

Book # 74-Dr. # 8

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

LAKE IMP. Survey

PIPE LINE

From Snail Lake to Turtle Lake

Road Acc't. No.

ate Filed. 2-22

File L. I.

Don Meber
Stacylin
Milke
Ball
Stienman

Bench Levels
Between
Snail Lake and Turtle Lake.
11-31

7.51
891.07

0.34

B.M.	5.11	930.94		925.83
T.P.	2.35	927.22	6.07	924.87
T.P.	0.36	922.28	5.30	921.92
T.P.	7.19	918.80	10.67	911.61
B.M.	4.85	918.34	5.31	913.49
T.P.	0.58	912.27	6.65	911.69
B.M.	2.98	909.24	6.01	906.26
T.P.	13.70	914.42	8.52	900.72
B.M.	10.63	921.25	3.80	910.62
T.P.	0.11	911.53	9.83	911.42
" "	0.27	899.15	12.65	898.89
B.M.	0.11	890.98	8.28	890.87
			7.62	883.36
Sta.			Rod. Rq.	Elev.
0+00			14	889.58
B.M.	12.31	903.18	0.11	890.87
1+00			12.70	905.
2+00			10.00	932.
2+24 ⁷	Δ P4		9.2	940.
2+44			5.8	974.
2+57			5.1	98.1.
2+70			5.4	978.
2+75			7.3	959.
3+00			7.0	96.2.
+70			5.7	975.
4			3.5	99.7.
T.P.	11.25	913.62	0.81	902.37

spt. in 24" Oak S. Weir. Int. Hodgson + G.²

spt in P.P. 950' W. old Rice on G.²

spt in 24" Oak 130' Lt 22+20 "B" line

spt. in 24" Oak 100' Lt 12+00

Nail in T.P. 30' Lt 2+70

spt. in Pole at N. end pump Snail Lake.

= W.S. Snail Lake =

S. end Weir

Ground at Pump house.

Tree Slope.

L. Co. Rd. G.

Elev.

913.62 ✓

4450			9.4	904.20.
5400			7.0	906.6.
6			7.8	905.8.
7			3.8	09.8.
+50			1.9	11.7.

T.R. 11.95 92.394 ✓ 1.63 911.99 ✓

8			8.8	15.14.
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+50			7.0	16.9.
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9			5.7	18.2.
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+50			4.9	19.0.
-----	--	--	-----	-------

10			5.5	18.4.
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+50			6.2	17.7.
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11			7.2	16.7.
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+50			7.0	16.9.
-----	--	--	-----	-------

12			7.6	16.3.
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T.R. 0.31 916.85 ✓ 7.40 916.54 ✓

B.M.			6.24	910.61. 910.62
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12+30			3.8	13.05.
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T.R. 3.35 906.94 ✓ 13.26 903.59 ✓

12+72			4.0	902.94.
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13			6.0	900.94.
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14			6.8	900.1.
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15			7.8	899.1.
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+83			8.3	98.6.
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16	E DITCH	{	8.2	98.7.
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17		{	7.3	99.6.
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11-23-31 (Raining)

(High)

Spt in 24" Oak 100' Lt 12+00

Edge Swamp

Co. Ditch Apt.

Ditch 8.2

+ H.I. -

90694^v

18			7.3	899.6	
19			6.8	900.1	
T.P.	710	908.86	5.18	901.76	✓
20			8.7	900.2	
21			7.5	01.4	
+25			7.2	01.7	
+65			5.5	03.4	
22			2.7	06.2	✓
T.P.	1006	918.42 ^v	0.50	908.36	✓
23			6.1	12.3	
+50			4.5	13.9	
+65 ⁶	Δ P.T.		4.3	14.1	
24			4.0	14.4	
25			5.0	13.4	
+50			5.6	12.8	
26			7.0	11.4	
T.P.	442	916.41 ^v	6.43	911.99	✓
26+50			6.2	10.2	
27			7.9	08.5	
+50			8.5	07.9	
28			9.2	07.2	
+17			9.3	07.1	
+50			8.0	08.4	
29			7.3	09.1	
+50			8.0	08.4	
+81			8.8	07.6	

~~Edge Swamp~~

Edge Swamp

40. + H.I. Last Elev.
916.41 ✓

+91 10.4 906.0
30 10.0 06.4
+15 4.8 11.6
+28 4.3 12.1
+42 4.9 11.5
+52 8.8 07.6

31 9.0 07.4
+50 8.0 08.4
32 6.7 09.7
+50 5.5 10.9

33 4.8 11.6 ✓

B.M. 2.09 915.58 ✓ 2.90 913.51 913.49
+50 3.2 12.4

34 3.4 12.2
+50 4.0 11.6

35 5.7 09.9
+50 8.2 07.4

36 11.4 04.2
+65 13.6 902.0 ✓

T.P. 2.0 904.02 ✓ 13.56 902.02 ✓

37 4.6 899.4

38 5.8 98.2

39 6.0 98.0

+68 6.38 897.64

+83 3.5 900.5

11.4 7.08 896.94

L G. 3

Spt in T.P. 950' W. Old Rice St. G.D. G. 3

Edge pot hole

Inv Culv. Power 5 end.
L Power R/r
N end Culv.

904.02 ✓

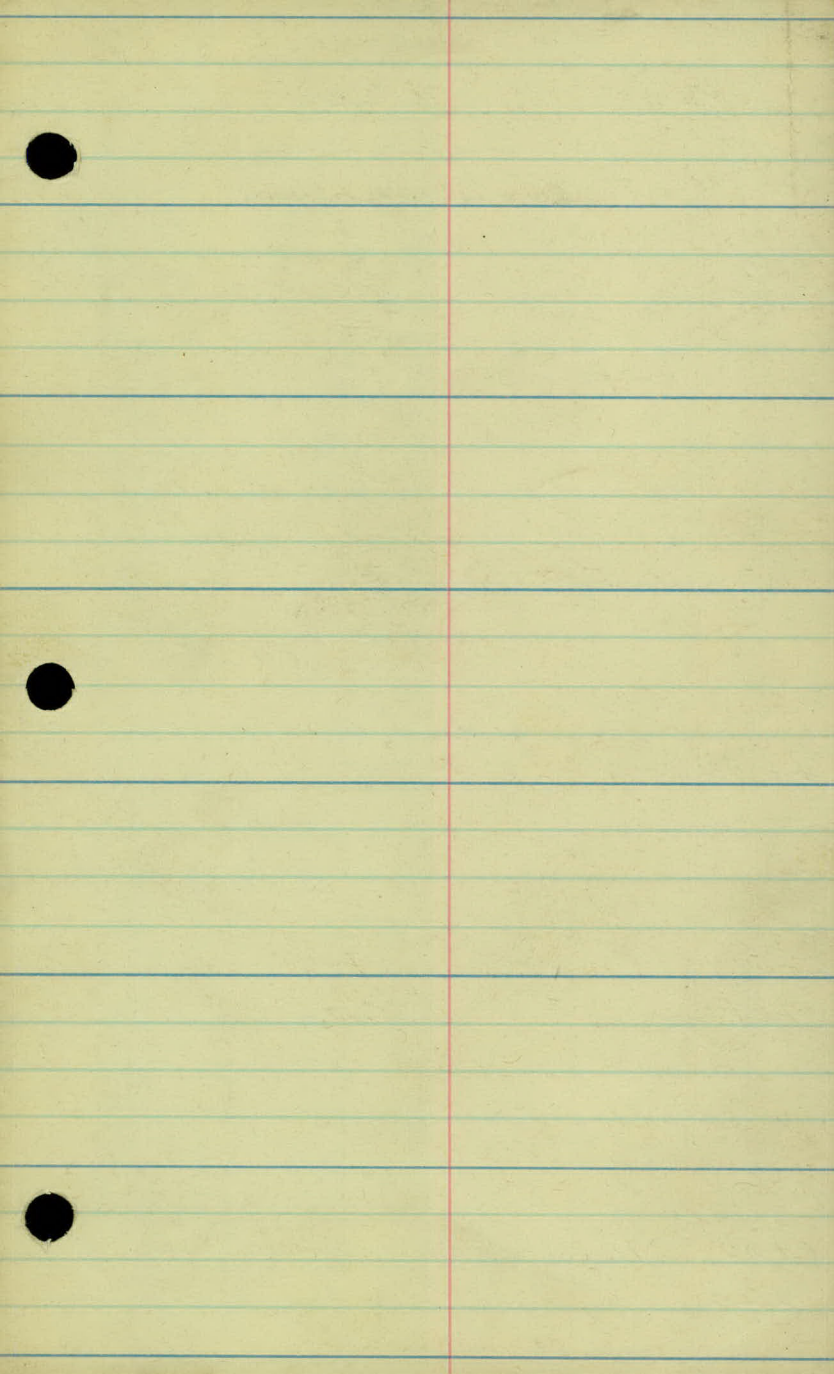
41		64	897.6	
+ 76		88	95.2	
42		9.0	95.0	
43		8.5	95.5	
44		9.2	94.8	
T.P.	5.59	900.32 ✓	894.73 ✓	
		900.52	894.93	
45		8.0	92.3	
46		7.5	92.8	
47		7.2	93.1	
+ 50		8.2	92.1	
+ 81		9.96	890.56	890.36 ✓
B.M)		3.54	896.98	896.78 ✓

Edge of Swamp.

N. S. Turtle Lake.

Spoke in 18" Birch 15' R. $47 + 18.8^3$ Nov.

1008
0106
E 81
8.01



23+65.59 Δ Point

36°00' Lt.

19+70.68 Δ Pt. "B" Line 46°15' Lt.

12+00 P.O.T.

9+50 P.O.T.

4+87.36 P.O.T.

2+57.7 Mont. S.E. cor Sec. 14-T30 R23'

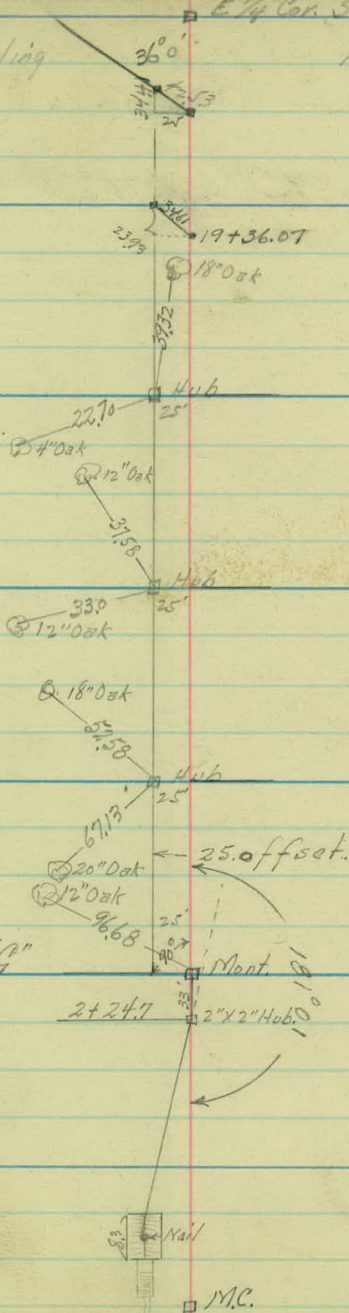
2+24.7 Δ 72°28' Lt.

0+00 Ctr. Roof Pump house.

Cloudy + Drizzling

E 1/4 Cor. Sec 14-30-R23 1/2

11-19-31



42°59' LT.

47+18⁸³

End Proj.

39+68⁰³ E. end of Culv. Power Co. Pwr.
12" X 30.7 Vit.

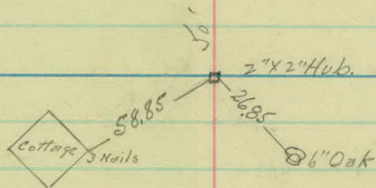
34+08¹² Δ Pt.

545' Rt.

(Raining)

11-20-31

Turtle Lake.



Δ Lt Δ Lt.

"B" Line.

$39+78.2^{\circ}$ Int. of "A" line = $38+66.55$

$34+40$ Δ Point

$46^{\circ}30'$ Lt.

$27+00$ Δ Point

$12^{\circ}30'$ Lt.

$19+36.07$ Δ Point $46^{\circ}15'$ Lt.

Cloudy + Cool

(11-29-31
Weber
Shooglon
Bell

E Elevations "B" Line

✓ Rod &

B.M.	4.53	910.79		906.26
19+36.07			9.8	01.0
20+00			10.3	00.5
21+00			10.3	00.5
22			9.3	01.5
23			8.0	02.8
+50			6.7	04.1
24			5.0	05.8
+50			4.0	06.8
25			2.2	08.6
+50			1.5	09.3
26			1.5	09.3
T.P.	8.31	918.21	0.89	909.90
+50			8.1	910.1
27	P.I.		6.1	12.1
+44			5.0	13.2
28			6.4	11.8
+50			7.4	10.8
29			2.1	11.1
+50			6.8	11.4
30			6.6	11.6
+50			6.6	11.6
31			6.4	11.8
+50			6.4	11.8
32			6.6	11.6
+12			6.6	11.6
+18			4.2	14.0

High

Spk. in 24" Oak 130' at 22+20 "B" line.
Int. "A" and "B"

Top Stake 26+00

To e Slope.
Top Shoulder

+ H.I. ✓ - 42.00 Elev
918.21

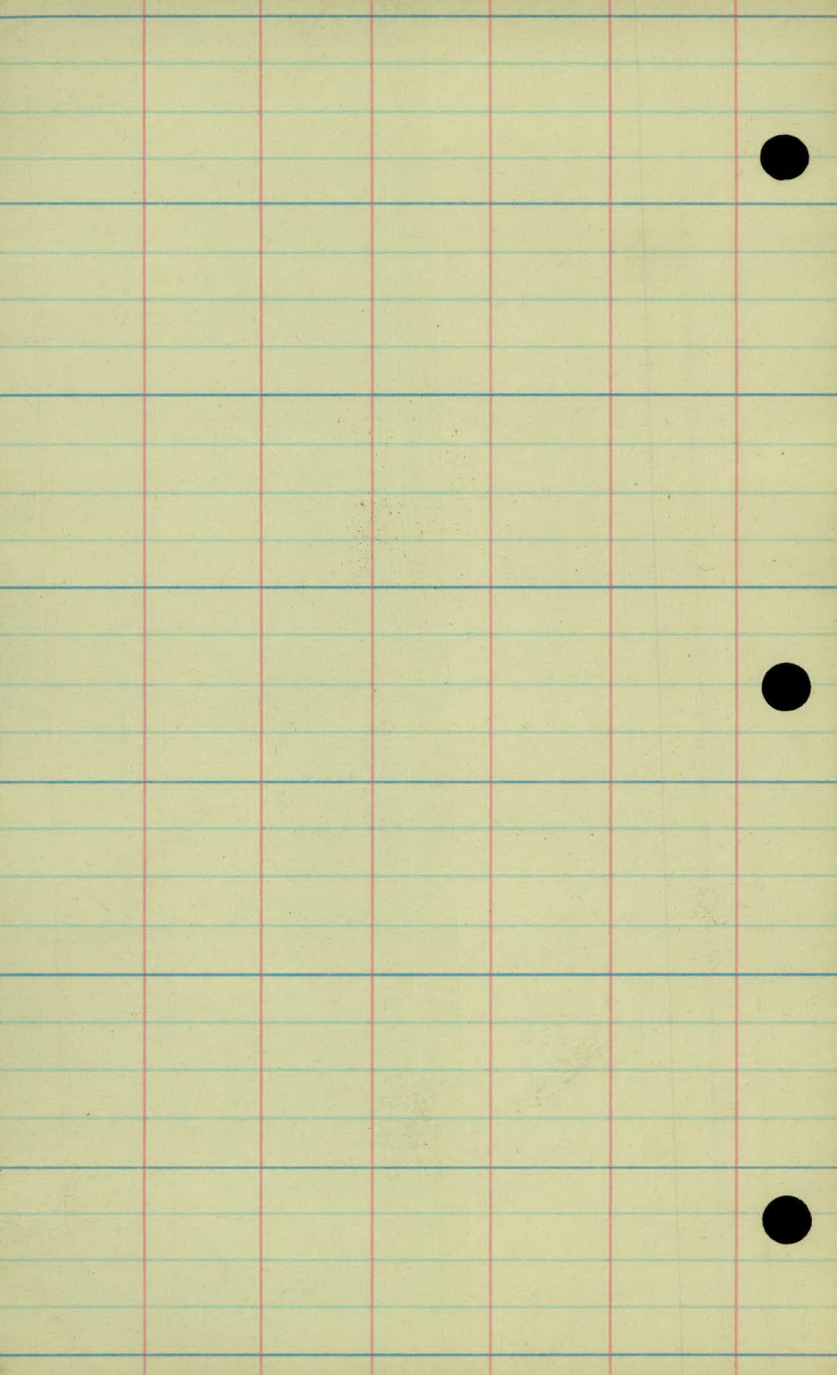
32+32			3.8	14.4	
+47			4.2	14.0	
+50			6.2	12.0	
33			7.2	11.0	✓
B.M.	1.42	914.91	4.72	913.49	913.49
+50			5.1	09.8	
34			5.5	09.4	
+40	Δ P4.		6.2	08.7	
35			7.6	07.3	
36			9.6	05.3	
37			11.0	03.9	
38			13.0	01.9	
T.P.	1.42	903.91	12.42		902.49
+40			4.2	899.7	
39			5.5	898.4	
+88			5.9	898.00	✓
			6.29	897.62	897.64 ✓

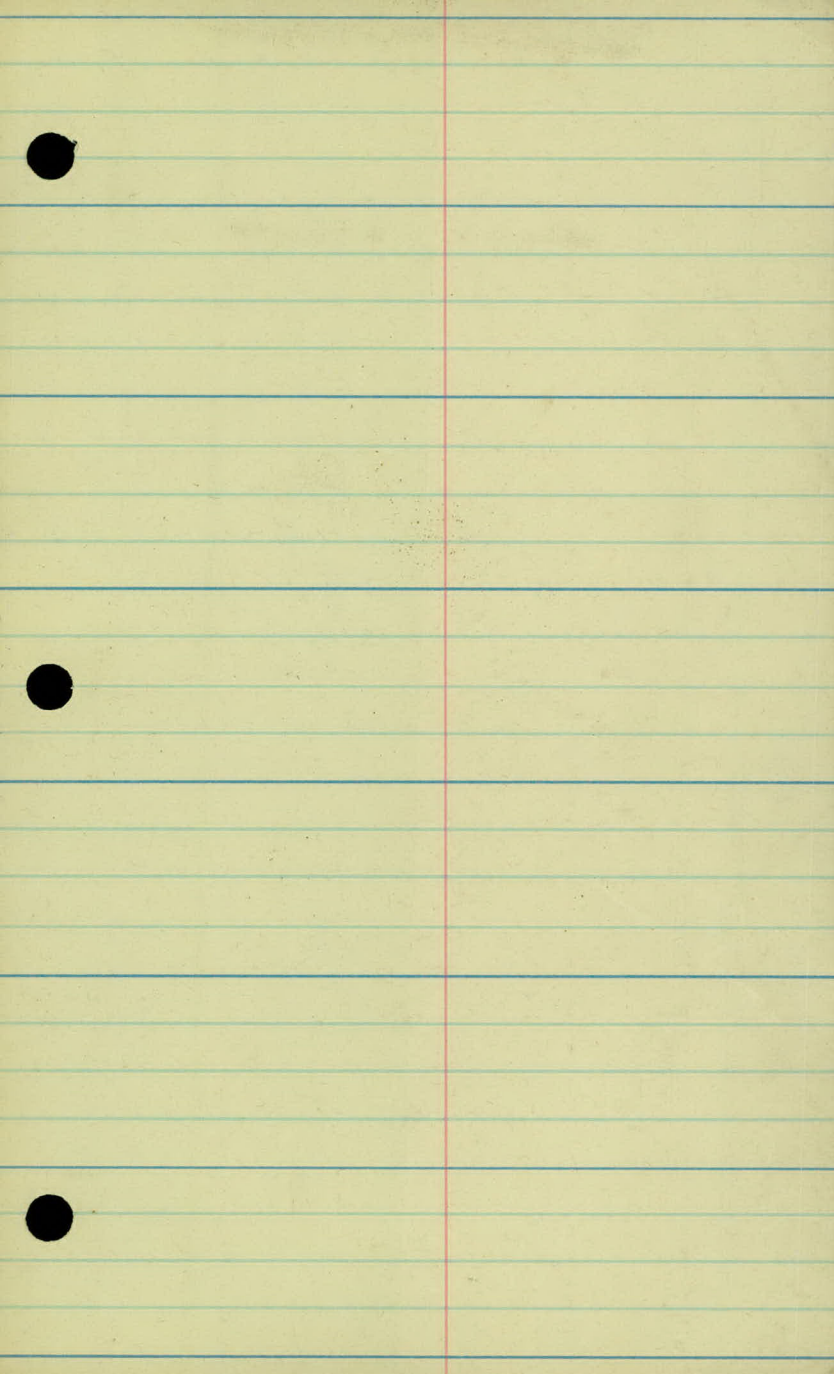
* G. 3
Top. Sho.
Toe. Sho.

Spt in P.P. 10' Lt 32 + 14.

Top Stake 38+00

Int. "A" Line.
Inv. Culv. S. end. ✓





Sta.

9+50 0 To 12' = Fine yellow sand (Moist.)

11+50 Same as 9+50

13+00 0 To 6' Fine sand. (Moist.)

14 { 0 To 10 Feet
10 To 7 = Fine sand. (Firm)

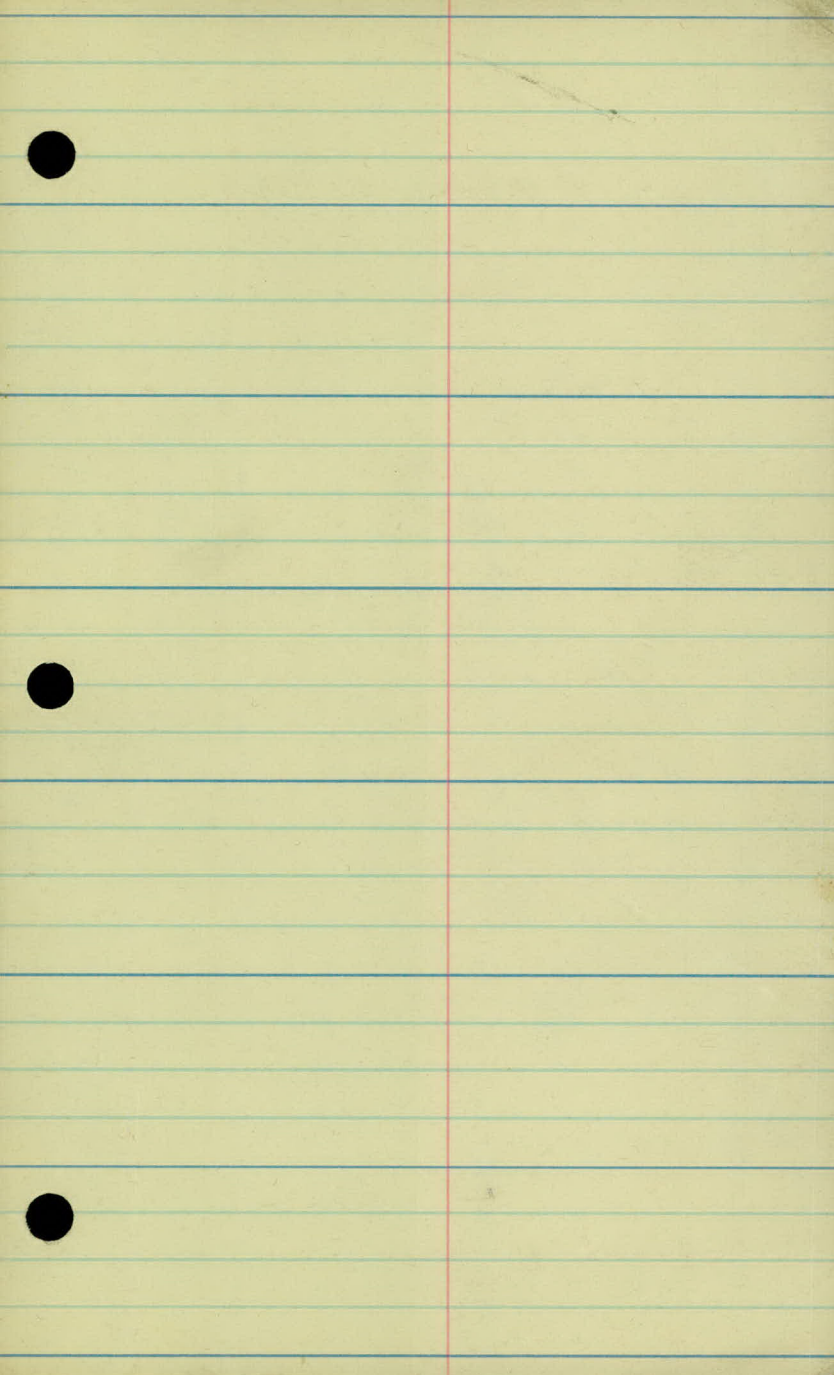
15 0 To 20 Feet. With sounding rod.
($\frac{1}{2}$ " rod 15' with 4 man pressure.)

16 { 0 To 7 Feet
7 To 8 Layer fine sand.
8 To 13 Loose wet sand
13' Firm bottom.

17 0 To 3 Feet
3' Fine sand (firm)

18 { 0 To 4 Feet
4 To 5 Layer fine sand.
6' Firm.

19 0 To 4.5 Feet 4.5 To 5.5 Fine sand (Moist.)
5.5 To 6 Wet Loam
6' Firm fine sand.



- 23 0 To 12' Moist fine yellow sand.
- 25 0 To 12' Same as Sta. 23
- 28 0 To 2' Loam Clay 20%
- 31 Fine sand.
- 34 Fine sand.
- 36 Fine sand.
- 39 6" of peat from there to China
firm fine sand.
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