Level Notes, City Park

161

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TRANSIT

F.B. 161

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

Minutes	Lks.	Minutes	Lks.	Minutes	Lks.
1	2 1/3	21	49	41	95 2/3
2	4 2/3	22	51 1/3	42	98
3	7	23	53 2/3	43	100 1/3
4	9 1/3	24	56	44	102 2/3
5	11 2/3	25	58 1/3	45	105
6	14	26	60 2/3	46	107 1/3
7	16 1/3	27	63	47	109 2/3
8	18 2/3	28	65 1/3	48	112
9	21	29	67 2/3	49	114 1/3
10	23 1/3	30	70	50	116 2/3
11	25 2/3	31	72 1/3	51	119
12	28	32	74 2/3	52	121 1/3
13	30 1/3	33	77	53	123 2/3
14	32 2/3	34	79 1/3	54	126
15	35	35	81 2/3	55	128 1/3
16	37 1/3	36	84	56	130 1/3
17	39 2/3	37	86 1/3	57	133
18	42	38	88 2/3	58	135 1/3
19	44 1/3	39	91	59	137 2/3
20	46 2/3	40	93 1/3	60	140

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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, horizontal measurement.

MICROFILMED
DEC 1964

Angle	Cor. in Links	Angle	Cor. in Links	Angle	Cor. in Links	Angle	Cor. in Links
o		o		o		o	
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

161

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Level Notes of the
City Park Contour Survey
by
Benj. McLean

For Index of
Benches see p. 78.

B.M 5th + Date Ex 133.68
11.5
145.18

Lecce
Angusola
McKeran
Alverson

B.M.	11.50		145.18	133.68	
T.P.	10.54	0.85	154.87	144.33	
		2.82		152.02	
	+	m	—	El. 8	
B.M.	9.59			133.68	134.48
T.P.	11.37	143.2	2.52	140.75	141.55
" "	11.14	152.12	0.16	151.96	152.76
		163.10	8.10	155.00	155.80
			"	"	
			"		
			"		
			"		
			"		
			"		
			"		
			"		
			"	"	
			"	"	
			"	"	
			"	"	
			3.10	160.00	160.80
			"		
			"		
			"		
			"		
			"		
			"		
			"		
			"		
			"		

B.M. Hyd. N.E. Cr. Date + 5th

do Jan 23 1903 Friday
do

S.E. Corner Date + — 5th.

Top of Nozzle of hydrant N.E. corner of 5th + Date 5th, By mistake the Nut on top of hydrant was taken. just 0.8 foot above Nozzle - requiring a correction of 8 tenths of a foot to all elevations.

Alverson
McLeran
Luce
Anguisola

St	+	In	−	El.	
					Jan. 23 1903
T.P.	11.15			160.80	160.80
		171.15	6.15	165.80	165.80
			1.15	170.00	170.80
T.P. (a)			0.75	170.40	171.20
T.P. (b)	5.14		10.95	160.20	161.00
		165.34			
			5.34	160.00	160.8
			0.34	165.80	165.80

On Contour 160.8 on S. side of Dote St.

On S. side D. St.

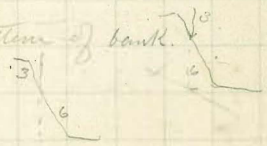
McLeran
Anglerola

St	+ S	Ir.	− S	El.	
					add 0.80
T.P.(a)	7.00			170.40	
		177.40	7.40	170.00	170.80
		"	2.40	175.00	175.80
T.P.(c)	10.94	177.40	1.10	176.30	177.10
		186.34	6.34	180.00	180.80
		"	1.34	185.00	185.80
T.P.	11.57		0.68	185.66	186.46
		197.23	7.23	190.00	190.80
		"	2.23	195.00	195.80
T.P.			2.02	195.21	196.01

Jan. 23 1903.

Stone (cobble)
At 1, 8 ft.

3 ft to top & 6 ft to bottom of bank.
Front of bank.



At No 1 @ 195

St	+	In	−	El		
					+0.80	Jan. 23 - 1903 -
		197.23	2.23	195.68 2		
T.P.			2.35	194.88 3	195.68	at No 3 on Contour 195.
T.P.	0.80			160.20	161.00	Turning Pt. on Contour 160. p4 (b)
B.M. A		161.00	9.96	151.04	151.84	Plug 300 feet North of South line of Park on 6th
B.M. (848 marked)	5.47		1.95	159.05	159.85	Plug 848 feet North of S Line of Park on 6th St. Range Line
						→ Should be 158.25, by reason of error
						at starting pt. - B.M. 5th & Date.
BM	3.88			158.25 1.60	159.85	Corrected.
		162.13	2.13	160. 1.60	161.60	at 2 & 3 opposite pond
			7.13	155	156.60	
B.M. (b)	2.73		4.63	157.50 1.60	159.10	Hub N. side of Fir on line of Park
		160.23	5.23	155.	156.60	

Sc	+	In	−	El.		
		160.23				Jan. 23 1903 Jan 24 1903
			10.28	150.00 1.60	151.60	
		"	0.23	160. 1.60	161.60	
J. B.	11.96	"	0.94	159.29	160.89 (160.92) check. (a)	S Edge of "FIR" about 10 ft E. of Hub. No (848).
		171.25	6.25	165.00	166.60	
			1.05	170.00	171.60	
J.B. (a)			1.01	170.24	171.84 Rot	Close work Jan 23. 1903
B.M.	9.41			133.68	top of Nozzle	Resume work Jan 24 1903. by reading from top nut 8 tenths of a foot above top of nozzle of hydrant N.E. corner of 5th & Date Sts. I check on plug 300 ft N. of S. Line of Park. Correct.
		143.09	10.20	132.89	top of Nozzle	
	6.52	"	0.27	142.82	Difference 0.8 133.68	
	10.77	149.34	0.27	149.07		
B.M		59.84	8.82	151.02 8	151.82	Plug 300 feet North of S. Line of Park on 6th St.

St	+	In	−	El.		
						Jan. 24 1903
T.P.	11.61			170.24	171.84	
		181.85	6.85	175.00	176.60	
B5+25L=(a)		"	3.17	178.68	180.28	See (a) p 28
				1.60		
		"	6.85		1	
		"	"		2	
		"	"		3	
		"	"		4	
		"	"		5	
		"	"		6	
		"	"		7	
		"	"		8	
		"	"		9	
		"	1.85	180.00	1 181.60	
		"	"	"	2	
		"	"	"	3	
		"	"		4	
		"	"		5	
		"	"		6	
		"	"		7	
		"	"		8	
T.P.	11.40	"	0.45	181.40	183.00	
		192.80	7.80	185.00	186.60	
		"	"	"	1	
		"	"	"	2	
		"	"	"	3	
		"	"	"	3	
		"	2.80	190.00	191.60	
		"	"	"	2	
		"	"	"	3	
		"	"	"	4	
T.P.	11.91		1.71	191.09		
		203.00	8.00	195.00	196.60	
		"	"	"		
		"	"	"		
		"	"	"		
					1	
			3.00	2??	1-2-3-x-5	
					4201.60	

North & South of C.

St	+	Ir	—	E.	
					Jan. 24 1903
J. P (A)		203.00	1.67	201.33	
	8.83		0.79	202.21	
		211.04	1.04	210.00	211.60
B.M.	11.94			157.50 (1.60)	159.10 — Plug on North side of FIR St on line of Park.
J. P.	11.06	169.44	3.51	165.93	167.53
		176.99	11.99	165.— (1.60)	We down 166.60
		"	6.99	170.— (1.60)	171.60
		"	1.99	175.— (1.60)	176.60
J. P.	9.94	"	0.34	176.65	
		186.63	6.63	180.— (1.60)	181.60

North & South of C.

St	+	Sr	−	E.		
						Jan. 24 1903
		186.63	1.63	185.$^{1.60}$—	186.60	
		"	"	"		
3 P	10.32	"	0.24	186.39		
		196.71	6.71	190.$^{1.60}$—	191.60	
C. H. L.			5.70	191.01$^{1.60}$	192.61	Plug on slope East side of Canon.
		"	1.71	195.$^{1.60}$—	196.60	
	10.43	"	0.39	196.32		
		206.75	6.75	200.$^{1.60}$—	201.60	
C. 6 L.		"	7.38	199.37$^{1.60}$	200.97	Plug on West Summit
		"	6.75	200.$^{1.60}$—	201.60	

North & South of C.

St	+	In	−	E.		
		206.75	1.75	205 1.60	206.60	Jan 24. 1903. Jan 26 1903.
		"	"	"		
		"	"	"		
J.P	9.81		0.57	206 18		
		215.99	5.99	210 1.60	211.60	
J.P.(a)	10.00	"	0.87	215.12 1.60	216.72	near C. 3+35. L.
		225.12	10.12	215. —	216.60	
C 3+35. L			5.90	219.22 1.60	220.82	Plug on East summit Close, work Jan. 24 1903 Sat.
						Bet C or D
J.P.	9.51			216.72	216.72	Begin at 1 pm. Jan 26 1903 Monday
		226.23				
		"	6.20	220 —		Back of Gay's Mansion
		"	1.20	225 —		
BM	11.63		1.60	224.63		B. M. near Gum trees
		236.26	6.26	230. —		

Apply Correction of 1.60 pm Jan. 23
2 pm till close of Jan 24 1903.

St	+	In	—	E	
		236.26	1.26	235.00	
D H+87	L. ?	"	5.95	230.31	
D H	L (O.K) = B.M.	"	3.37	232.89	
A. (a)	11.24.			151.84	
		163.08 ✓	3.08	160.—	
J.B.	7.71		0.28	162.80	
		170.51 ✓	10.51	160.—	
		"	5.51	165.—	
		"	0.51	170.—	
A 2. L.		"	1.33	169.18 ✓	
J.B. = (b)		"	9.70	160.81 ✓	
J. B	2.45			160.81	
		163.26 ✓	3.26	160.—	
			8.26	155	
	11.93			160.81	
		172.74 ✓	2.74	170.—	
Spike = (a)			7.74 ✓	165.—	

Jan 26 1903.

Jan. 26 1903.
300 ft from S. Bdy Line of Park North on 6th St. Range line

This contour at S. end of Park Head of 8th St. Begins at top of East incline and circles Westerly

Near S. Bdy of Park E. of 8th St. (See b p 27)

Close work Jan. 26. 1903

Jan. 27 1903.

On 8th St Range Line produced Northerly from S. side of Cedar 400 ft. (See @ p 27)

St	+	In	−	G.	
		172.74	12.74	160 —	
A 2 R		"	2.69	170.05	
	2.66	"	11.75	160.99	
A 4 R		163.65	5.54	158.11	
	3.33	"	11.82	151.63	
A 4+94 R=(a)		154.96	6.62	148.34	
	11.96			170.05	
		182.01	7.01	175 —	
		"	2.00	180 —	
A.O		"	9.18	172.83	
J.P.	10.68	"	0.87	181.14	
		191.82	6.82	185 —	
		"	1.82	190 —	
B.M(a)	10.24	"	0.64	191.18	
		201.67	6.67	195 —	
			1.67	200 —	
check J.P.			5.57	196.10	
	11.27		1.05	200.62	
		211.89	6.89	205	

Jan 27 1903

= a

1

Base of B.O

St	+	In	−	E	
		211.89	6.89	205 —	
B.M.		"	5.00	206.89	
		"	1.89	210	
		"			
B-2-L		"	5.91	205.98	
J.P.	10.87	"	1.00	210.89	
		221.76	6.76	215 —	
			1.76	220 —	
	1.85		10.08	211.68	
		213.53	3.53	210 —	
C.B. St Line (8th Range Line)		"	10.45	203.08	
			8.53	205 —	
J.P.	11.76	"	0.17	213.36	
		225.12	10.12	215 —	
			5.12	220	
J.P.(a)	11.42		0.74	224.38	
		235.80	10.80	225	
C.2.L.			10.58	~~225.22~~ 226.38	
		"	5.80	230	
BM Rug (b)			7.85	227.95	
J.P.		"	11.73	224.67 (224.63)	

Jan 27 1903. Tuesday

West Longitude Pillar of Bdy Commission
Top of Pillar +

C-0-8th St. Range Line

corrected

St D-0-
Close work Jan. 27 1903.

Sta	+	In	—	El.	
		235.80	0.80	235—	
C-O	0.20			203.08	
		208.28	3.28	200—	
			8.28	195—	
S. C.	0.88		11.80	191.48	
		192.36	2.36	190—	
		"	7.36	185—	
		"	Rod	180—	
D. O	9.52			227.95	
		237.47	2.47	235—	
B.M.		"	4.47	233.00	
		"	7.47	230—	
			2.47	235—	
B.M.(c)			11.33	226.14	
S. S.	11.41		1.16	256.31	
		247.72	7.72	240—	
			2.72	245—	
J. P.	2.43		11.03	236.69	
S.S.		239.12	4.12	235	
		4.12	9.12	230—	
Plug			2.67	236.45	

Jan 29 1903 Thursday

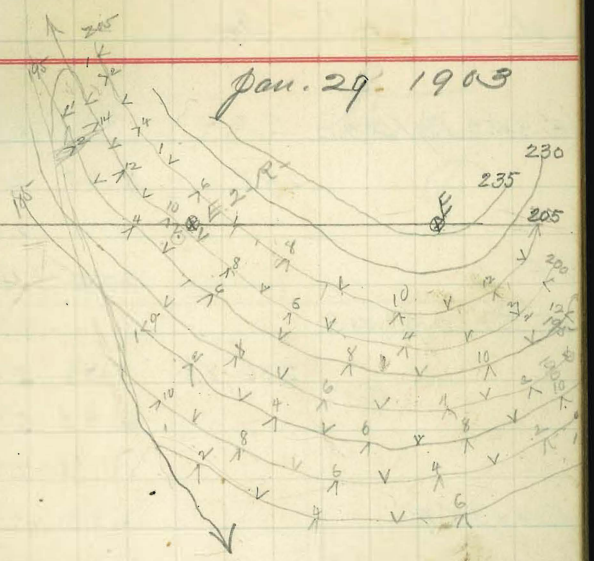
Plug

Plug in Range Line 8th St. 158.6 ft northerly from D. O.

(near old stone)

E 3+50 R. 236.45

St	+	In	—	E	
J. P.	1.16			226.14	
		227.30	2.30	225 —	
			7.30	220 —	
			12.30	215 —	
	0.93		11.65	215.65	
		216.58	6.58	210 —	
			11.58	205 —	
J. P.	1.82		11.57	205.01	
		206.83	6.83	200 —	
E 2 R			8.51	198.32	
			11.83	195 —	
J. P.	1.23		11.64	195.19	
		196.42	6.42	190 —	
		"	11.42	185 —	
J. P.	1.09	"	11.15	185.27	
		186.36	6.30	180 —	
			11.36	175 —	
J. P. (a)	11.44			226.14	(a)
		237.58	7.58	230	
E. O. —			10.61	226.97	
			2.58	235 —	



Close work Jan 29 1903

St	+	In	−	E	
(E 3+50 B)	12.00			236.45	
		248.45	8.45	240	
				245	
F. O			2.94	245.51	
(E 3+50 B)	0.43			236.45	
		236.88	1.88	235	
			6.88	230	
			11.88	225	
E 4+35 B.			11.32	225.56	
	0.23		11.61	225.27	
		225.50	5.50	220	
			10.50	215	
J. B.	0.74		11.61	213.89	
		214.63	4.63	210	
			9.63	205	
J. B.	2.01			226.14	
		228.15	3.15	225	
			8.15	220	
	0.41		11.80	216.35	
		216.76	1.76	215	
			6.76	210	

Jan 30th 1903 Friday

Plug, -
Hub

Plug.

Sc	+	In	—	E.
		216.76	11.76	205.00
J. P.	0.46		11.36	205 40
		205.86	5.86	200 —
		5.86	10.86	195 —
J. P.	0.99	"	11.85	194.01
		195.00	5.00	190 —
		"	10.00	185 —
J. P.	1.75		11.84	183.16
		184.91	4.91	180 —
			9.91	175 —
J. P. @		"	10.53	174.38
D. 4 L	12.00			232.89
		244.89	4.89	240 —
J. P.	9.91	"	0.92	243.97
		253.88	8.88	245 —
		"	3.88	250 —
Spike in E = E. 2 mid rod		"	5.23	248.65
E — 4 — 1		"	5.21	248.67
J. P.		"	3.61	250.27

Jan 30th 1903 Friday.

Spike

St	+	I	−	E.	
B.M.	9.81			215.81	
	11.24	228.63	0.22	225.40	
	8.17	236.65	0.56	236.09	
D.4.L		244.26	11.41	232.85	
				232.89	
				250.27	
				.04	
T.P.	10.00			250.23	
		260.23	5.23	255.00	
F.2.L (a)			3.19	257.04	
T.P.	2.48		11.81	248.42	
		250.90	0.90	250.	
F.O.			5.41	245.49	
				(245.51)	
			5.90	245.	
			10.90	240.	
F.2.R			10.23	240.67	
B.M.			0.45	250.45	
B.M.	11.63			250.45	
		262.08	2.08	260.	
			7.08	255	
				250	

Feb. 3d 1903 Tuesday.

Flat part of hinge - N. part
S.E. 5th and Ivy (Inv) E. 215.81
N. hinge of hydrant.

.04 by error in levels.
Last T.P. of Jan. 30 1903.

E. 245.51 on Jan 30. 1903

About wedge N.W. of Target Shed. N 35° W. Slug.

Walstel

Alverson
Luce
McLeran
Anguiada

St.	+	I	−	E	
T. P.	7.92	262.08	0.87	261.21	
		269.13	9.13	260.	
			4.13	265.	
T. P.	1.67			250.45	
		252.12	7.12	245.	
Plug			4.95	247.17	F. O North 5+50 — R 2+30
Plug			6.73	245.39	F. O. 5+50 N
			12.12	240.	
T. P.	0.95			250.45	Feb 3 1903. Begin work 1 p.m. — Rainy —
		251.40	1.40	250.	
			6.40	245	
			11.40	240	
T. P.	2.58		11.72	239.68	Close work Feb 3 Tuesday.
		242.26	7.26	235.	Begin work Feb 4 1 p.m Wednesday
			12.26	230	Interrupted by rain
	0.63			239.68	Feb. 5. 1903. Scattered clouds
Plug	0.46	240.31	12.50	227.81	G. O
T. P		228.27	3.27	225.	
		"	8.27	220.	
	1.44		11.10	217.17	
		218.61			

Feb. 6th 1903 Thursday

St	+	I	−	E	
		218.61	3.61	215.—	
J.P.	1.67			261,21	
		262.88	12.88	250.—	
		"	7.88	255	
Plug		"	7.22	255.66	H. O
		"	2.88	260.—	
J. P. d	11.30	"	0.95	261.93	
		273.23	8.23	265.—	
Plug Hub		"	7.54	265.69	H. O North 300 ft.
		"	3.23	270.—	
J. P. d	8.48	"	0.98	272.25	
		280.73	5.73	275.—	
			0.73	280.—	
			10.73	270.—	
J.P. Nor plug F.O.	8.72			261.21	
		269.93	5.01	264.92	
			4.93	265.00	

St	+	I	−	E	
B.M.	11.65			265.69	Feb 5 1903. Thursday.
		277.34	12.34	265.—	H.O. 300 ft. North.
			7.34	270.—	
			2.34	275.—	
Plug			2.05	275.29	I.O. 200 L
B.M.	10.57			265.69	H.O. + 300 ft North
T.P.	10.58	276.26	0.81	275.45 ✓	
		286.03	6.03	280	
T.P.	1.28			265.69	H.O + 300 ft North.
		266.97	6.97	260—	Feb 6th 1903. Friday.
T.P.	1.72			265.69	H.O + 300 ft North
		267.41	12.40	255—	
T.P.	0.13		11.27	256.14	
		256.27	6.27	250.—	
		11.27		245.—	
T.P.	10.05			275.45	
		285.50		280—	
T.P. (c)	2.77		3.90	281.60	S.P. on Palmetto on 280 contour.
		284.37	9.37	275—	

McLeran
Anglesola

St	+	I	−	E.
J. P	1.21	284.37	11.51	272.86
		274.07	4.07	270.—
	12.00	"	9.07	265—
	1.30	"	12.00	262.07
		263.37	3.37	260.
Hub		"	2.76	260.61
		"	8.37	255.
Cp20	4.72			281.60
	7.07	286.32	3.65	282.67
		289.74	4.74	285.
		"	9.74	280.
Hub (1)		"	6.81	282.93
Hub		"	4.92	284.82
	5.49		0.99	288.75
		294.24	4.24	290—
		"	3.09	291.15
		"	5.12	289.12
		"	5.60	288.64
Hub (1)		"	6.67	287.57
	1.24	284.17	9.17	282.93 275—

1-0+400 North Some rain
Close work Feb. 6 1903.

Feb. 7th 1903 Sat Cloudy & cold

1-0-3+70 N — L. 2+75.
" " — L 4+25.

Grind reading Corner of park North Line of Park N W cor of Kate Sessions fence
S E cor Bowen's fence at W. Line of Park.
El. N W cor. Park monument, stone
N. E cor. Doolittle Hedge W Line of Park

St	+	J	—	E.	
	1.49	284.17	10.83	273.34	
		274.83	4.83	270.—	
			9.83	265.—	
Hub			10.49	264.34	J 3+70 - 0
T.P.			0.67	274.16	100 ft N. of (J 3+70)
Hub	0.32			264.34	J.-3+70.—
		264.66	4.66	260.—	
			9.66	255.	
T.P.	0.00			274.16	
		274.16	4.16	270.	
Hub			3.84	270.32	K 1+92
			9.16	265.	
B.M	0 80	"	11.42	262.74	N of Hub
		263.54	3.54	260.—	
			8.54	255.	
T.P	1.45		11.21	252.33	
		253.78	3.78	250.	
			8.78	245	Close work Sat. night

McLeran
Anguisola

Hub.	11.76			270.32
		282.08	7.08	275.—
		"	3.68	278.40
T. P.	5.95	"	1.44	280.64
		286.59	6.59	280.
T. P.	10.21		1.78	284.81
		295.02	10.02	285.
			5.02	
Hub			4.61	290.41
B.M.	5.97			288.64
		294.61	4.61	290.—
Hub.			3.37	291.24
			9.61	285.
T. P.	0.50		10.94	283.67
		284.17	4.17	280.—
B.M.			5.44	278.73
			9.75	275.—
	0.51		11.60	272.57
		273.08	3.08	270.—
			8.08	265.—

Monday Feb. 9th 1903. Clear

K – 1+92.

K – 100. L 1+60

3+27 L – K – 100. N.

Cor. Monument of Park N. W.
E from St Monument 2+62 –
N. W. cor K. Bessons (N. Line Park at St. C.
E from St Monument (3+06 N Line of Park at Sta

E from St. Monument N. W. cor park. 4+08 N Line of Park.
Hub at 4+20 E. from Cor Park Monument.
E from St Monument 4+61 (275 contour)

E. from St. Monument. Cor Park 5+20 (270 contour)

Run East on N. Line of Park

St	+	J	—	E
		27308		
Hub.			8.25	264.83
Hub.			8.86	264.22

List of Benches

(10th & A St) Spike in fence N.W. cor 72.970 E.

(10th & B) North End hydrant hinge at S.E. cor. 76.85.2 E

(11th & A) N.W. point of Coping Stone at the S.E. cor. 89.87 E.

(At N.W cor 11th & B) Spike & Telegraph pole 89.87 E.

Feb. 10 1903
at 5790 East from NW cr Park.
At 600 East " " " "

Sta	+	I	—	Elev.
B.M.	0.10			76.852
	8.62	76.95	2.40	74.55
	5.98	83.17	2.28	80.89
	11.08	86.87	1.63	85.24
	11.69	96.32	1.66	94.66
B.M. (a)		106.35	9.43	96.92
T.P.	9.51		0.15	106.20
T.P.	10.08	115.71	0.77	114.94
	11.67	125.02	1.88	123.14
		134.81	4.81	130 —
	11.60	"	1.47	133.34
		144.94	9.94	135
			4.94	140
T.P.	11.40		0.99	143.95
		155.35	10.35	145
4+94 AR			6.96	148.40
				148.34 Instr.
			5.35	150 —
3+40.5 (b)			3.89	151.46
			0.35	155.
	0.52		11.81	143.54
		144.06	8.06	140. —
			8.06	135

Tuesday Feb. 10th 1903 — Clear —

N. End of Hydrant Hinge N.E. Cor. 10th & B

— In Pound Canon —

"Hub" at fence Cor. (N.E)

See (R) p. 11 — A 4+94.

Hub. Line N 59° 10 W.

St	+	J	−	⊙
	1.09	144.06	12.00	132.06
		133.15	3.15	130.
J. P. stone	11.50		1.45	131.70
		143.20	8.20	135.
			3.20	140.
J. P. St.	11.92			131.70
J. P. stone	1.26	143.62	0.75	142.87
		154.13	9.13	145.0
			4.13	150.
J. P. stone	11.52		1.15	152.98
		164.50	9.50	155.
			4.50	160.
J. P. stone	11.32		0.74	163.76
		175.08	10.08	165.
			5.08	170.
			0.08	175.
J. B.	1.02		11.90	163.18
		164.20	4.20	160.
J. B.	11.06		1.15	163.05
		174.11	9.11	165.
			4.11	170.
			0.11	174.00

Feb. 10 + 11 - 1903

At Sta. 24+ rr near

Wed. Feb 11 1903.

St	+	I	−	E.
		174.11		
S. P.	11.66		0.11	174.00
		185.66	10.66	175. —
			5.66	180 —
J. P.	1.09		11.70	173.96
		175.05	5.05	170. —
			10.05	165 —
J. P.	11.55			151.84
" "	7.27	163.39	1.25	162.14
Spike @		169.41	4.47	164.94
(b)		"	8.60	160.81
			4.41	165.
			9.41	160.
J. P.	11.77			151.84
		163.61		
	2.81			151.84
		154.65	19.65	135. C
		"	4.65	130. C
	12.00		0.17	154.18
		166.18	11.18	155

Feb. 11 & 12 1903.

Close work at 1 p.m.

A L Feb. 12th 1903 Thursday

300 N cedar ht Range Line

See (a) p. 10.

" (b) p. 10

A-L on 6th St Line.

St.	+	I	−	E.
		166.18	8.68	157.50
			6.18	160.0 c
			3.68	162.50 c
			1.18	165. c
	11.56		0.37	165.81
		177.37	9.87	167.50 c
			7.37	170 c
			4.87	172.50 c
			2.37	175 c
	10.68		0.22	177.15
		187.83	10.33	177.50
			7.83	180 c
			5.33	182.50
			2.83	185 c
			0.33	187.50
	6.01		1.32	186.51
		192.52	2.52	190. c
			7.52	185 c
			"	180 c
	1.90		11.03	181.49
Hub = a		183.39	8.39	175.
			3.07	180.32 2.
				180.28

Feb. 12. 1903.

B 5+25 L

see (a) p 6.

Sx	+	D	−	E.	
		183.39	10.89	172.50 c	
	0.22		11.78	171.61	
		171.83	1.83	170 c	
		"	4.33	167.50	
		"	6.83	165. c	
		"	9.33	162.50	
		"	11.83	160. c	
T. P.		"	10.91	160.92 (a)	
Spike		"	11.97	159.86 (b)	
T. P.	0.05			160.92 (160.89) check.	
		160.97	10.97	150. — c	
			8.47	152.50 c	
			5.97	155 c	
			0.97	160 c	
	11.14			160.92	
		172.06	12.06	160. c	
			7.06	165. c	
T. P.	2.62			151.84	
		154.46	6.96	147.50	
			1.96	152.50	

Feb. 12 1903

@. p. 5

Mer N. Extension of Elm in Park. 600 N of S. Line of Park.

@. p. 5.

Class work Feb. xx 1903

Feb. 13. 1903 Saturday.

St	+	J	−	E.
Z P	9.73			171.84
		181.57	10.57	170 c
			6.57	175 c
			1.57	180 c
	11.09		0.50	181.07
		192.16	7.16	185.
Hub. m B.			11.90	180.26 180.32
			2.16	190. c
J. P	11.75		0.46	191.70
		203.45	8.45	195. c
			3.45	200 c
J. B.	9.36		0.68	202.77
		212.13	7.13	205. c
	3.65		3.64	208.49
		212.14	7.14	205.
			2.14	210
J B	2.04			216.72
		218.76	3.76	215 —

Feb. 14 1903 Saturday

See p 5

B 5+25

See (a) p 9.

12440

1.40			192.61
	194.01	~~1.40~~	~~194.01~~
0.58		11.82	182.19
	182.77	12.77	170 c
		7.77	175 c
		2.77	180
7.60		0.33	182.44
	190.04	10.04	180 c
		5.04	185
		.04	190
11.82		1.62	188.42
	200.24	5.24	195 c
		0.24	200 c
11.48		0.78	199.46
	210.94	5.94	205 c
3.53			210 c
3.53			192.61
	196.14	1.14	195
		6.14	190
0.22			225.22
	225.44	6.90 5.44	218.54

h Gulab below
Gays House

St	+	I	−	E.
	1.98			192.61
		194.59	9.59	185 c
			4.59	190 c
	7.76		0.32	194.27
		202.03	12.02	190 c
			7.03	195 c
			2.03	200 c
	10.03		0.47	201.56
		211.59	6.59	205 c
			1.59	210 c
	10.61		0.60	210.99
		221.60	6.60	215 c
			1.60	220 c
	3.32		1.26	220.34
		223.66	3.66	220 c
			8.66	215 c
	0.81		11.55	212.11
		212.92	2.92	210 c
			7.92	205 c
	1.26		11.39	201.53
		202.79	2.79	200 c
			7.79	195

Alverson
McLeran
Angelsola Anglesola
Luce

Monday Feb. 16th 1903

In gulch below
Gay mansion

St	+	d	−	E
	1.87			226.14
		228.01	3.00	225 c
			8.00	220 c
	0.32		11.65	216.36
		216.70	1.70	215 c
			6.70	210 c
	2.08			226.24
		228.22	3.22	225.00
			8.22	220. c
	1.01		10.95	217.27
		218.28	3.28	215 c
			8.28	210 c
J.P.	4.33			224.38
		228.71	2.26	226.45
			3.49	225.22
			15.50	213.21
			15.	213.70

Monday Feb. 15, 1903.

(a) 14 p. ° Near E_0_

(a) 14 p.

(a). p. 12.

225.22 p. 12

141.54
0.58

St	+	In	−	El.	
					Feb 13 1905
T. P.	10.36			131.70	
T. P.	11.32	142.06	0.51	141.55	A.M. of T. Pole
T. P.	10.19	152.87	0.58	152.29	
		162.48	2.48	160. c	
			7.48	155 c	
	2.44		11.98	150.50	
		152.94	7.94	145.00 c	
	0.72		11.40	141.54	
		142.26	2.26	140. c	
			7.26	135 c	
	11.72		11.88	130.38	
		142.10	7.10	135. c	
			2.10	140 c	
	10.80		0.88	141.22	
		152.02	7.02	145. c	152.02 - Rod Bench
			2.02	150 c	
	12.00		0.33	151.69	
		163.69	8.69	155 c	
			3.69	160 c	
	1.30		2.83	160.86	
		168.16	8.16	160. c	

St	+	I	−	E
		168.16	2.23	165.93
B.M. (a)			4.72	163.44
	5.98			163.44
		169.42	9.42	160. c
	0.32			163.44
		163.76	8.76	155
T.P.	0.90		11.21	152.55
		153.45	3.45	150. c
			8.45	145
T.P.	1.60		11.35	142.10
		143.70	3.70	140 c
	1.		8.70	135 c
B.M.			11.15	132.55
B.M.	8.48			163.44
		171.92	11.92	160. c
			6.92	165
				170
T.P.	11.33		1.23	170.69
		182.24	12.24	170 c
			7.24	175 c

old bench W of sta 27. P. Cañon

B.M. (a)

Bench N. end 135 contour

Feb. 18 1903 Wednesday
See (a) - 36 p

Gulch on
- C Line -

37

7.24
263.08
7.70

38

Feb. 18th Wednesday

C – R – 100 – 0 8t 8t R. Line.

Hab.		182.24	7.72	174.52
	10.21		0.85	181.39
		191.60		
	11.02		0.91	190.69
	9.58	201.71	3.64	198.07
		207.65	4.53	203.12
				203.08
B. M.	9.29			163.44
		172.73	12.78	160. C
			7.73	165 C
			2.73	170 C
	11.90		10.22	172.51
		184.41	9.41	175
			4.41	180
	11.47		1.55	182.86
		194.33	9.33	185 C
			4.33	190
	11.75		0.39	193.94
		205.69	10.69	195 C
			3.69	200 C
	11.79		1.01	204.68
		216.47	6.47	210

check ϕ.

B. M

2.86

Feb. 18 1903 Thursday

D 2+75 R		216.47	5.50	210.97	2
			6.47	210.	c
			1.47	215	c
	9.40		1.03	213.44	
		224.44	H.H	220.	c
Hub (b)			3.90	220.54	2
Hub (a)	2.00			210.97	
		212.97	2.97	210	
			7.97	205	
	0.80		11.72	201.25	
		202.05	2.05	200.	c
			7	195	
			12.	190	
	0.68		11.10	190.95	
		191.63	6.63	185	
	0.92		11.72	179.91	
		180.83	5.83	175	
B.M.	2.52		10.40	170.43	
		172.95	2.75	170	

D. 2 R.

D 2+75 R.

slope of 3% in Pound Canon on the slope N. side of canon & W. of Sta. 31.

St	+	J.	−	Co
		172.95	2.95	170. c
			7.95	165
	1.92		11.48	161.43
		163.39	3.39	160 c
			8.39	155 c
	0.87		11.57	151.82
		152.69	2.69	150
			7.69	145
	1.76		12.00	140.69
		142.45	2.45	140.
	1.		7.45	135 c
B.M.			11.16	131.29
	11.39		0.72	141.73
		153.12	8.12	145 c
			1.12	152.00
	9.98			152.00
		161.98	11.98	150
	7.50	167.59	1.89	160.09
		167.59	12.59	155.00 c

Sept 19 1903 – (Hagy in afternoon)

Off Sta 35 Round Canon 80ft West –

B.M. up to date (B.M. 131.29)

E 4+35 225.56
E 3+60 236.45 10 15

		167.59	7.59	160.
	11.04		1.93	165.66
		176.70	6.70	170
			6.09	170.61
B.M	0.69		6.21	170.49
B.M	0.69			225.56
	7.72	226.28	11.52	214.73
		222.45	2.45	220.
	1.26		11.88	210.57
		211.83	6.83	205.
	1.08		11.82	200.01
		201.09	6.09	195
	0.74		11.33	189.76
		190.50	5.50	185
			10.50	180
	1.42		11.55	168.95
		180.37	3.37	175
			16.37	170
	1.43		11.40	168.97
		170.40	5.40	165

Feb. 19 1903. Thursday.

on Contour 170 – a rock, on S side of gulch
E 4+35 R

41 12 17
131.29
160.00

		170.40		
	2.58		10.40	160.00
		162.58	7.58	155.
	0.93		11.78	150.80
	0.10	151.73	11.66	140.07
		140.17	9.00	131.17
			05.17	131.29 135.
~~B.M.~~	4.54		0.71	139.46
		151.00	11.00	140.
B.M. (a)			11.23	145 139.77
	11.85		1.02	149.98
		161.83	11.83	150
	11.90		1.02	155 160.81
		172.71	12.71	160. C
			7.71	165 C
			2.71	170 C
	11.26		0.66	172.05
		183.31	8.31	175. C
			3.31	180 C
	11.59		0.47	182.84
		194.43	9.43	185. C
	11.80		1.45	192.98
		206.78		

100 feet N. sta 38 in P. Canon

Sx	+	S	−	E
		203.78	8.78	195.
			3.78	200
B.M.	11.46			139.77
	7.99	151.23	11.64	139.59
		147.58	12.58	135 c
			7.58	140 c
B.M.	11.23		9.73	137.85
	11.83	149.08	1.77	147.31
		159.14	9.14	150 c
			4.14	155
	11.61		0.74	158.40
		170.01	10.01	160 c
	7.46		1.02	168.99
	~~7.46~~			165
		176.45	6.45	170 c
			1.45	175 c
	10.04		0.59	175.86
		185.90	5.90	180 c
			0.90	185 c
	11.90		1.08	184.82
		196.72	0.72	190
			1.72	195

Feb 20 1903

Sat Feb 21 - 1903 -

(a) p (41)

100 feet W. of Sta 46 Pound Contour

43

2.64
1235 contour

St	+	I	−	E.
	11.38	196.72	0.99	195.73
		207.06	7.06	200. c
			2.06	205 c
	11.05		0.60	206.46
		217.51	7.51	210. c
			2.51	215 c
	11.42		1.35	116.16
		227.58	7.58	220. c
			2.58	225
	11.66		0.93	226.65
		238.31	8.31	230
B.M.			6.18	232.13
B.M.	3.96			137.85
		141.81	6.81	135.
		"	1.81	140.
St 48		"	5.37	136.44
	11.38		0.10	141.71
		153.09	8.09	145. c
			3.09	150 c
	11.35		0.62	152.97
		163.82		

Cobble on summit area

137.85
147.81
.54

P. Canon

247.17=(F 5+50 R 2+30)

Bk	+	In	−	E
		163.82	8.82	155 c
			3.82	160 c
	11.36		1.22	162.60
		173.96	8.96	165 c
B.M.			11.18	162.78
			3.96	170
	11.40		0.57	173.39
		184.79	9.79	175
T.P.	8.15		5.06	179.73
		187.88	7.88	180.
			2.88	185
	12.00		0.95	186.93
		198.93	8.93	190.
			3.93	195.
	11.73		0.35	198.58
		210.31	10.31	200. c
			5.31	205. c
				210 c
	11.54		11.27	179.73
		191.27	11.27	180
			6.27	185
			1.27	

Sat Feb 21 1903.

N.W. cor. platform Range Shooting House
Top of Post on N. end of Porch

B.M.

Tuesday 24th Feb 1903
Begin at B.M.

St	+	@	−	℄	
	11.83	191.27	1.51	189.76	
		201.59	11.59	190. ℄	
			6.59	195 ℄	
	8.56		5.71	195.88	
		204.44	9.44	195.	
			4.44	200 ℄	
	11.98		1.33	~~205.77~~ 203.111	
		215.09	10.09	205.	
			5.09	210 ℄	
	11.99		1.21	~~216.80~~ 213.88	
		225.87	10.87	215 ℄	
Hub a			9.97	215.90	F 5+40.
			5.87	220 ℄	
			6.39	~~221.5~~ 225.478	
	16.94	237.42	12.42	225 ℄	
B.M.			5.33	232.09	on rocks
	11.59		1.45	235.97	
	6.02	247.56	1.09	146.47	
B.M.		252.49	2.01	250.48	Old B.M.
	7.63			232.09	
		239.72			

(1) 435 ft Stn — to Stn —
(2) 422
46

St	+	∂	−	E
		239.72	4.72	235
			9.72	230
B.M.	11.51			136.44
		147.95	7.95	140 c
			2.95	145 c
B.M.6.	(a)		4.12	143.83
	10.39		1.23	146.72
		157.11	7.11	150
			2.11	155 c
St 55.	10.50			143.82
	11.53	154.32	0.20	154.12
		165.65	10.65	155 c
	2.29		3.07	162.58
		164.87	9.87	155
	10.86		1.32	160 163.55
		174.41	9.41	165 c
			4.41	170
	10.12		0.47	173.94
		184.06	9.06	175 c

Tuesday 24th Feb. 1903.

St 48

St 55.

Wed. 25th Feb 1903.

47

175 B.M. 191.18

48

Sta.	+	I.	−	E.	
		184.06	4.06	180.	
B.M.6(a)			0.20	183.86	Lower Spur of W. Slope, Pound, Cottage, near T Line
	3.46			169.18	A 2. L
		172.64	~~2.64~~	~~170~~	
			7.64	165 ✓	
				160	
	2.22		0.20	172.44	
		174.66	1.59	173.07	
B.M.	0.96			191.18	See (a²) p. 11.
	1.01	192.14	~~11.45~~ 11.37	180.77	
		181.78	6.78	175.	
			11.78	170	
	1.62		11.29	170.49	
		172.11	7.11	165 ✓	
			12.11	160 155	

Feb 25 1903 Wednesday

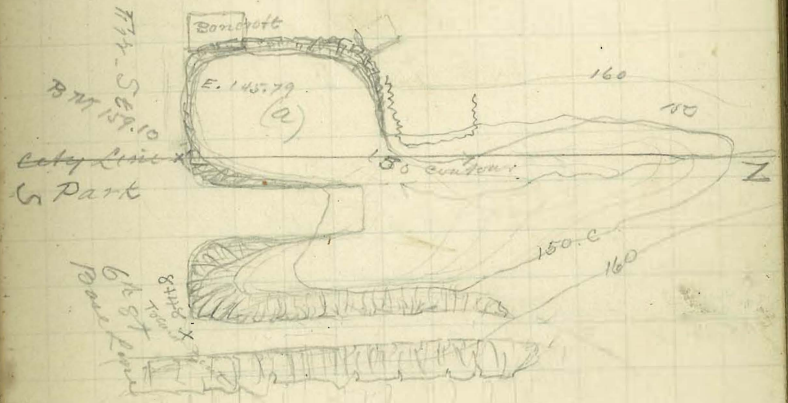
	8.10			206.89		
		214.99	4.99	210.c		
			9.99	205		
	2.34		11.03	203.96		
			6.30	200		
		206.30	11.30	195		
C 3+35 L	10.74			220.82		
		231.56	7.27	224.29		
			11.56	220 c		
			6.56	225		
			1.56	230 c		
225.22 B M	spike	C. 2 L	5.18	226.38	C. 2 L.	corrected from previous record of 225.22
	11.80			224.63		
		236.43				
B. M.	9.23			227.95		~~B. O.~~
		237.08	12.08	225.c		
			7.18			

Feb 26. Thursday

St.	+	I	—	E.
	0.69			159.10 (a)
		159.79	9.79	
			14.00	145.79
	11.49			159.10 = a
		170.59	10.59	160. c
B.M. (a) p47	11.92			183.86
		195.78	10.78	185. c
			5.78	190.
			0.78	195
			0.66	195.12
	11.60			
		206.72	6.72	200. c
			1.72	205. c
			0.97	205.75
	11.08			
		216.83	6.83	210 c
			1.83	215 c
	12.00		0.79	216.04
		228.04	8.04	220.
			3.04	225
	10.78			143.83
		154.61	4.61	150.
	11.42		1.04	153.57
		164.99	9.99	155. c
			4.99	160
B.M.			6.45	158.55

Feb 26th 1903. Thursday

Plug N side of Fir on Line of City Park. p4.
Elevation bottom cut a



@ p46. sta. 55.

Hub 210 ft Left Sta 55 ang 47° L.

196.42 BM

-165-
23.0
23.5

St	+	I	−	E	
		164.99			
	11.67		1.86	163.13	
		174.80	9.80	165c	
B.M (a)			0.00	174.80	
	11.66		4.80	170.c	
		186.46	11.46	175.	
			6.46	180.c	
	11.26		0.81	185.65	
		196.91	6.91	190	
			1.91	195	=(2)
B.M.	11.50		0.49	196.42	
		207.92	7.92	200.c	
			2.92	205	
BM	11.52			196.42	
	10.98	207.94	1.77	206.17	
		217.15	~~10.9~~	210.c	
			7.15t		
	11.78		2.15t	215	
			0.17	216.98	
		228.76	8.76r	220.	
			r3.76t	225	
B.M			0.93	227.83	
				227.81	check
	11.91		0.58	228.18	
		240.09	r10.09r	230	
			r5.09t	235	
			10.09		
	0.48		11.82	228.27	
		228.75	r3.75	225.	

B.M. 100 ft west of 300 yard target.

Feb 27-1903 - Friday

G-O- p.18.

210
15
20
25
30

SX	+	I	−	E.
	2.22	228.75	4.68	224.07
		226.29	r1.29	225.
	4.43		1.18	225.11
		229.54	r4.54	225
			r9.54	220
	0.28		11.95	217.59
		217.87	r2.87	215
			r7.87	210
	2.32		11.48	206.39
		208.71	7.71	205
			8.71	200 c
			13.71	195 c
B.M.			10.83	197.88
	0.28			196.42
		196.70	tt6.70	190 c
B.M.			6.77	189.93
			bt11.70	185
	0.03		11.02	185.68
		185.71	pt5.71	180
			10.71	175
	10.22			196.42
	11.28	206.64	0.54	206.10
		217.38	tr7.38	210
			2.38	215

7.74
2.71

G 0 + 200

B.M. near G+200.

B.M. c G. 2+60

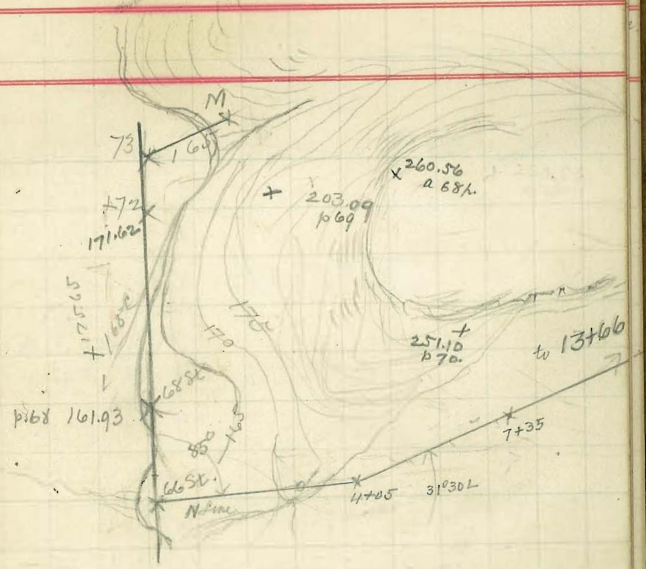
St	+	l	−	E
	11.67	217.38	0.38	217.00
		228.67	±8.67	220
			3.67	225.
	11.63		0.22	228.45
		240.08	±10.08	230. C
			±5.08	235 C
B.M.	10 46			174.80
		185.26	10.26	175.
			5.26	180 C
			± .26	
	12.00		0.11	185.15
		197.15	±7.15	190.
	12.00			185.15
		197.15	±2.15	195.
	11.17		0.51	196.64
		207.81	±7.81	200
	8.96		1.25	206.56
		215.52	±10.52	205
			±5.52	210
			±0.52	215
			0.80	214.72
	11.85			
		226.57	11.57	215.
			±6.57	220
			±1.57	225
	11.77		0.62	225.95
		237.72	±7.72	230.
			±2.72	235

B.M. (a) p 50

Feb. 28 1903

68 175.65 B.M.

St	+	S	−	E
	11.27	202.71	0.48	202.23
		213.56	8.50	205
			3.50	210 c
	10.98		1.55	211.95
		222.93	7.93	215
			2.93	220
	11.55		0.58	222.35
		233.90	8.90	225
			3.90	230
	11.95		0.84	233.04
		244.99	9.99	235
			4.99	240 c
	11.85		0.89	244.10
		256.45	10.45	245
			5.45	250 c
	10.53		1.044	255.01
		265.54	10.54	255
			5.54	260
B.M.(a)			4.98	260.56
	1.00			171.62
		172.62	10.69	161.93
			7.62	165
			2.62	170
	11.73		0.41	172.21
		183.94	8.94	175
			3.94	180
	11.64		0.56	183.34
		195.02	10.02	185
			5.02	190
	10.57		1.30	193.72
		204.29	9.29	195
			4.29	200



m b/p bluff on 260 contour

St 72

St 68

Sat. March 14 1903

St	+	I	−	E	
		204.29			
B.M.	11.03		1.20	203.09	On 200 ft Contour near M. Line
		214.12	9.12	205 c	
			4.12	210 c	
	11.92		0.95	213.17	
		225.09	10.09	215	
			5.09	220	
	11.40		1.41	223.68	
		235.08	10.08	225 c	
			5.08	230	
	11.88		0.71	234.37	
		246.25	11.25	235 c	
			6.25	240 c	
			1.25	245 c	
	12.00		1.16	245.09	
		257.09	7.09	250 c	
			2.09	255 c	
	11.03		1.38	255.71	
		266.74	6.74	260	
	~~11.20~~ 10.05			161.93	St 68
		~~173.13~~ 171.98	11.11	160.87	St 66
	0		1.98	170.	
	11.31		0.46	171.52	
		182.83	7.83	175	
			2.83	180	
	11.86		1.33	181.50	
		193.36	8.36	185.	
Y.P.			3.36	190	
			0.75	192.61	192.61

St	+	S	−	E
	0.89			192.61
Hub		193.50	4.13	189.37
	10.94			192.61
		203.55	8.55	195 C
			3.55	200.
	11.22		1.29	202.26
		213.48	8.48	205
			9.48	210
	11.44		1.22	212.26
		223.70	8.70	215
			3.70	220
	11.79		1.04	222.66
		234.45	9.45	225
			4.45	230
	11.48		1.03	233.42
		244.90	9.90	235
			4.90	240
	11.78		1.20	238.70
		255.48	10.48	245 C
			5.48	250
			.48	255.0 C
	11.90		0.10	255.38
		267.28	1.28	260
			12.28	255 C
	1.30		11.18	
		281.40	4.40	256.10
				250 C
J.C.	2.70		6.30	251.10
		253.80	8.80	245
			11.82	241.98

N 4+05.

B.M. to N. 700
March 16 1903 Mo

March 16 1903 mo.

St	+	I	−	E	
	0.94			241.98	
		242.92	2.92	240	
			7.92	235	
	0.98		11.66	231.26	
		232.24	2.24	230	
			7.24	225	
			12.24	220 c	
			11.76	220.48	
	1.78				
		222.26	7.26	215 c	
			12.26	210 c	
			11.45	210.81	
	1.29				
		212.10	7.10	205 c	
			12.10	200 c	
			11.59	200.51	Rock by stream
	0.97				
		201.48	6.48	195	
			11.48	190	
Hub			0.89	200.59	St 7+35
			11.98	189.50	Inv 189.37
	11.98			189.37	
B.M.	11.80	201.35	0.89	200.46	
			~~11.80~~		
		212.26	2.26	210	
			0.89	211.37	
	11.76				
		223.13	8.13	215	
			3.13	220 c	
			0.08	223.05	
	11.50				
		234.55	9.55	225	
			4.55	230	
	11.64		1.01	233.54	
		245.18	10.18	235	

72 1-8° 221.05 1-2° 1-1 2/4

- 2-40

73

St	+	I.	−	E	
		245.18	5.18	240 C.	
			0.63	244.55	
	11.39				
		255.94	10.94	245 C	
			5.94	250	
			94	255	
	11.07		2.44	253.50	
		264.57	4.57	260	
			9.57	255	
	0.69				
			11.43	253.14	
		253.83	3.83	250 C	
			0 78	253.05	on rock 200 N of St. 13+66.
13 m					
			8.83	245	
			11.45	242.38	
	0.89				
		243.27	3.27	240	
B.M.			2.72	241.05	
					N 13+66
			8.27	235.	
	1.56				
			11.50	231.77	
		233.33	3.33	230	
			8.33	225	
			11.40	221.93	
					St 11 + 35 ±
	11.66			221.93	
		233.59	3.59	230.	
			8.59	225	
	11.49				
			0.52	233.07	
		244.48	9.48	235	
			4.48	240	
	11.81				
				241.05	
		252.86	7.86	245	
			2.86	250	
			0.33	252.53	
	11.28				
		263.81	8.81	255	
			3.81	260	

March 17th 1905 Tuesday

March 17 1903

St	+	I	−	E	
			11.77	252.04	
	0.93	263.81	2.97	250.	
		252.97	7.97	245	
	0.20		12.82	240.95	
		241.15	1.15	240	
			6.15	235	
			11.15	230	
	0.12		11.78	229.37	
		229.49	4.49	225	
			9.49	220	
B.M.			11.57	217.92	St 9+10.
	0.43		11.43	218.06	
		218.49	3.49	215	
			8.49	210	
	0.32		11.81	206.60	
		206.92	1.92	205-c	
			6.92	200 c	
			6.48	200.44	Check 200.46.
	0.79	196.63	11.08	195.84	
	12.02		0.12	196.51	
		208.53	8.53	200 c	
			3.53	205-c	
			0.91	207.62	
	11.78				
		219.40	9.40	210	
			4.40	215	
			1.67	217.73	
	10.66				
		228.38	8.38	220.	
			3.38	225	
	11.81		0.81	227.57	
		239.38	9.38	230	
			4.38	235.	

March 17 1903 Wednesday

St	+	I.	−	E
		239.38	1	
	11.83		1.44	237.94
		249.77	9.77	240 C
			4.77	245 C
	11.53		0.29	249.48
		261.01	11.01	250
			6.01	255
			1.01	260
			6.01	255 C
			11.01	250 C
	1.12		11.47	249.54
		250.66	5.66	245
			11.66	240
	0.90		11.59	239.07
		239.97	4.97	235
			9.97	230
	0.57		11.20	228.77
		229.34	4.34	225
			9.34	220
	1.38		11.60	217.74
		219.12	4.12	215
			9.12	210
			11.05	208.07
	1.28	209.35	4.35	205
			9.35	200
	2.37		12.00	197.35
13.M6		199.72	10.30	189.42
	7.18			189.37
		196.55	1.55	195
			6.55	190 C
			11.55	185
			11.53	185.02
	0.36	186.38		

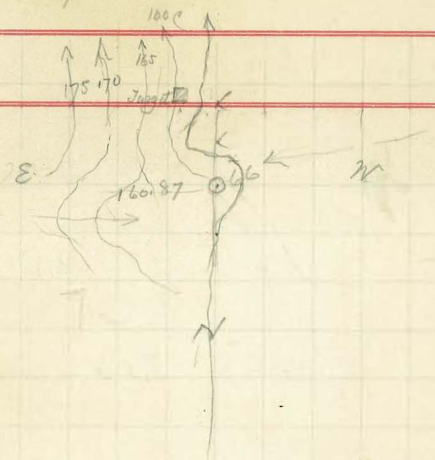
St 4+05 N.

March 18 1903.

St	+	S	—	E.
		185.38		
			5.38	180. C
			10.38	175 C
	10.77			160.87
		171.64	11.64	160 C
			6.64	165.
			~~1.64~~	~~170 C~~
			0.58	171.06
	11.83			
		182.89	12.89	170
			7.89	175
			2.89	180
	11.27		0.55	182.34
		193.61	8.61	185.
			3.61	190 C
			4.20	189.41
	11.77		1.04	~~194.65~~
				192.57
		204.34	9.34	195
			4.34	200
	11.95		1.15	203.19
		215.14	10.14	205
			5.14	210 C
	11.73		2.02	213.12
		224.85	9.85	215
			4.85	220
	11.35		0.61	224.24
		235.59	10.59	225
			5.59	230
	11.95		0.99	234.60
		246.55	11.55	235
			6.55	240
				~~24~~

Wednesday
March 18 - 1903

428
3,27 - 79°



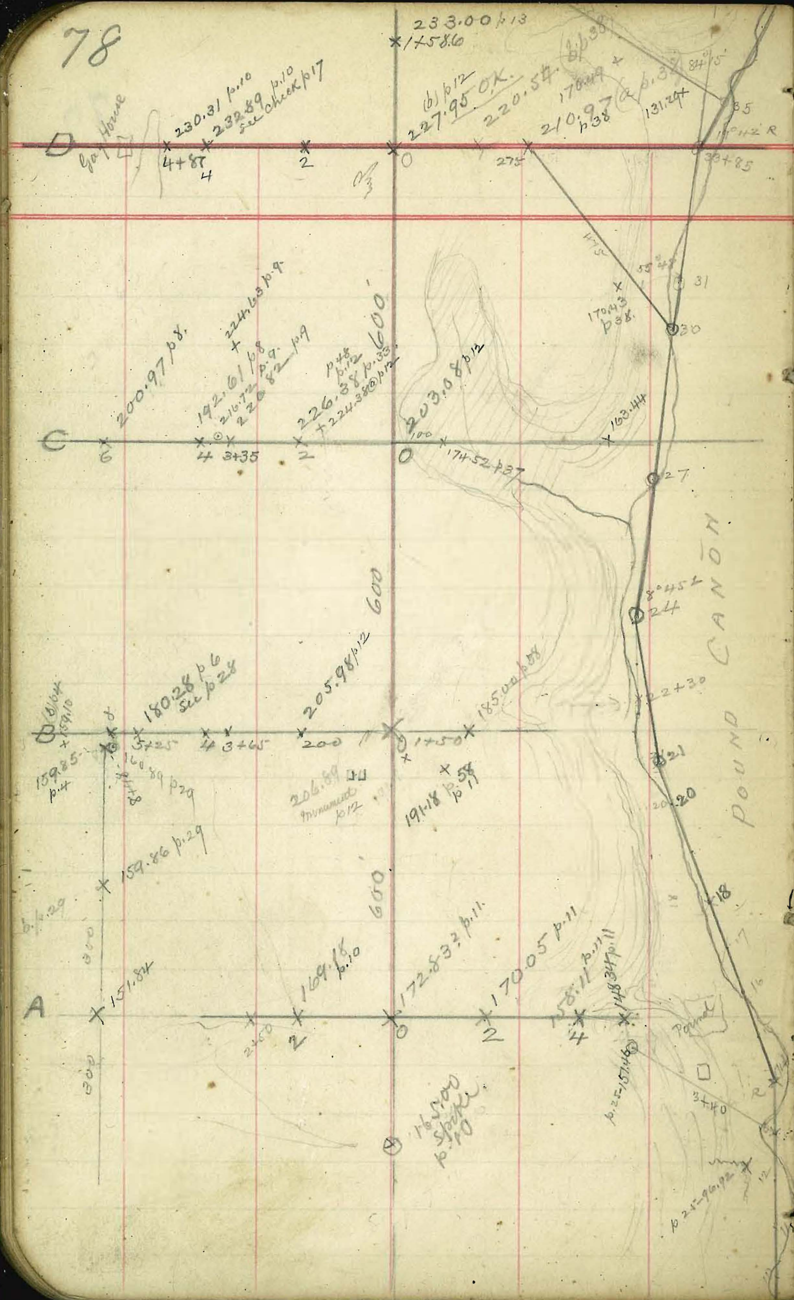
St 66.

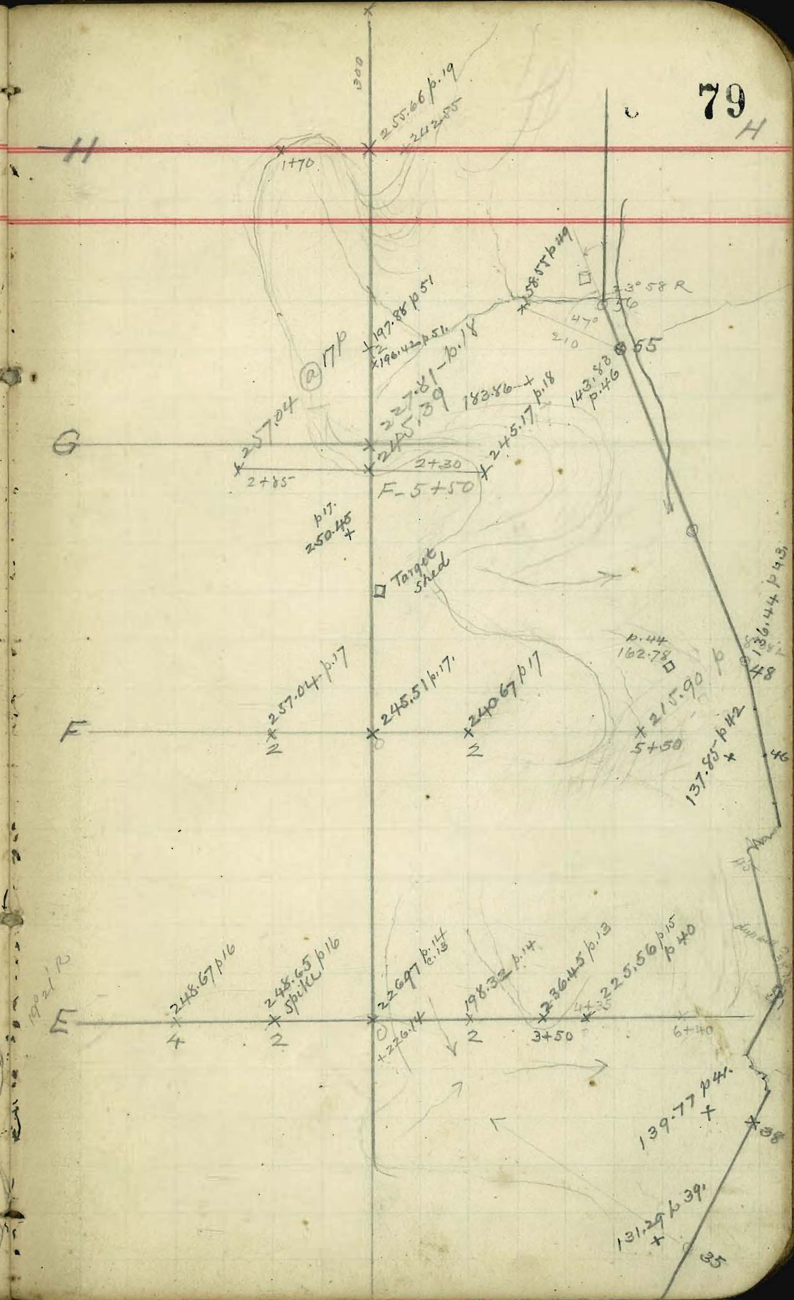
St	+	ht	−	E	
		246.55			
	11.96		1.04	245.51	
		257.47	12.47	245	
			7.47	250	
			2.47	255	
	7.42		1.7	255.76	
		263.18	3.18	260	
B.M.	8.62			153.27	St 61.
		161.89	11.89	150	
			6.89	155	
			1.89	160	
	11.93		0.60	161.29	
		173.22	8.32	165	
			3.32	170	
	11.37		1.83	171.39	
		182.76	7.76	175	
			2.76	180	
	11.96		1.02	181.74	
		193.70	8.70	185	
			3.70	190	
	11.45		0.70	193.06	
		204.45	9.45	195	
			4.45	200	
	11.88		0.65	203.80	
		216.68	10.68	205	
			5.68	210	
			0.68	215	

St	+	hr	−	E.
		215.68		
	11.57		0.83	214.85
		226.42	6.42	220
			1.42	2.25

Close work. about 5 o'clock.
P. M. March 18–1903–

Benj. McLeran.
Cor L & 30th Sts.
San Diego Cal.


Gas House
D
C
B
A
POUND CANON
Pond
230.31 p.10
232.89 p.10 See check p17
227.95 O.K.
233.00 p.13
1+586
200.97 p.8.
203.08 p.12
180.28 p6 See p28
205.98 p12
159.86 p.29
151.84
169.18 p.10
172.83 p.11.
170.05 p.11
600
0
2
4
6
3+35
3+65
1+50
3+40
2+30


H
G
F
E
Target Shed
F-5+50
2+85
2+30
1+70
5+50
3+50
6+40
255.66 p.19
245.39
245.17 p.18
250.45 p.17
257.04 p.17
245.51 p.17.
240.67 p17
215.90 p
137.85 p42
248.67 p16
248.65 p16 Spike
226.97 p.14
198.32 p.14
236.45 p.13
225.56 p.15 p40
139.77 p41.
131.29 p39.
162.78 p.44
2
0
4

MESA
SORROWFUL CANYON
K
J
I
H
L
M
N
O
4+25 L.
2+75 L.
3+70
1+55 L
J-1+66.3
I-4. North
2+50
0+80
N Line
Curve of Quince St
270.32
239.45 p61
177.55 p60
171.62 p57
260.56 p68
161.93 p68
160.87 p69
193.61 p69
275.29 p20
265.69 p19
157.25 p54
217.92 p73
221.95 p72
11+41
7+35
9+08
270.50
264.22
576.17
155 acres

Return to City Engineers Office
City Hall, San Diego, Cal.

Return to City Engineers Office
City Hall, San Diego, Cal.

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.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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