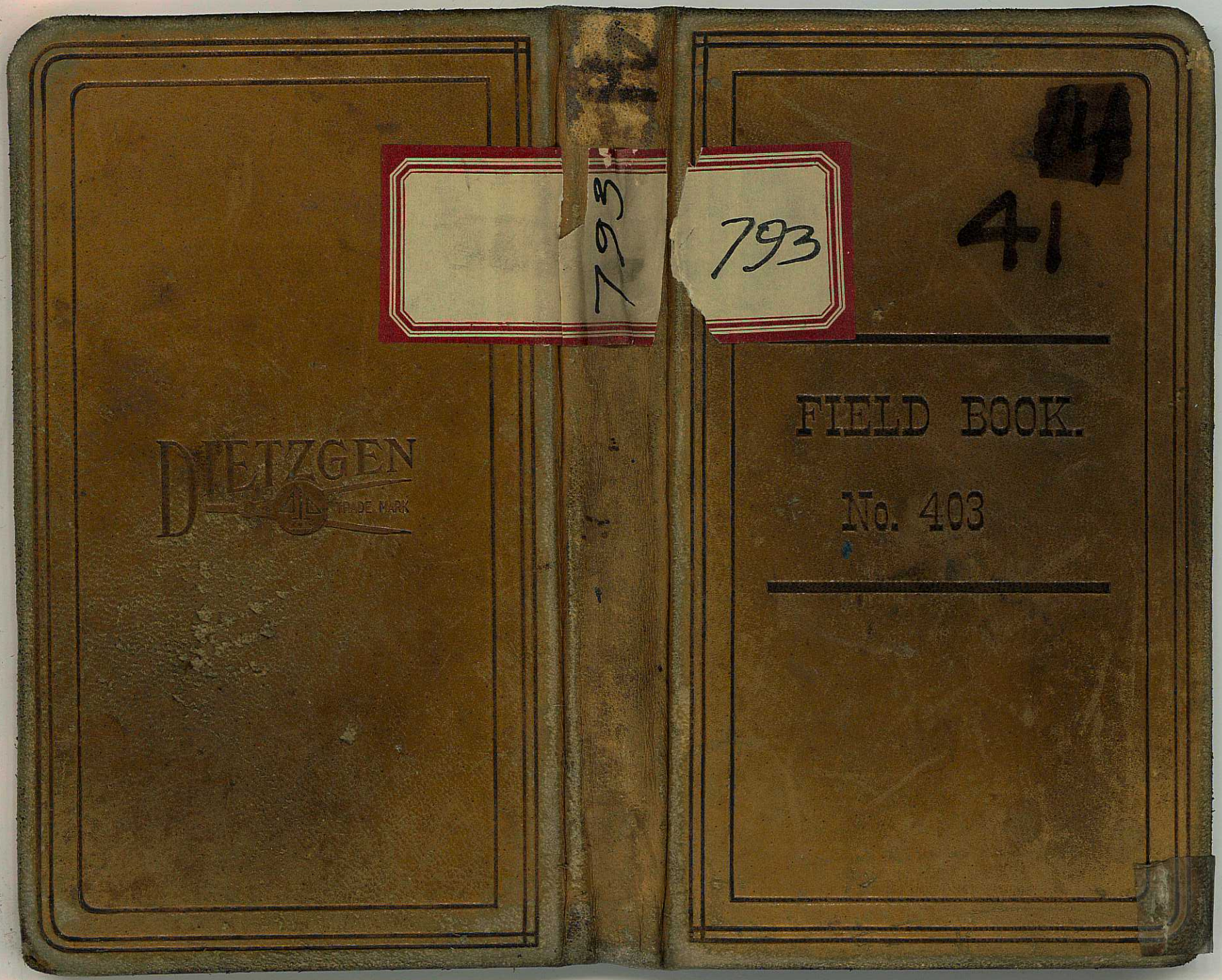

DIETZGEN
TRADE MARK
193
793
41
FIELD BOOK.
No. 403

14

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Evergreen School
Logan Utah

All Smithfield City
notes included in
this book

4820
120
4700
4580
120

4820
200
4580
4473
107

4473

4580
4490
90

46
4490
110

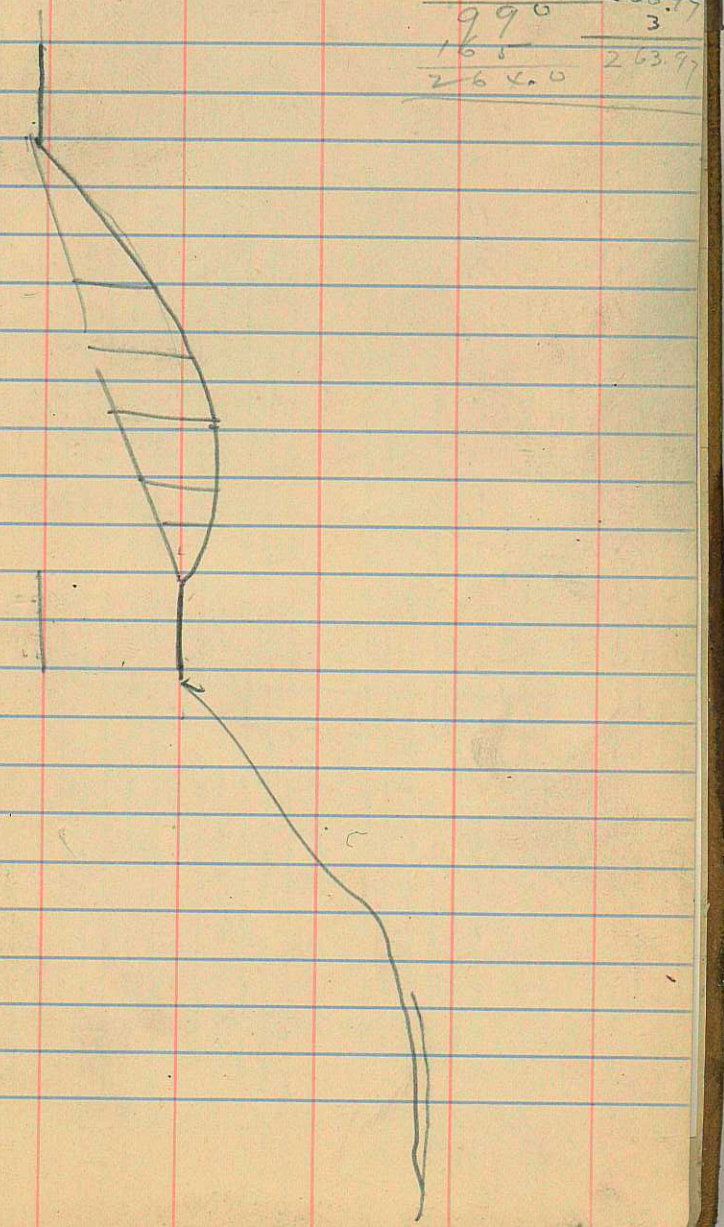
1.42
65
92.

852
93.72

101
4820
4700
120

165
16
990
165
2640

66.97
266.97
3
263.97

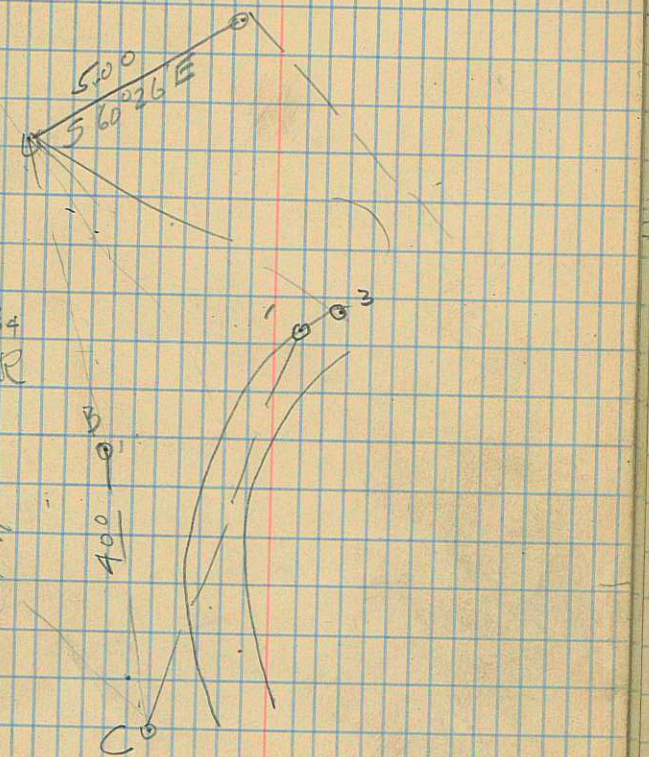


Survey for Kidmans

St Lucia

July 10 – 19 – 4

T-Pt	Obs from	Bear	Dist.	Sett	L	C	J	FNC. Op.
	12	297 9'						
	11	301°35'				5	10.6	
	10	323°50'	536°10E			9.4	13.50	
	9	348°18'			4		8.40	
	8	21°30'			4		8	
	7	19°02'				9.85	13.50	
	6	12°15'				9.5	13.50	
	5	13°08'				9.4	13.50	
4				119°34		10.7	13.50	
	4	299°34	560°26E	5.00				
	3	355°11'						
2				30°52		11.52	13.50	R
	2	210°52	N30°52E	8.00				
B				90°44				
	1	224°30'			V		7.20	
	B	215°18'			O		2.63	
	D	23°01		2.70				
C				215°18'				
	C	35°18		400				
B				90°44				
	-B			14.135				
A				102°32				



3 89 9 6 E
66
26 4
11.52
13.50
9 4
10

Bear	Dist	Dep E	Dep W	Totals
N30°52E	8	4.10		14.13 18.23 4.10
S60°26E	5	4.34		22.57 15.59 38.16 17
S77°05E	16	15.59		
N83°51E	0.20	0.17		
				38.33

	Lat N	Lat S
	6.86	0.18
		2.46
		3.58
	.02	
	+6.88	6.22
	6.22	
	.66	

10

38.16
19
38.35
16 1

.513
8
4.104

40
38 31
1.25

.8697
5
4.3485

2235
14
13416
2235
3.5766

9747
16
58482
9747
15.5952

.858
8
6.864

.0128
.14.
512
128
.1792

.493
8

.493
5
2465

.994
19
107695
994
16898

log 0.66 = 1.819544 107
1.583539 749
2.236005 107
.01719

S 89° 01' W

Stadia

T-Pt az's from Bear Lost Sett L C. J

S89°01'W on a line

16—

17 357 8351

12 57°33' 10 12.84

T 16 2635 N83°51'E 0.17 6 9.7

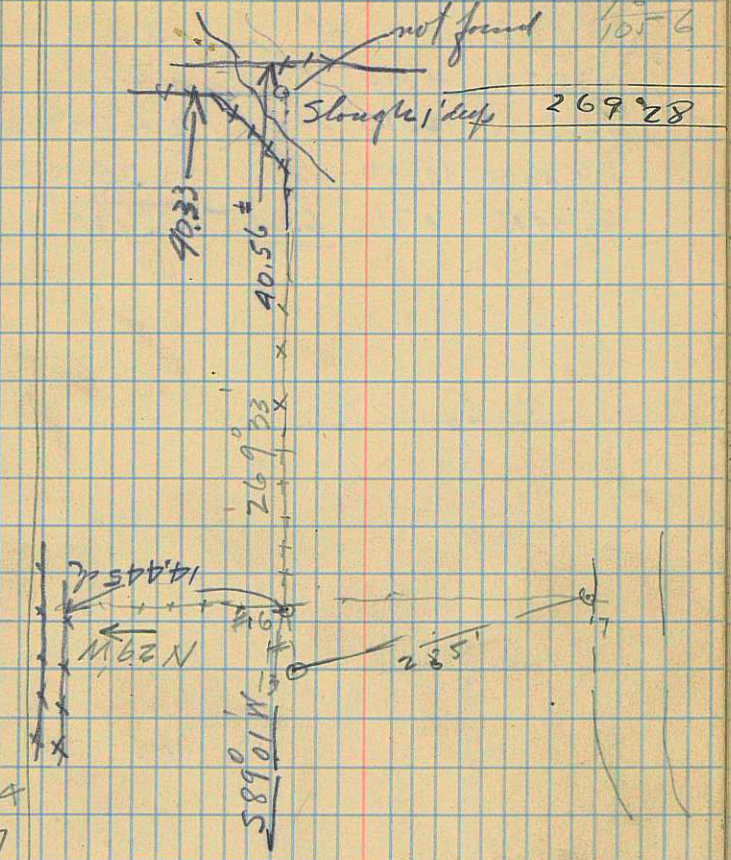
15 2634 9 0.197

14 E .19 Bks

13— 102°55

-13 282°55.5 97°05E 16.00

4—



a pegg near post
to post appenth NE cor 34—

5.40
1087
1056 16
.24 66
96
96
105 6

8—

Course	Dist	Lat N	Lat S	Dep E	Dep W
S89°16'E	14.35		0.180	14.328	
S 35°18'W	4.00		3.264		2.312
S 23°01'W	2.70		2.484		1.056
S 85°43'W	10.00		0.750		9.970
N 6°39'W	6.71	6.665			0.780
		6.665	6.678	14.328	14.118

.1158 × 6.71 = 7.771018

.816 × 4 = 3.264

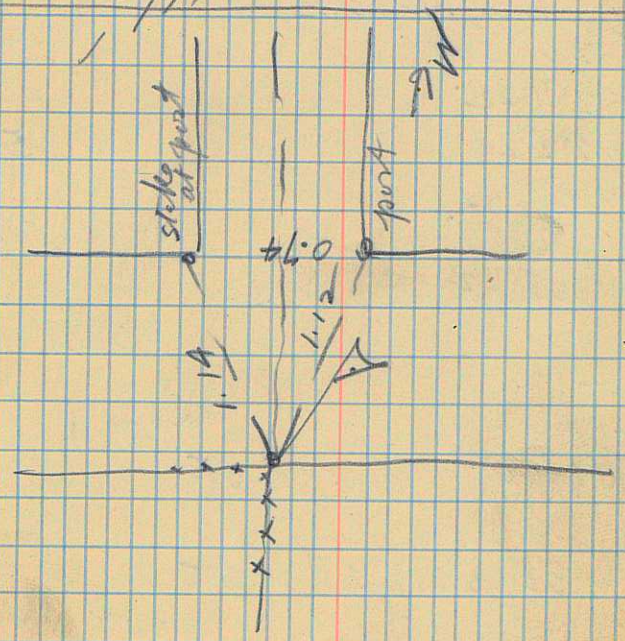
.578 × 4 = 2.312

.391 × 2.70 = 1.0557

.972 × 2.70 = 2.6244

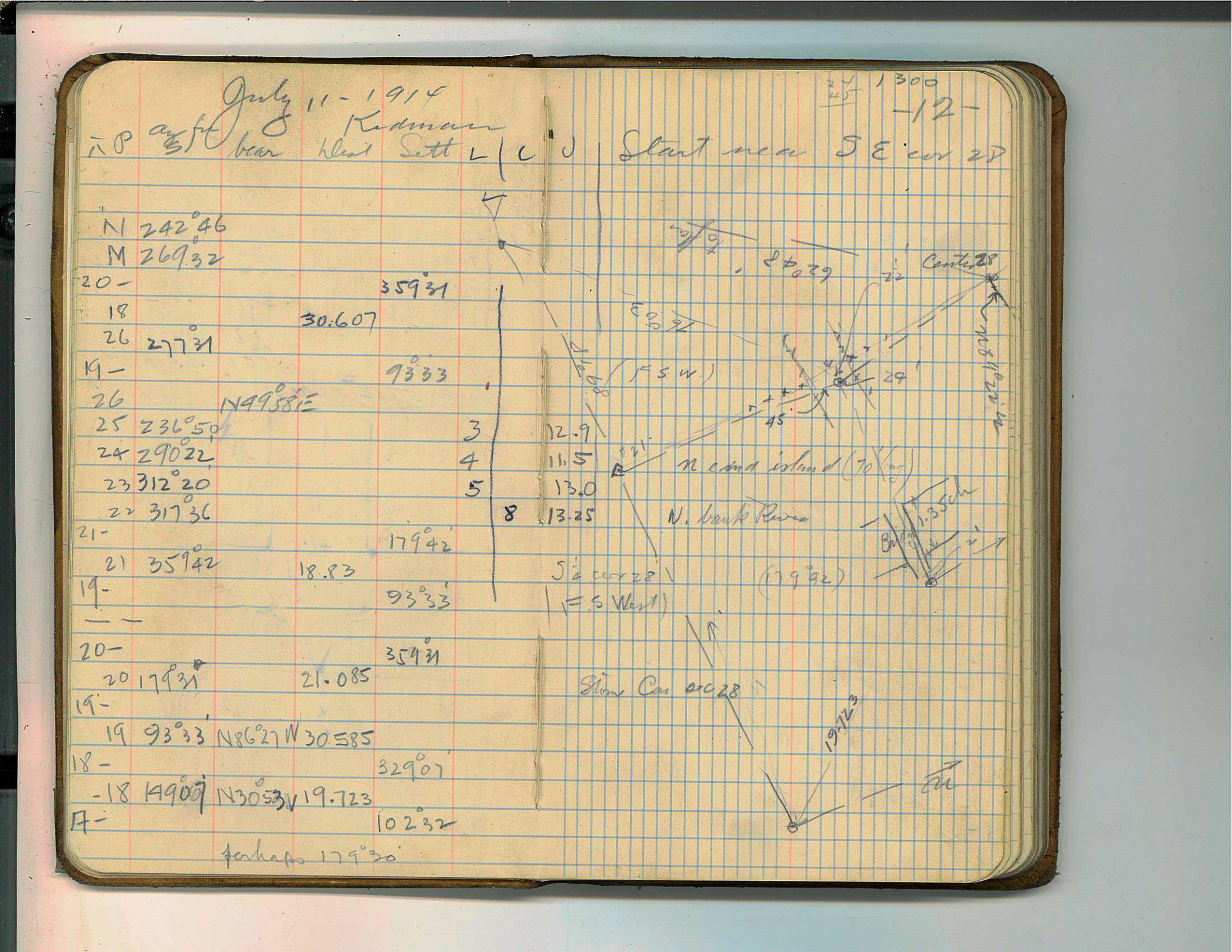
9933 × 6.71 = 66631.43

Blanks 59/4 ± acres



July 11 - 1914

Kidman



30.637

30.667

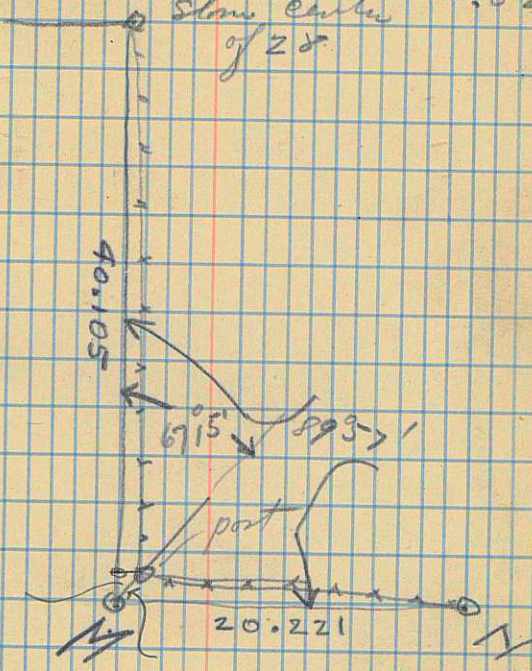
29.97

.697

30.607

24.585

.022



Sun - for W^m Bar.

July 13 - 1914

Pt Sun Bear East Sets

8 359°15'59" E

7 58°02

6 179°42 N 18 W

5 179°42 N 18 W

4 89°50 S 89°50 W

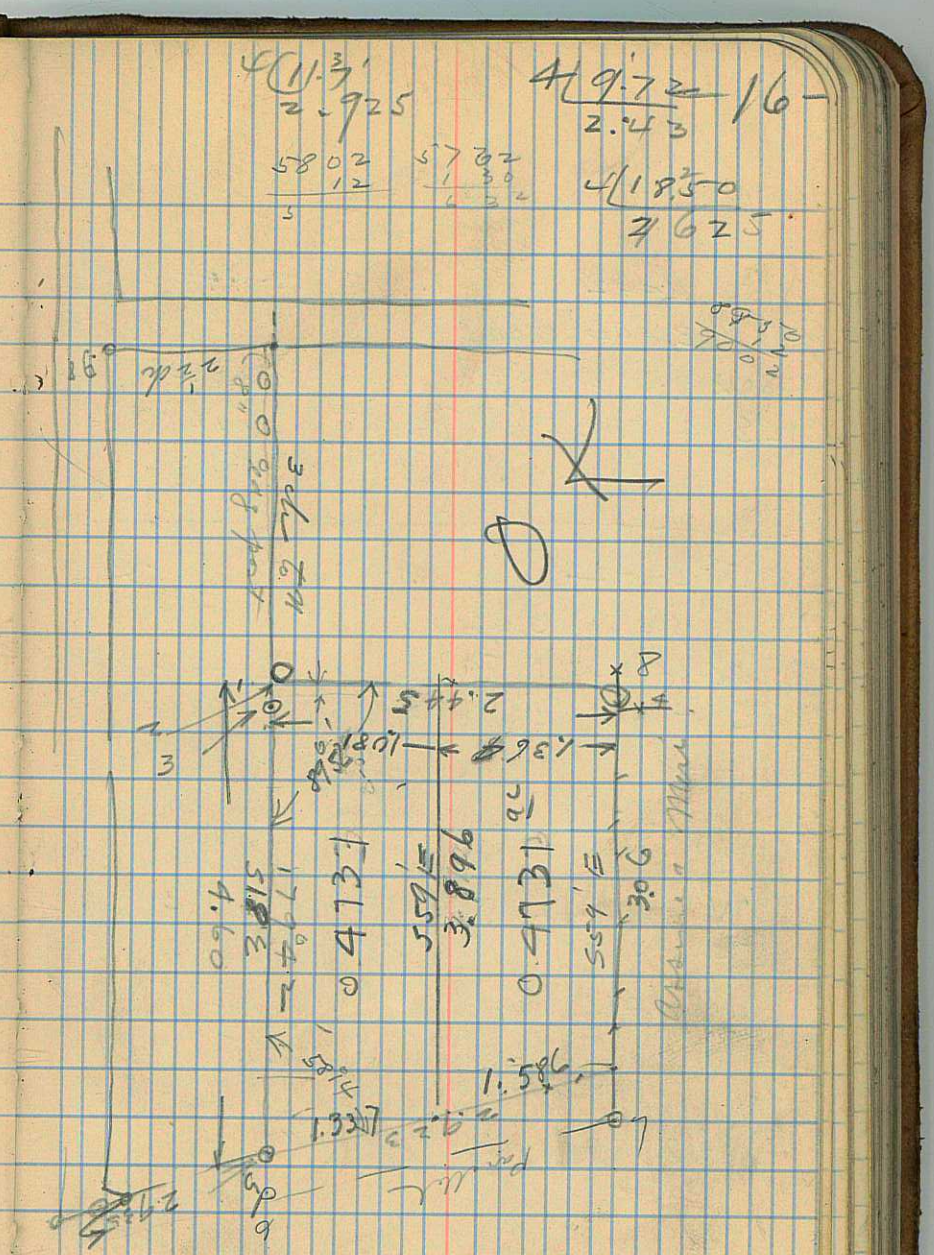
3 180°04'
2 180°14'

1 90°

238°02

14'

359°42



O.C. 20

Bear	Dist	Lat N	Lat S	Dep E	Dep W
S89°50'W	2.442		0.007	~~2.442~~	2.439
N59°W	3.044	3.060			0.059
N58°22'E	2.923	1.547		2.482	~~2.498~~
S12°E	4.600	~~4.699~~	4.600	.016	
			4.607	2.498	

S89°50'W	2.442		0.007		~~2.445~~
N59°W	3.06	3.06			0.059
N58°22'E	2.923	1.547		2.482	~~4.504~~
S18°E	4.60	4.607	4.600	0.022	
				2.504	

N18°W		4.60			0.022
S58°2'W			1.547		2.482
S59°E			3.060	0.059	2.504
N89°50'E		0.007		2.445	
		4.607	4.607	2.504	

Total Dep	Total Lat
-.022	4.60
2.482	1.547
2.504	3.053
.059	.006
2.445	.053

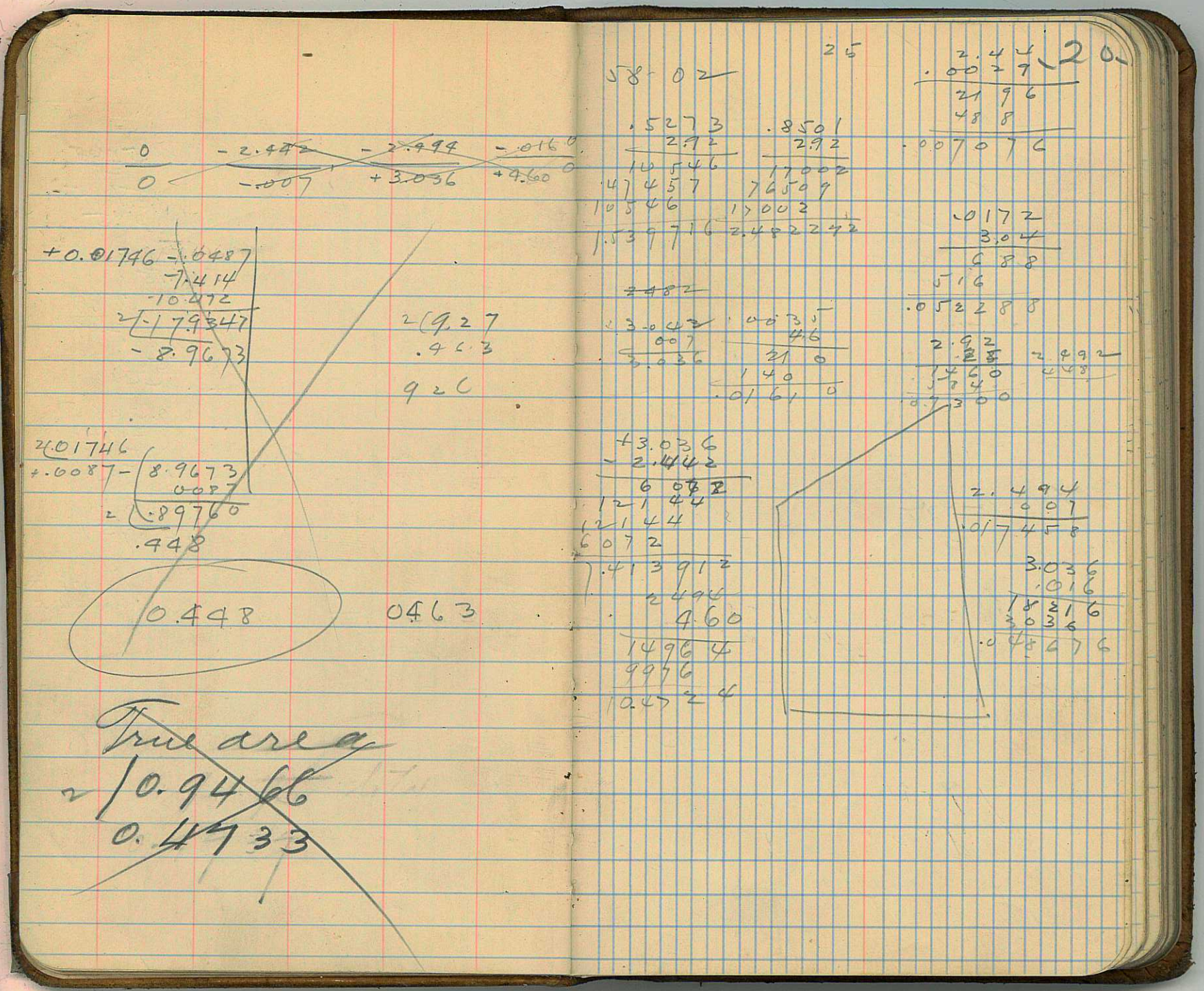
15

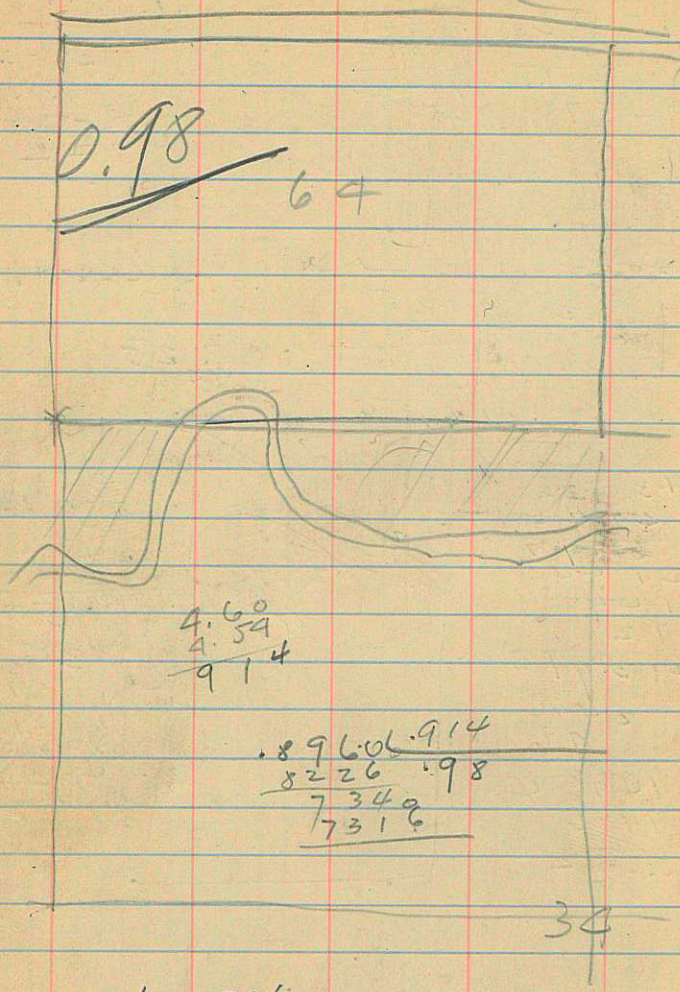
.00279
.00006
2.44
.006
.01464

0.5265
293
15795
47385
10530
1.54645
.015
1.536
4.60
251
2.091

4.60
1.536
3.044

0.5265
2.923
15795
10530
4385
10530
1.54895
0.015
1.536
4.60
.006
.053


0 - 2.442 - 2.494 - .0160
0 - .0087 + 3.036 + 4.600
+0.01746 - .0487
-7.414
-10.272
2 -17.9347
-8.9673
2(9.27
.463
92C
2.01746
+.0087 - (8.9673
.0087
2 (.89760
.448
0.448
0463
True area
= 10.9466
0.4733
25
58.02
.5273
2.92
10546
47457
10546
1539716
.8501
2.92
17002
76509
17002
2.48222442
2482
3.042
.0087
3.036
.0161
4.6
210
140
0
+3.036
- 2.442
6072
12144
12144
6072
.4139112
2484
4.60
14964
9976
10.47264
2.44
.0071
2196
488
.0070076
.0172
3.04
6888
516
.0522288
2.92
2.492
1460
7300
2.494
.007
.0174958
3.036
.016
18216
3036
.0486576
-20-



4.60
4.54
914

.896 .914
8226 .98
7340
7314

1.154
.980

3.04
4.60
1764

3.82
2.44
1528
1528
764
9.32.08

2.44

6208
6168
40

6208
16
6192

Col 58°14'

8958

.98) 85 (1.154
85
130
85
450
425
25

0.6192
0.003
0.6195
.896
37170
5 5 5
49560
.55072

.20.48
.896

4.60
4.6
276
184
21.16
.55
20.61
4.54

log 20.61 = 1.31408
0.65704

.448

.454
460

AK = 2(9.14
4.57
.98
3656
4113
4479.96

1.05

1.235

1.24

2 | 8.55
9.

Correct

Area .9975

½ = .4737 = 9.737 sq ft

8.96
2 1 16
5.55
15.61

2 | 1.19340
0.59670

3.95

b_2 = 3.95 65

b_1 = 4.60
8.55

.448
2
8.96
8.55
4100
4295

8.55 | 85
1.05 | 1.235
85
200
190
100
55
450

Pt	Angle ~~Right~~ ~~Angle~~ Left	Dist.	Time	Corr
⊙14	265°39'		10:23	85°39'
⊙13	263°32'		10:17½	83°32'
⊙12	262°07'		10:15½	82°07'
⊙11	258°32'		10:12	78°32'
⊙10	256°21'		10:08	76°21'
⊙9	256°53'		10:03	76°53'
⊙8	255°32'		10:01	75°32'
⊙7	251°18'		9:58½	71°18'
⊙6	239°15'		9:56	59°15'
⊙5	230°27'		9:54	50°27'
⊙4	223°07'		9:51	43°07'
⊙3	220°15'		9:49½	40°15'
⊙2	215°37'		9:48	35°37'
01	208°14'		9:40½	28°14'
~~AB~~	180°	~~180°~~		
AB	180	~~180°~~		

FS - 26 -

(Set) 180° FS to AB

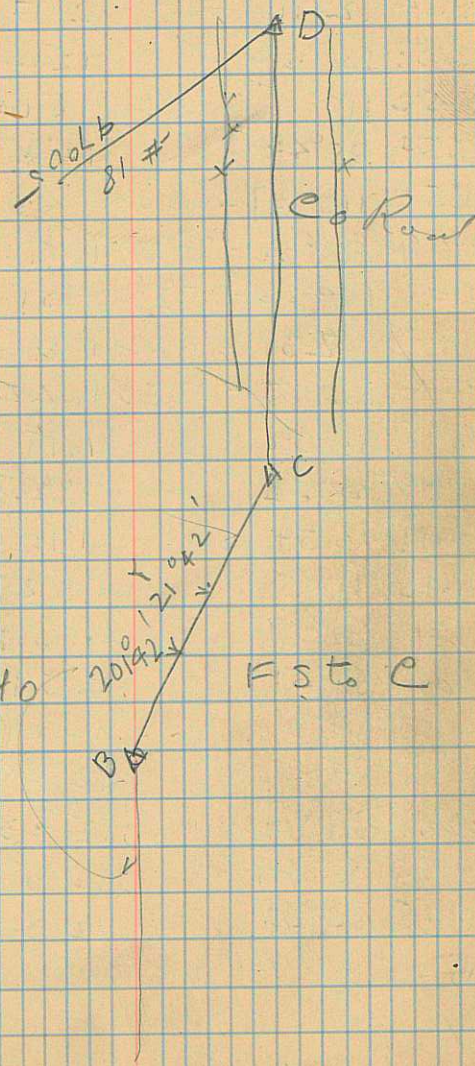
Clock

Π-R	Angle	Temp	Time
⊙34	83°14'		12·25 ½
⊙33	78°39		12 15 ⅔
⊙32	76°20'		12 13 ½
⊙31	63°45'		12,10 ½
⊙30	58°17'		12 08
⊙29	58°34		12 05 ½
⊙28	63°30		12 03/4
⊙27	64°12		11 51
⊙26	62°28'		11 48
⊙25	57°14		11 42 ¼
⊙24	54°55'		11 40
⊙23	49°57'		11 35
⊙22	48°46'		11 33 ¼
⊙21	47°14'		11 31 ¼
⊙20	45°11		11 29
⊙19	45°11		11 27
⊙18	47°05		11 24 ½

ΔD-

⊙17	278°22	-81°38	1034
⊙16	267°05'	87°05'	10 33
⊙15	265°55	85°55	10 31

ΔB-



A-Pt	Angle Clock	Comp	Time
⊙56	131°08	48°52	2:26½
⊙55	128°55	-51°05	2 20
⊙54	127°11	-52 49	2 15
⊙53	120°32	-59°28	1 56
⊙52	119 05	-60°55	1 51½
⊙51	118°40	-61 20	1 49½
⊙50	116°37	-63°23	1 46
⊙49	109°22'	-70°38	1 39½
⊙48	104°32	-75 28	1 31 15"
⊙47	102°38	-77 22	1 26
⊙46	102°07	-77 53	1 22
⊙45	81°59'		1 18
⊙44	74°42		1 12¼
⊙43	72°54'		1 10½
⊙42	74°55'		1 02¾
⊙41	80°19		1 01¼
⊙40	82°51'		12 59
⊙39	84°36'		12 51½
⊙38	84°49'		12 49
⊙37	88°07'		12 43
⊙36	87°36'		12 37½
⊙35	85°29'		12 31

40 -

somewhat approx

Π-Pt	Az from 5	Bear	dist	Sect	ang opp
		OK			
	8901				
S¼					
	350°35	S 59°25 E	482.3		
ΔA					
ΔA	277°48		1193.7		97°48
ΔB				119°31	
AB	29931	S 60°29 E	819.2		
ΔC-				91°07	
-ΠΔC	27°88 / 271°07	S 88°53 E	1096.7		91°07
-1	333°51				
ΔD-				95°38	
ΠΔD	27°38	S 84°22 E	129.35		95°38
-19					
18-				329°07	

Π-Pt	Angle	Comp	Dist
⊙59	190°24	-39°36	248.2
⊙58	136°27	43°33	239.2
⊙57	133°34	46°26	233.4
ΔD			

along S

(S¼ cor 27)

of original survey.

8853
2824
6029
35960
6024
29931

32

35960
27748
8212

~~5989~~
214

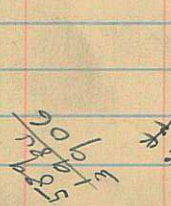
6029
2142
8211

Survey for Jos. Quarry

7/22/24

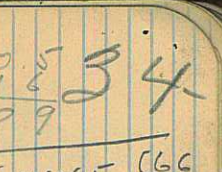
					Dist.	Dist.
A-Pt	90	27°24	from	Bear	25.6'	
8-						359°15
	8	179°15'		N45W	879	
	7	298°02		S61°58E	8'	
6-						84°25
	6	264°25		N84°25E	404.6	
	5	71°35			11.25	
4-						181°36
	4	1°36'			918.9	
	3	1°53'			3.8	
	2	54°35			6.6	
		352°36'				
1-						0.

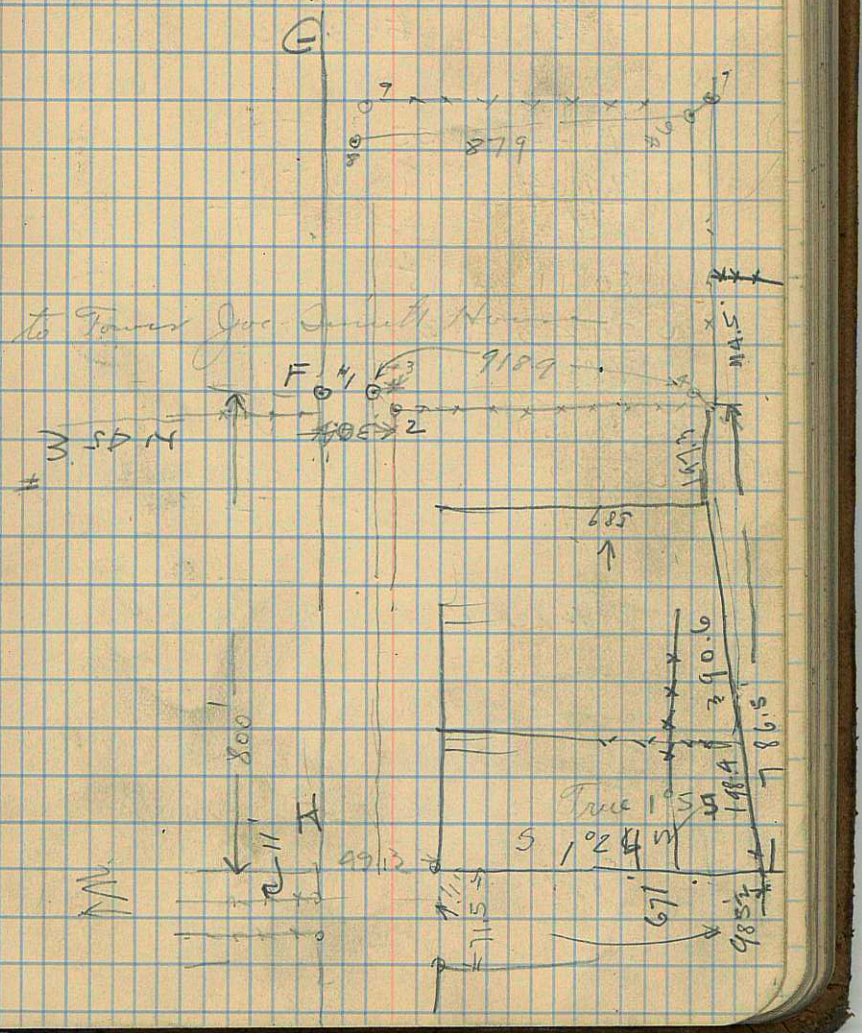
800.00



901
865
145

True bear of Meridian S 31° W to add'l dog





Ob 7/22/14

	Az from S assume	Vert. Ang	Time
Dir	77°56	43°22	3:49
Inver	77°32	43°35	3:50
	77°44'	43°28'30"	3:50
Dir	78°41	42°41	3:52
Inver	78 21	42°51	3:55
	78 31	42 46	3:53
Dir	79°32	41°55	3:56
Inver	79 04	42°11	3.58
	79°18'	42°03'	3:57
Dir	80°11	41°15	4:00
Inver	79°43	41 33	4:01
	79°57'	41°24'	4:01
Dir	80°57	40°32	4:04
Inver	80°28	40 49	4:05
	80°42'30"	40°40'30"	4:05

79°43'30" 42°09'24"

(4)

OK

True az
S 79° 45' 30" W

add to all az 31'

R. L. Marsden 1/11/53

- 86 -

10 h 53 m
= 10.884 hour
July 22 hourly change
δ 29.32" for 10.884 hour
= 5 m 21.2"

Hlc = 20°24' 31.9" −
5m 21.2" =
20° 19' 10" mark

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

h = 4204 24 − 1'.3"
= say 42° 03' 20"

Z = 90 − 42 03 20 = 47°56'40"
φ = 41°43' 20"
δ = + 20 19' 10

$$\sin \tfrac{1}{2}a = \sqrt{\frac{\cos(54°59'30")\cos(34°40'20")}{\sin 47°56'40"\cos 41°43'20"}}$$

= 129°52'43. a = 259°45'26"

Pt. A. Bear Mist Set

H 90°23 S89°37E

G 270°23

F 180°

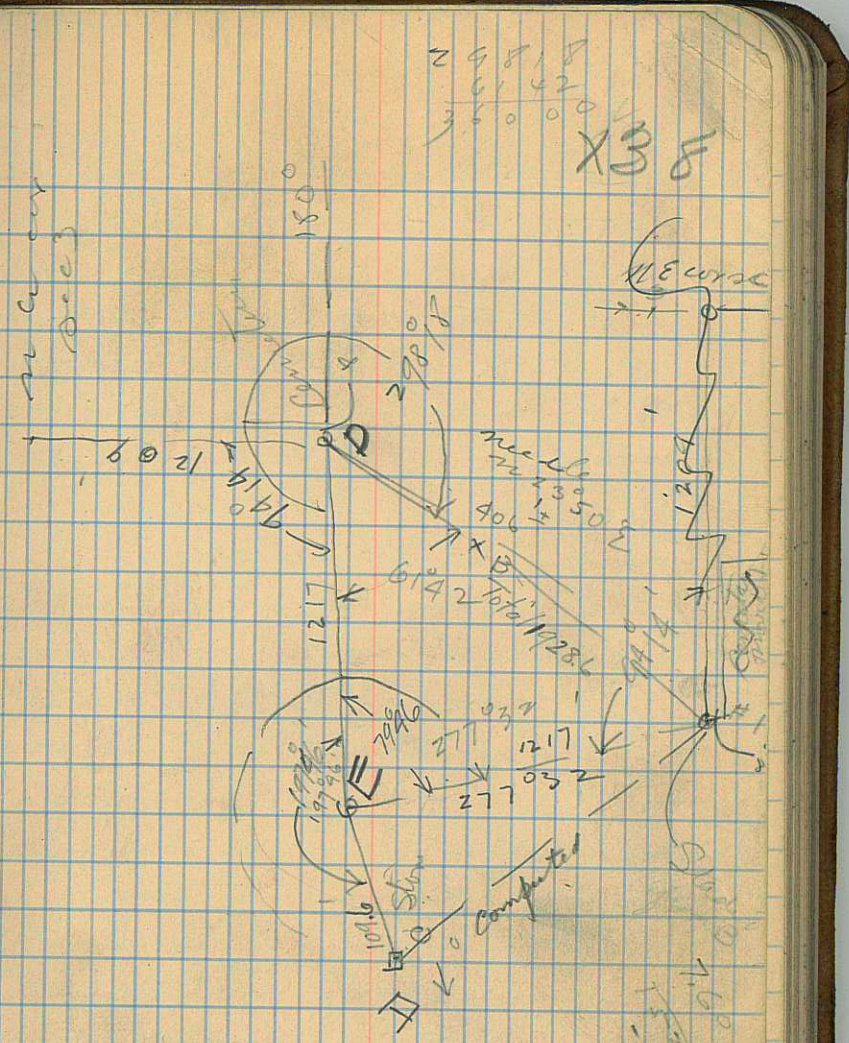
A 76°27

B 203°37 N23°37E

4 1°36

1 89°57' 365.7

X35



~~5.2108~~

5.208 3150

5.208
3150
2.058

4.66
2058
2.602

0440-

Survey for H E Hayball
7/23/16

№	BS	FS	Chm	Elev	HI
1	4.00				
HI		4.70			
2		3.05	100.00	103.05	
3		7.20			
4		6.66			
5		8.80			
6		7.30			
TP7		0.85		102.20	
	7.43				109.63
		6.72			
	1.19				104.10
		9.00		95.10	
T.12		0.28			103.82
		check levels back			
12	0.28				
		9.070			
	8.980				
		0.67			
	6.34				
#7	15.60	7.46			

17.20
15.60
1.60
102.2
103.80

See book

103.05
.85
102.20

103.2
.85
104.05

3.90
102.2
106.10

042

Filled a
Tub 14.25 x 17.4 x
105 in 9"

1/4 of 5

320

104.10
9
95.10

104.10
2.15
101.95

low spring

West main spring 104.10
.28
3.92

	BS	FS	HI	Elev
7	7.46	~~7.46~~		102.2 / 109.66
# 13		5.74	103.92 / ~~103.92~~	
14		9.23		100.43
14	4.935			105.36
13		1.45	103.91	
{	0.98	7.20	98.16	
				99.14 ✓
15		7.72		91.42

~~7.44~~ 109.63
6.72
102.91
1.19
104.10

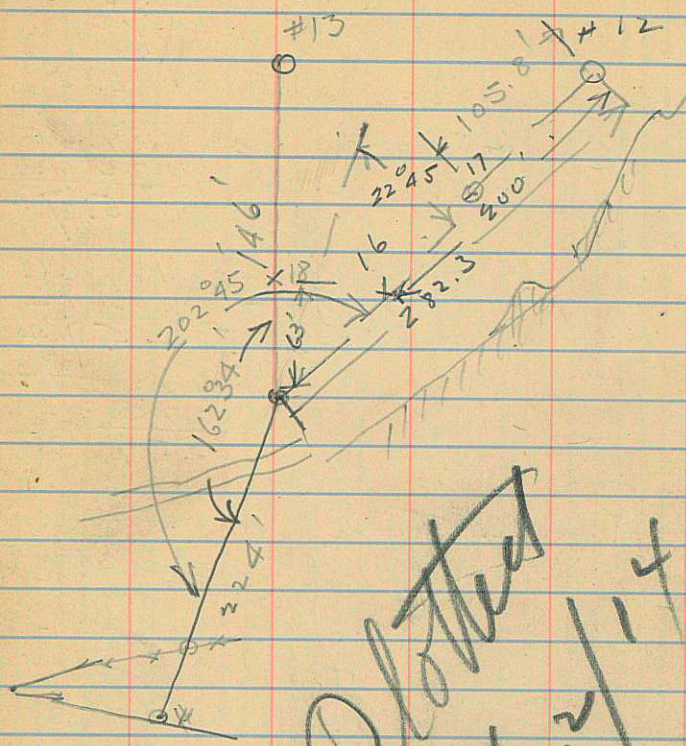
{ Espring on proposed water surface

102.72
7.06
109.66
103.92
5.74

4.935 109.66
1.45 103.92
3.485 5.74

9.23
5.74
3.49

on Y. junction / Dec of Ball ory



Plotted 7/21/14

#	BS	FS	HI	Elev	HI
17	4.70			90.67	
16			5.30	90.07	
15		3.95		91.42	95.37 at Y
18	2.70			93.32	
15		4.60		91.42	96.02 at Y
15	5.14			91.42	at Y
		2.95			
	8.42				
#2		2.0		100.13	Stan

Bench mark

2.425 ft.

4.10
2.42
1.68

2.425 + 4.10 NW cor 1'-8 11/4" above 1.68

2.425 3.23 NE 8 1/2" "

2.425 2.25 SE cor 2" below

6 8
1 2
1 3 6
6 8
8.2 4

3.23
2.42
8 1
1 1 2
1 6 2
8 1
9.5 2

8.48

2.42
2.25
.17

Arden City

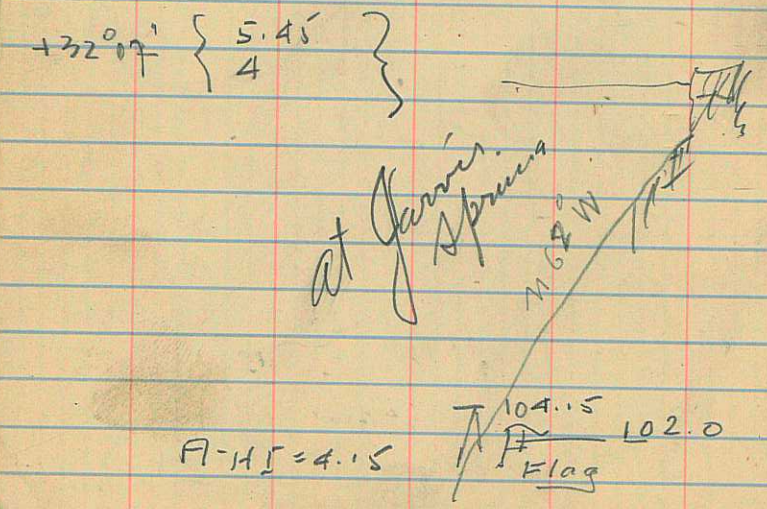
Geo O.P. Sutherwait

C.W. Pope

Aug 4 - 1914

Bloomington Prelim

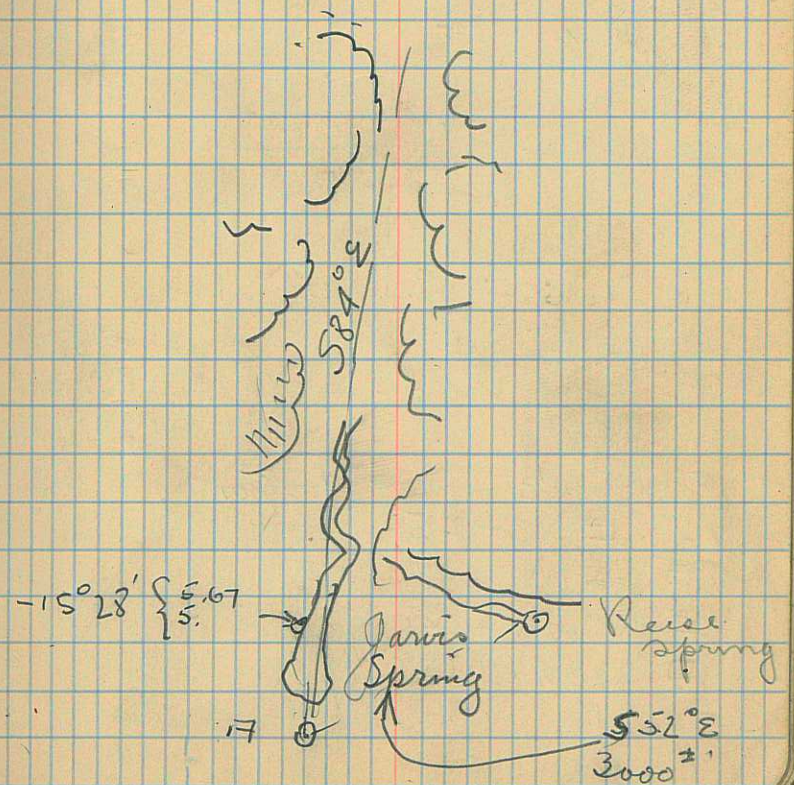
Sun.

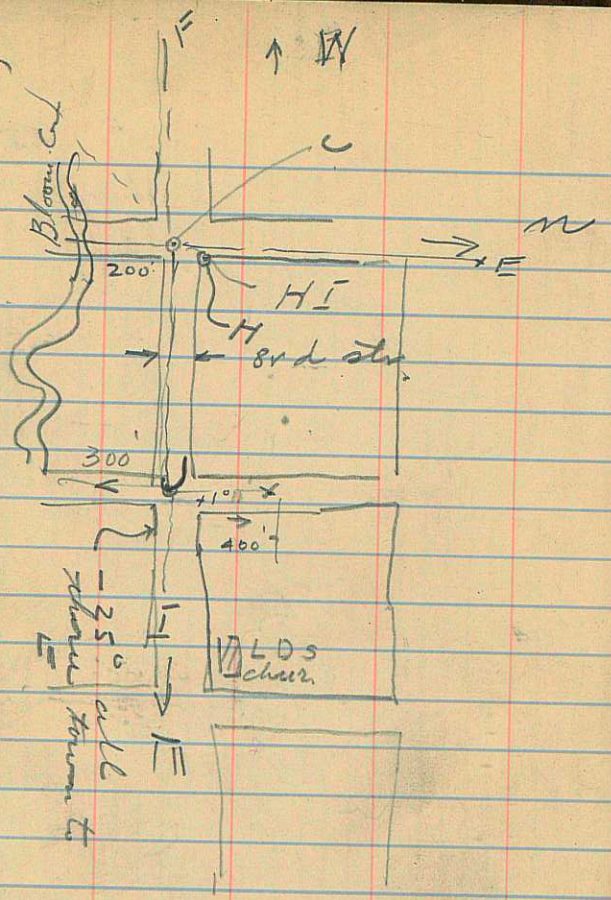


O.C. Wyckoff

Bloomington

050

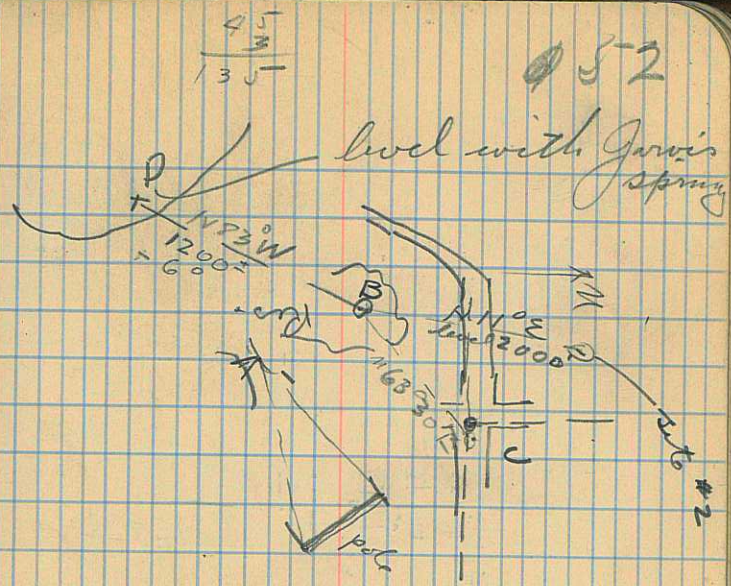




Pt Reeds Beach Vert Fr- West appro

H	N8°48°E		90' step
I	E	-25'	
F	W	+30'	
E	N1°15'W	+2°40'	6°00
D	S83°30'W	+6°35'	

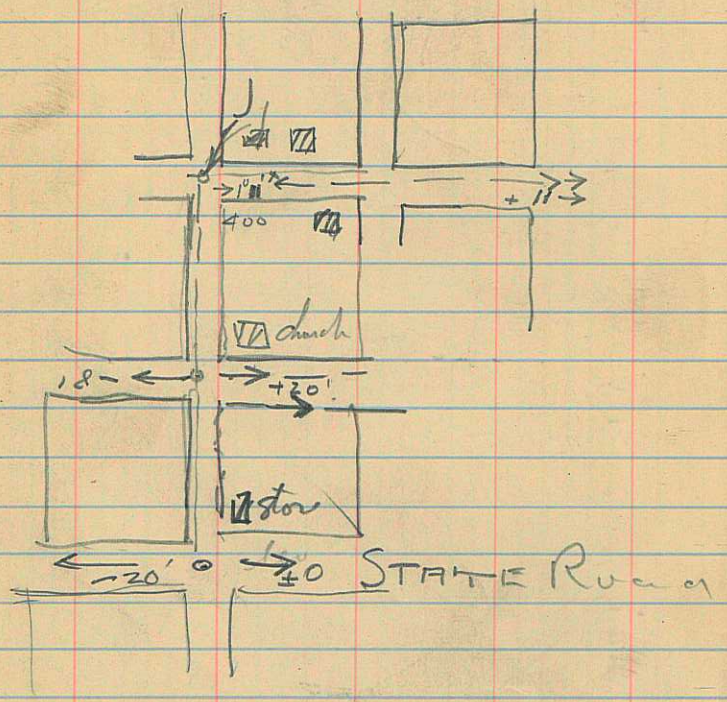
C-

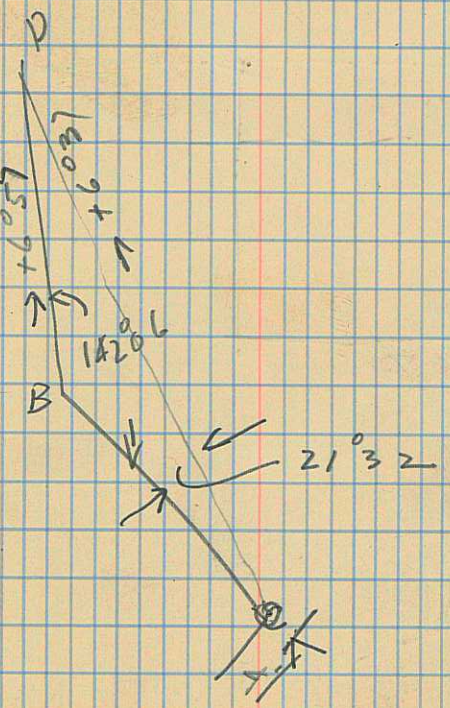


Set on B to C: 5°19' tower center dipper 7.25 center 8" above ground

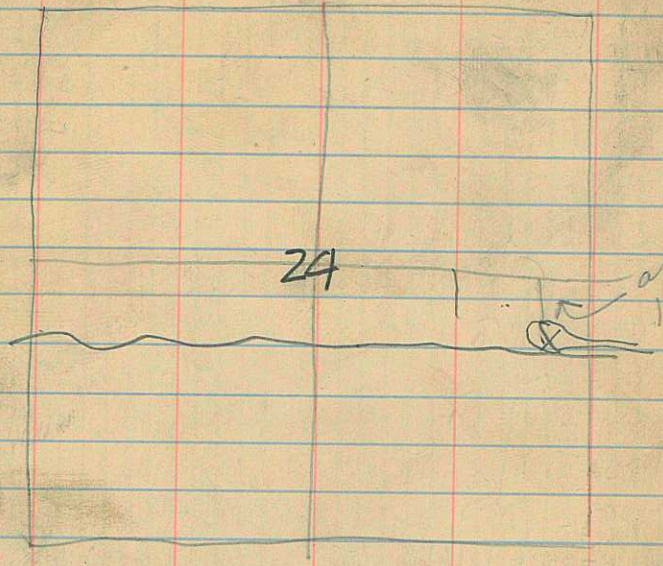
6" above bolt

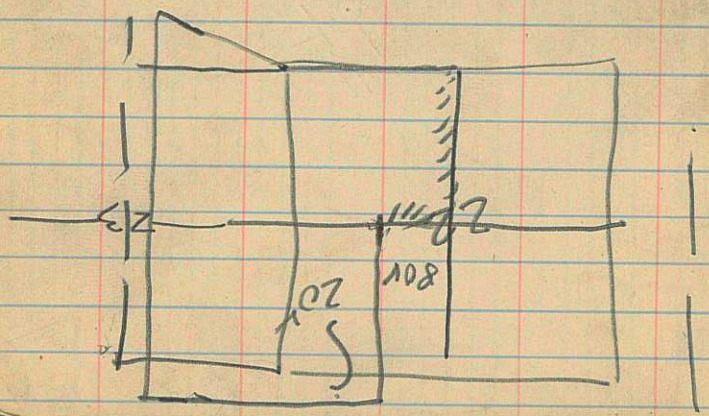
to high Ground

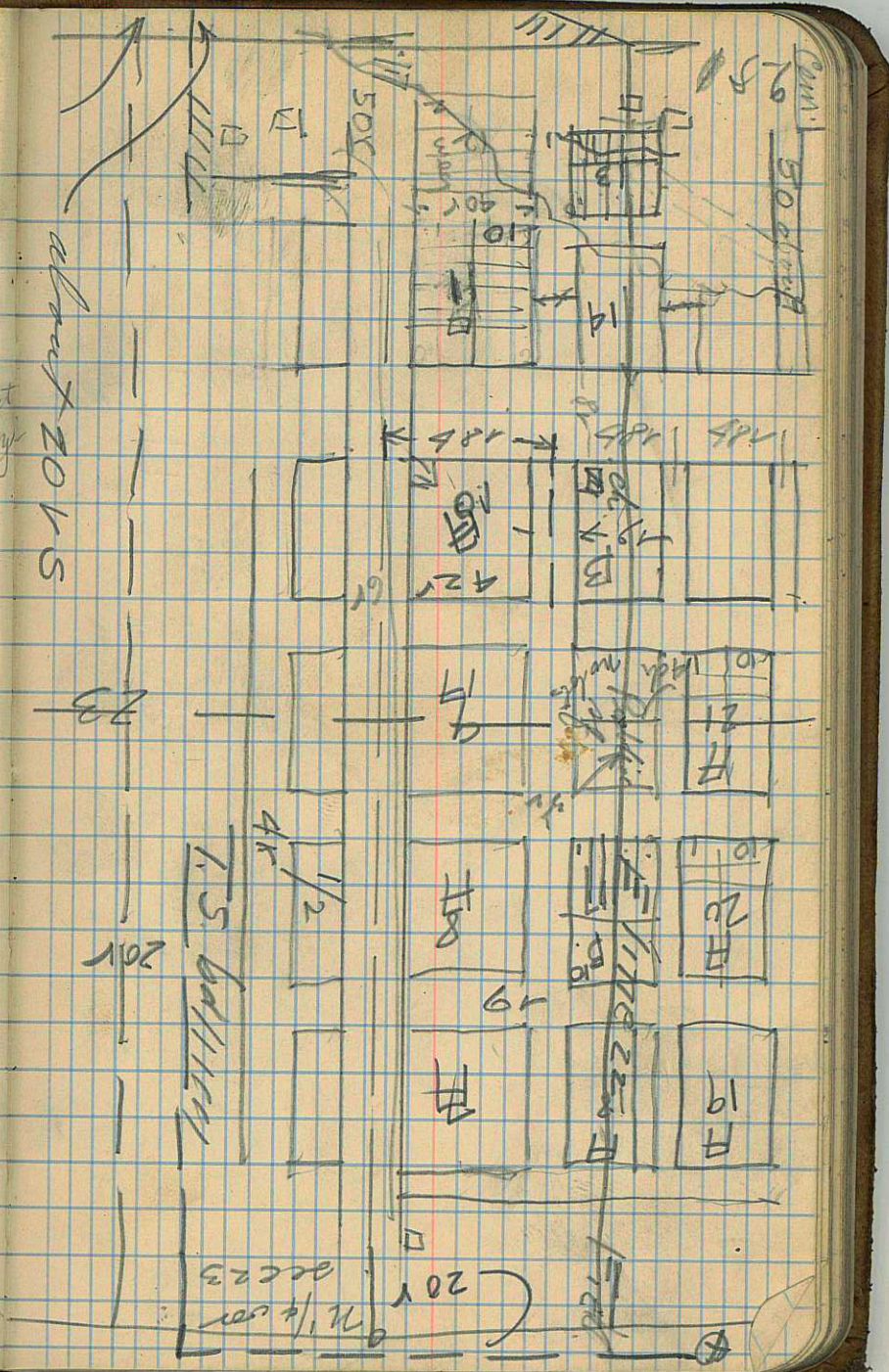

400
Church
18
+20'
Store
-20'
±0
STATE Ru

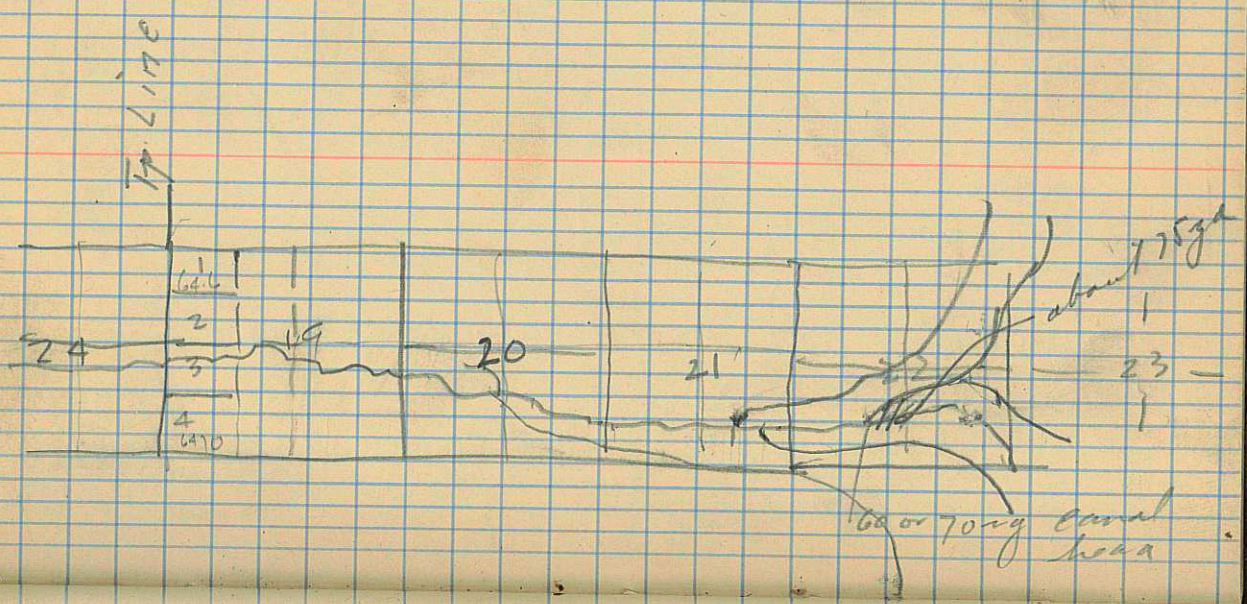

D
140.
B
21°32

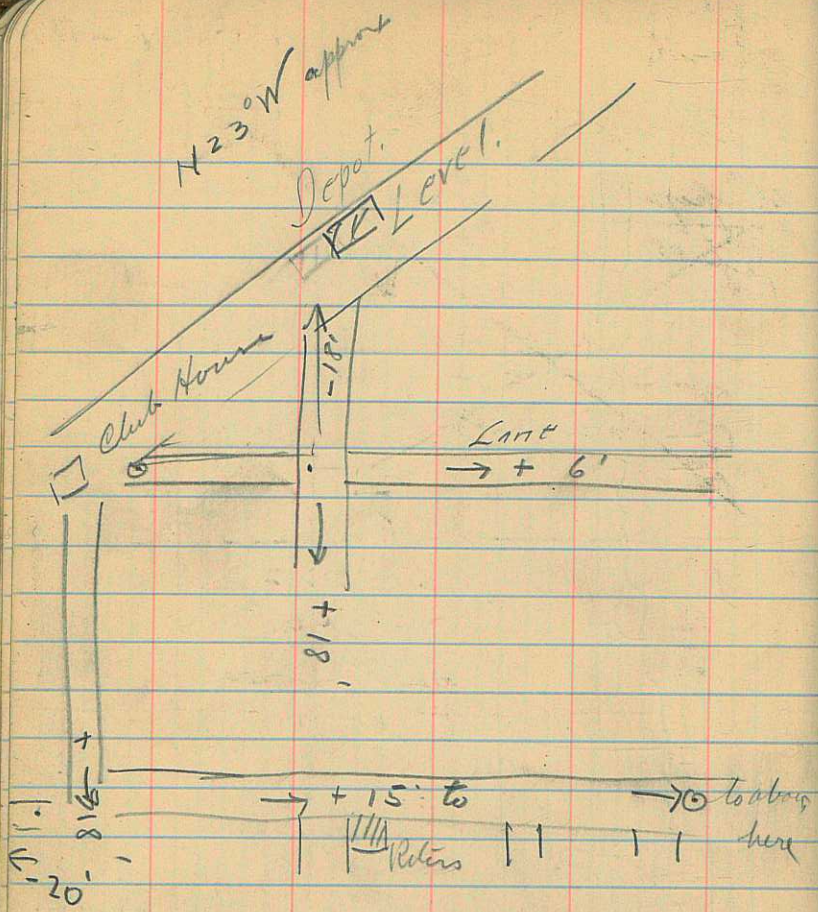
14 - 42


24
about 150 yr


80'
20'


about 20 rs
50'
14
42'
20'
23
19
20'
9
8
7
6
5
4
3
2
1
20'
accès


T. Line
1/64 C
2
3
4
64 D
24
19
20
21
about 7 5/8
23
60 or 70 long canal holes



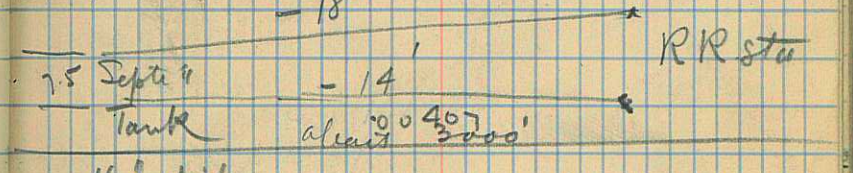
Route 17B = S = .0013 #60-
" 17C - S = .00162

18" pipe
1/2 full

r = .75
√r = 0.866
n = .013
= 111
v = 3.9
Q = 3.4
A = 0.88 Sq feet

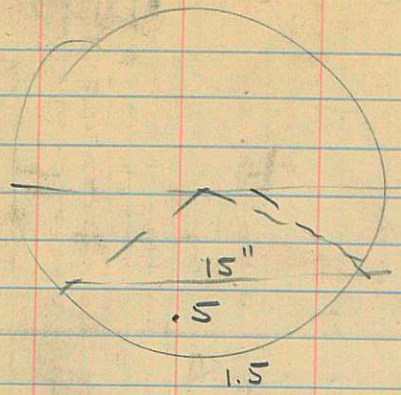
18" half full
r = d/4
r = 37
√r = .61

S = .0035
C = 96.
v = 3.56
Q = 3.2



16" pipe
100 S = .407
r = 0.33
√r = 0.575

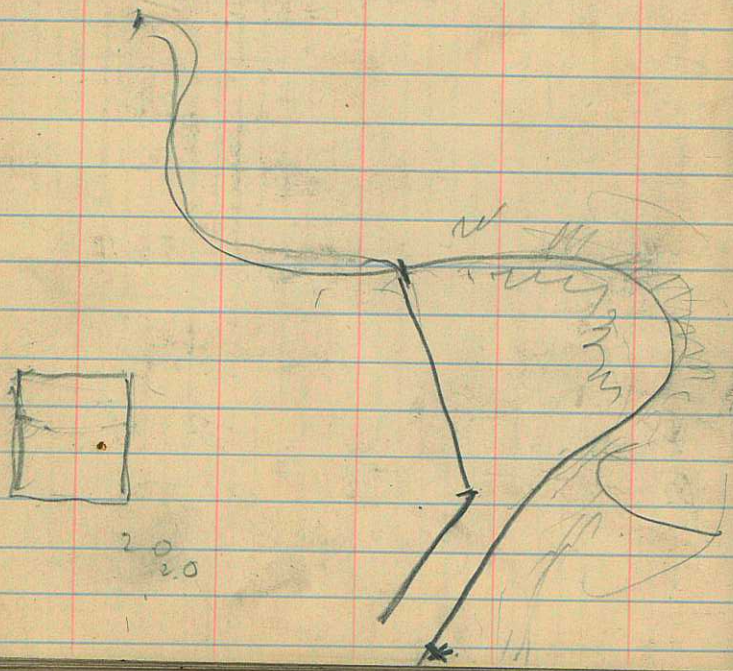
v = 3.34
Q = 2 c.f.s

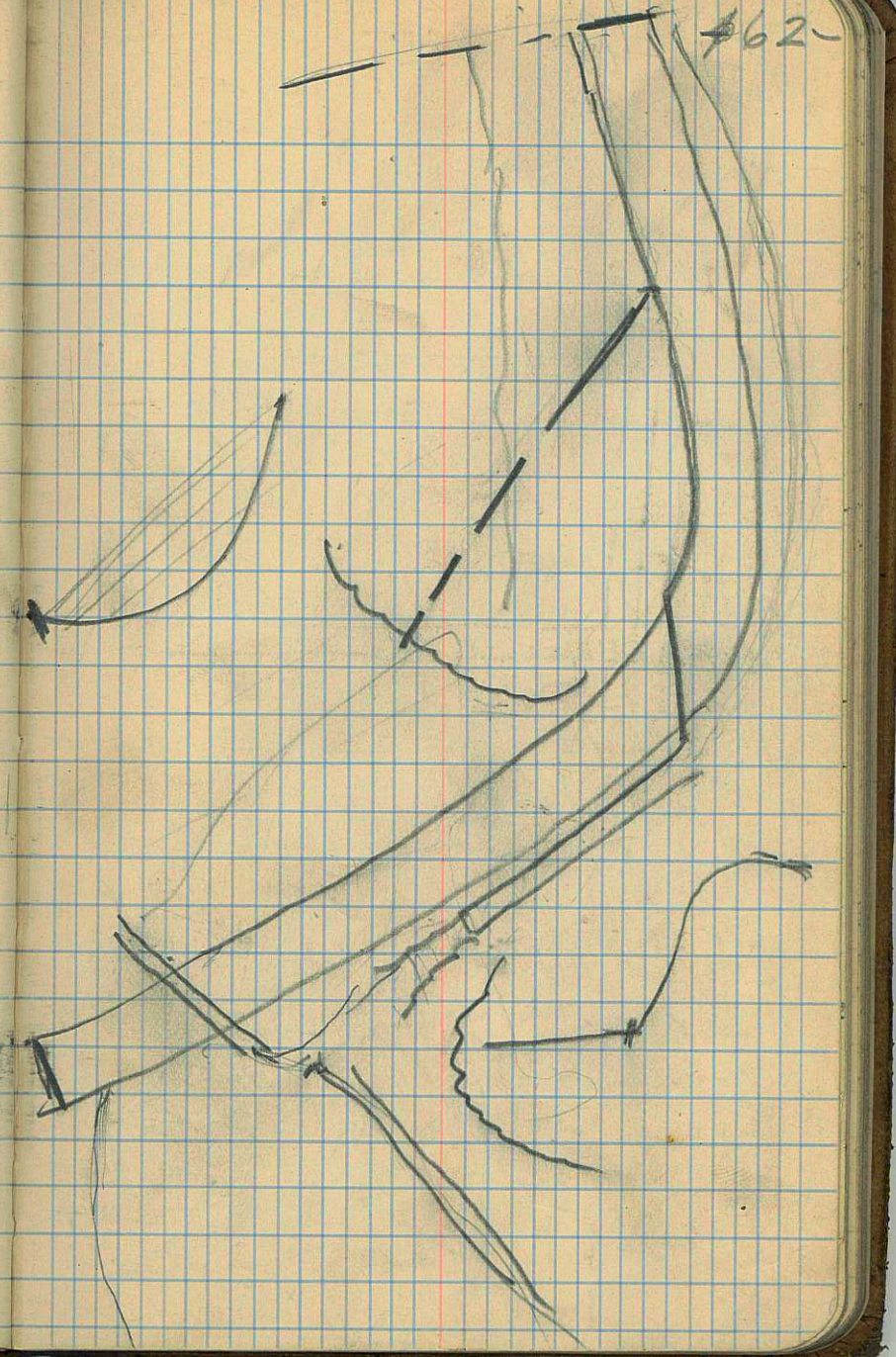


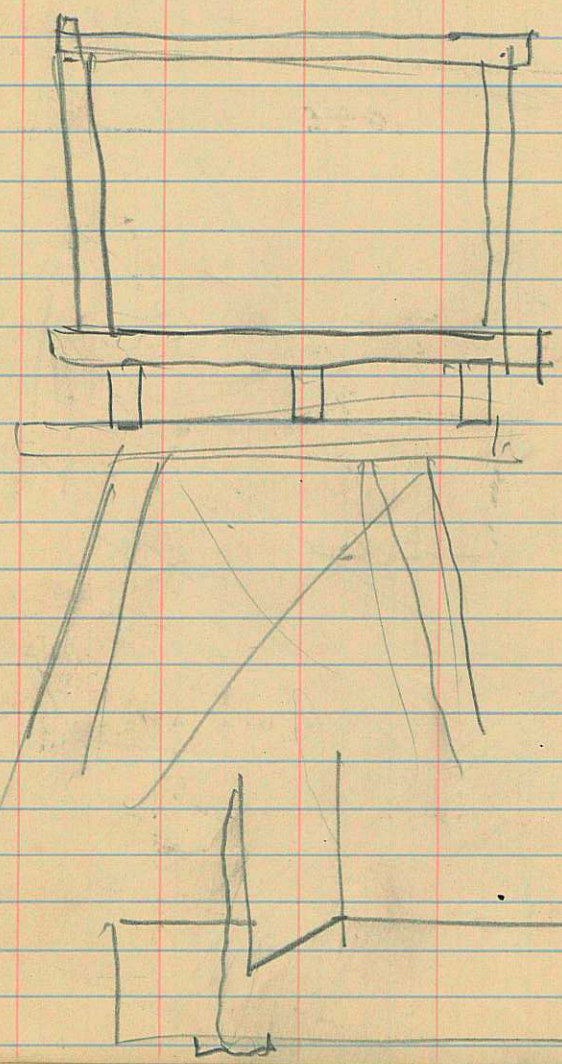
$\frac{r}{R} = .333$

$\sqrt{R} = 0.57\sqrt{r}$

$S = .0035^{r}$ or Slope Run 12'







#64-

.090

198.0

50

60
.09
5.40
400
2160.0

48,0

1300
G10.10

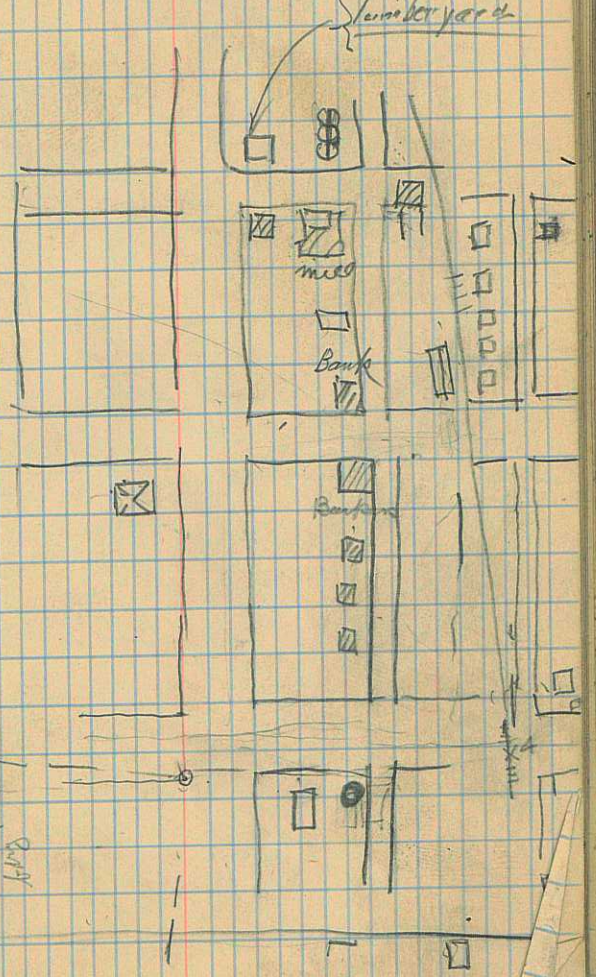
Preliminary Survey at Cache Junction

8/8/14

π-Pt	Stadia				Vert
	ag from 3	U	C	L	HI
A		9.1	4		-1°08'
1					
3	279°51"	4.64		4.00	-6°5'
2					4.8 ±
.2	90°45'		4.90	7.75	7°24'
1					4.8
K					4.8

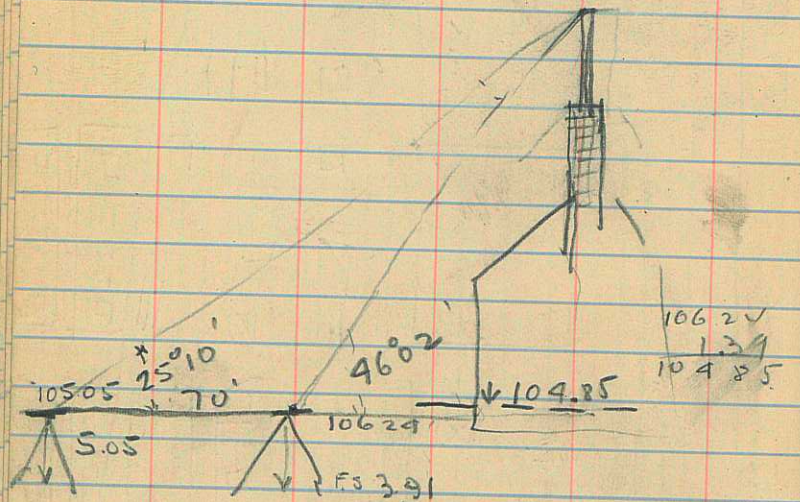
466

7 7 5
7 4
3 7 5 2
7 3 0
1 2 8
6 0 0 0
1 0 0 0
7 3 0
9 6.0



7.5

Height Meas. at Woodruff



-68-

3 3,3 3 3
7 5
1 6 6 6 5
2 3 3 3 1
2 4 9 9 7.5

900

70
70
4900 0

3 3,3 3 3 2
6 6 6 6 6.

40

50
50

60
60
3600 0

70
70
4900

6.6 6 6 6 | 25 8
4
266
225
4166

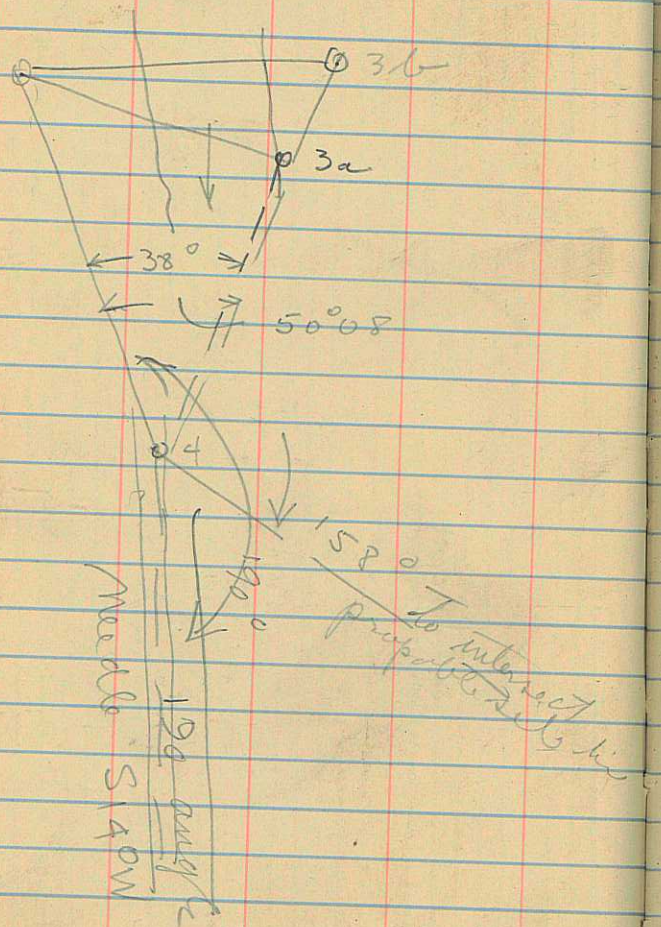
40
25
50

#70

1/4 – 2 = total 2 × (8–.35)

2 – 3 = total (1 × 1.8)

2 – 4 = total (1 × (4 – 55



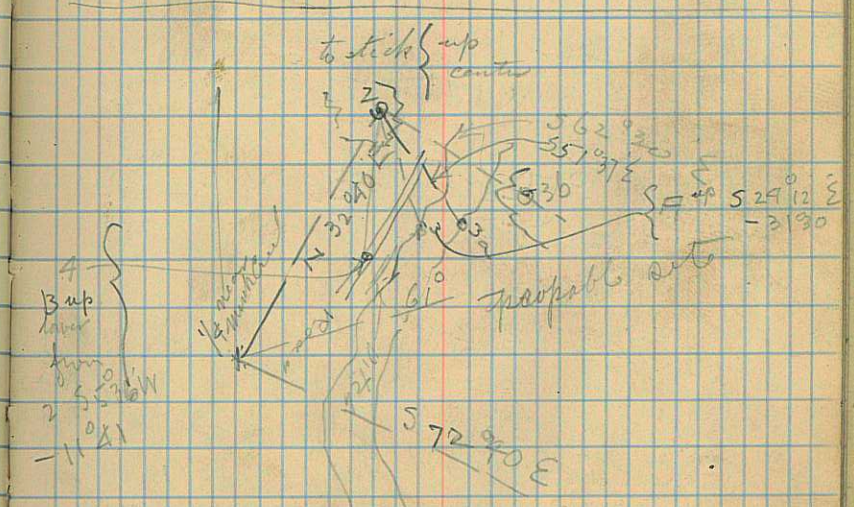
Δ to monument 4859.6

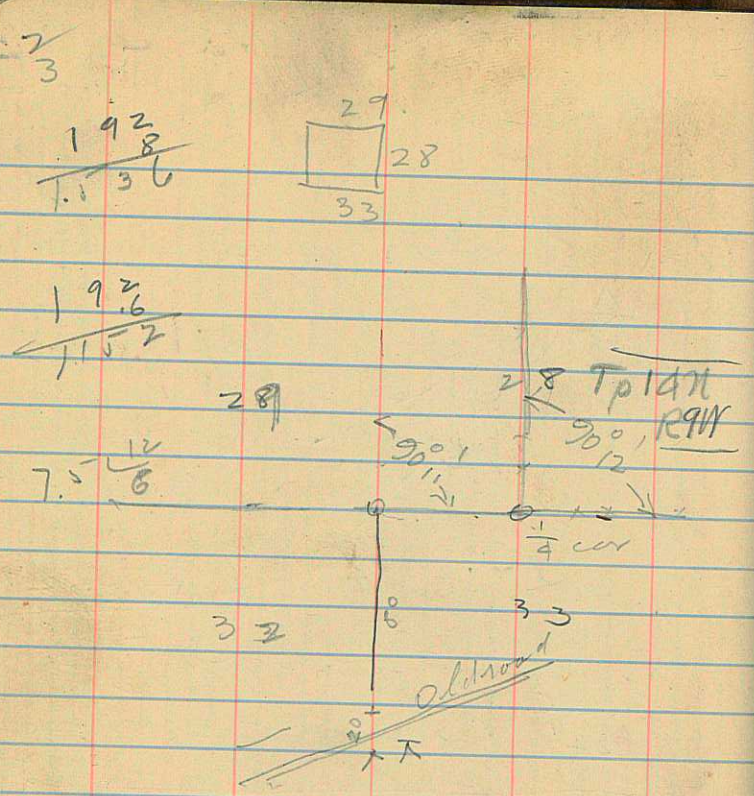
38°55

4 5 0
3 8
3 6 2

3.62 total

Runs from dance at ⊙ C slopes down 34' for a about 2400'





Obs on M E cor-8-13N9W

	Hordy	Vert	
Direct	2°30	14°55	5 50
Direct	2°10	15°10	5 54
	2°20	15°2'30"	
Dist	2°56	14°26	6 00
Dist	2 32	14°47	6 00

Aug 23 - 1914

Aug 23 - 1914 - 472

Beg at S 1/4 28

W 40.10 to pile cor 33 - 14 N. 9 W

Obs. M. Smith

Survey

True az from set A 272 05

probable error in line 15'

(Smith did not take location & decided to reobserve)

Water Mesas on Logan River aug 26 1914

Gauge start 1.1/3" 9.40 time 7.14
stop 1 3/4 10.50 3.2 1/3 4/3
Cent-gauge .065 start 9.40
.070 stop 10.50

Dist from initial pt	Depth	Depth of R.	Time in sec.	rev. per sec	No Rev	Velocity at pt	Velocity mean in Vert	Velocity mean in sec	Area	Mean Depth	width	Discharge
13	0.1				6×5	1.0	0.1					
18	0.5	0.60	49		6×5		1.37	0.73	1.50	0.3	5'	1.10
28	0.75	.42	58		5×7	1.3		1.40	16.85	0.685	10.0	9.60
28	0.75	.42	57½		5×8	1.55	1.44					
								1.65	12.00	1.20	10.00	19.80
38	23"=1.92	.38	49		5×12	2.71						
		1.54	60		5×6	1.12	1.87					
		1.15	43		5×7	1.80						
								2.24	20.00	2.0	10.00	44.80
48	27"=2.25	0.44	45		5×13	3.19						
		0.44	45		5×13	3.19						
		1.80	40		5×8	2.21	2.61					
		1.30	51		×12	2.60						
		1.30	58		×12	2.29						
								2.41	13.44	1.92	7.0	32.39
55	19"=1.6	.32	46		12	2.89						
		0.32	51		12	2.60						
		~~.96~~	~~49~~		8	~~1.8~~	2.21					
		96	39		8	2.21						
		96	40		8	2.21						
59	13"=1.08	06	55		6	1.22	1.22	1.71	5.36	1.34		9.16
61½	0							0.85	1.75			1.48

Total Q = 118.33

118 33/100 c.f.s
aug 26-14

Dist from 0	Depth of Sub	Time in sec	Rev per sec
23	9½"		
33	13"		
43	23		
60½	11½		
61½	0		

Area 60.9 ✓

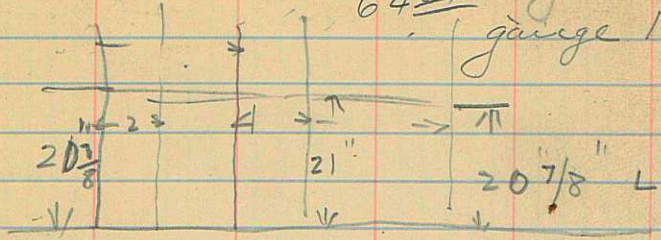
Logan & Richmond Canal — Aug 26 – 1914 about 50 flow Ault gauge

						Velocity at pt	Velocity Mean in Vert	Velocity Mean in sec	Area	Mean Depth	Width	Discharge
0	20⅞	1.74					2.60					
2	20⅞	1.74	0.350	50	5×14	2.58 ✓						
					5×14	2.82						
			1.400	51	14	3.04	2.99 ✓					
			1.05	41	12	3.23 ✓		3.18	6.96			22.13
					14							
6			0.35	43½	14	3.56 ✓						
			0.35	45	14	3.44 ✓						
			1.4	46	14	3.36	3.27 ✓					
			1.4	54.5	14	2.85 ✓		2.91	6.96			20.25
			1.05	41	12	3.23 ✓						
					12							
10			0.35	51	12	2.60 ✓						
			0.35	52½	12	2.53 ✓						
			1.40	53	12	2.50	2.55 ✓	2.49	2.61			6.59
			1.40	51¼	12	2.60 ✓						
11½			1.05	49	12	2.71 ✓						
			1.05	59	12	2.25	2.43 ✓					6.16
13	20⅞	South bank	1.05	57	12	2.33 ✓		2.36	2.61 / 22.62 ✓			64.88
							2.30					

64.88 / 100

Laguna de Rich Canal
Aug 26

6484 gauge 1.84



			time	
~~Auto~~ Hook	gauge	~~start~~	11:15	1.85
Hook	"	start	2:15	1.84
"	"	stop	3:00	1.84

at River Power House gauge 131 - 3:26 p

19

17.5/8 = 17 5/8

1.000 - 1.050 = -80-

0 on R-bank or near

measurement of Logan R. B. & Smith Canal aug 26 14 at auto gauge 82

gauge { start 1.35 at 3:55 P.M. / stop 1.35 " 4:35 pm

from central List	Depth	Depth of 6/10	Time in sec	revs per sec	Revs	Velocity alpt.	Velocity Mean in vertical	Velocity Mean in section	Area	Mean depth	Width	Q
0	1.5 3/4 = 1.31						3.50					
		0.786						3.61	2.68	1.34	2	9.67
2	1.6 1/2" = 1.37	.786		42	14	3.68						
		78.6		41	14	3.77	3.72					
								3.12	5.48	1.37	4	17.10
6	1.6 1/2 = 1.37	0.274										
		.822		42	10	2.63						
		.822		46	10	2.41	2.52					
								2.31	5.48	1.37	4	12.66
10	1.6 1/2 = 1.37	0.274										
		0.822		53 3/4	10	2.05						
		0.822		52	10	2.13	2.09					
								1.84	4.79	1.37	3 1/2	8.81
13 1/2	1.6 1/2 1.37	.822		70 1/2	10	1.58						
		.822		68 1/2	10	1.61	1.60					
				69	10	1.60		1.55	2.05	1.37	1 1/2	3.17
R. Bank 15	1.6 1/2 - 1.37						1.50		20.48			51.41

Meas. of Logan River at Utah Power Sta. at Swede's plant. 8/26/14

gauge { start 1.29 at 5.17 P.M.
stop 1.31 at 6:00 P.M.

-84-

Dist from initial pt	Depth	Depth of Obsr.	Time in sec	rev per sec	Rev	Velocity at pt	Velocity mean	Mean Velocity in sec	Area	Mean Depth	Width	Q
4.3	0											
						1.91	1.91					
5	0.83							1.91	1.95	0.83	mean 2.35	3.72
			50									
7	0.83	at Dam 498	58		10	1.91						
			58		10	1.91	1.91					
								2.12	4.15	.83	5	8.80
12	0.83		56		12	2.37						
			58		12	2.29	2.33					
								2.36	8.30	.83	10	19.60
22	0.83		57		12	2.33						
			45		10	2.46	2.39					
								2.57	2.90	0.83	3.5	7.45
25.5	0.83		40		10	2.76						
			40½		10	2.76	2.76					
27	0.83							2.73	1.53	0.83	mean 1.85	4.18
									18.83		22.70	43.75
27.7	0						2.70					

44.3=Q

43.75+.54=44.3

This is due to change in gauge height = 23.4 × .01 × 2.3

Note zero of tape on stem of J. mark J.Q.A. on N. side of weir

Race gauge 1.57 (5-21.5 PM)

Dist from initial pt	Depth	Depth of ob.	Time in sec	Revs	Rev's
		S. bank			
0.4	0.72				
3	0.68	0.37	40	8	
7	1.75	.350	46	12	
		1.400			
		1.050	42	12	
			44	12	
10	2.3				
12	2.50	.30	41	10	
		2.00	41	10	
		1.30	41	10	
14	2.7				
17	3.72				
18	3.82	.764	53	10	
		.764	54½	10	
		3.056			
		2.30 0.6sp	46½	8	
			46½	8	
22	2.50				
24	1.90	0.38			
		1.14	43	6	
25	1.6				
26	1.40		43	6	
28	1.0				
29	0.75				
30.8	0.5	N bank			

8/26/14

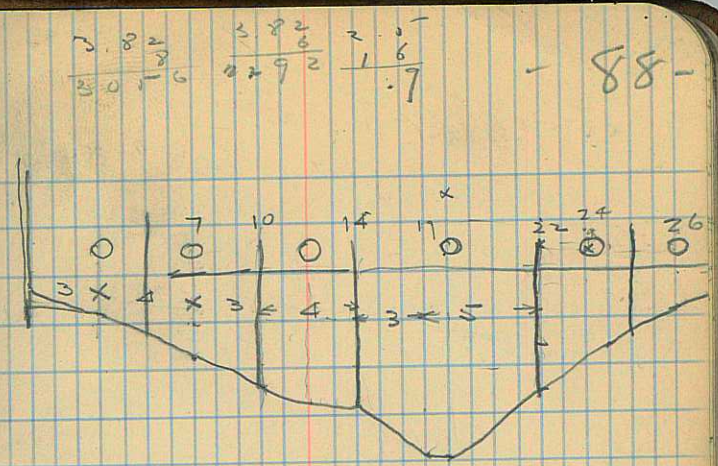
Race gauge 1.57 at 6.35 otaki

" stop 1.58½ 7:45

Velocity at pt	Velocity mean in vert.	Velocity mean in sec	Area	Mean depth	Width	Q
		1.13	1.82	.70	2.6	2.06
2.21	2.21					
		2.61	4.84	1.21	4.0	12.63
2.89						
3.16	3.02					
3.02						
		2.85	10.86	2.17	5	30.95
2.69						
2.69	2.69					
2.69						
		2.31	18.60		6	42.97
2.09						
2.03						
	1.94					
1.91						
1.95						
		1.74	17.08		6	29.82
1.55	1.55					
		1.55	3.25		2	5.04
1.55	1.55					
		1.00	3.27		3	3.27
0.46	0.46					
0	0	0.23	1.11		1.8	1.25
			60.82			126.99

Reverse

Dist. from	Depth	Depth of Obs	Time	Temp	Rem
12	2.5	.30		41½	10
		.30		40½	10
		2.00		41	10
		1.30		41	10
		1.30		40½	10
18	3.8				
24	1.90	0.38			
		1.620			
		1.140		43	6
				42.5	6
26	1.40	.84		43	6
29				52½	2



Map ~~TIE~~ 7.12

$$127 + \left(\frac{127}{60.8} \times 21\right) = 127.344$$

Meas. of leak thru mill dam S. aug. 27 - 14
about 100' below dam

Dist.	Depth	Depth of fb	Time in"	5x Rev.
3	0			
6	5½"=.45		65"	3
6			70	3
10	8"		68	2
			68	4
14	8"		53	4
14			45	4
14			40	4
16	7"=.58		53	2
18	0"			
8	3½"			
10	8"			

2 2 - 0
3 0 0 0

90

Velocity at pt	Mean in Vert	Mean in sec	Area	Mean depth	Width	Q
0						
		.26	0.69	.23	3	0.20
.52	.52					
.52						
		0.44	1.90	.55	4	0.84
0.36	.36					
		0.71	2.64	.66	4	1.88
1.06	1.06					
		0.70	1.24	.62	2	0.87
0.45						
		0.22	0.58	.29	2	0.12
.0						
						3.91

Leak 3.91 c.f.s

Measurement of Summit Creek Aug 27-1914

Last	Depth	Depth of Tube	Time sec	Rev
7.25	0			
9	9" = .75		83	2
11	10 3/4 = .89		51	8
			51	8
13	14" = 1.16		57	12
			60	12
			60	12
14	17" = 1.43		54	12
			53	12
			53	12
15	17 1/2 = 1.47		49	10
			54	10
16.4	15 = 1.25	Left bank		

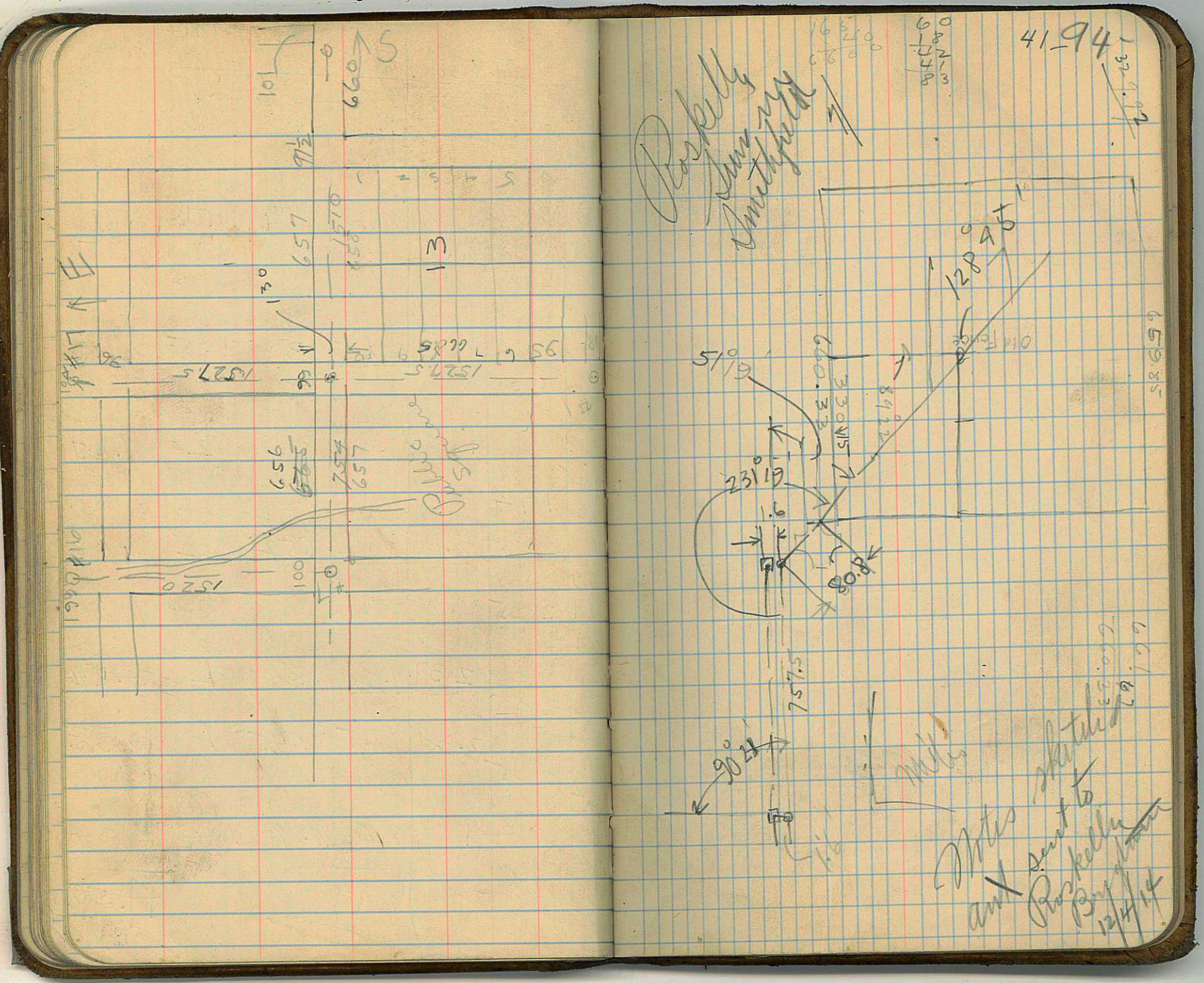
Gauge { Start 21" Time 5.30 / Stop 21 6:00 P } Aug 27-1914 A2-

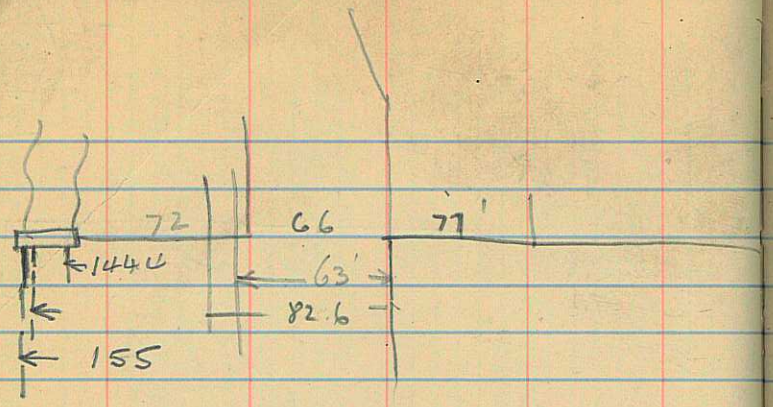
Wetted Perimeter { 53 - 10 / 60 - 10 }

gauge

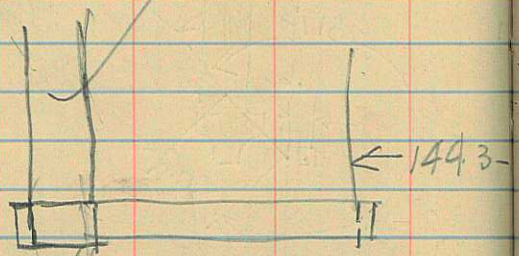
hub same level as top of gauge

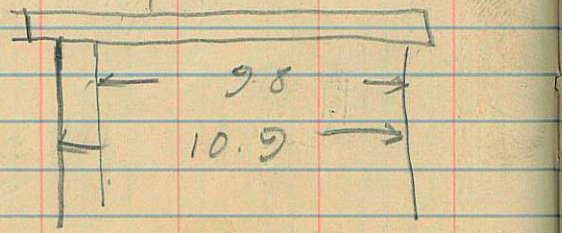
Velocity			Area	Mean depth	Width	Q
0 pt	Mean in Ver	Mean in sec				
0	0					
		0.15	0.65	0.37	1.75	.10
0.30	0.30					
		1.02	1.64	0.82	2	1.65
1.74						
1.74	1.74					
		2.00	2.04	1.02	2	4.08
2.33						
2.21	2.25					
2.21						
2.45		2.37	1.29	1.29	1	3.06
2.50	2.48					
2.50		2.31	1.45	1.45	1	3.35
2.26	2.15					
2.05						
		1.07	1.99	1.36	1.4	2.04
0	0		10.18			14.30
			8.9			


Rockelly
Limerick
Amesbury
41-94
Notes sent to Rockelly 12/4/14


72
66
77'
144
63'
82.6
155

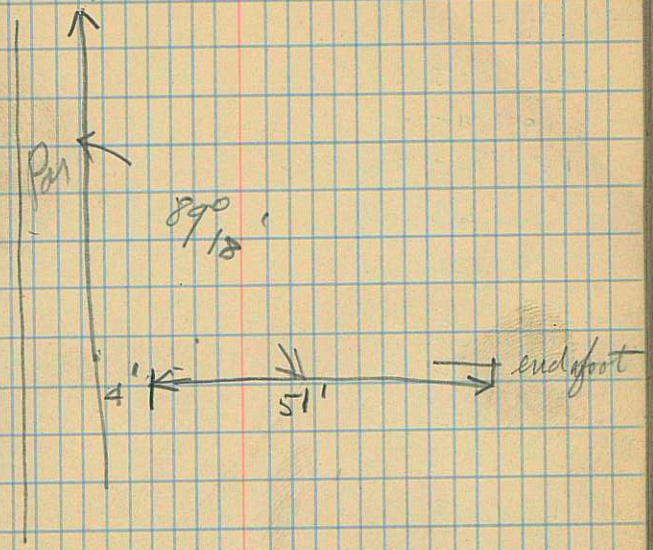

6.5
138
Graffiti wall


144.3


9.8
10.9

15 3/8 / 16

15~


Pan
89° 18'
4'
51'
end of foot

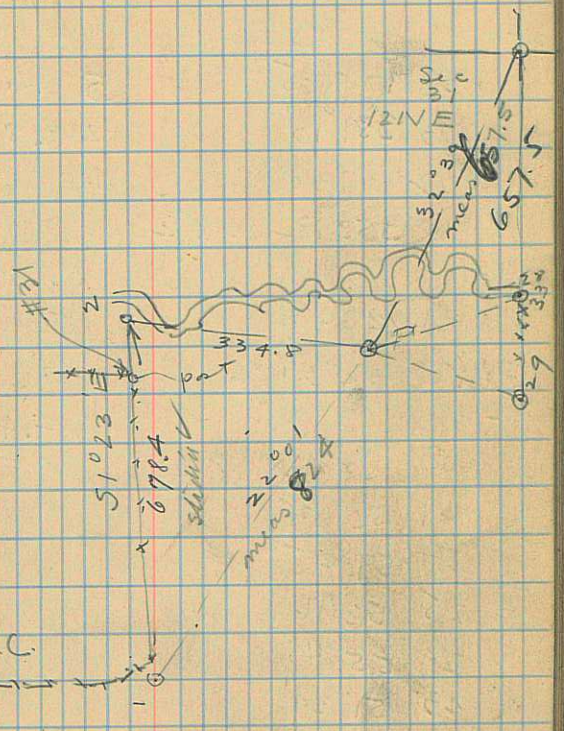
Survey for Jos. Quay's

Sept 14/11

	Az from Bear	Dist feet	Sett Offs.
T -	Sept.		
20	35°37		
19	9507		
18	42°56		
17	29°10		
16	26 20		
15	12°30		
14	342°32		
13	313°15		
12	283°16		
11	295°27		
10	284°42		
9	285°54		
8	267°54		
7	265°51		
6	268		
5	254°03		
2	255°22	334.8	
A -		202°01	
A	22°01	mean 82A.	2020
	260°36		
3	270°18'		
2	358°42	678.4	
1 -			

Stadia

10	12.77
11	12.83
11	12.50
11	12.65
12	13.37
12	13.32
12	13.34
12	12.96
11	12.01
11	12.26
9	10.65
8	10.05
8	9.95
7	9.4
6	8.66
3	6.03



Π-Pt	Angle	Bearing	Height ft.	Dist	Opp
30	26°44				
	260 38'				
1	270°14		684.5		90°14
36	90°13		2		
35 Π 35	178°35		218'		
34					
Π34	179°05		500.00		359°05
33	359°10'		263.8		
32	97°30		1.0		
30	359°18"	SA2E			
29-				277°30'	
31	248°35				
SW 30 Π31	32°39 ✓				212°39
Π29	97°30' ✓		364.4		277°30
28	58°43				
27	52°55				
26	57°45				
25	53°16'				
24	55°48				
23	51°39'				
22	45°52				
21	43°35				

Stadia

3.4

681'

$\frac{h}{\tan \theta} = \frac{\tan \phi}{a}$

$= 100$

L	C	U
9		13.20
9		13.25
9		12.9
9		12.56
9		12.25
9		11.88
9		12
10		12.80

Mean lower H-C

to point on S 6

N 72 24

to fine on S on 2 C

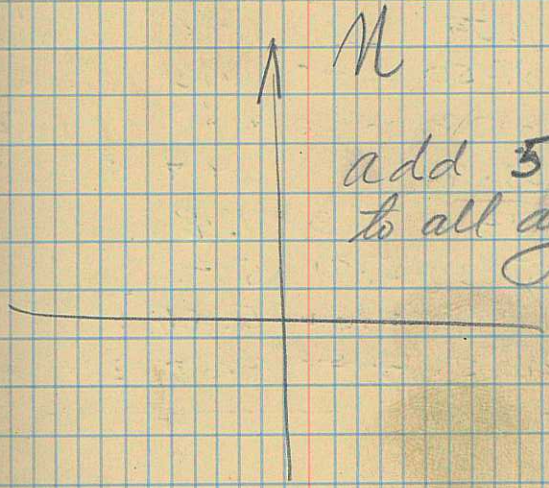
Sun Observ
#1 for John Quayle
Sept 18. 1914

	Hor L	Vert L	Time		
Direct	304°54	35°50	9:35	+	81°27
Invert	304 46	35°40	9:37	+	
mean	304°50	35°45	9:36		
Direct	305°57	36°29	9:39		81°26'40"
Invert	305°51	36°18	9:40		
mean	305°54	36°23'30"	9:39		
Direct	307°38	37°29	946		81°28'30"
Invert	307°17	37°10	9.48		
Mean	307°27'30"	37°19'30"	9.47		
Direct	308°27	37°57	9:50		81°27'40"
Invert	308°17	37°43	9:51		
Mean	308°22'	37°50'	9 50		
Direct	309 30	38°33	9:53		
Invert	309°13	38°15	9.54	129°13	81°30'10"
Mean	309°21'30"	38°24'	9 53		
Total Mean	~~307°27'30"~~	37°21	9:45		
	307°11'	37°8'20"			

Set 260° 36'
Light to A.C. Tower

-102-

Lat 41°44
Long 111°53 Newly
Hdtl 2°01 20



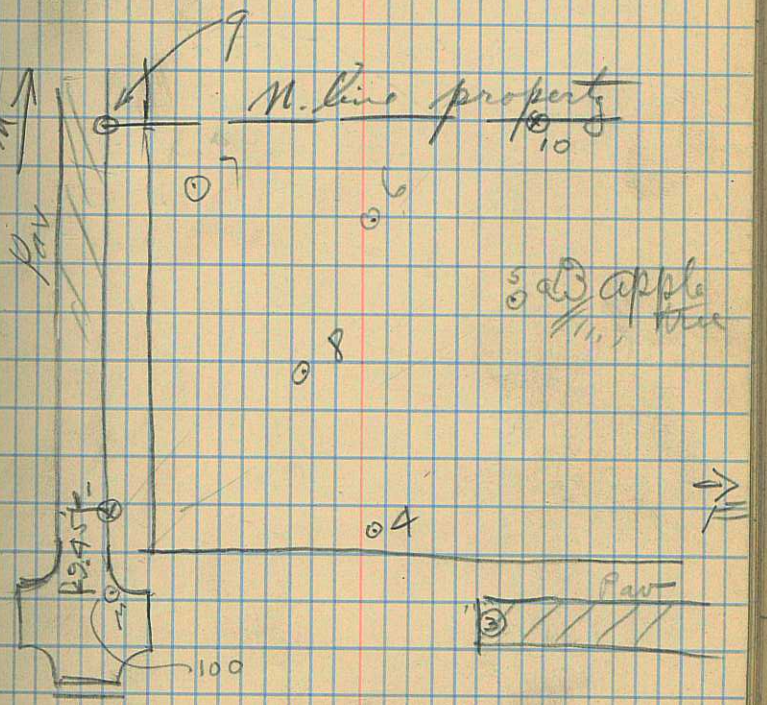
Run for K.C. Schmidt
on Bio. mid's cor. in
Smithfield 9/19/14

-104-

Pt	Az from N	V	H dist	Stadia	Elev
1					
2			4.79		100.00 (HI 104.79)
3	92-54	3.1	1.76		103.03
4	89-50	4.55	3.92		100.87
5	56-12	6.30	5.53		99.26
6	38-50		6.44	5.87	98.35
7	17-06	7.63	7.18		97.61
8	51-30	5.71	5.47		99.32
9	0	~~4.62~~	~~5.44~~	4.62	99.35
10	40-51	~~3.48~~	4.62	3.48	100.17

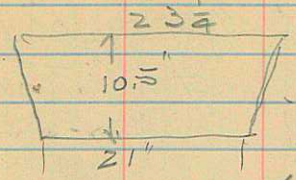
	Dist
1-3	269
-4	127
-5	155
-6	135
-7	91
-8	49
-9	165
-10	229

Topography of lot before driveway is proposed



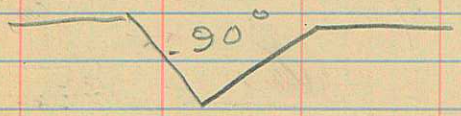
9/26/14

Water Meas.
Geo G Campbell
at Dumpor



17 1/4 gal per 32"

33 gal per min.



gauge read 2 3/4"

2460
1440
33
4320
4320
4755.20

Log 2.54 = 1.361728
2.23 = 4.808644
2.404320
0.404324
2.809644
2.632132
0.462367

2.5√
7√
60
4500
29.6

1440
833
4320
4320
4755.20

2460
1440

.065
1/50 = .065/x
.065
3.250 Min.

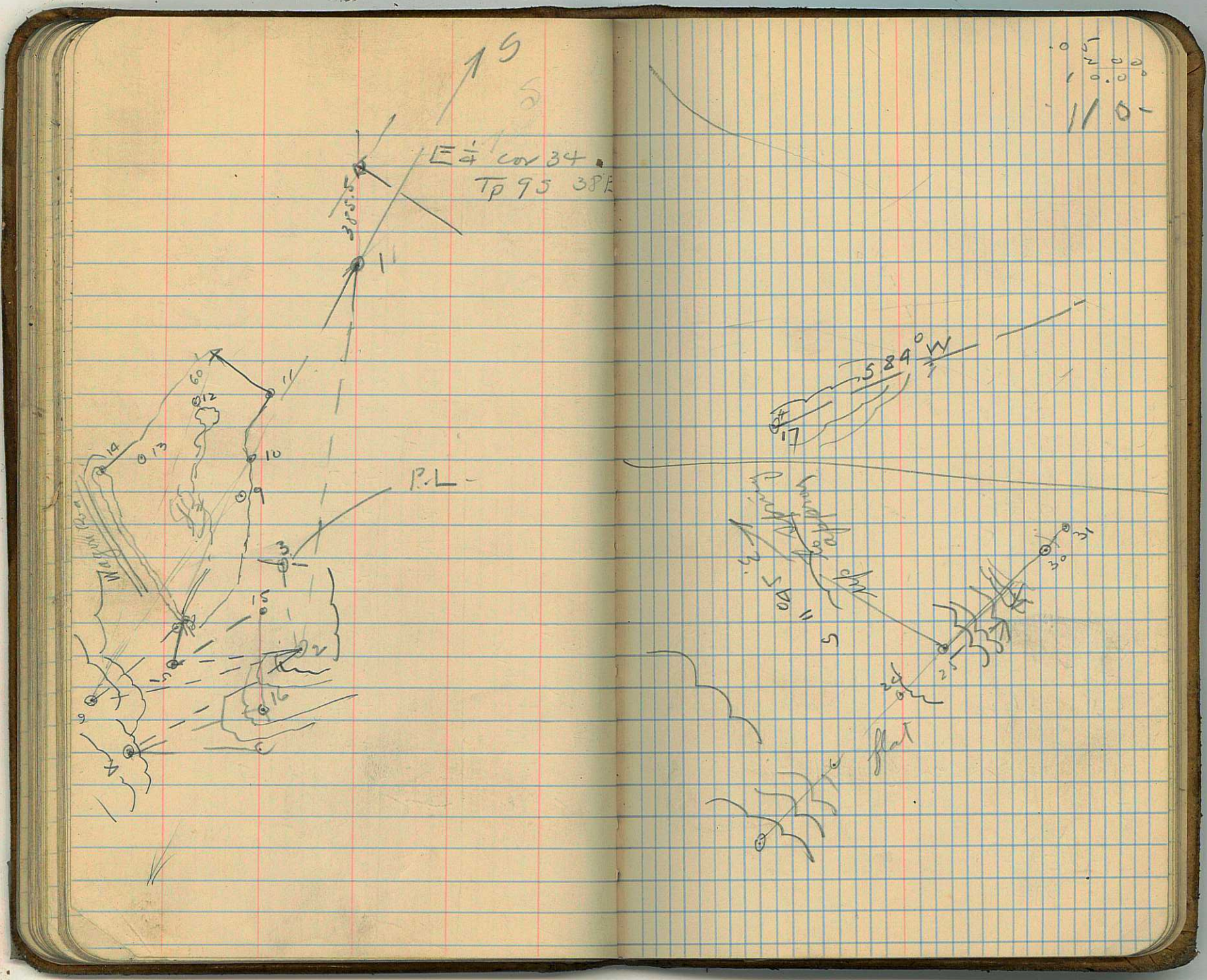
Survey for Geo C Campbell
at Hunters Idaho 1/26/14

T 45. 38 E

13.2

- 108 -

Pt	Sight from	bearing	Dist	Dec	Opp	Stadia L	Stadia C	Stadia L	Vert ∠		
15		79°15'							11.05	7	-2°10'
8		303°24							5	3	+2°55' more correct collect pt.
5				82°12					5	3	+2°55'
14		315°33							6.45	4	-6°35' East spring
13		342°20							7.85	5	-7°35'
12		349°30'							12.50	8	-2°6' near main spring
11		3°43							12.75	7	+3°14'
10		17°12							8.75	4	-1°26.
9		22°30							10.7	7	-6°37
8		49°30							5.75	3	+18°35' Collecting pt
7									5.75	3	H.I. 4.8
7		320°55	40'		140°55						-5°50
6				79°59							
6		259°59	N79°59E		79°59				12.35	1	+5°5'
5		262°12	N82°12E						9.0	5	0°
4		216°57	N36°57E						8.35	3	-3°45'
3		323°17							6.1	5.00	+2°2'
2				334°42'							H.I. 5
2		154°42'	N25°18W	1400	334°42				13.2	6	2 Sm. Stain Iron chem
		117°54									
34		32	31	532	29E	385.5					
1											


15
E ± cor 34.
Tp 95 38E
P.L.
S 89° W
flat

Δ - Pt	Ap from Pt	bear	Dist	Dett	Appr
	Δ32	93 45	434		
31 Δ	Δ31	93°45	29.4		
30 -					
	Δ30	93°45	629		
	c29				
	c28				
	c27				
	26	93°45			
25 -					
	Δ25	93 45	918		
	24	93.45			
	23	93°45			
	22	93°45			
21					
	Δ21	93°45	83.5		
20 Δ				273°45	
	Δ20		465		
	c19	93°45		273°45	
18 -					
	18	337°38	229	157°38	
2 -			21657		
	Δ17	58°48			
	16	37°48			
4 -				36°57	

Stadia			Dent	
L	C	U		
5		9.32	-11°51'	
5.		8.1	-13°38	contour pt.
			-6	
				H-I 4.9
	9	12.1	-1°39	on ridge
5		9.40	-4°30	
6		9.80	-4°53	
6		7.83	-8°15	
5		6.35	-8°47	in Bottom gulch spring up thru gate
4		13.15	-8°50	
5		12.35	-10°50	
4		9.1	-13°45	
5		7.95	-18°34	
			-14°30	
				H I 5.
3		7.70	-8°44	
6		9.55	-10°31	
			-44	
				4.7 H I
3		9.65	-1°24	
2		5.8	-5°	
				H I 4.6

35960
33738
2222

-112-

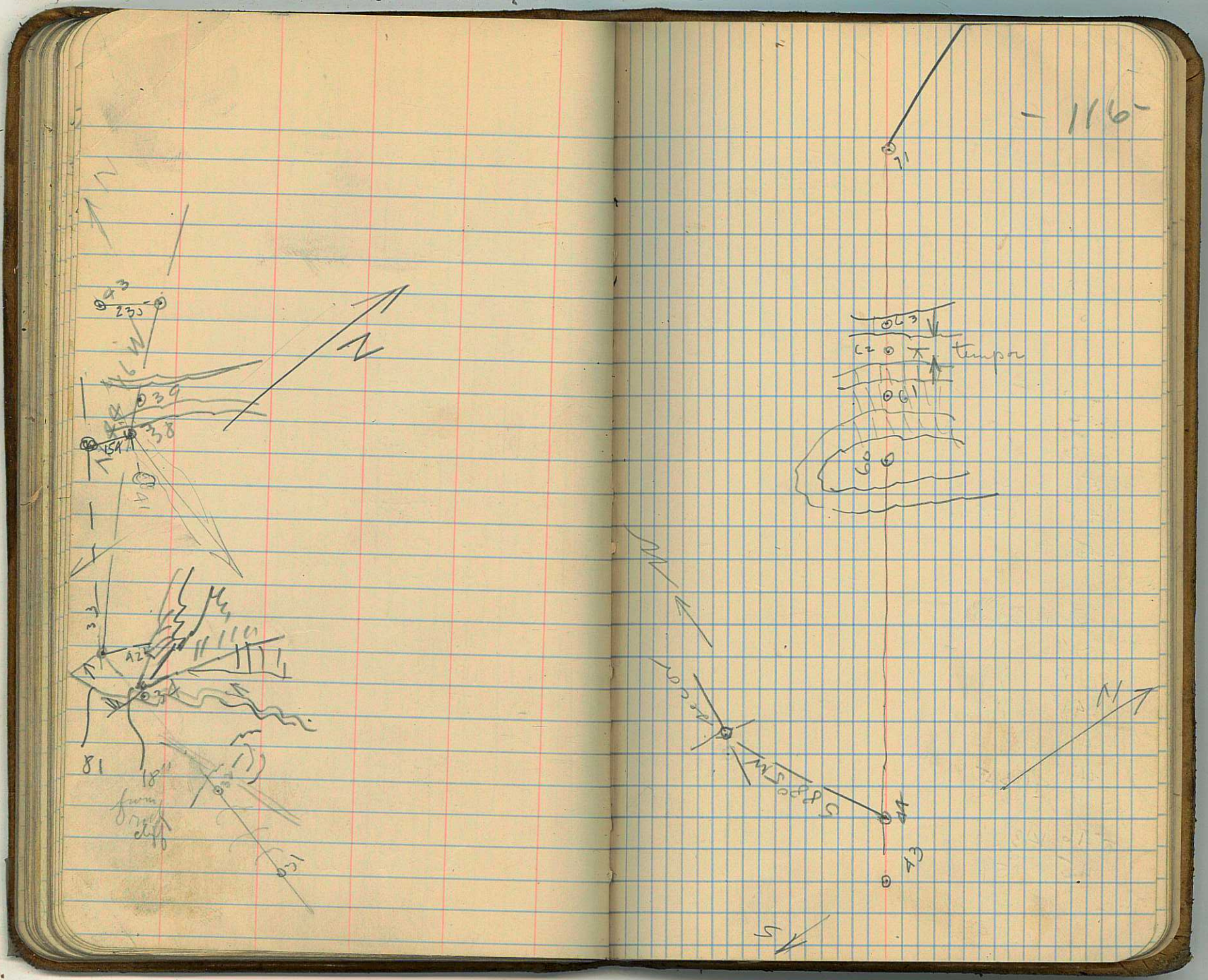
Pt	Bearing	Dist	Back Sight	Adj
c46				
c45	143°26			
44				
44	143°26	N46 36 37 W 124	323°26	323
33	305 32			
43			205°08	
43	25°08		235	205
42			315 44	
42	135°44	606		
41	90 09	154		
	35°12			
40				
39				
38				
38	135°44	690		
37				
c36	135°44			
35			315°44	
35	135°44	N44°16W 385		315°44
34	273°45	273°45		
33			273°45	
33		317.5		
32				

Station	Course	Distance	Vert ∠
4		7.42	-1°53
9		11.47	-2°31
5		6.23	+2°16
4		6.38	-10°20
5		11	+6°3"
		-14.53	
		~~7.53~~	
5		6.7	+2°20
11		1182	-14°8
6		12.9	+3°30
4		10	+3°33
4		8	+1°17
5		8.85	+7°4'
6		6.91	+20
3		8.45	-9°50

To a cedar better bear from ~~#3~~ 5
to Fred Campbell's house NE side

bottom draw

W bank Creek


temple
81
fum
cliff

Pt	Sta	bearing	Dist	Sect	Opp
	61	143°26'	1055		
			979	Se	323°26'
60					
↑	60	143°26'			
c	59				
c	58				
c	57				
c	56				
c	55				
c	54				
c	53				
c	52	143°26'			
	45	0°54'			
c	51	143°26'			
58			548.5'		323°26'
↑	50	143°26'			323°26'
	49				
c	48				
c	47				
c	46a				
	45	41°35'			
46					
↑	46	143°26'	457.6		323°26'
	45	88°51'			
44					

Sta	Chord	Slope	Sect	
8		9.04	-8°26'	on top of top of ridge
3		12.56	-25°	
3		9.80	-3°8'	
3		9.25	-4°35'	
3		8.80	-4°45'	
3		8.42	-5°52'	
11	13.4		-7°	bottom not bottom gulch
5		9.25	-6°47'	
4		7.55	-7°17'	
8		11.25	-8°24'	
8		11.25		
5		7.81	-8°18'	
5		10.41	-1°13'	
5		9.50	-1°	
3		5.63	-4°42'	
9		11.25	-7°43'	Bottom gulch
5		6.15	-7°42'	
5		9.55	-1°40'	sec cor

	Pt	azimuth	bearing	distance	Sect	Offset
	78	159°30'		390.6		
	c77					
	c76					
75						
	75	159°30'		594 Se		
	c74	159°30'				
73				~~376.3~~ Se	339°30'	
	73	159°30'		376.3 Se		
72					339°30'	
	72	159°30'	N 20°30' W	437.5 Se	→	339°30'
71					323°26'	
	71	143°26'			323°26'	
	c70					
	c69					
	c68					
	c67					
	c66					
	c65					
60						
	64					
	63					
62					323°26'	
	62	143°26'				
61					323°26'	

Station	Course	Sect
	C O	
5	8.70	-5°04'
4	6.35	-5°51'
9	10.36	-2°27'
4	9.95	-9°48'
4	5.95	-4°22'
5	8.75	-6°41'
5	9.36	-5°20'
6	10.66	-3°15'
3.	7.45	-3°16'
6.	10.2	-3°22'
6.9	13.45	-3°10'
12	7.75	-3°05'
6	11.0	-3°47'
3	7.33	-6°43'
9	10.95	-13°16'
4	4.92	-27°39'
8	8.98	-14°46'

(meas from -120 G1)

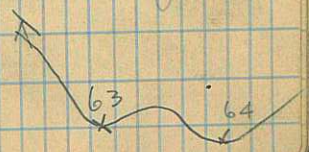
~~5.00~~
~~3.95~~
.05

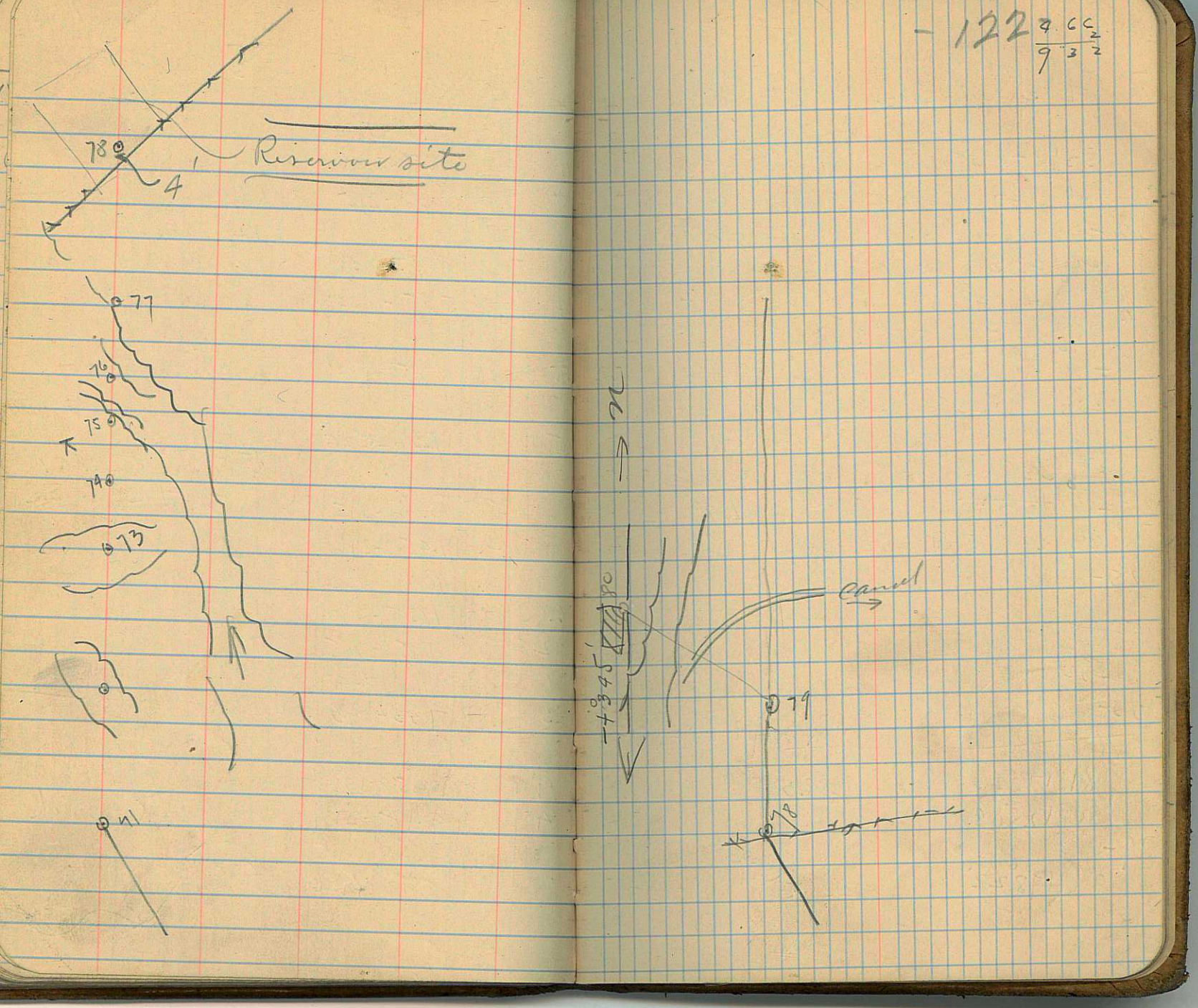
1 5 9 30
1 3 2 6
1 6 0 4

Bottom Hollow 12' treed

14 T. 4.8 meas. from G1 to 71 = 866' S.

bottom gulch




78
4
Reservoir site
77
76
75
74
73
71
- 122
9 3 2
N
Canal
79
78

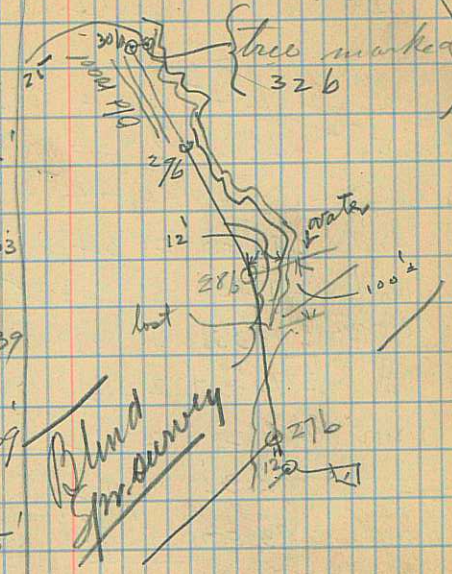
Pt	Az from S	bear	dist	Diff
	32b 58°	6'		
	31b 347°			
30b –		120°40'		
	30b 300°40		120°40'	
29b		120°50'		
	29b 300°50 S59°10E		120°50'	
28b –		130°26		
	28b 310°26 S49°34E		130°26	
27b		176°24'		
	27b 356°24'			
26b –	~~H69°18~~	169°18		
	26b 349°18 S10°42E		169°18	
25 –				
	32			
33 –				

Mon Sept 28 – 1914

81	178°23	1488.3		
80	128°08			
79 –		358°23		
79	178°23'	226.5°	358°23'	
78 –		339 30		

(increase acc Stadia dist 0 30')

L	C	J	L			
		5		9.52	-7°4'	
		5		6.30	+12°03	
		3		4.89	+3°39	
		6.0	10.5		+3°39'	
		3	9.7		+4°5'	
			4.23	13.5	+5°30	
					+11°10	
		5		8.20	+10°27	
			6.1	13.5	-8°54	
					-7°	
		5		7.26	-5°	



- 124 -

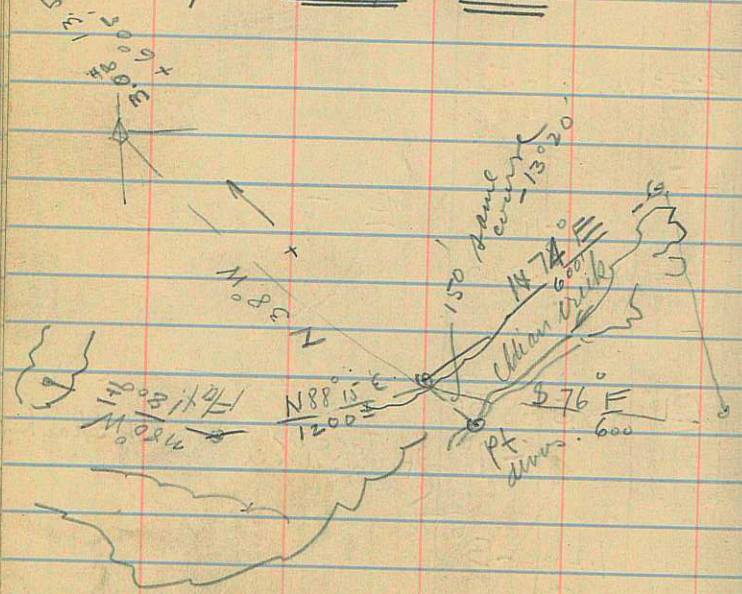
going up to 31 top
3/28/14

£ to top hub 0 to 31

Spart of town Dempsy to cor Hugh school cement shack

Obs on the Sun

Tele	Az.	Vert.	time	
Direct	292°45	20°46	8:20	⊙
Invert	292°36	20°38	8:22	⊙
mean	292°40'30"	20 42	8.21.	
Direct	293°40	21°34	8:25	⊙
Invert	293°30	21°24	8:27	⊙
mean	293°35'	21 29	8.26	
Direct	294°37	22°21	8:30	⊙
Invert	294°27	2212	8:32	⊙
	294° 32'	22 16'30	8.31	
Total mean	293°35'50"	21°29'10"	8.26.	



Mon. Sept. 28 - 1914

Set on #25. set 273°45
BS to 21
-126

(Increase all day: 30')

Π-Pt	a from Sight	bear	Dist	Set	Appl.
Π97	232°08'				52°
96	17°46		46.4		
95	179°50				
94	53'				
93					
Π93.269		N89°E	350.2		
92	176°20				
86	1°26				
91				89°	
Π91	269°	N89°E	351.2		
90	86°25				
89	187°52				
88					
88	178°23		290.5 mean		
86	268°18				
87	14-36		51.7		
81				358°23	
85	100°53				
84	89°05				
80	36°59				
82				268°55	
83	109°11		15'2'		
82	88°55				
81				358°23	

1284 11/28/14

Stadia L	Stadia C	Stadia J	Sent L	
9.5		12.85	+1°12'	
	8	9.22	-14'	
3		5.87	+7°30'	
3		5.87		
6		9.49	+1°16'	
3		5.48	-44'	
2		4.84	+1°02'	
2		5.5	-52'	
2		10	+3°24'	
4		6.95	-2°	
3		5.9	-1°52	
4		9.96	-43'	
4		9.7	+3°	
			+4°41'	
2		3.60	+6°09'	

Theo. Turner Topo map Mayer Pac. contours map

cor stone

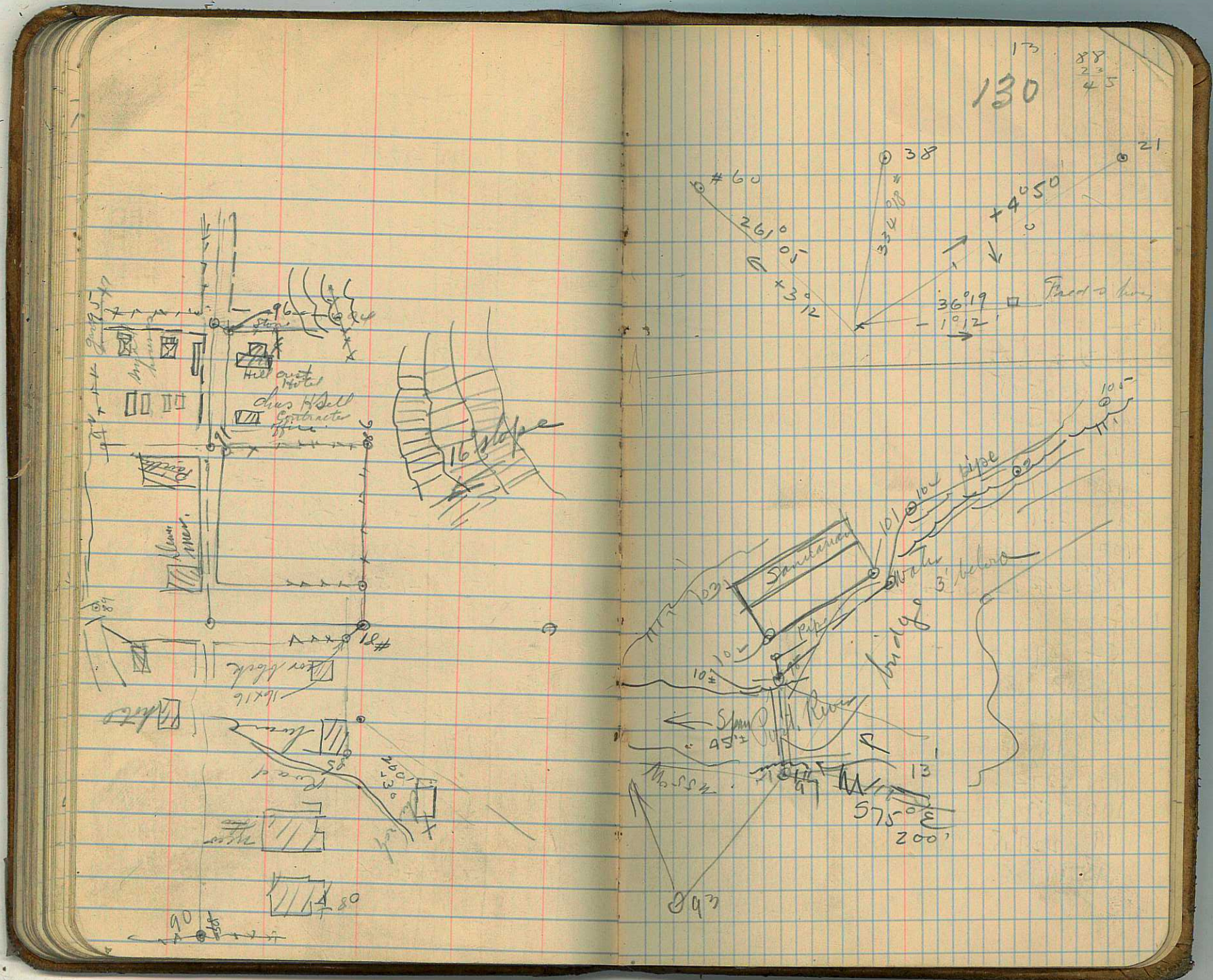
cor stone

mark be +2°

H.I. 5

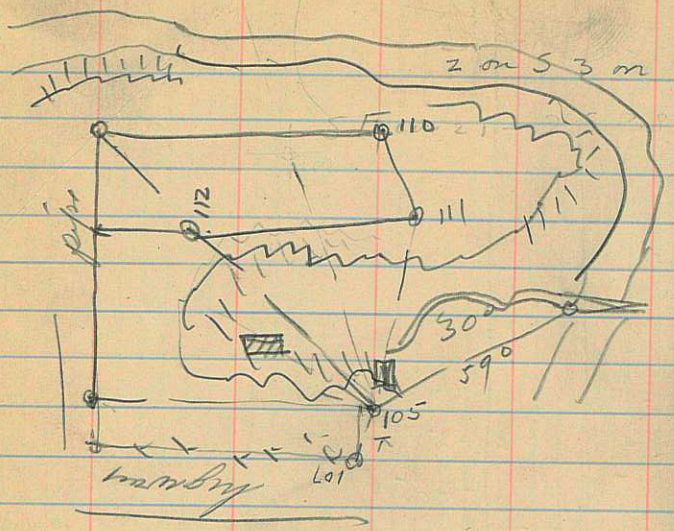
to Black cor.

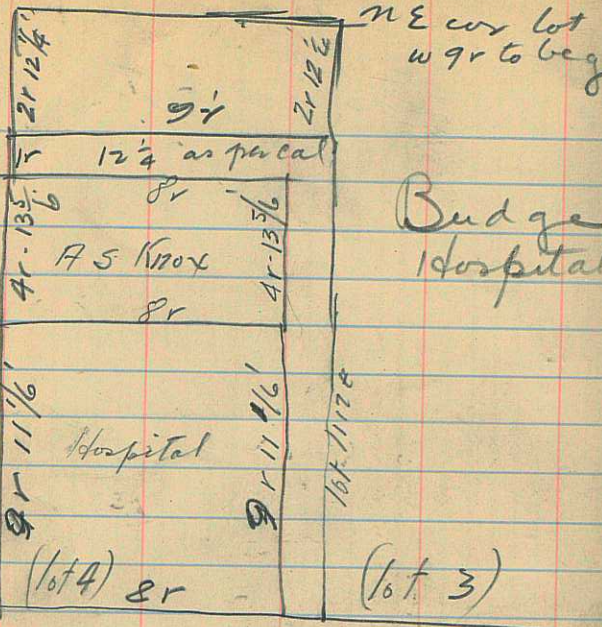
H.I. 4.5


130
#60
261°05'
+3°12'
38
+4°50'
36°19'
-1°12'
Sanitarium
Bridge
Mass.
S75-00E
200'
Hill quarters Hotel
Chas H Bell Contractor Office
16 slope
18#
90
80
10" pipe

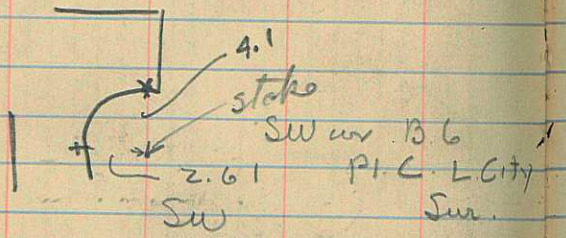
R. Pt	Q from Spt	bear	Dist	Left	Opp	Slope °	Dist.	
						L	C	O
106		20°53						
113 –								
113		272°08	600'					
112		305°15				3	6.33	+51'
111		5°17				8	11.11	-4°05
110		1°21				3	7.50	-2°30
109		319°03'				4	9.55	+20'
108		277°25				3	6.46	0°
107		198.9	12'					to cor post
cor 106		344°12'	S15°48E					
105 R				90°34				
105 R		270°34			90°34	2	8.66	4°04'
104		238				3	5.41	+22"
103		192°26				6	7.75	
102		198°				8	9.27	
101		227°45				4	5.8	
100		257°18				2	5.96	
99		229°18				4	5.75	-1°53
98		197°00'				5	5.88	-4°35
97 –				232°08				

sec cor
SE 21-9-38 J. D Dunn





10/2/14



5/0 6/87

16.5 1 0

6.13/79.87

-136-

4 - 13 5/6 10/6
13 1

19 -

4r - 13 5/6
4r 13 5/6
8r 26 10/6 = (9r 10 1/6 N6)

26 10/6
16 3/6

9 - 11 1/6
4 13 5/6

13 25
2 12 1/4

15 37 1/4
17r - 4 1/4r
left 12 1/4 ft for Rofw

9 - 11 1/6' = 159.67'

16.5
4 2 1
1 2 2 1

$$\left(\frac{50}{\sin D}\right) \tan 14^\circ 12' = T$$

for $\sin D = 23^\circ 30'$
and 5°

$\log 50 = 1.698970$
$\log \sin 23^\circ 30' = \overline{2}.639680$
3.059290
$\overline{1}.403187$
2.462477

$\sin D \; 5^\circ$ 1.698970
$\overline{2}.940296$
2.759674
$\overline{1}.403187$
2.161861
140.5

$D \; 23^\circ 30'$ 1.698970
$\overline{1}.111598$
2.583272
$\overline{1}.403187$
1.980459

$\frac{50}{.04362}(.25304) =$

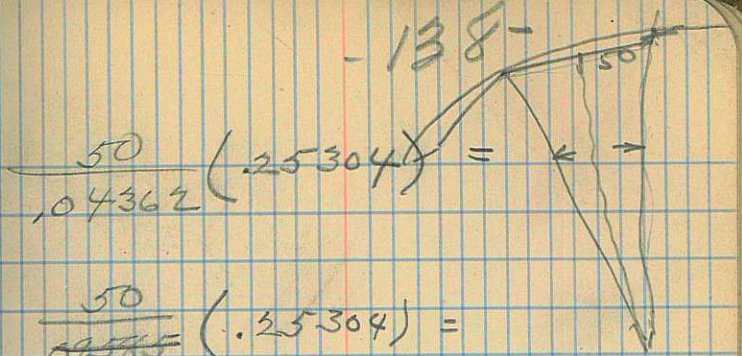
$\frac{50}{.08716}(.25304) =$

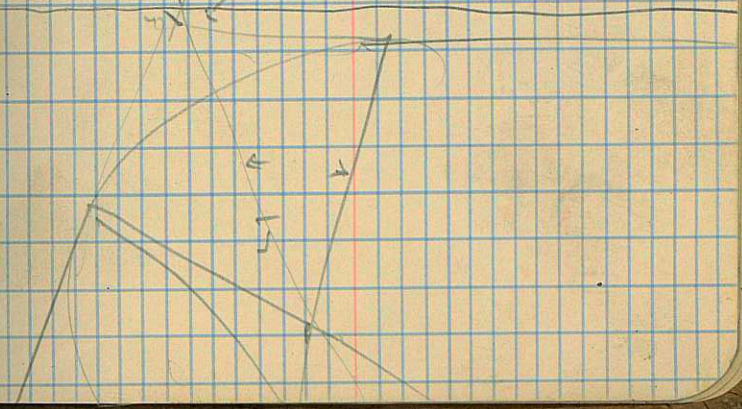
12.6520
$.04362$
253040
759120
1265200
3795600
5060800
$.551880240$

12.6520
$.08716$
759120
1265200
8856400
10121600
1.102748320

1.698970
$\overline{1}.041923\overline{5}$
2.657735
$\overline{1}.403187$
2.018292

$60 = D$
121.1





3 on main
3 on Centers
3 " 1st No.

$Q = 2.54 H^{\frac{5}{2}}$

16.5
16.5
33
495
495
5 x 4.5
4
2176
2000

1860
1300
900
189
130
4319

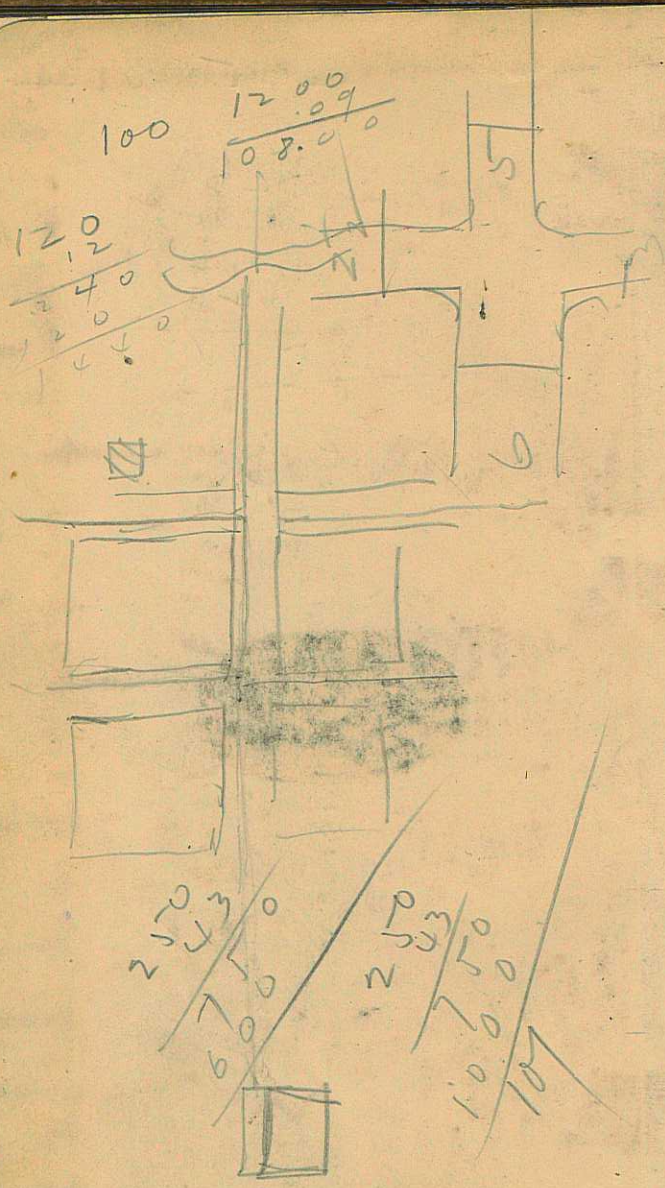
6000
6000

35
1400

465
83
919
629
29
434
317
2876
1000
387

80
40

2640
1320
3960



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