DIETZGEN

TRADE MARK

69

804

FIELD BOOK

No. 403

804

Please return to

Eugene Jehanno

Logan Utah.

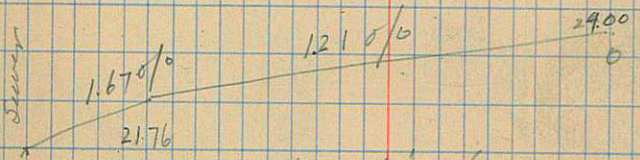
No Smithfield

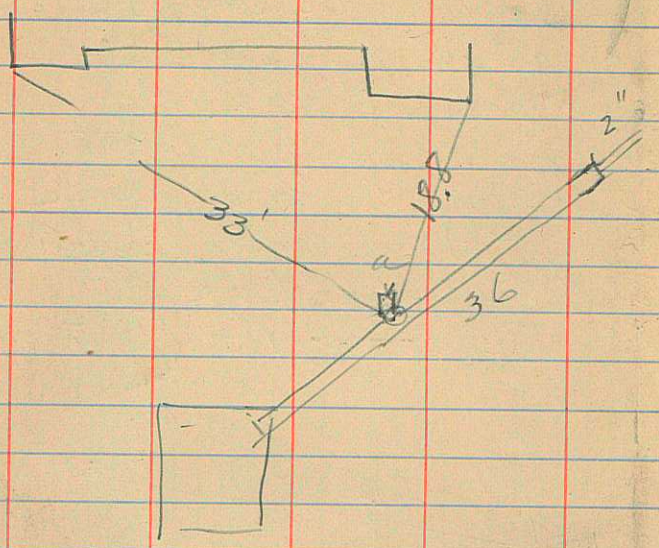
note in this

book

Levels at the Lowell School 11/28/14

Sta	BS	FS	IM	Elev.	HI	
	2.98			4530.15	33.13	on W. side of C.I. rim of M-H — Veron & Fitzdam
			12.44			bottom bell of 4" Y on sewer. 102+98.913
			12.40	20.73		on grade at bell " " "
			10.50	22.63		on Water in trench at property line.
				23.73		on bolt. at Y in 4" soil pipe
				21.76		grade at Y. on 4" soil 62' from sewer
				23.73		on bolt as described above
						measure down 1'-11 5/8" to grade
				30.15	34.72	
				21.90		so placed; ~~bolt 6' above~~
			6.82	27.90		on bolt. 6' above.
				23.68		Sta W. of M-H.
			5.04	29.68		on bolt. 6' above grade.
			3.78	30.94		on old M-Hole
			7.31	27.41		dist E. on line from Y on sewer
				21.41		on bolt.
			7.54	27.18		
				21.18		





	4 105		30.94	35.045
a		10.350		
		10.99		
		11.05		
		10.665		

30.94
4.105
35.045
10.99
24.055

24 35.045
23.99
11.055

-4-

10.10
11
10.21
11
10.32
11
10.43
10.53

10 57

10 66
10.10
10.55
11
10.22
11
10.32
11
10.43
11
10.54

on Y

on lower M+H
on pipe at M+H

10 10.53
10.43 10.32 10.22

10.66
10 10
6(56 2
.09 3

10.10	—
9	
10.193	1
-093	
10.286	2 ✓
093	
10.379	3 ✓
-093	
10.472	4 ✓
093	
10.565	5 ✓

Check levels at
Lowell school 12/3/14

Stu	BS	FS	im	Elev	H I	
	3.56			30.15	33.71	
41.4				21.41		from sewer T.
			17.95 T	21.76		on pipe
			11.98 T			actual reading
27			12.18	21.53		
27			12.26			
			12.46			on pipe at testing T. by main sewer
			12.43			
0			12.46			near T
+5			.061			
			12.399			from T
			12.46			
30			.3			
			12.16			
45			12.46			
			.54			
			11.92			
45				21.80		

21.41
.35
21.76

T = theor.

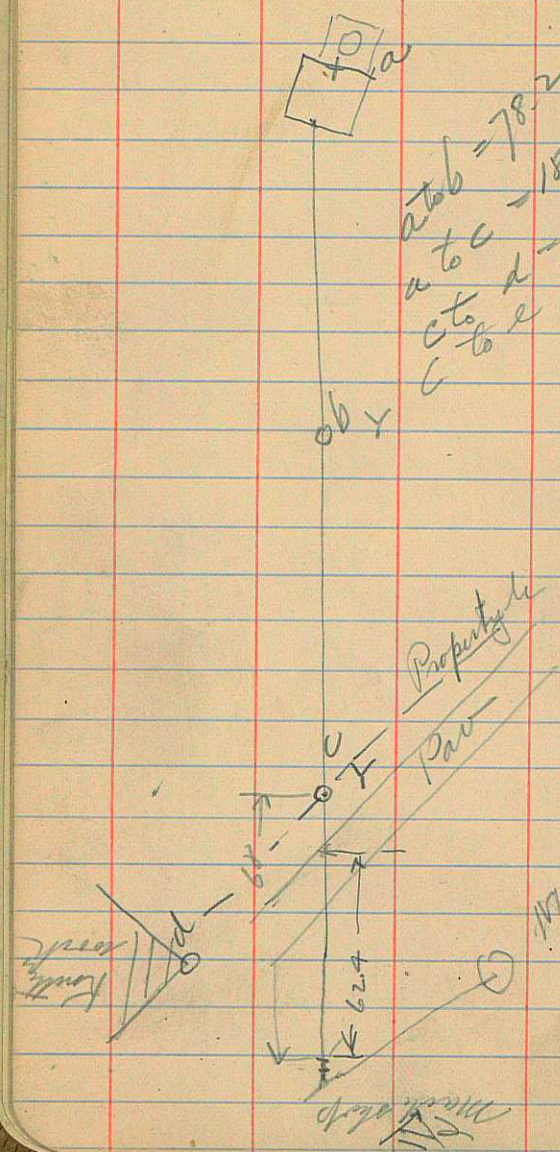
4.25 | 12
.65 | .35

30.15
3.56
33.71
21.76
17.95

-8-

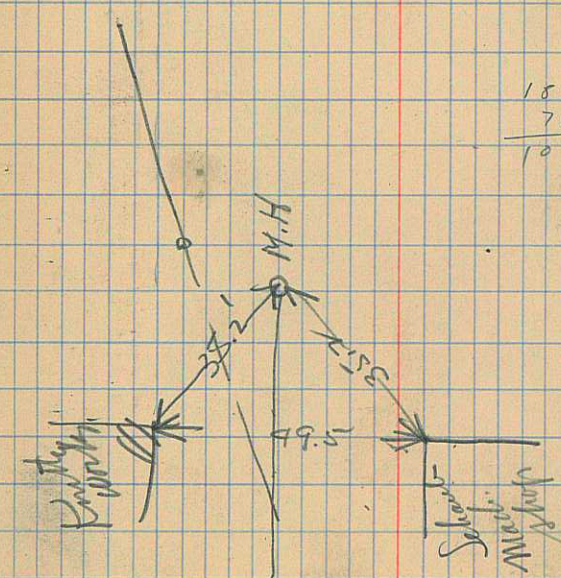
21.18
.35
21.53
33.71
21.53
12.18

T



a to b = 78.2
a to c = 184.
c to d = 49
c to e = 69.9





68
5.6
62.4

21.76
.35
22.11
21.25
.86
62
140
124
160
124
360

33.71
12.46
21.25

.0122
.45
610
488
54.90
2125
21.799

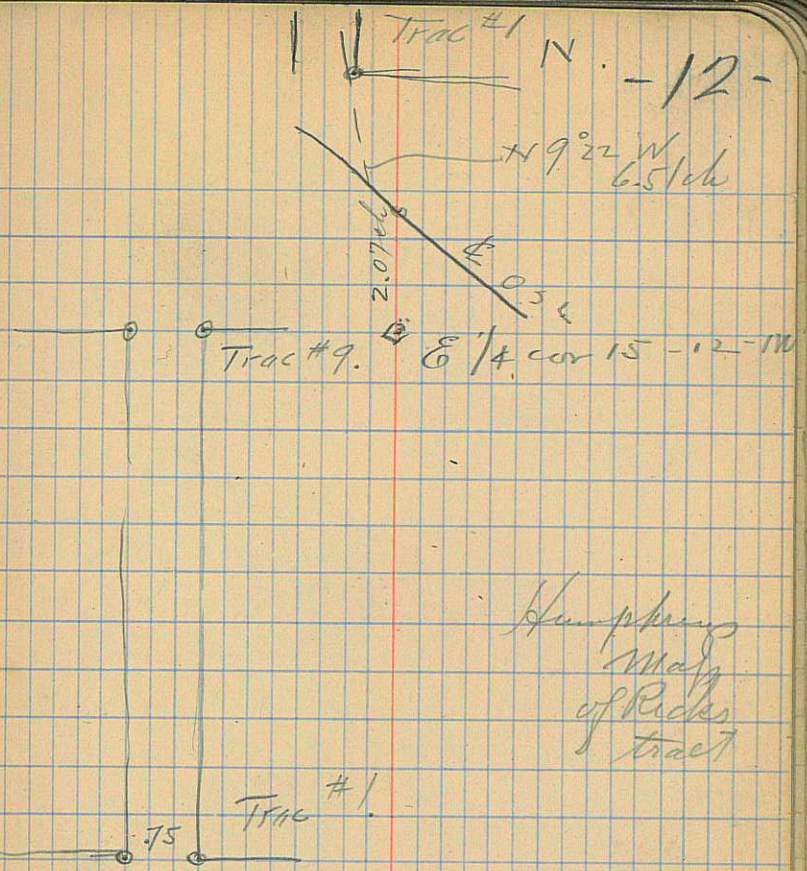
.061.25

21.90
.35
22.25

33.71
22.25
1146

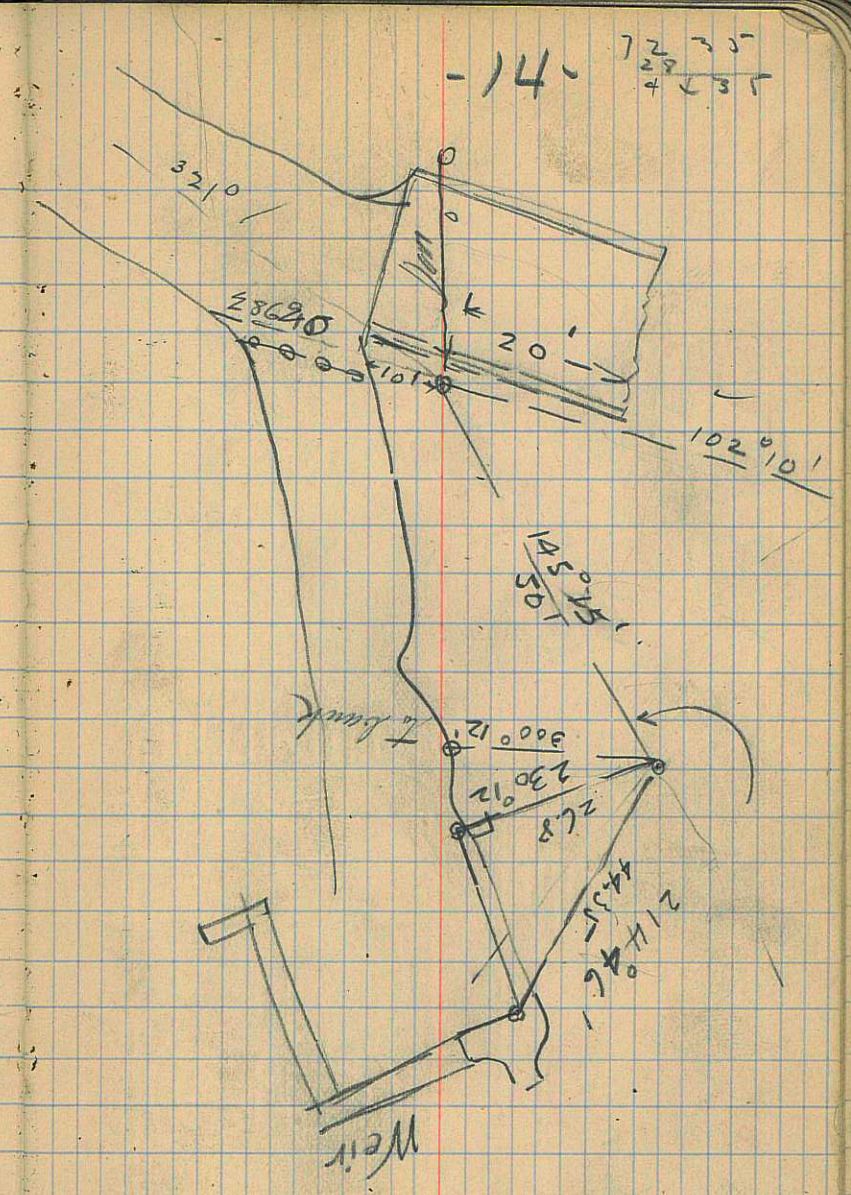
33.71
21.8
11.91

184
78.2
109.8



Humphreys
Map
of Ricks
tract

-14-

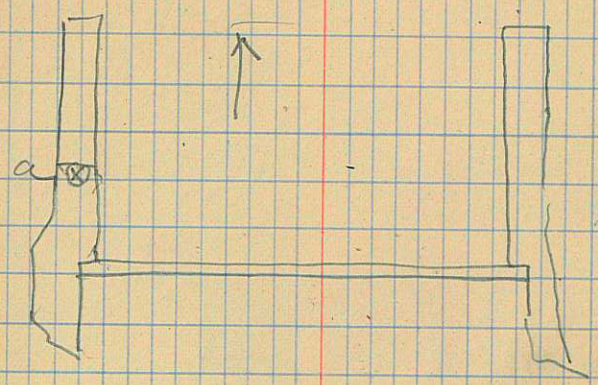


	BS	FS	MU
	6.04		
a			2.368

604
472
1.32

Setting of hook gage on the L.H. Plane
8-10-15 — 16-

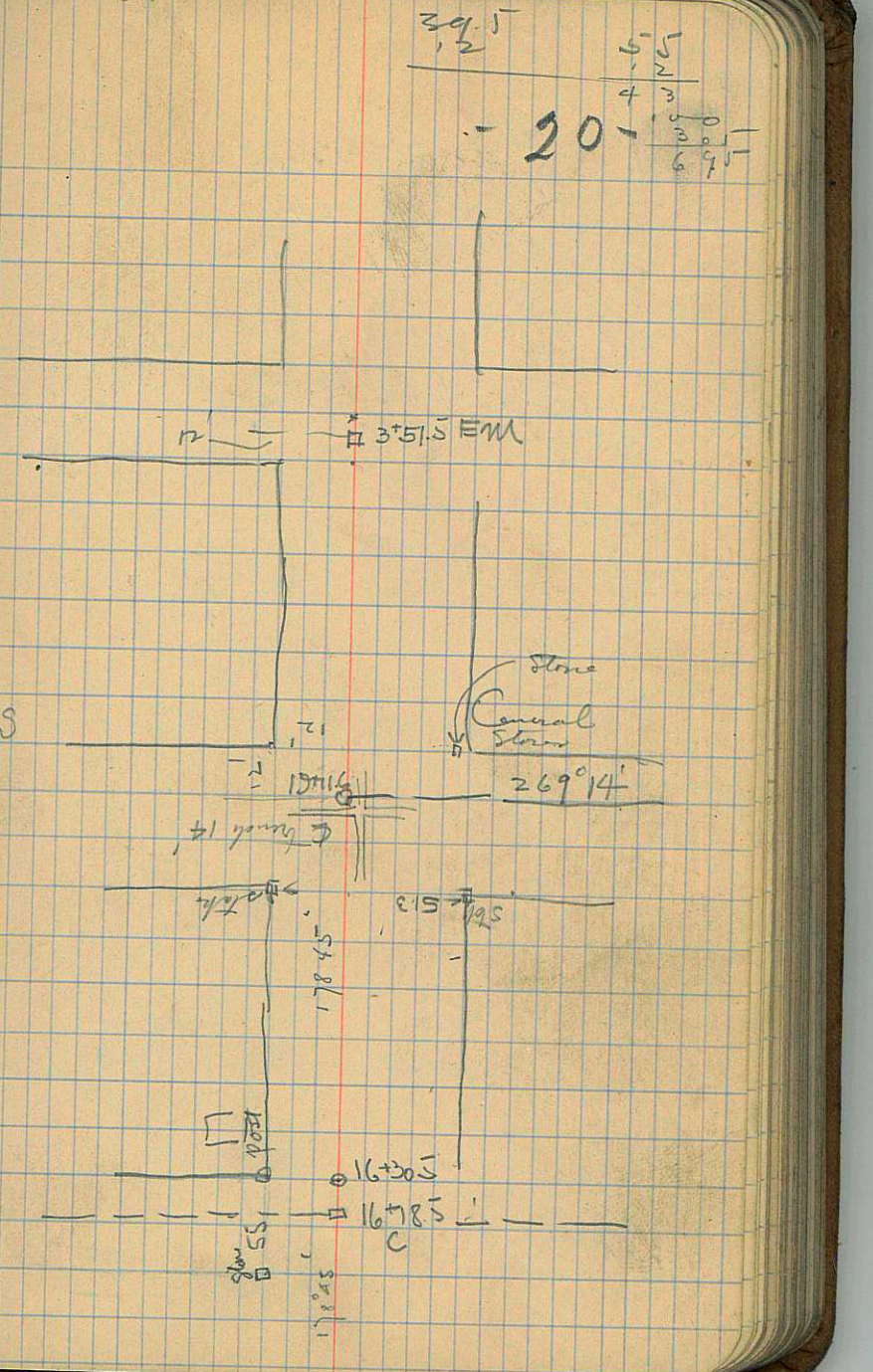
on 2 x 6, on control



Survey for Geo Campbell Co

Pt	Sight	bear	West	rett	ops

Pt	Ay from S	bear	dist	sett
3+51.5 EM		269°14		
19+11.4			178°53	

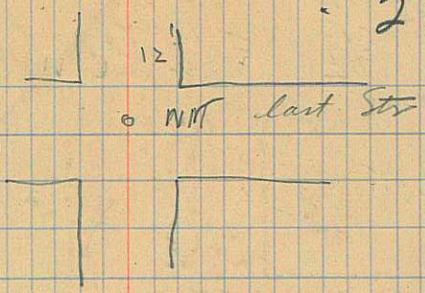

3+51.5 EM
BS
Stone
General Store
269°14'
Fence
Fence
Fence

	bear	Dist	
89°16		10+46.1	
	3 3 .09	.078	6

19+11.4

8-18-15

22



589°16'W



π - St.	HI	Ele	m	BS	FS
BM 9+10				2.82	
					3.21
aug. 28-15		0		11.80	
				14.62	.30
				3.51	3.51
				11.11	

BM	6002.81	5992.81		10.00	
900		5990.55	12.26		
8+00		5988.51	14.30		
7+60		5989.61	13.20		
π 6+70		5997.91	4.90		
6+00		5996.50	6.30		
π 5+26	6002.81	5992.81	10.00		
4+60	5995.44	5993.76		1.680	9.05
4+00		5978.84	16.60		
3+00		5978.14	17.30		
2+00		5976.04	19.4		
1+60		5982.64	12.8		
1+00		5982.14	13.3		
+60	5995.44	5992.24	3.2		
		5994.54		9.46	.9 notable
0+00		5996.20	7.80		
	6004.00	6000.0	4.00		
		6004.00	0.0		

changed

S 82° 30 W

-24-

337 38
30
33808
180
15808

93 45
30
9415°
17960
94°13
8547

check levels with Y

on

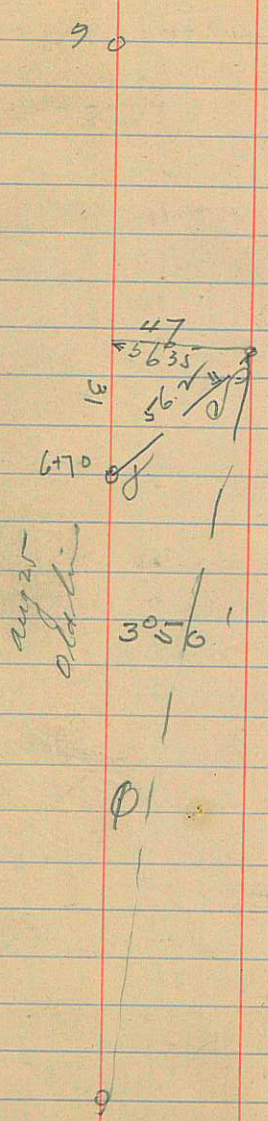
on redge

S.N 6"

6004.00 6000.00

on nail in aspen post

Campbell



90

47
5635
31
56.2
6+70
aug 25
3°56'
Ø1
0

$\frac{\sin \phi}{56.2}$ -

1.671260 = 46.92
log sin 56.35 $\bar{1}$.921524
log 56.2 = 1.749736
cos 56°3 = $\bar{1}$.740934
1.490670 = 30.96

670
31
701

log 47.0 = 1.672098
2.845160
2.826938
6103
835

7992
6103
1899

36.04
20
16.04

375 Aug 26-15
Geo Campbell
28

435
85
5.20

on redge

Sta	BS	FS	in	Ele	HT
9+10					
60					
8+50			8.05		
50					
8+00			10.30		
103					
6+97			5.90		
127					
5+70			11.40		
50	3.02	10.65			
5+20			2.60		
85	5.10	11.32			
4+35			13.90		
60					
3+75			12.00		
3+25			15.50		
2+25			5.00		
1+75			3.10		
1+00	12.41 12.57	1.21 2.01	2.90 on gr. at 1+00		
+60			8.50		
Ox-			4.20		
BM		0.32			

15

	BS	FS	Un	Ele
	1.31	12.70		5828.39
	0.56	12.30		
	0.34	12.30		
18⁰⁰	0.85	12.26		
	0.36	13.14		
17+00	1.28	11.41		
	0.36	12.52		
16⁰⁰	0.28			
		12.46		
15⁰⁰	1.28			
		12.92		
14⁰⁰	0.46			
		12.35		
13+00	0.07			
		12.59		
12+00	0.95			
		13.06		
11+00	0.10			
		11.58		
10+00	0.56			
44	~~0.~~	12.06		
		173.865		
9+56			11.86	
46				
⊼ 9+10	(DM 1.78)		4.90	
BM	9.23		4.53	5992.81

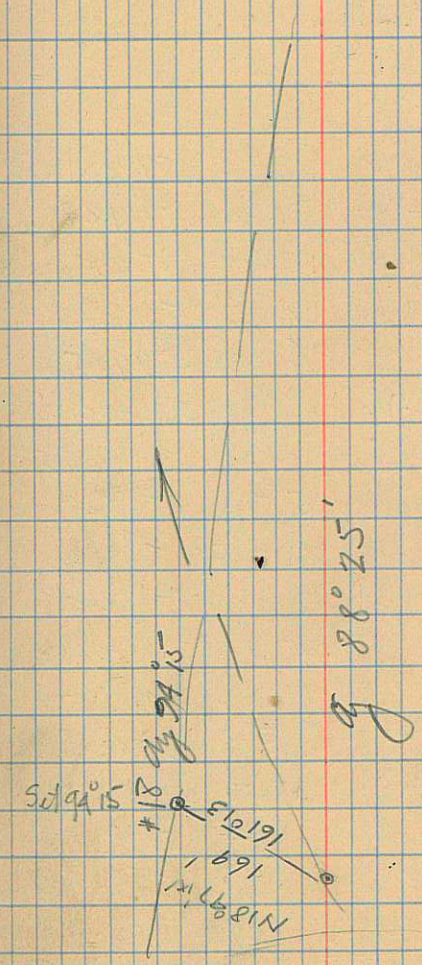
Aug 26

Aug 26

These readings not taken at stations

Continued

30



Check levels

	BS	FS	im	Ell	HI
BM 0	0.19				
		11.82			
	6.73				
		6.25			
	6.92	18.07			
BM 9+10		6.92			
		11.15			
BM	6.25			5992.81	5999.06
9+10		~~7.~~	7.60	5991.46	
8+50			10.70	5988.4	
8+00			12.90	5986.2	
6+97			8.60	5990.5	
		12.76		5986.30	
	4.33				5990.63
5+70			5.70	5984.9	
5+20			4.40	5986.20	
		12.21		5978.42	
	6.43				5984.85
4+35			16.00	5968.85	
3+75			15.8	5969.05	
3+25			17.7	5967.15	
2+25			7.4	5977.95	
1+75			5.7	5979.15	
		0.36		5984.49	Good 36
	12.81	25.33			5997.30
	~~29.82~~				

5999.1
8.6
1.3

5992.81
6.25
5999.06
7.6
5991.46

5999.1
8.6
5990.5
1.54
1
10.78

1400 | 9.10
910 | 1.54
4900
4550
3500

6000
10.78
5989.22

5990.5
5989.2
1.3

Checks Leads con

	BS	FS	HI	Ele	H/I
1+00	29.82	25.33	6.60	590.70	599.30
+60			1.70	595.60	
		0.42		596.88	
	7.37				600.25
0+0			4.30	600.0	
BM		0.33		600.00	600.33
		0			
	37.19	26.08			

37.19
26.08
11.01

6000
5991
9
5
14

600.00
33

34

Sta	BS	FS	M	Ele	HI
25+43					
75					
24+88			6.90	5721.96	
	9.55	1.50		5719.30	5728.86
24+38			11.50	5709.30	
			11.14 on B	5709.66	
			15.5	5705.30	
22					
29+16			10.55	5710.25	
66					
23+50					
35					
23+15	0.46	12.56			5720.81
	0.27	12.11			
	0.00	11.12		5744.75	5744.75
25			1.67 BM	(this was cut down)	
22+90			1.40	5754.47	
22⁰⁰					
	0.74	6.00		5755.13	5755.87
21⁰⁰			6.56 at 25	5754.57	
	0.64	10.94		5760.49	5761.13
at Sta 20⁰⁰			6.00	5765.43	
20⁰⁰	1.18	13.00 ~~12.00~~		5770.25	5771.43
			3.50	5779.75	
19⁰⁰	0.74	12.25		5782.51	5783.25
	1.00	12.63			
	1.02	12.03			
18⁰⁰	0.45	12.75			

1.4

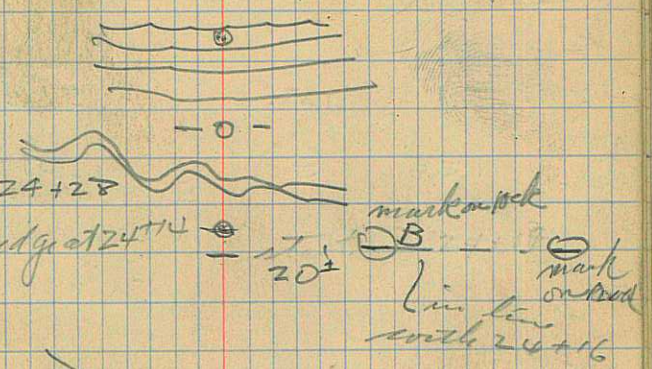
(24+28 55.20 E.T. on RP)

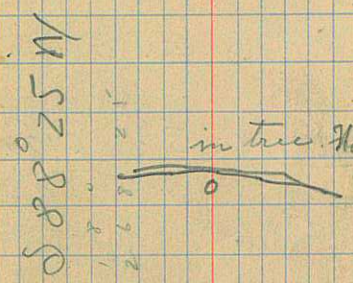
23.15
.73
24.88

12.92
8.82
47

117
88
29

P I



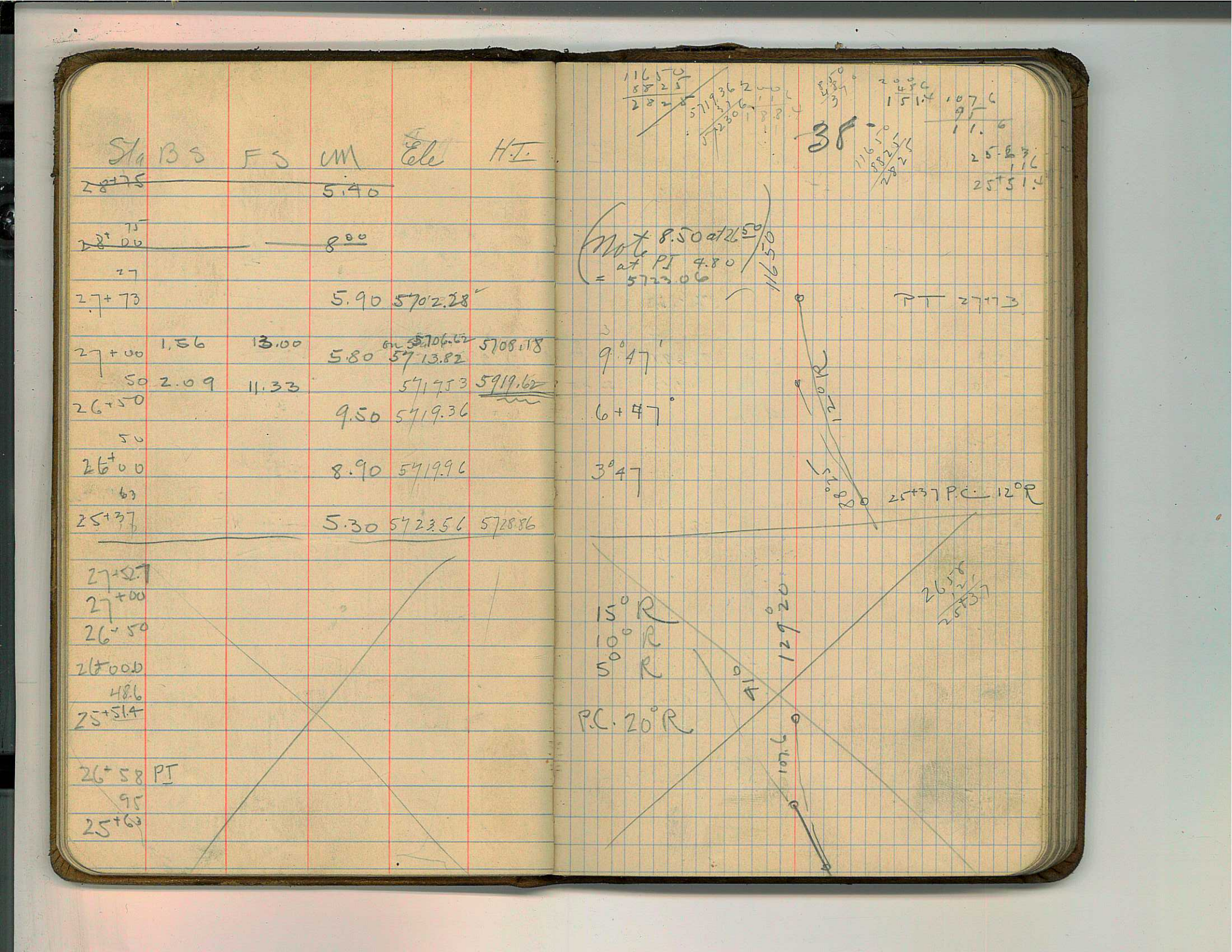


bottom Blind Hollow ⊥

Sta	BS	FS	CM	Ele	H.I.
~~28+75~~			~~5.40~~		
75 ~~28+00~~			~~8.00~~		
27 27+73			5.90	5702.28	
27+00	1.56	13.00	5.80	5706.62 5713.82	5708.18
50	2.09	11.33		5717.53	5919.62
26+50			9.50	5719.36	
50 26+00			8.90	5719.96	
63 25+37			5.30	5723.56	5728.86

27+52.7
27+00
26+50
26+00.0
48.6
25+51.4

26+58 PI
95
25+63



11650
8825
2825

5719.36
37
5723.06

2006
116
18.8

8.50
4.80
3.7

2006
486
151.4

107.6
95
11.6

38

11650
8825
2825

25+63
116
25+51.4

(Note 8.50 at 26.50 at PI 4.80 = 5723.06)

11650

PT 27+73

9°47'

6+47°

3°47

120 R

25+37 P.C. 12°R

15°R
10°R
5°R

P.C. 20°R

129°20

41°

107.6

2658
121
25+37

	BS	FS	int	El	HI
	1.00	12.58		5604.91	5605.91
	1.87	13.05		5615.62	5617.49
35+02			12.0	5616.67	
34+97			10.0	5618.67	
35	1.00	12.53		5627.67	5628.67
34+22			5.90	5634.3	
122	1.06	12.38		5639.14	5640.20
33+00			2.40	5649.12	
138	1.16	12.72			5651.52
31+62.0			3.10	5659.98	
103.8	0.82	12.28		5662.26	5663.08
	1.430	12.19		5673.11	
30+58.2			6.30	5679.00	
	2.045	12.380		5683.26	5685.30
30+00			6.2	5689.44	
	0.18	12.27		5695.46	5695.64
29+50			10.60	5697.13	
50					
29+00			15.00	on PI 5692.73	
			4.50	5703.23	
50	4.96	4.91		5703.27	5707.73
28+50			5.40	5702.78	
46.6					
28+03.4			8.00	5700.18	5708.18
28+25					

200
131
69.

200
153
47

28.75
60
2935
2773
162

200
1694
306

11650
8116
3534

-40-
131.6

to be corr. by { Manghan means 200.8 from 34+22 36+40.4

2935
1316
28+034
2 306
2772.8

n. side road

stake

Road

17°47
6 30
23 77
24 17

6 47
2
13 34

81°16

24°28

PT

131.6

~~20~~ 2034

~~16°30~~ 1704

14°

29+35 P.I.

6°49

⊼ set ~~15~~ 13°34

3°17

116°50

28+03.4

PC

116.50
+1.16
35 34

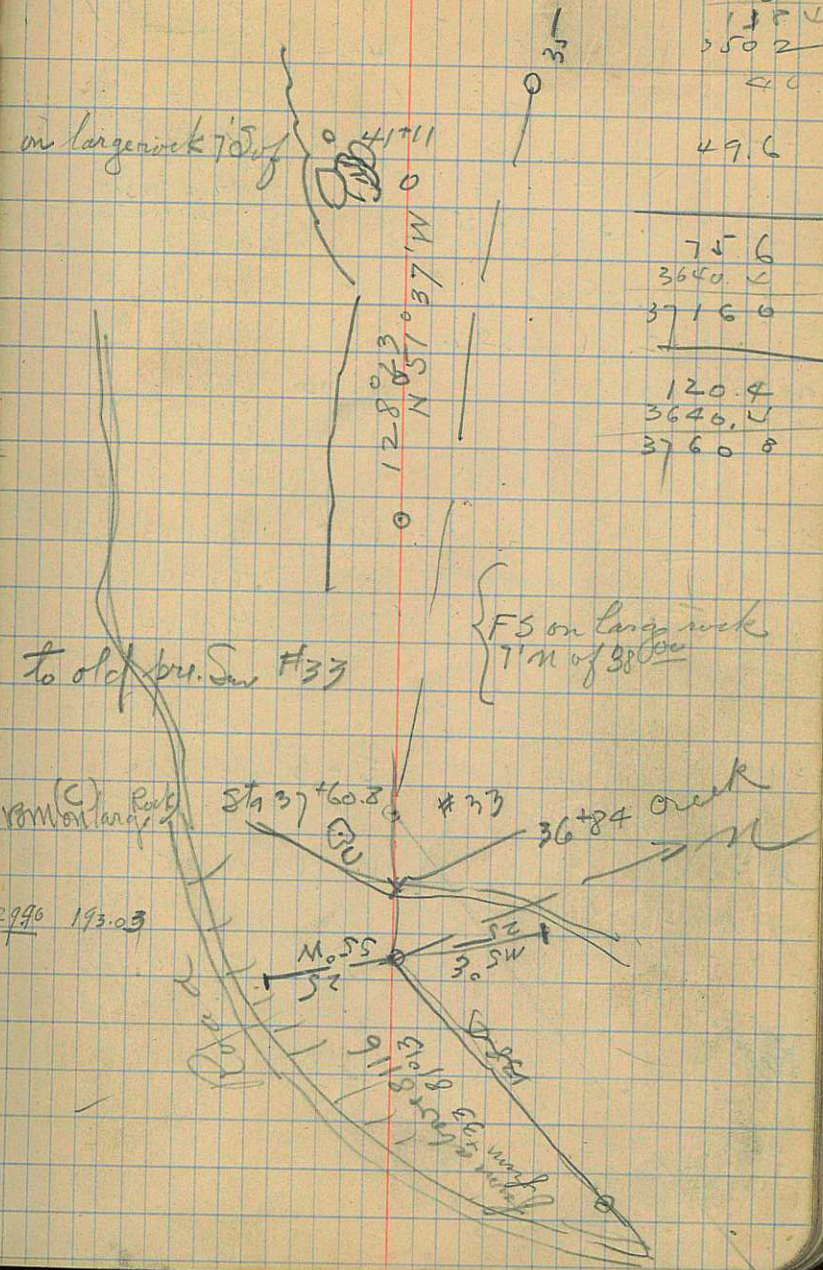
	BS	FS	m	Ele	HI
	77.68	197.17		61 / 50	
BM			8.03	5617.23	
41+11			9.10	5616.16	
	9.60	0.360		5615.66	5625.26
40+00	11.90	1.760			
			9.60	5596.28	
	12.26	1.900		5593.62	5605.88
39+00			5.70	5589.82	
38+00			13.80	5581.72	
	12.85	0.12		5582.67	5595.52
37+60.8					
37+16			5.40	5577.39	
			7.28	5575.51	
36+90.2			10.90	5571.89	
			12.1 Creek	5570.69	
49.6	1.67	13.16		5581.12	5582.79
36+40.4			12.10	5582.18	
138.4					
35+02					
	0.45	12.08		5593.83	5594.28

50
68.4
118.4
350.2
40.0

49.6

75.6
3640.4
3716.0

120.4
3640.4
3760.8



29.90 193.03

152.29 218.79

52+00	BS	FS	11.40 im	5666.85 Ele	HI
100	11.53	0.22		5666.72	5678.25
51+00			7.40	5659.5	
156	12.65	1.60		5654.29	5666.94
49+49	12.75	3.45	4.00	5643.14 5642.6	5655.89
	11.63	0.90		5634.96	5646.59
	12.91	0.92		5622.95	5635.86
48+47			11.00	5612.87	
48+27			14.30 11.50	5609.57 5612.37	
65	6.71	12.88		5617.16	5623.87
47+62			8.11	5621.93	
67			4.11	5625.93	
46+95			3.20	5626.84	
95	6.93	1.65		5623.61	5630.04
46+00			5.00	5620.26	
100					
45+00			10.70	5614.56	
144					
43+56			6.2	5619.06	
124					
42+32			4.40	5620.86	
121					
41+11					

-44-

7815
8126
1594.1
3761
5355

4762
182
4944

on top stake Sta 49+44

bottom wash



could be piped under wash

on BM white flat rock bd Sta 46+95 + 4762



by cedar

36.40.4
10.55
4695.4
535.5
52+31 9

170.59 222.07

	BS	FS			
54+90			5.90	5686.87	
40					
54+50			5.60	5687.17	
54+00			6.40	5686.37	
50	5.92	1.840		5686.85	5692.77
53+50			6.00	5682.69	
53+00			11.00	5677.69	
69.3	12.38	1.940		5676.31	5688.69
52+30.7			8.70	5669.55	5678.25
53+61					
61					
53+00					
100					
52+00					

N36°4 W

-46-

.036
700
2.520

200
693
130.7
5361
130.3
52+30.7
100
30.7
69.3

PT

6°-34'

1 30
5°-4'

1 30
3° 34'

1 30
2° 4'

36°00

possible to curve spiral pipe on this curve

PC 6° R

N51°37W

curve within 8" of old stake

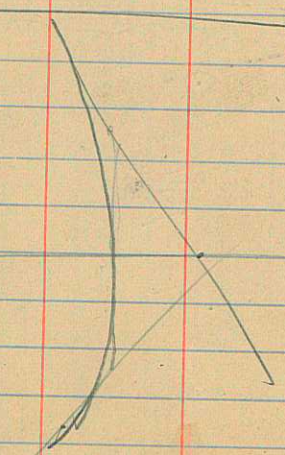
P.I

N51°37W

$$\frac{180}{100} = \frac{x}{69}$$

180
69
1620
1080
124.20 $\frac{60}{2}$

Computation for curve
at P.I. 84+69.8
I = 16°04'
Log sin 4° 1.698970
$\bar{1}$.843585
2.855385
log 802' $\bar{1}$.149632
2.005017 101.1



48 · 200
31.2
168.8

Curve computation
for P.I. 53+61

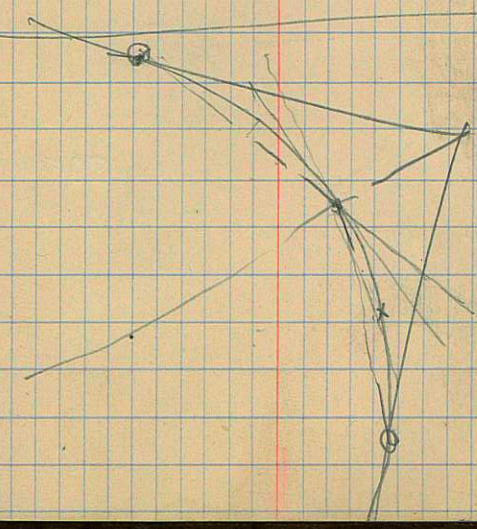
5137
3604 2 93
2 1533 46
746

$$T = \left(\frac{50}{\sin D}\right) \tan \tfrac{1}{2} I$$

$$\sin D = \frac{50 \tan \frac{1}{2} I}{T}$$

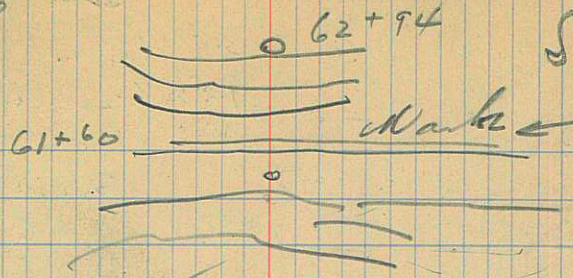
.1364
50
.06.8200

log 50 = 1.698970
log sin 3° = $\bar{2}$.718800
2.980170
log 7°46 $\bar{1}$.134784
2.114954 130.3



	BS	FS		Ele	H.I.
61+62	189.39	285.68	13.00	5635.00	
61+70			9.90	5638.1	
61+48			9.70	5638.3	
61+56			12.10	5635.90	
75	7.92	13.00		5640.04	5647.96
	2.17	12.36		5650.87	5653.04
60+81			9.70	5653.5	
66	5.05	12.92		5658.18	5663.23
60+15			8.60	5662.50	
	2.40	13.06		5668.70	5671.10
			2.54	5679.22	
72					
59+43			10.30	5671.46	
126					
58+17			7.00	5674.76	
56					
57+61			11.60	5670.16	
161	1.26	12.27		5680.50	5681.76
56+00			10.00	5682.77	
5					
110					
54+90					

Note



50

maudpa ✓ to 60+81

Bm on point of large rock 30' N of line near 59+43

maudpa
from 5490
728.5
62+18.5
to 62+94 sch
62185
75.5 error

PT

68+78	220.20	348.75	15.00	Ele 5600.70	Ht I
BM			3.50	5612.20	
68+70	BS	FS	9.56	5606.14	
27	5.33	10.69		5610.37	5615.70
68+43			6.60	5614.46	
43	0.37	12.90		5620.69	5621.06
68+00			12.30	5621.29	
	4.34	12.53		5629.25	5633.59
141	1.03	12.52		5640.75	5641.78
66+59			10.40	5642.87	
112	0.76	12.17		5652.51	5653.27
65+47			6.20	5658.48	
40					
65+07			3.90	5660.78	
161					
63+46			6.60	5658.08	
52	7.16	1.28		5657.52	5664.68
62+94			5.70	5653.10	
138					
61+56	11.82	0.98		5646.98	5658.80
BM			6.49	5641.47	5647.96

{ on Large rock 16 N of line near 68+70

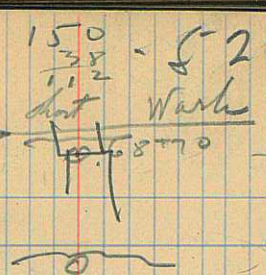
← 68+78 →

150
38
112
short

52

Wash

68+70



1044.6
1852.9
2897.5
5361
8258.5

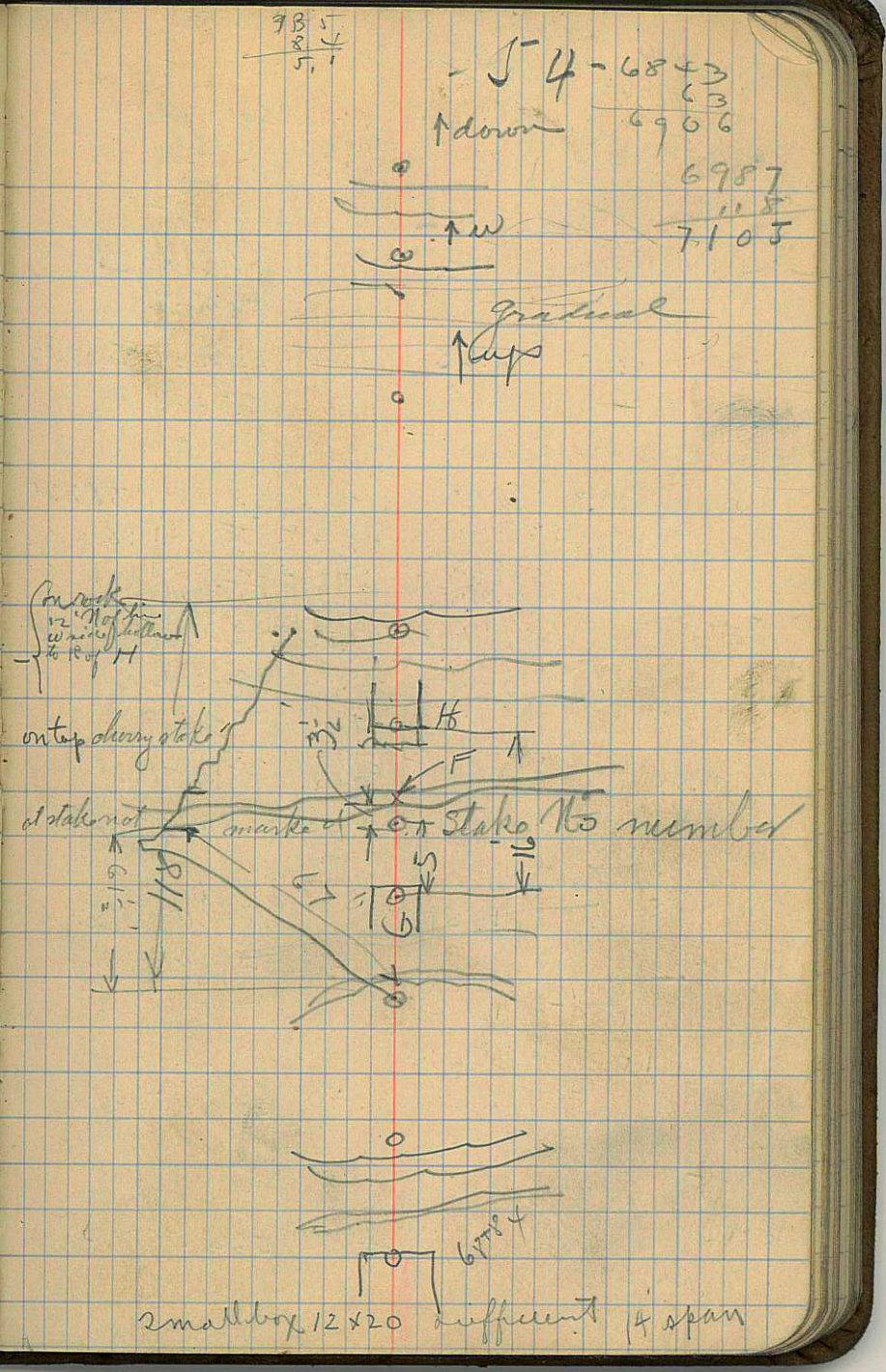
{ old #50 65+60
fill .4 N

should be sta. 61+99 or deduct 95' from each hereafter

{ on large rock about 14 N of line near sta 61+70

Maughan
This 138 should have been added to sta 60+81 and not 61+56

	297.18	38968			
75+10	BS	FS	4.00	5647.75	
60					
74+50			6.25	5645.56	
	6.45	1.01		5645.30	5651.75
	13.10	1.32		5633.21	5646.31
187	12.50	0.26		5622.03	5634.53
72+63			1.00	5621.29	
	12.66	1.05		5609.63	5622.29
158			8.10 at 71+85	5602.58	56
	10.80	0.94		5599.88	5610.68
71+05					
H	12.590	1.71		5588.23	5600.82
			8.80	5581.14	
G			8.01	5581.93	
F			13.5	5576.44	
			11.7	5578.22	
118					
	3.12	12.21		5586.82	5598.14
	0.56	10.87		5598.47	5599.03
69+87			5.20	5604.14	
81	5.20	11.56		5604.14	5609.34
69+06			4.15	5611.55	
68+84			9.1	5606.60	



	BS	FS	Int	Ele	HI
81+080	365.26	484.24	9.10	5616.17	
79.4			1.96	5623.31	
80+28.6	BS	FS	at 80+28.6 12.70	5612.57	
	9.32	0.56		5615.95	5625.27
71	11.47	2.12		5605.04	5616.51
79+57.6			7.6	5599.56	
	12.80	0.65		5594.36	5607.16
	11.12	3.18		5583.89	5595.01
57 h		at 79+00.6	9.20	5577.87	
79+00.6	3.18	0.24		5583.89	5587.07
	12.72	1.40		5571.41	5584.13
		at 78+55	10.8	5562.01	
		in wash 78+50	11.4	5561.41	
78+55.0		on gr by 78+17.2	7.80	5565.01	
57.8		BM on stake	0.79	5572.02	
78+17.2		at 77.983	9.40	5563.41	
		at 77+93.3	11	5561.81	
		77+87	14.50 bot wash	5558.31	
77+93.3			6.23	5566.58	
	2.02	12.91		5570.79	5572.81
	1.96	11.74			
	0.29	12.21			
1005-25°	1.26	12.59		5604.14	5605.14
77+02.7			10.00	5606.73	
1515.12°	0.070	12.50			5616.73
	0.845	12.44			
1+47.7	1.03	12.02		5639.73	5640.76
75+55			7.40	5644.35	
45					
75+10			4.00	5647.75	

-56-

25
32
57

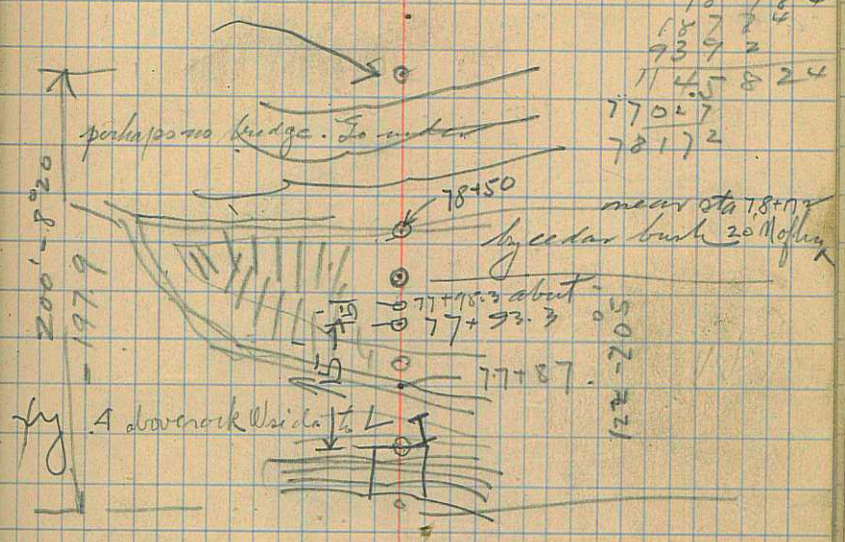
9781
151
9781
48905
9781
147693

{1.96 on BM S. on a big cedar stump between st 80+28 and 81+08

FS on rock fy

7702.7
90.6
77933

9392
122
18784
18774
9392
1145824
77027
78172



	BS 372.15	FS 532.95		Ele	H.I.
85+69.7			7.2	5576.29	
	0.88	12.95		5582.61	5583.49
85+00			5.00	5590.56	
84+50	2.10	11.47	8.20	5593.46 5596.73	5595.56
84+000			6.70	5598.23	
31.2 83+68.8			9.00	5595.93	
84+69.8			12.00	5592.93	
48.8					
149 82+72 83+72			6.00	5598.93	
	2.95	12.20		5601.98	5604.93
	0.96	12.05		5613.22	5614.18
164 81+08			9.10	5616.17	

should not be shortened

6°8

8469.8
101
83688

58

8315
5302
3013

~~8469~~

8470
5361
3109
3013
96

P.T.

19 16
2 48
8 28
~~8°21~~

set 43°56

P.I.

3°14' set 6°28

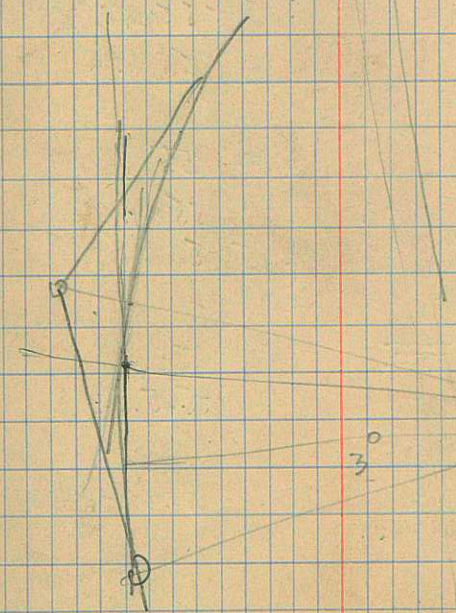
set up. set 7°18

1°14

P.C. 8° R

PI

same as old #71



$\frac{240}{100} = \frac{5}{31}$

480
31
480
1440
198.80
320
31
320
96
9920
-60

	380.29	616.45				
	BS	FS				
92+63	0.65	10.70	8.50	5507.44 5509.64	5508.09	
61	0.87	11.27		5517.27	5518.15	on top sta 92+02
92+02			11.80	5516.74		
109						
90+93			9.1	5519.44		
	0.45	12.84		5528.09	5528.54	
	0.65	13.02		5540.28	5540.93	
108						
89+85			11.1	5542.2		
81	2.32	13.06		5550.98	5553.30	
89+04			11.70	5552.34		same at #72
			2.44	5561.60		BM on cross on sandstone ledge ~~50~~ at about Sta 88+50 and 20' N of line
105	2.28	10.47		5561.76	5564.04	
87+99			9.75	5562.48		
141		~~9.75~~				
86+580			6.70	5565.53		
18.3	0.92	12.18		5571.31	5572.23	
85+69.7						

50 ↑ 0 ↓ 0 mine

0

PT.

	394.46 BS	739.41 FS	HI		
	3.46	11.85		5395.84	5399.30
98+69			4.50	5403.19	
84					
	1.52	12.67		5406.17	5407.69
	0.17	12.60	mtop stake	5418.67	5418.84
97+85			13.60	5417.67	
113	1.34	12.30		5429.93	5431.27
96+72			11.50	5430.73	
140	1.90	12.61		5440.93	5442.23
95+32			5.20	5447.74	
	1.66	12.20		5451.28	5452.94
105	1.73	11.86		5461.75	5463.48
94+27			5.80	5467.8	
	0.50	12.37		5473.11	5473.61
	1.89	12.38		5483.59	5485.48
100	0.00	12.12		5495.97	5495.97
93+27			12.7	5495.37	
64					
92+63					
					5508.09

o

o 98+66 to 99+75

o

	448.01	817.65			
	BS	FS			
102+40.1			12.56	Sta ⊙ of press. line	
			10.60	n ℄ Res	
			6.50	S ℄ of Res	
			3.92	on BM on post	
			4.80	old 178 5369.81	
71	1.23	12.65		5373.38	5374.61
101+69.1			8.4	5377.63	
69					
101+00.1			6.00	5380.03	
34½	11.26	2.05		5374.77	5386.03
100+66.1			7.6	5369.22	
		~~2.05~~			
	12.80	1.75		5364.02	5376.82
	10.02	0.61		5355.75	5365.77
100+02.6			2.60	5353.76	
			~~2.6~~		
19.5			10.9	5345.46	
99+83.1		on large rock E of 99+52	6.60	5349.76	
99+52	8.19	11.52	11.52	5348.17 / 5348.17	5356.36
	2.09	12.04		5357.60	5359.69
	2.85	12.92			
	0.16	12.48			
114.1	4.95	12.22			
98+69					
					5399.30

Surv.

continued

west of line

+63.6 to #78

+60 to fence E+W

.98.5½

197.08

9869

100+66.1

64

.8914

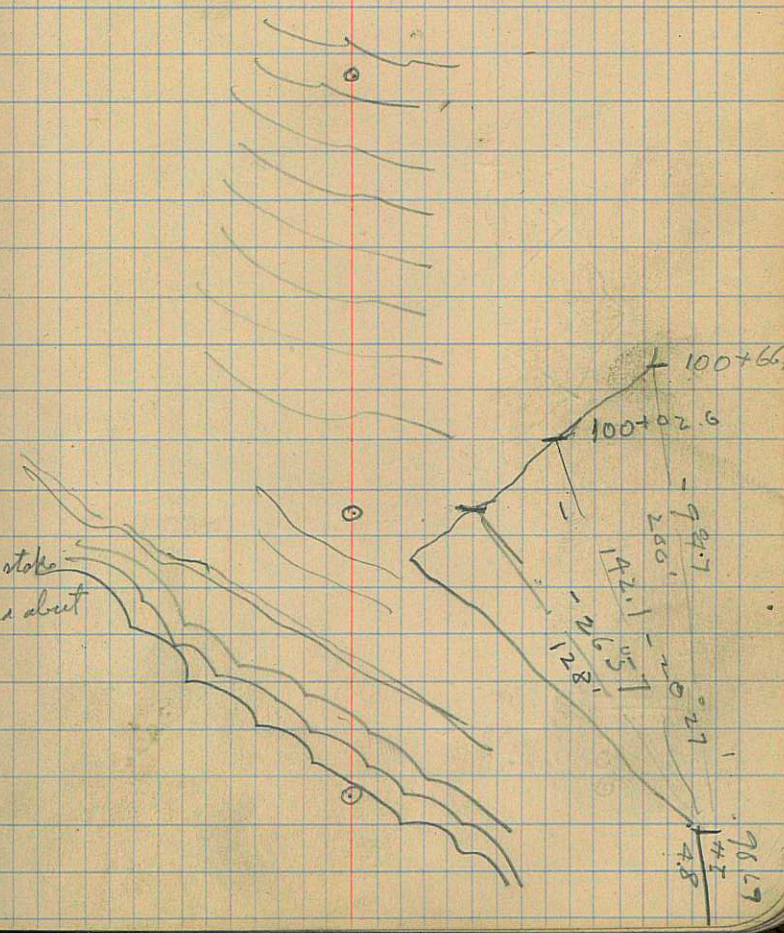
128

71312

17828

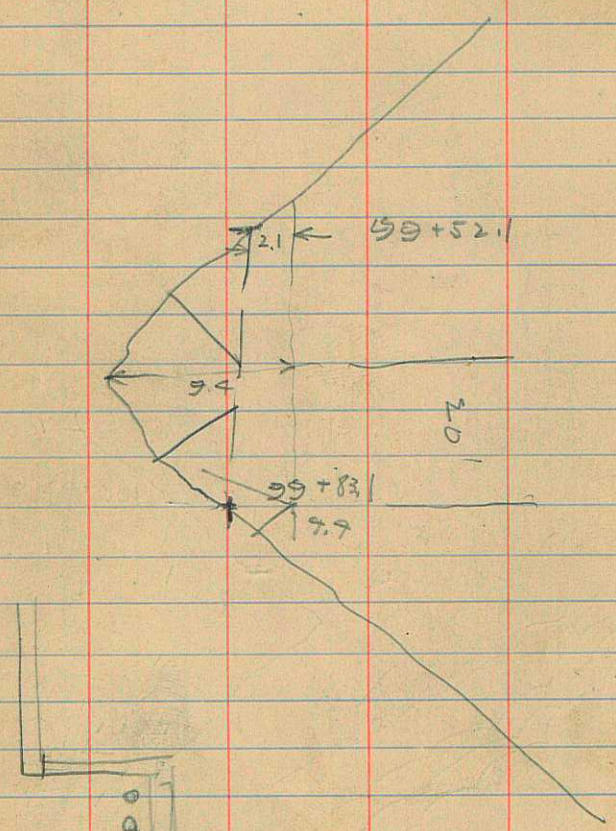
8914

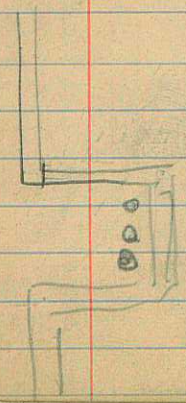
114.0992

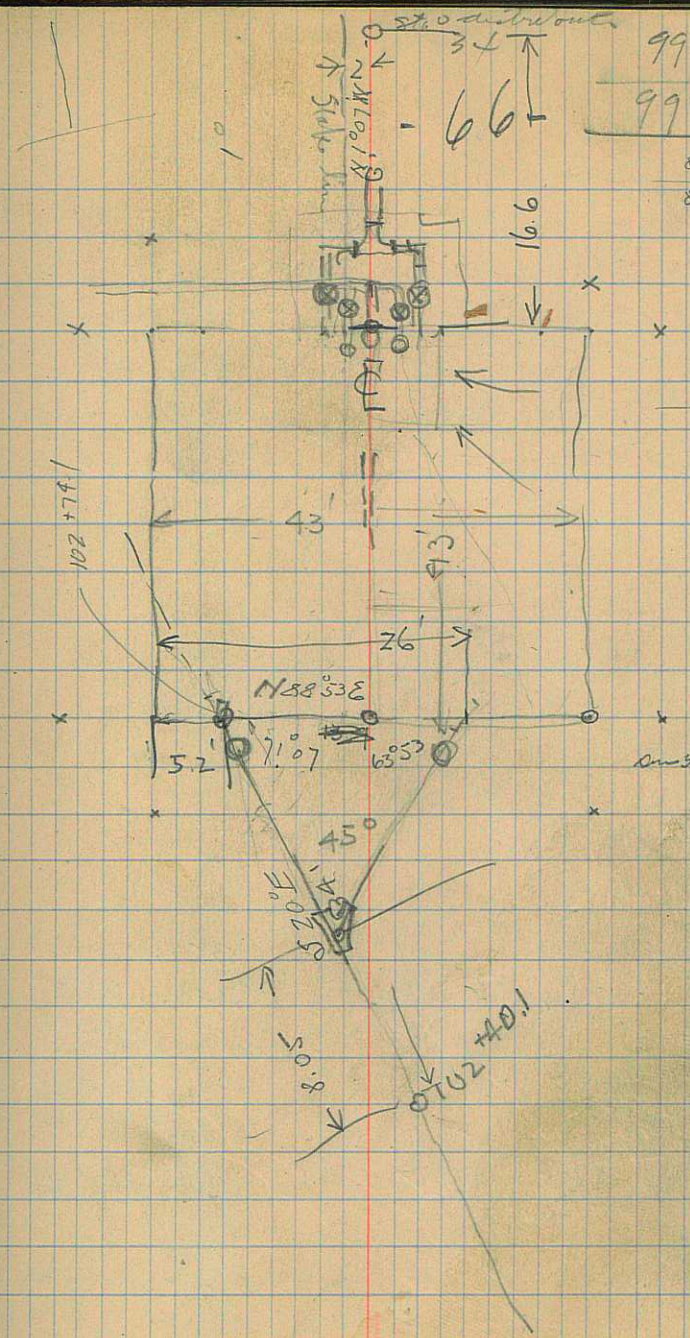


$\sin \frac{63°53}{14} = \frac{\sin 45}{x}$

1.146128
$\bar{1}$.849485
1.095613
$\bar{1}$.953228
1.142385 13.9







99831
31
99+521

8760
107
8853

17960
8853
9107
20
7107

45
7107
11607

17960
11607
6353
7107
45
18000

5360.63 / 2 — 16.6 — 5371.88 — 5371.88 / 250 / ~~5374.38~~

-68-

	BS	FS	m	Ele	HI	
			0.59	5371.88		SE cor Res on ground
			7.88	5364.59		SW cor " "
			11.84	5360.63		NW cor " " —
			4.65	5367.82		NE cor.
BM		1.780		5370.69	5372.47	on step cut in post S of Reservoir,
Sta						
			3.60	5353.28		pressure line Sta 1
		—	7.90	5348.98		by old 79
	3.58	11.33		5353.30	5356.88	on rock E of old
	1.94	11.92		5362.69	5364.63	on top stak ~~Sta~~ sta. 0 for press sen
			3.92	5370.69	5374.61	on post BM near Res.
	1.23				"	Same HI is X

Campbell

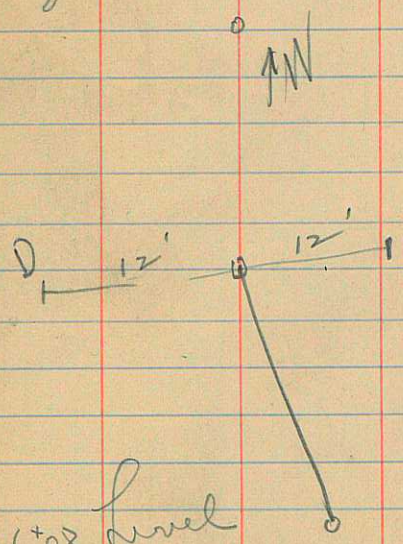
Bridge levels Sta 24+14

Blind Hollow

Sta	BS	FS	in	Ele	H.I
	4.53			55.20	59.73
24+14			3.20	56.53	
24+14					
24+38			4.8	~~4.8~~ 54.93 ~~4.8~~	

Reference point.

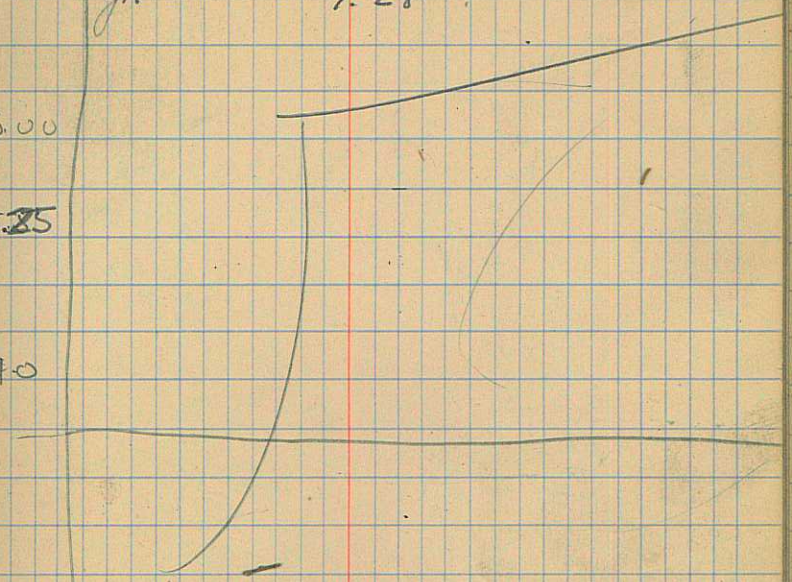
for P.I. 26+58



26+08	Level	6.80
PI 26+58		4.70
D	Top stake	1.24

70 - 59.73 / 9.2 / 50.55 55. 54.50

Ele gr.	Cut to gr.	56.53 / 55.25 / 1.28	59.73 / 4.8 / 54.93
55.00			
55.25			
54.0			

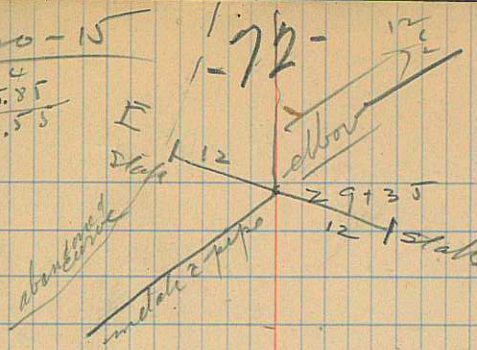


Referencing P.I. 29+35

	BS	FS	in Ele	H±
		Levels		
on Tang. 28+85		0.60		
E		2.52		
PI 29+35		7.56	/	
BM on large rock	3.53		5575.51	5579.04
36+95		6.0	5573.04	
Creek		8.4	5570.64	
36+75		5.7	5573.34	

8-30-15

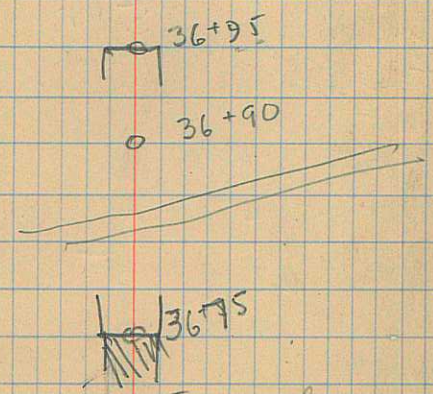
8.4
5.85
2.55



72.5
34+22
34+94.5

on ground by P.I.

note from 34+22 I meas with rod 72.5' to N side road



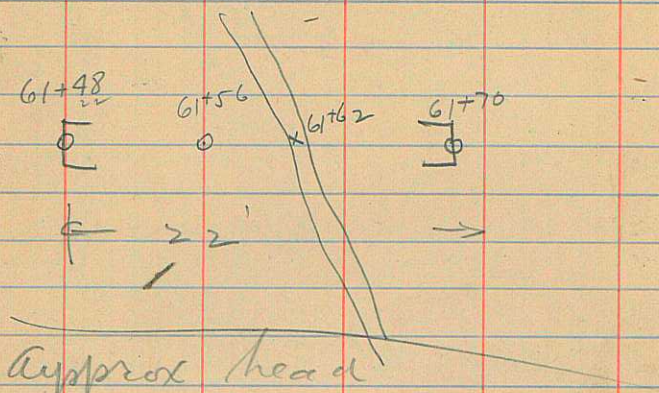
~~top abut~~

top abut.

note have 36+95 so elevated as to top abut read 4.75

2 a o
1 4
1 8 1
4

Crossing at 61+54
To



Approx head
on V over aug 30
19.5
0.23

from P.I. 25+37
to station in Road
581
697 - 25+37 to PI
29+35

Check ~~xx~~ meas.
from sta 1 of pressure line

199
74
125

vert. L from 16+30.5 to old 79+8°49'

from Sta 1 to 16+30.5 1525 feet

10+81 to from 2+W Detch = Sta 11+81

9+67 = Sta 10+67

4+77 = Sta 5+77

4+77 to Canal

9-4-15 Levels for the U.P. from Richmond Canal at Cross-roads to Cub River

BS	FS	Int	Ele	HI
2.12			200.00	
		5.800		
0.24	12.42			
0.36	12.64			
0.08	12.83			
0.00	11.11			
1.70	12.10			
		2.06		
0.35	11.43			
0.89	10.45			
0.76	13.02			
0.08	8.95			
0.11	12.47			
0.44	11.15			
0.68	12.40			
0.68	13.00			
0.23	8.42		46.10	46.33
8.72	162.39	4.12		
	162.89	[illegible]		
		6.78	39.55	

-80- 46.33 / 6.78 / 39.55

on probable H_2O surface
on nail in telephone pole first one below Canal and on N side str.

on rail of O.L.R.R.
on State Highway at Cross-roads top center of west end wall of culvert N side of road east + west

{on nail in Electric pole angle just above Mill
nail is 1.2 above ground
on H_2O head race of flowing Mill

Levels for V. P Con

BS	FS	im		
8.72	162.39		~~35.58~~	46.33
1.89	10.75		35.58	37.47
	12.30	12.30	25.11	
10.61	185.44			
	-10.61			
	~~164.73~~			
	17.483			

~~Corrected~~ Copy sent to Trark 11-24-15

8.72
23
8.49

162.39
8.49
153.90
46.10
23

46.33
10.75
35.58
1.89
37.47
12.30
25.17

6.78
1.89
8.67

10.75
12.30
23.05
8.67
14.38

8.72
23
8.49

39.55
25.17
14.38

on tail b/20 of Mill

9-6-15 Work at Stat Dam

11233
10014
12.19

110.06
9.92
0.14

	BS	FS	im	Ele	HI
	10.06			100.00	110.06
			9.92		
			3.00		
			10.10		
a		5.00		105.06	

on H_2O

on gage #4

Π - Pt	az. S.	L	C	Stating U	BS	FS	im	Ele	HI	Dist
9₀	309 38	2	4	"	4.01			105.06	109.07	L
8₄	316°54	2	4.34				1.92			gage
7₀	316°54	2	4.15							
6₄	327°38	2	4.4							
5₀	328°	2	4.3						Dst.	
	350°42'									to ℄ 2nd beam W
4₄	334°47	2	465						5.30	
3₀	336°12	2	4.59						5.18	
2₄	336°34	1	3.85						5.7	
1₀	337°34	2	4.85						5.7	
3rd end wall	336°30	0		5.7					5.32	
end wall	1916		7.00	9.66					5.30	
3₄	359°10'	2.4	5						5.15	0°
2₀	358°47	2		7.15					5.2	
1₀	357°36	2		7.2						
							1.92			gage
A -					4.01			105.06	109.17	

Stadia

T - Pt	∠	S	L	C	J	BS	FS	cm	Ele	HI
										10.54
31		2°25	2		4.76					2.76
30		1°15	6		8.75					2.75
29		00°38'	2		5.24					3.14
28		359°55'	6		9.30					3.30
27		1°06'	2		5.58					3.58
26		23'	6		9.6					3.6
25		00°27'	2		6.05					4.05
24		359°42'	6		10.05					4.05
23		00°41'	2	4.32						4.64
22		00°03'	6		10.64					4.64
21		281°42'	2	5.23						6.76
20		280°34'	2	5.19						6.38
19		282°40'	2	4.97						5.97
18		281°45'	2	4.95						5.90
17		283°47'	2	4.69						5.38
17		283°47'	2	4.60						5.20
16		286°36'	2	4.48						4.86
15		286°36'	2	4.9						4.8
14		292°20'	2	4.35						4.7
13		292°20'	2	4.25						4.5
12		301°17'	2	4.37						4.74
11		301°17'	2	4.18						4.36
10		309°38'	2	4.36						4.72

Stadia

Pt	Az. S	L	C	D	BS	FS	cm
55	268°00'	1	5.5			9	
54	269°14	1	5.5			9	
53	267°28	1	5.0			8	
52	268°34	1		9.1			
51	269°49	1		7.92			
50	265°44'	1		7.90			
49	260°00'	1		7.38			
48	262°30	2		8.1			
47	252°49'	2		7.29			
46	255°09	5		10.2			
45	250°35	2		5.9			
44	253	5		8.87			
43	244°35'	2		5.95			
42	248°	4		7.36			
41	241°35'	2		4.32			
40	243°37	6		8.3			
39	233°30'	5		5.1			
38	257°30	9		9.12			
37	23°15	5		5.95			
36	14°45	5		5.95			
35	13°12'	2		3.75			
34	11°30	2		3.75			
33	6°56'	2		4.33			
32	5°44'	2		4.32			

Static

Ā - Pl	∠S	L	C	U	BS	FS	Ele
77_4	0°06'	2		4.58			
76_0	0°13'	2		4.58			
75_4	2°35'	2		4.52			
74_0	2°35'	2		4.48			
73_4	9°50'	2		4.50			
72_0	9°50'	2		4.45			
71_4	13°50'	2		4.35			
70_0	13°50'	2		4.35			
69_4	21°00'	2		4.57			
68_0	21°00'	2		4.50			
67_4	28°13'	2		4.63			
66_0	27°55'	2		4.57			
65_4	36°06'	2		4.55			
64_0	36°32'	2		4.45			
63_0	39°42'	2		4.73			
62_4	47°30'	2		5.05			
61_0	47°16'	2		4.89			
60_4	57°34'	2		5.35			
59_0	58°08'	2		5.25			
58_4	65°09'	2		5.72			
57_0	66°50'	2		5.65			
56-					4.65	4.74	104.33
-56	268°42	2.885		13.0	13.0		
Ā							

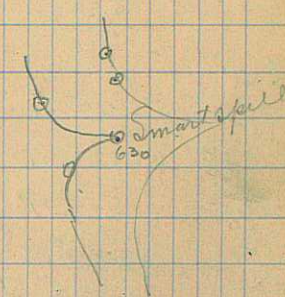
4.7

108.95

n 88°42' E

107.07
4.74
104.33

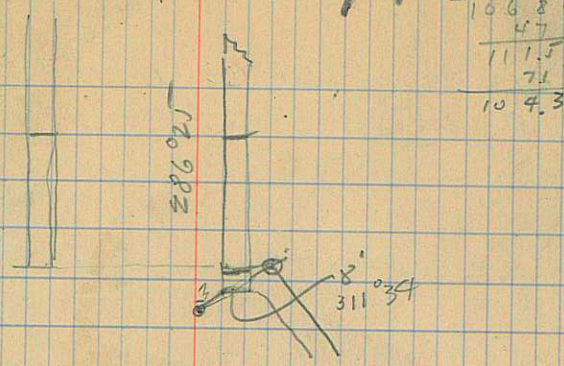
Ā	Pt L	Pt R
60	Bank	Bank 60
56		

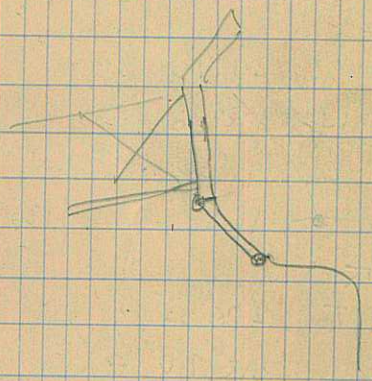


T. Pt.		L	C	U
101_4	277°48'	2		5.49
100_0	277°48'	2		5.41
99_4	284°21	2		5.40
98_0	284°21'	2		5.35
97_4	289°35'	2		5.40
96_0	289°35'	2		5.30
95_4	294°00'	2		5.38
94_0	294°00'	2		5.32
93_4	304°00'	2		5.25
92_0	304°00'	2		5.18
91_4	310°18'	1		4.15
90_0	310°18'	2		5.06
89_4	313°50'	2		5.17
88_0	313°50'	2		5.10
87_4	322°11'	2		5.15
86_0	322°11'	2		5.06
85_4	328°07	2		5.10
84_0	328°07'	2		5.05
83_4	335°22'	2		4.80
82_0	335°10'	2		4.70
81_4	344°35'	2		4.79
80_0	344°35	2		4.66
79_4	350°40'	2		4.60
78_0	350°40'	2		4.55

T	Pt		L	C	U	BS	FS	Ele	HI
	124_4	96°38'	5		6.17				
	123_4	74°14'	6		6.22				
	122_0	41°00'	12		12.18				
121-									
	-121	247°48'	4	5.74		4.70	2.15	106.80	111.50
	120_0	253°05'	3		6.10				
	119_0	262°14'	4		6.60				
	118_0	264°04'	4		6.30				
	117_0	260°55'	4		6.21				
	116_0	268°55'	4		6.13				
	115_0	238°25'	4		5.50				
	114_4	252°25'	5		5.79				
	113_4	71°50'	5		5.11				
	112_0	15°40'	6		6.43				
111		253°46'	2		5.90				
110		259°53'	2		5.90				
109_4		257°26'	2		6.40				
108_0		257°26'	2		6.12				
107_4		262°47'	2		6.00				
106_0		262°47'	2		5.90				
105_4		267°25'	2		5.85				
104_0		267°25'	2		5.66				
103_4		272°52'	2		5.66				
102_0		272°52'	2		5.60				

108.95
2.15
106.80
.47
111.50
7.17
104.33





112.33
106.14
12.19
12.33

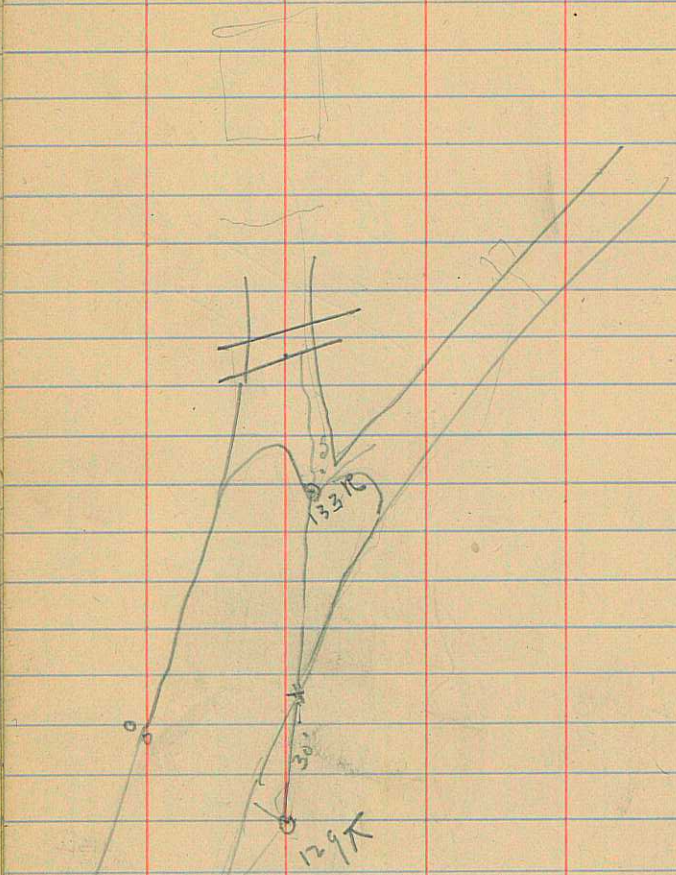
107.63
4.7
112.33

π	Pt.		L	C	U	BS	FS		
	133R	247°10'	3		6.63				
	132₄	178°30'	8		8.64				
	131₀	178°30	11		11.53				
130₀	~~130₀~~	165		12.30					
129π									
129	π	274°35	2		4.9	4.7	1.00	107.63	112.33
128₄		315°20	4		4.72				
128₀		315°20	5.00		5.60				
127-									
	-127	217°23'	2		5.17	4.30	7.17	104.33	108.63
	126₄	66°35'	4.		6.60				
	125₄	25°38'	4		6.00				

Dist | Vert L

12' 0°




133K
30°
129K

Levels from Crest of State Dam to tail water

	BS	FS	cm	Ele	HI
	11.47				
			4.41		
			3.55		
	1.21	12.24			
	1.10	11.01			
a			13.00		
			9.50		
b			14.05		
			15.30		

9-6-15

Rod Wm B Maughan

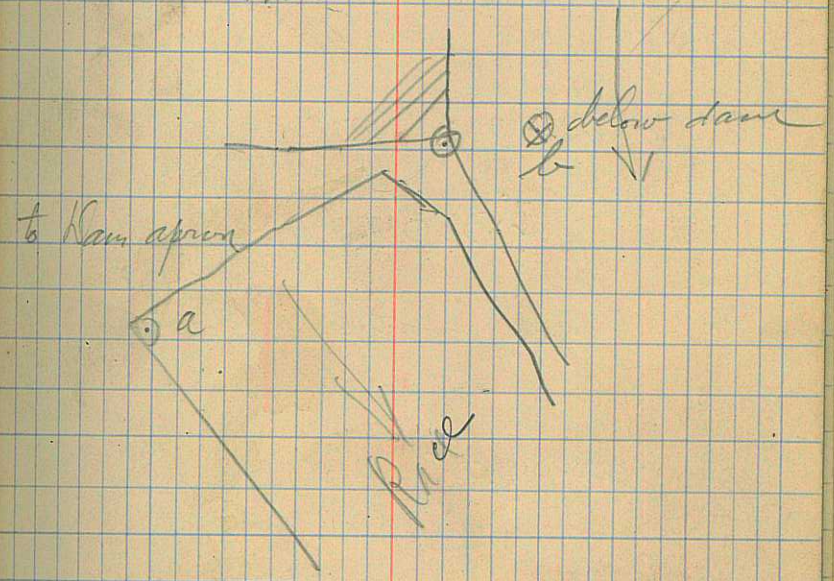
100

on mark gage #4

top of main wall of Dam

on second step down from Canyon Road

on Tail H2O



Levels at
Auto gage house
near head of L+N
Canal on L+N Canal
7-6-15 1:45 PM

6.42		100.00	106.42
5.495			
2.750		103.67	

7/31/18

6×38

2.68

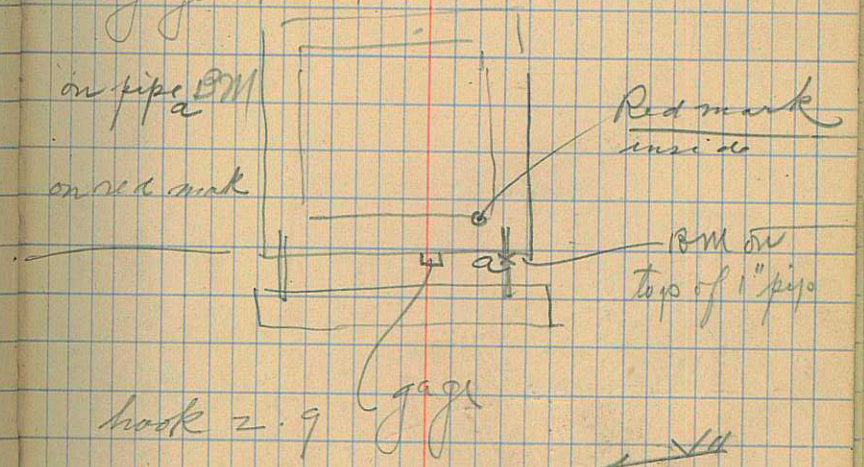
6.45

6.45
6.38
.07

106.42
2.75
103.67 .102.

6.42
2.75
3.67

on gage at 2.90

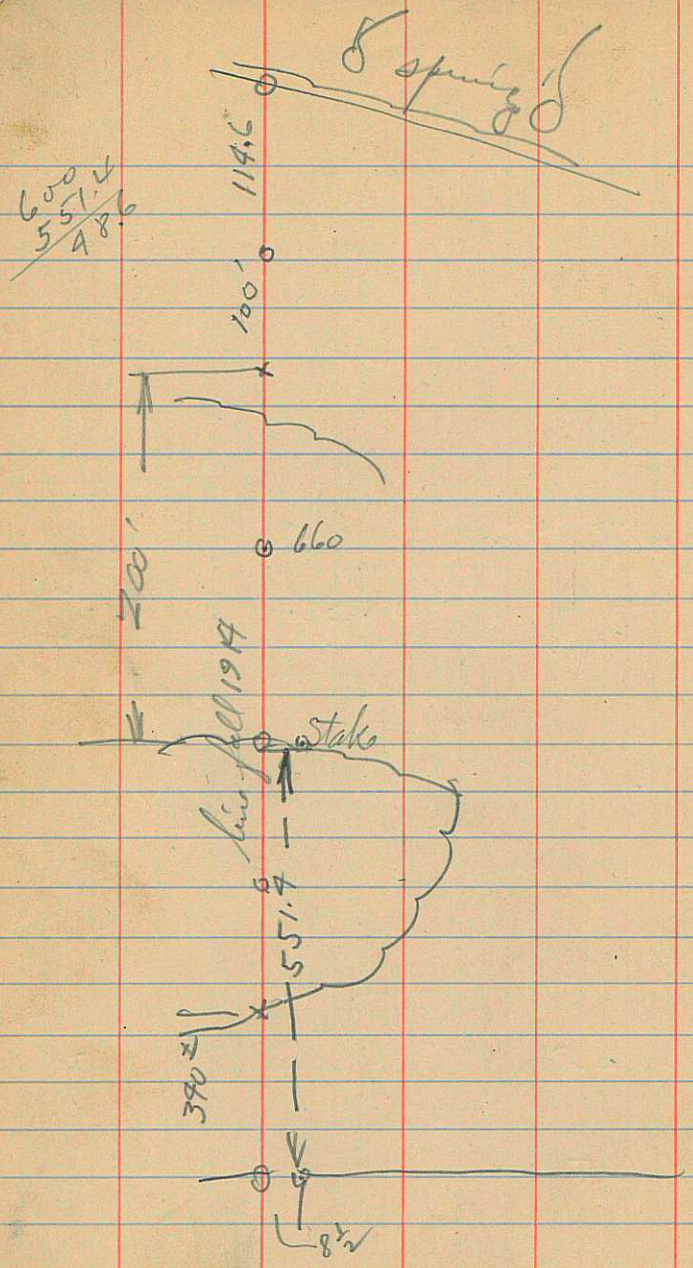


outside rod on 2.8

6.37
2.68
3.69

2.50

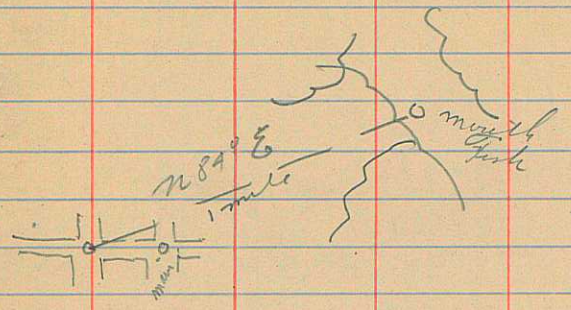
6.35


δ spring δ
114.6
600
551.4
48.6
100'
660
200'
line fall 1914
stake
551.4
390±
8½

Pipe Length on the Campbell supply line

Sta.	Hor.	Comp. Slope	Total Slope
21 row			
	190	190	190
22+90			190.00
	127	128.25	128.25
24+17			318.25
	28	28	28
24+40			346.25
	48	49	49
24+88			395.25
	170	170	170
26+58			565.25
		277	277
29+35			842.25
		686	686
36+20.4			1528.25
		1200	1200
48+17			2728.25
	107	112	112
49 24			2840.25

5" pipe


N 84° E
1 mile
mouth
mouth

Pre Survey
Geo + F. H Campbell
Stadia

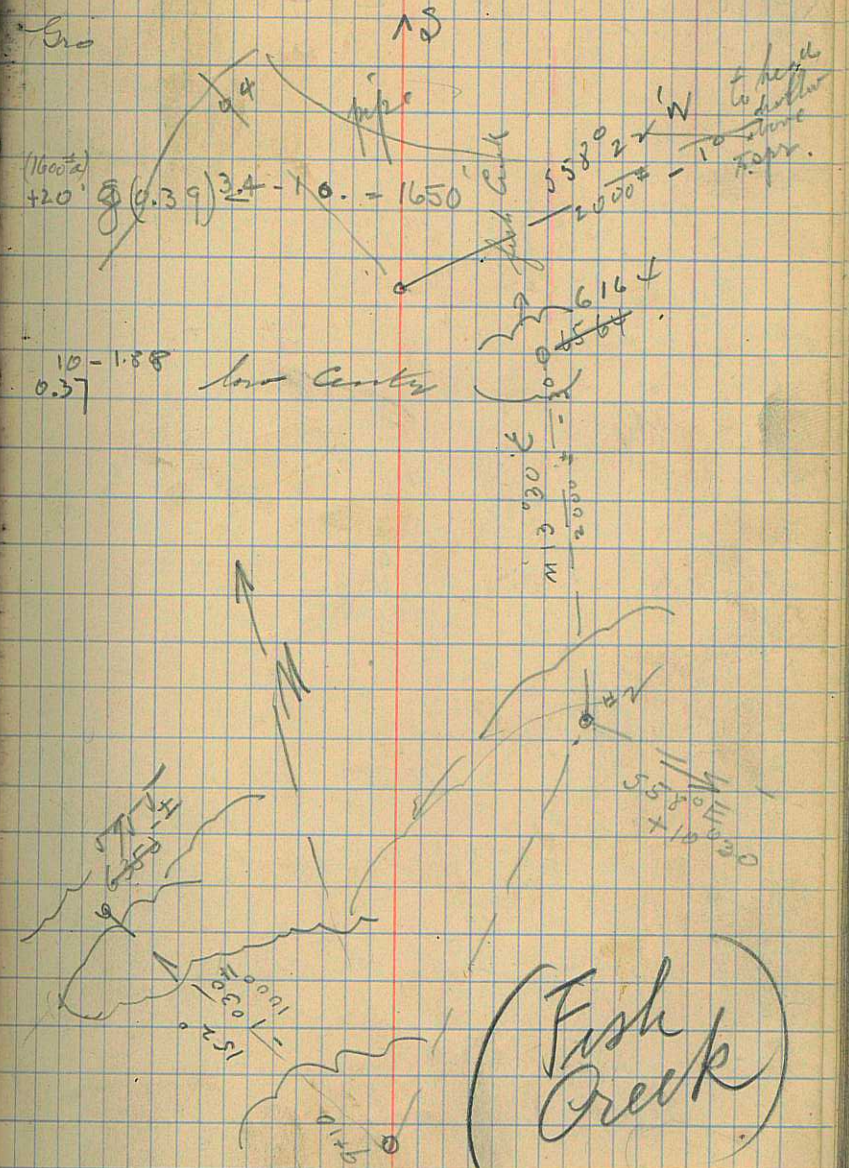
Π - Pt	az S	Vert	L ± C	V	Sett
.6	326°14	-22'	1.61	10.0	
5-					
5	308°				
4-					
-4	314°20	+55'	3.88	10.0	
3-					
3	259°30	+3°18			
2-					
.2	255°43	+5°	4.51	10	
1-					42°26
1 -1	222°26	+2°26	3.61	10.00	
9+10					

$D = \frac{212}{n}$ 50.

$D = \frac{200R}{2}$ $\frac{200R}{n}$

$100 = \frac{2r}{n}$

110'

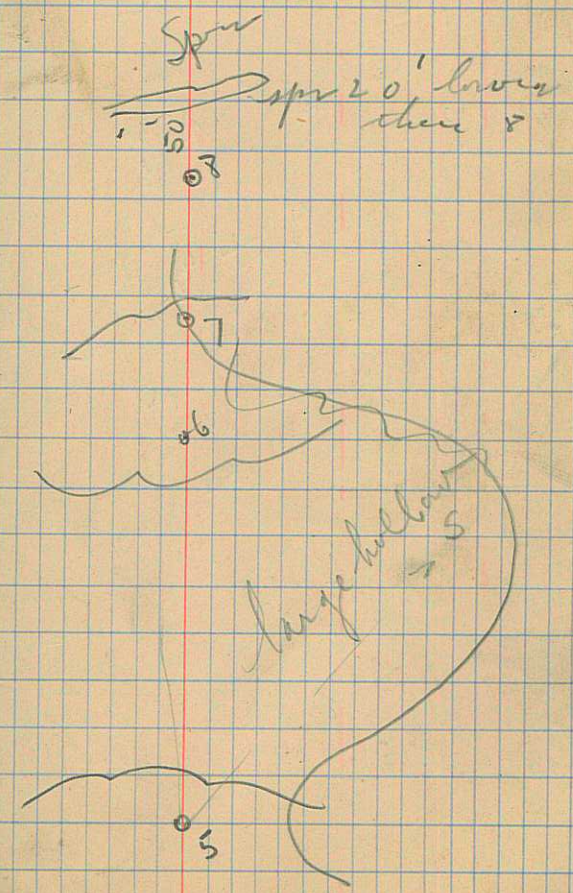


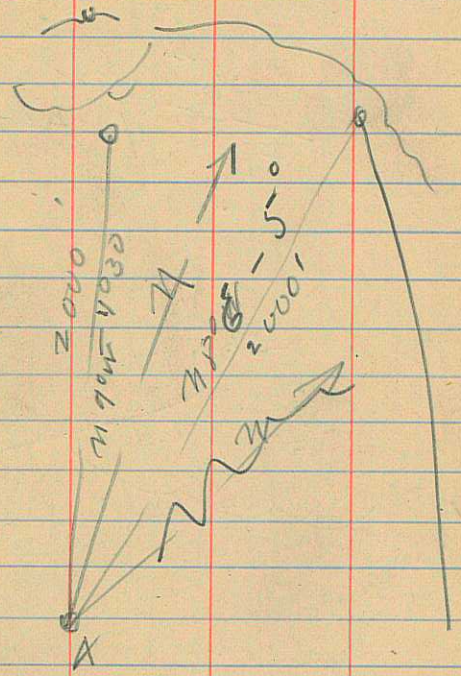
Π - Pt	Az	Vert	L	C	U
8	317°	-21°	6		8.1
7-					
-7	331°15	-2°20	7		8.5
6-					

4 ⌊13000
20
3000

4

1440
500
2 ⌊720,000
3600




2000
4030
2000'
A

9-15-15 Levels for Herb Hawks

	BS	FS	IM	Ele	H	Ele cap	Ele con
	8.51			100.00	108.51		
				120			
			5.03			On	wn crete
			2.1	106.41			
a						118.29	
						118.3½	

.75

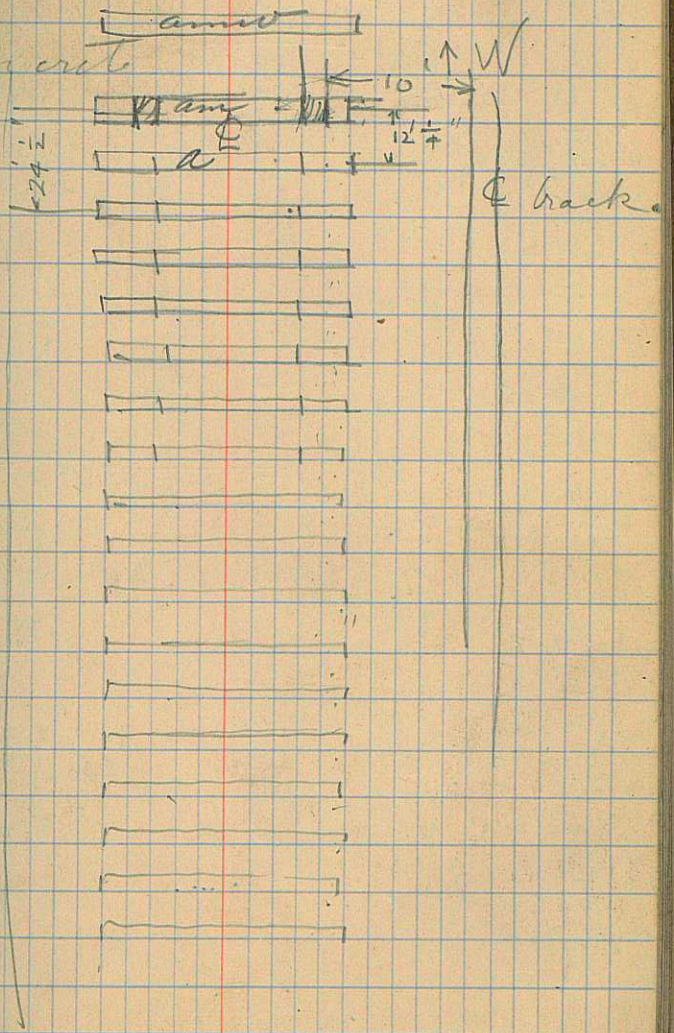
120
12.75
107.25
106.4
.85

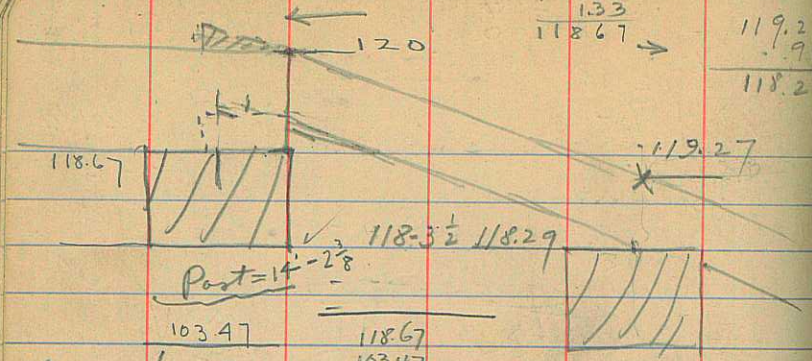
204 | 12
80 | 17
.75
85
119
12.75

-116-

108.51
2.1
106.41

24 1/4
24 1/2





120
1.33
118.67

119.27
.94
118.29

103.47

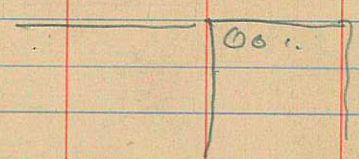
118.67
103.47
1520

12
.20
2.40

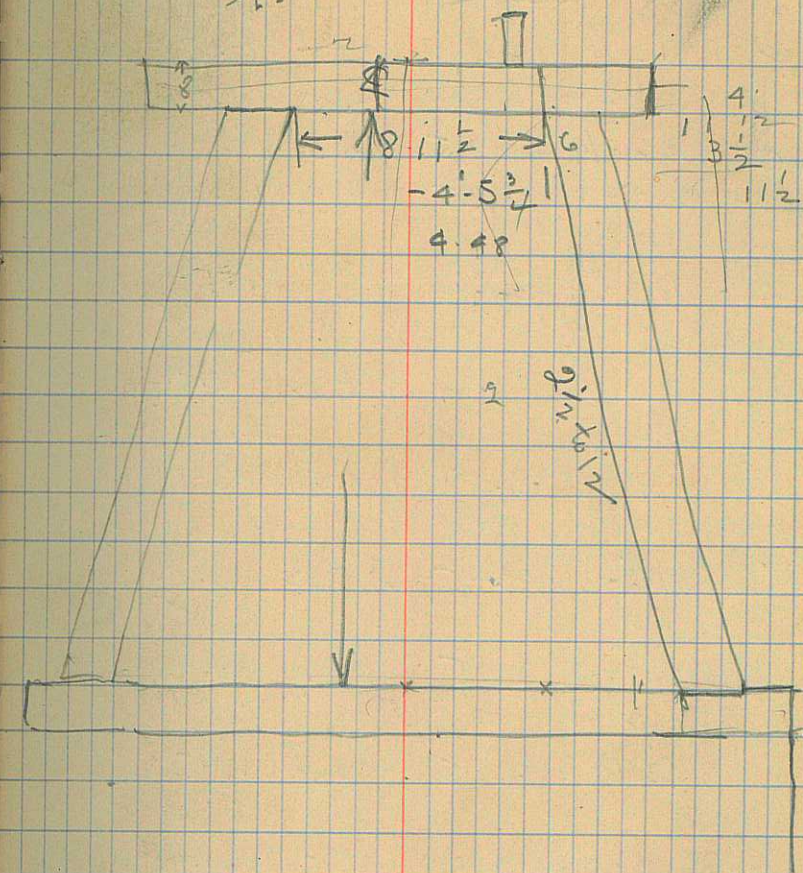
12
11 11 5/4
11 11 5/4
11 7
11 8 1/4
1 8.25 12/7

11.7 / x = 12.02 / .75

11.7
.75
585
819
8.775 / 12.02
8414 / .73
3610



.67
2
.34



a main		4.81 ℄ top stake	10347	top Calc	equal
		RR	℄ Ele	Ele	
a	12 1/4	4.39	103.89	118.29 75	=118'-3 1/2"
b	24 1/2	4.20	104.08	117.54 75	117-6 1/2"
c	36 3/4	3.95	104.33	116.79 75	116-9 1/2"
d	48'-1 12	3.75	104.53	116.04 75	116-1/2"
e	60-1 1/4 12 1/4	3.64	104.64	115-29 75	115-3 1/2"
f	72-1 1/2 12 1/4	3.16	105.12	114.54 75	114-6 1/2"
g	84'-1 3/4" 12 1/4	2.71	105.57	113-79 75	113-9 1/2"
h	96'-2" 12	2.45	105.83	113.04 75	113-1/2"
i	108-2 1/4 12 1/4	2.15	106.13	112.29 75	112-3 1/2"
j	120-2 1/2 12 1/4	1.95	106.33	111-54 75	111-6 1/2"
k	132-2 3/4 12 1/4	1.78	106.50	110.79 75	110.9 1/2"
l	144-3" 12	1.39	106.89	110.04 75	110-1/2"
m	156-3 1/4 12 1/4	1.22	107.06	109.29 75	109-7 1/2"
n	168-3 1/2	1.23	107.05	108.54	108-6 1/2"

HI = 108.28 - Rod = 8.28

Dist top Cap	Plot Dist. bt Cap	Hi st	=	
9.44	13.43	7.32	7-3 1/2"	✓
13.46	12.45	7.10	7-1 1/4"	✓
	12-5 1/2"			
12.46	11.46	6.89	6-10 5/8"	✓
	11-5 1/2"			
11.51	10.51	6.68	6-8 1/4"	
	10-6 1/8"			
10.65	9.65 7-7 7/8	6.50	6-6"	✓
9.42	8.42 8'-5"	6.25	6-3	✓
8.22	7.22 7-2 5/8	5.99	5'-11 7/8"	✓
7.21	6.21 6-2 1/2	5.78	5-9 3/8"	✓
6.16	5.16 5'-2"	5.56	5-6 3/4"	✓
5.21	4.21 4-2 1/2	5.36	5-4 3/4"	✓
4.29	3.29 3-3 1/2	5.17	5-2 1/8"	✓
3.15	2.15 2'-1 7/8	4.93	4-11 1/4"	✓
2.23	1.23 1-2 3/4	4.73	4-8 3/8"	✓
1.49	.49 6"	4.56	4-6 3/4"	

108.28 - 4.81 - 103.47 = 120

2 2/12 = 2 1/6

2 2/4 = 2 1/2

Bent.	Dist E	on top ℄ stk RR	on top ℄ stk Ele	top cap	equiv	Dist top cap to con	Dist bot cap top cap	Dist out from ℄
n	168-3½ 12 ¼	1.23	107.05	108.54 75	108-6½			
o	180-3¾ 12 ¼	1.31	106.97	107.79 75	107-9½	.82		
p	192'-4" 11-8½	1.27	107.01	107.04 73	107½	.03		
q	203-12½	1.06	107.22	106.31	106-3¾			

75
16
450
75
1200

31
12
62
31

118.29
12

118.29
12.75
5.54

204-

75
17
525
75
12.75

5.25

raise cement 4' above top stk
lag sill on both
cement 5 5/8 below top stk

Check Levels

				Ele
am	5.25	103.47	10	
Bas Rail	8.72		108.72 28 44	
a	4.83	103.89 ✓		
b	4.63	104.09 ✓		
c	4.40	104.32 ✓		
d	4.19	104.53 ✓		
e	4.06	104.66 ✓		
f	3.58	105.14 ✓		
g	3.11	105.61 ✓		
h	2.89	105.83 ✓		
i	2.58	106.14 ✓		
j	2.38	106.34 ✓		
k	2.21	106.51 ✓		
l	1.82	106.90 ✓		

108.72
5.25
103.47

			75 9 6.75	
m		1.65	107.07	✓
n		1.67	107.05	
o		1.75	106.97	✓
p		1.70	107.02	✓

103.47
2.1
105.61

103.47
2.35
105.82

102.20
99.1
3.10

105.6
6.5
99.1

105.6
6.7
98.9

West of top or level part

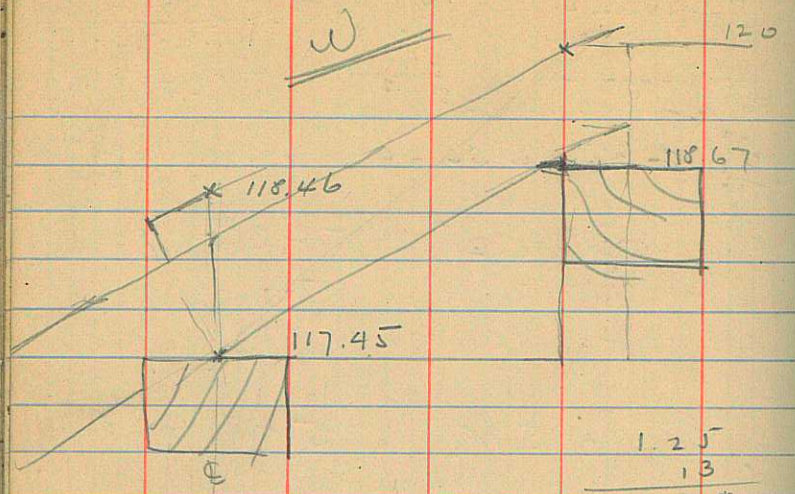
Bent	Dist	RR	Ele	top cap	Dist top cap to cor	Dist bot cap top sill	HI = 105.82	
am	0	2.35	103.47	~~103.47~~				℄ at am
amw	23'-4" 12 1/4			118.67 1.22				℄ of amw
aw	35'-4 1/4 12 1/4	3.17	102.65	117.45 1.25	14.8	13.80 13-9 5/8	7.38 =	7'-4 1/2
bw	47-4 1/2 12 1/4	3.17	102.65	116.20 1.25	13.55	12.55 12-6 5/8	7-10	7-1 1/4"
cw	59-4 3/4 12 1/4	3.50	102.32	114.95 1.25	12.63	11.63 11-7 5/8	6.91	6-10 7/8
dw	71-5' 12 1/4	3.78	102.04	113.70 1.25	11.66	10.66 10'-8"	6.73	6'-8 3/4
ew	83'-5 1/4" 12 1/4	4.03	101.79	112.45 1.25	10.66	9.66 9-8"	6.52	6-6 1/4
fw	95'-5 1/2 12 1/4	4.51	101.31	111.20 1.25	9.89	8.89 8'-10 5/8	6.35	6'-4 1/4"
gw	107-5 3/4 12 1/4	4.53	101.29	109.95 1.25	8.66	7.66 7'-8"	6.10	6'-1 1/4
hw	119'-6" 12 1/4	5.01	100.81	108.70 1.25	7.89	6.89 6'-10 3/4	5.93 =	5'-11 1/8
iw	131-6 1/4	5.24	100.58	107.45	6.87	5.87 5'-10 1/2	5.72	5'-8 5/8

101.22

117.45
17.50
99.95

1.25
.14
500
125
1250

		on top stake RR ℄	Ele		top cap to con	Dist bot cap to top cap 1.25 .13	Dist out	
iw	131-6¼ 12 ¼ 6½	5.24	100.58	107.45 1.25	6.03	5.03 5-3/8	5-53	5'-6½
jw	143-6½ 12	5.65	100.17	106.20 1.25	4.72	3.72 3'-8 5/8	5.26	5'-3⅛
kw	155-6¾ 12 ¼	5.59	100.23	104.95 1.25				
lw	167'-7" 12 ¼	6.00	99.82	103.70 1.25	3.88	2.88 2-10 5/8	5.09	5-1 1/8
mw	179-7¼ 12 ¼	6.28	99.54	102.45 1.25	2.91	1.91 1-10 7/8	4.88	4-10 5/8
nw	191-7½	6.46	99.36	101.22	1.86	.86 10 3/8	4.67	4-8 1/8



1.25
13
375
125
16.25

117.45
16.21
101.20
125
99.95

118.67
18.70

118.67
1.22
117.45

118.67
17.45
101.20



125
12
250
125
15.0
2.45
17.45

$\frac{15}{144} = \frac{x}{12}$

15
12
30
15
180
144
360
288
720

144 ⟌ 1.25

$\frac{15}{144} = \frac{x}{140}$

15
140
600
15
2100
144
660
576
840

144 ⟌ 14.6

14.6 ⟌ 12
26 1.22
24
20

-128-

125
13
375
125
16.25
2.45
18.70

9-22-15 Levels
Jno Yeates Spr

BS	FS	IM	Ele	H.I.
3.00			200.00	203.000
	6.40		196.60	198500
1.90				
		5.00	193.50	
		1.34	197.16	
	12.10			
0.51				
	13.20			
1.70				
		4.5		
1.02	11.35			
5.14	14.00			
1.20	8.70			
3.25	10.00			
1.20	9.00			
3.83	9.10			
0.47	8.68			
23.22	102.53	5.21	120.68	

200.000
79.32
120.68

102.54
23.22
79.32

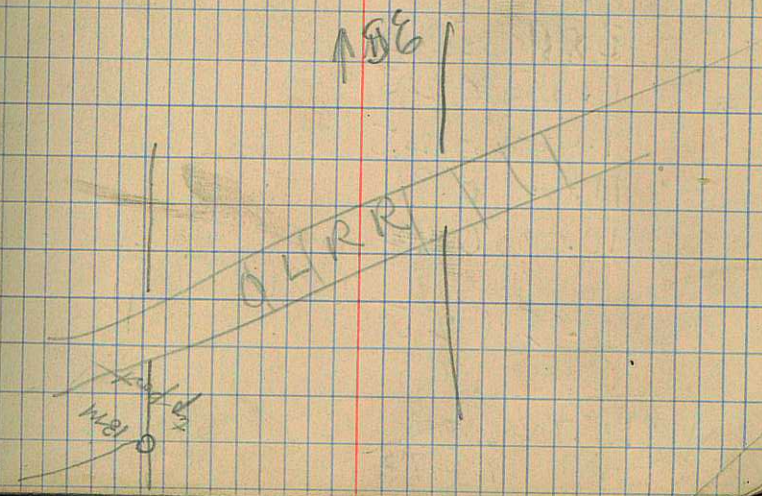
130

203.00
6.40
196.60
1.90
198.50

on jet

on catch basin spr
on BM a 1/8 root in tree

Canal
Co Road



12.2

①

BS	FS	im	Ele
23.22	102.54		
0.90	12.50		
		8.00	
0.80	14.32		
	8	6.00	
1.19	9.52		
0.45	9.32		
2.05	9.72		
1.35	8.05		
1.90	9.67		
1.53	9.67	5	
5.75	6.28		
4.92	7.20		
		5.86	
13.84	5.16		
9.68	0.25		
11.40	0.25		
11.42	0.87		
10.00	0.44		
		3.76	190.89
10.32	1.25		
4.85	1.90		
110.72	208.90		
	110.72		
	98.18		

1.3
1.28 12.72
1.72

2.12
43
50

43
80
34.40

132

at Cooley's cor.

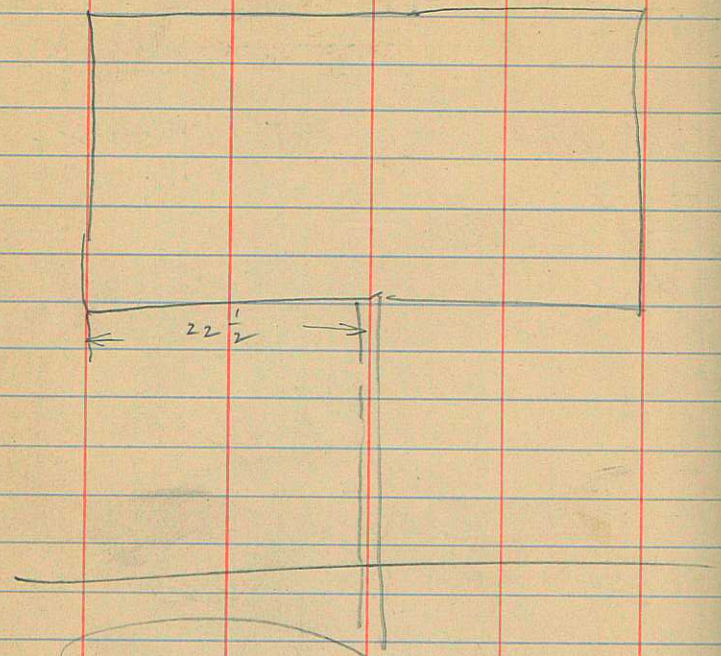
at Jno Yeates

first str E.
sec. " "

SW end of cement pier Riverbrd, by mill

HI 5' above SW cor public sq

top E tie post by Church



	Top	bot
SW	5369.04	5358.04
SE	5369.24	5357.84
NE	5369.24	5357.54
NW	5369.04	5357.74

58.04

134

5371.49
13.72
5358.34

BS	FS	im	Ele	HI	
.8			5370.69	5371.49	Bm
		1			
		13.72	5357.8		on gr. SE cor
5.02	1.372		5357.77	5362.79	
		4.95	5357.84		bot gr SE cor
		4.75	5358.04		SW cor gr.
		~~5.15~~			℄ Seca

4

5371.49
13.72
5357.77
5.02
5362.79

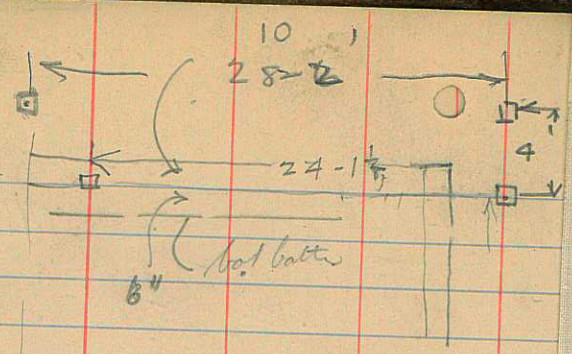
62.79
4.75
58.04

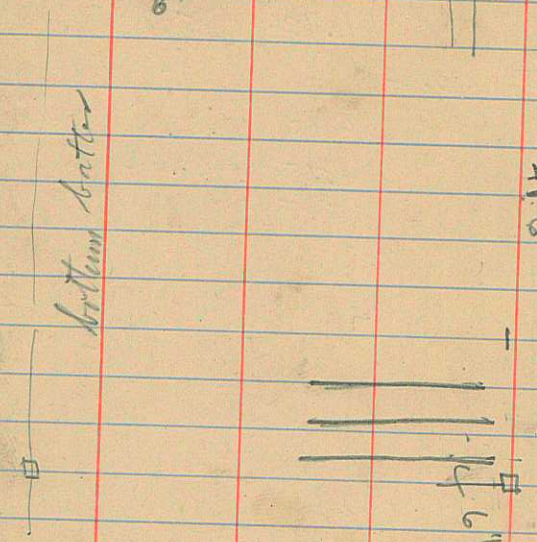
5362.79
4.95
5357.84

57.84
3
.54

62.79
5.15
1164

62.79
54
25





$\frac{40-6}{42}$

5.2
2 3.

.3 0 9 40
.20 0 0 .075

.075

24 - 1 1/8 - 136
24

23 - 13 1/8
21 6
2 - 7 1/8

~~42~~
39-6

2 - 7
4 14

28 2
5 2
23 0

$\frac{5}{14} \times 8$

40 14
28 2
120 6
14 7

$\frac{40-6}{42}$

4"

$= 8.08 \sqrt{\frac{230}{\frac{1800 \times .02}{.33}}}$

$8.08 \sqrt{\frac{230}{109}}$

135

5"

$8.08 \sqrt{\frac{800}{24}}$

$= 8.08 \sqrt{\frac{200}{96}} = 1.41 \times 8.08$

.57 cfs

abv 239 gal per min

$8.02 \sqrt{\frac{800}{\frac{1800}{.02}}}$

36.00

$= 8.08 \sqrt{\frac{200}{110}}$

4"

1 cfs

min

1200
.2
.24.00

.05
14
20
14
.05
.70

84
21
6300

5990
50
5940
5594
346

6000

350
6300
.02
126.00

5"

$v = 8.08 \sqrt{\frac{350}{293}}$

$Q = 1.2$

420
1.2
840
420
504.0

1600 40

2.5
7
175
400
7000.0

6000
5600
400

2-7
1.6
20
1-6
75 7

400000 7000
35000 .057
50000

$v = 8.08 \sqrt{\frac{400.0}{.02 \times 7000}}$
.43

7000
.02
140.00

1.12

200
1800

$\frac{1}{9}$

14

$v = 8.02 \sqrt{\frac{14}{900 \times 2}}$
.43

50

900
.02
18.00

4.6

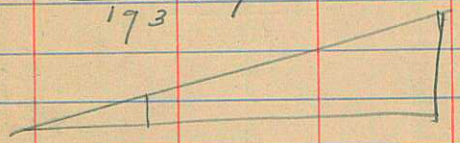
141.5
85
2000

11 3/4

$\frac{11.75}{x} = \frac{144}{9}$

11.75 ⌊12
108 .98
95

19.75
9
10575 ⌊144
8644 .8
193



$\frac{12.25}{\frac{144.25}{144}} = \frac{x}{11.75}$

144.25
11.75
72125
100975
14425
14425
1694.9375 ⌊144
144 11.77
254
144
1109
1008
1010

40.6
1.6
1
43

50¢ R.R.
A E Darby

.13
.66
78
78
8.58

10
188
812
2

10
451
599
2
1098

10
388
612

10
361
639
2
1278

100
161
839
2
1678

50

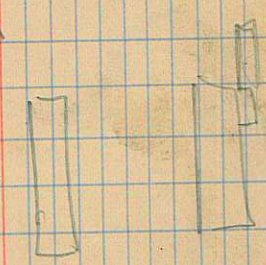
1278
1100
2000
1224
1650
1700
155
200
9307

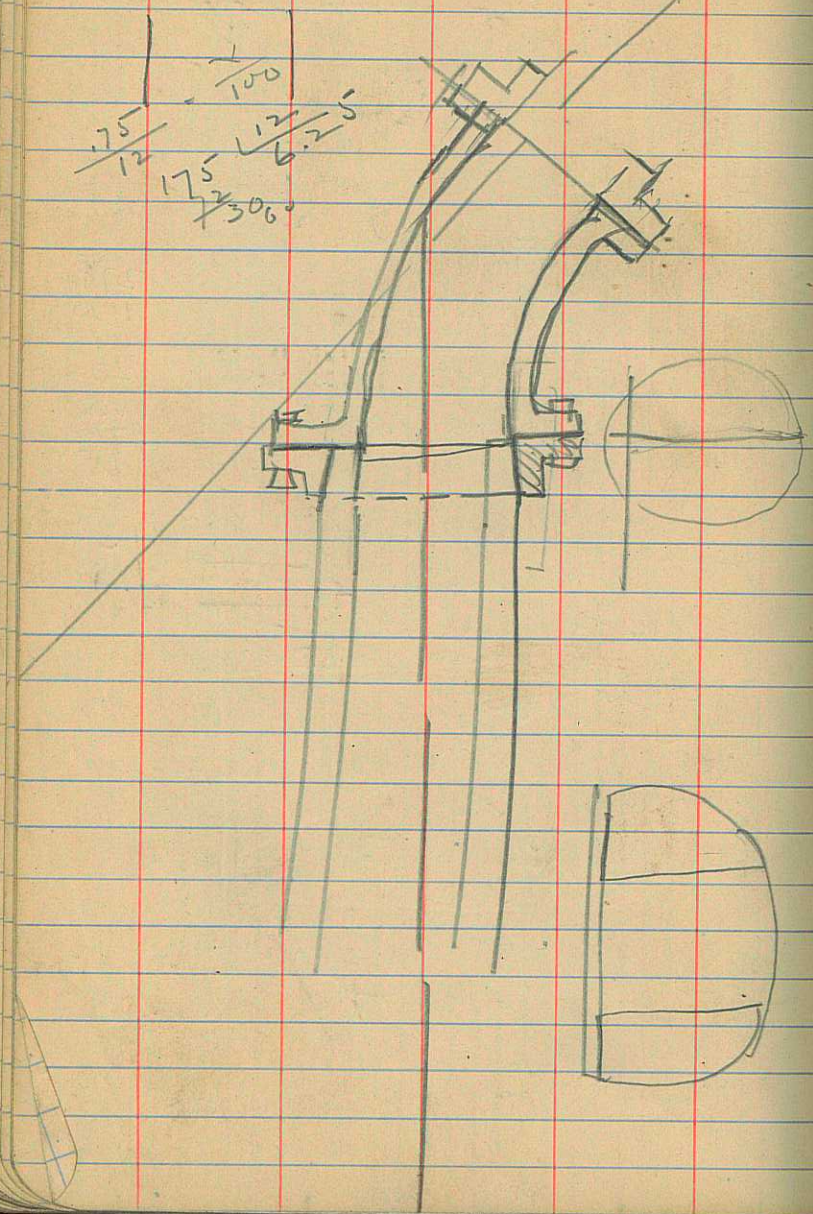
10 3/4
4
40

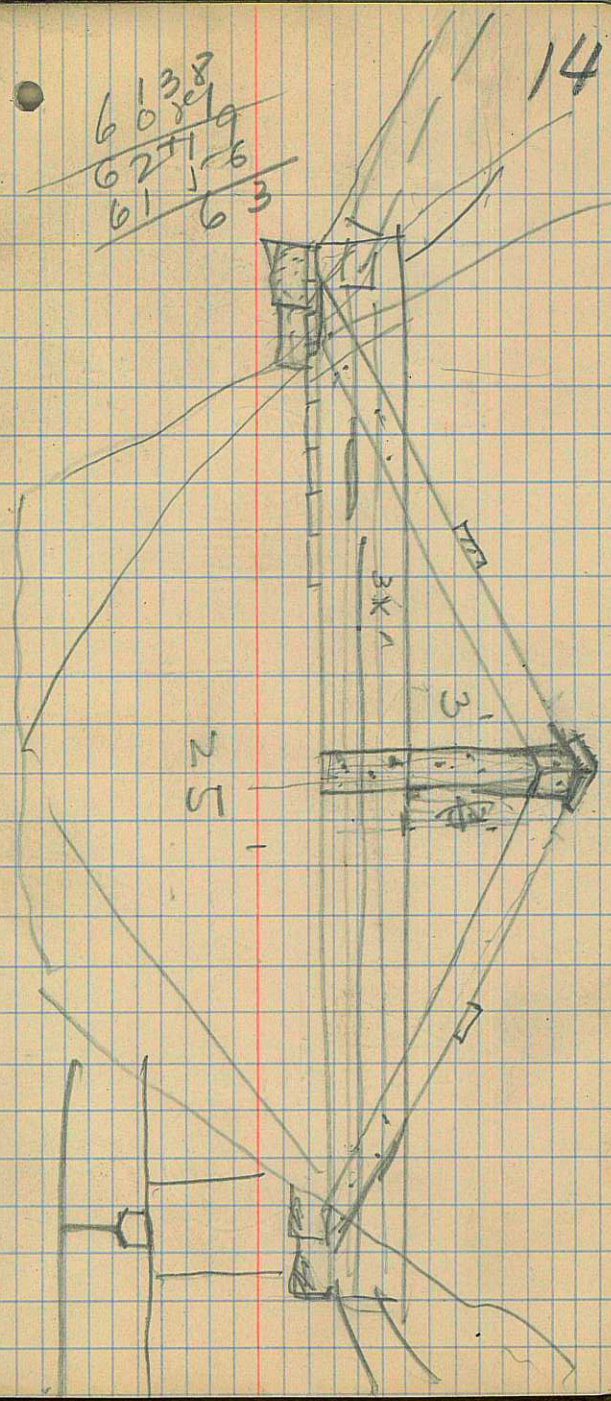
43
36
7

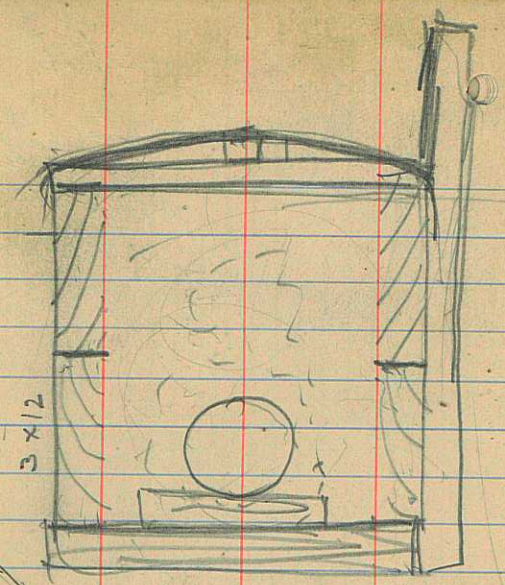
3
40

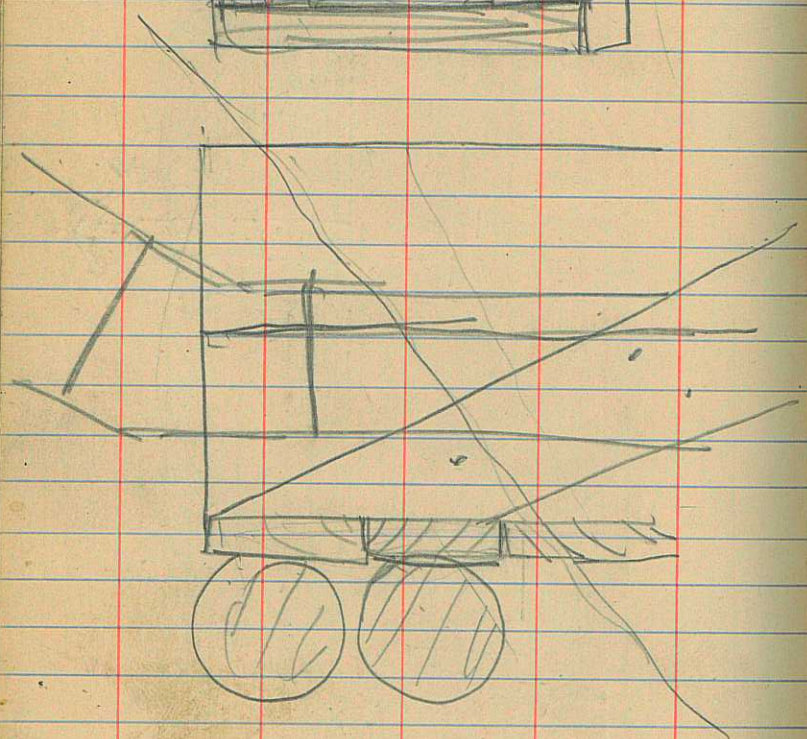
41
3
38











$\frac{v^2}{2g}$ $\frac{r}{R} = h$

148

400

$\frac{25}{200}$

320
10
22400

$\frac{320}{100}$ $\frac{24}{69}$

69.7
320
13940



2091
223.0.4.0
180
43

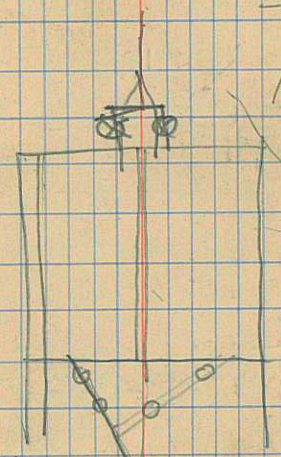
60
3.43
9 18
13 01

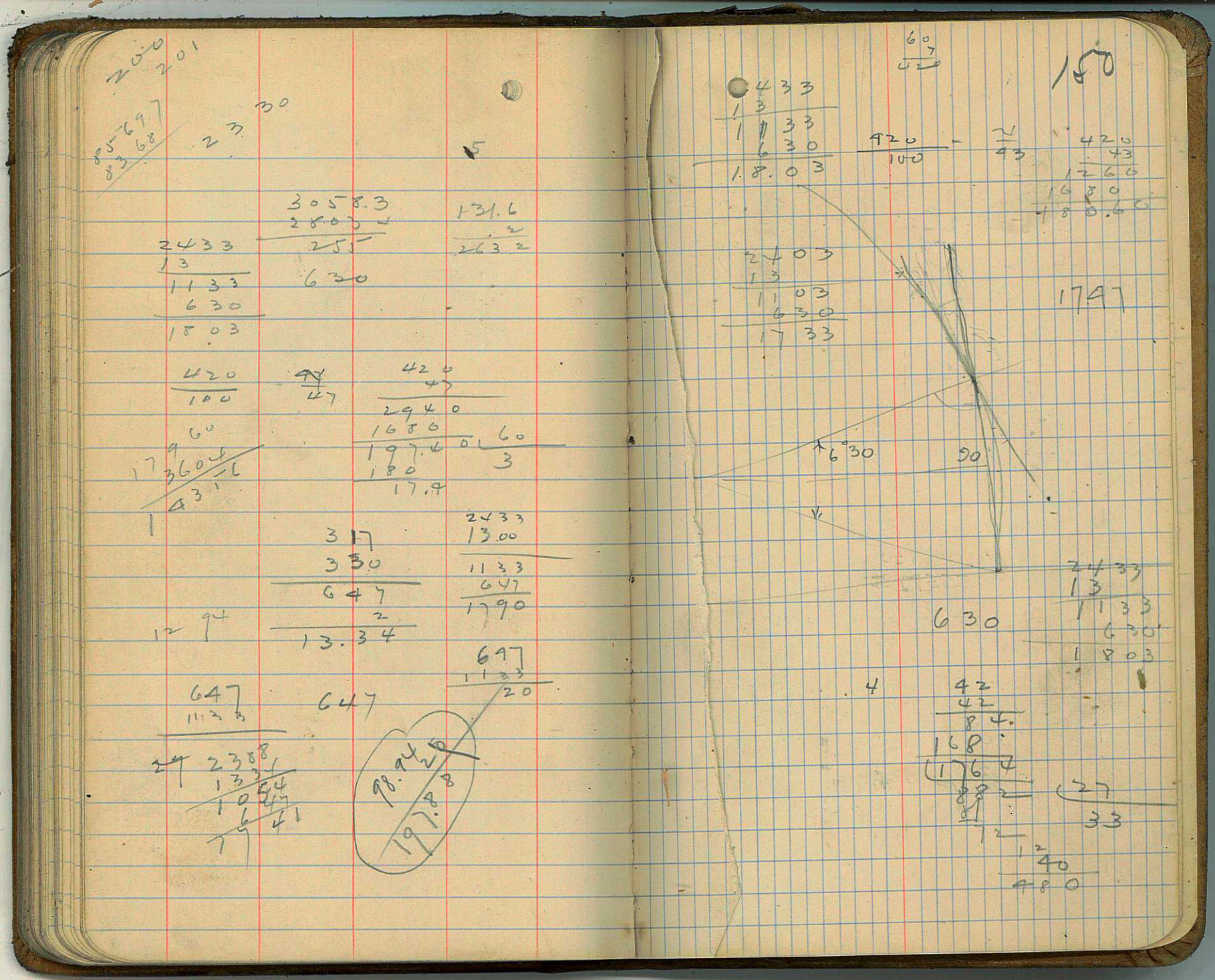
2
3

320
31

60
4
240
100

240
31
240
720
9440





200
201

85697
8368

23 30

5

3058.3
2803.4
255

131.6
.2
263.2

2433
13
1133
630
1803

630

420
100

47
47

420
47
2940
1680
197.40
180
17.4

60
3

17960
3604
1431

317
330
647
2
13.34

2433
1300
1133
647
1790

12 94

647
1133
20

647
1133

647

2388
1334
1054
647
7741

98.94
20
197.88

150

60
7
420

2433
13
1133
630
1803

420
100

4
43

420
43
1260
1680
180.60

2403
13
1103
630
1733

1747

630

90

2433
13
1133
630
1803

630

4

42
42
84
168
1764
882
81
72

27
33

12
40
480

77027
197
79 00

9° 1.698970
log → $\bar{1}$.194332
2.504638 log R = 3196
$\bar{1}$ 978736
2.525902 = R sec = 335.7
3196
16

10° 1.698970
$\bar{1}$ 239670
2.459300 = 287.9
978736
2.480564 = 302.4
287.9
14.5

16° curve

1.698970
sin 8° $\bar{1}$ 143555
2.555415 = 359.3
978736
2.575679

376.4
359
17.4

2.555415 log R
$\bar{1}$ 506159
log T 2.061574 115.2

log 7° (14° curve) 1.698970
$\bar{1}$ 085894
2.613076
978736
2.634340

4309
410.3
20.6

2613076
$\bar{1}$ 506159
2.119235 = log T 131.6

$\frac{4200}{100} \times \frac{x}{58}$

420
58
3360
2100
2436 $\frac{60}{4}$

$\frac{360}{50}$

$\frac{360}{100}$

$\frac{x}{.63}$

360
63
1080
2160
226.80 $\frac{60}{3}$
180
46.

Comput. for curve at pt 29+35 Campbell

694
47

630

2(3534
17 47

log 50 = 1.698970
log sin 6° $\bar{1}$.019235
2.679735 = 478.3
log 17°47 $\bar{1}$ 506159
2.185894
153.4

2.679735
cos 17°47 $\bar{1}$.978736
2.700999 = 502.3
478.3
34

453

$R = \frac{50}{\sin D}$

Log 50 = 1.698970
Log sin 2°30 = 2.639680
3.059290 1146
Log tan 20°30 $\bar{1}$.572738
2.632028

1.698970
Log sin 5° = 2.940296
2.758674
$\bar{1}$.572738
2.331412 2145

8315.4
5302.4
3013.0

8569
5361
3208

1.698970
$\bar{1}$.239670
1.459300
$\bar{1}$.572738
2.032038 107.6

12.26
1.68
9.46
2340
13.95
9.95

9.05
.90
4.00
13.95

14345

13615
30

15

10
34
6.6
200
4 | 1320.0
4 | 6260
1650

5357.84
.3

5

100r
n
4 | 812
2030

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