

City Sewer

Travel's

14th STS.

FIELD NOTES.

E. ST. 15TH TO 16TH. 16 TO D

D TO 17. 17⁰⁰. C TO 21ST

J+24. K+24. L+24. M+24.

F. B. 697

697

showing the difference of latitude and parture in running 80 chains at any course from 1 to 60 minutes.

Minutes.	Lks.	Minutes.	Lks.	Minutes.	Lks.
1	2½	21	49	41	95½
2	4½	22	51½	42	98
3	7	23	53½	43	100½
4	9½	24	56	44	102½
5	11½	25	58½	45	105
6	14	26	60½	46	107½
7	16½	27	63	47	109½
8	18½	28	65½	48	112
9	21	29	67½	49	114½
10	23½	30	70	50	116½
11	25½	31	72½	51	119
12	28	32	74½	52	121½
13	30½	33	77	53	123½
14	32½	34	79½	54	126
15	35	35	81½	55	128½
16	37½	36	84	56	130½
17	39½	37	86½	57	133
18	41½	38	88½	58	135½
19	44	39	91	59	137½
20	46½	40	93½	60	140

MICRO-IMAGES

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Table for Running on Slopes.

In the following table the first column shows the angle, the second, the number of links to be added to a chain on the slopes, to make one chain, h-rizontal measurement.

Angle.	Cor. in links	Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links.
0		0		0		0	
4	0-24	11	1-88	18	5-14	25	10-54
5	0-38	12	2-24	19	5-76	26	11-26
6	0-55	13	2-63	20	6-42	27	12-24
7	0-76	14	3-06	21	7-11	28	13-37
8	0-98	15	3-53	22	7-85	29	14-34
9	1-24	16	4-02	23	8-64	30	15-47
10	1-55	17	4-56	24	9-47	35	22-07

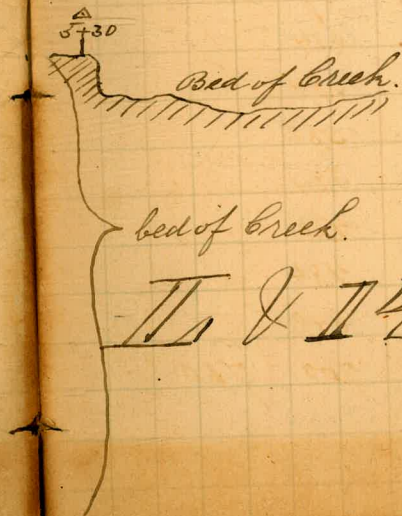
H.C.L. } August, 1887
 F. Miller }

Δ	+	HI	-	Elev.	B.B.
B.M.	348	884		536	536
0+50			8.98	574	
1			8.07	583	
1+50			6.96	188	
2			6.10	274	
3+50			5.04	380	
3			4.65	419	
3+50			4.28	456	
4			4.30	454	
4+50			3.70	514	
5			2.75	609	
5+30			3.70	514	
5+50			7.00	184	
6			6.02	282	
6+50			5.00	384	
7			4.64	420	
7+50			4.00	484	
8			2.35	649	
B.M.			1.24	760	760
T.P.	800	1560			
1			8.70	691	

REMARKS.

N & 74 5/8.

M & 74 5/8.



H.C.L.
F. Miller.

August 1, 1887.

Δ	+	H.I.	-	Elev	B.B.	REMARKS
1+50		15.60	89.5	6.66		
2			8.60	7.01		
2+50			8.20	7.41		
3			7.68	7.93		
3+50			8.67	6.94		
4			7.98	7.63		
B.N.			0.30	15.30	15.29	
T.P.	5.26	20.55				
4+50			13.72	6.83		
5			11.26	9.29		
5+50			10.76	10.39		
6			7.66	12.89		
6+50			7.90	12.65		
7			5.65	14.90		
7+50			4.44	16.11		
8			4.56	15.99		
8+50			4.21	16.34		
9			2.47	18.58		
T.P.	11.47	29.53				
9+50			7.92	21.63		
T.P.			0.70	29.45		

End of bridge
Bed of Creek.

T & T A S T S

T & T A S T S

H.C.I. } AUGUST, 1887
 F. Miller. }

3

Δ	+	HI	-	Elev	B.B.
				29.45	
T.P.	10.28	39.73			
10			7.43	32.30	
10+50			5.84	34.69	
11			5.42	34.31	
11+50			6.39	33.34	
11+70			7.82	31.91	
11+80			12.13	27.60	
11+90			11.15	28.58	
12			7.16	32.67	
B.M.			2.89	36.84	36.84
12+50			4.48	35.25	
T.P.			0.12	39.61	
T.P.	10.19	49.80			
13			9.26	40.54	
13+50			5.73	44.07	
14			4.37	45.43	
14+50			3.09	46.71	
15			2.38	47.42	
15+44			1.90	47.90	
4+50			3.13	46.67	
4			3.30	46.50	

II & IV 5/5.

III & IV 5/5.

H.C.L. } August 1887
 F. Miller.

Δ	+	H.I.	-	Elev	B.B.
TP			2.72	4708	
TP	8.53	55.61			
BM			2.51	5310	5310
TP	2.48	55.58			
3+50			6.71	48.87	
3			5.82	49.76	
2+50			5.71	49.87	
2			4.76	50.82	
1+50			5.25	50.33	
1			7.23	48.35	
BM			0.44	55.14	55.14
TP	3.09	58.23			
0+50			9.63	49.60	
1			9.45	48.78	
1+50			9.23	49.05	
2			8.70	49.53	
2+50			8.59	49.64	
3			6.73	51.50	
3+50			6.35	51.88	
4			9.84	48.39	
BM			9.73	48.47	48.47

REMARKS

II & IV 5/5.

II & IV 5/5.

H.C.L. } August 2, 1887
 F. Miller }

Δ	+	HI	-	Elev	B.B.	REMARKS.
T.F.	6.20	54.67		48.47	48.47	
4+50			8.17	46.50		
5			4.50	50.17		
5+50			4.25	50.42		
6			4.39	50.28		
6+50			4.00	50.67		
7			3.30	51.37		
7+50			2.12	52.58		
8			3.74	50.93		
8+50			7.13	47.54		
9			7.69	46.98		
9+50			7.55	47.12		
10			5.74	48.93		
10+50			3.82	50.85		
T.F.	11.10	61.95				
11			11.40	50.55		
11+50			10.25	51.70		
12			8.54	53.36		
B.M.			9.05	52.90	52.90	
12+50			7.04	54.91		
13			5.00	56.95		

I¹ & I 4 5 7 5.

I D & I 4 5 7 5.

H.C.I. }
 F. Miller } August 9, 1887.

6

Δ	+	HI	-	Elev	B.B.	REMARKS.
13+50		61.95	3.18	58.77		
14.			0.46	61.49		
I.P.	11.83	73.32				
14+50			8.10	65.22		
15			5.76	67.56		
16+50			1.84	71.48		
I.P.	11.73	83.21				
16		4.77	4.96	77.25		
I.P.			0.01	83.20		
I.P.	11.53	94.73				
16+50			9.32	85.41		
17			4.83	89.90		
17+50			0.80	94.73		
I.P.	11.70	106.43				
18			6.46	99.97		
18+50			2.80	103.63		
19			0.01	106.42		
I.P.	10.89	117.31				
B.M.			9.29	108.02	108.04	
19+50			6.34	110.97		
20			4.15	113.16		

C & I A S T S.

B & I A S T S.

H.C.L. }
 F. Miller } August 2, 1887

Δ	+	H.I.	—	Elev B.B.
20460		11731	0.79	116.52
T.P.	1204	12856		
21			7.35	121.21
21450			3.59	124.97
22			0.39	128.17
T.P.	1053	138.70		
22450			6.70	132.00
23			2.37	136.33
B.M.			0.40	138.50

REMARKS.

A & 74 576

1.

15th St curvesto E. $\frac{D}{H}$

8

Sta	+	H.I.	-	Elev.
B.W	4.73	45.54		40.81
0			9.72	35.82
+10			8.27	37.27
+20			8.60	36.94
+30			7.52	38.02
+40			9.26	36.28
+50			8.08	37.46
+57			7.28	38.26
+67	1.25		4.79	40.75
+92			4.86	40.68
+117			4.45	41.09
+42			4.44	41.10
+67			4.42	41.12
+97			4.49	41.05
+97			4.21	41.33
2+07			3.97	41.57
+18			2.82	42.72
+28			0.73	44.81
T.P.	5.91	57.22	0.23	45.31
+39			5.20	46.02
+49			5.12	46.10

W.C.L.
S.F.A.
2. East Curro to 16th

Sta	N.D.	—	Color
2760	51.22	5.12	46.10
+70		4.82	46.40
+80		4.33	46.87
+91		4.42	46.80
+02		4.47	46.75
+12		4.71	46.57
+16		4.65	46.57
2761	5.84	51.85	5.22 46.00
			5.39 46.46
+26			5.10 46.75
+51			4.63 47.22
+76			4.27 47.58
4401			4.27 47.58
+26			4.09 47.76
+51			4.09 47.76
+76			3.69 48.16
5401			3.53 48.32
+26			3.61 48.24
+51			3.23 48.62
+76			3.11 48.74
+96			2.39 49.46

N.W. Cap plug.
Opposite 346

W.L.L.

S.H.

3 16th Avenue to D. St

Sta	+ H.O.	-	Elev.
B.W.	57.85	2.59	49.26
B.W.	4.35	53.62	49.27
0		4.60	49.02
+9		4.42	49.20
+19		4.30	49.32
+29		4.24	49.38
+39		3.85	49.77
+49		4.06	49.56
+55		4.18	49.44
+65		4.45	49.17
+90		5.18	48.44
1+15		5.18	48.44
+40		7.27	46.35
+65		7.24	46.38
+90		6.88	46.74
2+08		6.30	47.32
+19		6.04	47.58
+30		5.76	47.86
+41		5.43	48.19
+52		4.50	49.12
+63		4.60	49.02

P.T

P.C

W.P.C.
2524.

4 St Curve to 17th

Sta	+	N.S.	-	Elev.	
2+74		53.62	4.62	49.00	
+85			4.85	48.77	
+96			4.61	49.01	
B.M. 4.20		53.83	3.99	49.63	
3+07			4.76	49.07	
+18			4.56	49.27	
+29			4.97	48.86	
+32			4.97	48.86	
+47			4.97	48.86	✓
+72			5.52	48.31	✓
+97			4.77	49.06	✓
4+22			5.16	48.67	✓
+47			7.58	46.25	✓
+72			7.75	46.08	✓
+97			4.36	49.47	✓
5+22			3.75	50.08	✓
+47			3.29	50.54	✓
+62			3.05	50.78	✓
+72			3.01	50.82	✓
+82			2.93	50.90	✓
+92			2.92	50.91	✓

P.T.

X

P.C.

W.L.A.

J.F.H.

5-17th curve to b. st.

Sta	+ A.D.	-	Elev
P.W.	53.83	-1.67	52.16
6+02	4.21	56.37	5.31 51.06
+12		5.62	50.70
+22		5.60	50.77
+32		5.38	50.99
+42		5.22	51.15
+52		5.30	51.07
+62		5.38	50.99
+72		5.17	51.20
+90		5.20	51.17
7+15		4.86	51.51
+40		4.48	51.89
+65		4.44	51.93
+90		4.02	52.35
8+15		3.64	52.73
+40		4.52	51.85
T.P.	5.40	57.59	4.18 52.19
B.M.		0.88	56.71
+60	1.79	58.50	6.52 51.07
+80		6.19	52.31
9		5.60	52.90

Y. going north.

W. line 18 miles.

18th.

W.A.P.

J.H.

6. Cr. St East of 17th St.

Sta	+	H.S.	-	Elev.
9+20		58.50	5.87	52.63
+45			7.01	51.49
+70			7.10	51.40
+95			6.58	51.92
10+20			4.92	53.58
+45			4.76	53.74
+70			3.83	54.67
+95			1.17	57.33
T.P.	11.83	70.09	0.24	58.26
11+20			9.26	60.83
+40			8.47	61.62
+60			8.67	61.42
+80			5.50	64.59
12			1.29	68.80
B.M.	8.92	78.69	0.32	69.77
+25			5.78	72.91
+50			4.37	74.32
+75			3.91	74.78
13			2.73	75.96
+25			0.70	77.99
T.P.	12.01	90.57	0.13	78.56

E. Line 18th St.W. Line 19th St.19th St.E. Line 19th St.

S.W. Lp cor.

W.C.
J.S.

7th St East of 17th St

Sta	+	H.S.	-	Elev.
13+50		90.57	9.80	80.77
+75			6.91	83.66
14			3.53	87.04
+20			1.12	89.45
T.P.	10.94	101.36	0.15	90.42
+40			10.72	90.64
He.			11.39	89.97
T.P.	0.43	99.79	2.00	99.36
+80			10.92	88.87
15+05			9.43	90.36
+30			4.77	95.02 ✓
+55			1.91	97.88
+80			0.15	99.64
T.P.	11.04	110.74	0.09	99.70
16+05			9.34	101.40
+30			7.31	103.43
+55			3.99	106.75 ✓
T.P.	11.96	122.28	0.42	110.32
+80			10.04	110.70 ✓
T.P.	3.56	125.57	0.33	121.95
B.W.			7.30	118.21 118.20

W. Line 20th

20th

E. Line 20th St

W. Line 21st St

21st B. Sp. pr.

8 C. St East of 17th St.

Sta	+	N.S.	-	Elev.
T. P.	11.74	111.10		99.36
T. P.	11.66	122.49	0.27	110.83
17.			11.48	111.01
+20			11.12	111.37
+40			10.66	111.83
+60			10.20	112.29
+85			7.61	114.88
18+10			3.69	118.80
T. P.	11.67	133.63	0.53	121.96
+35			8.75	124.88
+60			4.62	129.01
+85			2.15	131.48
19+10			1.76	131.87
+35			0.43	133.20
T. P.	11.46	144.17	0.92	132.71
+60			9.06	135.11
+80			6.54	137.63
B.M.			4.70	139.47
T. P.	7.10	149.62	1.65	142.52
B.M.			7.03	142.59

21st St.Elev. Lim 21st

9
22nd St North of C. St.

Sta	+ H.S.	-	Elev.
22 nd	7.45	146.92	139.47
0		10.07	136.85
+13		8.54	138.38
+23		7.37	139.50
+33		6.50	140.72
+43		6.18	140.74
+53		6.27	140.65
+59		6.51	140.41
+69		7.55	139.37
+94		7.26	139.66
1+19		5.33	141.59
+43		3.78	143.14
+69		3.01	143.91
+94		2.20	144.72
T.P.	7.01	153.12	0.81 146.11
2+19		7.16	145.96
+43		6.40	146.72
+69		5.99	147.13
+94		5.78	147.34
3+19		6.03	147.09
+43		6.61	146.51
B.M.		10.54	142.58

St Center. Cr 22nd

S. Linn Co. St

April 22nd B.

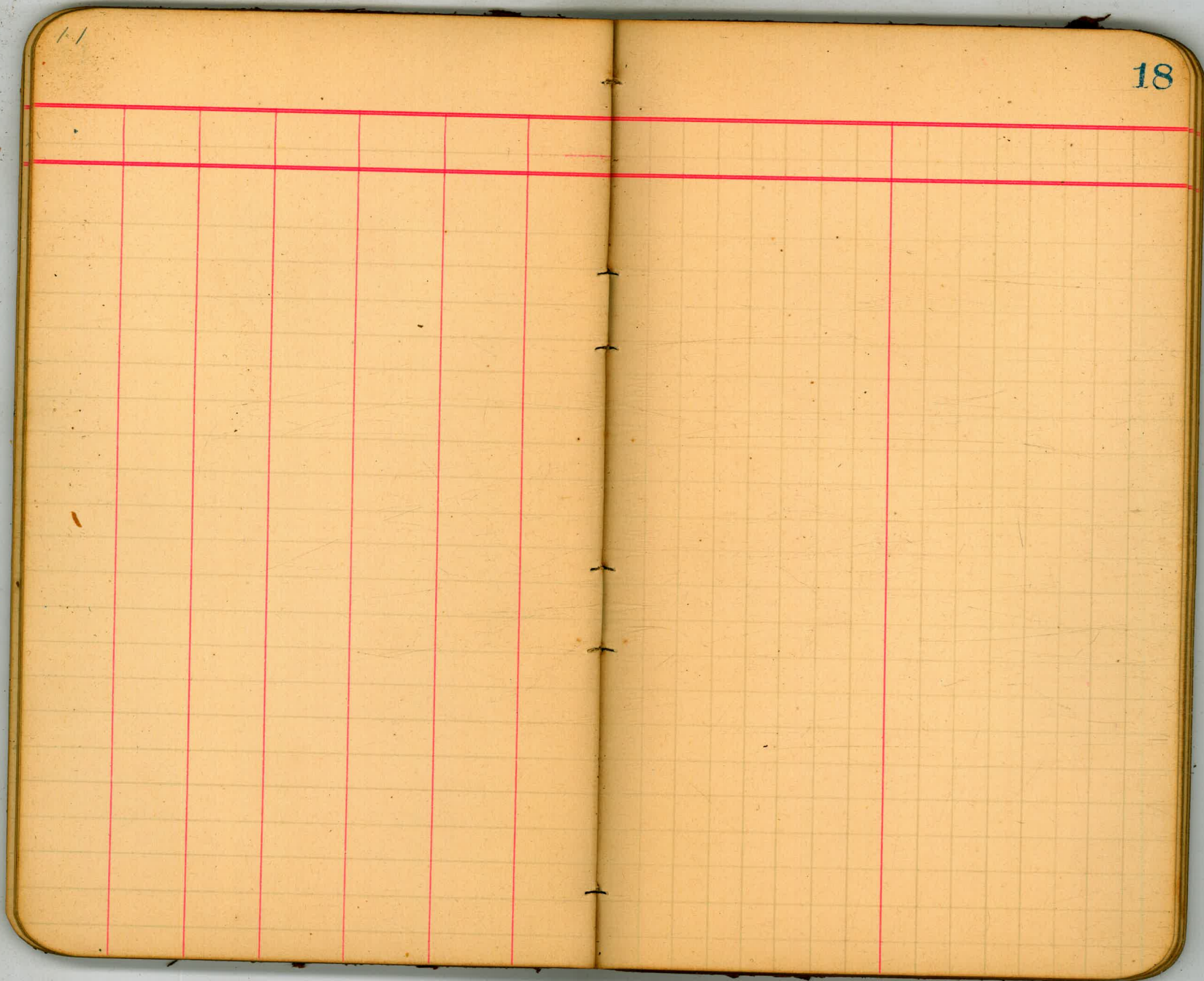
22nd South of E St.

Sta	+ H.S.	- Elev.
B.M.	8.77	148.24
0		11.00 137.24
+10		10.82 137.42
+20		10.68 137.56
+30		9.98 138.26
+40		9.08 139.16
+50		8.65 139.59
+56		8.30 139.94
+66		7.25 140.99
+91		6.85 141.39
+116		8.16 140.08
+141		8.90 139.34
+166		8.72 139.52
+191		8.49 139.75
2+16		6.72 141.52
+41		5.79 142.45
+66		4.49 143.75
+91		3.30 144.94
3+16		3.85 144.39
+41		4.16 144.08
B.M.		5.69 142.55

S. Line Co.

11

18



18th St. North of C. St. $\frac{2}{H.}$

Sta	+ A.S.	-	Elev.
B. 70.	242	59.13	56.71
0		7.40	51.73
+10		7.31	51.82
+20		6.82	52.31
+30		5.60	53.53
+40		4.96	54.17
+50		4.76	54.37
+56		4.58	54.55
+66		4.38	54.75
+91		3.55	55.58
1+16		3.06	56.07
+41		2.74	56.39
+66		2.09	57.04
+91		1.38	57.75
2+16		0.43	58.70
T.P.	11.44	70.43	0.14 58.99
+41		10.07	60.36
+66		8.40	62.03
+91		7.06	63.37
3+16		6.20	64.23
+41		5.67	64.76

N.W. Cpt. rail.

S. Line B.

18th St North of C. St $\frac{L}{H}$

Sta	+	A.9.	-	Elev.	
3+61		70.43	4.99	65.44	
+81			4.25	66.18	
4+01			3.13	67.30	
+21			1.99	68.44	
T.P.	6.69	76.41	0.71	69.72	
B.W.	8.06	80.00	4.46	71.95	71.94
+46			10.16	69.84	
+71			8.86	71.14	
+96			7.04	72.96	
5+21			5.35	74.65	
+46			3.53	76.47	
+71			2.75	77.25	
+96			1.99	78.01	
6+21			1.18	78.82	
T.P.	6.89	86.31	0.58	79.42	
+46			6.26	80.05	
+71			5.29	81.02	
+96			4.50	81.81	
7+21			3.03	83.28	
T.P.	2.48	80.56	8.23	78.08	
B.W.			6.88	73.68	

C. St

N. Line C. St

N. E. Loop Fina.

15. 16th St North of D.

Sta	+	H. I.	-	Elev.
B. 70.	6.94	56.21		49.27
5+96			6.83	49.38
6+16			6.46	49.75
+36			6.20	50.01
+56			6.18	50.03
+81			6.83	49.38
7+06			5.27	50.94
+31			5.09	51.12
+56			4.45	51.76
+81			3.68	52.53
8+06			3.12	53.05
+31			2.46	53.75
T. P.	9.19	64.45	0.95	55.26
+56			9.73	54.72
+81			8.55	55.90
9+06			7.69	56.76
+31			6.90	57.55
+56			5.31	59.04
+76			5.26	59.19
+96			5.15	59.30
10+16			5.12	59.33

D. St.

N. Line D. St.

S. Line C. St.

C. St.

16.

16th St North of D. St. $\frac{2}{4}$

23

Sta	+ N. 2.	-	Elev.
10+36	64.45	4.66	59.79
B.W.		3.71	60.74
T.P. 261	58.62	8.44	56.01
B.W.		6.47	52.15
B.W. 8.27	69.00		60.73
10+61		8.24	60.76
+86		7.40	61.60
11+11		6.74	62.26
+36		5.89	63.11
+61		4.85	64.15
+86		4.07	64.93
12+11		3.10	65.90
+36		2.13	66.87
+61		1.10	67.90
+86		0.16	68.84
T.P. 11.34	80.26	0.08	68.92
13+11		10.55	69.71
+36		9.40	70.86
B.W.		8.74	71.52
+56		8.51	71.75

N. Line C. St.
S.E. Exp. base. band.

S.W. Cap. ans.

S. Line B. St.

17.

16th St North of D. St

24

Sta	+	N.S.	-	Elev.
13+76		80.26	7.41	72.85
+96			6.28	73.98
14+06			5.11	75.15
+41			2.70	77.56
T.P.	11.30	91.27	0.29	79.97
+66			10.80	80.47
+91			8.29	82.98
15+16			5.25	86.02
+41			2.19	89.08
T.P.	11.77	102.91	0.13	91.14
+66			10.88	92.03
+91			8.13	94.78
16+16			4.92	97.99
+41			1.93	100.98
T.P.	11.67	114.47	0.11	102.80
+66			10.39	104.08
+91			7.28	107.19
17+16			4.00	110.47
B.M.			4.47	110.00

B. St.

N. Line B. St.

S. Line A. St.

19th South of C. St. A.

Sta	+	H. I.	-	Elev.
3.76.	5.23	74.98		69.75
0			13.36	61.62
+10.			11.29	63.69
+20.			10.00	64.98
+30			8.47	66.50
+40.			6.68	68.30
+50.			5.25	69.73
+56.			4.36	70.62
+68			2.29	72.69
T. P.	8.84	82.80	1.02	73.96
+93			6.84	75.96
1+18			2.46	80.34
T. P.	11.25	93.18	0.87	81.93
+43			10.11	83.07
+68			8.10	85.08
+93			5.80	87.38
2+18			4.24	88.94
+43			3.52	89.66
+68			3.10	90.08
+93			2.12	91.06
3+18			1.79	91.39

L. L. C. H.

19.

19th St South of C. St.

26

Sta	+	N. I	-	Elev.
3+44		93.18	2.04	91.14
J. P.	288	94.46	1.60	91.58
B. Wb.			1.23	93.23 93.21

17th North of C. St.

Sta	+	H.S.	-	Elev.
B.W.	4.48	56.64		52.16
0			5.93	50.71
+9.6			5.71	50.93
+19.2			5.60	51.04
+28.8			5.21	51.43
+38.4			5.35	51.29
+65			5.20	51.44
+85			5.57	51.13
+110			5.27	51.37
+35			5.33	51.31
+60			5.23	51.41
+85			4.58	52.06
+110			4.34	52.30
+35			3.45	53.19
+60			0.90	55.74
T.P.	11.73	67.45	0.92	55.72
+85			7.23	60.22
+110			1.56	65.89
T.P.	11.98	78.62	0.81	66.64
+35			10.92	67.70
+60			10.40	68.22

6717 sphene

712 6717

17th St North of C. St &

Sta	+ H.S.	-	Elev.
3+85	78.62	9.38	69.24
B.M.		7.74	70.88
4+05		8.34	70.28
+25		6.92	71.70
+45		4.62	74.00
+65		2.66	75.96
+90		1.70	76.92
5+15		1.04	77.58
T.P. 11.81	89.99	0.44	78.18
+40		11.32	78.67
+65		9.95	80.04
+90		8.17	81.82
6+15		4.41	85.58
+40		0.57	89.42
T.P. 11.66	101.28	0.37	89.62
+65		10.03	91.25
+90		8.54	92.74
7+15		5.45	95.83
+40		2.30	98.98
T.P. 11.26	112.02	0.52	100.76
+65		9.05	102.91
B.M.		1.99	110.03

S. L. B. St

W. L. B. St

S. L. B. St
B.M. 164A

15th North of E. St

Sta	+	H.D.	-	Elev.
B.W.	6.82	47.63		40.81
26+61			11.82	35.81
+81			11.60	36.03
27+01			10.29	37.34
+21			10.07	37.56
+46			9.86	37.77
+71			9.79	37.84
+96			8.79	38.84
28+21			8.79	38.84
+46			8.02	39.61
+71			7.29	40.34
+96			6.28	41.35
29+21			3.22	44.41
T.P.	11.90	58.76	0.77	46.86
+46			4.97	53.79
+71			1.57	57.19
T.P.	7.76	65.11	1.41	57.35
B.W.	2.77	65.03	2.95	62.26
+96			6.98	58.05
30+21			7.72	57.31

E. St.

N. L. E. St.

L. L. St.

15th St W of E. St

Sta + H.D. - Elev.

30+41 65.03 7.56 57.47

+61 7.33 57.70

+81 6.89 58.14

31+01 4.42 60.61

C.W. 10.71 72.97 62.26

+26 10.13 62.84

+51 9.22 63.75

+76 8.57 64.40

32+01 6.53 66.44

+26 4.70 68.27

+57 3.04 69.93

+76 1.01 71.96

T.P. 6.81 79.24 0.54 72.43

33+01 6.40 72.84

+26 5.27 73.97

+51 2.75 76.49

+76 1.94 77.30

C.W. 11.72 89.42 1.54 77.70

34+01 10.78 78.64

+21 9.45 79.97

+41 7.74 81.68

D. St.

W. L. D. St.

A. C. B. St.

C. St.

15th St North of E. St.

Sta	+	U.S.	-	Elev.
34461		89.42	5.91	83.51
+81			4.58	84.84
35+06			2.40	87.02
+31			0.85	88.57
T. P.	11.29	99.95	0.76	88.66
+56			10.03	89.92
+81			7.64	92.31
36+06			5.87	94.08
+31			3.59	96.36
+56			3.06	96.89
+81			3.48	96.47
37+06			4.22	95.73
+31			5.31	94.64
+56			5.23	94.72
+81			5.16	94.79
38+01			4.51	95.44
+21			5.91	94.04
+41			6.04	93.91
+61			5.82	94.13
T. P.	6.12	101.80	4.27	95.68
B. W.			0.94	100.86

N. L. C. St.

S. L. C. St.

B. St.

N. L. C. St.

Spitel pole.

15th St North of E. St $\frac{B}{A}$

Sta	+	N.S.	-	Elev.
38+86		101.80	7.85	93.95
39+11			9.66	92.14
+36			11.04	90.76
+61			11.13	90.67
+86			11.05	90.75
T. P.	8.23	99.52	10.51	91.29
40+11			10.08	89.44
+36			9.44	90.08
+61			10.70	88.82
+86			10.41	89.11
41+11			11.26	88.26
+36			11.05	88.47
+61			10.95	88.57
T. P.	12.03	110.99	0.56	98.96
B.W.			0.93	110.06

Flint Tank.
S. L. A St.

F. H. West of 15th

E

Sta	+ H.9.	-	Bar
B.W.	1.01	41.65	40.64
T.P.	4.07	36.35	39.37
0		5.55	30.80
B.W.	3.05	43.69	40.64
+10		3.16	40.53
+20		3.13	40.56
+30		3.38	40.31
+40		3.66	40.03
+46		3.79	39.90
+61		4.16	39.53
+86		4.41	39.28
+111		4.52	39.17
+36		4.56	39.13
+61		4.20	39.49
+86		4.24	39.45
+111		3.80	39.89
+36		3.80	39.89
+61		3.56	40.13
+86		3.48	40.21
+111		2.56	41.13
+36		1.06	42.63
T.P.	7.70	51.21	0.18
			43.51

Up S.E. 15thUp S.E. 15th

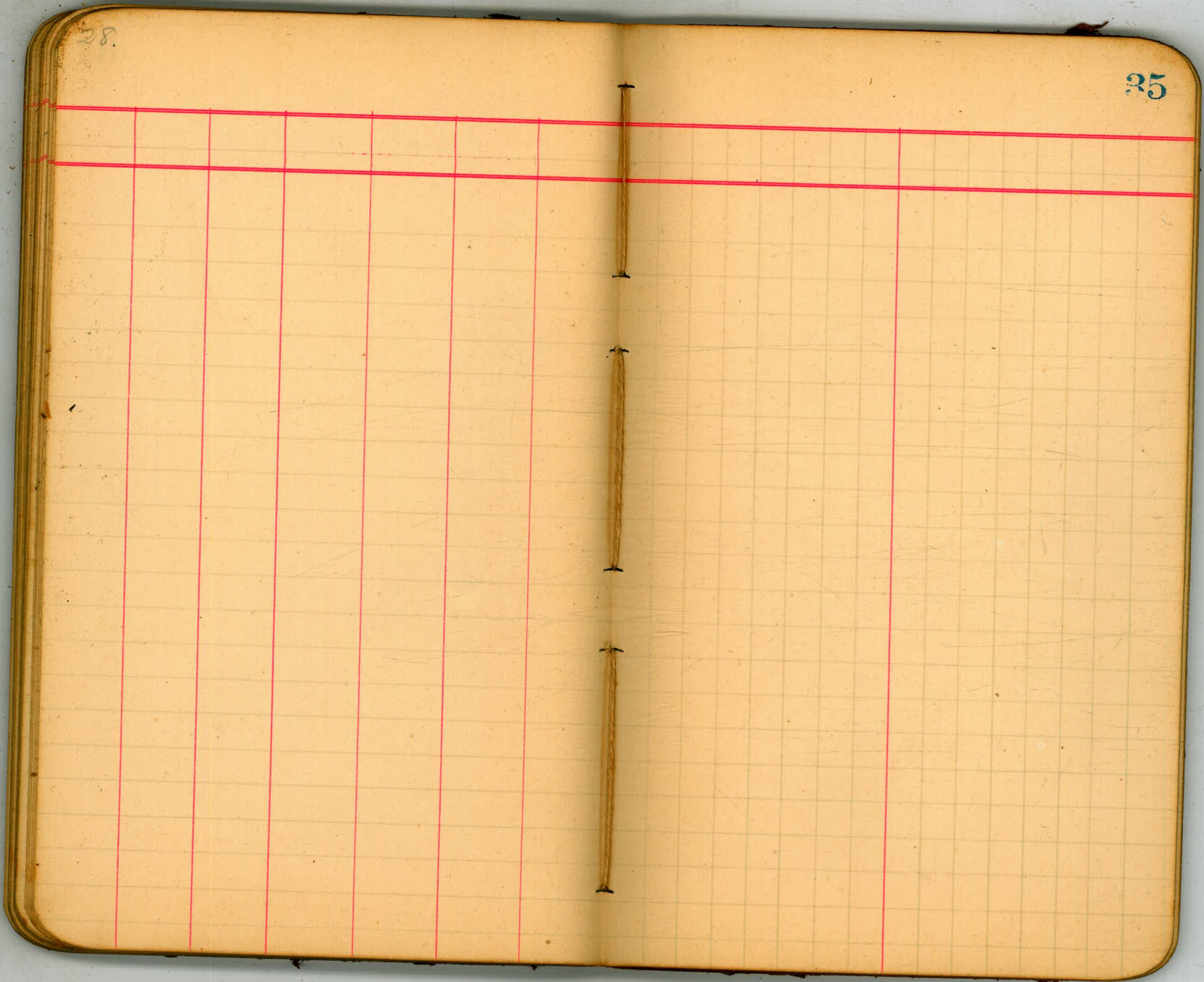
St. West of 15th St. $\frac{A}{H}$

Sta	+ A.S.	-	Elevs.
3761	51.21	7.04	44.17
+86		5.75	45.46
4411		4.22	46.99
+37		3.02	48.19
R.M.		2.66	48.55

Exp. 16. 14. 4.

28.

35



30.

W. St. West of 24th $\frac{2}{4}$

37

Sta + A.S. - Elev.

Sta	+ A.S.	-	Elev.
B.W.	2.03	60.35	58.32
0		6.71	53.64
+8		6.13	54.22
+18		5.68	54.67
+28		5.31	55.04
+38		5.54	54.81
+48		5.75	54.60
+58		5.60	54.75
+64		5.62	54.73
+83		5.59	54.76
1+08		5.17	55.18
+33		5.23	55.12
+58		5.26	55.07
+83		5.02	55.33
2+08		4.97	55.38
+33		4.74	55.61
+58		4.88	55.47
T.P.	6.23	62.69	3.89 56.46
+83		7.05	55.64
3+08		7.06	55.63
+33		7.02	55.67

W.E. Corp plug.

31.

W. St West of 24th $\frac{2}{H}$

Sta + H.D. - Elev.

3758 62.69 6.67 56.02

+83 6.38 56.31

4408 6.93 55.76

+33 6.97 55.72

B.W. 6.18 56.51

38

L. St. West from 24th $\frac{2}{H}$.

Sta	+ H.D.	-	Elev.
B.M.	5.08	73.04	67.96
0		10.67	62.37
+10		10.36	62.68
+20		10.18	62.86
+30		10.24	62.80
+40		9.88	63.16
+50		8.86	64.18
+57		8.40	64.64
+72		8.00	65.04
+77		7.45	65.59
1+22		5.90	67.14
+47		5.48	67.56
+72		4.35	68.69
+97		2.47	70.57
2+22		1.65	71.39
+47		0.82	72.22
T.P.	5.68	78.47	0.25
+72		5.55	72.92
+97		4.13	74.34
3+22		3.75	74.72
+47		2.38	76.09

24th S. Sp. N.W. 50th W.

P. H. West from 24th - 25th

Sta	+	H.D.	-	Elev.
3+72		78.47	1.75	76.72
+97			2.25	76.22
4+22			1.95	76.52
B.M.			4.90	73.57

K. St. Mat from 24th

Sta	+	H.S.	-	Elev.
B.M.	7.91	88.98		81.07
0			11.36	77.62
+10			10.80	78.18
+20			10.26	78.72
+30			9.27	79.71
+40			8.18	80.80
+50			7.82	81.16
+57			7.55	81.43
+72			6.93	82.05
+97			5.47	83.51
1+22			4.25	84.73
+47			3.20	85.78
+72			1.96	87.02
+97			0.77	88.21
T.P.	11.71	100.59	0.10	88.88
2+22			11.25	89.34
+47			9.95	90.64
+72			8.59	92.00
+97			7.46	93.13
3+22			6.17	94.42
+47			5.13	95.46

K St West from 24th

Sta	+	H.I.	-	Elev.
3+72		100.59	3.92	96.67
+97			3.27	97.32
4+22			1.89	98.70
T.P.	6.50	105.00	2.09	98.50
B.W.			1.46	103.54

21st " South of C. St. E

Sta	+ H.O.	-	Elev.
B.W. 4.18	117.14		112.96
0		3.97	113.17
+10		3.70	113.44
+20		3.51	113.63
+30		3.44	113.70
+40		3.50	113.64
+50		3.45	113.69
+56		3.43	113.71
+67		3.46	113.68
+92		3.58	113.56
1+17		3.38	113.76
+42		3.60	113.54
+67		3.81	113.33
+92		4.02	113.12
2+17		4.03	113.11
+42		3.98	113.16
+67		4.04	113.10
+92		4.10	113.04
3+17		4.02	113.12
+42		4.15	112.99
B.W. 6.00	120.00	3.14	114.00

Drape Hole.

W. L. D. L.

21st South of C. St 2

Sta	+	H.G.	-	Elev.
3+62		120.00	6.87	113.13
+82			6.78	113.22
4+02			6.80	113.20
+22			6.91	113.09
+47			6.94	113.06
+72			6.70	113.30
+97			6.47	113.53
5+22			6.26	113.74
+47			6.20	113.80
+72			5.80	114.20
+97			5.70	114.30
6+22			5.27	114.73
+47			5.28	114.72
+72			5.02	114.98
+97			4.65	115.35
7+22			4.64	115.36
P.M. 3.69	123.62	0.07		119.93
+47			8.25	115.57
+62			8.30	115.32
+87			8.24	115.38
8+02			8.21	115.41

D. St

S. Lined St

N. L. E. St.

S. front N.E.

C. St.

S. Lined East

21st South of St. S

Sta	+ H.D.	-	Elev.
8+27	123.62	7.89	115.73
+52		7.61	116.01
+77		7.24	116.38
9+02		6.89	116.73
+27		6.66	116.96
+52		6.62	117.00
+77		6.22	117.40
10+02		6.01	117.61
+27		5.43	118.19
+52		4.90	118.72
+77		4.64	118.98
11+02		3.75	119.87
B.W.		2.74	120.88

W. Line of St.

21^{id} St Worth of C. St. S.

Sta	+	H.O.	-	Elev.
B.M.	1023	12319		112.96
0			991	113.28
+10			984	113.35
+20			1023	112.96
+30			988	113.31
+40			927	113.92
+50			868	114.51
+56			837	114.82
+68			763	115.56
+93			630	116.89
1+18			529	117.90
+43			427	118.92
+68			367	119.52
+93			315	120.04
2+18			286	120.33
+43			293	120.26
+68			317	120.02
+93			356	119.63
3+18			377	119.42
B.M.	718	12337	565	118.19
			282	122.53

Sp. Feb. 1901.

4th St Curved.

Sta	+ N.G.	- Elev.
B.M	1.92	9.35
		7.43
T.P.	3.21	6.57
		5.99
		3.36
0		5.00
		1.57
+10		4.83
		1.74
+20		4.96
		1.61
+30		4.86
		1.71
+40		4.98
		1.59
+50		4.99
		1.58
+56		5.05
		1.52
+71		4.96
		1.61
+96		4.61
		1.96
+121		4.42
		2.15

B.M	0.66	8.09
		7.43
		6.32
		1.67
		8.78
		-0.31
		67
		-0.98

Sta	+	AS.	-	Elev.
B.M.	3.25	6.53		3.28
T.P.	4.10	6.69	3.94	2.59
0			5.05	1.64
+10			4.89	1.80
+20			5.02	1.67
+30			4.92	1.77
+40			5.04	1.65
+50			5.06	1.63
+56			5.11	1.58
			5.03	1.66
			4.67	2.02
			4.48	2.21
T.P.	5.97	9.41	3.25	3.44
B.M.			1.92	7.49

S.W. of post.

5th. S.E.

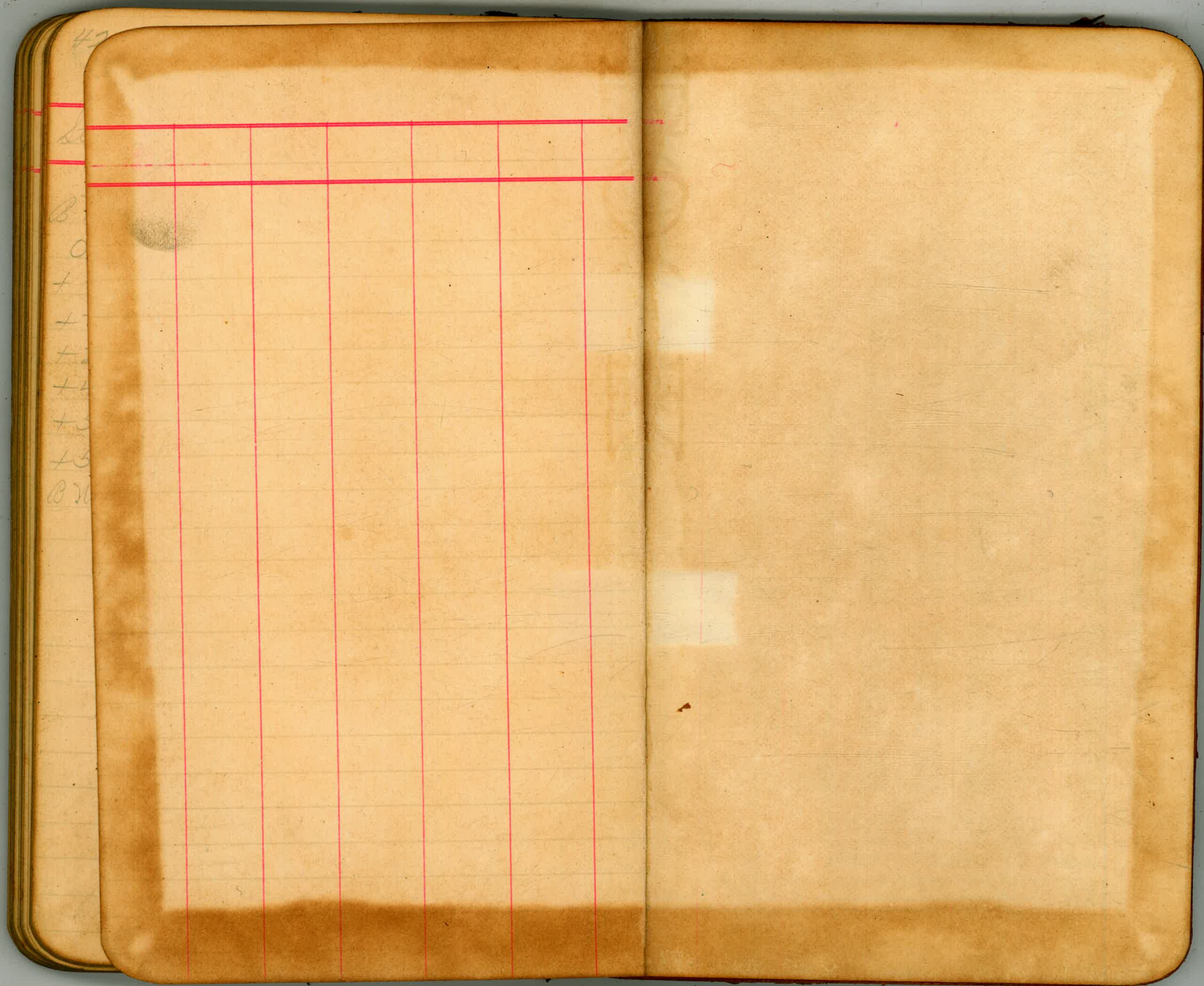
Union St Curve $\frac{S}{2}$

Sta + 4.9 - Elev.

B.W.	1.70	11.51	9.81
0		6.77	4.74
+10		6.73	4.78
+20		6.55	4.96
+30		6.28	5.23
+40		6.18	5.33
+50		6.16	5.35
+56=+55		6.05	5.46
B.W.		6.45	5.06

N. Union.

W.W. Sp post Union? S.



42

20

B

0

+

+

+

+

+

+

0.20

12
20

TRAVERSE TABLE FOR TRANSIT BOOK,
From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

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