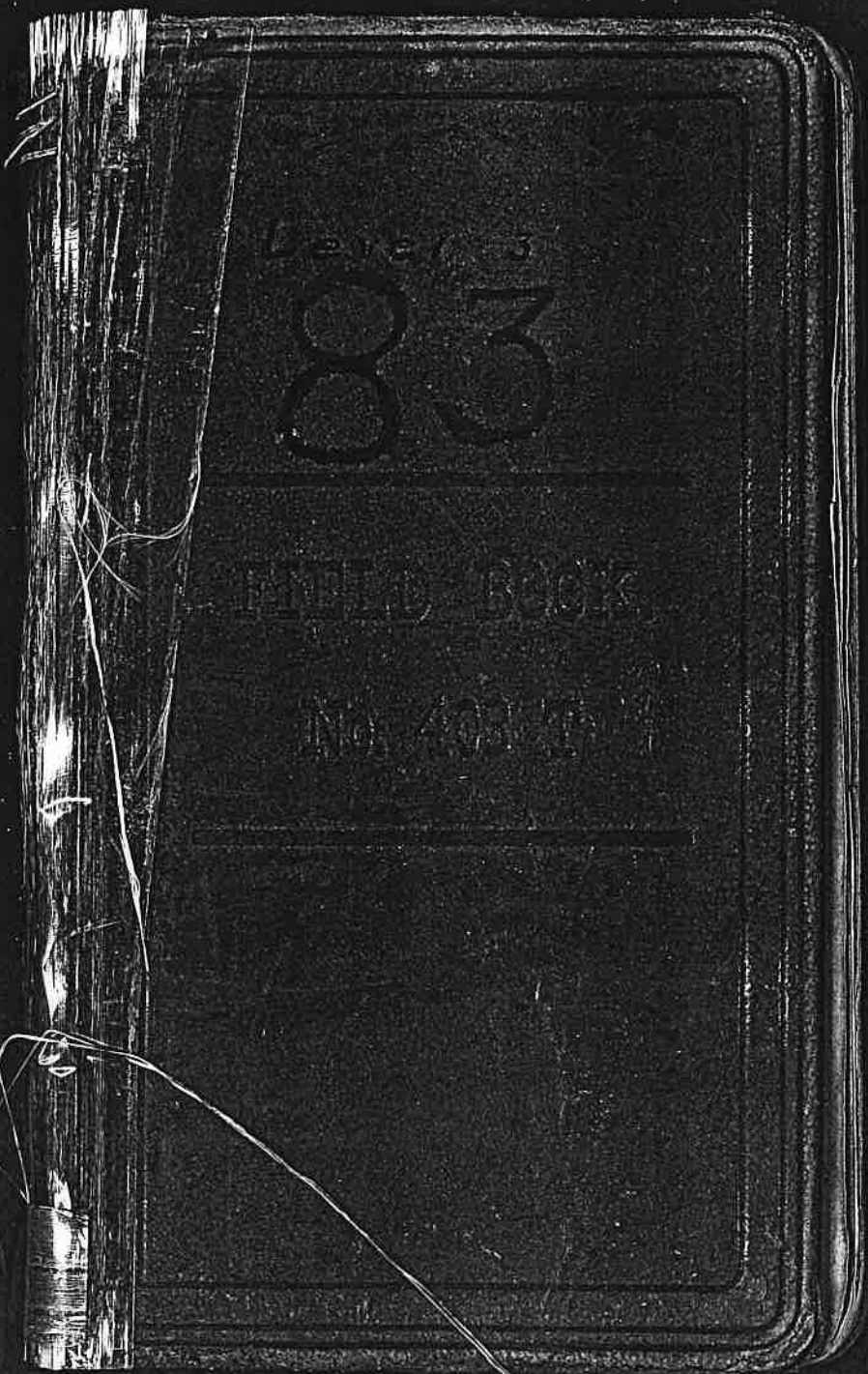


Field Book # 83



83

FIELD BOOK
No. 4011

EUGENE DIETZGEN CO.

Drawing Materials and Surveying Instruments
NEW YORK CHICAGO SAN FRANCISCO

TABLES FOR EXCAVATIONS AND EMBANKMENTS DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTION ROADWAY 20 FEET WIDE, SIDE SLOPES 1 TO 1, FOR SINGLE TRACK EXCAVATION.

Copyright, 1922, No. 33340

	0	1	2	3	4	5	6	7	8
0	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8
1	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8
2	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8
3	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8
4	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8
5	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8
6	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8
7	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8
8	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8
9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8
10	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8
11	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8
12	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8
13	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8
14	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8
15	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8
16	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8
17	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8
18	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8
19	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8
20	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8
21	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8
22	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8
23	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8
24	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8
25	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8
26	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8
27	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8
28	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8
29	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8
30	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8
31	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8
32	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8
33	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8
34	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8
35	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8
36	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8
37	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8
38	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8
39	49.0	49.1	49.2	49.3	49.4	49.5	49.6	49.7	49.8
40	50.0	50.1	50.2	50.3	50.4	50.5	50.6	50.7	50.8

Calculated by T. E. Parsons, C. E.



Handwritten notes and calculations on the reverse side of the page. Includes numbers like 23.5, 6.6, 1.0, 3.13, 3.22, 2.32, 2.22, 3.75, 4.00, 1.00266, 2.500, 2.550, 2.563, and various scribbles and lines.

High Line Canal Survey

Sta.	B.S.	H.I.	F.S.	Elev.	Rod.
B.M.	4.40	600.91		596.51	
T.P.	7.92	605.27	3.56	597.35	
T.P.	9.16	610.58	3.85	601.42	
T.P.	10.95	619.70	1.83	608.75	
T.P.	11.84	629.95	0.99	618.71	
T.P.	11.69	640.46	1.18	628.77	
T.P.	11.14	651.00	0.60	639.86	
T.P.	5.79	655.31	1.39	649.61	
T.P.	5.30	659.64	0.97	654.34	
B.M.				657.46	2.18
Sta. 0		(Transit Line Timber Sur.)		654.46	5.18
Sta. 1			5.55	654.09	
T.P.	11.89	665.98			
T.P.	11.51	676.80	0.69	665.29	
Sta. 2				671.16	5.64
T.P.	11.57	688.24	0.13	676.67	
T.P.	9.00	697.07	0.17	688.07	
Sta. 3				694.99	2.08
T.P.	0.50	685.80	11.77	685.30	
T.P.	0.63	674.69	11.74	674.06	
Sta. A	11.32	683.37	2.64	672.05	
T.P.	11.96	694.77	0.56	682.81	
T.P.	14.589	694.62	0.15	694.62	
T.P.	47.17	596.57			
	98.11	98.11	9.02		
		47.77			

(Anchor)
Notch in Post of S.E. Cor of D-3.

Set Oct. 8.10.

Fair - - - Warm.
Richardson - Level
Rice - Rod
Kelly - - AX.
Moore - - Term. 10 hrs.

Match in NE Side Anchor Post S.W. Cor
Black Flat B.

Top of Gas pipe

Sta 1 on Transit Line (Timber Location)

To set Flat of Sta. 5

2" Oak Stake 3' to R. of Sta 5.

Sta	B.S.	H.I.	F.S.	Elev	Rod
T.P.	1119	705.81		694.62	
Sta 5				705.41	040
B.M.	192	707.18	0.55	705.26	
Sta 6				704.06	312
T.P.	1004	716.85	0.27	706.91	
T.P.	1158	728.37	0.16	716.79	
T.P.	590	733.99	0.28	728.09	
Sta 7				731.19	280
Sta 8				732.04	195
T.P.	1119	724.57	10.67	733.32	
T.P.	161	714.24	11.88	712.63	
T.P.	042	702.91	11.25	702.49	
T.P.	027	691.48	11.70	691.21	
T.P.	013	679.73	11.88	679.60	
T.P.	034	668.24	11.83	667.90	
Sta 9				654.26	1379
T.P.	1125	678.73	0.76	667.48	
T.P.	921	687.68	0.26	678.47	
Sta 10				686.99	069
Sta 11				682.37	531
T.P.	1113	677.18	11.63	676.05	
T.P.	105	666.31	11.92	665.26	
Sta 12				660.04	627
T.P.	437	694.62	11.51	654.80	
	4160	659.12	10.785		
		35.45	3.545		

Sta	B.S.	H.I.	F.S.	Elev	Rod
T.P.	1.044	659.17	5.60	653.57	
BM		664.01		659.36	465
T.P.	9.77	673.23	0.55	663.46	
T.P.	6.47	679.40	0.30	672.93	
Sta 13				673.74	566
Sta 14				673.72	561
T.P.	0.70	669.37	1.073	668.67	
T.P.	2.75	660.37	1.175	657.62	
Sta 15				660.09	028
T.P.	0.76	649.22	1.191	648.46	
T.P.	0.28	637.59	1.191	637.31	
T.P.	0.34	626.06	1.187	625.72	
T.P.	2.26	616.37	1.195	614.17	
Sta 16				611.36	501
BM	33.77		2.31	614.06	

Notch in Trunk of Oak 200' N.W. of Sta. 13
(South Bank of Creek.)

Nail in Top of Oak Stump on N. bank of small
Creek 25' N. of Sta. 16. 45' M. of Rail Fence

$$\begin{array}{r} 2.31 \\ 78.88 \\ 33.77 \\ \hline 45.11 \end{array}$$

$$\begin{array}{r} 659.17 \\ 614.06 \\ \hline 45.11 \end{array}$$

Sta	B.S.	H.I.	F.S	Elev	Rod
B.M.	4.78	613.84		614.06	
Sta 17				616.92	1.92
T.P.	10.64	629.32	0.16	618.68	
Sta 18			7.04	627.28	2.04
T.P.	11.65	638.93			
Sta 19	11.94	650.18	0.69	638.24	
T.P.	12.2	639.67	1.129	650.85	
T.P.	11.94	647.68	3.93	638.84	
Sta 20				635.74	
T.P.	5.88	652.36	1.20	639.54	8.14
Sta 21				646.65	5.71
T.P.	10.83	659.51	3.78	648.58	
Sta 23				649.66	9.85
T.P.	11.43	670.78	4.68	654.83	
Sta 22			0.16	659.85	
T.P.	4.73	659.56		670.72	0.06
Sta 24				657.83	
T.P.	11.65	668.09	3.12	656.66	2.90
Sta 25				656.44	
T.P.	11.40	677.42	2.07	662.68	0.41
Sta 26				666.02	
				671.68	5.74

B.M. Nail in top of Oak stump 25' N. of sta. 16

Oct. 12 - 1910

Level Richardson
 Rod Bruce
 Axeman Rice
 Recorder West

Sta.	B.S.	H.I.	I.S.	Elev	Rod
T.P.	11.25	697.66	1.51	675.91	
T.P.	11.81	698.26	1.21	686.45	
B.M.				695.81	2.45

B.M. on top of stone at S. E. corner of Plat I

120.38
36.18

~~89.20~~
698.76
614.06

84.20

Oct 12 - 1916

Levels along E. Sides of Plots F & I

Sta.	B.S.	I.I.	F.S.	Elev	Red	West Level - Rice Road
B.M.	1.81	598.32		596.51		B.M. Notch in post of S.E. cor. D-3 [of plots
B.M.	2.20	601.42	5.10	593.22		B.M. Notch on E. side of anchor post at S.W. cor
T.P.	11.24	612.60	0.06	601.36		
B.M.				610.42	2.13	B.M. on top of 2" pipe at N.E. cor. of Plot I
T.P.	8.20	620.72	0.10	612.50		[Roofs of Plot I
B.M.				615.79	4.91	B.M. Hub in center of road on E. side of Plot I
T.P.	0.46	610.02	11.14	609.56		(Stand on top of Plot I)
B.M.				609.89	9.13	B.M. Notch in E. side of telephone pole on E.
T.P.	2.95	605.16	11.81	598.21		[line of I
B.M.				600.52	4.64	B.M. Hub in center of road at S.E. cor. of Plot I (B.M.)

$$\begin{array}{r} 36.86 \\ 28.21 \\ \hline 8.65 \end{array}$$

$$\begin{array}{r} 605.16 \\ 596.51 \\ \hline 8.65 \end{array}$$

Lat. 4.
P/A.T.F.

			Grade	Qull
BR. 7M 8.00	21.20	586.30	579.10	
AR 8.00			74.0	573.0
			74.5	731
			74.5	732
			74.4	737
			74.5	738
			74.5	734
			74.6	735
			74.7	736
			75.0	737
			75.3	738
			75.7	738
			75.8	739
			76.3	740
			75.3	740
			75.1	741
			75.5	742
			75.4	742
			75.3	744
			75.2	745

Mar. 11th 1910
 (Strong)
 Cooper
 Cortiel
 May
 A.M. cloudy
 & water

Lat. H. Plot F	Height	Asotic	Dist.
58130	6.6	74.7	73.5
1.1	6.6	74.7	73.7
1.1	6.6	74.7	73.9
1.1	6.3	75.0	74.1
1.1	6.3	75.0	74.3
1.1	6.0	75.3	74.5
1.1	6.2	75.7	74.6
1.1	5.7	75.6	74.7
1.1	5.8	75.3	74.8
1.1	5.6	75.7	74.9
1.1	5.6	75.7	75.0
1.1	4.3	77.0	75.1
1.1	5.2	76.1	75.2
1.1	4.9	76.4	75.5
1.1	5.1	76.2	75.6
1.1	4.9	76.4	75.7
1.1	4.6	76.7	75.8

Asotic Dist.

Lat. H. Plot F

58130

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1.1

1-77 post.	6.0	94.0
hole	6.3	97.7
from	5.5	94.2
original	6.2	92.8
at hole	6.1	97.9
2	6.4	93.6
3	6.9	97.1
4	5.30	94.7
5	5.3	97.7
swamp	6.8	71.2
wood fence	6.3	93.1
S.S. O. Av.	7.6	91.7
gutter	7.4	91.9
gutter	7.6	91.7

1.50

3.30

8.1

Foster Canyon

Dec. 27th 1910
5 from
10 on the 28.

0.01	262.18	262.17	✓
6.16	257.91	10.43	251.75
2.50	251.80	8.61	249.30
5.26	254.81	2.25	244.55
0.24	243.13	11.92	242.89
		3.22	239.91
0.41	234.32	9.22	231.91
0.32	228.53	6.11	228.21
0.73	224.04	5.22	223.31
11.46	220.05	7.45	215.59
0.15	219.08	9.12	215.93
0.80	218.16	11.72	207.36
		8.16	200.07

on the west East End of gate where valley
widens out

on west edge of Keweenaw - east side of road

4.00 total from 1st on old road to view

West Side
Climb Section of Foster Canyon

Sta.	B.S.	I.I.	F.S.	Elev.
0+19.0	6.30	296.21	11.77	2599.1
0+52.0			1.20	
T.P.	10.69	256.56	0.34	295.87
0+62.0			6.5	
0+70.0			1.6	
T.P.	11.77	268.01	0.32	256.24
0+79.0			8.0	
0+86.0			3.0	
T.P.	10.89	278.77	0.13	267.88
0+94.0			8.7	
1+00			3.7	
T.P.	12.39	290.91	0.25	278.52
1+08.0			10.9	
1+15.0			5.9	
T.P.	11.30	302.04	0.17	290.74
1+22.0			12.0	
1+29.0			7.0	
			2.04	300°

BM

BM West side of the black Foster Canyon

Creek Centre

East Side
Cross Section of Foster Canyon
Sta. B.S. H.I. F.S. E.I.V.

B.M. West Side Hemlock

259.91

1018 250.19

10.2

5.2

11.23 261.31 250.08

0.11 11.30

6.30

1.30

12.18 272.23 260.80

0.51 7.9

2.9

11.38 289.12 272.74

0.19 9.1

4.1

11.30 294.95 283.65

0.47 9.9

5.0

9.96 304.63 294.67

0.28 9.6

4.63

B.M. 4" Fir Stump

Sta	B.S	HI	F.S.	Elev	B.M. at End Gate
	0.37	262.54		262.17	
T.P.	6.36	257.90	11.50	251.04	
0+00			5.81	251.59	B.M. Cross on Stone where Conveyer widens and Crest fork
Cross Section East Side					
	12.01	262.60			
0+80			8.60		
0+180			3.60		
T.P.	11.85	275.10	0.35	263.25	
0+360			10.10		
0+500			5.10		
T.P.	11.22	286.23	0.09	275.01	
0+640			11.20		
0+770			6.20		
0+900			1.2		
T.P.	10.59	296.32	0.50	285.73	
1+040			6.3		
1+160			1.3		
T.P.	6.31	306.23	1.4	294.92	
1+280			1.2		
			1.23	300.0	B.M. Fir Hub

Cross Section for West Side

Sta.	B.S.	H.I.	I.S.	FLY
T.P.	769	25928		25429
17060			16.6	
17990			4.3	
T.P.	1167	27077	0.18	25910
27150			10.7	
27140			5.7	
27320			0.80	
T.P.	1120	28167	0.30	27947
27400			6.7	
27480			1.7	
T.P.	1157	29303	0.21	28146
27570			8.0	
27670			3.0	
T.P.	1008	30277	0.34	29269
27700			7.8	
			2.77	30000

B.M. Cross on Stone Where Canyon
Widens and Forks
East Buntay Creek

B.M.

Sta	Center Line	Foster Canyon	F.S. Elev	200.00
	7.33	207.33		
		8.84	198.19	
T.P	11.19	218.39	207.20	
T.P	8.92	226.93	218.01	
Sta 1		0.54	226.39	
T.P	3.93	226.59	222.59	
Sta 2		8.73	217.79	
Sta 3		7.43	222.09	
Sta 4	10.26	1.65	224.87	
Sta 5	6.30	3.83	231.30	
Sta 6		4.20	233.40	
T.P	9.82	3.00	234.60	
Sta 7		6.14	239.28	
T.P	9.00	0.10	244.32	
Sta 8		2.7	250.92	
T.P	1.76	1.31	262.01	
Sta 9	4.90	6.00	247.77	
Sta 10	5.32	0.09	252.58	
Sta 11		6.15	261.75	
T.P	9.16	4.02	263.88	
Sta 12	11.69	0.34	274.00	
T.P	10.99	0.13	274.55	
T.P	11.17	0.14	285.41	
T.P	8.53	0.53	296.05	
		4.57	299.79	

Sta. 0+00 centerline Traverse

Center of Creek

BM Sta 13 Center Traverse

Foster Canyon Reservoir #16.

July 6th 1910.

Strong - Hard work
Foster - Road.

S

Shale
20
20

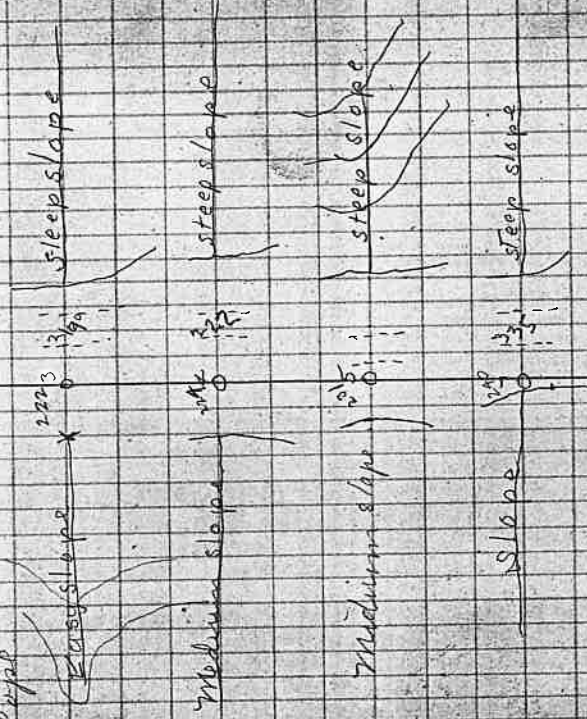
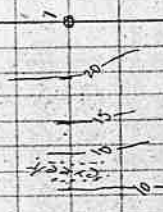
100 ft south of dam, canyon is soft mud.

1	226.4		
E 2.1	227.0	6.3	220.7
4.6	226.0	11.0	215.0
6.5		19.0	207.0
W P 6.0	15.3	24.7	221.4
		2.5	39.2
12.1	17.1	25.8	9.0
15.0		3.0	55.8
18.0		1.0	57.8
2.27			65.0

East side of road.

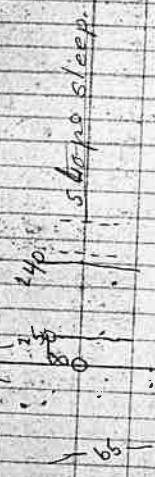
E.

folly of type

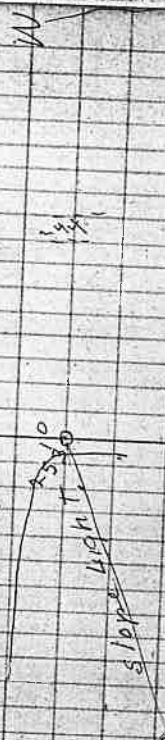


N.

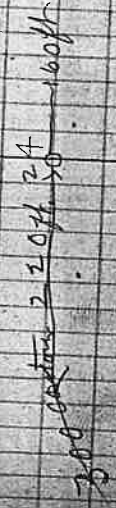
Foster Canyon Reservoir 17.



to Thompson creek



ON EAST 2630
238



8
E 35
W
14.8 265.7 150.9
50 285.7

10
55
6.0 250.0
18.0 350

W 80
185
F 100
142
197
215
155 = 13

Fog slope

W 110
230
515
265
270
280
285
300
282.7
271.7
272.8

Creek
foot of W slope

Strong Level 18
Reed. Rod.

JAN 17 1911



- 1. 2.22
- 2. 3.22

2.78
 2.13
 2.54
 2.91
 3.11

Flume on Lat 10.
R.K. 1. Plat A.
Length between Readings 400'

West End of Flume
3.99
3.86
0.13

Rate average. 0.04 ft. 100
1-2.6-11 } 15 min.
Strong & Bellings

9.03
3.88
5.15

Power House & West.

Plans for Proposed
R.A.T. K. & J. Canal.
High. Line.

20

1-26-11

sharp
full
Strong
Billings
day
with new from
town.

B.M.	8.73	643.95	635.22	Noted in N. post 100 N.W. of power house
			627.9	at bottom of canal at gate
			16.32	Bottom of public power house (1.75' standing water)
Turn	10.43	651.50	2.88	Bottom of Big Box @ head of pipe
"	11.40	662.06	0.84	Top " " "
	14.97	674.57	2.46	Bottom of " " " 50' south of pipe
			9.45	" " " Main Canal 10' south of head of Big Box
			7.85	" " " " 40' " "
			8.90	" " " " 200' " "
			8.80	Top Box. South side of standard to waste gate outside box
			8.0	" " " " "
			7.8	" " " " "
B.M.			4.73	Top Box. South side of standard to waste gate outside box
	0.22	55.34	19.45	check levels.
	0.04	44.02	11.36	Starting bench
			8.82	Notch in A post 100 N.W. of power house
B.M.	1.52	636.74	635.22	
	8.65	609.78	5.61	Top of A Post. S.E. cor Lot 3. B.K.L. Plat B
B.M.	4.59	641.18	3.19	" " " " " " " "
B.M.	4.19	644.29	1.08	" " " " " " " "
Turn	10.78	651.84	3.23	" " " " " " " "
B.M.			4.011	" " " " " " " "
Turn	10.18	653.83	8.19	" " " " " " " "
				7th " W. S. N. cor. Company Orchard

Night Lines Canal Remarks

Solid Rock C. Power House.
Canal grade in part way up
steps slope until you reach a
point 200 ft. S.E. of Co. Orchard S.W. cor.
where ground is flat enough for earth
canal, considerable brush & timber
Canal hits about 125 ft. S. of S.W. cor.
Company Orchard.

Sta 16 South of Mt. 197. B. 1
23. slope lessens, might use earth
canal from this Sta.

25. good slope for earth canal, no
stumps & considerable brush
37 sta to west. Bdry with 7. B. 4

Grade @ 0.0 = 666.00 - Rate .125 per 100 ft.

" C 23 - 663.14 - Rate .08 "

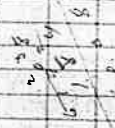
" " 37 - 661.92

" " 40 - 661.68

" " 50 - 660.88

1-26-11
very porous material & fully roots
No rock exposures, doubtful if earth will
make junction of box & canal.

1-27-11



South High Liner Canal.

1-26-11.
5 Fing } change
Billings } full day
June 4 1911
from town.

Canal 60' south of
Notch on E. side of Amberport. S.W. Cor. 4 of 7 B.L. 14 - B

Notch on N. side of large Oak Tree. - 300 N. of W. line
Top of N. post. S.W. Cor. 4 of 7 B.F.

Notch on S.W. side of large Oak Tree upward in
lot 12. K. 1.

Top of 2nd level under 16. K. 1.
Top of Park on Fense on South side

check levels.

Turn	9.35	653.83	2.18	651.65	
B.M.		661.00	3.77	657.23	661.00 657.46
Turn	10.66	662.31		651.65	
B.M.	10.71	673.02	0.04	662.31	
B.M.	8.95	675.39	6.58	666.44	
Turn	1.04	668.52	7.91	667.48	
B.M.			0.19	668.33	
Turn	1.90	668.74	1.68	666.84	
Turn	1.35	666.29	3.80	664.94	
B.M.			2.40	663.89	
B.M.	7.70	669.67	4.32	661.97	
	2.91	670.32	2.26	667.41	
			1.85	668.47	B.M.
	10.85	672.82	8.05	661.97	
	3.75	670.17	6.40	666.42	
			7.85	662.32	B.M.
37	9.53	666.76		657.23	662.42
40	8.79	671.10		662.31	663.18

Wright Lima Canal.
- prelim.

41+75
42
B.M.
46
T25
T50
+75
47
+25
T50
+75
48
+25
T50
+75
49
+25
T50
+75
50
T25
+50
+75
51

671.38
5.8
8.8
8.8
8.8
8.9
8.9
8.9
8.9
9.0
9.1
9.1
9.1
9.1
9.2
9.2
9.1
9.2
9.1
9.2

Top of A Post South side of B.

50 - 60.88
19.50
8.14
671.38
61.20
10.18
1.4
8.78
8.86
8.98
9.04
9.12
9.28
9.10
9.18
9.28

2A / slope.

71.3
3.8
4.9
2.2
7.2
73.0
6.0
10.9
10.6
1.9
3.2
5.3
2.8
3.8

1-28-41 24

40
46 = 661.20
46
-1.3
49
-50
51
52

1947
 28/11 205

North Pine Canal
 Prelim.

51 + 2.5	671.38	9.7	
1.50		9.2	
+ 7.5		9.3	
5.2		9.3	
6.00	718	8.98	862.40
+ 5.0		7.6	
5.3		7.6	
1.50		7.7	
+ 7.5		7.8	
5.4		7.7	
+ 2.5		7.7	
1.50		7.7	
1.75		7.7	
5.5		7.5	
+ 2.5		7.7	
1.50		7.7	
+ 7.8		7.8	
1.90		7.8	
5.6 + 0.5		7.8	
+ 2.5		8.0	
1.50		8.0	
+ 7.5		8.0	
5.7 + 0.0		8.1	
+ 2.5		8.1	
1.50		8.1	

619.68
 53-860.64
 9.04
 1.4
 58 - 7.64 = 1.4
 54 - 7.72
 54 - 7.62 = 1.5
 55 - 7.70
 56 - 7.75
 56 - 7.98 = 1.3
 57 - 8.06
 58 - 8.14
 59 - 8.22
 60 - 8.30
 60 - 8.40 = 1.1
 61 - 8.28
 61 - 8.08 = 1.4

Aligh. d. in Canal
 Prelim.

1-28-61 28

668.88
 60F 660.00
 8.1
 8.97
 1.3
 62 = 7.67
 64 = 7.813

57 + 7.5	8.1	669.65	
58	8.1		
+ 2.5	8.8		
+ 5.0	6.3		
+ 7.5	6.7		
+ 9.0	7.7		
59 + 1.0	8.8		
+ 1.5	7.3		62.4
+ 5.0	6.3		6.3
60	7.0		
+ 2.5	8.2		
+ 5.0	8.2		
+ 7.5	8.1		631.6
61	8.1		6.75
B.M.	0.48	668.89	1.27
+ 9.0	9.6	659.3	668.41
61 + 1.2		644.66	
+ 2.5		650.8	
+ 5.0		652.6	
61 + 7.5		657.0	
62 + 0.5	7.6	661.3	
+ 5.0	7.7	661.2	
63	7.7	61.2	
+ 2.5	7.7		
+ 5.0	7.7		

Head of flume

End of flume

Nigh Wind Canal.
Prelim.

63 + 75	7.7	668.89		
64	7.8			
+ 2.5	7.8			
7.50	7.9			
+ 7.5	7.9			
4.5	7.9			
B.M.	10.87	668.10	(1-30-19.11. ST. Fing. W. Stath, Billings	9 Cornet. Full day
Zach	6.01	669.82		
B.M. on Fir. to top of S.W. 35	2.80	668.72		
Lucas	1.41	666.20		
Lucas on Fir. Sta				
B.M. 31785				
Lucas	4.23	669.86		
Town	3.63	667.91		
Lucas on Fir. Sump	3.19	666.96		
B.M. Ref. 29	0.00	661.77		
check.	9.89	651.88		

Billings

9 Cornet. Full day

ST. Fing. W. Stath,

(1-30-19.11.

Billings

9 Cornet. Full day

1-28-11 27

677.38				
348				
674.86				
666.44				
669.92 MI				
661.68				
8.24				
1.3				
6.11				
1.8				
7.42				
669.92 NE				
61.20				
8.72				
1.3				
7.42				
668.10				
661.92				
6.18-37				
1.4				
4.78-37 46				
4.70 36				
4.80-36 45				
4.72-35 41				
7.02				
7.60				
662.32				
661.68				
8.3				
1.3				
7.0				
70				
662.18-30				
667.91				
662.48				
654.3				
1.30				
4.13-30				
669.6				
669.29				
662.56-29				
4.40				
1.4				
7.10-29				

354
3350

1.4

1.1

1.4

1.1

1.4

1.1

1.4

1.1

1.4

1.1

1.4

1.1

1.4

1.1

1.4

1.1

1.4

1.1

1.4

662.18-30			
667.91			
662.48			
654.3			
1.30			
4.13-30			
669.6			
669.29			
662.56-29			
4.40			
1.4			
7.10-29			

662.18-30			
667.91			
662.48			
654.3			
1.30			
4.13-30			
669.6			
669.29			
662.56-29			
4.40			
1.4			
7.10-29			

1-30-11-28

Night Airline Canal Location

Sta.	Grade	N.E.	Elev.
B. 5M	6010.07	667.30	657.23
37+00	661.92		
38+00	61.84		
B. 5M	39.6	666.27	662.31
39+00	661.76		
40-	661.63		
41	661.60		
	661.52	668.35	662.31
42	661.44		
43	661.36		
44	661.38		
45	661.30		
46	661.20		
B. 7M	0.78	667.19	662.41
47	661.12		
48	661.04		
49	660.96		
50	660.88		
51	660.80		
Zigzag	31.49	666.31	662.82
52	660.72		
53	660.64		
54	660.56		
55	660.48		
56	660.40		

Side of Gaspr. Bank

marked

July 31st 1911 - starting Billings about 7th of month } 1/2 day } full day

1-31-11 28

High Water Canal
Location

57	660.32	666.31	
58	660.24		
58+50	660.5	668.31	4.05
to			Fill - Above m. 3th. above
60			grade.
60	5.76	668.68	5.39
61			1.21
62	660.16		
63	660.08		
64	660.02		
65	659.85		
66	659.77		
67	659.61		
68	659.53		
69	659.45		
70	659.37		
71	659.29		
72	659.21		
73	659.13	806	661.38
74	658.97		
75	658.89		

Head of flume }
End of flume }

Rate 0.125

cont'd on page 30

High	Line	Prel. m
B. 5M.1	6.71	668.48
turn	3.90	670.05
turn	3.58	670.41
		0.27
		670.14

From page 71.
High Line

High Line	Current Location
75	658.81
76	658.73
77	658.65
78	658.57
79	658.49
	422
	664.94
	540
	660.72
80	658.41
81	658.35
82	658.25
83	658.17
84	658.09
85	658.01
	657.93

Time

From page 71

South High Line Ditch
Cont from page 75
Profile

2/1/11
Hwy = 25'

North 5 paces = 11'

Grade

FS

HI

BS

Sta

Sta	BS	HI	FS	Grade	Elev
57+25		666.84	4.6		662.2
+50			4.5		662.3
+75			4.6		662.2
52			4.8		662.0
+50			4.7		662.1
53			4.7		662.1
+50			4.9		661.9
+75			5.0		661.8
54			5.0		661.8
7P	4.17	666.88	4.3		662.71
+25			5.0		661.9
+50			5.0		661.9
+75			4.9		662.0
53			4.9		662.0
+25			4.1		662.0
+50			4.9		662.0
+75			5.0		661.9
55+90			5.0		661.9
56+05			5.0		661.9
+25			5.1		661.8
+50			5.2		661.7
+75			5.2		661.7
57			5.2		661.7
+25			5.25		661.63
			5.1		661.78
			5.1		661.78

MS = 5/10/11

Cont on P2

25. High Line Ditch Profile.

1/4 H spaces = 25'
 H or 3 = 25'

Elev. or Grade

2

1/4 H spaces = 25'

H.S.

H.I.

B.S.

Sta.	B.S.	H.I.	H.S.	Elev. or Grade
67450		666.88	5.3	661.6
+75			5.3	661.58
58			5.25	661.63
+75			5.9	661.0
+50			3.3	663.58
+22			5.35	661.53
59135			5.9	661.0
+50			3.9	663.0
60			5.25	661.63
+75			5.3	661.58
+50			4.74	662.14
B.M.P.	3.50	670.01	5.25	661.63
B.M.			0.37	666.51
+75			1.3	668.47
+90				61.6
61+12				59.3
+25				44.6
+50				50.8
+75				52.6
62+05				57.0
				61.3

~~2 feet~~

End of Flume

Mid of flume

End of Flume

Contd on page 40

South High Line Ditch

(Contours)

Sta. B.S. H.L. F.S. Elev. Grade

B.M.	235	670.82	9.71	668.47
65			9.73	661.11
+25			9.75	
+50			9.77	
+75			9.79	661.03
66			9.81	
+25			9.83	
+50			9.85	
+75			9.87	
67			9.89	
+25			9.91	660.91
+50			9.20	661.62
T.R.	878	670.40	9.47	660.93
+75			9.49	
68			9.51	
+25			9.53	
+50			9.55	
75			9.57	
69			9.59	
+25			9.61	
+50			9.63	
+75			9.65	660.75
70			9.67	660.73
+25				

2/2/11 Richardson +
Billings Road
Corner + 1403 51st St
NE
V.E.T. Spaces = 1'

Match on Oak 50' E of 664750

66312
66
66318

670.14
2.57
672.66
663.18
9.48

672.66
669.92
9.74

672.66
9.70

662.96
3.9
666.86
663.15
3.68

Harb Spaces = 2.5'

Contour

Sta.	B.S.	H.I.	F.S.	Elev. Stake	BS	HI	F.S.	Elev.
70+50		670.40	9.69	660.71	BM 479	657.89		697.10
+75			9.71		T.P. 391	651.56	9.24	697.65
71			9.73		BM 108	650.08	8.56	699.00
+25			9.75		T.P. 104	644.66	6.46	643.62
+50			9.77	660.63	BM 188	643.03	3.45	641.21
+75			9.77		T.P. 973	643.00	9.76	653.27
72+00			9.81		BM		5.19	637.81
+25			9.83		T.P. 602	641.99	7.53	635.97
+50			9.85		T.P. 0.09	629.66	11.92	627.57
+75			9.87		T.P. 880	622.82	9.69	620.22
73+00			9.89		T.P. 963	619.59	7.86	619.96
+25			9.91		T.P. 388	619.24	4.17	615.92
+50			9.93		T.P. 1163	630.73	0.19	619.10
+75			9.95		T.P. 1208	642.51	0.30	630.93
74			9.97		T.P. 944	651.99	0.51	642.00
+25			9.99		T.P. 653	657.25	0.72	650.72
+50			10.01				2.05	655.20
+75			10.03					
95			10.05	660.35				
T.P.	5.17	666.20	9.37	661.03				
+25			5.87	660.33				
+50			5.89					
+75			5.91					

D and one p

(contour)

Sta B.S. H.I. F.S. Elev. Grade

76		666.20	593	660.27	
+25			595		
+50			597		
+75			599		
77			601		
+25			603		
+35			774		
B.M.			2.21	663.99	
+50			6.05		
+75			6.07		
78			6.09		
+25			6.11		
+50			6.13		
+75			6.15		
79			4.17		
+25			6.19		
+50			6.21		
+75			6.23		
80			6.25		
+25			6.27		
+50			6.29		
+75			6.31		
81			6.33		

(PIPE)
Small Crack
Reg. 50% of 77.75-

770 (small pipe)

785 (Crack)

Abandoned

Contours

Grid

Elev.

FS

HI

BS

Sta

81	+25	224	66249	595	639.61
	+50		270	660.25	
	+75		292	659.57	
82	+25		294		
	+50		296		
	+75		298		
			0.45		66204
			3.00		
			3.02		
			3.04		

Anderson

Top of Post 85750
Boundary of "K"

B.M.
81
82

Contour

Sta.	B.S.	H.I.	F.S.	Elev. Grade
86	+50	662.49	3.08	126
	+75		3.08	
87			3.10	
	+25		3.12	
	+50		3.14	
	+75		3.16	
88			3.18	
	+25		3.20	
	+50		3.22	
	+75		3.24	
89			3.26	
	+75		3.28	
	+50		3.30	
	+75		3.32	
90			3.34	
	+25		3.36	
	+50		3.38	
	+75		3.40	
91			3.42	
	+25		3.44	
	+50		3.46	
T.P.			2.87	659.62

Abandoned

Feb 20 11
 Richards - W
 Billings - Rod
 Cornett } slash
 Mc Grath }

Rate = 125

Top of Cap by Hendgate Bus
 Mast side of Big Box (inside assets)

South High Line Canour Levels.

Sta	B.S.	H.I.	F.S.	Elev.	Rod.
B.M.	262	672.46		669.84	
Sta. O				666.6	646
+25				665.97	649
+50				665.94	652
+75				665.91	655
+100				665.88	658
+125				665.85	661
T.P.	487	671.78	557	666.89	
+50				665.82	596
+75				665.79	599
+100				665.76	603
+125				665.72	606
+150				665.69	609
+175				665.66	612
3700				665.63	615
+125				665.60	618
+150				665.57	621
+175				665.54	624
B.M.	648	671.08	718	664.60	
A400	1299	669.84	1275	666.50	358
+25	1275	1.24		665.47	561
+50				665.44	564
+75				665.41	567
5700				665.38	570

Watch in Large Fir: 20 Sta. 400

North Branch

2/3/11

S.H. Line Camp / Contour

Sta.	B.S.	I.I.	I.S.	File	Mod.
5725		671.08		665.35	5.70
+50				665.32	5.76
+75				665.29	5.79
6+00				665.25	5.83
+25				665.22	5.86
+50				665.19	5.89
+75				665.16	5.92
7+00				665.13	5.95
T.P.	5.36	671.91	4.53	666.55	
+25				665.10	6.81
+50				665.07	6.84
8+00				665.00	6.91
+50				664.94	6.97
9+00				664.88	7.03
T.P.	1.47	669.20	4.18	667.70	
+50				664.82	7.38
10+00	3.15	668.15		664.75	7.45
T.P.	0.87	665.89	4.20	665.00	7.43
+725				664.72	7.46
+50				664.69	3.40
+75				664.66	3.49
11				664.63	3.52
+25				664.60	3.55
+50				664.57	3.58

Note
12/1/11

New Stamp

Top of Stamp. 2/6/11

Richardson
Billings
Corneff
Mrs Grath } slash

Cont. on R 50

Profile Levels

From Page 32

Sta B.S. H.I. F.S.

B.M. 0.08 668.55

Elev. Rod.

668.47

661.40 715

661.19 736

661.31 724

661.28 727

661.10 745

661.15 740

661.09 746

661.09 746

660.93 762

660.92 763

661.02 753

660.83 772

660.93 762

660.90 765

660.77 778

660.98 757

660.68 787

660.69 786

660.89 766

660.75 780

660.62 793

660.69 786

660.65 790

Note in oak 50' L. of 60750

2/4/11
Richardson
B. M. 4
Corner
M. S. E. 1/4

7/4/11

Sta.	B.S.	Profile H.I.	Levels F.S.	Elev.	Rod.
68+25		668.55		660.62	793
+50				660.75	780
+75				660.39	816
69				660.58	797
+25				660.72	783
+50				660.59	796
+75				660.49	806
70				660.48	807
+25				660.45	810
+50				660.31	824
+75				660.45	810
71				660.38	817
I.P.	3.22	664.84	693	661.62	
+25				660.26	458
+50				660.33	451
+75				660.33	451
72				660.29	455
+25				660.86	398
+50				660.38	446
+75				660.99	486
73				660.24	460
+25				660.30	454
+50				660.19	465
+75				660.20	464
		Can't see	48		

June 2nd 1911 (on pipe E edge of
 Final B.M. } canal @ Station 72+50
 Elev. 661.76

58

2/3/11

Profile Levels

Sta.	BS	HL	F.S.	Elev.	Rod
BM	178	670.20		668.42	
62+05			8.9	661.3	8.9
+50				661.15	9.05
63+06				661.26	8.94
+25				661.4	8.8
+50				661.19	9.01
+75				661.24	8.96
64				661.14	9.06
+25				661.18	9.02
+50				661.07	9.13
+75				661.11	9.09
65				661.27	8.93
+25				661.03	9.17
+50				661.04	9.16
#75				660.94	9.26
66				660.97	9.23
+25				660.98	9.22
+50				660.90	9.3
+75				660.85	9.35
67				661.08	9.12
+25				661.05	9.15
+50				660.85	9.35
+75				660.95	9.25
68				660.84	9.36

Approved

Sta.	B.S.	H.I.	I.S.	Elev.	Red.
78	+75	665.34		660.91	5.33
79	+75			659.14	62
	+75			660.10	524
	+25			660.10	524
	+50			660.16	518
	+75			660.06	528
80				660.08	526
	+25			660.06	528
	+50			660.16	518
	+75			660.39	495
	+80			660.44	490
	+90			658.31	703
81	+05			659.71	563
	+25			660.10	524
	+50			659.99	535
	+75			659.96	538
82	+00			659.72	562
	+25			659.77	557
	+50			659.67	567
	+75			659.81	553
83				659.70	564
	+25			659.62	572
	+50			659.76	558
	+75			659.66	568

Head of Flume.
Waste Gate.
End of Flume.

678.00
A.D.

Richardson
Billings Rod.
Barnett slash.
McGrath

3/4/11

Contour Levels.

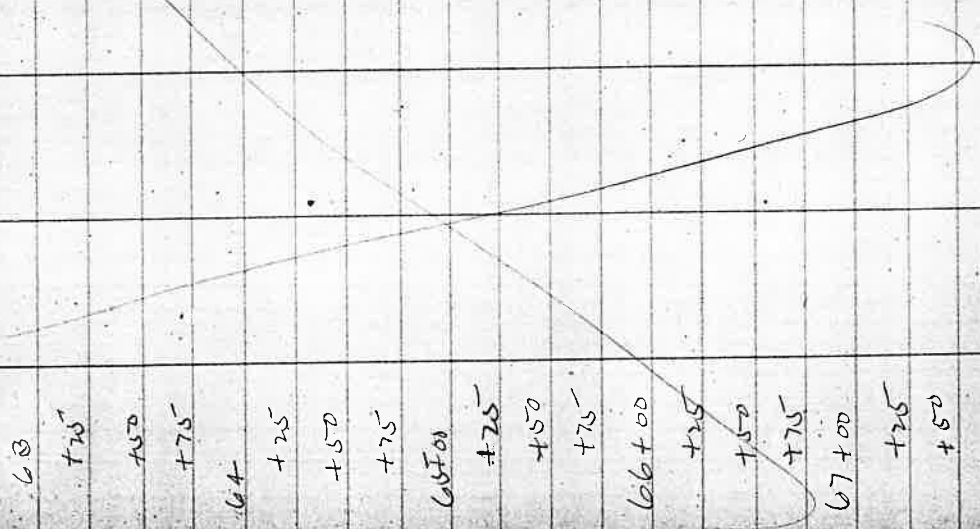
Stn.	B.S.	Hi.	F.S.	Flk.	Rod. Grade
63	1.00	669.42		668.42	
+25				661.07	8.35
+50				661.05	8.31
+75				661.03	8.29
64				661.01	8.41
+25				660.99	8.43
+50				660.97	8.45
-75				660.95	8.47
65				660.93	8.49
+25				660.93	8.51
+50				660.91	8.53
+75				660.89	8.55
66				660.87	8.57
				660.85	8.59

73

Sta.	B.S.	H.I.	F.S.	Elev. Grade
B.M.	1.02	669.44		668.42

Match in oak tree 5-011 of 60450

65977



68
+75
+50
+75
64
+25
+50
+75
6570
+25
+50
+75
66+00
+25
+50
+75
67+00
+25
+50

~~Creek~~

Profile Levels.

Sta.	BS.	H.I.	FS.	E/V.	Red.
74		664.84			
+25				660.21	4.63
+50				660.31	4.53
+75				660.12	4.72
				660.16	4.68
75				660.11	4.73
+25				659.94	4.90
+50				660.02	4.82
+75				660.18	4.66
				660.30	4.54
76				659.96	4.88
+25				659.96	4.88
+50				660.08	4.76
+75				660.07	4.77
				660.31	4.53
77				659.08	5.76
+25				659.95	4.89
+35				660.02	4.82
+40				659.87	4.97
+50				660.41	4.43
+75				661.97	
78				659.94	4.70
T.P.	2.67	664.64	2.87	659.99	4.65
+25				659.10	5.54
+50					
+75					

South High Line Canal
Profile Levels.

Sta	Bs.	H.I.	Fs.	Elev	Red.
79				660.08	456
80				660.15	449
+50				659.92	472
+75				659.80	484
80				659.73	491
+25				659.78	486
+50				660.30	454
+75				660.44	420
+85				658.17	647
81				659.74	496
+25				659.99	465
+50				659.78	486
+75				659.73	491
82				659.60	504
+25				659.61	503
+50				659.49	515
+75				659.66	494
83				659.57	507
+25				659.56	508
+50				659.58	506
+75				659.29	535
84				659.44	520
+25				659.32	532
BM			2.65	661.99	

Waste Gate

June 2nd 1911 on Hub. by post. 3.5 ft. west of
Final B.M. } Elev 854.99
Elev 854.75

Top of Post. Contd on page 66

2/6/11

Cont from P. 39
S.H.L. Canal Contour

Sta	B.S.	H.I.	F.S.	Elk	Rod
11+50		668.15		664.54	3.61
11+75				664.50	3.65
12+00				664.47	3.61
+25				664.44	3.71
+50				664.41	3.74
+75				665.37	
13+00	4.43	669.80	2.78	664.38	5.42
+25				664.35	5.45
+50				664.32	5.48
13+75				664.29	5.51
14				664.25	5.55
+25				664.22	5.58
T.P.	4.92	670.34	3.71	666.02	
+50				664.19	6.15
+75				664.16	6.18
15+00				664.13	6.21
+25				664.10	6.24
+50				664.07	6.27
+75				664.04	6.30
T.P.	3.60	669.05	4.89	665.45	
16				664.00	5.05
+25				663.97	5.08
+50				663.94	5.11

Handwritten notes and scribbles, possibly including 'S.H.L. Canal' and other illegible text.

2/4/11

Cont. of S.H.L. Canal

Sta.	B.S.	H.I.	I.S.	Elev.	Red.
16+75		669.05		663.91	5.14
17				663.88	5.17
+25				663.85	5.20
+50				663.82	5.23
18+75				663.78	5.26
+25				663.75	5.30
T.P.	3.54	668.55	4.04	665.01	
18+00				663.75	4.80
+25				663.72	4.83
+50				663.69	4.86
+75				663.66	4.89
19				663.63	4.92
B.M.				668.42	0.13
+25				663.60	4.95
+50				663.57	4.98
T.P.	5.68	666.17	9.06	660.49	
+50				663.57	2.60
+75				663.54	2.63
20				663.50	2.67
+25				663.47	2.70
+50				663.44	2.73
+75				663.41	2.76
21				663.38	2.79

3" Oak Stump 5' L. of 18+75

5' Oak.
Top of Stump P.I.O.R. of 19+50

216111

S. High Line Canal Contour

Sta.	BS	H.I.	Fs.	Elev	Rod
T.P.	6.28	666.17		665.82	875
21+25				663.35	878
150				663.32	
175					
21+25 on 5th			1.88	670.22 (670.5)	
B.M.					

Match in road of stump 20' L. of S. to 24-150.

Handwritten signature and notes in cursive script.

2/6/11

From Book 7, Page 77

S. H. R. Linc. Station

Sta	Grade	BS	HI	FS	Elev
B.M.		171	671.85		670.8
22	665.12				
23	663.04				
24	662.90				664.52
25	662.88	5.14	669.56	7.43	
26	662.80				
27	662.72	4.12	669.03	4.71	667.8
28	662.64				
29	662.56				
30	662.48	3.97	668.23	4.77	664.26
31	662.40	4.78	669.75	3.26	664.7
32	662.32	3.77	669.04	4.48	665.2
33	662.24	3.49	668.43	4.08	664.96
34	662.16				
35	662.08				
36	662.00	3.37	667.76	4.06	664.31
37	661.92	1.52	662.85	6.43	661.32
B.M.				5.62	657.2

Notes in road at Stamp Post Lot Sta 24+50.
21+00 End of Flume = 21+50 beginning of
earth canal.

at Sta 33+75 Top of small dump.

Notch in Oak Post at SW Cor Lot 7-B 4-B

South High Line Fluminary

	Elev.		
B.M.	660.87	at Sta 94	Fence Post
95+75	657.07	B.M. 40' 4.0494 =	Elev 662.87
96+75	656.97		
B.M.	658.97	at Sta 107 + 25	Fence Post
B.M.	657.43	Notch in Anchor Post at 613+75	
118+25	655.27		
119+25	655.17		
122+25			
B.M.	659.98	Top of Post at Sta 123+60	
B.M.	651.96	Oak Tree at 136 Notch.	
T.P.	654.53	3" Oak Stump at Sta 140	
T.P.		Notch in root of Oak at Sta 141	

Richardson
Billings Rod.
Carruth
McGrath
34
36
37
38
39
40

2/11/11

57

Pipe (C.V.P.)?

From P 30.
South Highline Canal Location

Sta.	Grade	B.S.	H.I.	I.S.	Elev
85	657.93	2.48	664.45		661.97
86	657.85				
87	657.77				
88	657.69				
89	657.61				
90	657.53				
91	657.45	5.53	665.00	4.98	659.47
92	657.37				
93	657.29				
94	657.21				
95	657.13				
96	657.05				
+75	656.99				
97+25	656.95	4.80	663.85	5.95	659.05
97+75	656.91	=(96+50)			
96+50	656.91				
97	656.87				
98	656.79				
99	656.71				
100	656.63				
01	656.55				
02	656.47	4.36	663.21	5.00	658.11
03	656.39				
04	656.31				
05	656.23				

2/8/11

Richardson
Billings Rod.
Cornett } S/ash.
McGrath }

Location 7H75 = 96+50 on Prelim.

11/11
189

2/8/11

S. H. E. Company Location

Sta	Grade	BS	HI	FS	Rod
106	656.15		663.21		
107	656.07	4.32	663.26	4.27	658.4
108	655.99				
109	655.91				
110	655.83				
111	655.75	4.87	661.75	6.38	656.88
112	655.67				
113	655.59				
114	655.51				
115	655.43				
116	655.35				
117	655.27	5.07	661.52	5.30	656.4
118	655.19				
119	655.13				
119+25	655.09				
119+75	655.05	4.10	661.46	4.16	657.36
120	655.03				
119	655.03				
120	654.95				
121	654.87				
122	654.79	3.84	661.15	4.15	657.31
123	654.71				
124	654.63				
125	654.55				

8/14/11

Sta.	Location	Grade	BS	HI	Fs.	F
126		654.47		661.15		
127		654.39				
128		654.31				
129		654.23	5.13	660.32	5.96	655.17
130		654.15				
131		654.07				
132		653.99				
133		653.91				
134		653.83				
135		653.75	3.78	659.72	4.38	655.91
136		653.67				
137		653.59				
138		653.51	3.41	658.56	4.57	655.15
139		653.43				
140		653.35			4.10	657.45
141		653.27				
B.M. 25			3.75	658.21		654.46
192+00		653.19			3.72	
193+00		653.11				
194+00		653.03				
195+00		652.95				
196+00		652.87				
197+00		652.79				
198+00		652.71				
199+00		652.63				

Sta 140 3" O.K. STUMP.
 Feb 10 1911 AM.
 Billings
 Corbett
 McGrath
 Cold Rain

Feb 11 1911 AM.

set grade stakes } Billings
in P.M. } Carnet
Ms Grath

Grade	H.I.	TS	Rad	Elev
157+00	651.99		0.32	652.31
158+00	651.91		0.90	
159+00	651.83		0.78	
159+75	651.77		0.54	
T.P.	12.25	8.00		651.50
160+00	651.75		10.80	
161+00	651.67		10.88	
B.M.			3.50	660.25
163+00	651.51		11.04	
T.P.	1.71	10.19		653.66
163+25	651.49		2.58	
166+00	651.29		2.80	
168+00	651.11		2.96	
169+00	651.03		3.04	
171+00	650.84		3.20	
B.M.			2.33	652.94
172+00	650.79		3.28	
173+25	650.69		3.38	
T.P.	3.99	3.40		651.87
173+50	650.67		3.99	
174+00	650.63		4.03	
175+00	650.55		4.11	
177+00	650.39		4.27	
180+00	650.15		4.51	
184+00	649.83		4.83	

160+85
159+85

Waite Land

Final Elev 660.14 June - 1911

Drove a 9" x 11 stake in ground

Reading N 25' from Sta 161+00

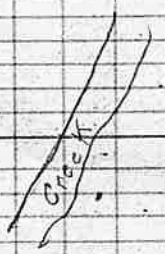
Notch in gate Post by bridge

7

Sta.	B ₃₀ Grade	HI	F.S.	Rod	Elev
185+00	649.76	655.86		7.91	657.56
T.P.	3.60	655.18	4.28	4.25	
186+25	649.73			7.63	
190+00	649.35				
B.M.			8.84		646.30
B.M.	6.31	658.65			656.34
191+00	649.27			2.18	
195+00	648.95			2.50	
T.P.	2.08	653.08	1.65		657.05
196+00	648.87				
200+00	648.55			3.33	
T.P.	4.95	654.54	2.99		650.09
200+60	648.27				
201+00	648.33			4.89	
B ₃₀ +00 = 206+00	648.01			4.93	
T.P.	2.47	652.58	4.43	6.83	650.44
208+75	647.79			3.59	
B.M.	3.20	651.95			648.75
209+00	647.77			2.98	
216+00	647.19			3.56	
T.P.	4.30	653.61	-2.69		649.31
217+00	647.13			5.28	
217+25					
218+25	647.03				
218+50	647.94				
219+25 = 218+50	646.90				
219	3.50	602.12	4.99		648.62

Set Dist. Hub with spike in lap, on East Bdy. Plot H. 100 ft west of Sta. 190+00

Entered Plot H.



Flume

Flume

High Line Canal Profile

Cont'd from page 60

Sta.	B.S.	H.I.	I.S.	Elev. Rod
129+75		660.89		655.44 5.45
130+00				655.44 5.45
+25				655.45 5.44
+50				655.74 5.15
+75				655.38 5.51
131+00				655.34 5.55
+25				655.65 5.24
+50				655.38 5.51
+75				655.34 5.55
132+00				655.57 5.32
T.P.	4.42	660.15	5.16	655.73
132+00				655.59 4.56
+25				655.30 4.85
+50				655.25 4.90
+75				655.25 4.90
133+00				655.12 5.03
+25				655.40 4.75
+50				655.18 4.97
+75				655.08 4.97
134+00				655.37 4.78
+25				655.08 4.97
+50				655.21 4.94
+75				655.23 4.92
135+00				655.07 5.08

Cont'd on Page 61

Sta.	BS	HI	FS	Elev.	Red.
136+45		660.15		655.38	4.77
+60				654.88	5.27
+75				654.95	5.20
136+100				654.96	5.19
+25				655.33	4.82
BM				651.80	8.35
+50				655.01	5.14
+75				655.89	5.31
137+100				656.27	4.88
+25				655.59	7.56
T.P	1.78	658.24	369	656.46	
137+25				655.69	2.65
+50				654.88	3.36
+75				655.00	3.15
138+100				654.88	3.36
+25				655.28	3.06
+50				654.88	3.36
+75				654.85	3.39
139+100				654.94	3.30
+25				655.02	3.22
+50				654.97	3.27
+75				654.90	3.34
140+100				654.88	3.46
BM				654.47	3.77

BM Notch in Oak Tree Marked 651.77

Final BM. }
 June 2nd 1911 }
 Elev. }
 S. E. side of 16" W Oak - 2.5 ft
 to left. 142+50

BM 3" Oak Stake opposite Sta. 140+100
 Marked 659.96

Sta	Bs	HI	FS	Elev	Red
109+75				657.56	5.25
110+00		662.81		657.11	5.70
110+25				656.16	6.25
110+50				657.17	5.69
110+75				657.13	5.68
111+00				657.18	5.63
111+25				657.16	5.65
111+50				657.93	5.38
111+75				657.29	5.52
112+00				657.19	5.62
112+25				657.16	5.65
112+50				657.25	5.56
112+75				657.06	5.75
113+00				656.92	5.89
113+25				657.14	5.67
113+50				657.06	5.76
113+75				656.82	5.99
114+00				656.78	6.03
T.P.	496	662.09	5.68	657.13	5.3
113+75				656.77	6.32
114+00				657.91	4.90
114+25				657.63	5.18
114+50				657.86	5.25
114+75				657.48	5.33

BM on anchor Post Marked 657.15

Sta.	BS.	HI.	FS.	Elev.	Red.
.119+75		661.34		656.94	4.90
120+00				656.30	5.09
+25				656.99	4.86
+50				656.29	5.05
+75				656.30	5.04
121+00				656.26	5.08
T.P.	478.	662.57	3.55	657.79	
121+00				656.23	6.34
+25				656.27	6.30
+50				656.90	5.67
+75				656.88	5.69
122+00				657.22	5.35
+15				656.93	6.14
+45				656.58	6.07
+75				652.79	9.78
+50				656.09	5.98
+75				656.11	5.96
123+00				656.39	6.20
+25				656.99	6.08
+50				656.71	6.86
+75				656.35	6.22
B.M.				659.77	2.80
+75				656.29	6.28
124+00				655.97	6.60

on 3/4" x 2" Galv. Pipe
 on E. Bdy. Lot. 6 - B.K. 3 - K.
 Final B.M. 50th south of canal.
 Elev. 661.33

Marked 659.78 Notch on Post

65

Sta.	B.S.	H.I.	I.S.	Elem.	Red.
184185		662.57		656.09	653
+50				656.29	6.33
T.P.	392.	660.89	5.60	656.97	5.6
150				656.29	4.70
125175				655.99	4.95
125100				656.09	4.85
+25				655.88	5.01
150				655.76	5.13
126176				656.19	4.70
126100				655.77	5.12
+25				655.94	4.95
150				655.79	5.15
175				655.95	4.94
127100				655.99	4.95
+25				655.79	5.10
150				656.03	4.86
175				655.99	4.90
128100				655.63	5.26
+25				655.65	5.24
150				655.64	5.25
175				655.63	5.26
129100				655.68	5.31
+25				655.78	5.41
+50				655.79	5.10

Contd. Page 60

Feb 10 1916
 B. Williams
 S. Arnold
 W. G. Smith

High Live Canal
 Profile
 From Page 49

Sta	BS	HI	FS	Elev	Remarks
BM 94+25	5.17	668.04		662.87	Notch on fence post Sta. 95
+50				658.56	Has been plowed from 85 to 94.25
94+76				658.66	No profile taken
95+00				658.68	
+25				658.81	June 2nd 1911, on 2 1/2" pipe
+75				658.48	Final 13.777, west side of anchor post.
96+00				658.37	Elev. 664.74 100 ft. north of canal.
+25				658.45	Sta 94+00
+75				658.35	
96+30				658.37	
+50				658.79	
+75				659.46	End of T.U.M.E.
97+30				658.96	
+50				658.09	
97+75 = 96+50				659.14	
96+75				658.29	
97+00				658.29	
+25				658.29	
+50				658.26	
+75				658.63	
98+00				658.00	
+25				657.99	
+50				658.19	
+75				658.09	

Contd Page 67

Sta	BS	HI	FS	Elev	Red
99+00		668.04		658.24	9.80
T.P.	3.79	668.88	8.95	659.09	
99+00				658.23	9.66
+25				657.93	9.95
+50				658.03	9.85
+75				657.91	9.97
100+00				657.97	9.91
+25				658.57	9.31
+50				657.93	9.95
+75				657.89	6.09
101+00				657.90	9.96
+25				657.92	9.96
+50				657.87	5.01
+75				657.91	9.97
102+00				657.88	5.00
+25				657.87	5.01
+50				657.83	5.05
+75				657.82	5.06
103+00				657.70	5.18
+25				657.70	5.18
+50				657.65	5.23
+75				657.92	9.96
104+00				657.60	5.28
+25				657.77	5.11

Sta	BS	HI	FS	Elev	Rod
104+50		662.88		657.70	5.18
+75				657.53	6.36
105+00				657.59	5.09
+25				657.72	5.16
+50				657.44	5.99
+75				657.38	6.50
106+00				657.99	6.39
+25				657.92	5.96
+50				657.35	6.53
+75				657.28	5.60
107+00				657.33	5.55
+25				657.32	5.56
T.P.	3.84	662.81	3.91	658.97	
107+25				657.33	5.48
+50				657.26	5.55
+75				657.26	5.55
108+00				657.80	5.01
+25				657.96	5.36
+50				657.95	4.86
+75				657.38	5.43
+86				655.31	7.50
109+00				657.21	5.60
+25				657.59	5.22
+50				657.31	5.50

Final BM (351) 412 cond.
 June 2nd 1911. (one full by price post)
 107+25 (South Bay Lot 8, B.K. 2. K.)
 Elev. 661.53.

BM on Post Marked 658.94

Feb 1 1911 AM

Billings
Carnet
M^o Grath - axe

Profile level of High Line

From Book A, Page 44

Sta	B.S.	H.I.	F.S.	Rod Elev	Elev
BM	1.95	678.09			670.14
21+50 =				7.39	669.70
21+75				7.38	664.71
21+100				7.52	669.57
21+125				7.58	664.51
21+50				7.50	669.59
75				7.60	664.99
23+00				7.66	664.93
+25				7.57	664.52
450				7.63	664.96
75				7.65	664.94
24+00				7.93	664.16
125				7.67	664.92
750				7.75	669.34
75				7.73	669.30
25+00				7.97	669.12
75				7.94	669.77
+50				8.00	669.09
T.P.	7.67	671.22	8.54		663.56
25+75				7.09	664.13
26+00				7.07	669.10
+25				7.18	669.04
750				7.27	663.91

High Line
End of Flume

Sta	BS	HI	I.S.	Rod.	Elev
26+75		671.22		7.35	663.87
27+00				7.25	663.97
+25				7.30	663.92
T.P.	5.20	669.01	7.41		663.81
27+50				8.15	663.86
475-				5.72	663.69
28+00				5.20	663.81
+25				5.21	663.77
28+50				4.93	664.08
28+54				6.02	663.99
28+75				5.25	663.76
T.P.	5.67	667.22	7.36		664.65
28+75				3.18	663.74
29+00				3.53	663.69
+25				2.75	664.87
+50				3.17	663.75
T.P.	5.68	668.05	4.87		662.36
+75				1.31	663.78
30+00				1.55	663.68
+25				4.70	663.63
+50				4.59	663.64
+75				4.41	663.60
T.P.	6.01	670.07	3.97		664.06
31+00				5.39	664.66

ON W. LINE COMPANY ORATORIO SOF SW. COR
Small Creek

BM Top of Fir Stump Marked 661. M

Sta	B.S.	HI	I.S.	Red	Elev	
31+20		670.07		5.71	664.66	East Bank of Creek
31+25				7.73	662.39	
31+30				8.57	661.50	Bottom of Creek
31+40				5.34	664.83	West Bank "
31+50				6.01	665.06	
+76-				5.99	664.58	
32+00				6.52	663.55	
+26-				6.58	663.49	
750				6.97	663.60	
+75-				6.64	663.43	
32+85				8.10	661.97	Small ditch
33+00				6.67	663.40	
TP						

712

Started at Noon

Feb 1-11
Richardson
Billings Road
Corner - 1/2 slash
MS. 2111

Vert. Line 1' Horiz. Line 2.5' feet.

Between 3475 & 285

Grade

South High Line Canal Profile

Sta.	B.S.	H.I.	F.S.	Elev.
B.M.	2.53	668.45		665.92
33+25				663.60
+50				663.9
+75				664.5
34				663.7
+25				663.5
+50				663.7
+75				663.5
35				663.6
T.P.	3.52	667.69	4.28	664.17
+25				663.5
+50				663.5
+75				663.5
36				663.5
+25				663.4
+50				664.59
T.P.	3.33	667.92	3.10	663.2
37				663.3
+50				663.2
38				663.2
+50				663.1
39				664.87
T.P.	2.77	667.64	3.05	664.87

Cont on Page 73

South High Line Ditch

cont'd from Page 72
Profile

Sta.	B.S.	I.I.	F.S.	Elev.	Grade
39+50		667.64		663.0	
40+75				662.2	
40				662.3	
+75				662.9	
+75				663.0	
41				662.8	
+25				662.7	
+50				662.8	
+75				662.7	
42				662.7	
+50				662.8	
+75				662.6	
43				662.6	
+25				662.6	
+50				662.6	
T.P.	440	667.90	444	663.50	
+75				662.5	
44+25				662.6	
+75				662.4	
45				662.5	
+25				663.0	
+75					

Can't on Page 75

2/1/11

Vert spaces = 2.5' Horiz = 1'

Jan 31 1911
 Billings
 Corvett

74

High Line Canal Prelim
~~TP~~

Sta	BS	HI	FS	Elev.
BM	7.77	643.19		635.22
TP	7.27	650.06	0.4	642.79
TP	9.98	659.66	0.38	649.68
TP	11.69	669.93	1.42	638.29
BM	4.81	674.60	0.14	669.99
TP			9.32	665.28
BM	1.66	636.88	5.30	636.22
TP	9.41	640.99	5.30	681.38
TP	3.74	641.67	3.06	637.93
TP	6.89	645.65	2.86	638.81
TP	10.93	651.99	5.09	640.56
TP	7.83	657.10	1.92	649.57
BM			0.10	657.30

Anchor Post 100' N.W. Power House

B.M. Top of Flume 669.89

Sta 0100 Bottom of Flume

Anchor Post 100' N.W. Power House

Anchor Post S.W. cor Lot 7 Bk 1 - B

735

VERT SPACES = 25' $\frac{2}{1111}$
HORIZ = 1'

NO. 1 IN POST 20' R OF HUB
BOUNDARY PLAT B

ST.	BS	HI	FS	Elev. Grade
46		6679		6623.6
+25				6624.5
+50				6624.5
B.M.			1#5	6624.5
+75			5.3	6624.6
47			5.2	6624.7
+25			5.6	6624.3
+50			5.5	6624.6
+75			5.3	6624.6
48			5.4	6624.5
+25			5.5	6624.4
+50			5.6	6624.3
+75			5.6	6624.3
49			5.7	6624.2
TP	372	666.84	4.28	6624.67
+25			4.7	6624.7
+50			4.3	6624.5
+75			4.6	6624.2
50			4.6	6624.2
+25			4.4	6624.4
+50			4.8	6625.0
+75			4.4	6624.4
51			4.6	6624.2

Cont on Page 31

Final Location
Round House West - Flame June 5th 1911.

00	669.64	3.64
+ 25	61	10.0
+ 50		6.8
+ 75		1.0
1.00		3.4
+ 25		6.0
+ 50		6.0
+ 75		7.4
2.		6.2
+ 25		0.0
+ 50	668.09	00
+ 75		3.8
3.00		9.0
+ 25		7.8
+ 61		6.5
+ 75		5.0
		3.2

John D. ...

77

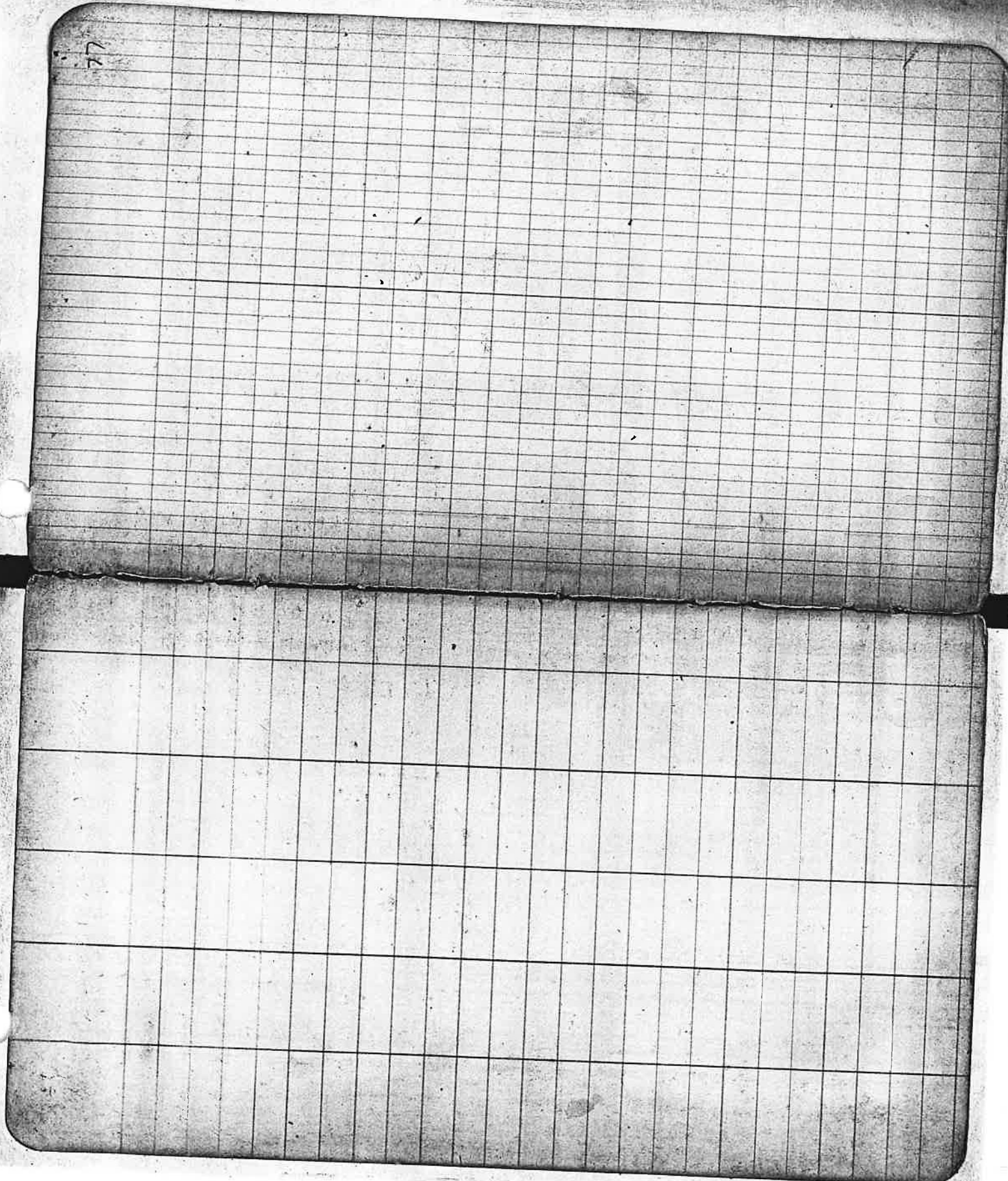


TABLE IV.—MINUTES IN DECIMALS OF A DEGREE, &c.

1	.0167	.1833	21	3500	31	5167	45	6833	51	8500
2	.0333	.2000	22	3667	32	5333	46	7000	52	.8667
3	.0500	.2167	23	3833	33	5500	47	7167	53	.8833
4	.0667	.2333	24	4000	34	5667	48	7333	54	.9000
5	.0833	.2500	25	4167	35	5833	49	7500	55	.9167
6	.1000	.2667	26	4333	36	6000	50	7667	56	.9333
7	.1167	.2833	27	4500	37	6167	51	7833	57	.9500
8	.1333	.3000	28	4667	38	6333	52	8000	58	.9667
9	.1500	.3167	29	4833	39	6500	53	8167	59	.9833
10	.1667	.3333	30	5000	40	6667	54	8333	60	1.0000

TABLE V.—INCHES IN DECIMALS OF A FOOT, &c.

1	3-16	.0625	7	.5000	8	.6250	11	.7500	14	.8750
2	5-16	.0312	8	.5625	9	.6875	12	.8125	15	.9375
3	3-8	.0156	9	.6250	10	.7500	13	.8750	16	.9625
4	1/2	.0078	10	.6875	11	.8125	14	.9375	17	.9875
5	5/8	.0039	11	.7500	12	.8750	15	.9625	18	1.0000
6	3/4	.0019	12	.8125	13	.9375	16	.9875	19	1.0000

TABLE VI.—RADIUS, ORDINATES AND DEFLECTIONS, &c.

Dist.	Radius	Mid Ord	Tan Def.	Chd Def.	Dist for 1 Foot	Deg.	Radius	Mid Ord.	Tan Def.	Chd Def.	Dist for 1 Foot
10	3437.7	336	145	291	0.057	7°	319.0	1528	6.105	12.21	2.10
20	17189	1073	291	582	0.114	20	781.8	1600	6.395	12.79	2.20
30	11453	709	436	873	0.171	30	764.5	1637	6.540	13.08	2.25
40	8395.5	514	582	1164	0.228	40	747.9	1673	6.685	13.37	2.30
50	6875.5	382	727	1454	0.285	50	731.8	1709	6.830	13.66	2.35
60	5729.8	218	873	1745	0.342	60	716.8	1746	6.975	13.95	2.40
70	4911.2	125	1018	2036	0.400	70	702.7	1782	7.120	14.24	2.45
80	4297.3	68	1164	2327	0.457	80	688.2	1819	7.265	14.53	2.50
90	3819.8	327	1309	2618	0.515	90	674.7	1855	7.410	14.82	2.55
100	3437.7	364	1454	2909	0.572	100	661.2	1892	7.555	15.11	2.60
110	3125.4	400	1600	3200	0.630	110	647.7	1929	7.700	15.40	2.65
120	2864.9	436	1745	3490	0.687	120	634.2	1966	7.845	15.69	2.70
130	2644.6	473	1891	3781	0.745	130	620.7	2003	7.990	15.98	2.75
140	2455.7	509	2036	4072	0.802	140	607.2	2040	8.135	16.27	2.80
150	2297.0	545	2181	4363	0.860	150	593.7	2077	8.280	16.56	2.85
160	2168.8	582	2327	4654	0.917	160	580.2	2114	8.425	16.85	2.90
170	2062.4	618	2472	4945	0.975	170	566.7	2151	8.570	17.14	2.95
180	1970.1	655	2618	5236	1.032	180	553.2	2188	8.715	17.43	3.00
190	1898.6	691	2763	5527	1.090	190	539.7	2225	8.860	17.72	3.05
200	1839.1	727	2908	5818	1.147	200	526.2	2262	9.005	18.01	3.10
210	1791.3	764	3054	6108	1.205	210	512.7	2299	9.150	18.30	3.15
220	1754.9	800	3199	6398	1.262	220	499.2	2336	9.295	18.59	3.20
230	1729.0	836	3345	6689	1.320	230	485.7	2373	9.440	18.88	3.25
240	1703.6	873	3490	6980	1.377	240	472.2	2410	9.585	19.17	3.30
250	1678.7	909	3635	7271	1.435	250	458.7	2447	9.730	19.46	3.35
260	1654.4	945	3781	7562	1.492	260	445.2	2484	9.875	19.75	3.40
270	1630.6	982	3926	7853	1.550	270	431.7	2521	10.020	20.04	3.45
280	1607.3	1018	4071	8143	1.607	280	418.2	2558	10.165	20.33	3.50
290	1584.5	1055	4217	8433	1.665	290	404.7	2595	10.310	20.62	3.55
300	1562.1	1091	4362	8724	1.722	300	391.2	2632	10.455	20.91	3.60
310	1540.2	1127	4507	9014	1.780	310	377.7	2669	10.600	21.20	3.65
320	1518.8	1164	4652	9305	1.837	320	364.2	2706	10.745	21.49	3.70
330	1497.9	1200	4798	9596	1.895	330	350.7	2743	10.890	21.78	3.75
340	1477.5	1237	4943	9886	1.952	340	337.2	2780	11.035	22.07	3.80
350	1457.6	1273	5088	10176	2.010	350	323.7	2817	11.180	22.36	3.85
360	1438.2	1308	5233	10466	2.067	360	310.2	2854	11.325	22.65	3.90
370	1419.3	1345	5378	10756	2.125	370	296.7	2891	11.470	22.94	3.95
380	1400.9	1381	5523	11046	2.182	380	283.2	2928	11.615	23.23	4.00
390	1383.0	1418	5668	11336	2.240	390	269.7	2965	11.760	23.52	4.05
400	1365.6	1455	5813	11626	2.297	400	256.2	3002	11.905	23.81	4.10
410	1348.7	1491	5958	11916	2.355	410	242.7	3039	12.050	24.10	4.15
420	1332.3	1528	6103	12206	2.412	420	229.2	3076	12.195	24.39	4.20
430	1316.4	1564	6248	12496	2.470	430	215.7	3113	12.340	24.68	4.25
440	1301.0	1601	6393	12786	2.527	440	202.2	3150	12.485	24.97	4.30
450	1286.1	1638	6538	13076	2.585	450	188.7	3187	12.630	25.26	4.35
460	1271.7	1675	6683	13366	2.642	460	175.2	3224	12.775	25.55	4.40
470	1257.8	1712	6828	13656	2.700	470	161.7	3261	12.920	25.84	4.45
480	1244.4	1749	6973	13946	2.757	480	148.2	3298	13.065	26.13	4.50
490	1231.5	1786	7118	14236	2.815	490	134.7	3335	13.210	26.42	4.55
500	1219.1	1823	7263	14526	2.872	500	121.2	3372	13.355	26.71	4.60
510	1207.2	1860	7408	14816	2.930	510	107.7	3409	13.500	27.00	4.65
520	1195.8	1897	7553	15106	2.987	520	94.2	3446	13.645	27.29	4.70
530	1184.9	1934	7698	15396	3.045	530	80.7	3483	13.790	27.58	4.75
540	1174.5	1971	7843	15686	3.102	540	67.2	3520	13.935	27.87	4.80
550	1164.6	2008	7988	15976	3.160	550	53.7	3557	14.080	28.16	4.85
560	1155.2	2045	8133	16266	3.217	560	40.2	3594	14.225	28.45	4.90
570	1146.3	2082	8278	16556	3.275	570	26.7	3631	14.370	28.74	4.95
580	1137.9	2119	8423	16846	3.332	580	13.2	3668	14.515	29.03	5.00
590	1129.9	2156	8568	17136	3.390	590	0.0	3705	14.660	29.32	5.05
600	1122.3	2193	8713	17426	3.447	600	0.0	3742	14.805	29.61	5.10
610	1115.1	2230	8858	17716	3.505	610	0.0	3779	14.950	29.90	5.15
620	1108.3	2267	9003	18006	3.562	620	0.0	3816	15.095	30.19	5.20
630	1101.9	2304	9148	18296	3.620	630	0.0	3853	15.240	30.48	5.25
640	1095.9	2341	9293	18586	3.677	640	0.0	3890	15.385	30.77	5.30
650	1090.2	2378	9438	18876	3.735	650	0.0	3927	15.530	31.06	5.35
660	1084.8	2415	9583	19166	3.792	660	0.0	3964	15.675	31.35	5.40
670	1079.7	2452	9728	19456	3.850	670	0.0	4001	15.820	31.64	5.45
680	1074.9	2489	9873	19746	3.907	680	0.0	4038	15.965	31.93	5.50
690	1070.3	2526	10018	20036	3.965	690	0.0	4075	16.110	32.22	5.55
700	1065.9	2563	10163	20326	4.022	700	0.0	4112	16.255	32.51	5.60
710	1061.7	2600	10308	20616	4.080	710	0.0	4149	16.400	32.80	5.65
720	1057.6	2637	10453	20906	4.137	720	0.0	4186	16.545	33.09	5.70
730	1053.6	2674	10598	21196	4.195	730	0.0	4223	16.690	33.38	5.75
740	1049.7	2711	10743	21486	4.252	740	0.0	4260	16.835	33.67	5.80
750	1045.9	2748	10888	21776	4.310	750	0.0	4297	16.980	33.96	5.85
760	1042.2	2785	11033	22066	4.367	760	0.0	4334	17.125	34.25	5.90
770	1038.6	2822	11178	22356	4.425	770	0.0	4371	17.270	34.54	5.95
780	1035.1	2859	11323	22646	4.482	780	0.0	4408	17.415	34.83	6.00
790	1031.7	2896	11468	22936	4.540	790	0.0	4445	17.560	35.12	6.05
800	1028.4	2933	11613	23226	4.597	800	0.0	4482	17.705	35.41	6.10
810	1025.1	2970	11758	23516	4.655	810	0.0	4519	17.850	35.70	6.15
820	1021.9	3007	11903	23806	4.712	820	0.0	4556	17.995	35.99	6.20
830	1018.7	3044	12048	24096	4.770	830	0.0	4593	18.140	36.28	6.25
840	1015.6	3081	12193	24386	4.827	840	0.0	4630	18.285	36.57	6.30
850	1012.5	3118	12338	24676	4.885	850	0.0	4667	18.430	36.86	6.35
860	1009.5	3155	12483	24966	4.942	860	0.0	4704	18.575	37.15	6.40
870	1006.5	3192	12628	25256	5.000	870	0.0	4741	18.720	37.44	6.45
880	1003.5	3229	12773	25546	5.057	880	0.0	4778	18.865	37.73	6.50
890	1000.6	3266	12918	25836	5.115	890	0.0	4815	19.010	38.02	6.55
900	997.7	330									