49

////

////49

FIELD BOOK

1308

#1111

1,026,700
200
18
26
1442

#1015

All notes of
Smithfield made a

Oct 25 - 1918

1' Mevna Lemon

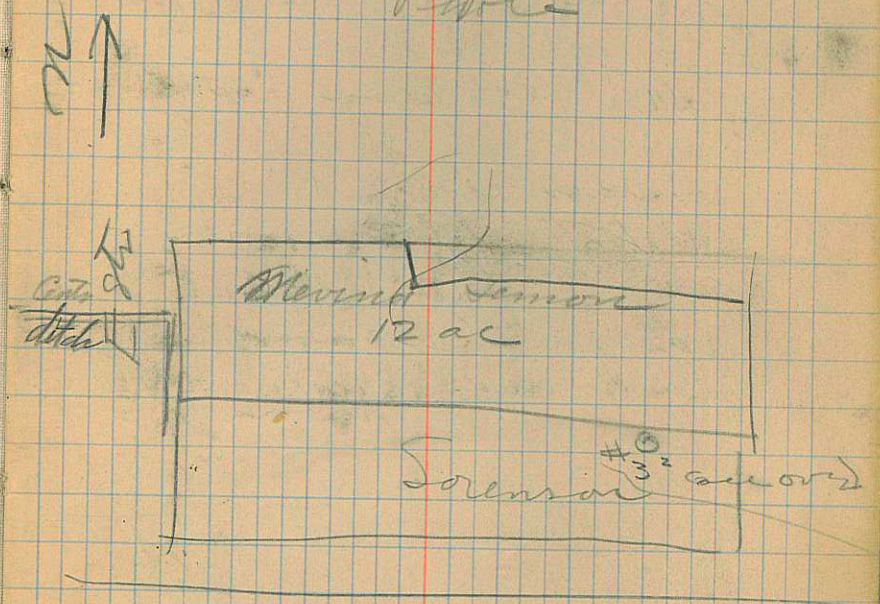
all first foot

2'

1/2 of 1 - 3 n.e. - 1 to - 3

Sandy clay at 3'
Water saturated sand at 5'
Water T1 at 7' in sand
sub drainage good

Mevna Lemon
Contract
Beets
Beg. 1-7 gals every 7 1/2 days
Not 1' the exponent signifies the first 12 ac



10/25/18

Sorenson just over fence S. of Simons 200 W of R 0.S.L to Wellsville

3 2 all of first foot in Wheat Stub

4 2 1/2 of 1-2 An impervious clay starts at 2½ and continues to 6'

Water table at 7.3'

" flows then a quick sand at this and greater depths. Upper vegetation does not affect this lower portion materially



Wilford Larsen

Center of field 10 rds N of Str. Observation down for maximum CO2. East side is West Side of Larsen Str. & Next field directly N of red brick house. Field is about 20 rds wide N+S and goes east perhaps 1/2 mile.

Samples 3 taken 9 rds E of west side str.

5 3 all of first foot in wheat stubble.

6 2 1/2 of 1-2 Sandy Clay starts at 3' perman
Sand at 6' no water
" 9 " "

Mendon
10/26/18

test hole 9

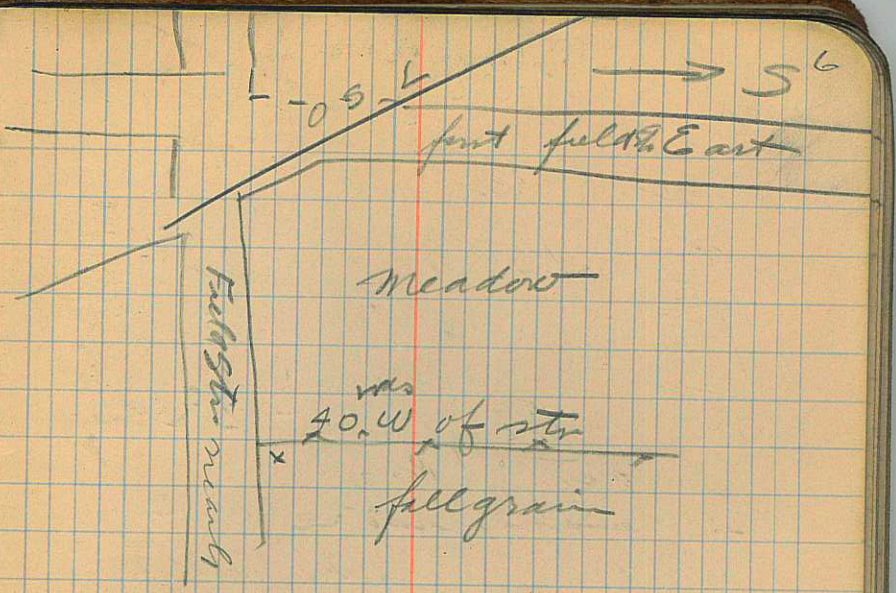
7" All of first foot

8" " " 1–2

2–3 heavy loamy Blk Clay
duty Marl

4' water table

4–6 heavy sandy clay
Water seeps with
much difficulty



10/-6/18

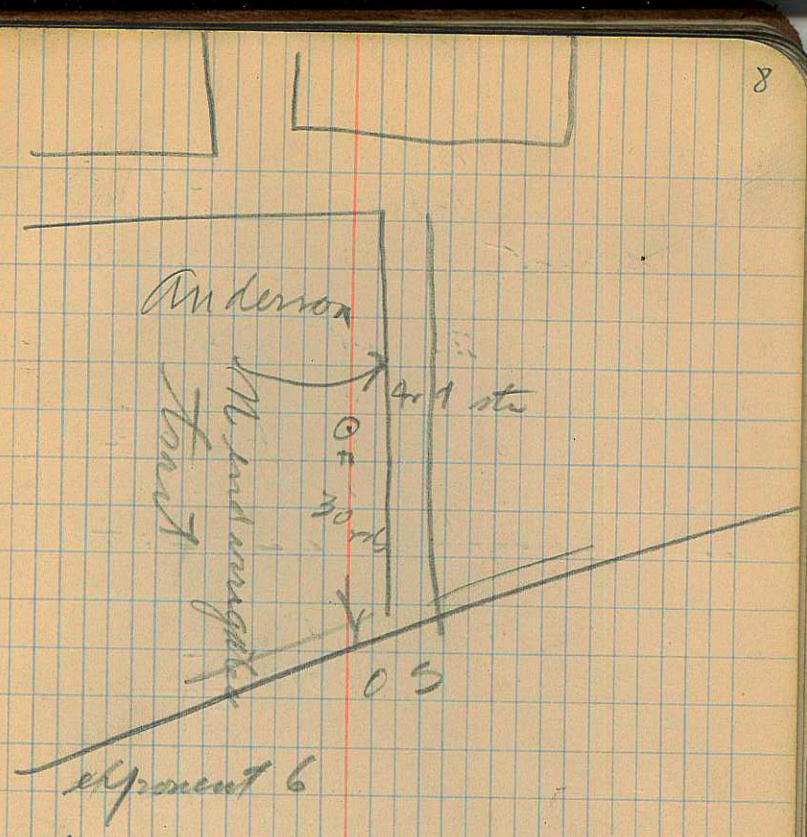
Jens Jensen's lot
where he lives

9^5 All of 1 foot

10^5 all of 1 - 2½

11^5 all 2½ - 3.4

Hardpan at 3.4



12^6 all 1½ foot soil very hard & dry

13^6 } 1 - 3 hard & dry
13^{6a} }

at 6' hard light sandy clay
3 - 6 sandy clay
wet
Water at 8 in sandy clay
passage free

$\sqrt{0.500}$ $\quad$ $\frac{1.75}{.350}$

$n = .0125$

$v = 2$ fut

6" sewer grade $\quad$ 0.2 %

410
180.0 gal per min

23 + $\frac{1}{.012}$ + $\frac{.00155}{.002}$

$.5521 + \left(\frac{.00155}{.002} + 23\right)\frac{.002}{\sqrt{r}}$

1.00 (12
40 3.3

83.3 $\quad$ .002 (.00155 (
23 08 $\quad$ 1076
106.38

106.38 (92
92 $\quad$ 115
143
92
51.80
46

$C = 115$

$v = c\sqrt{rs}$

23
83.33
1.25
10 37.88
153

.00155 (
001

.00100.35
3000029

24.55
.0029
22095
49100
.71195

$\sqrt{.0025} = .05$ $\quad$ $\sqrt{.08} = .28$ $\quad$ .35 $\quad$ .03
.0105

1.53
2
1.306

410
3
135.0 gal

.0025 (.125
125 .0161
750
830
200

23.08
.0161
13848
23 08
.36 92 8
55 21
.9213

.125

.1250 (.35
65
9
350
32

.00200 (.35
21 .006

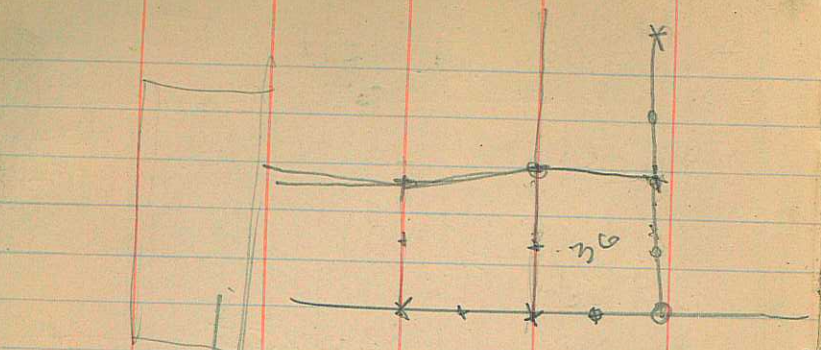
.35
.006
.0021

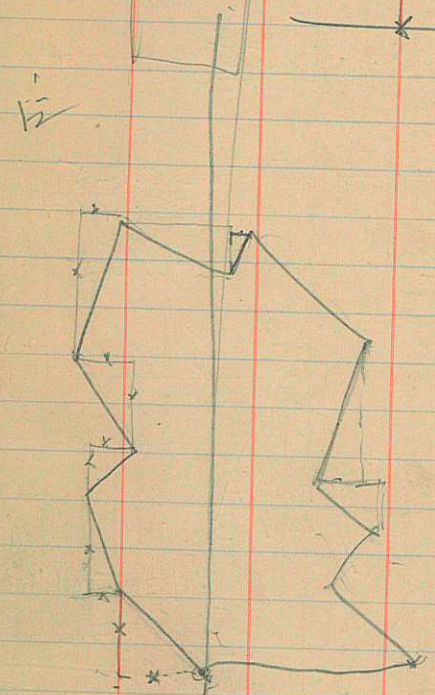
.0070
.04

.04
.35
0
22.2
13.5
.015

152
.25
60
752
1.278

23.08
.006
.13848
55 21
.69058











23
53.3
08
10.6 38 1.33
10 8 4 80

.065
35
225
135
.0157

.0120 35
101.034
150
40

0.034
213
102
68
78
55
13

.016
84
1.280

4170
3
135.0

1.30
3
1260

.35
1400

A
4.04

B
4.08

4.5 24
4.48

1.35
27
4.09
2.0

2.38
2.0
4.52
2
976
4.8552
5
.2
2.5

= 3.00 +.75
= 1.50 +1.00
- 1.50 +4.00
1.00 +.25
2.00 +5.00
4.00 1.50
12.00 225
14.75

Survey for Canada

Water Works Nov 10-1918

	BS	FS	HI	RL
0-	0.08			6.10
0			0.08	6.10
+35				
+68			0.4	8.07
1		on line 7.10	8.50	~~7.00~~
1	2.80	on elev 7.10		9.00
1 1				9.700
1+49			2.60	11.07
1+71			6.00	11.27
2	3.55	5.45	11.7	12.5
2				10.60
2+16			2.5	10.92
2+53	0.75	3.97	3.97	11.34
2+57				8.12
2+93				
2+96			2.3	8.93
3+40			3.5	9.77
3 40				11.80
6+				
4+01	4.53	5.37		11.00
4+01				10.17
+7			5.9	11.17
4+48			4.9	6
5				11.77
5+37			6.55	12.17
5+60	1.50	6.04		12.6

14

Cut

at sharp bend of report at 10.7

6'

6'-9" cut 5'-6"

on H-W

6'×9' = 6'-11"

8'-6"

5-3"

7.05

8'-1"

7.37

6'-8"

6'-3"

5.64

5'-4"

6'-16"

5'-9"

6.56

fall 2.8

fall 1.4

10-8.1

slope 1.9

11-10

slope 1

slope 2

12-10.2

	BS	FS		RR on grade
5+60	1.50			8.0 C
5+83			1.95	8.3
Bm #1		5.00		

Check levels back to O

Bm #1	12.23			
		0.81		
	13.520			
		3.160		
	4.10			
Sta O		11.270		
	29.85	15.24		
	15.24	10		
	14.61	05		

0.08	2.10	
2.80	5.45	
3.55	3.97	
.75	5.37	
4.53	6.02	
4.50	5.00	
3.21	27.93	
	13.21	
	14.7	

Cut 2.1

656 6.56 / 1.50 / 8.06

6'-4" 8.31 / 1.91 / 6.31 — Collect box opposite 5+83

14.61 − 5 = 9.61

(Note Atkins 11+18 is over 5.00)

of drain.

Banida Water Works Co

Sidney J. Atkins Sec.

2000.00

24 40/5 = 8 × 11.60 = 14.61

1500/40 = 37.5 → 20

20.00

Eccles Farm
nr Dayton Ida.

17	72°37	0°	2.3	3.5	
15					
16				6.75	13.8
15	0°			4.65	9.8
14	0°			5.12	9.1
13	0			5.9	8.3
12	0°			5.4	7.25
11	0°			5.25	6.3
10				5.25	6.3
10	89 40		2.87	3.96	
9	88°30			4.07	5.70
8	90			3.95	4.6
7	270°		4.5	6.9	
6					
5	84°50'			4.95	6.9
4	234			4.8	7.2
3	260°44	0°		5.9	7.8
2					
		0°	1.50	3.65	5.73
2	180°				
1					

4.8 / 4.61 / 5.1 — 1.4

101.44 — 4.40

4.70 — 104.94

100.24

104.89 / 4.61 / 100.2 / 4.7 / 104.7 / 3.1 / 101.4

Southernmost Eccles

4.89 — 100.00 — 104.89

Φ2

Φ1

4.78

Φ8 Φ6 Φ7

→ F 5½

on stack yard of

4.80

101.14

(H = 4.79) 100 at 90° 104.79 Sight W along N. ½ [illegible]

31			8.10		
30		9.35			
31	55°51	+2°	5		5.56
30	66°24	0		2.60	3.88
29	77°	0°	4.32	5.00	
28	49°	0		5.18	5.85
27	12°			6.6	7.33
26	217°15	0°		6.3	
25	352°18	0°		4.36	4.86
24	37°15	0°		1.95	3.00
23	37°15	-1°23	5.00		6.18
22	37°15	-12°50	4.21		5
21	37°15	-22°	5.57		6.60
20	37°15			~~5.58~~	~~6.22~~
20				5.58	6.22
19	117°			6.15	8.31
18	81°30			7.45	9.43
17	~~81°30~~				

20

HI HI

3.5 / 1.72 / 1.5 / 1.11 / 1

7.1 / 4.2 / 2.8

106.66

on Hugh H2O line Canal

114.76

101.44 / 4.6 / 106.04 / 5.58 / 100.46 / 4.8 / 105.26 / 1.95 / 103.31 / 2.60 / 105.41 / 3.35 / 114.76 / 8 / 106.76

105.41

Note construct e
from 17 – 25
also from 30 to 2

beg of pipe 1.4

4.70 108.01 (103.31)

4.80 105.26 100.46

by fence

4.6 106.04

UNL
Stedin

			RR on tubular frame	RR on grate
44	84		8.2	5.5
43	120°35'		9.1	5.9
42	137°44	0°	10.85	6.85
41	150°50'	0°	U 9.9	C 6
40	169°45	0	U 9.6	C 6.58
#10				
			4.7	5.5
			5.1	5.4
			5.4	5.27
			4.7	5.14
39	187°01		4.9	5.01
38				
			5.00	4.88
				4.75
37			5.25	5.35
36			6.1	5.23
				5.15
35	195°14		07.18	5.72
34			4.75	5.59
33	" "		4.85	5.46
32	195°14		5.20	5.33
				4.20

27

dom ac fuel
dom W. fuel
new core ac fuel

C 10"
C 4"
G
C 5"
C 2"
G

465

(F10") 6.1 5.23 5.15

460 5.55

C10" 5.59 5.46

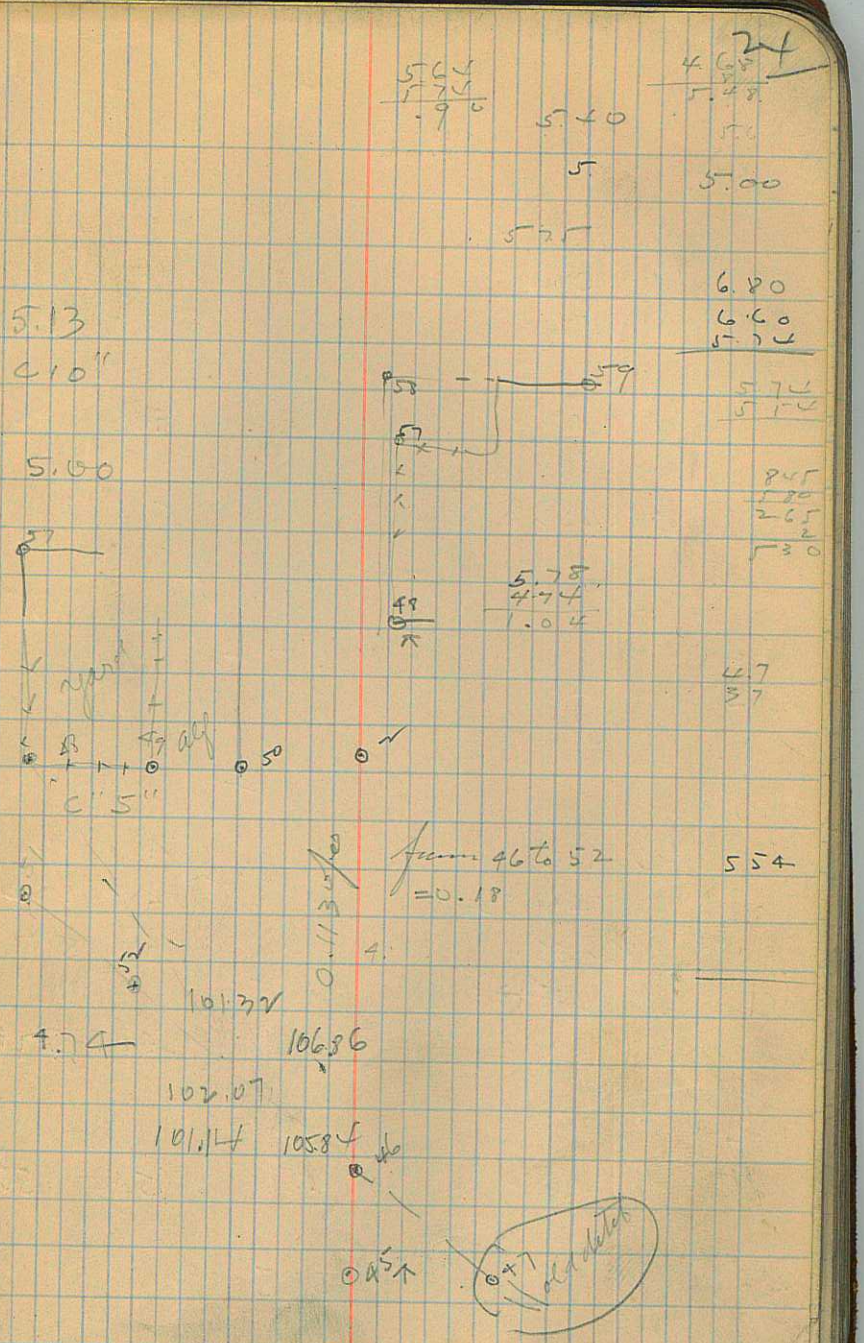
C2"

4.75

5.72 5.72 5.5

260 201

			RRow ground shot	RRow grade	cut	
	59				475	6.935
	58	359°42'			5.76	7.9
	57	359°42'			5.00	6.1
48				5.93		
	48	359°42'			468	5.18
		182°			5.95	8.40
51-						
	52	315°30'	5.80	6.60	9"	
	56		6.1	6.32	3"	
	55		5.4	6.14	9"	
	54		5.32	5.96	8"	
	53		5.00	5.78	9"	
	46			5.62	11" = 10	
	52	315 30		6.60	5.80	8.45
	51	315°30'			6.7	10.44
	50	334°30'			6.4	9.70
37	49	327°10'			5.65	9.15
	48	320°45'			6.5	10.26
	47	135°30'		4.76	5.54	
35	46		5.60			
	46	0°			3.77	4.16
	52	0°			4.7	9.5
17	45-					



		RR ground	RR grade	Cut	C	Unit
69	0°				5.	11.4
68	180°				5.13	6.12
67						
67	90	0°			4.30	1.86
66	90°				4.64	5.05
65	325 30				5.65	8.1
64	0°		5.86	6°	5.38	7.35
46-			5.92			
2 -						
63			6.65			
63	180°				4.40	4.30
	281°52				4.95	6.20
62	255°18				4.93	5.67
61	~~255°18~~		5.85			
61	270°		5.78		5.05	5.78
60-			5.58			
60	0°		6.26		5.46	6.55
2 -			5.85			

1000 15 / 0.6

5.6

6.00

5.38 / 0.2 / 7.65

5.20 / 1.6 / .64

on back up detail

101.77

4.56 x65

102.49 / 106.85

Extent edge gravel

Elev. 106.59

Elev. 102.07

4.52

4.70

4.80

4.85

4.78

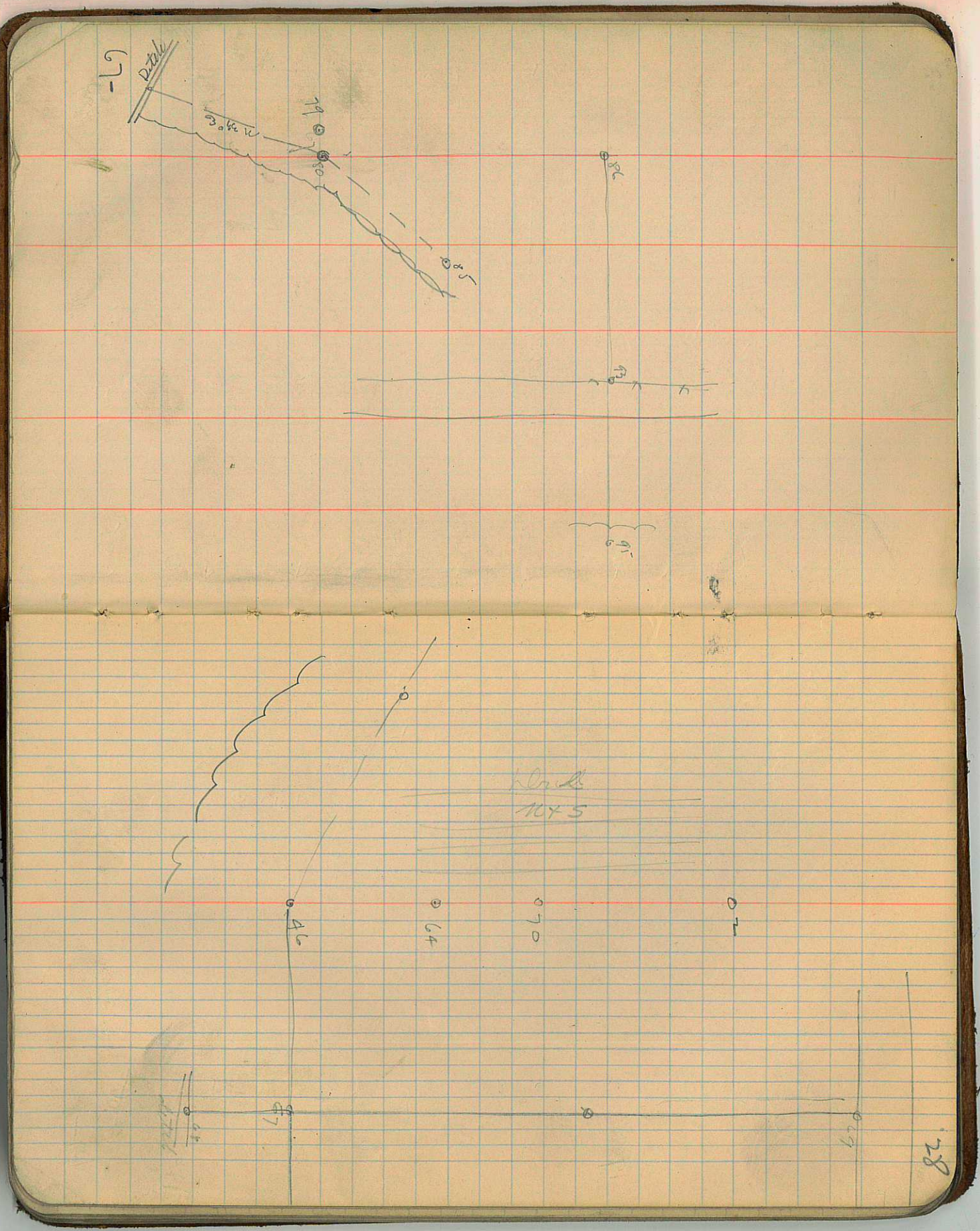
C10

4.85 101.14

6.55

5.78

3.73


Datik
N 39° W
79
80
85
86
43
49
46
64
70
72
47
Lock
1075

	Az	RR on ground or hub	RRm grade	cut		
					4.85	5.63
85	39°20	0°			4.61	5.64
84			5.38	C9"	4.65	4.76
83	213		5.32	F5"	5.75	6.59
82	213		5.26	F3"	5.55	7.1
81	213		5.20	C1'	6.2	8.5
					in letters	
80						
80	90°				4.08	4.23
79						
79	90°				3.30	5.64
67-						
		4.2	3.27	C1"	4.1	7.7
		4.8	5.18	C5"	4.8	7.9
78		4.50	5.09	C8"	4.5	6.9
77	0°	5.25	5.60	F3"	5.25	6.81
76	0°	5.1	4.91	F3"	4.91	5.76
75	0°	4.75	4.82	C1"	4.75	4.84
74		4.6	4.73	C2"		
73	180	4.2	4.64	C5"		
72	180°	4.5	4.55	G		
67	180°		4.46	C6"	3.8	6.7
71-						
total	310°54		5		5.5	85
67-						

103.9

102.9

{ must balance at 81 should be raised 1' higher 102.2

4.40 108.4 5

104.00 108.08

4.41

103.67

4.68 102.29 106.97

101.89

3.85 102.29 106.09

4.66

5.6 3.2 7 7.3 1 4.4 2

5.38 4.61 .77

5.55 5.26 2.7

5.25 4.8 9.5 10 4.38

4.40 5.40 5.20

6.20 5.20 5.4 5.40

5.1 5.2 5.7 5.2

				5.50	
101					
	101	159°17		3.70	5.34
	100			4.50	
	100	93°45		3.9[illegible]	4.20
99-				3.94	4.20
	99	112°15'	0°	2.40	5.06
	98	90°	0°	2.60	5.0
	97	90°	0°	3.32	4.18
	96	0°		5.21	5.62
95-					
	95	90°		0.7	5.20
	94	90°		6.35	9.5
	93	90°		5.55	7.80
	92	72°		5.1	7.48
	91	59°		3.92	5.21
	90	90°		3.62	4.71
	86	0° alpt	5.21	0.89	
	89	180°	5.18	C11" 4.28	4.67
	88	180°	5.12	C11" 4.2	5.30
	87	180°	5.06	C6" 4.57	6.40
	80	180°	4.98	C1' 3.98	6.53
86-					

110 marks on high hill is (0.5 higher than mark 104) 4.60

5.100

110.46

109.66

on probable Height Ho 0

inlet of Candy gate

4.7 110.22 114.16

109.46

109.26

108.54

4.58

109.28 111.86

101.63

102.43 102.88

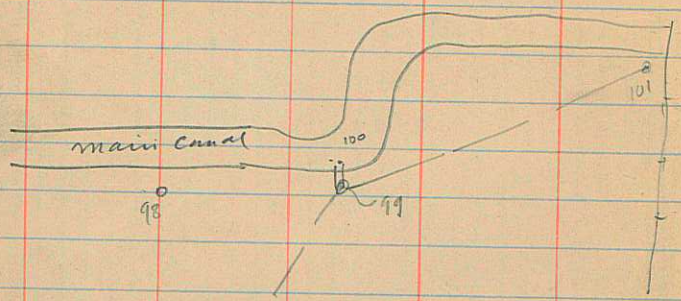
near Wynne Exide road.

104.36

104.10 107.98

4.47

0.89


main canal
98
99
100
101

Profile & align. Survey
Nov 17-18

	Sta	BS	FS	HI	U or L
	12			6.15	
				4.6	
				6.2	
	11			4.6	
				6.50	
	10			~~4.80~~	
103A-					
	103	14°16 (Sta 4)			
102A-					
	9	6.49	4.56		7.18
	12 102. also Sta 10	120°29		4.50	7.55
	~~8~~		~~4.56~~		~~7.18~~
		126°18		4.6	7.0
	8			4.65	3.20
		128°		4.7	6.5
	7			4.6	
	Stake			3.1	
	81	126°30		4.70	6.25
	6			4.85	
				3.21	
	5			4.95	
				3.46	
		104°51		5.00	4.63
	A	104		5.10	
				3.70	
	3	280°45'		5.21	5.55
				4.60	
	2			5.30	
				4.00	
	1			5.20	
				4.00	
0-47		284°15'	5.50		7.34
68-			~~5.50~~		

102.60	
102.55	
102.25	
103.95	
102.26	108.75
102.22	
102.17	
102.12	
102.22	
102.17	
101.97	
101.87	
101.87	
101.72	
101.61	
101.52	
101.62	
101.32	106.87

also called U

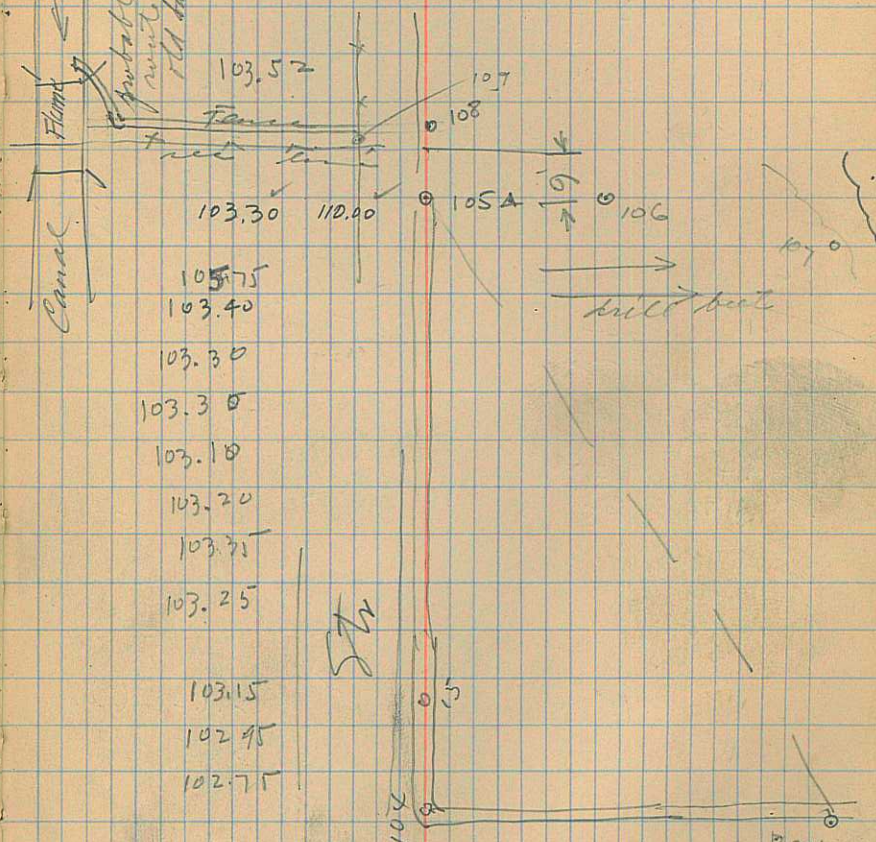
Sta	Hz	BS	FS	Dist	Elev
110	90°			5.92	7.06
109	90°			6.34	6.66
TP 20		(6.96)			
108Δ	Dist 11.2				
108Δ	180°00'		4.44		
107	270			9.3	11.85
106	270°			5.6 ±	5.73
105Δ					
"				6.48	
"				4.80	
20				5.2 ±	
Sta 20		6.70	5.45		9.2
105Δ	151°52			3.00	7.60
21				5.35	
20	144°45'	on line	~~5.45~~	3.6 ± 5.45	~~9.2~~
19				5.45	
				4.00	
18				5.65	
				4.00	
17				5.51	
				3.70	
16				5.40	
				3.7	
15				5.50	
				3.50	
104	96°05			5.6	7.7
14				5.8	
				3.8	
13				6.00	
				4.50	

104.34
103.92

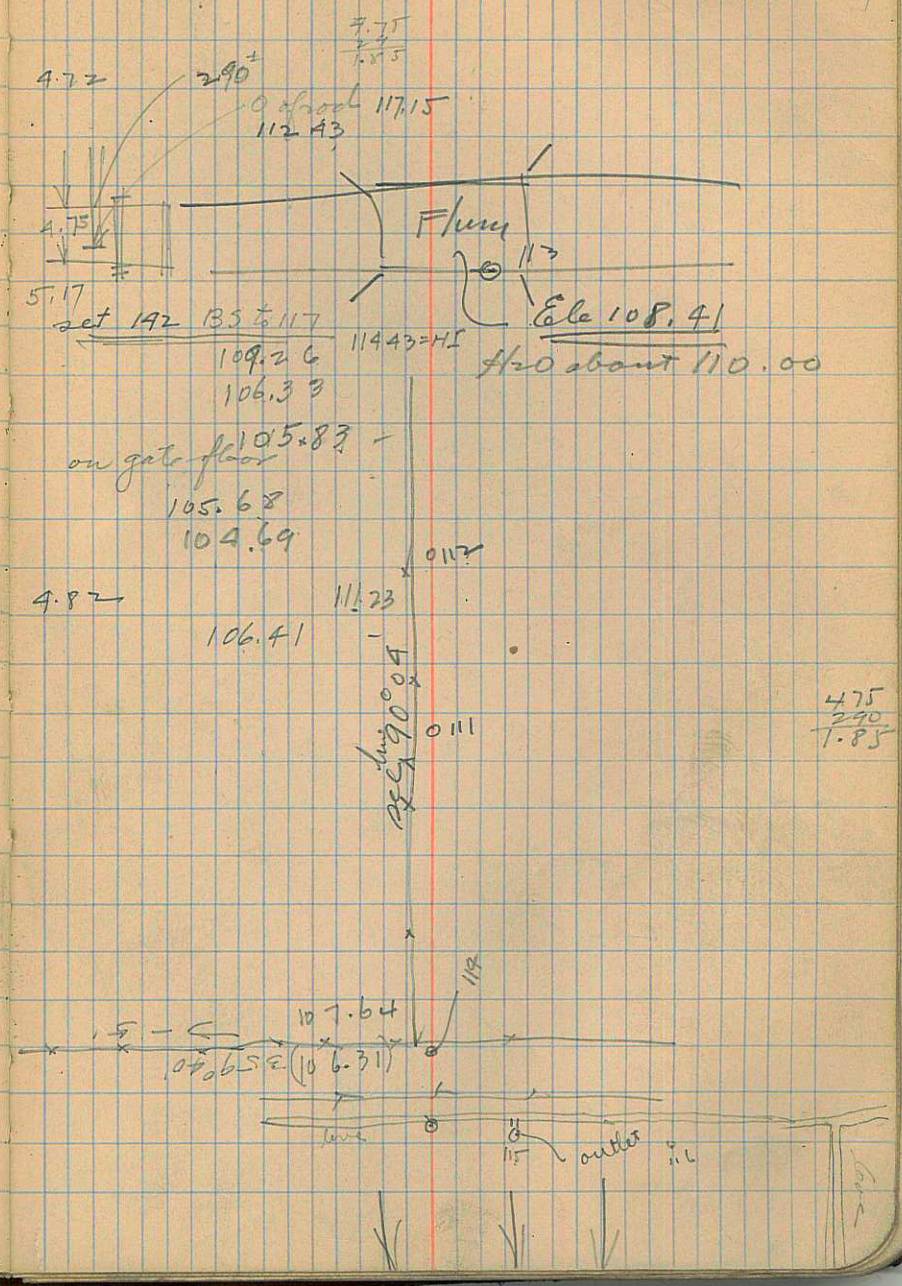
HI 4.17

110.26

105.56 on line



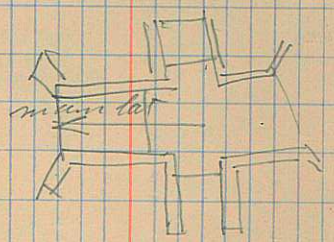
Sta	∠	BS	FS	HI	L or U
127			109.33	7.82	8.53
126				~~7.82~~	~~8.53~~
126	89°47	4.72	2.00	2.00	4.75
125 D			108.73	5.70	8.45
124 D			107.98	6.45	8.31
123	87°30'		107.07	7.36	8.25
122 –		5.17			
122	142°42 Take ∠		1.97	1.97	3.95
121	142°08'			4.90	6.88
120				5.4	6.95
119	179°30'			5.55	7.07
118	100°			6.54	6.62
A117 –		4.82			
117	180°24		3.85	3.85	8.85
116	180°52			6.1	8.27
115	184°30			6.17	6.87
114	89°58				
113	90°45			0	5.70
112	90°			2.62	6.00
111	90°			3.95	6.17
108 A –					



Sta	Elev	BS	FS	HI	U-L

Sta	Ag	BS	FS	HI	O-L
				6.75	9.00
			110.25	6.9	9.~
129			110.00	7.15	9.92
128	88°		109.35	7.8	9.9~

126 -

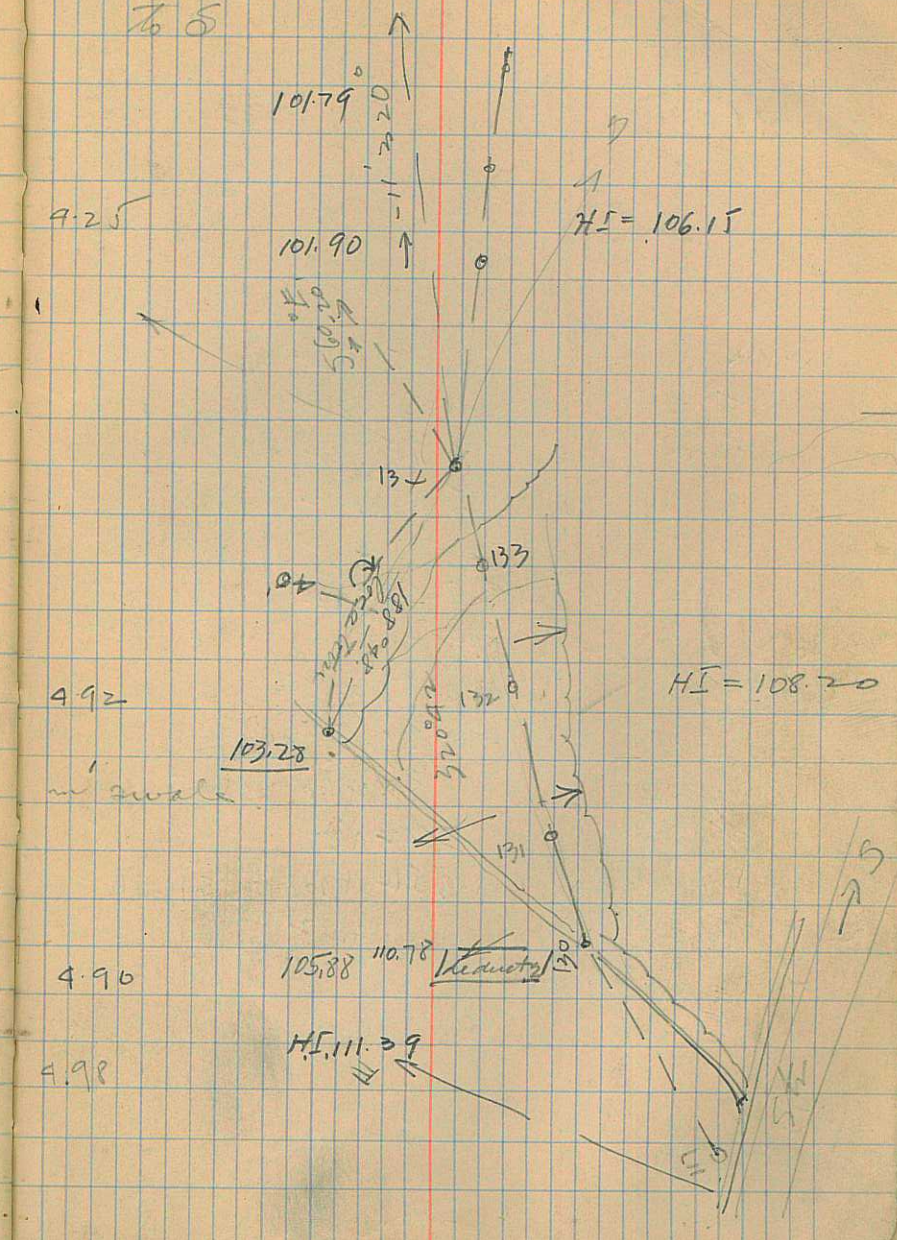


on bottom plank Canal end of culvert outlet
on Canal H₂O line

end of



Sta		13.3	F=3	cm	L or U
	359°51				
68					
47	314°25			9.36	7.18
68	35°42			4.00	5.50
140		4.25			
Δ 140	mm de 350°30		6.30	6.30	11.70
139			102.1	5.9	10.6
138			102.6	5.4	9.2
137	350°30		102.4	5.6	8.5
136	350°30		102.5	5.5	7.5
135	350°30		103.3	4.7	6
	188°48'		103.6	4.4	0.8
	270°		99.8	8.2	2.6
	272°		101.70	6.3	8.6
134 Δ		4.92			
134	320°42'		7.50	7.5	12.00
133	" "		100.30	10.30	6.5
132	" "		102.63	8.15	11.55
131	320°42'		105.73	5.05	5.66
130 —					
130	288°41	4.90	5.51	5.51	6.31
117 —		4.98			



		Center Curve F	RR on frame	Curve L	out RR Left	Front L
a	BS	FS	M			
141	8	0.58	3.50	3.62		
	5		5.8	3.72	5.9	F2.2
	4		3.7	7.5	3.82	8.0
	3		F3.5	7.5	3.92	7.4
	2		F2.7	6.7	4.02	7.3
	1		F1.8	5.9	4.12	6.8 F2.7
# 80	6		F.4	5.1	4.70	5.7 F1.6
	5		0.6	5.2	4.62	4.5
	4		0.7	5.2	4.54	5 F.3.
	3			5.3	4.46	4.5
	2		1.8	6.2	4.38	5.2 F.6.
	1		1.3	5.64	4.30	5.1 F.6
	90				4.22	5
90 –		4.42				5.5
	90 90°		3.60		4.80	6.2 1.8
86 –						6 5.7 F1.4

out RR Right	Front R
	103.56
	104.70
	6
	4.62
	9
	1.6
	full runs out here
6	
5.6	
8.	
7.6	
7.1	
7.6	
6.6	F2.6
6	
5.8	F1.7
4.5	
4.5	
5.2	F.6
5	
5.3	.8
5	
5.2	
6	
5.8	F1.4
6	
5.9	F1.6

from #90 we go W.

7.3
3.9
3.4

7.6
9

104.53
4.47
108.13
4.7
104.25

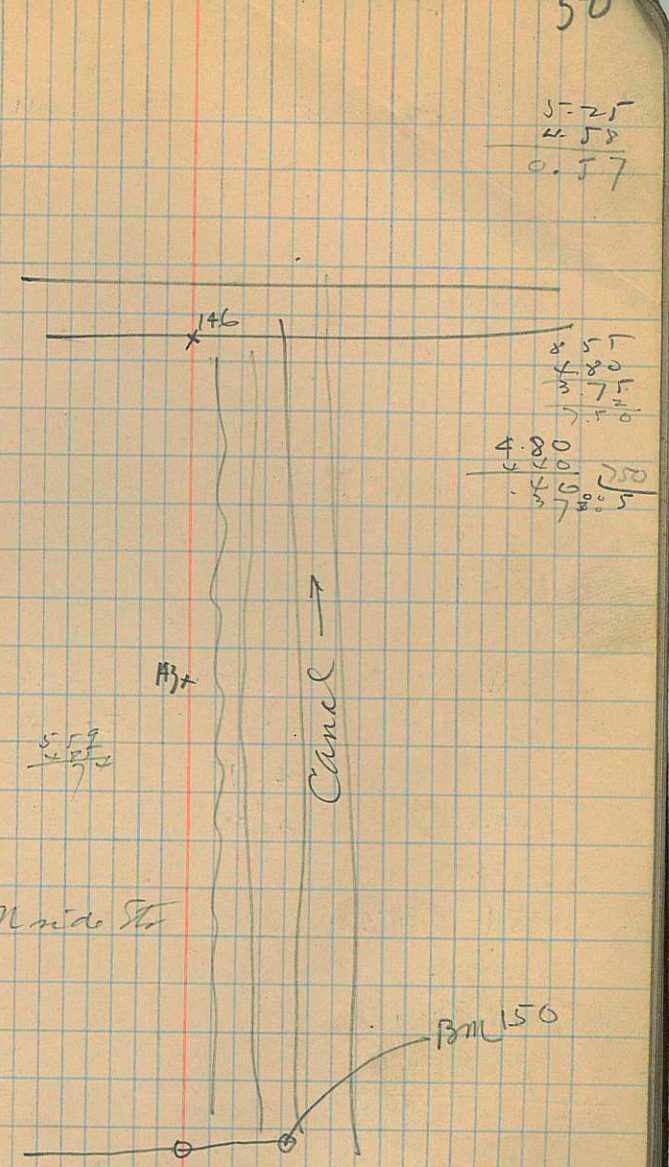
103.56
4.57
108.13
3.6
104.53

called 5th one

104.53 raised H2O to 104.70

4.57 103.56 108.13

	Hz	BS	RR on grade FS	HI	L or R cut
Bm 150	90°			4.13	9.34
		4.5	5.52		
149	356°13	4.85	5.59		
148		5.2	5.66		
147			5.73	4.9	
146	356°13			4.5	8.35
145	" "		5.80	4.80	8.55
144	356°			4.80	7.85
143	356°			5.56	7.56
H2		4.50			
142	90° 6.1'		4.44		
97				5.25	
98 -					



	BS	FS	HI			
		RR on grade	P	Cut	out RR opt	For C Cut
86						
86		5.17	5.68	0.6	5.6	F 0.5
82		5.00	6.3	1.3	6.1	F 1.1
80.6	1	4.98	6.25	1.5	6.25	F 1.1
90		4.56				
PM 151	96.22	7.36				8.44
90 –						
			2.50			
		5.20				
141 –		5.3				

out RR Rpt	For C Cut	6.25	
			104
			5.20 / 2.5 / 2.7 / 4.3 / 2.1 / 1.8
		10400 H₂O surface	4.71 / 3.62 / 109 / 2.18
		6.25 / 5.78 / 0.47	500 / 220 / 22 / 600
		5.68 / 5.13 / .55	6.78 / 4.78 / 4.58
		6.78 / 4.78 / 1.47	86 = 103.56
		6.3	6.1 / 4.78 / 1.32
5.5	F 0.4		4.56
5.5			
F 1.3			
6.1	F 1.3		
			104.50 / 104.36 / 4.76 / 109.12
		PM 101.76	
4.76		104.36	H₂O 104.50 HI = 109.12
at 95			
4.3			cut 1' to ditch bed

52

Grade RR

Sta	Eq	BS	FS	HI	L - O
10		4.89	5.64		
			5.56		
161		4.89	5.49	5.04	
10-					
#10	355°37'			4.4	8.3
161	0°		5.19	4.6	0.7
160	"		5.11	5.16	8.2
159	"		5.03	4.3	
158	"		4.95	5.18	6.68
157	"		4.87	5.	F-"
156	"		4.79		
86				4.10	4.53
156					
156				4.19	4.50
155-				~~4.19~~	~~4.50~~
155	180°			5.00	9.15
154	180°			5.42	7.04
153	12 50'			4.96	5.95
152	180°			5.10	5.38
10-					
10	86°27'	+10'		4	8.1
1-					

54

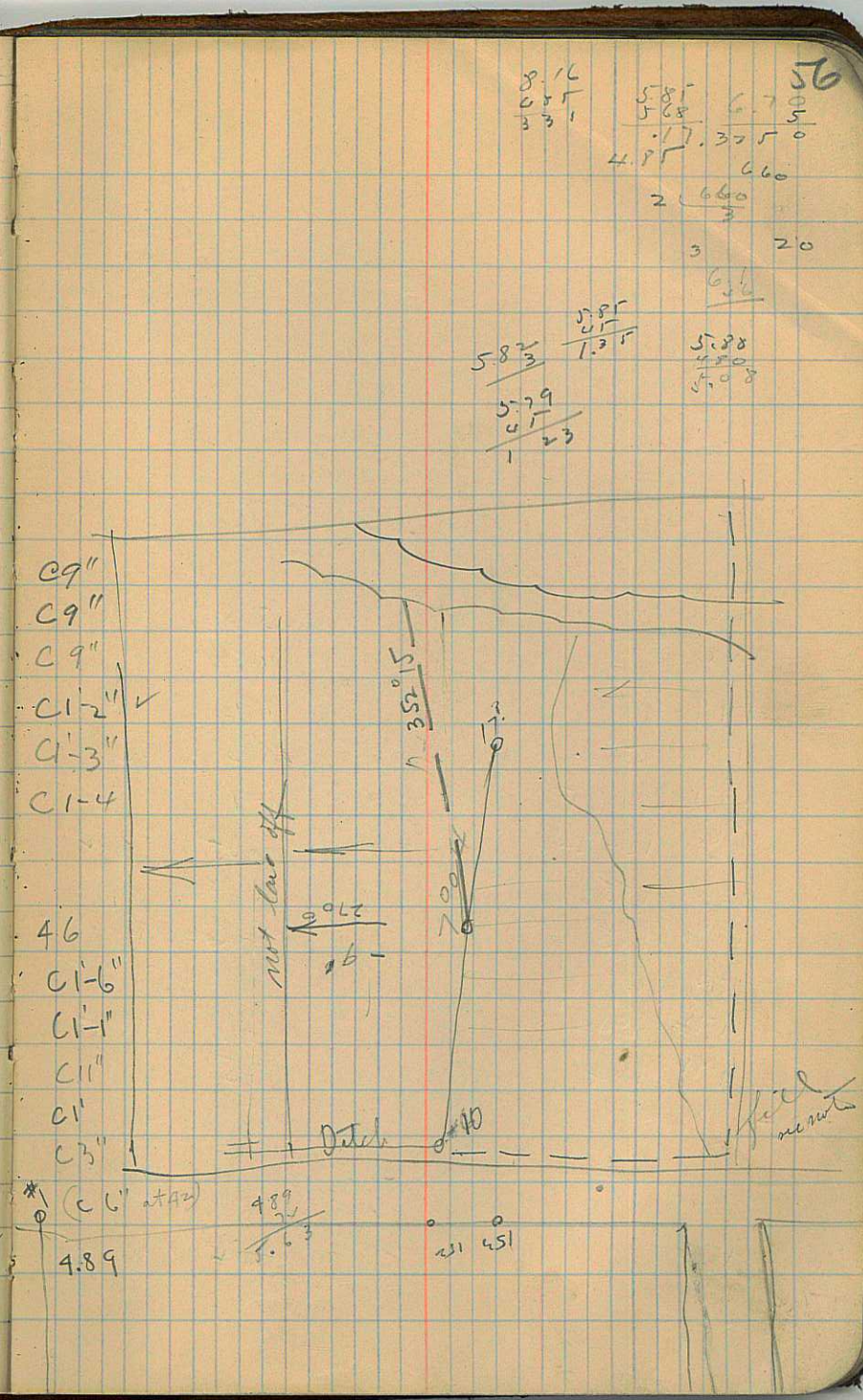
LVF
C9"
at North Road
C"C
4.80
C8"
C
C9"
F3'
F2"

103.26
103.06 on hub
102.46 on grade

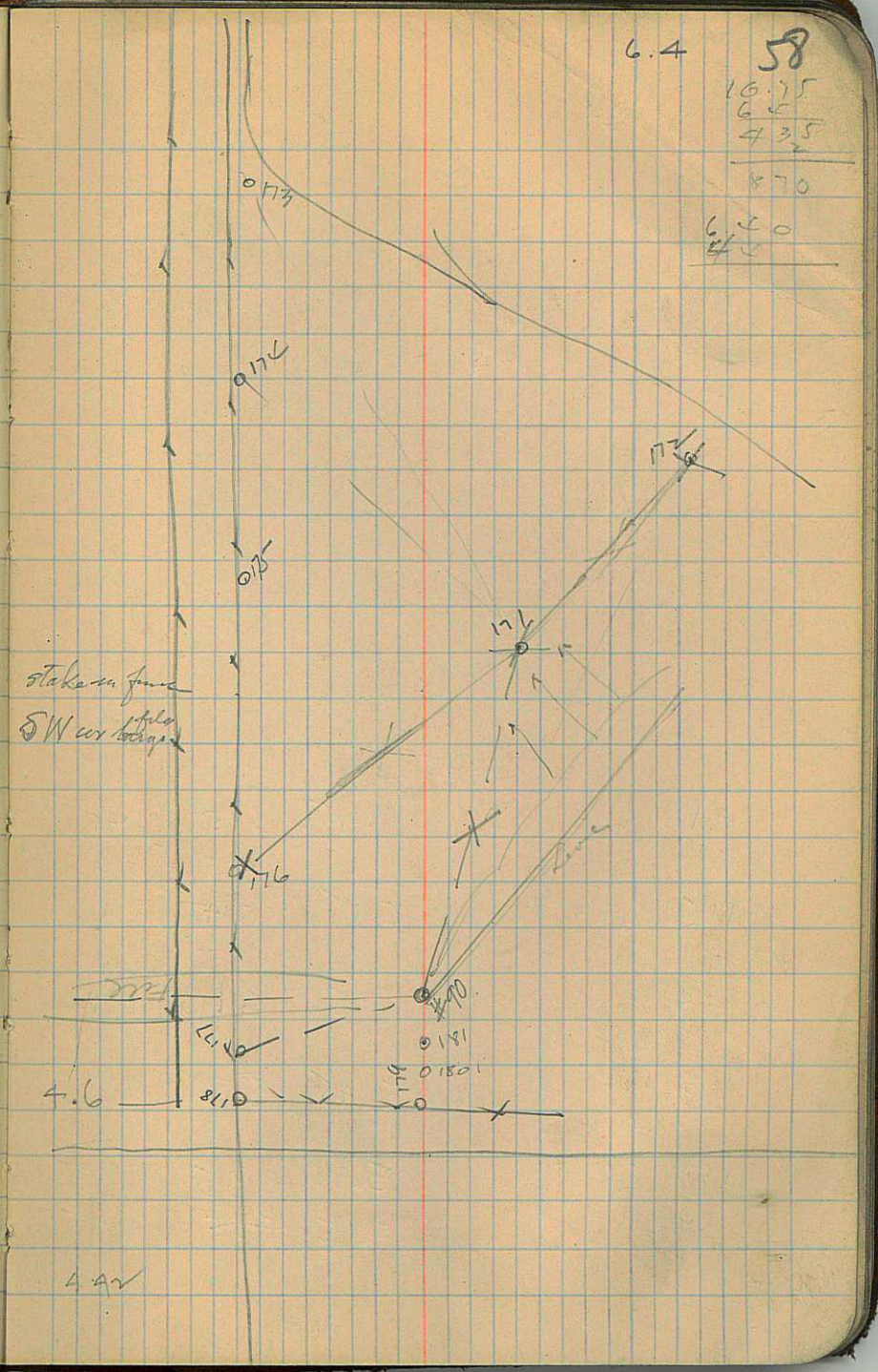
HI = 107.66 103.56
H2O surface 105.00
Grade - 103.00
4.54 107.66 = HI
Elev 103.12 #156 0.1 higher than #10
4.53

4.84
south field South Road (103.)
grade at 10 = 102.50
4.60

		BS	or Gain R FS	HI	C. of F Corr
169	352°15'		5.70	5.	
168	" "		5.73	5	
169	" "		5.76	5.00	
166	" "		5.79	4.5	
165	" "		5.82	4.6	
164	" "		5.85	4.5	
163	352°15'		5.88	4.85	8.10
162	9°			3.35	4.88
38 Δ		4.60	5.68	3.35	4.88
38			6.08	4.6	7.58
Δ 38			6.00	4.95	7.4
39			5.92	5	7.1
40			5.84	4.82	
41			5.76	5.57	6.43
42			5.68	5.16	
10 —			5.63	5.16	



181	0°	5.35	6.55
180	0	7.90	10.6
179	0°	6.60	10.9
178	15°20'	8.30	12.3
177	21°25'	6.1	8.95
176	129°24'	8.05	9.–
175	155°30'	6.4	9.00
174	165°	6.50	10.65
173	169°08'	6.00	11.35
172	194°40'	9.1	3.85
171	184°	8.5	11.18
170	270°	6.4	10.75



RR
grade

81		6.05	6.15	8.45
185		5.85	5.4	C5"
184		5.65	5.60	7.1
183		5.45	5.70	6.70
182		5.25	5.35	5.85
80		5.05	~~5.35~~	~~5.85~~

80 —

C4" g.

C9"

4.30
7.1

60

4.30
.75
5.05
1

103.25
102.2

8.5
23

1400 | 460
5.70
82.2

5.35
5.05
30

21.30

5.70
5.25

1.70
3

5.35
5.25

103.25 grade bottom

Alma Olson

1/2/19

	BS	FS		HI		Elev
		on Hwy 6.94				
back check						
6	12.05					
		99.30			83.8 ✓ 10.3	
6						89.00
6	0.65					0.82
6	92°50	12.05	10.60			92.45
AM 5	90°37	18'		45 ✓		99.98
4	51°15	10'		45		100.00
M	225°35		5.97 ✓	6.51		
				4.80		99.70
		6		6.45		98.00
1	331°30		6.75	6.98		97.00

4.50 on Pin
.65
at Hwy
4.10
93.10 = HI
on ground Rod set
on high H.W.
on low-it-U
Bird Canal
HI 1045







6✓

1/2/19

O. M Nelson

level from House

to SE cor of his land

+1°48 6.00 12.50

64

12.50
6
6.50

13.00
.03
39

1031
1000
93 00
31
40 x 00

Thomas Arume Survey
Jan 7, 1919

6—

∧ 6 180°07 11x00

180°07 10.08 to fence no cor.

5 π

5 180°07 30.00

258°18

215°26

π—

260°58 correct by sun 2°40

2 stone—

2 38°06 cor

4—

4 22°53

1—

add 152 to

Thos Arume Survey

Jan 7, 1919

[sketch: Triangle; 1023; 1241; 2 stone; 4 stone; 1 stone; 3 stone; 5 stone; 6 stone; 7 stone; 8 stone; 9 stone; 10 stone; 11 stone; 12 stone; 13 stone; 14 stone; 15 stone; 16 stone; 17 stone; 18 stone; 19 stone; 20 stone; 21 stone; 22 stone; 23 stone; 24 stone;

12 stone 301°37' 0.83

11 —

#11 178°18' 50.00

178 18 10.08

178°18' 9.56

90° 0.72

9 —

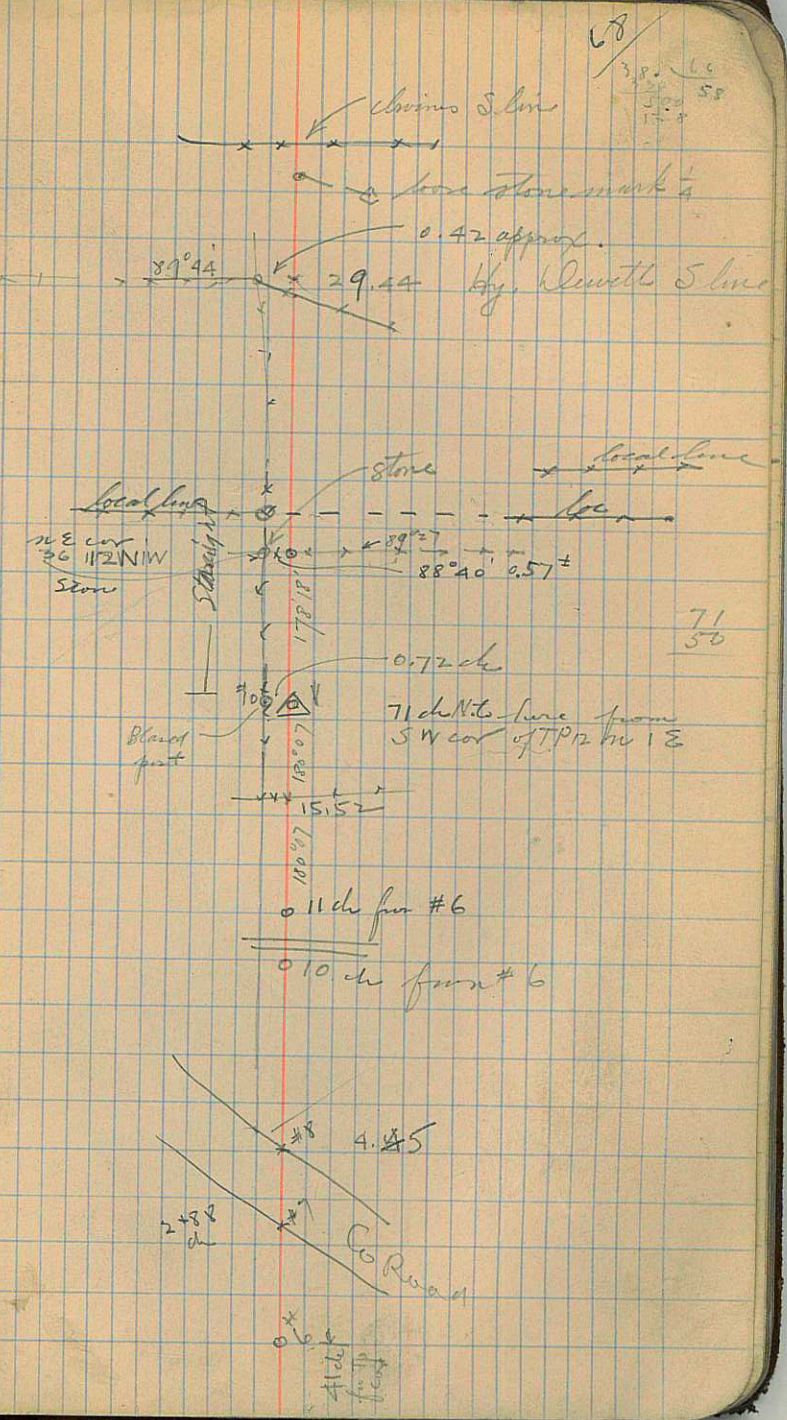
9 180°07' 30.00

180°07' 10.00 champ pins

8 180°07' 4.45

7 180°07' 2.88

6 —



17

14

16

16 154° 32' 1.69 to ✕ 1.7 ✕ to fence — des ghetto to main chevery — to extreme W. line of ∧

15 272° 20' 1.385

14 —

14 178° 18 40.00

13 178° 18 1.67 ch

11 —

305 09

TD

Trans 12 9 #14

Trans 12 9 #15

Trans 12 9 #16

Trans 12 9 #17

Trans 12 9 #18

Trans 12 9 #19

Trans 12 9 #20

Trans 12 9 #21

Trans 12 9 #22

Trans 12 9 #23

Trans 12 9

1/7/19 Obs on # 11

	Hor	Vert	time	
Direct	36°40'	16°55'	3:10 P	} ag a sun P arc front
Direct	37°31	16°06		
	37°05'30"	16°30'30"	✓	
Direct	37°30	16°28'		
Direct	38°20	15°41		
	37 55	16°04'30"	✓	
Direct	38°07	16°07		
Direct	39°03'	15°16'		
	38°35'	15°41'30"	✓	
	38°55	15°43		
	39°43	14°56	3:20	
	39 19	15°19'30"	✓	
Σ mean Alt		15°540		

Σ mean of last 3 d 38°36'20 | 15°41'30 | 3:20

153830

Z = 74 21' 30

72

Z = 74 09 20

L = 22 25 10

Q = 41°45

74 09 20
41 45
115°54'20"
22 25 10
93 29 10

115° 54' 20"
22 25 10
13'8 19 30
69 09 45

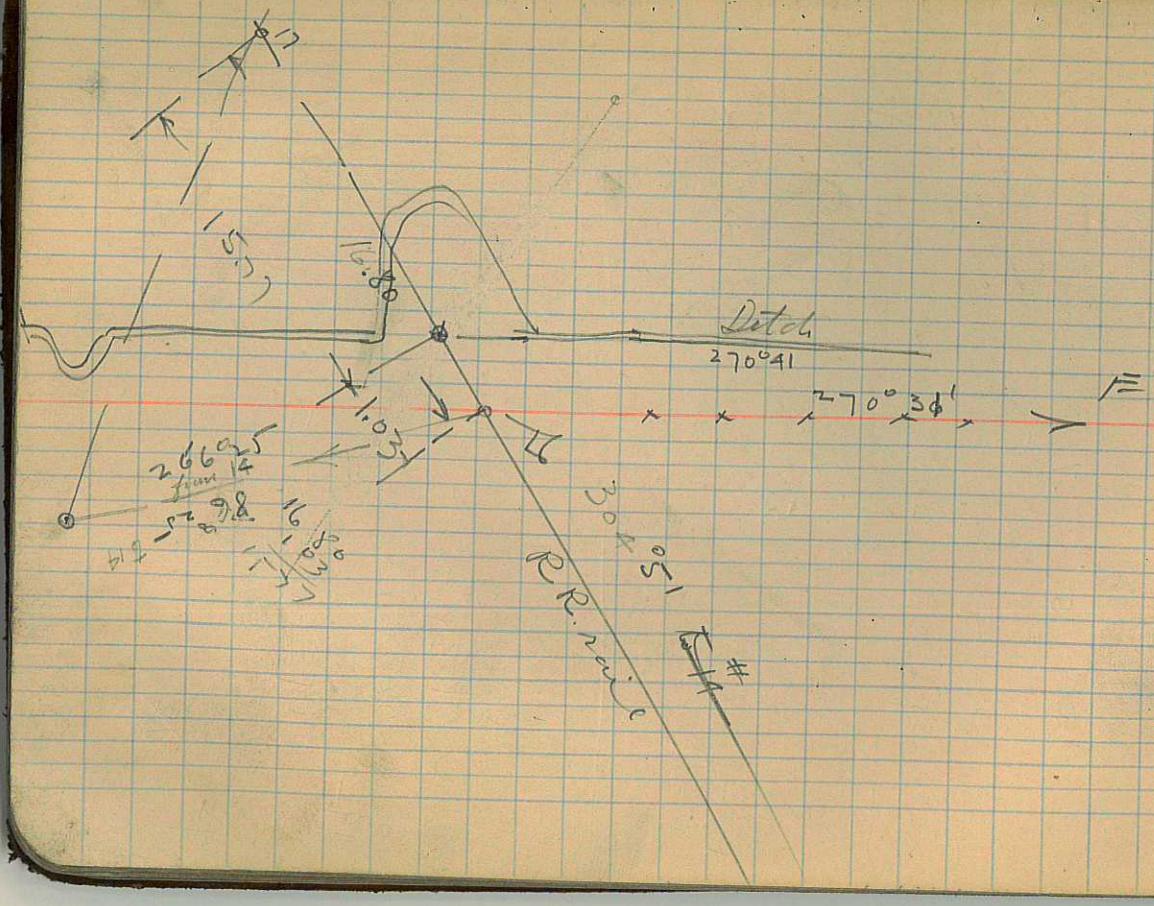
cos 146 44 35 = T. 835 8737
2 69 09 45 = T 970 6185
T 806 0922
T 983 1780
T. 823 3142
T 872 7722
T. 9505420
T. 9952710

Lon = 74 09 20
L cos 41°45

17960
70°51
10909
2
21818

add 1' to 0°04 all ay'

Last in error of +1'


N
K
15.77
14.80
Detail
270°41
270°38'
E
1.03
266°25
from 14
16.03
304°51
R.R. main
#

Thomas Crowe
Continued
1/10/19

28

28	179°51'	29.79
27	90°	0.525
26	51°	0.05
25	10°53	2.76

24-

24	91°01'	25.72
23	91°01	5.75

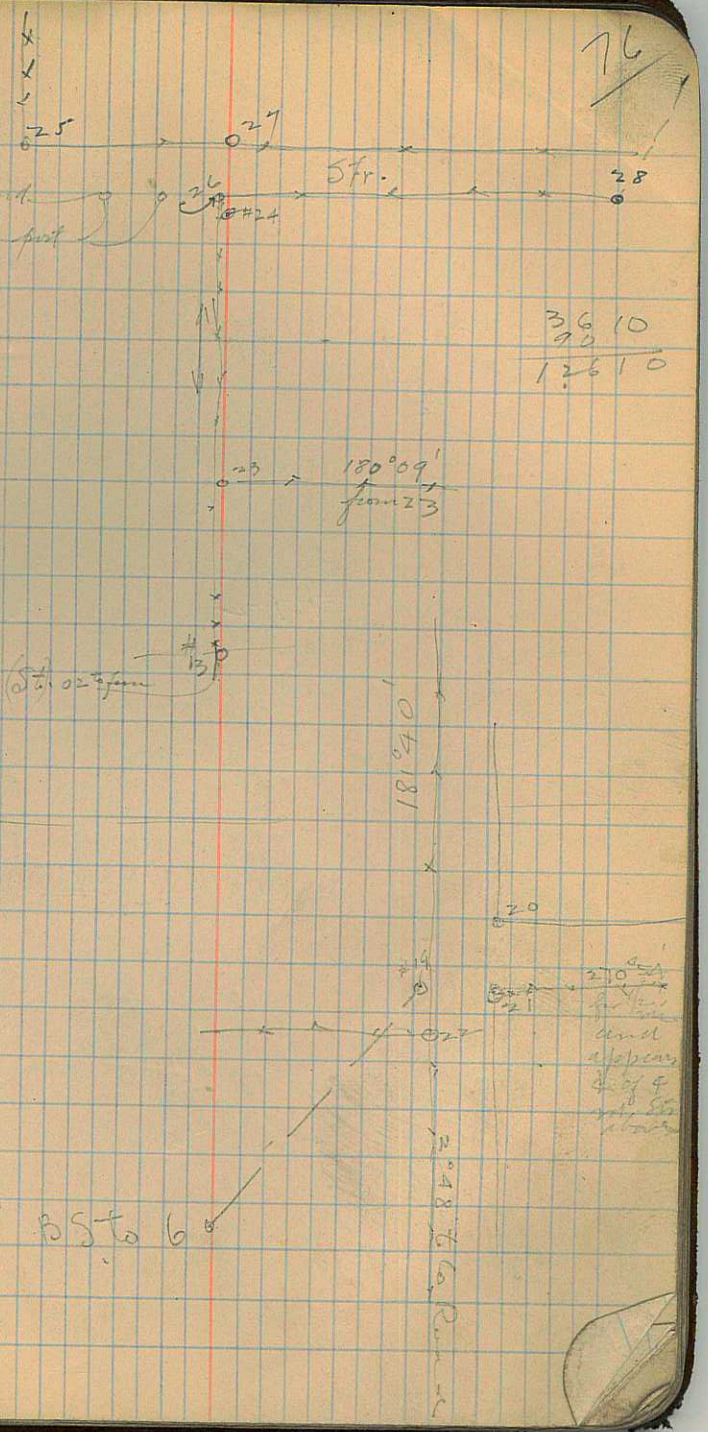
13-

22	0°51'	0.31
21	273°52'	0.65
20	231°40'	1.05

19-

19	2r906	15.245
	178°18	

9-



Levels at Res.

Bamidr Res 5/16/19

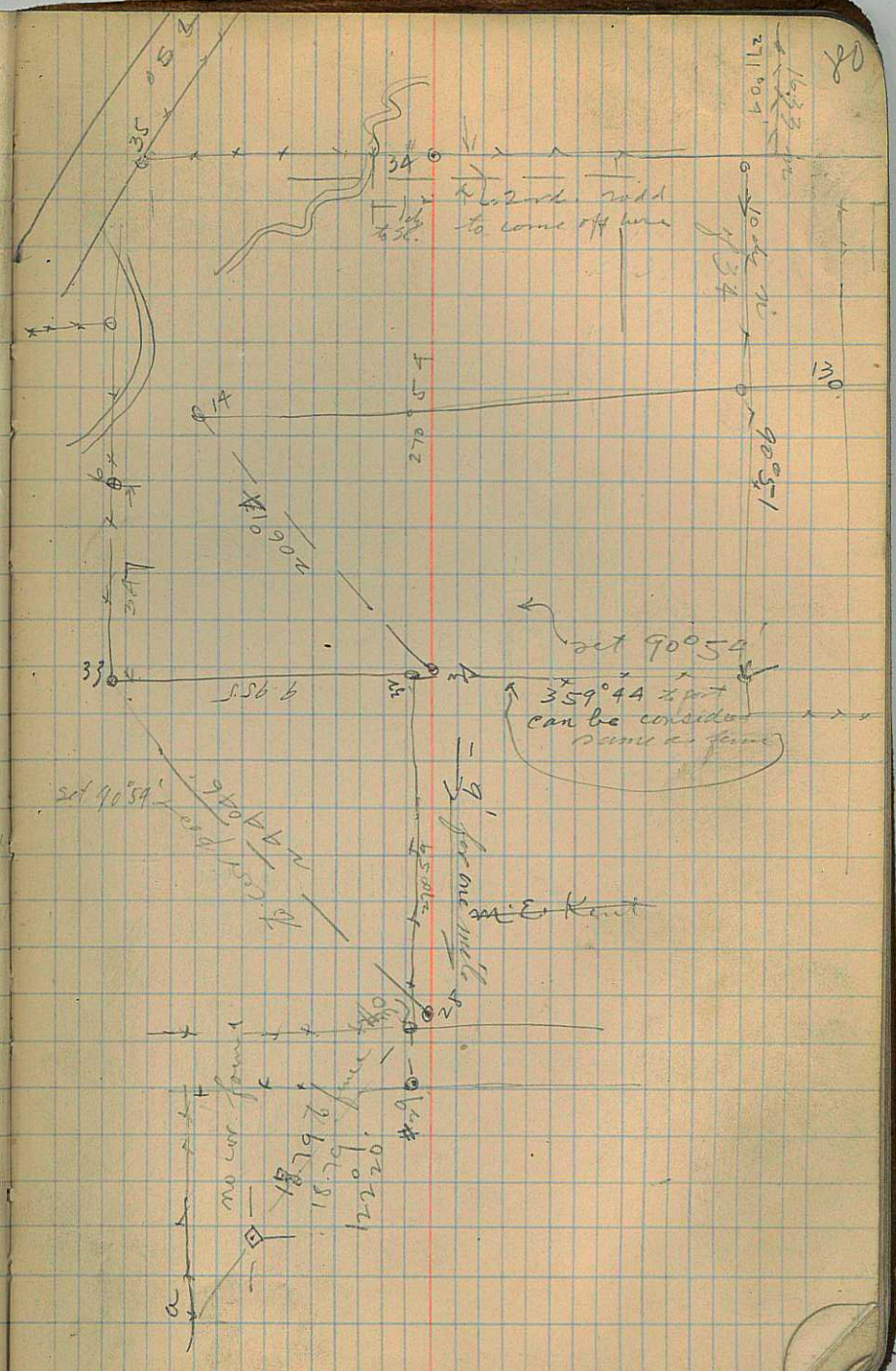
	BS	FS	ch	Ele	
BM a	2.37			198.00	200.37
		4.92		195.45	
		8.73		191.64	
Sta		4.18			
		8.9		191.47	
		7.72		192.65	

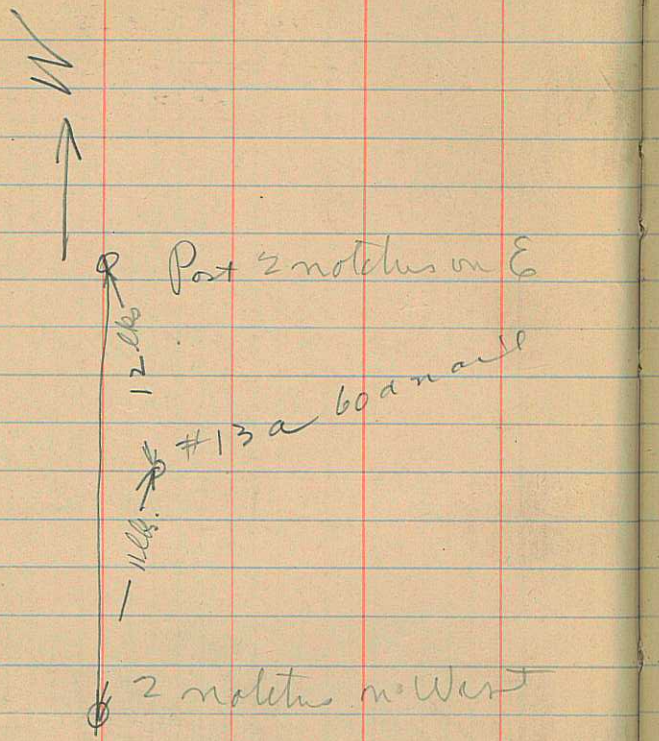
Bottom pipe

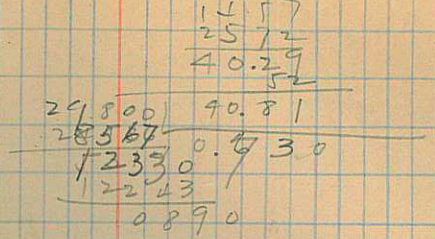
on ground SE cor

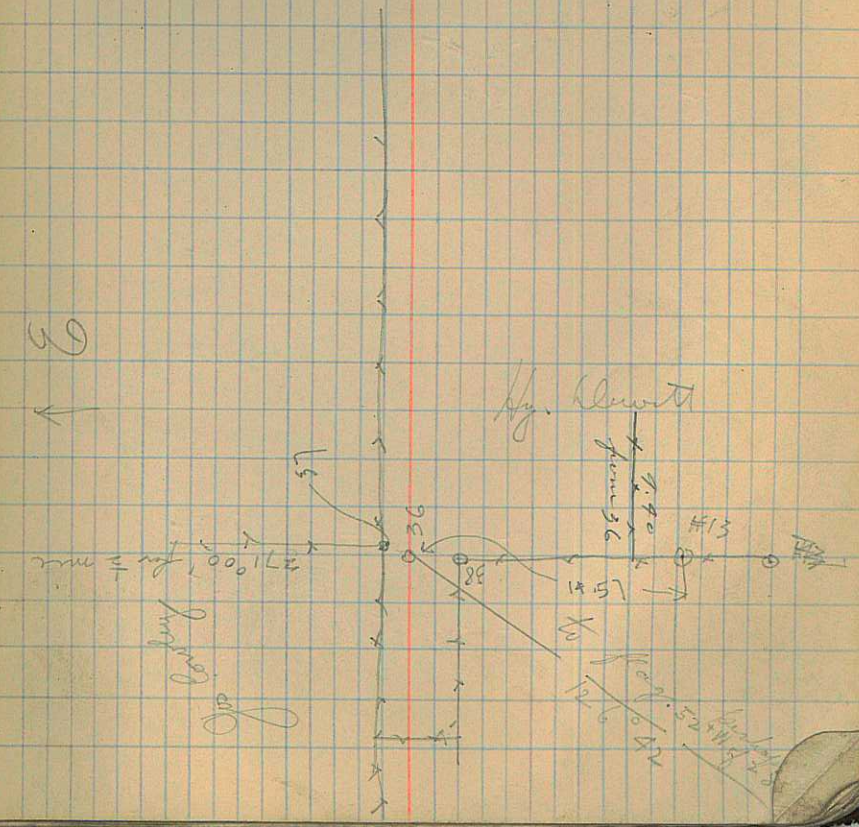
on Wheelwright tks BM

	138°58	flag 52 + W of 28	
32	170°		
36	270°59		
13–			
	13	90°58	14×57
	38	87°50	0.335
	37	282°15	0.145
36			
	36	1°49'	29855
	35	182°07	5.89 to Spike 05
34–			
	34	270°54	20.83 to fence nt S 20×80
31–			
	14	206°14'	
	33	179°43'	9.955
	32	161°30	0.075
28–			
	31	270°54'	20.51 check with bearing gotten correct.
	29	97°52	0.575
	30	153°	0×05
	33	24446'	




Post 2 notches on E
12 lks
#13 a 60 nail
11 lks
2 notches on West


1 57
2 5 7 2
4 0.2 9
5 2
29 800 40.81
28 567
1 2330 0.630
1 2243
0 8 9 0


60
Hy. Elmwood
#13
#15
Hwy. 6
42

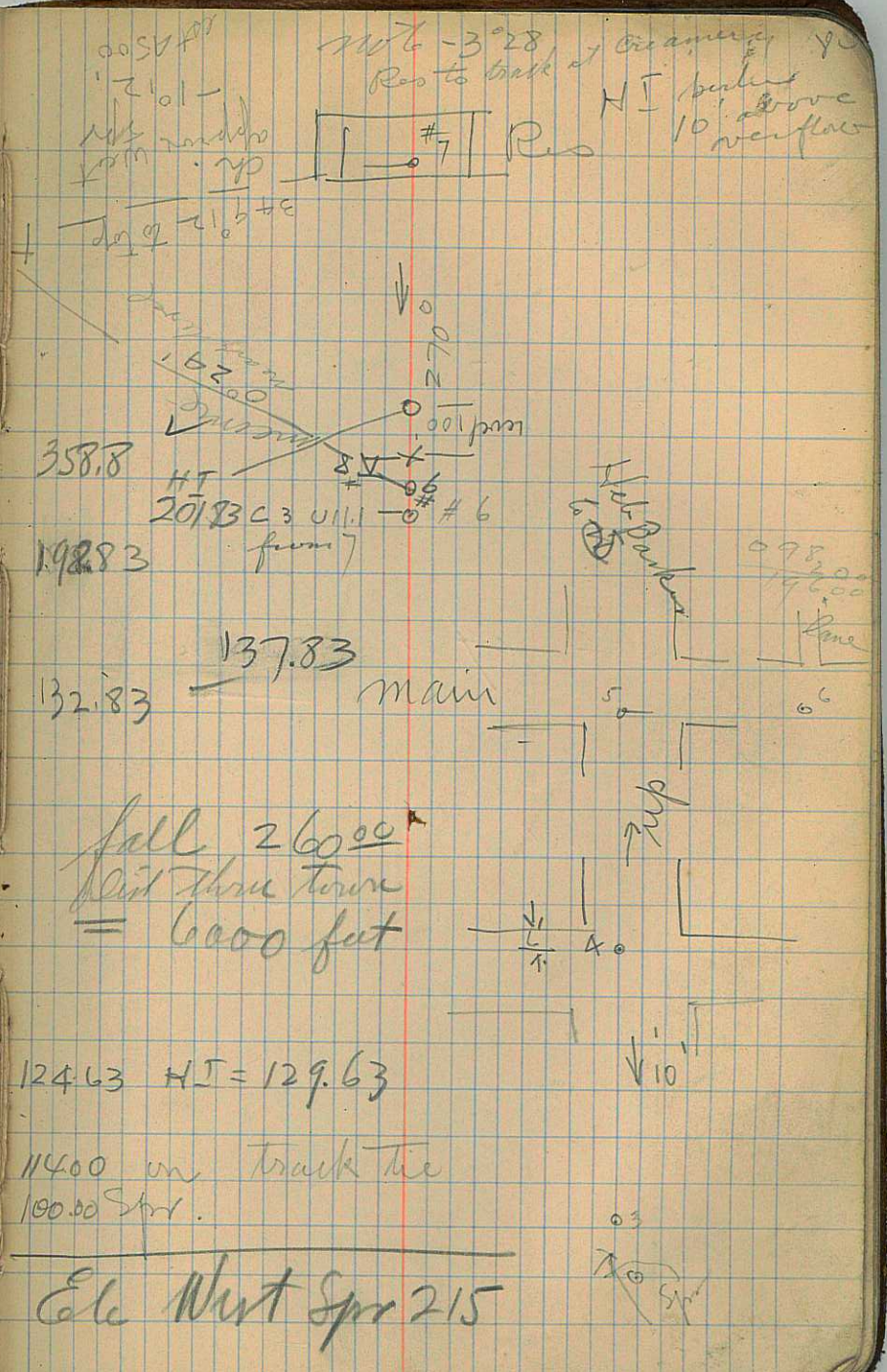
Wellsville City

Stadia Levels

from Old Creamery

Spr. to Res

1/13/16			L	C	U
	6	-4°46	3		5.6
9					
	6	-5°	2		5.7
8-					
7-					
	6	-5°56		3	11.1
6					
	5	-2°45		5	11.9
	5	+17'	4	4.0	11.2
4					
	3	-10'	4	10.35	
	3	0°	0.45	0.5	
	2	-14°30	5.0		5.59
1					



Wells.

at West Spr

T 8' above water
and T level with
top of Chem
+ 1°20' to Res.

4 cfs estimated
flow

Spr pumps 12' higher
than surface of
pump Sta out of
pond.

Wellsville City
Computations

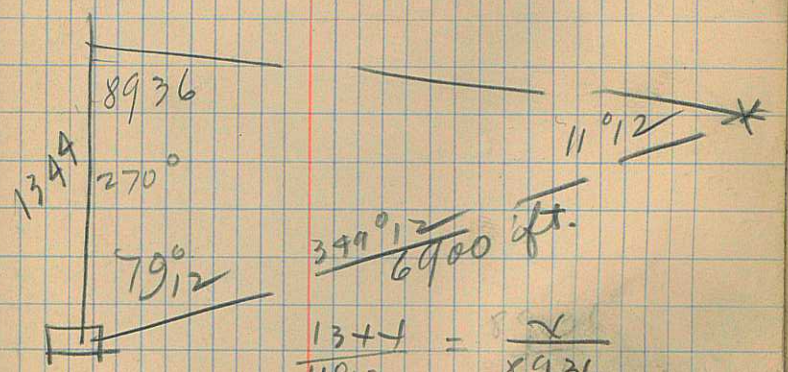
80

Com
Creamery spring 100.00

friction head 1 cfs 8" pipe 30.00
Static head 260
total head 290.00

$$H.P. = \frac{62.5 \times 290}{350} = 52 \text{ HP}$$

= 40 KW nearly
= about ~~300.00~~ per month



$\frac{349°12}{6900}$ ft.

$\frac{1344}{11°12} = \frac{x}{8936}$

6900 feet

Wellsville Study of pump at West 8 Spr.

Length 8" pipe 7500 ft
Suction Head
Static

37 50
14
181.50

HP = 33 HP
= 25 KW

at 1¢ per KWH = 700

23
83
4
10 6 4 | 1.35
10 8 0 | 80

.004
.00155 | 4
35 | 39

23.4
.034
936
702
795
552
1.347

80 x .33
.063
105
210
.02205
80
1764

60 40 - 1063
120 4400

0.4 of 70
1.76 | 6 years =
1.76 per

Survey for
Reservoir
2/27/19

Grade
Increase 1.35 c/o
Sta. 0-6.50
new RR

Sta	BS	FS	HI	RR sight	Cut	Fill	Elevation
6.50			12.885				
6.50	6.150			6.735			
6+50		8.60	8.60	14.735	6.135		204.165
6+00		4.13	14.585	9'-8"			
5+43		2.52	14.415	11'-10"			
5.43	4.33	1.20	1.20	11.285	10.085		11.580
5.00		5.92	11.155	5'-3"	5'-6"		11.405
4.50		4.5	11.005	6'-6"	6'-9"		11.230
4.00		4.16	10.855	6'-8"	6'-10"		11.055
3.50		5.28	10.705	5'-5"	5'-8"		10.880
3.00		4.55	10.555	C 6'	6'-3"		10.705
2.50			10.405				10.530
2.50	6.380	1.685	1.685	5.71	4.025 4'-1/2"	4.150 4'-3"	5.835
2+00		5.15	0.68	5.56	4'-10 1/2"	5'-0"	
1+60			0.0	5.440	5'-5"	5'-7"	
1+00	4.08	5.65	0.0	5.260	5'-3"	5'-4"	
+60	4.08	5.65	5.65	6.83	1.18		
			3.40	6.71	3'-4"	3'-4"	
0 - 5.98				6.53		200.40	

(see for page 10) computations of grade

10

Start Elevation 204.165

10.885 / 4.16 / 6.69

11.58 / 10.28 / 30

5.70 / 2 / 11.00

4.08

6.15 / 6.735 / 12.885

4.33 / 1.27

14.735 − 8.60 = 6.135 — 5.98 / 6.53

14.41 / 17.89

4.025 / 6.38 / 10.405

5.71 / 4.025 / 6.38 / 10.405

4.08

6.53 / 5.98 / 1.18

Station 2+75 = 210.335 drop grade 6/10

	BS	FS	HI
204.185			
207.86		5.82	
207.85			
210.23			
210.26		3.45	
208.455		4.92	
203.74			
203.73		9.92	
205.20			
205.15		8.48	
205.54			
205.49		8.14	
204.38			
204.37		9.30	
205.12			
205.10		8.54	
203.275	2.29	10.35 second	204.655
204.26			
204.23		1.83	
204.91			
204.91		0.64	
204.96		0.65	at H
204.88			
203.13		2.46	204.96

212.185 f

11.285 / 10.085 / 4.33 / 14.415 / 6.5

11.15 / 5.92 / 5.23

10.85 / 6.69

10.70 / 5.28 / 5.42

10.88 / 5.28 / 5.60

205.565 f

10.705 / 4.17 / 6.25

11.40 / 5.92 / 5.48

5.56 / 4.08

Source at 5 206.53

Check levels back

BS | FS

Ele

17+00	5.2	8.205	3'-2"	196.25	
16+50	4.78	8.005	3'-3"	196.71 inc	
16+00	4.25	7.805	3'-7"	196.67	5.76
15+50	4.3	7.605	3'-4"	197.22	
15+00	3.71	7.405	3'-10"	197.20	5.25
14+50	3.18	7.205		197.15 inc	
14+50	12.06	16.085	4.025	197.77	5.28
14+00				197.74	4.70
13+50	11.85	15.885	4'-0"	198.275	
13+00	11.35	15.685	4'-4"	198.48	11.90
12+50	11.17	15.485	4'-4"	198.98	11.36
12+00	10.6	15.285	4'-8"	199.23	11.15
11+50	10.17	15.085	5'-1"	199.7 5 inc	
11+10	10.5	14.885	4'-4"	199.73	10.63
10+50	9.8	14.685	5'-0"	200.08	
10+00	9.86	14.485	4'-8"	200.16	10.3
9+50	9.57	14.285	4'-9"	199.78	
9+00	8.89	14.085	5'-3"	199.83	10.6
8+50	9.27	13.885	4'-8"	200.53	98
8+00	7.72	13.685	6'-0"	200.58	
7+50	6.4	13.485	7'-1"	200.49	9.8
7+00	7.42	13.285	5'-10"	200.83	
6+50	9.4	13.085	3'-8"	200.76	9.55
		12.885	new 6.735	9.50	6.16 Record
				201.48	
				201.47	8.90
				201.15	
				201.06	9.23
				201.63	
				202.61	7.75
				203.98	
				203.93	6.40
				202.96	
				202.91	7.42
				201.04	
				200.93	9.34

12.09 4.18 seconds

210.385 inc
201.455

210.335 | #5 213.685 second

202.475
4.18
198.295
12.04
210.385
8.16
3.5

16.085
12.06
4.025
3.18
7.205

198.275
1.45
6
201.45
6
201.45
1.22
188.735
201.45

Check levels on Barista line 5/10/19.

BS FS

6+50 4.97

5 5+25 5+50 5+53 5+89 6+10 4.50 4 3+50 3.50

on p. 12.3 6.35 13.10 12.52 11.76 12.62 12.72 on p. 11.70 4" chg 11.75 on pipe 12.13 on pipe Trench 12.05 Trench 12,00 12.3 12.7 12.1 11.93 5.82 curb dev

5.61 6.11

12.05 12.00 4.97 7.03

6.27 12.67 6.35

11.93 6.11 5.82

13.1 1.17 11.93

11.93

3 3.00 1.1706

Check check line

PM Ft 4.88

Sta 21 7.41 on line

#1 12.72 on line

check line BS FS on

	on line				
21	6.00	9.805	3-10"	7.02	
20+50	6	9605	3-8"	7.00	7.00
20+02	5.5	9405	3-11"		6.45
19+50	5.75	9 205	C3-10"		6.35
19+02	5.23	9.005	C3-10"		6.22
18+50	4.45	8.805	3'-10"		5.82
18+00	4.7	8.605	C4"		5.63
17+75	5.02	8.505	3'-6"		6.00
17+	5.2	8.205	3'-0"		6.18

6.35 6.75 13.10

13.10 13.7 12.

204.17 205.51 210.48

11.33 12.4 6.7 5.7

11.70 12.4

12.67 11.76 6.35

12.62 6.27 6.35

12.05 5.32 6.73

11.

10.00

9.7

9.4 3.7

198.0 202.86

188.735

195.455 202.475

195.415 recum

195.45

196.02 rec

195.95

196.12

196.10

196.25 rec.

196.22

196.65 rec

196.50

196.42

196.15

196.17

196.43

196.29

196.25 f

12.3 5.32

9.52 3.8

210.48 204.37

8.5 4 5.1

8.60 3

6.50 5

3.9 1.4 5.5

19.2 5.7

9.5 9.4 3.00

195.455 6 201

201.475 980 191.65

10 12 4 1.95

1-5.82

3.3 3 1.17

13.1 1.17 11.93 6.11

195.45 41 202.86 48

11.66 9.9

350

BS	FS	RR on grade	RR on hub	Cut	Ele
3.50	5.61	11.43	11.00	(5.82 new hub	204.37
3.25		19.33	10.80	7'-6½"	
3		11.23	3.780	6'-8"	
2.75		11.13	4.62	4'-5"	
2.50		corr. 10.86	11.02 tr.	old hub 4'-2"	
2		11.03	6.71 hub	3'-10"	
1.60		corr. 10.66	10.80 tr.		
1		10.46	6.70		
		10.26	10.72 pr		
			5.05 hub old)		
			10.5 tr.		
			5.05 old hub		
			10.5 bot pipe at top		
			10.3 on H₂O		199.68

209.98
10.3
209.68

350
10.26
5.05
5.21

199.68

210.48
13.1
197.38

2.50
.34
2.25
.975
1316
97
1213

210.48
12.48
198.00

19968
1.680 | 500 | 10.26
1180 | 320 | 5.21
140
0.3

Cut bt 10.1 & 10.0 on grade

11.00
5.61
5.39

11.9
9.0
2.9

8.00
2.00 | 1.414 | 0.0
2828

10.86
6.70
4.16

2.466
1.41
2466
9866
2466
3476

5.9
8.0
12.9
7.3
5.6

7.3
4.9
2.4

5.25
2.5
10.50

6.78
10.86

7.6

5.82
5.61
11.43

241.12
11.23
199.89

7.3

4.76

5.82
5.61
11.43

11.43
5.82
11.38
10.53

11.38
9.5

11.13
6.71
4.42

20437
20998

4.9

11.23
4.62
6.61

6.70
4.16
10.86

11.0

11.03
6.7
4.33

209.98
43
198.55

350
2.90
3.60
6.10

199.68
198.43
1.25
1.73
198.43

	BS	FS	HI	RR on grade	Ele	H.I
6+50	6.35			13.10	204.17	210.48
4			4.97 old hub		205.51 ✓	
5			12.45 trench			
5+25				12.52		
5+53			6.27 on hub	12.62		
5+89			11.70 on pipe			
6+10			12.40 gr.	4" hub ±		
4+50			11.55 pipe			
			12.13 on pipe			
			12.05 trench			
				12.32		
4			4.97 hub old			
3+50	5.61	6.11	12.00 ±	12.12 ✓		
			new hub	11.93		
3+50						
3+25			11.43			
			11.33			

19	223°41'		✓		4.52
19+50	227°34'		✓		4.05
20	232°45'		2		3.54
20+50	245°35'		2		3.12
			2	+5°22'	2.75
Point A	283°30'	✓			
Sta 21	259°53'	✓	1	+2°32'	1.72

BS 6.35 / 5.61 / 11.96

FS 6.11 / 10.30 / 16.41 / 11.96 / 4.45

199.68 / 204.13

6'-5"

204.17 / 6.35 / 210.48 / 199.68 / 10.80

210.48 / 12.62 / 197.86

12.62 / 6.27 / 6.35

12.12 / 4.97 / 7.15

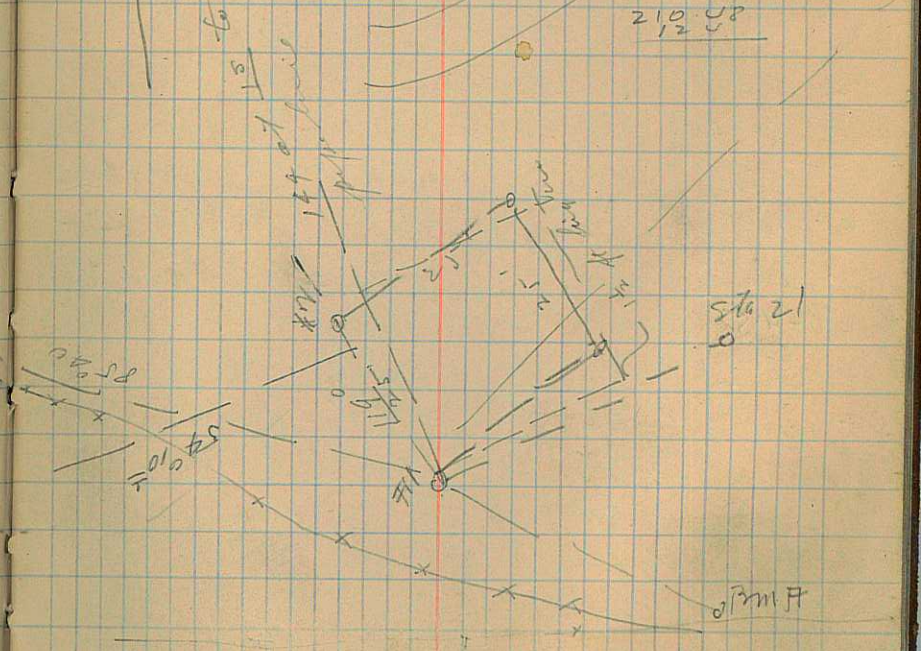
210.48 / 4.97 / 205.51

210.48 / 12.62

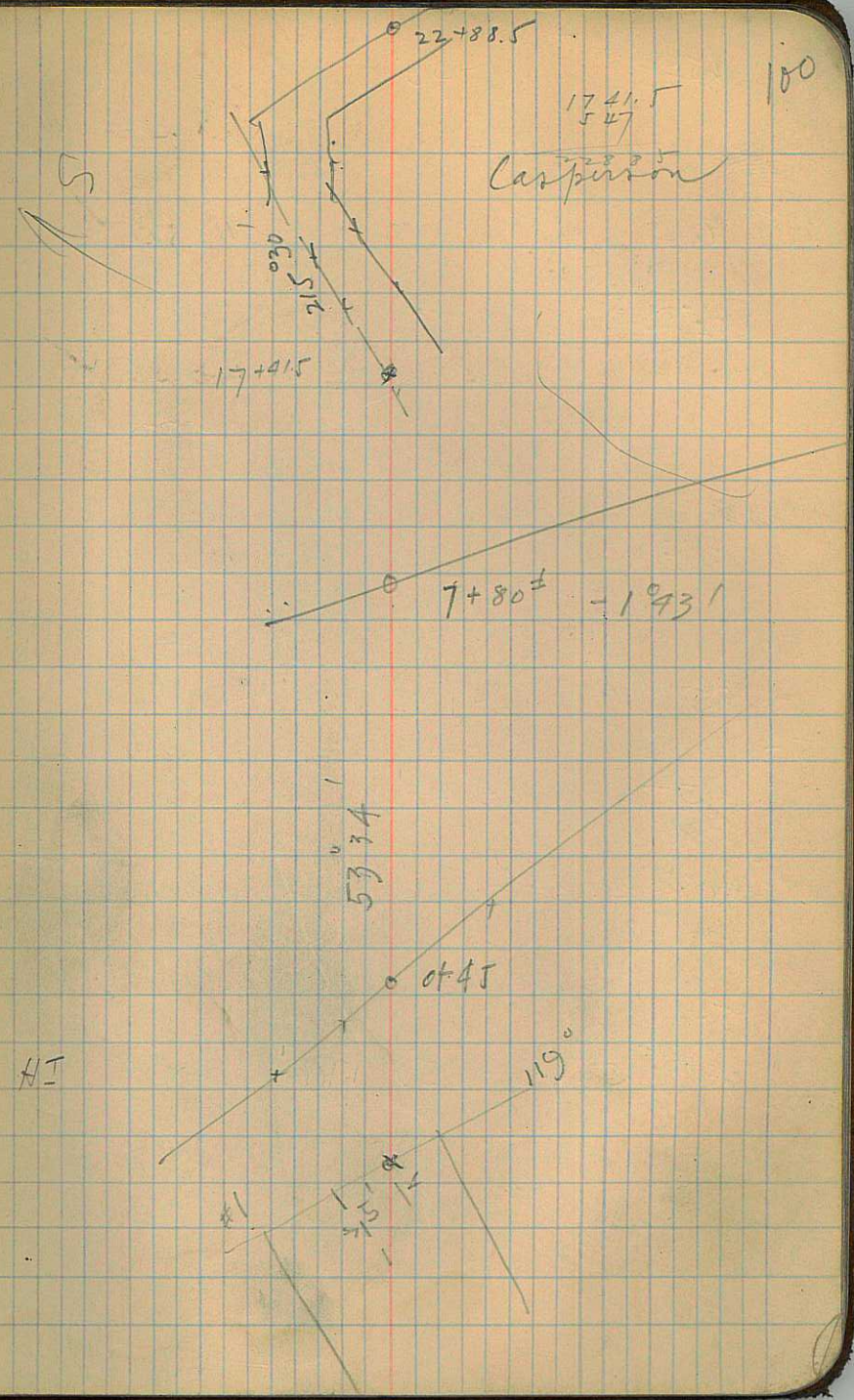
1.700 / 5.00 / 15.00 / 20.00

12.13 / 12.83

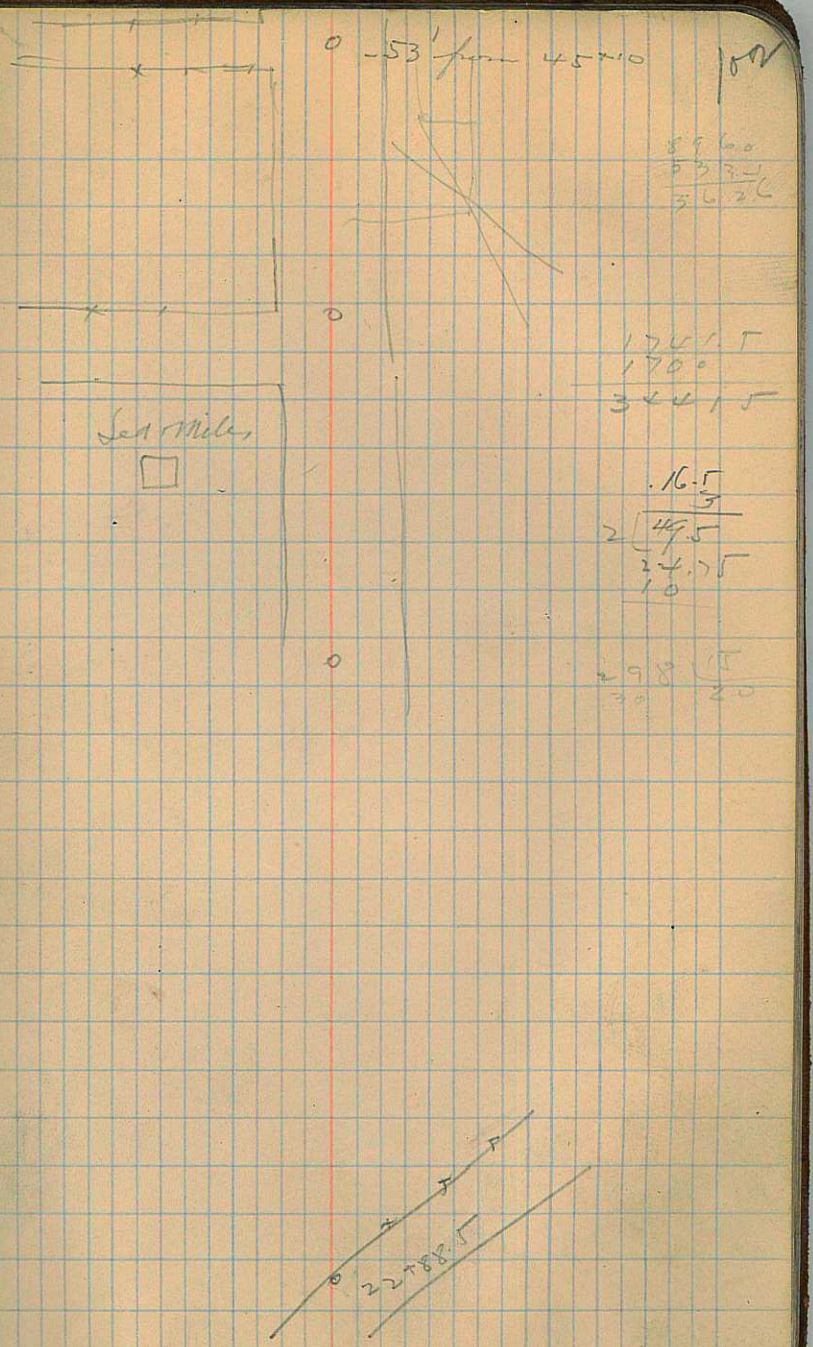
5+82

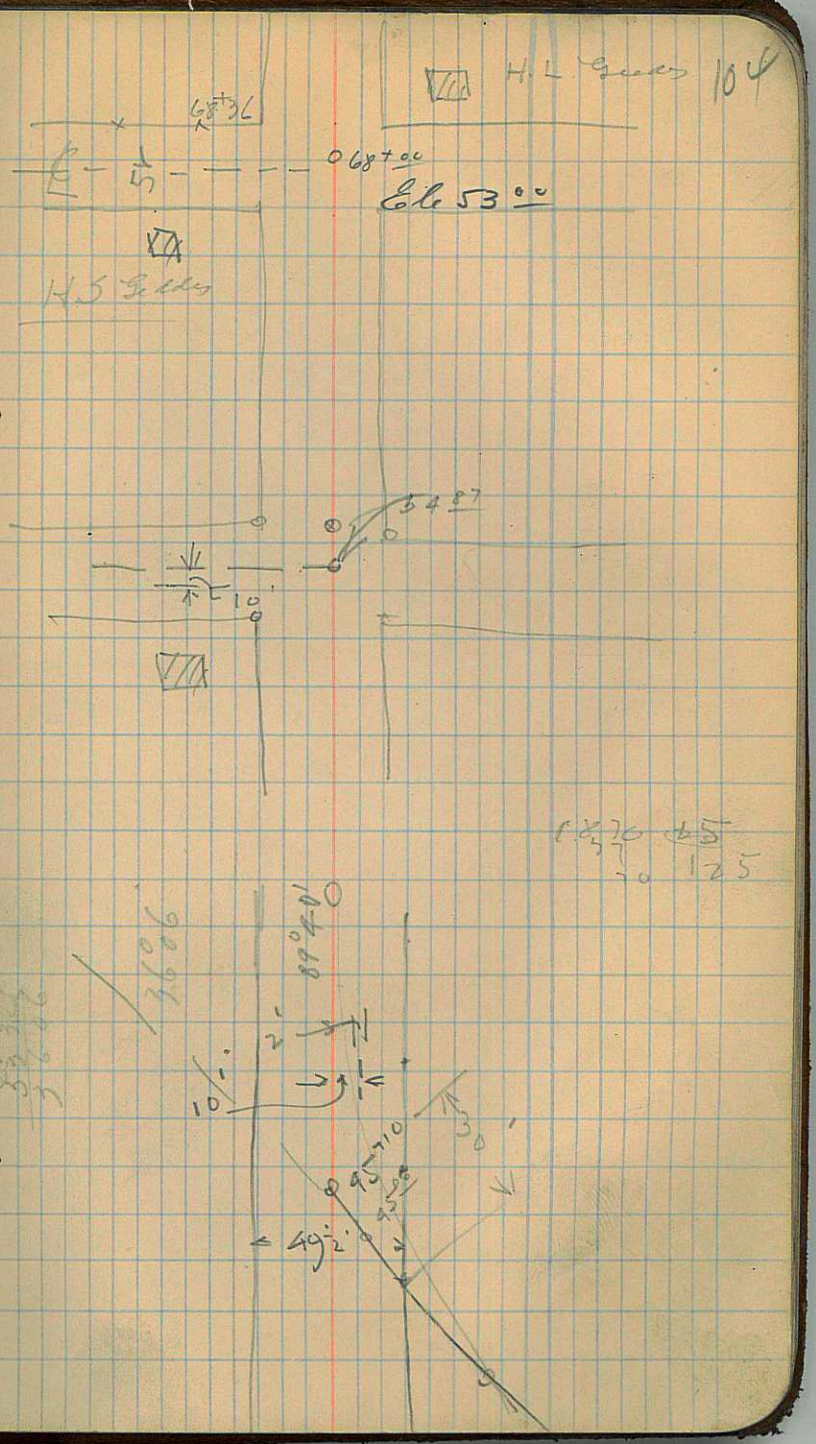


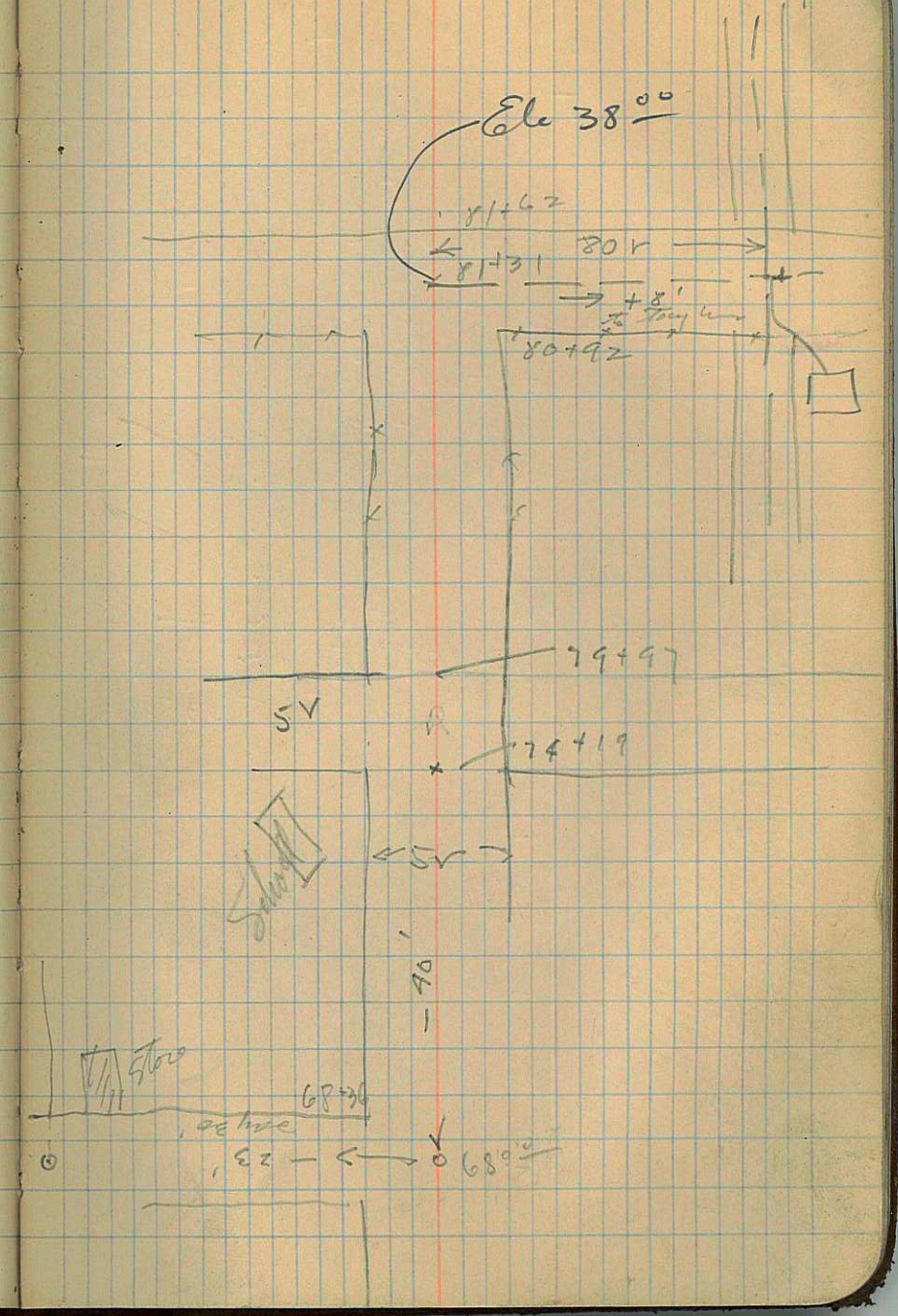
Sta.			Ele
27+41.5	1000'	-1°14'	118.50 ✓
32+88.5	547'	-1°27'	
17+41.5			
17+41.5		-1°32' ✓	140.00 ✓ ✓
7+83	53°34	-1°43 ✓	163.50
0+45			
0			



68⁰⁰		−53′		53.00 ✓
60⁰⁰				
54+87		−57′		
50⁰⁰				
45+10				87.50 ✓
95+10		−1°42′	fin 10′	87.80 ✓
45−				
45⁰⁰		−1°24′		
40⁰⁰	53°34′	−1°09′		101.8
34+41.5−				
34+41.5	53°34′	−0°53′	1700′	113.80 ✓




H.L
68+36
0+00
Elv 53.00
45 Sec
54.87
10'
2'
10'
30'
49½°


Ele 38.00
81+67
80 R
81+81
80+92
79+97
74+19
5V
5R
Stair
Stair
68+36
68.89

Sta	Ele	old Cut	new cut	R Range		
+60	199.75	3-4"	3-5"			
1 00	199.59	5-3"	5'-4"			
1+60	199.36	5-5"	5'-7"			
2	199.20	4-10½	5-1"			
2+50	199.01	4'-½"	4'-3"	10.645		
3 00		6'-0	6'-3½	10.845	4.55	
3 50		5'-5"	5'-9"	11.035	5.28	
4 00		6'-8"	7'-1"	11.230	4.16	
4 50		6'-6"	6'-11"	11.425	4.5	
5 00		5'-3"	5'-9"	11.620	5.92	
5 43	208.455		10.590	11.490	1.20	
5 43		11'-10"	12'-5"	14.92	2.52	
6 00		9'-8"	10'-3"	15.145	4.93	
6+50		6'-1½	6'-9"	15.331	8.60	
7		3'-8"	8			
7 50		5'-10"				
8		4'-1"				
8 50		6'-0"				
9		4'-8"				
9+60		5'-3"				
10		4'-9"				
10+50		4'-8"				
11+10		5'-0				
11+50		4'-4"				

209.655

212.785

Grade Sta 60 to 650

6+50 =

6+60 = 199.75

Ele 6+50 = 197.45

2.300 | 590

1770 | 3.9

5300

5310

Mayhew up on bank

199.68

198.08

1.600 | 500

1000 | .32

1.000 | .012

40 | 83

23

83

1060 | 1.50

1050 | 7

100

7 × .35

.02 | .054

1.42 | 1.470

.01890

.195 × 39

.0780

.0260

.0054

3/5/19 H. W. Ballard Jr. Drainage Cut

Sta	BS.	FS	HI	RR Sta.	Cut
0	8.47				
3+00		7.90			
		7.50			
12+50		7.00		1000	
0	7.00	107.00		10,000	3'-0"
1		101.1	5.9	10.360	4'-6"
2		101.4	5.6	10.720	5'-2"
3		101.15	5.85	11.080	5'-3"
4		100.35	6.65	11.440	4'-9"
5		101.65	5.35	11.800	6'-5"
6		100.8	6.2	12.160	6'-0"
7		100.05	6.95	12.520	5'-7"
8		99.9	7.1	12.880	5'-9"
9		99.16	7.84	13.240	5'-5"
10		100.10	6.90		
10+50		98.44	8.23		
11+00		98.00	8.60		
12		99.4	7.6		
12+50		98.50	8.50		

north end

7.50
1.50
5.97

3.47
2.52

7.50
2.10
10.00

14.47

14.

4.50 12.50
3.80 3.6
7.50
7.50

36

4.50 12.50
3.80 3.6
7.50
7.50
12.5
3.6
7.50
3.80
4.50

10.36
1.71
9-46

11.08
1.85
1.23

11.44
0.61
9.79

11.80
1.35
6-45

12.16
5.91

12.52
6.97
5.55

13.24
5.10

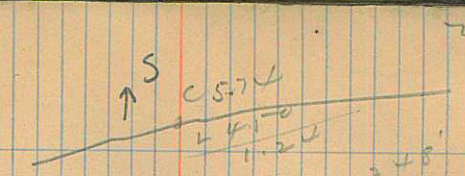
H. W. Bullard Jr.

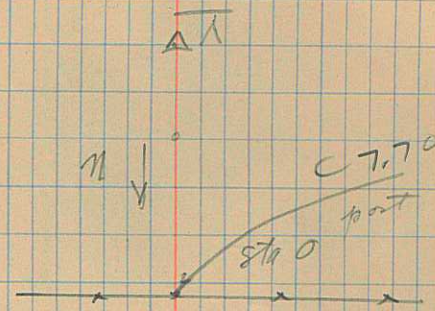
Drainage

	BS	FS	HI	Rod Rmgr.	Elev
8+90		1	5.70	100.00	105.70
8			4.60		101.10
7			4.35		101.35
6			4.82		100.88
5			5.33		100.37
4			5.12		100.58
3			6.25		99.45
2			7.55		98.15
1			7.60		98.10
0 +		7.70		7.70	98.00

3' 00

on hub at 3'





10.9

10.7

11.7

$r = .756$

20

$\frac{3}{1}$

.06
.06
.003.6
78
288
252
.00288

.003
20
.0060

456 | 60
300.06
.450
60
7.5

.06
27.00



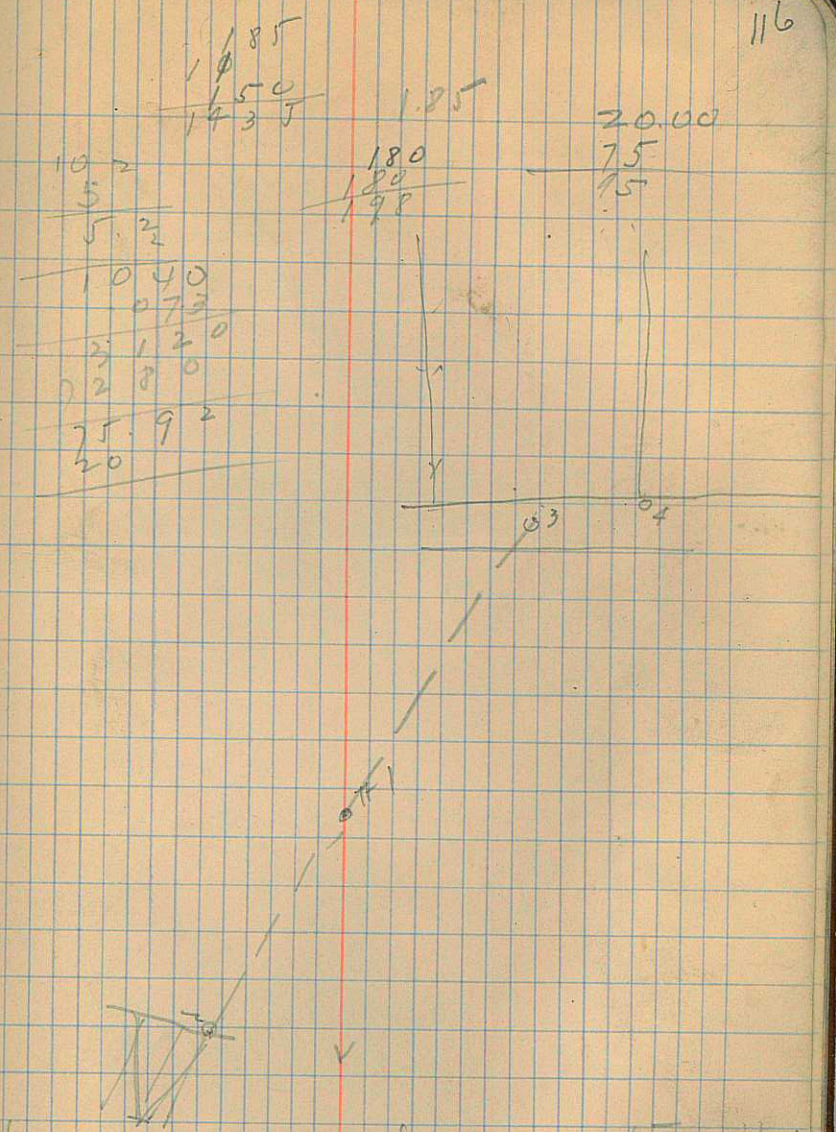
1500
.63
45

3/5/17

Smithfield H2O

Egation for Cm.

4	53°22'	-4°11'	5	10.2
3	48°35'	3	-4°16'	12.4
2	216°24'	5	+6°23'	6.85
1				



Lower end res. on Hollow rod 1 on #2

Pipe	1500' @	1800.00
Res	1500# @ 20¢	300.00
Walls		450.00
fittings		200.00
		2750.00

Cost 3000.00

15
50
750

1500# sides

15
15
75
1 5
2 1

500

100
5000
4500 60

Check

BS	FS		Ele	
		air		
13.10			154.90	168.00
	1.00		67.00	
13.40				80.40
		8.00	72.4	
	0.800		79.6	
12.25				91.85
	0.40		91.45	~~91.45~~
~~12.55~~ 12.55				104.00
	0.38		103.62	
12.20				115.82
Stake 34+		1.00+	114	
	0.40		115.42	
13.25				128.67
		2.10	126.57	
	0.25		128.42	
13.45				141.87
17+41.5		1.60	140.27	
	0.40			
13.50				
	0.26			
12.85				
	0.35			
13.10				
129.65	0.50			
	~~0.74~~			

130

Total

~~Bust~~ ~~flo~~ ge rock over culvert.
S 4 M.L. Sec 1 d

~~Bust 53 14.24~~

10 miles
→ S

Yd. Mile x

about 4 yd 5

✓ correct

Thy spent across road about 2 8+

Bruce Williams

Con.

BS FS

~~2.65~~ 4.74 carried

11.57

152.97

9.37

1431.0

2.56.

11.25

152.47

2.04

9.37 sum

3.60 189.43

4.30 188.73 193.03

6.6 186.43

1.8 191.23

#1 Rev

4.28 188.73 193.01

1.76 191.25

on #1

on B.M.

10' above #1

5' above #2

20' above #1

193.6

189.6

20' above #1

193

189

4

188.73

193.03

193.6

186.4

191.4

193.6

187

10

800

4/7/19

Water Meas.
for Banana Works

tube - top 24"
bottom 20½
depth 11"
volume filled on 18"

Head on V weir
0.325 = .16 cfs
= 7 gpm

1440 .12
.80 .096
115200 .10
115.200

150
5
750 1000
20000

4170
2700
450
52

3.14 4 .785
2.27 3.140
2.70
.42
40
2430
2.48.40
2570
750
1750
1.70
1.53
119
17
2.89
.785
1425
231
2023
2.26865

20.5 12
85 1.71
10

1440 70
100800

Banda H2O Works
4/6/19

Fred. Blazer Cement. living in Preston. will work seperatly on Res excavation.

Jack Kerk Franklin
Cement contractor and figure on Res.

Fredrick Gregerson;
Digger & pipe layer —

James B. McQueen
Cement contractor

~~E.C.~~ ~~Greggers~~ Gregers Gregersen doc 547
~~Gregers~~ 56 no 6 ch 547
C. L. Gregersen Poe

Total 176

	for	Red. dep	un dep
Burt	5314.24	6591.57	6396.37
Dunbar	5814.12	6452.80	6289.44

Dunbar add 120.60
for lead Valves
for e.2 fitting 40.50

R ×7.5 ×60
6c
=50.0

un
20ch

BS

6150

3180 1206
600

9330 1806
933

8.646

204.165
8.676

195.489

BS FS

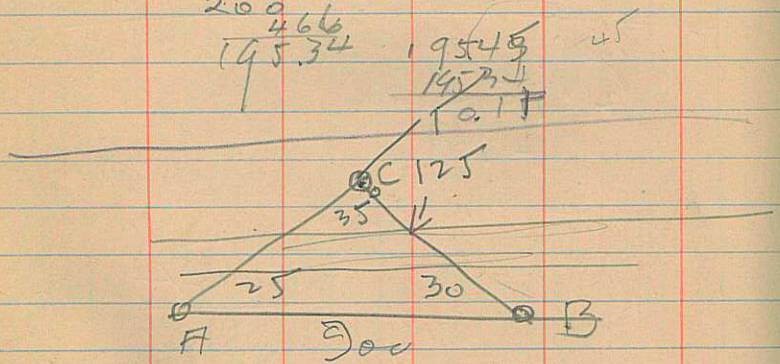
702

1209 418
950 616
259 1031
3090 5555
2624 2624

4.66

200
466

195.324



$\frac{\sin 25}{17c} = \frac{\sin 35^\circ}{900}$

$150.00

Mint 1st. 18

Burton R. Mt. Canal

Plain to engage Mr. Burton Mint for 1st Canal

one month at $150.00 x

Contract Plain. 1471.60

Cattle for Diversion 40

Ohio conditions 1211

$150.00

Bal

Allowed by Canal Commissioners

Harrisburg

106.00

12A

B5 F3

5.980 — 10

4.680 5650
6380 1685
4330 8600
20 17 135
17 135
203×665
53
2al. 165

00.30 .054
25
500

.054
35
270
162
.01890
80
1512 20

6.5
3
1.95
200
198.05

4800
715
11400
30000
300
33000
150.00
200.00

5980 5650
4680 1685
6380 1200
4330 8600
20 17 135
55
3320
1731
20 4.165
6135
198.030

6.53
31
6.88
5.1
1.23
408
5.31
5.52
5.66

31
60
20 0.31 80 00
.24

6.53
6.14
3.25
1.25

5.31
5.21
.125

5.661
17
5.835
5.6885 10
4.1148
6.38
6.53
10.

6" new

1.000 .012
40 83

23
83
77
106.77
1070 1.36
10 8 80

.5

C = 8.0 .2

.35
.04
.14
.0175
80
1.4000
1.2
4

.2 %

Q = 112 gal/min

.002
.00155 .002
14 77
154

r = 0.1250
rr = 0.35

8.1250 .35
65
3579
3
.012 05 .35
10 5 .034
1500

0.02
.04
0.034
23.8
.034
952
21
.8092
51 21
1.36 1

00 20 00
80 1600

4.5
0.112

.00151 .003 10.125
5
106.5

23
83
5
1065

0.35
.05
.0175
80
1.4000
410
.3

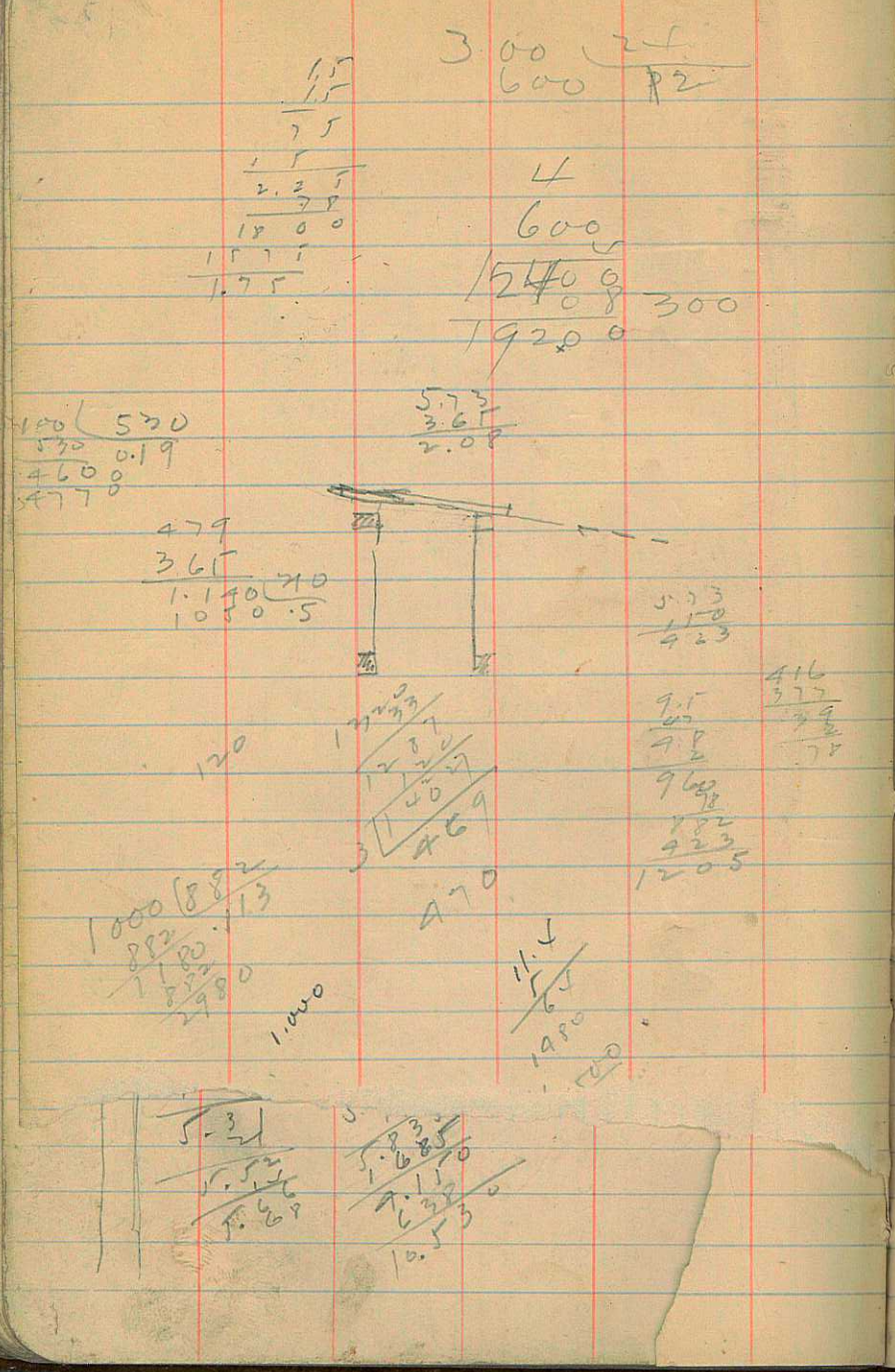
1.4
.2
28

00.30 .050
25
50

10

given tangent, co

The distance from a point on the tangent
the curve is very nearly the square of the tang
length divided by twice the radius.



IMPROVED TABLES
AND
INFORMATION

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