

BK 29 - Dr 16

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

PROPERTY Survey

Reiland Prop
From At Shail Lake
Co.

Road Acc't. No.

Date Filed. 4/40

File

BK 29 - Dr 16

Reiland Survey.

Completed 12/13/39
Haw YWJB



Closure Traverses

Pt.	Dist.	Lt.	Angle	Rt.	Mag.	Calc.
-----	-------	-----	-------	-----	------	-------

Lot Iron.

166.15
Approx

M.C.

113° 02'

66° 58'

546° 30' W.

534° 04' W.

139.46

b

1° 30'

178° 30'

N 20° 30' W.

N 12° 17' W.

479.4

N 19° W.

N 10° 47' W.

a

16° 35' 17° 00' 163° 25'

1231.75

N 10° 15' W.

N 5° 48' E.

S.E. Cor 23

84° 12' 179° 00' 95° 48'

S. Line Sec 23 90° E

$$\begin{array}{r} 200^{\circ} 12' \\ 66^{\circ} 55' \\ \hline \end{array}$$

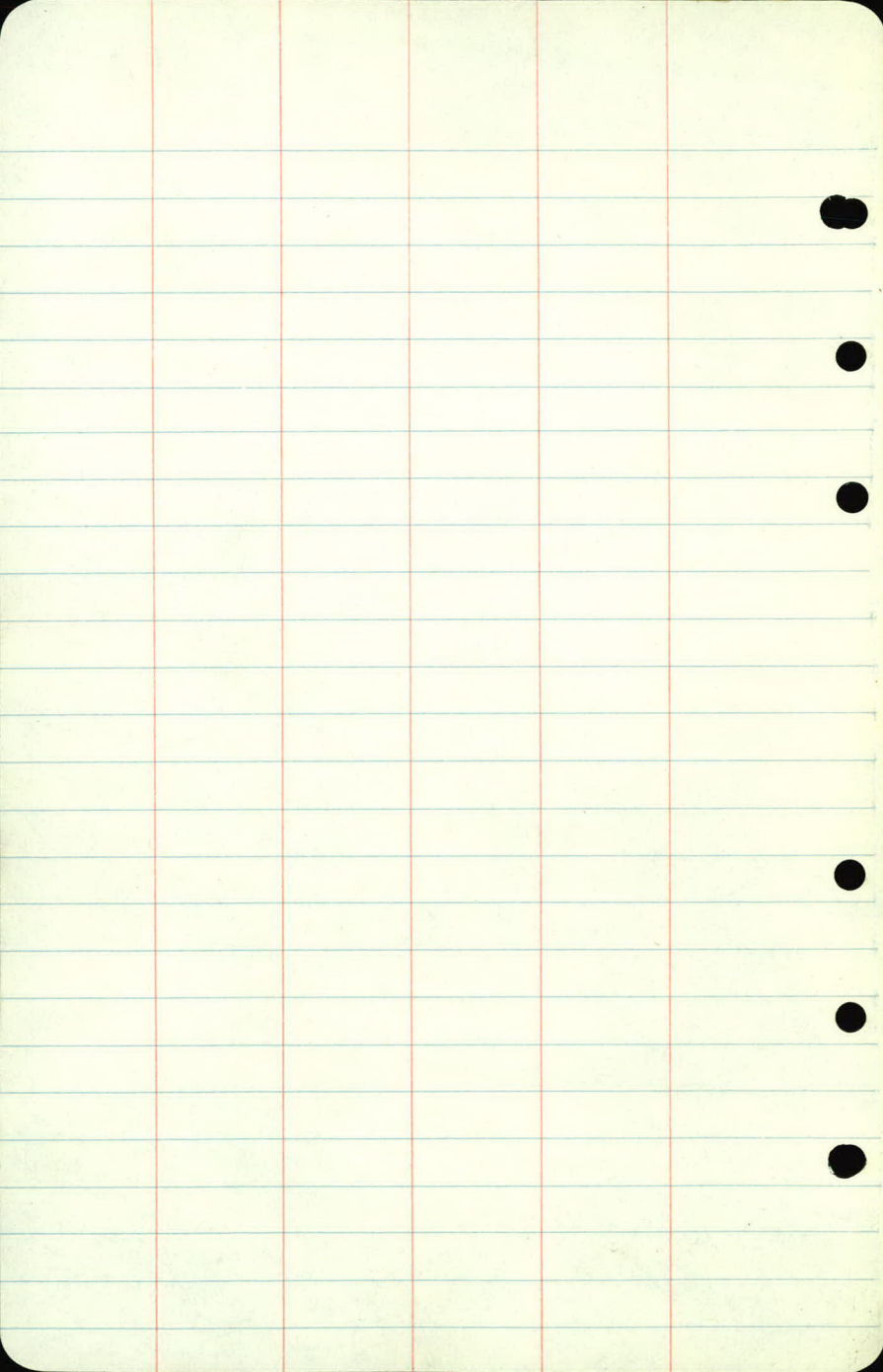
$$\begin{array}{r} 113^{\circ} 02' \\ 12^{\circ} 27' \\ 125^{\circ} 29' \\ 90^{\circ} \\ \hline 53^{\circ} 52' 12'' \end{array}$$

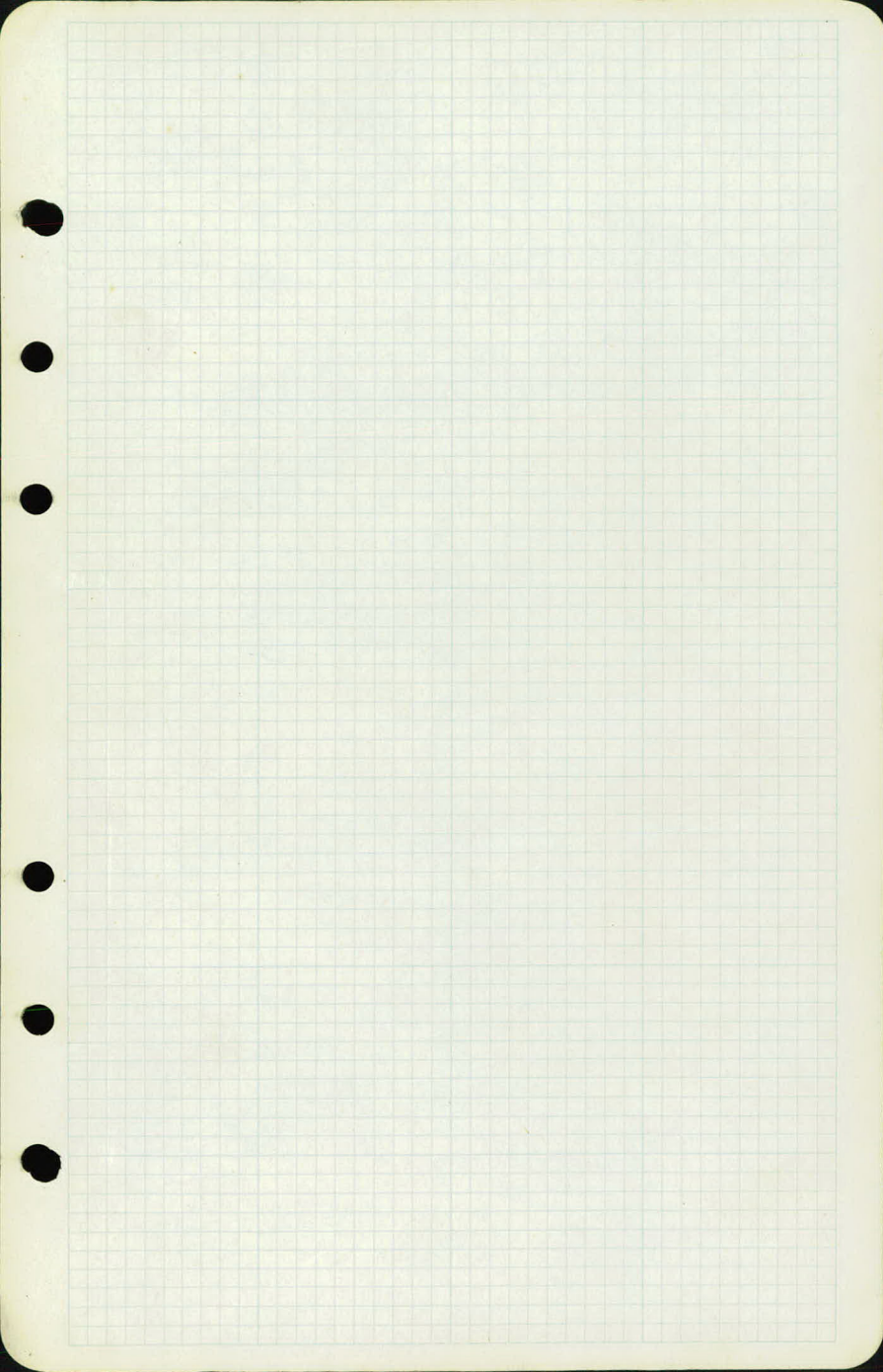
$$\begin{array}{r} 113^{\circ} 02' \\ 66^{\circ} 58' \\ \hline \end{array}$$

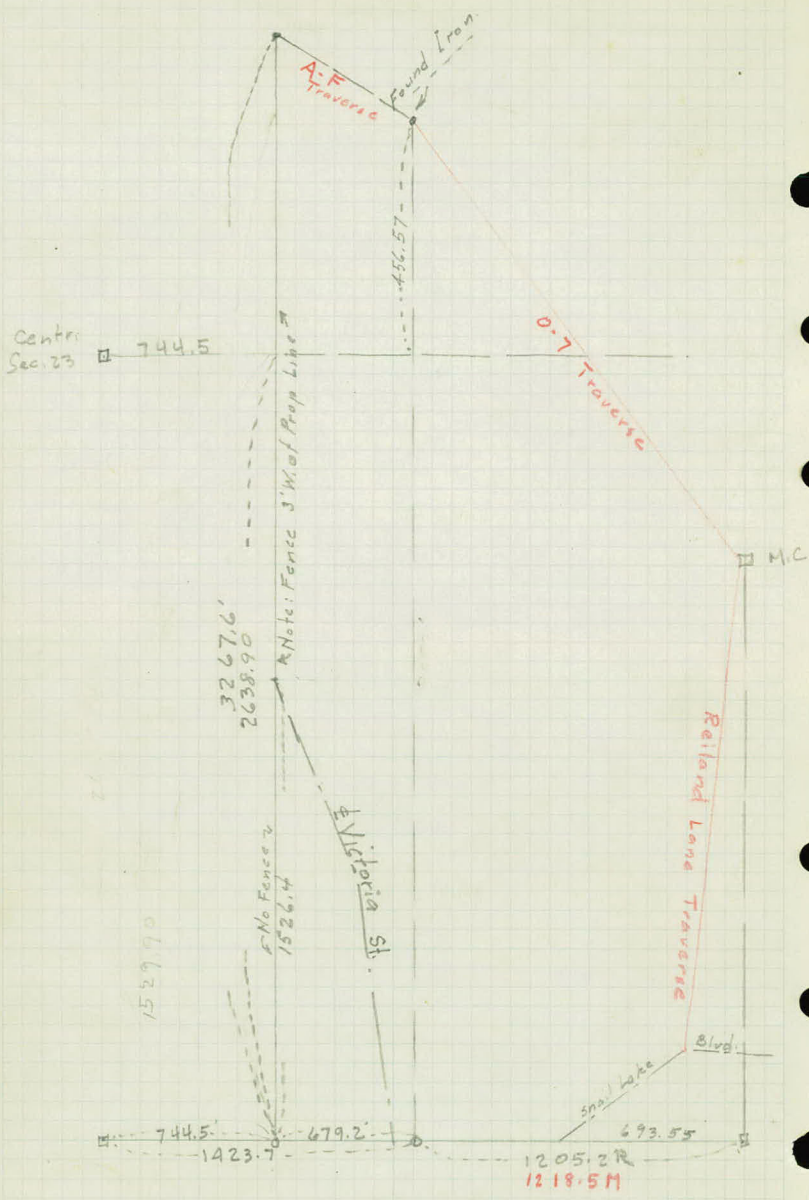
$$\begin{array}{r} 178^{\circ} 30' \\ 1030' \\ \hline \end{array}$$

$$\begin{array}{r} 163^{\circ} 25' \\ 16^{\circ} 35' \\ \hline \end{array}$$

$$\begin{array}{r} 84^{\circ} 04' \\ 212' \\ \hline \end{array}$$







Railand Property Survey

Traverse from N. Line Lot #1
to W. Property Line - 744.5' E. of
N. & S. $\frac{1}{4}$ Line on high water
line.

Pt.	Dist.	Angle	Mag. Bearing	Calc. Bearing
-----	-------	-------	--------------	---------------

F - Pt. on S. Line Sec. 744.5' E. of st			8° 08'	20° E
3267	81° 17' Lt.			

E	83.40'	18° 54' Rt.	573° 15' W.	579° 13' W.
---	--------	-------------	-------------	-------------

D	256.00'	69° 22' Lt.	554° 30' W.	560° 19' W.
---	---------	-------------	-------------	-------------

C	183.00	5° 37' Rt.	N 56° 15' W.	N 50° 19' W.
---	--------	------------	--------------	--------------

B	300.00'	54° 51' Lt.	N 61° 30' W.	N 55° 56' W.
---	---------	-------------	--------------	--------------

A + 00	N. Line Lot # 1			N 1° 05' E.
--------	-----------------	--	--	-------------

Traverse from P.I. Snail Lake Blvd.
to M.C. 3 Line Lot 33 along E
Reiland Lane

Reiland Lane Traverse

Sta. Pt. Lt. Angle
Rt.

M.C.

53
180.97

N 34°34'E

2049.87

70°45' 109°15'

1972.5
N 35°13'0

N 16°11'W

17194.57

14°25'

165°45'

14°15'

165°35'

411.08

N 104°1'W

13183.49

12°28' 167°32'

965.15

N 70°42'E

470.00

Railroad Lane
P.I.

64°08' 115°52'

470.00

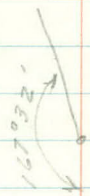
N 74°50'E

15°10' from S. Sec. Line 693.55' W.S.E

0+00 = P.I. Sta 6+22.86 Snail Lake Blvd. Notes

0

$180.97'$
 $109.15'$



Dist.	L	Bearing	Sin	Cos.	Lat Dep.
418.34	15°10' Lt	N 74°50' E -	+		
965.15	64°08' Lt	N 10°42' E -	+		
411.08	12°18' Lt	M 1°36' W -			
255.30	14°15' Lt	N 15°51' W -			
180.97	70°45' Rt	N 54°54' E +			

Log.	Sin	Cos.	Lat.	Dep.
2.621530	+9.984603	+9.417684		
2.984595	+9.266734	+9.992382		
2.613927	-8.445941	+9.999831		
2.407051	-9.436353	+9.983166		
2.257608	+9.912833	+9.759672		

from S. Line lot 33
to N. Line Lot 1
along E Reiland Lane
15' W. of Lot Irons

0-7 Traverse

Pt. angle Dist. Calc. Bearing Mag. Bearing

7 N.W. Cor. Lot #1

180.37

N 1°05' E

N 7°30' E

6

56°48' R.

123°12' L

304.3

N 55°43' W.

N 60°30' W.

41°50' R.

5 -

138°10' L.

339.14

S 82°29' W.

S 74°30' W.

4 -

69°48' L.

110°12' R.

171.61

N 27°45' W.

N 36° W.

3 -

70°10' L.

172°50' R.

110.16'

N 20°35' W.

N 29° W.

2 -

009°24' L.

170°36' R.

436.67

N 11°11' W.

N 21°30' L.

1 -

24°59' R.

155°01' L.

470.76'

N 36°10' W.

N 44°15' W.

S. Line
O Lot #33

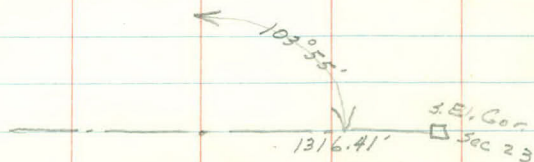
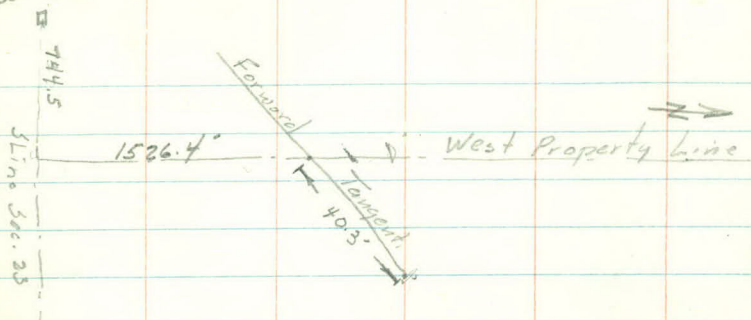
90°43' L.

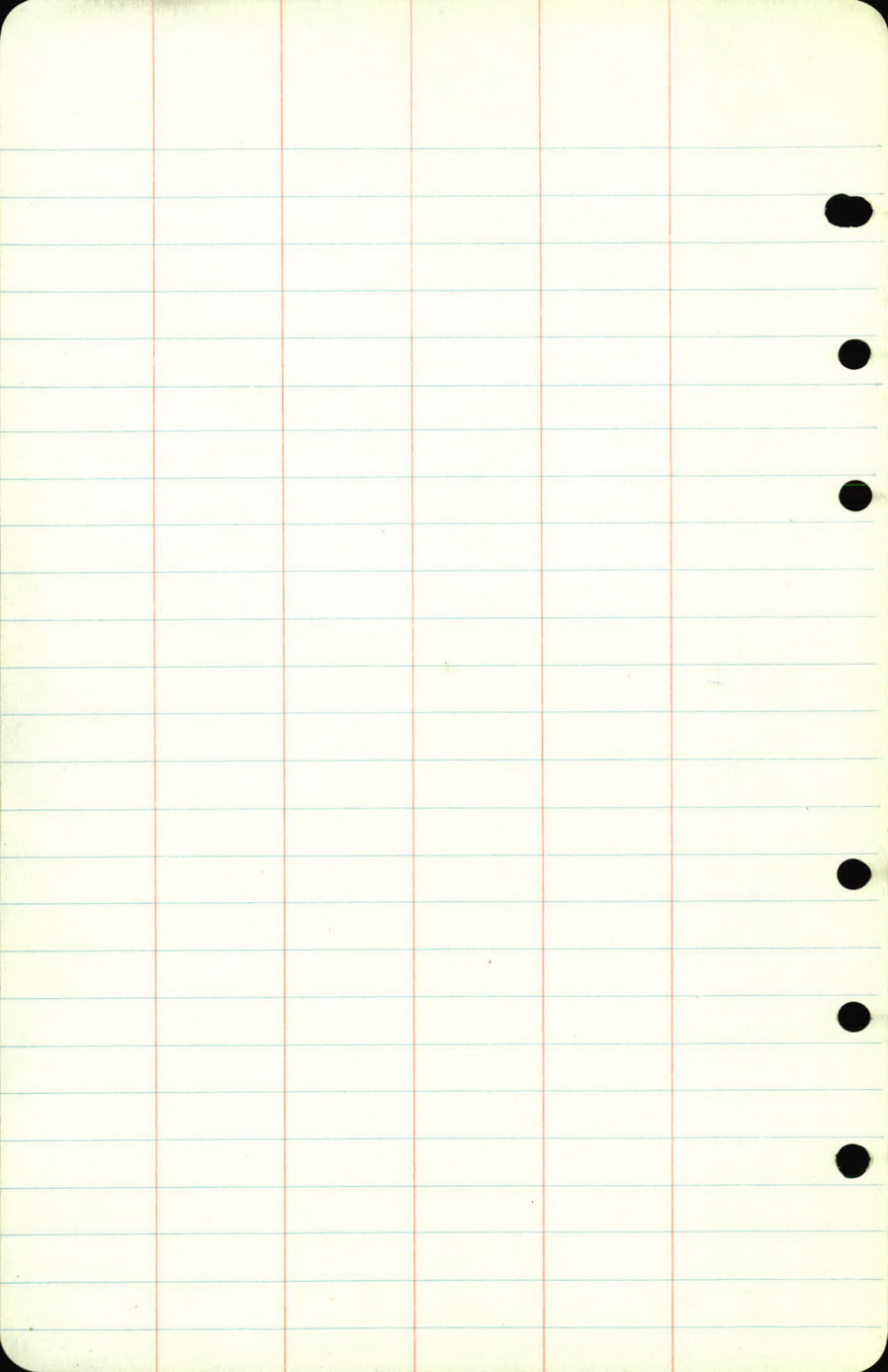
N 54°23' E

Alignment of Victoria

Sta.	Pt	Angle	
		Lt	Rt
17+38.32	P.T.		A 39°28' Lf.
15+56.4	P.O.C.	Prop Line Xs E	D 10°
18+49.45	P.I.	39°38'	T 205.79
13+43.66	P.C.		L 394.67
			R 573.682
			A = 11°29' Lf.
			D = 3°
9+80.08	P.T.		T 192.02
			L 382.78
7+89.36	P.I.	11°29' Lf.	R = 1910.08
			E. 10
5+97.3 [✓]	P.C.		
0+00	P.I.	J. Line Sec. 23	

S. $\frac{1}{4}$ Cor Sec. 22





Ties to Lake
from Traverse A-F.

7 - 100' ±

+50 - 118'

6 - 125'

+50 - 150'

+25 - 184'

5

+83 Fwd. T. - 240.
+83 Back T. - 85'

+50 - 85'

4 - 84'

+50 - 83'

3 - 73'

+50 - 65'

2 - 64'

+50 - 67'

1 - 56'

+50 - 59'

0=A - 70' ±

clear

Channel
35' W

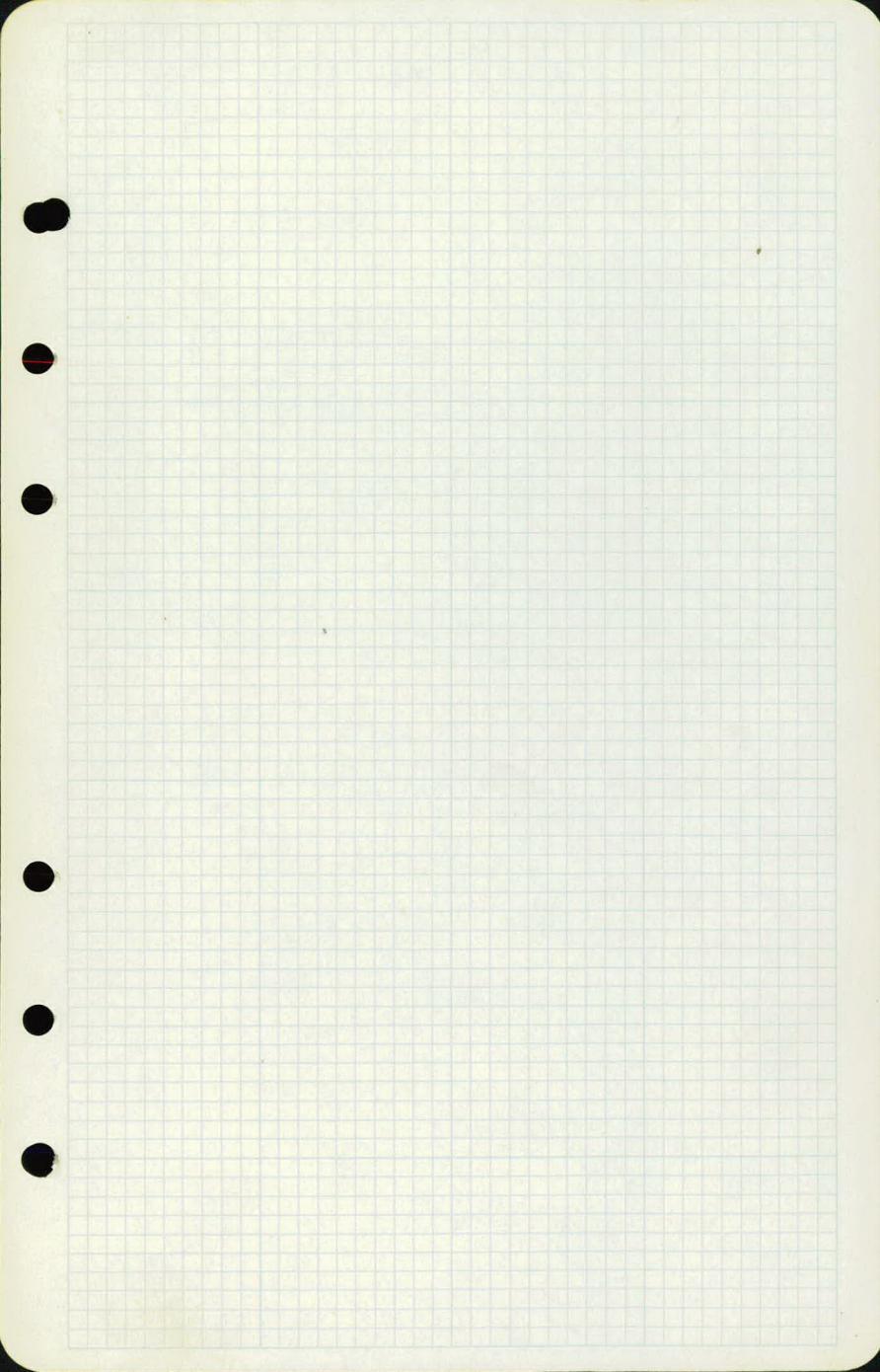
SNAIL LAKE

Note - Timber South
of Traverse

Birch, Alder, Poplar, Brush

Shore Line

Brush



£

SNAIL LAKE

Shore Line

clear

+22.4 - 112'

+39 - 100'

100' ±

9

8

7

Topographic Notes
Reiland Survey.

Land between Victoria and W. Property
line used as hay field.

Property lying E. of Reiland Lane is
wooded

See Notes on Lake Ties from
A-F. traverse for information pertaining
to topography of Lake Shore.

Topography

Meander Line from Sta. 15+49.45
which is P.I. on Victoria St.

Tangent from 7+89.36 to 15+49.45
is $0^{\circ}00'$ Azimuth -

A	Pt.	Azimuth	Dist.	B. S.
P. 1.	① I			B. S. on 7+ 89.36° 0.0' Azimuth
Edge		264° 00'	443'	
Pot Hole		80° 00'	270' ✓	
Cor.		90° 00'	227' ✓	
Cultiva				
Edge		66° 30'	285' ✓	
pot Hole				
Edge		105° 00'	205' ✓	
Cultivation				
Edge		57° 00'	300' ✓	
Pot Hole				
Cultivation		137° 15'	200' ✓	
Edge		46° 30'	340' ✓	
Pot Hole				
"		34° 00'	342' ✓	
cultivation		163° 00'	250' ✓	
Pot Hole		337° 00'	288' ✓	
Edge				
Cult. }		173° 24'	295' ✓	
Edge }				
Woods }				
Pot Hole		48° 15'	255' ✓	
Edge				
Woods		164° 00'	350' ✓	
Edge				
Pot Hole		46° 45'	180' ✓	
Edge				
Woods		159° 30'	410' ✓	
Edge				
Pot Hole		66° 00'	177' ✓	
Edge				
Woods		80° 20'	208'	
Cult.		181° 00'	360' ✓	} check
N. End of		188° 30'	445' ✓	
Woods Cult.				
Row of		356° 00'	236'	
19 oaks				
End of 19		331° 15'	280'	
oaks				
Edge w/ f.		193° 30'	548'	

N
N
N
N

x W. Property Line x

Woods

Uncol

Cult

Woods

Woods

Row Trees

po
Halo

Edge cult.		197°30'	685'
---------------	--	---------	------

Fc. At Tree Line	A II	192°42'	782'
"		285°15'	493'

"		271°40'	510'
---	--	---------	------

Fc. Cor. Woods		262°55'	550'
-------------------	--	---------	------

Edge Woods		219°40'	670'
---------------	--	---------	------

Woods		259°06'	605'
-------	--	---------	------

Edge Woods		219°35'	660'
---------------	--	---------	------

"		257°35'	690'
---	--	---------	------

Woods		225°30'	720'
-------	--	---------	------

"		255°30'	780'
---	--	---------	------

"		229°08'	800'
---	--	---------	------

"		250°30'	840'
---	--	---------	------

"		232°36'	880'
---	--	---------	------

"		245°24'	880'
---	--	---------	------

"		236°00'	910'
---	--	---------	------

"		241°30'	880'
---	--	---------	------

	A III	325°18'	810'
--	-------	---------	------

A II		192°42'	B.S. *I
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Woods		26°00'	330'
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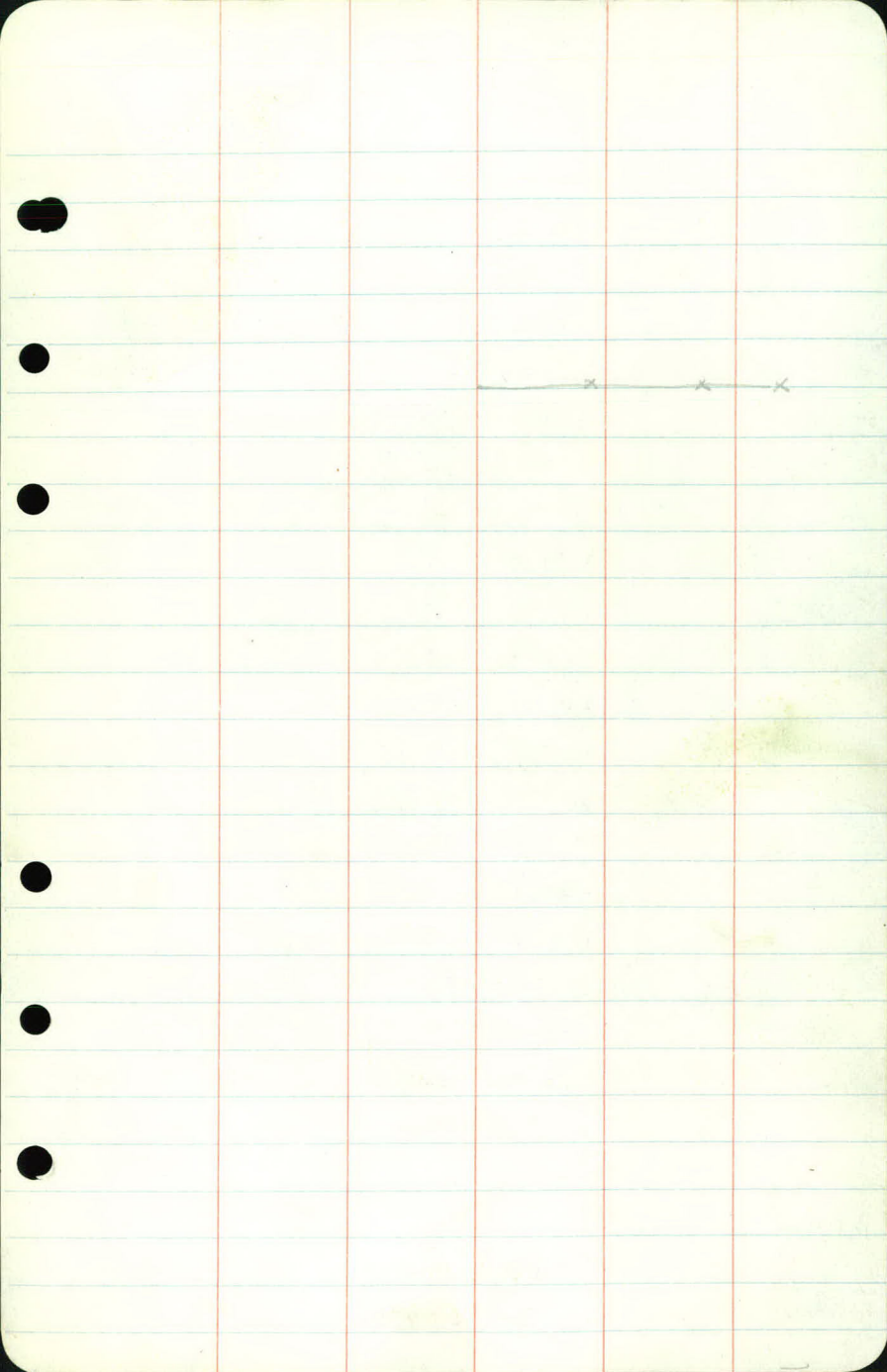
"		235°20'	330'
---	--	---------	------

cultivation		11°45'	255'
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Cor. Woods		44°00'	340'
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cultivation		298°30'	90'
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Tree Line & cultivation		307°20'	320'
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Fc. Line - Cultivation	238°05'	208'
Edge cult. & Woods	297°48'	318'
Fc. Line	200°15'	200'
Edge cult.	286°00'	325'
*Tree line		
Fc. Line	177°04'	265'
End cult. & Fc. Line	268°05'	375'
Fc. Cor.	263°05'	360'
Fc. Line	263°07'	326'
Cor. Tree line	239°45'	210'
Tree line	190°15'	520'
" "	230°45'	382'
" "	201°40'	460'
" "	227°35'	432'
" "	212°00'	450'
" "	219°40'	440'
A III	325°18'	
Edge cult.	178°45'	590'
Cultivation	170°05'	532'
"	159°10'	492'
Fc. Line Corner	113°56'	960' ±
Cor. S.E. cult.	144°50'	480'
Fc. line	113°35'	760'
pot Hole	153°50'	385
" "	163°30'	448'
Fc. Line	111°50'	580'

B.S.I

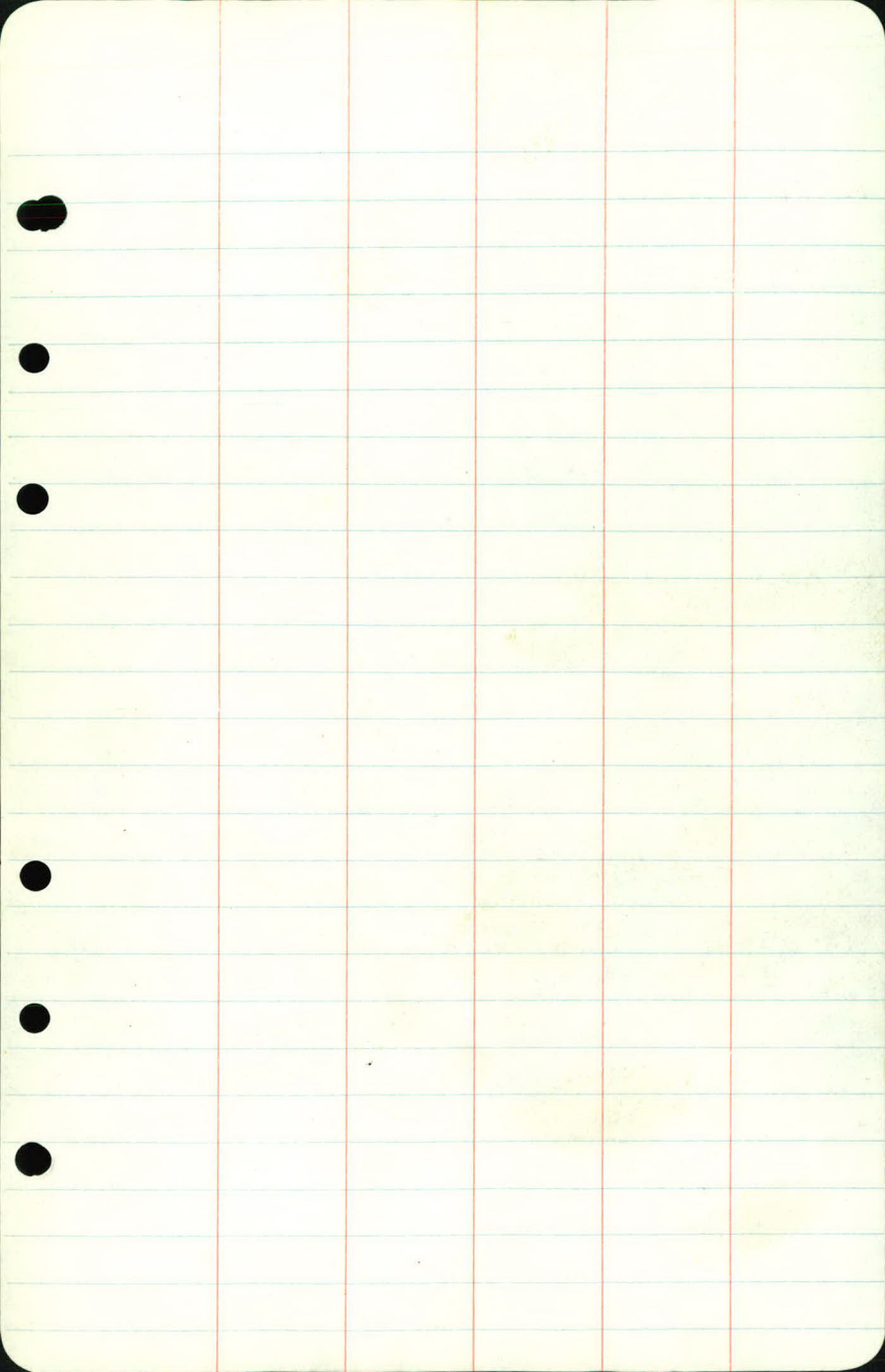
Pop. Fence

Uncult.

Cult

N

Edge			
Pot Hole	171°55'	485'	
"	178°30'	500'	
Fc. Line	104°27'	415'	
Cor. Tree Line At Fc. line	181°30'	540'	
Fc. Line	91°35'	295'	
Tree Line	189°45'	480'	
Edge of Pot Hole	188°45'	465'	
Fc. Line	64°45'	210'	
Tree Line	194°45'	310'	
Cor. Fc. Line	38°00'	195'	
Edge			
Pot Hole	199°30'	370'	
Pot Hole	203°25'	320'	
Cor. Tree line			
Fc. Line	18°37'	145'	
Pot Hole	201°00'	240'	
Fc. Cor. r Tree line	329°30'	153'	
Pot Hole	184°52'	186'	
Fc. Line + Woods	283°45'	140'	
Pot Hole	160°15'	208'	
" "	150°00'	305'	
Fc. Line + Woods	253°30'	200'	
" "	236°07'	310'	
" "	224°35'	440'	
" "	215°00'	450'	
" "	206°30'	405'	
" "	354°50'	235'	



Δ IV

26°40' 760'

Δ #IV

26°40'

B.S. #II

Fe Cor
Cor Cult
Tree Line

222°00' 440'

Fe Line - Cult So.

200°55' 450'

Fe Line
Tree
Cult.

228°00' 350'

Tree
Fe
Cult.

237°10' 260'

Tree
Fe
Cult.

257°00' 180'

"
"
"

293°13' 142'

Fe
Cult. So

190°45' 480'

Tree
Fe
Cult.

329°50' 193'

"

345°15' 260'

"

354°35' 350'

"

359°30' 440'

"

01°55' 510'

Fe. Cor.
Tree Line

04°37' 590'

Δ V

127°28' 340'

Δ #V

127°28'

B.S. #IV

Fe. Line
Cult. South

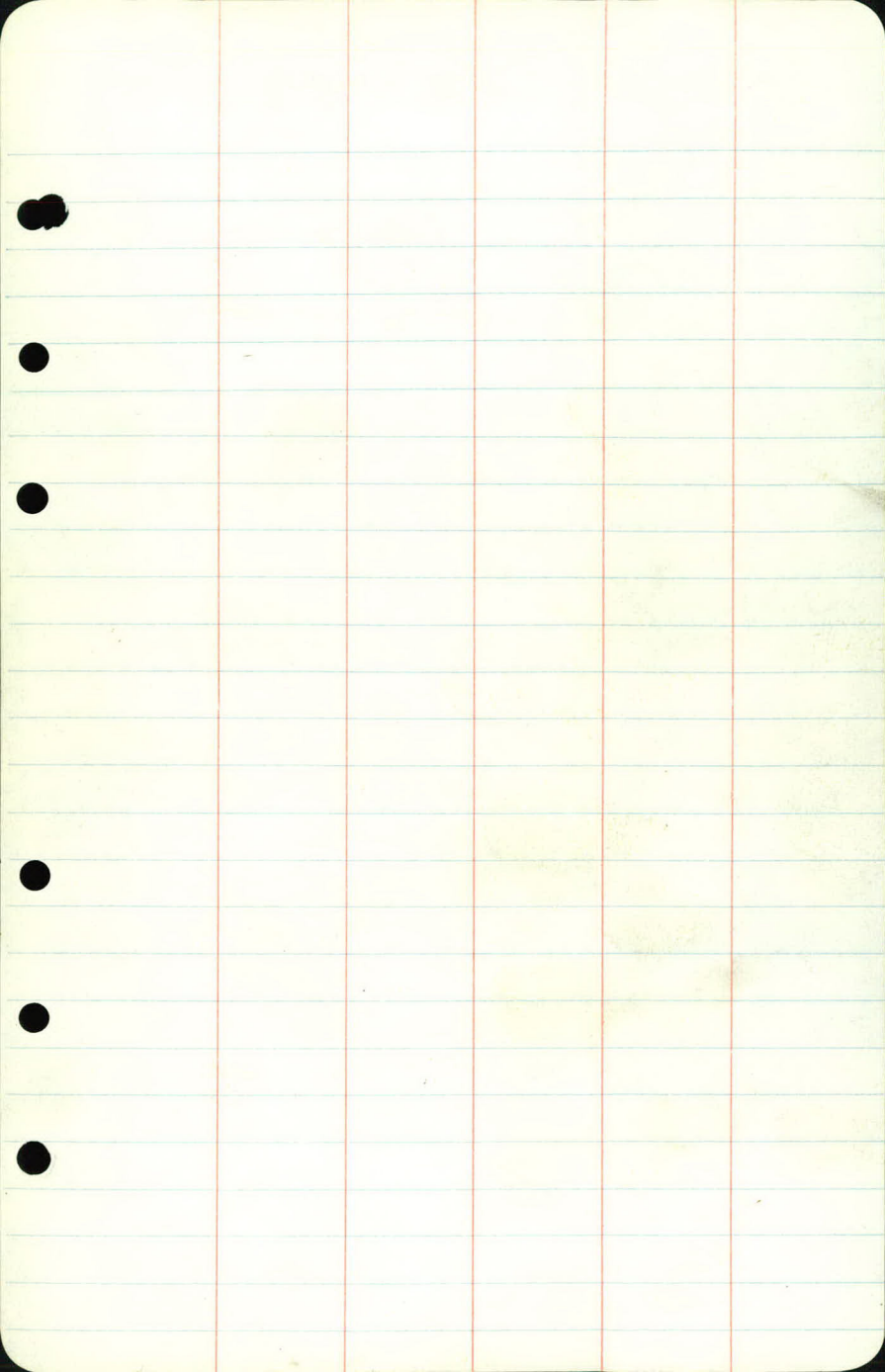
217°53' 408'

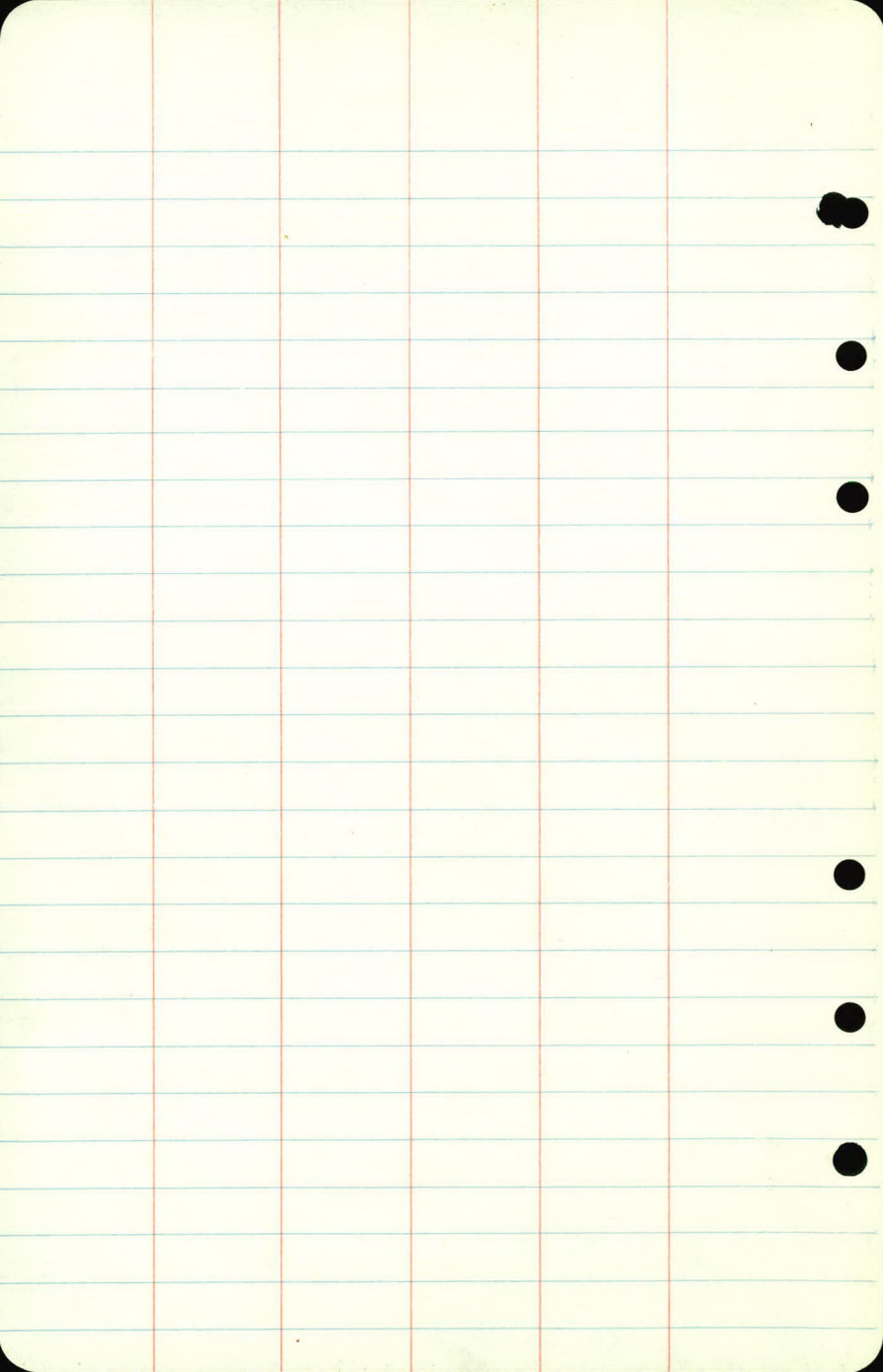
End Fe. Cult.
So.

203°24' 395'

Close
Bolt Spike
Victorian

41°50' 680'





Topography

Base line 90° from Fwd. Tan.
from P.T. Sta. 9+80.8 Victoria

Ent. 10+05 - Rt.

3

+85' Cor. Barn - 0

+55 Cor. Barn - 0

+53 Cor. Shed 36'

+38 Cor. Gar. 50'

+30 Pump Ho 9

+17 Cor. Shed 32'

Z +00 Drive 10'

+75 Spring - 115'
35' dia.

+69 Cor. Ho 5'
+51 Cor. Ho 5'

1

2-Holer
4

Garage
21.7'
6.9'

34.0'

29.5'

Barn
29.0'
30'

8.3'
7.4'

Shed
40'
12'

Shed
16.5'
20'
16.5'

10'
9.5'
26.5'
2-S-F
H.O.
45.5'
18.0'

W. End



Topography

Using Reiland Lane Base Line

$$0+00 = P.I. \text{ Reiland Lane } 4+18.34$$

7

6

5

4

3

2

1 Wooded Betw. Railroad and
and Tree Line as
Tied by
Stadia

Wooded Betw. Railroad
Lane and Fence

0

Fe 15

Edge swamp 19
Fe - 56'

Swamp
Trees

148 T. Line 17

Fe 15

Fe at swamp 82'

Fe 16'

Fe 107

Fe 17'

Fe. 134'

Fe 16

Fe 17'

Swamp 104'-158'
Fe 179'

Fe 16'

Swamp - 75-150

Fe. 227

Crosses Snail Lake Palud into SE Cor Sec

14	10	6
450	10	6
13	6	8

12

11

10	6'	8'
----	----	----

450	4'	10'
-----	----	-----

9	3'	9'
---	----	----

450	8'	7'
-----	----	----

8

7

Note:
Swamp Between
Fence and
B-Line of 4500

Fc 26

+

Swamp 16' 236
Fc 21'

+50 Swp. - 11- 243

Fc 22

+60 Begin Swp. 165

Fc 21'

+50 End Swp. 100'

Lake 314
Swp. 14- 177

Lake - 320
+50 Swp. - 12- 198

+80 Swp 17'- 153'

Lake 340
End Fc 205'
Begin Swp 100'

+58 Ent.

Fc 21

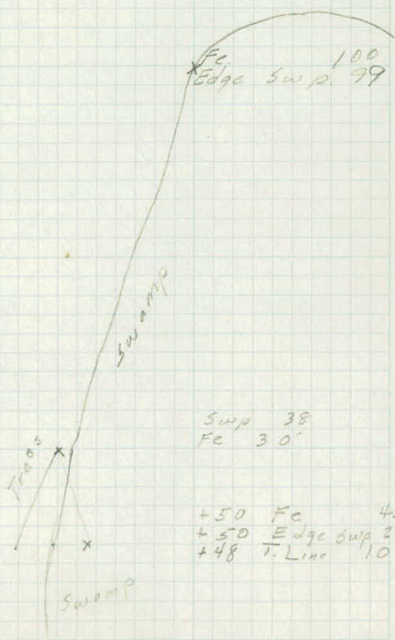
Fc 100
Edge Swp. 79

Fc 17'

Fc 15'

Swp 38
Fc 30'

+50 Fc 45'
+50 Edge Swp 28'
+48 T. Line 10



21 3 12

+50 8' 8'

20 10 8

19 10 6

18 7 7

17 6 8

+50 9 5

+31.53 P. 1 = Δ 0 of 0-7 Traverse (continuous sta.)

16 7 7

+75 6 8

15 5' 9'

+50 7' 9'

14

Fe 14'

+04 Fe Cor 15'
Fe 15'

+75 Ent.

Wooded

End Swamp 26-92'
Fe 16

Fe 16

Swamp 23-135
Fe. 14

116'

Fe 14

Swamp

Swamp 19-200
Fe 19

Wooded
From Rd to Lake

Note: M.C. To Lake = 81'

Lake - 330'

Trees

Swamp

28	18	2
+75	9	7
+50	4	10
27	4	10
+50 +44.22: $A \approx 3$	6	8
26	4	11
+50 +33.96: $A \approx 2$	7	8
25	8	6
+50	9	5
24	6	9
23	6	10
22	8	8
21 +02.29: $A \approx 1$		

+50 End Swamp - 19-107

+50 Fe 50'

K M P

Swamp - 100 - 149'

Fe

33'

6

+50 Begin Swamp - 77-133

+50 Fe

24

Fe

23

+50 Fe 27

Fe

25'

1

Fe

23

+30 Fe - 17'

Fe

30'

+50 Fe - 37'

Fe

30'

35

+57.27 = Δ #2
+50

End Trail

34

 $\frac{1}{2}$ Trail is 0.0

33

 $\frac{1}{2}$ Trail = 0.0

32

 $\frac{1}{2}$ Trail 0.0

+54.97 = Δ #5
+50

 $\frac{1}{2}$ Trail

3'

31

 $\frac{1}{2}$ Trail

1.0'

30

 $\frac{1}{2}$ Trail is 0.0

29

 $\frac{1}{2}$ Trail 3'

+80

End Turn around

+55
+40

26'
21'

10'
9'

+15.83 = Δ #4
28

+60 Fe 33'
+50 Fe 17'

Fe 18'

Fe 33'

Fe 31

+75 Fe 26

+50 Fe 15'

Fe 19'

Fe 14

+50 Fe 16

Fe 27'

+40 Fe

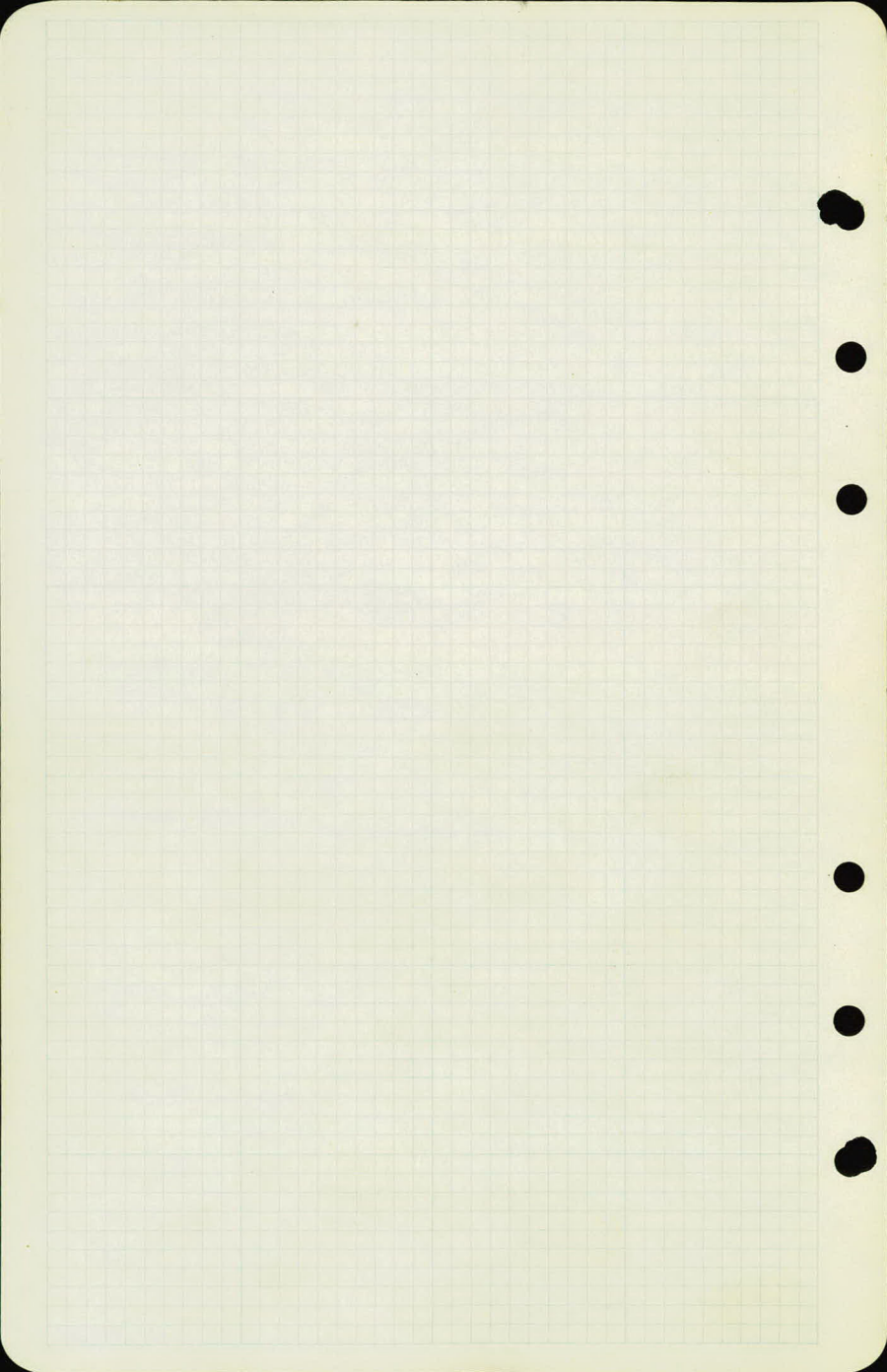
37

36

35

Fc 24

Fc - 37'



Comm. at $\frac{1}{4}$ Cor. on S. Line 23
run E. along S. Line of 23, 744.5' to
S.W. Cor. of Land to be desc. then E
along S. Line 679.2' then N // to N.E.S.
 $\frac{1}{4}$ Line 3082' $\pm$ to S. shore of Snail Lake
then W. along Lake shore to apt. 744.5'
E. of $\frac{1}{4}$ Sec. Line and then S // to $\frac{1}{4}$ Line
3267.6' $\pm$ to pt Begin.

Comm at $\frac{1}{4}$ Cor. S Line Sec. 23, T 30 N. R 23 W.
thence E along S. Line dist of 1423.7'
to S.W. Cor. of the land to be described
then E on S. Line 1205.2' to S.E. Cor.
then N. 1822.3' to S.W. Shore of Snail Lake,
then N. and W. along shore line to a point
1423.7' E of N-S $\frac{1}{4}$ Line then S. 3082' to $\frac{1}{4}$ line
Except.

Begin at M.C. 1822.2' N of S.E. Cor. - S. 54° 23' W.
196.2', N 36° 34' W. 474.2', N 11° 01' W. 475.5'
then N. 27° 31' W 227.4', then S 81° 37' W 333.1'
then N 55° 21' W 301.2' then N 230' to
shore of Snail Lake then back on shore line

Lot 17 Reiland's Lake Shore Except
Begin S.W. Cor. Lot 17, then N.E. along S.E. Side
387' to Iron, then N 25° 55' E 48' to Iron
then S. 74° 55' W. 182' to pt. which is 82' N.
of S. Line of Lot, then S.W. to center pt.
of W. Line of Lot 17, then S 11° 01' E. 44'
to pt. of Begin.

4

Pt.	Dist	Angle Lt. Rt.	Bearing Mag Calc
-----	------	------------------	---------------------

r

$17^{\circ} 28'$ $167^{\circ} 32'$
 $17^{\circ} 28'$

B

965.24

115° E

L

$64^{\circ} 09'$ $115^{\circ} 51'$
 $64^{\circ} 09'$

7.15' Beyond
 P.T. 1st -
 on P.O.S.T.
 Lock Tang.

470.00

6 + 22.15 (?)

Sta	+	$\bar{A}$	-	Elev.
B.M.	4.32	874.71	3.16	870.39
	12.51	883.26	3.96	870.75
	12.87	889.60	6.53	876.73
B.M.	7.97	893.39	4.18	885.42
0+00			3.7	89.7
+03			4.7	88.7
+04			4.7	88.7
+07			4.5	88.9
+13			0.2	93.2
+34			3.9	89.5
+50			5.0	88.4
1+00			8.0	85.4
1+50			9.3	84.1
+79			10.8	82.6
2+00			11.2	82.2
+22			10.9	82.5
+50			7.6	85.8
+76			4.4	89.0
3+00			1.4	92.0
T.P.	5.05	897.96	0.48	892.91
3+36			3.7	94.3
+50			5.3	92.7
4+00			11.0	87.0
+50			13.1	84.9
+98.5			13.0	85.0

LATITUDE & DEPARTURE CHART.

Proj. From To

Sta.	Dist.	Deflection		Course	Latitude		Departure		Totals	
		L.	R.		+ N	- S	+ E	- W	Latitude	Departure
0+00		15°10'								
	470			N74°50'E	122.97		+453.63			
14+18.34		64°08'							122.97	453.63
	965.15			N10°42'E	+948.37		+179.20			
13+83.49		12°28'							1071.34	632.83
	411.08			N1°46'W	+410.88			-12.67		
17+94.57		14°25'							1482.22	620.16
	255.30			N16°11'W	+245.18			-71.15		
20+49.87		70°45'							1727.40	549.01
	180.97			N54°34'E	+104.92		+147.45			
									1832.32	696.46
	2230.84									
0+00		0								
	693.55			N90°00'E	0		+693.55			
6+93.55									0	693.55
	1231.75			N5°48'E	+1225.44		+124.48			
									1225.44	818.03
	479.4			N10°47'W	+470.93			-89.70		
									1696.37	728.33
	139.46			N12°17'W	+136.27			-29.67		
									1832.64	698.66
	166.15			S54°41'W		-96.05		135.37		
									1736.59	563.09
0	581.29			N°90°00'E	0		581.29		0	581.29
	789.36			N13°55'W	766.19			189.85	766.19	391.44
	822.64			N25°24'W	743.12			352.86	1509.31	38.58
	40.3			N65°02'W	17.01			36.53	1526.32	2.05
	1526.4			S00°06'W		1526.4		266	-0.8	-55

LATITUDE & DEPARTURE CHART.

Proj.		From		To					
Sta.	Dist.	Deflection		Course	Latitude		Departure		Totals
		L.	R.		+ N	- S	+ E	- W	Latitude Departure
	1897.7			N90°00'E	0		1897.7		0 1897.7
	1231.75			N5°48'E	1225.44		124.48		1225.44 2022.18
	479.40			N10°47'W	470.93			89.70	1696.37 1932.48
	139.46			N12°17'W	136.27			29.67	1832.64 1902.81
	180.97			S54°34'W		104.92		147.45	1727.72 1755.36
	470.76			N36°10'W	380.05			277.81	2107.77 1477.55
	431.67			N11°11'W	423.47			83.72	2531.24 1393.83
	110.16			N20°35'W	103.13			38.73	2634.37 1355.10
	171.61			N27°45'W	157.87			79.90	2786.24 1275.20
	339.14			S82°27'W		44.56		336.20	2741.68 939.00
	304.30			N55°43'W	171.41			251.43	2913.09 687.57
	180.37			N1°05'E	180.34		3.41		3093.43 690.98
	300.00			N53°46'W	176.76			242.40	3270.19 448.58
	183.00			N48°09'W	122.09			136.32	3392.28 312.26
	256.00			S62°29'W		118.14		227.11	3274.14 85.15
	83.40			S81°23'W		12.50		82.46	3261.64 2.69
	3267.00			S0°06'W		3267.00		5.70	-5.36 -3.01
	10811.87				3541.76	3547.12	2025.59	2028.60	