

Land Surveying

CURRO

NOTES

Book No. 177

Filed August 1983

176

# KEUFFEL & ESSER CO.

DRAWING MATERIALS

<sup>AND</sup>  
SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

## Tables for Excavations and Embankments.

INTERIOR CURVE CENTER OF HIGHWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPE 1 TO 1.

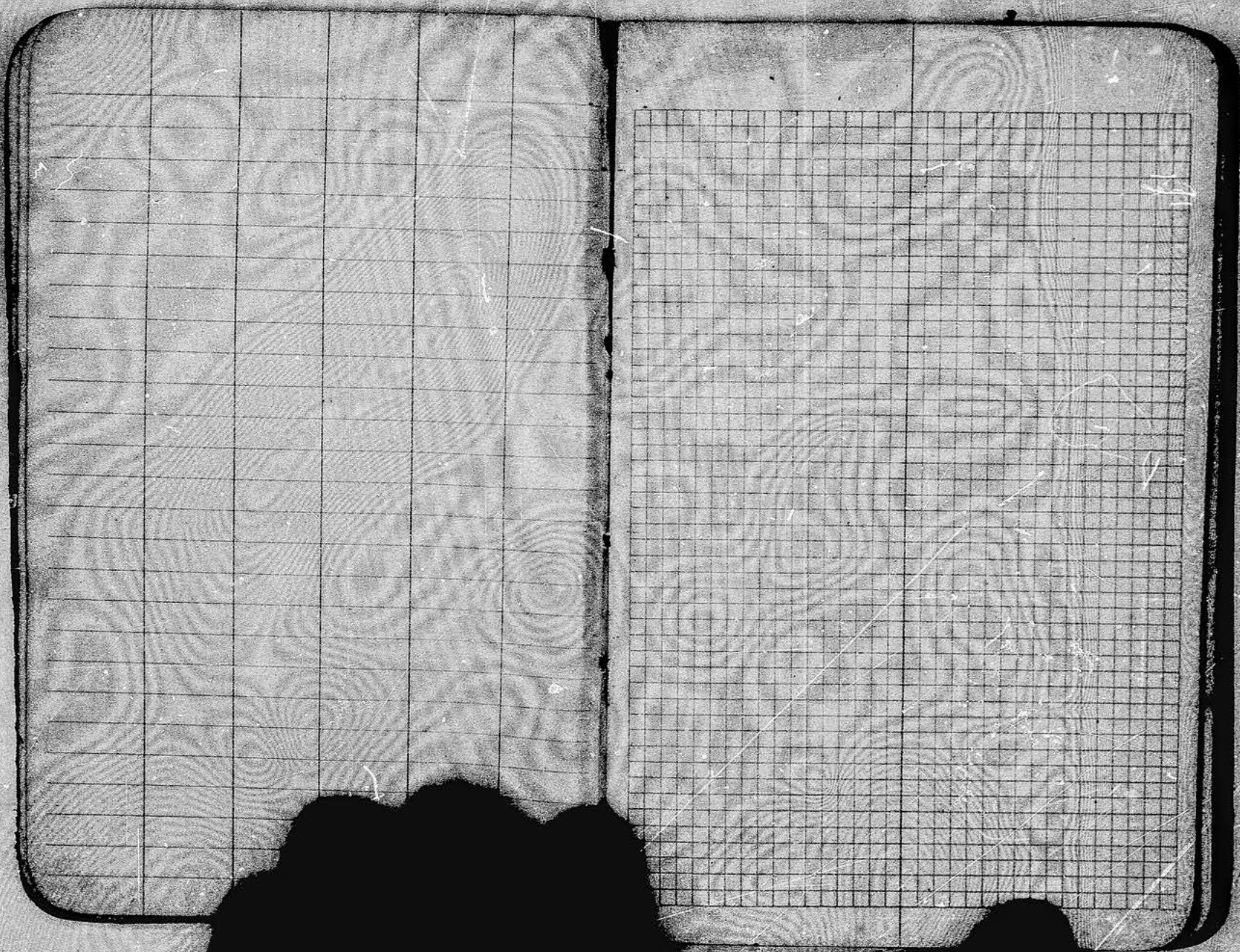
FOR SINGLE TRACK TRACKING.

PUBLISHED 1888, BY KEUFFEL & ESSER CO.

0	1	2	3	4	5	6	7	8	9	0
0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0
5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0
6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0
7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0
8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0
9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0
10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0
11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0
12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0
13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0
14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0
15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0
16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0
17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0
18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0
19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0
20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	21.0
21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	22.0
22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	23.0
23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	24.0
24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	25.0
25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0
26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	27.0
27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	28.0
28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	29.0
29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	30.0
30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	31.0
31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	32.0
32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	33.0
33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	34.0
34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	35.0
35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	36.0
36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	37.0
37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	38.0
38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	39.0
39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	40.0
40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	41.0
41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	42.0
42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	43.0
43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	44.0
44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	45.0
45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	46.0
46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	47.0
47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	48.0
48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	49.0
49.0	49.1	49.2	49.3	49.4	49.5	49.6	49.7	49.8	49.9	50.0

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1 30-31-141-31,

C-R. 4651

April 11, 1921.

E.B. Horst, drives from Walker  
to Poncelet's place in N.W. 1/4 of  
Sec. 30, 141-31 to begin survey  
of secs. 30-31 same Twp.

I begin at an Iron Mon.  $2\frac{1}{2} \times 48"$   
(capped) at the N.W. cor. sec. 30  
which was set by Hubbard Co.  
Surveyor from U.S.B.T.S.

With following crew: Joe, Mike,  
and Mike Sr. Poncelet, Arnold  
Nelson and Chas. Foelschow.

We run S.  $1^{\circ}01'W$ . on a random Range  
line of sec. 30 without chaining.  
We cut 1 mile and quit for night.  
Using Heller + Brightly transit  
with Burt solar attachment.  
E.B. Horst.

30-31-141-31

2

April 12, 1921.

Horst and same crew chain S.  
 $1^{\circ}01'W$ . on random Range line  
from N.W. cor. sec. 30.

at 1320 set temp point

at 2640 " "

" 3650 cut bag.

" 3800 br. "

" 4513.5 Hub on high hill.

" 5289.2 set Hub. Iron Mon.

$2\frac{1}{2} \times 48"$  (capped) sets L.  $94^{\circ}35' - 137.6$  ft.

At 5300.0 ft. S. The I.M. at the S.W.  
Cor. of sec. 30 sets E. 137.2 ft.

From this cor. I run S.  $0^{\circ}10'E$ .

on a line previously run by G.A.  
Todd, Hubbard County Surveyor.

at 1276 an old fence corner

" 1316.2 a  $3/4 \times 18"$  iron pipe sets

N. 6.6 ft. = N.W. S. cor.

at 2632.4 a wood post at the 1/4  
S. cor. sets N. 13.2 ft.

at 3796 a road bears W.  $4^{\circ}30'$ .

at 4052 cut stake.

at 4092 cut pond, cut chaining.

at 4212 leave pond.

at 9:00 leave clearing  
 " 5112.0 S.  $2\frac{1}{2}$  X 48" Iron Mon.  
 sets W. 23.0 ft. = W.C. 165 ft. N.  
 of the SW. cor. sec. 31. 141-31.  
 W.C. sets on N. side of small pond  
 True Twp. cor. (a wood stake)  
 sets on S. side of pond in a bog.  
 At 5297 ft. S. the Twp. cor. sets  
 W. 24.0 ft.  
 From this cor. Iron N.  $89^{\circ}10'E$   
 on random s. boundary sec. 31.  
 (10<sup>th</sup> Stan. parallel)  
 and set a point on E side of bog  
 Sight on Twp. cor. and turn R.  
 $21^{\circ}56'$  to I.M. at W.C.  
 Base = 165 ft. Distance E. to point  
 = 409.7 ft.  
 continue E.  $\frac{1}{4}$  mile and quit  
 for night.

E.B. Horst.

April 13, 1921.

E.B. Horst, and some crew, cont.  
 E. on S. side of S. 31.  
 at 409.7 pt. on E side of bog.  
 " 705. Wire fence. N & S.  
 " 712.6 Hub.  
 " 722.0  $\frac{1}{2}$  of Kelly & Ten Mile Road.  
 " 900 East bog. 20 ft. above Horst's  
 " 1000 " "  
 " 1206.6 Hub.  
 " 1253.0 an old stake sets N. 7 ft.  
 " 1320.0 set Temp. NW. cor. of 140-31.  
 " 1848.0 " " NW  $\frac{1}{16}$  S. 31-141-31  
 " 2296.3 set Hub.  
 " 3168.0 set stake W. 316 ft. E. Twp.  
 " 4488.0 " " " 4488 ft. Twp.  
 " 5808.0 " " " 5808 ft. E. Temp. cor.

We make a thorough search for sec. cor.  
 and W. trees but find nothing.  
 E.B. Horst.

April 14, 1921

E. B. Horst and some crew  
go to the original U.S. Sec.  
C.O.R. of secs. 29-30-31-32

where we find a wood post,  
set by Guy Todd, (Hubbard  
Co. Surveyor), and three  
stumps NW-SW-SE trees  
the stump of the NE tree is  
obliterated except roots.

All check for course and distance  
and NW + SW trees bear a few  
marks.

We run a picket line S. along a  
blazed line and cut S. to the  
random twp. line, but do  
not chain this line today  
E. B. Horst.

I leave for walker to ans.  
to a subpoena for April  
16. E. B. H.

Tuesday,

April 26, 1921.

E. B. Horst, Joe, Mike, and Michael  
Poncelat resume survey of sec.  
30 + 31 - 141 - 31.

We begin at the sec. cor. to sec.  
29-30-31-32 and back-sighting on  
random line bet. sec. 31-32 I turn  
L.  $2^{\circ}15'$  and run N. (Var =  $11^{\circ}16'E$ )  
at. 904.0 set Hub.

- " 1320.0 " Stake Mk'd. 1320-N.
- " 1606.1 " Hub.
- " 2070 Cent. of Howard Lake & L. trap  
wagon trail bet. N.W. & S. 70'E.
- " 2540 set stake m'd. 2640-N.
- " 3032.5 " Hub.
- " 3203.4 " "
- " 3960.0 " Stake.
- " 48 " Hub
- " 5280 " Stake.
- " 5335 Cent. of road E. & W.
- " 5350.5 set Hub. on sand ridge.  
E. B. Horst.







April 27, 1921

E. B. Horst, same crew.

We make a thorough search for the cor. and B.T.s of the NE. Cor. sec. 30 but find nothing but cruisers marks and they seem to have a great difference of opinion.

I decide to run the line between secs. 19-20 to get a better idea of where to look for the above cor. We walk N. and look for the 1/4 S. cor. bet. 19-20 but find nothing.

We go N. to cor. of 17-18-19-20 where I find the original cor. stake and the N. pine stump. Stump of the NW. tree showing blaze. The SW. tree and the SE. tree, marked.

From this cor. I run S. at  $26^{\circ}40'$  look for 1/4 S. which is 9240 ft. at 5000 ft. S. cross road.  
at 5023.8 ft. S. set Hub.

From this Hub turn R.  $62^{\circ}04'$  and sight on Hub 5350.5 N. on random line bet. secs. 29-30 distance = 266.4 ft. Angle at this Hub =  $67^{\circ}41'$ .  
E. B. Horst.

April 28, 1921.

We look again for evidence of the cor. to secs. 19-20-29-30 but are unable to find anything that is sufficient to establish a sec. cor. from.

I decide to establish this cor. by proportion, and therefore I produce the random line bet. secs. 19-20 S. to Sta. 5237.8 ft. and set a Hub which is equidistant from corners of secs. 17-18-19-20 and 19-20-29-30.

From this point I run E. to cor. of secs. 20-21-28-29 where we make a thorough search for cor. and accessories and find the cor. is obliterated.  
Hub at 5138.6 E. 5280 E. set stake.  
E. B. Horst.

30-31-141-31.

April 29, 1921.

We go E. to cor. of secs. 21-22-27-28 which was established in the fall of 1920 from the 2 stumps and 1 snag of the original Bearing trees which we find in same conditions they were found last fall. We also find an Oak stake at true position from which I run W.

at 5341.0 W. I turn R.  $41^{\circ}57'$  and run 2225 ft. to Hub 5138.6 ft. E. on random line between secs. 20-29 and from this line turn angle L.  $43^{\circ}09'$  and sight W. on random line.

Total distance from Hut near cor. of 19-20-29-30 to cor. of 21-22-27-28 = 10628.3 ft.

E.B. Horst.

P.S. The  $\frac{1}{4}$ s. bet secs. 20-29 and the  $\frac{1}{4}$ s. bet secs. 21-28 are entirely obliterated.

E.B.H.

30-31-141-31.

April 30, 1921

E.B. Horst and same crew.

We take another look for creek 19-20-29-30. and find nothing as before.

R.M.

I take crew all but M. Poncelet Jr. and run transit over E. line of sec. 31 and chain same.

P.I. is at 5749.7 E. on Random Stan. Parallels = Sta. 0.00 N.  $N.M.L. = 90^{\circ}14'$  at  $147^{\circ}01'$ . The S.E. cor. sec. 31 sets E. 28.0 ft.

at	725	ext. tan. swp.
"	890	IV. " "
"	901	set stake.
"	1020	ext. Marsh.
"	1270	IV. " "
"	1320	set stake
"	1386.5	" "
"	2197.0	" "
"	2585.0	ext. Marsh.
"	2640.	set stake.
"	2880.	IV Marsh.
"	3016.	set stake.
"	103433.	trail.

at 4000. Set stake  
 " 4900. bottom of deep ravine.  
 " 5172. Hub on high hill.  
 " 6139. " " highest hill.  
 " 7346.6 the corner to sec.  
 29-30-31-32.

I return to Walker for over  
 Sunday and to get some notes  
 for Hiram Twp. to check up on  
 S. boundary of Twp. 191-31  
 E. B. Horst.

May 2, 1921

E. B. Horst, 3 Poncelets and A. Nelson.

At the N.W. cor. Sec. 30 on County line  
 I set transit over I.M. sight S. on  
 random line and turn S.E. Angle  
 $110^{\circ}39'$  and run random line N.E. bet.  
 Secs. 19-31 (Needle reads  $28^{\circ}45'$ )

at 850 E. Hub

" 1336 " Road N.W.-S.E.

" 1402.0 " Set Temp. M.C. Pt. A.

" 1416.0 " a bay of Howard Lake.

Sight over bay set pt. B. - Cross over  
 and from B. turn L.  $40^{\circ}$  chain out 133.7  
 set C. Angle  $ACB = 126^{\circ}48'$  dist = 468.8'

At 1860 W. lake

" 1870.8 Hub. B.

" 2358.8 " A. for triangle.

" 2364.0 ent lake.

set pt. B. over lake, crossover  
 and turn L.  $102^{\circ}41'$  chain out 328.6

set C. Angle  $A.C.B = 56^{\circ}16'$  Dist. 760.8'

3110 W. lake.

3119.6 Hub. B.

3316.0 old road N.  $38^{\circ}W$  - S.  $38^{\circ}E$ .

3498 New Graded Twp. road N.  $45^{\circ}E$ .

May 3, 1921

15

30-31

May 3, 1921.

at 3582.2 set Hub.

" 3968.3 " "

" 4349.4 " "

" 4804.0 " "

" 5887.4. " " P.I. on random  
between secs. 29-30, at 5114.2 N

S.W. Angle =  $73^{\circ}03'$

At 6090.9 ft. E. the true sec. cor.  
to secs. 19-20-29-30 by double  
Proportion sets N. 57.5 ft.

Arnold Nelson was absent on  
account of personal business,  
attending to sawing of lumber  
at Kimballs saw mill.

July 14, 1921

E.B. Horst, E.A. McPherson

Mike, and Mike Jr. Pancelet

Setting I.M.s in secs. 30-31 T  
141 - R.31.

Fox Mitchell hauls I.M.s ~~at 622~~

July 15, 1921.

Same crew setting I.M.s.

July 16, 1921

Same crew setting I.M.s.

Mike + Mike Jr. get today each

Two trips for Horst's car. = 40 miles

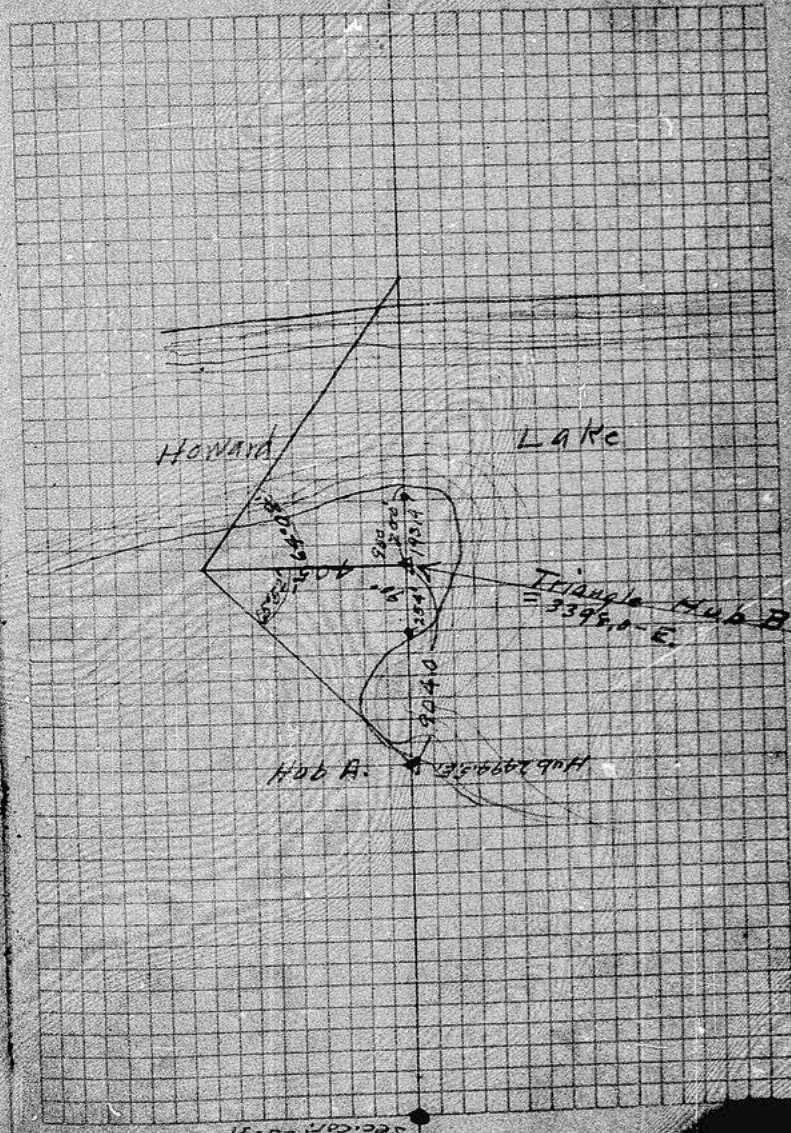
E.B. Horst.

30-31-141-31.

May 4, 1921

From cor. of secs. 30-31-141-31 and  
secs. 25-26-141-32 (M. & D. by a curved  
I.M.  $2\frac{1}{2} \times 40'$ ) I sight S. on Random  
line W. side sec. 31 and turn L.  
 $109^{\circ}46'$  and run a random line between  
secs. (needle reads )

at 309.4 set Hub 1  
" 730.0 cut Tam. swp.  
" 1085.0 lv. " "  
" 1273.8 set Hub.  
" 1771.5 " stake. Temp.  $W\frac{1}{16}$  cor.  
" 2494.5 " stake. Temp. M.C. also  
is pt. A for triangulation.  
" 2500.0 E. intersect Howard Lake  
" 3144 lv. lake  
" set Hub.  
" 3398.0 set triangle Hub B.  
" 3591.4 temp. M.C.  
" 3600 cut Howard Lake  
" 4230 lv. " "  
" 4233.3 Triangle Hub D.  
" 4247.3 Temp. M.C. E. of Lake



E. between 30-31

at 45.85 New graded road NE-SW

" 46.80 Field

" 46.86 Set Hub.

" 47.50 Cr. field.

" 5033.5 Set Hub.

" 6080.0 " "

" 6135.0' E. the COY to 29-30-31-32  
sets S. 5.5 ft.N.W. angle to random on E side sec.  
30 =  $107^{\circ}54'$ 

E.B. Hoyt.

May 5, 1921

Same Crew.

We set the  $\frac{1}{4}$  S. Cor. bet. secs. 30-31  
at sta. 3309. ft. E. on true sec. line  
and turn N.E. angle  $69^{\circ}30'$  from random  
line and run N. (needle reads  $8^{\circ}55'$  E.)  
at 657.3 N. set Hub.

" 801.0 " " Temp. S.M.C.

" 803.0 " Ent. Lake.

Cross over lake without triangulating.  
On N. side of bay = sta. 0.00 N.  
at 10.0 ft. N. Temp. S.M.C.

" 261.2 " " " S. side of bay

" 278. " " = 2nd bay.

Cross over bay. Edge of water = 0.00 N.  
at 20.0 Temp. S.M.C.

" 698.0 set Hub, 20 ft. N. of Kline Barn

" 968.6 S.M.C. S. side Howard Lake.

" 980.0 Waters edge.  $\rightarrow 353-507/45$ Set Hub on N. shore of Lake  
from which triangle Hub sets L. $78^{\circ}30'$  22.2 ft.Continue N. & intersect Random <sup>at 923.0 ft.</sup> Sec. line  
 $\frac{1}{4}$  S. bet. 19-30 sets W. 93 ft.S.W.  $\angle$  of Random lines =  $70^{\circ}20'$

May 5, 1921 - cont'd.

We walk to S.E. cor. of sec. 31  
and set a large wood post for  
Cor. from U.S. B.Ts.

W. pine 7 N.  $63^{\circ}$  W. 23.1 ft.  
Aspen 10 N.  $35^{\circ}$  E. 74.6 ft.

W. pine is a blazed snag 8 ft. high  
with blaze chipped and figure  
nearly obliterated.

Aspen is down and rotted but  
has scribe marks on old blaze.  
No good timber near for new  
bearings.

We also make another search  
for the 1/4 S. Cor. bet. secs. 31-32  
but find nothing of same and  
decide that it is obliterated.

E.B. Horst.

May 6, 1921

E.B. Horst + same crew.

at sta 2675.5 on random line W. side sec.  
30 I turn S.E. angle  $111^{\circ}49'$  from random  
line chain along this line at 739 ft. I set  
a wood stake for the true 1/4 S. cor. bet.  
secs. 25-30 = sta. 0.00 E.

From 1/4 S. cor. continue on same line thro  
sec. 30. ran  $29^{\circ}15'$

at 1864.0 set stake Temp. C.W. 1/4 cor.

" 3050.0 " " " SMC. W. side lake.  
Temp. SMC. on N.E. 1/4 line sets 1.2052'  
Garass bay.

I set a point on E. side of Howard lake  
cross over and continue 1/4 line and inter-  
sect 515 ft. N. of the true 1/4 S. cor.  
bet. 29-30.

From 1/4 S. cor. chain W. to Howard lake.  
at 850 Twp. Road (Graded.)

" 915 W. SMC.

" 930 W. meters edge of Howard lake.

E.B. Horst.



23

30-31-141-311

May 7, 1921.

E.B. &amp; same crew.

var. 2922

Begin at N. 1/4 S. cor. W. side sec. 30

turn S.E. angle  $111^{\circ}36'$  from random

line and run N. 1/4 line thru sec. 31

at 402 feet swamp. ~~at 1700~~ <sup>E. side</sup> swamp

at 1847.5 set stake. Temp N. 1/4

" 2900.0 E. " " Temp S.M.C.

" 2915.0 toward lake

set temp. S.M.C. on E. side lake

continue E. and intersect 16.6 ft. N.

of the true N. 1/4 S. cor. bet. 29-30

From N. 1/4 S. cor. we chain W. to lake

at 1480 set stake for temp N. 1/4

" 1830 Temp. S.M.C. "

" 1845 toward lake.

N. 1/4 S. 20-31

24

N.W. 2 = 109'49"

var. 4035

May 9, 1921

E. B. Horst, &amp; same crew

Begin at the N. 1/4 S. cor. between

secs. 19-30 turn S.E. angle  $108^{\circ}55'$ 

from random sec. line run S. 78 ft.

from random line thence W. at  $90^{\circ}39.8'$ set S.M.C. thence L.  $90^{\circ}$  and run S. on

N. 1/4 line and intersect sec. line

between secs. 30, 31 at 27.8' W. of

true N. 1/4 S. cor.

(Correct true N. 1/4 S. cor. bet. 19-30)

change angle at  
same pt.

From true N. 1/4 S. cor. bet. 30-31 I turn

S.W. angle  $70^{\circ}35'$  and run S. thru sec. 31

at 1860.8 ft. S. set Hub in Nelson's garden

" 1880 " " " temp. S.M.C. N. side lake

E. B. Horst.

May 10, 1921

Same crew complete  $W\frac{1}{4}$  line  
of sec. 31. Set S.M.C. over lake  
cross over Howard lake and  
continue S. - S.M.C. = 0.00  
at 1040 ft. the true  $W\frac{1}{4}$  S. cor.  
S. side sec. 31 sets W. 17 ft.  
N.W.  $\angle$  of random lines =  $89^{\circ}28'$

We go to sta. 4988 E. on random  
line S. side sec. 31 chain W. 23 ft.  
turn N.W.  $\angle$   $89^{\circ}45'$  and run W.  
thru sec. 31 on E.  $\frac{1}{4}$  line. <sup>Var. 850'</sup>  
Intersect the sec. line between  
30-31 at 13 ft. W. of true E.  $\frac{1}{4}$ .

E.B. Horst

May 11, 1921

A.M. Rain.

I work on Notes and plats.  
P.M.

Full crew. Begin at the  $\frac{1}{4}$  S.  
between secs. 30-31 turn S.E.  
Angle  $109^{\circ}41'$  and run S. thru  
sec. 31 on  $\frac{1}{4}$  line.

at 21 ft. S. set S.M.C. on N. side Howard  
Lake set S.M.C. on S. side of lake  
Cross over lake continue S.  
S.M.C. = 0.00 - S.

at 1324 = temp. P.S.  $\frac{1}{4}$  continue S.  
and intersect S. side sec. 31 1.3 ft.  
E. of the  $\frac{1}{4}$  sec. cor.

We go to the S.  $\frac{1}{4}$  S. cor. bet 31-32  
I turn S.W. angle  $83^{\circ}50'$  and run W. thru  
sec. 31 set P.I. on E.  $\frac{1}{4}$  and  $\frac{1}{4}$  lines  
From P.I. on  $\frac{1}{4}$  line chain W. at 1059  
set S.M.C. on E. side Howard lake  
E.B. Horst.

May 12, 1921

3 1/4 Same crew.

We complete the S. 1/16 line sec. 31.

Set S.M.C. over lake, cross over

S.M.C. = 0.00 W.

at 1088.0 W. Fall 3.7 ft. N. of the  
true S. 1/16 S. cor. W. side sec. 31. Marked  
by a 3/4 x 30" I.M. N.W. cor. which is  
15 ft. N. of the true pt. for. S. 1/16 cor.

E.M.

1/4 We go to the 1/4 S. cor. W. side  
Sec. 31 marked by a wood post

From which I run East thro sec.

31 on 1/4 line. Turned N.E.  $\angle 79^{\circ} 46'$ 

At 1577.0 set S.M.C. on W. side Howard L.

" 1585. ent. lake.

Set S.M.C. on E side of Lake, cross

over and continue E. S.M.C. = 0.00 E.

at. E = P.I.  $\Delta$ 

Fall 27.8 ft. S. of the 1/4 S. bet secs.

31 + 32. at this point we find a

birch stump blazed by some surveyor as

a B.T. to a 1/4 S. cor. set by him and

it appears to have been placed at

same point where 1/4 S. falls accord-

ing to our survey. E.B. Mount.

May 13, 1921.

Same crew.

We begin at the N. 1/16 S. cor. bet.

secs. 31-32 where I turn S.W.  $\angle 79^{\circ} 26'$ 

and run thro sec. 31 on N. 1/16 line.

Set P.I.  $\Delta$  on E. 1/16 line and chain W.

from this cor. at 962' set S.M.C. on

E. side Howard lake.

Set S.M.C. over lake crossover.

S.M.C. = 0.00 W. at 130' W. P.I.  $\Delta$  on N. 1/16

line. Continue W. and intersect

402' ft. N. of a 3/4 x 30" I.M. at N. 1/16

S. cor. W. side Sec. 31.

E.B. Mount.

29

30-31-141-31.

May 14, 1921.

Same crew.

We begin at the S.  $\frac{1}{4}$  S. Cor. on  
W. Side Sec. 30. I turn S. E. L.  
111° 35' and run thru Sec. 30.

Set Pl. Hub on W  $\frac{1}{16}$  line.

From Pl. &amp; Chain E.

at 912' set SMC on W. Side

Howard Lake. SMC on Y. line L. 37° 22'

Set SMC over Lake = Sta. 0.00 E.

at 908 ft. E. Fall 0.4 ft. N.  
of the S.  $\frac{1}{16}$  S. Cor. bet. Secs.

29-30.

E. R. Hovatt,

30

Sunday

May 15, 1921.

at Walker

May, 16, 1921

E. B. Horst + same crew.

Begin at the E.  $\frac{1}{4}$  S. cor. between  
sections 30-31-141-31,Turn N.E. angle  $70^{\circ}31'$  from random  
line and run N. thru sec. 30.

at 180.0 W. Graded road N.E. - S.W.

" 390.0 " S.M.C. S. side of bay.

set S.M.C. over bay. Cross over bay  
and continue N. (From this pt. the  
S.M.C. on S.  $\frac{1}{4}$  line bts. S.  $77^{\circ}11'E$ .)

S.M.C. = 0.00 Chain across point.

at 459.0 = S.M.C. on N. side of point.

set S.M.C. over bay cross over  
S.M.C. = 0.00 N.

at 370 cent. of graded rd. NW-SE.

" 858.0 " P.I. A on N.  $\frac{1}{4}$  line at  
1420.2 ft. W. of the N.  $\frac{1}{4}$  sec. 29-30.

Meanders of sec. 31.

May 17, 1921.

E. B. Horst + same crew.

Beginning at the N.W. cor. on the sec.  
line between sec. 30 & 31

thence	S. $27^{\circ}30'$	W. 270	ft to A.P. 1-20
"	S. $31^{\circ}00'$	N. 240	" " 2-20
"	S. $3^{\circ}30'$	W. 390	" " 3-30
"	S. $19^{\circ}30'$	E. 183	" " 4-10
"	S. $27^{\circ}30'$	E. 227	" " 5-10
"	S. $23^{\circ}30'$	W. 206	" " 6-0
"	S. $44^{\circ}15'$	W. 313	" " 7-0
"	S. $18^{\circ}00'$	W. 173	" " 8-0
"	S. $45^{\circ}30'$	W. 112	" " 9-20

Equals S.M.C. on N.  $\frac{1}{4}$  line sec. 31.

thence	S. $48^{\circ}00'$	W. 241	ft to A.P. 10-0
"	S. $20^{\circ}30'$	W. 270	" " 11-0
"	S. $18^{\circ}30'$	W. 266	" " 12-10
"	S. $11^{\circ}30'$	W. 228	" " 13-20
"	S. $17^{\circ}00'$	E. 353	" " 14-12
"	S. $25^{\circ}30'$	E. 109	" " 15-10

Equals S.M.C. on  $\frac{1}{4}$  sec. line E. & W. Sec. 31.

thence	S. $47^{\circ}00'$	W. 158	ft to A.P. 16-0
"	S. $57^{\circ}00'$	W. 238	" " 17-20
"	S. $9^{\circ}45'$	W. 370	" " 18-10
"	S. $67^{\circ}00'$	W. 260	" " 19-20
"	S. $18^{\circ}15'$	W. 192	" " 20-0

⊕ = spring.

Thence S.  $3^{\circ}45'$  E. 408. ft. to A.P. 21-6  
 Thence S.  $26^{\circ}00'$  E. 182 ft. to A.P. 22-4  
 equals S.M.C. on random  $5\frac{1}{16}$  line S. 31.  
 Thence S.  $25^{\circ}15'$  E. 163 ft. to A.P. 23-10  
 " S.  $14^{\circ}00'$  E. 110 " " " 24-6  
 " S.  $27^{\circ}30'$  E. 187 " " " 25-8  
 " S.  $20^{\circ}00'$  E. 151 " " " 26-0  
 " S.  $27^{\circ}15'$  E. 340 " " " 27-20  
 " S.  $82^{\circ}30'$  E. 260 " " " 28-0 = ⊕  
 " N.  $44^{\circ}30'$  E. 111 " " " 29-0  
 " N.  $6^{\circ}15'$  E. 161 " " " 30-0

May 18, 1921.

E. B. Horst, Joe &amp; Mike Pancel et Jr.

Continue Meanders of Howard Lake S. 31.

Thence N.  $8^{\circ}00'$  E. 196 ft. to A.P. 31-0  
 " N.  $34^{\circ}00'$  E. 150 " " " 32-0  
 equals S.M.C. on  $W\frac{1}{16}$  line S. 31  
 Thence N.  $38^{\circ}00'$  E. 314 ft. to A.P. 33-  
 " N.  $12^{\circ}45'$  E. 164 " " " 34-  
 " N.  $19^{\circ}00'$  E. 58 " " " 35-  
 equals S.M.C. on S.  $\frac{1}{16}$  line S. 31.  
 Thence N.  $24^{\circ}30'$  E. 150 ft. to A.P. 36- ⊕  
 " N.  $41^{\circ}00'$  E. 753 " " " 37- ⊕  
 " N.  $1^{\circ}15'$  E. 308 " " " 38-25

thence N.  $57^{\circ}30'$  E. 180 ft. to A.P. 39-  
 " N.  $30^{\circ}00'$  E. 205 " " " 40-  
 " N.  $61^{\circ}00'$  E. 256 " " " 41-  
 " N.  $34^{\circ}45'$  E. 318 " " " 42-  
 equals S.M.C. on N.+S. Cent line S. 31.  
 Thence N.  $28^{\circ}15'$  E. 182 ft. to A.P. 43-  
 " N.  $5^{\circ}45'$  W. 91.0 " " " 44-  
 equals S.M.C. on the E+W  $\frac{1}{4}$  lines S. 31  
 Thence N.  $4^{\circ}15'$  W. 262 ft. to A.P. 45-  
 " N.  $6^{\circ}15'$  E. 227 " " " 46-  
 " N.  $32^{\circ}00'$  E. 397 " " " 47-  
 " N.  $17^{\circ}00'$  E. 552 " " " 48-  
 " N.  $13^{\circ}15'$  W. 364 " " " 49-

equals S.M.C. on N.  $\frac{1}{16}$  line S. 31.  
 Thence N.  $4^{\circ}45'$  W. 508 ft. to A.P. 50-  
 at 40 = 90 ft. from

" N.  $64^{\circ}30'$  E. 192 " " " 51-  
 " N.  $24^{\circ}30'$  E. 205 " " " 52-  
 " N.  $3^{\circ}15'$  E. 150 " " " 53-  
 " N.  $18^{\circ}15'$  E. 137 " " " 54-  
 " N.  $9^{\circ}30'$  E. 177 " " " 55-  
 " N.  $25^{\circ}00'$  E. 146 " " " 56-  
 " N.  $19^{\circ}45'$  E. 125 " " " 57-  
 " N.  $15^{\circ}00'$  E. 148 " " " 58-  
 " N.  $16^{\circ}30'$  E. 156 " " " 59-  
 equals M.C. between secs. 30-31.

## Meanders in section 30-141-31.

To N.  $26^{\circ}15'W$ , 61 ft. to AP. 60-

Thence N.  $44^{\circ}00'E$ , 638 " " " 61-

" N.  $38^{\circ}45'E$ , 410 " " " 62-

= SMC. on E  $\frac{1}{16}$  line sec. 30

" N.  $23^{\circ}30'E$ , 704 ft. to AP. 63-

" N.  $25^{\circ}30'E$ , 349 " " " 64-

" N.  $2^{\circ}30'E$ , 119 " " " 65-

= equals SMC. on S  $\frac{1}{16}$  line S. 30.

" N.  $41^{\circ}15'W$ , 62 ft. to AP. 66-

N.  $54^{\circ}00'W$ , 180 " " " 67-

N.  $82^{\circ}00'W$ , 119 " " " 68-

S.  $60^{\circ}00'W$ , 160 " " " 69-

= equals SMC. on E  $\frac{1}{16}$  line sec. 30.

Thence S.  $56^{\circ}15'W$ , 357 " " " 70

" N.  $70^{\circ}00'W$ , 136 " " " 71

= equals AMC. on Mainland also equals

Triangulation pt. for distance to a

small island from which the AMC.

on island bears S.  $89^{\circ}30'W$  ft.

From AP. 71

Thence N.  $31^{\circ}15'W$ , 238 ft. to AP. 72

from which the AMC on Island bears

S.  $17^{\circ}00'W$

May 19, 1921 Same crew.

Continue Meanders of Sec. 30 from A.P. 72

Thence N.  $7^{\circ}30'$  W. 453 ft. to A.P. 73-

" N.  $45^{\circ}45'$  E. 253 " " " 74-

" N.  $9^{\circ}00'$  E. 105 " " " 75-

" N.  $79^{\circ}45'$  E. 98 " " " 76

" S.  $18^{\circ}00'$  E. 139 " " " 77

" S.  $38^{\circ}00'$  E. 125 " " " 78

" S.  $53^{\circ}00'$  E. 139 " " " 79

" S.  $72^{\circ}15'$  E. 80 " " " 80

Equals SMC. N. side of point on E  $1/4$  line, Sec. 30.

" S.  $88^{\circ}00'$  E. 129 " " " 81

" N.  $62^{\circ}30'$  E. 122 " " " 82

" N.  $19^{\circ}45'$  E. 147 " " " 83

" S.  $84^{\circ}15'$  E. 105 " " " 84

" N.  $50^{\circ}45'$  E. 172 " " " 85-30

" N.  $7^{\circ}00'$  W. 506 " " " 86.

Equals SMC. on E  $1/4$  line S. 30.

" N.  $45^{\circ}15'$  W. 310 " " " 87-30

" N.  $79^{\circ}30'$  W. 265 " " " 88-15

equals the SMC on E  $1/4$  line N. side Howard Lake.

" N.  $85^{\circ}30'$  W. 81 " " " 89

" N.  $31^{\circ}45'$  W. 361 " " " 90

" N.  $19^{\circ}00'$  W. 420 " " " 91

Equals the SMC. on N  $1/4$  line. Sec. 30.

5-19

thence N.  $32^{\circ}15'$  W. 198 ft. to A.P. 92-

" N.  $50^{\circ}00'$  W. 371 " " " 93-15

" N.  $61^{\circ}00'$  W. 339 " " " 94-

" N.  $76^{\circ}00'$  W. 156 " " " 93- = SMC  
on N + S  $1/4$  line. S. 30.

" N.  $87^{\circ}00'$  W. 63 " " " 96-

" N.  $29^{\circ}15'$  W. 287 " " " 97 and

the true M.C. on sec. line between secs  
19-30 on E side of Howard Lake.

From temp. M.C. on sec. line in NE-NW  $1/4$   
Sec. 30 on E side of bay

thence S.  $26^{\circ}45'$  W. 87 ft. to SMC on N  $1/4$  line

" S.  $56^{\circ}00'$  W. 228 " " " A.P. 2.

" S.  $82^{\circ}15'$  W. 143 " " " 3.

" N.  $50^{\circ}00'$  W. 106 " " " Temp. M.C.

bet. secs 19-30 on W. side Howard Lake

Temp. M.C. = Sta. 1402 ft. E. on sec. line.



5-19  
Bearing of sec. line bet. 19-30 = N. 71° 20' E.  
at station 2358, & on random line bet  
secs. 19-30 = Temp. M.C. we continue

S. on W. side of Howard Lake Meanders

Thence S. 21° 00' E. 280 ft to A.P. 1.	1.
" S. 44° 00' W. 108 " " " 2	2
" S. 5° 00' W. 264 " " " 3	3
" S. 45° 00' E. 260 " " " 4	4
" S. 44° 15' E. 214 " " " 5	5
" S. 67° 00' E. 170 " " " 6	6
" S. 66° 00' E. 214 " " " 7	7
" N. 85° 00' E. 133 " " " 8	8
" N. 67° 30' E. 87 " " " 9	9
" N. 89° 00' E. 263 " " " 10	10
" S. 84° 00' E. 124 " " " 11	11
" S. 60° 30' E. 164 " " " 12	12
" S. 8° 00' W. 48 " " " 13	13
" S. 33° 45' W. 309 " " " 14	14
" S. 29° 00' W. 461 " " " 15	15
" S. 12° 30' W. 277 " " " 16	16
" S. 59° 00' W. 279 " " " 17-25	17-25
" S. 17° 00' W. 94 " " " 18-10	18-10
" S. 5° 30' W. 194 " " " 19-30	19-30
" S. 46° 00' E. 232 " " " 20-20	20-20
" S. 83° 45' E. 113 " " " 21-20	21-20

Equals S.M.C. on N+S 1/4 line - S. 30. S. side of bay.

MAY, 20, 1921

Thence S. 84° 00' E. 67 ft. to A.P. 22-	22-
" S. 21° 00' E. 96 " " " 23-	23-
" S. 33° 00' W. 186 " " " 24-	24-
Equals S.M.C. on N+S 1/4 line S. side of point.	
Thence N. 83° 30' W. 116 ft. to A.P. 25-	25-
" N. 80° 30' W. 141 " " " 26-30	26-30
" S. 59° 00' W. 244 " " " 27-20	27-20
" S. 20° 30' W. 267 " " " 28-20	28-20
" S. 5° 00' W. 285 " " " 29-20	29-20
" S. 18° 45' E. 200 " " " 30-5	30-5
Equals the S.M.C. on S. 1/2 line - S. 30	
Thence S. 30° 00' E. 144 ft. to A.P. 31-	31-
" S. 72° 00' E. 261 " " " 32-	32-
" S. 60° 30' E. 92 " " " 33-	33-
" S. 50° 00' E. 141 " " " 34	34
On Random Cent. line 18 ft. S. of S.M.C.	
" S. 52° 00' E. 240 " " " 35-	35-
" S. 84° 45' E. 236 " " " 36-	36-
" S. 39° 00' E. 52 " " " 37	37
" S. 48° 30' W. 157 " " " 38.	38.
" S. 14° 30' W. 393 " " " 39 = POINT	39 = POINT
on sec. line bet. 30-31 19 ft. W. of M.C.	
Thence S. 14° 00' E. 170 ft. to A.P. 40. In sec. 31.	40.
" S. 56° 15' W. 211 " " " 41-	41-

Thence S.  $82^{\circ}00'$  W. 111 ft. to SMC on  $\frac{1}{4}$  line  
( $\frac{1}{4}$  line in sec. 31.)

" N.  $75^{\circ}00'$  W. 106 ft. to A.P. 43.

" N.  $46^{\circ}30'$  W. 91 " " " 44.

" N.  $16^{\circ}00'$  E. 65 " " M.C. between

Secs. 30-31 (M.C. is 20 ft. W. of 1st. corner  
point or station 3164.0 E. on sec. line)

Thence meanders in sec. 30.

" N.  $28^{\circ}30'$  E. 229 ft. to A.P. 46.

" N.  $58^{\circ}30'$  W. 209 " " A.P. 47.

" West 256 " " " 48.

" S.  $37^{\circ}30'$  W. 252 " " " 49.

" S.  $21^{\circ}00'$  W. 133 " " " 50.

" S.  $32^{\circ}30'$  W. 96 " " " 51.

" S.  $17^{\circ}00'$  W. 151 " " " 52.

To M.C. between Secs 30-31 which  
is place of beginning and  
completes meanders of  $\frac{1}{4}$  acre  
in Secs. 30-31-141-31.

E.B. Hunt.

I leave for Walker to await  
T.M.s with which to complete  
this survey. T.M.s. have been  
ordered by Co. Auditor but were  
uncut and had to be returned.

E.B. Hunt.

May 21, 1921.

I work in office on Alexander notes  
and close up Secs. 30-31.  
E.B. Hunt.

May 23, 1921.

E.B. Hunt. In office computing  
meanders for sec. 30-31-141-31.  
E.B. Hunt.

May 24, 1921. Computing meanders  
and official plat preparation  
for sec. 30-31-141-31.  
E.B. Hunt.

May 25, 1921.

Computing meanders &  
preparation of plat for  
sec. 30-31-141-31.  
E.B. Hunt.  
OVER.

30-31-141-31.

July 14-15-16-1921. C-R 465.

E. B. Horst, and E. A. Mopherson  
also Nina & Joe Poncalet.

set all the actual points in sec.

30-31 except the ones at corners.

NW cor. S21. NW cor. S30 all 141-31

which were previously set by the  
Holland Co. surveyor and are also

we set the a 2' x 46" iron for the

N.W. Twp. cor. 140-31 as we have

the pt. now and will save receipts  
later.

E. B. Horst.

New B.T.s. to cor. Secs. 19-20-29-30  
141-31.

W. 81.20° N. 71° W. 83.7 ft. 2 cor.

Pop. 9° S. 84° W. 288 ft. 845° E.

E. B. Horst.

Sec. 18-141-31

Oct. 7 1/2 Half to 1-136-30

Oct. 8 1 1/2 - 2 = 3/4

Refer to p. 9, this book for Cor  
17-18-19-20-141-31

Horst's notes -

Sta. 0 - Cor. running south

26440 - 1/4 Cor. gate

50400 - cross road.

52437.8 - proportionate cor.

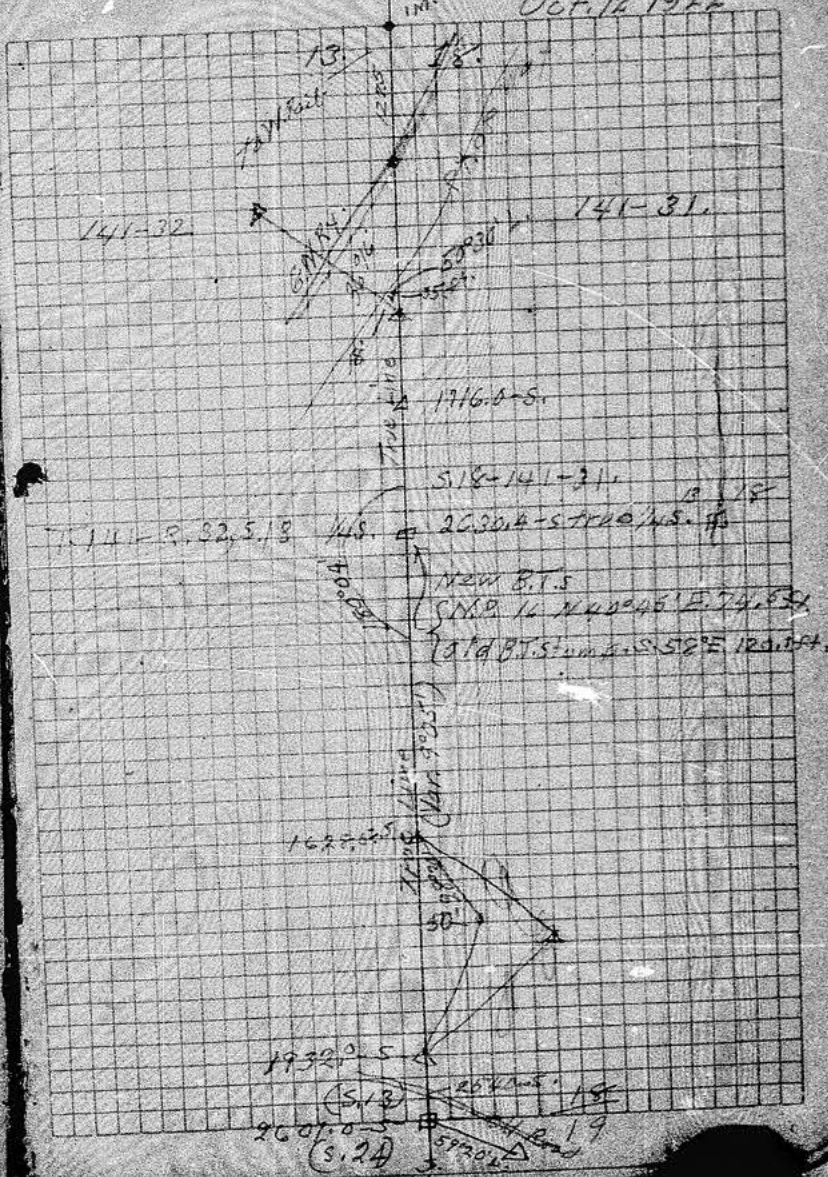
45-

(Joint) County Road 141-31-32

70

12. N. 7.

Oct. 12, 1922



47 April 16 -  
Greene Jude with car

N.W. Cor. Sec. 18 - 1.M. = Sta. 0 1316.5  
 W. 1/4 Cor. " " - 1.M. = 2633.0  
 W. 1/4 Cor. " " - 1.M. = Sta. 0

1300 Hub.  
 1312.9 1/16 Cor.  
 1301 Int. 38<sup>th</sup> R. Line

2625.8 Sec. Cor. 1.M. 1/16 Cor 1312.9  
 Partlets - 2629.4 1/16 Cor 1314.7

Mean 1/16 Cor. S. = 1313.8 set 1.M.

Wood stake in line 40' South.

Setup at Sta. 1301  $\angle = 71^{\circ}50'$

Cut out line

B.B.B<sup>2</sup> Ran Hub = Sta. 11  $\angle$  6484  
 S Hub 1950

B.B.B error B.B.B. " 2148.9 4350  
 of 100' " 2912 Enter Shingobee R.  
 3400 1450 1245.6

B.B.B " 3494.5 2950

" " 4850

B.B.B " 4942.6 1450

" 6367.7 X R. Line

" 6391.5 Temp. 1/16

Greene-Jude  
 F. & W. 1/4 Line R. - April 15

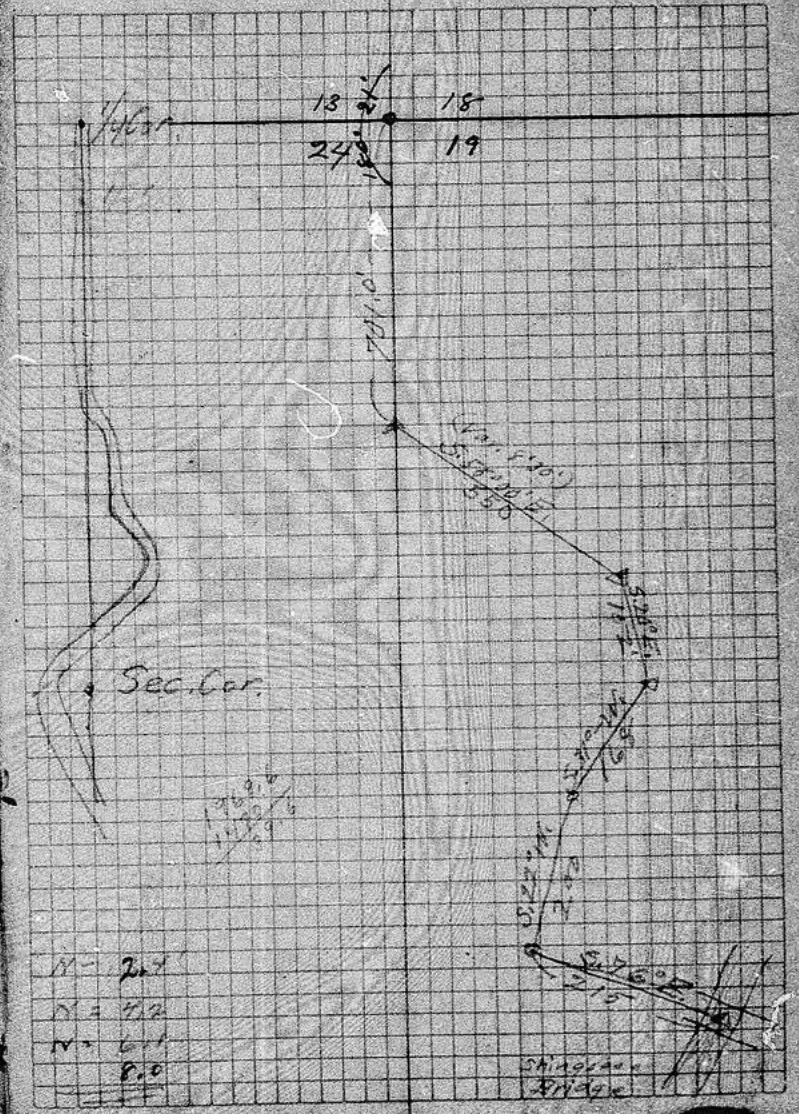
B.B.B<sup>3</sup> Hub 1950 = 1960.5 + 5.1 = 1965.6

Down 3400 set at 3400 + 39.6 = 1969.0

4850 = 4858 + 5.16

633 = 6338.4 X R. Line

48





51.

Mon. Oct. 9-1922

E. B. Horst today with Com.  
Lyman viewing Road bet.  
Cass-Hubbard Counties. 141-31-30

Traverse of South part of  
Lake Alice

Sec. 18-141-31

Starting pt. 1016' E. of W.M.C. on

N. Sec Line Sec. 18 = N. 63° E = 7142

Sta. No.	D15		
S. 28° 25' E	300	300	19° 33'
S. 48° 40' E	600	300	39° 58'
S. 70° 15' E	835	235	63° 33'
N. 44° 10' E	1155	320	52° 52'
N. 72° E	1800	645	80° 42'
N. 52° 30' E	2050	250	61° 12'
N. 18° E	2995	945	29° 42'

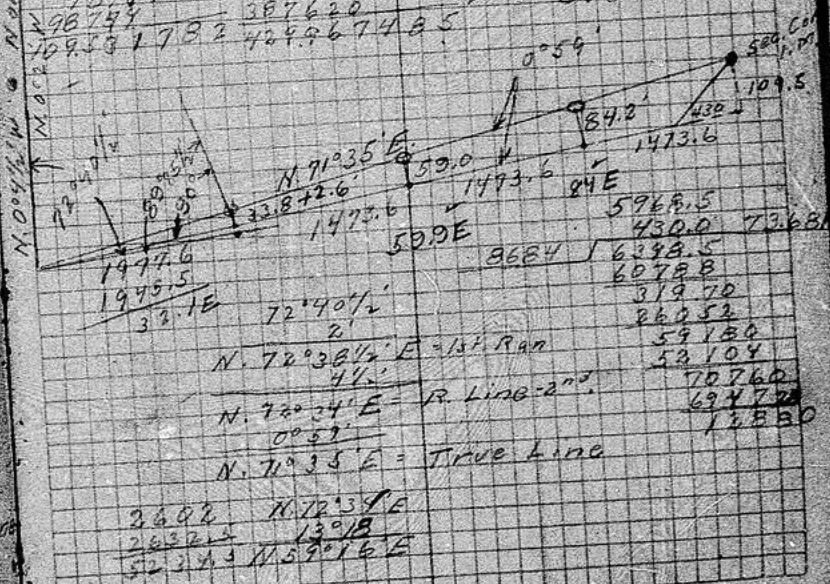
Ending pt. 9.5 West of E.M.C. on

N. Sec Line Sec. 18

East	1320 Hub	1275 or bet.
	1350 "	1316.0 R. Hub
	2037 picket	1311.0 to R. Line
	2632.5 N.E. Cor. Hub	2606.5

Apr. 20 Greene Bill Burkholder today  
Jude Bartlett Apr. 21 same crew today  
S. Line Sec. 18-141-31 Random

Sta. 0 = S.W. Sec. Cor. 1.M.	459.
2.56 N. 19° 45' E = Temp. 1/16	457.39/5.6
2615.5 = Shioogbee River	315
3391.3 = Temp. 1/16 Cor	265
Offset North 4.5'	225
	406
	405
Change in direction = 0° 4 1/2' N.	
4840.8 = Temp. 1/16	5.E.
1127.7 to Hub. & L. 13° 17 1/2'	443.7 to Cor.
= Sta. 5268.5	1945.5
24686	96905
443.7	443.7
172802	678335
74058	220715
98744	387620
296747	387620
109331782	424967485







55

6489	2050	2900
2137.4	87.4	3483
<u>4351.6</u>	<u>2137.4</u>	<u>6383</u>

<u>4350</u>	start 11.5 beyond R. Cor
<u>2900</u>	
<u>1450</u>	

2137.4
11.5
<u>2148.9</u>

4350
<u>2148.9</u>
8.9

3483
<u>2137.4</u>
<u>1345.6</u>

4931.1	B.B
	1450

6356.2 R. Line

6380 to Cor

11.5

6391.5

6356.2
<u>11.5</u>
6367.7
<u>6391.5</u>
73.8

Joint Co. Road.

Time Sheet

October 1922

E. B. Harst.

Chas. Jeffries

Oral Dickenson

H. J. Beach.

9 1/2

12 13 1/4

1 1/2

1 1/2

1 1/2

1 1/2

1466.7
<u>1473.6</u>
39.9
<u>1469.9</u>

1001
<u>1966.7</u>
9.2
<u>1975.9</u>
<u>1948.3</u>
27.2
<u>1975.5</u>

1466.7
3.8
<u>1462.9</u>
<u>1450.0</u>
3.8

1966.7
<u>1975.9</u>
27.2
<u>1973.6</u>

1466.7
<u>1473.6</u>

1973.6
<u>1147.8</u>
<u>3443.5</u>
<u>3423.0</u>
20.5

57

# PRESTON RANCH

May - 16-17-18

Cor. T. 138-32-138-33 sec. 36+31  
137-32-137-36

Concrete Mon. set by Curro

Checked orig. B.T.'s called for:-

W. Pine 30" S. 71 1/2° E 892 = 586.7

" " 24" S. 44 1/2° W 1310 = 864.6

" " 13" N. 3° E 2615 = 172.59

554 3/4 Road. Sta 2" N. 83° E to N. 85

Run east Var. 8°

54° 38' to B.T. Flag

3 Hub, 6 Hub, 9 Hub

13 Hub, 15 Hub, 18 Hub, 21 Hub

24 Hub, 27 Hub, 30 Hub, 33 Hub

33 Hub, 36, 39-42-45-49

51, 54 + 15 Spike

North 49° 86' to l.M.

Offset = 1.681/100' & 0° 55'

16 { Clem Thompson  
J. Greene

17 A.M. Thompson  
Clark Lamb

P.M. " "  
Harold Thompson  
Earnest Lavey

18 - A.M. Lamb & Quinn

S. 70° 12'

N. 35° E

Eastern Pine

3-468-37.2

4-411-42.8

5-444-48.4

6-489-54.0

7-534-59.6

8-579-65.2

9-624-70.8

10-669-76.4

11-714-82.0

12-759-87.6

13-804-93.2

14-849-98.8

15-894-104.4

16-939-110.0

17-984-115.6

18-1029-121.2

19-1074-126.8

20-1119-132.4

21-1164-138.0

22-1209-143.6

23-1254-149.2

24-1299-154.8

25-1344-160.4

26-1389-166.0

27-1434-171.6

28-1479-177.2

29-1524-182.8

30-1569-188.4

31-1614-194.0

32-1659-199.6

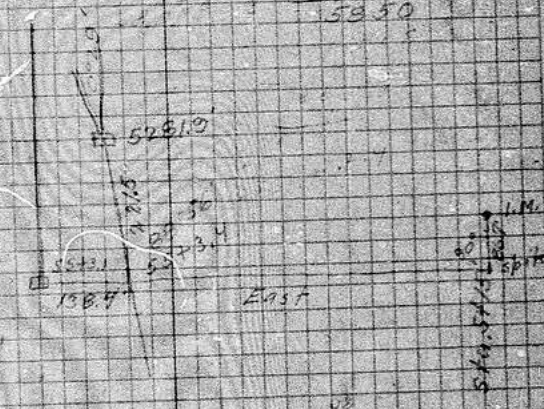
33-1704-205.2

34-1749-210.8

35-1794-216.4

36-1839-222.0

37-1884-227.6



16  
15  
14

16  
15  
14

16  
15  
14

16  
15  
14



61

30+30 2nd hand  
 30+75 2nd hand  
 21 2nd hand  
 30+30 2nd hand  
 30+50 2nd hand  
 30+50 2nd hand  
 24 2nd hand  
 30 2nd hand  
 30 2nd hand  
 30 2nd hand

37+30  
75  
250

33

30+100

East Line Sec. 18-141-31

East 1/4 Random Cor. = Sta. 0

Running North 1320 Hub

1350 B.B.B<sup>2</sup> Int.

2037 Big picket anhill

2632.5 N.E. Sec. Cor. Pk

490° - 1/4 east 45'

Running South 1295.5 Int. Ran. Hub

1316 Hub

2606.5 Int. S. R. Line

X 60°33' cuts off 8.3'

2598.2  
2632.5

4/5230.7 + 3.8 - 5234.5  
1307.7

4/5220.8  
1305.2

N. 1/16 Line

1950 Hub N. 71°27' E ± Line

3091.9 Hub S. 30°40' W to S.W. Cor.

3420 " S. 5°13' E to S. 1/4 Cor

3575.1 Hub S. 27°46' E to E 1/16 Cor

S. 1°32 1/2 W S. 1/4 Cor

S. 33°37 W S.W. Cor

S. 20°27 E S.E. 1/16 Cor

X N. 1°23' W at 1329.1

Dis. at P. 12

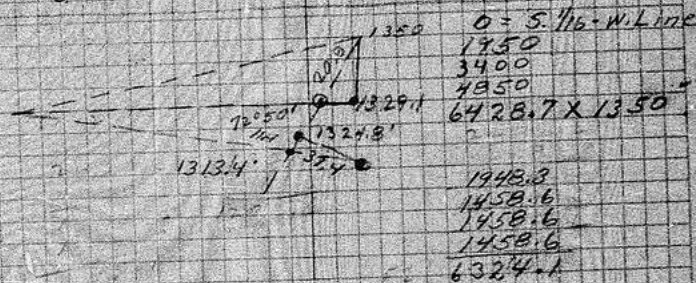
1117 0 = 2598.2 - 147.5 E. Cor

22.3 13407.7 = 1290.6 chaining south

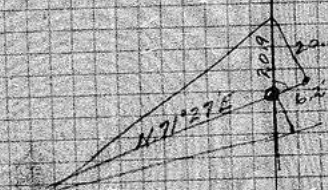
29.8 26+15.4 = 171.1 chaining North

37.4 39 23.1 = 1324.8 chaining North

43.0 52 30.8 = 45 West of N.E. Cor.



2951.5 9554.5  
21 21  
2951.5 9554.5  
8903.0 19108.0  
6198.16 120644.5



	N.	S.	E.	W.
North	1316.5	1316.5		
N. 71°40' E	6324.1	1985.7	6004.3	
S. 88°37' W	45			45
S. 1°23' E	1307.7		1307.7	31.6
	3302.2		6035.9	
	1308.0		45	300 = 71°35'
	1994.2		5990.9	
			5982.8	
			8300	

Bartlett's 1350'

65

## Extract Odia Novetholds.

4257 100' to by - to Star Stock  
 269.4  
 527.3  
 418.0 100' to Star's heading to cottage  
 270 5299.00 feet  
 335.8  
 250.6 162' from House stairs  
 377.7  
 209.8 230' to Pin  
 441.4 To a be between W.C. 116 and W.C. 115  
 189.7 140' to W.C. 117  
 164.6 170' to W.C. 115  
 231.4 Same Course & L. 49° 20'  
 W.C. 116 Forest 19° 50' - 11° 50' L. 51° 39'  
 New B.T. 120.8 43° 30' L. 100' to W.C. 115  
  
 5.16.45 L  
 49.09  
 63.57

354.3

117

151

15.15.70 x 1.43  
 43  
 65 4.1  
 15.21.15 4.11 6314  
 62 221  
 628 225  
 170 164 = 0° 08'  
 15 421  
 6314 71° 35'  
 60  
 31  
 71° 35'  
 11 71° 38' E  
 11 71° 39' E

67

127.0  
76.7  
1346.7

1575.6 - 10.2 North  
1576.

20.9	29515	95545	30891
	20.9	20.9	9.77
	265635	859905	216237
	590300	1910900	27801
	6168635	19968905	301805.27

19.97	9.8	1575.6	3.23714
10.2		6.2	4.3
9.77		1569.4	971192
			1294856
			1391970.2

29515			15694
513			14.5
29515	95545	49.0	15549
147675	51.3	140.0	49.0
	296635		1603.9
	95545		
	477725		
	4901458.5		

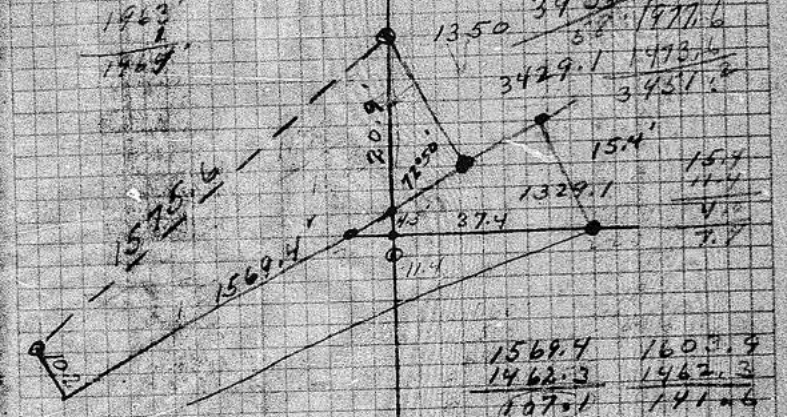
95545	134000	1950
	95543	2900
	434550	1950
	382180	1603.9
	323700	6353.9
		14621.3
		1891.6

1450	1340.7
1950	1320.7
26	260.0
3426	
3	
3423	50.7

1948.3  
1964  
112.3  
1956.2

1949.3  
1977.6  
25.9  
1943  
1949

1458.6  
1949.3  
1458.6  
3406.9  
3406.9  
1977.6  
3429.1  
3431.2



1473.6	1458.6	4891.6
1458.6	3.75	00233.8
4175.0	1462.3	146748
	3.75	146748
	146670	97832
	375	163974.2
	1469.85	
	3.75	
	1473.63	

15.41	6353.9	472.6 = 0008	6353.9
	616		2924.6
	193		3929.8
	154		1462.3
	399		1967.0
	308		
	910		
	924		
	4891.6		3406.9
	1458.6		3429.1
	3429.1		34.9
	1462.3		
	2967.0		3419

1868.0  
444  
4902.4

3406.9

3423

1948.3 : 1458.6  
1458.6  
3406.9

1948.3 : 3406.9 : X : 3423

3423  
58449  
38966  
77932  
58449  
66690309  
66690309  
34069

1957.5

326213  
3066210.5  
19593153  
1705148310  
255748610  
23926  
11

3483  
3823  
5443.5  
1467.9  
1973.6

3443.5  
1467.7  
4913.2  
6391.5  
1978.3

4931.1  
1450

3423  
1957.5  
1465.5

6391.5  
11

2939.5  
1469.7

6391.5  
1978.6  
14417.9  
1472.6  
1955

6391.5

6391.5  
4949.6  
1448.9

6391.5  
4931.1  
1468.9

6889  
115  
111  
137



71 Greene-Jude - Bartlett

June 7-27

Fay Mitchell - Last Jan - 1st Feb - 1900

S. Line

2615.4	2632.2	2632.5	2615.4	27.8
9.1	9.1		9	
2627.0	2623.4			
2632.5	2632.5			
2.0	2615.4			31.2
	17.1			

26	3057.2	4369.6
	288	1929.6
1290.6	1752.8	31470.0
17	61132	1470.0
1307.7	71122.4	

1295.5	9563	298000
	26689	
	71110	
	9563	
	15470	



Greene-Jude - 1/2 day  
Greene-Jude Apr 22  
East - 1/2 day

N.E. Cor = N-19857  
E-6003.3

N. - 1/16 Cor N-678  
E-6020.9

1/4 Cor S-627.7  
E-6038.5

J.P. T.N.E. 30  
J.P. 7 West 17.8

S. - 1/16 S-1937.4  
E-6056.1

S. E E 6075.4  
S. 3045.1

6338.4	1863
31.2	1534.8
6369.6	31.2
	6424.0

1969.6	23	105
1472.8		
3739.6		
1470.0		
5909.6		

73

1948.3 1948.3

1458.6 4375.8

1458.6

1458.6

6329.1 6324.1

1977.6

4420.8

6398.4

5230.8

19857

3245.1

5260.6

2015.5

6398.4 | 2015.5 0000 71038

191952

95980

63984

319960

319920

4000

63984

94906

383904

5758560

255936

575856

6072465504

30

6075.5

4850

69.1

4919.1

4919.1

1869.2

3049.9

716 - 2.5

1295.5

1290.6

4.9

1313.8

1301

12.8

1.5

11.0

1.8

6391.5

1469.9

4421.6

4250.0

71.6

4931.1745

2900.6

1431

1392.6

1450

6291.5

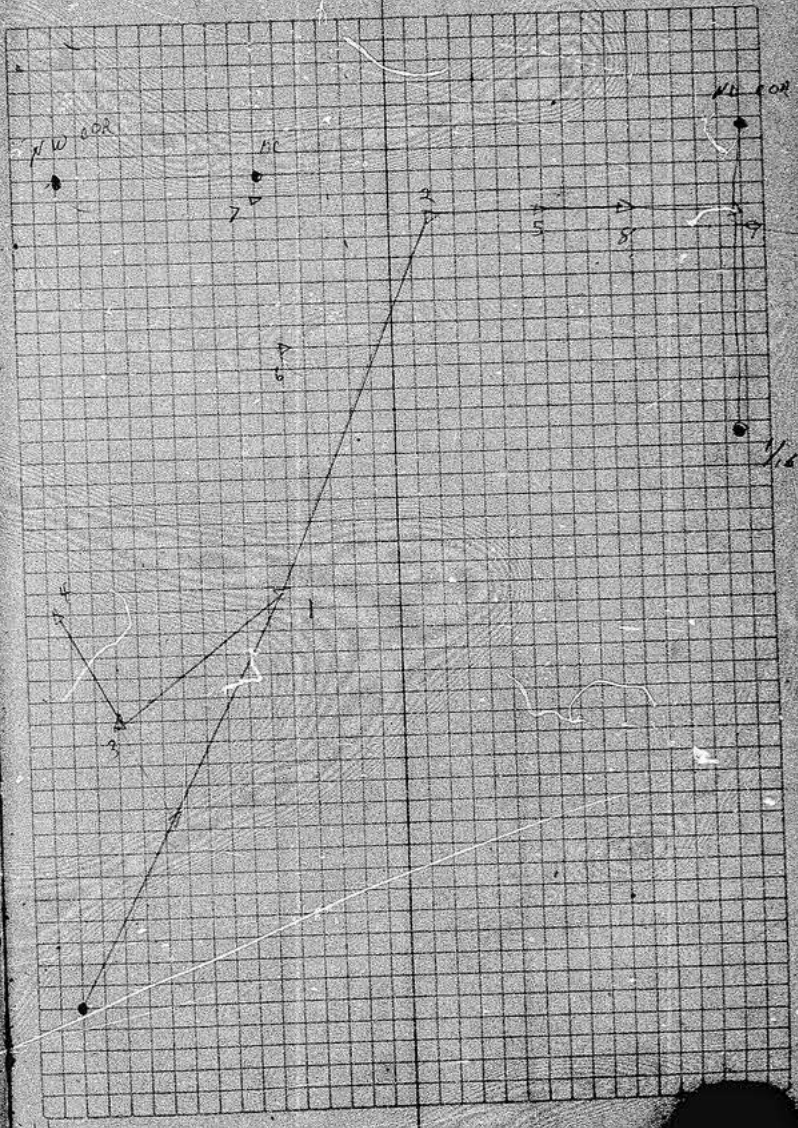
1993.5

6392.6

64 11

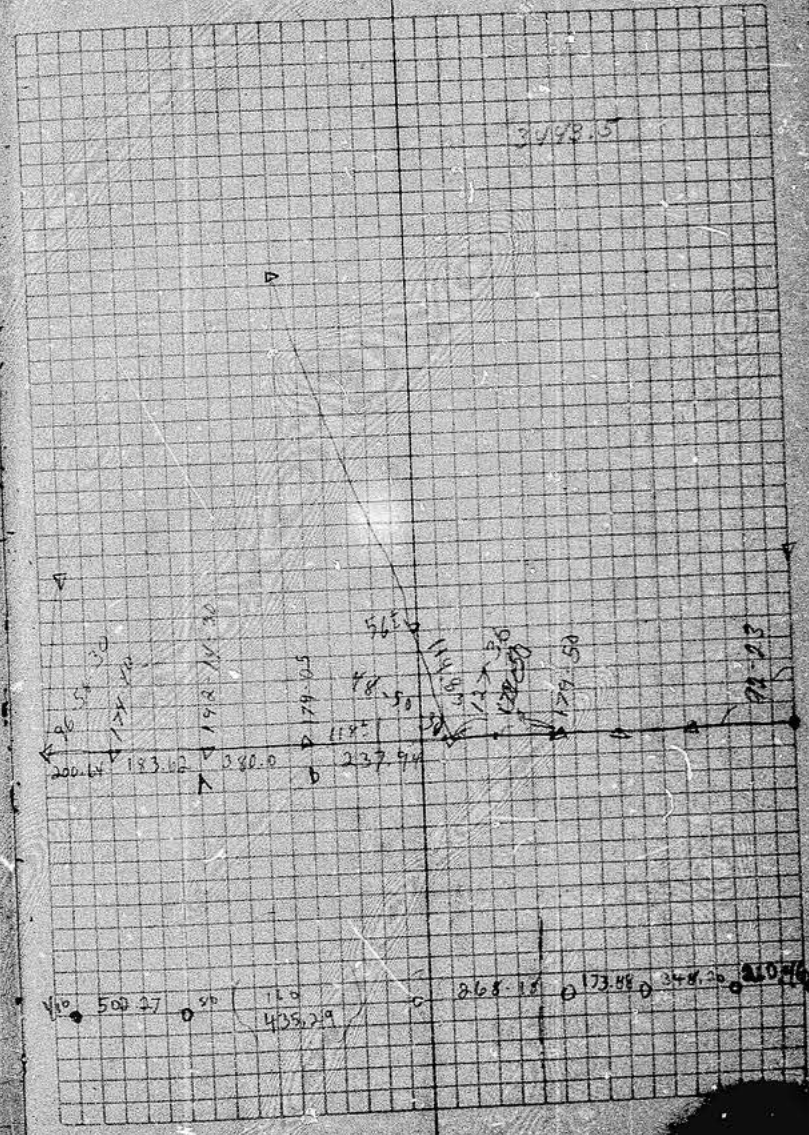
BILL ANDERSON

	A @ 1 BS 2			
178-04-10		3866.132	267.47-30	3866.15
356-09-10	178-04-35			
sw cor		2420.814	70-17-10	2420.17
	A @ 1 BS SW COR			
40-31-10		1168.904	70-22-46	1168.93
3 81-03-20				
	A @ 3 BS 4			
70-02-10		718.993	89-34-30	719.01
140-16-20				
	A @ 7 BS SW COR 2			
179-25-25		2521.516	70-15	2521.51
sw cor 255-50-50		1031.116	70-41-20	1031.17
	A @ 7 BS 3			
259-51-15				
	A @ 2 BS 1			
57-03-10				
7 117-06-30				
	A @ 2 BS 1			
250-23-35				
5 140-47-20				
	A @ 5 BS 2			
175-57-50		595.131	73-17	596.08
8 351-35-10	175-57-35	820.795	71	820.72





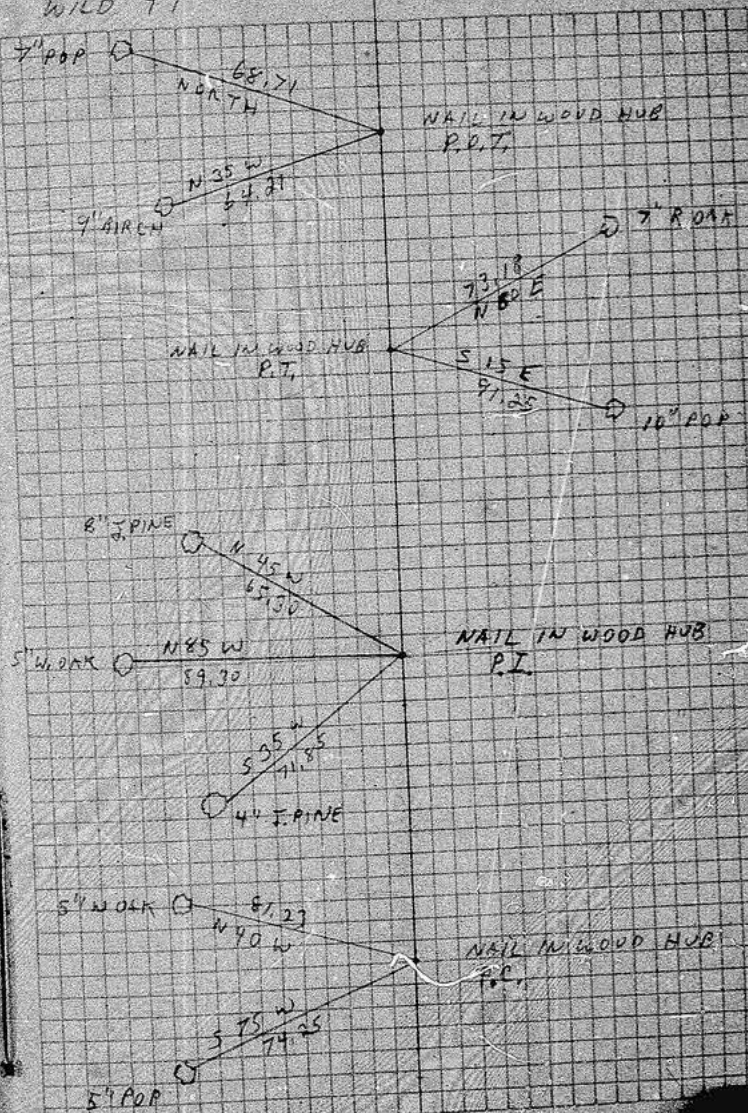
162-20	213	92-23	92-23
166-30	330	184-46	179-50
173-15	420	179-50	127-36
92-17		357-10	
154-35	92-17	127-37	
		255-12	
150-42			
301-24	150-42		
48-50			
97-41	48-50 30		
179-05			
358-10	179-05		
TC A	BS B		
0	103		SWP
L 13-30	110		
30-25	113		
47-30	113		
57-15	100		
61-20	82		
"	54		
0	23		
192-15			
24-29	192-14-30		
174-59			
247-20	174-40		
96-54			
183-57	96-58-30		



STA	DIST	DEF. ANG.	Mag BRNG
34+83.25	P.O.T.		
31+74.21	P.T.		N 52 E
31+50	19° 59' 29"		
31+00	18° 24' 00"		
30+50	16° 48' 30"		
30+00	15° 13' 00"		
29+50	13° 37' 31"		
29+00	12° 02' 02"		
		$\Delta_1$ 83° 02' 50"	
28+67.15	P.E.	$\Delta_1$ 41° 31' 33"	41° 31' 25" RT
		$D = 6° 03' 58"$	
28+50	10° 26' 32"	$T = 341.19'$	
28+00	8° 51' 02"	$L = 652.25'$	
27+50	7° 15' 33"	$E = 62.50'$	
		$R = 900'$	
27+00	5° 40' 03"		
26+50	4° 04' 34"		
26+00	2° 29' 04"		
25+50	0° 53' 34"		
25+21.96	P.C.		

7-24-81  
CLOUDY WARM  
WILD T!

W. CURD X  
P. JOHNSON CH.



JOHN KANHOW

SEC 26 T10 R29  
NW 1/4 COR. OF BL 3

JOHN WANTS TO PLAT HIS RESORT INTO LOTS & SOME  
BACK LOTS ALONG THE ROAD ON THE NORTH END  
O THE ROAD THRU BL 3. HE STOPS IN THE  
OFFICE ON FEB 5, 1977. SAWS TO GO AHEAD WITH THE  
WORK AS HE HAS HIS FINANCING OK'D.

PAUL & I GO TO THE NW 1/4 OF SEC 26  
WHICH WAS LOCATED IN A SURVEY FOR VICTOR ROSEN  
LAST FALL BY TRK & WALK. WE STAY ALONG THE  
ROAD ALONG THE NORTH LINE OF SEC 26 TO THE  
WEST LINE WALK SOUTH ALONG THE WEST LINE  
WHICH WE OPENED UP FOR A SURVEY FOR BILL  
ANDERSON (SEE PG 75-79 THIS BK) TO THE NW COR.  
ON WEST LINE CUT EAST ALONG OLD BRUSH LINE TO  
THE 2 IRON PIPE IN CENTER OF NW 1/4 TRANCE WE  
CUT SOUTH ALONG THE N-S CENTER LINE OF THE  
NW 1/4 SEC 26 TO THE SHORE OF BLACK WATER  
LAKE FIND OLD 2 PIPE ON SHORE AS CALLED  
FOR IN BK 268 1974 CUT NE ERIE ALONG SHORE  
FOR ABOUT 100 FT. QUIT FOR DINNER WALK NE  
ALONG ROAD TO TRK SET UP ROAD TRAVERSE ON  
WAY AFTER DINNER WE DRIVE N TO A POINT SET  
ON THE ROSEN SURVEY SET BS ON NAIL SET S  
ON NW 1/4 SEC 26 SET POINT S ON LINE

FEB 11, 1977

5° CLEAR WINDY (NW WIND)

94-57 94-54-00  
189-57

95-54 95-54  
191-49

192-09 192-09  
286-16

199-49 199-49  
399-38

198-50 198-50  
197-18

136-23 134-23-30  
262-47

38-46 38-45-30  
27-36

169-04 169-04-30  
588-09

158-23 153-22-30  
306-46

134-23-30 843-00

153 134-23-30

140-94 168-04-30  
149-26

149-26 168-04-30

149-26 168-04-30

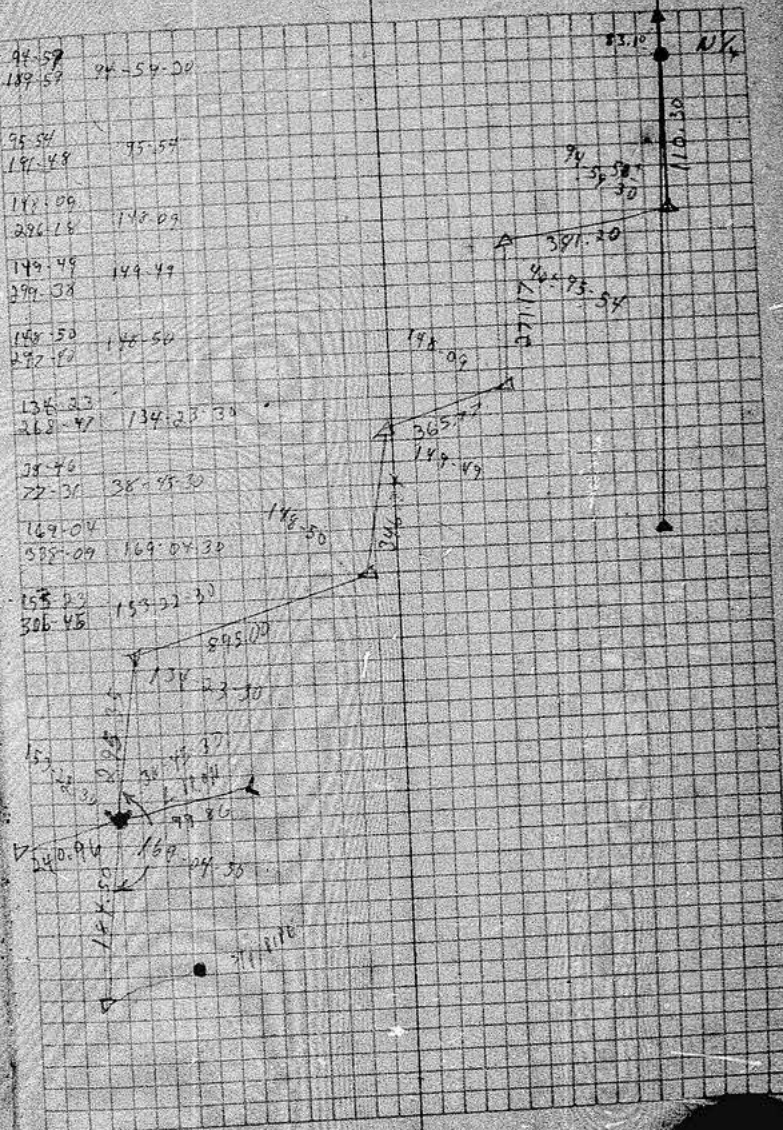
149-26 168-04-30

149-26 168-04-30

149-26 168-04-30

149-26 168-04-30

149-26 168-04-30



LANKOW

TUESDAY FEB 15 77 - 15° CLEAR PAUL & BOB REEL  
 FOR TAP. ROGER MUSTONER COMES IN WITH A SUB FOR  
 US TO NO BECAUSE WE HAVE ALREADY SUB SEC 1-14-29  
 AND WE COULD MARK THE WEST LINE OR GO CHEAPER  
 THEN WE COULD ST I CALL HARLEN HARMILL & TELL  
 HIM WHAT IT WOULD COST HE SAYS TO GO AHEAD ON  
 WEDNESDAY WE DRIVE OUT TO LANKOWS TO LOCATE  
 THE CABINS & STAKE LINES

7639  
 143-19 71-39-30

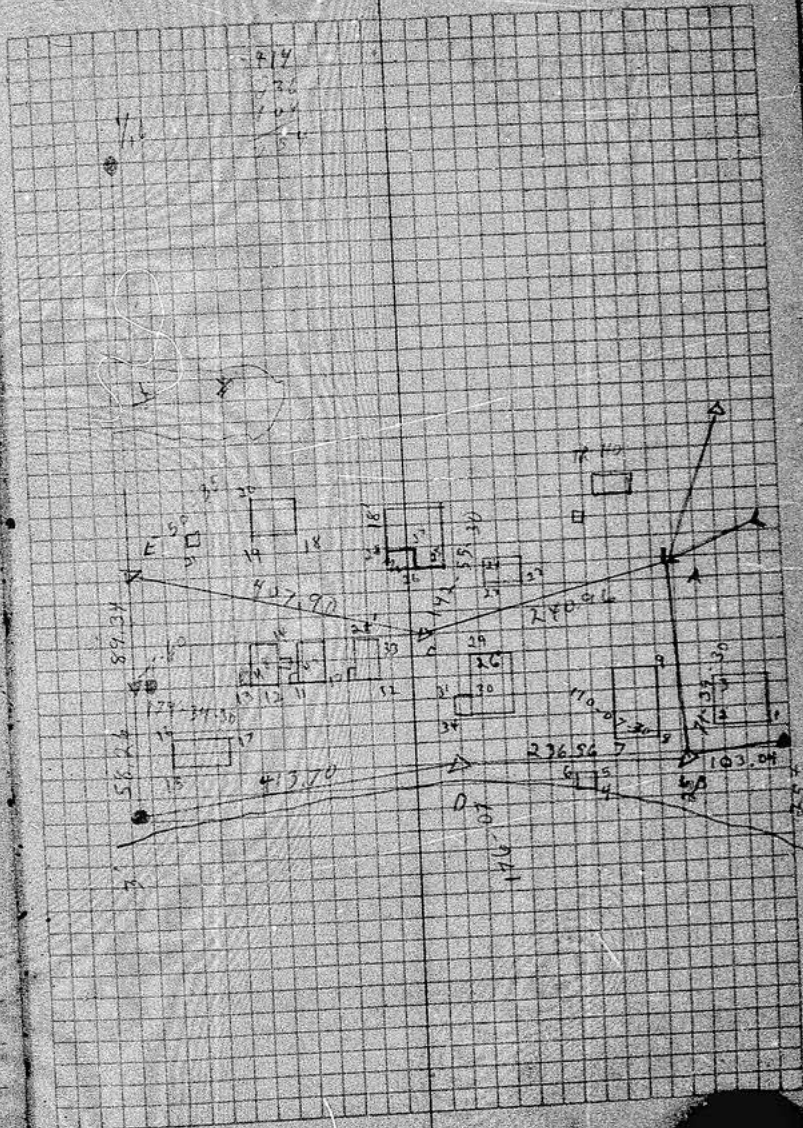
110-07  
 220-15 110-07-30

T @ B 05 A

- ① 59.50 87
- ② 56.30 59
- ③ 54.40 70
- ④ 225.35 80 60
- ⑤ 235.30 56
- ⑥ 239.25 74
- ⑦ 881- 41
- ⑧ 314.10 23
- ⑨ 330.15 57

~~175-98~~

176-07  
 352-14 176-07





	$\pi$	$\theta$	$\delta$	$\beta$
10	321.25	23		
11	252.55	14		
13	202.25	62		
12	215-	41		
14	231.45	53		
	179.35			
	329.09	129.31		
	56.35			
	101.10			
	$\pi$	$\theta$	$\delta$	$\beta$
15	31.25	91		
16	27.00	57		
17	21.20	106		
18	336.10	184		
19	335.35	166		
20	231.30	171		
21	316.25	157		
	309.45	183		
	317-	195		
	324.30	220		
	317-	245		
	314.30	245		
	142.55			
	285.51	142.55	30	

	$\pi$	$\theta$	$\delta$	$\beta$
22	359.30	66		
23	342.10	46		
24	335.40	54		
25	314.25	44		
26	303.25	46		
27				
28	284.25	55		
29	306.89	83		
	26.45			
30	322.00	81		
	88.55			
31	96.15	16		
32	172.10	31		
33	213.45	27		
34		20		

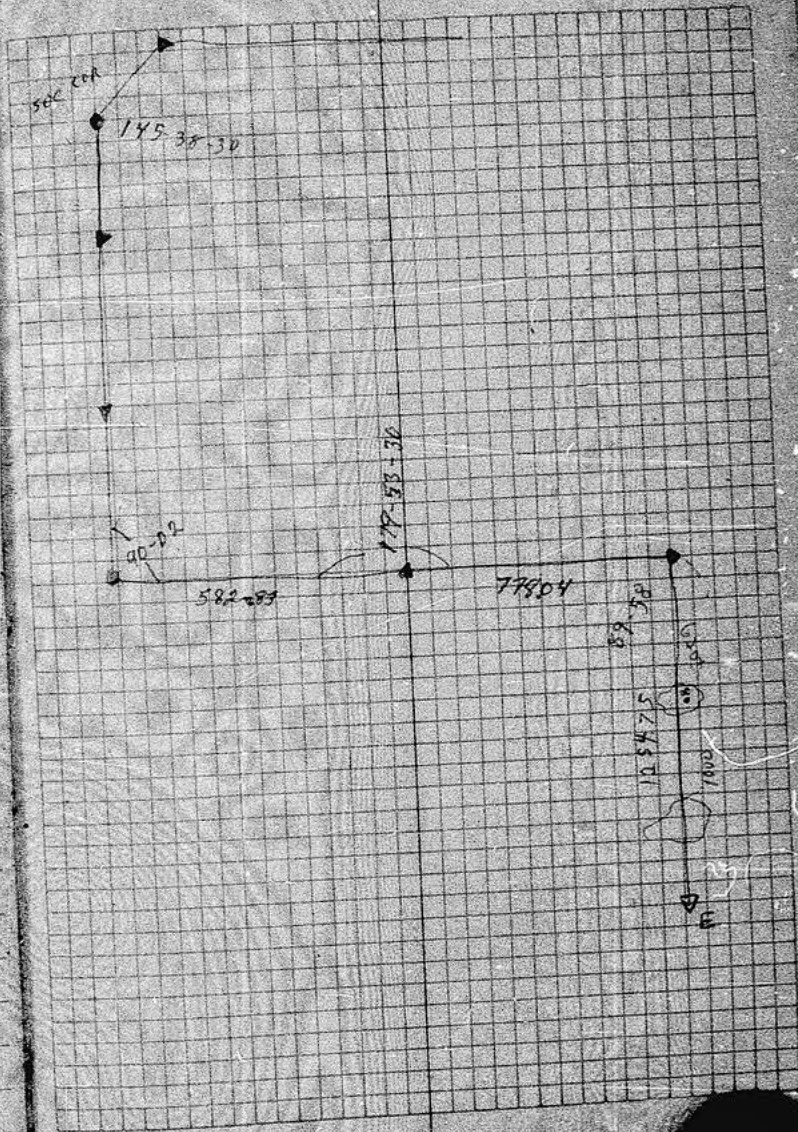
  

	$\pi$	$\theta$	$\delta$	$\beta$
25	314.25	49		
26	303.45	46		
27	301.50	54		
28	286.10	54		

145-38	
391-17	115-58-30
90-02	
190-04	90-02
179-54	
359-47	179-53-20

540.83  
726.04  
1340.87

89-58	
177-56	87-58



701111  
 181-17  
 362-23  
 142-17  
 284-34

110100  
 181-16-30  
 142-17

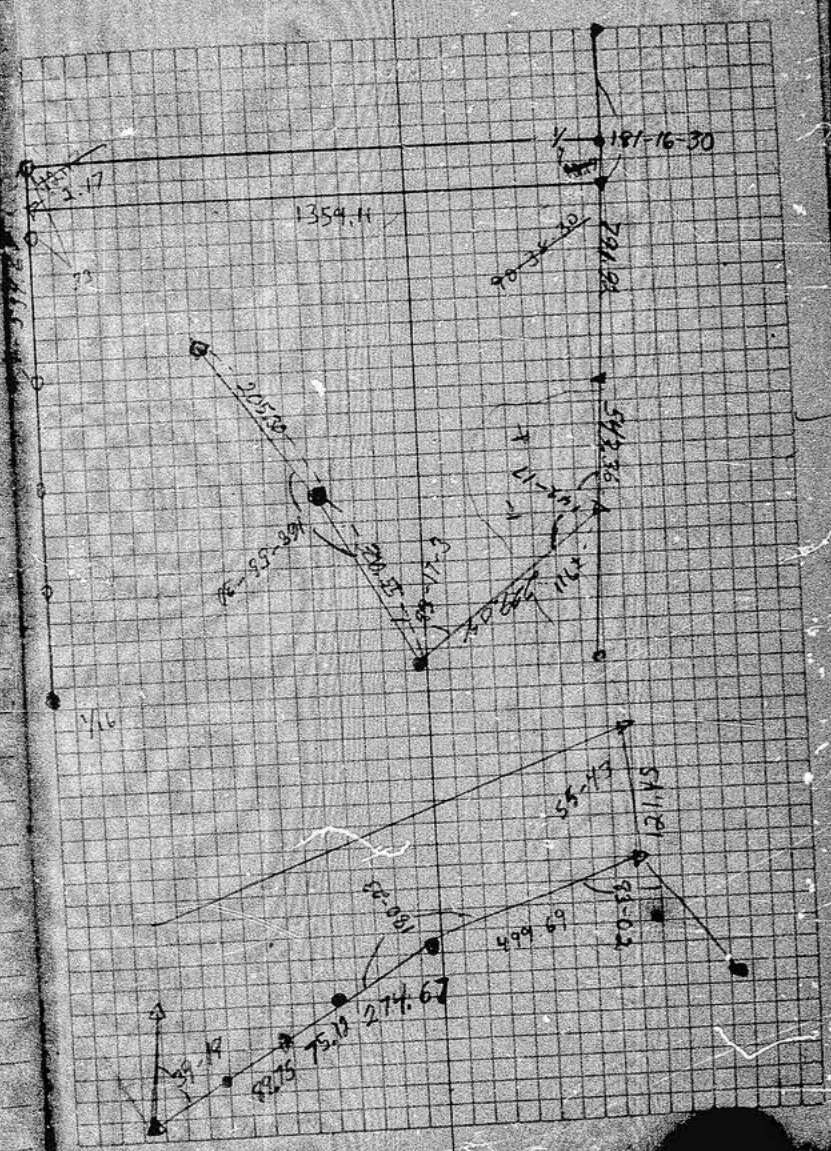
791.92  
 543.96  
 116 222.04

83-17  
 166-26  
 168-56  
 337-57  
 39-19  
 78-38  
 190-23  
 360-46  
 83-02  
 166-04

83-17-30  
 168-55-30  
 39-19  
 180-23  
 83-00

130-12  
 260-25

30-4-30



CECIL WISLER

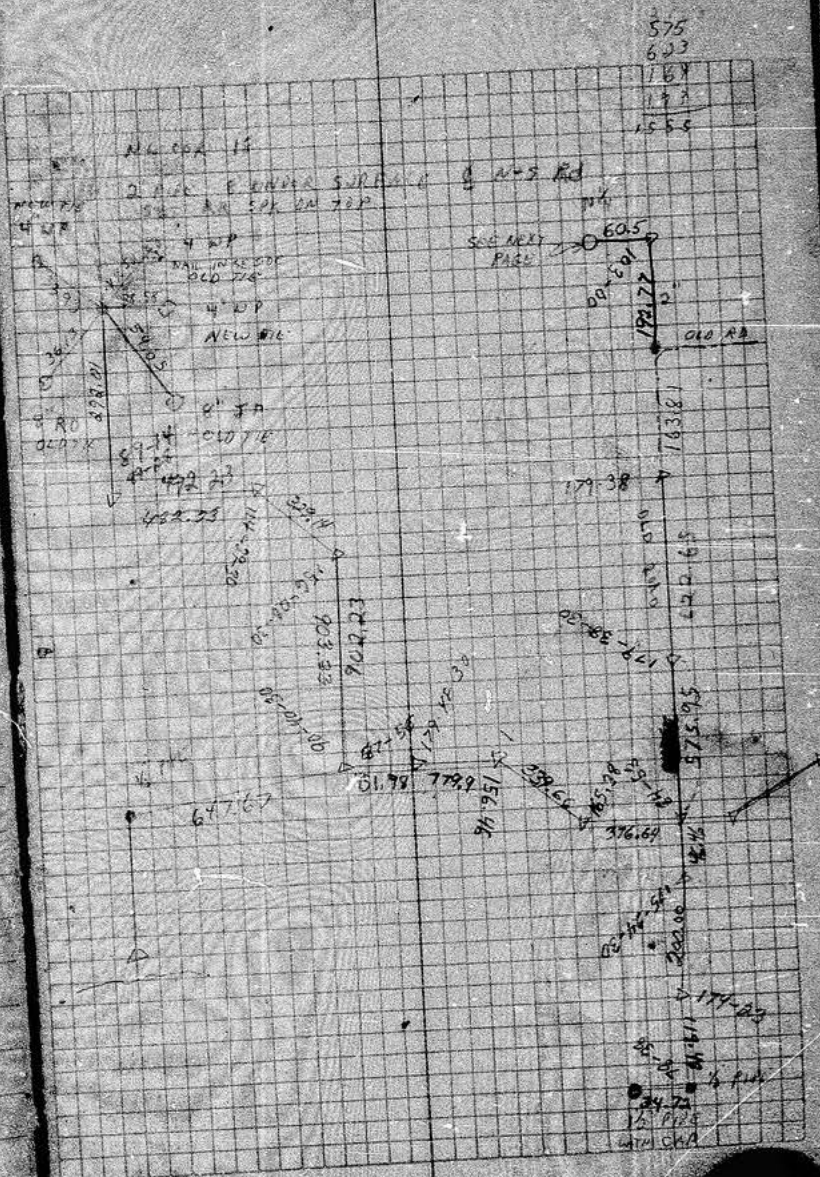
CL 3 45-140-31

DURING EMERGENCY STOP IN OFFICE HAD A MAN WHO  
 NEEDS A LOTS MARKED ON CRYSTIC LAND STILL  
 WIND ABOUT WHAT IT WILL COST + HOW MANY FEET  
 HE ONLY CALL THE GUY + TELL HIM I WILL  
 CALL IN BACK NO COLLECT ME + SAYS TO GO BACK  
 AND TO TELL MANNIE I WILL PAY FOR SCHOOL  
 BAND CONTEST WITH OF PAUL AT 1930 BOUND TO THE  
 NW COR. SEC 15 AND CORNER IN 6 RD. SET MARK  
 ON TOP 4 MARK 2 NEW PTS. IN AT 255 AC 142  
 IT SAYS @ 194' 5" UNDER 60' 5" IN OLD LOOKING RD  
 WE DRAIN 3000 FT FIND OLD ROAD BUT NO SUR. LOTS  
 OF TIMBERS + TANK HERE WE CHAIN TO 552 787  
 LOOK FOR 400 YARD ROAD MEETING NEXT CHAINS TO  
 752.2 FIND NOTHING. DRIVE TO 5416 88 ON STATE  
 LANE LOOK FOR MC-NOTHING HERE. OLD ROAD  
 OLD JP WITH BLAZES 4 1/2 FT NAIL IN ONE BLAZE

WE DON'T SEE ANY OTHER TRACES OF OLD

82-14	14
178-28	87-28
114-39	
228-57	114-29-30
156-08	
312-17	156-08-30
90-40	
181-21	90-40-30
97-56	
175-52	87-56
179-49	
357-37	179-48-30
156-46	
313-32	186-46
165-38	
231-18	165-38

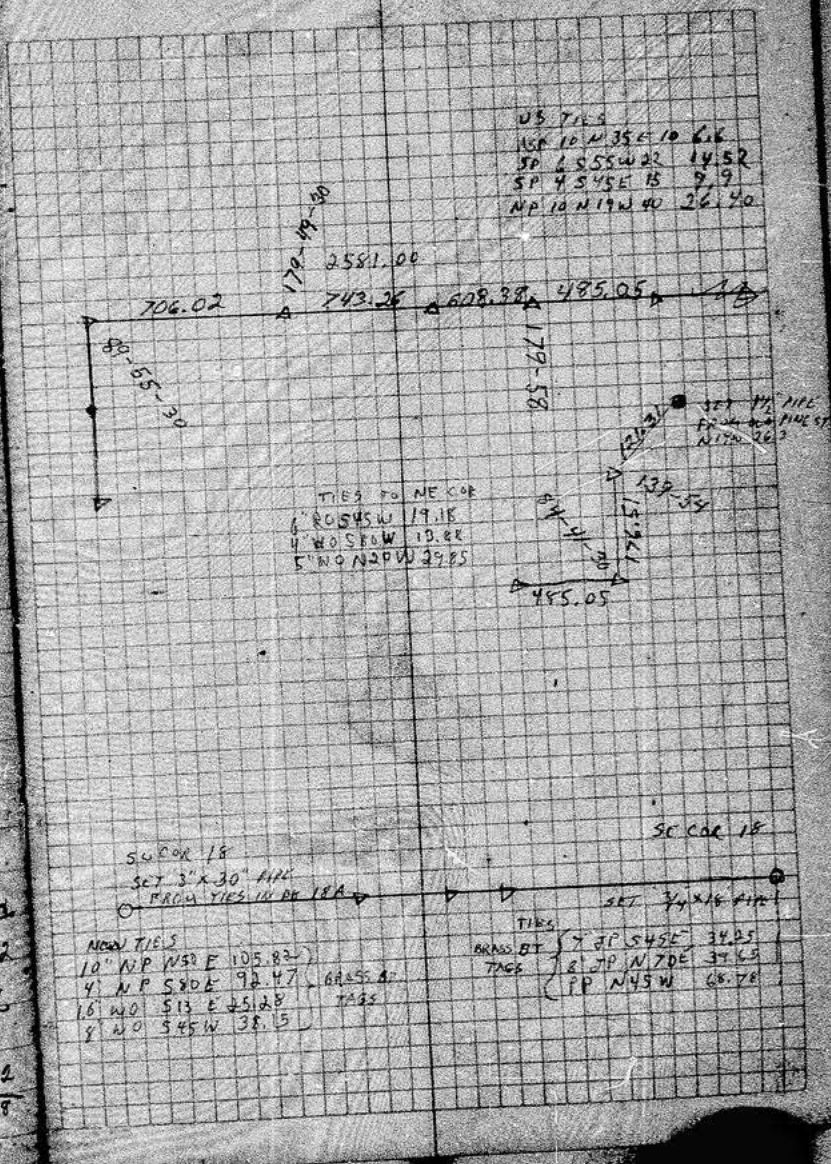
500
387
442.28
330
80
913
327
200.53
460
102
451.98
790
1
778.94
340.04
339.46



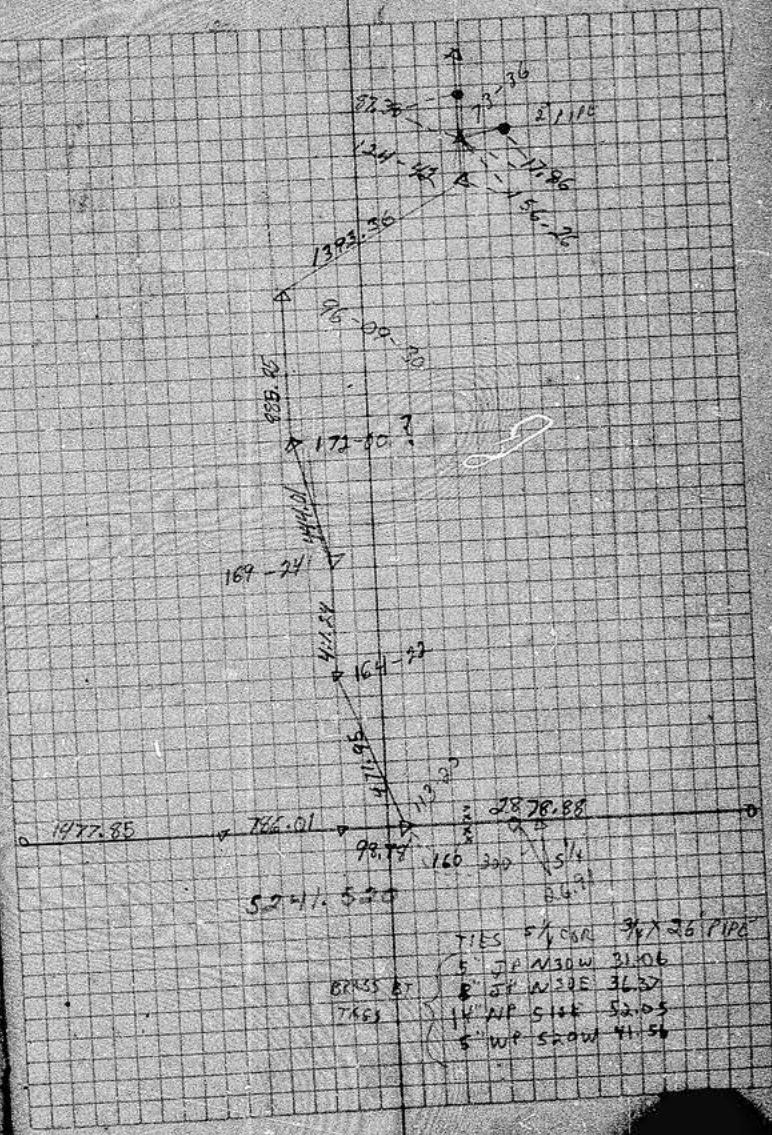
575  
 623  
 164  
 171  
 1558

5

175-25		706.02	380.36
350-49	175-24-30	743.26	376.61
174-23		103.75	55
348-46	174-23	2057.66	-8.59
78-38		2581.1	74.76
157-16	78-38	2052.66	125
24-00		523.34	-6.59
84-58			118.49
169-46	84-53	60	49.24
174-99		50.7	24.72
359-17	174-38-30		650.33
			-2.33
174-38		117	247.67
359-16	174-38	105.00	530
102-00			4.00
206-00	103-00	200	172.77
		227	575.31
US TIES TO N 1/4 SEC 18			170
WP 20 S 50 E 10 = 6.6 FT			6.19
WP 20 N 55 W 36 = 23.76 FT			163.81
I FIND OLD PINE ST WITH BUCK ON THE SW COR			
LOOK SW ALONG BUCK & FIND REMAINS OF OLD PINE			
STUMP PAUL GOES BACK TO TOP & GETS THE SHOVEL			
AND A 3" X 30" GALV. PIPE WE PULL THE TIES AND DIG			
DOWN ABOUT A FOOT X 3 FEET DIA. FIND NOTHING SET			
PIPE BY CHAINING US DIST FROM E OF STUMP IT FALLS			
IN E OF OLD TRAIL NE SW MARK NEW PT			
20" WP W 65 E		105.97	710
3" WP N 40 W		50.70	393
3" WP N 50 E		28.99	706.02
			750
			6.74
			743.26
			610
			-1.60
89-56			608.39
179-51	89-55-30		
179-50			
359-39	179-49-30		



179-58		90
359-56	179-58	2.62
		87.38
113-23		20
226-46	113-23	2.14
164-22		17.86
328-44	164-22	160
		3.74
		156.26
169-27		1400
338-54	169-24	6.64
	169-27	1293.36
172-00		890
344-00	172-00	4.75
		885.25
124-42		450
242-24	124-42	5.99
		444.01
96-09		480
172-19	96-09-30	8.05
		471.95
94-41		2880
169-23	84-41-30	1.10
		2878.87
139-54		1480
279-49	139-54	2.15
		1477.55
		790
		3.94
		786.01
		100
		1.22
		98.79
		140
		3.49
		176.51
		130
		8.69
		121.31

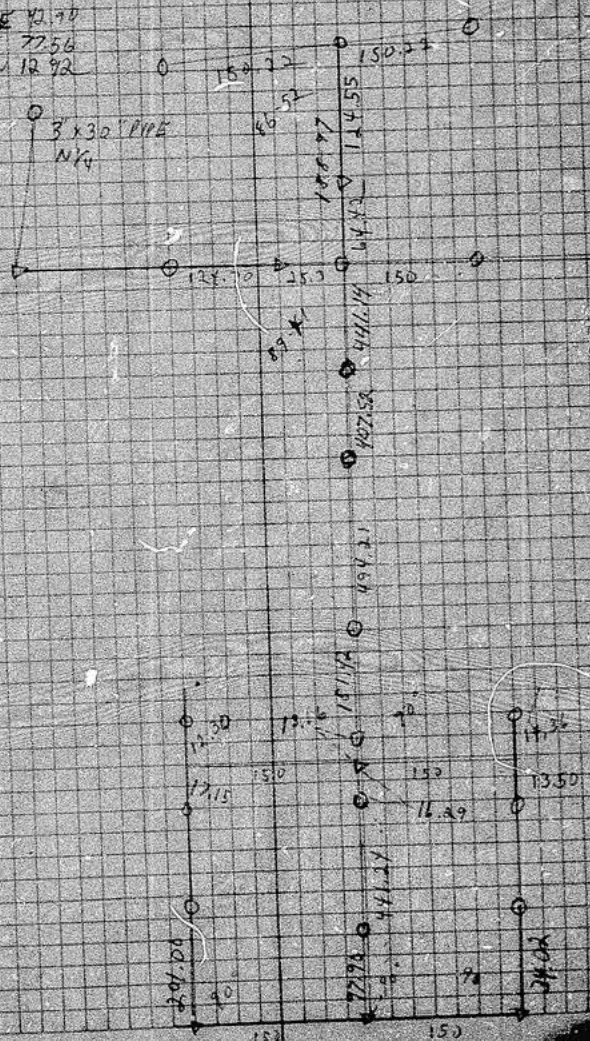


CECIL UTSLER

Cont. Lot 3  
Sec 18, T40, R31

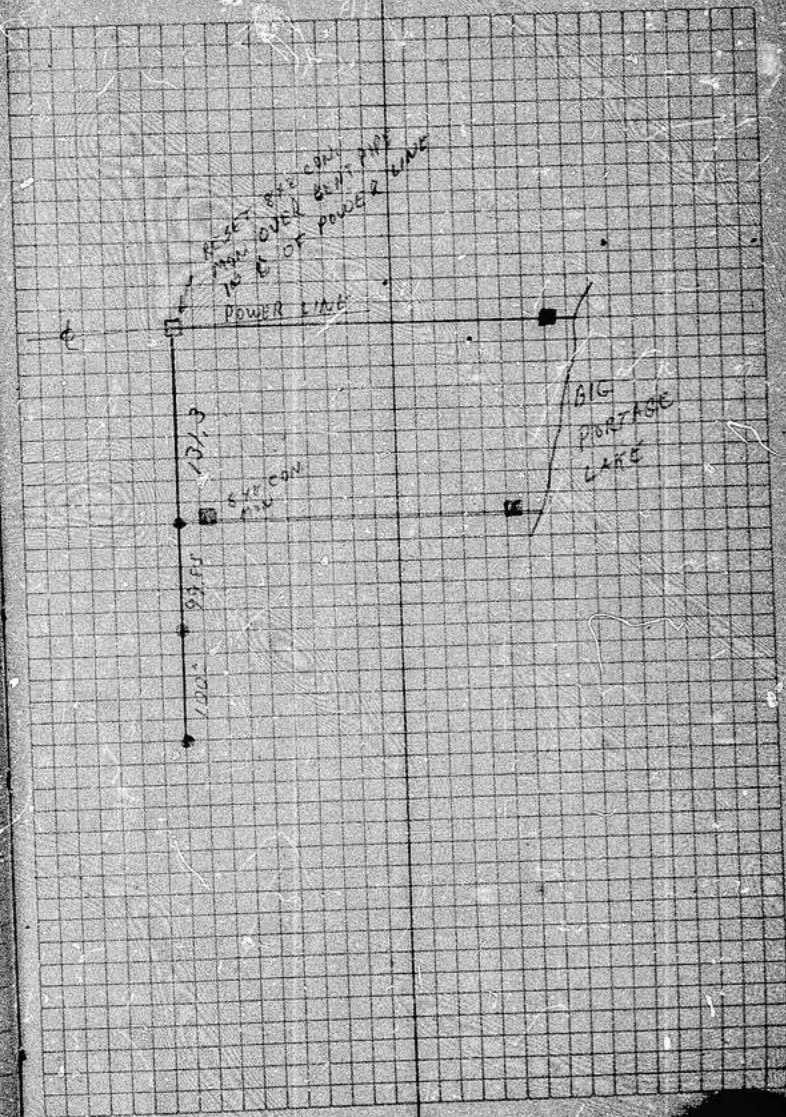
20  
5.50  
27.92  
187.92  
67.92  
24.55  
450  
7.56  
441.14  
410  
2.48  
407.52  
500  
5.79  
494.21  
190  
8.58  
181.41  
20  
6.87  
311  
20  
3.7  
16.29  
100  
2.10  
97.90

TICS  
5' UP SIDE 41.70  
30' UP WEST 77.56  
6' W/O N 10 W 12 92



LEONARD RUMMEL

TRUSLY 23 139-30

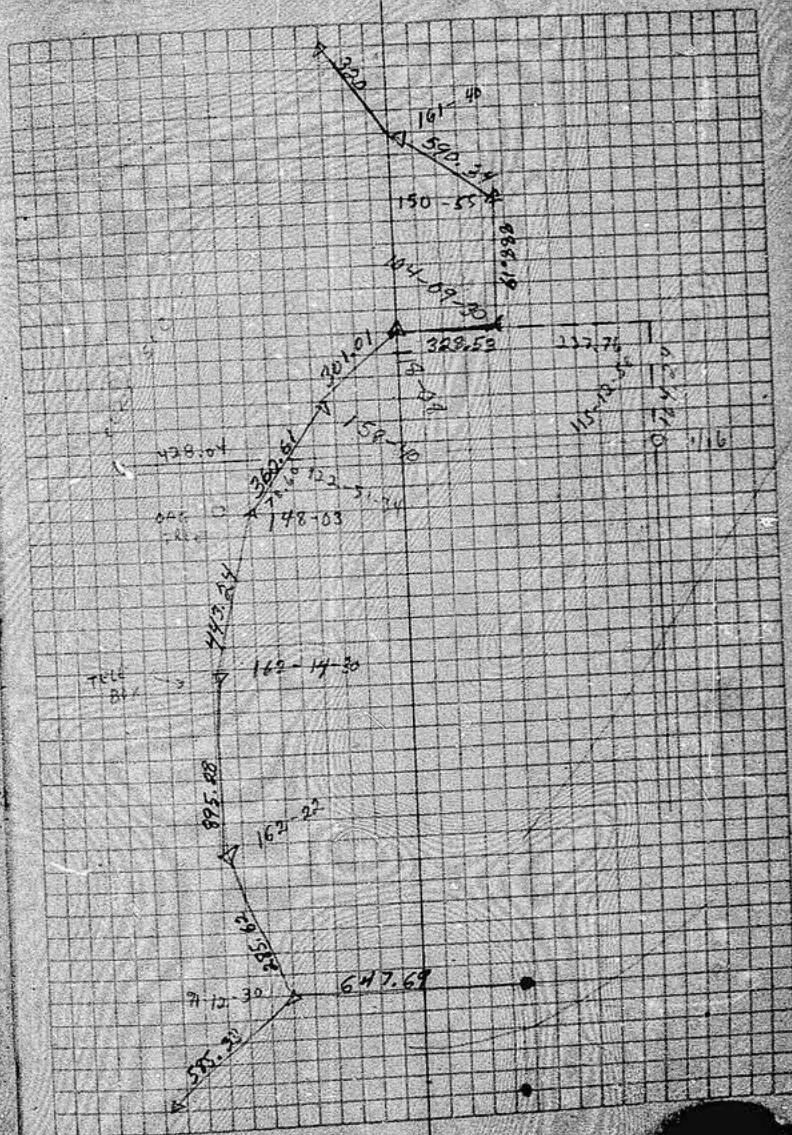








154-30		800
309-03	154-31-30	- 1.81
		882.19
90-56		930
181-59	90-56-30	- 1.47
		328.53
91-12		450
182-25	91-12-30	- 6.26
		443.24
182-22		800
324-44	162-22	- 4.72
		895.28
162-14		290
324-29	162-14-30	- 4.38
		285.62
148-03		650
296-06	148-03	- 2.31
		647.69
158-40		590
317-20	158-40	- 4.67
		585.33
118-08		550
236-16	118-08	- 7.61
		542.39
104-09		
208-19	104-09-30	
150-55		
301-50	150-55	
161-40		
323-20	161-40	
138-07		
226-15	138-07-30	
148-06		
296-12	148-06	



722-04	
244-15	122-07-30

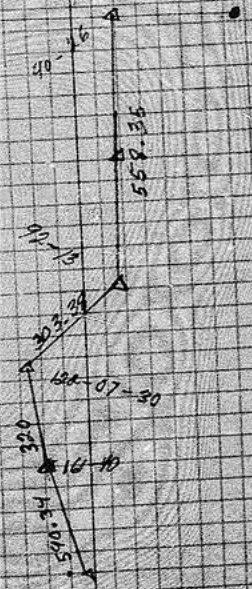
92-13	
184-26	92-13

90-26	
180-52	90-26

56-38	
113-16	56-38

560  
- 1.65  
558.35

591.  
- 1.66  
589.34





328- 155  
 335- 120  
 330-30 61  
 327-20 118  
 288-15 135

90-57  
 181-54 90-57

T @ D B S A

206 75  
 78-20 150  
 187-20 180

185-14  
 10-28 185-14

T @ E S D

198- 44  
 189- 120  
 203-30 156  
 194 170  
 182-30 160  
 170- 145  
 152-40 145  
 206-06  
 52-12 206-06

HT 21-22 0-6-26

S.P.

T @ M B S A  
 248-20 215

136-27  
 222-55 136-27-30

144-58  
 289-16 144-36

112-26  
 234-22 112-26

176-08  
 332-10 176-08

196-75  
 52-24 196-75-30

101-45  
 203-21 101-44-30

109-76  
 218-32 107-16

158-32  
 317-44 158-57

T @ G B S H

103-45 125  
 78-12 85  
 219-30 90  
 215-12 115  
 223- 160

115

96-45		
173-24	96-44	30

594
77
593.23

$\pi$	@	A	85	B
-------	---	---	----	---

70
8
115

1 265-0 180

2 267-40 185

3 267-50 190

4 272-12 100

5 278-15 98

6 231- 82

7 175- 22

8 190- 115

9 210- 109

10 225-15 115

11 217-30 164

12 216-20 210

13 221-15 190

14 231-10 167

15 238-30 130

$\pi$	@	B	85	C
-------	---	---	----	---

1 85-48 41

2 110-30 73

3 100-45 122

4 110- 165

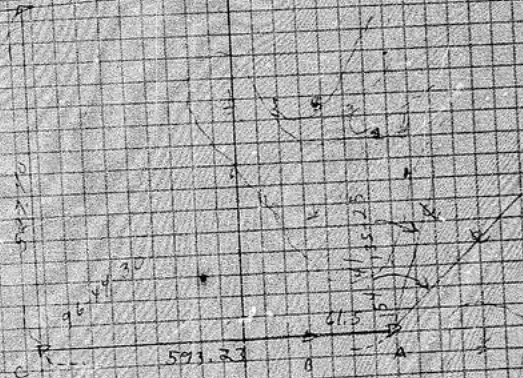
5 105-30 232

6 97- 300

7

116

Heavy







119

BOB P+UL

<del>171-40</del>	
<del>257-30</del>	<del>151-50</del>
141-50	
287-90	141-50

178-36	
357-11	178-35-30

86-51	
173-93	86-51-30

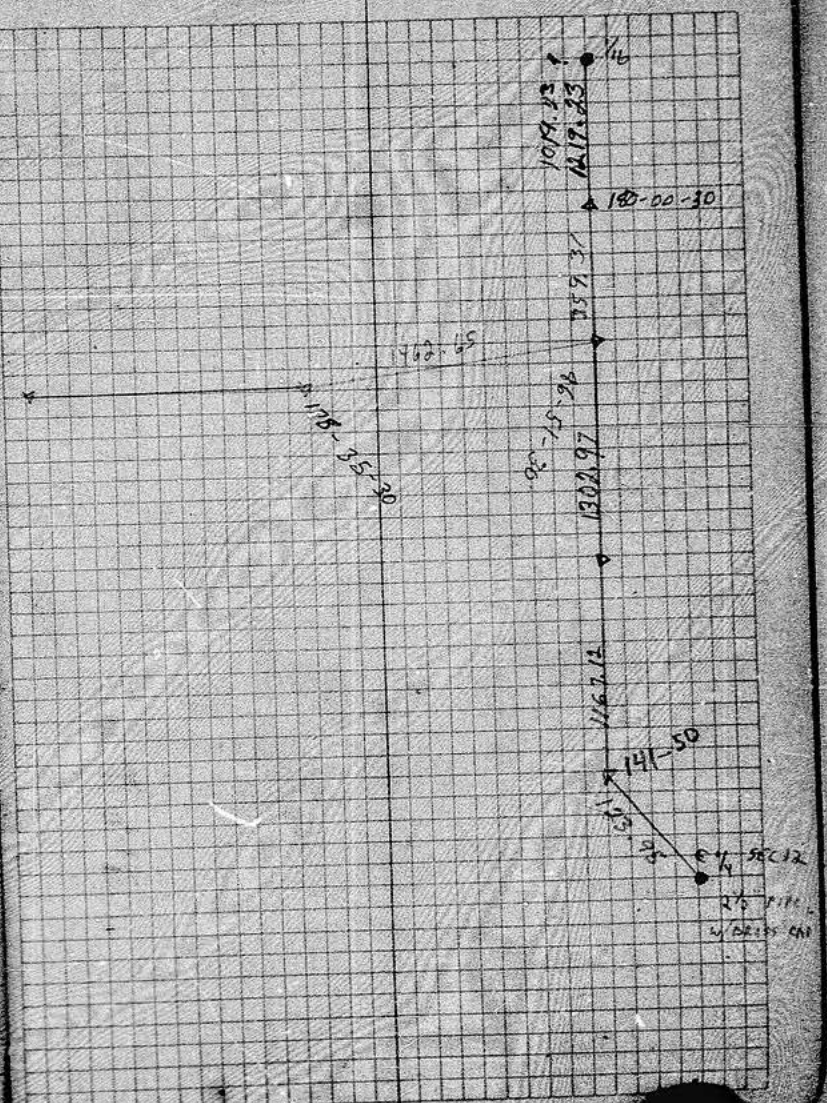
180	
360-01	180-00-30

1176
2-88
1167.12
1310
109
1302.97

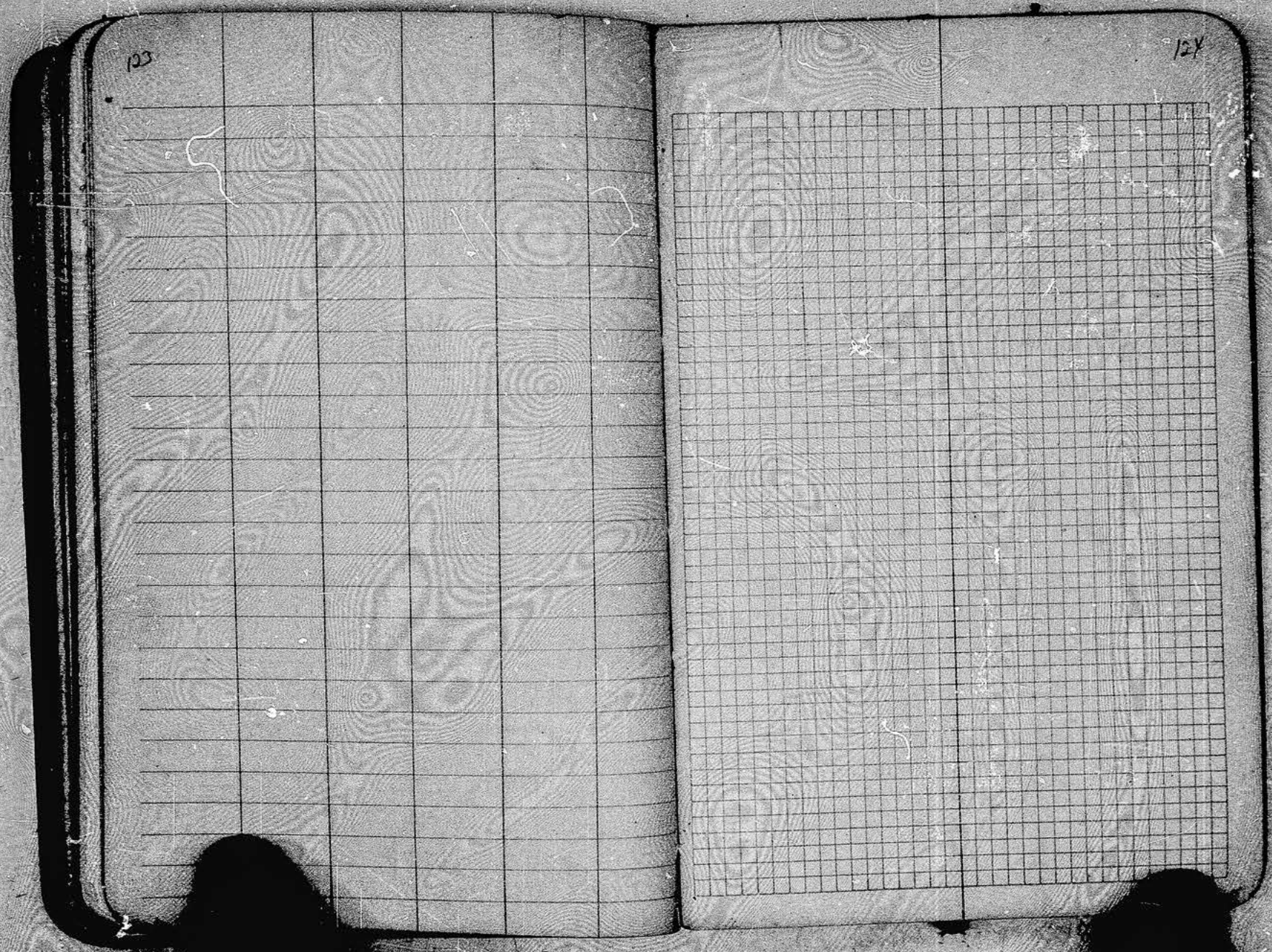
19.77	23
66	5
118.62	170
212	58
204.50	
67	66
108	21
35.7	72
120	66
155.3	13
1320	198
357	51
1302.50	8.58

804	1370.77
1219.29	
360	
69	
359.31	
1470	
7.35	
1462.65	

120







13

124



127

89-19-15  
178-38-30

89-19-15

560  
1.93

179-34  
359-02-15

179-33-45

558.17

990  
2.83

558.17  
987.17  
1102.45  
2677.77

1110  
7.55  
1102.45

1050  
280  
1320  
9.70

1320.30

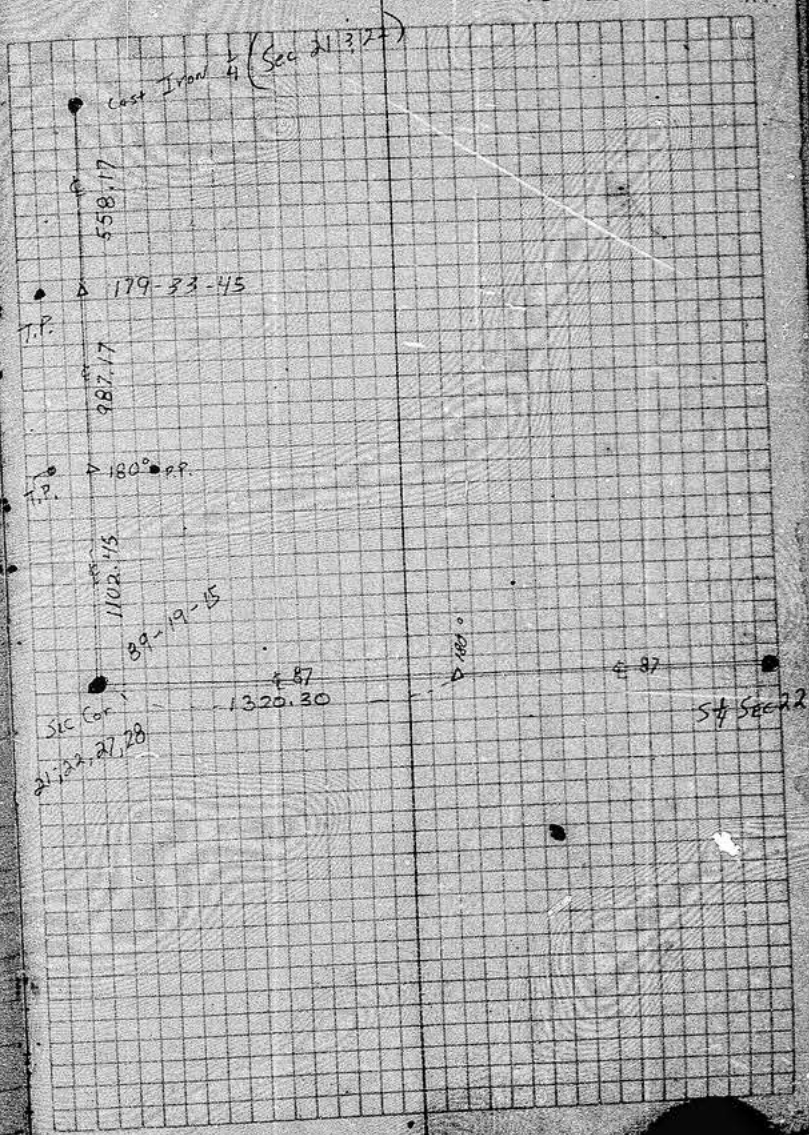
1320  
9.25  
1310.75

128

Roy Paul June 28, 1977

T. 139 N. - R. 30 W

Powers Township



177-24	177-23-45
354-27-30	

156-34-30	156-34-45
313-09-30	

179-23-30	179-23-15
358-40-30	

137-45	137-45
275-30	

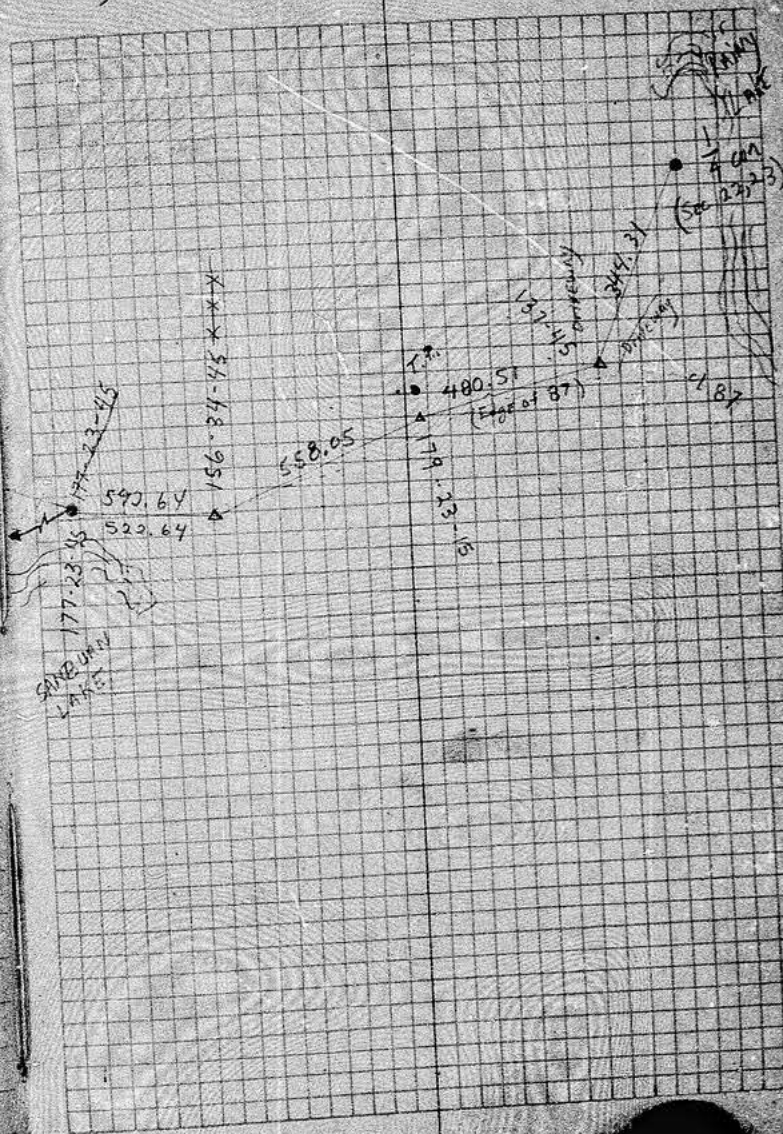
350
5.69
344.31

310
170
51
480.51

550
8.05
558.05

600
- 7.36
522.64
592.64

Roni, Paul June 28, 1977





133 LAKE and Sup. (Rainy L.)

A @	D	BS	E	
2 X	158.0	@	6-20	L
2 X	140.0	@	8-20	L
	255.0	@	8-55	R
	195	@	16-45	L
	149	@	35-15	L
	88	@	22-45	R
	158	@	61-15	L
	224	@	73-15	
	164	@	75-15	Straight line
	600 ±	@	139-27	w/ DOME C (Shoreline)
→ W edge of Swamp from D				

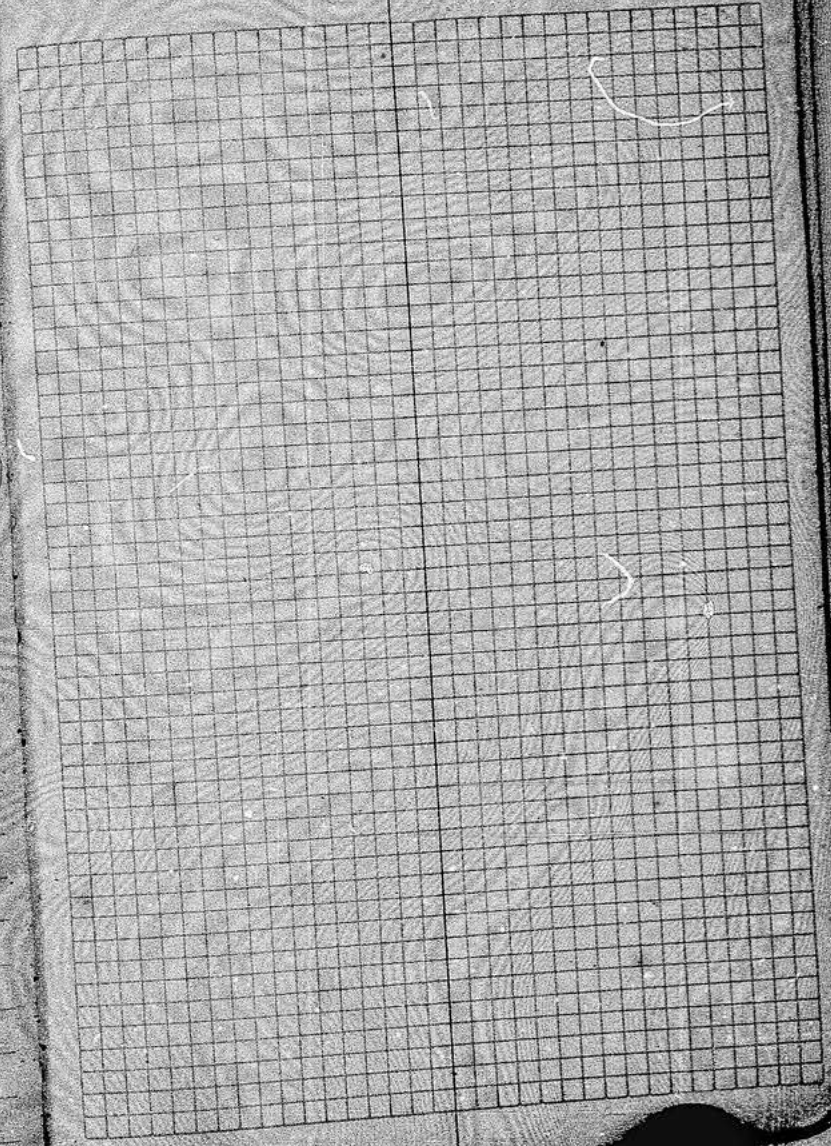
① 155-30 155-30-30  
311-01

V T @ F BS E Clearing

106	@	18-45	L
2 X	118	@	18-43 L
261	@	35-33	

② 167-13-30 167-13-30  
334-27

③ 66-08-15 66-08-15  
132-16-30







127

$$\begin{array}{r} 392.78 \\ 403.78 \\ \hline 95.91 \\ 347.87 \end{array}$$

147.87

100.0

95.91

34.48

34.48

76.50

34.48

138

Ekedahl

158.81

34.48



191

~~165-07-25~~~~165-16-15~~

165-07-20

232-15-20

165-07-20

165-07-40

163-30

306-39-40

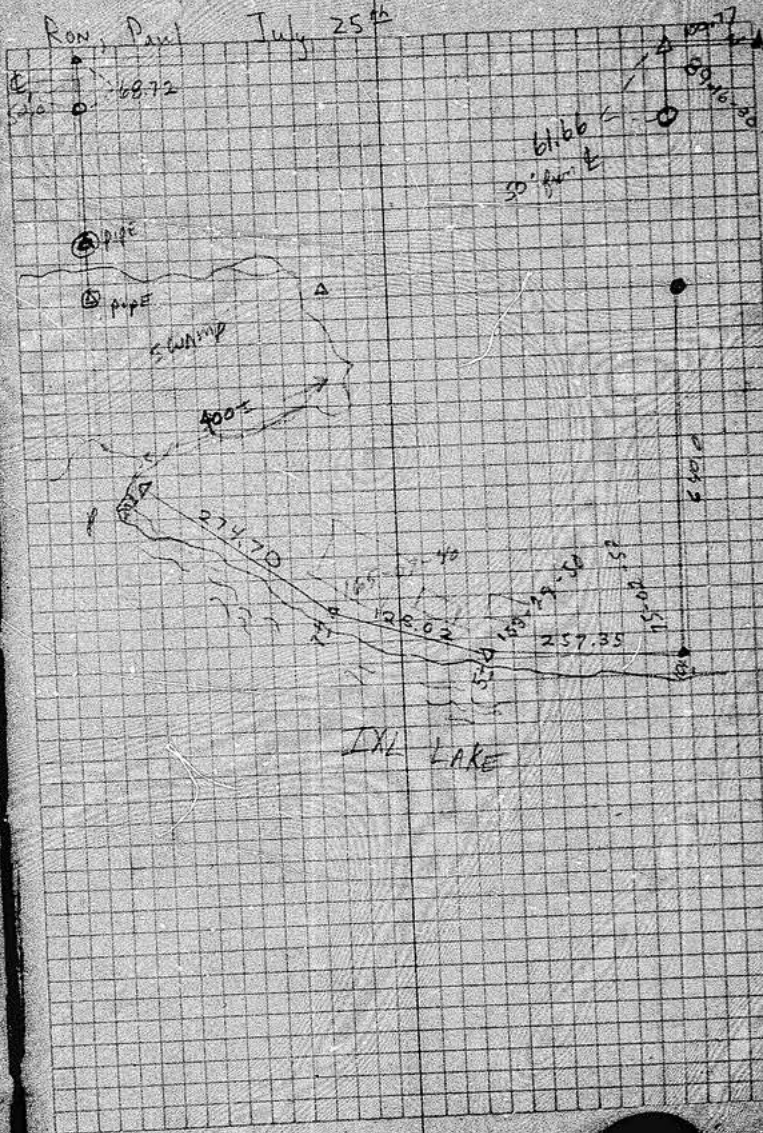
153-29-50

75-02-58

150-05-24

75-12-52

192

Ron, Paul July 25<sup>th</sup>

143

T@ A BS N ON LINE

90-26-05	NE. Cor	359-69	
		90-58	.93 over
101-46-40	SW Cor	269-02	

T@ B BSC

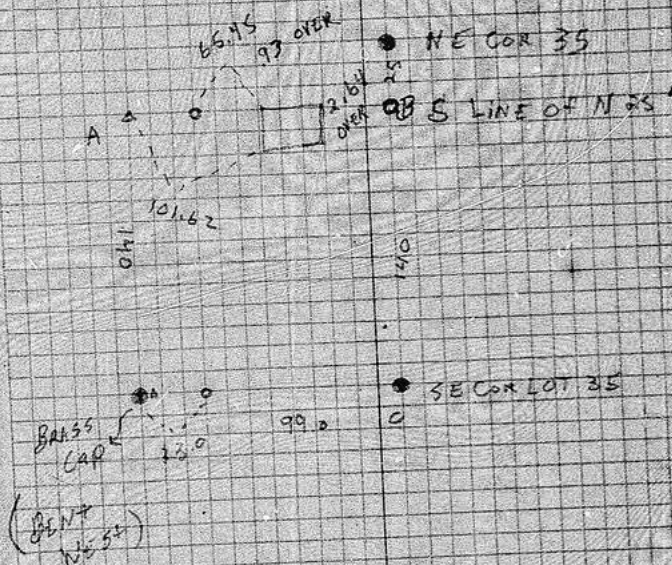
26-24-38	@	19.17	2.64 over
106-09-50	@	10.05	

144

Row Pakl

SIAN Medina

Whipolt (Lot 35)



145

180-21-40  
360-44-00

180-22-00

179-32-25  
359-24-40

179-32-20

~~88-28-40~~  
~~181-17-05~~  
90-39-50  
181-17-10

90-39-32

90-39-25

89-12-20  
179-24-28

89-12-19

179-53-35  
359-47-05

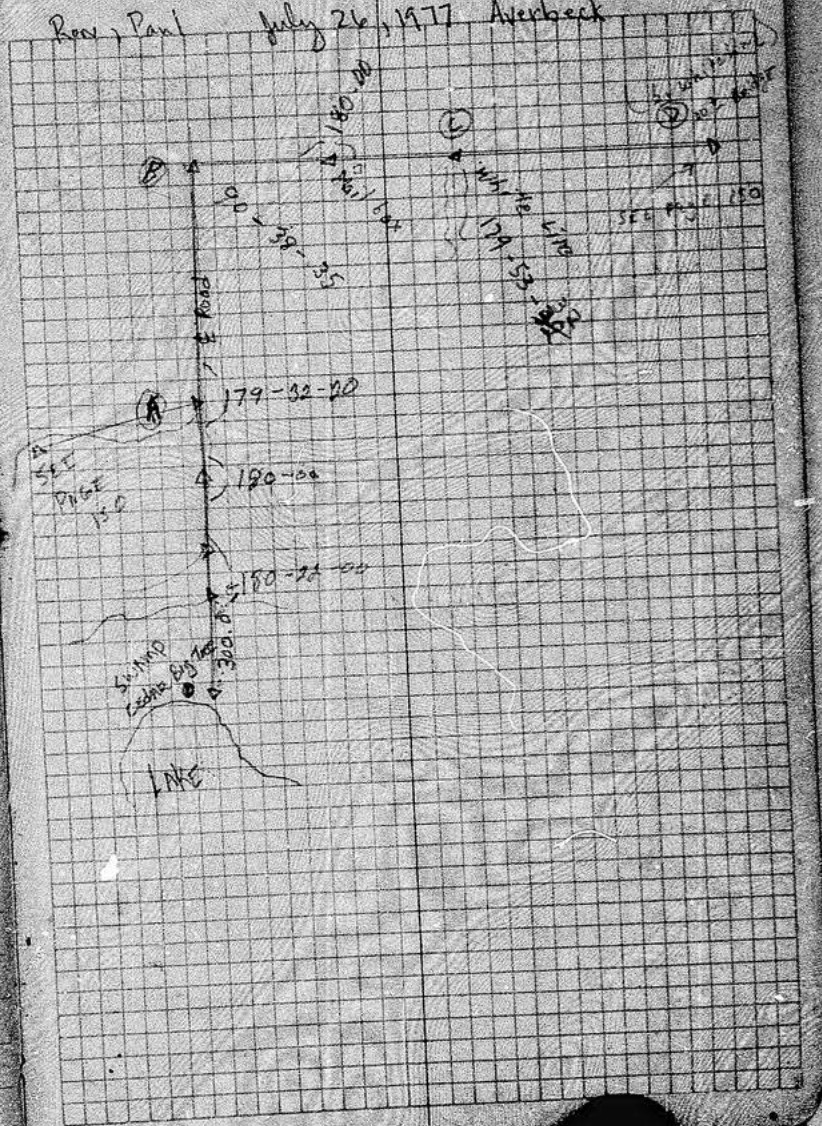
179-53-32

180-25-40  
360-51-90

180-25-50

146

Rov, Paul July 26, 1977 Auerbeck

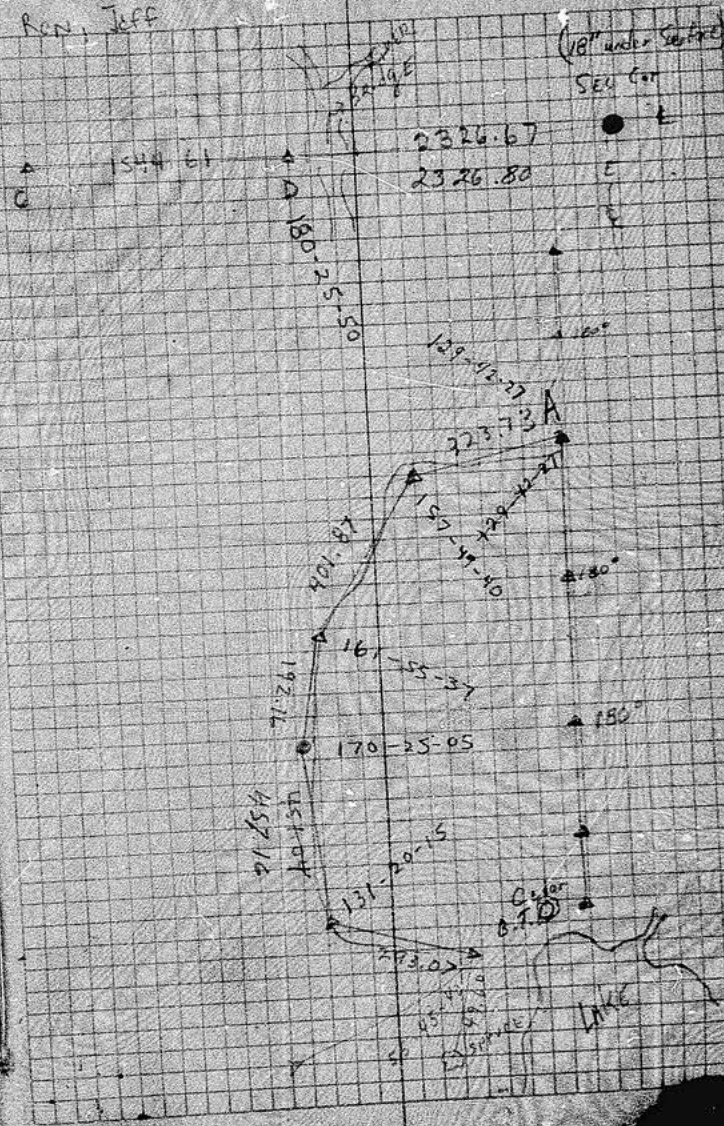




129-42-22	129-42-27-30	D x 0 E	2320.67
259-24-55			
157-44-05		160	
315-38-35	157-49-17	133.07	
157-49-35		278.07	
315-39-20	157-49-40		
		200	
		200	
161-55-10	161-55-4037	458.04	
323-51-2015		451.04	457.16
170-24-40		192.16	
340-50-10	170-25-85		401.87
131-20-10		260	
262-40-30	131-20-15	73.23	
			323.73
			2330
			3.20
55-45-70			2326.80
			540

Run, Jeff

150





94-23-20	94-23-25	85
188-46-50		138.67
		<u>223.67</u>

145-11-25	145-11-32	262.54
290-23-05		282.63

164-09-58	164-10-07	272.68
328-20-15		768.0

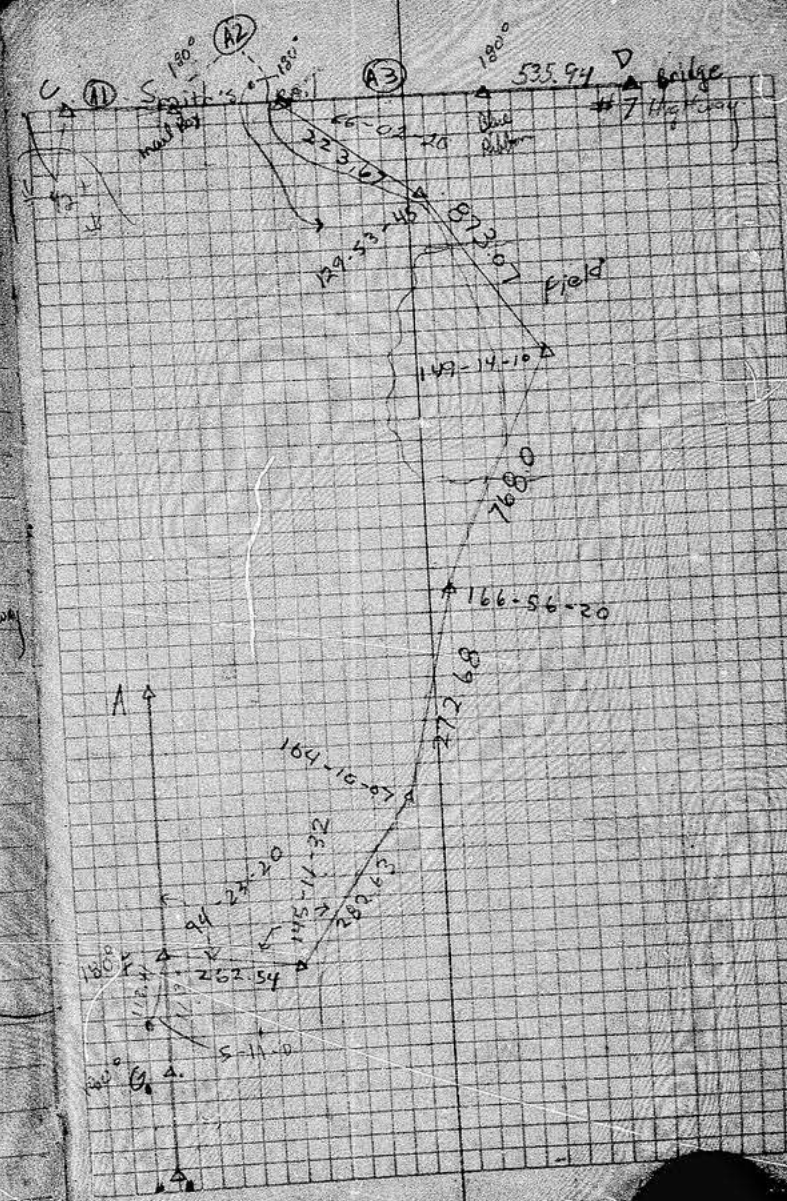
166-56	166-56-20	873.07
333-52-40		

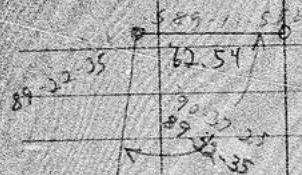
199-13-58	199-14-10	<u>260.89</u>
298-28-20		261.89 (A1)

<del>129-53-28</del>	<del>129-53-50</del>	* 300 to Smiths Dr. v. v. v.
<del>259-47-57</del>		
<del>129-53-42</del>		
<del>259-47-20</del>	129-58-45	410

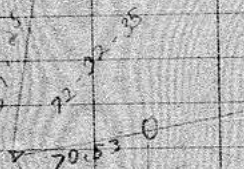
<del>26-00-20</del>	<del>66-02-20</del>	<u>406.20</u>
122-04-48	122-04-20	406.20 (A2)

370-03	270-03	341.18 (A3)
120-06		540
261		<u>2.96</u>
540-06		535.54
		541.30





110	50
5	6.03
114.1	53.96



440
1137
596.3
232.98

7220.193  
5373.10

64.65

11.44  
69.86

557.04-05 W  
577.07  
342.253

754.421  
5670.21  
232.20  
53.54  
3700.447  
5669.456

From MC, bet. 19-37 on E. side of point.

thence N. 12° 00' W. 170. ft.

" N. 34° 00' W. 180 "

" S. 89° 00' W. 80 "

" S. 44° 30' W. 80 "

" S. 28° 00' W. 330 "

" S. 16° 30' W. 130 "

146.0  
113.4  
1311.8E. gmo 34.4 N.

170.3

20.50 12.7  
3  
1.00  
12.0  
40.0  
38.3

4504.0  
171.0

4654.1

4632.4

4654.1 : 6066.8 : X : 57.0

59.5

232705

325787

232705

6066.8 : 21761.075 : 44

34268

24930

24268

662

A.M.C. on island.

B.T.s.

Balm of Gil. 5" N. 75° W. 3.5'

" " 9" S. 60° W. 4.5'

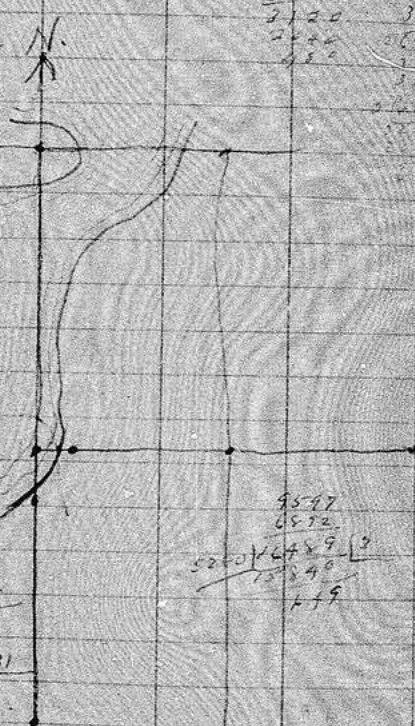
Island length S. 65° W. = 110'

" width N. 65° W. = 50'

Meanders  
May 18,

May 19,

278	196	1500	3210
240	150		2120
390	314		2630
188	164		2120
220	52		244
202	150		252
193	453		226
172	308		226
241	180		
220	205		
266	318		
225	182		
380	91		
109	262		
155	227		
225	397		
380	552		
260	364		
192	505		
205	192		
150	150		
137	177		
196	196		
125	125		
145	145		
152	152		
6671			



May 19.  
S. 30 =

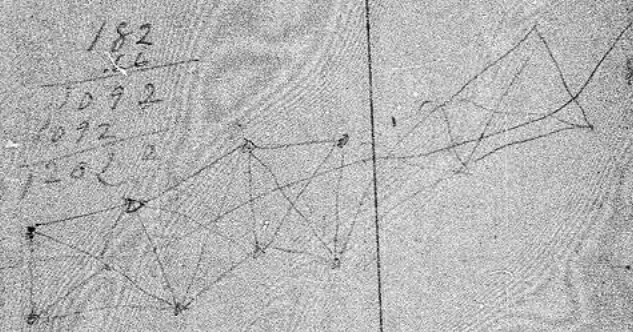
- 61
- 235
- 41
- 704
- 349
- 119
- 122
- 150
- 160
- 160
- 357
- 136
- 2926
- 6671
- 9597

### Natural Trigonometrical Ratios.

Angle.	Sin.	Tan.	Sec.	Cosec.	Cotg.	Cosin.	Angle.	Sin.	Tan.	Sec.	Cosec.	Cotg.	Cosin.
0	0	0	1.	∞	∞	1.	90	1	∞	∞	0	0	0
10	.0029	.0029	343.8	343.8	1.	1.	80	.1421	.1435	1.0102	7.040	6.968	.9898
20	.0058	.0058	171.9	171.9	.99998	.99998	70	.2842	.2870	1.0107	6.800	6.827	.9894
30	.0087	.0087	114.6	114.6	.99996	.99996	60	.4263	.4308	1.0111	6.765	6.801	.9888
40	.0116	.0116	85.94	85.94	.99993	.99993	50	.5684	.5747	1.0115	6.636	6.661	.9880
50	.0145	.0145	68.78	68.78	.99989	.99989	40	.7105	.7183	1.0120	6.512	6.435	.9871
60	.0175	.0175	57.30	57.29	.99985	.99985	30	.8526	.8621	1.0125	6.394	6.314	.9860
70	.0204	.0204	49.11	49.10	.99979	.99979	20	.9947	1.0054	1.0129	6.277	6.197	.9850
80	.0233	.0233	42.96	42.96	.99973	.99973	10	1.1368	1.1494	1.0134	6.168	6.084	.9840
90	.0262	.0262	38.20	38.19	.99966	.99966	0	1.2789	1.2933	1.0139	6.050	5.975	.9830
100	.0291	.0291	34.23	34.37	.99958	.99958	340	1.4210	1.4373	1.0144	5.935	5.871	.9820
110	.0320	.0320	31.28	31.24	.99949	.99949	330	1.5631	1.5808	1.0149	5.825	5.771	.9811
120	.0349	.0349	28.65	28.64	.99939	.99939	320	1.7052	1.7243	1.0154	5.720	5.671	.9802
130	.0378	.0378	26.45	26.43	.99929	.99929	310	1.8473	1.8678	1.0160	5.620	5.576	.9793
140	.0407	.0407	24.66	24.54	.99917	.99917	300	1.9894	1.9999	1.0165	5.525	5.485	.9784
150	.0436	.0437	22.93	22.90	.99905	.99905	290	2.1315	2.1433	1.0170	5.435	5.396	.9775
160	.0465	.0466	21.49	21.47	.99892	.99892	280	2.2736	2.2868	1.0176	5.350	5.306	.9766
170	.0494	.0495	20.23	20.21	.99878	.99878	270	2.4157	2.4303	1.0181	5.270	5.224	.9757
180	.0523	.0524	19.11	19.08	.99863	.99863	260	2.5578	2.5738	1.0187	5.215	5.165	.9748
190	.0552	.0553	18.10	18.07	.99847	.99847	250	2.7000	2.7174	1.0193	5.165	5.109	.9739
200	.0581	.0582	17.20	17.17	.99831	.99831	240	2.8421	2.8609	1.0199	5.099	5.038	.9730
210	.0610	.0612	16.38	16.35	.99813	.99813	230	2.9842	3.0045	1.0205	5.016	4.915	.9721
220	.0640	.0641	15.64	15.60	.99795	.99795	220	3.1263	3.1481	1.0211	4.945	4.833	.9712
230	.0669	.0670	14.96	14.92	.99776	.99776	210	3.2684	3.2917	1.0217	4.877	4.773	.9703
240	.0698	.0699	14.34	14.30	.99756	.99756	200	3.4105	3.4353	1.0223	4.810	4.705	.9694
250	.0727	.0729	13.76	13.73	.99736	.99736	190	3.5526	3.5789	1.0229	4.745	4.638	.9685
260	.0756	.0758	13.23	13.20	.99714	.99714	180	3.6947	3.7226	1.0236	4.682	4.574	.9676
270	.0785	.0787	12.75	12.71	.99692	.99692	170	3.8368	3.8663	1.0243	4.620	4.511	.9667
280	.0814	.0816	12.29	12.25	.99669	.99669	160	3.9789	3.9999	1.0249	4.560	4.449	.9658
290	.0843	.0846	11.87	11.83	.99644	.99644	150	4.1210	4.1435	1.0256	4.502	4.386	.9649
300	.0872	.0875	11.47	11.43	.99619	.99619	140	4.2631	4.2871	1.0263	4.445	4.321	.9640
310	.0901	.0904	11.10	11.05	.99594	.99594	130	4.4052	4.4307	1.0270	4.389	4.255	.9631
320	.0929	.0934	10.76	10.71	.99567	.99567	120	4.5473	4.5739	1.0277	4.334	4.191	.9622
330	.0958	.0963	10.43	10.39	.99540	.99540	110	4.6894	4.7175	1.0284	4.284	4.135	.9613
340	.0987	.0992	10.13	10.08	.99511	.99511	100	4.8315	4.8609	1.0291	4.232	4.111	.9604
350	.1016	.1022	9.839	9.788	.99482	.99482	90	4.9736	4.9945	1.0299	4.182	4.061	.9595
360	.1045	.1051	9.567	9.514	.99452	.99452	80	5.1157	5.1379	1.0306	4.133	4.011	.9586
10	.1074	.1080	9.309	9.255	.99421	.99421	70	5.2578	5.2805	1.0314	4.086	3.962	.9577
20	.1103	.1110	9.066	9.010	.99390	.99390	60	5.4000	5.4239	1.0321	4.039	3.914	.9568
30	.1132	.1139	8.834	8.777	.99357	.99357	50	5.5421	5.5673	1.0329	3.994	3.867	.9559
40	.1161	.1169	8.614	8.556	.99324	.99324	40	5.6842	5.7107	1.0337	3.949	3.821	.9550
50	.1190	.1198	8.405	8.345	.99290	.99290	30	5.8263	5.8541	1.0345	3.905	3.776	.9541
60	.1219	.1228	8.206	8.144	.99255	.99255	20	5.9684	5.9975	1.0353	3.864	3.732	.9532
70	.1248	.1257	8.016	7.953	.99219	.99219	10	6.1105	6.1411	1.0361	3.825	3.689	.9523
80	.1276	.1287	7.834	7.770	.99182	.99182	0	6.2526	6.2847	1.0369	3.787	3.647	.9514
90	.1305	.1317	7.661	7.606	.99144	.99144	340	6.3947	6.4283	1.0377	3.742	3.606	.9505
100	.1334	.1346	7.496	7.449	.99106	.99106	330	6.5368	6.5719	1.0385	3.702	3.568	.9496
110	.1363	.1376	7.337	7.299	.99067	.99067	320	6.6789	6.7155	1.0394	3.663	3.526	.9487

Cosin. Cotg. Cosec. Sec. Tan. Sin. Angle.      Cosin. Cotg. Cosec. Sec. Tan. Sin. Angle.

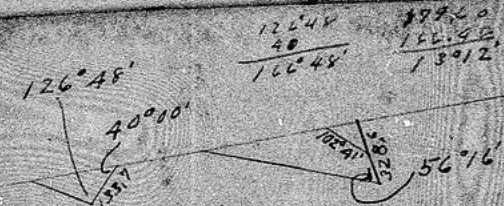
25210	468	4475.5	897
2812.5	505	459	2204
3427.5			



1270
68.4
<u>6338.4</u>

4630
373
<u>3425</u>

62°44'  
67°41'



12648	17760
48	15540
<u>16648</u>	<u>13912</u>

Var. of Rad = 7.55'

S. 30

S. 31

Rad m

57473E

1316.2  
 48  
 1276.2  
 5023.8  
 5350.5  
 10374.3  
 181.2  
 10475.5  
 U.S. Chain

at 1320 NW. COR. S. L-140-31  
 " 1844 = W. No. 5. 31-2-21  
 " 3168 N. 43. 3. 140-21  
 " 1848 E. 43. 3. 140-21  
 " 1848 Sec. Cor. S. 31-2-21  
 19-20-21-30 At 5350.5-N.  
 Thence N. 67° 41' E. 266.4 ft.  
 " N. 50° 37' E.

79.5 W.P. 1/2 Section N.  
 1400.0 N.P. East Mkd. B.C.E.E.  
 2608.55 N.P. 1/2 Sec. 2 ft. N. of  
 Mkd. L.M.E.R.K.-S.  
 35470.5 15" W.P. W. 30.7 @ 22nd  
 5000.0 Road NE.-SW.  
 5023.8 Hub. on E. end of N. 67° 41' course.  
 From line bet. 19-20 Turn R. 80° 41' E.  
 19-20-21 from pt. 5237.9 S. of 19-20-21

523.0  
 42.25  
 523.7  
 5023.8  
 21.5

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 Julian A. Hall, M. Am. Soc. C. E.