

W.J. Spain, Jr. # 2003.  
Hackensack, Minn.

Σ.P.

← Return to  
Sigurd K. Bangerud  
Room 214, Chase Hotel  
Walker, Minn.



## Standard Engineer's Field Book

### Description

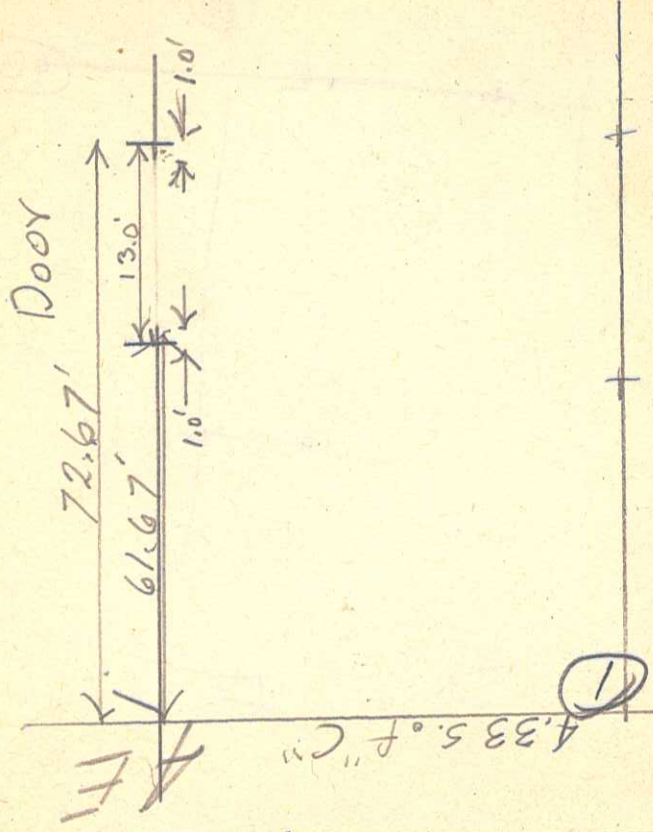
No.	Size	Rulings
1807	7 $\frac{1}{4}$ x 4 $\frac{5}{8}$	"Level"
1808	"	"Field"

Specify by Number, the Book desired

This book contains a superior 50% rag content paper having a high degree moisture resisting surface. Waterproof ink is used and it is sewed with Bing Enamel Waterproof Thread. The binding material is also waterproof.

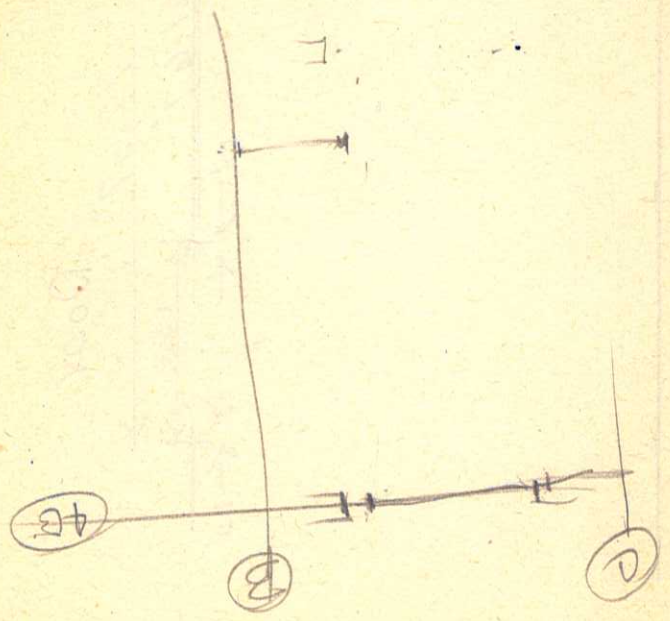
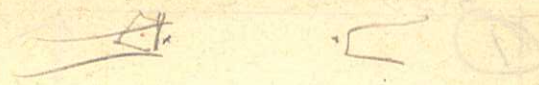
Made in U. S. A.

BOORUM & PEASE COMPANY  
BROOKLYN, N. Y.



78.67  
 17.00  
 -----  
 61.67  
 78.67  
 6.00  
 -----  
 72.67

$$\begin{array}{r}
 61 \\
 40 \\
 \hline
 65-4 \\
 17-6 \\
 \hline
 82-10 \\
 7 \\
 \hline
 75-10
 \end{array}$$



At Col #66 B well.

90<sup>W</sup> 1'6 1/2" = 1.54 for end.

659.83 Grade for forms and Launder

8/23/54, 53-54 Launder Turn, C. 34-35

20-21 on C 90° 01 N.

22-23 on C " 01 N.

24-25 on C " 02 N.

25-26 on C " 03 N.

26-27 on C " 025 N.

27-28 " C " 02 N.

BM. + 2.87 - elev

293

293

1.06  
99.305

101.14

201.505

21.30  
7.00

28.30

2 01.505

229.805

229.860

5.47

0.06  
5.53

115' 00"

114 10 3/8"

229.860

201.505

28.355

5.14 ± 700.71  
69557 BM. 6.77

700.71 4.77  
6.50 693.94

694.21 700.71  
6.99

693.72

700.71  
6.90 693.81

700.71  
6.14 694.27

694.57

00.11  
67.17  
67.26

BM <sub>1</sub>	+	Ht.	-	elev.
conc.	465	721.05		716.40
			4.63	716.42
			1.4	1.4
12/9/54			<u>4.9</u>	716.56

RMC. Gun.

<del>4.34</del>	720.76	716.40
4.37	720.77	4.21 716.56

16.40
<u>4.37</u>
20.77
<u>16.56</u>
4.21

11/16/54 } from  $\phi$  62<sup>27</sup> line  
 4' 3<sup>3</sup>/<sub>4</sub>" 1st Bolt.  
 4' 11<sup>7</sup>/<sub>8</sub>" 2nd Bolt

11/11/54 11' 3<sup>3</sup>/<sub>4</sub>"

Between lines

A3 To B

11/13/54  
 16.83 south of 4.33 @ C line  
 for Rod Mill  $\phi$ .

11' 2<sup>7</sup>/<sub>8</sub>" W of  $\phi$  = 11.24' <sup>24</sup>/<sub>Nov</sub> 54.

78  
57  
8.3

$2670$   
 $870$   
 $210$   
 $14$   
 $210$

$4\frac{7}{8}$   
 $7\frac{1}{8}$

$112$   
 $929$

$991$   
 $061$   
 $88$   
 $0.01$   
 $83$   
 $210$

$01$   
 $129$   
 $71$   
 $129$   
 $2229$

88  
4.6  
4' 2"

$9\frac{3}{4}$   
 $4\frac{7}{8}$

B = 671.4  
C = 672.2

98  
 $47\frac{1}{4}$   
 $25\frac{3}{4}$   
 $31\frac{3}{4}$   
 $31\frac{3}{4}$

8  
676.17  
39.4  
36 2 1/4  
3 1 3/4

$14\frac{3}{4}$

$13\frac{15}{4}$   
4 6

$9\frac{9}{4}$

77.30  
1.79

$679.09$   
 $675.33$   
3.76

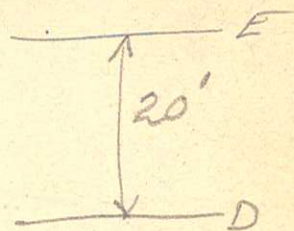
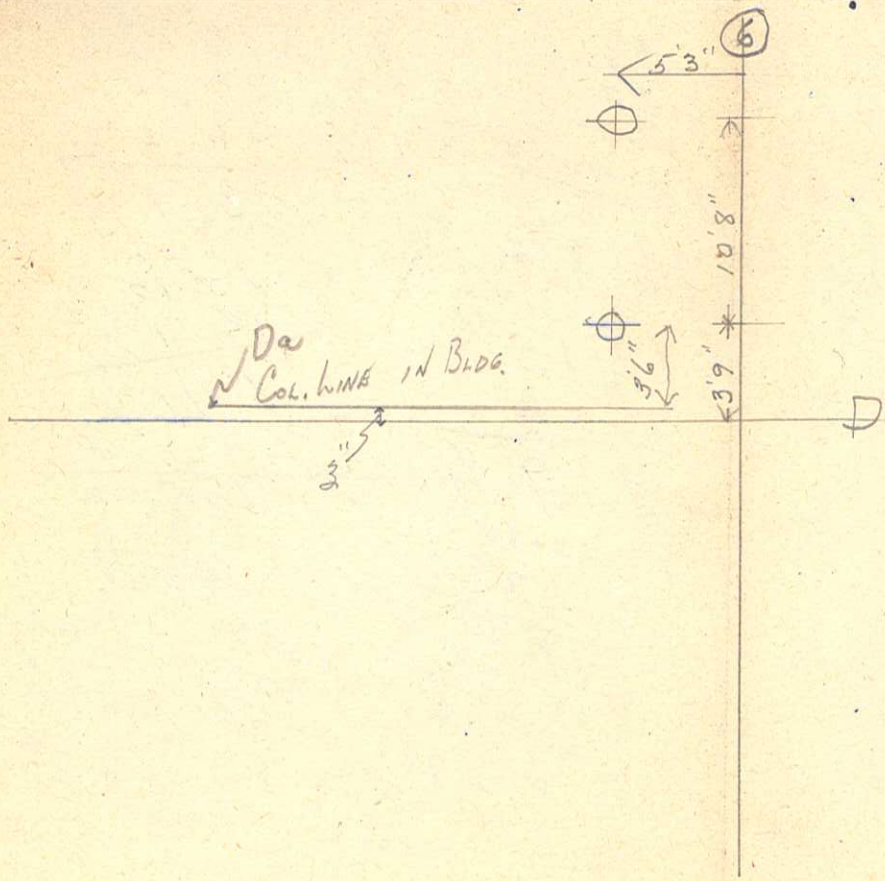
79.81  
75.49  
4.32

$15\frac{12}{2}$   
 $14\frac{1}{4}$   
 $1\frac{11}{4}$

675.33  
3.75  
679.08

75.49  
3.75  
74

76.06  
3.75  
679.81  
75.50  
4.31



Box Grade  
(13 - 20) A<sub>1</sub>-A<sub>3</sub>  
(20 - 27) A<sub>3</sub>-B  
" " " "  
" " " "

652.58

"19/5x

A-A<sub>3</sub>

661.08

A<sub>3</sub>-B.

661.21

41.657,24

Plots A-A<sub>3</sub> B.M.

652.67

A<sub>3</sub>-B. " " 661.17

1 5/8

4.39

~~652.67~~  
~~4.58~~  
~~657.25 = 13.1~~  
~~652.58~~  
~~652.567~~

~~630~~

661.08

.13

652.58

4.63

4.73

744.21

652.67

4.63

657.30

652.58

4.72

4.65

4.40

4.64

4.05

4.21

4.42

4.63

661.17

4.39

665.56

661.21

4.35

16.40

4.36

20.76



Grade for paving 1/10/55

est. 38 B.O.I.T.

Grade 6 18 33

B.M.

+ H.I.

B.O.I.T. 38.

1.70 679.00

677.30

cal 38 to 40

3.67

675.33

2.67 679.97

677.30

4.64

675.33

Floor

2.64 679.94

675.56

3.88

676.06

T.P.

nail in the

7 Rod Mill 375 679.81

77 675.50

4.31

76.06

74.01

78.07

76.03

74.06

78.50

67.45

79.94

75.33

75.50

3.67

77.30

2.67

79.94

75.33

4.64

4.64

79.94

75.33

4.64

North sect, 11' 8"  
10' 8"

NW NE

15.36 15.37

15.35 15.38

Sec: 10' 10' 10' 10' 10' 10'

15.36 15.37

15.36 15.37

Red Mill elev 688.25  
Ball Mill 682.0

4' 4" 4' 6"  
5' 11" 5' 6"  
9' 15" 8' 6"  
10' 3" 2' 3"  
10' 9" 10' 9"

12" 8' 0"  
2' 2' 10' 3"  
2' 3" 10' 3"  
10' 9"

19' 2 1/2"      19 2 1/2"      39' 10"      1"  
 11 11 1/2"      11 11 1/2"      7' 10"      20"  
 12 0      12 0"      20"  
 42      39 10"      30' 9 1/16"  
 42      8 1 3/4"      6 0 15/16"  
 42      8 2"      36' 9 15/16"  
 39 8 1/2"      43 0"      36' 9 15/16"  
 39 10"      11 11 3/4"      39 10"      76  
 78 18 1/2"      11 8"      46 16 0  
 79 7"      3 3/4"      83 4  
 74 4"      3 3/4"      17. 4  
 83 10 1/2"      83 10 1/2"      35. 4  
 83 10 1/2"      83 10 1/2"      83 10 1/2"

6.10.15/16  
 20.6  
 10.3  
36.18 1/15  
 37.6 9.15/16

BM. + N.S. - elev.  
Nail 27 BM 403 680.09 676.06

Floor 10.14455 4.59 675.50  
21 28 to 42

76.06  
4.03  
60.09  
46.80  
25.50  
65.9

*Street Bay*  
*City 18*

*Bill Sparr*

THIS SIDE OF CARD IS FOR ADDRESS



3 1 12  
11 15  
20 14

3 5 10  
7 10  
14 10  
17 12  
3 1

3 1 0 1/2  
5 8 1/2  
3 5 4  
3 9 10  
4 4 4

10 15 11 11  
11 3 11 11

Oyster Stew Stag

American Legion

8:00 o'clock

Sat. Jan. 22

25/13  
23/12

66/1  
98/1  
220/1

11 11 3/4  
8 0  
3 3/4 N. 9 10 2 10  
E  
#20.44 N

6' 6"  
3' 4 1/2"

~~67~~  
~~43~~

~~21~~

21.7

22.1  
1  
11  
1  
9/10

~~9/10~~

24.1  
2  
9/10

5106 ✓ 29 June '61: Clear & Hot. C.M. Tung & R.S. 5  
 30 June '61 " " farm. R.S.  
 1 July '61

Survey for Gov't. Lots 3 & 4 Sec. 14

T139N. R. 33W. 5th Prim. Mer. Minn.  
 for Plat of Leisure Pines of Wolf Lake.

<sup>1350</sup> 29 June '61. C.M. Tung & I drove to  
 Wolf Lake & M.C. on North 1/2 line.  
 Cruise east & find 1 1/4" birch hub  
 near 30" N.P. continue east across  
 #87 & found well point for 1/4 cor.  
 open line west to 87.

Drove to Park Rapids, checked  
 with Auditor & Reg. of Deeds.  
 Saw Carl Dries, who will help.

30 June '61 Tony (Tung) Wendell,  
 Carl, R.W. Anderson & I at Wolf Lake.  
 Wendell, Bob & I start a 1/4 cor (NE  
 cor) & Ⓣ around 30" N.P. run west  
 along old birch hub. at 735.25'  
 hit old well point for M.C.

We help Tony & Carl get started  
 on base line for frontage. They  
 lay out 11 lots 100' each. Whole  
 crew continue W on N 1/2 line  
 & at 2608.5' find hub & old stake  
 rotted. Also 2 trees blazed.

1 July '61 Tony, Wendell & I Δ for dist.  
 across lake, & open W line lot 11.



3 July 61. 2 days cool. rain PM, 1400.

7

3 July '61. Tonip, Wendell & I start at E.  
back line lot 74  $\beta$ . 13°05' ran 50', 60',  
70', & 69.3 & 71/70. check line 72/71 for 195°  
get 45'± too much. start to check  
back traverse set hub at 471.82'  
(Rain 1400.) <sup>First</sup> 27.12' hub at 473.71'  
used 29' instead of 27.12'. quit. 1415

No. 33

James W. Walker and  
Margaret F. his wife  
to

David Ham

Special Warranty Deed \$100

Dated September 27<sup>th</sup> 1946

Filed October 3, 1946, 9 A.M.

Book: 93 of Deeds page 220

Signed: 2 witnesses

Duly acknowledged

Lot 11 Section 3-139-29

Together with an easement for travel  
upon and extending over a strip 20  
ft. in width, along the southerly line of  
the SE  $\frac{1}{4}$  of Sec 3-139-29, which said  
strip on which said easement was  
imposed is bounded on the south  
by the southerly line of said sec. 3  
and bounded on the North by a  
line running parallel with said  
southerly line, and 20 feet Northerly  
therefrom extending clear across  
the full length of the southerly side  
of said 40 acre tract, together with

the right to grade and improve  
and use said 20 ft. strip as a  
highway. Reserving one-half mineral  
interest.

No. 36

Earl D. Oliver and Ethel W.

Oliver, husband and wife

to

Noel Francisco and Barbara M.

Francisco, as joint tenants

not as co-tenants in common.

Warrant Deed \$1.00

Dated: December 7, 1956

Filed: December 31, 1956 9 A.M.

Book: 116 of Deeds page 533

Signed: 2 witnesses

Duly acknowledged

A tract or parcel of land situated  
in lot 11 sec. 3-139-29 described  
as follows. to-wit: Beginning  
where the south line of said Lot  
3 intersects the East shore line  
of Ponto Lake and running thence  
East along said south line of  
said Sec. 3 a distance of 40 ft.  
feet more or less, to an iron  
pipe monument and continuing  
East 422.20 ft. to a second iron  
pipe monument, said monument  
being on the south line of said  
Sec. 3 a distance of 547.27 ft.  
West from the SE corner of said  
Lot 11; thence North 14 degrees  
East 816.50 ft. to a third iron  
pipe monument; thence North  
75 degree 20' W 214.70 ft. to a  
fourth iron pipe monument  
and continue North 75 degree  
20' W 20 ft. more or less to the  
shore line of said Ponto Lake  
thence in a Southwesterly di-  
rection following the various

Courses of said shore line  
1000 ft more or less to the  
place of beginning

99.2
<u>22</u>
77.0
<u>30.7</u>
200.0
816.70

CM Tung A  
W Tisc 15  
WJE pc.

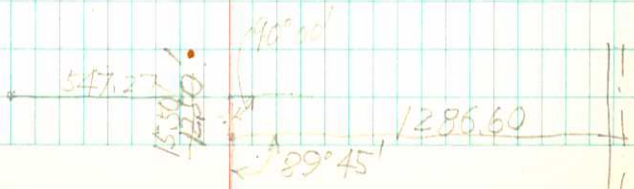
Monday July 31, 1961 Fine

Ponto Lake

iron hub

iron hub

iron hub

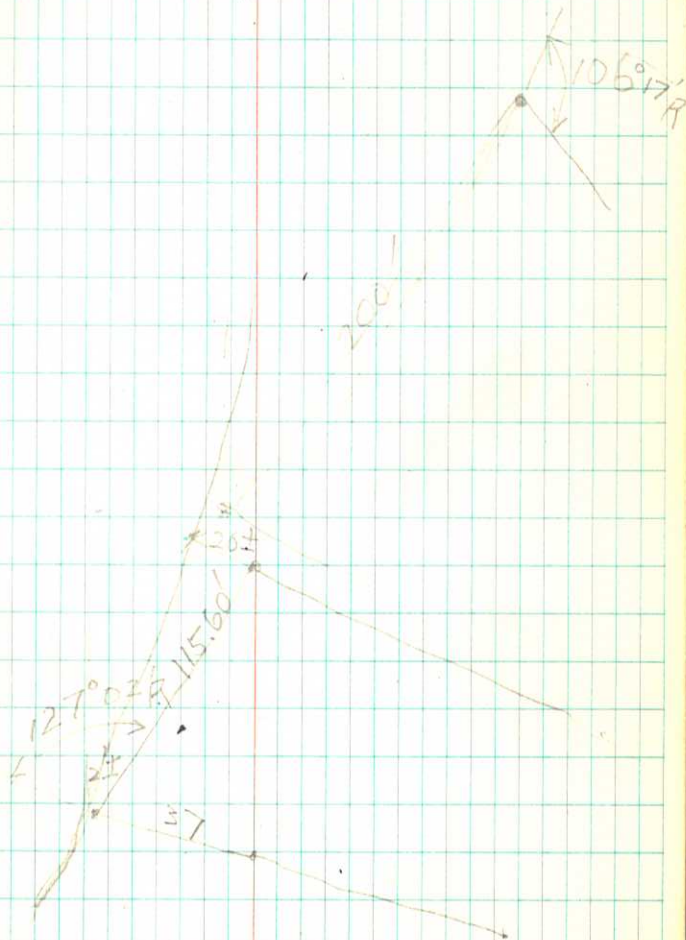


Banknotes

Clear & warm.

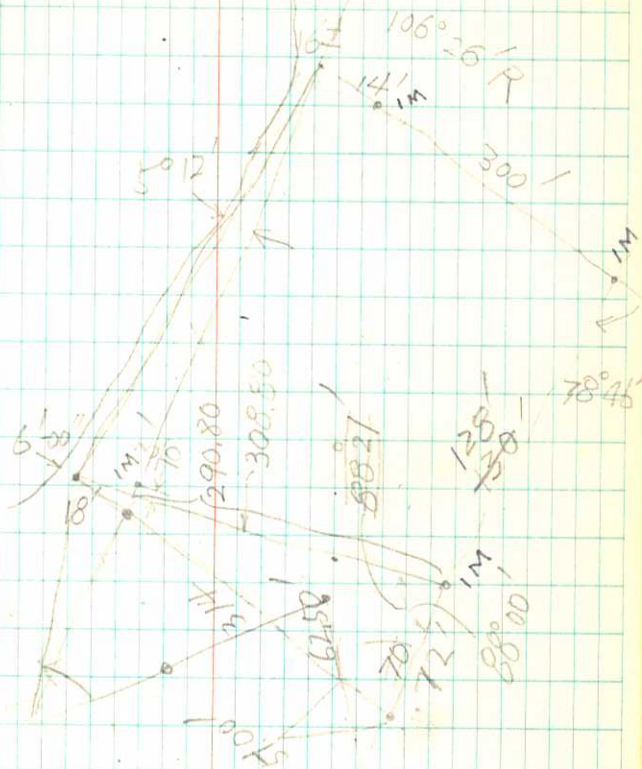
19

August 1st 1961



Cleod & Morris + Rain 1700. C.M.T.  $\pi$  21  
W.T.  
W.S.S.P.C.

August 2



$73^{\circ} 34'$   
 $5^{\circ} 12'$   
 $13^{\circ} 16'$



$$\begin{array}{r} 98084 \\ \times 314 \\ \hline 98084 \\ 196168 \\ 98084 \\ \hline 30798376 \\ \hline 307.79 \end{array}$$

$$\frac{1}{2}(A-B) = 37^\circ 22'$$
  

$$\frac{1}{2}(A+B) = 50^\circ 37'$$
  

$$\hline 87^\circ 59'$$

$$\begin{array}{r} 1.2181 \\ \cdot 6354 \\ \hline 48724 \\ 60905 \\ 36543 \\ 73086 \\ \hline 77398074 \end{array}$$

$$\frac{314}{\sin 87^\circ 59'} = \frac{x}{\sin 78^\circ 46'}$$
  

$$x = \frac{314 \times 98084}{99938}$$

$$\begin{array}{r} 62694 \\ \times 12181 \\ \hline 62694 \\ 125388 \\ 62694 \\ 125388 \\ \hline 763675614 \end{array}$$

$$\begin{array}{r} 384 \overline{) 244} \\ \underline{2304} \\ 1360 \\ \underline{-1152} \\ 2080 \\ \underline{-1920} \\ 41600 \\ \underline{1536} \end{array}$$

$$\begin{array}{r} 82694 \\ 384 \overline{) 242} \\ \underline{2316} \\ 1040 \\ \underline{-772} \\ 2680 \\ \underline{-2376} \\ 3640 \\ \underline{3474} \\ 1660 \end{array}$$

$$\frac{1}{2}(A+B) = 90^\circ - \frac{1}{2}C$$
  

$$= 90^\circ - \frac{78^\circ 46'}{2}$$
  

$$= 90^\circ - 39^\circ 23'$$
  

$$= 50^\circ 37'$$

$a = 314$   
 $b = 70$

$a - b = 244$   
 $a + b = 384$

$a = 314$   
 $b = 72$   
 $a - b = 242$   
 $a + b = 386$

$$\tan \frac{1}{2}(A-B) = \frac{a-b}{a+b} \tan \frac{1}{2}(A+B)$$
  

$$= \frac{244}{384} \cdot 1.2181$$
  

$$= .77398$$

$$\frac{1}{2}(A-B) = 37^\circ 44'$$
  

$$\frac{1}{2}(A+B) = 50^\circ 37'$$

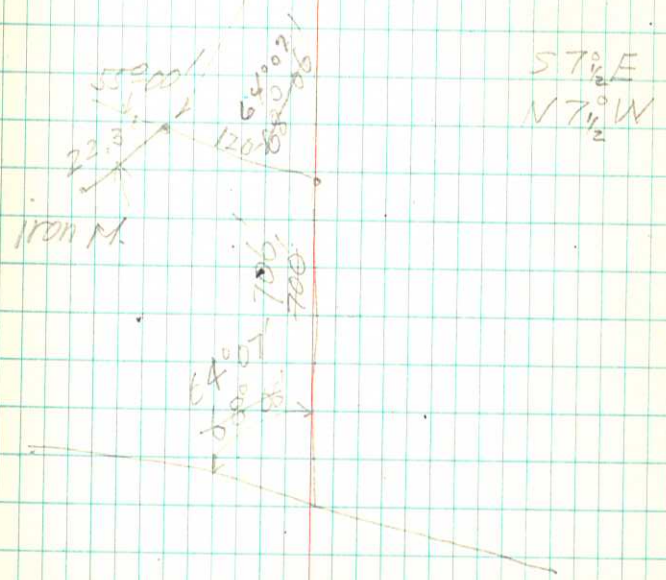
$A = 88^\circ 21' \checkmark$   
 $B = 12^\circ 53'$   
 $C = 78^\circ 46'$   
 $\hline 178120$

clear & warm

C.M. Tung, T.  
M. Tice. 25.  
W.J. S. Jr. R.C.

Thursday 3 August 1961  
3 Aug. 61. Survey for part of  
Govt Lot 4, Sec. 17, T. 140N, R. 29W  
lying south of C.A.R. # 5.

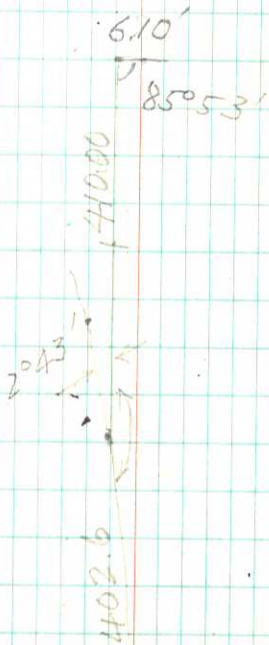
Iron monument



Lot 1 Sect. 34 T. 142 N R. 31 W

27

Wednesday August 9, 1961 Fine



Thursday August 10 1961

29

2237.30 (6 ft to water)

2118.30

1873.70

~~1565.70~~

2118.3

1592.00

2053.5

300

1339.40

(Aug 14)

844.10'

308.40

(Aug 12)

16° 20'

2 1/2" 8" Rock  
59" ARY. SYN.  
45 E 10

π

10° 32'

1070.50'

3° 51.6'

2118.3  
- 675  
-----  
2053.5

$$\frac{1}{2}(A+B) = 90^\circ - 79^\circ 44'$$

$$= 10^\circ 16'$$

$$a-b = 819.30$$

$$a+b = 1321.70$$

$$\tan \frac{1}{2}(A-B) = \frac{a-b}{a+b} \tan 10^\circ 16'$$

$$\log 819.3 = 2.913443$$

$$\log 10^\circ 16' = 9.257970$$

$$\tan \quad \quad 12.171433$$

$$\log 1321.7 = 3.121133$$

$$9.050305$$

$$6^\circ 24' 23'$$

$$10^\circ 16'$$

19° 28'  
15° 40.4'  
- 3° 51.6'  
-----  
178° 10'

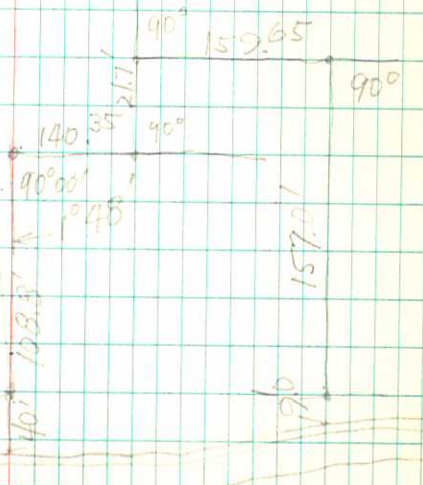
Friday August 11 1961 Fine  
 Saturday August 12 1961 Fine  
 Monday August 14 1961 Fine  
 Tuesday August 15 1961 Fine

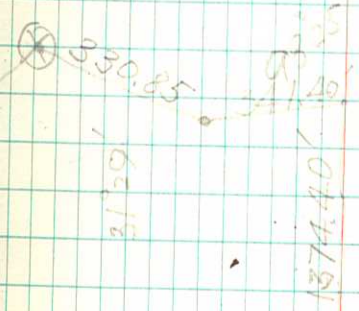
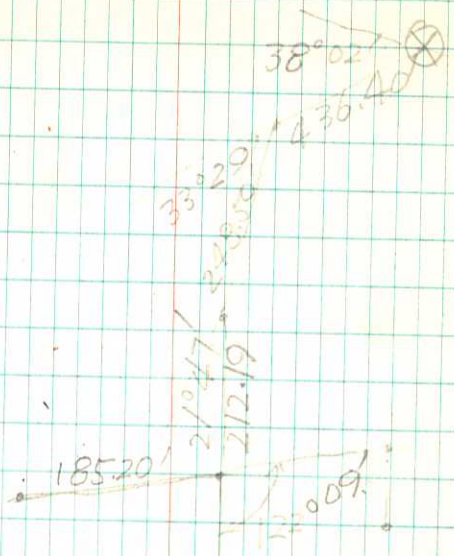
$89^{\circ} 30'$   
 $- 22^{\circ} 04'$   
 $67^{\circ} 34'$   
 $112^{\circ} 26'$

$113^{\circ} 24'$   
 $0^{\circ} 00'$   
 $113^{\circ} 24'$   
 $114^{\circ} 32'$

$112^{\circ} 47'$   
 LM

$112^{\circ} 14'$





Aug 16

492.80  
 62.45  
 430.35



Course	Bearing	Length	Latitude		Departure	
			North	South	West	East
JA	W-E line	878.35'				878.35
AB	N12°54'E	1374.40'	1339.70'			306.84
BC	N85°31'W	341.40'	26.69'		340.35	
CD	N54°02'W	330.85'	194.31'		267.78	
DE	S87°56'W	436.40'		15.74	436.12	
EF	S54°27'W	248.50'		144.48	202.18	
FG	S32°40'W	212.19'		178.63	114.53	
GH	S89°29'E	224.80'		2.03		224.79
HI	S4°38'W	6.10'		6.08	.49	
IJ	S2°16'W					
			1560.70	346.96	1361.45	1409.98
			346.96			1361.45
			1213.74			48.53

2053.51 300

20890



Saturday August 19

Kabokond.

old fence 1369'

1485  
81011

reinforcing steel

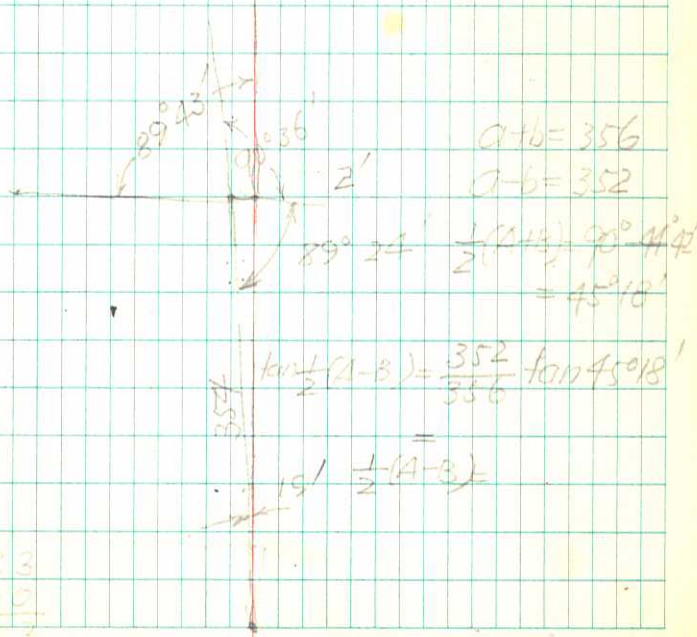
10372'

1485  
9953'

927.30 (August 22)

912.30'

92.30  
- 31.85  
-----  
60.45



log 1485 = 1.171726

log 1368 = 3.136026

4.307812

log 10372 = 3.015563

1.291949

1485  
10372 = 19.59

log 352 = 2.546543

44° 58' 34"

log 45° 18' = 10.004548

45' 18'

12.551091

89° 76.6

log 356 = 2.551450

A = 90° 16.6'

9.999641

B = 19'

44° 58' 34"

19.4

.00565

000291 | .005650

354 | 2.0000

1770

291

2740

2300

2124

- 2619

1210

1760

1770

000291

180°

60 | 01745

120

545

540

50

89° 24'

90° 36'

= 19'

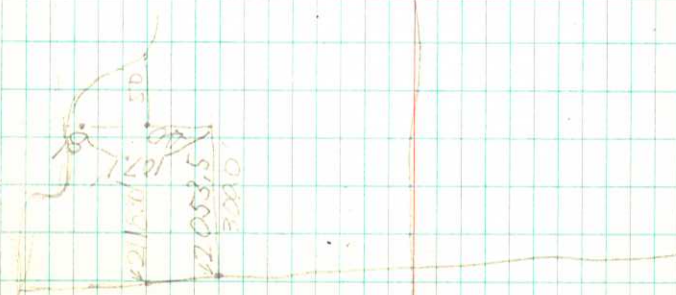
90° 17'

583

3540

9123

Monday 21 August 1961 clear



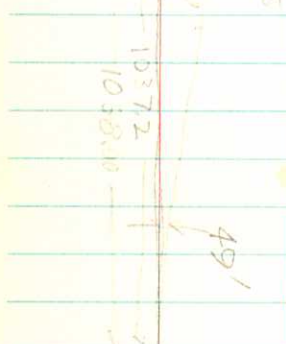
$\log 15.29 = 1.184434$   
 $\log \sin 91.8' = 9.449968$   
 $\log \sin 88^{\circ} 00' = 9.117735$   
 $1.184434$

$15.29$   
 $11.88^{\circ}$   
 $\sin 18^{\circ} 00' = 15.29'$   
 $14.81 / 1037.20 = 15.29'$

$\log 14.85 = 1.171726$   
 $\log 1048 = 3.020497$   
 $4.200297$

$\log 1037.20 = 3.015965$   
 $1.184434$

$89^{\circ} 18'$   
 $2.42'$   
 $91^{\circ} 60'$   
 $92^{\circ}$   
 $88^{\circ} 00'$   
 $\log 14.85 = 1.171726$   
 $\log 1037.20 = 3.015965$   
 $4.187691$   
 $49'$



$1037.2$   
 $1037.2$   
 $49'$   
 $91.8^{\circ}$

4526.9    14.1    4386.2  
4386.2    140.7    55.2  

---

140.7    4    4331.0

4386.2  
3995.6

390.6 excess swp to next pub.

2458 N of LN rd.

By 90° R/E 2204'

then 90° N 300' quarter

90° R/E 125' at 90°

Floyd Bigs worth

21 Aug. '61. Clear & Warm.

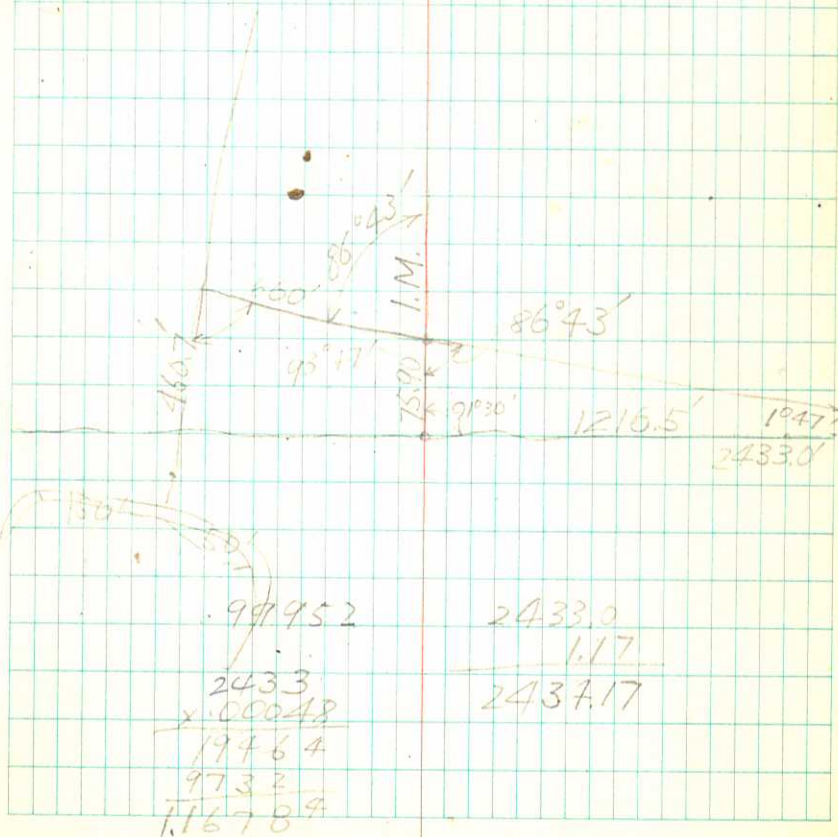
SMT. T. 43  
WJS Mc. 43  
WT.

Survey for Part of Sect. 19  
Sec. 19 T. 143 N. R. 32 W. 5th Prin. Mer. Minn.  
Kabeconda Lake.

$\frac{1}{2}(A+B) = 90^\circ - 45^\circ 45'$   
 $= 44^\circ 15'$   
 $\tan \frac{1}{2}(A-B) = \frac{a-b}{a+b} \tan \frac{1}{2}(A+B)$   
 $= 42^\circ 28'$   
 $1^\circ 47'$   
 $86^\circ 43'$   
 $+ 91^\circ 30'$   
 $178^\circ 120' //$

2433	75.9	2433.0
	-72.99	-75.9
	2910	2357.1
	2433	2508.9
	4770	
	-2433	
	23370	
	21397	
60   01745	14730	
120	29598	
545		
540		

$\log 2357.1 = 3.372278$   
 $\log \tan 42^\circ 28' = 9.988629$   
 $13.361907$   
 $\log 2508.9 = 3.399487$   
 $\log \tan \frac{1}{2}(A-B) = 9.961520$   
 $1072 - 147'$   
 $1216.5$   
 $1947'$   
 $2433.0$



April 27, 1959

P. Cloudy - Warm

Spain, Langerud & Ed. Heshner  
Spent all day trying to  
locate corners for starting  
point. Found a stump  
which is a likely witness  
for the S.W. corner of  
Govt Lot 4 Sec. 8, T140N  
R29W. After tracing out  
some old blazes it was so  
decided that it would be  
feasible to commence running  
a line back from corners-  
1/4 corner between sections  
4 & 9 T140N R29W.

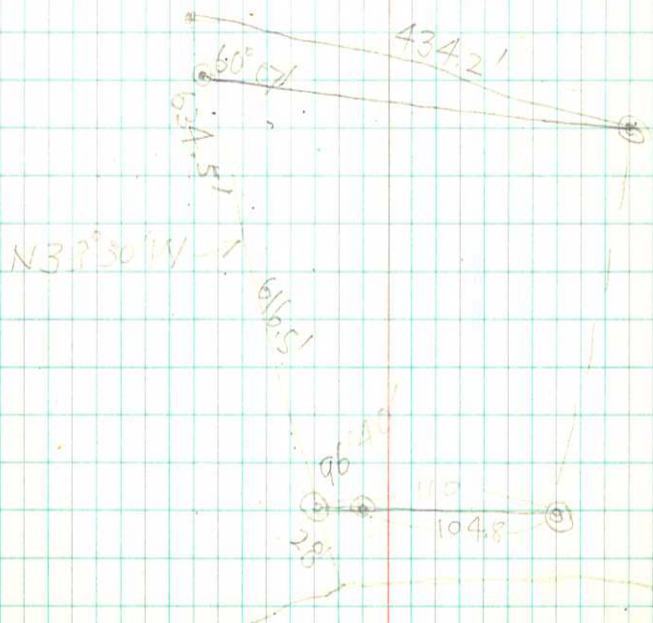
Bottiers Subdivision 45

April 28, 1957

US General Land  
Office Survey  
1919, 560-5110  
560

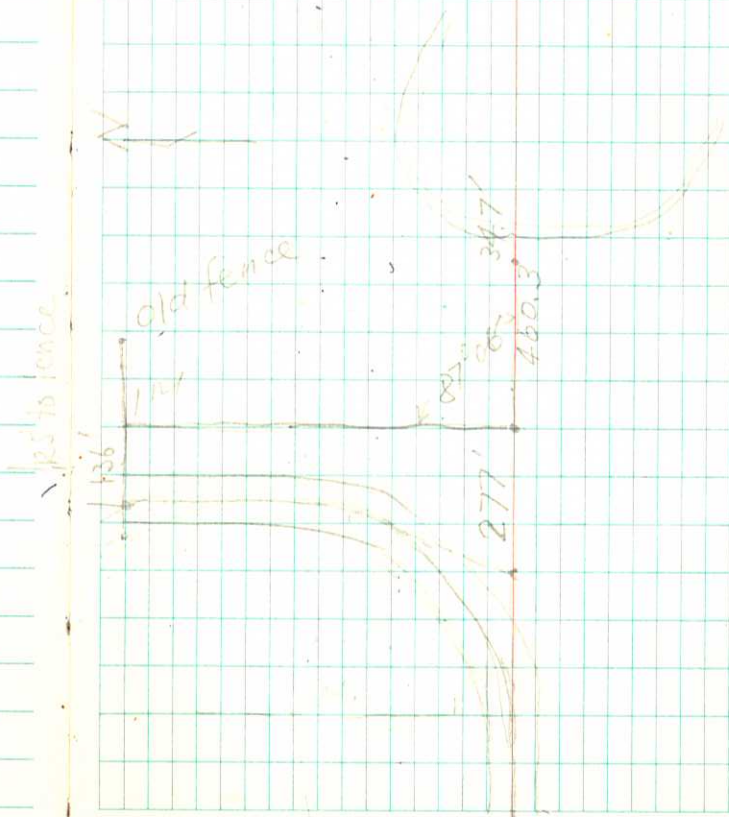
clear & cool.  
Saturday Sept. 16, 1961

CMT. 77  
W.S. 47



Wednesday August 23 1961

49





Point	Sight on	Vertical Angle of $\approx$	Height of $\approx$
A	B	$2^{\circ} 50'$	4.47'
	lake level	$1^{\circ} 20'$	

Thursday August 24 1961

51

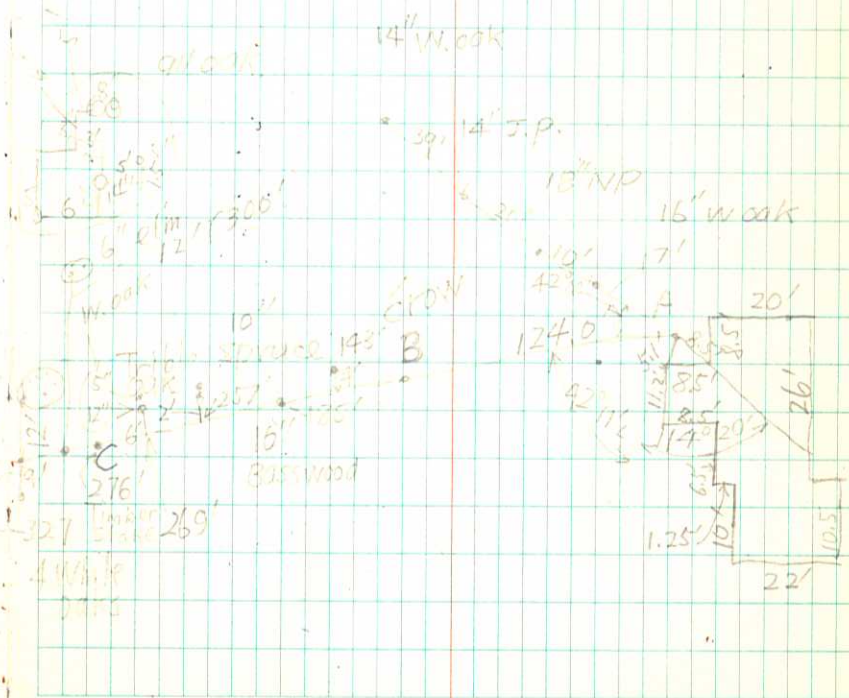
9' birch

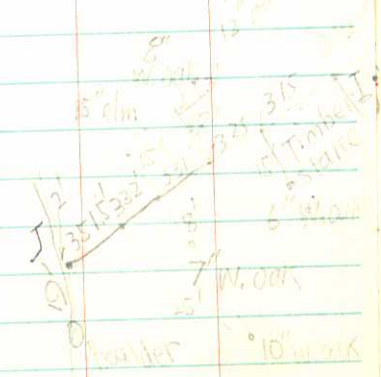
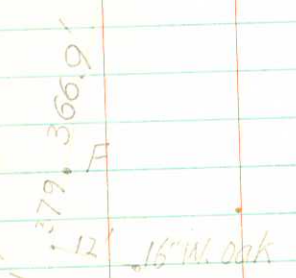
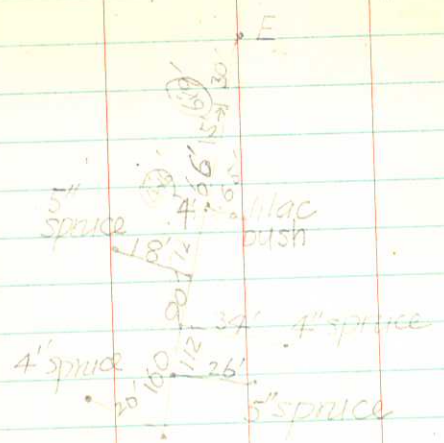
5'

1/10

R.D.

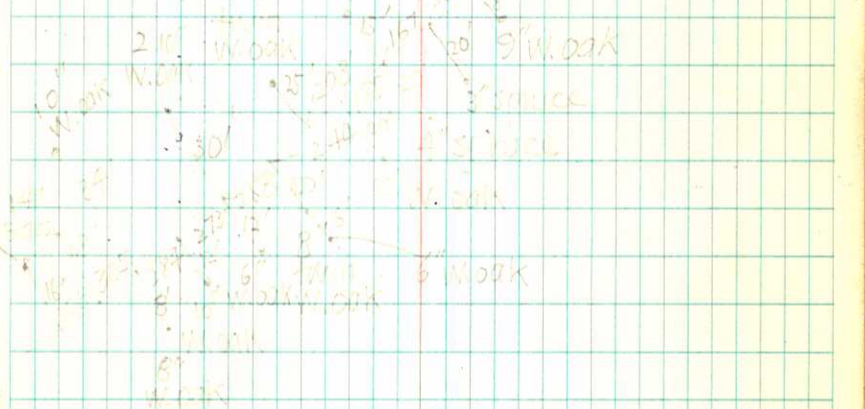
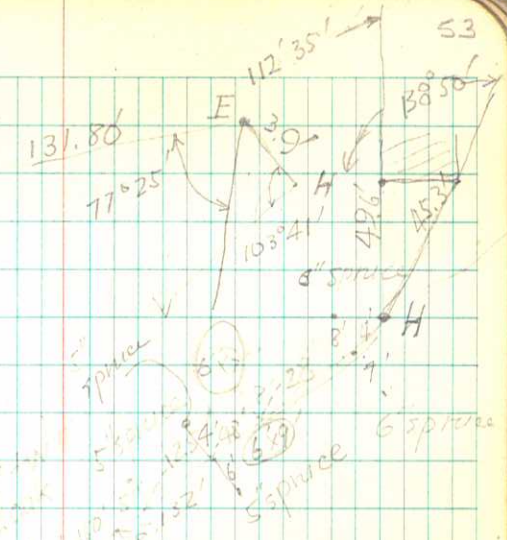
363



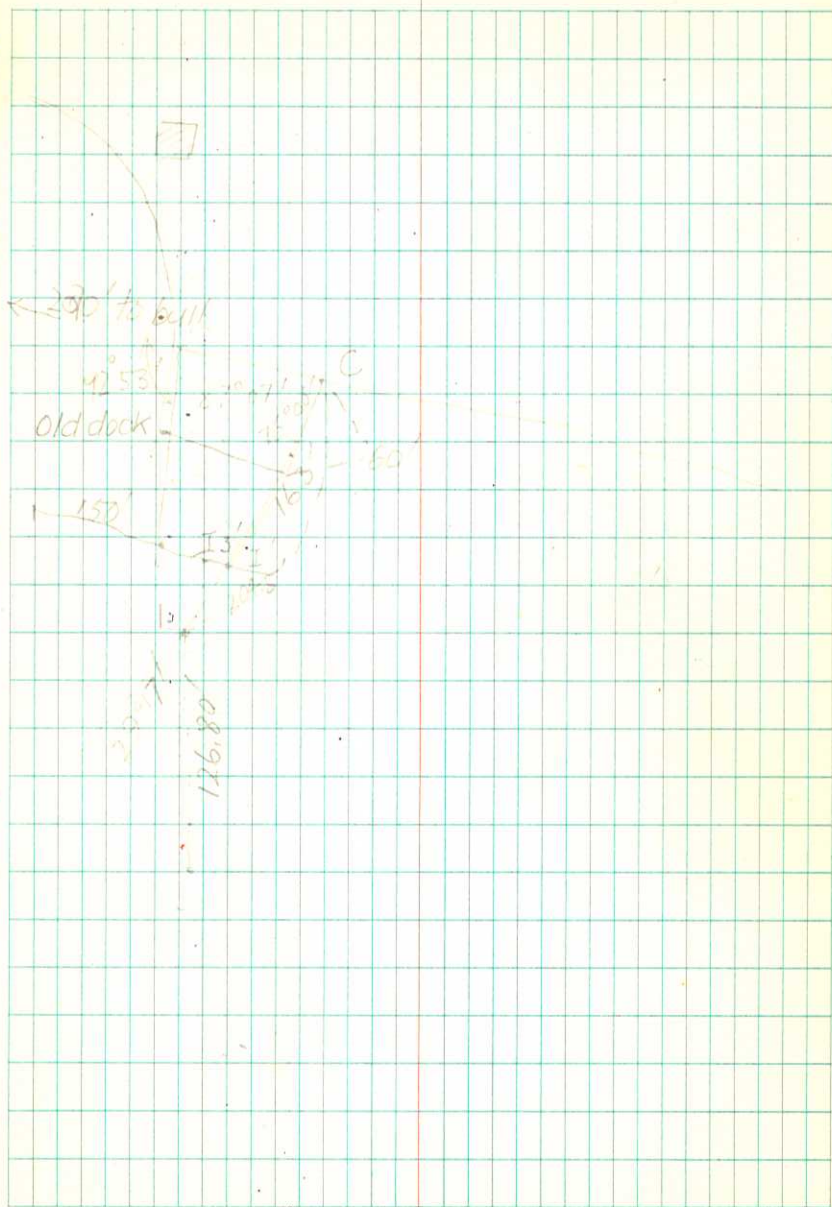


379  
48.1  
42.71

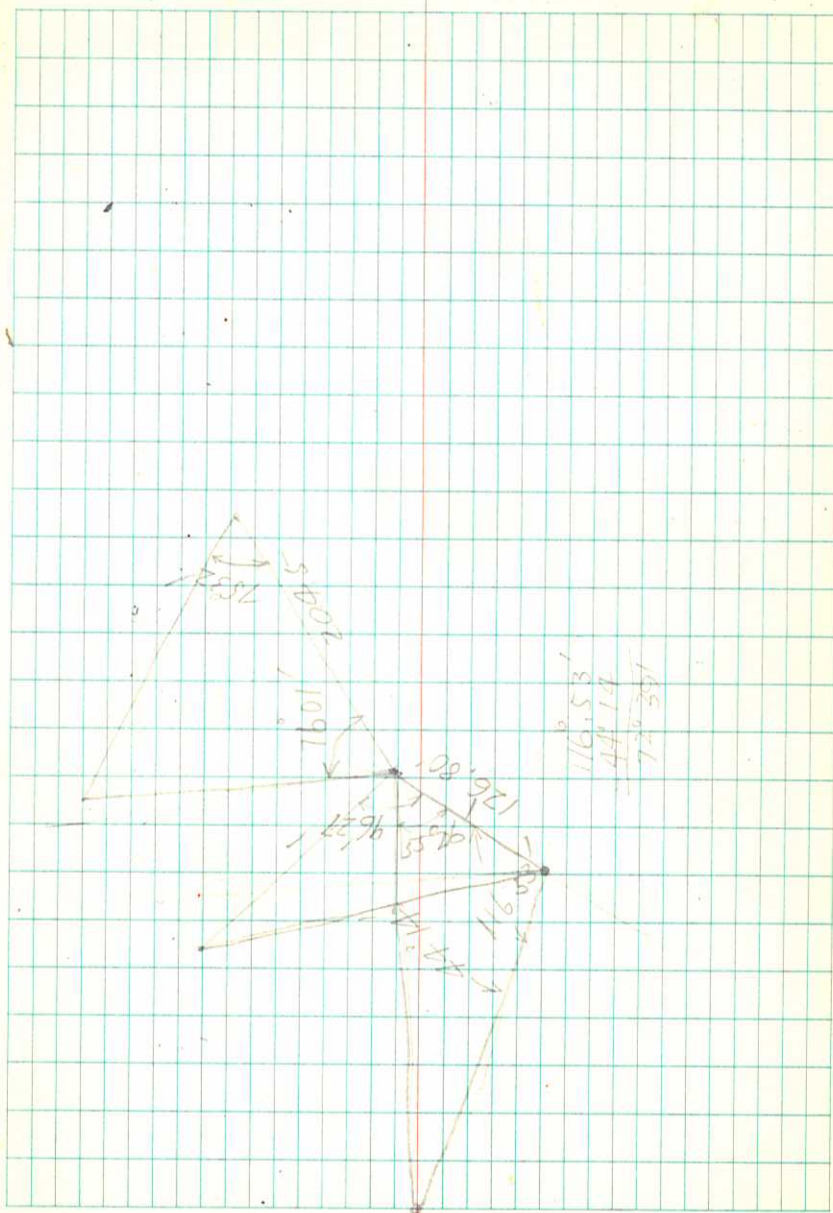
B



Station	Back Sight	Height Instrument	Fore Sight	Elevation #
B.M. 1	11.52	111.52		100.00
Water surface	17.10	17.10	17.10	94.42
D		16.30	16.30	95.22
C		4.80	4.80	106.72
A		0.50	0.50	111.02
50		1.50	1.50	110.62
100		2.70	2.70	108.82
B		3.00	3.00	108.52
B+4		2.50 <sup>v</sup>	2.50	109.02
B+10		3.30 <sup>v</sup>	3.30	108.22
160		2.90	2.90	108.62
200		2.85	2.85	108.67
225		3.10	3.10	108.42
330		14.00	14.00	97.52
C+50 → I		4.70	4.70	106.82
C+65 → I		3.50	3.50	108.02
C+100 → I		3.30	3.30	108.22
I'		4.00	4.00	107.52
T.P.	4.95	<sup>115.17</sup> 113.0	1.30	110.22 on dock
E		3.30	3.30	111.87
H		3.30	3.30	111.87



Station	Back Sight	H.I.	Fore Sight	Elevation
		115.17		
H+75 → J	4.40	4.40	110.77	
+100 → I	4.96	4.96	110.21	
+150 → I	7.80	4.80	110.37	
+200 → I	4.30	4.30	110.87	
I	7.70	7.70	107.47	
J+340 J	10 ft lower than I			
C+195 to I	6.72	6.72	108.45	
I	7.15	7.15	108.02	
I+25 to F	5.90	5.90	109.27	
750 "	6.00	6.00	109.17	
	6.30	15 ft to the right uniform slope		
+75 "	6.20	6.20	108.97	
F	6.50	6.50	108.67	
		374 gradual slope to the lake		
E+270 → lake	5.30	5.30	109.87	
+200	4.70	4.70	110.47	
+100	4.20	4.20	110.97	
E	3.70	3.70	111.47	
Rock top	2.60	2.60	112.57	



May 1, 1959  
North Line Gov't Lot 4

Temp.

Commenced at N.C. 3349.9  
Ft. West of starting in  
Rd. on East side of Lake.  
Triangulation point was at  
3356.6 thence in westerly  
direction  $5830^{\circ} W$  and  
set following points

3473.9, 3788.5, 3995.6,  
4386.2, 4526.9, 4958.6,  
5258.7 (also end of Lake traverse)  
5523.3, 5902.4, 6340.2.

Set point at 6635.0 which  
will be a near point of  
NW corner of lot

looked for section cor.  
approx. 8000 but found  
no evidence. Cut out line

Set, May 2, 59

Started at point 6635.0 and  
Turned  $90^{\circ} Lt.$  and set  
points at 383.3, 811.5,  
1061.6 & 1352.2 - said  
point being 27.5' West  
and 6.4' South of stump  
mark Lot 4.

10/22/64 cld & cool.

10/23/64 cld mild

A.E.  
W.J.S.T.

Preliminary survey to find

Gov't Lot 1 Sec 5. 140-29.  
22 Oct. 64 Arnie Eckdahl & I to Baby  
Lake; pick up 3 1/2" old line chain  
dist between old hubs to get  
location W of NW cor Sec. 9.

We chain from 4526.9 back 140.7 to  
their 4386.2 (1.4 diff) & East to their  
3995.6. Alignment good, so we set on  
4386.2 & set a hub back  $55.2^{\circ} E$   
at 4331.0  $90^{\circ} N$  160.15 hub in old  
road, & brushed to lake setting hub  
on shore (swampy). Missed USFS men  
at noon.

23 Oct. 64 Arnie E. Dick Spear & I  
 $\Delta$  north across Baby Lake from  
point 275.25' North of point on Sec.  
line  $4331^{\circ} W$  of  $1/4$   $1/2$ , Rt.  $90^{\circ}$  176.0'  
internal  $L$   $85^{\circ} 55'$  to point on shore.  
 $\therefore$  2484.7 to  $\Delta$ , then N. 245.8' @  $E 220^{\circ}$   
at  $90^{\circ}$ , then N ( $90^{\circ}$ ) 300', E  $90^{\circ}$  125', N  $90^{\circ}$   
set hub in edge woods & Picket in line.

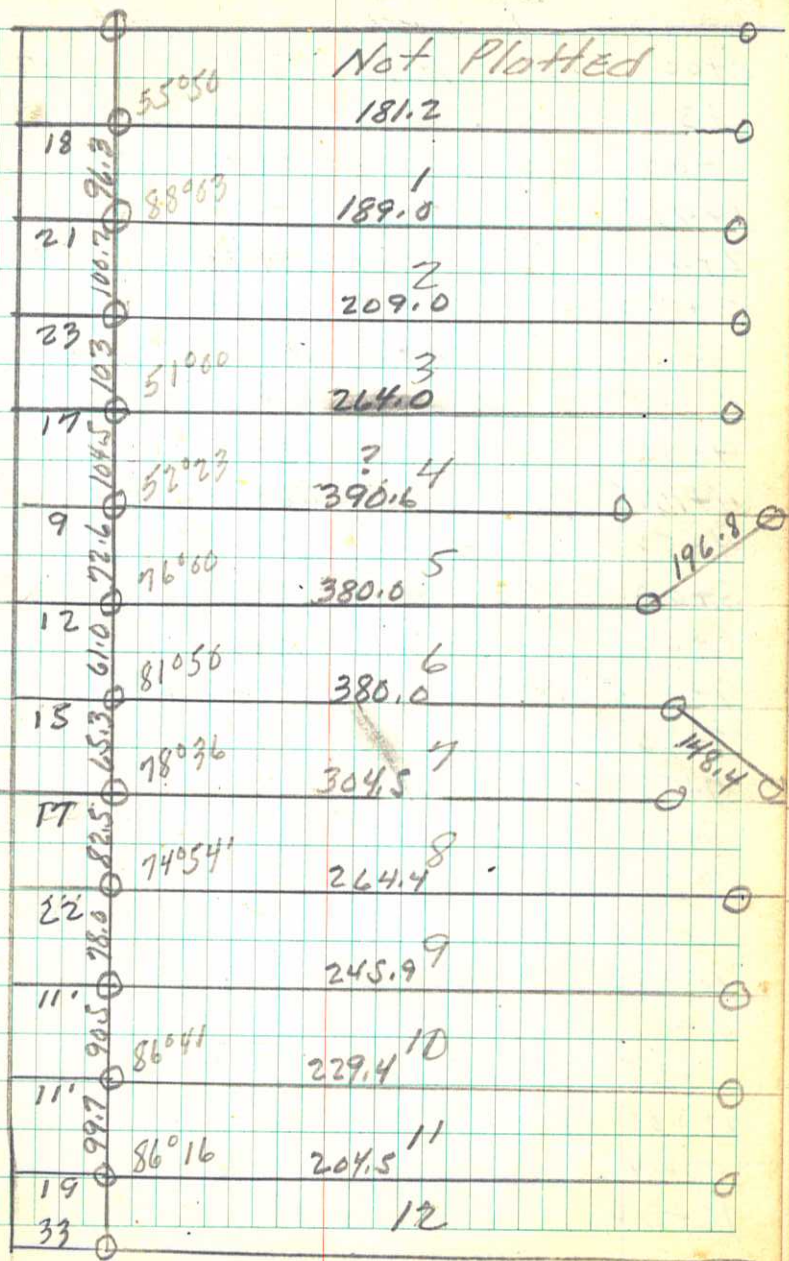
South Line of Lot

Commenced 27.5 West and  
6.4 6.4' South of Stump  
Going East on North 83°00'  
E - Point at 183.7, Point  
467.7, Point 953.9 - Point  
953.9 is 151' from edge of water.

Started Lake Traverse at  
953.9 - Angle 40°54' Lt. <sup>57°00'</sup>  
To Sta. 369.7, Angle Lt.)  
11028' To Sta. 586.6, Angle  
Rt. 55°27" To Sta. 996.2,  
Angle Lt. 71°09" To Sta. 1185.1,  
Angle, Angle Lt. 55°50' To  
Sta. 1306.6, Angle Lt. 20°12'  
to Sta. 1630.0, Angle Lt.  
9°59' To Sta. 1759.9, Angle  
Rt. 34°52' To To Sta. 1912.1  
Angle Lt 7°27' to Sta. 2039.2  
Angle Rt. 43°54' to Sta. 2161.2  
Angle Rt. 44°40' to Sta. 2302.2  
Thence Angle 38°09' Rt.  
to Tie into North line of  
Lot 5258.7 West of  
Starting point East of Lake.

# Rd. Traverse

Starting point 467.7' East  
of S.E. Corner of Lot 4  
Deflected Lt. 36°09' To  
Sta. 1+49.5, Angled Rt. 17°43'  
Sta. 4+17.5, Angled Lt. 31°41' to  
Sta. 7+02.2, Angled Lt.  
25°05' to Sta. 12+02.2 - Angled  
36°58' Lt. to Sta. 14+20.8,  
Angled Rt. 32°48' to Sta.  
15+88, Angled Lt. 4°05'  
To Sta. 17+00 a point  
5523.3 West of The 1/4  
across Lake. Thence turned  
83°24' Lt. to get on said  
line -

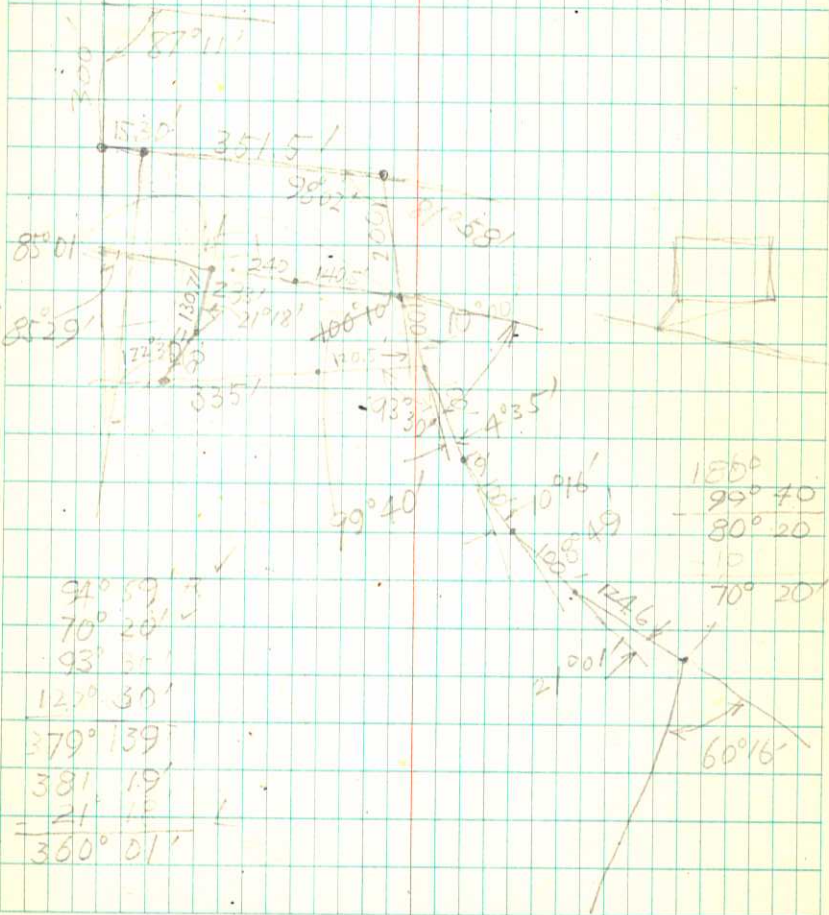
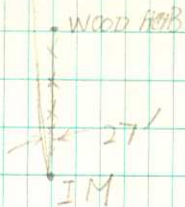


	Rd. Traverse			Lt. Rt	
	Lt.	Rt		Lt.	Rt
0+00	Lt	1-13	12+75	1	12
+50	6	6	13+00	1	12
1+00	6	6	13+40	2	10
1+49.5		2-14	14+00	1	11
2+00		2-14	14+208		2-14
2+50		6-18	14+32	5h.	
3+00		4+15	14+55		Φ
3+45	Φ		15+00	20-0	
4+10	Φ		15+88		
4+17.5	14-2		16+00	14-2	
4+58	Φ		17+00		
5+00	3	8	16+50	10-	3
6+00	10	2	16+80	11	2
7+02.5	14-2		17+40	27-15	
7+30	6	6			
7+58	2	10			
8+00	2	10			
9+00	8	4			
10+00	12-0				
10+50	14-2				
11+00	10	2			
11+55	14-1				
12+00	14-1				
12+09					
12+30	6	6			



Saturday August 26 1961

Monday August 28



$$14.85 = \Sigma$$

$$1037.2 = 480.45$$

$$\Sigma = \frac{880.45 \times 14.85}{1037.20}$$

$$= 12.61$$

$$109.88045 = 2.744705$$

$$109.14.85 = 1.171726$$

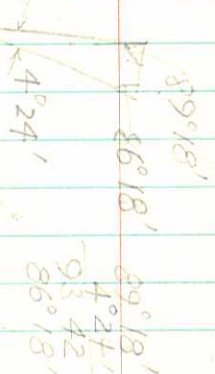
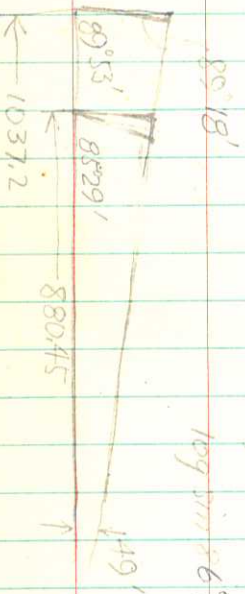
$$= 4.116431$$

$$109.1037.20 = 30.15863$$

$$1.1005668$$

$$\begin{matrix} 89^{\circ}53' \\ 44 \end{matrix} \quad \begin{matrix} 89^{\circ}53' \\ 85 29 \end{matrix}$$

$$\begin{matrix} 89^{\circ}42' \\ 90^{\circ}42' \\ 89^{\circ}18' \end{matrix} \quad \begin{matrix} 4^{\circ}24' \\ 4^{\circ}24' \end{matrix}$$



$$\Sigma = 12.61$$

$$\sin 86.18' = \frac{\Sigma \sin 89.18'}{\sin 90.18'}$$

$$\Sigma = \frac{12.61 \times \sin 89.18'}{\sin 86.18'}$$

$$= 12.63'$$

$$\log 12.61 = 1.100568$$

$$\log \sin 89.18' = 9.999668$$

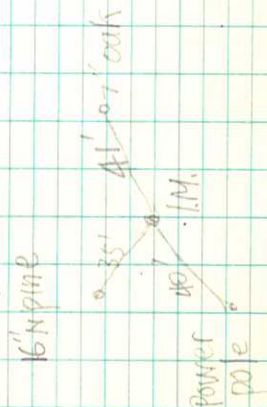
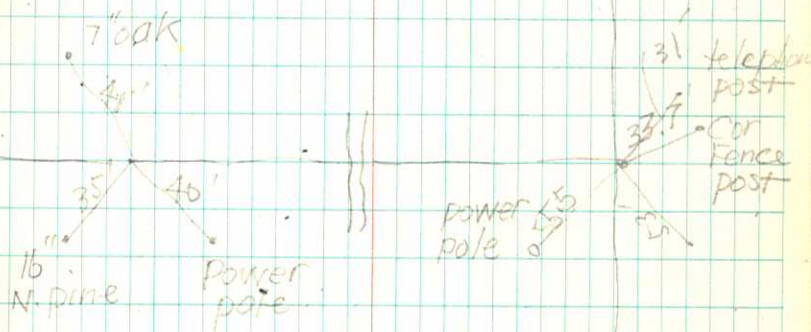
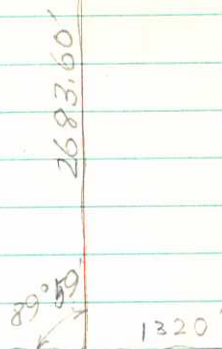
$$= 11.100236$$

$$\log \sin 86.18' = 9.999994$$

$$1.101442$$

Tuesday August 29 1961

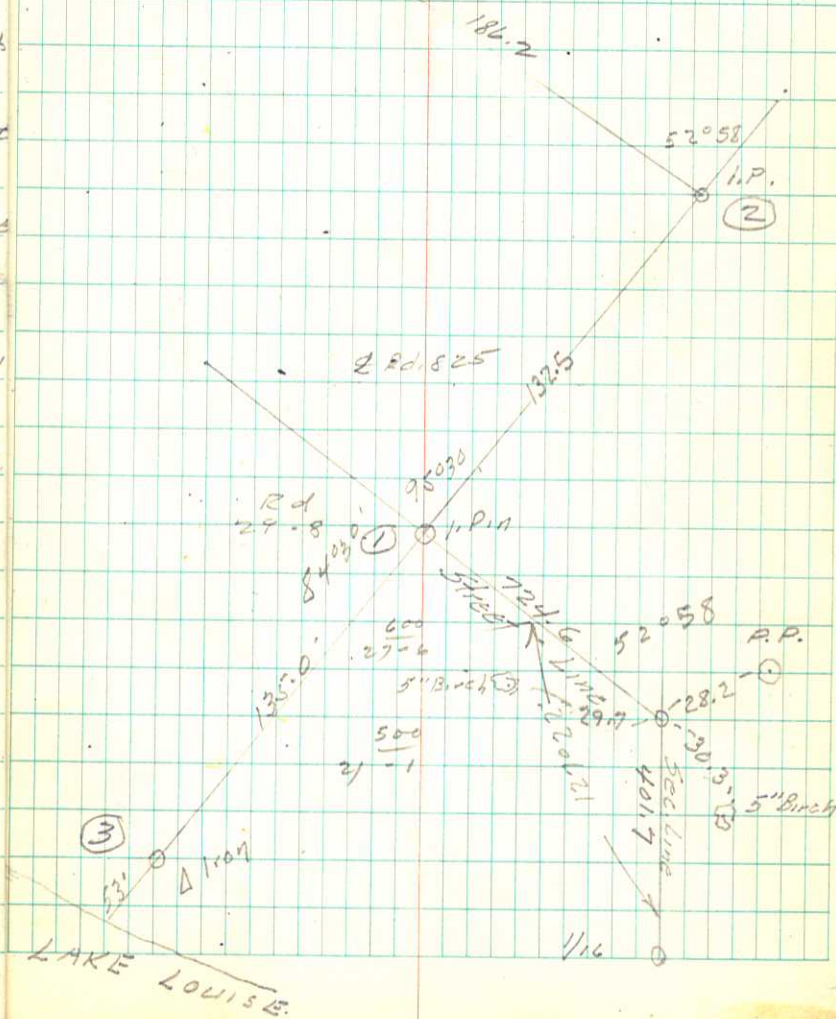
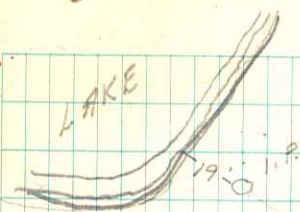
69



Lampson

Wed. May 13, 1959 Cloudy - Cold-Snow  
Langerud & Flesher on The  
project until 3:00 P.M.

Commenced running line east  
from  $\frac{1}{16}$  Corner S.W. Corner of box  
Lot 4 Sec. 22 T14N R 28W. Chained  
401.7 along said line to the approx  
E of road. Thence deflected  
left  $52^{\circ} \overset{58}{38}$  for a distance  
of 724.6'. Set Iron Pipe and  
deflected  $95^{\circ}30'$  right & chained  
132.5'. Set Iron pipe and  
deflected left  $52^{\circ}58'$  and  
chained a distance of 186.2 and  
set Iron Pipe. Chained to  
water's edge and found same  
to be 19'. Set up on point  
No. 1 and deflected to the  
left  $84^{\circ}30'$  and chained  
135.0' and set Angle Iron,  
Thence to water's edge of  
Lake known as Lake Louise  
distance of 53.0'



Wed. May 15, 1959 Cloudy-Cold-Snow

73

Grew Langford & Fleisher  
on project 3:30 - 5:30  
looked for corners and  
located one - South line

Wed

Wednesday August 30 1961

75

Monday Sept. 4

Govt. Lot A 1 Sec. 13. T14N. R. 28N.

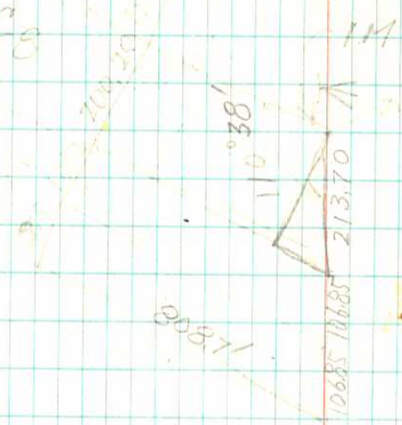
T14N

(Peter King)  
prop.

R29W R27W

S13 S18

MC8



106.85  
 73321000000  
 93885  
 141500  
 56151.0  
 799900  
 748680  
 512200

106.85  
 936  
 71998  
 -936  
 6400  
 5616  
 7840  
 7488  
 3520

$$100 = x \cdot \cos 20^\circ 38'$$

$$x = \frac{100}{\cos 20^\circ 38'}$$

$$= 106.85'$$

$$\log 100 = 2.000000$$

$$\log \cos 20^\circ 38' = 9.971208$$

$$2.028792$$

Thurs

$$673.2 \times \sin 45' = 673.2 \times 0.1309 =$$

$$673.2 \times \sin 1^{\circ}45' = 673.2 \times 0.03054 =$$

$$\begin{array}{r}
 .0297 \\
 673.2 \overline{) 20.0000} \\
 \underline{13467} \\
 65333 \\
 \underline{80538} \\
 47720 \\
 \underline{47724} \\
 \hline
 \end{array}$$

$$673.2 \times \sin 07' = 673.2 \times 0.0204 = 1.37$$

$$673.2 \times \sin 13' = 673.2 \times 0.0378 = 2.60$$

$$\begin{array}{r}
 2683.60 \\
 \underline{280} \\
 2673.80 \\
 \underline{1336.90} \\
 1336.90 \\
 \underline{55.90} \\
 1281.00
 \end{array}$$

$$\begin{array}{r}
 673.20 \\
 - 660.00 \\
 \hline
 13.20 \\
 - 1.05 \\
 \hline
 12.15
 \end{array}$$

26179

$$\begin{array}{r}
 .00502 \\
 113.15 \\
 \underline{13089.5} \\
 60500
 \end{array}
 \quad 19 = 17'$$

$$\begin{array}{r}
 2.15 \\
 2683.6 \\
 \hline
 65.7 \\
 x = 2.15 \times 65.7 \\
 \hline
 2683.6
 \end{array}$$

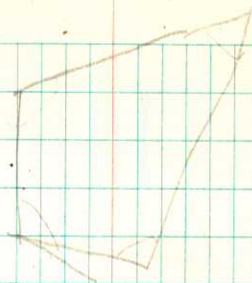
$$\begin{array}{r}
 2683.6 \\
 \underline{1211.88} \\
 1471.72
 \end{array}$$

$$\begin{array}{r}
 2683.60 \\
 \underline{80} \\
 2673.80 \\
 \underline{1336.90} \\
 1336.90
 \end{array}$$

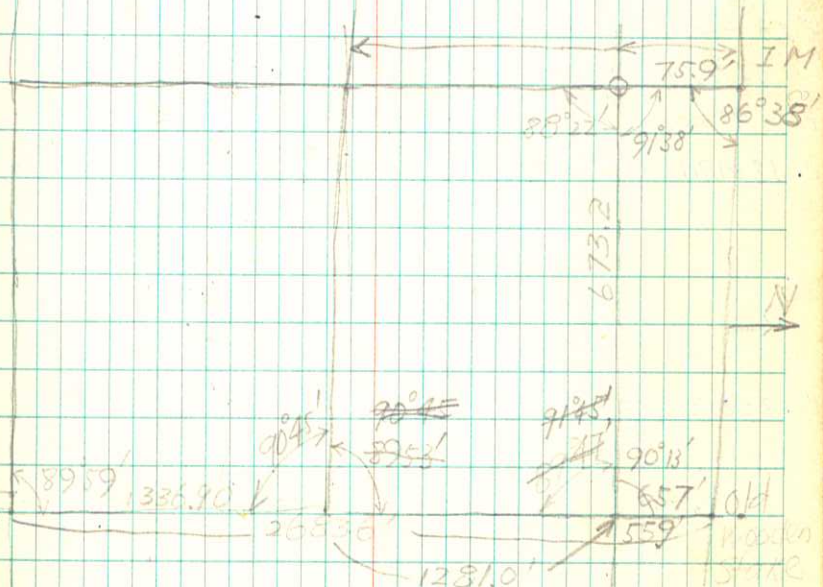
$$Ld = 3'$$

$$\begin{array}{r}
 \log 2.15 = 0.332438 \\
 \log 65.7 = 1.817515 \\
 \hline
 \log 2683.6 = 3.428718 \\
 - 2.721285
 \end{array}$$

0.053 ft



$$\begin{array}{r}
 91^{\circ}38' \\
 86^{\circ}38' \\
 89^{\circ}59' \\
 \hline
 266.735 \\
 268.15 \\
 \hline
 91^{\circ}45'
 \end{array}$$



$$\begin{array}{r}
 89^{\circ}59' \\
 \underline{3} \\
 89^{\circ}62' \\
 \underline{17} \\
 89^{\circ}45'
 \end{array}
 \quad
 \begin{array}{r}
 89^{\circ}41' \\
 \underline{3} \\
 89^{\circ}44' \\
 \underline{4} \\
 89^{\circ}61' \\
 \underline{90^{\circ}01'}
 \end{array}
 \quad
 \begin{array}{r}
 90^{\circ}01' \\
 + 1.44 \\
 \hline
 91^{\circ}45'
 \end{array}$$

Sat. May 16, 1959

Sta.	Back	Line	Sta.	Front	Line
0+00	128° 18' 64° 09'	RT.	0+00	84° 41' 42° 20'	RT.
1+20.3	23° 26' 11° 43'	LT.	0+78.5	25° 04' 12° 32'	LT.
2+17.1	36° 55' 18° 28'	LT.	2+06.9	6° 08' 3° 04'	LT.
3+22.6	23° 49' 41° 50'	LT.	3+55.8	6° 28' 3° 14'	RT.
5+20.3	93° 28' 46° 44'	RT.	4+79.4	21° 11' 10° 35'	RT. ✓
7+15.6	11° 26' 5° 43'	RT.	6+22.9	34° 16' 17° 08'	RT. ✓
8+66.0	0° 58' 0° 29'	RT.	7+30.4	26° 00' 13° 00'	RT. ✓
10+02.5	72° 54' 36° 27'	RT.	9+34.9	16° 34' 8° 17'	LT. ✓
413+13.0	48° 40' 24° 20'	RT.	11+58.6	12° 08' 6° 04'	LT. ✓
13+79.4	35° 10' 17° 35'	LT.	12+54.4	26° 00' 13° 00'	RT. ✓
15+20.1	5° 53' 2° 56'	LT.	13+18.5	17° 16' 8° 38'	RT. ✓
18+19.1	17° 26' 8° 14'	LT.	14+11.6	30° 18' 15° 09'	RT. ✓
			14+73.7	29° 32' 14° 47'	RT. ✓
			15+84.9	29° 56' 14° 58'	RT.
			17+40.5	11° 40' 57° 20'	RT.

250.2 + 30.7 To base of lake

Langerud  
Fletcher  
Clear & Warm

12° 08'

30° 19'

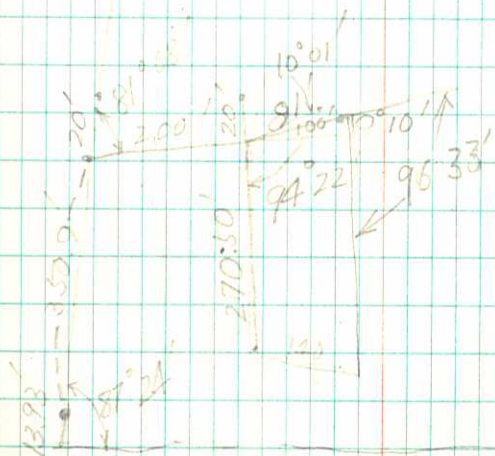
23° 26' 79

Sta.	Lake			
250.2	To	Back Line		
0+10	10'		12+00	5'
0+00-60	11'		H-12+54.4	7
0+30	13'		13+00	6
0+50	21'	+40'-Clears Cabin	H-13+18.5	6
H-0+78.5	12		13+50	10
1+50	8		14	7
2+00	8		H-14+11.6	6
H-2+06.9			H-14+73.7	4
2+50	7		15+00	6
3+00	4		H-15+84.9	6
H-3+55.8	8		16+00	6
4+00	5		H-17+40.5	
H-4+79.4	5		196.1 To	Back Line
5+00	4			
5+50	5			
6+00	6			
H-6+22.4	3			
6+00	8			
H-7+30.4	4			
8+00	7			
9+00	7			
H-9+34.9	13			
10+00	4			
11	5			
H-11+58.6	6			



	Road		
H-0+00	4-14	14+13 +40	To E. Corner of
1+00	5-15	H 13+79.4	6-19
H-1+20.3	2-12	14+00	8-23
1+60	3-13	14+50 - 14+90	Barn
H-2+17.1	3-13	15	6-19
2+50	6-16	H 15+20.1	5-18
3+00	8-18	16 -	5-18
H-2+22.0	3-13	17	5-18
4+00	5-15	17+5.0	4-17
5+00	5-28	18	3-27
H 5+20.3	15-30	18+19.1	
6	6-19		
7			
H 7+15.6	7-20		
8+00	4-17		
H 8+66.6	7-20		
9+00	6-14		
H-10+02.5	11-24		
11	6-19		
11+28	Corner of Cabin	15-18 W	
12+00	5-16		
12+79	Corner of House		
13+00	6-19		
H 13+13.0	6-22		
13+95.0	Corner of Ho		

Saturday September 2 clear



90  
 200  
 290  
 53.2  
 236.8

Lot Lines

20/60 51/07

90'	Lot 1	236.8	1415
110	Lot 2	250.9	2022
100	Lot 3	292.3	1020
100	Lot 4	116	1118
100	Lot 5	135.4	2029
100	Lot 6	154	2704
100	Lot 7	172.2	
110	Lot 8		9705
115	Lot 9		10056
135	Lot 10	151.7	8415
80	Lot 11		

53.2

190.5	Lot 17	
100.1	Lot 16	82°29'
100.1	Lot 15	84°08'
100.1	Lot 14	80°37'
100.1	Lot 13	79°18'
100.1	Lot 12	59°52'

1934.2 To  $\frac{1}{16}$  line from Base L

3270.2

196.1

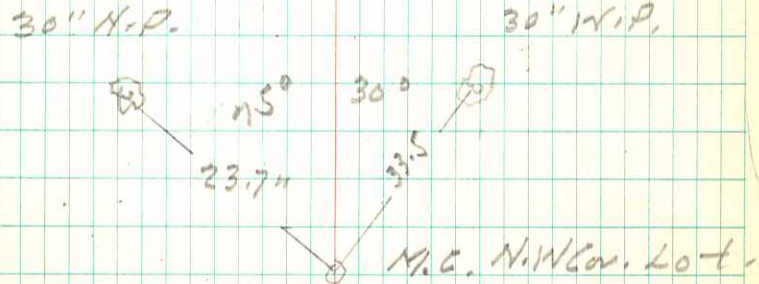
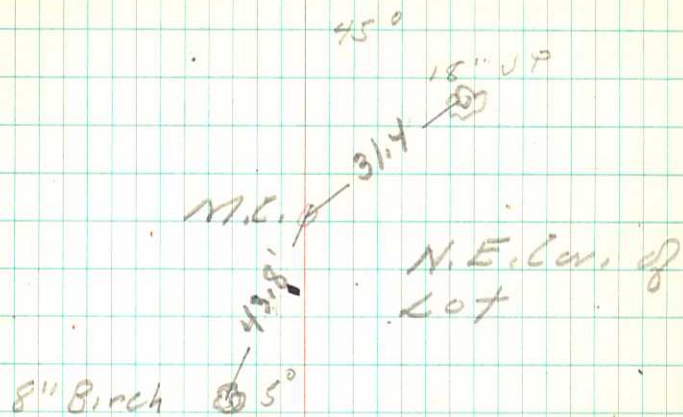
3566.3

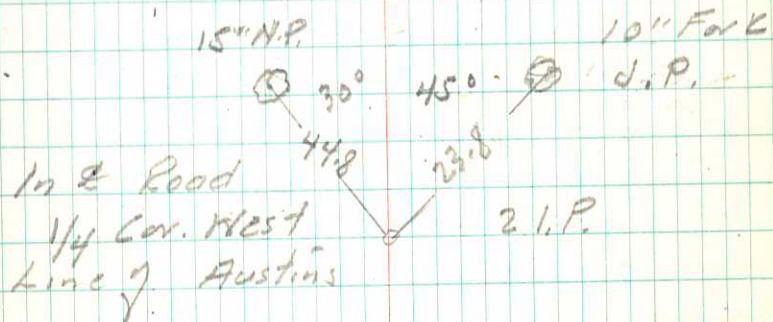
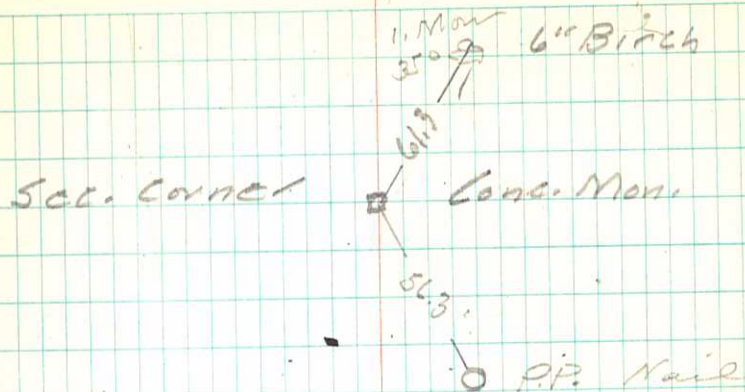
3270.2

1934.2

1336.0

3566.3' From N.E. on  
N.E. Corner Govt Lot  
To  $\frac{1}{16}$  Cor. in Center of  
Road.





Friday May 22, 1959 P. Cloudy Warm

Commenced Survey for  
Stainbrook Jr. at 11:00 P.M.  
Located triangulation points  
and made observations as  
shown.

Langerud & Flashner (1/2 Day)

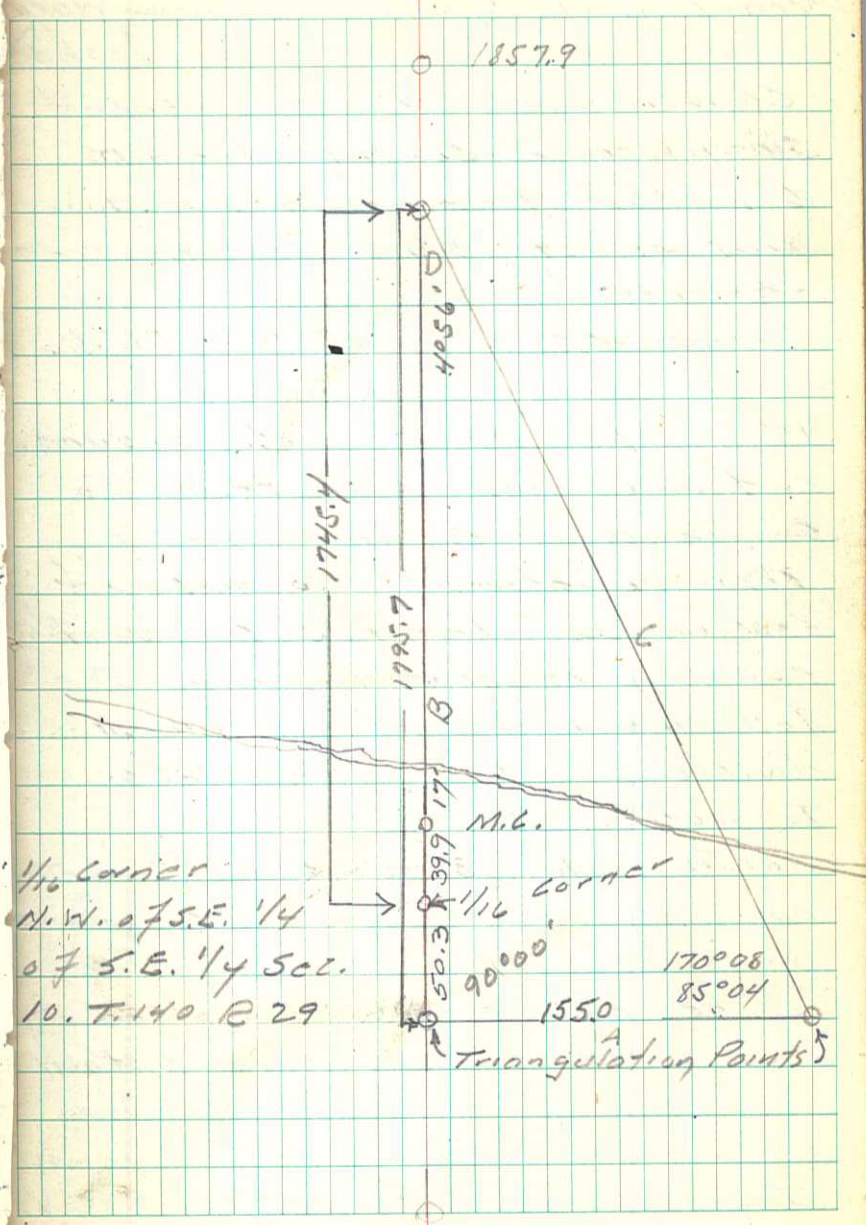
Sat. May 23, 1959 P. Cloudy Warm

Commenced at 1745.1 and  
continued westward on a  
7°30' variation - No apparent  
indications that a previous  
survey had been made.

Set hubs at following points  
1857.9', 2241.9', 2498.8', 2790.6',  
3174.6' & 3477.9'.

Brush heavy & quite hilly.

Langerud & Flashner 1-day  
" 4 Hrs on Flash's Plat.



Mon. May 25, 1959 P. Cloudy. Warm

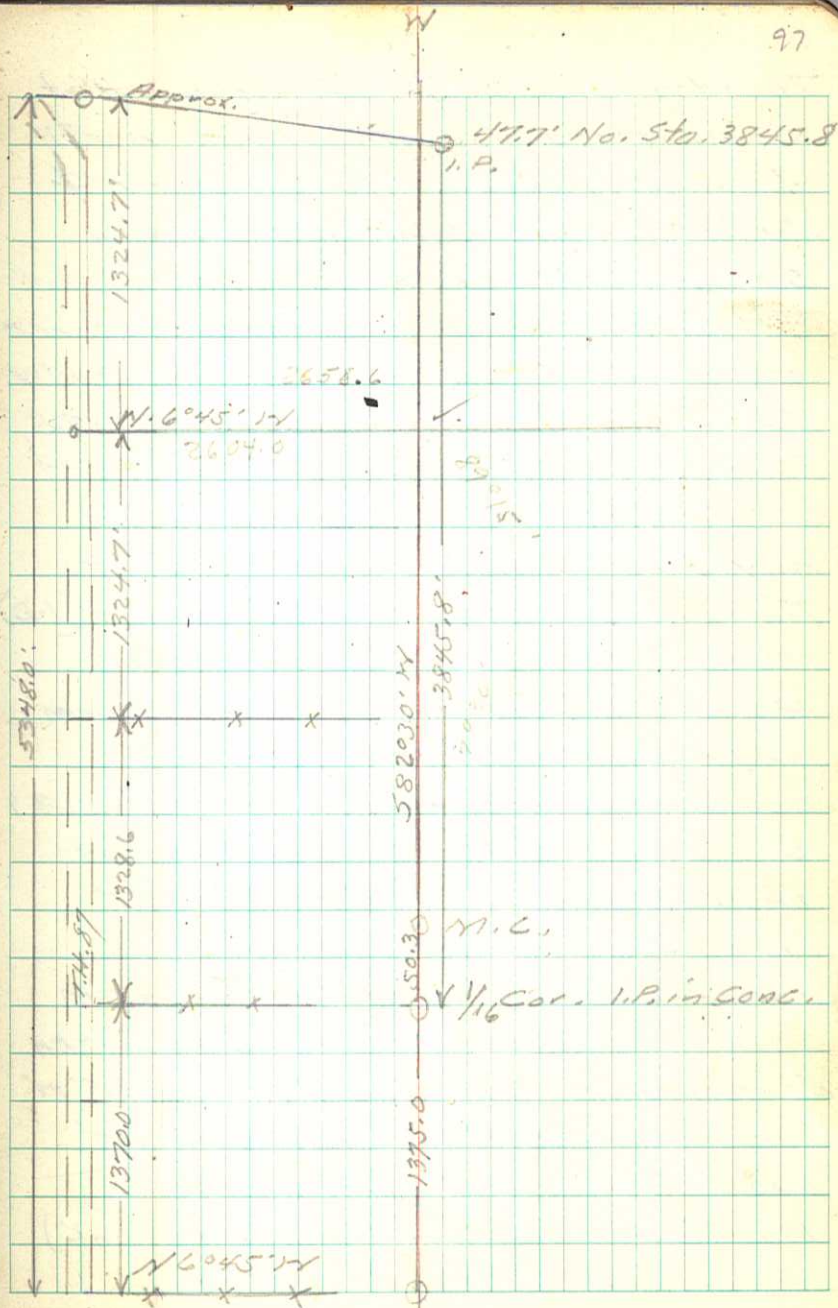
Crew - Langerud & Flechner

Commenced at Point  
3477.9 and continued on a  
7°30' Variation to a point  
opposite the 1/4 Corner between  
sections 34 & 35. Found same  
to be 47.7' North of Sta. 3845.8.

This corner consists of a  
1 1/4" pipe driven into ground.  
Cut out line apparent to  
south and north.

Chained from S.W. Corner of  
section 35 along center line of  
road going east. Found the  
following indications of land  
divisions: Sta. 2649.4 fence  
to north, Sta. 3978.0 fence to  
north, Sta. 5348.0 fence to north,  
observed bearings on fence lines  
and road and found same  
to be on a 6°45' Variation.  
Also checked bearing on cutout  
line going north from the  
S.W. corner Sec. 35. and found  
same to be approx. 5°15' N.

1-Day

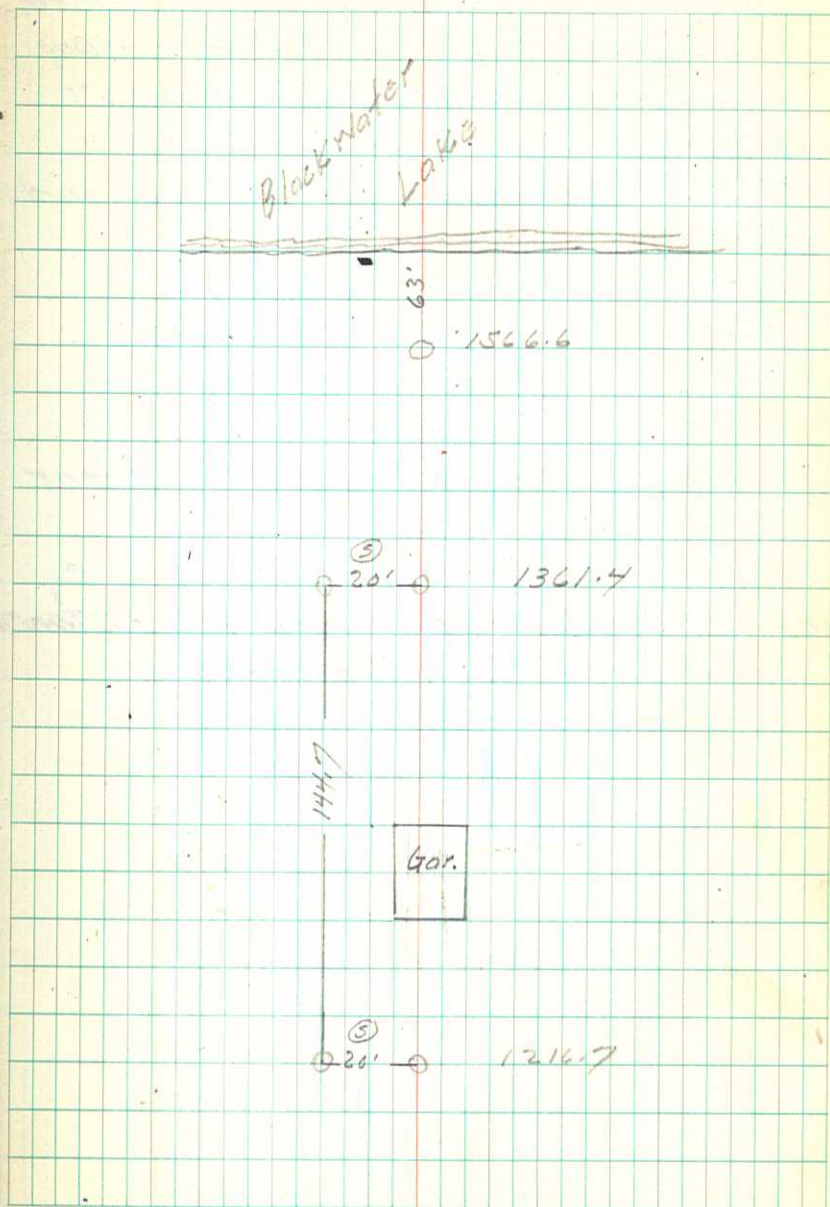




Tuesday May 26, 1959 Cloudy - Hot  
 Commenced running line north  
 from assumed  $\frac{1}{4}$  Corner of  
 the S.W. Cor. of The S.E.  $\frac{1}{4}$  of S.W.  $\frac{1}{4}$   
 Sec. 35, T 140 N R 29 W. Split  
 T.H. 87' for basis for distance  
 and set course at N 60° 45' W.  
 cut line & set hubs at 389.5,  
 801.8, 934.5, 1333.6, 1592.0, 1823.9  
 & 2219.9. No evidence of  
 any line having been cut  
 through. Langerud & Flashner (1-D)

Wed. May 27, 1959 P. Cloudy - Warm  
 Langerud & Flashner -  
 Commenced cutting line at Sta. 2099.9  
 Course N. 60° 45' W. Set hub at  
 intersection with East & West  
 line and found same to  
 intersect at Sta. 2604.0 from  
 South & 2652.6 from East. Then  
 continued on course N 60° 45' W.  
 to Black Water Lake - set  
 hubs 394.2, 649.8, 798.5, 1004.6,  
 1216.7 & 1361.4, 1566.6 (on Bank)  
 plus 63.0' to E. Water

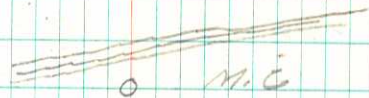
1-Day



Thursday - May 28, 1959 P. Cloudy - Warm  
 Langerud & Flesher - 1-Day  
 Commenced Lennie Tabaca's  
 project on Women Lake -  
 Found corners as shown and  
 cut  $\frac{1}{2}$  mile of line

Friday May 29, 1959 Clear  
 Cut balance of line  
 and chained out distance  
 from  $\frac{1}{4}$  Cor. To M.C.

Gov't Lots 1 & 2 Section 18  
 T. 140 N R. 28 W



Gov't Lot 1



Gov't Lot 2



Gov't Lot 3



Tuesday June 2, 1959 Clear-Warm  
 Langerud & Flesher -  
 Cut out lake traverse  
 and set hubs. Very  
 rugged country but  
 progress good.

#	Angle	Dist. To Lake
#1	Iron Pipe 0+00	16'
#2	0+87	110°46'
#3	1+86.7	5°53' R.
#4	2+88.5	13°39' L.
#5	3+80.6	6°49' L.
#6	5+00.4	10°08' R.
#7	5+98.3	8°04' R.
#8	7+07.4	7°04' L.
#9	9+37.1	3°37' L.
#10	10+31	2°05' L.
#11	12+47.1	10°26' L.

Wed. June 3, 1959 Clear-Warm  
 Commenced turning Angles  
 and chaining lake traverse.  
 Starting point N.E. corner  
 of Tobacco's Property Line

#12	13+82	4°16' L.
#13	15+32.7	12°58' R.
#14	17+34.8	4°29' R.
#15	18+58.3	17°42' L.
#16	19+99.8	8°51' R.
#17	21+15.7	10°47' L.
#18	22+08.5	2°53' L.
#19	23+05.4	14°09' R.
#20	24+15.1	7°04' R.
#004T.	25+19.7	17°50' R.
		8°55' R.
		19°56' R.
		9°58' R.
		14°47' L.
		7°24' L.
		45°28' R.
		22°44' R.
		39°58' L.
		19°52' L.
		146°40' L.
		73°20' L.
		N 9°05' W

Thurs June 4, 1959 Clear-Warm  
 Long and of Flesher  
 Completed turning angles  
 and topog of lake  
 traverse. Also tried  
 To check on Tobacco's  
 east line -

22 Aug. 1959 My Co on back Traverse

190 Lt.  
 541 Rt.  
 930 Lt.  
 1211<sup>8</sup> Lt.  
 1361<sup>1</sup> Rt.  
 1785 Lt.  $\neq$  str. abd.  $\Delta$  Lt. 18  
 1895<sup>3</sup> Rt. No Edge Rd.  $\Delta$  Lt. 18.  
 1963<sup>3</sup> Lt.  
 2251 Rt.  
 2370 Lt.

Sta.	(Rt.) Dist. To Lake	Sta.	(Rt.) 105 Dist. To Lake
0+00	16	16+00	7
1+00	13	17+00	4
2+00	15	+35	4
3+00	21	18+00	8
4+00	12	+60	14
5+00	15	19+00	9
+55	8	20+00	7
6+00	5	21+00	12
+50	14	+15	13
7+00	21	22+00	4
+50	17	22+35	4
8+00	5	23+00	8
+50	5	23+20	4
9+00	12	24+00	9
+50	12	24+45	4
10+00	10	25+00	12
+30	5	25+19.7	11
11+00	6		
+50	4		
12+00	6		
+48	11		
13+00	11		
14+00	10		
15+00	9		
+36	10		

W.J. Spain  
C.M. Tung

Friday Sept. 15 1961 Clear

92.3  
88.3  
80.8

NEW  
W.H.  
440.8  
353  
17'  
7'4  
7'4  
Old W.H.

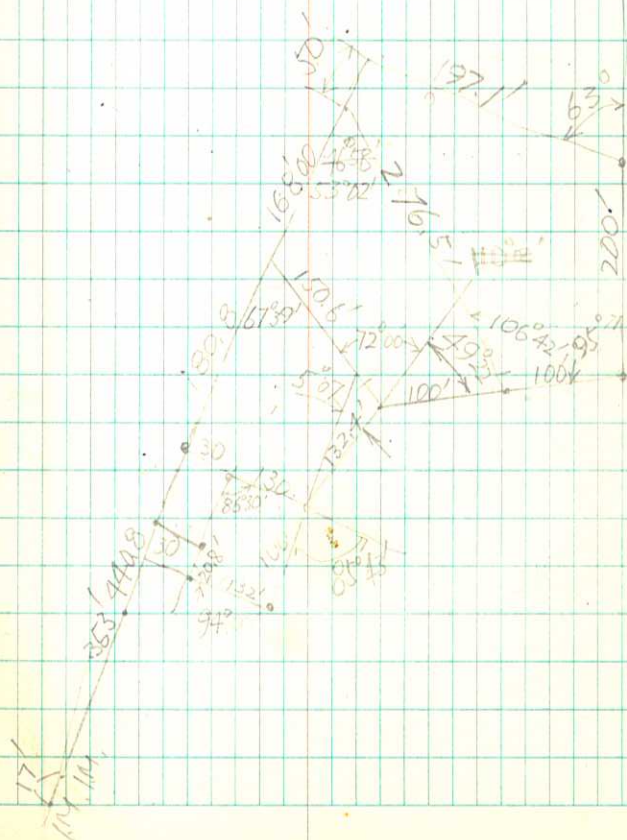
107

Thursday Sept. 7

Saturday Sept. 9

Monday Sept. 11 Cloudy Spain, Tung

Friday Sept. 15 Clear Spain, Tung



10 June 1953  
clear & warm.

WJZ  
EIF 109  
SKLX

Harbor Survey  
For Togi (Tatge.)

B.M. 0.95 100.95 100.00 Assumed

Spike in Root 12" Elm 5' Lt. E+45

A

91.9	E.W. 94.4	95.6	96.9	97.6	96.2	98.8	02.8
9.0	6.50	5.3	4.0	3.3	4.7	2.1	+1.9
25	5	3	9	18	27	50	75
			03.3	01.0	01.8	06.9	
			2.4	00	+0.9	+6.0	
			98	125	150	175	

B.M. 0.93 100.93 100.00

B.

E.W. 94.5	96.4	E.S. 95.8	97.1	95.9	95.5	95.7	96.2	98.3
6.45	4.5	5.1	3.8	5.0	5.4	5.2	4.7	2.6
30	25	16	8		7	20	40	75
			95.8	97.8	98.3	99.8	04.8	
			5.1	3.1	2.6	1.1	+3.9	
			55	105	140	180	220	

B.M. 101.85 100.00

C

95.6	96.4	97.3	96.5	96.8	96.4	95.3	95.3
4.2	5.5	4.6	5.4	5.1	5.5	6.6	6.6
61	46	33	25		30	48	205
			E.W. 94.5		96.7	97.9	
			10.8	7.35	5.2	4.0	
			90	66	220	260	

B.M. 103.7 100.00

D

<del>91.5</del>		98.1	<del>101.9</del>	98.1	97.3	96.2	95.9
<del>6.2</del>	<del>24</del>	5.0	<del>10.1</del>	5.6	6.4	7.5	7.8
		10	7	8	24	40	47
		E.W. 94.6	96.1	97.3	E.S. 95.8	97.4	99.5
		91	7.6	6.4	2.9	6.3	4.2
		69	67	51	260	268	276
							4.0

B.M. 3.90 103.90

100.00

E

ETS0 SWAMP  
150.

113

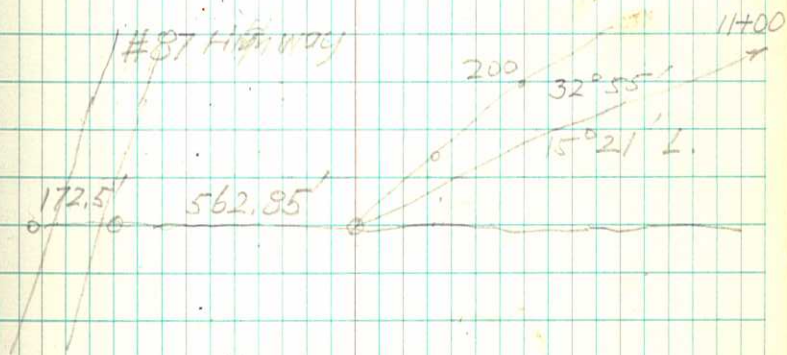
E. W										E.S
94.4	97.5	98.7	99.5	100.7	97.6	96.4	96.9	95.9	95.8	
7.5	6.4	5.2	4.4	3.6	6.3	7.5	7.0	8.6	8.1	
53	49	42	28	9	14	43	90	91	260	
			91.7	92.9						
			12.5	11.0						
			65	60						

Channel - 0 + 65 - 45° LEFT,

Place Culv. at approx.  
E - 90° RT. to River at  
45° Angle. Approx 105' L.  
Suggest minimum 12" Dia.



Govt. Lots 3 & 4 Sec. 14-139-33 W.  
Wolf Lake, Leisure Pines



542.60  
20  

---

562.60  
45.40  

---

608.00

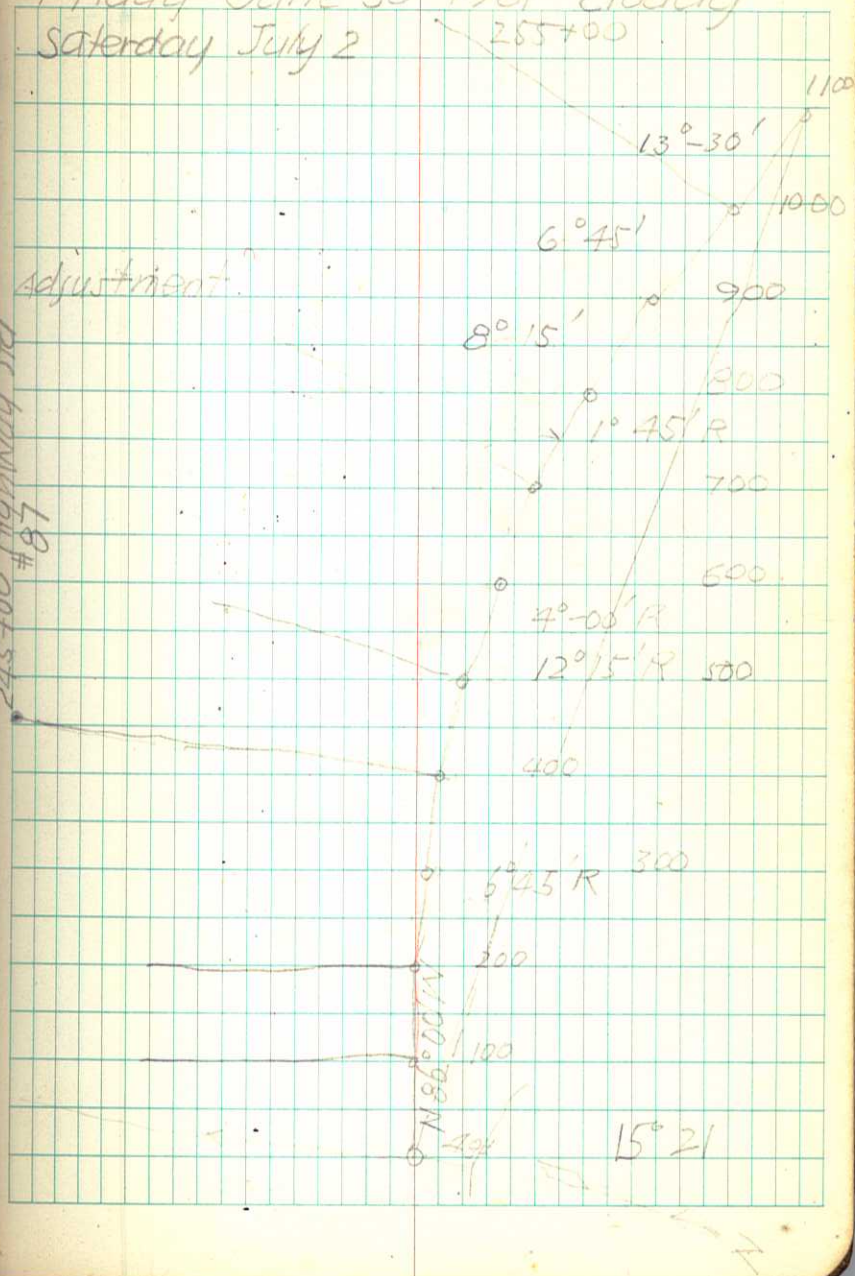
562.85

Station	Angle Deflection	Check	Bearing
0+00		32° 53' L	
+100			
+200	6° 45' R	6° 39' R	
+300			
+400	12° 15' R	12° 18' R	68° 45' out of
+500	4° 00' R	4° 00' R	Adjustment
+600			
700	1° 45' R	1° 45' R	
800	8° 15' R	8° 03' R	
900	6° 45' R	6° 47' R	
1000	13° 30' R	13° 30' R	
1100			

Friday June 30 1961 cloudy  
Saturday July 2

117

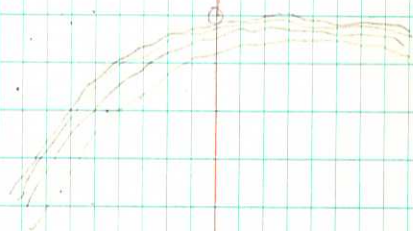
D/S HUNTER 001-572  
48#



Saturday July 1 Clear

119

7  
698.65'



Tuesday July 4 1961

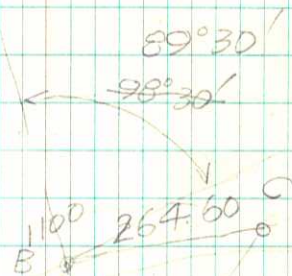
Angle Reading

	1	2	3	
C	57°32'	115°5'	172°37'	57°32' $\frac{1}{3}$
B	110°16'	220°32'	330°48'	110°16'
A	12°11'	24°24'	36°35'	12°11' $\frac{2}{3}$ 12°12'

Line Dist

BC 264'60"

57° 32' $\frac{1}{3}$   
 + 110° 16'  
 167° 48' $\frac{2}{3}$   
 12° 11' $\frac{2}{3}$   
 179° 60'  
 180°



Wednesday July 5th Fine

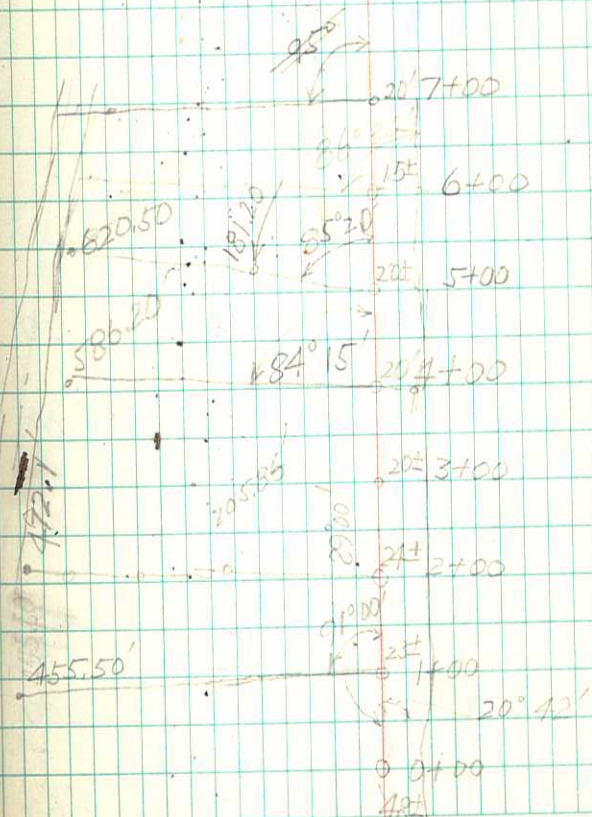
C.M.

39.50 +6.30

37.50 +2.80

38.30 +4.45

25.50 -8.20

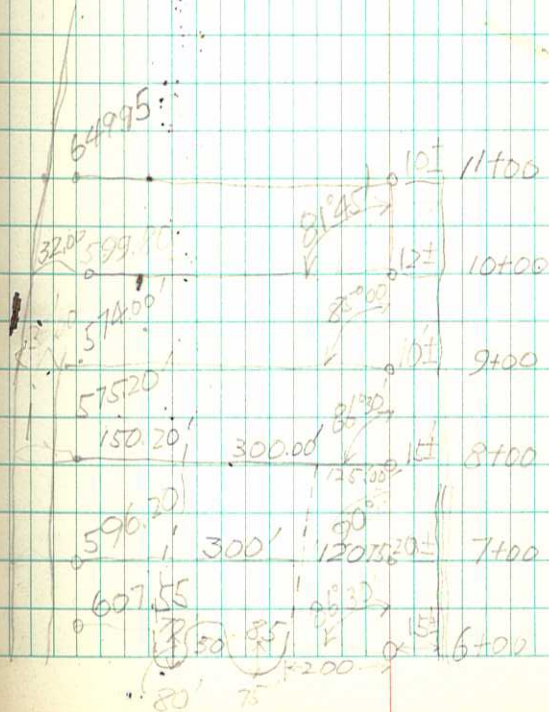


W. J. Spain 127

Thursday July 6th 1961 Fine

649.95
+ 31.90
681.85

	31.90	-2.20
	32.40	-2.00
	32.00	+1.00
0.00	33.00	150.20
		575.20
		575.20
	34.00	0.00
	36.00	+2.60



Friday July 7th 1961

129

82

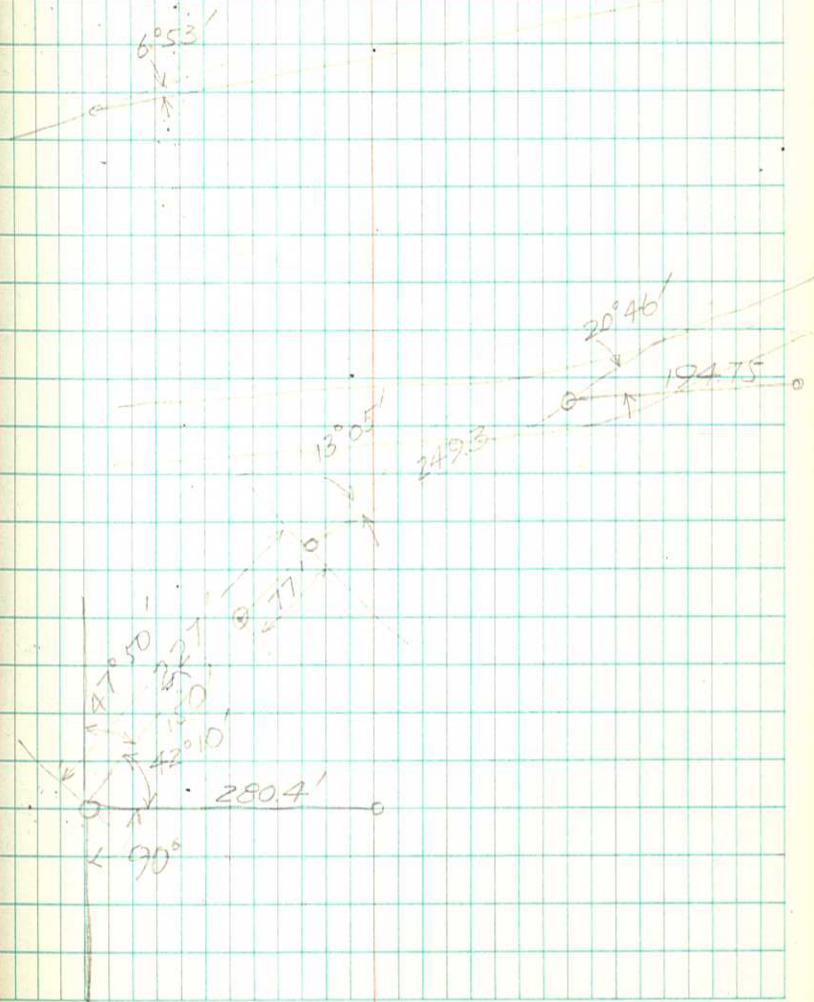
83

84

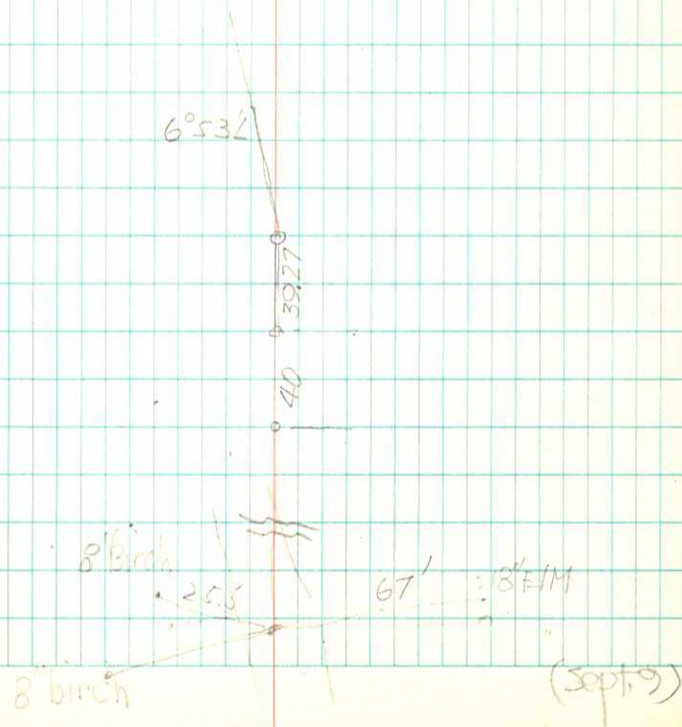




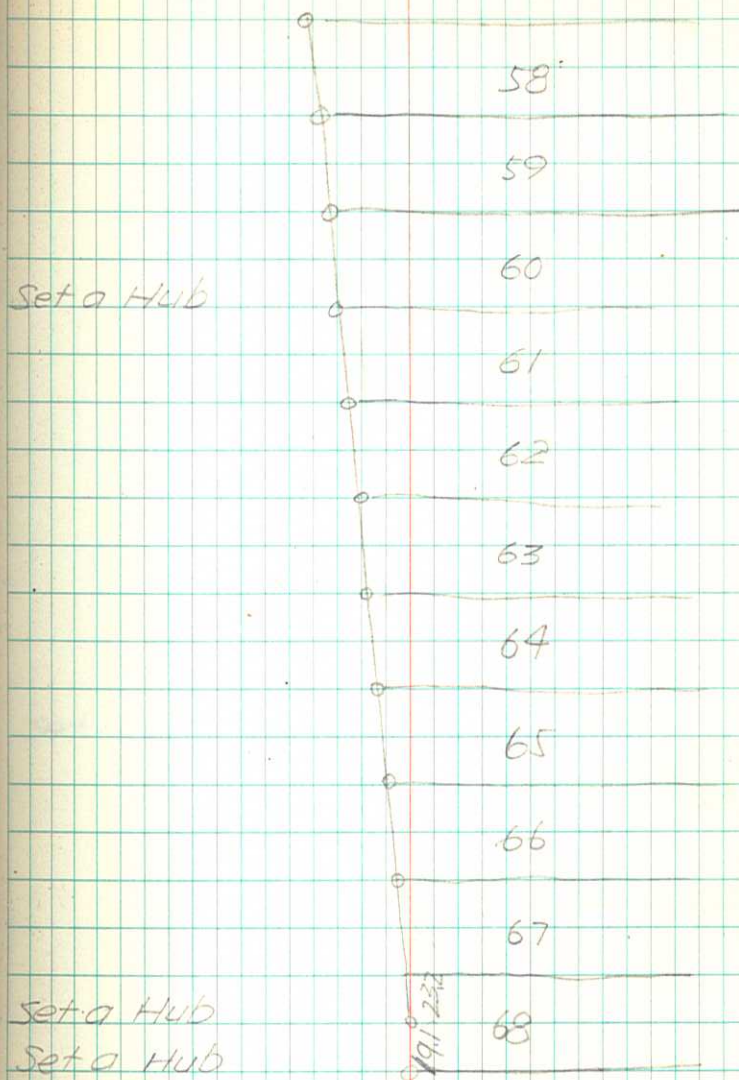
Saturday 9th July 1961



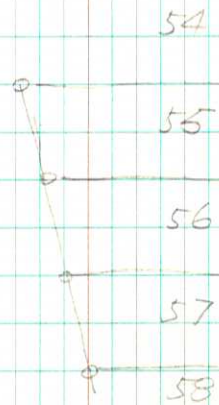
Monday July 10 1961  
Shower



Tuesday July 11 1961

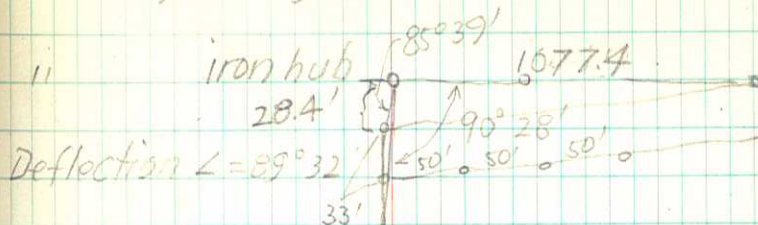


set of Hub



Monday July 17 1961

1104.9  
- 27.5  
-----  
1077.4



180 94°21'  
1°30'  
-----  
95°51'  
- 90°28'  
-----  
5°23'

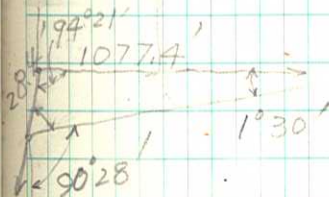
02636  
10774 | 28.400  
-----  
21548  
68580  
- 64644  
-----  
39360  
- 32322  
-----  
70380

$\tan x = \frac{28.4}{1077.4}$   
 $= .02636$   
 $x = 1°30'$

$\cos 4°21' = .99712$

.99712  
x 28.4  
-----  
398848  
797696  
-----  
199424  
28318208

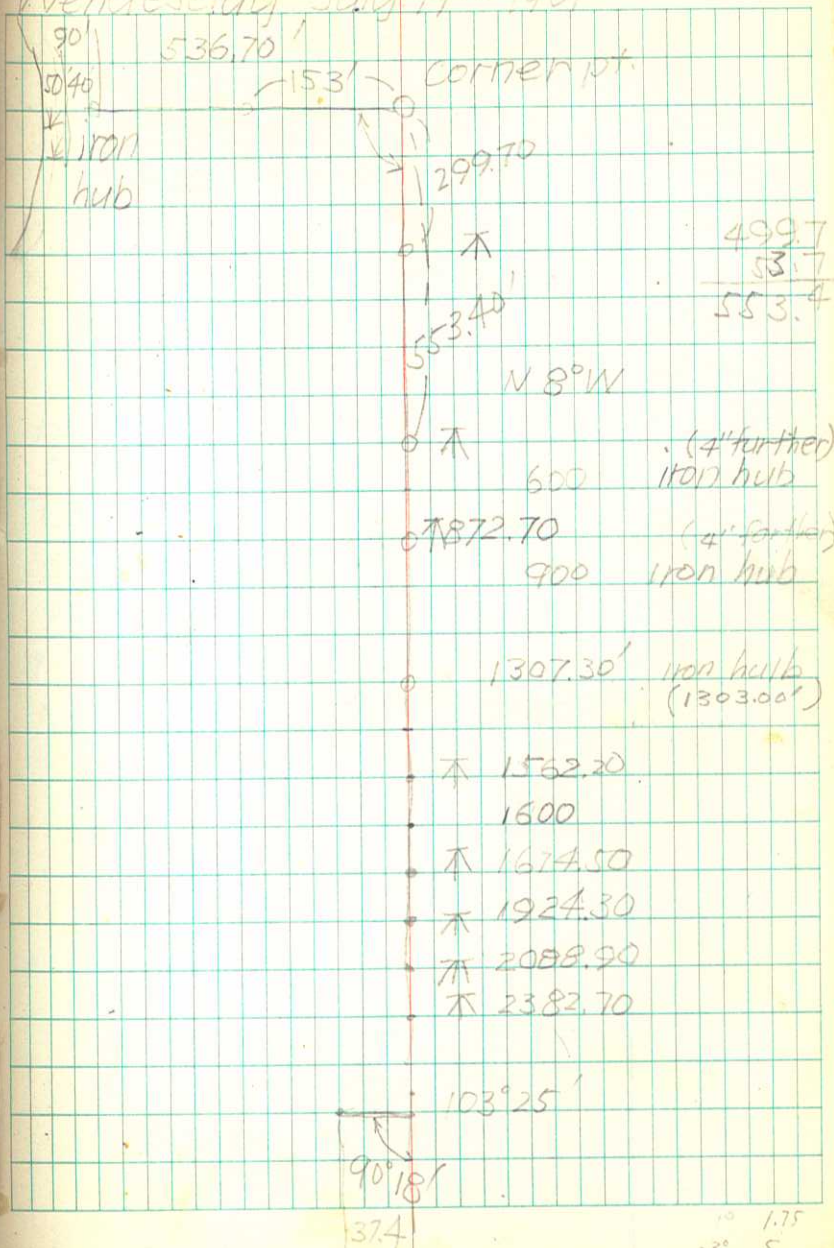
643.50  
- 350.00  
-----  
293.50



293.5' we can't find the old hub

Wednesday July 19th 1961

90°43'18" 27'

$$\begin{array}{r}
 2582.70 \\
 - 2.70 \\
 \hline
 2595.40 \\
 + 2.05 \\
 \hline
 2604.45
 \end{array}$$


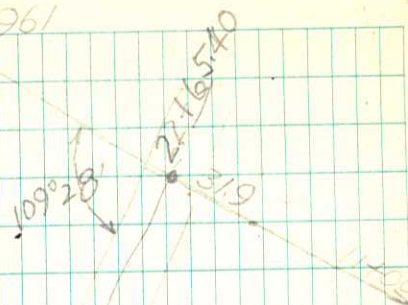
$$\begin{array}{r}
 10 \\
 30 \\
 40
 \end{array}
 \begin{array}{r}
 1.75 \\
 .5 \\
 .2
 \end{array}$$

Monday July 24 1961

179 60'  
 48 18'  
 ---  
 131 42'  
 65 51'  
 48 18'  
 ---  
 113 69'  
 114 09'

I.P. 12406.00  
 48°18'

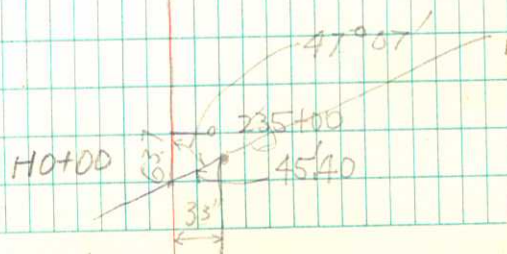
44.20'  
 114 09'



649.95  
 31.90  
 ---  
 681.85

22+65.40  
 -12406.00  
 ---  
 10+59.40

562.85  
 45.40  
 ---  
 608.25



HOTOD

Tuesday 25 1961

• 76730'  
• 60900'  
• 57960'  
• 40000'

18.7

37.4



Wednesday 26 1961

40% 1310.90

• K 1158.80

• A 1038.70

• 1767.30

2140  
26730  
1038.70

but  $1' = 0.1745$

13.13

13.13

106'

$\frac{13.13}{100} = 0.1313$   
 $\frac{0.1313}{100} = 0.001313$   
 $\frac{0.001313}{100} = 0.00001313$

213.70  
- 18.93  
↑ 232.63  
- 26.30  
258.93  
- 38.93  
220.00

Thursday 27 1961

Friday July 28 1961

Sec. 17 T. 140 N. R. 29 W.

90°23' → 2652.00

~~37.85~~ 2644.60 2642.80

37.85 x sin 23'

2634.20

89°37' ← 91°06'

π 2438.00

π 1709

1321.40

232.63

π 1300 ↑

π 1130.60 91°06'

π 1065.60

(583°45' W)

π 887.00

π 661.10

π 434.80

N 88° 0' W

iron hub

1/4 cor 18/17

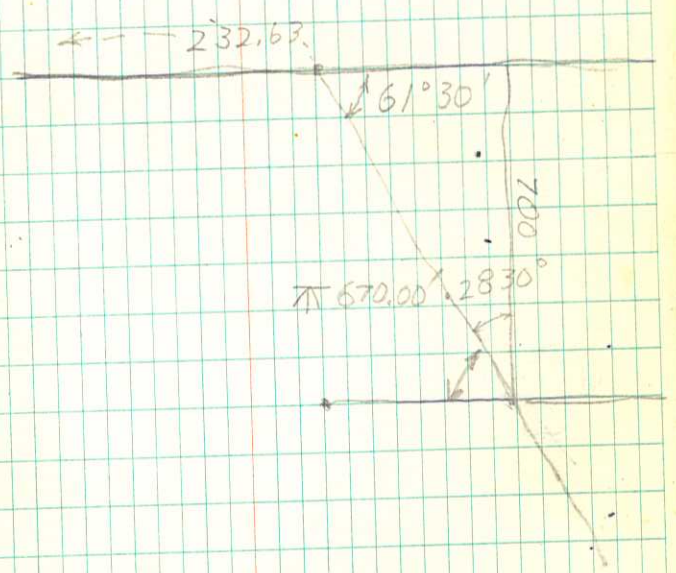
Ties to  $\frac{1}{4}$  cor SE cor  
 Cont Lot 4 sec 13-140-30  
 Nail cap in 12" Ash N $65^{\circ}$ E 77.33  
 " in T.P. 565'E 25.07  
 $\frac{1}{2}$ " x 14" I.P. .6 below road.

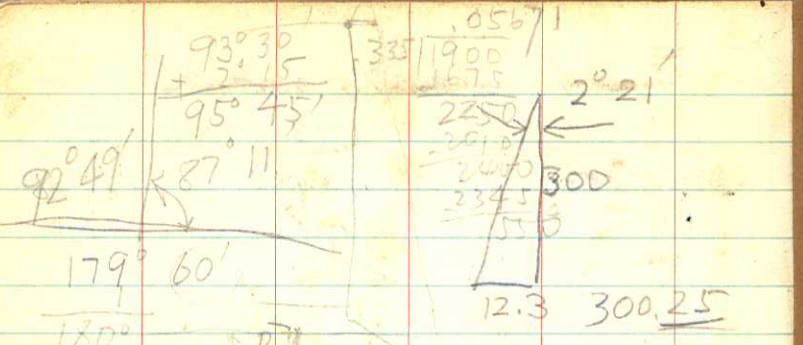
700 87882

70000000	796.52
613174	
848260	
790938	
573220	
527292	
459280	
439410	
198.700	

54275  
 " 700  
~~37992500~~

2.84510 2.84510  
 - 9.94390  
 2.90120  
 796.50

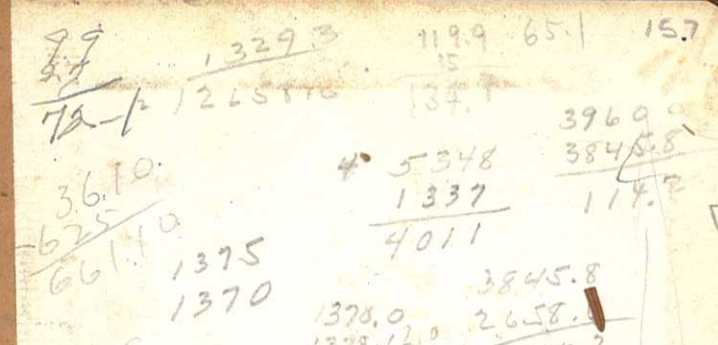




$179^\circ 60'$   
 $180^\circ$   
 $265$   
 $86$   
 $35$   
 $3$   
 $109,300 =$   
 $109 2^\circ 21' =$   
 $\cos$   
 $109 0 =$

$1216.5$   
 $556.9$   
 $659.6$   
 $586$   
 $73.2$   
 $659.2$   
 $586$   
 $27$   
 $673.0$   
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