

C.C.C.
11

K & E
COLLEGE FIELD BOOK
360 C

NAME Camp 75-S

CLASS Field COURSE Notes

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K & E

REG. U. S. PAT. OFF.

COLLEGE FIELD BOOK

Showing the quality of the Paper and Engraving in the Standard K & E Field Books described on one of the following pages.

At the beginning and end of this book will be found general information relative to a few of the items of the extensive K & E line, which will be of interest to the Engineering Teacher and Student.

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M I APR 11 1986

Sec. 23-39-4 E.

Nov 18th 1938

Hall & Hassler + 3 employees.

" Confiscates 2 thirty hertes found carried loaded.

Hassler shows us cor. to 23-24-25-26

" Sure iron marks were visible in March 1933. Many old cruiser marks, all facing one point.

Set new Pine post by accepting two tree (remains) which throat corner in center of the cruiser marks.

The trees = Birch S69E record
Hem(stp) S61W "

New	{	Hem. 6"	S31°W
		var 0°	" 6 S33°E

Pace W on 3° ±

36 ch ± full about 1 ch S. of orig MC E shore Bay cat L.

Mark 1 additional bearing:

V. 0°	{	Cedar 18"	S14°E	1.025 ch.

23-39-4 E

2

Over lake from East MC. V 3°
Hit West MC.

Identified same by Orig Cedar (down) with marks visible. Set " post.

3' W of water.	+ mark:	ch
Cedar 7"	S24°W	.056
(Scholman) Tam 7"	S10°E	.218
V 0° of Birch 7"	S70°E	.048

Th. W. V 3°
19 ch ± full 35 lbs ± S. of orig
Cor. Secs. 22-23-26-27

Set new cedar post by record course + dist. from stump of orig W. Pine - scribe marks of plain (Birch don't full).

A " stub stands S34°E .202
Mark new:

var	{	W. Pine 18"	S88°E	.278
		" " 16	S44°W	.641
		of Birch 8	N22°E	.164

(3 white pins stand S10°W 3 rods ±)

38-4 E

Orig. Cor. Secs. 8-9-16-17

as found by Dave Steink of
Type mapping crew. (See 10/11)Dec. 14th 1938 Hall + Dewalt.check cor. by landmarks for
air photo identification:

West (var 2° E) 3½ ch. hence

South " " 2½ ch to E green clump.

Sec Cor E.

1 ch. br alders

1¾ To S. edge Balsam clump.

2 ch To high ground.

Sec Cor N. 100 Pace

3½ ch. N. edge alders (SE)

6 to 7 open marsh

13½ leaves swp.

16 enter " (green)

19 old grade ESW

1358' (ave of Halls 1377 + P.D. Dewalt 1340)

To old road

Ely following "

2½ ch To Junction with grade

Addition To
Lawrie Lake Game Refuge

22-36-8 E.

S E SW 15

NW NW 22

Dec 15th '38 Hall + Rains look over
ground. 74 miles round trip.Dec 20th Hall + 4 enrollees.Found bearings listed in Camp Echo data
for ¼ S between 15 + 22 - no post in sight
set temporary stake by records given:

falls in N + S wire.

N + S W. var 0 - 45° E

0 = " { Pine 20 S 64 W 3.9
Step 16 N 60 W 19.31340[±] find ESW random 54 steps (157°) S

12/22/38 Hall, Hassler, Dewalt + 2 CC

continue random 44 - W ½ = 2

1500.3' Hub (41.85')

1811 " (50.5)

1951 " (54.50)

2262.3 " (63.1)

2680 st + S (74.73 to Sec. Cor.

= 02789 = Tang 1-36'

1340. " " 37.35 - for ¼ S

12/22/88

PA

Sy on random 8 line by 1 E to S
88°-45'

37.35' random intersect @ 1340.8'

0.0 set W 8 44 P.C.
34, Pine 10" N76 E 35.4'
3
O.V.M.

x 5 inch

Did not measure

Intersect posted EOW line found
in marsh & set temporary post.

Jan'y 4th '39 Hall + 3 CC (74 mi)

Correct 4 22 from N 1/4 to W 8 44

Jan'y 13th '39 Hall, Hassler + 2 CC

Run S from point 18 hrs E of S 8 44 15

20.15 fall .373 E of S 4 15

Corrected this line

Left E to W 8 line in NW 1/4 22 as found
brushed + partly posted.

Also W NW NW 22.

Both these lines originate at N 8 44

Since W as found falls only few
feet W of NW x and is posted,
we connect it with W SW SW 15.

Location of Theiler Trail (To hunting camp)
in N 1/4 Sec. 15 ?

Nov 14th '38 +6° Fahr.

Hall + Mathrup

Pace N on #17 T.T.

0 = \$15 as projected on old blazes
from Engle S 1/4 (38.76 ch. W of ds
= 1.31 ch E of assumed loc. SW x

Var. 0°

1) N 1° W	16.60	44.25 13.75 40.
2) N 1/2 E	12.27	
3) N 6 W	37.39	

4) N 27 E	6.00	
5) N 55 E	4.84	
6) N 75 E	4.58	
7) N 77 E	16.98	
8) N 82 E	10.24	
9) N 89 E	12.10	
10) N 82 E	4.90 @ (10) NW x timber	
11) N 73 E	4.32	to NW 28 E.

To jet. (RR grade ends N 65 E 2 1/2 ch.)
@ SW x timber br. N 10 E 3 1/2 ch ±

12) S 72 E	3.25	13) S 32 E	4.85
14) S 46 E	4.60		
15) N 27 E	.30 to .75	South wall of shack.	

7 W 22-39-5

Dec. 19th 1938 fair +10°
 Hall, Hassler, Kaupinen + 2 GC
 Went to S & W (found set) intended
 to light N. to 7 (Tall Tamr could not
 acc.)

1/8 set new post in place of old one
 New { Tamr 3" N60W .084 ch.
 1 1/2" Spruce 4 S80 1/2 E .206

North on Transit random from
 Ord. 1/4 21/22 V 0°-27' E
 (Kaupinen + Koberlein chain)

36.145 - left (14°-08' - 28-16) 3.52 ch to
 sec. cor. post found from which:

New { Y. Pine 16" N25W 1.941
 Stump N57W .30

var " N32E .504
 0°-27' E Poplar - N56E .145

found Y. Pine 16" S 3 1/2 W 2.477

∴ 39.558. at L W to post .86
 .02173 = 1°-15'

Start true line S from post by
 + SE to S 12°-53' (sighting on 36.145)

Cor is 1 ch. E of N cor. open marks

22-39-5

8

Dec. 22nd 1938 Hall, Swalt, Strassman
 Complete and meas. true line (100' tape)
 236.9' (S.) hub
 740. " "
 920. inter. swamp SE NW
 1245. point of land from E
 1315 hub
 1344 old winter road (N74W)
 1483 br. swamp SE NW
 1688 + 1974.1 Hubs
 2612 fall 6/10' W of 7/4 S

@ 1306 set Cedar to post 7/8 E
 v. o. Cedar 7' S 17 E 44.9 ft.
 Cedar 8' S 67 W 37.9'

Corrected May 29th 41 Book 52¹³

11/5/40 Look up C. D. Vaughan's notes (Aug. 1924)
 At that time " referenced only cor."

{ Y. Pine 12" S 1 1/2 W 2.30 151.8
 " Sp 10 N 33 1/2 W .41 27.1
 " " 20 N 17 3/4 E .68 44.9

Scaled out it means we have used cor
 .18' ch too far N + .03 too far E
 ∴ Move 1/8 .09 ch = 5.94 @
 & .015 1.0' W

New app calc. N 21° W 2.094

Jan'y. 12th '39 0° Fair Hall + Hassler
New reference for SW + ch

v 0° } W. Pine stumps 24" N43W .289

SW cor E (v 3°) Fell $\frac{1}{2}$ ch - 0°45'

N. of Valley's $\frac{1}{4}$ post. Reference same

v 0° } Spruce 5" N61E .52

0° } frag W. P. stp. S16E .15

Valley " N47E .65

S. from Valley's NE x Sec. 7 12°
(Race)

41 $\frac{1}{2}$ ch. fell 1 ch. W. of Valley $\frac{1}{4}$ S

v 0° } Valley's? W. P. stp 30" N87E .228

0° } New W. Pine 5" N57E .92

" Maple 4" N16W .05

South MC between Sec 28 & 29
Garth Lake

Jan'y 14th '39 Hall + Hassler

Old MC found by Gould + " 1935

They found a marked slab

(of E kind) now gone. However

the SW Tamarac is OK and we cut
same off 6' high.

Set new Tamarac post by rec. course
+ dist. (N45°E. .83) from the BT
no var.

Other "spruce" seems only a mound of moss
but G + H found iron marked slab.

New } Dead Tam. 5" S26E .63 $\frac{1}{2}$
0 var. } Tamarac 3" S62W .49 $\frac{1}{2}$

v 0°
Boat house E shore bus. N71E over
tip of point 6 $\frac{1}{2}$ ch from MC

Two green pines to. N58W 6 $\frac{3}{4}$ ch.
(paced)

Lake Surveys

Minocqua Lake

Jan'y 9th '39 fog + rain
 Cruised E from approx $\frac{1}{4}$ $\frac{11}{14}$ 39-6
 Passed close to Hi line pole

Jan'y 12th with DeWalt + crew
 Go to MC post found for line of $\frac{12}{13}$
 Sight W to Hi line pole +
 use this as E + W base
 1st sounding sta 300' W of MC

Later found I had sighted on
 wrong Hi line pole!
 All other lines continue on
 90° grid for entire chain.
 Use co-ordinates from arbitrarily
 chosen point believed to be
 S + E of any part of lake chain.

March 28th levels

Check ice level at point W of
 Sewage pump plant.

6.53' above ice drive brass tack

line 6" red oak (N tree of grove)

Am I.P. to
 S35°E P.C. 83.75' between bathing
 beach + #51

Lake Tomahawk

Soundings on 300' grid.

Feb. 16th-38° at 7 AM - rising temp - fair to sunny
with 5 CC enrollees.With transit on ice, line up Orig MC
on $\frac{1}{2}$ Sec. 34 - 39 - 7 (on W side of pt.)
with cut out line evident on W
side of lake. ($\frac{1}{2}$ Sec 32)Set some pickets but snow
storm sets in + can no longer
sight on lake.Flag our MC between 32 + 33
and erect a perpendicular
to top line.Use this \perp as 40 N + 40 WFeb 17th 39 Hall, Schaller + WalkowiakFollow cut out line ($\frac{1}{2}$ Sec 32) west
over hills to Orig. SW x 32 marked
by USGLO monument.

I can find no MC. E of Sec Cor.

Use point where cut out line
intersects lake. Can not see
Sec Cor flag from lake.

Lake Survey

Run perpendiculars at various intervals
and fill in 300' grid by eye from
this skeleton.Find W.P.A. working in bay S. of
Windy Point so about that part of
E. end S of top line to them.We commenced sounding at Village and
completed it as far W. as narrows
(Camp Strongheart)An extension of cold weather allowed us
to extend grid beyond narrows:Our line at narrows numbers 58 spaces West
50 N + 58 W has 90' N of shore
+ 175 N of 3" W Bench on line62 N + 58 W has 11' S of 14" y. P. strip on shore
" " " 68' S of 8' 0" W of Iron post
MC between ^{sec} 29 + 30.B.M. Cottage about 8 rods SE of MC $\frac{1}{4}$ Sec 3
38 - 7 ($\frac{1}{4}$ S)Mark level 7.40 above ice on NW cor
board of porch $3\frac{3}{4}$ " above bottom of do
This level also cuts $-\frac{1}{4}$ " on bench B.T.

L. Tomahawk.

Single MC + 1/4 S 4# 3-38-7 (HC Hall)

Identified Spring '33 + loc. by
record maps from topo both originals:

Now ready but deferred setting
as Hwy dept promised fill at
this point.

New o'bar.	{	y. P. 11" S68°E	1.847 = 121.9'
		w. Birch 8" S31°E	

15-38-5

for plowing

+ scalping.

July 27th - 39 with Entrican, Oliver +
Wietrzykowski.

Post found for SW cor. 15

for photo ident.	{	y. Pine top N 45° W	1 ch
		" dump N 9° E	83' ±
		Road (N2) N	23'

Run eye pocket line N (γ 5° E)

11.37 skid trail NE 1/4

15.10 enter marsh 1 1/2 ch E of SW x do

@ 14 1/2 cut w of 3 pines

20. set flag in marsh.

SW x 15 (post) E (Var 3 1/2° E)

- .39 road SW.

0.0 post

N 3/4 br. aspen + enter open

12 SW corner marsh to N 13° E 1 ch

" then " br. p. 2 ch =

13 ch marsh to N 2 ch

14 " " " 3 "

18.00 enter marsh SW + N

20.00 set flag Th N 40 ch.

@ 4.76 br marsh NE

7.00 top of slope to flat

9.42 E old trail E-W

6-38-5

continued

Aug 2nd 39 raining to fair ^{same party}
 Chazyite line E² to SW² as noted
 Resume $\frac{1}{4}$ line (N 2nd 29th W).

27,515 Hub

34,039 " + observe sum.

orient on line \angle 177^o-51' 75^oF

① 2:09.5 PM EST sd az read rest

232^o-19' 52^o-17'calculated 232^o-19'② 2:11.5 232^o-58' 52^o-01'calc. 232^o-58'

③ Obscured.

38,68 Hub in rocks for calc.

Center Sec.

Th 589^o-25^o8' on calc $\frac{1}{4}$ line(Az 90^o-35')

February 1940 alone

Extended above E+W $\frac{1}{4}$ line 589^o-25^o8'

by eye pickets out on swamp

I thru all the Tamarac for

Arnold Thrall's net stake logging

Tam. extends 1 tally $\frac{1}{8}$ E $\frac{1}{4}$ $\frac{1}{8}$

job

39-4

6/26/39 Squaw L.

Note from Kishpaugh re
 Ough $\frac{1}{4}$ \angle bet 8 & 9

±

{ Birch 16" N - E on lot 7 (Sec 9) 43'
 { Hem 18" S - W 1 8 25'

Road improvement necessitated removal
 of single birch. A Hem remains cut.

39-5

Mercer L.

Cor 11-12-13-14 in $\frac{1}{2}$ N+S road.Kishpaugh set cement murr 15" ±
below road.

Removed SE tree - others remain.

West line

Oct. 18th 1939 Fair 50°

Hall, Hassler, Kibler + Zient

Orig NW cor identified to 2 old posts
about 1 ft. apart + by strips of bings
with marks. However the posts
are not set in accordance with bings.

Set a 3' section of strap iron^x for the
corner with dry Tamarac post alongside:

var. 2° x	Orig (marks plain)	S 62° E	.176
	" "	N 67° W	.207
	" notch visible	N 60½° E	.419
	New Spruce 9"	S 58° W	.43
" "	8"	S 21½° E	.309

Post found by S 54° W .203 !

No evidence of a post hole - encountered
several rocks.

0.0 Orig NW x

Run Sly on random (S 0°-20' W)

" " V 2°-05' E

3.50 enter swamp (NW) indefinite

3.72 hub .066

11.576 " .207 V 2°-09'

20.00 picket

20.003 st = E .35³/₇ for S (1/16)26.423 Hub^{.472} + lo. swamp.

32.288 " .577 @ N edge of road (SW)

" observe run

(set 180° on line S.) watch 4½' post

① 3:02 CST alt 20°-10' 231°-07'
random calc. S 0°-18' W

② 3:04 alt 19°-52'₃ 231°-31'

random calc. S 0° 23' W

av. S 0°-20' W

35.095 hub .627

Find Orig 1/4 but had not time
to set it + check in

LW 18-35-6 E

Continued

38.50 hub .688 E

deflectn ← left to angl $\frac{1}{4}$ S $25^{\circ}-23'$ 1.668 ch= $\frac{1.507}{40.007}$ A-E .715 to $\frac{1}{4}$.01787 = $1^{\circ}-01\frac{1}{2}'$ felt W

true line 40.013

 $S 1^{\circ}-21\frac{1}{2}' E \pm$

Identify $\frac{1}{4}$ by boxing on pine stps from which we find some ones hemlock post rotted off & agreeing with rotted stps of the hemlocks.

Set $1\frac{1}{2}''$ by 20" steel shaft at record disk from both. This falls 2" N of post found. Set Cedar post alongside.

V3	Ongl.	S $59\frac{1}{2}'$ W	.27
		" S 63' E	.12
	New Hem.	G S $80\frac{1}{2}'$ E	.381
	"	G N $56\frac{1}{4}'$ E	.46
	" y Birch	G N 12' E	.182

LW 18 S $\frac{1}{2}$

at $\frac{1}{4}$ S turn ← NW to N $24^{\circ}-21\frac{1}{2}'$ +
Rem \odot or "true line" (S $1^{\circ}-21\frac{1}{2}'$ E)

0.0 $\frac{1}{4}$ S5.801 hub .006 W $\vee 3^{\circ}-15'$

11.713 " .012

16.758 " .017

20. Tally

20.008 correct W .02 for $\frac{1}{8}$ ($\frac{1}{16}$)

21.824 Hub ^{.022} in young hemlock growth
 $\vee 3^{\circ}-35'$

26.30 " .026

30.418 " .03

30.50 enter swamps SE

35.588 " .035

40.017 fall .04 ch. E of an old
post at N edge logging road
NW + SE

Remains of 2 trees check OK.

~~.00100~~ $0^{\circ}-3\frac{1}{2}'$

for Stock fence

Desired to construct fence W from Tomahawk R to S $\frac{1}{4}$ S. Th N on $\frac{1}{4}$ line to Centre Thence E on $\frac{1}{4}$ line to Town Road (NW \leftrightarrow SE).

± Sec 2

November 13th '39 fair +20°
R.A. Hall, Merle Schwager, Peters, Johns

Retrace my random W as near as possible (run due South in '33)

Run therefrom S $88^{\circ}44' E \pm$ thru Orig. SW cor.

0.0 " " $\frac{3.2}{10.11}$

.75 ± WCD road #810

3.78 hub (.26)

8.198 " var on $0^{\circ} = 2^{\circ}50' E .57$

20.452 " temporary $\frac{1}{8}$ S.

20.734 calc $\frac{1}{8}$ S. .0215 ch = 1.42

.01410 (hub)

November 14th '39 fair +40°
Hall, Peters, Johns, Moore, wall (dr.)

Continue S $88^{\circ}44' E$.

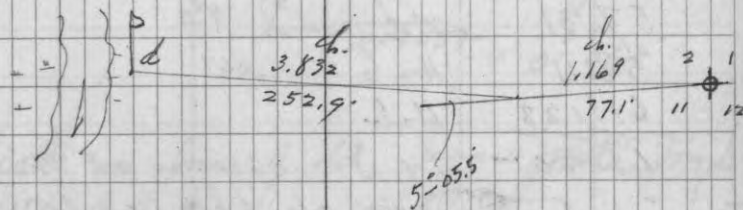
23.155 Hub set yesterday 1.61'

29.922 " " 2.08'

34.31 old road NE $\frac{1}{4}$

36.18 Hub 2.51'

PM - Transit traverse thru M. Pine timber W. of Orig. SE cor. to river (swamp) tanks.



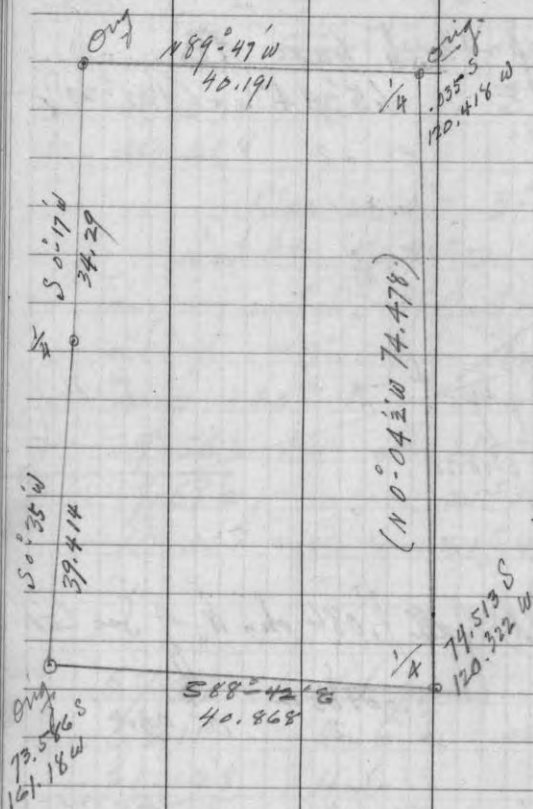
Continue S $88^{\circ}44' E$

40.868 correct .043 = 2.84' S

$\frac{1}{4}$ + set iron plus point for $\frac{1}{4}$ S with cedar post alongside.

$\frac{1}{3} \times 40$ { W. Birch 6" N $16\frac{1}{2}^{\circ} E$.281

do 5 N $69^{\circ} W$.238



Nov. 16th '39 Fair 60° Same party
 Search for S. $\frac{1}{4}$ no success
 Set " " as noted + start N
 (N 0°-04 $\frac{1}{2}'$ W)
 Brush out about 10 ch. Nly

Time	Location	Notes
0.0	S $\frac{1}{4}$	Same crew + Stewart + windy (North 0-04 $\frac{1}{2}'$ W)
6.763	Hub	.00724
9.603	"	.0103
15.655	"	.0168
22.617	"	.0242
<hr/>		
19.748		calc. $\frac{1}{8}$ \pm

23.20	$\frac{1}{8}$ rd road NNE	
28.192	Hub	.0302 V. 3°25' on 0
29.38	$\frac{1}{8}$ rd road WSW	
	.65 SW of jet	
36.38	Hub	.0339
39.38	"	.0422
<hr/>		
39.496		calc Centre \pm

Calc. Dec. (N $\frac{1}{2}$) on basis of H.V. Vaughan's
 measurement from NE to E $\frac{1}{4}$ (1902)

Centre =	35.017 S	120.373 W
W $\frac{1}{4}$ =	34.174 S	160.778 W
	.843	40.405

W $\frac{1}{4}$ to Centre \rightarrow 588-48'E
 40.414 \pm

31

2 - 38 - 5

Nov. 17th '39 fair +30° + mp
Hall with Peters, Moore, John. Wall
Continue N0-42W + Wisniewski
on N+S 1/4 line

- @ 39.38. offc BS .2' W
45 To 46 Tang. To E end swamp
46.58² Hub (low random) +
offset R .2' W.
Encounter W.P. 16" @
47.24 & G.P. 14" @
48.497
@ 46.582 offset BS .7' W = .9'
@ 48.422 " " " "
" Hub on .2' offset .055 = 3.62
49.80 & Truck trail #2
about 2 ch E. of swamp
5[?]? Hub on 9/10 offset W.
" offset BS 9/10 to orig rand.
62.893 Hub 9/10 W + offset R to " "
(59.624 ± for N 1/2)
73.42 Hub on shoulder in field
& turn & right to on
wood post 1/4 S
4° 15' 1.077 ch. .00107 = 0° 03' 45"
@ 74.494 N = E to 1/4 Post .0798
calc. 74.478
.016 short

@ 40.58 full .30 W 2 toward Jack T.

32

4 - 5 - 8 - 9

39 - 5 E

Dec. 12th '39 45° no snow Hall + D'Walt
Search for MC between 8 + 9 without
success.

Perpetuate Orig Cor. 4-5-8-9 found by
D'Walt previously. Identified same by
old post agreeing with Orig. 6-9-10

Set Co. Mon. 2' exposed alongside
post found (leaning).

Orig. S 5° W Rec + N 80° E Rec.

Stub of Vaughan's? BT S 12° W .148
New of Spruce 5" N 32° E .529

2 - 38 - 5

E + W 1/4 line

Dec 8th '39 with Carey's Senca Crew
Run S 88° - 48' E on edge. True line
from 39,496 (N 1/2 S 1/4) by angle N to E
91° - 16 1/2'

Run as far E as Road (NW + SE)
did not measure 12ch ±?

Lake Surveys.

Blue Lake in 28 + 29 39-6
 decide to base grid on a N+S line
 from Engl MC on N shore to North #94
 Supplemental US MC on island
 thence with laterals at 150' intervals @ 90°

Jan'y 2nd 1940 Cold + windy with Carey
 + 20 enrollees

Could not identify Supplemental MC #94
 axle me drove in 1928 evidently covered
 by new boat ramp.

∴ Run S by from MC on N. shore ²⁸⁺²⁹
 on approx. course setting stakes
 at 150' intervals

Call MC (North shore) 50 N + 25 W

This line falls (apparently) about
 40' W of evident location #94

Use it regardless.

Run E+W line at 40 N

" " 36 N

" N+S line at 40 W

30

33?

Tie up to " MC ¹⁹ N+S line Dec 28 + §28+29
 E+W " " " "

L. Tomahawk W. end.


Lakes - Survey

Upper Kanbeshim

Jan 15th 1940 - 8° Fair WindyFind One bearing (sugl) for
West MC between

Secs. 9/16 38-1

This same stub is the NW Gng.

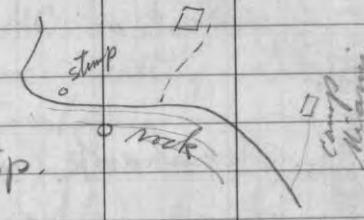
Locate point for MC pending
visit with more toolsCall this sta 25 N + 25 W
(150' intervals) + lay out start
for skeleton - normal courses.Feb 13th B.M.Cut B.M. 
on SE face 20" W.P. stp.
8' ± from water.

Assume B.M. as 100.

Rod .93
100.93 H.L.-3.82 = 97.11 peak of boulder 30' out in lake
about 1 ch S 20° E of stp.

-4.97 = 95.96 average ice surface

Grid sta 33N 20W

Th W 62' + S 8' to boulder
W 81' N 64' to stump B.M.

(150' grid)

Lower Kanbeshim L.

1/16/40 Unable to determine Sec. line
between 3 + 4 where it crosses E end
of lake owing to multiplicity of lot
instruments + bearings marked on trees.
Decide to work from concrete man
found at shore + in line of red fence
N (on 2° E. or)Using this as North MC and calling it
30 spaces N 1 space west
Run west therefrom (12° E)

.	"	to 30-7
N	to 33-7	
W	" 33-14	
S	" 31-19	
W	" 31-21	

Had searched for
MCs on E + W
Sec line but
without success.

2/14

Mark Temping B.M. on 16" W.P.
on E. shore about where S. MC
should be - opposite white gate4.23' above average ice
level in lake.

37

Lake Kathryn - Hazelhurst.

150' spacing.

1/30/40

Decide to use as E+W base line
a line (E+W) from S.P. found on E
shore (MC between $\frac{2}{11}$?) ends to
E street in Hazelhurst being the
" at S. side Post office
Var is $2^{\circ}E$ \pm

At point on this line where
perpendicular South gives access to
South part of lake assume
as 40 N of 37 W + lay out
grid accordingly.

4 N 34 W Thence 177' + W 203'
to S. P. found.

BM temporary - Notch + tack in 5" red
oak (one of 3) S of Hwy + 1ch \pm W of W.
end of Hwy. bridge.

Rod on BM 1.61

ice in lake 6.58

4.97 above lake

Mark $\frac{4}{6}$ on 2" piling in from S rail in
1st full length bent from W end
-.58 to show H.I. = 6' above lake

38

Blue Lake 39-6

2/14/40 Temporary BM on 3"
W. Birch (10.8' S $14^{\circ}E$ of Monument
for MC. (angle) between Sec 32 + 33.)

1.69 rod on Temp BM.

8.85 average of ice.

7.16 above lake.

8.85 water

3.78 Mon.

5.07 above
ice.

Additional BM near angle MC
E. shore of Sec 28

Notch + tack in 12" W.P. BT (22.4'
SW of MC post)

1.47 rod BM.

11.14 average of ice

9.67 above lake

for Sounding. 150' grid.
 March 5th 1940, Jan +30°
 Hall with Duke, Kibler + Wall
 Decide (with Dewalt) to initiate
 grid lines with points visible on
 air photos (irrespective of the
 Range line, pending survey of
 same — see)
 At N shore base line (16 W) begins at
 " at E. edge Mahin dock
 (400 or 500' W of P.L.)
 & to S 5° W magnetic to
 E extremity of promontory on S. shore

26-16" shore at dock. Th. S.

24-16 W. to 24-20

9-16 W to 9-20

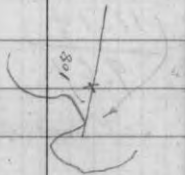
8-16 S to Top 108'

" " shore 435'

22-10 E to " 139'

" " SE (45°) To 18-6

21-9 E to 21-7



3/27/40

Intersect on random range line (circled)
 235.2' S of sta 23.53 (MC N. shore)
 with E+W grid line 73½' E of 22-13
 - S to W 86° 45'

At 1310' N of Top Cor on our random N
 from " - intersect grid
 50½' W of 7-13"

BM - temporary (N. shore) 9½' S 35° E
 of MC

Brass tack in S. face 6" N.P.
 " " about 6" above ground.

rod " .62

" water 51.54

4.92 BM above lake

See page 59

41 Squirrel Lake.

200' grid

2/21/40

39-5

for commences decide to sound

- that part of lake S of 4 19 + 20

∴ with transit at Engl MC 18+19

sight E to approx MC

" & road at dock

" specifically to light posts at

SW cor N $\frac{1}{2}$ of dock shed

(N edge of pile)

Var 0° 25' W

@ 100' E set stakes for 33" 50' W

3/25/40

light pole hrs 166 $\frac{3}{4}$ ' E of 33"-26"

line falls 31 hrs S of North BT (139.6
28.3)

For Temp BM use NW cor. concrete foundation

of Cedar tool house just S. of MC

SW 4- Sec 20 (no notes - " here)

Red BM. 1.32

Water 6.23

4.91' above water.

25"-32"

South 88' to shore

31-51

West 84' "

@ 33-32 solar obs. (time 1' fast) +20° F.

1) 10:25:20 alt 40° 47' E to S 53° 48'

2) 10:27:15 41° 00' 54° 23'

3) 10:28:45 41° 09' 54° 51'

Mercer Lake 13-39-5

1/17/40 -9° windy

Use E + W $\frac{1}{4}$ line (visible over island)

as base N 20 spaces 150' grid.

W $\frac{1}{4}$ called 20 N 40' W

3/21/40

Mark 2 temp BM on N shore

#1 (Assume elev 100.00) Tack in 4" oak
in N+S fence ± on line of Secs 13+14

#2 Tack in top 14" birch stump at
shore 30' ± W of same fence.

100.00 #1
2.56

102.56 #1 - .79 = 101.77 BM #2

- .542 = 97.14 water level

Shishobogama Lake

150' grid

Secs. 1-2-3-10-11 39-5

8. 35-36 40-5

Feb 15th 1940 Snow 20°

Hall, Duke, Halfman + Wall

Find M. J. Hall's concrete monuments (4)

for $\$$ Indian Reservation.

Decide the East MC (4-sec 1)

(17 lks from the big sig. Pine.)

can be 33 N 2.2 West.

Lay out grid accordingly.

33-47 Mon br. E 104.9' fall 1" N

33-56 " " W 34.5' lin OK.

28-48 three - S 96'

2/26/40

Tempy BM just off Hwy 70

SW end of lake

16" M.P. in camp site + about 10'

from lake Notch on N. root

Rod reading " .88

Ice (average) 5.78

4.90

This appears to be on Lot 4 Sec 10

Levels - Woodruff Hatchery

Feb. 19th 1940 Overcast +25°For water conduit S. from Madeline L.
at the dam.

Assume " (top of concrete) as 100.00

100.00
+ 6.50 106.50 ^{#.1.} - 6.74 = 99.76 current level
Madeline L.- 4.32 102.18 T.P. \oplus
- 2.53104.71 - 6.55 98.16 top of blks
2.52 200' S of
road \pm 100.72 - 6.80 93.92 T.P.
3.95

97.87 - 4.84 = 93.03 T.P. on

Hatchery - (NE cor. with W. window N. wall
Mark \times on vertical water main inside window)
(3' below lake) 96.76

Top of T rim of bronze T 96.06

97.87 - 2.63
+ 5.31
- 3.47
+ 8.80
- 6.55
+ 6.00
- 2.84 = 102.19 T.P. \oplus 4.14
106.33106.33
- 6.33
100.00 dam \checkmark

Hatchery

#.1. 98.16
7.44

105.60 - 7.62

97.98

Top 2nd Blkhd

- 4.45

93.53 bottom do

102.95 - 4.95

97.98

4.97

98.00 BM

Head of spike in 8" Jack @ 170' S of Blkhd.
+ 385

101.85 - 4.90

96.95

BM

" of spike in base 11" copper @ 400' S

Take elevations of bottom of Harts
ditch @ 50' intervals S. from 2nd Blkhd
10 stations S. of E+W roadway.13.53
12.80

.73 dip in " = .07 descent per 50'

Mark stations accordingly.

4/4 2/29/40

Set WCD Monument 12" exposed
at orig. 4 S E 8

Orig. stp. raised

v over maple BT

Refuge post bro N10W 2.8'

Set Oak post alongside Mon

Sec 13-38-5
E+W 1/4 lineJuly 25th 1940 partly fair - 8° N. wind

R. H. Hall with Peters, Wall + John

Run S 88° 53.5' W our calc. True line

from E 1/4 cor.

(offset .25' ch W at Cedar Falls rd.

" " S 8° + at 1/4 S

= S. to W. 89° 09.7'

0.0

E 1/4

7.995

Hub

20.172

drive 3" x 3" pitch pine 1/8 post
(1/16)

S edge post OK

T.A. { W. Pine 12' 258-30' S 78° 30' W 475
" 5' 202 to S 22° 40' W 723

later - drove I.P. at S edge post.

July 26th to same party
Continue same line

20.172

shift

N

1 1/2" to pass

11" I.P. @

25.23

25.35

Hub

29.051

"

(S. edge)

Continue S $88^{\circ} 53\frac{1}{2}'$ W on 7 line

33.88 Hub

38.887 "

40.344 Set iron rod for
Centre Sec. + Cedar post
on S. side iron.Pocket
Compass

W. Pine 11"	S 80° W	.91
y " 10"	S $64^{\circ} 8'$.49 $\frac{3}{4}$
Jack 3"	W N W	.01

set jack pine stake E of rd.

43.21

Project 4

50

± quit cutting.

(Thick) Jack badly lodged &
covered with snow →

LW

Feb. 28th 1940 Overcast 25° Set County monument $12'$ exposed
.218 W of sta. 38.321 on random

W 4

Pine post alongside LW

True Ang.	}	Jack 7"	$319^{\circ} 28' = 140^{\circ} 32' W$.82
Var $3^{\circ} 08' E$		" 5"	$38^{\circ} 10'$	$138^{\circ} 10' G$.431

N $\frac{1}{2}$ WDrove 9' y. P. post in marsh
.293 W of 1 sta. 58.152 + to random
Marked "N $\frac{1}{16}$ 13 + 14"

}	Jack 7" (at swamp edge)	S $51^{\circ} 20' W$.67
	" 5 " " "	N $85^{\circ} 15' W$.713

+ cut out true line & about 9 ch

Entered also in Book 2 Page 148

March 1st '40 +12° overcast.

64) Since US listed no bearings +
" we fell 2.24 ft. W of SW @ 80.00

Set County Mon. in bog 1.12 E of our
40.00 hub + set 12' Tam. post
alongside. no bearing available.

54) Set County monument 14" exposed
1 foot N. of our post
(Had moved SW x 1/2 two feet N
since setting this 1/4 S)
Our bearings now calculate
(from the monument):

0 var. { Jack 8" S 49 1/2° E .48"
" 5" S 64 1/2° W 1.078

To establish Con to $\frac{30}{31} \frac{29}{32}$
on Squirrel Hill.

Have previously estab. SW x 32
Identified orig. S 1/4 30
" " E 1/4 30
" " W 1/4 30

x Run (N 1° 26' E) on random from
SW x 32 59.04 ch.

Book 10 P. 27

Decide To Run Range line N across
Pine Lake To check alignment +
proportion in relation to SW x 30
as I located it by Davis W 1/2 § 30.
→ and in order to determine MCs
on Pine L. for Lake Survey.

March 6th '40 Fair 0° + up
Northerly on random Var. 1° 45' E
from our temporary SW x as
produced thru W 1/8 § from S 1/4.

Reference rd Temply corner to poles
{ 1/2 arrow on pole S. .155
" " " " N 27 W .105
" " " " S 75 W .12 3/4

W Sec. 30 39-5

Our Temporary SW \times Lat. 45° 50' from
Long 89° 55.7' mapAngle to T. E. To true S.
89° 59' = 179° 58'Solar obs. for Azimuth
Time (CST) by my watch (1-10" slow)

- N to SE random to sun

① 10:09:40 alt 32° 03' = 43° 29'
(Mag. with 1/4" S 36° 46' E)

② 10:12:30 32° 19' 144° 16' 26.10

③ 10:15:40 32° 39' 145° 06'

2.74 creek SW NE 1nd wide

10.00 Tally 1" W of line

11.00 enter swamp (definite)

13.72 lake (indefinite)

23. ± over do

23.972 stump of 2" spruce

.37 E of line
4.45 correction
4.82 W of stumpcorrect
W
=.067#
= 4.45

28.75 to 30 skirt E. edge high land

33.00 re-enter swamp N.N.W.

.00281 = Tang. 0° 09.7'

39.816 fall 1.112 ch. E of angle $\frac{1}{2}$ S
on Tam post Dr. Gung. OKN.B. in 1890 Don ran E+W +
N+S $\frac{1}{4}$ lines, $\frac{1}{2}$ W $\frac{1}{2}$ W $\frac{1}{2}$ line

Don's meas Center South 41.21

" " 1/2 bet W $\frac{1}{4}$ S " 40.42

" " theoretical W " .79

39.63

over per ch. ramp \times .00425
over Don on $\frac{1}{4}$ line N+S

.168

39.63

Our meas. adjusted to Don's 39.798 ✓

39.816

.018

Taking into acct fractional width ~~done~~of W $\frac{1}{2}$ Don's W S $\frac{1}{2}$ would have been

39.597

.00425

.168

39.597

39.765 meas.

our theoreti
SW \times could not have been
more than 5 lbs N. of where we have
it.

March 7 th 1940 Fair +10° up.		
Hall, Duke, Kibler + Wall		
Run Southerly on random		
from Tempy NW x by angle		
left from yesterday, random 1030		
produced. 0°-10' ^{cont'd}		
0.0	Tempy cor.	
4.98	⊕ step 11" profile .19	
	" " 11" E of line	
5.576	hub for road marker ²⁰ / ₂₁ lk	
387+) 5.87	⊕ road #17	
10.00	Tally hub .58 (6/10 lk)	
18.28	⊕ step of 15" W.P. (Rec 18-10)	.04 of .70
	Wedge on line	
23.15	crest of bank	
23.45	road	
1553) 23.53	pitch hub on line .98	
20.00	Tally jacket .76	

5.87
5.87
- .294 = 1.44

23.58	stump (rotten) on line
1555) 23.72	shore vegetation line
35.00	Tally on ice.
This line cuts island about	
1/4 of dist from E. end	
LW. north.	
March 8 th 1940 0° + up fair	
Hall, Duke, Kibler, Wall, Moore	
Origh, Temp. cor. north on (Smiley)	
random as near true Meridian	
as I can get (from short sight	
S. + SE.) Mar. 1° 55' E	
0.0	Temp. Cor. monument
3.00	+ 1.81 on 11° 55' slope
1.77'	
4.77'	9
5.008.	hub + tack ^{48'}
14.40	" " at shore (US Rec.)
	MC not evident 1.38'

at 382 69 35.292 $\angle \pm$ from true line to tower
 ① 28° 02' ② 56° 06' (28-03)

23.00 hub (extreme W. edge) (249)

28 To

29.34 W. end marsh

30.039 picket (.325)

* 35.292 pitch hub + tack (.382)

37.64 Telephone line NW + SE

40.049 (E. edge) pine hub (.433)

41.505 Temporary Sec. Cot.

30/29
31/32

- reference temporarily.

44.00 (E. edge)
N.P. hub

41.489 $\angle 90^\circ$ E to final corner 449

4/9/40 * Set Co. Monument $\angle 0^\circ 37' 4''$
01082

30 29 9" exposed (+ Cedar post NW)
31 32 W. Pine 6" 239-15 S 59° 15' W .532

T.A. N.P. 5" 142-15 S 37° 4' E .09

N.P. 4" N 54° 1/2' W .19

(Tower base \pm S 38° E (near obstructed))

E road base S 87° 27' E 1.12

@ .818 peg for line marker

" is 1" \pm too far S

March 14th 1940 Resume random S

44.30 E Tower road

51.49 8" W.P. barely E of line

55.509 Hub (in sight of sta.)

63.50 fly from SW x 32.

" \angle N to SE to 63.50

132° 59' 7.509 ch.

@ 63.50 N. \angle S to NW to 55.509

136° 11'

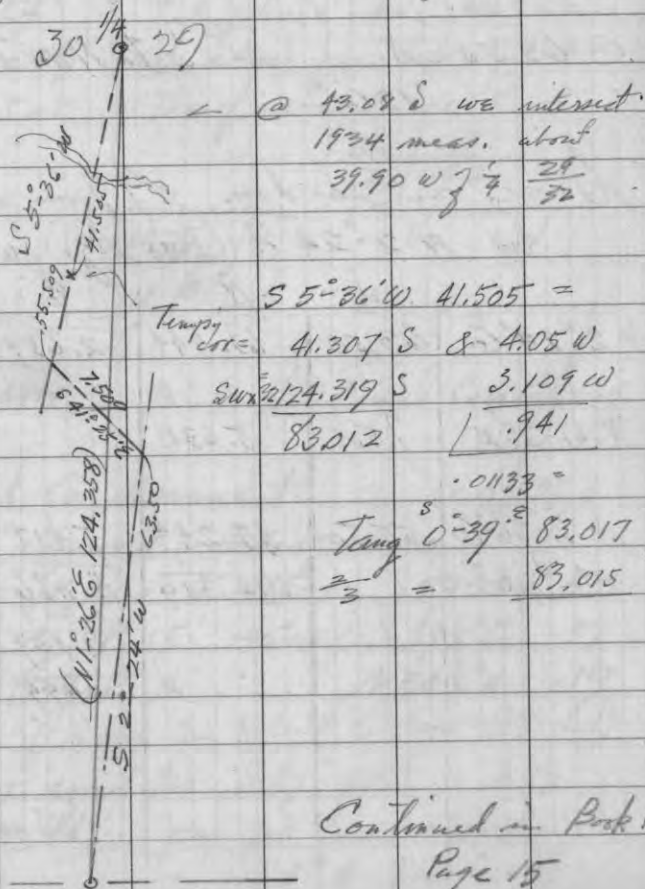
Since our random N₄ from SW x 32
 has N 2° 24' E (true Az.) we have:

	ch	N	E	W
N 2° 24' E	63.50	63.444	2.659	
N 41° 25' W	7.509	5.631		4.967
N 5° 36' E	55.509	55.244	5.417	
to 1/4 S		124.319	8.076	
			4.967	
			3.109	
			.02499	
				124.358 ch.
				direct
				(HS need 120.00)

Having only a measurement made
- then the bench (in 1934) E+W
across $\frac{1}{2}$ W 29 + E $\frac{1}{2}$ 30.

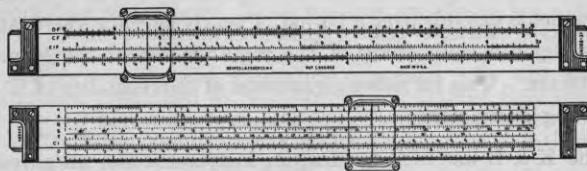
Decide To use 41.505 S on one line
as Tempary cor (1+S).

Try tall flag at Dig $\frac{1}{4}$ $\frac{29}{32}$
(find same invisible from Tempary x)



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6 1/2 / Calc 20-38-5 E

E+W 1/4 line (VMA)

33.81
46.08

4 | 79.89

19.97 2/3

59.916 for E 1/8 ±

N+S on
0 = 35' E var ±

4 | 79.07 39.58
19.79 N+S 19.79

Suggested plantations - Spring '39

E 1/2 20-38-5 (S of road)

(Run 1/2 line for E planting in 20+21)

" 1/4 lines for NW 1/4 21

Block off Kennedy 400m 19+20

Index - continued

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48	13	38	5	E+W 1/4 line
50	13	-	-	W 1/4 + N 1/8 LW
51	12	-	-	E 1/4 + S 1/4
52	30	39	5	LW S 1/2
55	31	39	5	LW (S)
56	"	"	"	LW (N) from top Col
59	"	"	"	1 on lake (for ch. excen)
60	30	39	5	1/2 S 1/2 (S)
61	"	"	"	Final Col 29-30-31-32
63	32	"	"	Diagram LW etc.