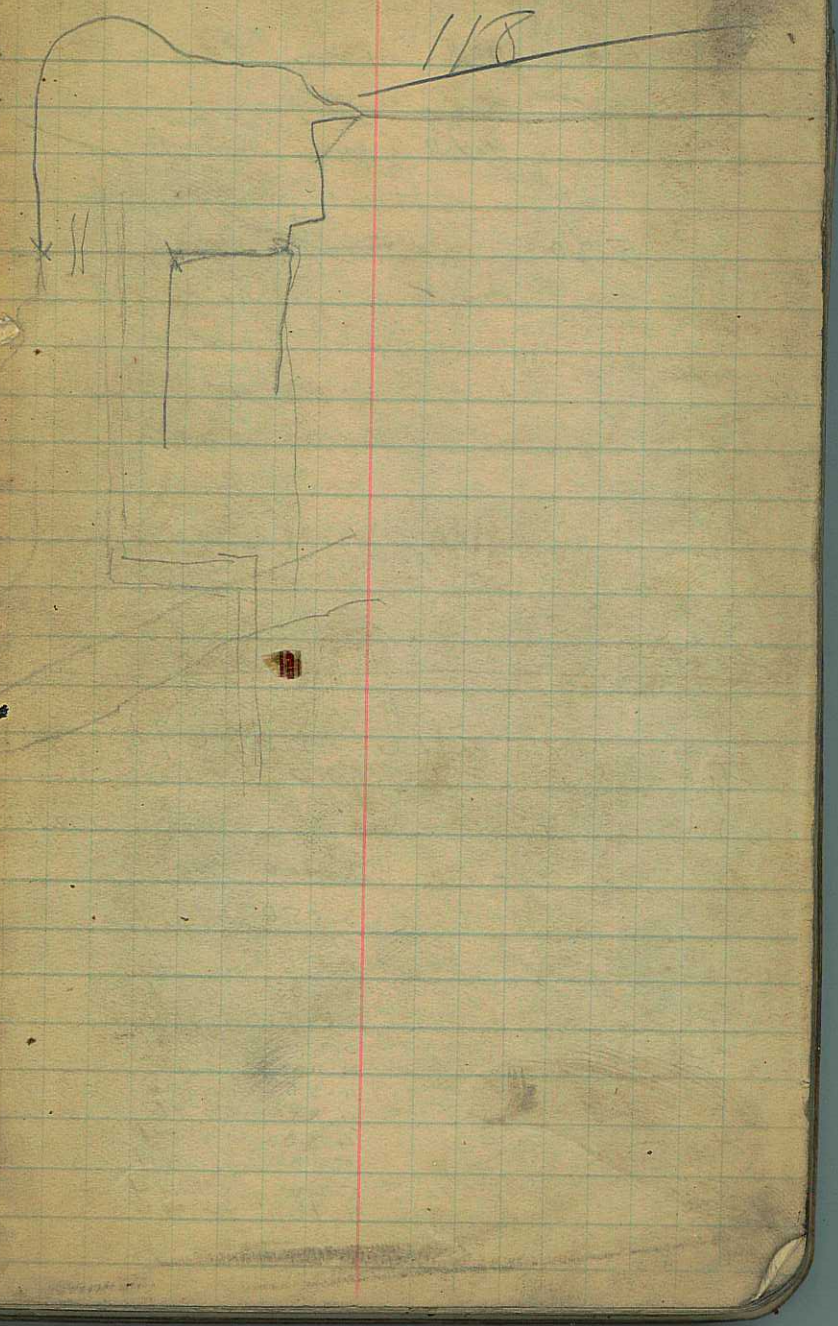

44
788
FIELD BOOK
207



A. H. ABBOTT & CO.
CHICAGO.

Eugene Schaub
County Surveyor

3/14/07

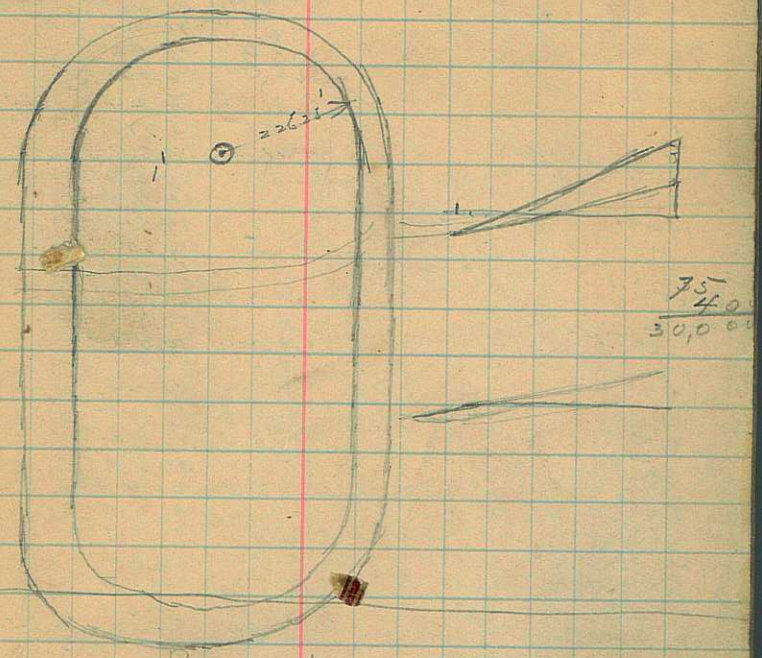


Sta	FS	BS.	HI	
		4.40	orig.	at inner curve NE. P.C.
			4.10	in curve at extra Sand
	5.30		5.30	in curve NW. P.C.
		1.72		at in curve NE. PC
			3.65	in curve SE P.C.
			6.10	in curve extra Sand
			6.20	in curve SW. P.C.

Levels at park
Profile ready 6/05

Sta	for F.S	FS	HI	Elev	HI
BM	2.640			100	102,640
0			3.400	99.24	
0+50			3.850	98.79	
0+48			6.60	96.04	
1			3.60	99.04	
1+50			3.45	99.19	
2			3.60	99.04	
2+50			4.20	98.44	
3			4.30	98.34	
3+50			4.88	97.76	
4			4.80	97.84	
4+50			5.00	97.64	
5			5.20	97.44	
5+50			4.90	97.74	
6			5.20	97.44	

Note
diver. curves at the Park are 12°46'20"
outer curves from different. Center are 10°49'11"



Remarks

BM on stake near fence East of Sta 0 which is PC. NE inner curve

In bed of small creek

Sta	BS.	FS	I.M.	Elev.	H.I.
6+50			5.700	96.94	102.64
7			5.65	96.99	
7+50			6.70	95.94	
8			6.500	96.14	
8+50			6.400	96.24	
9			7.55	95.09	
9+50			9.40	93.24	
10			7.80	94.84	
10+50			7.70	94.94	
11			8.10	94.54	
11+50			8.20	94.44	
12			10.20	92.44	
12+50			8.35	94.29	
13			8.10	94.54	
13+50			8.20	94.44	
14			8.00	94.64	
14+50			7.60	95.04	
15			7.40	95.24	
15+50			7.30	95.34	
16			7.10	95.54	
16+50			10.30	92.34	
16+70 app.			6.60	96.04	
			6.30	96.34	
			6.00	96.64	
			8.50	94.14	
			3.60	99.04	102.64
19			4.30	98.30	
18+50			9.00		
18+50			5.30	93.64	
19+50			3.90	98.74	
20			3.90	98.74	
20+50			3.30	99.34	
21			2.70	99.94	
21+50			2.70	99.94	
22 app.			2.80	99.84	
22+50			3.40	99.24	
23			2.90	99.74	
23+50			2.70	99.94	
24			3.00	99.64	
24+50			2.80	99.84	
25			3.20	99.44	
25+50			2.70	99.94	
26		3.400		99.24	

1300
950
225

1900
500
2400
2 5250
2640

Remarks

4

In slough about 60' S. of Sta 9 entrance S. end of tract ass't 40'

In slough about 10' W of Sta 11

In large creek about 70' W of Sta 15

In small creek at forks. on North center

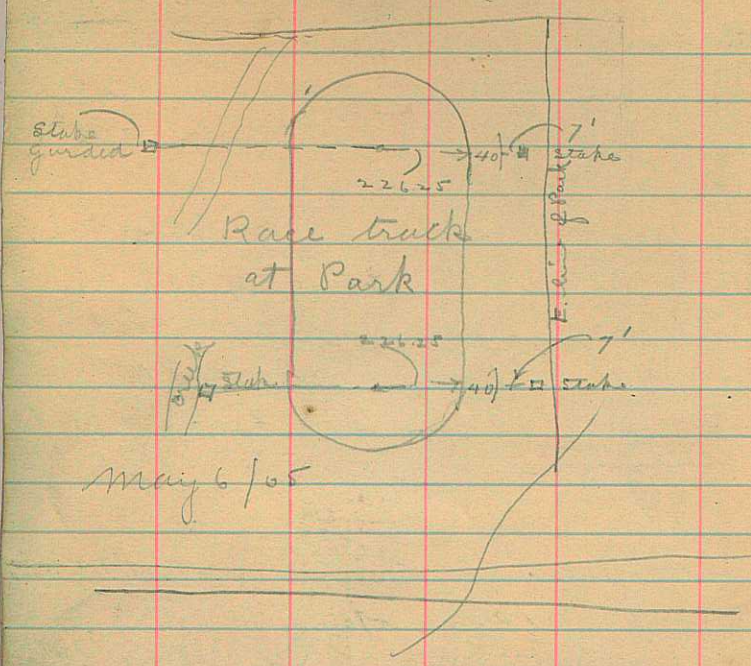
In bot of large creek on creek bank

On East Edge of old large creek

(see over)

3

Refference points



May 6/05

Levels for Moses Thatcher
May 8/05 at SW cor. B. 2.

Sta	RR			
	3.25			
	3.00			
	3.13			
0+16				East of gate.
		3.97 / 3.62 / .35		
	3.77 / 3.40 / .37 / 74 / 3.74	3.97 / 3.51 / .46 / 12 / 92 / 46 / 5.52		Len 114
	3.91 / 2.65 / 1.26 RR on 5			
Sta 0		3.910 / 176 / 3.734	9/16"	
+16				1.26 (114 / 114 / 120 / 114 / 60 / 1.10
26	3.97	3.624 / 110	4"	
36	3.97	3.514 / 110	5 1/2"	3.63 / 3.09 / .54 / 12 / 102
46	3.77	3.404 / 110	4 3/8"	3.42 / 3.31 / .11 / 12 / 1.3 2
56	3.42	3.294 / 110	1 3/8"	3.09 / 2.87 / .22 / 12 / 4.64
66	3.55	3.184 / 110	4 1/2"	
76	3.63	3.074 / 110	6 1/2"	3.35 / 2.98 / .37 / 12 / 74 / 4.47 — 3.55 / 3.20 / .35 / 12 / 70 / 4.20
86	3.35	2.964 / 110	4 3/8"	
96	3.09	2.854 / 134		
114		2.720		

1 "blow stick" main levee
3 down
11 down
one main levee

o/o = 1.10

4

Final Grade at Race track May 10/05

Sta.	BS.	FS	RR ong	IM	Ele	HI
	4.68				100	104.68
2+50 on T			6.20	5.68	99	
2			5.65			
1+50			5.45			
1			5.68			
0+50			5.80			
0			5.45			
25+50			4.70			
25			5.25	5.68		
24+50			4.85	5.68		
24			5.08			
23+50			4.80	5.68		
23			5.00	5.68		
22+50			5.40	5.68		
22			4.85			
21+50			4.75	5.680		
				2.35		
21			4.75	5.915		
				2.35		
20+50			5.40	6.150		
				2.35		
20			5.90	6.385		
				2.35		
19+50			5.90	6.620		
				2.35		
19			6.35	6.855		

Changed

o/o = .47

Cut S. curve	Fill Large curve	Fill S curve	Cut on T
			.23
			00
			.12
			.23
.98	.28		
.43			
.83			
.66			
.88			
.68			
.28			
.83			
.93			
1.16			
.75			
.43			
.72			
.50			

Outer curve 4

Fill Sta	Ele	RR	RR	Cut
97+50				
3 00				
33				
3 0				
		5-9.9		Large curve 4.68
0.52				
0	99.25	99.25	5.43	.53
			1.11	
0+50		4.32	4.6	Elevate

PT

See over outer M curve

5

Outer N curve

65

Sta	BS.	FS	Ele	HI	Inv	RR on gr.	Fill	cut
~~0+~~			~~99~~					
	4.68		100	104.68				
0+			99.25		5.43	4.90		.53 6"
0+50					5.68			.47
1+					1.11			
1+50					4.57	4.55	00	00
2+					1.11		1'3"	
2+50					3.46	4.55	1.21	
3+					1.11			
3+50					2.35	4.95	2.60	
4+					2.35	4.60	2.25	
					2.35	4.50	2.15	
					2.35	4.65	2.30	
					2.35	4.50	2.15	
					2.35	4.95	2.60	
					2.35	3.50	1.15	
						5.00	2.65	

Changed.

Eastern N end

Sta	BS.	FS	RR on gr.	Inv on gr.	Ele	HI
BM	4.680				100.00	104.68
2+50			6.20	~~4.6~~ 5.70	98.98	
2				+.26		
1+50			5.65	5.44		
1				+.26		
21+50			5.45	5.18 ✓		
21				5.18		
20+50			4.75	5.18		
20				+.26		
			4.75	5.44		
				+.26		
			5.40	5.70		
				+.26		
			5.90	5.96		

Cut Small curve	Fill Small curve	Fill on tan	cut on tan
		0.52	
		0.21 3"	
		.27 3"	

tan.

Raise all 6" up to Sta 21+50

.43 5"

.69 8"

.3 3½"

.06 1"

6

Sta	BS	FS	HI	HR on g	Ele	Adj
19+50			5.96 + .26 = 6.22	5.90		
19			6.48	6.35	98.20	
19					98.20	
BM	3.43				100	103.93
8+40X				6.20 on g		
7+90X			5.73		98.20	
7+90			4.14		99.79	
			4.14	5.20	~~101.18~~	
7+40			~~2.54~~ 2.54	4.30	101.39	✓
6+90			1.10	4.00	102.83	✓
6+40			0.98	3.50	102.95	✓
5+90			.85	3.80	103.08	✓
5+40			.72	3.80	103.21	✓
4+90			.77	3.35	103.16	
Sta					100.00	101.43
BM	1.43					
3			2.71 − .26 = 2.97	3.10	98.82	
3+50			2.97 − .26 = 3.23	3.60		
4			3.23 − .26 = 3.49	3.75		
4+50				3.80		

Cut on small curve

.324"

13. 1½"

Fill on outer curve.

.6" (.47)

1.06

~~1.95~~ ~~1.76~~ 1.76 ✓

~~2.04~~

~~2.04~~ 2.90 ✓

~~2.10~~ 2.52 ✓

2.84 ✓ 2.90 ✓

~~2.84~~ 3.08 ✓

2.39 2.58 ✓

Fill T	Cut T
.59 ✓	
.43	
.52	
.31	

6.20 − 5.53 = .67

4.30 − 1.35 = 2.95

4.30 − 2.35 = 1.95

3.80 − 1.34 = 2.46

3.80 − 1.34 = 2.46

5.20 − 3.94 = 1.26

3.60 − 1.55 = 1.95

99.50
98.20
1.30 (300) 6
1.20 (.43)
1000 − 21
900

103.93
98.20
5.53

4.00 − 1.76 = 2.24

Not outer curve from 5+40X to 8+40X = .43 o/o

3.35 − 1.13 = 2.22

3.10 − 2.71 = .39

103.93 − 1.13 = 102.80

3.60 − 3.23 = .37

4.27 − 3.80 = .47

on Sta

7

~~Bedrock~~ P.C Allbooter

curve

4.79
4.20
.59

7

Sta	BS.	FS Inm	RPon g	Ele	H I	Cut	Fill
~~4~~				~~98.00~~	101.43		
4+50		3.49	3.80				
		.26					
5		3.75	4.20				6"
		.26					
5+50		4.01	3.80				
		.26				.21	
6		4.27	4.10	97.16		.17	
		.26				2"	
6+50		4.53	4.53			00	00
		.26					
7		4.79	4.58			.2	
		.26					
7+50		5.05	5.60				6"
		.26					
8		5.31	5.40			01	02
		.26					
8+50		5.57	5.30			3"	00
		.26					
9		5.83	6.30			1"	.67
		.26					
9+50		6.09	6.50	95.34			5"
		.26					
10		6.35	6.60				3"
		.26					
10+50		6.61	6.80				2"
		.26					
11		6.87	7.00	✓		00	00
		.26					
11+50		7.13	7.13			00	00
		.26					
12		6.87	6.87			00	00
		.26					
12+50		6.61	6.90	✓			3"
		.26					
13		6.35	6.70				4"
		.26					
13+50		6.09	6.30				2"
		.26					
14		5.83	6.20				4"
		.26					
14+50		5.57	5.80				3"
		.26					
15		5.31	5.80				6"
		.26					
15+50		5.05	5.30				3"

8

Sta	BS	FS	RR on Ing.	Ele	HI
15+50			5.05	6.30	
16			4.79	5.00	
16+50			4.53	4.70	

Gradient outer S curve

	Ele	RR.		RP ing.	HI 101.43
13.0 X	95.07		6.35 7.15		
0+50 X	96.19		6.61		
0+50 X			1.38		
			5.23 7.30		
1 X	97.32		5.49		
1+50 X			1.38		
1+50 X	98.29		4.11 7.40		
			3.14 7.57		
2 X	98.49		3.14		
2+50	98.59		2.94	7.90	
3	98.64		2.84	7.40	
3+50	98.75		2.79	7.20	
4	98.87		2.68	7.00	
4+26	98.67		2.56	6.60	
4+40	98.71		2.76	6.40	
4+90	98.96		2.72	6.20	
5+40	99.18		2.47	6.40	
5+90	99.40		2.25	5.70	
6+40	99.62		2.03	5.50	
6+90	99.84		1.81	5.00	
			1.59	4.70	

Cut	Fill
	3"
	3"
	3"

change slope of 3 from Sta 1.6+50

Cut	Fill
.8.0	
~~2.1~~	
2.12	
3.29	
4.43	
5'	
~~4.7~~	(4.56)
~~4.60~~	(4.41)
4.66	(4.32)
~~(4.56)~~	(4.04)
~~(3.64)~~	(3.64)
~~3.74~~	3.48
~~4.1~~	3.93
~~3.6~~	3.45
~~3.74~~	3.47
~~3.64~~	3.19
~~3.4~~	3.61

Switch to PC at Sta 1.6+50 going out

gr. from 1+50 X to 8+40 = .41 o/o

grade from Sta 4+26 X to 8+40 X = .44 o/o

9

outer S curve

Sta	Ele	RR	RR on q.	full	
6+40	99.84	101.43	1.59	4.70	3.11 ℄
	98.95		1.06		
7+40	98.95		2.48	4.15	~~1.74~~ 1.67 ℄
~~7+4~~			2.124		
7+90	98.33		3.10	4.00	.90 11½"
8+40	97.17		4.26	4.00	

Cut 3" on q.

106.

25 60 30 2 45

9

O K

Curve

L from P.O. 106-41

L	5°	30
	5	30
L	11	00
	5	30
L	16	30
	5	30
	22	00
	5	30
	27	30
	2	45
	30	15

106.41
30 15
13656

10

Grade at Park

May 15/05

Sta	B.S.	F.S.	H.I.	Ele	H.I.
B.M.	3.790			100	103.79
19			5.60	98.19	
18+50			.26		
18			5.86		
17+50			.26		
			6.12		
			6.38		

Grades on slope stakes after 5 curves

Sta	B.S.	F.S.	H.I.	Ele	H.I.
B.M.	1.050			100.00	101.05
8+40	1.050		3.88	97.17	
7+90			2.72	98.33	
7+40			2.10	98.95	
6+90			1.21	99.84	
6+40			1.43	99.62	
5+90			1.65	99.40	
5+40			1.87	99.18	
4+90			2.09	98.96	
4+40			2.34	98.71	
4+26			2.38	98.67	
4			2.21	98.87	
3+50			2.30	98.75	
3			2.41	98.64	
2+50			2.46	98.59	
2			2.56	98.49	
1+50			2.76	98.29	
1+			3.73	97.32	
+50			4.86	96.19	

RP on 8

cut fill

7.30 7.00 103.79
6.38 6.12 98.19
.92 .88 5.60
7.60
6.68

6.90
2.49
4.41

6.50
2.57
3.93

2.50 1.90
1.25 1.53
1.30 7.50
94.50 3.72
1.30 1.50
98.20 3.90
94.29
98.19

9.50
2.92
6.58

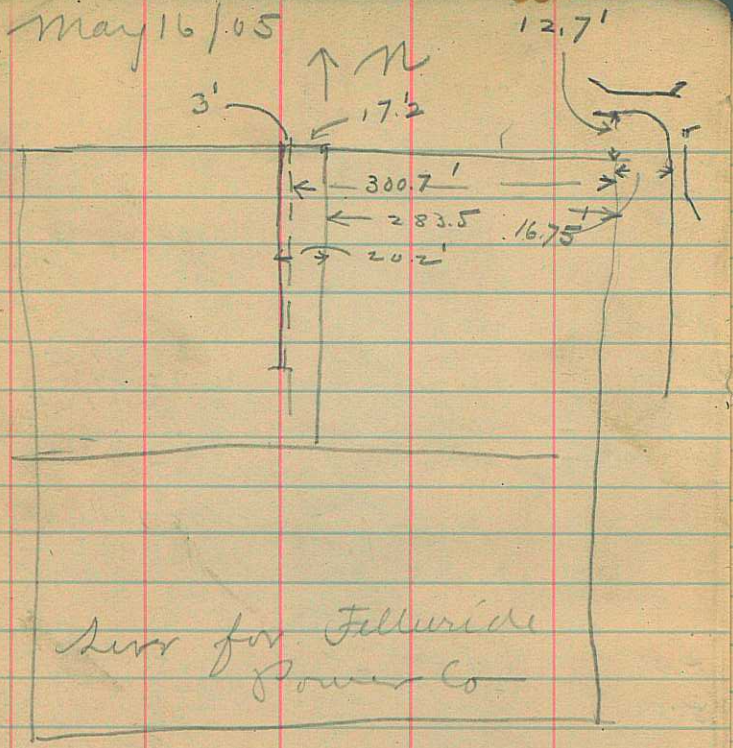
6.10
2.13
3.97

4.84

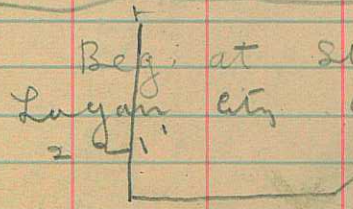
580 00 00 10½"
7.00 .88 "
7.30 .92 "

Tot. 101.05
101.05 97.17
101.05 99.40 3.88
98.65 1.65
2.41 101.05 101.05
99.18 98.33
101.05 1.87 2.72
3.65 98.59 101.05
2.10 2.46 101.05 98.95
1.55 98.91 2.10
101.05 2.09 101.05
5.50 98.49 99.84
1.21 2.56 101.05 1.21
4.39 101.05 98.71 101.05
2.34 99.62
98.29 1.43
8.65 1'7" 4.60 101.05
1.45 2.76 98.67
5.50 4'4" 3.15 101.05
4.60 3'2" 5.10 2.38
1.45 97.32
5.10 3'5½" 3.65 3.73 101.05
3.45 98.87
5.10 2.71
5.10 3'3" 1.87 101.05
6.30 4'3" 2.23 96.14 98.75
6.30 4.86 2.30
2.09
4.21
5.80 3'6" 5.80 101.05
5.80 3'5" 2.34 94.24
3.46 6.76
6.10 3'11" 5.82
7.50 2.38
2.56 6.44
4.94
6.50 4'3" 1.03 7.10
1.33 2.76
5.33 4.34
6.90 4'6"
7.30 4'10"
7.50 5'
7.10 4'4"
7.10 3'4"
6.90 2'

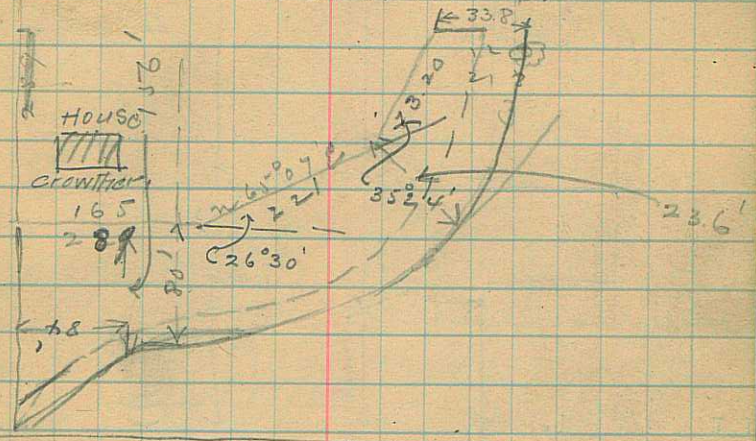
11 May 16/05



Surv for City
S of Blk 11, P.C. Logan
City Surv

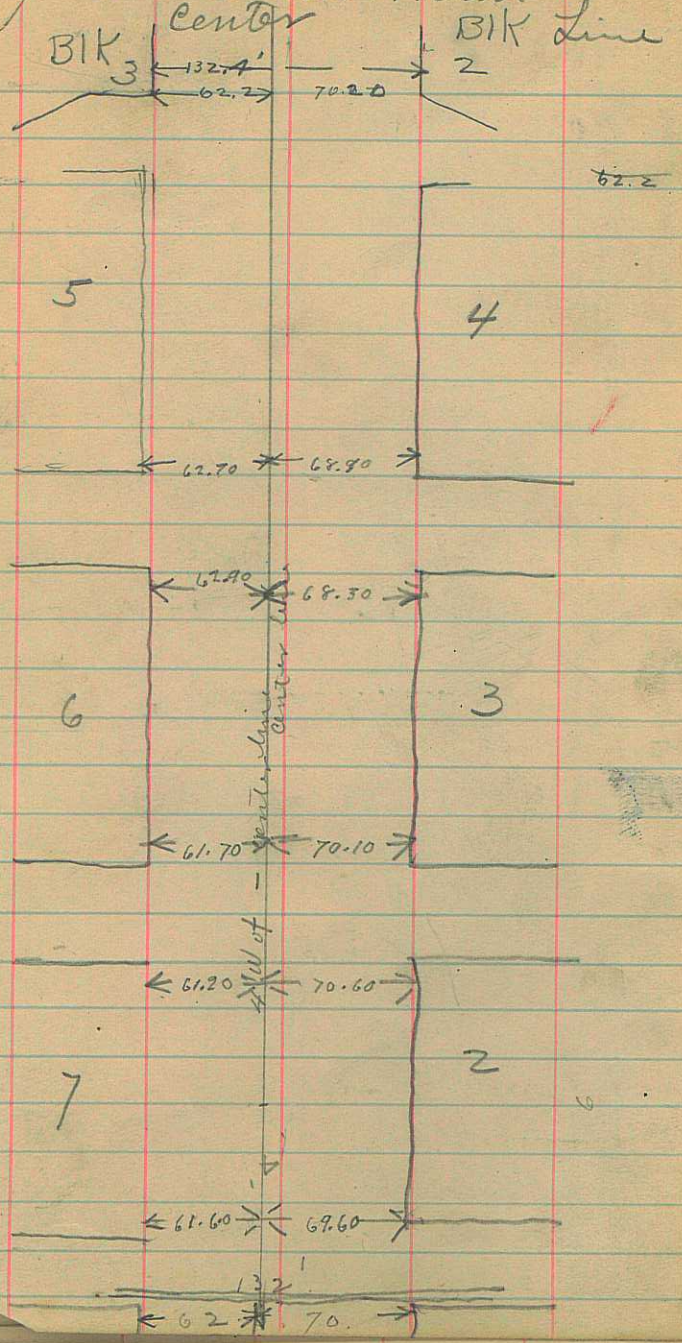


Surv for Logan City
on Blk 11, P.C. L.C. Surv



12

11 13 South main



East side BIK. 4

may 17/05

Sto BS FS BS FS Ele HI TM

499.42 NE cor. B. 4

498.95 SE cor.

499.48 at center

0 6.095

3

3

6 6.360

0 6.095

OK

may 17/04

at Sloan's S. line

" N line

49942 505.575

5.928

E side of st on cement at Ben's 4.95

SE cor

May assume 100 106.095

99.735 SE cor

100.167 at center

99.735 6.360

.108

99.843 6.252

.108

99.951 6.144

NW cor. B. 3 500.00 505.53 5.53

grade on st uniform line is .0441

BS. Reading 6.095 was taken on SW side cement 2' E of NE cor. B. 4.

Note: grade from SE cor to center of BIK = .144+ or up

May 18/05

Grade at Sloans forward

BM on S line of property on W side

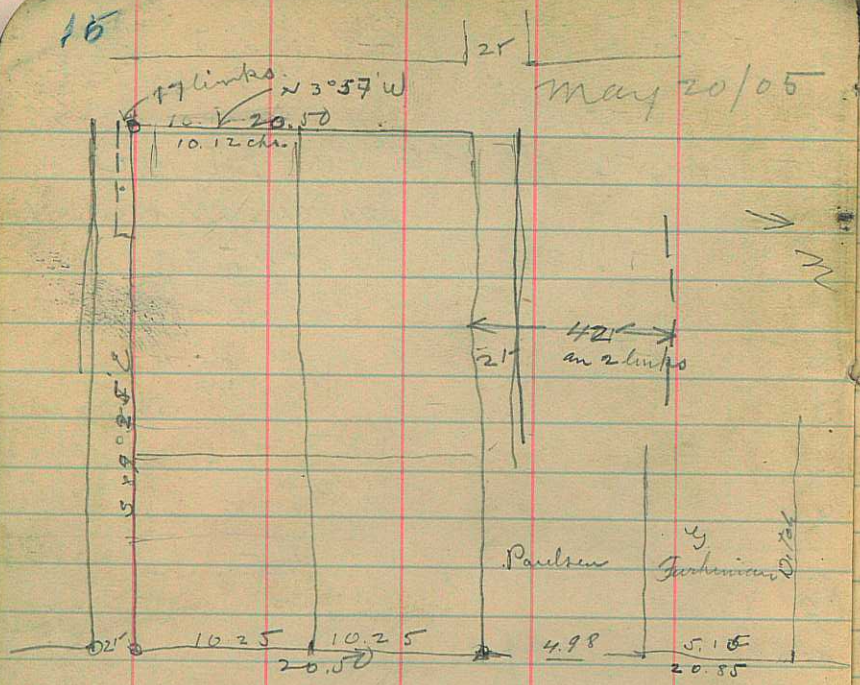
5.130

042

5.088 on gauge at gate 29' N of S line

Sloan

16



May 20/05

May 20/05 Levels for R Anderson

BS.	FS	HI	Elev.	HT
3.590			100.00	103.590
	0.59		103.00	
			94.00	
	4.92		98.67	
	4.88			
	3.23		100.36	
	4.20		99.39	
	3.78		99.81	
	3.84		99.75	

9.68
10.25
19.93

10.10
4.98
5.12

4.98
1.12
10.10

20.85
10.10
10.75

10.25
9.68
.57

179.60
91.06
88.54

41.00

9.68
4
38.72

41.00
38.72
2.38

10.25
9.68
.57

103.00
9
94.00

4.92
4.88
4
9.00

3.00
4.00
4.00
2.00
3 | 12.00
4.00
15.00

3.00
1.75
4.00
3.00
12.25
1.75
3 | 14.00
4.50
15.00
2.00

14.00
3.75
10.25

10.72

Remarks

on post in line of cen. of house

on list of basement

at SW cor. ground dist 4.67 ✓

" SE cor. " " " 4.81 ✓

on NE stake 2 7/8" = 2.64 ✓

at NW " 3.7 3/8" = 3.6 ✓

at SW stake 3.2 1/2 = 3.19 ✓

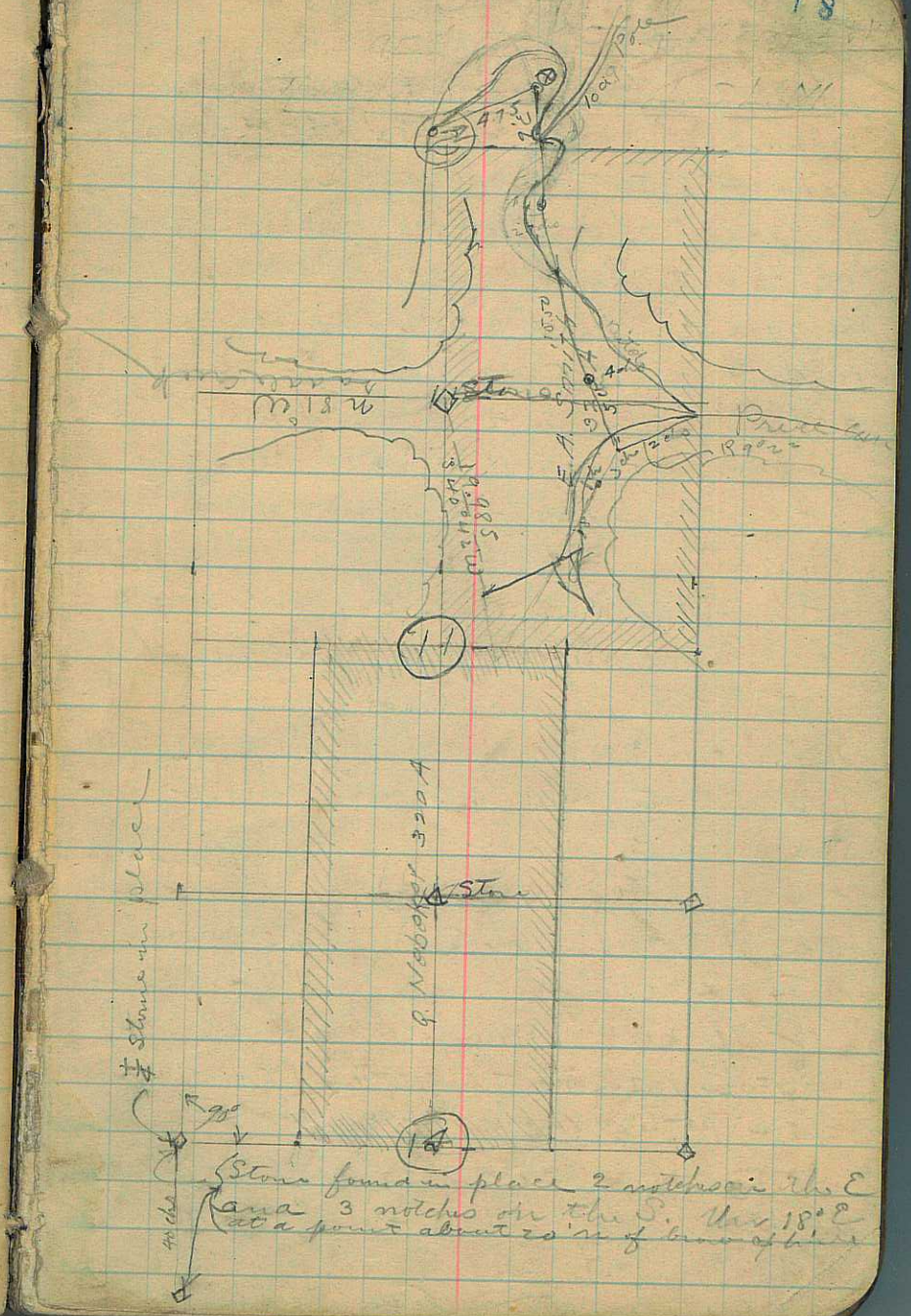
at SE stake 3 3" = 3.25 ✓

17

Sur. for R. Mebeker

May 24/05

Completed May 25/05


Stone
Stone
Stone

19

Notes

L R AE

Dist Bearing

from center of Sec 14, T 10 N. Chains

1 run 1-14.52 / N 24° 52° E

10 chs to brow of hill

13 chs to first water in spring

14.77 to first ditch going West

16 chs thence S 2° 41° E

3.57 to terminus of first ditch

note from pt 16 ch N 24° 52° W 1 link

at ditch of sun 2° 14° 0 beg. 1

8.46 64°

This ditch Runs E and about 3 rods

S of first ditch No 1 and running

estimation into spring

from 16 ch N 24° 52° E 6.19 N 17° 35° W

1.56 to ditch No 3. that goes N

5.00 to road

5.70 (of cen of Sec. pt is 21.70 chs. dist.) 73° 15' N 9.02 W 13.20 N 55° 40' E

16 chs (37.70 from Cen Sec) brook ditch

No 4 sd ditch No bears S 29° W 5.27

of A pt 37.70 of Cen Sec.

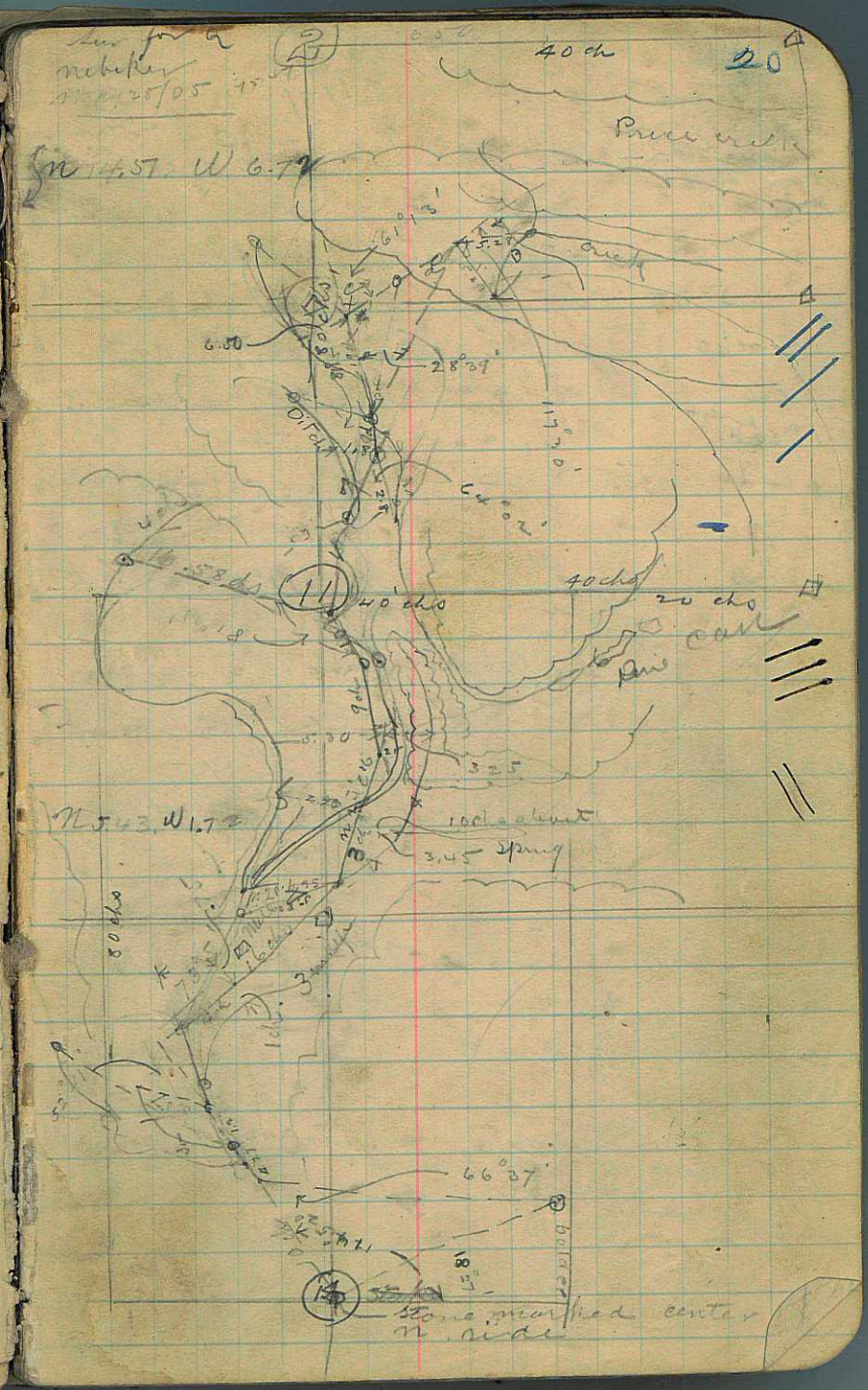
note a ditch No 5 beg 37.4 chs W 5.27

of a pt 37.70 chs of cen of Sec

16 chs 31.40 N 24° E

5 chs to creek running N E

(over)



21

Angles

	∠	R	Course
List			
Ditch			
note 3.25 to Ditch E on Road			
5.37 to " W on Slope			
16 chs	30°15'		N6°15'W
9 ch	26°30'		N32°45'E
10 chs to	54°08'		N21°23'E
~~10 chs~~ Not.			
10 chs	11°23'		N32°46'E
3 To Ditch			
10 chs	13°13'		N19°33'E
9 chs	29°45' along		20.6 N10°12'W
19 chs	49°00'		N59°48'W
28.14			
sta	61°13'		N51°01'E
~~sta~~	117°30'		
~~sta~~	2°29'		N53°31'E
10			
2 $			

2 may 25/05

Tp 11 N R 4 E.

30.15
-24
6.15

6.15
26.30
32.45

22

Lat.	Dep		
N	S	E	W

along road	8.94	.98	to C 4.10
	8.41	5.41 ✓	to N 60.92
	9.31	3.64	

— Ditch No 7. beg. S 32°45' E on line run before 6.60 chs.

Ditch as 65 chs E. Sta 5.41 on Road

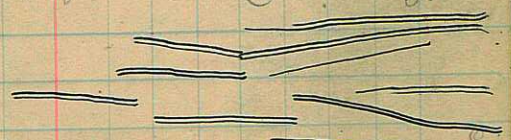
from this pt at head of Ditch out of Pine Creek bears S 31°16' E, 2" ft in Pine Creek East opposite Richards' creek

1870 9.36 total N. 105.81 E 13.60

{from this point ending of Ditch No 7. 6.95 chs N 79.13' W Large Solid in place post 7" in 50'

to End of Ditch No 6 out of Pine Creek not from sta x old cabins bears N 80° E. 6 ch from sta x to top of bench (see trig)

5.23 chs.



To Ditch

To mouth of Pine Canon bears E thence R. 9°22 to bearing of the 2 most N ditches 2 chains

13

	Angles L	R	Course
~~23~~			
24	78°21		N24°51W
15.50			
24		25°	N00°09E
15.79			
18 ch			
18.60	105°15'		S74°54W
4.75	53°41'		S21°13W along Ditch
12.40			across Ditch
13.00		64°04	S85°17W
4.21			

24.60 24.51 9 — 78.81 53.30 24.51 — 105.13 105.06 179.60 105.06 74.54 — S 19 3/2 W 81.75 100.47 179.60 120.47 79.13 — 74.54 53.46 21.78

Piney Creek Q = 1' ft.
to Ditch
to prominent bluff bearing N
to pt. that falls S about 10 ch; abs 4 P. creek
to Ditch
Log Pole creek bear N 10° E
Note Ditch from 0 to 2 fall 8 1/2" in that Distance
to End of north Ditch
Note a small creek comes from NW about 3 ch E of Mill and before it comes into the 2 ditches E of Mill
Q = 30 gal per
Note Fw
From the NE cor. of the NW 1/4 sec 14 I run N. 80 chs found NE cor. of the NW 1/4 sec. 11.
from NE cor. sd. 1/4 sec
Right 139°18. which be
19.985 to Sta x
is the point
on top of

25

Levels run at plat in Blackwater canyon May 1905

Sta	BS.	FS	HI	Ele	HI
	12.600			100.	112.600
		1.39		111.21	
	11.90				123.11
		6.44		116.67	
	0.400				117.07
		11.80		105.27	
	3.38				108.65
		8.65			
	2.22			100.00	102.22
		11.76		90.46	
	3.38				93.84
		6.140		87.70	
	7.87			81.50 on [illegible]	
	7.37				95.07
		11.43		83.64	
	1.15		~~7.30~~ 7.36		84.79
		9.10		77.49 75.69	
	1.35				77.04
		11.69		65.35	
	2.60				67.95
		9.50		58.45	

116.67 + 123.11 Curve = 116.67

117.07
11.80
105.27
3 38
108.65

112.600
1.390
111.210
123.110

26

on a rock about 300' E of first Bridge on the right side of the road going E to ascertain E contour

going W of BM, as des above about 250' E of trail house

4' above at cross

a dam could be put in the

on a cross tie at head gate water at this pt is 6.20' ft below this Ele

on N20 near penstock

at High Bro in tail race

Record Levels for R Anderson

27 May 28/05

Sta.	BS.	FS	HI	Ele
	3.112		103.00	
		8.94		94.17
		2.900		100.212
		3.36		99.75
		.11		
		.11		

Levels at Griffin Bros

	BS.	FS	HI	Ele
BM	3.945			
		4.47		
		4.59		

Note line of pipe for 99 St. was placed 25' end for a 32' st 32'

34.25 E of E R Mile stone

Not trench was placed
34 25 E of Block line
34 75 " " " "

3.117 / 583 — 103.00 / 8.83 — 94.17

16.58 / 20

103.112 / 2.900 / 100.212

103.11 / 3.36 / 99.75

103.112 / 94 / 9.112

2.90 / 11 / 279

103.112 / 94.17 / 8.94

103.00 / 99.75 / 3.25

103.002 / 100.21 / 2.79

3.36 / 33 / 25 / 5 / 1.75 / 34.25

on cement at pav in lot of basement

on NE stake 2' 9½" above stake
on SE stake 3' 3"
on SW cor on fence
" NW cor on fence 1" above

on nail in tel. pole
on door sill N. P. Jacobsen

25 : 99 :: X 132

25 / 660 / 264 / 3300 / 297 / 330 / 99 / 33

2 (132 / 66.00 / 30 25 / 35.75

at E R Miles
at 2 B. South of E R Miles

29 June 6/05

Note. West line of Rep building is 152.1' E of mid cor. from West side of Rep building to W side of Bakery = 20.7'
from West side of Bakery to E side = 25'
from E side of bakery to Board fence = 54.7'
from board fence to cen of B/K = 49.95'
from mid cor to fence 82.5'
" " " to Harris Blk 83.6
" " " to " S line of Bld. 102.6
" mid cor to S line of Edwards Bld is 103.20
W Edwards has 45.23'
172.1' E to W line of Bakery

82.50
20.20
103.20

115.5
13.6
23
152.1

82.50
20.10

30

152.1
20.7
25.0
54.7
49.95
302.45

20.7

56.6
115.5
172.1

Sur Blk 2 Pl. 4
Logan City.

2

302.00
10'
21'
2.8
1.01
2.82
26
49.95
49.95
82.5'
5'
19'
10'
15'5"
30¾'
50
Open

31

curb line at NW cor. B. 2
is 3.8' N of ridge of
6' foot walk E + W
from S edge of 6' to Block
line = 2.48'

12.28 from N edge of curb
at NW to pin and 16.59
from W curb to pin

Surv for Jos Cooper
Wellsville
from NE cor Sec. 27
run S 89° 47' W
Note from a pt 80 r S 89° 47' W
and 15 chs S. run S 88° W
on base line

12.
9.8
2.2
2.2

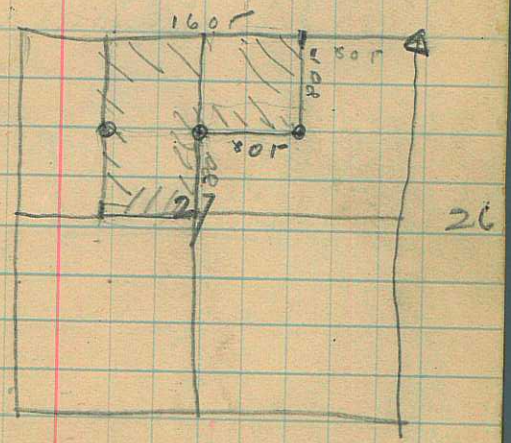
19.6
16 2
2 (3.4
1.7

19.6
1.7
19.9

2.50 7 2/8
.02
.05 .00 32
7.1/4
9

6 10/8
5/8
6 5/8
9
9.6 5/8

22

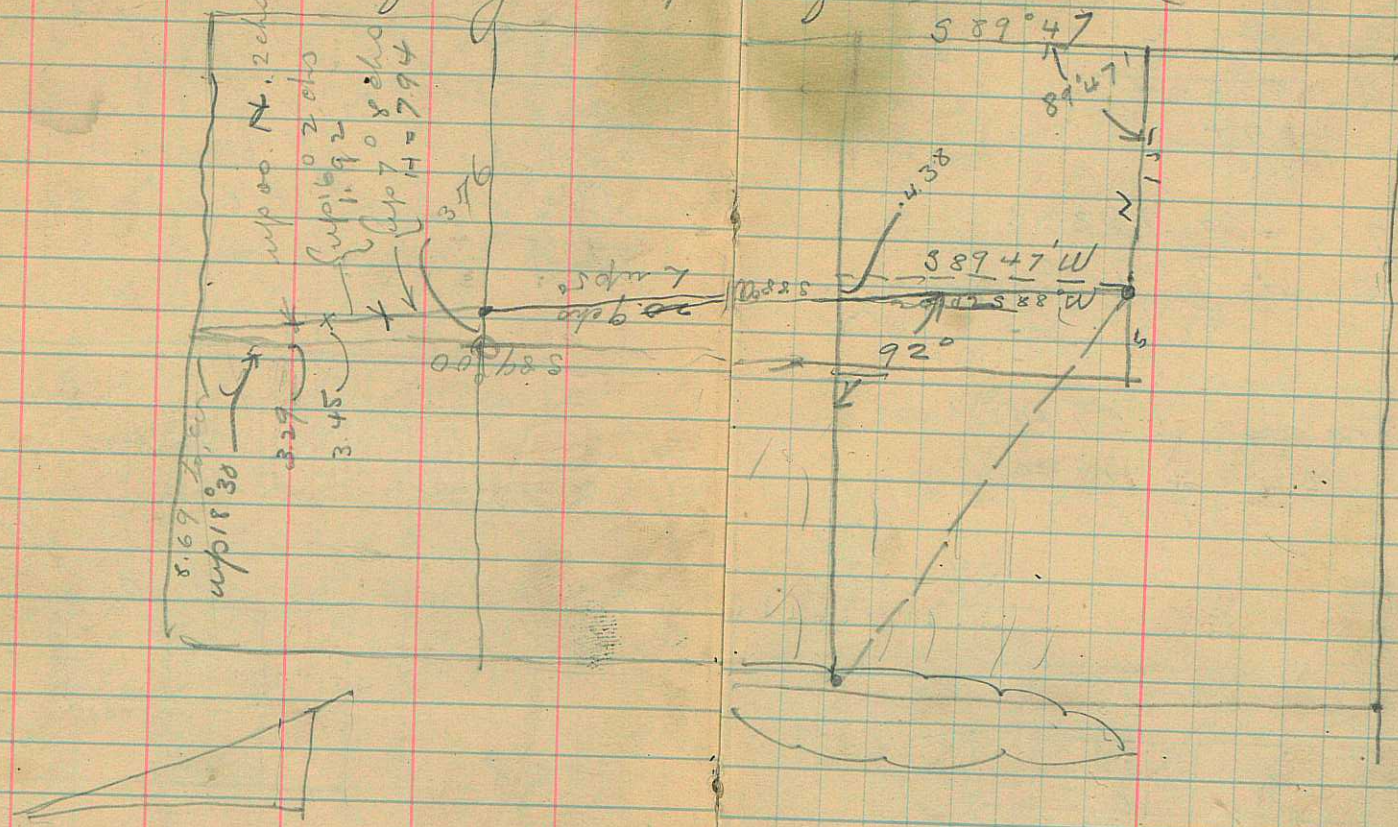


28

26

34

Sur for Jos Cooper of Wellsville



35° 7' = .9925
8
7.9400

cos 16° = .9612
2
1.9224
794
9.86

Lg 9.86 = 0.99388
Lg sin 10°7' = 2.49304
1.48692 = .306

Lg 11.86 = 1.07408
Lg sin 10°7' = 2.49304
1.56712 = 37

1.24 + 37 = 1.71

3000
5863
.737

1.24
.31
1.55

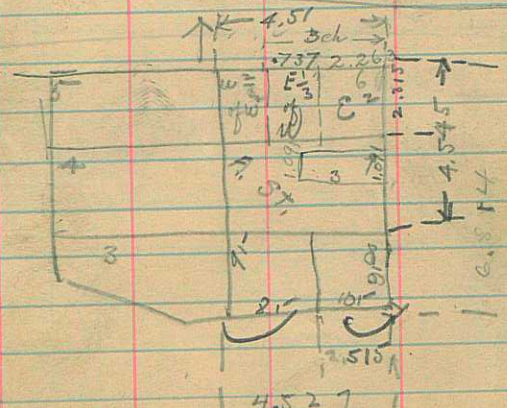
5.00
1.55
3.45

Surv. of Jno. Cooper 36
Wellsville.
June 5/05

20.00
11.86
8.24

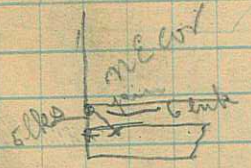
1.24

Lg 8.24 = +1-1 0.91593
Lg cos 18°30 = 1.97696
.93899 = 8.69

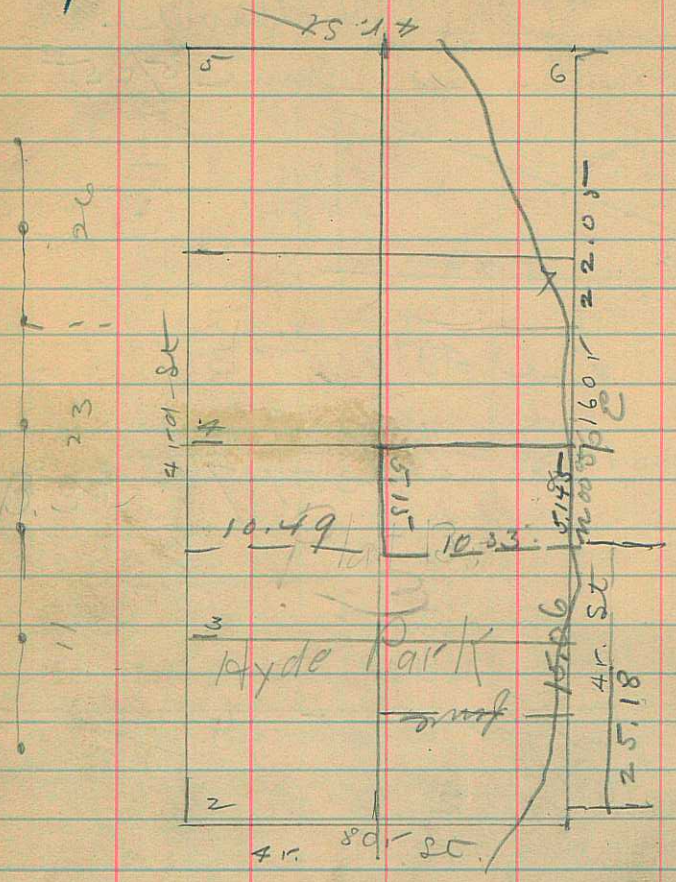


Note pin at SE cor is 1.4' N of N edge of pav

Surv for S. Stevens
Elide Block 2. Plat A



37



B. 2

J. F. Smith beg at NW cor of NW¼ of SW¼ sec 27. E 20 chs. S 8 chs. W 20 ch. N 8 ch to beg

38

John A. Wolf. NW part lot 7 in SE¼ sec 10. 12 N R 1 E. 3 48/160

M. F. Sidley SW part lot 7 B 3 $3.50 acres

80 00

6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

Remarks
From NE cor B. 3. Run S 11.69 chs to first Div. fence. S line of muckleseni land 10 & 22/100 chs to N line of J. A Wolf.

see over

J. Wilcox
130 a. at the int sec. of N bdy of NW¼ of NE¼ sec 34 Tp 11 N. R 1 E. and Blackmer Park river Su up said river to pt 10 rds N of S bdy of said qr. qr. W to Canal. N on canal 80 rds pt W of beg. E to beg area 20 a

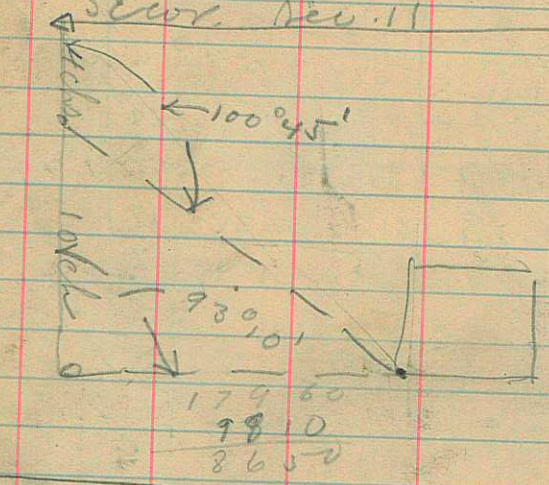
39 Sur for A. Ricks

Benson — No record

Sur for J. A. Wolf

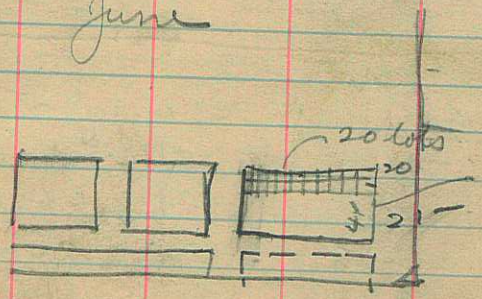
cont.

Mag. Var. 18°10'E



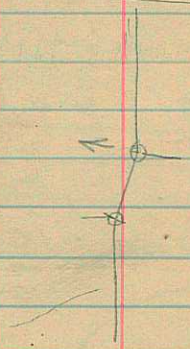
Sur at cemetery

June



41 Surv for Z. Thomas Trenton Utah

Sta	BS	FS	HI
	5.20		
		5.04	
			5.45
TP		6.04	
	4.40		
		6.10	
	4.15		



8.10 6.90 5.00
8 4.40 4.15
2.50 .85

6.10
4.40
1.70

42

on ⊕ NE cor at intersect ℄ of track
500' north of above dis.

W of track about 30'

on divide of tracks

" " "

SE cor of large field

2.5' fall in 3 200'

.14 2.16 14
6 8.16
8.16 5.84
4
50
14 10.34
8.16
1850

93+ Line at Farmers Union Race Smithfield

Sta	BS.	FS	HI	Elev	
0	5.675			100.00	105.675
			5.62		
			5.48		
		2.870		102.805	
	5.280				108.085
8			6.70	101.38	
		3.927			
	5.244				
		4.970			
	5.029				
		3.012			
	4.620				
	25.848				
25	21 531		6.90		
	4.317	6.750	2 75	on grade	
		21.341			
		21.531			
T.P.					2R on stake cut
25	5.078		5.078		
24			.172		
			5.250		
23			.172		
			5.422	2.20	3.22
22			.172		
			5.594	4.30	1.29
21			.172		
			5.766	1.38	4.38
20			.172		
			5.938	1.21	4.72
19			.172		
			6.110	5.40	.71
18			.172		
			6.282	1.42	4.86

June 16/05

5.76 6.
5.38 5.99
6.11 .11 4.38 3.92
5.40 1.22
.71 6.28 5.42
3.26 3.20
4.82 3.22

44 4.172

on grade near Res. stake
on stake in bed of Canal

on bank of Canal
" " "
on Hub on gr

in Bed of Canal
on stake put on bank
at End of new Canal
o/o = 0.172

on bank

45

Sta	BS	FS	HI	RR on stake	Cut
18		6.282		14+2	4.86
TP 18	5.980		5.980		
			.172		
17			6.152	3.05	3.10
			.172		
16			6.324	4.50	1.82
			.172		
15			6.496	0.6	5.89
			.172		
14			6.668	2.2	4.46
			.172		
13			6.840	5.40	1.44
			.172		
12			7.012	4.70	2.31
TP 12	5.595		5.595		
			.172		
11			5.767	2.90	2.86
			.172	4.60	1.33
10			5.939	3.00	2.93
			.172		
9			6.111	4.67	1.44
			.172		
8			6.283	2.83	3.45
			.172		
7			6.455	2.93	3.52
			.172		
6			6.627	5.40	1.22
TP 6			5.922		
			.172		
5			6.094	2.10	3.99
			.172	4.68	1.53
4			6.266	2.28	3.98
			.172		
3			6.438	2.30	
			.172		
2			6.610	2.15	4.46
			.172		
1			6.782	4.45	2.33
			.172		
0			6.954		
TP 0			6.860		
			.172		
−1			7.032	4.45	2.60
			.172	3.93	3.27
−2			7.204	4.03	3.17
			.172		
−3			7.376	3.60	

5.76
2.90
2.86

6.15
3.05
3.10
6.11
4.67
1.44

6.32
4.50
1.82

6.66
2.20
4.46

6.28
2.83
3.45

7.01
4.70
2.31

On grade 6.15

7.20
4.00
3.20

6.26
2.38
3.88

6.04
4.60
1.44

6.78
1.03
5.75
2.33 4.62

6.26
4.68
1.58

6.43
2.30
4.13

7.05
4.45
2.60

6.15
1.69
4.46

7.23
3.93
3.30

On grade at R+0

4.64
5.89
6.84
5.40
1.44

172
6
1.032

5.93
4.60
1.33

6.45 5.98
2.43 1.03
8.52 7.01

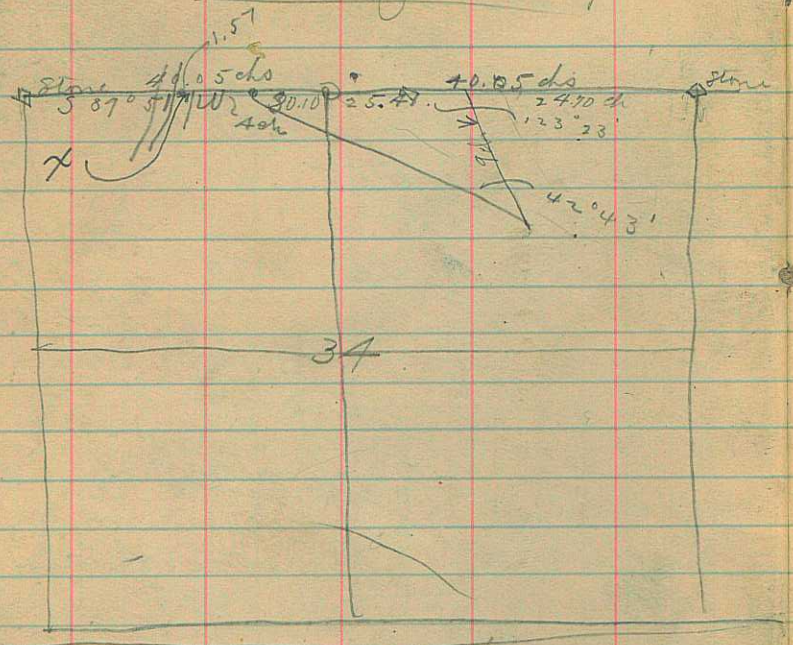
6.62
5.40
1.22

6.04
1.49
6.04
2.21
3.79

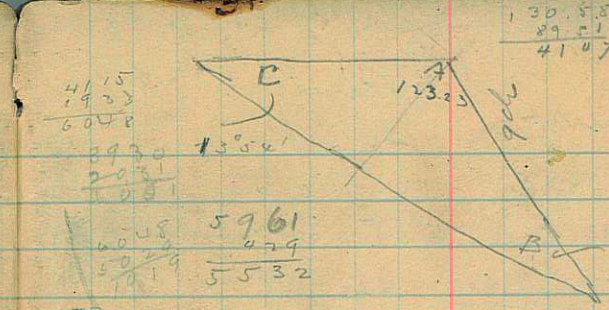
7.41
4.13
3.28

5.922
1.033
6.955

47 Sur for Wilcox
Millville June 21/05



Dist	Course	Angles L	R
from X	S 41° 07' E	130° 58'	
2.92	S 41 15' E	00° 08'	
3.00	S 60° 48 E	19° 33'	
2.49	S 10° 19' E		50° 29'
1.87	S 39 30 E	29° 11'	
2.29	S 60 08 E	20° 31	
1.56	S 55 32' E		4° 29
1.35	S 80° 14' E	24° 42	
2.32	S 29° 15' E		50° 59
3.42	S 11 02' E		18° 13'



Sin B : CA :: Sin C : AB

Log 0.95434
Log − I. 23147
0.78571
L. = 9°35'54" I. 38062
1.40509 = 25.41

25.41
2.70
50.11
40.05
10.06

Dist	Lat	Remarks
	N S	
		from X at pt 50.11 ch S 87° 51 W from W 40 ch to L chs 1.57 chs to canal
	2.20	to pt 3' E of bank of canal
	2.25	to 11.10 E " " " "
	1.21	to 11.60 E " " "
	1.84	" " .10 E " (at fence)
	1.76	" " .10 E " canal 3.42 E from
	.78	to pt .10 E
	.76	to pt .77 E of "
	.38	to pt on canal the
	2.98	at cen of this last ch W 1.01 L to pt of

49

Dist	Course	Angle L	Angle R
1.75	S 11° 02 E	00	00
1.67	S 89° 07 E	78° 05	along fence
7.69			

7.69
9.11 to pt 56 links S of cor. of fence
13.59 N 37° 15' W to 13 S.E. river 128° 08'
3.68 N 78 48' W 41.33
3.79 N 16° 58' W 61° 50'
3.82 N 3° 31 W 13° 27
4.81 N 53° 24' W 49° 53' from E on N 71° E to R. #4 Links
1.98 N 40° 32' W 12.52 E on N 58° E of this 1.55 to R
1.47 N 9° 29 W 31° 03' N 50° E 2.25 to R
3.39

to a pt 4 ch N 89 51 E of NW cor of NE¼ Sec 34

3 4

Total S. 17.51
on this dist a pt 1 ch N of E end of 1.75. Creek is 40 links W
E end of 1.67 is on bank and on S end of Wilcox's field this point is 1.8" E of cor post. To old channel

Note
From a point 50.11 chs S 89° 51' W I run N 89° 51 E 2.37 chs to pt where I flagged last fall and 4.00 to a pt on bank of river from NW cor of NE¼ at cotton wood 6" in d. bears S 80° 03 E 0.10 ch.

from x W 50 links to old fence

13.59

see over

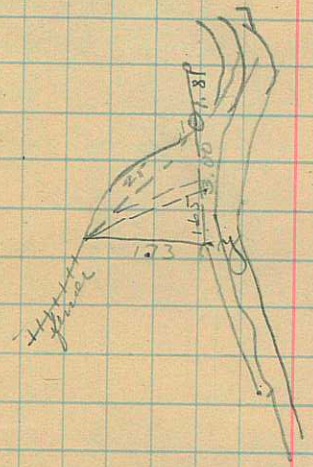
51

76 30
16 58
93 32

17160
9332
8428

52

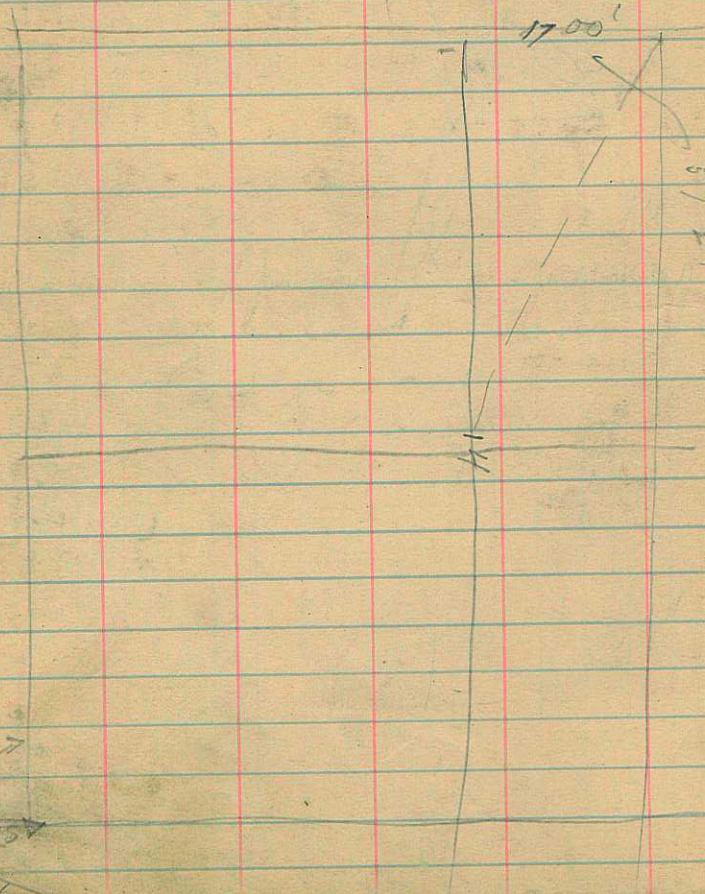
from sta y to where Smith starts this fence and also outlet of old channel ~~here~~ also where old fence intersect new fence bears S 86° 28' W. 1.73



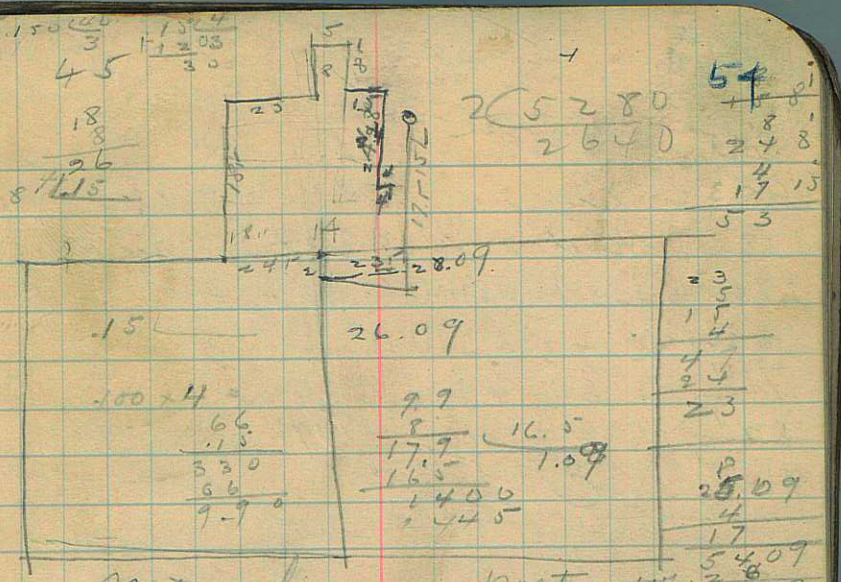
58

June 24/09 Surv. of Western

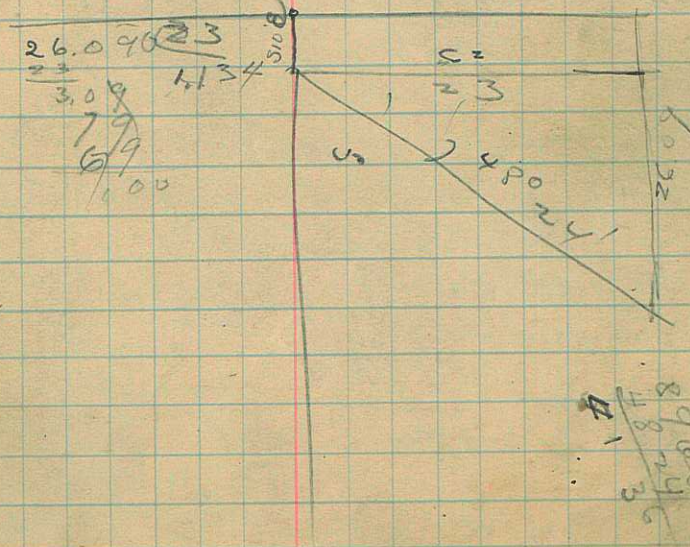
The SW¼ of Sec 14 Tp 16 S. R. 38 E. of B. M. less a piece of land lying for a res.



57



Note. from a post on a post 5356' S from SE cor. Sec. 14, Tp 16 S. R 38 E of B M. from SE cor Sec 14 Drun W



55

Angles

Dist	Course	L	R
2653	E		90°
108'	N 00° 24' W		90° 24'
273.5'	N 89° 41' W		89° 17'
60'	S 73° 53' W	16° 26'	
76'	S 60° 49' W	13° 04'	
82'	S 48° 00' W	12° 49'	
461'	E		

From cor of Sec. 10

Dist	Course		
53'	S 00° 14' E		89° 46'
452.50	S 52° 29' E	52° 15'	
180.00	S 43° 24' E	8° 51'	
177	S 39° 33' E	3° 51'	206.0 to fence NS
185	S 2° 37' E	36° 56'	
105.5	S 78° 08' E	75° 31'	5° 34' from fence to St.
308.00	S 82° 44' E	4° 36'	
102.00	N 2° 15' E	94° 58'	2' North of drum on line 49° E to Blk.
134'	S 8° 41' E along W	89° 01'	
575'	S 65° 32' E	23° 09'	
188	S 41° 22' E	24° 10'	
130	S 23° 54' E	17° 34'	

Log 1700 - 3.230449
Log tan T 8.0669
3.42376

57° 21'
32° 39'
Tan A = a/b
Tan A b = a
b = a / tan A

56

from NW cor Sec 14, 16 S. R 38 E

Sur of a small p to be corrected

to beg.

Cen. Stone

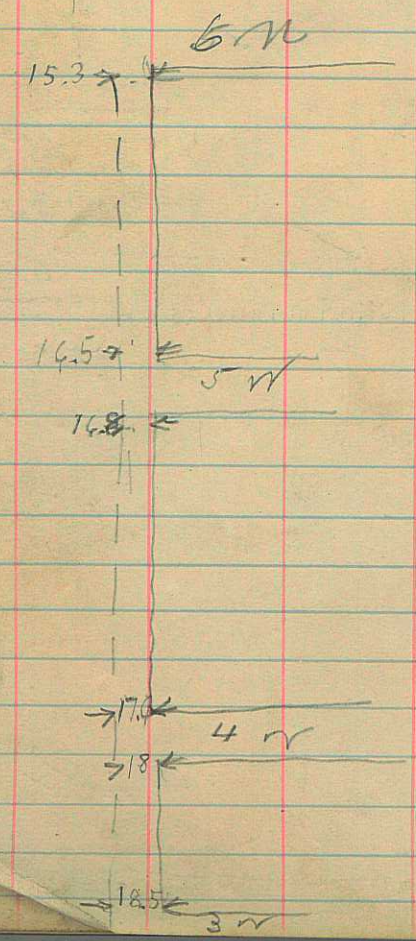
Drum on line 49° E to Blk.

St

67

2.13
6.6
12.78
12.78
170.58

Note
from a point 28 yds E
and 80 yds N of SE cor
sec. 14, run N 27° 36' W
140.58 to end line
146.6 run along fence



97
45.5
51.5

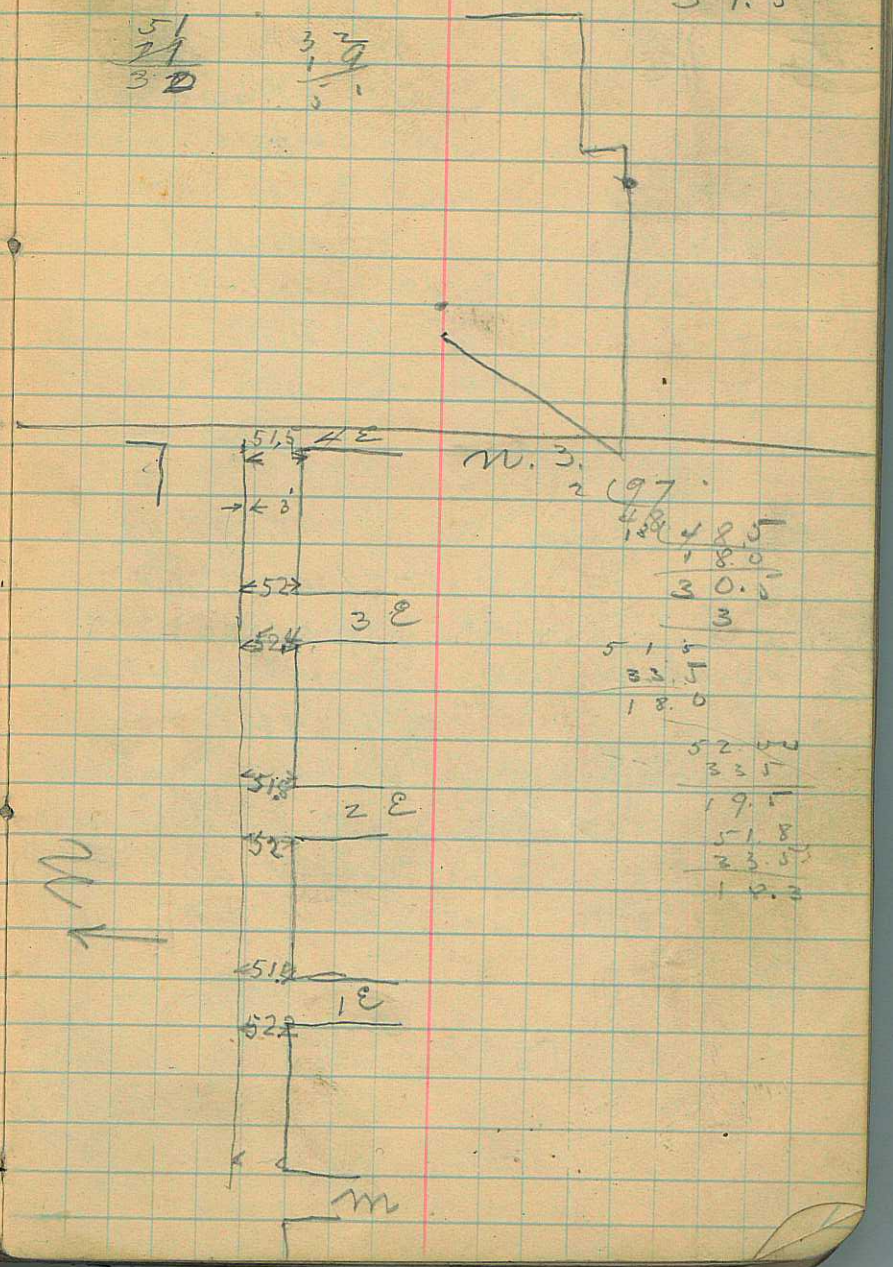
4.0

51
21
30

165.0
33
0

32
1.9
3.1

49.58
18
31.5



48.5
18.0
30.5
3

51.5
33.5
18.0

52.5
33.5
19.0
51.8
23.5
12.3

61

Swan up curve

Pt	BS	FS	HI	Ele	Pt
5+05	9.92			490.00	499.92
5+39			9.70	490.22	
5+84			8.62	491.30	
6+34			6.86	493.06	
6+63			5.62	494.30	
7+21			1.85	498.17	
Brid				503.70	

Bob Anderson's Grave

RR

3.774 on cement walk

3 / 0.1 74

5 / 12 74

1.73

499.92
490.22
9.70

499.92
491.30
8.62

499.92
493.06
6.86

499.92
494.30
5.62

499.92
498.17
1.85

	HI	Ele
TP BS 5.06	499.92	494.86
BS 11.84	506.70	

499.92
5.06
494.86
11.84
506.70
3.7

Length change including the 2 curves is 273.7'

7/8/05 Measurments for
68 Wheelwright at Smithfield

at the heads of intake there
is 9.5' of 6" cast Fe. pipe.
and 32' over creek

1000
1000
1000
1000
1000
1000
1000
1000
1000

Total
8725 less 32' of
cast iron pipe

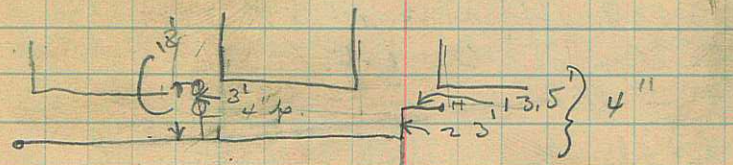
8725
32
8693

Note 129.5' of drain pipe
from Res. 8"

1000
678

8" c.o.m pe.

1678 Total Length of 8" c.m.p.
1000 6" c.m. pipe.
1000
1000



Note 1437.5' from 8" pipe
to SW cor. of a P.S. E of M
2194' to E side of M
2281' to 6" Manway S cor M
3020.5' to SE cor. of Tot P.
3029' to 4" pipe leading to H.
3121' to NE cor. of B & pp Tab B
3583.5 to sec. in Rusta.
3703 to " in Barber shop E of Rus

65

37 92.5 to 4" p. leading to H
18' off this pt to H.
V. 5' C of H

total length of 6" C.M.P
3819'
total length of 4" pipe
72.5'

7/10/05 Grade for Geo Wilson E side Block 5 Plat "D"

List or Sta	BS	FS	Im	Ele	HI
5+05	4.950			490.00	494.95
5+84			3.52	491.433	
5+74			3.78	491.174	
5+64			4.02	490.938	
5+54			4.23	490.723	
5+44			4.42	490.532	
5+34			4.59	490.36	
5+24			4.74	490.21	
5+14			4.85	490.10	
5+94			3.23	491.714	
			~~3.27~~	~~491.687~~	
	3.450			489.270	492.720
5+05			2.720	490.00	
			5.12	487.600	

490
4816.0
8.46

13.5
23.
36
125

.011
.040
.100
.017
.28
.30

66
4
70

66
70
62
3
51

489.270
345
492.720
487.600
5.120

494.95
490.36
4.59

494.95
490.72
4.23

494.95
490.53
4.42

490.00
4.95
494.95
4.49
490.40
4.85

492.720
490.000
2.720

2.7
29
243
3.45
3.483

Remarks

494.95
490.43
4.02

490.00
.783
490.783
490.36
.142

cen of crown

494.95
491.17
3.78

490.513
490.21
.03

494.95
491.43
3.52

494.95
491.68
3.27

raise 1/2"

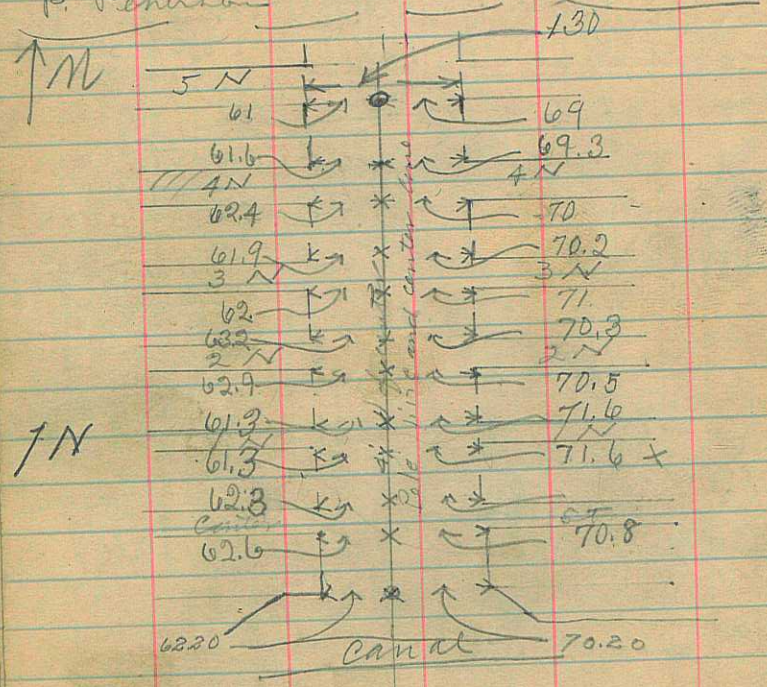
Bm on Iron

SE cor. B5

Sta	BS	FS	HI	Elev	HI
6+04		2.93		492.018	494.95
6+14		2.61		492.340	
6+24	(OK 7/11/05)	2.26		492.690	
6+34		1.89		493.06	
6+44				493.40	
6+54				493.97	
6+63				494.30	

Center line of main from Water at to 5" W 7/11/05

P. Peterson



494.95
492.02
2.93

494.95
492.34
2.61

494.95
493.06
1.89

494.95
492.69
2.26

2.16 : 14 : ∠ 16
16
1296
216
2456 ∠ 14
28
56
90
2.84

2 | 11.30
65

70.00
2.50
67.50

74.9 | 2 | 134.2
67.1
4
7.1.1

6
63.1
7.1.
1342

123456789 10

67.42 from spin to pt 6" E of E line cement

68.5 from spin to pt 6" E of E side of cement

763
47

7/69

Grade for Pole

RR

6.20
.67
5.48
.28
5.20

on NE cor. B. 19
on curb NW cor B 18
on grade .4' E of curb.

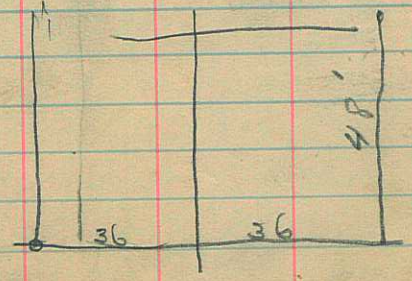
55.45' from 4' West of center to Westerly of outside curb SW cor B. 18.

34.48

17960
9310
6.50

9.88 from floor rise Court House to bottom of ex.

43' from Bl. line to pt. W on centerline.



14.64
.02
3
.28

6.45
6.25
0.20
6.05
.66
5.49

5
5.20

18900
877
1.3

6.83
1.28
5.55

76

16.5
14.85
.60
8.85

BR

16.5
.45
825
660
74.25
.60
134.25

11.5
16.5
575
690
115
189.75

74.25
.60
13425

86
.12
17
86
10.

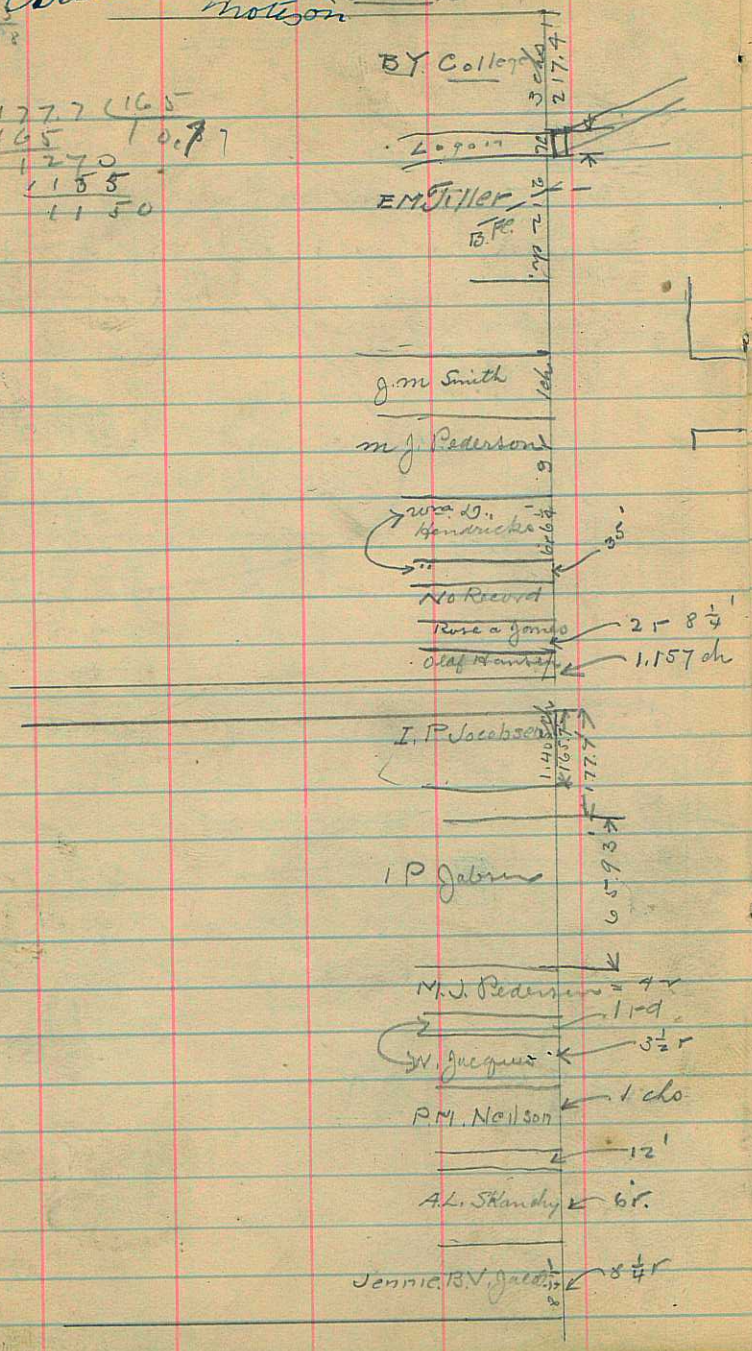
RR on old floor 9.11
on Bare floor 9.88
9.99
5.13
4.86

9.99
5.21
4.78

9.99
.02
9.97

9.99
.01
9.98
1.9

Crescent St South Nicollet



Chamberlin a = 100.00
E.M. Tiller a = 150.7'
Moses Blanchard
James M. Smith, 4 r = a = 66.53
Geo. Lambert 4½ r = a = 74.80'
Wm Reading a = 160'+
Lufkin a = 108.6'
Mrs. Herring a = 36.03'
Geo. Hendricks a = 107.25'
Rose a James a = 36.76'
O. Hansen 1.157 ch. a = 76.40'

I.P. Jacobsen
Zumdale a = 75.57'
Jacques
P. Nelson
A.L. Skandy
Jennie B.V. Jacobsen

Geo. 40.7 to wife.

Notes

217.4 from NE cor B. 1. Pl. B to N end of Bridge
241.8 to S end " "
290.2 to Board fence N line of Bro. Chamberlin's property.
40.7' W^ra Reding a strip between Lumbars and Reading Bounds
Width of S.S. 62.4' on W side from N line W. Jacq. to N line of lane = 64.3' to S line of " = 74.8
a vacant lot S. of Wesleys lane - 99.30'

$\frac{4}{2}$ 0 . 2'
4 19
8 34
4 15

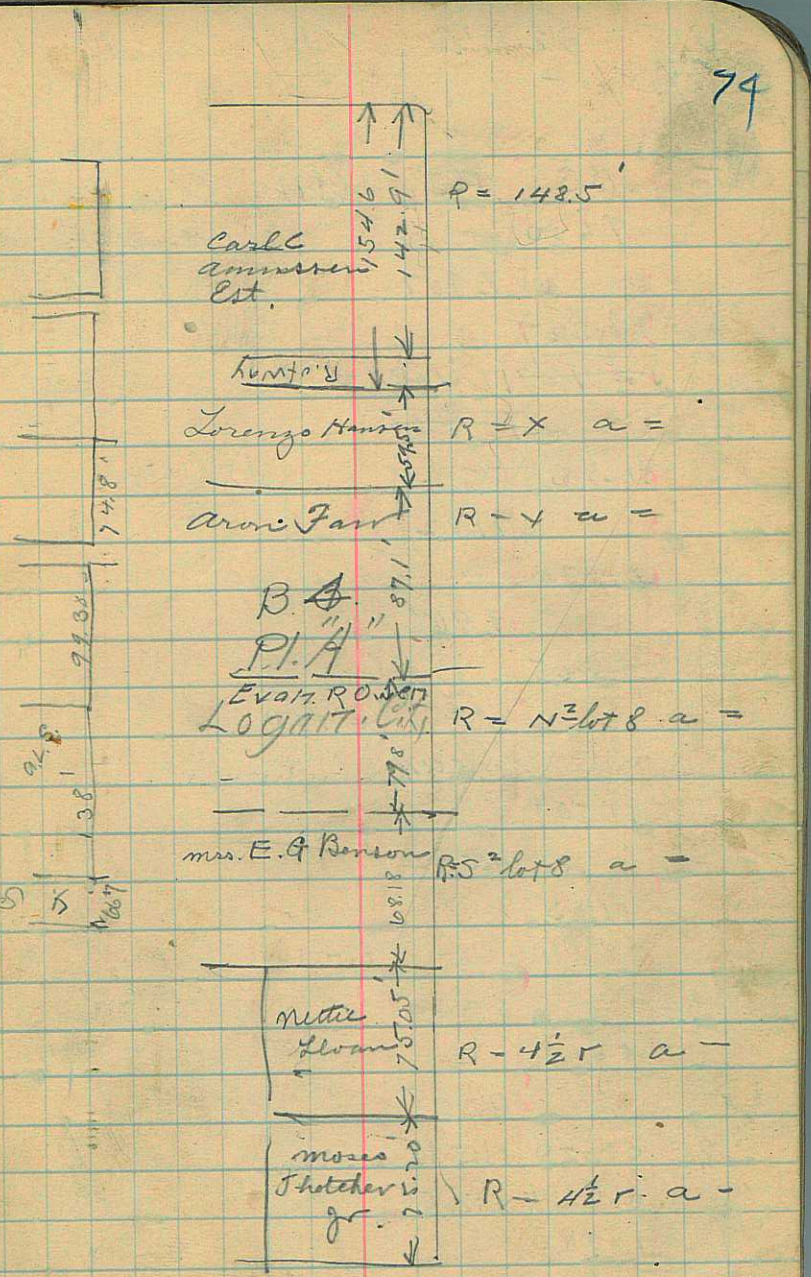
11.19
12.19
11.89
11.79

11.19
3
10.79

11.22
5 67
5.55

11.195
10.22
.975

11.89
6.44
5.45



75

7/15/05

Pe line for millville

Sta	BS	FS	HI	Ele	HI
	9.600			100.00	109.600
		7.907			
	6.327				
	~~13.927~~	11.498			
		~~19.405~~			
	0.08				
		11.82			
	0.370				
		9.966			
	9.305				
Bm		+	6.750		
		0.594			
	11.507				
		0.594			
	11.03				
Bm			0.490		
		0.300			
	8.610				
		4.385			
	0.600	11.590			
	0.624	11.655			
	1.980				
Bm		8.115		81.609	

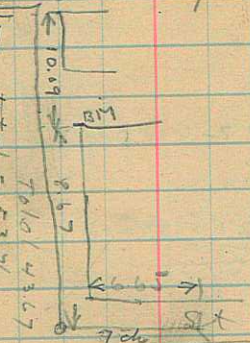
gun. at Hwo. = 41 gal per min

76

28 ch. to middle of st.

on Hwo at Spring

K 65.76



BS	FS
9.600	7.907
6.327	11.498
0.080	11.820
0.370	9.966
9.305	0.594
11.507	0.594
11.030	0.490
48.219	42.869
42.869	
5.350	

19.405
13.927
5.478

3.67
5
8.67

5900

on cor. post
Jno W Scott

on nail in post, cor Mathews

on nail in tel pole

79

Grade for Jas

July 17/05

Sta		down from BS	FS on Sta	HI	up from Sta	
				4.245		
				.240		
				4.485		
Sta			3		on gr.	SE cor B.5
a	9 3/4"		3.675			
b	~~1'~~		4.580		2½"	
c	1"		3.48			
d	00		4.48		on gr 00	
			~~4.68~~		NE cor B.6.	
				~~4.245~~		
				20		
				4.445		
				24		
a	3 1/4"		4.38	4.685		
b	1'4"		3.35			
c	10"		3.85			
d	00		4.68	00	00	

	BS	FS	HI	Elev	
Bmm	2.640			486.139	488.779
		4.779		484.00	

4.485
3.675
.810

8.1
1.2
1.62
8.
9.72

4.58
4.48
.20
12
40
21
2.50

4.68
4.38
.30
.47
60
30
3.30

4.68
3.35
1.33
12
66
33

4.68
3.85
.83

on gr. SE cor B.5
" " NE " B.6.
on curb

486.139
2.640
488.779
484.00
4

on gr. SE cor B.6.

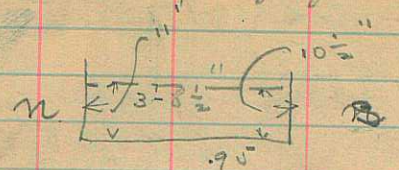
80

81

2.13
66
1278
1278
1278

83 H_2O measurements
Weston mill.

Length of flume 32.5'



10.31 × 12 = 96 + 115 + 108 = .89

3.78 × .95 = 2150 + 3330 = 3.545 − 91 = 354 = 2478 = 2.554

432.5 ÷ 46 = 322 + 300 = .70 + .01 = .71

$q_{ac.} = 2.52$ sec. ft

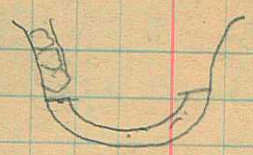
Levels at Weston mill

No	B.S.	F.S	Elev	H.I.
	1.240		11.760	
	1.050		11.810	
	1.100		11.560	
	4.180		11.850	
	7.570		46.980	
			7.570	
			39.410	

Fall from head to tail up brnst. = 39.41

11.85	5.66
0.97	9.12
2.97	10.12
15.79	24.90
	15.79
	9.11

89



On Tail H2O near mill

85

At	BS	FS	Cut S	Center	Cut MI
{	10.55				
					0.53
		7.10		6.91	12.62
0		12.15		12.34	6.10
1		8.21		8.89	13.12
		11.1		7.63	7.70
				11.26	11.65
				1.44	
				13.16	
				13.26	
2		3.75		4.88	4.81
2		(M) 5.65		18.38	8.40
3		7.71		5.40	5.28
		7.20		8.00	8.10
4		6.26		7.45	7.90
		8.51		6.01	5.56
5		5.05		8.70	8.88
5+50		8.63		4.86	7.68
		4.98		8.85	9.05
6				4.76	4.56
				11.40	
				2.26	

on gt, RR	RR on gt,	Cut	
19.05	3.10	16'	at tail end
1	0.20	18'10"	on nail in tapped tree
19.15	8.14	11'	where tail race enters
19.25		19.35	
19.35		7.63	
		11.72	
		1.44	
		3.16	
13.26			
13.36			
13.46			
13.56			
.05			
13.61			
.05			
13.66			

19.15 − 8.14 = 11.01

19.05 − 3.10 = 15.95

96

19.15 − 6.53 = 12.62

19.05 − 2. = 18.81

13.46 − 7.45 = 6.01

19.35 − 8.09 = 11.26

19.25 − 6.91 = 12.34

19.35 − 7.70 = 11.65

19.25 − 6.10 = 13.12

19.25 − 7.10 = 12.15

13.56 − 5.93 = 7.63

19.35 − 7.65 = 11.72

13.26 − 4.81 = 8.45

13.46 − 7.90 = 5.56

13.36 − 5.65 = 7.71

13.26 − 3.75 = 9.51

13.46 − 5.38 = 8.08

13.56 − 5.56 = 8.

13.56 − 5.56 = 8.

13.56 − 5.56 = 8.

13.56 − 5.56 = 8.

Works at Rio Weston

Sta	BS	FS	Elev	HI	HH
	12.20				
		2.20			

Sta	Course	Angles L	Angles R
	S67°10W		
1	N67°10E		33°53'
1	N78°57W		9°45
5.82	N69°12W	34°06	
1 ch.	S76°42W	27°32	
2.00	S49°10W	35°58	
.77	S13°12W		26°55'
.75	S40°07W	56°16'	
1.86	S16°09E		
1	N41°36E		48°43'
2			47°07
4.28	S42°15'	28°16'	
4.64	S70°15E		

8.91
6.78
15.69

6.785
669
.09

4.82

2.46
83
413

5.5

5.48
465
.83

88

alo
on y axis
10' higher than old axis

from cen. 1/4 line

100
34
66

16.23
15.69
.54

13.12
2653
4007

6710
3353
10103
90
11103

17960
10103
7857

7857
945
7642
2732691.2
4910346
10318

4870
3588
1312

17960
10318
7642

5616
4007
1609

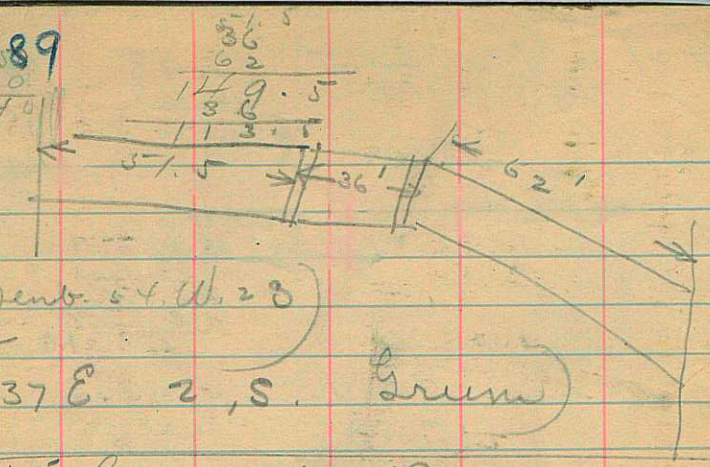
to 1/4 sec. line

(line on west side)

Width of level 6.785

from cen of sec. to 967 chs S00°15'
E to N line of contour on 1/4 sec line

89



(pemb. 54.W.28)

(137 E. 2, S. Grum)

1/22/05 Grade for Pete at intersection 7/-2/05

RR

5.007
.290
5,297 on curb

1/22/05 Grade for Joe at SE cor B6.

4.160
.240
4.400 on curb

Grade for Joe NE cor B7

4.870 on cement SE cor. B.6
.2
5.070 on " NE " " 7
.240
5.31 on curb

	Ele	HI
~~4.745~~		
4.745	481.879	486.624
5.024	481.600	
.240		
5.264		

on curb SE cor. B 7

90

16.5
1
82.5
3
9 5

4.400
3.555
.845

4.400
3.565
.835

2 (115.96)
57.98
115.96

16.5
9
148.5

481.879
4.745
486.624
481.600
5.024

5.26
4.50
.76

on top pin SE cor. B.7
SE cor B.7

91

Hart, Nebeker & Martineau

98.

9.8.00

Wm Andrews	150.10
Church	193.96
Chas. Robbins	152.30
	594.36

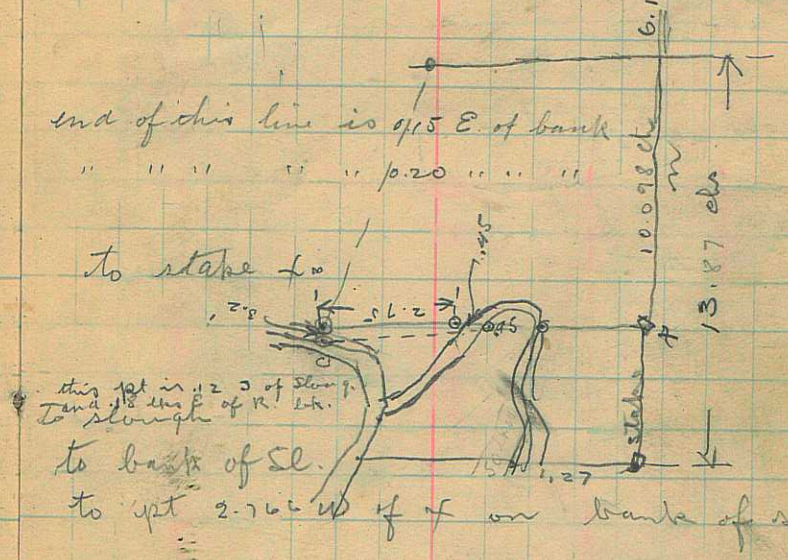
from a point 1.27 chs. W of a point 10.098 chs S of beg

zero Turn	∠	angles 12	course
1.92 ch		100.06'	N10°06'E
1.00 ch	39°26'		N29°20'W
1.09 ch		8°16'	N21°04'W
1.816			E
2.755			W

from a pt. 13.82 S & 6 ch W of beg

2.76 Turn		125°13	N35°13'E
0.61		47°34	N82°47'E
1.755	46°47		N36°00'E

7/26/05 Surv. for J. Hoff Local var. 16°45' E



92

93

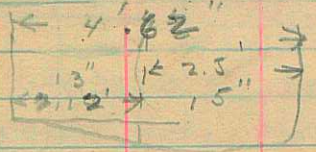
3' 7½" Length of box

H. on Weir = 7¼" $\sqrt{}$ = 1.53
b of Crest 36"
t " " 39½"
V of ap. = 8" = 13 7/12

Ans = 5.32 sec. ft.

$Q = 5.347\ c\ell H^{\frac{3}{2}} = c = 61$

$Q_1 = 5.347\ c\ell (H + 1.4h)^{\frac{3}{2}}$



1 = 66
2 ~~48~~
3 = 66
4 = 67
5 = 69

mean Measurement above weir

7/28/05

H = 6"

weper span = 39"

7¼ | 7.25 | 12 | 6.04 | 24.7 | .60

5.37 | .60 | 3.2220 | 3.14 | 12888 | 32222 | 9666 | 10.12708 | .46 | 6072 | 4048 | 4.6582

4.64 | 2 | 9 | 7 | 7.50 | 12 | 2 | 2 | 2.

39.5 | 36 | 3.5 | 3.6 | 37.7 | 12 | 3.14 | 1.72

.60 | .60 | .3600 | .60 | 1.2160 | 46 | 806 | 16 | 560 | 528

20 | 20 | 1.50.0 | 100

37260 | 360.61 | 1.50 | 3.14

380 | 60 | 360 | .63 | 200

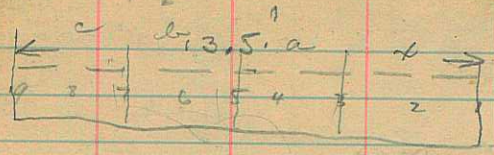
13.62 | 8 | 8 | 56 | 1.7

.60 | 1.46 | .63 | 438 | 876 | .919.98 | 60 | 319 | 306 | 1.98 | 180 | 60 | 15=3

94

95

each division = $40\frac{1}{2}$



→W

1 = $19\frac{1}{2}$"
2 = $19\frac{11}{2}$
3 = $19\frac{3}{4}$"
4 = $21\frac{1}{4}$
5 = 20"
6 = $18\frac{2}{4}$"
7 = $17\frac{3}{4}$"
8 = $19\frac{1}{2}$
9 = 19"

from

$v = \begin{cases} 1 = 66 \\ 2 = 66 \\ 3 = 69 \\ 4 = 69 \end{cases}$

(a) $\begin{cases} 1 = 67 \\ 2 = 67 \\ 3 = 66 \\ 4 = 66 \end{cases}$

b $\begin{cases} 1 = 64 \\ 2 = 64 \\ 3 = 64 \\ 4 = 63 \end{cases}$

c $\begin{cases} 1 = 66 \\ 2 = 66 \\ 3 = 66 \\ 4 = 70 \\ 5 = 70 \\ 6 = 70 \end{cases}$

1 = 64
2 = 64 } center

1 = 54 } West side

a' = 54 C side

$27/2 \times 1/4 = 27/8 = 3\frac{3}{8}$

$16/1 \times 1/4 = 40$

2.657 ft per sec. ~~A~~ = L Q' = 14.50

v = 2.636 ft per sec. of a = Q' = 15.07

v = 2.529 per Q = 13.25

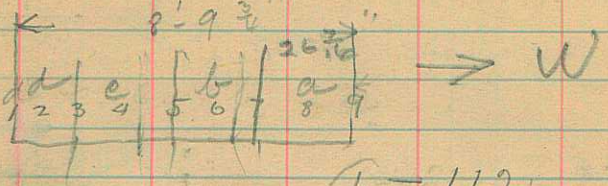
v = 2.698 Q = 14.20

57.02

96

97

at flume above intake.



average Depth 19"

a { 1. = 112. 2. = 112. 3. = 112. 4. = 112.

b { 1. = 116. 2. = 116. 3. = 118. 4. = 120. 5. = 120

c { 1. = 116. 2. = 112. 3. = 114. 4. = 114 5. = 116

d { 1. = 104. 2. = 108. 3. = 104. 4. = 104.

Q = 61.20
+- 60.35

98

96 3/4 / 9 = 10.5.

4 2 3 x 1/3 / 4 = 35 12

4 2 3 / 3 / 6 8 3/1

4 2 0 / 3 2 / 1 0 3 / 9 6 / 7 / 7 6 = 26 7/16

9 = 18"

10.4 / 10.8 / 10.4 / 10.4 / 5 (5 2 0 / 10.5.

11.2 / 11.8 / 11.4.4 / 10.5.10

11.6 / 11.6 / 11.8 / 1.20 / 1.20 / 5 (5.9.40 / 1 1 8

8.81 9.75 42/81

4 (4 4 9.4 / 1 1 2.7 0 / 60 / 4 8 7 / 4 8 6 / 4 2 0

1.87

11.6 / 11.4 / 11.4 / 11.6 / 5 (5 7 2 7 / 1 1 4.40

1,80 ; 4.26 ; 1.87 ; X

1.87 / 7 9 6 8 / 3 3 9 2 / 4 2 4 / 7 9 2 8 8 / 7 2 0 / 7 2 8 / 7 2 6 / 88

1.87 (12 / 67 / 75 / 1.56 / 4.4

8 8 / 1.56 / 5 2 8 6 / 5 4 0 5 / 8 8 1 / 1 3.7 4 3 6

1 3 7 4 / 4 / 5 4 9 6 / 5 4 9 6 / 6 0.3 5 6

99

Measurements at Lowell

a 9' 3" b c d → W

105
117
125.0
105.2
345.2
113.1 (60 1.885 c
60
530
480
500
480
300

a = 11.79
52.46

15.70 (12
12 1.31
37 9
15 11.79

b
1 = 102
2 = 106
3 = 106
4 = 106
420
118 105
116
116
118
107
126
128
128
126
108 102
118 115.5
106
104
104
102
6)626
105.2

a
104
110
110
32.4
108
122
99
3)329
109.

Box S. of intake

8½ - 9¾

a b c d → W

a
98
99
106

c
124
124
120
120

a
104
110
106
108

4(9.
2

1.80 : 4.2 : 1.89 : c
1.89
3½ 16
3392
42
8.0136
720
813
720
930
900

1.80. (60
4.45 = 5.

9.5 (12 1.3 R 1

1.24
11.24
4500
4500
4500
49.5

52.46 8 am
49.50 9 am

11.79
4.45
5895
4716
4716
52.465

8.81
1.58
7048
4405
881
13.9198

13.91

104
110
110
3(324
108
122
99
3)329
109.

124
12

110 (60
60 1.83
500
480
200
180

1.80 : 4 : 183 : c
183
12
33924
42
1.80
5.0
1.89
200
180
20

19 (12
70 1.58
140
98
100
106
4)697

13.91
.43
4.73
5564
59.77 3
5.46
7.25

59.71
49.50
10.21
5.00
5.21

18

101

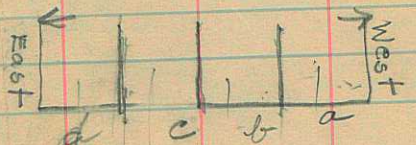
Hon weir at college
Heitch 7/28/05 at 4.30
P.M = 6 1/4"

7/28/05 5.30 PM

3 6.0
2.37
1123

lower box

3.56
1.81
1.75



	d	c	b	a
	72	76 Ft.	78	68
	58	80 ctr.	78	72
Top	66	78 Ft.	66	68
	196	234	222	208
average	65.3	78	74	69.3
average from meter	66.	80		72.0

65.3
78
74
69.3
286.6

60 | 71.65
1.193

1.15 : 2.93 :: 1.193 : x

1.19
2457
273
273
3.2487 | 1.15
230 2.82
948
920
287

Q = 46.19

Depth	Ctr.	East	West	
3.53	3.55	3.56	1.87	
1.66	1.70	1.81	1.85	
1.87	1.85	1.75	1.75	
			5.47	
			1.82	

Average d = 1.82

102

1.87 x 9
16.38 x 2.82
3276
13104
3276
46.1916 = Q at 5.55 pm
8/28/05

V = 2.82

71.65 | 60
60 1.193
116
60
560
200

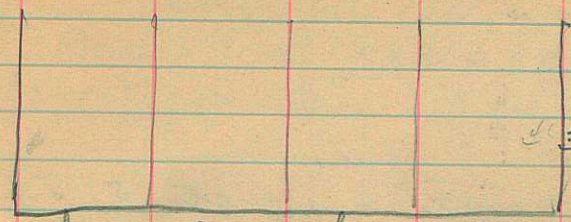
118

9
-3

June 28
6 P.M.

Upper Flume
L. HP + S. Canal

Note, Plank 2 x 8 was put in Flume



d	c	b	a	
	Rev. pr. minute			
76	80	84	64	floor
78	88	94	78	middle
74	80	84	70	top
228	248	262	212	
76	82.66	87.33	70.66	average

70.66
87.33
82.66
76.00
316.65
79.18

60 | 79.18 = 1.32 R pr. sec
1 9 1 8

Average depth

3.55	3.53	3.56	2.04
1.51	1.50	1.59	2.03
2.04	2.03	1.99	1.99
			6.06
			2.02

Average d = 2.02
width b = 9.00

2.02 × 9
a = 18.18

18.18 × 3.11
18 18
18 18
54 54
56.54

1.30 : 3.07 = 1.32 : 3.94

6 14
9 21
3 07
4.0 5 24
3 9
1 5 22

3.11

Q = 56.54

56.54
11.3.

56.54
5.32
51.22
46.19
5.13

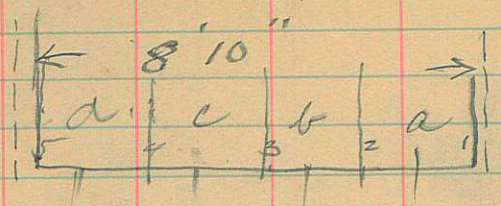
3 07
1 32
6 14
9 21
3 07
4.0 5 24
3 9
1 5 22

1.30 | 3.11

2.02
9
18 18
18 18
18 18
18 18
54 54
56.54

105

Water measurements at the Wellsville canal at the head Gate



	d	c	b	a	
	48.	54	42	60	mid
	42	52	40	58	dist
	50	50	41	60	top
	3(1250	3(1563	(1681	3(172800	
	6.6	5 24.	5 4.3	59.3	

1 = 15 1/2
2 = 14 1/2
3 = 13 3/4
4 = 13 1/4
5 = 13 1/4

average v = 2.106
" a = 1.16
Width 8.83

Q = 21.5654

4

104

0.5 / 12
0.8 / 9 0.4
.8 1

96
10
4(1024
26. (46 a

15 1/2 D.

46.6
52.0
54.3
59.3
4(212.2
53.05 = averge rev. per min

53.0500(60
480 .882
505
480
150

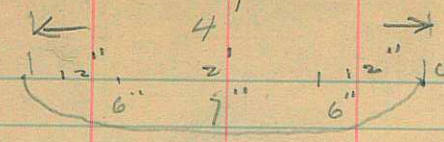
.85 2.03 .882
203
2646

1050
14.850.
1325
1325
1325
5(6997
1395 (12
12 1.16
19
15
12

1764
1979.046 (.85
170 2.106
90
85
546
510

8.83
1.16
5298
883
883
10.2428
2.106
6144
1024
2048
21.5654

Ditch at Little Bend.



1 = 26
2 = 29
3 = 28
3 | 83
27.6

6
6
7
0
0
5 | 19
3.8

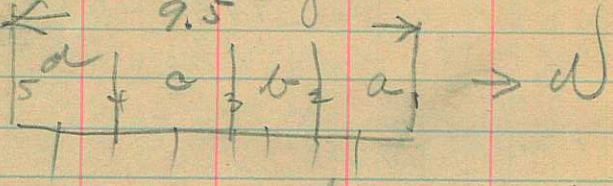
6
6
7
3 | 19
6.3 1/2
30.52

.52
2
1.04
1/2
1.56

Area = 1.56 sq ft
Aver rev per min = 27.6
" V = 1.10
Q = 1.816

---

at H. Lake Hyrum Canal



	d	c	b	a
12	bot	64	58	88
16	top	68	60	90
16	mid	207	56	90
		67	224	268
			57	89.3

3 | 44
14.66
64.00
57.00
89.3
229.96

4 | 229.96
57.49

9.30 | 12
8.5 | 17
90 | 3.8 | 12
10 | 20 .316 108
80 4
1.24

.316
4
1.264

27.6 | 60
240 .46
360
360

.52
2
1.04
1/2
1.56

45 | 1.10 | 46
.46
660
440
5060
45
56
45

1.56
1.10
1560
156
1.8160

10.00
9.10
9.25
9
8.75
5 | 46.50
9.30

45
1.10

57.49 | 60
540 .958
540
0

1.24
22.5
124
110
14

1 = 10"
2 = 9 1/2
3 = 9 1/4
4 = 9"
5 = 8 3/4

Average R. Rev = 57.49
" " per " = .958

Area =
Aver D. = .79
Wetd = 9.5
aver v = 2.28
Q = 16.67
Over

.95; 2.26; 9.58 ~

2.26
5748
1916
1916
2.1.6.5.0.8 | .95
190 2.28
265
190
750
665
85

.77
.95
385
693
7.315
2.28
58520
14630
14630
16.6.82
1.82
18.49

21.56
18.49
3.07

James L Jensen
Hyrum

Note correction
mean v = 2.28
17.70
" d = .817
width 9.50
Q = 17.70
at upper canal

Second readings on Hyrum canal

14.50
14.50
14.50
15.00
15.00
5 | 73.50
14.70

14.70 | 12
12 1.22
27
24
30
24
6

22
25
48
52
42
50
54
60
52
22
10 | 427 42
427 | 60.0
420 .15
700 300
17.70 200
16.87
1.03

av. v = 1.80

1.22
9.5
610
1098
11.590
1.8
9272
11592
2.

10
17.8 | 5
19.2

17.7
4.32

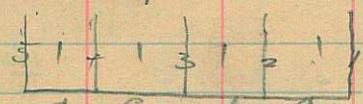
1147

Weir at College Hitch

$6\frac{5}{8}$" H on Weir

8/2/05 at 10:20 a.m.

1' upper flume



at 10.50 a.m.

a	b	c	d	
78	88	88	78	top
81	94	90	80	Mid
65	88	80	78	bot
84	94	88	79	x
4)308	4)364	4)346	4)315	
77	91	86.5	78.7	

1 = 3.89 − 1.89 = 2.00

2 = 2.88 − 1.83 = 2.05

3 = 3.87 − 1.80 = 2.07

5 = 3.89 − 1.83 = 2.06

4)8.18

2.07 average depth

83.3 " ft. per min.

1.39+ ft. per sec.

Average v = 3.28

Q = 60.22

39/2

78.7
86.5
91.0
77.0
4)333.2
83.3
23.3
180
530
480
500
440

1.35 : 3.19 : 1.39 x

2/3 down

2.04
9
18.36
3.28
14688
3672
5508
60.2208

2.65
1.93
2.07

112 18

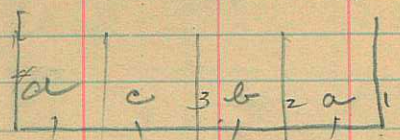
3.19
1.39
2871
957
319
4.43 4 | 1.35
3.28
384
270
1140
1080

9
3

113 29

Lower flume

← 9' → 8/2/05



→ West

at 11.43 am

a	b	c	d
72	80	72	74 top
64	83	79	72 Mid
58	74	82	68 bot.
78	82	82	76 ✗
272	319	315	290
68	79.75	78.75	72.5

1 = 3.89 − 2.02 = 1.87

2 = 3.85 − 1.97 = 1.88

3 = 2.84 − 1.92 = 1.92

4 = 3.87 − 1.98 = 1.89

7)13.36

1.89 aver. D-

mean

aver. v = 2.95 ft.

60.22

Q = 50.18 sec. ft.

10.04

not when blank is
up per flume 19"
lower " 15 29 14

60
13
43

3.85
.77
1.88

3.87
1.98
1.89

384
192
1.92

1.245
60
74.700

114 18

74.75 60
147 1.245
120
270
240
300
300

72.50
78.75
79.75
68.00
4 299 00
74.75

2/2 down

average ft. per min = 74.75

over. ft per sec. = 1.245

1.20 : 2.85 : 1.245 : x

2.85
6225
9960
2490
3.548 25 1.20
240 2.95
1148
1080
680
600

1.89
9
17.01
2.95
8505
15309
3402
5.0.1795

3.5 2/7 2.7 2/2
3.2 2/8.2

2.7 2/3.2 2/2
2.4 2/7.2 2/2
1.2 2/9
10.0

$$Q = 5.347 c Z \left[H + 1.4 b \right)^{\frac{3}{2}}$$

5.347
.61
5347
3204
3.26 .67
3.12
4552
326

47.8
10.1 | 12
1.44
4068
3068
4.4748

9044
4.47
4.57

1/4

2.04
18.4 / 9
.1

4/16 × 4 = 36/16 = 2.2
32
40

1/16

9/16

.7854
3.1416
.125
39270
15708
.196350

.439 | 196
592
470

7854
.56
47124
39270
.39984

5 (21.65
214.133
21.65

7 - 35

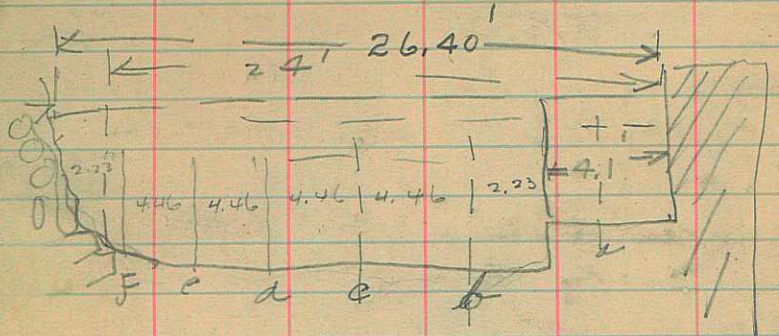
83
2
166

21.80
21.66
21.14

c = 12 1/4
d = 13 3/4
e = 13 1/2
b = 14
a = 13

Erie Canal = 42.49
W " " = 268.53

119 Water measurements on the West side Canal 8/3/05 P.M.



a	b	c	d	e	f
34	40	48	50	50	42
36	44	48	48	54	41
36	40	44	48	52	46
106	124	140	146	156	129
3	4	3	3	3	3
f = 9.0 − 3.33	1.33	4666	4866	52	43
	9.0 − 3.45 =		5.85		

e = 10.50 − 3.78 =
d = 10.50 − 3.46
c = 11 − 3.75
b = 11 − 3.80
a 10 − 4.07

On Bear River

b .03 .09

9.10
3.65
5.85

5 (22.30 / 4.46

120

under these con. of pulled uniformly to test

mean v. = 1.788

Levels for Profile on West side of 1st West between 3 & 4th South

8/11/05

Sta	BS.	FS	I m Ele	H I
Bm	1.945		483.393	485.338
		6.774	478.564	
Bm	3.770			482.134
0		4.05	478.28	
0		4.48	477.85	
0+50		3.80	478.53	
0+87		4.25	478.08	
1		4.26	478.07	
1		4.35	477.98	
1		4.75	477.58	
1+50		4.10	478.23	
2		4.57	477.76	
2		5.00	477.33	
2		4.97	477.36	
2+50		4.93	477.40	
3		4.80	477.53	
3		4.93	477.40	
3+50		5.11	477.22	
4		5.00	477.33	
4		4.97	477.36	
4+50		5.42	476.91	
5		5.75	476.58	
5		5.48	476.85	
5		5.35	476.98	
5+50		5.55	476.78	
6		5.10	477.23	
6		5.42	476.91	
6+31.2		5.21	477.12	
		5.65	476.68	
		5.31	477.02	
		5.19	477.14	
		4.88	477.45	
6+31.2		5.95	476.884	

Remarks

Length of 13.19 + 631.2'

on Nail in root of tree
on " in post SE cor. B. 20
" " " "
on g. NE cor. B. 19
on H+O ft 20.
in st.
on cement at I. Jacobsen
on H+O in Brick
in St.

on H+O
in st.

on H+O
in st.

on a H+O wrong

on H+O
in St.

on H+O
on Cinch in Jacobsen
on g NE cor. of 1st W + 4 th S. ~~in Walk~~
in St.

123

99.6
55.2
5
55.1
55.6 99.2

S.

S.

59.4 98.4
4.5.
59.9 98.7

4.8

Jenne Jacksin

East

58.9 99.2
3.
58.7 100

West

37.4

South

55.2 95.2
2 S.

55.80 98.6 43.8

South

1 S.

Center St.

may be 1 West

10 + 20 = 30

Lizzie's

S.

124

55.2
47.5
2 99.2 99.6
49.10 49.8
4 6
45.80 55.8

note missing at BY,

BY
C.
TP
Pole

E 30.25

20.95

E 7.20

2 99.2
49.6

note also by chamberlain

24.3

T. Post

125

Run to ascertain the distance the trees are East of a line line run 44' West of center on 1st West

8/17/05

Sta	Dist to tree to Lt
	6.10
	6.20
	6.20
	6.10
	6.30
	6.50
	6.20
	6.50
	6.70
	6.10
	6.70
	7.00
	5.60
	5.60
	5.50
	5.70
	5.70
	5.90
	5.40
	6.20
	6.20
	6.50
	5.40
	5.90
	5.40
	5.40
	5.80
	6.60
	5.40
	6.20
	6.00
	6.20
	6.00
	6.00
	6.00
	6.50
	7.50

477
5
4.27

Estab. of gr. for 1/4 Crockett. on 4th E. 124 feet Cen. of 1st S. on E side of St.

Sta	BS	FS	HI	Elev	Remarks
0	4.30			10000	Cor N = for 1st S. 4th E. on a nail & spike on EL. Pole on cor of Blk
	5.98	4.30			6.180
	6.180				4.340
		3.94			1.840
4+23.5		3.94			
					o/o = .432 for 423.5
3+25		4.42			
					or gr
		4.42			
		5			
		3.92			

1.840 | 423.
1704 | .432
1360
1269
910

126.18
1.44
477

3.25
4.32
60
975
1306
10.400

127

crokett

127

4.173

4.34
.4
3.94

6.18
2
5.98
3.94
2.04

5.98
1.56
4.42

.482
325
2410
964
1446
1.56650

2.040 | 423
1692.482
3480
3384
960

15' 10" over lap

N 89° 41' E

T. cor

19.34 chs

39.45 chs

6.85
28
7.13

39.72
stor 20.10

79.45
19.62 chs
7.13
6.05 chs.

NE cor Sec 19

H. P. Hansen
Hyrum

7.13
6.05
2 | 13.18
6.59
2.09
3298
1318
1.64750
28
1.36

28
.10
164

38064
3282.8
520
37.2

79.50

128

20.00
.66
19.34

40.00
39.45
2 | 79.45
39.72

40.00
39.72
28

19.86
19.62
.24

2 | 39.72
19.86
19.62
.24

40.00
39.45
2 | 79.45
2 | 39.72
19.86
19.62
.24

19.34
.28
19.62

19.86
.24
20.10
19.62
39.72

19.86
19.62
.24

19.81
.19
20.00
19

39.72
19

19.62
24
1986
39.72

3973
19.62
20.09

66
.19
594
66
12.54

66
24
264
132
15.84

39.45
28
73

20.10
5.20.00

39.45
25.16
27

19.34
.28
19.62

19.81
19.62
.19

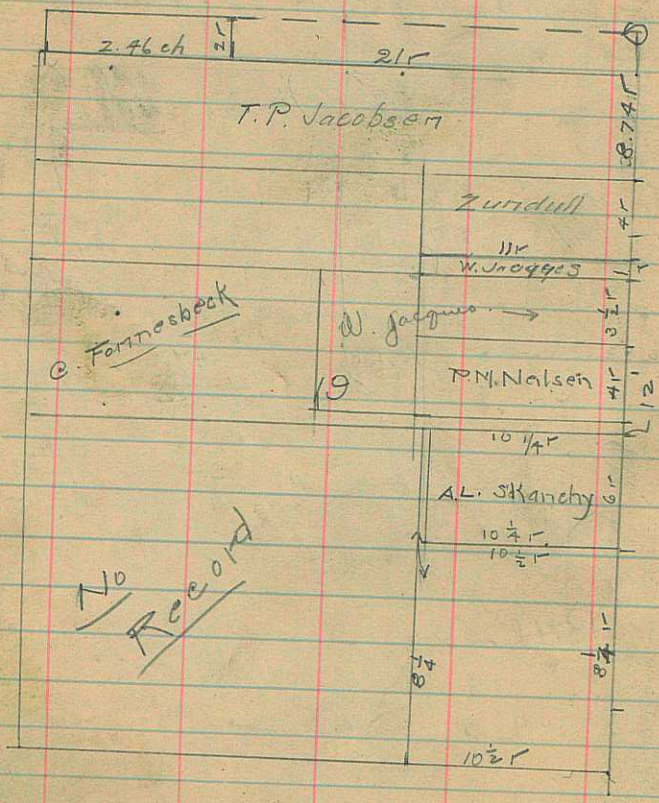
Bell,
Jos. Bindrup
College

129

BS. FS. Ele #1 1m

4.28
03

499.402
499.245
498.97



130

at center. E side B.4. S. A.
" " NE cor. B.4.

at SE cor B.4

Note from a pt. 6' W of cent
at NE cor of B. 4 to 6' W of cor
= 42.45

99
14
85
216
8284

2.16
6.84
5.00
N.
J.84
6 5 0
12 3

499.40
498.97
.43 300
302.21

.0021
15
105
21
.0315

aug 24/05

131

St.	BS	FS	HI	Ele	HI	
	4.83			498.970	503.800	at SE cor B 4
		4.40				cor of B.
				aug 25/05		
				476.750		on gr. SE cor. B.19 ? ?
				478.280		on " NE " " " "
				478.56		" " SE cor 320 " "
				*		note gr from SE cor B 20 to St.
				481.660		662' ft. N of SE cor B 20 } curve
				482.20		712' " " " " }
				486.58		P.C. 200' S. of NE cor. B. 20 on B.I. P.B.
12+07	4.600			478.56	483.16	SE cor. B.20
		4.58			478.58	on gr. SE cor. B 20
		4.88		478.28		on gr ne cor 19
	4.122			478.28	482.40	" " " " "
		5.900				662' " " " " SE cor B.19
		4.85				1.05 below top of stake on stake SE cor B.19
	6.245			476.58	484.82	SE cor. B. 20
		3.16		481.66		662' N of SE cor B. 20
		2.162	2	482.20	11	712' " " " "
	5.760			482.20	487.96	
		1.38				200' S of NE cor B1
Note	712			two rains 2"		
	662					

498.97 / 4.83 / 503.80

503.80 / 496.40 / 4.46

4.83 / 63 / 420

132

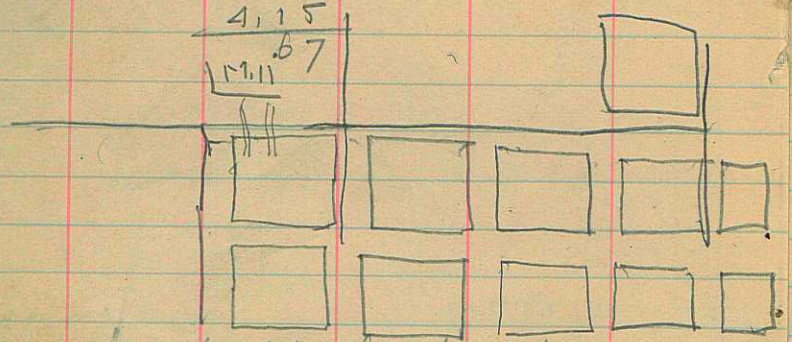
478.28 / 4.12 / 482.40 / 476.50 / 5.90

478.58 / 6.24 / 484.82 / 481.66 / 3.16

484.82 / 482.20 / 2.62

482.20 / 5.76 / 487.96 / 486.58 / 1.38

Sta	BS	FS	Ele	HI	HM
BM	1.325		483.393	484.718	
		O/K	479.90		



trail levels from house to Reservoir.
Smithfield City

BS	FS	Ele	HI
11.61		100	
	0.200		
12.10	0.580		
13.20	1.560		
11.76	0.820		
X11.60	0000		
60 27	3.160		
3.16			
59.11			

483.393
1.325
484.718
479.90
4.818

on nail in root of tree. Lufkins gate at jam.

479.900
1.325
481.225

135

Sta.	B.S.	F.S.	Elev.	N.I.
	4.510		49897	50348
		4.08	499.402	

Cast Fe plate

Bet 1+25.

16" 1 1 1 1 in 6' f

18"

20" 1

Bet 2+35

16	in	1 6'	1 4'	1 4'	1 4'	1 6'	1 6'	1 6'	1 6'		
20		1 6'	1 6'								

Bet 3+47

16	1 6' in	1 6'	1 4'	1 6'	1 6'	
20	1 6'	1 6'				

1 .4

5

498.97
5.03.48

503.48
499.40
4.08

136

Wash SE cor B.4 P.a.

1 Center

Wash

Stake

5200

5625

RR

2521

S 77° 45' E

137

Rods on permit
for Sophie Martinson
Bonanza Aug 31/05

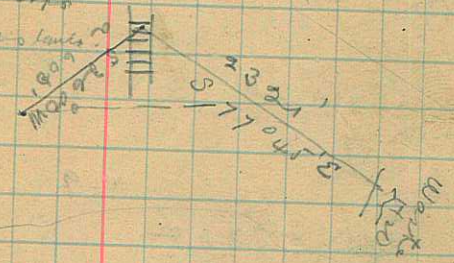
Sta.	BS.	FS.	I-M	Ele	HI
	5.694				
		6.320			
	2.9230				
		6.303			
	4.100				
		7.710	on RR		
	0.790		130.00	130.79	
			9.16		
		7.93		122.86	
	1.66				124.52
5200			4.9	120.73 on a mile	
5625		7.72		116.80	X
11	2.01				118.81
		5.705		113.11	
	5.07				118.18
		5.670	through marsh	112.51	
	4.620				117.13
		5.33		111.80	
	6.87				118.67
10150			5.000	113.67 113.74	
		4.930			
	1.20				114.94
	3.42	5.10		109.84	
			4.83	108.43 on rug	113.26

Remarks

138

in Bot of Canal West side of State Road

2321' to RR track
temp bm
at Miss Frank Fales house
temp bm



in Wire Str

Sta	BS	FS	HI	Elev
9+40		5.08		108.18
	+ 3.20		113.26	
		5.42		111.38
	5.270			105.46
15300				
			4.930	105.80
15900		5.64		
	3.62			105.09
16700				108.71
			4.90	103.81
16730			2.72	105.99
17100		3.00		105.71
	5.73			
17520				111.44
			5.00	106.44
17944			6.20	105.24
		3.65		107.79
17944	5.10			
18355	48.76		4.70	108.19
18800			6.82	
		4.10		108.19
		69.87		
		48.56		
		21.31		

on ground
from H₂O on Leitchen Canal

	112.89
	6.82
	106.07
	.83

on g

on head of Canal
on at W side of La Boca about 50.00
from of SW on TP 13 m
on bus of Branch Canal on bluff

.2 fall through bank
from Sta 8+50 to
Sta 1+58 grade = .175 o/o
.0875 per 50'

from nail in post

" " " "

fall from Sta 1+58 to 0+90
= 1.88 = o/o

Sur for Hyrum Johnson

at Nyman's

(1)

Sun ob.
h = 44° 26
L = 17° 56
T = 1° 30 line.

N 0° 08' W 20.08

1.73 T

(no 2)
h = 44° 12
L = 19° 17 (T) (L 661)
T = 1.33

N 89° 48' E

17.60 90.04
90.12 08
89.48 90.12

Beg. at N ¼ cor sec 26
S

20
20.38
40.00
40.39
80.16
77.60
80.17

no fence on line to A Nyman

to line E & W ¼ cor.
to N bdy C Eddy
to N line of Sec. College as C.E.

Beg at cor of sec 26 as established.

S 89° 48 W 13.53 to Moses Johnson W. cor
" 20.50 to cor post. SE cor Co Farm

Beg again at cor sec. 26

N 0° 08 W 7.58 L angle R
T line 90° 02'

13.53 S 89 48'

8

N 89° 48' E 13.33

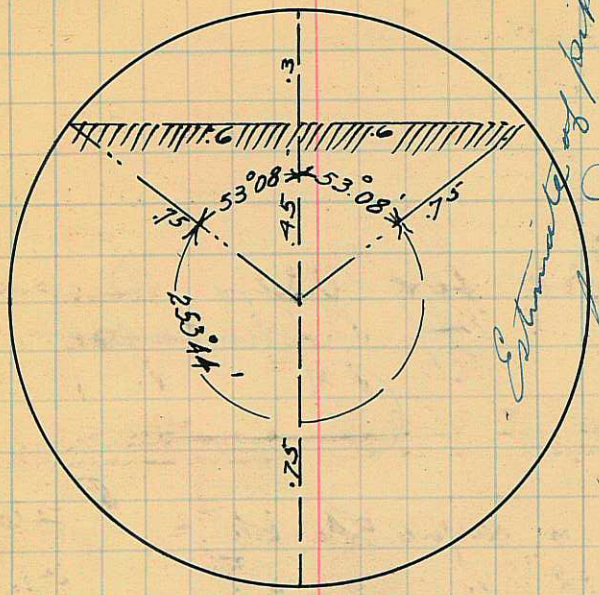
Post Co. poor Farm

9

A. Johnson

7.5 .37 ac

.37 7.5



Estimate of 42" pipe for D. C. Bridge.

Inside dia of Tile = 1.5'
Water .3 below top.
$p = 3.32$. $A = 1.52$ □'
$r = \frac{1.52}{3.32} = \log. \overline{1}.66070$
$= .4571$. $\log \sqrt{r} = \overline{1}.83035$
$= .6766$.

When:
$S = .00175$,
$d = 1.5$,
$r + p$ as above.
$n = .013$ for Sewer pipe.
$c = \frac{106.8}{1.011} = 99.70$

$V = 2.82$.
$Q = 4.2$ cu. ft. per sec.

$$c = \frac{23 + \frac{1}{n} + \frac{.00155}{S}}{.5521 + \left[23 + \frac{.00155}{S}\right]\frac{n}{r}}$$

Pipe for D. C. Bridge

44' — 16" pipe.
25' — 18" " .

44" of 16" pipe at 60¢ = $26.40
25' 18" " " 87¢ = 21.75

Estimate for Wooden intake bot

500 ft 2" bank @ 25 per M	12	50
8 p. 2×4×18	2	50
nails	1	50
Mange.	3	00
labor	5	00
miss —	2	00
	$26	50
lock and bolt	$1	00
	$27	50
sewer	3	00
	30	50

Estimate for tile pipe intake.

25'-18" tile @ 87¢		$21.75
laying		2.00
concrete for wings	1.5 yds @ $8	15.00
Headgate 25' @ 5¢		1.25
18 bolts 1/2 x 4 1/4 @ 5		.90
6 " 5/8 x 8"		.60
lock plate lock + bolt		.50
		43.00

Pipe across Main St.

44' ft 16" @ 60 =	$26.40
Forging	4.00
Gauge	5.00

Excavation

217 yds @ 20¢ =	43.40
19 yds through St 40¢	7.60
Ditch Cleaning & enlarging 20 rod	
Tilling 15 yds @ 40¢	6.00
	57.00

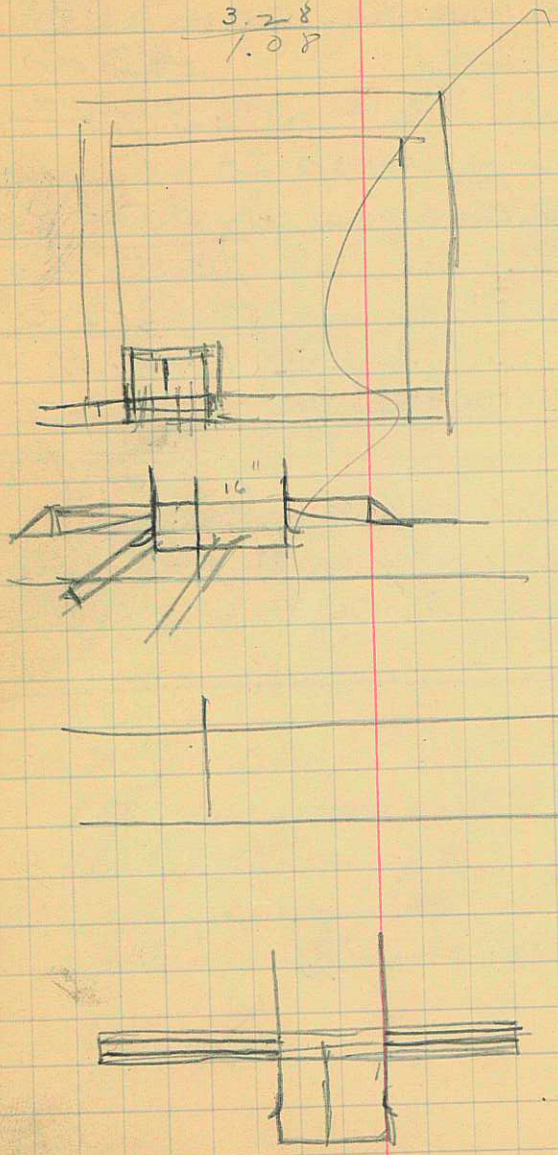
Summary

intake	43.00
Ditch	57.00
pipe across St.	
plus drage	35.40
	$135.40
plus 10%	13.50
	148.90
Ditch cleaning	12.00
	$160.90

This is by using a fill near St. on east side.

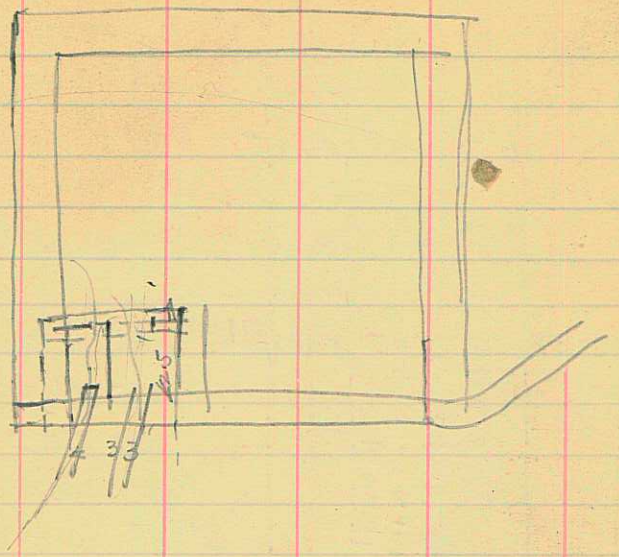
14

4 36
3.28
1.08



15

24
33



16

Sta	BS	FS	HI	Elev	Cut	R.R
Bm TP	0.53			532.40		
		10.58		522.35		
	0.78			523.13		
4		.479		578.34		
12	5.38	9.45		515.95		
11+50		9.25				
11		9.05				
10+50		8.85				
10		8.65				
9+50		8.45				
9		8.25				
8+50		8.05				
8		7.85				
7+50		7.65				
7		7.45				
6+50		7.25				
6+09		3.18		512.77		
6+09	7.19			519.96		
		2.20		517.76		

on Ht.

	4.068	5.38	
	3.65	5.60	
	3.53	5.52	
	4'	4.9	
	4.20	4.5	
	4.3	4.1	
	3.23	5.02	
	3.03	5.02	
	2.80	5.05	
	2.24	5.41	
2.6'	2.72	4.73	
2-6"	3.55	3.70	
2.5"	3.18		

on Ht.

on Hub

El = 532.40 − 10.58 = 521.82; 521.82 − 3.18 = 518.64

9.59 − 6.22 = 3.38

510.57 − 3.18 = 507.39; 507.39 − 7.19 = 500.20; 500.20 − 1.45 = 498.75

41 − 4 = 37

514.83 − 4.26 = 510.57

7.09 − 3.18 = 3.91

8.85 − 4.95 = 3.90

508.49 − 7.90 = 500.59; 500.59 − 3.83 = 496.76; 496.76 − 11.46 = 485.30; 485.30 − 3.28 = 482.02

514.83 − 4.26 = 510.57; 518.34 − 7.89 = 510.45

17

9.25 − 5.60 = 3.65

9.05 − 5.52 = 3.53

7.65 − 5.41 = 2.24

7.25 − 3.70 = 3.55

5.38 + 4.07 = 9.45

8.25 − 5.02 = 3.23

7.45 − 4.73 = 2.72

7.09 − 3.18 = 3.91

18 Chick

Sta	BS.	FS.	HI	Elev	HI	RR	Cut.
14			6.43	501.83	508.26	5.55	.88
13			2.33				
TP			4.098	504.21	on H.	1.05	2.948
13			10.570		514.53		
12				510.57	on H	4.26	
TP 9		3.88		511.01			
9	5.38				516.40		
5		.61		515.8	~~515.80~~		
5	8.22				524.01		
4				517.8	H H		

501.83
6.43
508.26

4.098
1.05
2.948

7.62
2.95
10.57

19

508.26
1.05
507.21
7.62
514.83
4.26
510.57

514.83
3.82
511.01
5.38
516.39
7.90
508.49

516.40 516.40
3.83 .61
512.57 515.79
8.22
524.01
1.62
517.79

514.6
3.2
517.8

O. J.

Sec. NW¼ of NE¼ of NE¼ of SW¼ of SW¼ of SE¼.

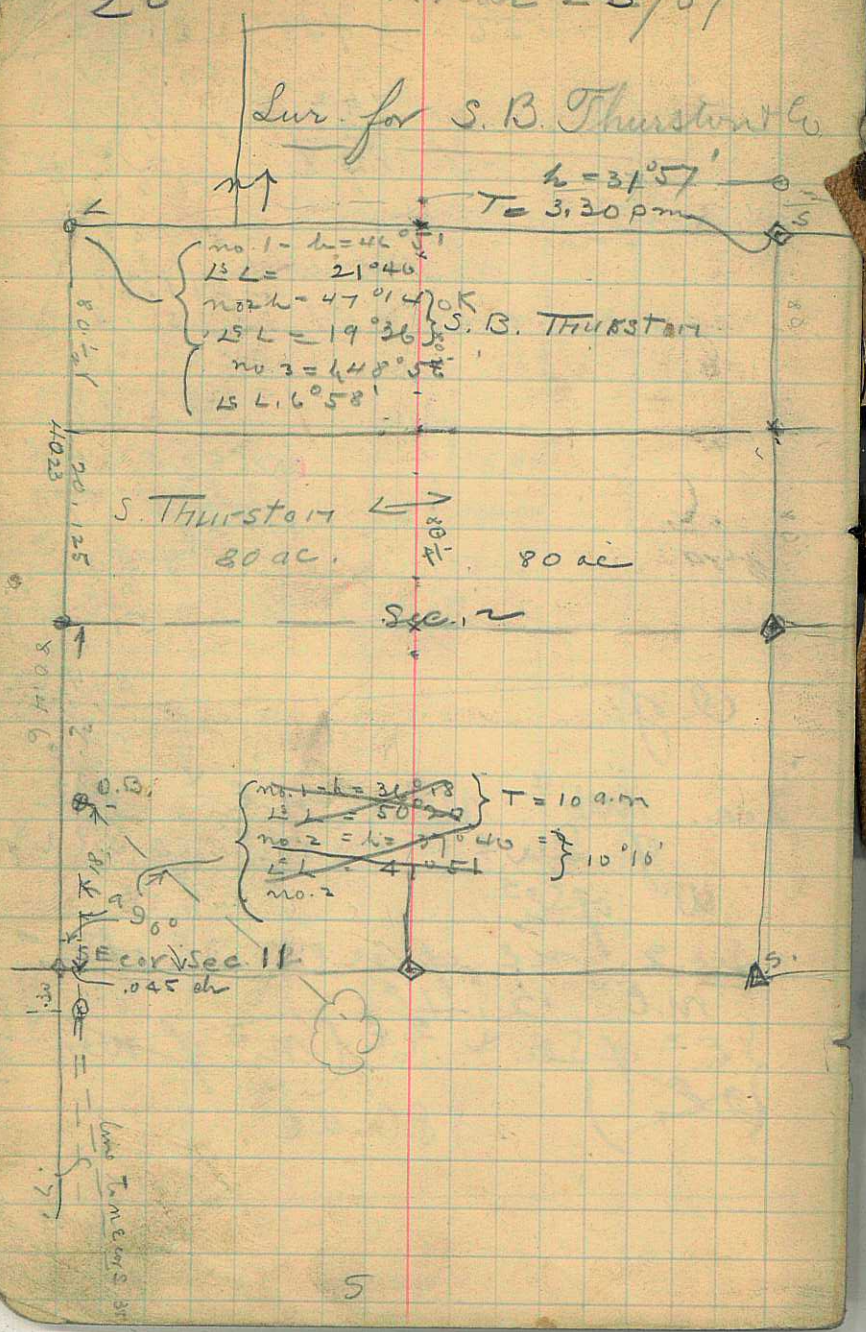
Sec. 2. NE of NE. SE of SE; ME¼ 12. 1, E.

{C² of SW¼ 26 E. (N² of ~~NW¼~~ ~~SE~~)

880. ac.

20 Mar 2-3/07

Lur for S. B. Thurston & Co



5

N 39 W 89 45 25
39
89 06

for east 26 links

and - = 5°10 increase
to a stone township
[illegible] New or on boundary
[illegible] 53. and 06 [illegible]
[illegible] this lump pt in 1.99 from
1.99 [illegible] which is 1.50 N. of

26 Cal.

on mid cn Sec 7,

TP 12 n. R 2 E.

Log Sin 58' = 1.92277
Log 31 .5530 = 1.92877
2.29836

Log cos 41°48 = 1.87243
2.42593
= .02666

Log tan 41°48 = 1.95129
Lo 31 = 1.79462
1.74591

17960 =
7830
10130

15507
02666
0.53041

57° 58'

S 76° 20' E

12.02
7620
9822

17960
8822
9138

7935
7830
105

6 17960
5 8822
52 9138

27

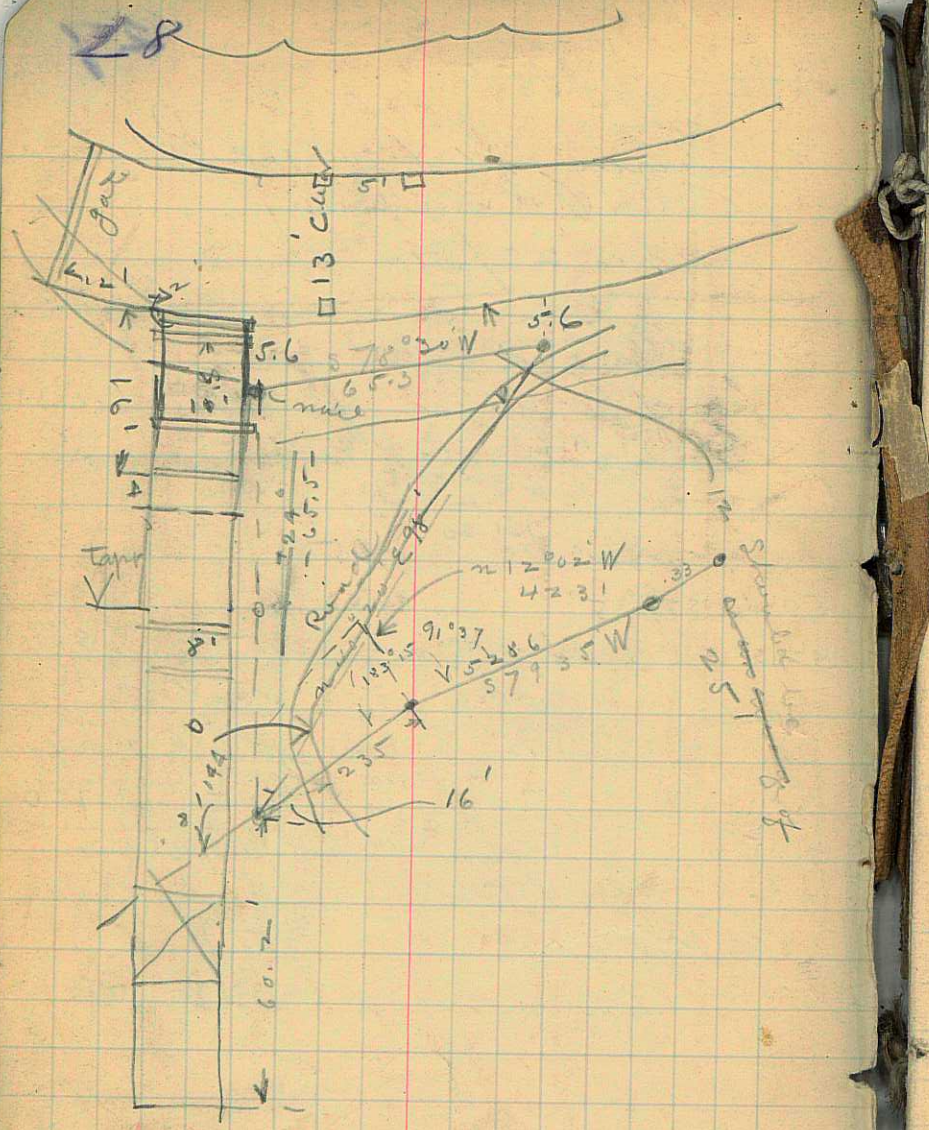
Survey for Logan and Richmond Canal Company
mar 28/07

Beg at a pt 22.35 chs S of mid cn of NE¼ Sec 31 TP 12 n R 1 E.

Dists	Course	angle L	angle R
.33	S 78°30' W	101.30	1°05'
528.6	S 79°35		88°23
82.3	N 12°0.2 W		
42.3	" "		91°38
100'	S 76°20' W	do do	
200	" "	2' to fence	
235	" "	to pt 2½" E of E side of S plane	
275	"	to in line with W side of Blue.	
8.5	58° E		
.38	N 8° W		

to fence E & W
to stake N
to E side of tank
to being 7' N of fence
Note: Bis from L to mid pt 275.0 being in line with Blue. W line
to fence
to Bank Stake

see on 2° page



12.02
79.35
91.37

179.60
91.37
88.23
79.35
16.758

79.35
76.20
3.15

91.37
79.35
12.02

179.60
16.758
12.02

2/183.15
91.37

Part of Franchise from Cable Co. to L. C. E. L. & P. Co.

Sec 3. Pole line shall not exceed 12 feet from ground Property lines.

Last Course		Angles L	R	N	I	+	−	W
2 35	S 76° 40		101.12					
60.2	S 2° 30' E							
2 35 pt 2			101.12	4.68				
3	N 2° 30 W							
2 35	N 2° 30' W		144°					
98'	N 40° 30' E	141° 53						
65.3	S 78° 30 W							ov

Line for S.B. #5

Thurston

Beg again at the NW cor of 12 at old pt as des. B.S. N 89° 4' E

90° 9

N	20
N	20.66
N	40.00
N	80.69

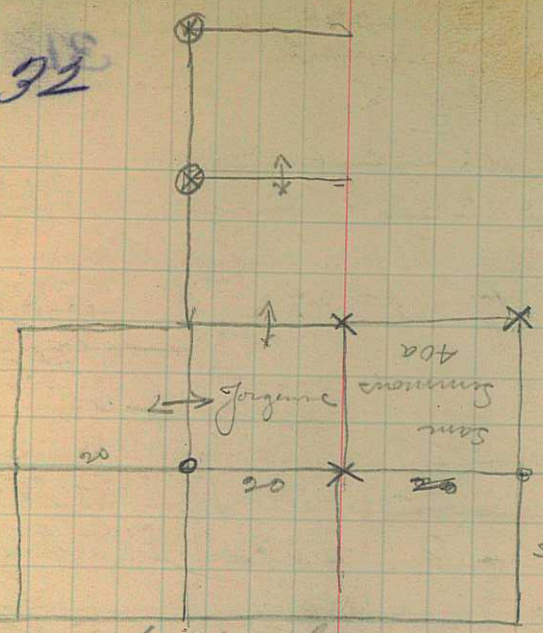
Therefore I through the .69 ch in the N ½ at 40 ch N of NW/12 of move .107 ch W and set Cor - mark 1/4 on West side

Stadia

+	U	L	
	set on this pt 1.		
which pt is 2½ E of E side flue			
	to end of flue sent on 1.		
11° 25	4.68	4.53	on pt 2
24°	5.03	4.68	on pt 3 on blg
~~15° 02'~~	~~5.20~~	~~4.68~~	on pt 4.
15° 02	5.20	4.68	on slope 15° 02'
ov			

cor cor found mound of stone no trace of cor to tp line fell 0.22 E.

32



final location.

Dis	Course	angles L	R	
20 ch	~~S 89° E~~		14'	
20 ch	N		8 95'	thy NE cor Jorgensens
			40	

80.46 : 26 : 60.34' ~ 60.34

26 / 6.5 / 19.5

1568.8 4

8941 / 9003 / 17962 / 90°

.0029 : 1.60 : .0046 ~ 1568.8 (8046) 195

1.60 / 9.0240 / .0029 / 76420 / 72414 / 40060 / 40230

.0004 / 10 / 0.0040 / 29 / .0029 / 1

not Ob. 2.3 m NW cor 1 & 12 N 1 E

h = 42° 5' 3 which bears N 89° 41' E old line

Ls L to line 134° 47

now h = 39° 21' to mag N 89° 41' E

L's L = 141° 54'

Beg. at old pt. which fell W. 26 ch. of FS. N 89° 41 E (not anyp)

Mar 30/07

set pt. a.

and moved S.B. Thurston NW cor 1rd. S. and also place stakes on line over hill.

Then I went south and placed the pt 60 ch N of SE cor sec 11, .345 ch N +.195 D.ist

now New line N 89° 41' E.

No " " N 89° 48' E

will find 50 N of new cor of R. Inc.

Thence I go S. to pt 40 ch. N of SE cor and more sd pt .23 link N and .23 west

Note from a post supposed to be S¼ cor of sec 12. West 40.56 to SW cor Sec 12.

From S¼ supposed cor of 12 (a post) E 39.73 to post.

Note. a line run from the N¼ cor of 12 and S. fell east of SW cor 12, 40.56 ch + 11'

at a pt about 20 ch S of N¼ cor line fell east 15' of line

23 × 66 = 1518 ; 13.8 + 13.8 = 15.18

66 × 13 = 858 ; 198 + 66 = 8.58

100 × 44 = 5 ; 35

N 89 41 E

9000

Note. I a fed a note showed that the S. boundary of 12 is 80.20 ch. bears of line N 89 51' W

N boundary 12 N 89° 52' W 80.06 ch.

Bearings.

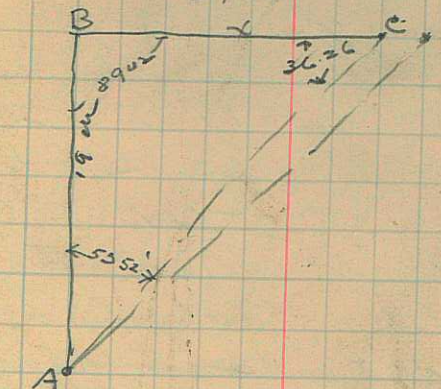
Correct Bearing of line which fell 20 lks north of NW cor at NE cor Sec. is N 89 35' E line from established cor NE cor sec 12 to NW cor of NW of 29 N 89 54 E

36

Description

of line between Smith & Nielsen

Beg at the SE cor of SW¼ of sec 8 Tp 13 N. R 1 E W 5 ch. N 20 ch. E 5 ch. S 20 ch. to beg. Con 10 ac. with a right of way for water ditch



Cu C : AB :: Cu A : BC

.8076 × 19 = 15.3444 = 1.5938 = 25.84

40.00 − 39.66 = .34

13.82 × 25.84 = 39.66

49400 − 47504 = 23960

8942 − 5352 = 14334

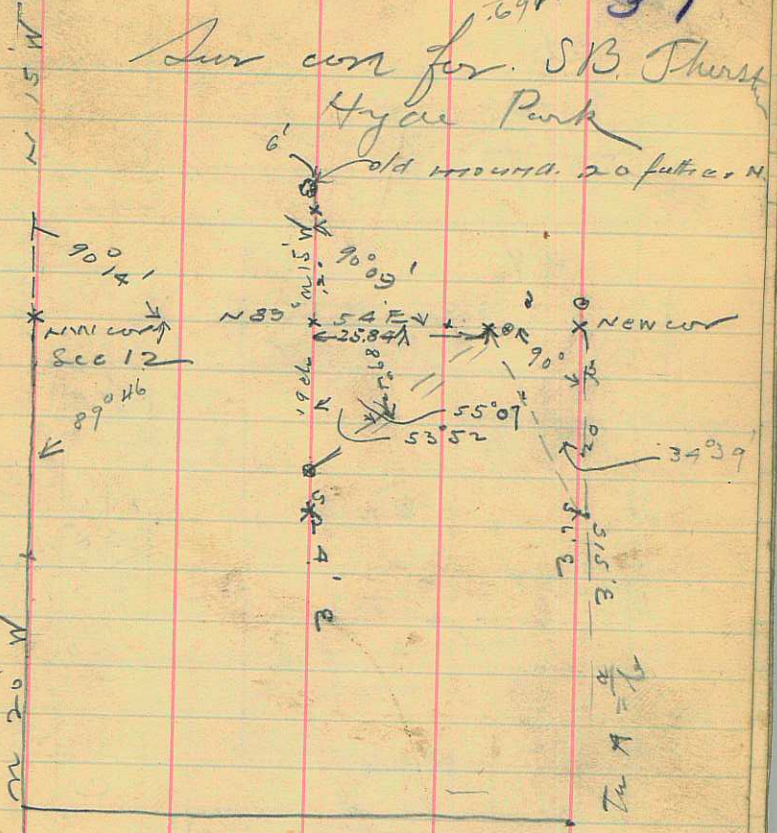
17960 − 14334 = 3626

5352 + 8942 = 18000

10001 80.5 / 8500 / 1500 / 805 / 6950

97

Cor for. SB. Thurst Hyde Park



Log .8076 = T. 90720

Log 19 = 1.27875

1.18595

Log .5938 = T. 77364

1.41231 = 25.84

Cu 34°39.6911/20

13822 0

8954 − 8966 = 6873 / 38 / .6911

8944 − 8954 = 20

17960 − 8954 = 9006

8966 − 8944 = 22

4000 − 2580 = 1416

38

27
20
8954
15
9009

.0027
20
.0540
66
324
324
3564

17960
9009
8951

.0017
20
.0340
4000
034
366

.149

8020

S 43° E
.23
S 20° E
8923
8946
79.66

8942
5507
14449
17960
14449
3511
5507
9018
8942
1200

B
C
3511
8942
19
55°07

A ∠ A · BC ; ∠ CAB

39

.1408800
8000017
6000

8974
8952

.034
8954
26
9020

17960
9020
8950

8060
3966
.34

S 26° E

.0076
20
.15.20
34
.14920

80.20
7946
.54

.5408800
4800067
6000

20
4056
3973
80.29

.5408800
4800067
6000589

8955
43
9037
17960
9037
8923

40.00

0116
.0124
20
.2280

.034
.119

23
78.45
66.55
40.23

40.35

31°15
31°21
N 28°54' E
66.22
.8203

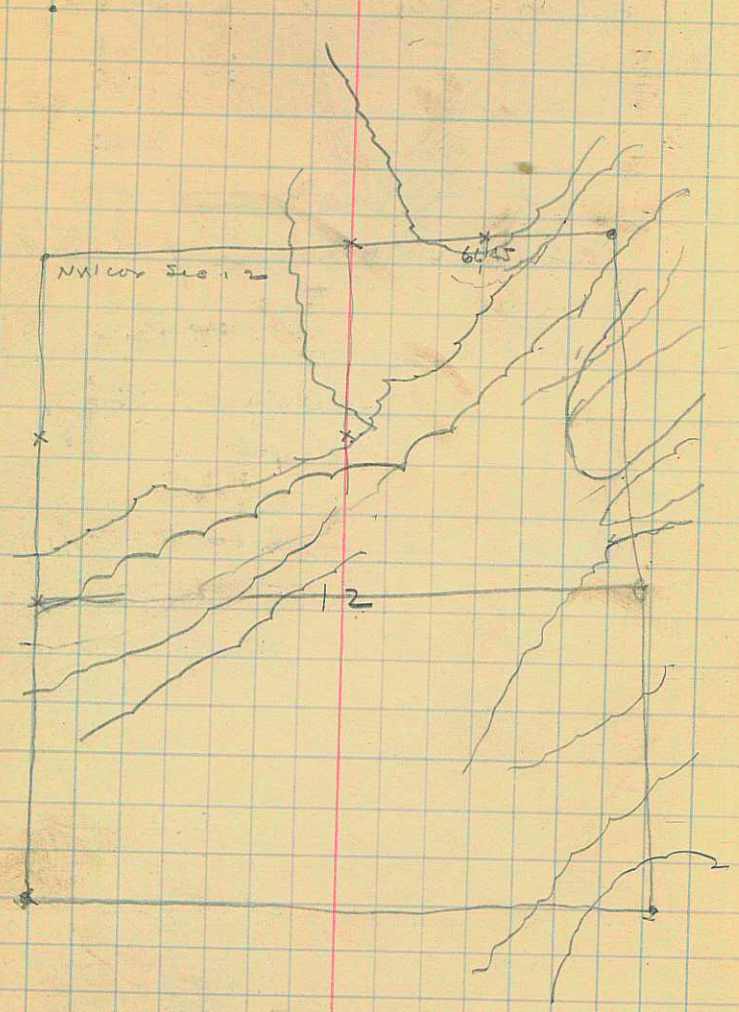
Log
Log
55°07 = 1,90434
1,27875
1.18309
T 96057
1.4225 2
26.45

Log .5762
26.4
66.45
.23
66.22

40
3 2/3
40

40

topo



41

26.45
.0018
21160
2645
.047610

89°54 = = 1.

∽ 20' = .0058 = $\bar{3}$. 76343

log 40.23 1. 60455

T. 36798

∽ 20 1 .233

log 6645 = 1. 82249

∽ .0018 = $\bar{3}$ 25527

T. 07776 - 119

40.350 ⟨ 66.22

39732 .6093

c 61800

59598

22020

19866

31° 21'

Sur at Blacksmith fork River 4/11/07

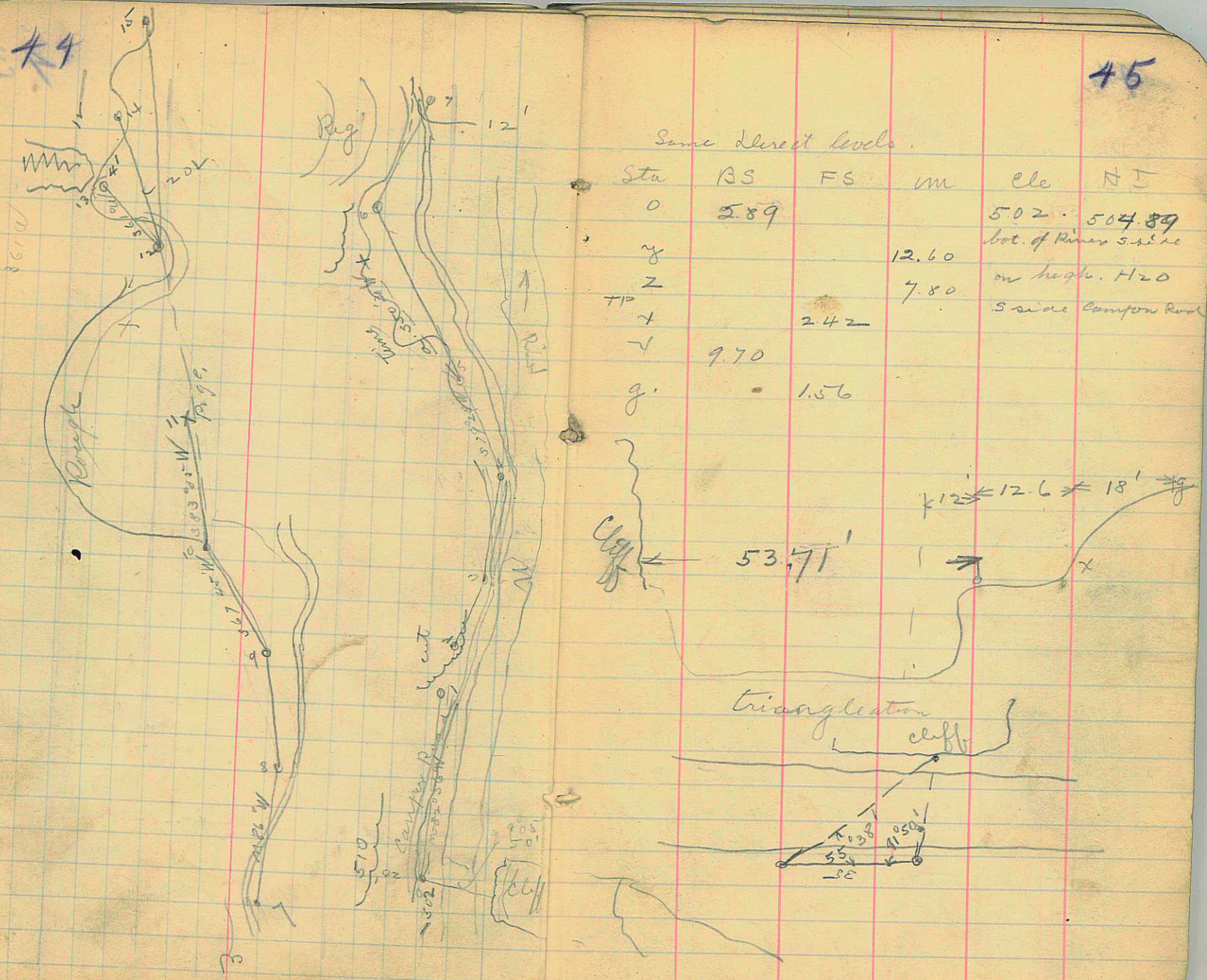
58.9 / 55.9 / 1 1 3.9 — + = up, − = down

17660 / 11319 / 5641 ft over [illegible] sheet

List	Sta	mag. Course	angles L	R	HI	Stadia U	L	Ample —	+	Ele.	Remarks.
	0		82°56		6.00						to possible grade at Dam
	1	n82°56W				6.00	4.38 ✓	6'			
	0		82°41								
	2	n82°41'W				6.00	4.00 ✓		2°15'		on hill (cut)
	2			22°32	4.48		~~4.022~~				
	3	n60°05W	18°25		4.46	4.48	4.022	6'			
	4	n78°50'W	21°42		4.59	4.963	4.46	6'			
	5	S79°28W	21°36		4.800	5.328	4.59	6'			this pt Strole 90 12' further 2 increase 100'
		S58°W						6'			
	6			55°19'	4.76	8.740	4.80				
	7	N66°50W OK	19°12		3.9	6.104	4.76	6'			
	8	n86°W OK	9°35		4.69	3.90	2.917	6'			
	9	S84°28W	16°39		4.77	4.69	3.937	6'			
	10	S67°45W OK		15°16	4.91	4.77	4.350	6'			
	11	S83°05W				4.91	3.817	4°56			
	10			15°28							
	12	S83°5W			4.32	8.965	4.91	6'			possible ext at 12, 4'
	12		22°27								
	13	S61°W				4.975	4.32	6'			at 13 at gulch drop a gutter
	12		8°17								
	14	S75°W				4.975	3.612	6'			
	12		4°20			=					
	15	S79°W				4.32	2.117	6'			

Some Direct Levels.

Sta	BS	FS	HI	Ele
0	5.89			502. 504.89 bot. of River S side
y			12.60	on high. H20
z			7.80	S side Canyon Road
TP				
x		2.42		
v	9.70			
g'		1.56		



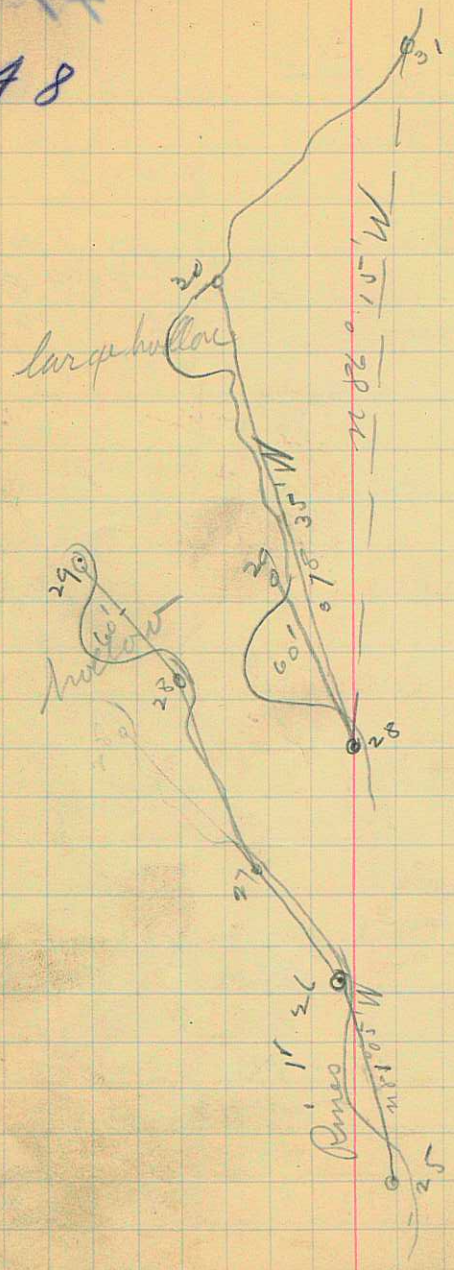
46

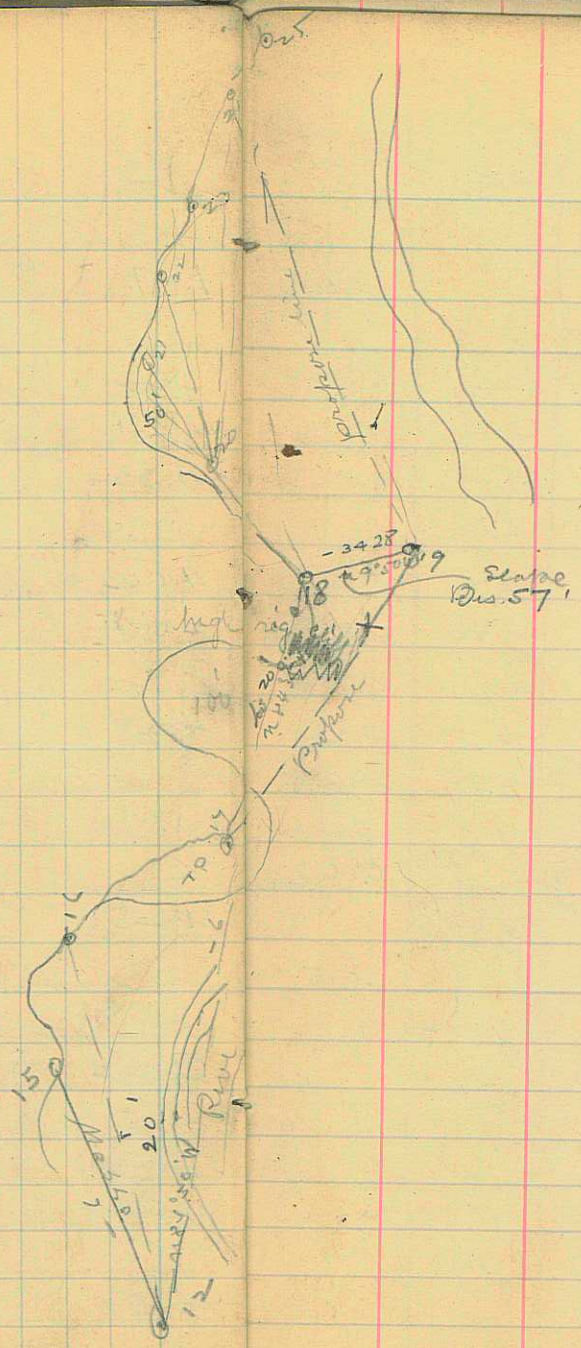
Sta	Course	Angle	R	HI	Sta W	Sta and Ele L	−	+	Ele
12			3°17'			+			
16	S86°35'W				432	1.47	6'		
12			11°50'						
17	N84°50W		0°11'	4.41	7.957	432	6'		
18	N84°35W		74°44'	4.32	6.03	4.41	6'		
19	N9°50W				4.64	4.32	34°28		
18		34°26							
20	S60°40W		27'	4.28	432	4.003	6'		
21	S6195W				4.28	2.684	6'		
20			10°33'						
22	S71°0W				6.825	4.28	6'		
20			14°08'						
23	S75°W				4.28	1.86	6'		
20			25°07'						
24	S85°50W				9.584	4.28	6'		
20			30°26'						
25	N88°50W		7°42'	4.22	11.613	4.28	6'		
26	N8°05W	12°07		4.05	5.195	4.22	6'		
27	S86°40'W	1°07		4.32	4.798	4.05	6		
28	S85°30W	15°		4.58	6.463	4.32	6		
29	S70°30W	~~6°50~~			4.58	3.62	6		
28	S	6°50							
30	7835W				9.97	4.58			

47

{ mostly flat large hollow just S of sta 8 increasing 100'

not this sta is 37' east of sta 61 by Carl




Telephone Line
Telephone
Telephone Line
Telephone
Telephone
Telephone

50

Dist	Sta	Course	Angles	R	HI	J
	28			8°21		
	31	N 86 15 W				11.48
	28			19°38		
	32	N 75° W				
	33	N 20 20 W	4°03	54°25	4.21	11.40
	34	N 24°05 W	5°44		4.92	4.21
36.83	35	N 30° W	42°05		4.50	5.846
	36	N 72° W	20°14'		3.41	
	37	S 87°30 W	11°15		4.70	11.85
	38	S 76°20 W	2°30		4.33	6.062
	39	S 73°50 W	3°04'		4.10	4.768
	40	S 71° W	12°14		4.24	4.611
	41	S 58°35 W.		60°10	4.19	4.988
	42				4.02	5.892
				to Rund		6.16

Slope method

	0	N 58°15 E			4.02 x 8	
	0+50				3.00	
	1				7.02	5.15
	1+50				7.02	2.7
	2					1'
	2+50					
PC	2+82					2.02
PI	3+43.5					
PT	4+04.5					
	4+50					

4.27
2.14
2.13

BS 2.14

Sta	L	Angles −	Angles +	Ele
		6'		
	4.58			
		1		
	3.00	6		
	2.603	6'		
	4.92	6		
		5°43'		
	reading 3.			
	3.00			
	4.70	6'		
	4.33			
	4.10			
	4.24	6		
	4.19			
	4.02	29°11'		
	fill	RR		
		1.87		
		4.32		
	1.65	8.66		
		6.70		
	1.5	8.50		
		5.00		
		4.275		

.7960

0997

.1001

3.6.8

8 4 9 8

6 0 0

3.0 0 3

3.6 3.3 6 8

1

1.36.8 5°03 4.5

3 36.8 3.4

3.6 8

1.1 8

2.1

moreare 300'

on Cliff

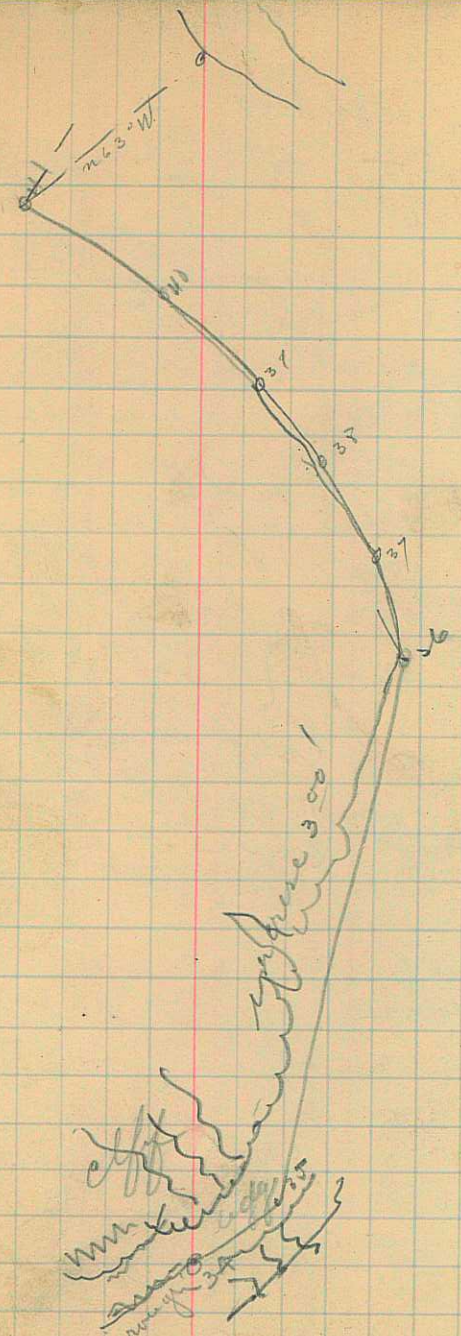
on cliff into Sta 35's 2.13 lower then 34

Sta 119 Yard about 50' NE of mp 41

at this a consideration will be made for Stang pipe and conveyor to wheels left at this point cuts 3' droped 5' for safty

same as 41

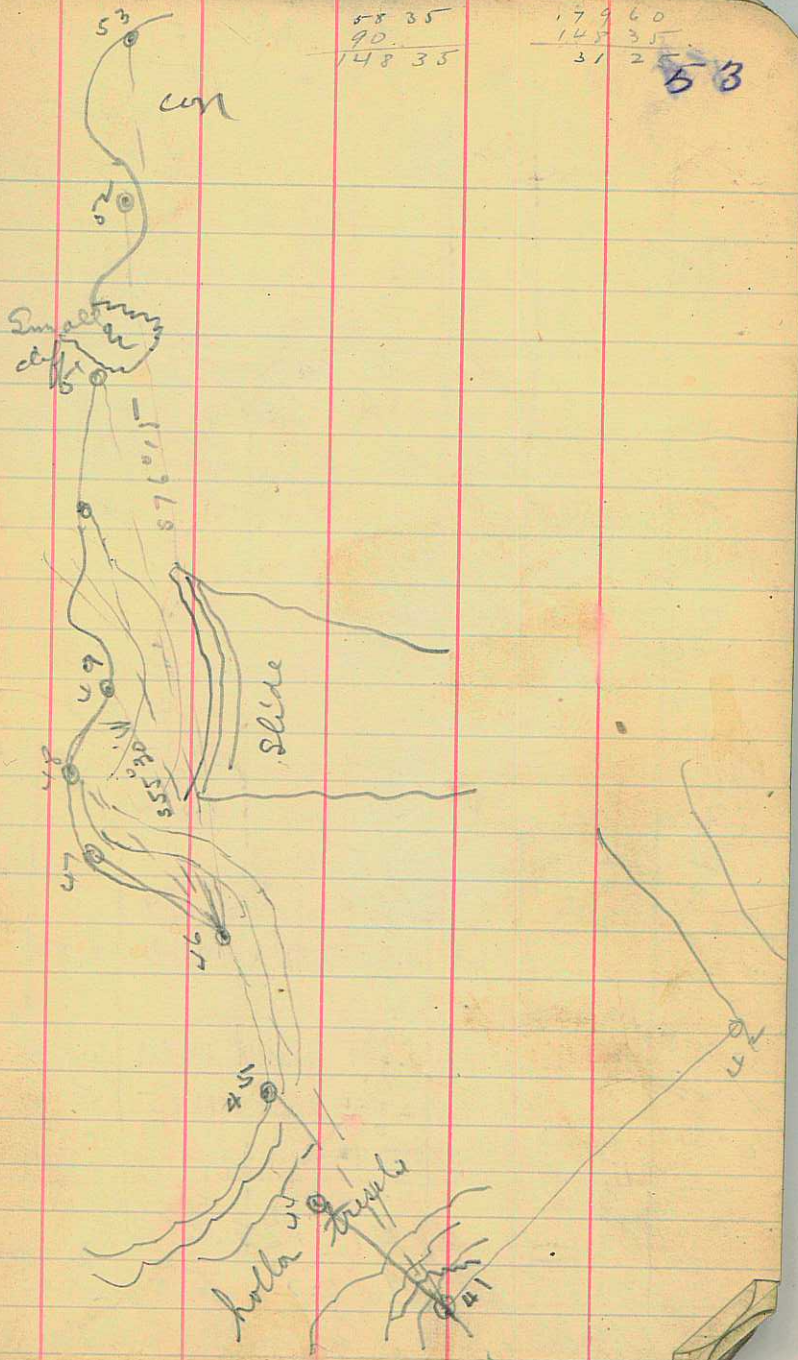
52



5835
90.
14835

17960
14835
31 25

53



54

11465
3
11.465

Sta	Course	Curve
PT 4+45		
PI 4.89	N 71° E	
4+50.7		

final cross section from Sta 0 rand as 11641 center fill

Sta	BS	FS	HI	RR on grade	upper side cut	Center Cut	
0	11.465					3'	
Bam			0.63				
			11.465				
			3				
0			14.465		7.16		
			.087				
0+50			14.378		10.4	5.3	
			.087				
1+00			14.291		7.64	2.8	
			.087				
1+50			14.204		3.75		1.6
1+70		WS	.087				
2		8.764	14.117		5.353	1'	
2	6.282		11.635				
			.087				
2+50			11.548		5.94		1.5
2+70			.094				
3+00		8.68	11.454	8.70	10.00	2.774	
3+045	10.652		13.426				
			.087				
3+54.5			13.339	7.310	11.89	6.03	
			.087				
4+045			13.252	8.18	11.85	5.07	
			.080				
4+50.7			13.172	7.9		5.27	

Note set on 41 BS to 39 N 25° W
Right 96° 22' to square
stake on flt near curfon road

11.175
.087

14117 11.37
8764 91
5.353 2.26
6.282
11.635 11.37
3 39
11.454 7.46
5.610 3.73
2.774

11.46
5.70
2 5.76
2.88
3
11.37
4.88
2 6.49
3.21
11.47
11.28
.19

3

5.5
2 4.06
2.03
3
2 4.88
2.44
4

4° R

no. 39
D for 50
1.0

vs = upper side

RRon grade	Ele	HI	Distin
	503 on hub.		
		on hub near Sta 0. no 41	
7.30		7'	
3.92		7'	on grade not 4 feet allowed
		7'	
		12	for earth to fee
14			
		8	
		8	

NW. 53.1
an — 2333
on application line

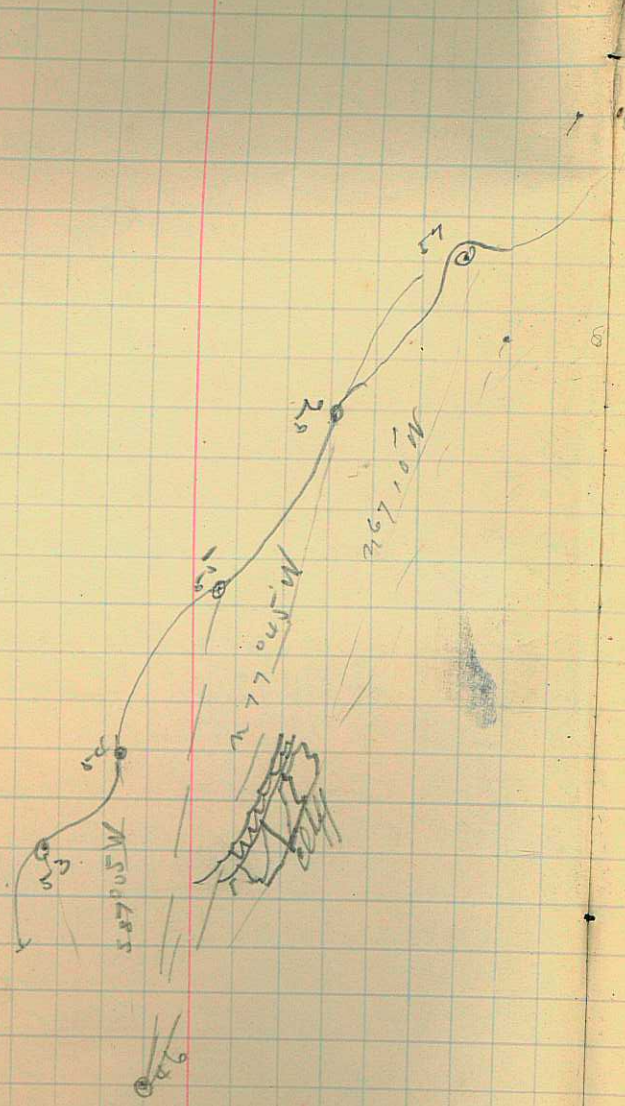
U = 7.163
L = 4.00

Sta	Course	Angles L	Angles R	HI	St
41				4.23	
44	S44°50'W	13°51			4.805
41					4.23
45	S45°20'W	13°14'			
41					
46	S49°W	9°23		4.30	4.23
47	S32°30'W	16°31			4.30
46					
48	S45°35'W	3°25			4.30
46			6°26		
49	S65°30'W				4.30
46			11°36'		
50	S60°45'W				4.30
46			21°45		
51	S70°45'W				7.065
46			27°15		
52	S76°15'W				7.578
46			28°38		
53	S77°50'W				8.018
46			38°06'		
54	S87°05'W				8.31
46			43°19		
55	N87°30'W				9.013

angles

dia	−	+	Ele	
L	N 0°24	in Hole		
4.23				set on 41 BS to 40.
3.373	6'			
2.537	6			{46 northing 12 feet of Sta 123 of 2bf
3.78				
3.505				
3.264				
2.622	6'			
4.30	6			
4.30	6'			
4.30				
4.30	6'			
4.30	6			

58



59

160

9799

Dist	Sta no	Course	Angle L	Angle R	HI	Sta
	46		53°01			0
	56	N77°45'W				9340
	46		63°42			
	57	N 67°10'W OK				10.294
	46		71°25			
	58	N59°34'W				10.534
	46		94°30'			
	59	N 86°15'W	86°16'	4.76		11.93
13.8'	60	N 30°05'E		4.99		

Temporary working line

	110			R Rear	
	60			4.99	5.99
					5.99

PI
X
Y
T
L

6.00 / 3.96 / 2.04

4.76 / 3 / 1.76 / 7.98 / 6.00 / 1.98

6.1 / 6.0 / 1.7

Sta	Angle −	Angle +
0		
4.20		
4.30		
4.30	6'	
3.00	6'	

4.20 / 2.57 / 1.63 — 3.86

1.93 / 3.93 / 1.86 / 3.86 / 2124.6

61

6.00 / 3.96 / 2.04

drops 7'

Cut C	Fill F	Rear C	Rear F
1			
	1.1		
2.64			
	2'		
	6		
	9		
	7'		
2.06			
	.6		
3.6			

RR on ground

6.1
3.36
7.98
6.61
6.1
6.7
3.94
6.61
2.41

1562

Line	No	course	angles	R.	HI	RR on gr
PI'				19°53		4.36
PI²				45°10		4.77
PI³					on Hub 3.92	3.92
PI³			40°45'		on 14 4.35	—
PI⁴						11.95

Beg again On 60

	60	N52°43W	OK		
169.9	61		5.02	—	
70.8	62		4.66	7°05'	
100'	63		4.54	20°10'	
185'	64		3.46	29°15'	
				36°52'	

April 16/07

No	BS	FS
64	4.253	
		6426

from No. 60 to high water in river 4/16/07 fall 207.4'

4.36 11.95 3.92 5.02 4.77 6.80
1.1 6.10.40 1.51 2.41 3.26 1.51 6.05
3.2 1.55

RR on grade	e cut	e fill	R R at F	
3.26				135 to 60
		1.51		
2.41				
10.40	6.05			~~Turnout~~ not to be ∠ 11' on PI³
10.40		1.55		

Drain (135 to PI)

	Horiz	Vert
	~~168.7~~	
	168.7	
	66.6	
	87.2	
	148.4	56.9

N/grade S.

on hub last of steps on high water at south post by station.

see over for curve cal.

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

10° curve. for PI'

PI' = 19°53 R, R = 573.6

tan = 99.951 on 100' ext = 8.48'

Log R = 2.75867

PI'

10° = curve R = 573.6

PI² 45°10, tan =

ext = X

Curve 15°

Log R = 2.58327 = R = 383.+

Log tan 22 35' = T. 61901

Log R = 2.58327

2.20228 to long

curve 20°

Log 50 = 1.69897

Log 10° = T. 23967

2.45930

Log tan 22 35' = T. 61901

Log R = 2.45930

2.07831

to long

Log 50 = 1.69897

Log 15° = T. 41300

2.28597

Log tan 22 35' = T. 61901

Log R = 2.28597

1.90498

45°10 / 2 = 22 35'

40° curve I = 45°10'

Log cos 50 = T. 69897

Log 3 20° = T. 53405

2.16492

Log tan 22°35 = T. 61901

1.78393 to large

Log cos 50 = T. 69897 I = 45°10

Log 3 21° = T. 55433

2.14464

tan 22°35 = T. 61901

1.76365 42° cos

1

58.3

Log 50 = 50 = 1.69897

Log 22°30 = T. 58284

2.11613

tan 22°35 = T. 61901

1. 73514

tan 54.34' OK

66

Black South-fork

4/16/07

Alignement from No 60 on S 52°43' E

Sta	Course	∠	Angles R
PI 4+30.2			
3+30.2 P.C.			19°53
3+80.2 PI 2			10° R on curve
5+87.7 PI 5+85.7			
PI 7+52.5			45 no curve practical a 45° elbow
PI 9+21.6		39°10	curve impractical 39°10' elbow
PC 8°38			6°43'
P.T. 10+05.3			
10 94.7			
11+00.0			
11.7			
PI 11+11.7			R

11.50
10 05.3
94.7

3.30.2
4.30.2
48
4782
60
5282
8+55.3
50
9+05.3
50
9+55.3

4.30.2
1.57.5
5+87.7

3+30.2
50
3.80.2
50
4+30.2
48
4782
50
5282
57.5
5855.7

8.38
17.3
8+55.3

838
167.3
10053

4.20
1.51
2.69
600.0
585.7
14.3

7.211
4.41
2.801

7.211
1.55
8.861

Tan mean 84
4° curve R

60
57

68

Sta	BS	FS	HI	Elev	RRm	CC	CF	RC	RF	10.27 auto from curve	RRm grunnur	Sama a No. 60
0	10.037											
Bm												
0		6.05		5.00	506.05							
0+50		11.037			495.013		1'		2.8	6'		
		.087										
1		10.950					3.6		5.5	6.5		
1+50		.087										
		10.863					0.		2.44	5.25		
2+00		.087						.61	2.62	C'		
		10.776										
2+37		.087						.8	2.6	6'	8.12	
		10.689										
3		.087						.4	3.6	6.58'	7	
		10.602										
PC 3+30.2		.087						.9	3.14	6.58'		
50		10.515										
3+80.2		.052						2.5	2'	6		
		10.463										
4+30 X		.087					3.8		9.30	8'		
TP		10.376					X					
		.087					C 3.794					
		10.289										
	10.39											
		6.582			4.99.468							
					509.858							
3.80.2												
		14.18										
4+30		.087										
4+98.2		14.097										
50		.084										
5+28.2		14.013					5.27		11.54	9.6	2.55	
57.5		.084					2.2		7.63	8'	6.37	
5 85.7		13.929					1.3		6.7	9.5	7.22	
TP		.100						.33	4.17		9.72	45° R
6+50		13.829			496.039							
	7.70	.112					1.8		6.837	7.	7.70	
6 50	2.505	13.707			502.158							
		8.512 q					2'		6.6	7	1.85	
7		.087			504.663		4.094					
		8.425										
7+52.5		.091										
	4.26	8.334			500.403 m	Inst						

RRm	
8.25	
7.37	
10.79	
11.38	
11.50	
11.00	
11.40	
12.9	
6.54	
X	
8.82	
11.80	
12.60	
14.15	
11.90	
6.43	
426	

on 59.

39° 25' on Inst

8 47
6.67.

69

10.396
3.790
14.186

13.707
7.70
6.007
2.505
8.512

70

3.90

13.845
.166
14.011

Sta	BS	FS	rm	Ele	HI
7+52.5	10.378		14.452	504.403	510.781 on hub
8			.083		
8+38 PC			14.369		
			.066		
8+52.3			14.303		
			.117		
9			14.186		
9+52.3			.087		
			14.099		
TP			.087		
10+06.3			14.011		
			.166		
11+00			13.845		

end of cross section

trail back back from Sta. 7+52.5 to 0.

set nail above

BM	3.03			507.75	510.781
7+52.5			10.378	500.403	
		11.038		499.743	
	7.827				507.570
0		11.557		496.013	
0	11.423				507.436
BM		0.28		507.156	
				290.793	
				288.613	

RR center	Dist R. of ℄	C C	C F	R C	R F	RR on Rail or pile
	8.8	+.074		10.5		
10.37	8.1	4.00		9.85		
13.	8	1.3		7.4		
11.6	8.3	2.6		9.5		
12.6	7.5	1.5		6.9		
10.33	8.5	3.7		9.2		
9.65	9.2	4.2		10.9		

10.378

on opp. PI hub 9+21.6

no 60 on Sta 0

about 49' S with ℄ from 0.

On hub E. side Power house extreme high H2O. on River.

71

10.378
6.334
4.044
4.0
10.378
14.452
3.90
2 | 10.552
5.5
5.0
14.41
14.37
10.37
14.184
.160
2.58
14.09
13.6
1.49
14.01
10.37
3.63
13.845
9.65
4.19

72

Survey of Powder House site.

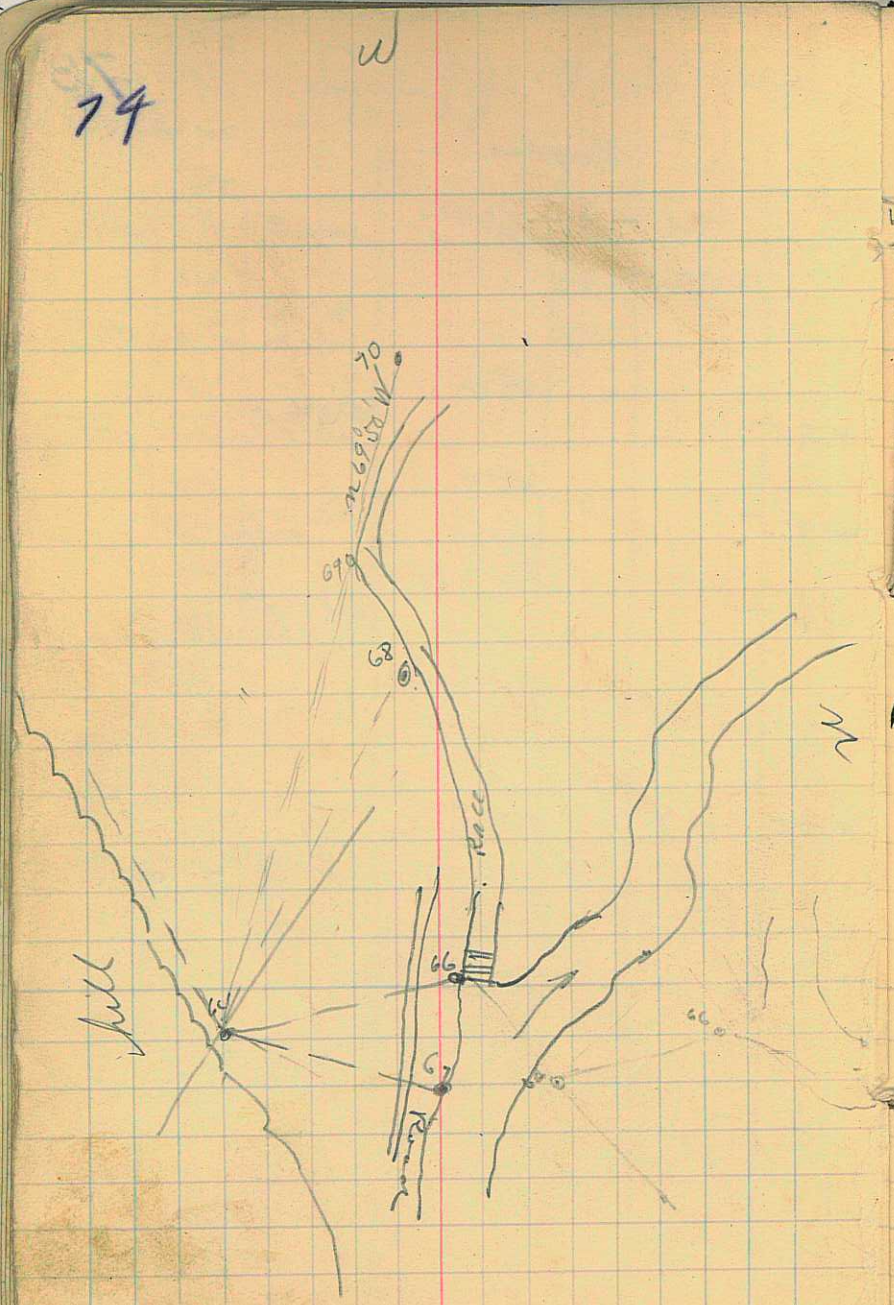
see over for obsts

Dist	Sta No.	Course	angle L	angle R	dec	St'd HT	St'd dia	Angles −	Angles +	
	64				290.73	295.34				
Bm	65	S84°W			291.76					
	64			45°50'						near chimney bushes
	66	N6°50'W					5.16	4.55		at old P. House
	64			77°30'						at old head gates
	67	N24°50E					5.30	4.55		
	64		6°38'							edge of river
	68	N59°20W					5.563	4.55		
	64		17°23'							Canal bank
	64	N70°W								
	64		17°10'							
	70	N69°50W		155°50'		5.12	8.01	4.55		
203'	71	N86°05E								to corner S 1/4 cor Sec 2

see over

290.793
295.343
291.763

73



on hub

from this pt I run over to river at No. 42

on Waterin River No 42 west of

going again up main canyon

near a up of large rock N. side of Road

April 18/02

April 18/07

Sta.	BS	FS	cm	Ele	HI
	7.415	5.762			
	8.474	0.140			
	11.390	7.111			
	10.862	1.580			
	9.660	0.130			
	11.773	0.010			
	4.410				
			5,100	428.51	
		2.343			
	11.437	0.240			
	10.848				
Bm			1.920		
		1.824			
	12.20	0.130			
	12.04	0.120			
	9.525	11.840			
	6.385	0.220			
	6.578	0.350			
	11.415	0.300			
	12.180	0.650			
	10.484	0.410			
	8.455	3.080			
	2.265	8.725			

note

at no. Lower intake as per application
Reading on Rod - 33°46 - 25'
to High river water

on large rock N. side Road
about 250' below 2nd bridge
pt marked with pick

80

Sta.	B.S.	F.S.	I.M.	Elev.	H.I.
	7.676				
		2.400			
0	10.347				
BM		0.550		532.13	

81

on Sta 0, near Dam
on stake No. 0.
on large rock about 50' west of 0
on map Easterly about 8. marked
BM on large rock from here
N.W.

82

61° 15' 30"

Sur for Cache Co.
4/30/07

no. 1 Time 1.10 pm
h = 61° 15' 30
∠s ∠ to pt. no 1 42° 09'

no. Time 1-20 pm
h 60° 32'
∠s ∠ pt no 1 46° 26'
Beg at NW cor Sec 34.

Dist	Course	∠ angles	R
20 ch.	S 18° 32 E		
20.065		28°	
1.00	S 9° 28 W		
.98		98° 44'	
7 ch.	S 89° 16 E	90°	
3.82	N 44 E		

to E. side Co. Road
to .03 ch. at 1s To Rod
~~to mit pt~~ to fen
to mit pt,

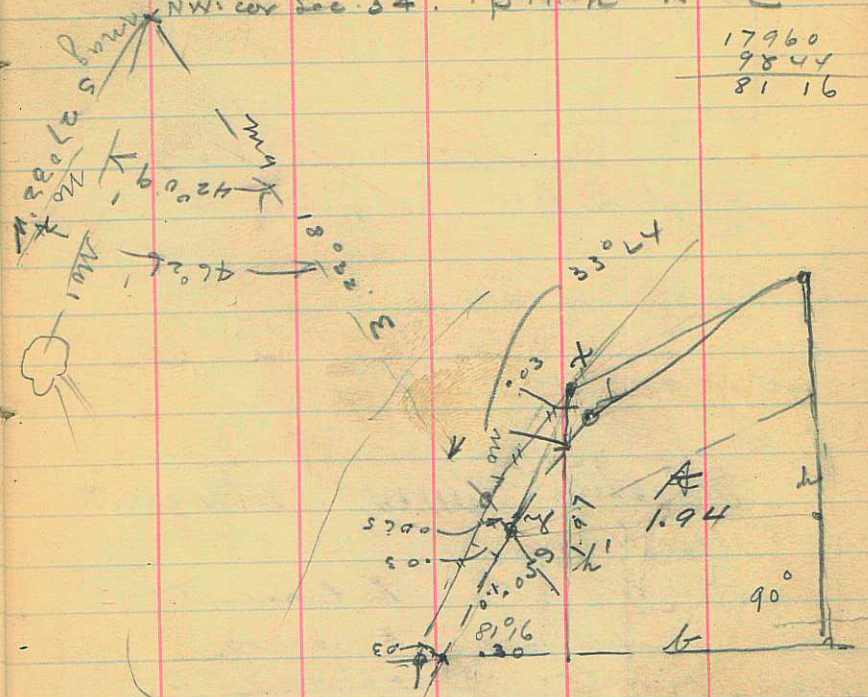
Time SW to pt
Now
Set on y F.S. to sec. R. 33° 24'
to + 1 chain

98 44
9 28
89 16

N

NW cor Sec. 34. Tp 11. N R 1 E

17960
9844
81 16



∠ 81° 16 0.9884 / 2 / 1.9768

1.97
.30
.0591 0

cos 81° 16 = .1518 / 2 / .3036

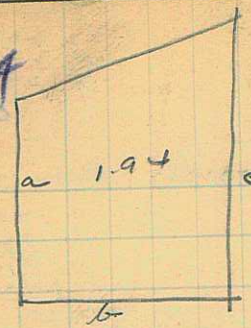
2000
06
1.94

$\left(\frac{h'+h}{2}\right) b = A$

$\frac{h'b \times hb}{2} + A10$

$A20 = \frac{A20}{h'b}$

84



$\frac{(a+c)}{2} b = A$ 10

$\frac{ab+bc}{2} = 104$

$ab+bc = \frac{20A-ab}{b}$

Meredith Ames. Margaret Jo Ames. to Cache County Warr. Deed $50.00 Consideration

Chas R Jensen
Hyrum

34°6'

6.6 600 3960.0

7.0 30 6.7 0

120

36 9 / 45 = 6.6 36 900

1.97 6.30 1379 0 1182 13.1 990

3.82 4 15.28

8.92 8.38 101.34 .54 568 107.02 99.80 99.35 .45 99.35 .57

107.58 7.78 99.80 99.35 .45

107.58 8.92 99.66 107.58 8.23 99.35

107.58 6.24 101.34 99.80 5.54

8.37 5.60 2.77

7.83 7.22 .61

8.37 8.13 .24

8.62 9.20 10.1

10.1 8.37 1.73

7.83 7.62 .21 14 35 70 28 35.0

6.43 1.37 8.90

10 15 30 2

5.97 1.34 7.34

7.83 6.43 1.40

20 17 80 16

45 17 36 .37 90

Levels for N + S crossing Budge Ditch.

Sta	B.S.	I.S.	HI	Elev or est.	HI
1+15	5.68		7.68 .15	101.34 99.35	107.02
1+15					78
0+90			7.83 .33 8.16 .37		
0+34					
0					

23 lengths 18'

for Re. concrete

$$x = \sqrt{2aeq + (ea)^2} - ea$$

x = distance for a/s to remote compression fiber.

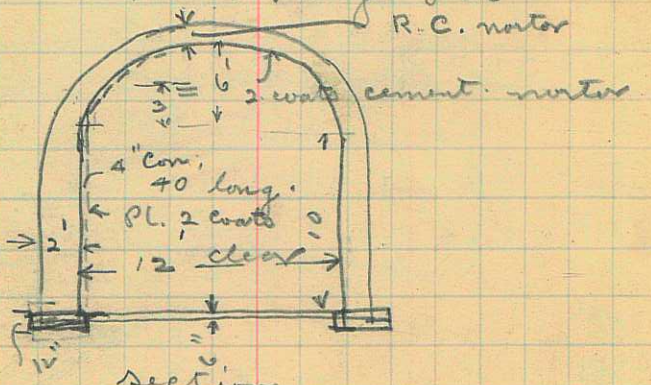
$a = A_s \div b$

q = effective depth.

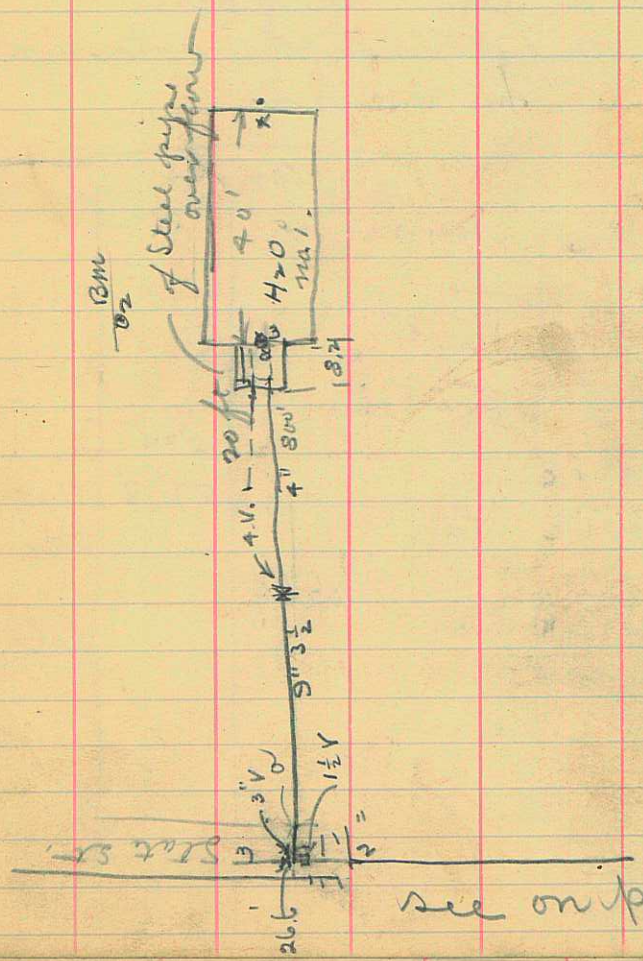
$e = \frac{1}{20}$

Richmond City.
Water Works. Data

Rock Ridge Res.



section



From West inside edge of Res.
west. 800 ft 4"
W 900 ft 3½ to West
side of St.

Set a Bm. N of Res.
2.89 ft lower than water
in the reservoir.

No	Dist	course	angles L	angles R	stadia		angle	+ R	HI	RR
1										
3										
2										
3				15°44'						
4	N 15°44' E			57°18'	11.23	2	2°28		5.06	
5	N 72°16' E				5.06	39		6°05'		SE cor of B/R
4		102°19'				11				
6	N 87°30' W				5.06	07	2°11'			NE cor of B/R

3.10
1.21
2.89

11.137
2.89
8.247

(Bub.) Egan. Spring

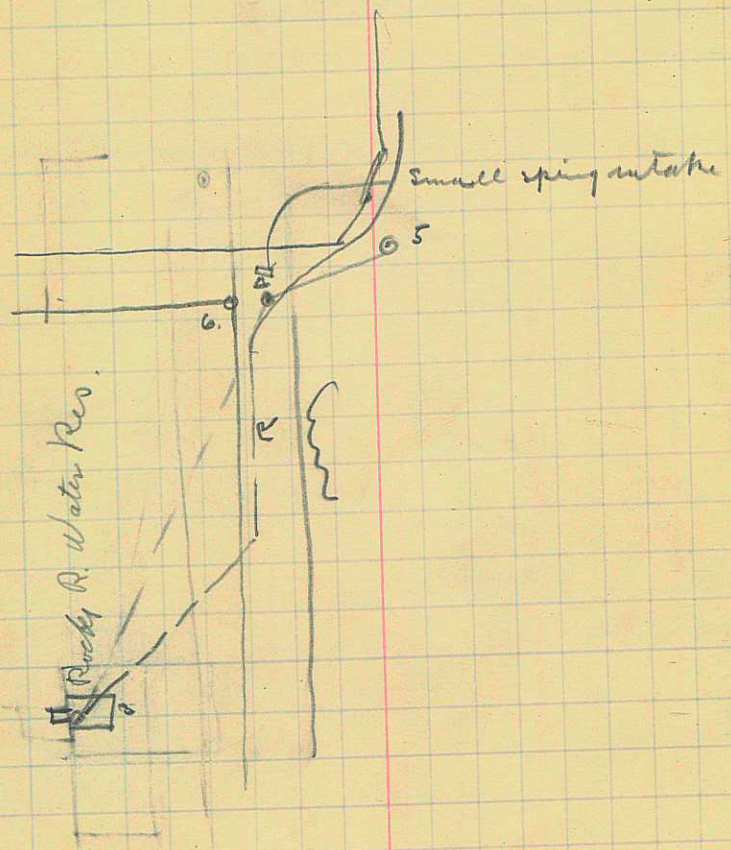
2.89 higher on HZO than 2 at bub top of Res.

4.68

11.137

∴ top of Res. is 8.247' higher than H2O

90



91

Direct levels from Richmond City to Res.

Sta	BS	FS	HI	Elev
	.300			
		2.66		2.66
		0.650		
	0.868			
		0.490		
	0.900			
		2.131		
	6.284			
	11.930	4.971		
	11.510	4.944		
	19.565	0.620		
	42.357	0.405		
	16.211	16.211		
	26.146			

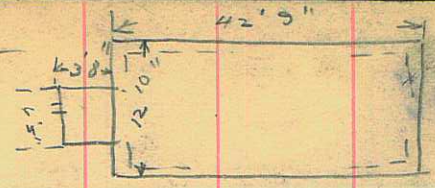
on over flow Res
on door sill

Surv. of part Richmond City Water Works. May 4/06.

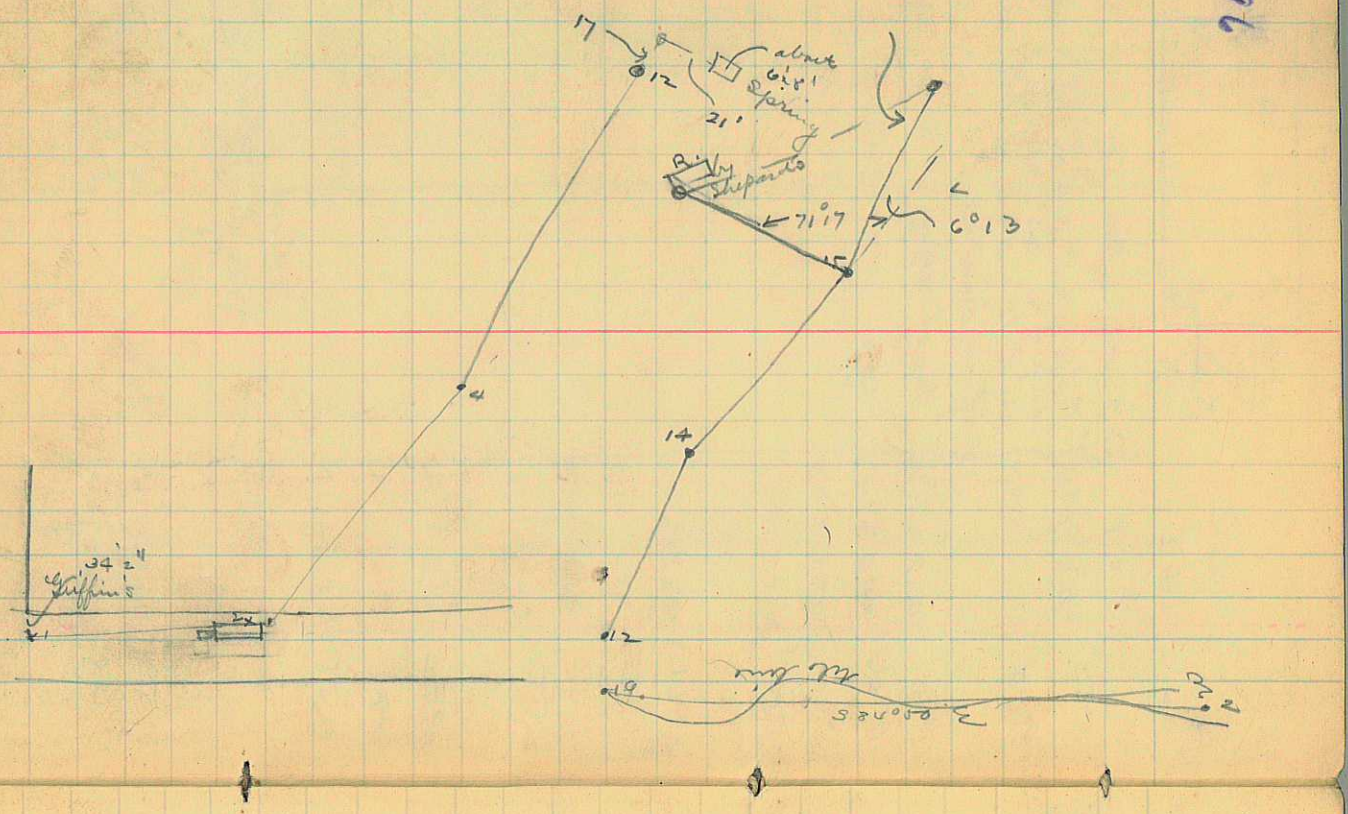
97

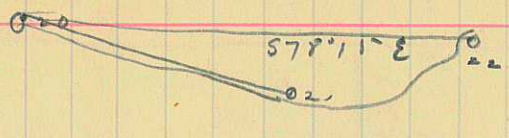
Last	No	Course	Angles L	Angles R	Stadia U	Stadia L	Angles —	Angles +	HI	
	1		36'						5.09	B.S. down M. St.
	2	S 89° 15' E	41° 24		11.937	5.09		3° 55'	4.97	This pin 3.4 n. of n. outer edge of R, 5.3" w. of E. & 18'-3" S. of N. edge of main St. top of edge
	3	N 49° 5' E			4.97	2.182		7° 55'		
	2		41° 24'							
	4	N 49° 5' E	15° 54'		4.97	0.727		11° 10'	4.42	
	5	N 33° 10' E	00	00	6.93	4.42		8° 26	4.93	
	6	N 33° 10' E			4.93	3.893		3° 47	5.14	
	7	" " "			5.14	3.874		1° 59'		
	6									
	8	N 33° 10' E			5.14	3.344		3° 21	5.11	
	9	" "			5.11	4.73	21'			
	8				~~5.11~~	~~4.03~~				
	10	" "			5.11	4.03		2° 5'		
	8									
	11				5.11	3.32		4° 52'		
	8							~~4° 8'~~		
	12	N 33° 10' E			5.11	1.72		4° 55'	5.60	
	8		172° 48'							
275'	13	S 40° 45' W								I.P. to N. 1/4 cor sec 24 tp. 14 n. R 1 E
	12		24° 16							
	14	N 9° 05' E		10° 08	7.134	5.60		1° 59'	4.76	
	15	N 19° 20' E			6.25	4.76		48'	4.81	
	1									

sketch over



95


17
12
21'
about 6'8" above Spring
Bldg Stepanto
71°17'
C°13
14
Griffin's


S 57°11' E
22
21

98

C.T. = {condenser trench

99

Sta	No	Course	Angles L	Angles R	Stadia U	Stadia L	Angles −	Angles +	HI	
	15		6°13		6.25	4.76			4.81	
	16	N 13°10 E		33°17	4.91	2.79	4°28'		4.93	from this pt N. 27° to stake to condenser pt. 3' N of C.T.
	17	N 46°40 E		18°08	7.00	4.93		1°26	4.96	
	18	N 64°30 E		26°41	7.441	4.96		3°19	4.63	
	19	S 89°50 E		4°0	6.087	4.63		3°33'	4.78	
	20	S 84°50 E		14°16	10.812	3		2°57'	4.80	
	21	S 70°05 E						1°40		in swale
	20.			6°32				~~3°21~~		
	22	S 78°15 E						3°21		
	20			7°00						
	23	S 77°50 E		13°01	10.223	4.80		3°19'	5.12	
	24	S 64°50 E				6.00		2°50		at spring 18 above H2O

12 50 pm
may 4/07

	1								5.06
	25				+	5.66	2°15		
	.								
	25				—	—	2°19		

W st. 1 E of main

100 P = property line
m = main
T = Thence
Beg. directly below Res.

R. R. Water Co Stop V
at a Stop V No 1 Line Main from Office

S. 339 to Ser. 3/4" V 10' 260
S 751 to Ser. 1/4" V.
S 757 to end of 1 1/2" pipe
S 757 to 3/4" pipe
S 751 T. W 915
S 881 to Ls.
T. S 50° W 21' to 3/4" V. Stop + waste.

T. beg. again at a.

N 385.5 to 1 1/4 Ser. 010'
N 467.8 to Side field St. R. W
N 527 to N " " " "
N 877.6 to 3/4 Ser. S.E. 11'
N 883.6 to End of 3" main
N 1340 to 3/4" Ser. S E
N 1360 to 2 1/2" V on 2 1/2 main
N 1545 to 3/4 Ser. E.
N 1675 to 3/4 Ser W 11-10"
N 1832.6 to N. with S. Si 45.
N 1913.6 to " " " N " " "
N 2000 Pine

over

L = Line
R = Run.
G = going

Si = Side

701

Chris J. Johnson
S. R. Telford

S.R. Telford V from P. L.
of R. Thompson's

Jm Thompson

West 22.3" to d. L Dunnington
Beg. of 2 1/2" main
Wm Lewis
no reduction 23.6" to W Si of St.
J. H. Knowles
W. B Hunt

W 25.8 to W side St.

stop V.P. to 2 1/2"

N 24 60.4 to 3/4 Sec W
N 25 82.7 to S. Li. 3 S.
N 26.81.5 to N " " "
N 26.61 to T. End 2 1/2" main
N 26.83 to 2" V. on main
N 27 left off on N line

Beg at Sta 26 61

T W 46' to 2" V on Main
" 47.6 to 3/4 Sec N. 1.4.10"
W. 684 to E side 1st W
W. 778.5 to W " 1st W
W 814. to 3/4 Sec N. 10'
W 2000 pins
W 1221 3/4 Sec. N.
W 1221 J Om. S 30° W.
W 1221 Privat line continues W
S 30° W 1384.5 to S. Li of 3 S.
W 1493.8 to Cor of Blk 3 SW
N 1787. to main
2 ave to pt 12' E of W Li. Co Rd.

Ro = Road

103

Newel Bullen

2" main G. W. 2" main continues on

J. F. E. Thompson

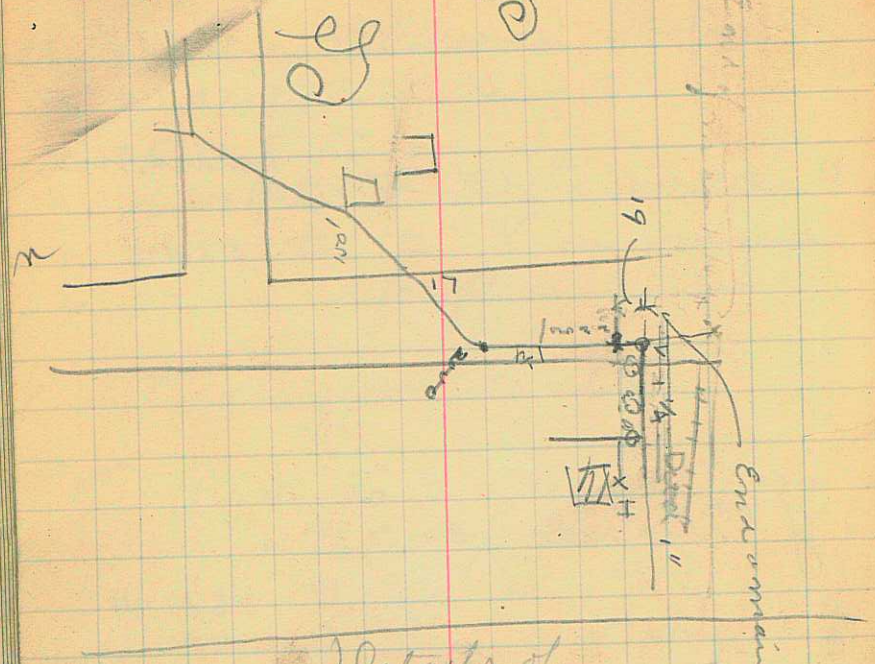
E J Hunt No curb Box but Valve

Lia. Anderson

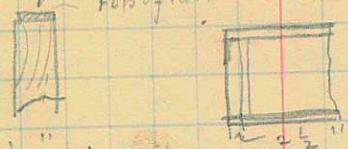
end of 2" main beg of 1 1/4" main left on at this pt main run through (J.C. Christoffersen) on E side to Rd where it come out of ground Mallard Johnson on Co Road

104

E.

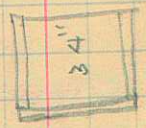


Details of Condenser



11' 4½" from outside of vat to E. Wall

5' 9"



105

106 May 6/07 not ft P2.

Beg again on 2" main on State St.

n 2700
n 2704 to Ser. N 70° W. 3/4 10.6'
n 2740 to Cherry Creek. 10 Wide
n 3000
n 33276 10 3/5 Ser W.
n 33422 to St line E+W 2 S.
3415 to cross
n 3366 to 3/4 Ser. R. W
3415
n 3440 to St line E+W
n 3478 to 3/4 Ser. W x
n 3609 to 3/4 Ser W x
n 4106 to St Line
n 4205.5 to St Line
n 4348 to Ser 3/4 E
n 4582 to Ser. 3/4 W

See over

107

100 / 33 / 3400 / 34 / 3366

John E Anderson

Anders. Anderson

End. Co. Property
to A. C. Fisher
at this pt 1 1/2" ser. E. 1 block
and 1 across St.

Carl J. Olson
C. P. Swenson 23.5 to Main St.

This one goes to E ~~and~~ mirror finish to
This goes W to (Blacksmith Shop
J. A Peterson
150' S. n to near end of co. sup

108

Beg on 2 S. at Curve
which 26.5' E of W
Sta. 52,
E 104 to E side W
E 194 to Serv M. 10'
E 668 to Serv S 10.4
E 766 to West Si 1.5 E
E 864 to E " "
E 919 to end of 1" Serv S.
3/4 S to E
abs 919. Serv N 3/4 to 10.6'
over

Grade for Christensen
Div. meas market 5/6/07.

Sta	B.S.	F.S	Int	Elev	H.I.	R.K
0				99.740		
0	3.528			100.00	103.528	
				98.740		
46 3.			5.432	98.096		
75.65			6.286	97.242		
115.0			6.938			
145			6.318	97.206		
1+		63.22				
	2.770				101.976	
2736			6.179			6.15

on Rivers.
on Pier

103528
98740
4.788

9

109

Alma meridian E of +½"
Run S & W & E meridian

to End 1" pipe
meridian Bullen
J L Mc Carry

825 → 11 Back
5.73 → station
2)

Grade 2.172 to West.
Grade
inside
on Stone at Reopen Stone

19.82
E side M. market
27.87 × mt S.
93.43

on step

E. end of pier
pier 0.65 C to top
Christy

which = 582.7 No offs From B line

Beg in L with S. Li 3 S 1

S. 53° 3/4 Ser E. 13.5"

S 273 3/4 1 E 11'

E

Ob. No1 h = 46° 35'

at Richmond Ait time = 3 12 pm

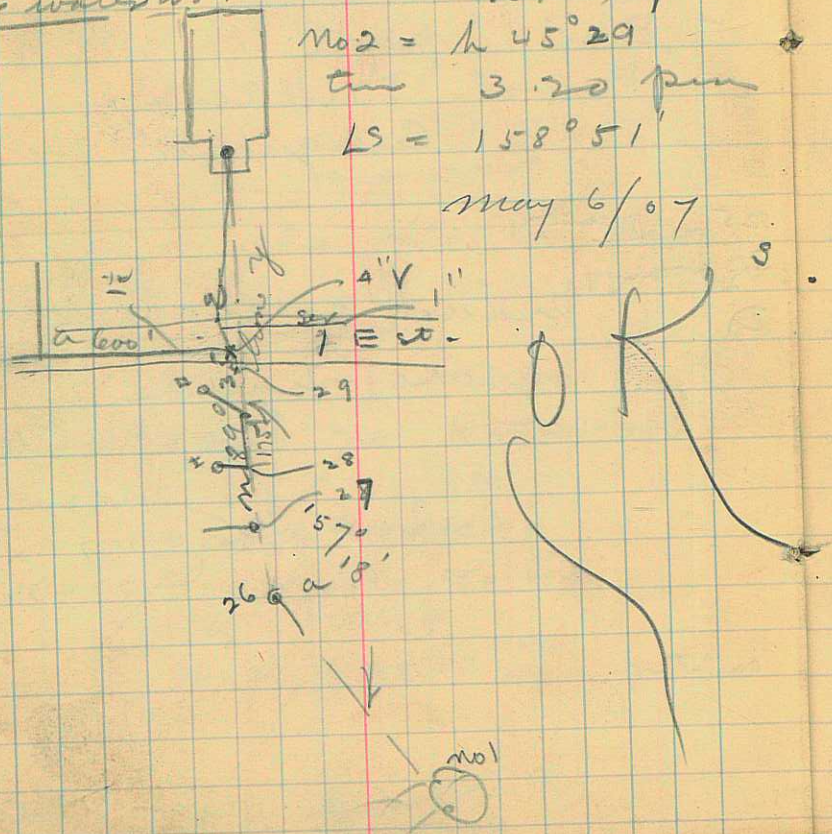
Sur waterworks LS = 157° 18'

No2 = h 45° 29'

time 3.20 pm

LS = 158° 51'

may 6/07



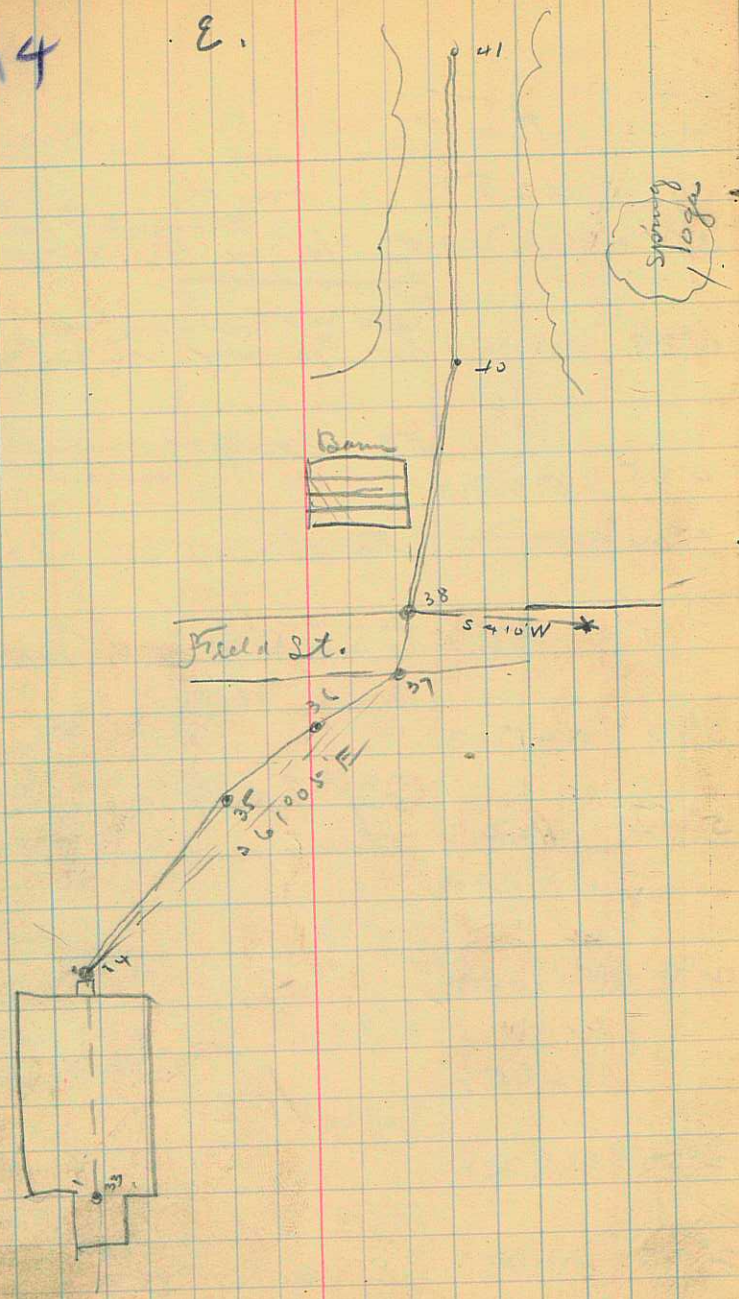
46° 35'

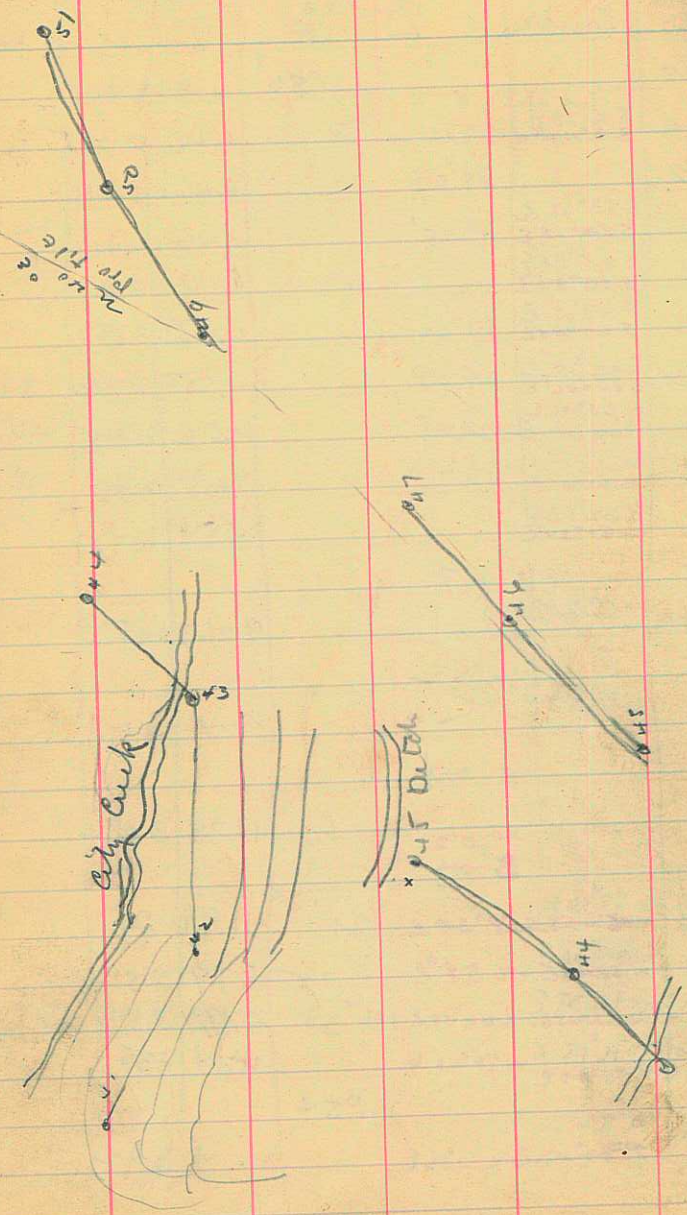
Chas Anderson
A. Erickson

Dist	No	Course	Angles R	Stadia U	Stadia L	Angles −	Angles +	HI	
	26							4.25	on a Thomas Plant
	27	N 89°35' E		4.35	3.121		3°52'		to 3/4 Ser. N. to
	26	N 89°23' E	10'						~~FS on line~~ &
	28	" " "		8.508	4.35		4°20'		also Ser R W along mc. 175' to No 2 N.
	26								to 3/4 Ser N 30° E
	26		10'						FS along y line of Lot
	29	~~N 89°33' E~~ N 89°13' E		8.768	4.35		4°25'	5.05	
7'	20			5.05	4.912		4°00'		to Main St —
	29		11°45'						to Ser. 1¼"
	31	N 77°30' E		5.05	4.912				to Ser. R.N + 4" valve
	29		10°15'						
	32	N 79°05' E		5.05	4.70		3°19'		
	29		20'						no. 29 is also 16'
	33	N 89°33' E N 89°35' E		5.05	0.69		5°42'	4.20	S of Property line. Same as no. 1.
	34	" "		4.30	4.11				
	32		24°24'						
	35	S 65°30' E		4.30	3.298		2°46'		
	32		25°18'						
	36	S 64°30' E		4.30	2.847				
	34		28°41'						
	37	S 61°05' E		4.30	2.038		2°50'		
	34		27°27'						
	38	S 62°20' E ~~S 63°10' E~~ S 63°00' E		4.30	1.666		2°55'	4.46	E side St.

1114

E.


41
40
Barn
38
S 41° W
Field St.
37
36
35
6100 S. Ft.
34
39
Spring
Slope


51
50
20
Pipe Pile
49
47
46
45
43
42
Clay Creek
44
Dirt Road

115

116

Stadia

contained 4 tracts

Dist.	No.	Course	Angles	R	U	V
	38			66°52'	~~4.46 2.395~~	
	39	S 4°10 W ~~S 3°42 W~~	S 3°52 W		4.46	2.395
	38		21°08		~~4.46~~	~~2.417~~
	40	S 83°35 E ~~S 84°18 E~~	1°35'		4.46	2.417
	41	S 85°30 E ~~S 85°53 E~~		18°09	5.10	2.167
	42	S 67°05 E ~~S 67°44 E~~	17°02'		4.84	3.511
	43	S 84°32 E ~~S 84°46 E~~	29°48'		4.65	3792
	44	N 65°26 E ~~N 66°05 E~~	2°45		4.63	409
	45	N 63°15 E ~~N 62°41 E~~	1°17		9.105	4.83
	46	N 62°00 E ~~N 61°24 E~~			4.54	2.737
	45		47			
	47	N 62°30 E			9.263	4.54
	45		4°32			
	48	~~N 56°52 E~~			~~4.54~~	
	45		4°32			
	48		~~4°02'~~ 3°00		11.38	3.00
	45					
	49	N 58°10 E ~~N 58°42 E~~	N 58°39 E	21'	11.916	2
	50	N 58°30 E ~~N 58°48 E~~	N 59° E	3°02	4.79	2.89
	51	N 61°35 E ~~N 61°48 E~~	N 62°02 E	14°38	4.94	3.86
	52	N 76°15 E ~~N 76°23 E~~	N 76°41 E		~~4.74~~	435
	51			20°54		
	50	~~S 82°30 E S 82°43 E~~	N 82°56 E		4.74	3.92

4.30
2.231
2.065

4.460
2.065
2.395

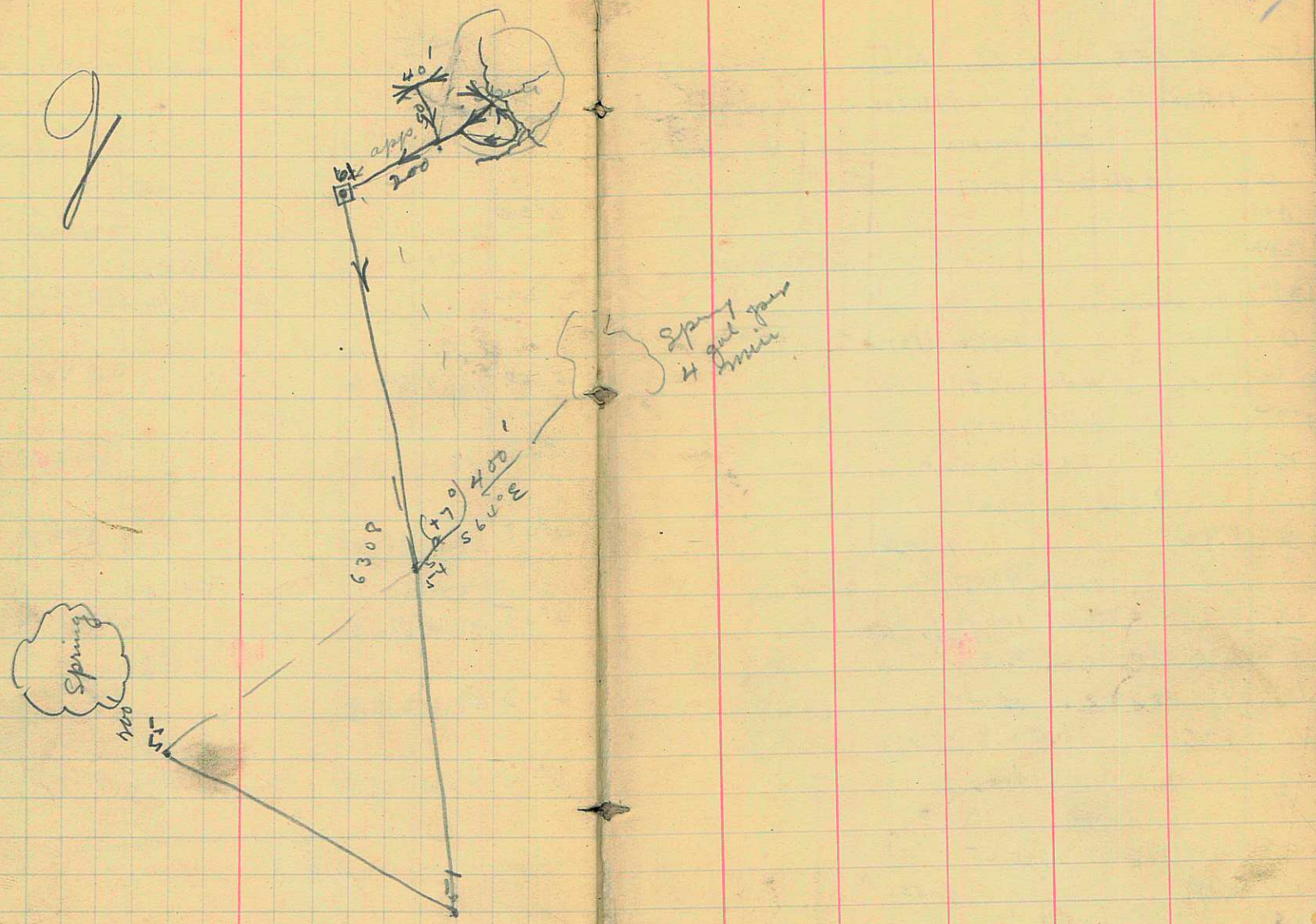
117

	HI
	4.46
3°31'	5.10
4°04'	4.84
1°32'	4.65
1°30'	4.63
9°54'	4.83
6°47'	4.54
4°25	
4°51	
5°52	
5°49	
6°11'	4.79
5°34	4.94
3°30	4.74

Sec 35 T 10 N R 1 E
to a 80 ac. cor. on

Dist	No	Course	Angles	R	U	V	Azm	+	H.I.
	51			25°				6°20'	
	54	N 86°40' E			6.767	4.74			
	51	N 87°02' E	26°54						
	55	N 34°40' E						3°30'	
	54	N 35°08 E	63°08'						4.84
	55	N 23°30' E						2°32	at Spring
	54								
	56	N 89° E			4.84	3.074		5°18'	
	54			1°45'					
	57	N 88°30' E			7.61	4.84		4°44'	
	54			05'					
	58	N 87° E			7.98	4.84		4°48	
	54		2°54			4.0			
	59	N 85°50' E			8.675	4.84		4°45	
	54		3°09'						
	60	N 85°30' E			8.964	4.84		4°43	
	54		2°40						
	61	N 84° E			9.377	4.84		5°00'	at intake

120



Line for Richmond School

Sta	BS	FS	HI	Ele	course
0	11.732			100.00 111.732	
			2.06	109.672	
0		2.86	2.86	108.87	
60+00					
1+23.2					
1.32					
0	1.60			109.672 111.272 ✓	S 55° W
0+00			4.40	106.87	
1+32			6.00	105.27	
2			7.92	103.352 ✓	
3		9.062		102.21 ✓	
3	1.72			103.930	
			10.044	93.89 ✓	
4			3.94	100.00 ✓	
5			6.26	94.17 97.67 ✓	
6		8.79		95.14 ✓	
6	1.35			96.49 ✓	
7			6.46	90.03	
8			4.60	91.89	
8+50		10.82		85.65 ✓	
8+50	4.88			90.53 ✓	
8+56		8.60		81.93	

No Line No 1

11.
6.28
4.72

11.732
111.732
2.86
8.88
9.63
9.50
3.17
131.7

on floor in Boiler Room
Brn on East end of Sill
Near Door

Blk line

curb line E side 1st W
on Brn

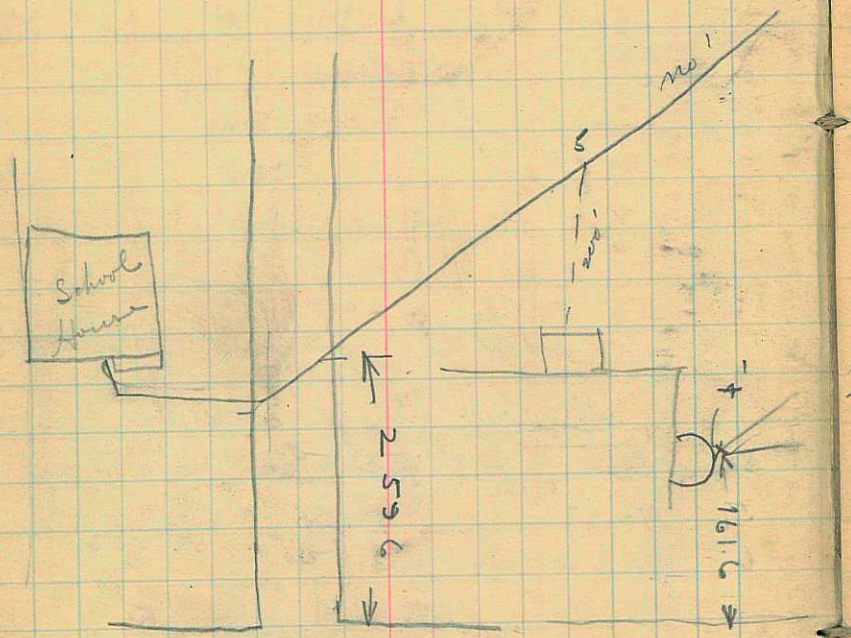
which is basement of Lab 200' from Sta 5

Grade cuts.

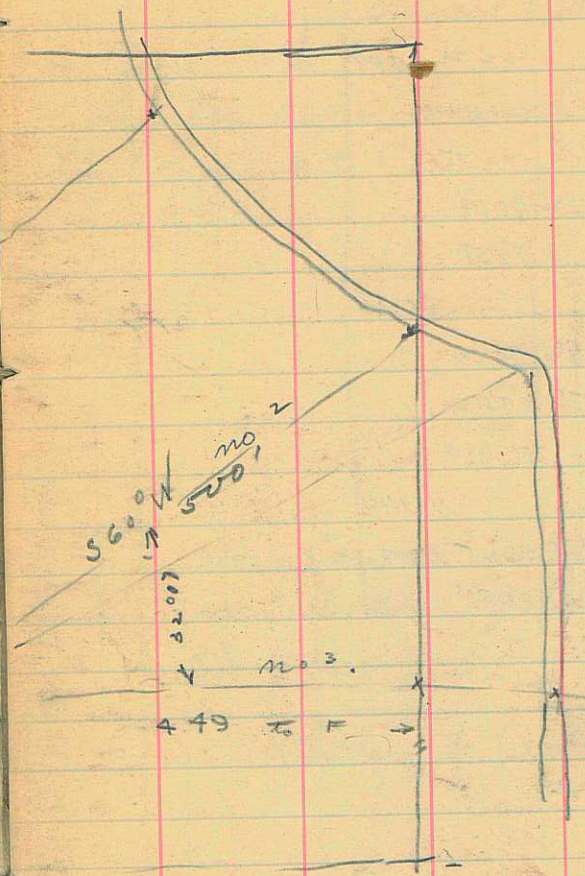
Sta.	Ele	HI	cut	
5	92.37		5.30	
6	91.64		3.50	F. .73

Bottom of canal

123



124



Line No 2

Sta	B.S	F.S	H.I	Ele	H.I
3	5.28			102.21	107.49
			4.08	103.41	
0			4.65	102.85	
1			8.62	98.88	
2		10.50		97.50	
2	1.40				98.90
3			3.86	95.04	
4			9.50	89.40	
x		11.916		86.984	
x	4.16				91.144
5			4.69	86.45	~~86.45~~
5			8.60	82.54	
5		2.322			
5	6.19				
5+16			12.3		
4			3.32		
3		0.49			
3	9.306				
2			7.412		
1			4.80		
		0.43			

line no. 3 below

on line no. 1
4' E of Sta 0 on window sill into Boiler Room
Line no 2+1.

on Canal bank
in bottom of Canal
on line no. 3

in Bottom of Canal

Rocky Ridge Water Works

May 7/07

Dist	No.	Course	∠	R	Stadia V	Stadia L	±	
	62							
	32	N 1°20 E					.3'	
	31							
	63	N 1°25 E			4.62	1.542		
	31				~~4.62~~	~~0.997~~		
	64	N 1°32 E			4.6	0.997	58'	

81.8 gal per min. R Ridge Spring

Work continued from No. 41

	H1		36°30'				
	65	S 50°40' E		8°44	11.646	4.93	
	66	S 41°50' E			10.487	4.58	
525	67	" "					

Egan Spring

J R Standard

7.886
4.700
3.186

HI 8'-6" to JR Standard

J. 62 which pt. is S of 32. E side L.

to end of 1¼" pipe beg of goes.

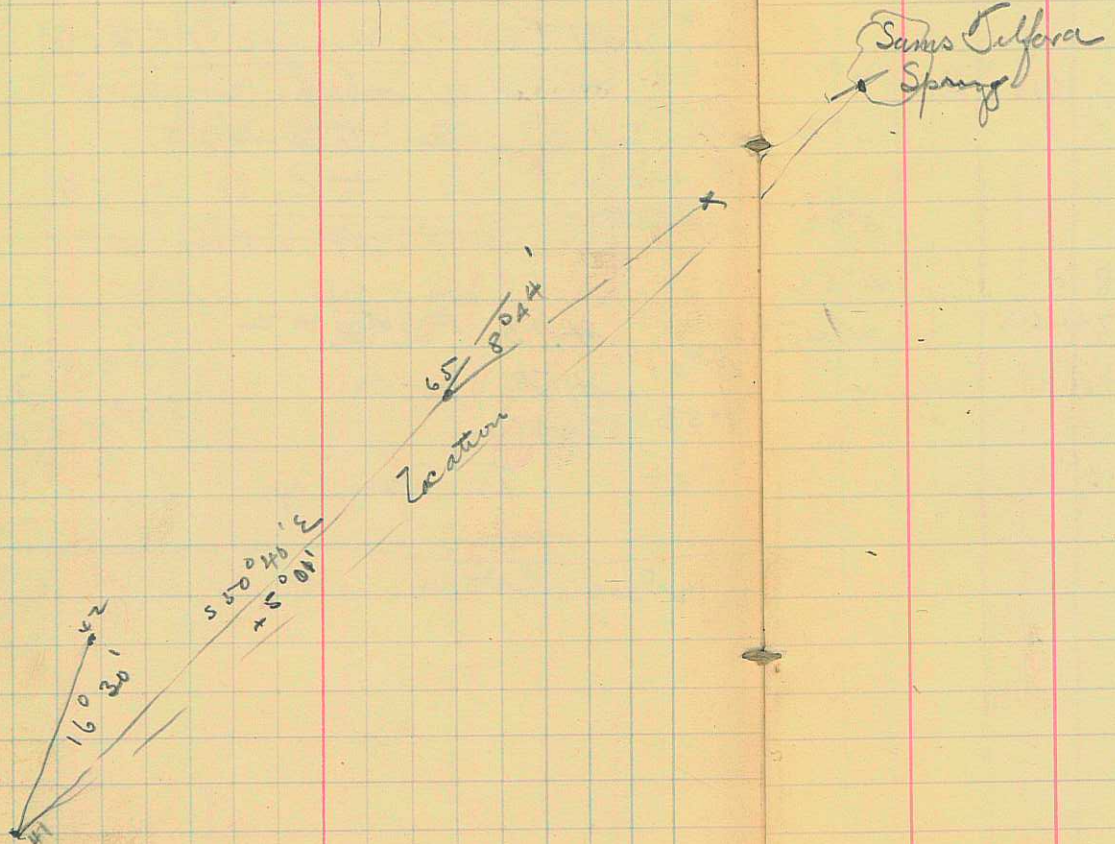
Ser. Well to Two 3/4 Sec. cor. 1 E + 1 W
to H R. 2 list West P.L. 21.4
Egan " E to W 48.5
to " " to C. Si. St 59.
E. Gus Johnson

5°01' 4.93 = S to 42
1°56' 4.58
1°04' to Spring

½ Sec. fit

129

130



131

Beg near Bub Eganis Spring.

List	no	Course	angles L	angles R	Stadia U	Stadia L	am	ques +	HI
	1								4.70
	2	S 40°56 E			7886	4.70		3°28'	
	1								
	3			see Station	4.99	4.70	11°09		
	1								
	4	N 88°05 W			6.22	4.70	4°19		
	5	S 89°15 W					5°2		
	4			9°08					
	6	N 89°20 W		8°27'			5°16'		
	7	N 80°50 W		18°58 ✓			4°56'		
	8	N 61°50 W	55°01'				4°45'		
42		S 63°10 W							

132

at 1/4 cor marked on N side

at Spring E. side

4.79 B.S to 1.

to apt N 40 of Small Mound

Same as 45 on line a near creek

CO_2 $Zn + O_2 = ZnO_2$ 14

J. L. Burnham

Jac.

Lec. at U. M + Loan Co

Lec. from Cor of sec 35. Tp 14. 1E

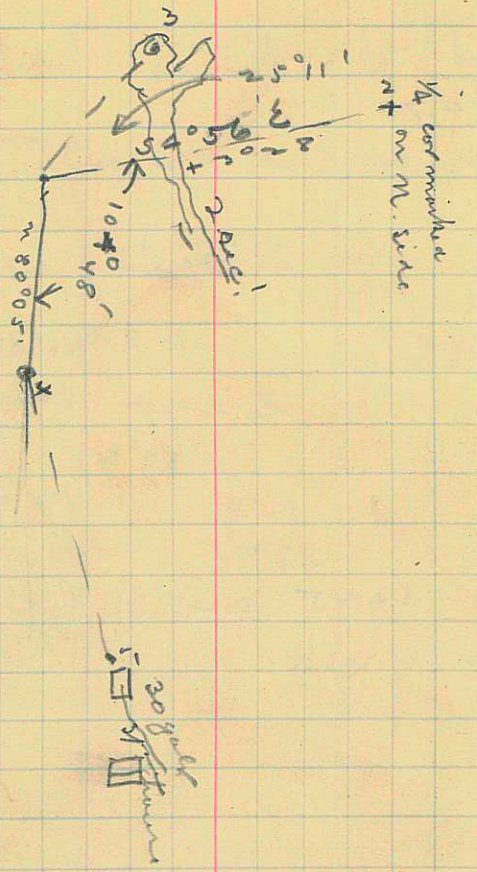
May.

3. I Went up to Richmond E + I. work all day + meals + bed.

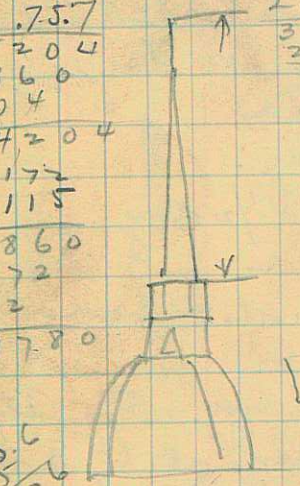
4 E + I all day.
O. Griffin 1/2 day.
6 meals + bed.

5 E had 3 meals + bed
I " 1 "

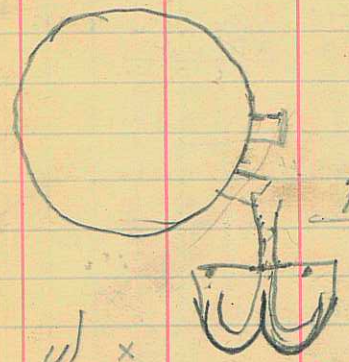
6 E + I all day. For City.
E had 3 meal. I 2 meals
John anderson 1/2
Sam Telford 1 day



148







147

145

Work

qpak	RR	
326	1.20	2
326	4.40	1.2
326	3.88	.62

10.40	7.88	2.52
10.40	10.90	.5
10.40	8.36	2.04

4/17/07 HS. 3.92 / 4.10 / 8.02

8.02	8.45	.4
8.02	6.50	1.52
8.02	9.46	1.44
8.02	6.62	1.40
8.02	4.80	3.22

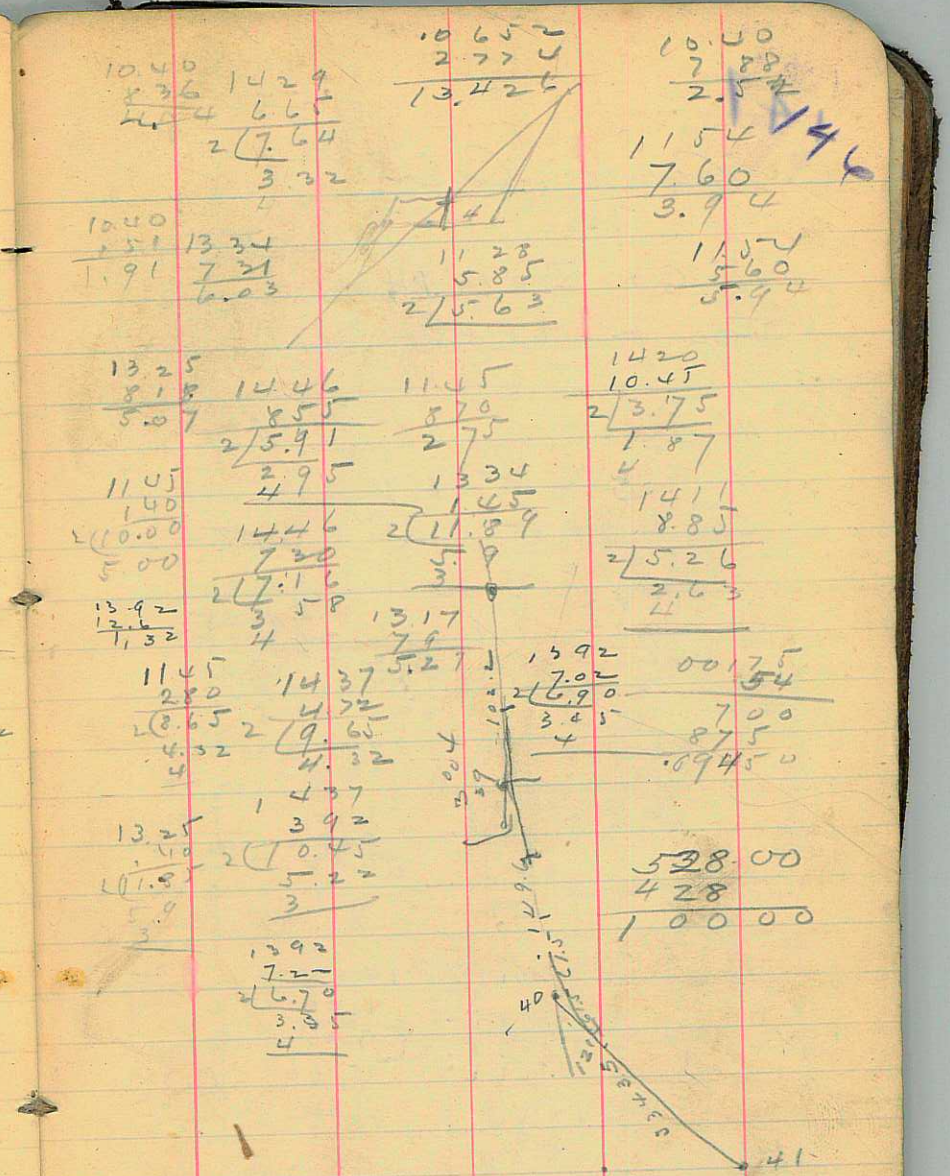
between PI + PI 4.64 / 4 / 4.24

4.24

OK

PI

146



147

Curve Cal.

Sta 40

10° C = I = 12°44

tan = 61.48 ext T = 3.27

to 39

4° C =

I = 3°4

tan = 38.35 ext T = .51

198

151

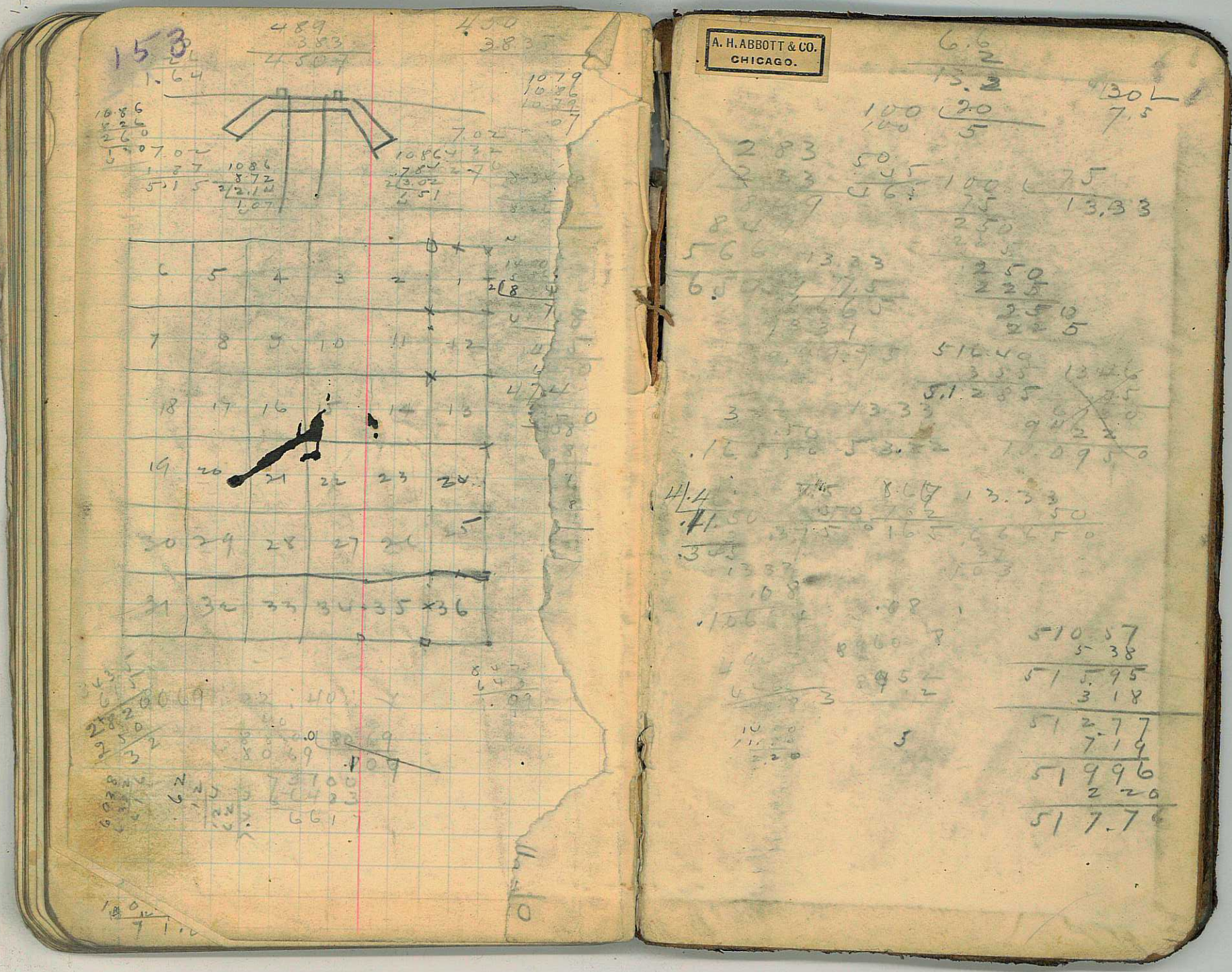
20 ft. of 18"
46 ft 16"

152

$\angle A, \angle BC, \angle B.AC$

$55°38 = .8254 = T.\ 91666$
Log 35 1.54407
1.46073

Log tan $32°32 = .5378 = T.\ 73062$
1.73011
53.7


A. H. ABBOTT & CO.
CHICAGO.