23

1012

#23

FIELD BOOK

1308

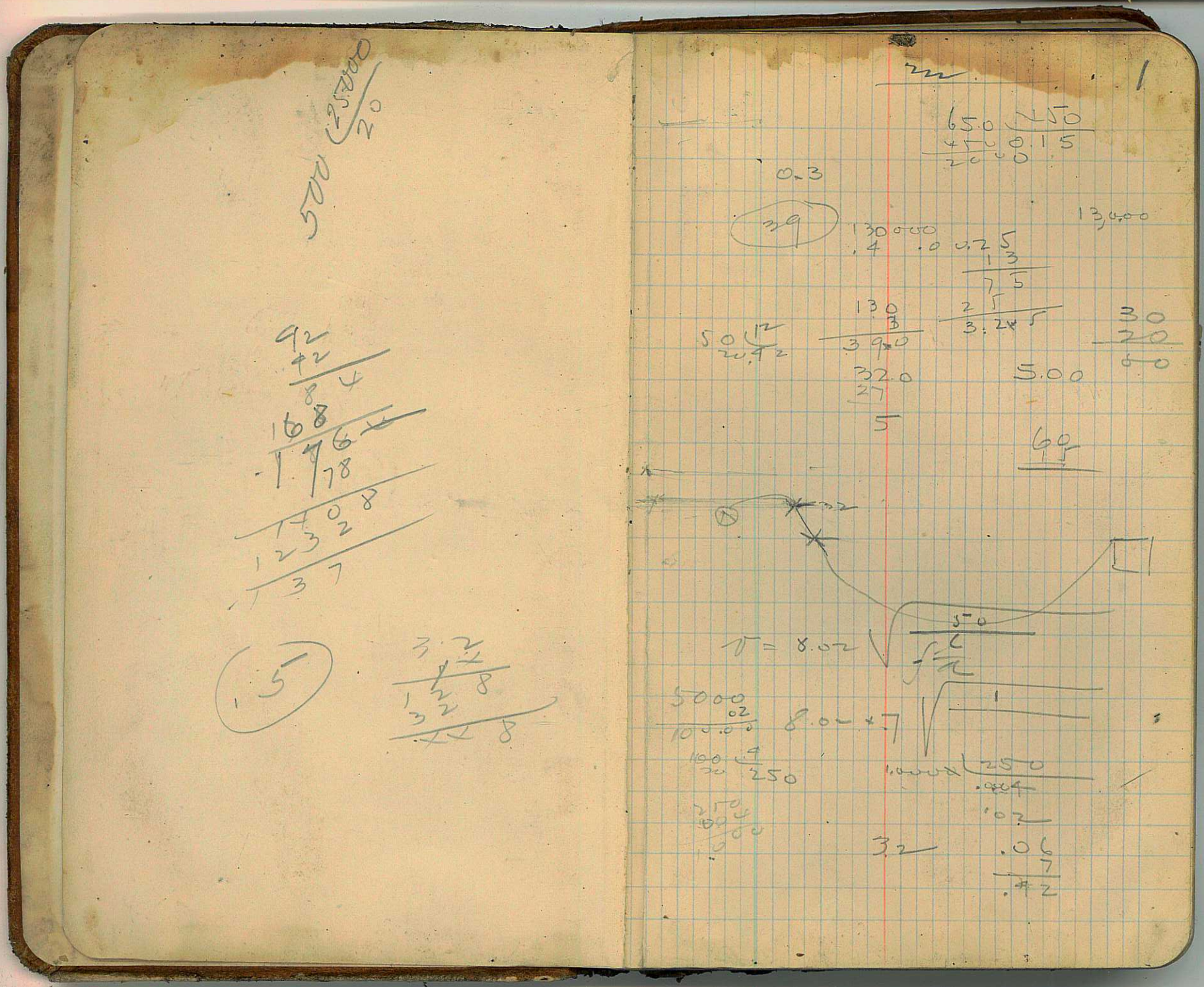
Eugene Schaub
Logan Utah

Checked for
Judy 8/3/33
LSS

82
49½
49
5+1=2

1012

No Smithfield Cit
visitors here



2 Levels at Hyrum

H.I.	Ele	Re	BS	FS	HH	L	U
107.90			7.90			6.90	
				8.45		.27	
109+	104+		5.00	3.50	on pipe		
118.00	108+		9.60	a little			
				0			
13 1/2 x 80	117		14.80	1.00			
		146.5					
149.20		139.75		13.6	center	6	+1°4'
			2.7			0°	4.2
		130.5			10 x 2		
		139.3			9.9 on H20		

5.22 6/7/13

2 2.4
1 3 4 6 4
1.3 2 0
13.56

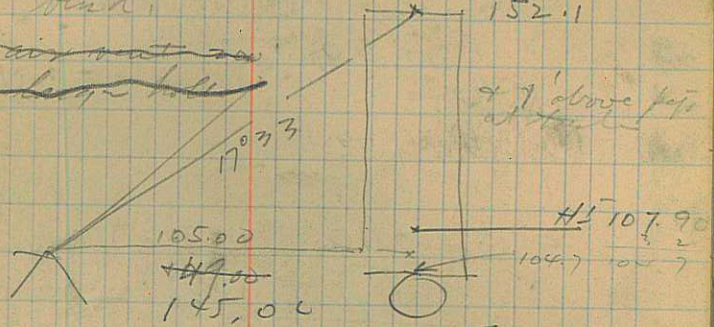
107.90
3.5
104.4

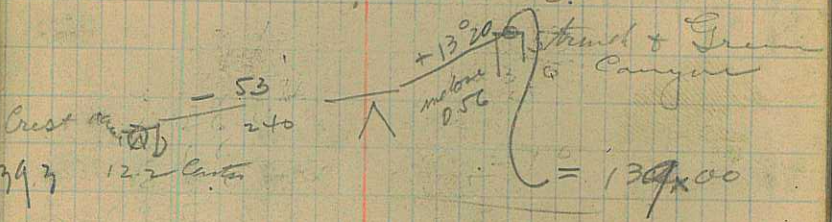
90.00 on existing Pipe at spill about 1 below

H.I. 107.90

Mt. P. Pipe at Y N of Surge tank

H.I. about 3' above pipe at bank.





139.3

4

BS	FS
11 50	~~2 8~~
11 36	2 80
12 60	0 00
1 75	11 38
7 50	2 50
12 65	5
4 690	37
3 40	8 40
5 40	45
4 80	9 50
6 30	3 85
4 75	3 90

5
5
2.5
1.5
1.25
.25
.37

891 4869

8
18 69
4 0 2

1.86
3.2
372
558
186
29.552
1264
1511.35
-13.6
137.75
2
1140.45

12.56
1268
139.36
1
1341.36

.015
3600
3600
1222
15.8

7652
1320

16045
102
3025

30

2.59
7.2
518
1813
1306.28

.85
7.2
168
588
6.012

15.12
4.60
1872

26.02

.39.4
.36
2364
1182
14.484

500
536
158.72
1.8
1445
5
1395.0

.02
416
40

02
13
30
26

6

4 S20°45'W — up 12.58 — C — L

5

L S79°30'E — 3.46 — 2.80 — 11.50

L S86°30'W — ~~5.61~~ — 5.2

3-

N @ S83°45'E — 12.2 — 1.

1—

135 E.S

113C

2.80

11.50

Elev 141

159.36 + HI

148.00

on H2O at elev line

139.3 − 150.80

11.51

1.31

1 42.51

2.80

139.71

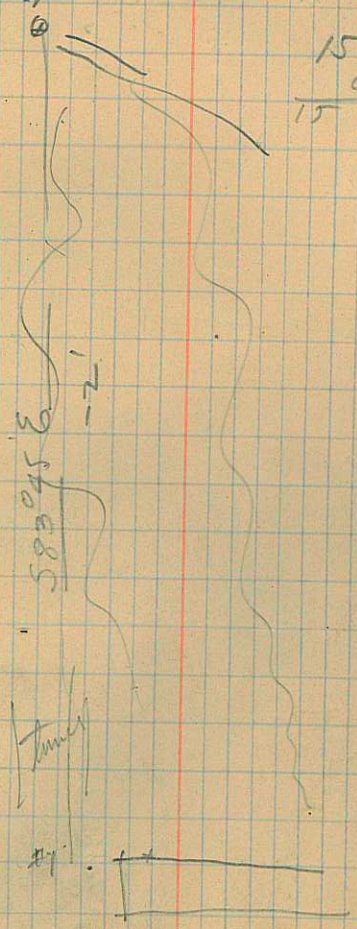
1.3C

151.07

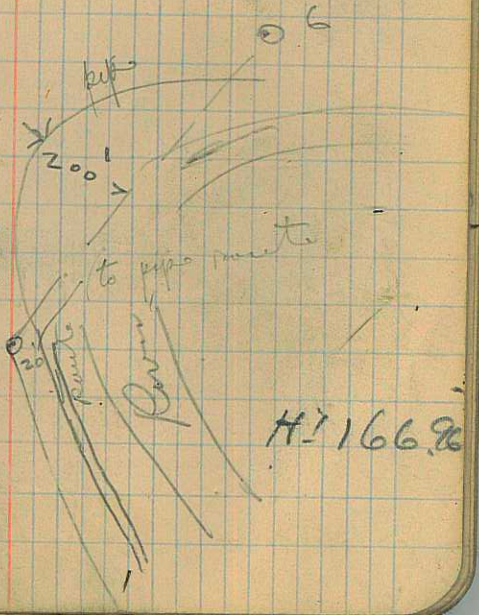
15.05

157.12

151.07



			BS	FS	upper	C	L
21	22	S 11°30' E	4.80	9.50	10.56	9.50	
	20	N 46° W	5.40		6.12	5.40	
	20	S 45° E		0.45	2.76		1.00
19				~~0.45~~	2.76		1
	18	S 87° W	3.4		3.93	3.4	
	18	N 51°30' E		8.4	9.13	8.4	
17							
	16	S 60° W	6.9		7.50	6.9	
	16	N 82° E		0.37	1.42	1	1.
15							
	14	S 77° W	12.65		I	12.65	12.15
	14	N 80° E		.54	1.94		1.00
13							
	12	S 67°30' W	7.50		7.00		3.35
	12	N 82° E	~~2.50~~	2.50	4.60		2
11							
	10	S 60° W	1.75			1.75	4.70 10
	10	N 78°5' E	~~1.45~~	11.38	12.80		10.
9							
	6	S 88° W	9.60		10.0		8.08
	8				5.36		5.00
7							
	6		46.0				
	6	N 75°10' E			6.60	3.00	~~+~~
5							



H.I 166.86

- 26°02 = 147.8

H.I above old Rock

162.36

	BS	ES	L	C	W.S.
			11.6	= 169.6 ✓	
		5.9	1.		
			6.5		
			3.2		
29					
28		2.07	~~2.07~~	2.07	24
28	N86°30'W	6.00	5+1 ✓	6.00	
27					
26	S2°30'W	4.75	5	6.4	179.59
26	N76°30'E	3.9	✓	5.1	183.4 ✓
25					
✓	N63°W	6.30	4	5.8 ✓	177.19
24	S76°E	3.85	3	4.4	181.0 ✓
23					
22	N56°30'W	4.8	0.8 (0.2)	2.67	176.2 ✓

11

2 - C
2 0 7
3 3

5' { Elev. H = 0 in plane of C
2 to ground 2' above
~~H I~~ on Ele XII H I = 181.2 ✓

Ele H I
on River (9.5 perhaps on water
on top of 2 willow peg
S. bank) River peg 5 E 6'
Elevation 177.39 H I = 180.41

184.3 ✓

12

		~	c	U	W
6	62°27	6.00	10.8	1383	+1°20
5	105°16	9	13.5	434	
4	95°99	0	22.40	2228	
3	61°23	6.00	13.6	1334	
2	78°22	1.0	9.9	1743	
1					

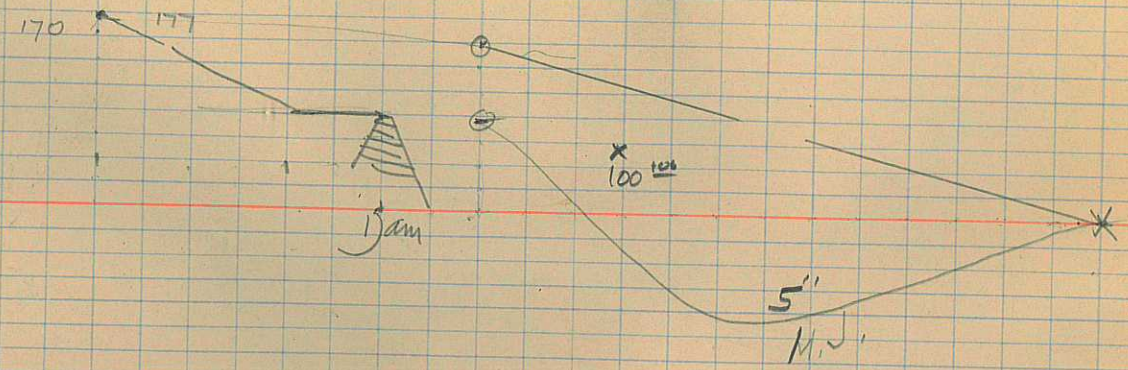
Loop Last

N S

43

about 600 ft measured

N 78° 22' W 1383.99 15 20



$$V = 80\sqrt{\frac{70}{\frac{15000}{92}}}$$

Sta	Class A	B	C	D
1088	40%	60%		
103+48				
		50%	50%	
101				
		100%		
95				
	20	60	20	
85	20	60	20	
			10	
	10	80	10	
73				
	5	95		
63				
	20	80		
51				
	10	85	5	
43				
	25	75		
39				

Loose earth (A)
Solid " (B)
Loose Rock (C)
Solid " (D)

	Crescent	Solid	Lyons Rain	Solid
18	97	B[6]	F	D
39				
210' Lowbow		25	75	
39				
	5	60	35	
34.86				
	50	50		
31 H65				
	10	40	50	
26				
	5	45	50	
22 40				
	10	55	35	
17 29				
	30	70		
19 25				
	30	70		
13				
		10	80	
11				
	30	60	10	
9				
	30	40	30	
7.+50				

L E	S E	L R[19]
35	40	25
35	40	25
35	40	25

20

A	B	C	D
Lunch	Sofia	Lunch	Thea
	E		
7+50			
	30	60	10
4			
	5	15	80
0			

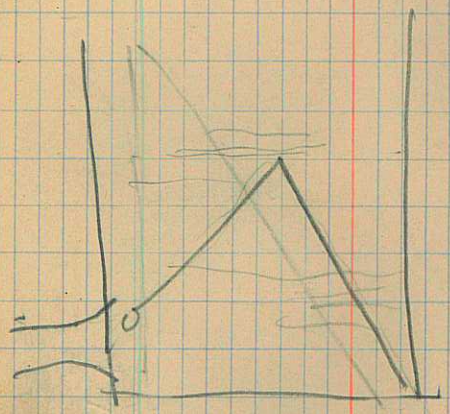
Thelma M + E Co
Roll taken off
6/10/18 at 8:30 AM

21

$$\begin{array}{r} 72.50 \\ -29.80 \\ \hline 42.70 \end{array} \qquad \begin{array}{r} 42.70 \\ \times\ 2 \\ \hline 85.40 \end{array} \qquad \begin{array}{r} 26 \\ 30 \\ \hline 56 \end{array} \qquad \begin{array}{r} 10 \\ \times\ 4 \\ \hline 40 \\ +\ 13 \\ \hline 67 \end{array}$$

$$\begin{array}{r} 31.50 \\ -16.80 \\ \hline 14.70 \end{array} \qquad \begin{array}{r} 85.40 \\ -14.70 \\ \hline 70.70 \end{array} \qquad \begin{array}{r} 56 \\ -13 \\ \hline 43 \end{array}$$

$$\frac{2}{3} \qquad 2\,4 \qquad \frac{2}{6} \qquad \frac{4}{6}\,\frac{2}{3}$$



22

Ditch Levels for Chris Kearl's west side of Logan River S. Main to Road

	B.S.	F.S.	grade Elev.	RR on grade	Stadia L C Up C or F.
8			4.26	4.80	F 6"
7			4.24	4.20	C 1"
6			4.22	4.2	0
5+50			4.21	4.30	F 1"
5			4.20	4.50	F 4"
4			4.18	4.2	
3			4.16	4.1	C 1"
2			4.14	3.80	C 4"
1			4.12	3.55	C 7"
Sta 0			4.10	3.70	C 5"

8		3.95		
7		3.56		4.68
		5.70		
5		5.00	338	5.80
		5.40	248°	5.5
3		4.00	210°5	6.3
2	4.25		209.5	7.4
1 -				

4.20 / 3.7 / 3.5 / 4.1 / 2.7 / 2.6

4.14 / 3.8 / 2.6

4.17 / 3.1 / 0.57

3.5

23

3.60 / 1.0

5.70 / 4 / 4.30

Water surface at 5 · 3.5 grade 4 x 3 at 0 = 4.10

3.2 / 2.8 / 3.5 / 2.1 / 3.5 / 3.5 / 3.5

Sandy Loam

Range #5 to 3.50

Boundary

Work

Pipe

24 Sta	grade or Cut	RR on grade	C or F
	4.36	4.2	C2"
	4.34	4.80	F6"
	4.32	4.1	C3"
	4.30	4.1	C2"
9	4.28	4.1	C2"

4.50
25
100
5
600

4.80
4.34
046

Hyde Park

Sta.	Depth	Loose E	Class Dense E	Loose R	Dense R
0					
			100		
33	1.5				
			100		
+60	6.0				
			100		
1+00	5.5				
			50	50	
1+46	9.5				
			50	50	
173	8.00				
			100		
2+00	7.00				
		25	75		
2+43	5.00				
		25	75		
3	4.5				
		50	50		
4	3.2				
		50	50		
5	2.8				
		50	50		
6	2.8				

box

0 to 250 trench 2 wide

Sta	Depth	LE	SE	LR	SR
6	2.8		100		
7	3.1				
			100		
7+70	1.5				
			80	~~20~~	
8	2.4				
			80	20	
9	3.1				
			90	10	
10	3.00				
			~~50~~	~~50~~	
11	3.1				
			50	50	
11+80	3.2				
			50	50	
12	3.3				
			50	50	
12+82	3.1				
				100	
13	3.0				
			100		
13+(6	3.1				
			90	10	

30

Sta	Depth	LE	SE	LR	SR
14	2.8		100		
14+57	1.5		50	50	
14+70	3.0		50	50	
15	3.8		90	10	
16	3.0		100		
17	3.0		40	60	
18	3.0		90	10	
18+53	3.3		80	20	
19	3.0		70	30	
20	3.5		20	80	
21	2.7			100	
21+92	2.5				
22+62					

31

at rock point

Bag of 4 soil from ledge spr
and 4 soil from upper
ledge spr.

Clear

Sta	Depth	LE	SE	LR	SR
26+35					
32+50					
33	3.0		100		
34	3.1		100		
35	3.0		100		
36	2.8		80	20	
37	2.8			90	10
38	3.3				
39	3.0				
39+34	2.7				

backfilled beg at 32 to 32+62 and 8 more

[x] box

backfill stopped from 32+62

37+03 to Forest Bdy fence

at Y

34 Lower Short branch from Spr.

Class

Sta	Depth	LE	SE	LR	SR
0	2.5				
				100	
+38	2.5				
				100	
+60	4.6				
				90	10
1+00	4.8				
			10	90	
2	4.00				
2+10	2.11				

35

at pt. 6' back from low face of log

Main Line Con.

Depth	L E	S E L	R S R
39+71			
	50	50	
40	3.00		
	25	75	
41	3.3		
	50	50	
42	3.0		
	25	75	
43	2.8		
		80	20
44	3.0		
	10	75	15
45	3.3		
	20	60	20
46	3.0		
	80	20	
47	3.0		
	50	50	
48	3.2		
	10	60	30
49	2.5		
	40	50	10
50	2.7		

Claims

Sta	Depth	LE	SE	LR	SR
50					
		35	50	15	
50+74	3.8				
		40	50	10	
51	3.6				
		45	55		
51+65	3.1				
		20	65	15	
52	3.1				
		20	70	10	
53	2.7				
		50	50		
54	3.00				
		50	50		
55	2.8				
		50	50		
56	2.6				
		40	50	10	
57	2.5				
		40	55	5	
58	3.0				
		40	50	10	
59	2.8				

Depth	LE	SE	LR	SR
59	2.80			
		50	50	
60	3.0			
		30	60	10
60+50	4.3			
		30	60	10
61	3.2			
		20	60	20
62	2.8			
		50	50	
63	3.5			
			100	
64	3.0			
			100	
64+80	3.7			
		10	80	10
65	3.2			
		10	60	30
66	3.2			
		50	50	
67	3.0			
		50	40	10
68	4.8			
		45	50	5
69	3			

Sta	Depth	Class LE	SE	LR	SR
69	3.0	90	30		
70	3.0	35	60	5	
71	2.5	20	60	20	
72	4.7	20	60	20	
73	4.0	20	60	20	
73+62	4.3	30	60	10	
74	3.3	20	60	20	
75	2.8	10	60	30	
75+80	4.6	10	60	30	
76	4.2	10	60	30	
77	3.0	50	50		
78	2.5	40	60		
79	2.0				

Sta	Sept	L E	S E	L R	S R
79	2.0				
		30	70		
80	3.0				
		30	60	10	
80+65	5.2				
		20	60	20	
81	5.00				
		30	~~70~~ 60		
82	3				
83					

Class

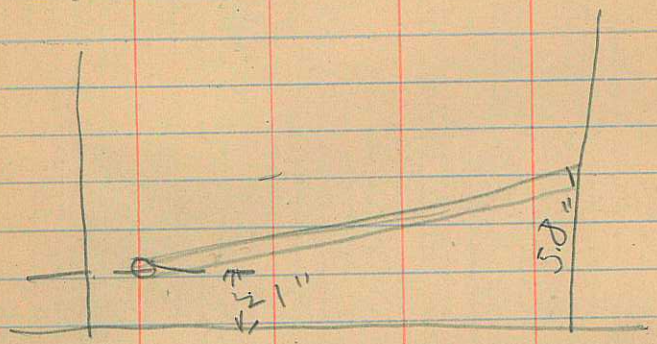
72
10
360
360

10
30
52
315
36.
37
5
80

back fsd starts here

Mallard Res

Stand pipe 15 - 9 1/2' from center



1 3/8

48

177
0.71
77

212
98
96
19
1908
207.7

212
2
424

19
83
190
0
747
83
9

5960
1430
78

5100
1950
1541
0

9410
160
3760
1316

33
1320
13
33
462

185
159
1650
1650
165

30
8

2373

1825
145
921
740
83.25

97
310
97
0
291
307

240
310
240
2
480

167
.07
11.69

1010
516

0450
1350

8800
46.6

4620
3220

Extension

Hydrau. Comp.

Course	Dist	Lat N	Lat S	Dep E	Dep W
S45°E	177		228	228	
S45E	144				
S11°30E	212		208	42.0	
S56°30E	190		104.0	157	
S70°E	140		46	131	
S63°E	185		83	164	
N76°E	310	74	669	300	
N2°30E	140	140	282	56	
N86°W.	167	12	387	102	
N62°30W	70	32		224	167
N75W	100	24		803	61
		282			96
					224

803

1670

387
321
65
80
9
26
6

803
178

UC
4312
2
142
101

30 | 42 | 58
142
1421 | 30
1

50

	BS	FS		
				HI 182.78
6+00			4.7	157°30 E 178.08
5+63			4.9	142°30 E 177.88
5+00			5.3	142°30 E 177.48
4+26	4.04	5.98	6.70	~~142°30~~ E 176.08 176.80 180.84
4+00			5.0	175.84
3+30			on pcg 4.4	176.44 178°30
~~3+43~~			8.60	172.24
2+74			2.12	178.72
2°00			5.5	175.34
1+66			4.7	176.14
1	2.04	1.86	3.8	177.04 178.98 181.02
Sta 0			182°55	
			4.9	176.12
	5.24	4.51		176.51 181.75
		2.91	6.46	175.29 178.88

1200 S1

178 30
172 30

PI 5+63

142 030

175.29
172
3.00

178 030

Began 6/16/15

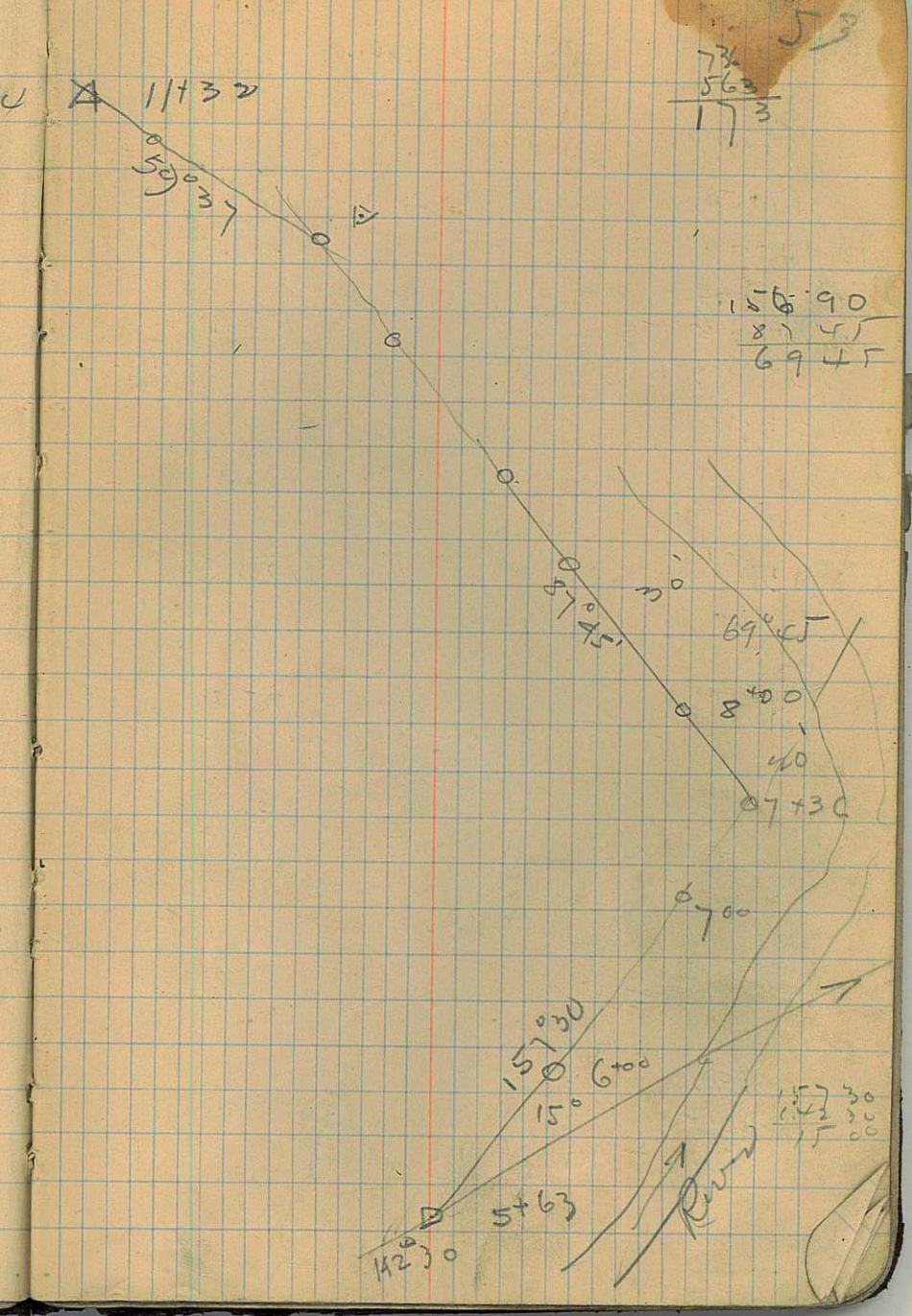
on H2O on W. Cedar 195
Mo
Pine on
Locust on 3" stump opp 3+43

Today 800 up 6
60

on H2O of
on Hawes Allen stake

S2

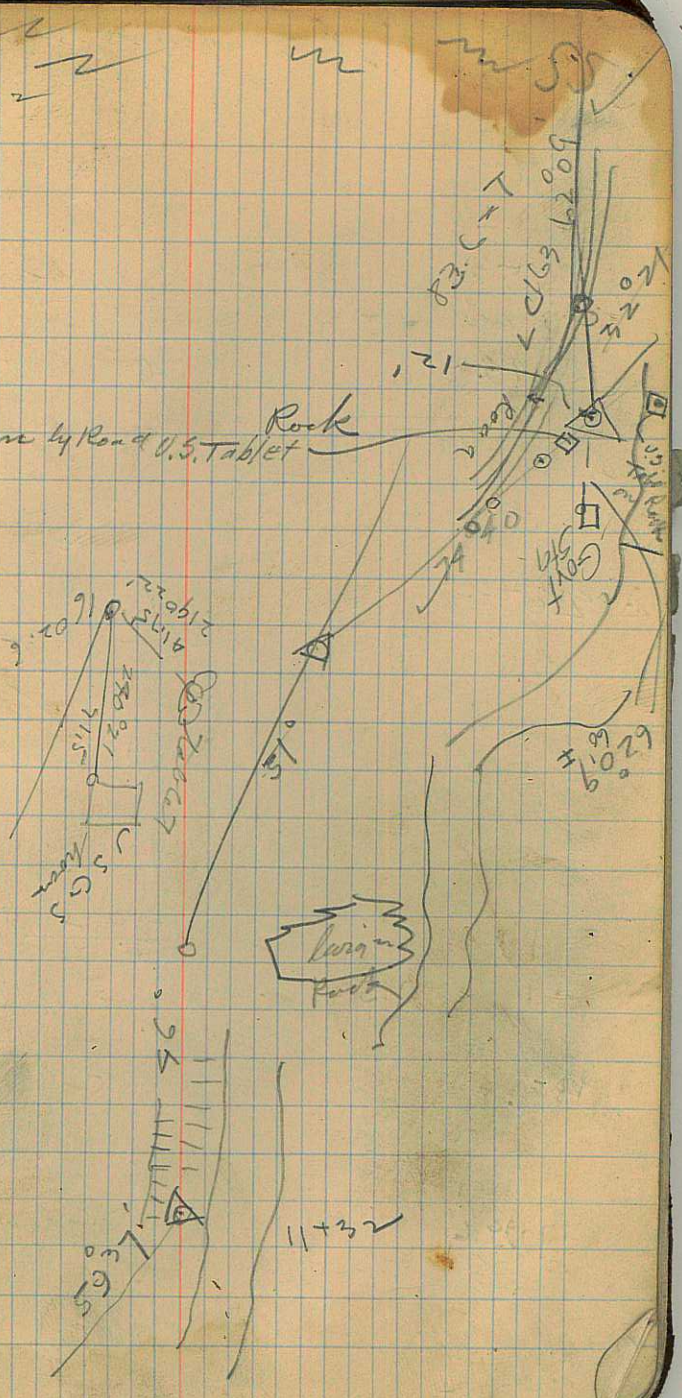
Sta.	BS	FS	HI	Elev
				176.94
11+00			3.8	173.14
10+32			4.8	172.14
10+05			3.6	173.34
9+20			3.7	173.24
9+00			3.4	173.54
		2.85		
8+00	5.90		3.0	173.94
		2.85		174.09 179.99
7+36			4.9	157 30
7+00			3.5	176.49
	5.25	2.46		177.53 182.78
6+00			4.7	178.08



54 ... levels down Ele HI

St. BS FS cm adj

⏥	17+99.6					
	17+50			4.70	166.48	
	17+00					
✓	97.4					
△	16+02.6			at 16+02.6 7.2	163.98	
	15+00 4J	11.40	0.14	9.9	171.04	182.44
					172.54	
⏥	14+56			6.7	175.74	
	75					
△	13+81			6.8	175.64	
	81					
	13+00	4.15	5.62	7.2	175.24	
					176.82	180.97
	75				175.57	
△	12+25			5.4	175.57	
	~~12+25~~					
	93					
△	11+32			7.4	173.57	
	top 11+32	2.74	6.77		174.20	176.94



S6 B5 F3 mm

166.30

21+67

15

21+52 on H₂O 5.4 160.30 85

38 10.0 156.30

21+14 6.41 160

6.0 160.30 85

Δ 20+48.7 L 53 6.2 161.1 62°09

20 4.75 161.55

19° 3.9 4.75 163.30

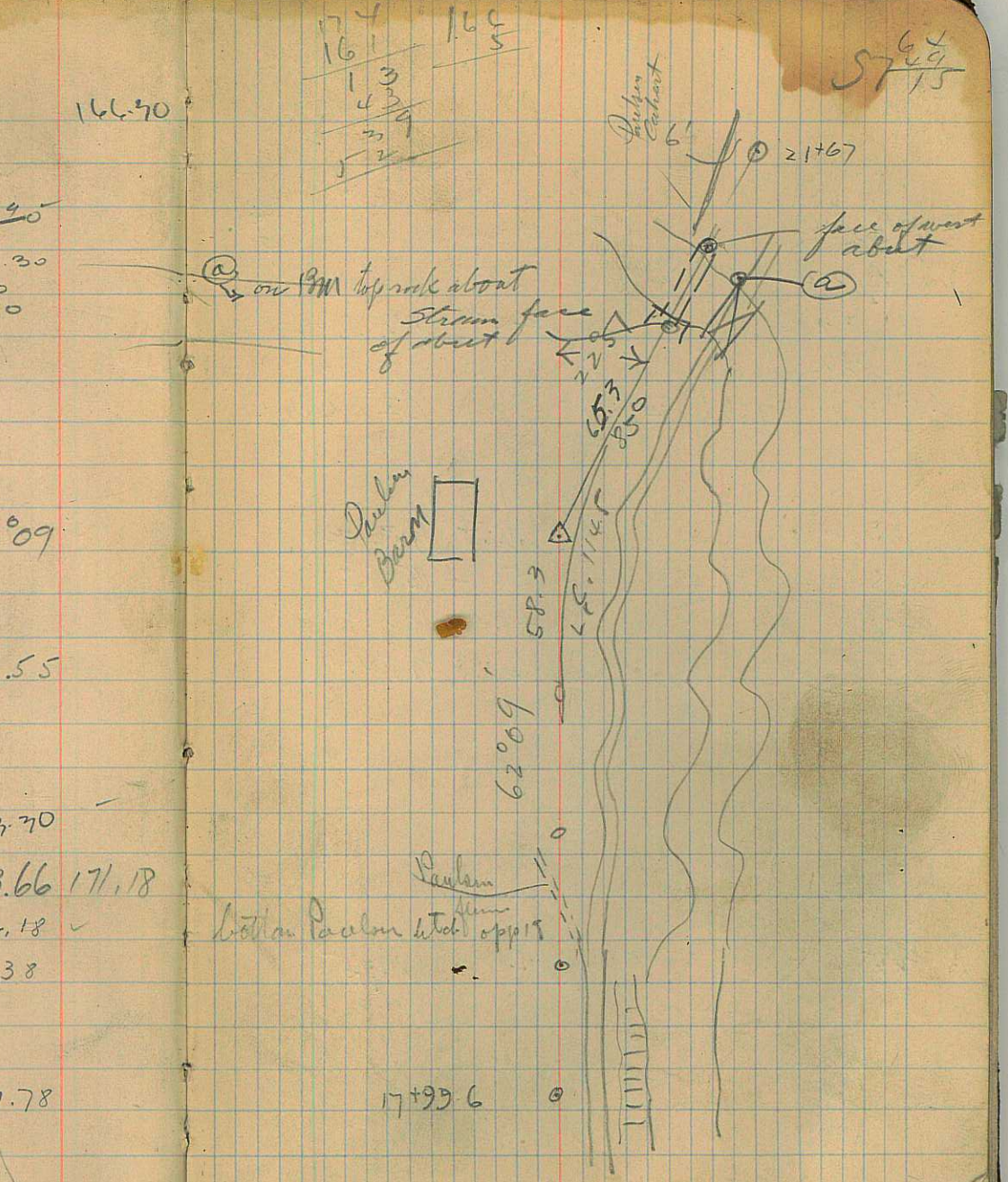
top 19 7.52 2.64 163.66 171.18

9.0 162.18

18+380 4.8 166.38

38.4

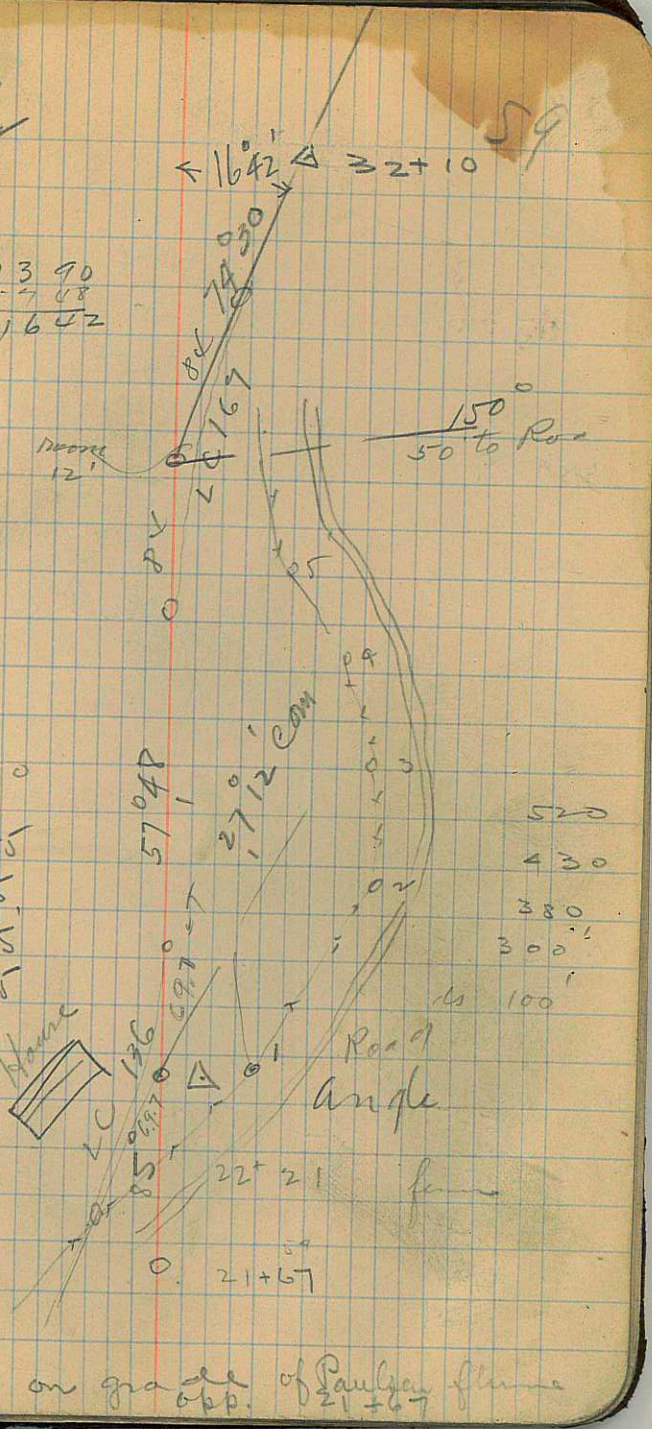
17+99.6 3.4 167.78



58

	BS	FS	HI	Elev
				156.66
32+10				
~~32~~ 32			6.9	149.76
31			4.8	151.86
30			5.0	151.7
			3.10	153.5
A 29	7.66	2.64	Top 29	154.02 161.68
28			7.7	154
27			7.0	154.7
26			6.5	155.2
25			5.2	156.5
24			4.4	157.28
23			3.0	158.7
5				
4				
3				
2				
1				
Δ 22+47			2.2	159.5
21+67			0.9	160.78
	6.12	1.50		160.18 166.30
			6.9	159.4

59



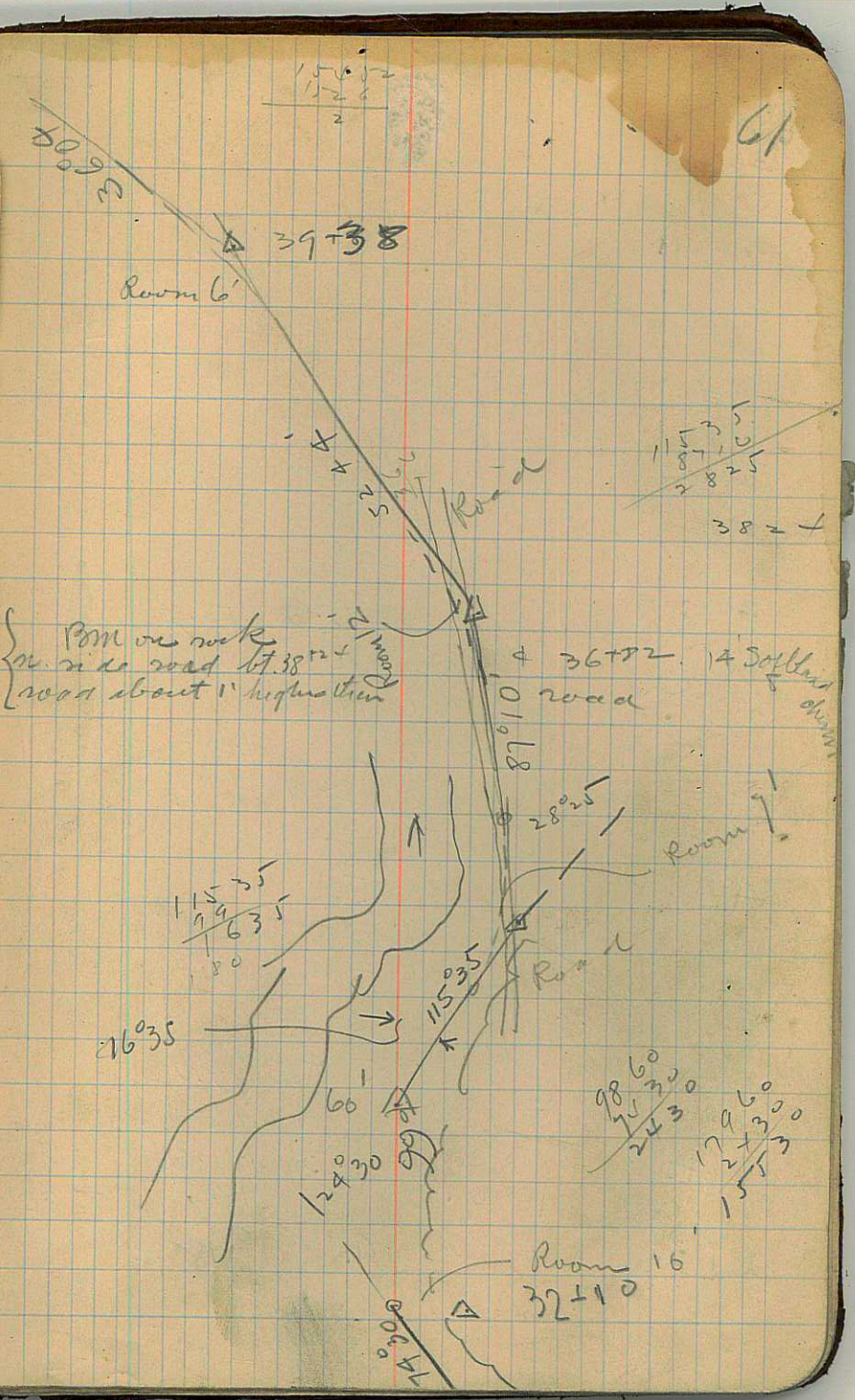
on graded opp. of Paulsen flume 21+67

60

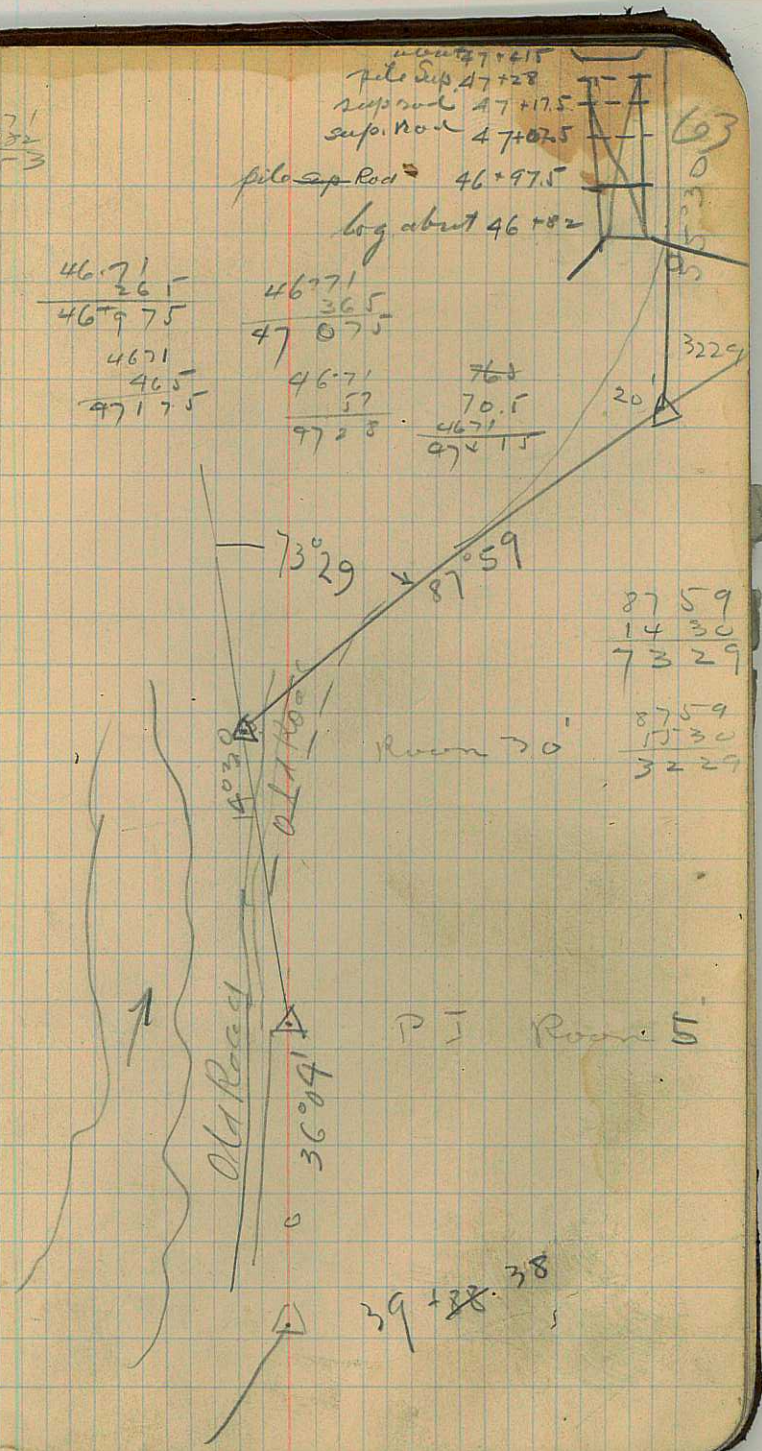
	BS	FS	Inst Ele	HI	
40 +00					
				157.82	
39+38					
50					
38+88			5.2	152.62	
38+24			3.3	154.52	
		0.78	1.69	156.13	156.91
142					
△ 36+82			4.6	152.3	
St. 36			6.70	150 +	
		4.07		147.4	
△ 35+50	8.82	9.07	9.5	147.84	156.66
35			10.2	146.46	
34			9.0	147.66	
33			8.0	148.66	
32+10			7.6	149.06	

Pour one sack
N. side road 37.38+2
room about 1" higher than

61



	BS	Form	Ele	H.I.
△ 47+53				
62				
46+82				158.26
46+71			13.3	145.
71				
△ 46			9.8	148.46
			8 curve	
45⁰⁰			6.6	15 1.66
50				
44+50			5.2	153.06
100			P.I. 2.8	
△ 43+50		50' from P.I. on C	6.0	
50	1.05	10.70		147.56 148.61
43			2.9	145.7
			7.0 on H₂O	
42			5.0	143.6
20				
△ 41+80			5.2	143.4
41			5.4	143.2
40			2.3	146.3
62	9.81	0.60		148.01 157.82
39+38			9.65	148.2



64

51+49. BS FS HI Elev

16120

(shoulder)

50+16 51+16

13.2 148.00

3.72 12.10 149.10 152.82

49+38 7.8

10+00 4.1 148.72

48+65 1.13

8.9 3.46 4.4 149.36 158.26

47+58 1.07

10.4 147.86

47+53

10.80 147.76

14.0 144.3

65

22½

5+40 for 60' from 50+16

11' to Sol. ⊥ berge

158.26
9.8
148.46
3.9
152.56

99+72

48+65

Begun 6/19/[illegible] 9am left off

158.3
1.13
1.15

47+53

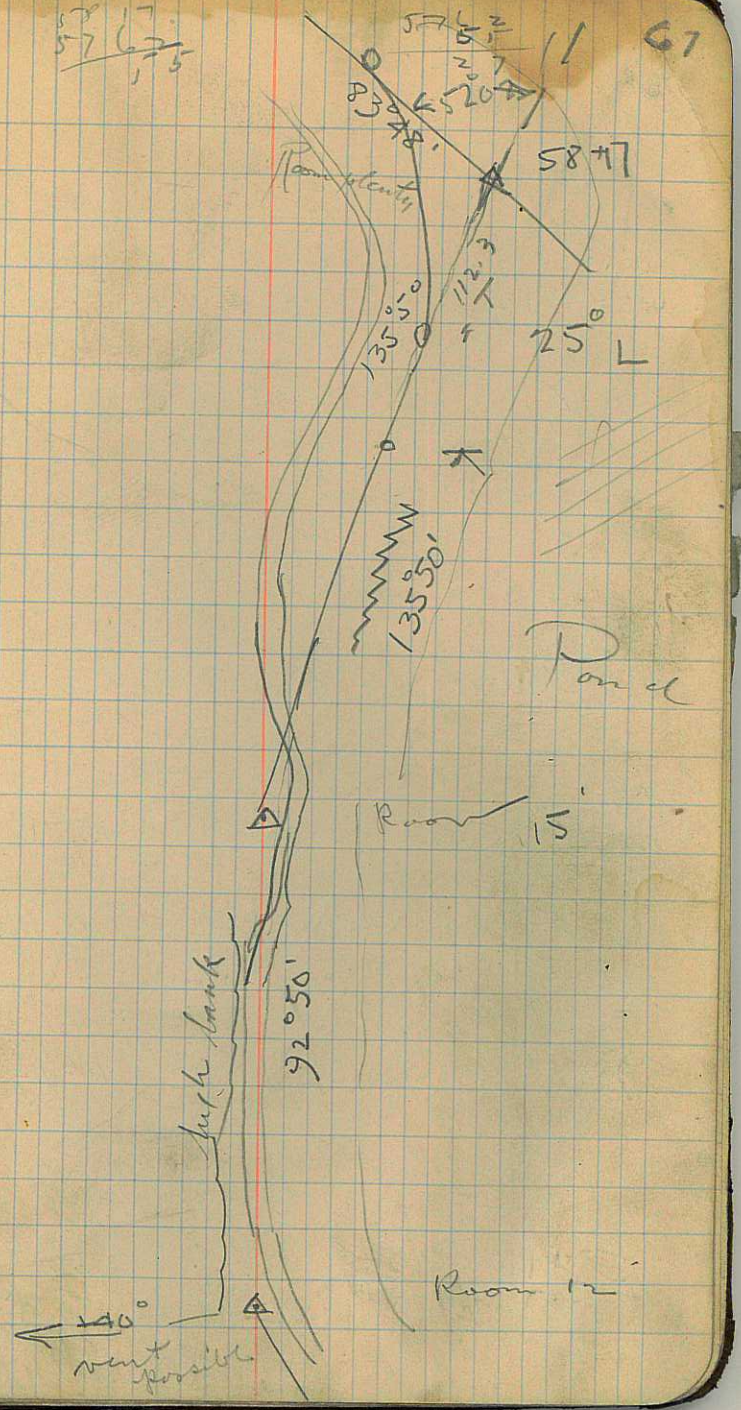
bottom base stump

55 30

55 30

55 30

66	BS	FS	IH	
58+17				161.20
57+62			4.5	156.7
57			4.5	156.70
56+80			3.2	158.00
56+00			9.0	152.20
55+03			12.7	148.5
			curve same	
54			12.6	148.6
53			13.4	147.8
52+02			11.5	149.70
51+49			10.8	152.20
			9.0 on road	

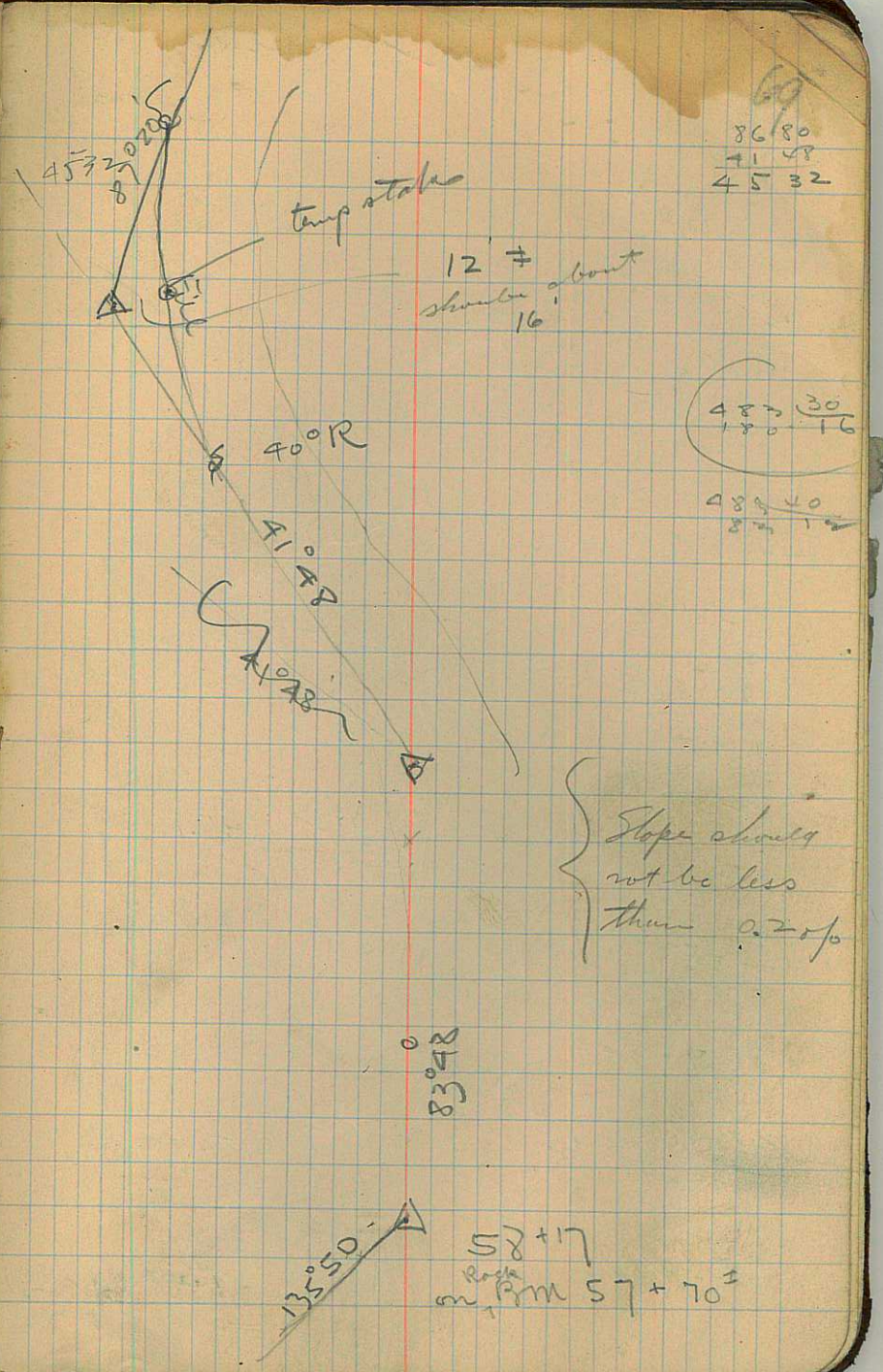


68

levels down

.135 FS m Ele 147

				158.18
△ 63+27				
127				
62 00			10.2	147.98
33				
61+67			9.1	149.08
67				
61 00			10.0	148.18
30				
△ 60+70			8.7	149.48
top 60+70	5.65	8.00	150.18	155.83
60 00			4.9	150.93
59+00			8.6	147.23
83				
58+17			4.9	150.93
	6.39	1.02	154.81	161.20



60

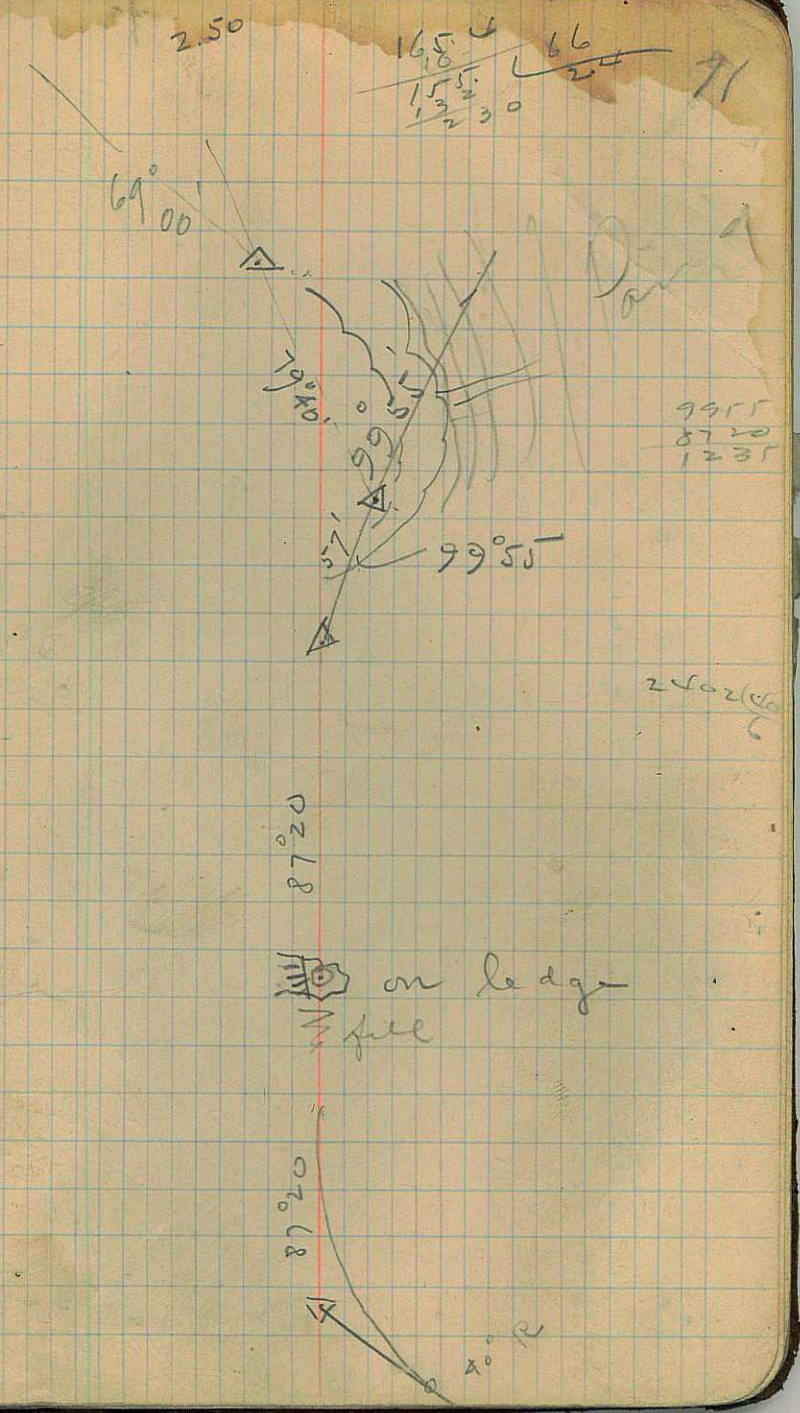
86 80
41 48
45 32

487 30
180 16

487 40
8 1

Slope should not be less than 0.2%

	BS	FS	ms	Ele	H.I.
99 67+00					
66+48			+ .9		
66+17 top 66+17		1.61	1.64	1.9	165.41 165.67 167.28
▲ 65+60 on tangent +60		2.78	11.88	12.4	154.88 155.40 158.18
65+00				10.2	147.98
64+57				8.1	150.08
64+00				5.5	152.68
63+27				2.2 on PT 10. on curve	155.98 148.18 40°

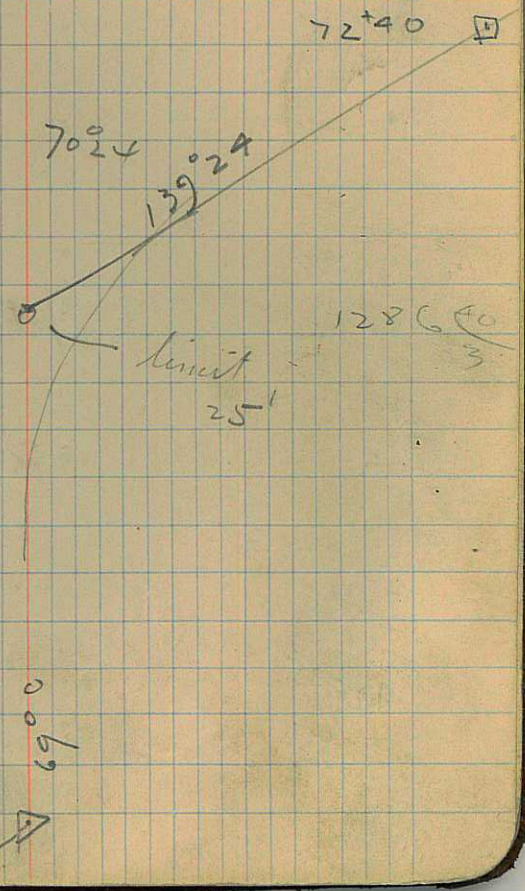


72

	BS	FS	HI	Ele	H.I.
				157.53	
△ 72+40					
72			4.0	153.53	
71 00			8.0	149.53	
70+00			11.0	146.53	
△ 69+28			5.0	152.53	
69			5.0	152.53	
68			2.8	154.73	
	12.56	2.78		154.75	167.31
67			8.0	159.31	
66+44			2.0	165.31	

73

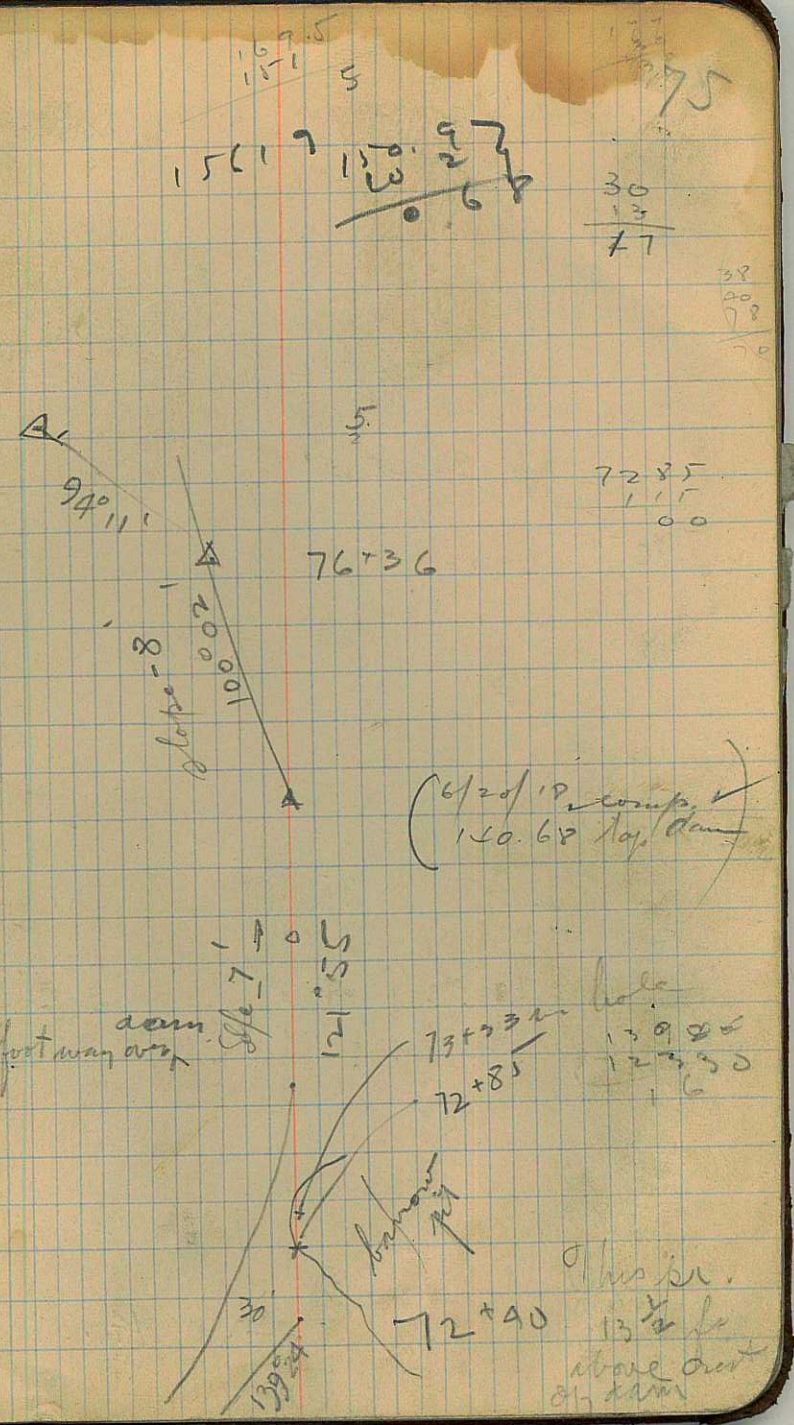
139 24
68
70 24



74

	BS	FS	cm	Ele.	HI.
	100.35	95.68			
77+07					
	12.80	4.09		150.60	163.40
76+36			10.9	152.50	
76+36					
Δ 74+83			9.4	154.00	
74+00			8.7	154.7	
top 74	0.94	8.15		155.25	156.19
	5.18	10.40		145.79	150.97
	5.24	10.4	cut along	140.6	
	2.28	top 74	10.29	155.25	157.53
73+33			9.8	147.73	
72+85			1.6	155.93	
Δ 72+40			3.0	154.53	
	119.27	6.30		119.7	
				40.68	

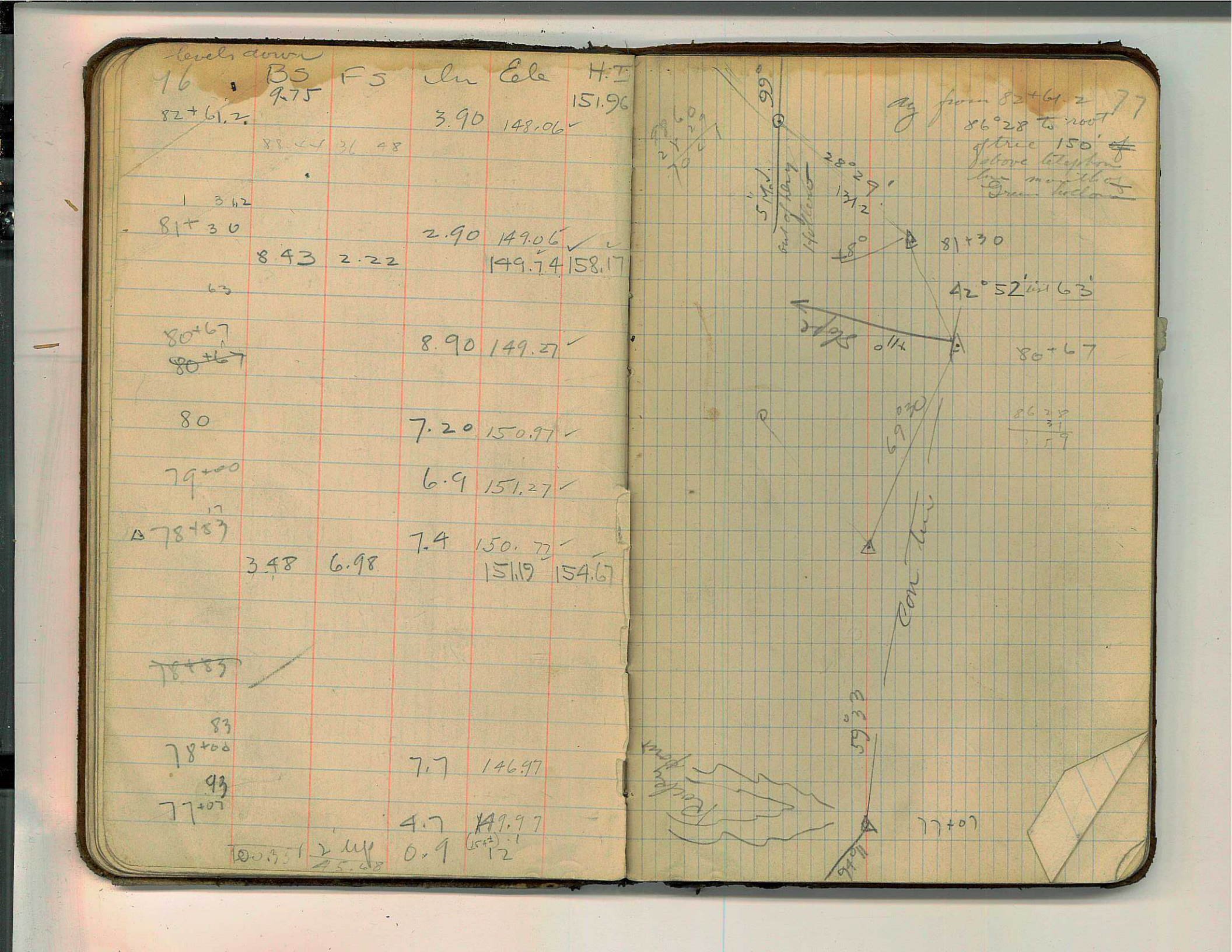
75



levels down

	BS	FS	Ch	Ele	H.I
16	9.75				151.96
82+61.2			3.90	148.06	
81+30			2.90	149.06	
	8.43	2.22		149.74	158.17
80+67			8.90	149.27	
80			7.20	150.97	
79+00			6.9	151.27	
78+53			7.4	150.77	
	3.48	6.98		151.19	154.67
83					
78+00			7.7	146.97	
93					
77+07			4.7	149.97	
			0.9		

Ag from 82+64.2 to 77
86°28 to root
of tree 150' ~~of~~
before telephone
line marked
Green Indian



78

Ob on 82 + 61.2

6/19/18

	Horiz	Vert L	Time	
Direct	89°57'	36°09'	5-36	φ
Invert	90°49'	35°23'		d
	90°23'	35°46'		
Direct	90°24'	35°39'		
Invert	91°14'	34°54'		
	90°49'	35°16'30"		
Direct	90°52'	35°07'		
Invert	91°39'	34°26'	5-44	
	91°15'30"	34°46'30"		

90°49'10" 35°16'26"

Z = 89 60 - 35 15 = 54°45'

Z = 54°45'

φ = 41°37'40" on 4138

near enough

Add 31

79

φ δ = + 23°26'

10 9
5 4

4138
5445
9623
2326
11949

96 23 . 95 83
2 3 2 6
2 (7 2 5 7
3 6 2 8 3 0

ω 59 59 30 = T. 7001713
R 36 28 30 = T. 7741314
T. 9260399
T. 9120311
T. 0140088
T. 8735599
T. 1404489

ω 59 59 30 = T. 7001713
36 28 30 = T. 7741314
T. 4943027
T. 9120311
T. 5622712
T. 8735599
2 (T. 6887113
T. 8443556

80 down Direct Levels

from Hyrum City Res

to and up canyon

along U.P. above pipe line

Sta	BS	FS	HI	Ele	HI
	5.73			100.00	
	2.46	6.48			
	5.70	0.00			
	4.82	3.86			
	6.20	4.11			
	8.40	7.00			
	6.15	1.65			
			4.33		
	8.00	3.40			
	4.60	6.90			
	13.03	0.85			
	13.60	0.18			
			3.50		
	9.75	2.05		142.21	151.96
	8.44	36.18			
			6.07	145.89	
			3.90	148.06	

82+61.2

6/20/18

81

on sighting

142.21
2.05
140.26
3.5
140.76

on NE post ⊗ 0 vent

0 0 about 2000' below second bridge road from post

on 5" pipe line mouth of Iron Hollow

This HI

on BM about 82° line on right and 16 N of pl of connection north 5" line

82

6/20/17

2.87

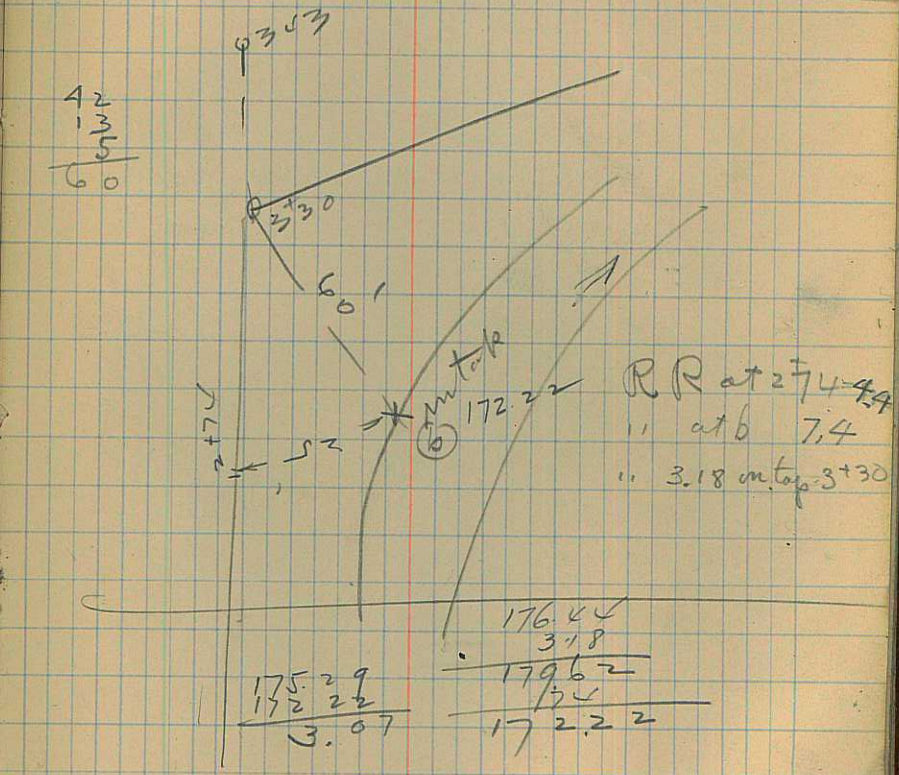
8.57

Upper Gage

83

USBM by upper gage near road

Iron USBM on table in rock 3 pieces of rivet 50' below gage house



84

10/1/18

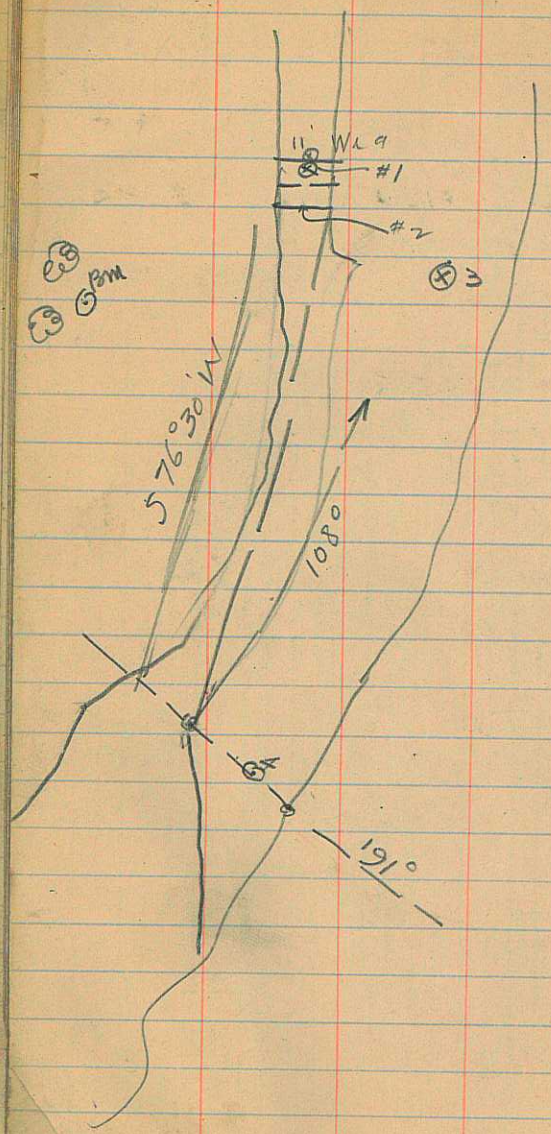
Preston M Riverside Canal
Notes at head

3.20 gage at 3 logs
Oneida Canal 100' below
intake. ~~Rode~~ Yard stick
pulled off.

1" on yd. stick SW, cor
of bridge over main Creek
200' above diversion

85

86



#1

on nail in Hawbuck stump

#3

4

Bs	FS	HI	Ele
			grade
6.50			100.00 107.50
7.50			
	6.52		101.0
	0.41		107.09
	8.30		99.20
8.93	7.92		99.58 108.51
	8.1		100.4
	6.00		102.5
	7.00		101.50
5.25			102.50 107.75
	4.70		103.00

67.7
30.1

7.630
60

8.7

107.50
6.52

107.50
4.92
99.58
8.93
108.51
7.71

added 1 to grade

BM #4
—
100.1

on H2O surface
Canal bed at
on H2O

on NL Hawk Creek

86

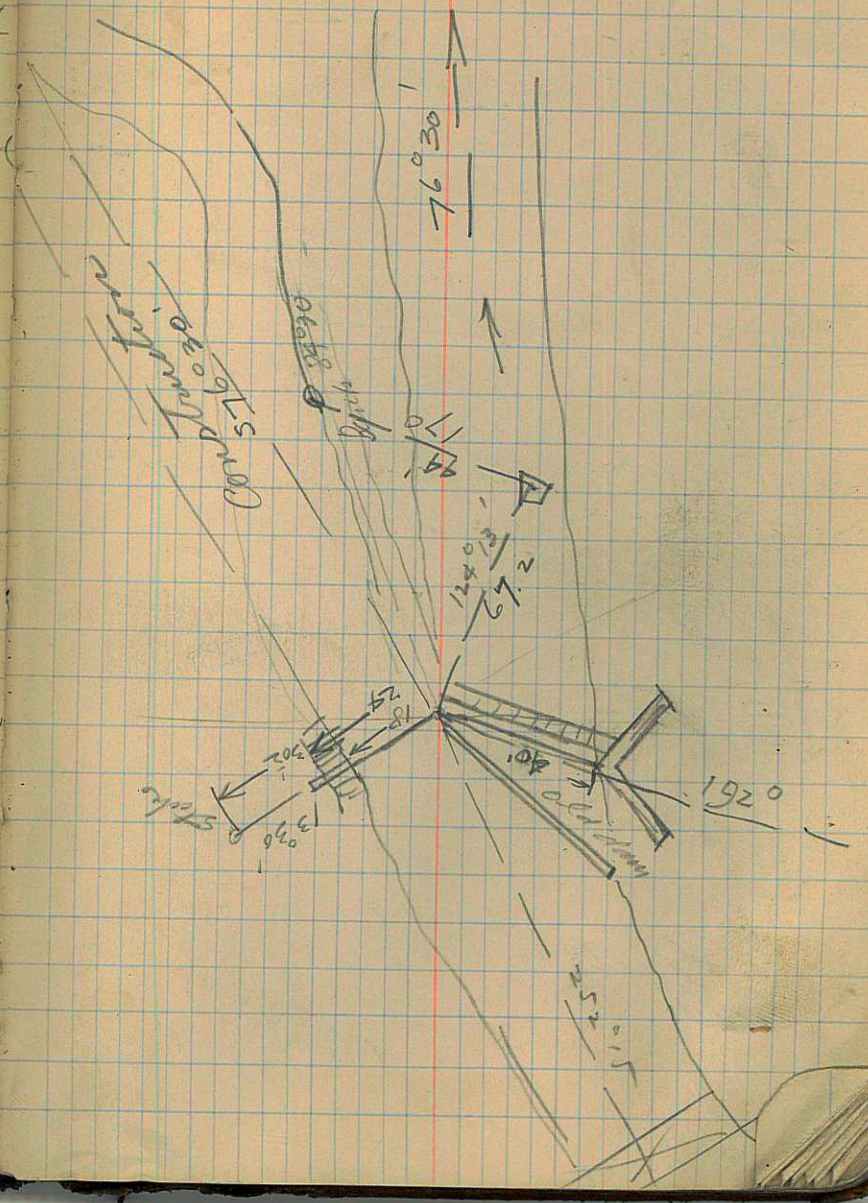
Levels from #1
down to screen — Ele HI

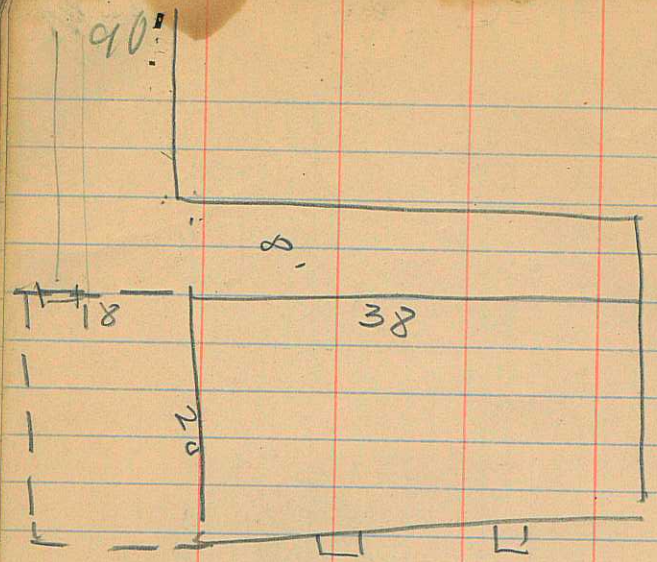
	BS	FS		
#1	4.65		add'l for grade	105.65
	7.60	2.28	103.37	110.97
		11.1	98.87, ground at screen	
			add'l for grade	

Note 300 ft from
old gate to fish
screen

89

89 60
76°30
133





25 35 2091

92 Pts

Pt	∠	Dist
16	286°	2.315
15	10°	0.40
14	325°51	5.82
13 Δ-		
13	278°12'	9.00
12	0°	0.31
11 Δ —		
11	173°26'	7.00 (.99 secmes)
10	90°41'	2.88
9	90°47'	2.51
8	90°47'	0.03
4	308°20'	
7 Δ-		
7Δ	158°53'	2.807 2.82
6	74°00'	1.06
5 Δ-		
5	158°53'	7.00
4	268°49'	7.86
3	131°	0.31
2 Δ-		
2	270°15'	23.687 (-3.40 secmes)
	208°41	
1 —		

Survey for Rube Larsen 10/21/18

92

2368 / 786 / 3157

2.807

to S. water's edge

4

Creek

S

Tele

1401 11 a Cu

750

01

Sub 27' V from all az

2701'15"

20.15 [illegible]

to W. town Logan Temple

35

#1

76

Co. Rd.

94

31 △ 316°45 2.40

30 △

29 46°15 0.255

28 △

30 315°30 7.17
28 315 30 0.863

27 315°30 0.67

26 △

26 46°15' 1.42 ℄ of O.S.L.

25 △

4.223 sec. mean
25 91°00 4.25
29 91°00 3.03 ✓ ℄ Coward

23 △ –

8.165 from 19 sec means
23 92°20 8.77
22 92°20 0.78 ✓

21 △

21 173°50 ✓ 0.28

20 △

△ 20 353°50 0.337 along Enid O.S.L.
19 99°17 ✓ 3.68 meridian 18°10' W to Enid
4 322°38

11 △ –

4 349°27

13 △

18 278°34 1.665

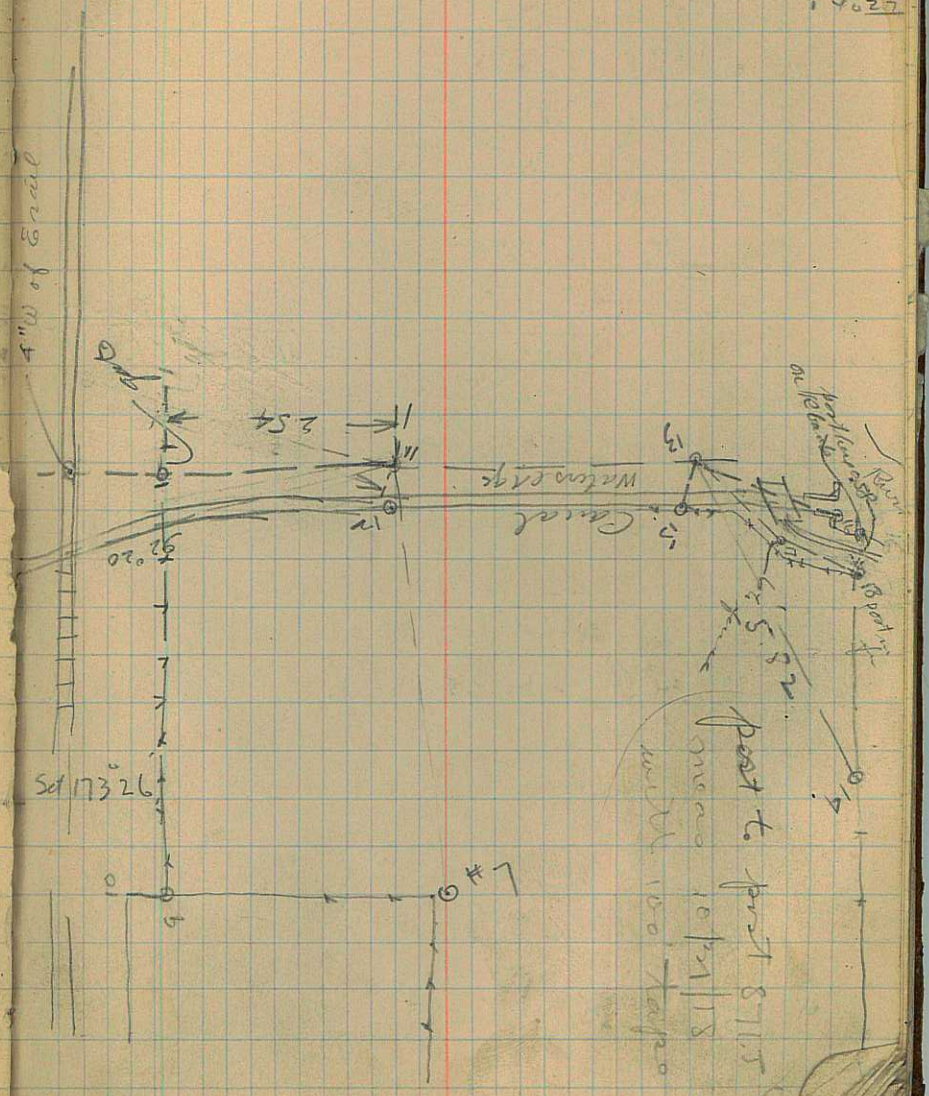
17 △

17 30°30 2.092

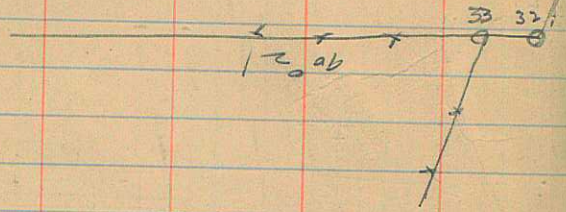
13 △ –

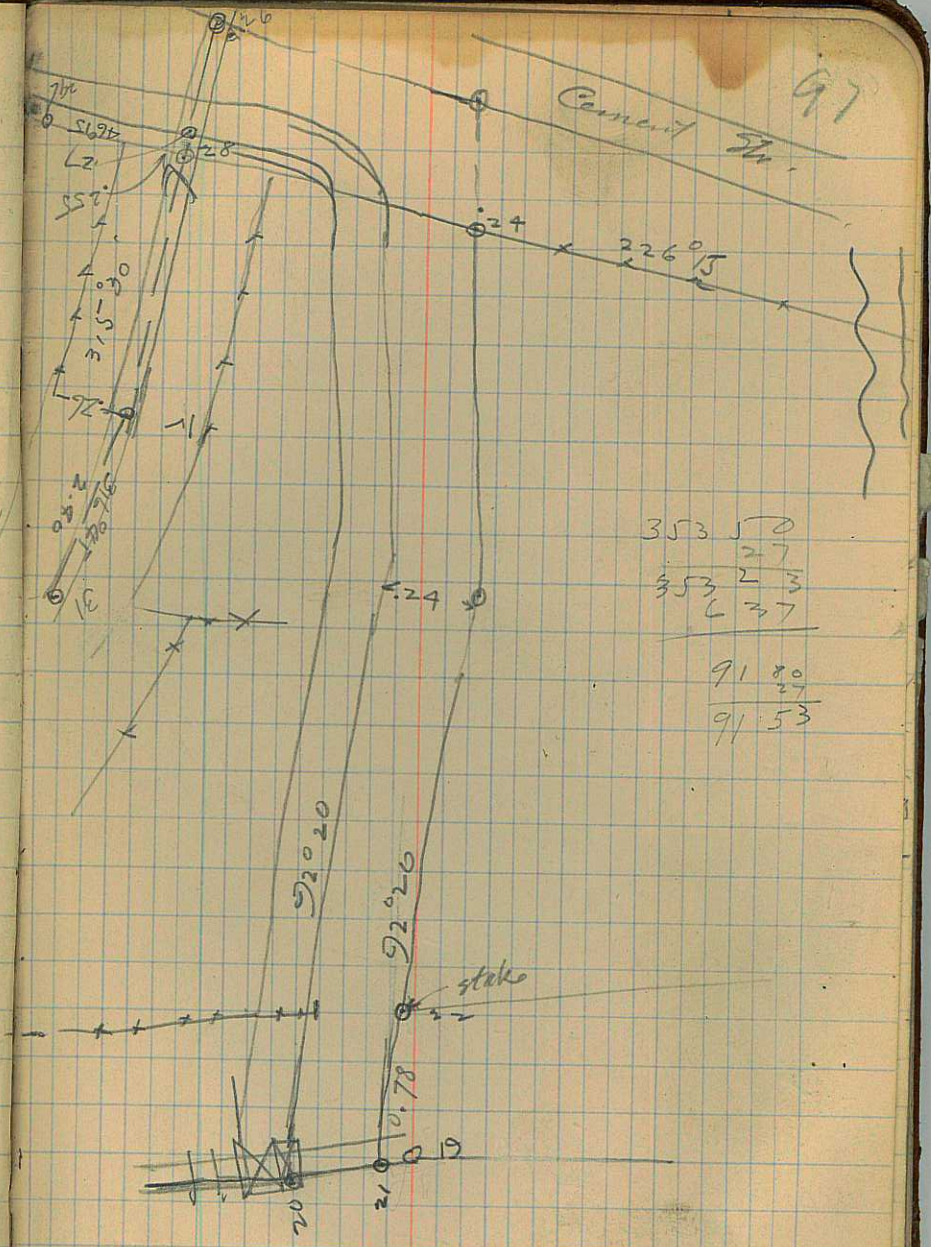
95

278°12
180
98 12



.63
.325





353 50
27
353 23
353 27

91 50
27
91 53

208 42

#1 △

#1 0°05' 14.33 14.35

35 0°05' 5.16

34 △

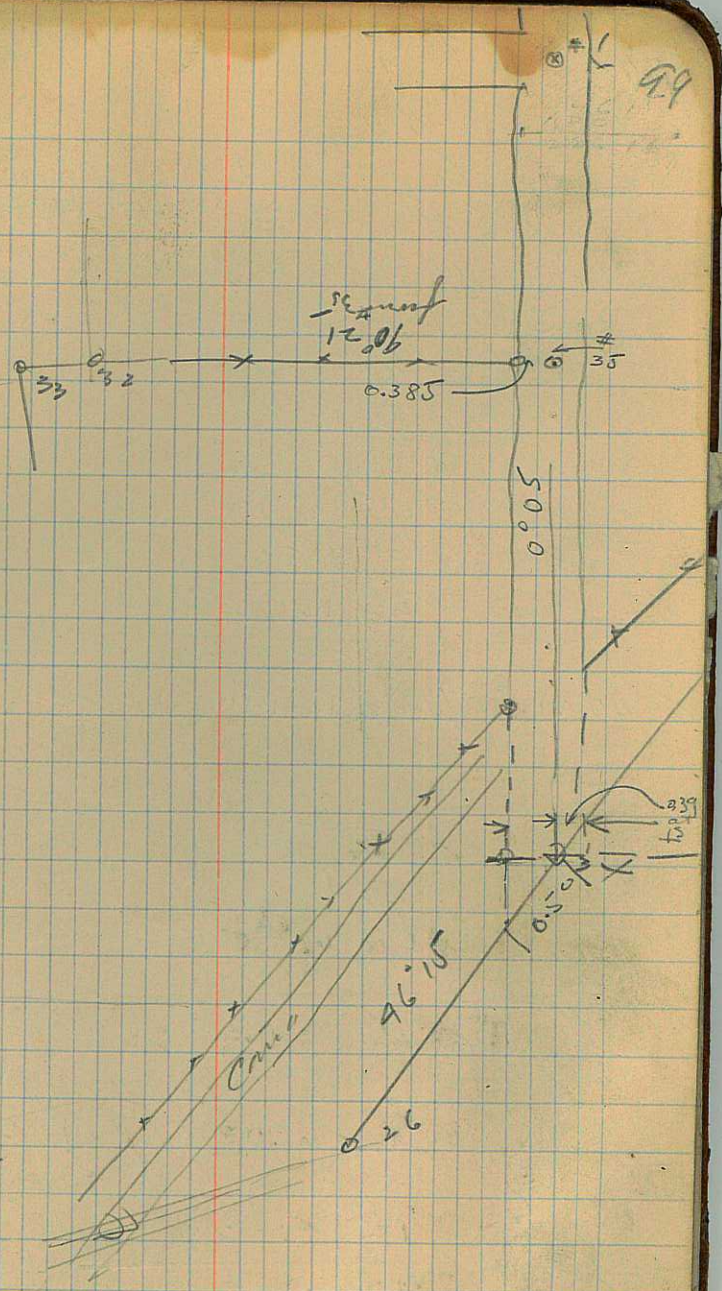
34 46°15 2.38

26 △

33 0.63 90°21

32 0.325 90°21

31 △ –



Wednesday Oct 9 - 1918

Ob on #19

	Ob	Vert ∠	time	
Direct	69°12	13°37	5:40 P	+
Invert	69 58	+12°41		+
Mean	69°35	13°06½		
Direct	69°40	13°04		+
Invert	70°20	12°21		
mean	70 00	12°42'30"		
Direct	70°05	12°39		
Invert	70°47	11°51'	5:46	
	70°26	12 16 30		

Σ mean 70°00'30" 12 41 40

Survey near Logan
Station

Rube Larsen

Refraction = 4' 10"

h corrected = 12°37' 30"

ϕ = 89 59 60
12 37 30

Z = 77 22 30

Sat 99°17

δ = 41°42'
Lon 12.066 hours

δ for Oct 9. G. noon = -6°3'35.6"
hourly change 57.20
12 5.00' mm =
12 3"

6 3 35.6
12 6
6°15 41 6

or say -6°15'40" = δ

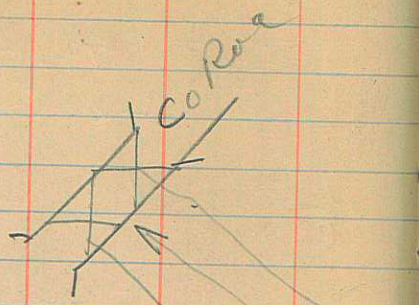
Z = 77°22'30"

77 22 30
41 42
118 63 90
- 6 15 40
112 48 50

= Z + δ
ϕ = (Z + Q - P)/2

cos 56 24 25 = I. 7442 9691
sin 62 40 05 = I 948 5951
I. 691 5642
I 989 3704
I. 702 1938
I 873 1102
I 829 0836
I. 914 5418

log 2nZ
log cos q
55 13 20 (over)



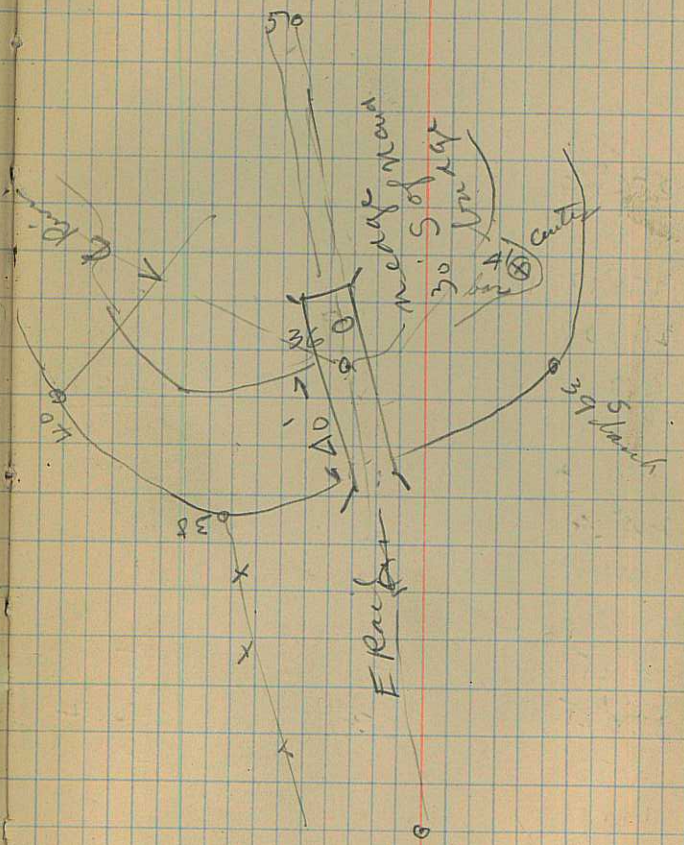
46 Δ –

	46 Δ	276°34'	631'	5	
nbk	45	277°47'		7	11.5
nbk	44	274°17'		7	11.2
n bank	43	272°20'		9	11.9
n bank	42	284°40		9	11.01
37 Δ	41	246°50	-1°	10	11.47
	40	100°43		10	11.50
	39	269°50		10	11.0
	38	49°40	-2°30	11	11.60

36 Δ

37	173°50		2	5.96
#36	173°50		4	5.70

19



X 256°09'

Σ

Σ 278°12' 100'

X 267°37'

13 –

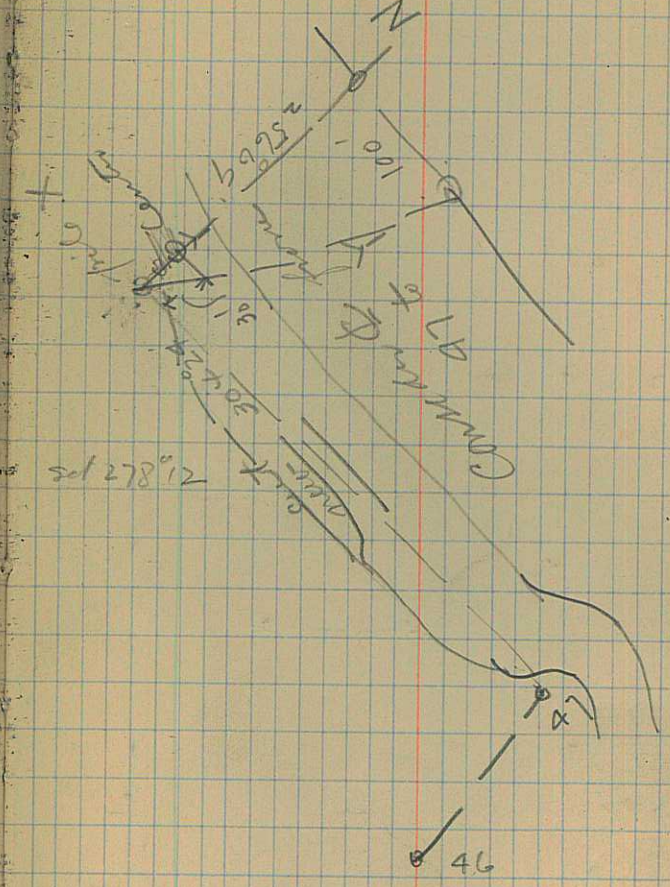
X 304°24' up ℄ of Run

47

47	40°25'		4.	5.11
N	335°25'		4	5.2
N	14°50'	+4°	10	11.30

46 –

Phox 7.95 at night

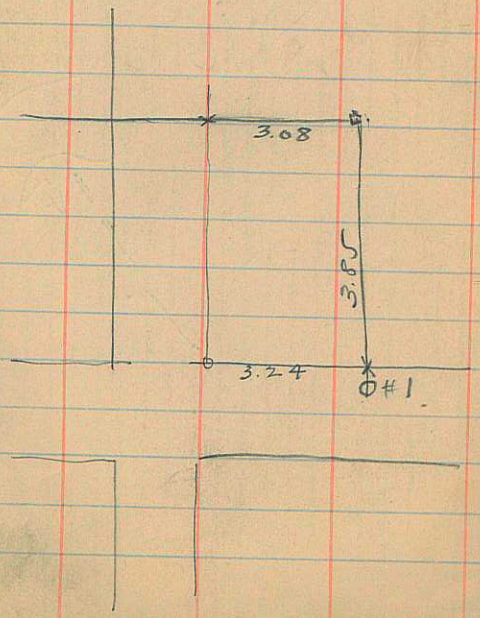


Ob on #1

	∢	Vert	Time
Direct	316°05	31°50	10:50
Direct	31707	31 30	
	31636	31 40	
Direct	316°52	32°14	
Direct	31752	31°52	
	31722	32 03	
3 mean	316°59	31°51'30"	

2°16

#1



80
76.15
3.85

3.00

315130
130
315000

8960
3150
5810

Z

317 2 L
316 36
63 35 8
316

to Smoke stack of O. L. Stevens on Bear River
Azm beam to stack
S 3° 32 W

$\Sigma = 58°10$

$\varphi = 41\ 51\ 40$

$\delta = -6°5$

5810
41 51 40
9961 40 =
654
2 | 93074 0

cos 46 33 50 = T. 837 3013
53 27 50
T 9049760
T. 7422773
T 8720191
T. 8402582
1 9292073
2 | T 9410509
T. 9705254

359 60
316 59
43 01

316 59
41 45
358 44

69° 7 40
2
138 14 80
179 59 60
138 15 20
41 44 40

from

$\sin \frac{1}{2}a = \sqrt{\frac{\cos \frac{1}{2}(z+\varphi+\delta)\sin \frac{1}{2}(z+\varphi-\delta)}{\sin z \cos \varphi}}$

9961 40
654
2 | 106560
53 27 50

115

16.2
.05
3 2 5
8 1 0
0.5

~~Add~~
Sub
43 90
44

41 44 40
41 01
43 40

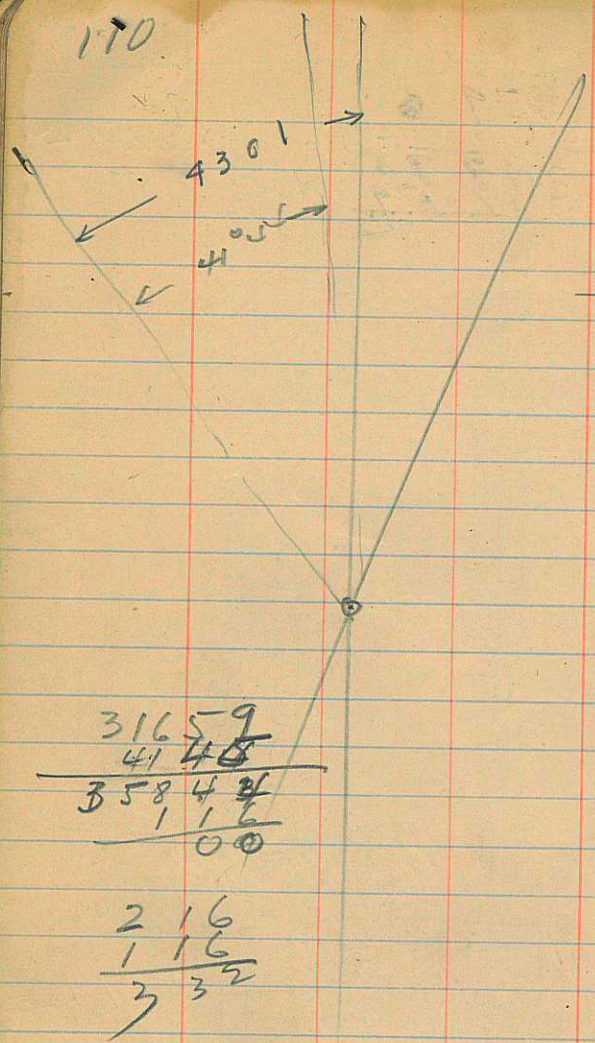
359 60
41 45
318 75
316 59
1 16

4291
41 45
1 16

1 7 6
45
1 3 2

42 60 60
41 45 40
1 16 20

add 1°16'



1.80
.18
.62

3165 9
41 40
3584 4
1 1 6
0 0

2 16
1 16
3 32

.3591 60
41 41
3187 75
3165 9
16

112

Beg at Sec cor 18 Lat 5
E & W N

Cl

#	1	90°	4.17	4.17
2#				
	#3	90	3.54	3.54
3–				
	4	180		28.00
4				
	5	183°00	0840	
5–				
		270°		
	6	270		
6–				
		180		
	7	180°		
7–		~~270~~		
	8	270		
		90°07		
		90°07		
		90°07		
5–				
	9	90°		
9–				
	10	90°		

Sumo Rigby 3.85 32 4.17

113

West

	3165.9	
	41.07	
	3584.7	
4.17		
	1052	
	16.2	
	1052	
	3156	
	126	
	.85212	
3.54		
28.00		
16.20	to point on Road	
0.825	Ensign Govt. Stn	
2.70	to top of shoulder of Ridge Cor	
1.80	to Spike Stn	
2.88	" N " Stn	
~~20.0~~	set peg	
40	set peg	
8.98	to hitch	
	hits Sec line over hill 2 mi West	
1.25	to Ensign field Stn	
2.12	to W " " "	
24.425	shows go N 24.425	
3.15		

44.17
28
1617 (28
993 162
6190
5988
2020
1996
240

3.54
85
2.69
4.17
1.30
1.79
1.18
0.61

4298
4118
1.30

1.25
87
2.12

Oct.19,1918.

Judge W.W.Maughan,

City.

Dear Judge:

Oct. 11,this year, I made a survey of Junius Rigby's tract over in Newton and I found that the fence on the south end is over on him 3.05 chains,on the north end of the field 2.35 chains. The fence on the south end is 29.83 chains west of the S.E. cor. of the N.E¼ sec. 18,Tp.13 N.,R. one west of the Salt Lake Base and Meridian,or 119.32 rods. This involves 6 acres of the very best land in that locality.

Sincerely yours,

114

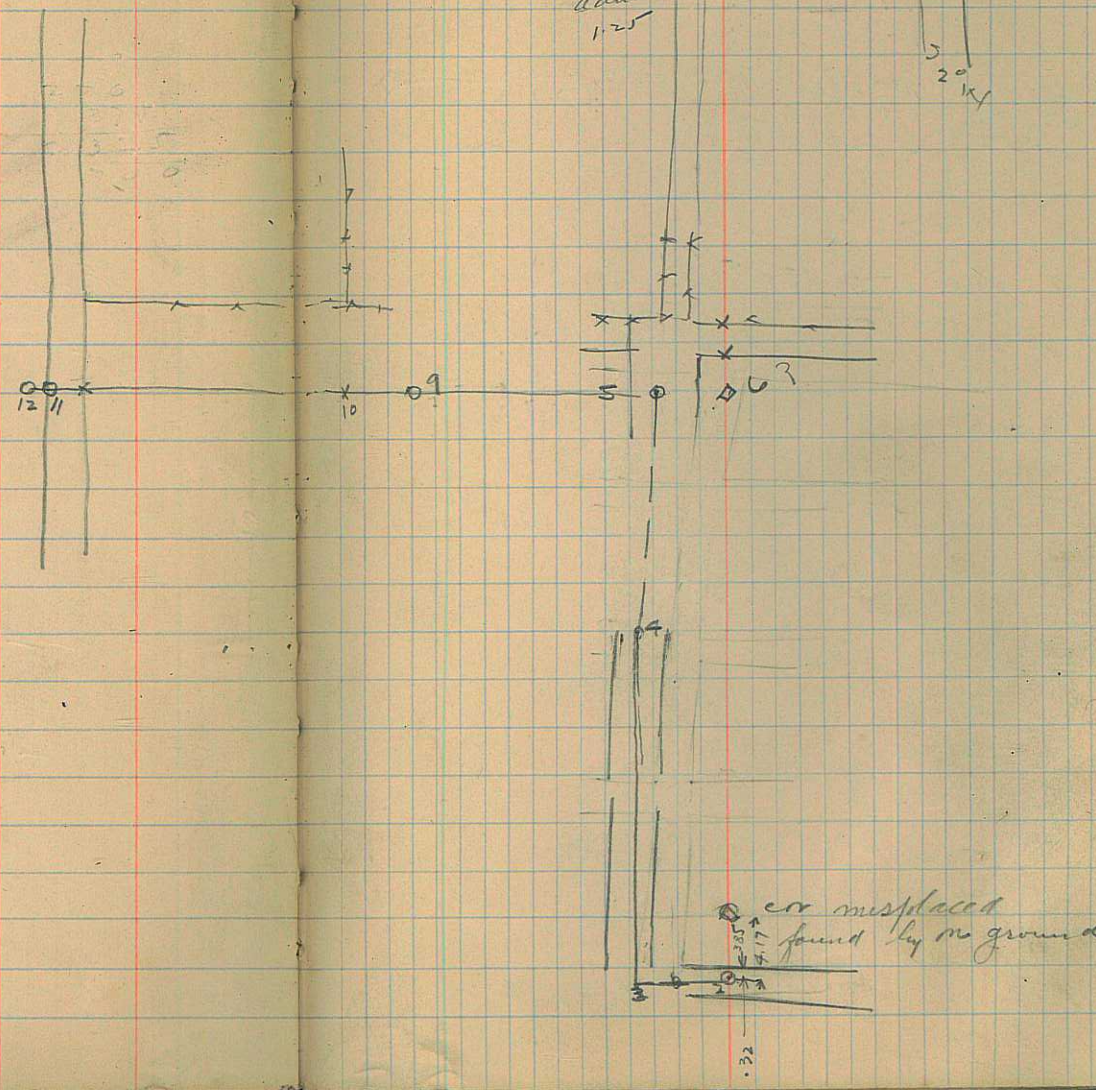
50
57

4 | 10²7³
26.75
108.00

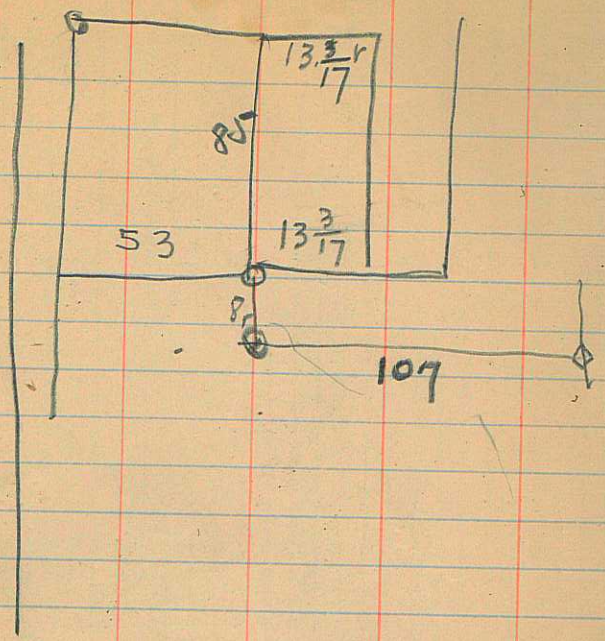
26.75
2325

115

40
26.75
13 25



or misplaced
found by ground


13 3/17
85
53
13 3/17
8
107

118.

Dist

9— 11 90° 13.83

peg 12 90 13.87

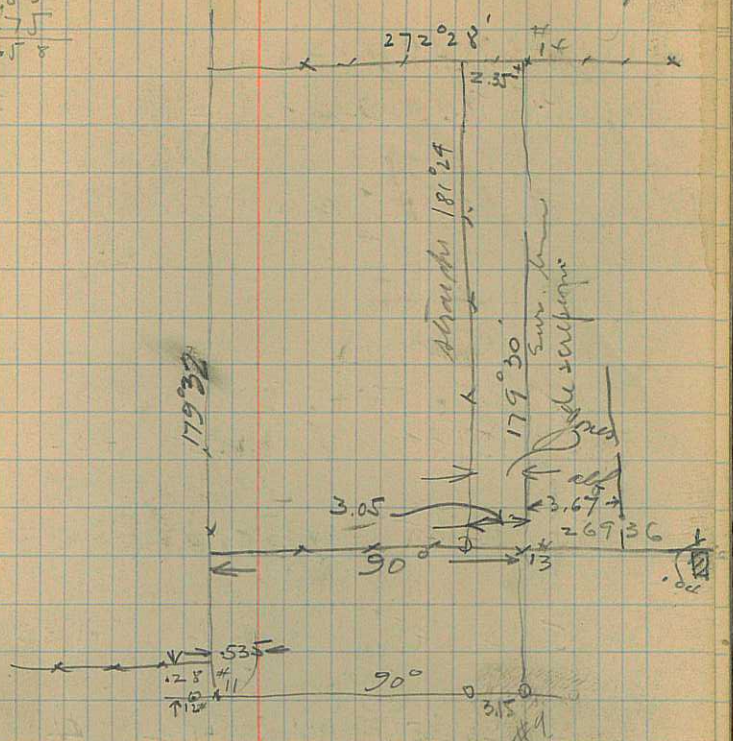
9— 13 179 30 3.335

14 179 30 25.79

Chained from 13 E 3.67 to Jones E line
dr 8.00 to one of Mickel's lines
16.91 extend E. line of Mickel
with line of Dorn Peterson

#5 37° 27 { to run smoke stack of Dorn P Peterson's Kitchen
This #5 is out in street

119



Report sent to Judge Vaughan 10/9/18

120 Oct 21 - 1918

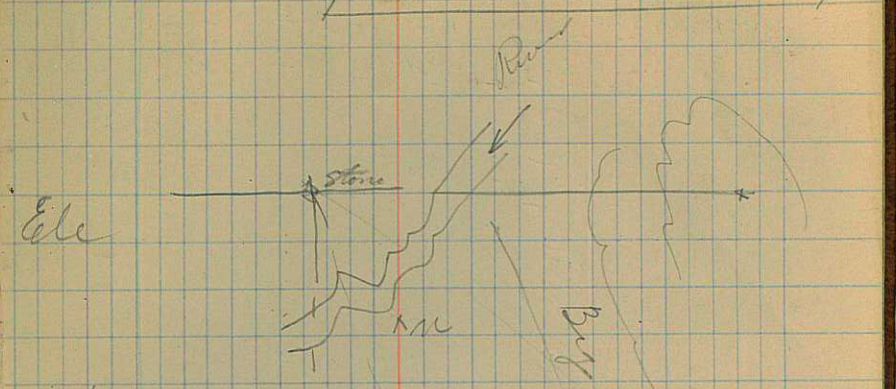
Hyrum Water Work Extension

up B - 5 · F —

	B.S.	Dist	L	Stadia centr. upper	
	159°55		3	+2°47	5.41
	241°45				
5 —					
5	201°45		6	+1°33	11.92
4					
4	232°53		+12	4.0	9.00
3 -					
3	273°20		4	+22'	5.58
2 —					
2	242°30		4	+1°5'	5.75
1 —	242°30		4	+1°5'	5.75
1	182°57	28'			
	111°				
	182 57				
0 -					

3 - 5 + 41 +2°47

1/4 mile N.E. of 121



to 1/4 stone marked 2 on N. side ⊙ S

{ +6°50 to alone pine on ridge perhaps 6 de. about 1200' above of

197.00 ✓

190.9 19 33 +

185.7 13+33

185.7

180.9 ✓ 3+33

184.00

179.1 ✓ 1+75

176.00 180.8 ~~1+75~~

down align.

to dry spring

176

122

Oct 20 #5

	Az	h	
Sun	52°	21°14	4:40
Sun	52°52	20°24	4:45
	52 26	20 49	
	52°35	20°48	
	53°25	20°00	
mean	53°00	20°24	
	53°04	20°26	
	53°55	19°38	4:47
	53 29 30	20 02	

Σ mean 52°58'30" 2025

h corr for $\int$ = 20 22 30

Z = 69°37'30" ✓

Q = 41°38' ✓

δ = − 10 40 10

Add 28 ~~from~~ to all ✓

Hyrum City Entrance 123

Oct 21 - 1918

$$\sin \tfrac{1}{2} a = \sqrt{\frac{\cos \tfrac{1}{2}(\varphi + Z + \delta) \sin \tfrac{1}{2}(\varphi + Z - \delta)}{\sin Z \cos \varphi}}$$

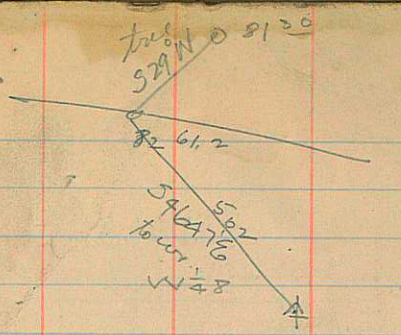
41°38
69 37 30
110 75 30
10 40 10
120 115 40
60 57 50

110 75 30
− 10 40 10
100 35 20

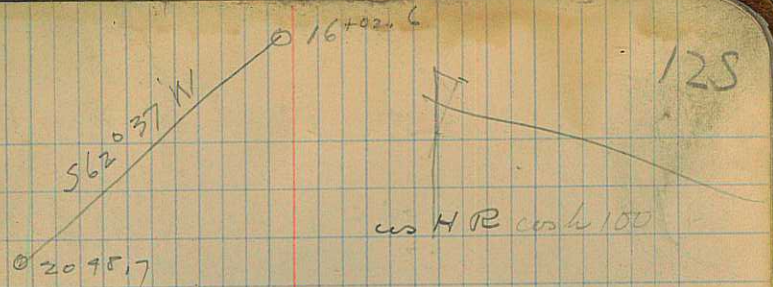
cos 50 17 40 = $\bar{1}$ .805 3937
cos 60 57 50 = $\bar{1}$ .941 6674
$\bar{1}$ .747 0611
sin 69 37 30 = $\bar{1}$ .971 9407
− cos 41°38 = $\bar{1}$ .775 1204
$\bar{1}$ .893 5599
= $\bar{1}$ .901 5605
$\bar{1}$ .995 0794

79 60
63°17
1164 3/2
23 32 76

553 26 ✓



Hymn City. Study of road



on S side of River by Paulsens

42 52
31
93 23

98
98
784
882
376
376
883

275
76
1650
2475
2620

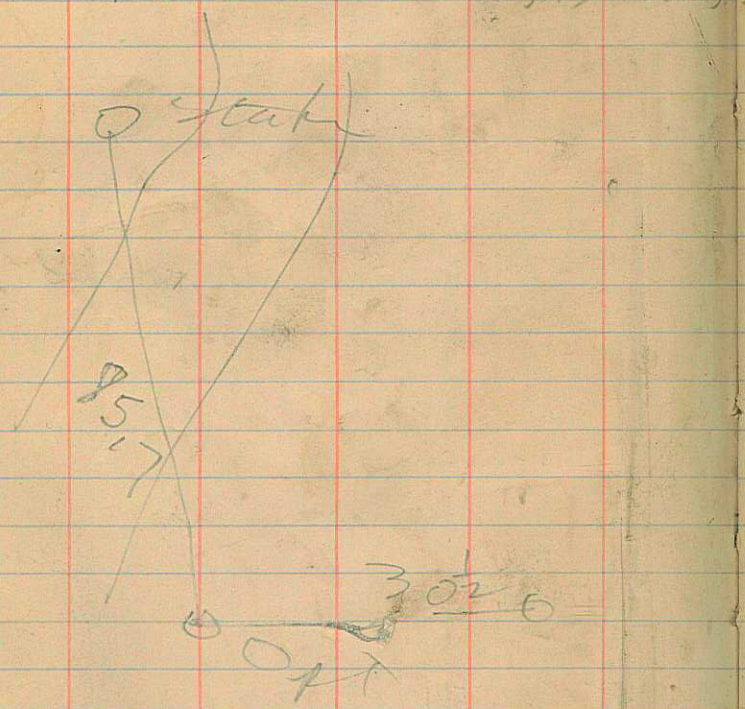
220
88
176
1760
1936

502
193
309

82+61	325 38 true	4	+11 22	10.00	to 14 cor cor. 8	
80+67					set 43 23 FS to 81+30	
					458	
2		9	+12 20	11.75	264	
1						
1	313 13	546 47E true	9	+19 15	11.2	194
82+61						

set 86 59 FS to west mark [illegible]

	BS	FS	HI	
	1.65		107.09	108.74
	~~0.15~~	0.15	108.59	
	2.13	5.64	103.10	105.23



108.59 — 108.7 — 127
5.60 — 1.5
9.69 — 108.59

Subtract Sum of mean gut

107.09
1.65
108.74
5.64
103.10
2.13
105.23
.91
105.23

P. Riverside M Canal

Nov 27 - 1918

Sta	RRm grade	BS	F S	HI
		0.32		108.59 / 108.91
			9.38	
			9.41	
			4.41	104.5
			7.82	
			7.92	
			9.54	
		6.14		99.53
		Dist L	℄	Flow Dist R
+15	6.16	3'=4.1	4.1	8'-41
		4'-0.2		10 bench
+44	6.30		2.6	
		4'-1'		5'=4.6
		12-0.5		8'-4.6
61.5	6.40		1.90	(5' 4.80 headgate)
		L 11.8=085		
100	6.50		5.50	
140	6.5		6.5	
160			6.6	

108.59 / 10.68 / 4.01

6

108.59 / 3.2 / 108.91

99.5 / 5

108.91 / 9.38 / 99.53

108.91 / 10.68 / 4.01

Hub 5 side new head gate

on concrete floor head ~~ ~~

" " " lower end

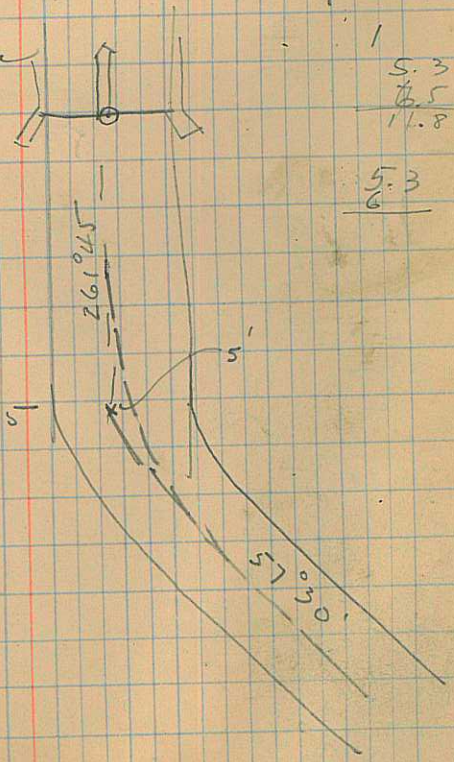
on down ℄ 108.91 / 7.82 / 101.09

on wings N end

7.82 / 1.0 / 7.9 2

5.5

on concrete floor



6.4 / 4.5 / 6.5 / 11

1

1

5.3 / 6.5 / 11.8

5.3 / 6

hea

130

8.39
5
3.39

8.39
5

3.39

6.4

a 6.0

6.89

2.79 10859

OMC

14/8
9 2

13/1
8.2
6.5
1.8

1.44
.3
27
4 3 2 20

180 27
6

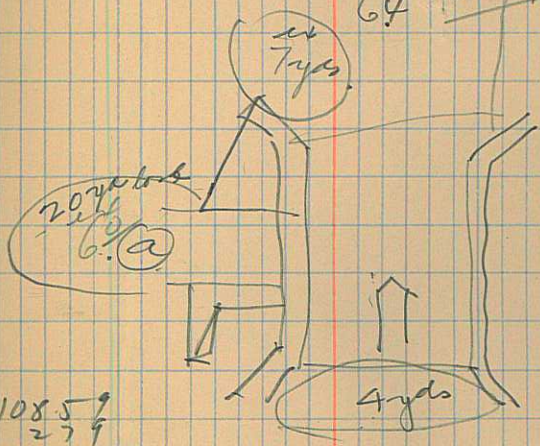
on floor
on top wall

25 above gate

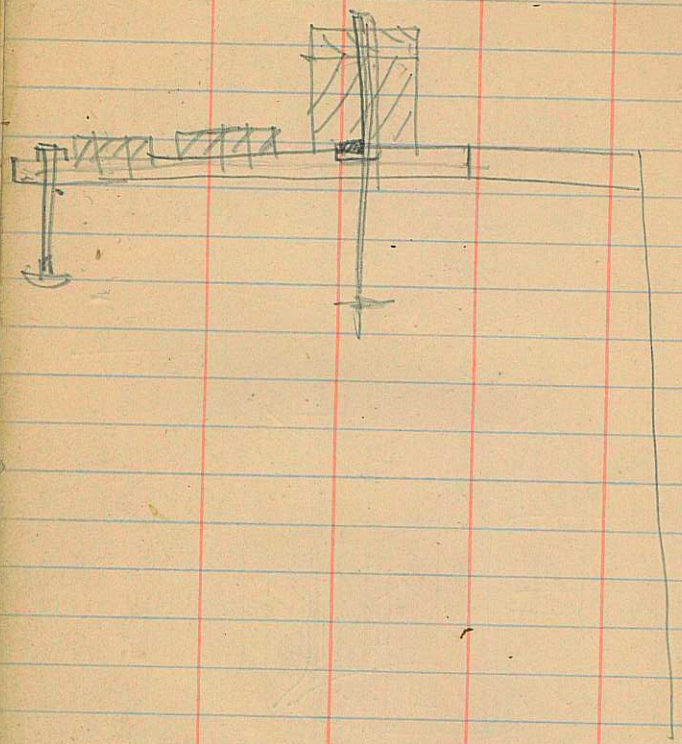
25+25
2 loop

6.4

6.75
6
6.81



108.59
2.79
111.38
6.89
104.49



$\frac{16}{7}$

$\frac{133}{60}$

.65

5

$\frac{19}{133}$

130

.009

.910