24

1013

#24

FIELD BOOK

1308

Eugene Schaub
Logan Utah

7/10/18

#1013

Mr Smithfield
notes in this book

checked + indexed
SBS 8/2/33

-8

Survey of
Campbell Bros. Water
Extension from Fish Creek

7/10/18

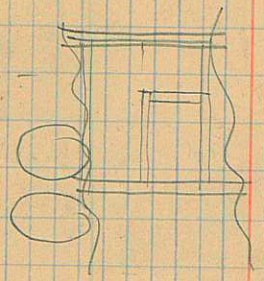
17
15
85
17
255

100 / 150.00

1.000 ∠ 150
.866 + .500i
.866 − .500i

0.0067 cu ft/s

= 23'



see next page

Sta	BS	FS	HI	
				213.11
6+00				
5+00				
			5. levels	208.1
4+00			4. taking	196.86 4.6
	9.65	6.69		206.42 216.07
3+54			4. -24	197.58 4.6
2+94			5.7 -24 -90	198.0 4.75
	3.03	4.7		211.3 214.40
+88		(1.90) alg.	4.05 level 210.3	199.4 4.8
			3.99 level	210.41
0			6.15 level	208.25 200.00 4.5

10

5 3 5 5 12 4. S

3.6 2.5 4.1

4.5 1 2.6

3.2 4.8 8.0 2 5 5

4.5 4.5

50 47 1

2.0 1 4+00 4.7 3.5 2

1.5 0 2.8 1

3.25 3+54 7.85 gr.

2.10 81 -24 0 0

.06 6.98 2.0 4 0.7 1.4 4.2

2+94 2.3

4.7 2.1 1.0 3.5 4.7

3.6 3.8 3.6 9 5

8.5 2.3

2.10 48 1

3.2 slope 6 (0-88)

in sewer in stump 94.90 Bad blow hole

2.17 10.0 2.17 40

Slope -24

-5

	BS	FS	HI	
15				
14				
13+00	13.40	1.60	189.00	202.4
12 00	~~10.15~~	~~2.74~~		
11+00				
10+00				
~~7~~ 9+77				
	10.15	2.74	199.66	209.81
9 00				
8+00				
7+60				
7+00				
6+00				
	7.00	3.70	206.11	213.11

9.50 Level = 193.0

6.5 -2.32 186.0 ~~191.00~~ 4.8

18.381

level 204.81

5.00

5.5 -2.6 196.6 194.36 4.75

18.55

(97-3) = T -5°

gr

stop here

2.35

gr

level mate

set opp 7+60

7+60

set level K-bar

7+60

-3-

6	BS	FS	HI		H
28			5.2	165.71	170.91
27			8.0	162.91 / 156.00	5.
26			7.2	163.7	
25	10.02	0.47	1.0	169.9 / 170.44	180.46
24			9.3	176 / 169 ground	
	12.59	1.61		178.85	191.44
23			(2) -2°9' / 5	186.4 / 182 ground	
	7.59	1.90	3.8 (193.3) 5	189.54 / 186.00 ground	197.13
22	5/60 / 135 0.99	7.52	5 fm FT	(183.6)	188.6
				189.61	190.60
21					
20					
19					
18					
17					
16					

(12) level readings

29-27 - 2°32'

23-24 = -7°3T

H 4.8

H 5.5 T

5.7 - 5 = T - 7°5

8.75 - 7 = T - 6°20

½(12 - 10.6) = (- 6°20)

5 9.7

(9.7 - 5) T - 6°20

Sta 15 (10.7 - 5) T - 6°

7

7.6 / 5.3 2

27 / 15.4

183.8 / 188.6 / 5

196.6 / 186 / 190.

191 / 176 / 3.4

Sta	BS	FS	Sum	Elev	HI	Cut	Vert L	RR for Vert L	Vert L
38									
37									
36									
35									
34									
33									
32									
31									
30									
29									
28+70	5.10	13.00	top pcp	165.81	170.91	5.0			
28+70				(158.4±)					

1 = 8 gran

-1°44' 5. 9.7

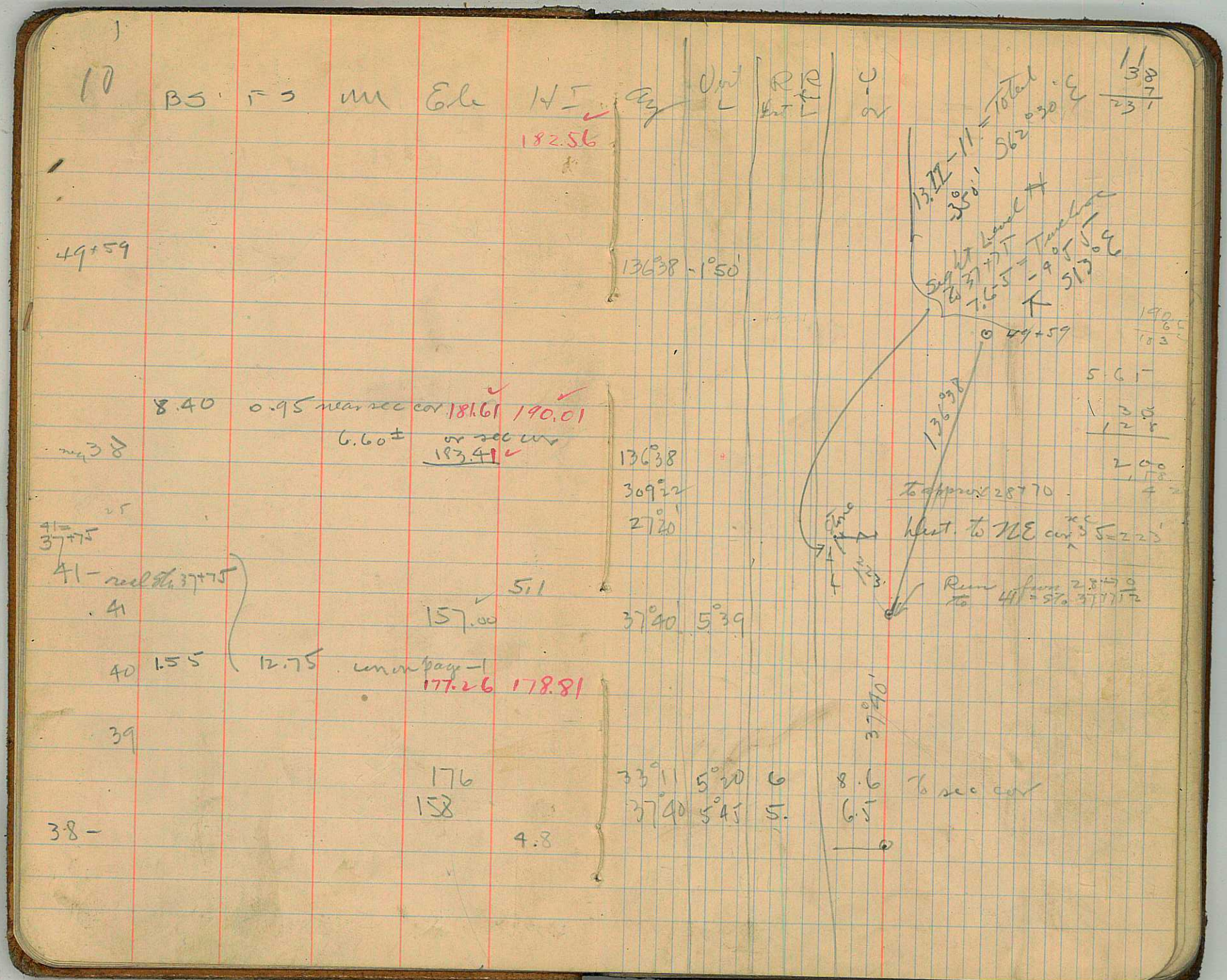
from 38 S 33°11' W to ne cor 35 S 33 E

148.0'

-1°01' 6.00

28+70

-27 - 28+70 + 101


10
BS
FS
HI
Elev
HT
182.56
49+59
8.40
0.95
near sec cor
181.61
190.01
6.60±
or sec cor
183.41
38
41 = 37+75
41 – rod at 37+75
41
40
1.55
12.75
157.00
5.1
cen on pav – 1
177.26
178.81
39
176
158
38 –
4.8
136°38
309°22
27°40'
37°40'
5°39
33°11
5°30
6
37°40
5°41
5.
8.6
6.5
to sec cor
Dist
RR
Ht of L
P.C.
of
Total
13.77 – 11 = 2.77
362°30
35°0'
Level at
Tangent
Sight to 37+75 = -9.5
1.65
51.7
49+59
190.61
183
5.61
30.6
12.6
2,070
to approx 28+70
Dist. to ME cor 5 = 2.23'
Run to 41 = 5.0 from 28+70
37°40'

3

	BS	FS	HI	Elev	Notes
12 58			182.56		
57+73 —				177	
57+73		5.6		164.6	
57					
56					
55					
54					
53					
52					
51					
50					
49+59 —				119	
49+50					
49+59 —				119	5.0

Ang	dist	Rise or VL	Sta
169°01'	+3°12		
	-11°30'	7.5 5.4	T LHI
	-6°15	5 5.4	T LHI
	-35'	12.85 5	T LHI
329°11'	0° 5'		

182.56
5.6
176.96

13

49+59

57+73

169°01'

49+59

37+75

5

14	BS	FS	m	Ele	HI
69				167.9	
68					189.04
67					
66					
65					
64					
63					
62			5.5	183.6	
62				171.4	4.7
61					
60					
59					
58					
	4.19	10.70		178.37	182.56
				dat 5/8	

Sta	Vert L	RR or L	Cr or L
147°54	-16'		
171°29	+55'	5	

15

+55'

147°54'

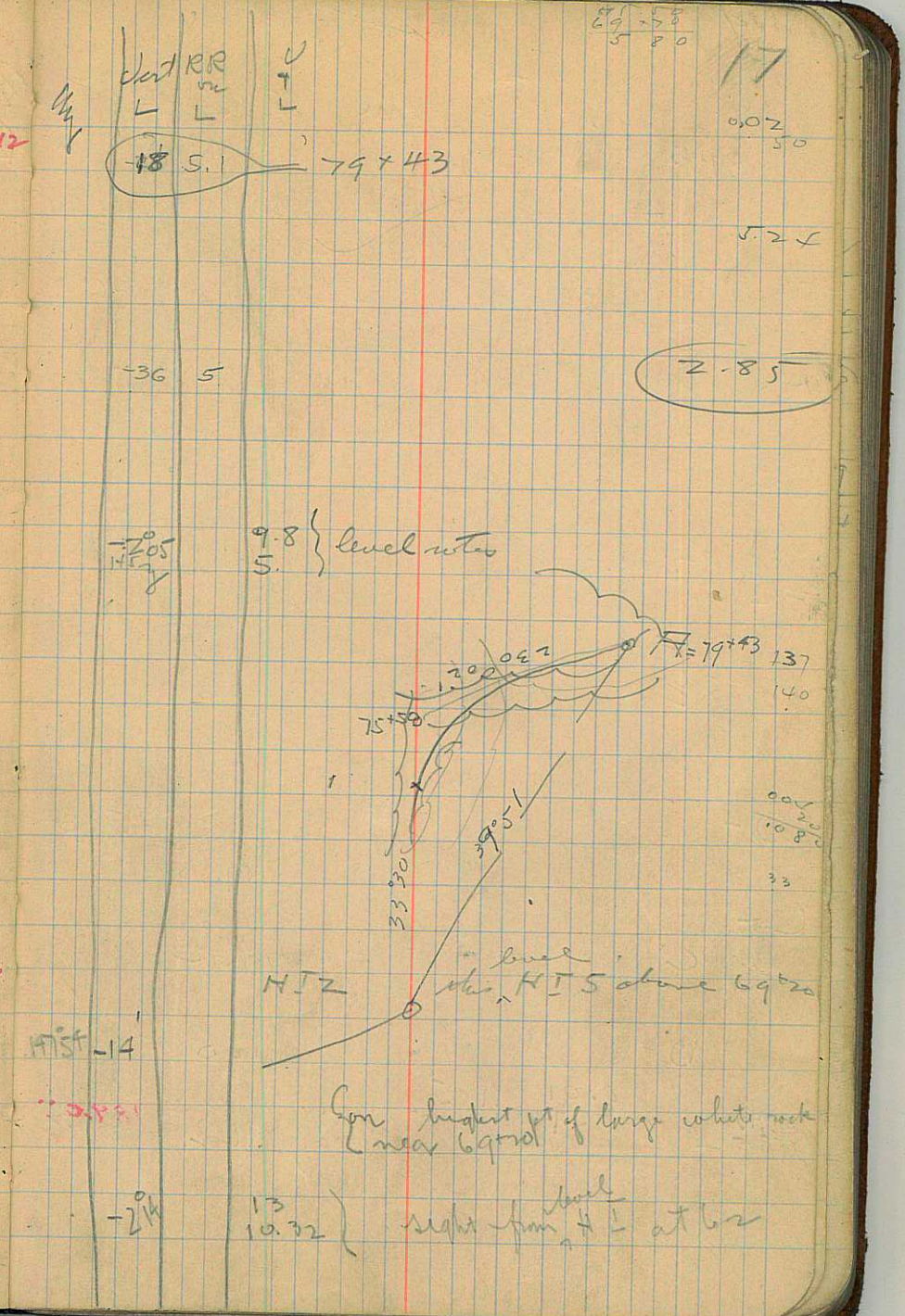
171°29'

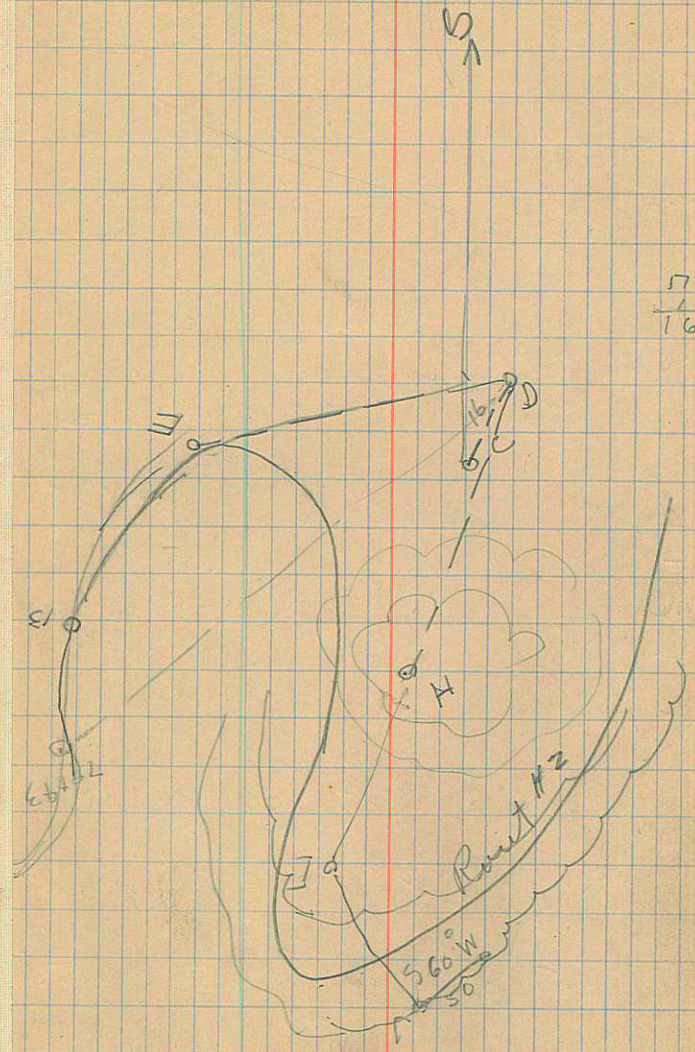
level HI 62 BS to [illegible] 69 [illegible]

171°29'

171°29'

Sta	BS	FS	HI	Elev
79+43			182.42	
79				
78				177.92
				169.42
77				169.92
76				172.12
Knobstone 50				
A 75+50				172.62
75				163.42
74				147
73				166.42
72				177.42
71				
70+00				
69+20	4.84	2.85		179.57 / 179.57 / 184.41 / 179.00 / 4.8
69	6.10	1.44		182.97 / 189.07 / 10.1 / 5.00




S
D
C
B
A
Coast #2
560 W
50

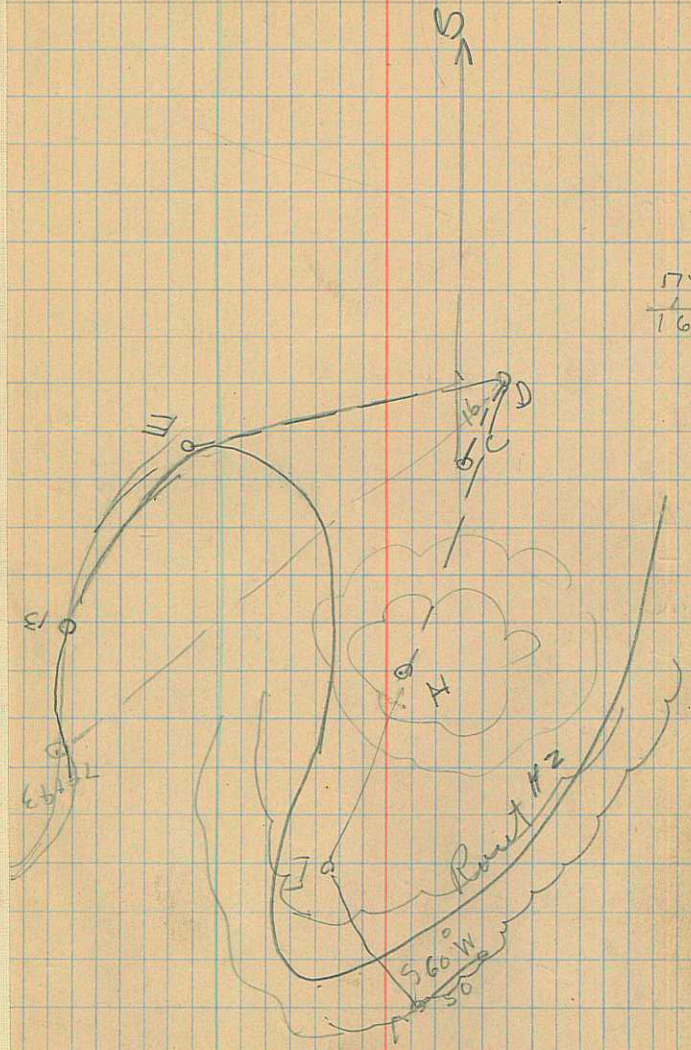
20

21

25

12.5

574.2
2
161.8



D

22 Sta

Vert Bs Fs Hi Ele H

186.75

A

11+90
3 —

78.00

3

93.0

IX

1

18

97+70 —

97+70

151.37 5.00

96+70 —

5

84

O

A

126 131.

126

A

96+70 —

158

158

L

92

K

151.74

91 —

5.30 181.4

91

12.16 1.63

16°39

90 — −185.12 197.28

90

3.2 194

7.65 1.78 195.50 203.15

89+00 —

7.03 196.12

4.3 198.8

C

4.8 198.3

Sta | Vert ∠ | RK or Vert ∠ | D for ∠

Aug 10

47°48 50' | 5 6.2 T

47°48 −2°45' | 3 10.6 T

47°48 −8°50' | 3 11.8 T

−7°05' | 3 10.1 T

47°48 −3°48 | 5

46°15 −13°32' | 8 6.25 T

23°35'

39°21 5°22' | 5 8.36 T

29°43 −2°41' | 7 8.45 T

76°25 +1°07 | 5 2.1 7.8 both

76°25 10°05' | 5 6.1

76°25 −10°10

44°15 −13°54 | 5 5.45

76°25 −7°20

76°25 −3°47

163 / 132

23
1.90
153.0

760
152
760
1029

1520
9770
11290

4.85
12.76
17.65

6

187
H.61
169.39
17.65
151.74

grade fr 6-82

45°16

126 = E

△ pt on fuckin Hogback

vert 570

low point

HI carried to page 9

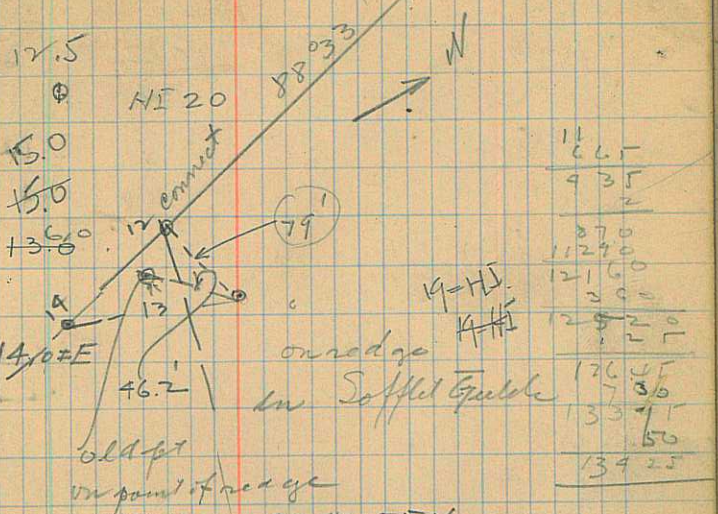
on huge rock 125' nw of D

Called D Sta 89+00

24

	Ag	L	C	U	Ue	Hi	Ele
16		1	4.2		+1°27	268°42'	
15							
15			4.5	4.65	−6°	268°42'	12.5
14							
14		5		8.55	+2°7'	280°51'	15.0
13						290°43'	15.0
12					−1°30'	333°27	13.60
11							
11		3		10.3	−1°	41°46	14.0 ≠E
10		7		11.2	−12°10	41°46	46.2
9	angle pt						
9		5		6.25	−5°12	47°48	28.4 20.4
8		5		8.6	−1°50	47°48	46.2 32.2
7			6.65	11.0	−1°42	47°48	57.4 45.50
6		2		7.8	−5°		
5		16		18	−6°47		

3



7.8
2 F 10

7943
9760
8903

12 25
7

11 65
9 35
2

870
11290
12160
20
12 5 20
176 45
7 30
13 37 50
134 25

17 338°24 9 628

13 –

13 – 90°43

11 –

17 329°48 5 6.8

12 –

Needle added
1°30' to ag

Needle OK

on original line typ hill

Campbell Bus. Lat ~~Long~~
Sun Hor Sys. Obs
~~Dist Course~~ At S E. W
On point 8
on ridge West of old intake
Monday July 15-1918

	Hor	Vert L	time	
Direct	278°08	41°39	10:10	+ p
Invert	279°05	41°21		d
	278°36'30"	41°30		
Direct	278°43	42°13		+ p
Invert				
Direct	280°21	43°42'	10:20	
Invert				
Direct	281°08	44°23	10:25	
	282°13'	44°10		
	281°40'30"	44°16'30"		
Direct	282°36	45°41'	10:30	
Invert	283°38	45°23		
	283°07	45°32		

Σ mean 281°08' 43°46'10"

29

$S = 21°36'$

$Q = 42°36'50"$

true time 9:10

$Z = 46°14'40"$

Zh = corrected = $43°45'20"$

Add 17' to az

July 15-1918

30

BS / FS / Dm / Elev / HI

118.82

107

106

105

104

103

102

101

100

99+

99

98

97+22

97+22

97+70

13.60 0.31 118.51 132.11

12.21 1.14 9.00 123.11 143×2

11.95 0.18 131.00 159.98

143.03

11.65 6.90 10.5 159.08

6.1 164.14 175.02

10.88 1.59 10.3 164.70 5.0

122°29 154

6.0 158 4.9

12.78 1.05 173.97 186.75

Dist | R R or VL | O or

-8°35

-10°

-12°55

31

76.25
90
166.25

start up, aspen

Isolation

Isolation

154.98
10.5
144.48

46.96'

46°46 -5°25'

163.60

on bargrade E. bottom 98+ 97+22

76+70 at 76°25'

this HI carried to page 13

32

	BS	FS	m	Elev	HI	Eq	Vert ∠	RR Sur L	Obs L	
119					70.11		-5°15'			
118							-7°15'			on bedrock
117							-9°20'			bench point
116	13.39	0.60		69.51	82.90		-9°42'			on bedrock
115										bedrock begin
114			8.4	74.50	4.8		46°46' -2°46'	5	12.5	
113			3.0	79.90						highest point to 107
	12.86	0.25		82.65	95.51					
	12.06	0.48		95.03	107.09					
	13.25	1.52		105.57	118.82					
112	~~13.60~~	~~0.31~~								
111							-4°18'	5.	10.95	
110										
109							-6°A	3		3 = centr 8 upper
108							46°46'	-6°30'	14	

53

	BS	FS	HI	Ele	H'	Hz	Vert ∠	RR VL	UR VL
3487									
127							-5°8'	5	
126			7.5	~~40~~.					
125+17.7	10.6	1.05 topped		46.45	5705				
125+17.7					5.2		-1°48		
125			10.0	44.05					
124			13.0	44.05					
123			9.5	44.55					
122					4.9				
122	13.4	0.3+ topped		56.71	40.11		-1°12	6.0	10
121			10.8	59.31			-1°12		
120						46°46			

descend to Softbottom

on range

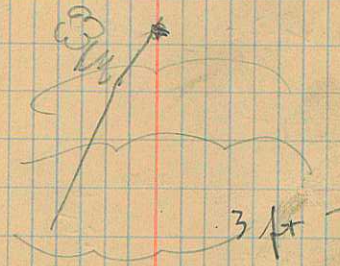
36

	BS	FS	HI	Ele
134			37.45	
133				
132				
131				
130				
S				
129				
S				
128				
1275		8.00	29.45	
A127+64	12.27	2.22	35.23	47.50
				4.8
127 64 S				
			4.0	
9				
127 –				

37

Q	Unit L	RR or VL	U or L	
	-6°21	9.3 5.		ascending
35°33'	+12°28	12.5 9.	T	10' higher than bot Softness
	-16°27.0	11.4 9.0	T	
35°33				
35°33	+16°40			
26°46				
	-10°30'			
133°				

35°33



38

Levels done

	BS	FS	Dm	Ele	HI
Q					
Q					
P –					
P					
69 ± 0 –					
134+80	13.2			13.00	26.2
134 55/45			7.5	18.7 –	
			7.70	18.50	
13 +					
X	12.3	1.05		25.15	37.45 –

Chg	Vert L	RR on V	Ψ on L
	34 ½		
	21 ° 01' – 842'	&	84 T
	179 ° 10' + 2 ° 10'		6.6 2. T on pt
	183 ° 08' – 2 ° 20' TO		11.03 10. T on low saddle

level HI 2

135 °

39

160'

175 °

860 15 ° 20'

Q

224 °

– 23 °

to 62

⊙ H 12

⊙ 134+45

on top wedge

BM on highest pt of large rock

40

BS ~~FS~~ FS

13 20
12 30 +05 105°
12 27° 222
10 06* 105*
13 40 34
13 39* 60*
12 86 25*
12 06* 48*
13 25 152*
13 60 31
12 21 +01
11 95 18*
31 65 90
162 20 159
11 60 11 60
150.60
13

150.6
6
156.6
10.88
1 67 48
66
161.

163.60
10 88
174 48
6
168.48

171.87 10 88
12 78 105
12 16 163
~~7 65~~ 178
35 82 446
4 46
31.3

from 96+70

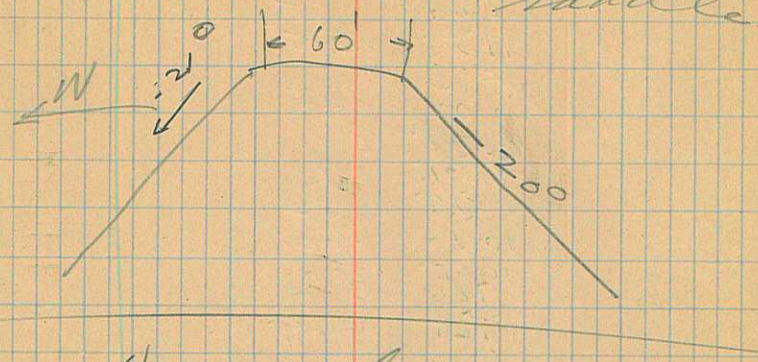
3582 446
81 1105
357 1326
~~357~~ 285
765 3162
47 05
31 62
15.43

156.60
31 36
187.96
7.68
195.61
4 3
191.31

156 60
15 43
1 71 48 3/8
17 68 7

41

flow stream saddle



Weir flow
Schuck $11\frac{8}{8} - 2\frac{5}{8} = 9\frac{3}{8}$
Campbell $8\frac{7}{8}$"
weir 9"
upper

3000

150.60
13

July

42

BS	FS
4 8	
6 10	1 44
4 19	10 70
8 40	95
11 55	12.75
5 10	13 00
10 02	47
12 59	161
7 57	190
94	752
13 40	160
10 15	274
7 00	320
9 65	669
3 03	470
5 E	615
104 60	59
75 92	
28.68	
28.03	
72.71	
100.74	
28.87	
171.87	

172.03

172.03

176.87

102

280

200

600

1200

2000

268 198

192 176

43

79

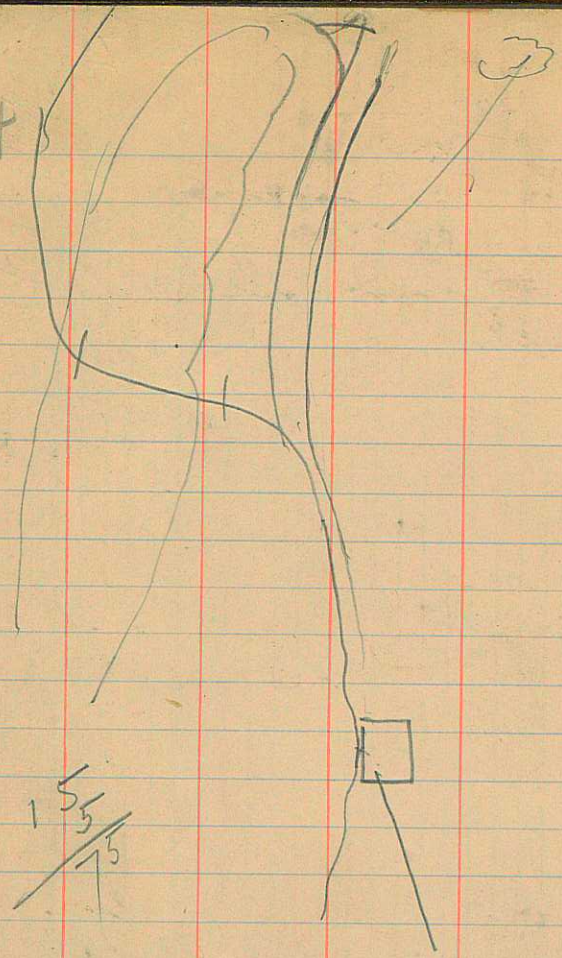
28

54

115.72

3

60



@ Dot on ridge .0134
left hum n dudone 45
Above Softer Spr
+46 to saddle at Fish
Creek

0135 ⊆ 2000
26.8000

from this pass @ to
97+72 is (N) 3000 ± - 3°05
0.15 or grad. for 5'

150
161
311

General slope of long
range — 2°15
N 8° E from 4000'
above 69+20

8/20/18

46 Survey for Paradise Drive

6 230° 28.7

5 117°32 73.0

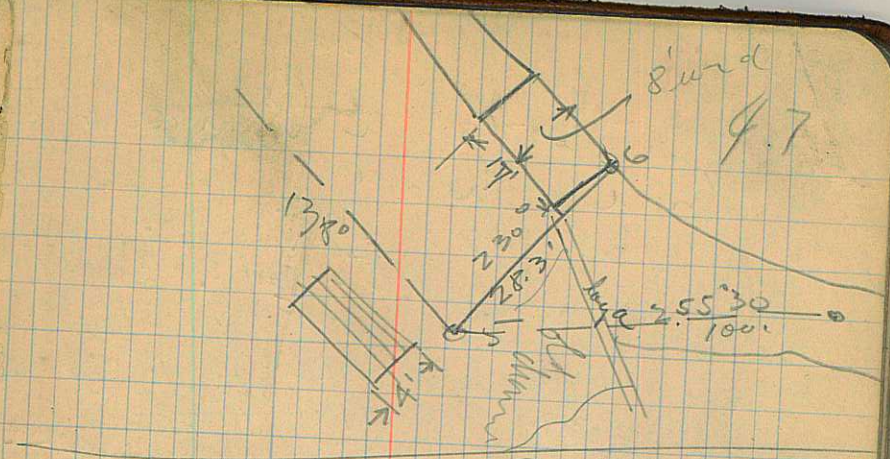
4 74°11' 80.0

3 108°50 52.2 endwall

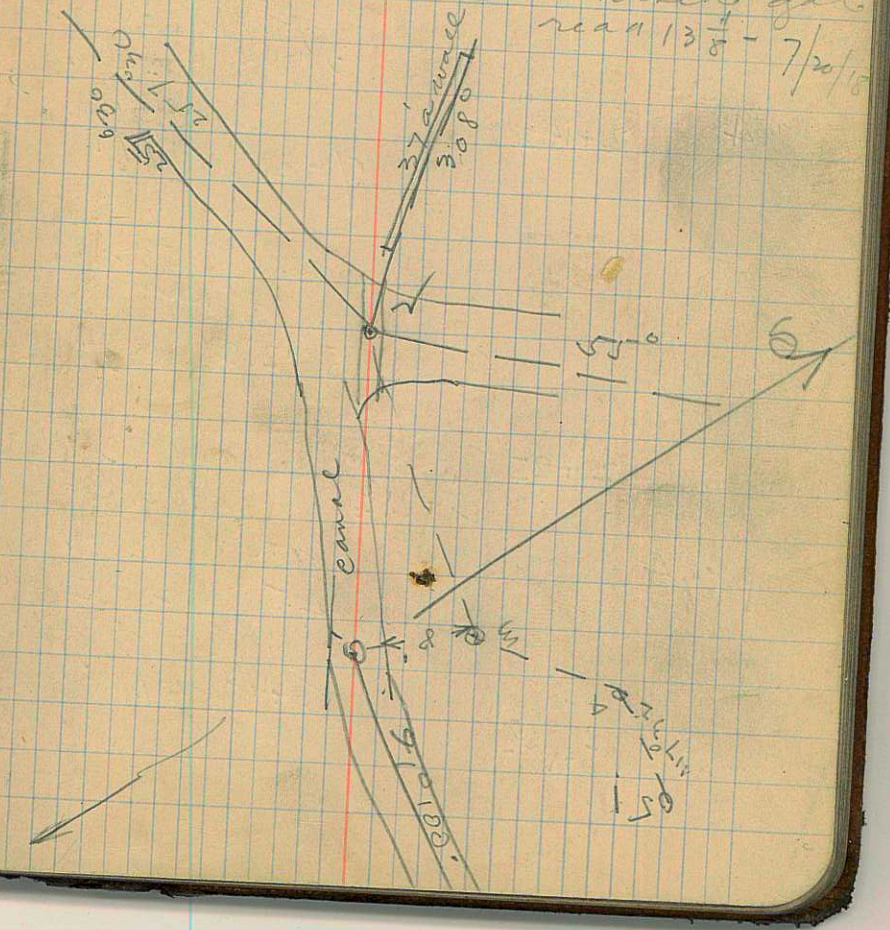
2 302°20 87.5 28" on top peg

1

4.7



Rule needed on next get read 13+80 - 7/20/18



7/20/18

48 Levels on Paradise Irri. head

	BS	FS	HI	
			3'+7½"	103.62 ✓
b'			4.5	102.12 ✓
			3.2	104.04 ✓
b			9.00	98.24 ✓
			2'+3½"	102.66 ✓
			4.00	103.24 ✓
			6.2	101.04 ✓
3			3.00	104.24 ✓ ✓
4	2'+14¾"			104.01 / 107.24
			7'+26"	97.66 ✓
			8.00	98.82 ✓
			5'+28¾"	99.43 ✓
	2'+25"			106.82 ✓
		2'+21¾"		102.72 ✓
Top peg 4			2'+6½"	104.01 ✓
			4.5	102.05 ✓
			5'+4½"	101.18 ✓ ✓
6	5'+18⅝"			100.00 106.55 ✓

levels up

1.5 / 7½ / 6'2 .458 362 49

on BM round drillrod stake 12' from #3 on bank oppos. b.
on N bank canal
in channel bed below dam
on H2O at old dam channel abt 3' lower
on high normal at intake
on canal opp #3 (on ground) wall 1' above
bed canal 125' below flume
Canal bed just below flow end flume
on log. Water ad to run
on H2O by old flume
on Canal flume

7/20/18

50

flume 8' wide

7		48	125
6		47	125

Paradise Canal E Fork

NW ¼ of NW ¼ part 51 0.68

Beg at pt n end of E-W Can at intersection with N line of the S½ of NW¼ sec 26 E 2 rds. N 12 rds W 21 ft; NE to cen of Creek; W 30 ft, SW dy 18 ft. from end canal to pt near foot of hill W 15 ft. S 12 rds; E 2 rds to beg

1-212 line 6

Ramsen

Beg at pt 20 ch N of SE cor NE¼ of sec 27 - E 20; N 1150 to S. Crk W dy S ft. on Crk to pt of its intersect with W line of sd sec 26 S on sd sec line to beg

1752 1-212-3

Campbell Bros

52 8/8/18

Slope in 8" tile from
Spt. 5 per 1000
start 0 at 209.00

Sta	BS	HI	Rm or RRng.	RRm ground	Ele	HI
0	4	3.83			210.41	214.24
+88					207.56	
1			6.74	3.5		
			7.25	5.3		
3			7.74	5.53		
3+93			8.185	5.8		
		7.10	5.02		209.22	216.32
4			10.37	8.30	206.00	
4+25			.125			
			10.445			
4+65			10.645	7.6		
5+35			10.995	7.8		
5+60			11.120	8.14		
		2.63	7.47		208.85	211.48
6+00			6.48	3.4	205.00	
6+30			6.63	3.3		
~~6+30~~						
		4.84	2.90		208.58	213.42
7			8.92	6.0	209.50	
7+50			9.17	6.4		
8+00			9.42	6.7		
8+50			9.67	7.		
9+00			9.92	6.85		
		5.90			207.52	

18.40 21.29
18.40
2.89

HI

208.00 at 7+ (grade) 13

Cut

C3-3'
C2'
C2-3"
C3-4"
C2'
C2-3
C3'
C3-2"
C3'
C3-1"
C3-4"
C2-11"
C2-9"
C2-9"
C2-8"
C3-1"

Offset 2' L

top prof 5+60

top prof 6+30

top prof 8+88

4.8

grade

214.24
207.5
6.74

210.41 3.83 214.24

214.24
5.02
209.22
7.10
216.32
7.47
208.85
2.63
211.48
2.90
208.58
4.84
213.42
5.90
207.52

11.12

216.32
206
10.32

208.00
2
206

210.41
215.01
4.86
210.15
207.29
2.86
1.6
2.3

Sta	BS	FS	Elev	RE or grade	Cut	Ele	H+
9	8.69					207.52	216.21
9+50			10.25	12.960	C 2'-9"	203.25	
10			10.85	13.210	C 2'-4"		
10+50			10.45	13.46	C 3'		
11+00			10.94	13.71	C 2'-9"		
11+50			10.95	13.96	C 3'		
12+00			11.52	14.21	C 2'-9½"		
12+50			11.03	14.66	C 3'-5"		
13+00	6.9	11.87	11.87	14.71	2.87	204.34	216.26
13				9.79			
13+50			7.2	10.04	2'-10"		
14+00			7.3	10.29	C 3'		
14+25			7.4	10.415	C 3'		
14+50			7.9	10.540	2'-8"		
14+75			7.62	10.665	C 3'-1"		
15+00			7.72	10.790	C 3'-1"		
15+25			7.8	10.915	C 3'-2"		
15+54	3.41	8.43	8.43	11.060	C 2.63	202.83	206.24
15+54				6.040			
16+00			4.3	6.270	C 2'		
16			4.00	6.520			
16+50	3.18	4.00	4.00	6.520	C 2.52	202.24	205.42
16+50	19.02	24.30		5.700			
17			3.26	5.920	C 2'-9"		

9.17
+7

S7 @ 50

208
3
205

213.92
213.92
205
8.92

50

8.92
3
6.62
2.30
2.89

210.41
2.89
207.52

Drive on hub with sta stake from

probable pt of syphon

2.9
3
.195

one syphon

" " 1/4 turn

" "

" "

" "

58 (arrowture 6.18)

Sta.	BS	FS	HI	RR on grade	Cut	Ele	HI
17				5.92			205.42
17+50			3.15	6.17	3'		
18+00			3.78	6.42	2'-8"		
19			4.37	6.92	2-7		
20			4.7	7.42	2-9		
21			5.05	7.92	2-10"		
22			5.55	8.42	2'-11"		
23			5.2	8.92	3'-9"		
24			6.36	9.42	3-1		
25			6.8	9.92	3-2		
26			7.58	10.42	3-		
27	3.280	8.10	8.1	10.92	2.82	197.32	200.60
27				6.10			
28			3.22	6.60	3-5		
29			4.97	7.10	2-8		
30	6.71	5.03	5.03	9.60	2.57	195.57	201.78
30				8.78			
31	3.57	6.78	6.78	9.28	9.50	195.00	198.57
31				6.07			
31+60			3.85	6.37	2-6"	~~195.79~~	
			6.37				
32	8.62	2.78	5.99	6.57	2.78"	195.79	204.41
32				11.40			
32+50			8.95	11.65	2-9"		

286 269

59

aspen
sage
sage
sage

tan in hollow

6.92 / 2.37 / 2.1.5

6.42 / 3.78 / 2.64

7.42 / 2.87

7.92 / 2.87

8.42 / 2.87

9.42 / 3.06

probable syphon ca. approx 800' from 12+50 to 24 across hollow

10.92 / 8.1 / 2.82

10.92 / 8.1 / 2.82

3.28 / 6.10 / 3.8

6.6 / 3.2 / 3.4

7.60 / 5.03 / 2.57

7.1 / 2.3

7.1 / 4.47 / 2.63

6.21 / 2.57 / 87.18

9.28 / 6.78 / 2.50 / 6.07

6.57 / 2.78 / 3.79

6.37 / 3.85 / 2.52

3.57 / 2.78 / 6.07

205.92 / 8.1 / 197.32 / 197.32 / 200.60 / 5.03 / 195.57 / 6.21 / 201.78 / 6.78 / 195.00 / 198.57 / 2.78 / 195.79 / 8.62 / 204.41

on redge ~~mean~~ del 23

BMB on redge Sta 32+ below line in bush

8.62 / 2.78 / 11.40

11.65 / 8.95 / 2.70

Note: Sta 32 + 37.50 is one foot too high

60

Sta	BS	FS	int	RR grade	Cut	Ele	H I
32+50				11.65			204.41
33	5.09	9.02	9.02	11.90	2.88	195.39	200.48
33				7.97			
33+50			5.65	8.22	2-7		
34			5.83	8.47	2-8		
34+50	4.82	5.94	5.94	8.72	2.78	194.54	199.36
34+50				7.60			
35			5.34	7.85	2-6		
35+50			5.4	8.10	2-9		
36+00	3.07		5.43	8.35	2-11		
36+50	3.09	5.73 (43.38)	5.73	8.60	2.87	193.63	196.72
36+50				5.96			
37+00			3.58	6.21	2-8		
37+50			3.56	6.46	2-11		
37+50				7.47			
38			5.04	7.72	2-8"		
38+50	7.18	5.04	5.04	7.97	2.93	191.68	198.86
38+50				10.11			
39			7.15	10.36	2-8		
40			8.3	10.86	2-7	190.56	
41			8.95	11.36	2-5		
42			9.1	11.86	2-9"		
42+50	7.80	9.39	9.39	12.11	2.72	189.47	197.27
42+50			7.8	10.57			
43			7.8	10.77	3		

11.90 / 9.02 / 2.88

2 | 37.50 → 18.75 → 20 → 18.75 → 1.87 → 5.00 → 1.89.25 → 7.47

61
204.41
9.02
195.39
5.50
204.89
5.41
199.48
9.36
5.73
193.63
3.09
196.72

center of span –

5.09 / 2.88 / 7.97

8.22 / 5.25 / 2.97

8.47 / 1.83 / 2.64

8.72 / 5.94 / 2.78

4.82 / 2.80 / 7.62

198.86 / 193.63 / 5.23

8.72 / 5.94 / 2.78

7.85 / 5.31 / 2.54

8.10 / 5.31 / 2.79

8.35 / 5.43 / 2.92

8.60 / 5.73 / 2.87

6.21 / 3.15 / 3.06

12.11 / 9.39 / 2.72

4.33.38 / 3.4.97 / 8.41

20.22.4 / 8.61 / 193.63

196.72 / 189.25 / 7.47

2.09 / 2.07 / 5.96

6.21 / 3.15 / 2.63

6.56 / 3.76 / 2.80

Correction applied to 38

7.72 / 5.04 / 2.68

7.97 / 5.04 / 2.93

7.18 / 2.93 / 10.11

10.36 / 7.61

leave casper

11.86 / 9.41 / 2.45

7.80 / 2.72 / 5.08

10.77 / 7.80

in turn casper

62

Sta	BS	FS	IM	R Rm grade	Cut	Ele	HI
43				10.77			197.27
43+50			8.53	11.02	2-6		
44	11.71	9.00	9.00	11.27	2.27	188.27	199.98
44				13.98			
44+50			11.8	14.23	2-5		
45			12.02	14.98	2-6		
45+50			12.17	14.73	2-7		
46			12.45	14.98	2-7		
46+50			12.81	15.23	2-5		
47			13.1	15.48	2-5	186.88	
47+50	4.78	13.03	13.03	15.73	2.70	186.95	191.73
			6.28				
47+50				7.48			
48			5.17	7.73	2-7		
48+50			5.93	7.98	2-7		
49			5.56	8.23	2-8		
49+50			5.77	8.48	2-9		
50			6.2	8.73	2-6		
50+50			6.25	8.98	2-9		
51			6.37	9.23	2-10		
51+50			6.75	9.48	2-9		
51+75			6.75	9.605	2-10		
52+00	8.27	6.55	6.55	9.730	3.18	185.18	

63

leave open

11.71 / 2.27 / 13.98

14.23 / 11 / 2.43

14.98 / 12.02 / 2.96

14.73 / 12.17 / 2.56

199.98 / 13.1 / 186.88

14.98 / 12.45 / 2.53

15.23 / 12.81 / 2.42

15.73 / 13.03 / 2.70 / 4.78 / 7.48

15.73 / 2.3

191.93 / 6.28 / 185.65 / 2.7

2 sec cor

7.73 / 5.17 / 2.56

7.98 / 5.93 / 2.05

8.23 / 5.56 / 2.67

8.48 / 5.77 / 2.71

8.73 / 6.2 / 2.53

8.98 / 6.25 / 2.73

9.23 / 6.37 / 2.86

9.48 / 6.75 / 2.73

9.605 / 6.75 / 2.855

9.730 / 6.55 / 3.18

5.2 / 9 / 4.3

160.00 / 5.32 / 10800 cf / 3

185.18 / 6.11 / 191.73

6+3.5 F9 dm RR 8/10/18

Sta					cut	Ele H	
52	8.22			11.40	3.18	185.18	193.40
52+50			8.55	11.65	3-2		
53			9.3	11.90	2-8		
53+50			9.32	12.15	2-10		
54			9.72	12.40	2-8		
54+50			9.6	12.65	3'-1"		
55+00			10.2	12.90	2-9		
56			10.78	13.40	2-8		
56+50			10.78	13.65	2-11	✓	✓
57+00	6.53	11.07	11.07	13.90	2.83	182.33	188.86
				9.36			
57+50			6.25	9.61	3'-6"		
57+75	9.46	5.94	5.94	9.735	3.795	182.92	192.38
"				13.255			
58			11.2	13.380	2.3	179.	
58+50	7.37	10.96	10.96	13.63	3.17	181.92	189.29
				10.54			
59			8.11	10.79	2-8		
59+50	11.17	7.75		11.04	3.29	181.54	192.71
				14.460			
60+00			11.56	14.71	3-2		
60+50			12.14	14.96	2-10		
61			12.75	15.21	2-7		

enter dm in drawdb

208 / 29 / 179

11.65 / 8.5

12.15 / 23 / 9.85

12.15 / 9.32 / 2.83

12.15 / 9.72 / 2.68

13.40 / 14.75 / 2.65

1365 / 1078 / 2.87

9.61 / 6.25 / 3.96

9.735 / 5.94 / 3.795 / 9.7

13.38 / 11.2

13.63 / 10.96 / 3.17

11.23 / 7.7

10.79 / 8.11 / 2.68

11.04 / 7.75 / 3.29

11.17 / 3.29 / 14.46

14.76 / 11.56 / 3.2

14.96 / 12.14 / 2.8

15.26 / 12.75 / 2.5

5.22 / 3.18 / 11.40

17238 / 179 / 1738

13.90 / 11.07 / 2.83

6.53 / 2.83 / 9.36

3.17 / 3.37 / 10.54

65

185.18 / 8.22

193.40 / 11.07

182.33 / 6.13

188.86 / 5.94

182.92 / 9.46

192.38 / 10.46

181.92 / 7.37

189.29 / 7.75

181.54 / 11.17

192.71

66

Sta	BS	FS	IM	RR or grade	Cut	Ele	H I
61				15.21			192.71
61+50			13.22	15.46	2-3		
62	6.34	13.22	13.22	15.71	2.49	179.49	185.83
				8.83			
62+50			6.38	9.08	2-9		
63+00			7.05	9.33	2-4		
63+50	8.85	6.93	6.93	9.58	2.65	178.90	187.75
				11.50			
64			9.16	11.75	2-7		
64+50	6.83	8.73	8.73	12.00	3.27	179.02	185.85
				10.10			
65			7.41	10.35	3-1		
65+50	8.82	7.88	7.88	10.60	2.72	177.97	186.79
				11.54			
66+50			9.32	12.04	2-9		
67			9.18	12.29	3-2		
68			10	12.79	2+10		
68+50			9.92	13.04	3-2		
69			10.15	13.29	3-2		
69+50			10.7	13.54	2-10		
70			10.52	13.79	3-3		
70+50			11.15	14.04	2-11		
71			11	14.29	3-3		
71+50				14.54			

177

enter back

leave back

67

192.71
13.22
179.49
6.63
185.83
6.93
178.90
8.85
187.75
8.73
179.02
6.83
185.85
7.88
177.97
8.82
186.79

6.8

Sta	BS	FS	HI	RRm grade	Cut	Ele	HI
							186.79
71+50			11.58	14.54 25	3' C 2'-11"		
72	11.92	11.85 8	11.85	14.79	2.94	174.94	186.86

2.00

184.86
should be 182.98

69

72
5773
1427
100

14.54 / 11.58 / 2.96

14.79 / 11.90 / 2.89

14.79 / 11.85 / 2.94

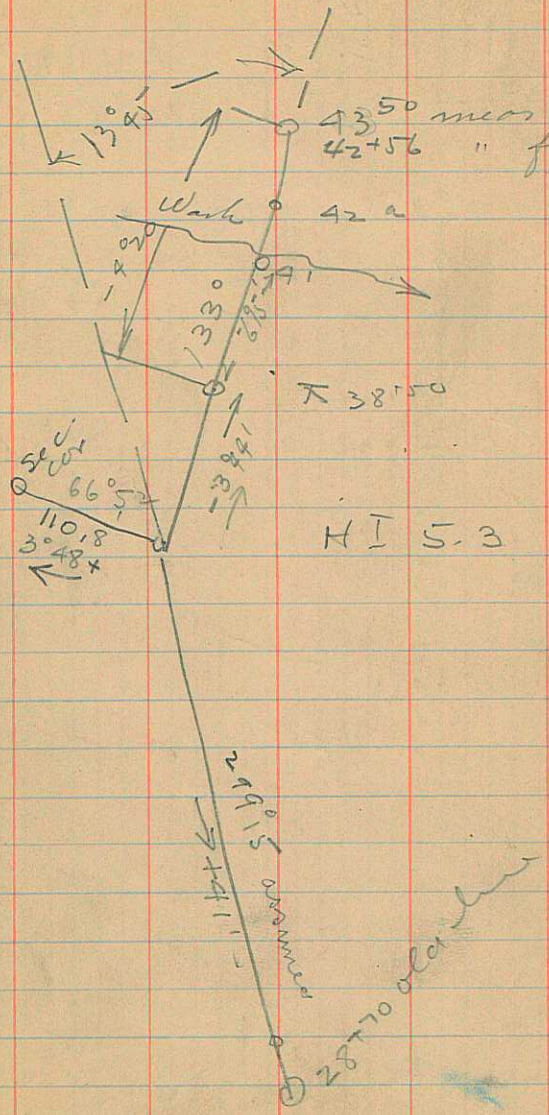
by Sta 57+73

on highest pt of large white Rock near 69+20 Ob line

186.79
1187
174.94
11942
186.86
183.
2.86

185.86
183
2.86

Campbell Bros



72

Cost Estimate

9730	ft 8" Wood	@	90¢	8730
3800	" 5 "	@	70¢	2660
				11390

Title

12200 @ 70¢ = 8540
4400 = 2640
= 11180

F R Burris
Abstracter —
Poc. Ida

Land
Govt. Grant

65
20
9730
8730
3800
2660

73

Check levels on
14 ft hubs between
0 — 11 BS From RR gr. cut Elev. 48

5th						
	3.77					210.41 214.18
0+88		3.85	6.62	C 3.6'	207.56	
1+00		2.6	6.68	4'-1'		
2		4.52	7.18	2'-8"		
3		4.91	7.68	2-9"		
4	3.47	5.53	5.53	8.18	2.65	208.65 212.12
				6.12		
4+25		3.48	6.245	2-9		
4+65		4.2	6.445	2-3		
5+35		4.53	6.795	2-3		
5+60		4.66	6.920	2-3		
6		4.8	7.12	2-9	205 207.58	
6+30	4.26	4.54	4.54	7.27	2.73	207.58 211.84
				6.99		
7		5.2		7.34	2'-2"	
7+50		5.62		7.59	2'	
8		6		7.84	2'	
8+50		6.32		8.09	1-9"	
9		5.16				
9	10.30	6.11		8.34		206.68
	21.80	16.18		13.30		205.73
9+50			11.05	13.55	11.05	202.73 grade
10			11.55	13.80		2-6 left 2-9
						2-6 new stake marks -6

2

214.18
207.50
6.68

207.82

1.75

6.62
4.65
1.97

214.18
207.56
6.62

grade) approx hub turn offset 2'L

214.18

7.18
4.52
2.66

8.18
5.53
2.65
3.47
6.12

7.68
4.91
2.77

8.18
6.33
1.85

208.31
4.54
211.85
208.31

6.27
4.49
1.78

7.12
4.58

6.92
4.66
2.26

7.84
5.58

7.27
4.73
2.54
6.99

211.84
207.52
4.32

21

8.34
6.11
2.23

207.52
206.15
1.37

7.56
5.62
1.94

8.09
6.11
1.98

top #9
on hub

10.30

2

214.18
2.10.41
3.77
214.18

214.18
4.96
209.22

214.18
5.53
208.65
3.47
212.12
4.54
207.58
4.26
205.73

213.42
208.92

211.84
206.15
5.16
2.28

207.52
206.15
1.37

13.80
11.55
2.25

75

76

	BS	FS	HI	RRm grade	cut	Ele	H.I.
top Stake 9	5.50					206.68	212.18
	4.30	2.30				209.88	214.18
		3.84				210.41	
Sta 10+50	21.80	16.18	11.18	14.05	2'-11'	old stake 3	216.03
11			11.65	14.30	2-8	old stake 2-9	
	3.00	11.18				204.85	207.85
	2.07	9.19				198.66	200.73
hub 31+00	3.92	6.44				194.29	198.21
	0.88	11.76				186.45	187.33
	0.46	13.37				174.01	174.47
	8.18	10.76				163.71	171.89
	9.90	5.90				165.99	175.89
	12.79	3.15				172.74	185.08
	10.34	1.69				183.39	193.63
TAO			4.78			188.85	
	72.79	89.57					

77

195 / 194.29 / 0.71

206.68 + 5.50 = 212.18 − 2.30 = 209.88 + 4.30 = 214.18 − 3.84 = 210.41

211.84 − 6.11 = 205.73 − 2.35 = 203.38

207.85 − 196.55 = 11.30

197.32 − 196.55 = 0.77

answer: 3.77 Bm [illegible] 88

197.32 − 194.29 = 3.03

2035 − 555 = 208.55 − 202.5 = 211.84

14.05 − 11.18 = 2.87

205.73 − 202.5 = 3.23

205.73 − 3 = 202.73

14.30 − 11.65 = 2.65

208.55 − 202.73 = 5.82 − 5.05 = 0.77

grade at 9 dropped 0.77

205.73 + 10.30 = 216.03 − 11.18 = 204.85

207.85 − 9.19 = 198.66 − 2.93 = 195.73 − 6.44 = 189.29

216.03 − 196 = 20.03

hub old elevation 195.00

194.29 − 3.92 = 190.37 − 11.76 = 186.45 − .88 = 185.57

about 3' above Sta 25 Wood [illegible]

Top W Corn 27

top 28.70 stake 8' back

187.33 − 13.37 = 173.96 − 10.76 = 163.71 − 8.18 = 155.53 − 9.90 = 145.63 − 12.79 = 132.84 − 10.34 = 122.50

7C

	BS	FS	HI	Elev	
	72.79	80.17			
sea back	10.2+			193.6 ✓	
	8.35	9.62		184.01	192.36
T 47			8.60		
T 52			7.16		
			8.80		
	4.97	10.71		181.65	186.62
T 65+50			10.22		
Wood Ln 57+73			9.35		
Tinge on hub 72		13.25		170.93 grade	
72				173x37 Tube	
				170.93 grade	

79577 9.62 88.17 5.036 13.1

6.5 7 1.8

5279 962 6241

184.80 182.97 1.89

205.73 13.12 257

79 184 96 182 97

190.56 188.85 1.71

on sec curve

208 36 172

18679 17800

19236 88 18356

19363 278 188.85

185.18 183.56 1.62

184.01 192.36 188.85 1.51

18662 1022 17640

18688 185.20 1.68

177.97 176.40 1.57 ✓ (or 173.29)

17494 17337 1.57

175.89 3.15 172.74 12.34 185.08 1.66 183.42 10.22 173.20 9.62 189.01 8.31 192.86 10.71 181.65 4.97 186.62 13.25 173x37

89.57 9.62 99.19 72.79 26.40 184.01

17337 294 17043 1.57

210.41 26.40 184.01 264 0 36 300

173.37 170.43 2.94

174 173x37 172.

Mon 8/12/18

Sta	BS	FS	HI	RR grade	cut	Ele	fill
72	9.90			12.84	2.94	173.29	183.19
72+50			1005	13.09	3-1		
73			11.	13.34	3-4		
73+50			11.4	13.59	2-3		
74			11.18	13.84	2-8		
74+50			11.15	14.09	3'		
75+00			11.5	14.34	2-10		
highest pt of rock			0.0				
75+50			11.95	14.59	2-8		
76			12.08	14.84	2-9		
76+70			12.13	15.19	2-11		
77+30			12.35	15.34	C-3'		
77+50	8.75	12.58	12.58	15.59	C 3.01	170.61	179.36
77+50				11.76			
78+15			9.00	11.985	3'		
78+50			9.05	12.260	3-2		
79+00			9.35	12.51	3-2		
79+50			9.77	12.76	3'		
80+00			9.9	13.01	3-1		
80+60			11.22	13.34	2-1		
81+00			9.95	13.51	3'-7"		
82			10.35	14.01	3-9		
83			10.9	14.51	3-8		
84			12.05	15.01	3'-		
84+90		10	10.0	15.46	5.46		
	18.65	22.58					

Elevations on hub at 72

192.36 / 88 / 183.56 — 185.18 / 183.56 / 1.62

173.29 / 11.92 / 185.21

193.63 / .478 / 188.85 — 190.56 / 188.85 / 1.71

173.29 / 9.78 / 183.19 / 12.58 — 170.61 / .87 / 179.36

208 / 41.65 / 166.63

186.62 / 10.22 / 176.40 — 177.97 / 176.40 / 1.57 — 1.65 / 1.71 / 17329 / .14 / 63

205.1 / 179.36 / 162.31 / 13.01

45 / 5 / 225 — 55 / 275

82

Sta	BS	FS	im	RR mat grade		Ele	HI
	15.65	22.58					179.36
84+90	5.93	10		10.89	5.46	169.36	174.79
84+67			5.1	10.77	5'-8"		
85			5.24	10.94	5'-9"		
85+50			8.3	11.19	2-11		
86			8.52	11.44	2'-11"		
87			8.87	11.94	3-2		
88			9.41	12.44	3-		
88+50	6.67	9.64	9.64	12.69	3.05	165.15	171.77
88+50				9.67			
89			9.1	9.92	2-10		
90			7.17	10.42	3-3		
90+50			7.15	10.67	3-6		
91+50			7.95	11.19	3-3		
92+50			8.56	11.67	3-2		
93+50			9.3	12.17	2-11		
94+50			10.1	12.67	2-7		
95+50	8.74	9.79	9.79	13.17	3.38	161.98	170.72
				12.12			
96			9.6	12.37	2-9		
96+50			9.45	12.62	3-2		
97			9.78	12.87	3-1		
97+50			9.98	13.12	3-2		
98	5.54	10.29	10.29	13.37	3.08	160.93	165.97
98			5.	8.67			
98+50			5.79	8.87	3-1	165.97	
	47.98	52.30					

83

kicked back 2 to angle pt

pt of

33.5 / .165

23.5 / .115

10.89 / 5.46 / 5.43

10.95 / 5.70

11.19 / 2.89

11.44 / 9.1

12.95 / 3.03

11.23 / 8.9

11.44 / 2.92

12.69 / 9.67 / 3.05 / 3.62 / 9.67

11.94 / 8.82 / 3.12

208 / 46.65 / 161.35

45

17.27 / 161.35 / 10.92

10.42 / 3.25

10.67 / 3.42

16.23 / 8.9

11.17 / 9.95 / 3.22

11.67 / 8.56 / 3.11

12.23 / 9.1

12.17 / 9.3 / 8.87

13.17 / 9.79 / 3.38 / 8.74 / 12.12

13.23 / 10.9

12.37 / 12.62 / 12.87 / 13.12 / 13.37 / 10.29 / 3.08 / 35.8

8.67 / 8.87 / 5.79 / 3.08

10.95 / 179.36 / 169.36 / 5.43 / 174.79 / 9.43 / 165.15 / 6.62 / 171.77 / 9.79 / 161.98 / 8.74 / 170.72 / 10.29 / 160.43 / 5.54 / 165.97

84

Sta	BS	FS	HI	RR on grade	Cut	Ele	HI ±
							165.97
98				8.87			
98+50			6.75	9.02	2-4		
99+20			6.52	9.22	2-9		
100			6.75	9.62	2-10		
101			7.22	10.12	2-11		
102			7.72	10.62	2-11		
103			8.5	11.12	2-8		
104		8/13/18 Transect	9	11.62	2-8		
104+50	5.36	9.32	9.32	11.87	2.55	156+65	162.01
				7.91		154+10 ✓	
105			5.52	8.16	2-8		
105+50	7.26	5.57	5.57	8.41	2.84		
				10.10			
106			7.55	10.35	2-10		
106+50	6.73	7.64	7.61	10.60	2.99		
				9.72			
107	10.93	7.22	7.22	9.97	2.75		
				13.68			
107+50			10.75	13.93	3-2		
108			11.22	14.18	3		
108+50			9.72	14.43	4-9		
109			11.55	14.68	3-2		
109+50			11.80	14.93	3-2		

3 0.28 20.40

210 / 164 / 46

97 / 388

173.29 / 16.64 / 156.65

85

52.30 / 9.32 / 61.62 / 44.98 / 16.64

9.0 / 2.3

9.02 / 6.55 / 2.47

165.97 / 9.32 / 156.65

9.22 / 6.52 / 2.7

9.62 / 6.75 / 2.87

240 / 13.4 / 226

10.1 / 2.3 / 7.8

52.21 / 1.65 / 53.90

156.65 / 5.36 / 162.01 / 5.57 / 4

10.12 / 9.22 / 2.90

10.62 / 7.72 / 2.90

208 / 53.90 / 154.10

11.12 / 8.5 / 2.62

11.62 / 9 / 2.8

11.6 / 2.3

165.97 / 154.10

(about 300' back of D)

11.9 / 2.3 / 9.6

1.87 / 9.32 / 2.55 / 5.36 / 7.91

8.2 / 2.3 / 5.9

8.16 / 5.52 / 2.64

8.41 / 5.57 / 2.84 / 7.22 / 10.10

10.35 / 7.55 / 2.80

10.60 / 7.64 / 2.96

10.69 / 7.64 / 3.05 / 9.72

9.97 / 7.22 / 2.75 / 10.93 / 13

13.93 / 10.75 / 3.18

14.18 / 11.22 / 2.96

14.43 / 9.72 / 4.71

14.68 / 11.55 / 3.13

14.93 / 11.80 / 3.13

86

Sta	BS	FS	HI	RR grade	Cut	Ele	HI
	30.28	20.40					
109 50				14.93			
110	7.10	12.38	12.38	15.18	2.80		
				9.90			
110+50			6.9	10.15	3-3		
111 00			7.2	10.40	3-3		
112	10.25	7.79	7.79	10.96	3.11		
				13.36			
112+50			11.03	13.61	2-7		
113			10.9	13.86	3'		
113+50			11.35	14.11	2-9		
114 50			11.65	14.61	3'		
115+50	13.09	12.13	12.13	15.11	2.98	151.58	
						148.60 grade to be checked	
	12.17	1.45					
	13.09	0.58					
	10.14	0.21				196.27	
		1.56					
	96.12	56.50					
115+50	4.85			7.83	2.98	151.58	
116 50			5.6	8.33	2-9	to be	
117+50			6	8.83	2-10		
118+50			6.5	9.33	2-10		
119 50			7	9.83	2-10		
	13.25	2.85		12.83			
	13.16	0.80		see now			

96.12
56.50
39.62
15.65
796.27

11550
100
12550

87

11750
12
23
19800

11550
5775
1650
59.40
208.90
148.98
11.58

1518
1238
280
7.1
990

1015
7.8

1015
693
322

307
89
2763
2763
2763
179
198
179
19

211
27
184
198
14

19979
3111
10211
13.36

1361
1103
258

1386
693
2079

1461
213
119

14611
11611
2.96

1415
213
13.8

15111
12113
2.98
15.11

2.98
483
7.8

1195
92
19950
92

151.58
4.85
156.43
2.85
153.58
13.25
166.83
166.03
13.16
179.19
7.60
171.59
3.3
174.59
10.38
164.21

An RM is W of (D)

8 3 6 / 2 1 last hub known here

end of the survey

88 88

	BS	FS	HI	Ele	HI
	3.00	7.60			
		10.38		164.21	

91 –

	a		L	Slope C	J
flow 119 T 50	92°33		3	-2°43	10.2
	76°48'		5	-8°17'	7.1
	76°25		-5°52	11.0	13.7

down

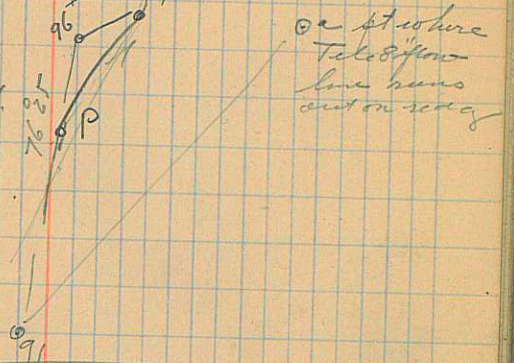
C –

			L	C	L
104 +50	291°42	-5°05'		11.50	13.50
103 +50	285°46'	-4°04'	5		10.42
102	279°30	-3°30	4		10.2
101	273°30'	-3°05	4		10.95
100	269°10'	-2°35	5		12.70
98 +80	264°	-2°26	3		11.70

89 89

on BM near 97 on Woodlawn

set 76°25 BS to 90



rod 10' above ground. 0½ low ground

⊙ at where Telephone line runs east on road

68°44' BS to A

90

Wlms 90

106-

		L	C	D
R	284 $^{0'}_{30'}$	+3°25	10	13.1
S	290°50'	4	+5°40	9.8

Note
from 1/3 W hr to 108
slope uniform

600 30
720.00

91

91

set 46°56

13.1
10
3.1

9.8
5.8
78 4
290
568

6.2
+5°25
94
62
188
564
1728

100

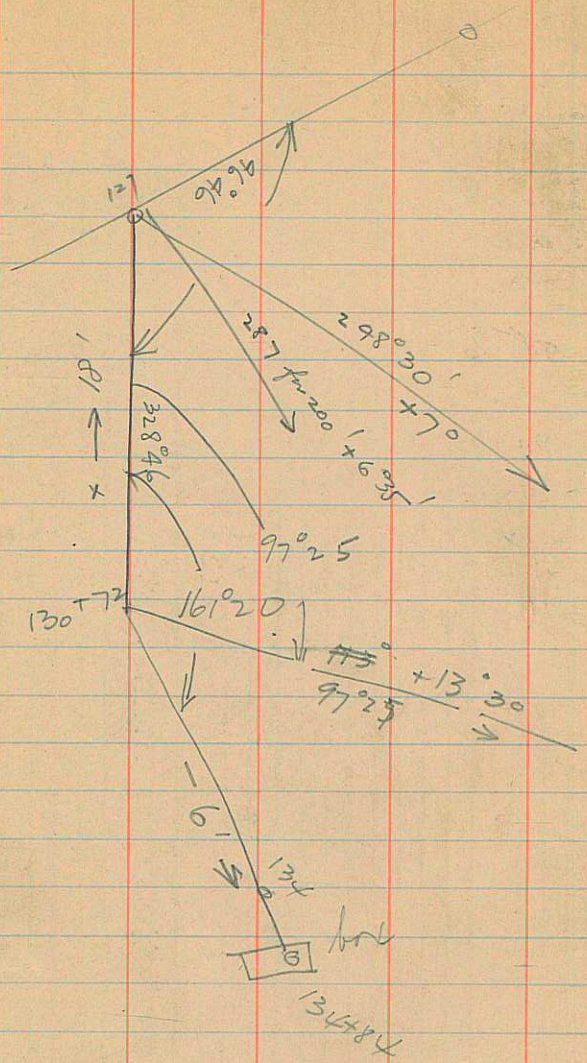
R

S

80

Q

92



93

$$\frac{162.4}{5}$$
$$\frac{167.4}{72\ 8}$$
$$\frac{946}{106}$$
$$84.40$$

56.6

8 − 44.3

9 − 32.00

11 − 18

16

$$\frac{1696.6}{162.4}$$

84
89
258
6 3.2
6.6
$\sqrt{6.6}$

3.20
36
192
96
$11.\sqrt{2}$

44.3
493
113
38.0
6
32
27
$2\sqrt{1.74}$
7.3
$\sqrt{2.2}$
12.18
12.702

56.6
1
611.6
105
$\sqrt{1.68}$
49.3

2.6
.80
1680

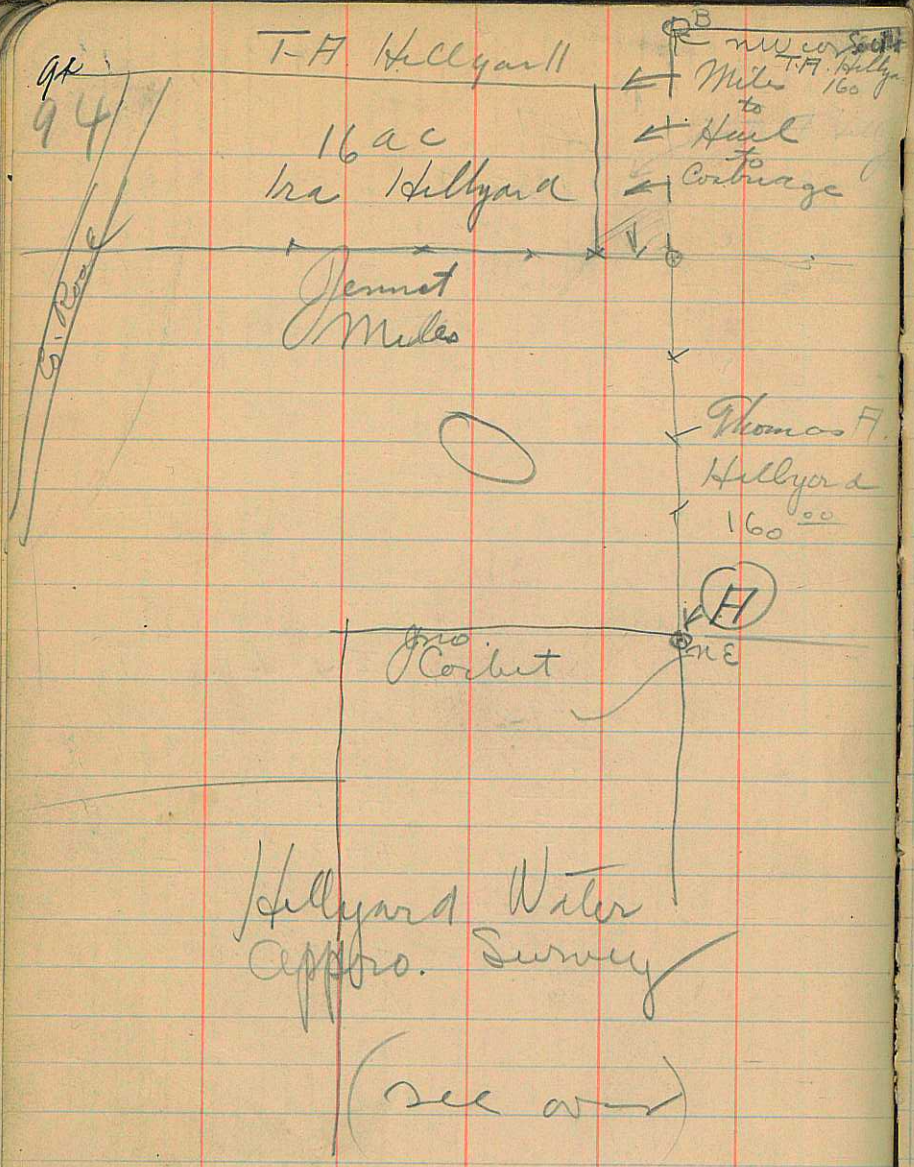
93
2°45

766
15.20
279
13684
1025
608
72.808

11.0
665
435
2
870
2.97
8.7
2079
23766
25.839

136
67

9.03
1.25
4516
903
11.2873



13 N 1 E

95

Helmer Johnson

3-4 blk above mouth on Center

Trans fer to Frederick W. Hellyard

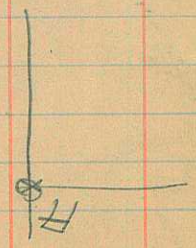
about middle of T.A. Hellyards 160

Intake

96 St. 9 J. L L C J

5	+104°33'	-8°50'	6	11.70
collection box 4	94°55'	-14°30'	4	5.80
Spr. 2	289°46'	+9°11'	3	5.11
	203°17'	+4°23	7	11.75
	27°55'			
(A)	316°28	+10°42'	3	9

3 -



97

□ Thomas A

N 74° W

Ina

Hollyard

To Mill cor Hollyard 160

Res

needle N 23° E

Condenser Smoke Stack

intake

A

Row

front miles



98

Jewett H. Miles to
the Hollywoods boys.

War Deed

Beg at pt. 42 rds N of a pt
27 r W of pt 80 rds N of SE cor
of NE¼ sec 15 - 13 N - 1 E
W 10 r; N 15 r; east 10 rds
S 15 r to beg; con 150
sq. rds. together with, 5 r or
5 prs. located upon said land

Also; Com. at pt. 38 rds
W of a pt 18 rds 1' N of pt
12 rds 12' W of pt 126 rds.
3½' N of SE cor of NE¼
sec 15 - 13 N - 1 E.
S 2 rds W 5 rds; N 2 rds
E 5 rds to beg. 10 sq rds
this is Res site

together to construct, main &
operate a pipe line
from prs. located upon the
land first above des.
to Res as des. for a
perpetuity

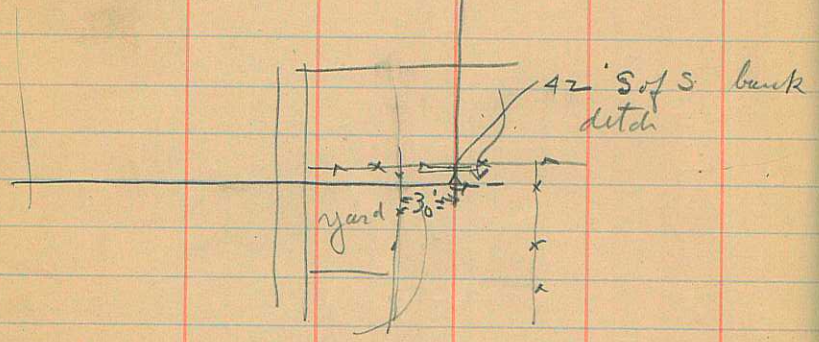
99

106

9/11/18

18

Tp 13 N 1 W

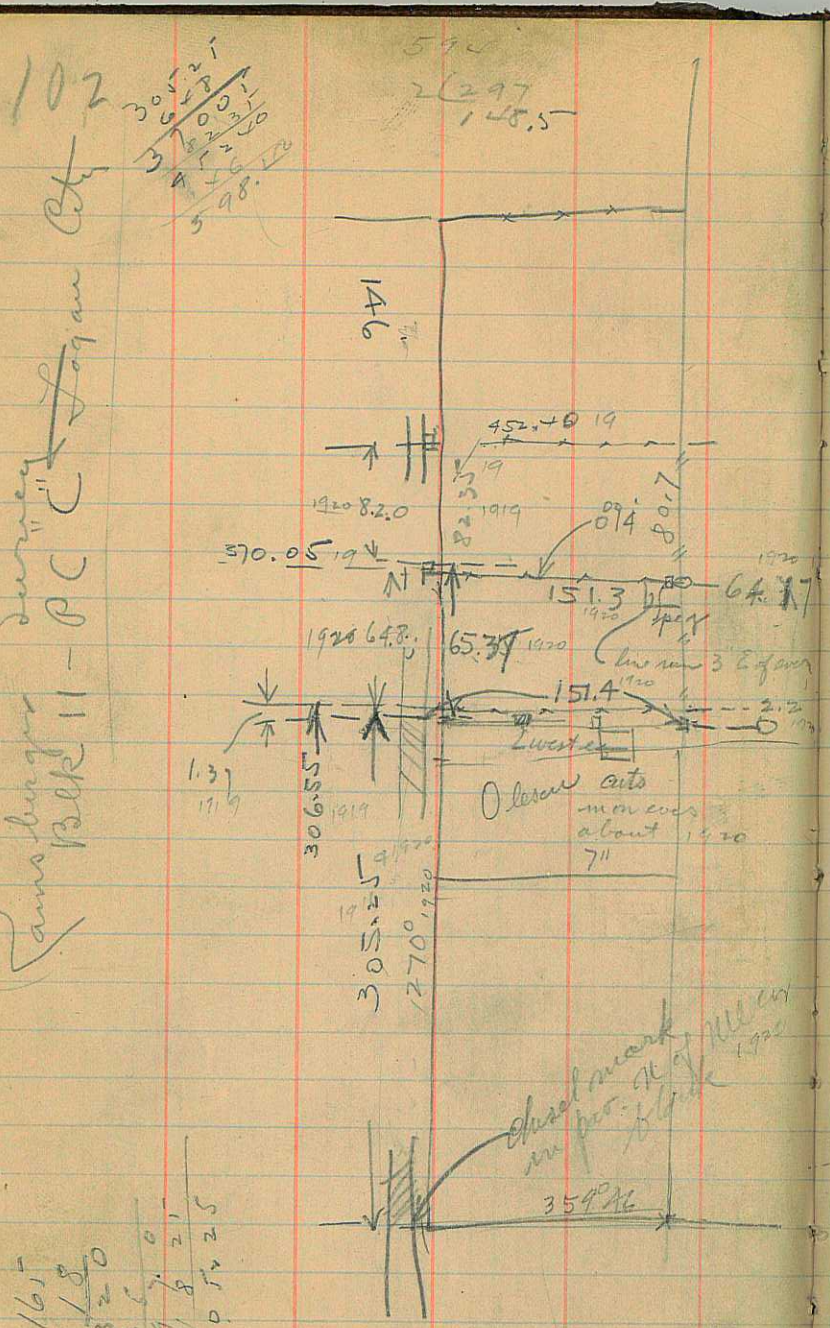


Chris. Nelson an old man who lived here when Govt. surveyed st.

101

102

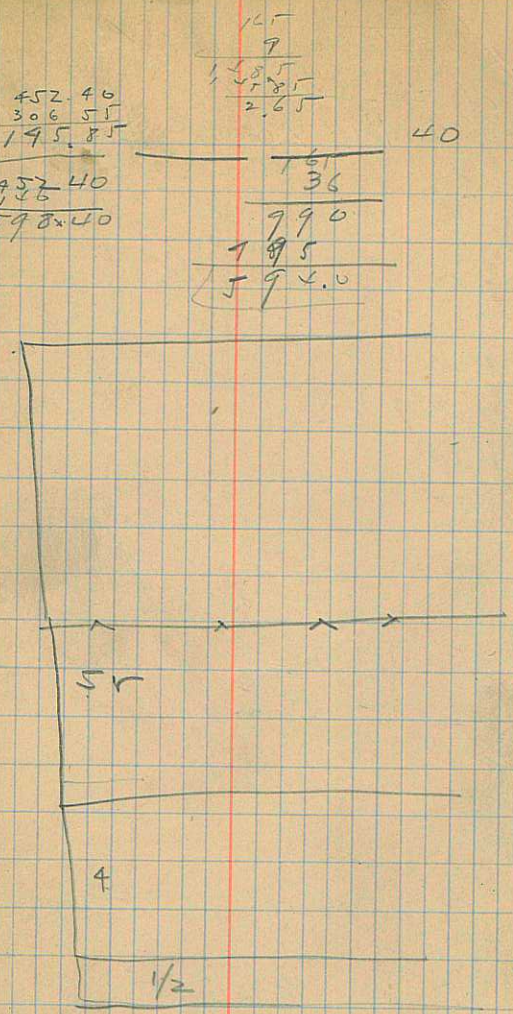
Survey Ramsberger Barn II - PC Co. Rd. 19 am



103

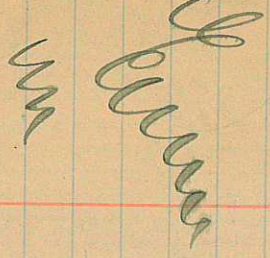
452.40
306.55
145.85

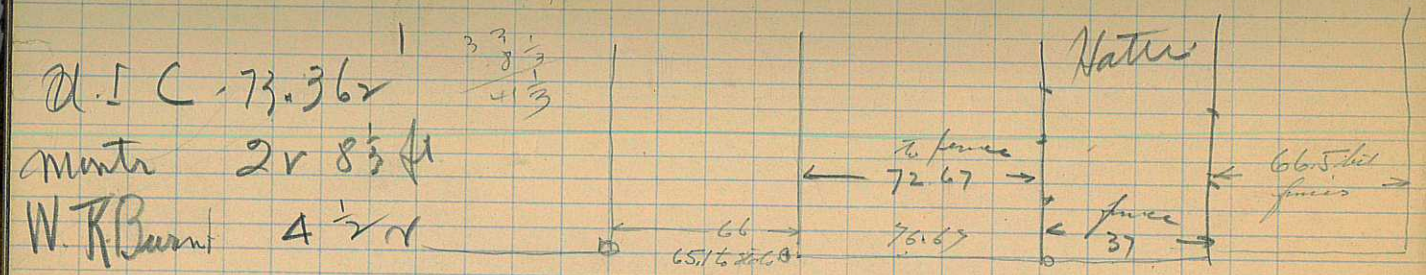
452.40
598.40



Note it was agreed - Mr. Olsen, Chambers Co. Eng. Mrs. Ramsberger & myself that Mrs. Ramsberger west shoulder be 1.2 ft E of E edge of Olsen Driveway pavement

104 Plantation Oct 2 - 1908
Part of Book 20 Pg D CL





A.I.C. 73.36 r
Manta 2r 8⅓ ft
W.K. Burnett 4½ r

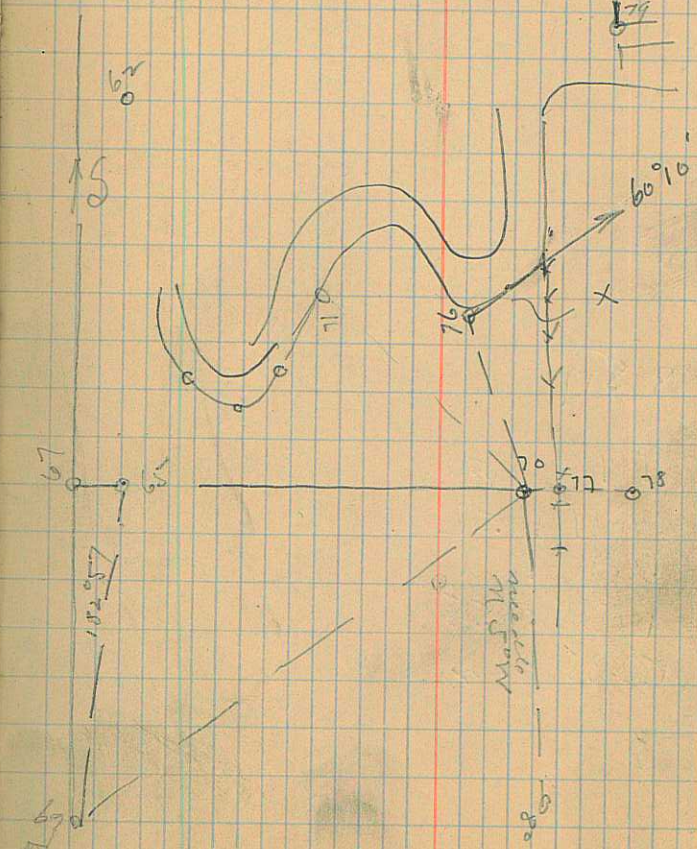
73.36 r

A.I.C. begins 3 r
of SE cor and is 20 thence
N 73 36 E ft - - -

106 Dec. 28 – 1918

Bullock Survey

	70	8	Left	10.30
80				
	80	176°56'	14.00	
	69	214°19		
70				
	pile X	1°	7	10.89
	79	6°25		
78				
	78	90°19'	2.00	
	77	90°19'	1.31	
70-				
		60°10 along N. bk Rn		
76-				
	76	334°53	2.74	
	75 Rb	337°40	1	2.78
	74 Rb	327°18'	1	3.26
	73 Rb	319°20'	6	9.22
	72 Rb	302°41'	2	5.60
	71 Rb	291°15'	2	5.65
	tbs	270°19	2	7.96
70-				
	70	90°19	9.00	
	Rbd	7°38	6	8.59
	Rbc	82°04	2	4.40
65-				



110

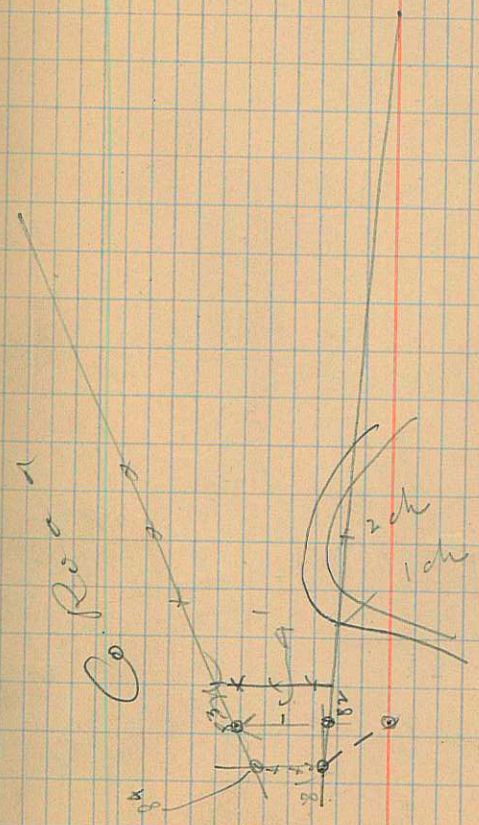
86 8 8° 17'

69–

	169°19 ✓	1.50
69	268°19	10.5
83	180°	1.61
82	180°	0.55
81	152°35	0.6

80–

111



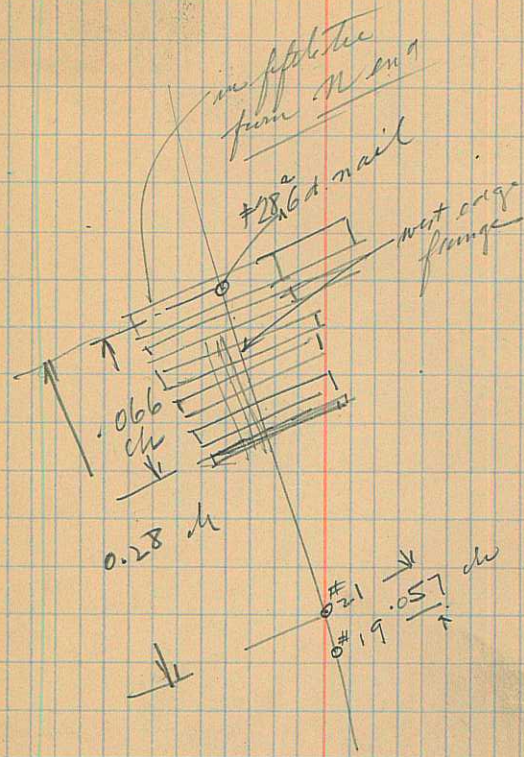
112 Cache Co 1/1/19

Notes on Road
East of Logan Sugar
Factory

20 353°23 0.28

21-

113



359 60
6 37
35 3 23

91 80
27
91 53

353°23

Cache Co. Road

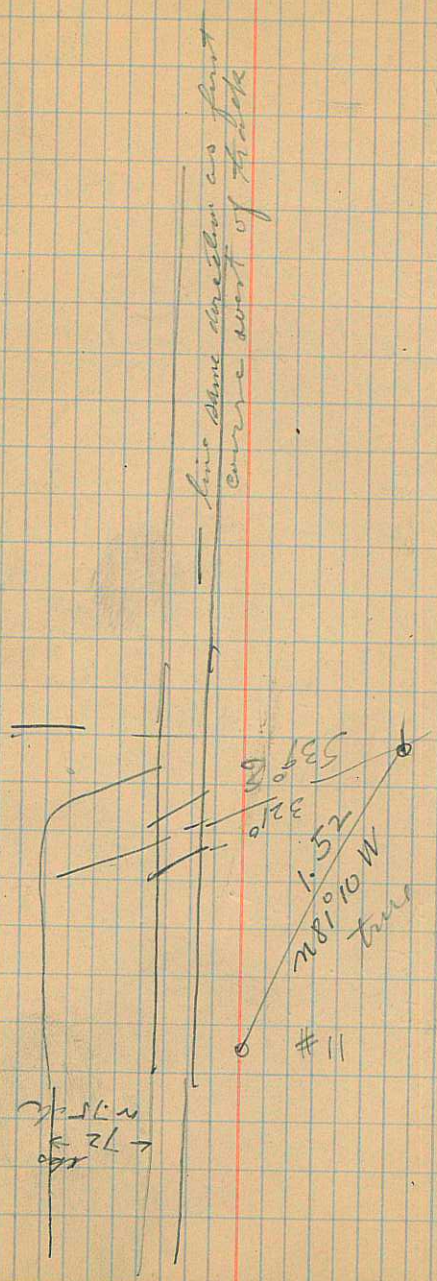
321°

82

82 N81°10W 1.52
S7°01E 6.99 to Lake

11 —

1.528



Cache County

176

179°31' West on a Bill Board 2000'

66	271°22	1220'
65	271°22	906
64	271°22	682 perhaps as far as where old Road comes
63	223°10	33'
61-	to	
	61 248°55	
85-	to 248°55	
61-		

Notes extended 2-3-1928.

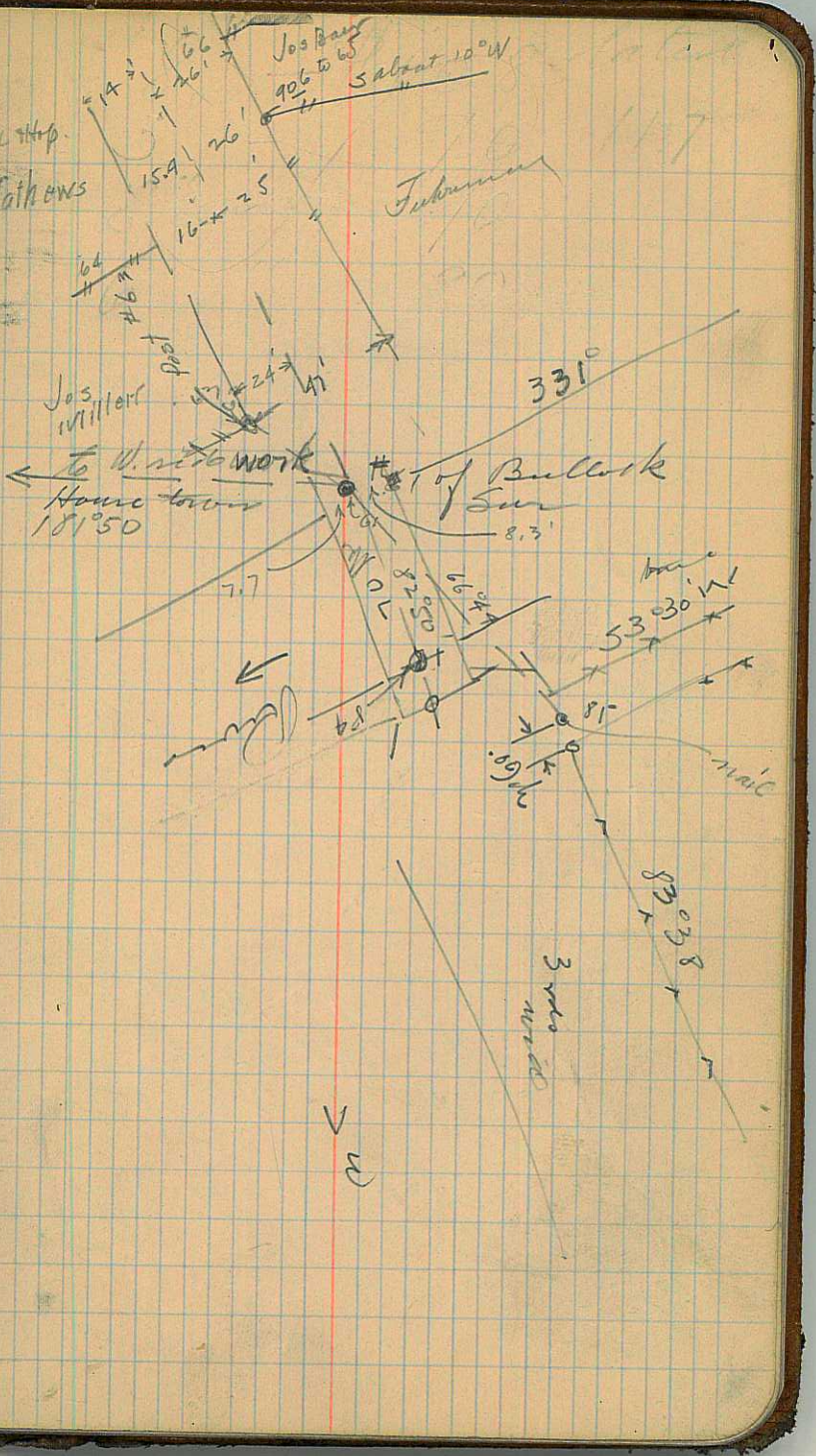
	23°55	to ℄ chimney of 2 story about 4000' dist. frame House
	273°24	to town Joe Smiths house

85

85	66°44	1.335
84	82°50	0.53
83	82°50	0.70

61-

1-1-19



10400 / 2

13000 / 90 / 11700.0

13000

9700 × 1.08 + 4000 × 90 = (13000 × 90) + 82x

1.08
77600
9700
10476.00
3600
14076
11700
2376 | .82
3000

5
2000.00

17.3 00
121.1 00

.16 2/3 00
486 00

17 2/3 / 3 4/2 0

38 / 2

7.8 / 21

1.95
5.7
1365
975
11.115

Beg. at pt 31.436 ch E & 14.0 ft ch N of SE cor 9

2 1 1
2 7
1 8 4
1 6 9
1 5

9 1/2 / 1 8 3 1/2 / 1 4 8

1400 / 19

$

8 — 1 0 8

5 " — 90 ¢

8 " Sewer — 90 ¢

42

169

119

110

140

140

120

$$h = \frac{v^2}{2g} + \frac{fl}{d}\frac{v^2}{2g} + K\frac{v^2}{2g}$$

$$v = 8.08\sqrt{\frac{h}{\frac{fl}{d} + .5}}$$

.02 0.015

121

8" = 75¢

6" = 65¢

1.00

8" @ 100

5" = 70

8" foot 8" tile @ 75¢

38

69.20
57.73
1147
72
8397

84
5
420

208
42
166

169

1.03
4.07
721
412
4,1921

184.41
180

208
180
28

184.41
4
180.41
10
170

1400.
1100

2000

14 11

2000

65
20

18000
1080000.

5

31
9
279
186
2139

31
9

210
28
182

198
182
16

$

9000
3
12000

182.97
184.41

2045
19
2026

200.

4.6
32
9.8

4.6
32
7.8
217
23

19686
21
1936

216
179
31

186.1
4.8
191.
5

475
23
7.00
46
24

760
4
360
2520

624

217
0.1
8.68

3.2
4.8
8.0
2 3

1966
47
2013
87
0926
1926.5
1861

124 .00582 − .0029 = .0021 / 10 = .00291 / x

.0210 / 7.203 = .0029 / 10

17

136 / 68

3 / 505 / 11.5 / 39.0 / 68 / 322 / 9.03

472 / 11.3 / 36.56 / 30.4

37.2 / 11.3 / 26.56 / 20.1

254 / 12.7 / 12.7 / 66 / 6.

11.25 / 56

12.56 / 0.2 / 12.36

2091 / 109

1324 / 91.0

125

167.5 / 17.28 / 156

158 / 109 / 49

1724 / 168 / 10 / 158

9.07 / 9.03 / 12.21 / 4.1921

158 / 158 / 51

60 / 158 / 66 / 1514 / 5 / 156.3 / 10.6 / 3 / 76 / 20 / 15 / 73 / 834 / 10 / 1100 / 665 / 4.32 / 870

2.97

50 .38 / 13.2 / 12.04 / 11 / 6.02 / 60

73.0 / 78.8 / 5726.65 / 4555

126 307 92 614 2763 28944

202 28 174

174 10 164

9680 92 4

307 91 307 2763 28937

13500 9100 4400

9670 91 570

174 10 1644 4400 1644 3296 37.3 320 308 120 570 26110

37.3 570 26110 1865 21276 10

174 21 153 3

158 153

1644 4200 40

127

13400 92 4200

174. elevation of gradient 91
8" 0 - 91 8
5" 91 - 13500 91 6 13500
5" line 37.3 from 1000
grade elevation at 96+70

Cost estimate
9100 ft 8" @ 42 3822 00
4400 ft 5" @ 25d 1100
Excav. 1744
lay pipe 402
backfill 500
9568 00

Hy 700
Boca 150
HyPark 125
27
300
300
1602

186

2289 179 2.46 910 716 540 534

1962 16000 1600 1

1960 16 36 40 12.2

124 40 96.8 10

12.4 91 744 76 1104 119 202 120 82 126 82 44

262 120 82

825 1.75

131 40 91

200 87 113

350 #

157 113 44

13400
9770
3630

37000
670
4370

54

36.0

0.82 of 3

180
25
155

158 g

180

186
16
170

30000 | 8900
26700 | 33
33000
700

9670
89
440
3

32.00 | 89
267 | 3.6
530
534

534

√6.02

196 | 16000
160 | 1

196.0 | 16
36 | 12.2
40

96
90

186
16
170
16
166.0 | 4370
13110 | 36.6
29900
26220
26800

38.1
29
8.2

8 = 6
50 | 386
6 | 32

386 | 450
36000 | 0.82
8600

0.82

534

√0.672

17/8

15
13500

196.00 | 15500
15500 | 12
9100

38
13
114
38
494

1370
910

110

4.18
10
0

29.26
14
200

13
15000
65
13

28
13
84
28
36.4

38

200
36
164

2.6
13
6
2.2
28.6

4200 | 28.6
171.4
136
171
15

3.07
9.0
27.630

200
28
172

186
13.2
1.2

15000 | 200
12

130

13500
9770
3730

150

1960 13500
13500 14
61000

1.4 per 1000 6" = 685 c/o

Complete

Study of 6" - shrt cut

15300 area @ 1550. 13500
15300 ft 6" @30¢ 4650 4650
Back fill @ 300 300
645° 6500

9770
74.50
34080
4003
3800
950

9770 8" @42¢ = 4003
3800 5" @25¢ 950
Excavatin 1357
Lump cut 200
back fill 300
6810
700
7500

13570

45 - Slope

196
40
156

1134
5.9
10206
5676
66.9 67

187
67
120

42
90
3780 200
38
162

133
6.6

1.96
5.7
1372
980
11.172

11.0
661
435
2
8.70

169.39
117
158.663
151.37

297
87
2079
1576
17.839

3.2
3.6
192
96
11.52

15637
7281
8356
106
73

15.2
4.79
1368
1064
608
72.808

58.4
115
468
40.2

78
18
606
534
5

13.6
6.8

33.4
12.7
20.67

125
9.03
375
1125
11.2875

11.30

45.2
11
396
284

1.74
7.3
522
1218
12.702

132

182 / 28 = 210

182 × 13 = 1690 + 1380 = 3400 − 36 = 3364

450 / 38

13 × 90 = 1380 + 90 = 1470

37 × 7 = 259

15.6 × 2.1 = 1092 + 312 = 42.12

162 / 42 = 120

108 / 90 = 18

182 / 00 = 126.00

42 × 40 = 3780 + 33 = 167

40 × 160

182 − 26 = 156

165 / 152 = 9

8.6 × 29 = 774 + 172 = 24.94 + 162 = 186.94 − 180 = 19.74

79.43 − 900 = 8843

88 × 42 = 176 + 3126 = 3696 + 200 = 37 + 16 = 159

178 × 38000 = 1500 + 15200 + 1300

186.74 − 160 = 26.74

159

186.74 / 29.60 = 157

159

9.92 × 681 = 3.07 .032

133

49179 / 37 = 1184 .032 = 2368 + 3552 = 37.888 − 37 = 888 − 38 = 119

57773 − 4959 = 814 .0156 = 4884 + 4070 = 15.5784

95.6 / 19 = 164.6 + 64 = 171 .016400 / 19 = 6.400

200 / 164 = 36

24

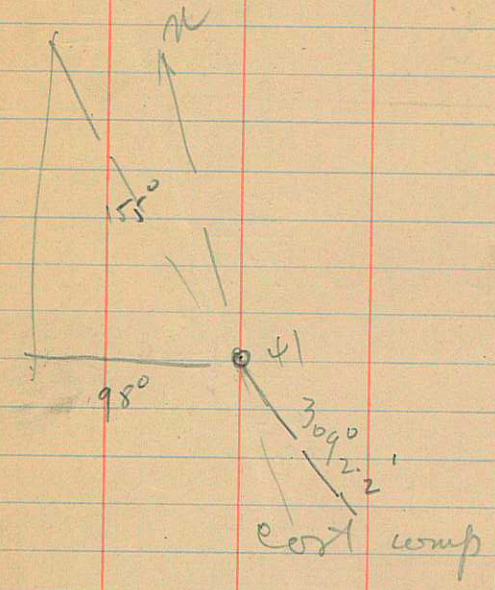
62 × 57773 = 6427 .016 = 2562 + 427 = 6.832 − 1646 = 171.2

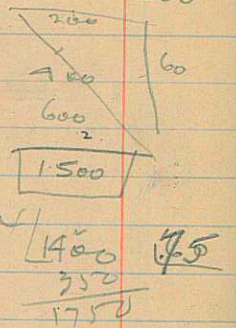
62 × 42 = 124 + 2478 = 26.604

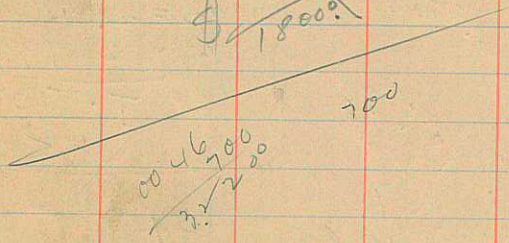
134

135

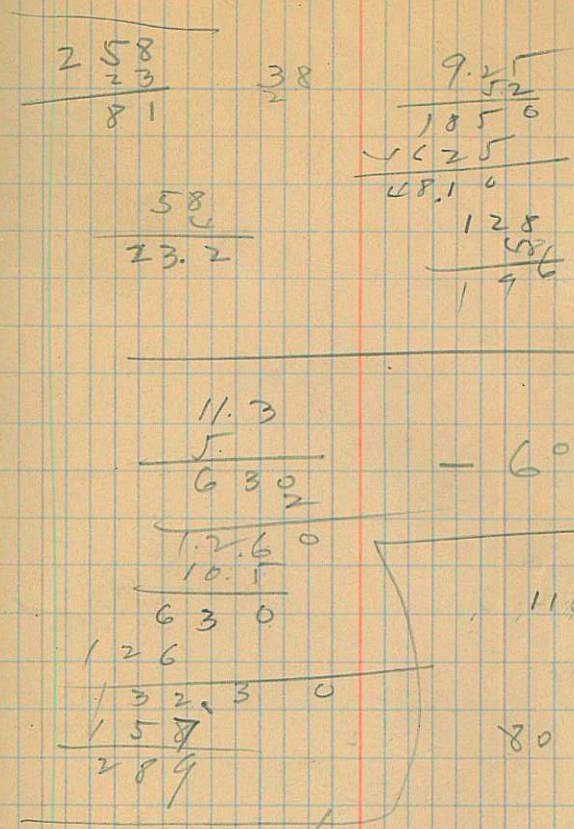
136

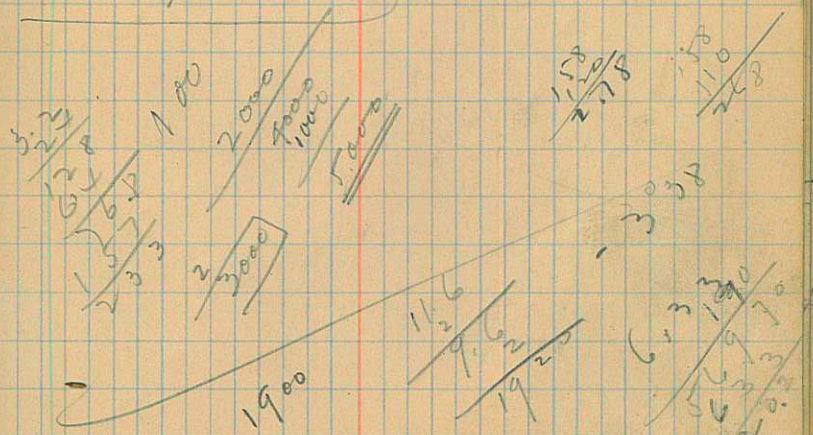

N
N
155°
98°
4
3040
2.2
cost comp


60
3
200
200
400
600
60
1.500
1400
350
1750


1400
400
1800
700
46
700
200
3.2


2000
1500


258
23
81
38
9.2
52
185
1125
48.1
128
586
14
58
23.2
11.3
630
126
32.3
158
289
60
200
1.260
10.5
630
80
69
110
25
200


1400
2000
1000
1500
3000
1900

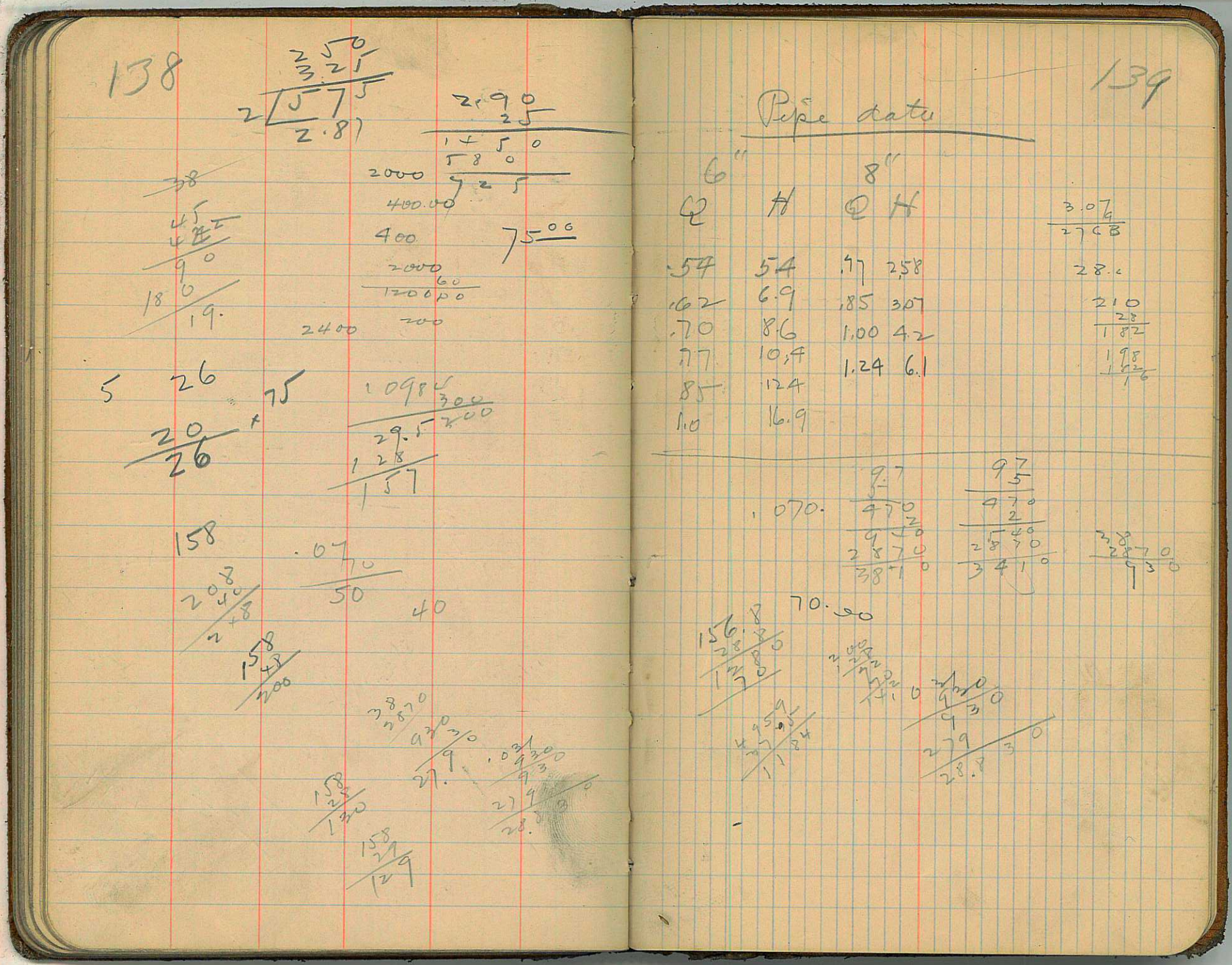
11.6
9.6
19
6.3
3.8
3.8
3.8
3.8

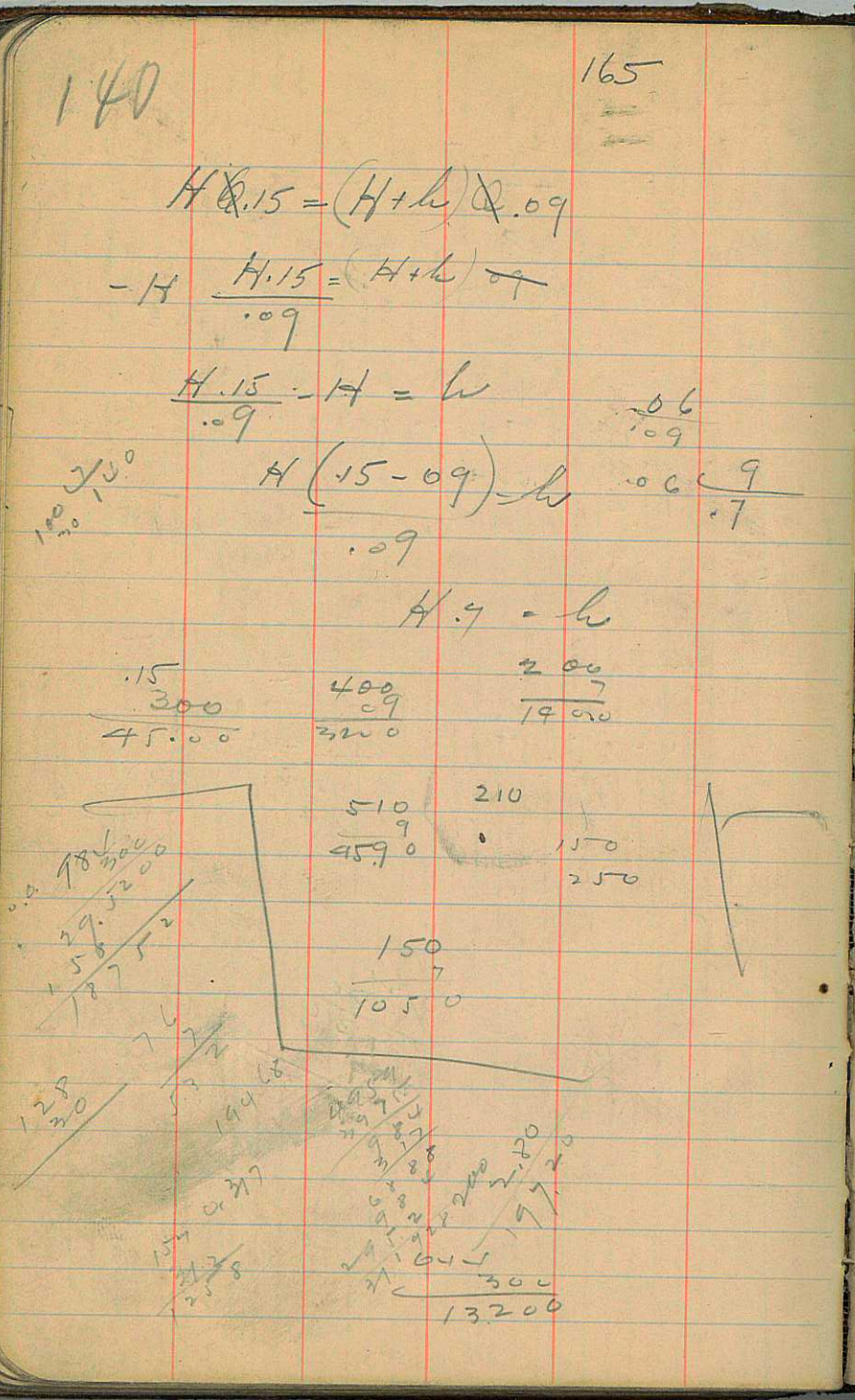
138

139

Pipe data

6"		8"	
Q	H	Q	H
.54	5.4	.97	2.58
.62	6.9	1.85	3.07
.70	8.6	1.00	4.2
.77	10.4	1.24	6.1
.85	12.4		
1.0	16.9		





IMPROVED TABLES
AND
INFORMATION

3+90+

4+50+

C

C 3-1

4-2