly

② 9:57.8

v $53^{\circ}-15'$ Az $124^{\circ}-17.5'$ calc " $124^{\circ}-04'$

10.5 chly

8.042 hub + enter - thick jack

2.94'

Average dia. 4"

Var 2" = 45' E.

15.978 hub

5.84'

20.117 at = S 112° for 8 S. = 7.4'

10/11/35

Drove 5 1/2" Iron shaft* (+ cedar post.)

 Var $2^{\circ}-15' E$ } Jack 8" N $80^{\circ} W$
 " 6" N $39^{\circ} E$

12.6'

40.2'

20.61 tally machine called $S 89^{\circ}-17.7' W$

70

22.716 hub

.142

27.109 "

.17

① 2:13.5-

 $53^{\circ}-02'$ $236^{\circ}-29.5'$ calc $236^{\circ}-16'$

9.5 chly

② 2:16

v $52^{\circ}-24'$ Avg. $237^{\circ}-13'$ calc $237^{\circ}-35'$
 42.72
 40.348
 2.372

40.25 nt. = S. 223 + set 1/4 S. bet 13 + 24

Set County Monument* 6" exposed (+ cedar post.)

Time Am. { Jack Pine 9" N $52^{\circ}-40' E$

23.7'

Var $1^{\circ}-35' E$ } do 9" S $53^{\circ}-20' W$

17.5'

Oct 11th '3534.29 \pm Cedar falls rd. W SW. ly

197 = 222

55.48' hub in sag (spruces)

(V2) 40.348 " (pace N 40 to a line + E 19 to a cor.)

41 enter low spruce sag.

41.62 tally (should be 41.22)

42.645 Centre of Hunt's road (NE)

* see page 72

Connected to here Oct 11th 1935
 42.64
 34.29
 8.35 between roads

42.72

34.29

8.43

✓

July 25th 1933

70° Fair

R. Hall with same party.
fail to find any $\frac{1}{4}$ S.find some ones line N. of us + possibly
8 or 10 yrs old (40 paces N. of)Continue same random ~~S 89° 53' W~~41.22 tally comes in low space
draw42.72 G. Hunts road NE squared up
people 19 p E

47.71' hub .299

51.406 " .322

52.00 picket .326

60.401 hub .387

61.83 picket .387

53.90 to 56.00 swampy ground

57.767 hub .361

58.00 to 61.60 "

★ 60.334 see page 72

68.56³ hub scattered ^{42'} people + jack

80° F (var. 3° 58' E or N. direction)

① 2:40.5 v 48° 41'
Az 244° - 15'② 2:48 v 47° 27'
Az 246° - 14'

Obs. listed made at hubs 73.168 Lat = 45° 46.4'

73.168 hub .458 Long = 89° 49.2'

77.34 hub .487

81.00 " at Govt record

82.44 picket " hyps. " ?

82.70 Centre of road running NW + SE.

81.00 hub on ranch

- 80.432 P.R.

.568 Th. N at 90° .895

* @ 40.253 at + S .332 for $\frac{7}{8}$ S. ¹³/₂₄

- See page 70 -

* @ 60.376 at. - S .335 for West $\frac{8}{9}$ cor.NW 1/4
40.17
10~~81.34
77.34
3.6~~

£ 14-38-15
 5 1/2

July 26th 1933 Fair 75°
 R.H. Hall with Duszynski, Jager
 M^l lead. Pogorelec & Rosemeek

Look for SE x 14 .00626 = Tang 0°-21.5'
~~88.446 st. @ .504 to create or~~
~~pro-rate both ways.~~

.00754 ch

81.00 Effect N .5' (6") to pass Norway
 85.147 # Norway, 12" .323 1

(81.26 Random falls 1.13 & of
 only possible loc. of old
 corner visible. Several large
 Aspen remain + 2 check OK
 or course + dist. but
 can find no hole. br
 temp just there.

July 16th '35

80.501 st. i & to orig Sec Cor. 146

.00554

Tang = 0°-19.1'

81.26
 10.03 fall 18.0' st.

See Book II page 88

.33
 .375 d

85.20 hub on 6" effect, + brow of hill
 Slope down 10°
 88.25 jacket on knoll → .249
 .288 S.
 88.90 Enter Swamp at
 93.75 Leave " N+S

95.745 hub - (still on 6" effect, .051
 .074 d

@ 98.058 true line intersects (L 1038.2)
 98.851 " .031
 .015 N " " " (Var. here 5-13' E)

102.187 " .119
 .11 N " " "

101.013 " .088
 .077 N

104.835 hub " " " .189
 .186 N

(Var. 5°-50' E on Meridian)

100.451 st. N .068 ch for 1/8 S. from random.

100.270 st. N .068
 100.256 st. N .068 for 1/8 S.

100.451 Hub
 97.524 intersection
 1.177
 True S of cake = 45' d.
 N 88-45' d.

97.387 Intersects random + true line
 97.674 " effect " " " L 1-307

75

§ Sec. 14-88-5

(S 89-53 1/2' W ± on (G.N. of) Random
continuedJuly 27th 1933 variable 75°

R# Hall with same party of 5

107.57' hub (still on offset) ^{.261}
Var. 5°-42' E. ^{.264 N}110.893 hub (still on offset) ^{.349}
^{.358 N}+ 1.10 (reduced) Slope down = 24°-15' (meas)
Cos = .91176Move R S. 6" on to
orig. random + resume.

.912

.117

1.102

(111.85 10" Balsam on offset line

111.995 hub on random at E edge ^{.386}
Swamp (N+S) ^{.398 N}
(Var. 4°-54' E on Meridian)

Random § 14

76

112.00 Enter Swamp.

119.00 Leave "

119.51 Hub (on random line) ^{.584}
^{.613}

120.70 Enter Swamp. again (irregular)

121.30 Picket in Swamp (at US Record)

No spots to be found near here.

Find old E+W spots on W. Pine.

about 130 steps S of 120.25 ±

+ N+S spots between said pine +
the random. ?Swamp contour does not indicate that
US deputy ever ran § 14.

120.456 at N. 64 ch. for 1/4 § = 23 1/4

120.039 at N 59° 8' to orig 1/4
See III 62 →121.30
120.70
119.51
119.00120.456
119.51
119.00

✓

W 1/2 14-38-5
continued

July 28th 1933 Fair 75°

Ray H. Hall with same crew ie
Drozynski, Gager - McLeod
Pogorelec + Rose neck.

122.28²

Hub in Swamp.

^{.664}
^{.692 N}

123.25

leave " NW + SE.

123.977

Hub on pt. of land from S

^{.714}
^{.714}

125.00

Enter swamp - NE SW

126.25

leave " N SW

129.352

Hub W. end opening

^{.894 N}
^{.871}

130.10

Enter swamp NW + SE.

132.129

Hub on hard spot

^{.973 N}
^{.953}

136.000

Picket on line

¹⁰⁶⁷
^{1004 N.}

quit for day - thick alder

+ Tamarac.

140.252² at L N 1.191 for 1/8 cor (June 14 '34)

calc.

not net

Rec = 81.60
81.60
36
25.60
to 90.

Resume on page 93

79 traverse Project 4 in 1-12-13
38-5

July 29th '33 Hot - windy -

Ray H. Hall - 8:30 AM

All courses are by Pocket Compass or var.

" distances " " single steps
averaging 1000 to half mile
500 " 1/4 "

Beginning in \oplus Cedar Falls Road where
Hunt's road (#4) intersects do.

a N 2° E 40 p.

b N 34° E 100.

@ 42 intersect my random \oplus .

Sec 13 at 42.72 ch. \oplus

W. of SE cor. Sec. 13

(i.e. $100 - 42 = 58$ p. in Sec 13)

c N 20° E 92 (following E. edge brushing)

Sp. + Tam swamp by E - small culvert?

d N 5° W 170. ✓

e N 26° W 30. ✓

f N 49° W 73. ✓

@ 55 about \oplus 2 ch. swamp

Requires 8" or 10" culvert.

g N 34° W 50 (29 + 21) ✓

@ 20 lv. swamp.

h. N 6° W 215. (along E. stake line)
 i. N 4° E 400. 1 2 3 4

- @ 11 W. Pine 11" dia br & 8'
- @ 153 ⊕ old trail br & 57° E.
- @ 211 W. Pine 10" to on & rd.

j. N 5° E. 351. 1 2 3

- @ 100 enter barrens.
- @ 313 ⊕ old road
 connecting with #3
 br. S 82° E ±

(See separate traverse page 83)

k. N 10° E 48.

l. N 12° W 330

- @ 75 intersect + continue on r
 along old rd from N 6°
- @ 105 dry bridge

m. N 15° W 88.

- @ 52 old road br NWly

n. N 3° E 61.

o. N 13° E 34.

→ Resume on page 85

Traverse of trial from ④ to ⑤
 Beginning at j 313 page 81 (Hunts road)

| | | |
|----|--------|---|
| 1 | S 79 E | 65 paces. |
| 2 | S 82 E | 70 " to main connecting rd - bus N 40 W |
| 3 | S 45 E | 29 |
| 4 | S 57 E | 50. |
| 5 | S 64 E | 114. |
| 6 | S 67 E | 140. |
| 7 | S 70 E | 55. |
| 8 | S 79 E | 47. |
| 9 | S 73 E | 131. |
| 10 | S 75 E | 100. |
| 11 | S 63 E | 60. |
| 12 | S 57 E | 90. |
| 13 | S 64 E | 98 to Range line (105 to random at 40.70 ch. S of N 60 W) |

Pace 1/4 on random from 40 ch. to check

my pacing (var about 4°)

487 to 20 ch.

2/960.5 to NE x 13

480. per 40

This is on open level land
 easy pacing

Run W. from SE x 12 or var 3 E.

286 round topped bare knoll

316 enter swamp

383 Spring creek .03 wide no NE

730 br swamp SW

985 E road. + ④

p. N18°E. 280.

① 57 old road NW - SE.

② 72 intersect my P.C. line
from SEx 12 at 981 steps" "
(985 to End)

q N16°E

70

(Note p.p. look straight)
Compass variable

r N19°W

129

to descent along
side hill.

s N17°W

70.

t N8°W

252.

① 126

swamp narrow

u N35°E

600.

v N39°E

30.

w N57°E

340.

(to blasted top)

① 119 - 133

Kaubeshin R.

② 215

turn out.

x N40°E

50.

y N13°E

320

z N20°W 200. set flag.

Then go to Orig. SE cor Sec 1.
Var 1°E. Run Wly

330. to Φ road in cut, + gather
stones in pit. W side

Thence S. 18°E 91 to flag at z zero

i. Platting reverse from flag
S 20°E 291 etc.

July 31st 1933 PM R.H. Hall only
Sly in Φ road by PC. pacing 1° Var.
0.0 = 6 $\frac{1}{2}$ m / 4 - 38 - 5

a South 210

@ 80 Φ camp rd to S 89°E^s

b S 55°W 81 to junc. new rd.

c S 4°E 1180.

@ 800 ridge

@ 1040 " (summit)

d S 42°E 278.

@ 147 summit (same course reads 544E
164 old road N 66°E

e S 20°E 79. To line of Sec 1 + 12^v

278
112
- 164

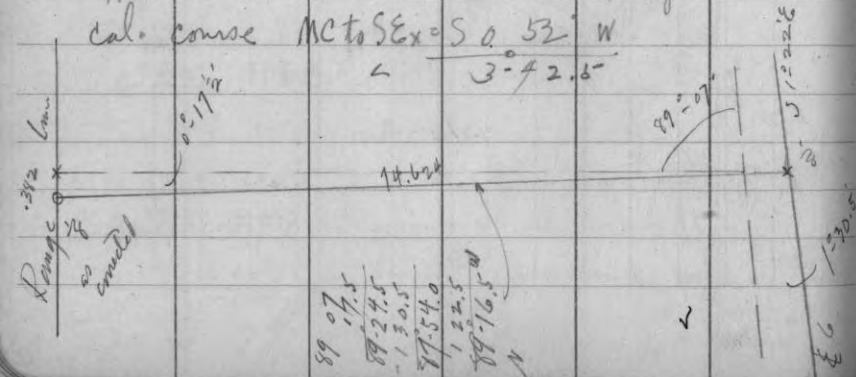
July 31st '33 P.M. R.H. Hall.
 Intersect Connected E & W 1/8 line in N 1/2 C
 with random $\frac{1}{2}$ C
 + turn \leftarrow W to N.

① $89^{\circ}-07'$ ✓ ② $178^{\circ}-13.5'$
 Rev. ① $89^{\circ}-07.5'$ ② $178^{\circ}-15'$

∴ Random $\frac{1}{2}$ line S $0^{\circ}-08'$ W.
 True $\frac{1}{2}$ " $S 1^{\circ}-22.5'$ E.

∴ Orig. MC on S. shore = $43.938 + 75.457$ E.
 " SW x is $71.552 + .586$
 27.614 74.871 E.
 H.S. Rec = 30.95
 27.77 74.50
 3.174 $.371$

∴ Hub 21.75 hrs N $2^{\circ}-50.5'$ W from MC.
 cal. course MC to SE x = S $0^{\circ}-52'$ W
 \leftarrow $3^{\circ}-42.6'$



August 1st 1933 Fair. 65 75°
 R.H. Hall + Duszyński. Roseneck + Pagoda
 McLeod + Jerga (chain).

Run S $0^{\circ}-52'$ W on random from Orig. MC
 on S. shore Silver L. bet 5 + 6.
 Run W 0° Az = $1^{\circ}-48'$ E.

0.0 MC.

.73 hub

2.45 enter swamp bet. NE + SW

4.25 lv. " " "

4.68⁴ hub

6.40 SW x of swamp. (reaches from 4.25 to 6.40)

7.647 hub

11.897 hub on Summit.

13.785 "

16.59 $\frac{1}{2}$ of road NE + SW

10.05 Rec. for 1/8

19.101 hub + observe Sun 75°

(My time) 2' above with Cent. Std time

① 2:52 P.M. $\vee 45^{\circ}-27'$ $\pm 245^{\circ} 30'$

② 2:53.4 $45^{\circ}-10'$ $245^{\circ}-57'$ ✓

⊕ 6-38-6
continued

23. 72 ⊕ Road no. 3
to NW + SE winding

24. 16' Hubs.

26. 568 "

27. 282 - in bottom.

28. 292 - " "

30. 05 no. dist from M.C.

30.05
30.05

10.05

August 2nd / 1933 Am only

65° Rainy

R. H. Hall with Swzyński, Jeger, M = last.

Search for Orig Cor. 5-6-7-8

Find only one large W. Pine stump
anywhere near record location.

Balance are Y. Pines.

N 74° W 2.02 from rd. W. P. brings us about
1rod SE of sta 28.29

Unable to find any evidence of a post. in the trench
Shaw is reported to have never known the
location of the corners.

£ 14-38-5
continued

from Page 77

August 3rd 1933 Fair 70°
R.H. Hall with Duszyński, Pogorek + Rosenack
Gergen + M^cLeod (chain)

Continue random £ Secs. 13 + 14.

S 89° 53.5' W.

(132.129 Hub Var. 4° 30' E on S Az.)

145. Tally stake ^{1.33} 1.341

146. 724 hub 1.39 1.37

154.77 Creek 05 wide runs SW

157.30 Slave Swamp
(Island) of W. T. Y. Pine bis N
possibly 1/4 acre
no sign of line.

157.716 hub + to camp.
Rec = 161.60 on 5.37 to go

A.B. — Gort notes call for Sec Cor 5.60
W. of Tomahawk river but
Dan Lossart says it is on
E side - possibly 20 rods.

104.46
157.72
6.74
11.13
5

5.37
1.12
2.64 beyond
?

£ 14-38-5

August 4th 1933 Fair 75 80°
R.H. Hall with Gergen + M^cLeod (chain)
Pogorek, Rosenack + Duszyński.

find old post in marsh which meas 1.784
from Orig. N. Pine Pt.

re-meas. 158.62'

@ 158.60 on random. Set A + turn = Pt
(N to N) to Sec Cor.

① 43°-43' ② 87°-27' (43-43.5)
NW to E

① 136°-15.5' ② 272°-32' (136-16)
43-43.5 43 44
179°-59'

43°-44' at. 2.582 ch.

∴ 158.60 = 232.322 + 157.117 W.
Th. N 46°-22.5' W 2.582 = 1.781 N 1.868 W
12. 313°-37.5' 230.541 158.985 W. = 500.14

313 37.5
269 53.5
43°-44.0' = 2582'

1785 + 1866
1785 ÷ 158.60 = .0113°
(0°-38.3')

Cor. 14-15-22-23

230.541 S (SWx14) + 158.985 W
 153.046 S (SWx11) + 162.050 W
 77.495 N & 3.065 W

∴ 4th calc. = tang. N 2°-16' W.
 Cos " = .99922

Var 3°-45' E, at Cor.

103°-27' S 76°-33' E Eng. Pt.
 179.46
 76°-33' 1.785

New Post.

New Bing:

SW. Pine 12" S 51°-52' E 1.99
 " 3/15/34 7" 20 N 32°-33' E 2.134

Left bank Tomahawk R. hrs. West 6.40!
 Begin line N 2°-16' W.

Notes of US deputy say cor is 5.60 ch West
 of left bank.

Random meas. = 160.466
 Pcc. = $\frac{81.00}{80.60}$ - 161.600
 161.60
 161.6 / 1.134 dist
 .00702 inch.

1.00702 x 40.5 = .284
 sta. $\frac{40.500}{40.210} \times .01112 = .447$ N

" x 81.00 = .568
 - 51.000
 80.432 x " = .895 N

81
 40.30
 121.30
 " x 121.30 = .853
 121.300
 120.447 x " = 1.838 N

" x 161.6 = 1.134
 161.600
 160.466 ✓ 1.784 ✓ N

Calc. for temporary true line from SEx13 To SWx14
 → see random (pages 69-77 + 93-95)

101.00
 100.44
 4.59
 112.00

120.447
 80.432
 40.015
 20.002
 80.432
 100.439
 x .01112
 1.117 N. ✓

= 25
 28

Cruising

Saturday

August 5th 1933 Fair 75°

R. H. Hall - alone.

Beginning on Cedar Falls road where
Project (4) (Aunt's road) intersects do.

Pocket compass courses 5° var.

Paces 1000 = 1/2 mile. 2000 = mile

In Sec 24 -

| | | | |
|---|---------|-----|---------------------|
| a | S 64° W | 139 | |
| b | S 76° W | 215 | 1 2 |
| c | S 79° W | 337 | 1 2 3 |
| d | S 70° W | 200 | 1 (NW slope + fill) |

@ 59 trail SW

@ 170 " SE to Bear L.

| | | | |
|---|---------|-------------|---|
| e | S 54° W | 160 | 1 |
| | @ 100 | end of fill | |

| | | | |
|---|---------|-----------------------------|--|
| f | S 39° W | 80 | |
| | @ 40 | end of 2 nd fill | |

| | | | |
|---|---------|-----------------------------------|--|
| g | S 17° W | 80 | |
| | @ 50 | turn out + survey party trail 100 | |
| | | old grade line S 27° E + NW. | |

| | | | |
|---|--------|-------------------------------------|-------------------|
| h | S 9° E | 175 | 1 through S 50° E |
| | @ 64 | trail Ely @ 136 N. end through in E | |

i. S 2° W 47.

@ 25 hard ground

| | | |
|----|---------|------|
| j. | S 17° W | 92. |
| k | S 48° W | 100. |
| | 0 to 68 | fill |

1/4 cor 23/24 should be
E 305 paces.

| | | | |
|---|---------|------|--------------|
| l | S 77° W | 115 | 1 |
| m | S 78° W | 160 | 1 |
| n | S 54° W | 77 | curve chords |
| o | S 26° W | 153 | 1 |
| | @ 140 | fill | |

| | | | |
|----|---------|--------|-------------|
| p. | S 48° W | 70 | all on fill |
| q | S 69° W | 241 | 1 2 |
| | @ 40 | end of | |

| | | | |
|----|---------|-----|-------|
| r | S 39° W | 90 | |
| s. | S 5° W | 131 | |
| t | S 18° W | 100 | |
| u | S 43° W | 78. | |
| v | S 66° W | 325 | 1 2 3 |

170 to 245 Ham. imp. ending
180 culvert

| | | | |
|---|---------|----|--|
| w | S 46° W | 70 | |
|---|---------|----|--|

| | | | |
|---|----------------------|--|-----------|
| X | S 31° W | 300 | 1 2 3 |
| | @ 258 | trail N | |
| Y | S 36° W | 90. | |
| Z | S 46° W | 90 | |
| | @ 53 | old RR bet S 25° W curve L. | |
| | S 44° W | 233. 1 2 | |
| | @ 100 | Tangent to river from N 50° W to S 60° W ± | |
| | (pace N on old road) | 135 ± to N. Pin down. Seems to have old facing. | |
| | S | from S edge swamp. | |
| | | 123 possible cor. & | |
| | | 278 intersect road. @ 78 | |
| 1 | S 48° W | 240 | 1 2 |
| | at 160 | alvert | |
| 2 | S 88° W | 80 | to junct. |
| | falls | bet N 75° W ± 4 ch ± | |

Sec. 8-17-18 38-4 100
Cedar Falls Road Traverse #3

August 8th 1933 Jan. Hot, dry.
R. H. Hall with M^cLeod & Gager, chain
Pocket Compass courses (no var.)
± road.

Beginning on Cedar Falls road where connected.
Range line intersects. (S 4° E 10)

| | Course | Feet | Remarks |
|---|---------------|-----------|---|
| ① | S 88° E. | 275 | 10' int |
| ② | N 79° E | 735 | 100' tang. 26' |
| ③ | N 39° E. | 366' | |
| ④ | N 34° E | 372 | 8' |
| ⑤ | N 78° E | 728 | to junctn of roads |
| | | N 20° W | |
| | | N 50° E | |
| | | S 2° E | |
| | | S 30° W ± | |
| ⑥ | N 52° E | 513 | to junctn at 425 ± bet S 25° ± Rd. bet sly curving E. |
| ⑦ | N 20° E | 627 | |
| ⑧ | N 62° W | 356 | 15' |
| | Req. curve Rt | | |

- (9) N 24° E 271 10'
4' 6" of + ridge road.
- (10) N 64½° E 621 (from) 57' S 87° E
@ 500 Tang.
dura hrs N 53 E. from sign
- (11) N 5° E. 985' to 1/8 cor?
- 396½ a concrete man hrs & 66±
- @ 10. line of pickets (S 28)
hrs, E 23'
- (12) East. 1300 on E rd.
@ 1260 E Joy C. rd. (S 38)
- (12) A 68 E
N 71 E. 124 To June.
Pankowski road -
@ 40± picket line N 3 rd. † 124
86
40
- (14) N 1½° E 613 along Iowa road
- (15) N 9½° W 388.5
- (16) N 10° E 198.
- (17) N 8½° W 238
@ 154 A Laglice line 110 E.g.v
- (18) N 5° E 182

613
500
113
112
502

?
Delaglice' see C. (actually set by D.H.V.)
East 110' to E road. ✓

- (19) N 29° W 95. jog at log pile
- (20) N 12° E 473.
- (21) N 9° W 262
- (22) N 46° E 80
- (23) N 29° E 224
- (24) N 7° E 160
- (25) N 29° W 103
- (26) North 194 across dry bridge
- (27) N 49° W 418
- (28) N 24° E 151 over hill.
- (29) N 9½° W 309
- (30) N 18° W 149 E.W. Hages here?
- (31) N 3° E 343
@ 272 E bridge over Kambeshi R.
- (32) N 53° E 108
- (33) S 76° E 300
- (34) N 79° E 120
- (35) N 9° E 418

@ 180 bulge 30' E

36

N26 $\frac{1}{2}$ E.

222.

37

N74E

240.

#3 - 38-5

Random.

August 9th 1933 Overcast 70°
 R.H. Hall with Gorges, M = Led. (chain)
 + Pogorels.

Set over Engl M^Ex

Az of random E = 180°

" of Bas. on #2 (random) 87°-23' ✓

Var on 0° Az = 3°-03' E.

Run West (270°) on random -

0.0 Sec Cor. in swamp.

2.00 hr. swamp N + S.E.

3.04 Hub in old RR curves S.E.
+W NW.7.21 = Hub in S. edge RR.
same RR.
from NW SW. + enters mainly bottom

20,069 at = 3" for 8' S.

| | |
|---------------------|----------------------------|
| 1/8/35 from road r | W.P. atp. 14" N 27° E .888 |
| 1/1-50 E cedar post | |

19,835 hr. swamp + across up slope ^{16°-36°} cos

1706

1.781

x .9523

21,541 R

22.16
 - 20.069
 2.091 E of hub 106

22.16 Hub - E. edge plateau - (bush)
(Var. on Meridian 2 = 14' E)

32.70 old road N.W.

32.87 (Rec. 7282) fall about 24° S. of remains
of Hem. lms tree

37.825 hub

* 40.00 = Var 2°-14' E. ✓

August 10th 1933 70° 80° FairR.H. Hall - Duzymaki, Gorges, M = Led. Pogorels
Rosemead.40.138 fall .5' N of Engl 7' S. by old
posthole speaking with remain of 2
hemlocks. ✓

Digs 5' Pine Post in old hole +

mark } Poplar 4" S 38°-50' W .715

Notch in root of W.P. atp 24"

" .03 from E atp N 34° E 1.48

1/45
 34
 3

* at 40.00 Observs Sun 3 times with net result that
random appears to be 189°-59' W ✓189°-58' W ^{40"} 4 E = 3

2 40.138
 20.069 at =
 5.3" for
 1/8 S.

West (270°) from $\text{Elev. } 75$ to $3+34$
 on random $\text{H } W \frac{1}{2} 3-38-5$

$\frac{1}{4}$ post.
 $\frac{0.0}{4}$ $\frac{23}{4}$ $\frac{11}{4}$ $\frac{22}{4}$ $\frac{22}{4}$ $\frac{22}{4}$ $\frac{22}{4}$ $\frac{22}{4}$
 14.546

Hub (var. 2°-31' E)
 In plateau NW slope to swamp
 $292^\circ - 31.5' = \text{Squashed towers}$

19.552 hub

$\frac{20.029}{19.552}$
 .477

20.029 fall .039 S of a post
 + enter Swamp N+S

20.056 at S. $\frac{1}{2}$ for $\frac{1}{2}$ S.

{ Cedar stp. 14° N70° W .52
 Spruce 3° S27° W .22
 Var 2°-50' E
 true Az.

25.46' Hub on W. end ridge
 Small poplar + Y. Pine.

$\frac{2}{40.113}$ $\frac{2}{20.056}$ $\frac{2}{2.216}$ $\frac{2}{.108}$
 $\frac{1}{2}$

28 ± In Swamp.

28.925

32.681 hub

✓

→ Resume on page 136

August 11th 1933 Fair 75°

R.H. Hall with same crew of 5

Run random West on var 2°-07' E from
 point on McGinnis' course 3500' ± ?
 0.0

Up slope of 6° in 250' = 10%
 300. Hub

450 Stake

734.5 Hub var 2°

791.2 Stake } 5° = 9%

1100. picket

1252.7 Hub var 2°

1500 stake

1600 ± E edge plateau

1785.7 { Hub on flat top hill

2000. picket { var 1°-46' E.

2360.3 Hub + quit for day.

2600.9

2864 mark.

675
 1100
 1500
 1900
 2300
 2700

173.2

(20.0)

(30)

(48.95)

5° = 9%

(73.2)

(83.45)

(99.9)

(118.95)

(133.2)

(157.2)

2906.1 Sta. 2. 193.67
 -06664 = Tang. 3°49'

2864 marsh

2924 hubs in marsh. + train E to S to
 flag at E-end neck
 - from N60W.

Acres 2nd. wide.

84°-43° @ 169°-24/84-12

Sm. .99575

194.5

Cos. .09258

2906.1

2912

.06664

= 3°49' cos.

.99778

.00222

2906

2906.45

2912.5

See page 120 for traverse beyond sta 2912
 at neck between swamps.

August 14th 1933. Fair. 75°
 Ref # Hall with Gager + M^cLeod-chain
 + Duszynski - flag.
 (Staff, compass - no var.)

1/4 S. bet. 27 + 34.

Find good post, + old W. Pine Pt.
 @ 72° E. .144

not called for in notes

Old 44° E. .12 ✓

No sign of W. Pine.

New - W. Pine 24° N59°W .218

Re drive post.

On side hill about 1 rod N of ^{crack.} bottom

E on var 3° ±

0.0 1/4

1.33 to 4 .85 N7 from E culvert 1/4 ✓

5.50 drive hub about E new road clearing

5.80± ddr. crooked

7.24 present shore (Rec. 7.09 ✓)

find no M.C.

All old trees in bad shape.

✓

Staff Compass Traverse.

N^{ly} from sta. 5.50
following Φ staked ROW to
avoid brush piled in Φ .
N° var.

| | | |
|---|-------------------------------|--------------------|
| 0 | sta. 5.50 ch. | 674 |
| ① | N 29° E. | 4.00 " |
| ② | N 20° E | 3.68 |
| ③ | N 27° E | 2.70 |
| ④ | N 19° E | 2.80 |
| | @ 60 old rd. bus N 8° E | |
| ⑤ | N 21° E | 3.36 |
| ⑥ | N 21½° E | 2.46 |
| ⑦ | N 15½° E | 1.99 |
| | Swing from Side to Φ | |
| | | 20.99 |
| ⑧ | N 22° E | 2.55 |
| | | 3.04 |
| | | 5.59 - 14 = 5.45 E |
| | | Trail NW = |
| ⑨ | N 22½° E | 8.09 |
| ⑩ | N 22° E 21¾ | 5.51½ |
| | @ 3.84 old road again NW + SE | |

| | | | |
|---|---------|------|----------------|
| ⑪ | N 6½° W | 8.93 | along old road |
| ⑫ | N 13° W | 6.66 | " " |
| ⑬ | N 8° W | 5.90 | " " |

(Note - Actually continues N 13° W for 1st 5 ch
then turn right.

| | | | |
|---|---------|------|----------------------------|
| ⑭ | N 18° E | 2.59 | To junction at Cedar Falls |
|---|---------|------|----------------------------|

| | | | |
|---|----------|------|---|
| ⑮ | N 68½° W | 1.87 | from which 16 Sec. ? (fence cor. facing old thazed tree) bus N 66° W |
| | | | 1.692 |

fence cor: N.P. 24 bus S 31° E .655
Have no data for this

| | | | |
|---|----------|------|---------------|
| ⑯ | S 54½° W | 1.81 | Through gate. |
| ⑰ | N 82° W | 3.70 | |
| | 81½ | | |

| | | | |
|---|---------|------|--------------|
| ⑱ | N 24° W | 4.85 | To Bridge. |
| | | | " |
| | | | near N 77° W |
| | | | 1.57 |

3.06 miles
to Cedar Falls Jr. from Willow Rd.

Trav. on + along old Road, W. side
Skunk L.

Aug. 15th 1933

75° Fair.

Ray H. Hall with Duzgymbi Jergen

M = Lead + Pogoda

Sta 5.50 from $\frac{1}{4}$ Sec.

Assume Meridian 3° W of Map.

① Az(218°) = S 38° W. 5.11 ch.

@ 1.33 creek E.

② 215°-01' = S 35°-01' W 2.644
@ 175' main ground, 180° ± W of shore

③ 205°-28½' = S 25°-28½' W. 2.66

④ 225°-02' = S 45°-02' W. 1.59

⑤ 197°-43' = S 17°-43' W. 4.07'

⑥ 184°-11' = S 4°-11' W 3.26

⑦ 204°-06' = S 24°-06' W. 1.709

⑧ 186°-15' = S 6°-15' W 4.337' @ 160' ± line?

⑨ 159°-06' = S 20°-54' E 1.96

* Then one more

⑩ 167°-10' = S 12°-50' E 2.245 *

⑪ 195°-30' = S 15°-30' W 1.798

⑫ 163°-13' = S 16°-47' E 5.99 ± measured

⑬ 150°-24' = S 29°-36' E 1.677 between
lake swamps + narrow swamps.

⑭ 177°-27' = S 2°-33' E 1.057 to old
trail NW.

⑮ 133°-23' = S 46°-37' E 2.904 @ 1036' ± 2 lines?
@ 1.00 swamp commences on right.

⑯ 116°-19' = S 63°-41' E 2.32 on
neck of hard lands.

⑰ end of swamp on W.
Swamp 16 p. N has S 65° E ±

⑱ 141°-37' = S 38°-23' E 3.228

⑲ 144°-21' = S 35°-39' E 1.49

⑳ 114°-33' = S 65°-27' E .988

㉑ 172°-31' = S 7°-29' E 1.77

Var has bearing 2°-35' E here.

- (21) $162^{\circ}-09' = S 17^{\circ}-51'E$ 2.29
- (22) $163^{\circ}-51' = S 16^{\circ}-09'E$ 4.569
more open.
- (23) $169^{\circ}-55' = S 10^{\circ}-05'E$ 1.995

Concl.

E. end of meek (16) = $397\frac{1}{2}$ S. + 2.065 W

(23) = 54.18 S + 7.262 E

70.0

Traverse - continued

August 16th 1933 Raining.
RH with Dziemski - Gargis, Rosenb
M^{rs} Leach - Pogorelc

- (24) $164^{\circ}-03' = S 15^{\circ}-57'E$ 2.218
Si .2748
Co .9615
- (25) $172^{\circ}-39\frac{1}{2}' = S 7^{\circ}-21'E$ 2.25²
Si .1279
Co .9918
- (26) $141^{\circ}-08' = S 38^{\circ}-52'E$ 6.20
4.633
10.833
Si .6275
Co .7786
- (27) $152^{\circ}-21' = S 27^{\circ}-39'E$ 4.604
Si .4641
Co .8858
- (28) $168^{\circ}-31' = S 11^{\circ}-29'E$ 4.244
Si .1991
Co .98
- (29) $115^{\circ}-07\frac{1}{2}' = S 64^{\circ}-53'E$ 4.44⁺
Si .9053
Co .4245
var $2^{\circ}-20'E$.

2.135

.61

2.232

.288 E

8.432 S

6.792 E

4.075 S

2.134 E

4.155 S

.844 E

1.885 S

4.02 E

$$\textcircled{30} \quad 160^{\circ}-31' = \text{S } 19^{\circ}-29' \text{E} \quad 5.61$$

$\sin .3335$
 $\cos .9427$

$$\begin{array}{l} 5.29 \text{ S} \\ 1.871 \text{ E} \end{array}$$

$$\textcircled{31} \quad 158^{\circ}-16\frac{1}{2}' = \text{S } 21^{\circ}-44' \text{E} \quad 3.278$$

$\sin .3703$
 $\cos .9289$

$$\begin{array}{l} 3.047 \text{ S} \\ 1.214 \text{ E} \end{array}$$

$$\textcircled{32} \quad 143^{\circ}-02' = \text{S } 36^{\circ}-58' \text{E} \quad 2.63$$

$\sin .6013$
 $\cos .799$

$$\begin{array}{l} 2.101 \text{ S} \\ 1.581 \text{ E} \end{array}$$

$$\textcircled{33} \quad 172^{\circ}-48' = \text{S } 7^{\circ}-12' \text{E} \quad 1.704$$

$\sin .1253$
 $\cos .9921$

$$\begin{array}{l} 1.682 \text{ S} \\ .213 \text{ E} \end{array}$$

$$\textcircled{34} \quad 152^{\circ}-34' = \text{S } 27^{\circ}-26' \text{E} \quad 2.687$$

$\sin .4607$
 $\cos .88755$

$$\begin{array}{l} 2.387 \text{ S} \\ 1.24 \text{ E} \end{array}$$

$$\textcircled{35} \quad 160^{\circ}-33' = \text{S } 19^{\circ}-27' \text{E} \quad 6.27$$

$\sin .3333$
 $\cos .9429$

$$\begin{array}{l} 5.913 \text{ S} \\ 2.088 \text{ E} \\ 420 \\ = 6.36 \end{array}$$

$$\textcircled{36} \quad 177^{\circ}-15\frac{1}{2}' = \text{S } 2^{\circ}-45' \text{E} \quad 1.577$$

$\sin .048$
 $\cos .99885$

$$\begin{array}{l} 1.575 \text{ S} \\ .076 \text{ E} \end{array}$$

$$\textcircled{37} \quad 154^{\circ}-50' = \text{S } 25^{\circ}-10' \text{E} \quad 1.276$$

$\sin .4253$
 $\cos .9051$

$$\begin{array}{l} 1.158 \text{ S} \\ .544 \text{ E} \end{array}$$

$$\textcircled{38} \quad 177^{\circ}-32' = \text{S } 2^{\circ}-28' \text{E} \quad 3.345$$

$\sin .043$
 $\cos .99997$

$$\begin{array}{l} 3.337 \text{ S} \\ .144 \text{ E} \end{array}$$

$$\textcircled{39} \quad 175^{\circ}-11' = \text{S } 4^{\circ}-49' \text{E} \quad 1.437$$

to road E
 $\sin .08397$
 $\cos .99647$

$$\begin{array}{l} 1.427 \text{ S} \\ .12 \text{ E} \end{array}$$

∴ $\textcircled{16}$ to $\textcircled{39}$ calc. $\text{S } 24^{\circ}-46' \text{E}$.
 may hit swamps.

Tangent Hunt's E beyond $\textcircled{39}$
 br. $145^{\circ}-33' = \text{S } 34^{\circ}-27' \text{E}$.

Aug. 17th fair.
 R. H. with Auszynski, Gajger, Pogorek + Rosenot.
 Re locate route thru Gort. lots 3 + 4
 in 34-38-5 to stay about 300'
 W. of lake shore. Tentative.

1.84
 9.48
 4.17
 1.95
 3.00
 2.33
 C

at 1.17 to combined road on
 ridge.

11.71 - 2.20
 + C
 +

Pocket compass + chain traverse of #14
 no van.

Aug. 24th 1933

R. H. with Auszynski, Gajger, M^cLead. - Pogorek
 + Rosenot.

Sta 2912'

- (1) N 55° W 1.84 ch. over meek
 (2) N 47° W 11.71
 at 2.91 a picket
 (3) S 83° W 4.10
 at 3 12" Norway br 8^{ly} .50
 (4) S 59° W 3.85
 Ridge between swamps. ~~x depart here~~ ✓
 at 4" top extends 8^{ly} .60
 (5) S 43° W 8.45
 (6) S 23° W 4.975
 at .65 enter marsh at narrows.
 2.65 hr. "
 at - 2 large Norways .32 8^{ly}
 (7) S 5° W 4.00

continued

Aug. 25th - 1933

R# + same crew of 5 men

⑧ N 89° W 2.60

To follow N. margin of neck

⑨ S 69° W 5.40

at 9 narrow + diminishing neck ext. W. 7

⑩ S 1° W 4.06

at 1.35 fall about 3' W. of 16" Norway +
9 pieces E of " clumps.Must swing W 4' for E gap.
10° ascent in 1.25

⑪ S 46° W 29.00

along hog back + into rough terrain

@ 1.63 old RR cut 6' deep to N 40° W

@ 14.50[±] bog hole to N 9° .50

@ 17 ch + intersect P.C. line (1 1/2 ch. dia.)
 @ 21.20 } round water hole
 22. }

⑫ S 16° W to avoid swamp on low sag.

This route is becoming difficult for a road.

August 30th with Gergen, M. Lead, Pogorelec
 + August 31st " " " Duszynski
 + Rosneck.

Stake in 12°C at sta ② page 120

Ext. .49³ ch. Tang. 2.227 ch.

Offset for 50 lb chd = .0527 or 3.48'

Stake in 8°C. at ③ page 120

Ext = .16 ch. Tang = 1.522 ch.

Offset for 50 lb chd = .035 = 2.31'

Alter traverse beyond sta ④ as follows =
 Pocket Compass courses - no variation.

⑤ S 59° W 1.96

- E. 10°

⑥ West 2.09

- transition curve - sharp

A ⑦ S 33° W 1.11⁵

following hog back -

B ⑧ S 18° W " " 1.23⁵

⑨ S 71° W 4.38 along N. slope-shelf

⑩ N 89° W 3.44

* Squirrel Hill Tower via N 9° W

⑪ S 55° W 1.76

⑫ S 67° W 2.61

18.58

123

5-38-5

continued

| | | | |
|--------------------|---------|------|-------|
| (13) $\frac{1}{2}$ | S 46° W | .91 | 18.58 |
| (14) | S 70° W | 1.24 | 12.62 |
| (15) | S 42° W | .63 | 10.58 |
| (16) $\frac{1}{2}$ | S 22° W | 1.27 | 41.78 |
| (17) | S 28° W | 1.26 | |
| (18) | S 58° W | 3.58 | |
| (19) $\frac{1}{2}$ | S 31° W | 3.73 | |

@ .88 Swamp at bottle necks

To $\frac{3.28}{2.40}$ ch corduroy required

| | | | |
|------|---------|------|-------|
| (20) | S 63° W | 1.44 | |
| (21) | S 43° W | 2.29 | |
| (22) | S 12° E | 3.37 | |
| (23) | S 2° W | 1.67 | 10.58 |
| (24) | S 55° W | 1.81 | |

to approx line
between Secs. 5+6 + pace S^{ly} to
Oughl. Cor 5-6-7-8 23 $\frac{349 \text{ paces}}{15.17 \text{ ch} \pm}$
(over $3\frac{1}{2} \times 6 \pm$)
 $= 60.7 \text{ rods} \pm$

for Corners to 5-6-7-8 see page 134

6-38-5

124

Sept 12th 1933

Overcast to fair. 75°

Rt Hall with Duzynski - Gergen + M^cLeodResume traverse - Pocket Comps + chain
" " 0° var.

(24) = 349 paces N of S.E. cor 6
(25) S 74° W } 40.00 ch.

@ 5-10-16-20 tally pickets

@ 22.45 } swamp at marrows.
25.30 }
2.85 ch "

@ 40. set picket. All good going
except swamp. Plenty
filling available.

N.B. - There is something wrong apparently with
rec. dist on § 6. Plat out
about 40 rods short of Rec length.
Will know when we have continued Tp. line
to NW x 5.

Jossart says he never knew the
 $\frac{1}{4}$ § bet. 6+7 to be found.

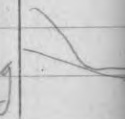
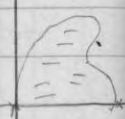
Pocket compass + pace trav. of Road #2 +14
 " " 0° Var. " = 23.1 paces to chain ¹⁰⁰ ft.

Tally counter used:

August 19th 1933 R.H. Hall alone
 Begin at E $\frac{1}{8}$ or 4th Sec 1-38-5 in E road ^{N 1/2}

- ① S 2° E - 203 paces.
 - ② S 56° W 184 (E Witts farm same course)
 @ rt road S + E
 179 trail SW
 - ③ S 81° W 158
 - ④ S 72° W 128
 - ⑤ S 77° W 151
 (@ 136 E Witts farm hrs S 38° W)
 - ⑥ S 32° W 180
 - ⑦ N 86° W 75
 - ⑧ N 78° W 125 (trail hrs N 50° W)
 - ⑨ S 53° W 56
 - ⑩ S 31° W 40 to junctn Witts lane (S. 4 E)
 - ⑪ S 42° W 118
 - ⑫ S 51° W 275
 - ⑬ S 70° W 57
 (to junctn old RR hrs N 45° E)
 - ⑭ S 63° W 110 to line of bridge (N 44° W)
- " = almost exact spot pointed out by Monroe Shaw
 as loc. of origin 1/4 S bet Secs. 1 + 2
 — stump he claims is B + may be.

- (15) N 44° W 96 + house hrs N 35 W 2 1/2 ch ±
@ 28 - 58 Tomahawk bridge
- (16) S 60 W 113 (x with barn hrs S)
- (17) West 71
- (18) S 68 W 128
- (19) West (on RR) 224
@ 18 old road hrs S 60 W about 3 ch.
thence S 70 W
- (20) N 80 W 85
@ 15 marsh hrs N 20 E ±
- (21) N 62 W 48 + leave marsh
- (22) N 53 W 226
- (23) N 62 W 63
- (24) N 74 W 695
@ 138 enter swamp S E + N E
174 culvert
276 "
313 hr " S 20 W E
466 project 1/10 hrs S 11° W
- (25) N 58 W 72
to junctn old road crosses S E + N W
- (26) N 51 W 109
- (27) N 53 W 60 - old road tang
- (28) N 66 W 53
- (29) N 83 W 43
+ enter ash + cedar swamp



- (30) S 85 W 388
@ 38 culvert
72 over road on 40 - 2 true south
7.57 ch S of NW x - (see page 30)
178 hr. alder bottom
- (31) N 70 W 131
@ 85 enter alder + cedar swamp
- (32) West 40
- (33) S 82 W 82 @ 40 hr. swamp S.W.
- (34) S 57 W 132
- (35) S 78 W 53
- (36) N 83 W 109
- (37) West 60
- (38) S 80 W 52 To approx 1/4 line Sec 4
(orig 1/4 S. 44° hrs 173 paces N Var 3 1/2° E)
set picket north of road 28 rods ± S of x
- (39) S 73° W 107
- (40) S 62 W 103
- (41) S 47 W 76
- (42) S 27 W 400 @ 390 should intersect
N + S 1/8 line 150 p. N of 1/4 line?
old road continues S 27 W
- (43) S 13 W 181
- (44) S 33 W 100
- (45) S 41 W 86
- (46) S 53 W 333 x Cor. 3-4-9-10 should be S. 550 p. page 100
- (47) S 55 W 100
- (48) S 60 W 146
- (49) S 70 W 69 To junctn 2 + 14 (2 hrs S 78 W)
- (46) S 53 W 333
@ 30 enter swamp N + S
75 culvert N 1
276 hr. swamp
S 20 E N 30 W
- See page 133

131 2 + 3 - 37 - 5
 34 38 - 5

#4

August 21st 1933 Fair 75°

R.H. with Duszynski - Gager. Pogorelc - Roseneck.

Check Hunts & as brushed - N.W. from E. Town Rd.
 (which connects dam with points E.)

Traverse adjusted to approx true courses
 after connecting with random E 34 (page 130)

9.0 Town Road has N 89° 46' E straight
 " " " S 70° W winding

- | | | | |
|---|-------------|----------|----------------------------|
| ① | N 28° 54' W | 7.09 ch. | along W line old fur farms |
| ② | N 33° 43' W | 15.48 | |
| ③ | N 34° 11' W | 18.90 | |
| ④ | N 34° 24' W | 23.98 | To sta 39 page 118 |
| | (C. 8° pt.) | 65.45 | Hunt brushing |

N.B. - My trav. thru 34 - find. courses assumed
 then to be correct within 0.3'

- | | | | |
|-----|-------------|-------|---|
| ∴ ⑤ | N 7° W | 13.84 | } C. 6° left to point 17 DE (S 27° 25' E) of #19 p. 114 |
| ⑥ | N 27° 25' W | 53.25 | |

thence by Pocket compass.

- | | | | |
|---|--------------------------------------|------|-------------------------|
| ⑦ | N 42° W | 5.43 | + curve 4° left to neck |
| | at 19½ S 63° 41' E of sta #16 p. 114 | | |

132

Neck of hard land brushed as traversed i.e.
 transit

- | | | | |
|---|--------------|------------------------|-------------|
| ⑧ | N 63° 41' W. | 2.37 1.9 | = 2.51 |
| ⑨ | N 46° 37' W | | 2.90 |
| ⑩ | N 2° 33' W | | 1.06 |
| ⑪ | N 29° 36' W | | 1.68 |
| | | | <u>8.15</u> |

Th. by Pocket compass. N° var.

- | | | | |
|---|---------|-------------------------|-----------------------------|
| ⑫ | N 22° W | 6.04 2.12 | = 8.16 to mid pt. bet pines |
| ⑬ | N 35° W | | 1.30 " " " |
| ⑭ | N 30° W | | 1.47 |
| ⑮ | N 10° W | | 7.12 to P.I. 5° C. R.F. |
| ⑯ | N 13° E | | 11.81 |
| ⑰ | N 37° E | | <u>29.86</u> |

- @ 5.50 enter bottom 12' deep ±
- @ 6.50 creek 10' wide W. ←
- @ 7.35 br. "

@ 10.13 E cottage road E.W.

Chose this route to pass opening in
 old W. Pine grove.

- @ 17 = clump of pine - must detour
- 19. Tally picket + find for day.

See page 135

Pocket compass & face Traverse of
Road project # 14 under construction.

Continued from page 128

Beginning at junction $\approx + 14$

(50) N 76 W 341 to base of hill

(51) N 67 W 151

@ 96 \pm bridge

(52) N 87 W 74

(53) N 72 W 85

(54) West 318

(55) N 72 W 43

(56) N 52 W 35

(57) N 41 W 189

(58) N 57 W 79

(59) N 77 W 70

(60) N 89 W 39 to sta 00

Noway 3" for N.

Lang. hrs. Thence S 85 W. 2912 feet.

U to sta 00 page 120

$1424 \text{ steps} = 61.64 \text{ ch. } \pm$

61.64
23.1 $\overline{) 1424.0}$
1155
269

August 30th 1933 fair 75°
Rt. Hall with Genes. M^cLeod. Pozouk.
Set new pine post - scribed at oval east
to Secs 5-6-7-8 in hole where old
rotted post stood. Agreeing with course
& dist to both Orig. Bts.
Marks still in the Tamaras.

New Bearings: P.C. over.
y. Pine 11" N 80° W .52
y. " 12" S 64° W .94⁵

27-38-5

continued from page 132

Sept 5th 1933 AM only.
 Pitt with Duzynski + Gergen.
 Re-routed E of Road #4 in Lot 2
 to detour W. of Pines + lake shore.

at 14.47 ch on course (17) page 132
 " 1376 AC.

C 16° Left.

(18) N 5° E 2.562

C 16° Rt.

(19) N 54° E 6.316

C 6° Left.

(20) Th. N 22° E as bushed
 80 steps W. of shore ±

A 3-38-5 continued

189° 59' W on random
 from page 107

Sept 5th 1933 PM
 Hall - Gergen + Duzynski

32.68' hub

33.90 Enter bottom SW + NE

40.113 M - S. to Orig. NW cor. .216

.00538

- Tang 0° 18.5'

89 59

90 17.5

179 60.

true line = 89° 42.5' W

Set new post in wet marsh by approx. loc. dist
 from the 4 orig. bearings - SW tan. has the
 Scribe marks. Nothing near for bearings.
 (except pine hub N 78° 08' W 1.05 (h.))

May 18 '34 - Mark:

| | | | |
|----------------------------|------------------|--------------|---------|
| pocket Compass over. | } W. P. str. 10" | N 25° W | 1.573 |
| | | } " " cor 7" | N 80° W |

✓

H 4 - 38 - 5 E

Sept 6th 1933

Fair - Scarcely.

R.H. Hall with Hozynski - Geyer - Rosanck
Continue random H 3 (270°)3.895 toward NW x 3 + then offset
S .216 + B.S. on Sec. Cor.

Run West (270°)

0.0 On new post at end. NE x 4
3.895 hub at top of slope

@ Keweenaw Ann 75° F.

① 10:18 AM Cent. Sld time

obs. alt = 45°-06'

" AZ = 143°-30' ✓

(calc " 143°-30')

② 10:25 AM

obs. alt = 45°-36'

" AZ 145°-02' ✓

(calc " 145°-04')

Call random west

10.00 tally picket (correct S .01 ch)

11.30± tall 3' N of a stp. (line tree?)

18.00 hub (correct S .02 ch)

All flat - poplar small
(scattering)

20.00 tally picket

20.067 st & d. .022 + set pine post 4x5"
for 1/8 Cor. #10Beddings { Jack 10" S 48°-50' W .654^{ch}
Sept. 7th } Jack 6" S 88°-30' E 1.31622.63 ± Squirrel tower trail
hs. North
" S 13 E
$$\begin{array}{r} 22.63 \\ - 20.067 \\ \hline 2.563 \\ = 169.2 \end{array}$$

24.809 B.S.

24.877 Hub on brink of descent to swamp^{.027}25.90 Enter open marsh
" S 50° W + North ±31.15 hub at Edge pond. near S. end do^{.034 S}
target at N. " hs " 4°-20' E.
Base line 1.00 = 45°-19' = (S 44°-41' W)33.228 Hub on W. edge pond^{.037}Same target bs N 18°-50' E
Picket Base 1.00 ch bs S 62°-39' E
(E to S 27°-21') ✓

4 1/2 W 4-38-5

continued

9.254 Hub (Var. $2^{\circ}25' E$ here) on $0^{\circ} Az$

13.314 "

(Later) turn \perp right from true random to Sec Cor.

① $0^{\circ}21' \checkmark$ ② $0^{\circ}42'$

Tangy

" (.0064)

$\times 26.832$

40.146

$\times .164$

$\times .00408$

fill S.

- tangy $0^{\circ}14'$

14.20 Enter open marsh

\perp to NW \perp to Wly

"/3 or 4 ch

thence Sly

20.00 tally in line.

Continue by eye picket line to 40 ch.

20.073 at $\perp .08^{\circ} N.$ for $\frac{1}{8}$ cor.

Set 20-25-30-35 by eye only.

40.146 fall $\frac{164}{178}$ S. of orig. NW 4

Set cedar post in old hole

.50 from each of orig. pine remains.

Others cannot be found.

+ set flag at post.

(Balance of day collecting # 8 & 4)

~~40.146~~
~~13.314~~
~~20.932~~
~~589.50 W~~
~~199.10~~
~~199.10~~
~~199.50 W~~

True Consec = $189^{\circ}50'$ id.
40.146 ch.

Orig. NW cor. Sec. 4-38-5

Sept. 8th 1933 Fair to overcast 75° 85°

R.H. Hall with Auszymski - Geger - M = Leod
Koseneck + Pogorelc

Correct last few ch. of 4 4 for B.S.

Set transit over new picketed cedar post
at Orig. NW cor. set $270^{\circ}10'$ \perp right
back on true line.

Var. on $0^{\circ} Az = 2^{\circ}35' E.$

| | | | |
|---------------------|------------------|---------------------|------------------|
| } | Orig. Bmg | N $75^{\circ}50'$ W | .50 |
| | " " | S $55^{\circ}35'$ W | .50 |
| | New W.P. stp 12" | S $28^{\circ}10'$ E | .92 ³ |
| No other any goods. | | | |

Run West ($270^{\circ}00'$) on random 4 5

0.0 NE cor 5

Observe Sun.

① 9:32 Cont st'd time alt sfs = $39^{\circ}09'$

Az reads $130^{\circ}46'$ ✓

(calc $130^{\circ}45'$)

② 9:34.5

alt $39^{\circ}20.5$ Az $131^{\circ}12'$

(calc. $131^{\circ}08'$)

③ 9:36.5 Alt alt $39^{\circ}36.5'$

Az $131^{\circ}46'$ ✓

calc $131^{\circ}44'$

H 6 1/2 5-38-5

- 1.60 Enter swamp N+S
alder + dead cedar
- 5.24⁶ hub in swamp.
- 7.00 Lr. swamp
- 8.72³ hub (Var 2:28 here on 0°)
- 9.00 enter swamp N+S
- 10.49 fail to find line tree
unless it be stp a rod ± 1/4.
- 20.00 Tally stakes
fall .51 S of an old stake

20.518 hub

26.30 Lr. swamp

27.08 hub

→ Sec

Book 4

Page 12

for Continuation of

- this random on
January 9th 1935

→ NB. By scale this is:

N 57° E is 670 p.

from pta 11.71 on

N. extremity #14

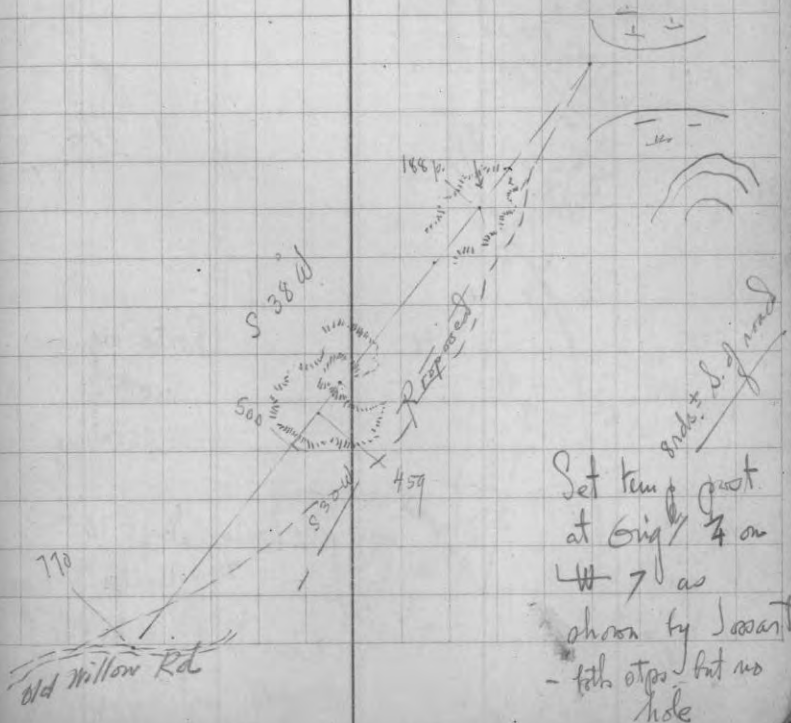
6+7 38-5

Cruising.

Sept. 9th '33Rt. Dan Jessart + M. Ginnis
(Morgan-transportation).

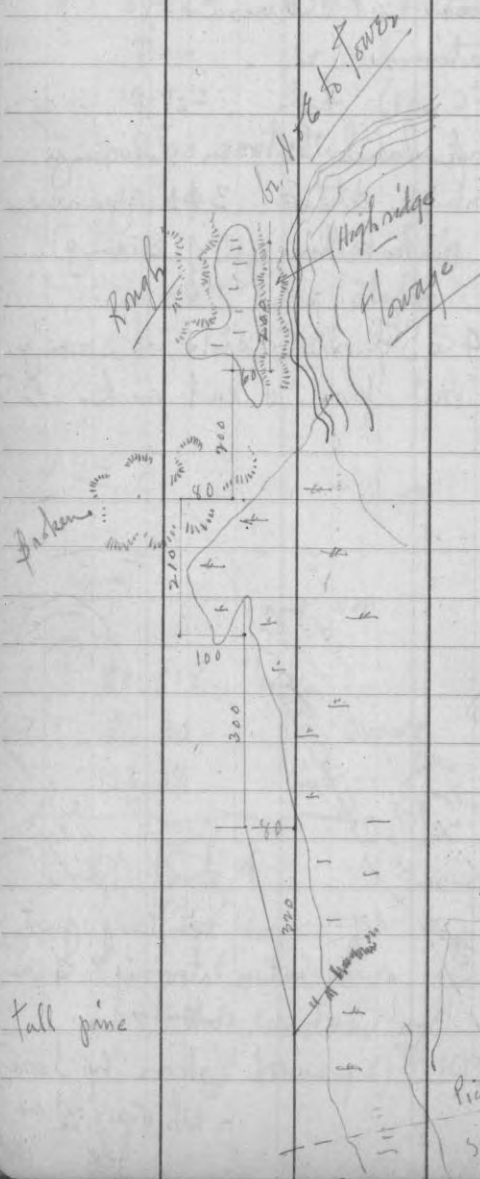
Find neck of hard land between Swamp
+ Manson L. to be 342 paces
S. of our picket line (W. of swamp).

Decide to route #14 S^{ly} on E side of swamp
Rm S 38° W (no var) from W. end neck.



5-38-5
+ 31-39-5

Pln Cruise N. toward Squirrel tower.



200
200
210
300
320

23 / 230 depth
53 ch ±

A. B.

Route requires
more
sighting

Sunday Sept 10th

Hall & W. Coy A78

Take 18° E

Picket line
S74W

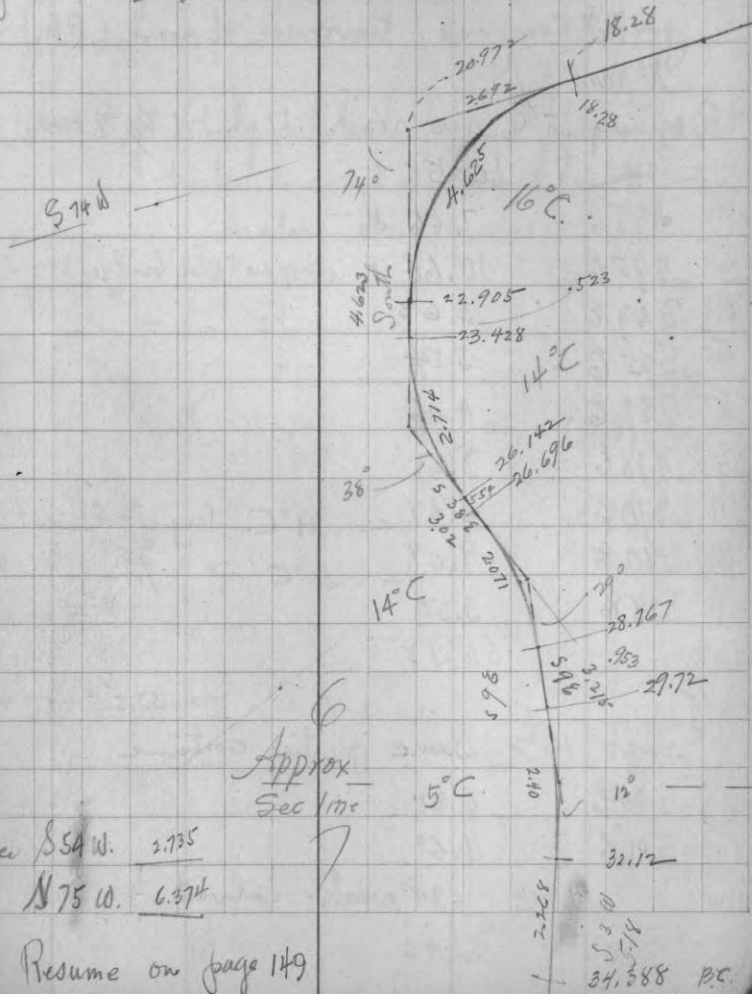
joining old RR with
Stank L. road 25
211

Picket traverse of #14

Sept. 11th 1933 - fair + reasonable

Rt. + Regular crew of 5 men.

Depart S74 from our picket line (S74W from
point on G6) From Section



S74W

74°

16°C

4623

South

22.905

5.523

23.428

14°C

2714

5385

5304

2071

14°C

28.767

596

596

29.72

5°C

2140

10°

32.12

530

530

34.388

P.C.

6
Approx
Sec 1775

Thence S54W. 2.735

N75W. 6.374

Resume on page 149

Traverse + curves on Shaw Hazelhurst Rd

Sept 12th '33 fair.

P.M. with Gergen - Bogowals + Rosenek
staking curves to fit grading.

Entire crew in AM

Auszyński + McLeod chaining a
pocket compass traverse of road (P.M.)
No rain.

Beginning at \odot new road .17 ch. N of $\frac{1}{8}$ cor.
on 4th N $\frac{1}{2}$ sec 5

| | | | |
|---|---------|----------|------------------------------------|
| ① | N 88° E | 7.66 ch. | |
| ② | N 75° E | 10.60 | @ 10.60 (old bridge) |
| ③ | S 49° E | 3.63 | |
| ④ | S 25° E | 3.54 | |
| ⑤ | S 81° E | 4.06 | |
| ⑥ | N 78° E | 8.21 | |
| ⑦ | N 70° E | 6.47 | \angle 21° C. Tang 76.6 ext 16.6 |
| ⑧ | S 80° E | 9.08 | \angle 30° C " 95.2 " 22.4 |
| ⑨ | S 38° E | 3.50 | |
| ⑩ | | 56.75 | |

\angle 16° C " 53.5' " 4'

Sept 13th Same parties continue

| | | | |
|---|---------|------------------------|--|
| ⑩ | S 40° E | 6.85 | |
| ⑪ | S 41° E | 9.61 | |
| | | @ 4.80 creek - culvert | |
| | | 16.46 | |

| | | | |
|---|---------|----------|--|
| ⑫ | S 54° E | 4.65 ch. | \angle 30° C |
| ⑬ | S 88° E | 4.72 | \angle 30° C |
| ⑭ | S 39° E | 4.69 | \angle 30° C. |
| ⑮ | East | 3.62 | \angle 6° C |
| ⑯ | N 75° E | 4.71 | To graded road \angle 30° C at about 4.00 fence cor to S. 34 steps |
| | | 22.39 | |

NB - not entirely satisfactory - must follow present
tracks to avoid too much new
grading etc.

| | |
|-------------|-------|
| | 56.75 |
| | 16.46 |
| | 22.39 |
| 80 / Total. | 95.60 |

1.19⁵ Miles

Sept. 27th, '33

R# ball + entire party of 5

Run P.C. + chain traverse of old road
 very crooked. Plat of same
 shows obvious course to cut off
 excess mileage.

E. Survey traverse
 now reads - from sta 103.356
 page 152

- a N 30°W 4.562 P.I. @ .854 BC 16° left. length 5.75
 b S 58°W 10.09 P.I.
 @ 3.708 EC "
 @ 6.71 BC 6° left.
 c S 19°W 21.34 P.I. @ 3.38 EC " " 6.50
 @ 19.83 BC 1° right 3.02
 d S 22°W 11.49 @ 1.51 EC "
 @ 10.376 BC 10° "
 @ S 44°W 3.13 @ 1.114 EC " 2.20
 @ 1.416 BC 12° left.
 e S 52°W 2.91 @ 1.714 EC " 3.29
 @ 1.98 BC 12° rt.
 f S 27½°W 4.28 @ .93 EC " " 1.833
 3.53 BC 1° left. 1.50
 g S 26°W 41.782
 @ .75 EC "
 @ 40.172 BC 5° left.
 h S 10°W 6.823
 @ 1.61 EC " " " 3.20
 @ 5.761 BC 10° right 2.10
 i S 31°W 3.44
 @ 1.062 EC " "

Further staking will follow reconnaissance
 to SW.

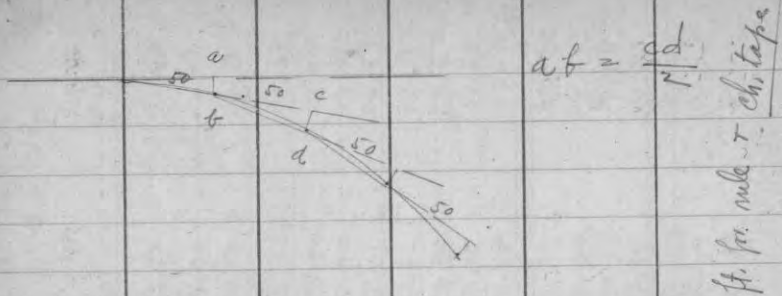
Pocket Compass Traverse of old road from bottom of sand hill
 No. var. (0.302 - 55) 10°C = 208.664

| Sta. (34) | W | E | S | W | S | W |
|-----------|------------|------|------|------|-------|-------|
| 35 | S 31 W | 2.00 | 1.71 | 1.03 | 68.52 | 32.57 |
| 36 | S 6 W | 2.50 | 2.49 | .26 | 71.01 | 32.83 |
| 37 | S 3 E | 2.50 | 2.50 | | 73.57 | 33.70 |
| 38 | S 37 1/2 E | 3.80 | 3.62 | 2.31 | 76.53 | 30.29 |
| 39 | S 51 1/2 E | 3.00 | 1.87 | 2.35 | 78.40 | 28.64 |
| 40 | S 39 E | 2.60 | 2.02 | 1.64 | 80.42 | 26.40 |
| 41 | S 26 W | 1.10 | .99 | .48 | 81.41 | 26.88 |
| 42 | S 74 W | 1.50 | .41 | 1.44 | 81.82 | 28.32 |
| 43 | S 56 1/2 W | 1.80 | .99 | 1.50 | 82.81 | 29.82 |
| 44 | S 83 1/2 W | 1.70 | .19 | 1.69 | 83.50 | 31.51 |
| 45 | S 54 W | 2.80 | 1.65 | 2.27 | 84.65 | 33.78 |
| 46 | S 88 W | 1.70 | .06 | 1.70 | 84.71 | 35.48 |
| 47 | N 88 W | 3.10 | | 3.10 | 84.60 | 38.58 |
| 48 | S 53 W | 1.50 | .90 | 1.20 | 85.50 | 39.78 |
| 49 | S 9 W | 3.00 | 2.96 | .47 | 88.46 | 40.25 |
| 50 | S 34 W | 2.50 | 2.07 | 1.40 | 90.53 | 41.65 |
| 51 | S 53 W | 2.00 | 1.20 | 1.60 | 91.73 | 43.25 |
| 52 | S 24 1/2 W | 1.20 | 1.09 | .50 | 92.82 | 43.75 |

Σ 7.12

| | | | | | | |
|----|------------|------|------|------|--------|-------|
| 53 | S 49 W | 1.70 | 1.11 | 1.28 | 93.93 | 45.03 |
| 54 | S 26 W | 1.20 | 1.08 | .53 | 95.01 | 45.56 |
| 55 | S 49 W | 1.30 | 2.82 | 3.25 | 97.88 | 48.81 |
| 56 | S 46 W | 2.20 | 1.53 | 1.58 | 99.36 | 50.39 |
| 57 | S 48 W | 4.40 | 2.94 | 3.27 | 102.30 | 53.66 |
| 58 | S 37 1/2 W | 1.60 | 1.27 | .97 | | |
| 59 | S 50 W | 2.50 | 1.61 | 1.92 | | |
| 60 | S 34 1/4 W | 5.10 | 4.19 | 2.91 | | |
| 61 | S 45 W | 3.00 | 2.12 | 2.12 | | |
| 62 | S 29 1/2 W | 1.10 | .96 | .57 | | |
| 63 | S 47 W | 3.20 | 2.18 | 2.34 | | |
| 64 | S 39 W | 1.40 | 1.09 | 1.88 | | |
| 65 | S 47 1/4 W | 1.90 | 1.28 | 1.41 | | |
| 66 | S 19 W | 1.60 | 1.51 | .52 | | |
| 67 | S 46 W | 4.80 | 3.33 | 3.45 | 121.84 | 70.72 |

Calc - look for Sec. Cor. 102 p. S 74 1/2 W from (57) ^{run 2 1/2° E.}
 Resume in next vol.



offsets using 50' chords.

| offset' | chords' | | |
|---------|---------|-------|------|
| 0 | 50 | | |
| 1 | 5 1/4" | .44 | .29 |
| 2 | 10 1/2" | .87 | .57 |
| 3 | 15 3/4" | 1.313 | .86 |
| 4 | 21 9" | 1.75 | 1.16 |
| 5 | 27 1/4" | 2.188 | 1.44 |
| 6 | 33 1/2" | 2.63 | 1.74 |
| 7 | 39 3/4" | 3.06 | 2.02 |
| 8 | 46" | 3.50 | 2.31 |
| 9 | 52 1/4" | 3.94 | 2.60 |
| 10 | 58 1/2" | 4.37 | 2.88 |
| 11 | 65" | 4.81 | 3.18 |
| 12 | 71 1/4" | 5.27 | 3.48 |
| 13 | 78" | 5.68 | 3.76 |
| 14 | 84 1/2" | 6.125 | 4.04 |
| 15 | 91" | 6.58 | 4.34 |
| 16 | 97 1/4" | 7.02 | 4.63 |

ch. to ft. for rule + ch. tape

KEITH'S RAILROAD CURVE TABLES.

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HOW TO USE KEITH'S TABLES.

EXAMPLE.

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = 23° 20' to the R. at Station 542+72.

Ext. in Tab. IV opposite 23° 20' = 120.87
120.87 + 12 = 107. Say a 10° Curve.

Tan. in Tab. IV opp. 23° 20' = 1183.1
1183.1 + 10 = 1183.1.

Tab. V. correction for A. 23° 20' for a 10° Cur. = 0.16
1183.1 + 0.16 = 1183.26 = corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. 23° 20' = 23.33° + 10 = 2.3333 = L. C.

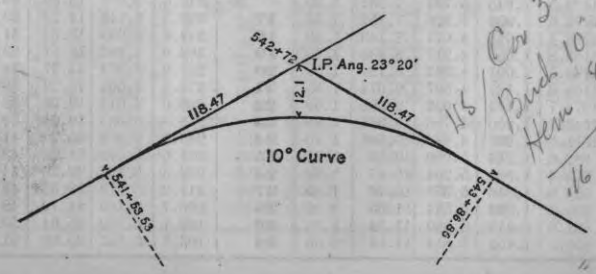
| | |
|--------------------------------|------------------------|
| 2° 19 1/2' = def. for sta. 542 | I. P. = sta. 542+72 |
| 4° 49 1/2' = " " " +50 | Tan. = 1.18.47 |
| 7° 19 1/2' = " " " 543 | B. C. = sta. 541+53.53 |
| 9° 49 1/2' = " " " +50 | L. C. = 2.33.33 |
| 11° 40' = " " " 543+ | E. C. = sta. 543+86.86 |

100 - 53.53 = 46.47 × 3' (def. for 1 ft. of 10° Cur.) = 139.41' =
2° 19 1/2' = def. for sta. 542.

Def. for 50 ft. = 2° 30' for a 10° Curve.

Def. for 36.86 ft. = 1° 50 1/2' for a 10° Curve

(These tables are published in Field Books of KEUFFEL & ESSER CO., New York, N. Y.)



116 / Cur 3.4-9-10 (38-5)
Bk 10° 133 1/2 E. 30
Hem 8 524 W. 06
116 S. of ground 110 54
131 26.36
offset

Natural Tangents

| sec. | 0' | 10' | 20' | 30' | 40' | 50' | loss. | sec. | 0' | 10' | 20' | 30' | 40' | 50' | loss. |
|------|------|------|------|------|------|------|-------|------|--------|--------|--------|--------|--------|--------|-------|
| 0 | 0000 | 0029 | 0058 | 0087 | 0116 | 0145 | 89 | 40 | 8391 | 8441 | 8491 | 8541 | 8591 | 8642 | 49 |
| 1 | 0175 | 0204 | 0233 | 0262 | 0291 | 0320 | 88 | 41 | 8693 | 8744 | 8796 | 8847 | 8899 | 8952 | 48 |
| 2 | 0349 | 0378 | 0407 | 0437 | 0466 | 0495 | 87 | 42 | 9004 | 9057 | 9110 | 9163 | 9217 | 9271 | 47 |
| 3 | 0524 | 0553 | 0582 | 0612 | 0641 | 0670 | 86 | 43 | 9325 | 9380 | 9435 | 9490 | 9545 | 9601 | 46 |
| 4 | 0699 | 0729 | 0758 | 0787 | 0816 | 0846 | 85 | 44 | 9657 | 9713 | 9770 | 9827 | 9884 | 9942 | 45 |
| 5 | 0875 | 0904 | 0934 | 0963 | 0992 | 1022 | 84 | 45 | 1.0000 | 1.0058 | 1.0117 | 1.0176 | 1.0235 | 1.0295 | 44 |
| 6 | 1051 | 1080 | 1110 | 1139 | 1169 | 1198 | 83 | 46 | 1.0355 | 1.0416 | 1.0477 | 1.0538 | 1.0599 | 1.0661 | 43 |
| 7 | 1228 | 1257 | 1287 | 1317 | 1346 | 1376 | 82 | 47 | 1.0724 | 1.0786 | 1.0850 | 1.0913 | 1.0977 | 1.1042 | 42 |
| 8 | 1405 | 1435 | 1465 | 1495 | 1524 | 1554 | 81 | 48 | 1.1106 | 1.1171 | 1.1237 | 1.1303 | 1.1369 | 1.1436 | 41 |
| 9 | 1584 | 1614 | 1644 | 1673 | 1703 | 1733 | 80 | 49 | 1.1504 | 1.1571 | 1.1640 | 1.1708 | 1.1778 | 1.1847 | 40 |
| 10 | 1763 | 1793 | 1823 | 1853 | 1883 | 1914 | 79 | 50 | 1.1918 | 1.1988 | 1.2059 | 1.2131 | 1.2203 | 1.2276 | 39 |
| 11 | 1944 | 1974 | 2004 | 2035 | 2065 | 2095 | 78 | 51 | 1.2349 | 1.2423 | 1.2497 | 1.2572 | 1.2647 | 1.2723 | 38 |
| 12 | 2126 | 2156 | 2186 | 2217 | 2247 | 2278 | 77 | 52 | 1.2799 | 1.2876 | 1.2954 | 1.3032 | 1.3111 | 1.3190 | 37 |
| 13 | 2309 | 2339 | 2370 | 2401 | 2432 | 2462 | 76 | 53 | 1.3270 | 1.3351 | 1.3432 | 1.3514 | 1.3597 | 1.3680 | 36 |
| 14 | 2493 | 2524 | 2555 | 2586 | 2617 | 2648 | 75 | 54 | 1.3764 | 1.3848 | 1.3934 | 1.4019 | 1.4106 | 1.4193 | 35 |
| 15 | 2679 | 2711 | 2742 | 2773 | 2805 | 2836 | 74 | 55 | 1.4281 | 1.4370 | 1.4460 | 1.4550 | 1.4641 | 1.4733 | 34 |
| 16 | 2867 | 2899 | 2931 | 2962 | 2994 | 3026 | 73 | 56 | 1.4826 | 1.4919 | 1.5013 | 1.5108 | 1.5204 | 1.5301 | 33 |
| 17 | 3057 | 3089 | 3121 | 3153 | 3185 | 3217 | 72 | 57 | 1.5399 | 1.5497 | 1.5597 | 1.5697 | 1.5798 | 1.5900 | 32 |
| 18 | 3249 | 3281 | 3314 | 3346 | 3378 | 3411 | 71 | 58 | 1.6003 | 1.6107 | 1.6212 | 1.6319 | 1.6426 | 1.6534 | 31 |
| 19 | 3443 | 3476 | 3508 | 3541 | 3574 | 3607 | 70 | 59 | 1.6643 | 1.6753 | 1.6864 | 1.6977 | 1.7090 | 1.7205 | 30 |
| 20 | 3640 | 3673 | 3706 | 3739 | 3772 | 3805 | 69 | 60 | 1.7321 | 1.7437 | 1.7556 | 1.7675 | 1.7797 | 1.7917 | 29 |
| 21 | 3839 | 3872 | 3906 | 3939 | 3973 | 4006 | 68 | 61 | 1.8040 | 1.8165 | 1.8291 | 1.8418 | 1.8546 | 1.8676 | 28 |
| 22 | 4040 | 4074 | 4108 | 4142 | 4176 | 4210 | 67 | 62 | 1.8807 | 1.8940 | 1.9074 | 1.9210 | 1.9347 | 1.9486 | 27 |
| 23 | 4245 | 4279 | 4314 | 4348 | 4383 | 4417 | 66 | 63 | 1.9626 | 1.9768 | 1.9912 | 2.0057 | 2.0204 | 2.0353 | 26 |
| 24 | 4452 | 4487 | 4522 | 4557 | 4592 | 4628 | 65 | 64 | 2.0503 | 2.0655 | 2.0809 | 2.0965 | 2.1123 | 2.1283 | 25 |
| 25 | 4663 | 4699 | 4734 | 4770 | 4806 | 4841 | 64 | 65 | 2.1445 | 2.1609 | 2.1775 | 2.1943 | 2.2113 | 2.2286 | 24 |
| 26 | 4877 | 4913 | 4950 | 4986 | 5022 | 5059 | 63 | 66 | 2.2460 | 2.2637 | 2.2817 | 2.2998 | 2.3183 | 2.3369 | 23 |
| 27 | 5095 | 5132 | 5169 | 5206 | 5243 | 5280 | 62 | 67 | 2.3559 | 2.3750 | 2.3945 | 2.4142 | 2.4342 | 2.4545 | 22 |
| 28 | 5317 | 5354 | 5392 | 5430 | 5467 | 5505 | 61 | 68 | 2.4751 | 2.4960 | 2.5172 | 2.5386 | 2.5605 | 2.5826 | 21 |
| 29 | 5543 | 5581 | 5619 | 5658 | 5696 | 5735 | 60 | 69 | 2.6051 | 2.6279 | 2.6511 | 2.6746 | 2.6985 | 2.7228 | 20 |
| 30 | 5774 | 5812 | 5851 | 5890 | 5930 | 5969 | 59 | 70 | 2.7475 | 2.7725 | 2.7980 | 2.8239 | 2.8502 | 2.8770 | 19 |
| 31 | 6009 | 6048 | 6088 | 6128 | 6168 | 6208 | 58 | 71 | 2.9042 | 2.9319 | 2.9600 | 2.9887 | 3.0178 | 3.0475 | 18 |
| 32 | 6249 | 6289 | 6330 | 6371 | 6412 | 6453 | 57 | 72 | 3.0777 | 3.1084 | 3.1397 | 3.1716 | 3.2041 | 3.2371 | 17 |
| 33 | 6494 | 6536 | 6577 | 6619 | 6661 | 6703 | 56 | 73 | 3.2709 | 3.3052 | 3.3402 | 3.3759 | 3.4124 | 3.4495 | 16 |
| 34 | 6745 | 6787 | 6830 | 6873 | 6916 | 6959 | 55 | 74 | 3.4874 | 3.5261 | 3.5656 | 3.6059 | 3.6470 | 3.6891 | 15 |
| 35 | 7002 | 7046 | 7089 | 7133 | 7177 | 7221 | 54 | 75 | 3.7321 | 3.7760 | 3.8208 | 3.8667 | 3.9136 | 3.9617 | 14 |
| 36 | 7265 | 7310 | 7355 | 7400 | 7445 | 7490 | 53 | 76 | 4.0108 | 4.0611 | 4.1126 | 4.1653 | 4.2193 | 4.2747 | 13 |
| 37 | 7536 | 7581 | 7627 | 7673 | 7720 | 7766 | 52 | 77 | 4.3315 | 4.3897 | 4.4494 | 4.5107 | 4.5736 | 4.6382 | 12 |
| 38 | 7813 | 7860 | 7907 | 7954 | 8002 | 8050 | 51 | 78 | 4.7046 | 4.7729 | 4.8430 | 4.9152 | 4.9894 | 5.0658 | 11 |
| 39 | 8098 | 8146 | 8195 | 8243 | 8292 | 8342 | 50 | 79 | 5.1446 | 5.2257 | 5.3093 | 5.3955 | 5.4845 | 5.5764 | 10 |

| sec. | 0' | 10' | 20' | 30' | 40' | 50' | loss. |
|------|--------|--------|--------|---------|---------|---------|-------|
| 80 | 5.6713 | 5.7694 | 5.8708 | 5.9758 | 6.0844 | 6.1970 | 9 |
| 81 | 6.3138 | 6.4348 | 6.5606 | 6.6912 | 6.8269 | 6.9682 | 8 |
| 82 | 7.1154 | 7.2687 | 7.4287 | 7.5958 | 7.7704 | 7.9530 | 7 |
| 83 | 8.1443 | 8.3450 | 8.5555 | 8.7769 | 9.0098 | 9.2553 | 6 |
| 84 | 9.5144 | 9.7882 | 10.078 | 10.385 | 10.711 | 11.059 | 5 |
| 85 | 11.430 | 11.826 | 12.250 | 12.706 | 13.197 | 13.727 | 4 |
| 86 | 14.300 | 14.924 | 15.605 | 16.350 | 17.169 | 18.075 | 3 |
| 87 | 19.081 | 20.206 | 21.470 | 22.903 | 24.542 | 26.432 | 2 |
| 88 | 28.636 | 31.242 | 34.368 | 38.189 | 42.964 | 49.104 | 1 |
| 89 | 57.290 | 68.750 | 85.940 | 114.588 | 171.885 | 343.770 | 0 |

Natural Cotangents

| sec. | 0' | 10' | 20' | 30' | 40' | 50' | loss. |
|------|--------|--------|--------|---------|---------|---------|-------|
| 80 | 5.6713 | 5.7694 | 5.8708 | 5.9758 | 6.0844 | 6.1970 | 9 |
| 81 | 6.3138 | 6.4348 | 6.5606 | 6.6912 | 6.8269 | 6.9682 | 8 |
| 82 | 7.1154 | 7.2687 | 7.4287 | 7.5958 | 7.7704 | 7.9530 | 7 |
| 83 | 8.1443 | 8.3450 | 8.5555 | 8.7769 | 9.0098 | 9.2553 | 6 |
| 84 | 9.5144 | 9.7882 | 10.078 | 10.385 | 10.711 | 11.059 | 5 |
| 85 | 11.430 | 11.826 | 12.250 | 12.706 | 13.197 | 13.727 | 4 |
| 86 | 14.300 | 14.924 | 15.605 | 16.350 | 17.169 | 18.075 | 3 |
| 87 | 19.081 | 20.206 | 21.470 | 22.903 | 24.542 | 26.432 | 2 |
| 88 | 28.636 | 31.242 | 34.368 | 38.189 | 42.964 | 49.104 | 1 |
| 89 | 57.290 | 68.750 | 85.940 | 114.588 | 171.885 | 343.770 | 0 |

our Bearings for Sex 25-39-5
~~Jack 8° N 18° E .473 gone~~
~~Fel pole 5 59 1/2 .455 moved~~
 (near face)
 Cement Man in & roads.

Pacing on Shaw's
 length 74.624 ch
 Hazelhurst rd.
 (meas. page 6)
 paces = 1724

pacing West from 1/8
 we get
 107
 222
 328
 564
 795
 1026
 1141
 1258.5
 1374.
 1491.
 1724.

∴ Basis for road trans.
 Ch. x 23.1 = paces.
 paces x .0433 = chains

128' E. on Meridian at 75 S 1933
 10' down in 3 1/2 ft
 1-18'
 3.6
 2 1/2
 2 1/2

this should be checked on my
 Cedar falls road.

Emil Ganger Tent #3

Data - from my Lat & Long maps.

NE x 38-5 = 45°-49' Lat + 89°-48.1 W Long

SE x 13-38-5 = 45°-46.4'

NW x 3 " = 45°-49' N + 89°-51.8

NW x 38-5 = " + 89°-55.7

NW x 38-4 = 45°-49' + 90°-03.2

Center " " = 45°-46.4 + 89°-59.5

Mc. S. shoe Silver L.
= 45°-48.5 89°-46.9

E 4 1-34-5 = 45°-48.6 89°-48.1

SW x 19-38-4 = 45°-45.5' N + 90°-03.2 W
90°-01.9

W 20 " "

W 21 " "

W 22 " "

W 23 " "

W 24 " "

90°-00.7

89°-59.4

89°-58.2

89°-56.9

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1 1/2 TO 1.

FOR SINGLE TRACK EMBANKMENT.

| | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | |
|----|------|------|------|------|------|------|------|------|------|------|----|
| 0 | 7.0 | 7.2 | 7.3 | 7.5 | 7.6 | 7.8 | 7.9 | 8.1 | 8.2 | 8.4 | 0 |
| 1 | 8.5 | 8.7 | 8.8 | 9.0 | 9.1 | 9.3 | 9.4 | 9.6 | 9.7 | 9.9 | 1 |
| 2 | 10.0 | 10.2 | 10.3 | 10.5 | 10.6 | 10.8 | 10.9 | 11.1 | 11.2 | 11.4 | 2 |
| 3 | 11.5 | 11.7 | 11.8 | 12.0 | 12.1 | 12.3 | 12.4 | 12.6 | 12.7 | 12.9 | 3 |
| 4 | 13.0 | 13.2 | 13.3 | 13.5 | 13.6 | 13.8 | 13.9 | 14.1 | 14.2 | 14.4 | 4 |
| 5 | 14.5 | 14.7 | 14.8 | 15.0 | 15.1 | 15.3 | 15.4 | 15.6 | 15.7 | 15.9 | 5 |
| 6 | 16.0 | 16.2 | 16.3 | 16.5 | 16.6 | 16.8 | 16.9 | 17.1 | 17.2 | 17.4 | 6 |
| 7 | 17.5 | 17.7 | 17.8 | 18.0 | 18.1 | 18.3 | 18.4 | 18.6 | 18.7 | 18.9 | 7 |
| 8 | 19.0 | 19.2 | 19.3 | 19.5 | 19.6 | 19.8 | 19.9 | 20.1 | 20.2 | 20.4 | 8 |
| 9 | 20.5 | 20.7 | 20.8 | 21.0 | 21.1 | 21.3 | 21.4 | 21.6 | 21.7 | 21.9 | 9 |
| 10 | 22.0 | 22.2 | 22.3 | 22.5 | 22.6 | 22.8 | 22.9 | 23.1 | 23.2 | 23.4 | 10 |
| 11 | 23.5 | 23.7 | 23.8 | 24.0 | 24.1 | 24.3 | 24.4 | 24.6 | 24.7 | 24.9 | 11 |
| 12 | 25.0 | 25.2 | 25.3 | 25.5 | 25.6 | 25.8 | 25.9 | 26.1 | 26.2 | 26.4 | 12 |
| 13 | 26.5 | 26.7 | 26.8 | 27.0 | 27.1 | 27.3 | 27.4 | 27.6 | 27.7 | 27.9 | 13 |
| 14 | 28.0 | 28.2 | 28.3 | 28.5 | 28.6 | 28.8 | 28.9 | 29.1 | 29.2 | 29.4 | 14 |
| 15 | 29.5 | 29.7 | 29.8 | 30.0 | 30.1 | 30.3 | 30.4 | 30.6 | 30.7 | 30.9 | 15 |
| 16 | 31.0 | 31.2 | 31.3 | 31.5 | 31.6 | 31.8 | 31.9 | 32.1 | 32.2 | 32.4 | 16 |
| 17 | 32.5 | 32.7 | 32.8 | 33.0 | 33.1 | 33.3 | 33.4 | 33.6 | 33.7 | 33.9 | 17 |
| 18 | 34.0 | 34.2 | 34.3 | 34.5 | 34.6 | 34.8 | 34.9 | 35.1 | 35.2 | 35.4 | 18 |
| 19 | 35.5 | 35.7 | 35.8 | 36.0 | 36.1 | 36.3 | 36.4 | 36.6 | 36.7 | 36.9 | 19 |
| 20 | 37.0 | 37.2 | 37.3 | 37.5 | 37.6 | 37.8 | 37.9 | 38.1 | 38.2 | 38.4 | 20 |
| 21 | 38.5 | 38.7 | 38.8 | 39.0 | 39.1 | 39.3 | 39.4 | 39.6 | 39.7 | 39.9 | 21 |
| 22 | 40.0 | 40.2 | 40.3 | 40.5 | 40.6 | 40.8 | 40.9 | 41.1 | 41.2 | 41.4 | 22 |
| 23 | 41.5 | 41.7 | 41.8 | 42.0 | 42.1 | 42.3 | 42.4 | 42.6 | 42.7 | 42.9 | 23 |
| 24 | 43.0 | 43.2 | 43.3 | 43.5 | 43.6 | 43.8 | 43.9 | 44.1 | 44.2 | 44.4 | 24 |
| 25 | 44.5 | 44.7 | 44.8 | 45.0 | 45.1 | 45.3 | 45.4 | 45.6 | 45.7 | 45.9 | 25 |
| 26 | 46.0 | 46.2 | 46.3 | 46.5 | 46.6 | 46.8 | 46.9 | 47.1 | 47.2 | 47.4 | 26 |
| 27 | 47.5 | 47.7 | 47.8 | 48.0 | 48.1 | 48.3 | 48.4 | 48.6 | 48.7 | 48.9 | 27 |
| 28 | 49.0 | 49.2 | 49.3 | 49.5 | 49.6 | 49.8 | 49.9 | 50.1 | 50.2 | 50.4 | 28 |
| 29 | 50.5 | 50.7 | 50.8 | 51.0 | 51.1 | 51.3 | 51.4 | 51.6 | 51.7 | 51.9 | 29 |
| 30 | 52.0 | 52.2 | 52.3 | 52.5 | 52.6 | 52.8 | 52.9 | 53.1 | 53.2 | 53.4 | 30 |
| 31 | 53.5 | 53.7 | 53.8 | 54.0 | 54.1 | 54.3 | 54.4 | 54.6 | 54.7 | 54.9 | 31 |
| 32 | 55.0 | 55.2 | 55.3 | 55.5 | 55.6 | 55.8 | 55.9 | 56.1 | 56.2 | 56.4 | 32 |
| 33 | 56.5 | 56.7 | 56.8 | 57.0 | 57.1 | 57.3 | 57.4 | 57.6 | 57.7 | 57.9 | 33 |
| 34 | 58.0 | 58.2 | 58.3 | 58.5 | 58.6 | 58.8 | 58.9 | 59.1 | 59.2 | 59.4 | 34 |
| 35 | 59.5 | 59.7 | 59.8 | 60.0 | 60.1 | 60.3 | 60.4 | 60.6 | 60.7 | 60.9 | 35 |
| 36 | 61.0 | 61.2 | 61.3 | 61.5 | 61.6 | 61.8 | 61.9 | 62.1 | 62.2 | 62.4 | 36 |

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MADE IN GERMANY.

37.16
37.20
37.24
37.28
37.32
37.36
37.40
37.44
37.48
37.52
37.56
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37.68
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