

866

F.B.
866

400
LEVEL

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Materials, and Mathematical Instruments, San Francisco.

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

MICROFILMED
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 the chain on the slopes, to make one
chain horizontal measurement.

ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS
°		°		°		°	
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

LORING'S
BOOK STORE
702 N. 10th St.
SAN FRANCISCO

f	B	d	BM	-	B	d	Elev
2.422	8.5	102.0	⁵ 38x15 Tie Pin				9.902
0.444	8.5	85.0	Fence Post				4.211
2.787	8.0	135.0					6.578
1.761	7.5	100.0					3.356
2.741	7.5	100.0					4.745
5.537	7.5	125.0					1.965
8.052	7.5	100.0					1.301
2.5744							3.2058
8.525	7.0	80.0	⁵ 38x110 Tie Pin				2.708
2.133	6.5	165.0	Fence Post				5.717
0.626	6.5	173.0					6.772
3.287	6.5	166.0					3.363
2.040	6.0	128.0					1.457
16.611							30.017

30.897
30.801
+0.004 = error

³
44.228 Perry + Dionicio NE cor hd PRR Spk Pole grad

35.205 Kellogg + Dionicio NE cor { hd PRR Spk in
Brace for Pole line

+	B	d	BM.	-	B	d	Elev
0128	6.0	62.0		7.930			
0381	6.0	72.0		9.500			
1844	6.0	40.0		5.717	2660 rd ₂₂	=17.268	14.211 ³ San Antonio Wellogg's w cor hd TR SpH Pole grd
5721	6.5	40.0		1.849			
9491	6.0	72.0		0.372			
8330	6.5	62.0		0.529			35.103 ¹ BM Wellogg + Dionicio
25.995 ¹				25.897 ¹			

August 5, 1908.

Weather - Cloudy

M + E Precise Level #15105

Florida Rod

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
1887	8.0	128.0	35.803 Helling Dionicio	2469			
3276	7.5	146.0		3202			
6563	7.0	173.0		0417			
6204	7.0	165.0		2622			
2668	7.0	80.0		8486			
20598				17.196			
5.050	6.0	80.0	7 21.120 Rosecrans	0558			
5310	6.0	57.0	Talbot	0931			
8222	5.5	89.0		0037			
9941	6.0	88.0		0604			
7976	6.0	47.0		0289			
9007	6.0	55.0		0134			
0138	6.5	55.0		9011			
45644				11.564			

38.5
38.505 Tie Pin for Bot Start
-0.00 L = error

64.565 Tie Pin

+	B	d	BM	-	B	d	Elev
0.333	6.5	47.0		8.019			
0.605	6.5	88.0		9.944			
0.042	6.5	89.0		8.228			
0.980				26.191			

⁵
30.481 Tie Pin

Weather - Fair

M & E Precise Level #15105

Florida Rod

August 6 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
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0.995	7.5	57.0	⁵ 30.481 Tie Pin		5.375		
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0.550	7.5	80.0	Page 4		5.042		
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1.545					10.417		
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9.068	6.5	75.0	⁶ 64.565 Tie Pin		0.126		
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9.727	6.0	75.0	Page 3		0.222		
-------	-----	------	--------	--	-------	--	--

7.500	5.5	60.0			1.921		
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7.676	6.0	58.0			0.330		
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0.325	6.5	58.0			7.672		
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1.924	6.5	60.0			7.506		
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0.211	6.0	75.0			9.500		
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0.013	6.0	75.0			9.184		
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36.444					36.461		
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-9.021	5.0	75.0	⁶ 64.565 Tie Pin Page 3		0.074		
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21.812
21.809 / BM Pascecons + Talbot
-0.003 = error

96.0 / Tie Pin big rock 37
85.837

Return

⁶
73.512

+	B	d	B.M.	-	B	d	Elev.
9.712	5.5	75.0	73.512 ⁶	0.205			
7.499	6.0	60.0		1.926			96.0
7.649	6.0	58.0		0.306			85.835 Tie Pin -0.002 = error
2.4860				2.457			
5.998	6.0	40.0	96.0 85.835 Tie Pin	2.029			
7.688	6.0	50.0	Sec above	0.651			107.0 (Landscape St. N.E. cor. Old Jennings Place x 86.941) Hd. R.R. Spike Pole grd.
9.936	6.0	89.0		0.050			
7.090	6.0	40.0		2.720			
7.414	6.0	48.0		0.377			
6.484	6.0	59.0		1.882			132.836 ⁹ Tie Pin "A"
1.888	7.0	59.0		6.490			128.834 ² Tie Pin "B"
4.6498				14.199			

Weather - Cloudy

N+E Precise Level #15105

August 7 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+ B d BM - B d Elev.

0.269 8.0 48.0 128.834³ 7.305
Tie Pin 'B'

2.269 8.0 40.0 Page 6 7.173

0.500 7.5 89.0 9.853

0.383 7.0 50.0 7.757

2.104 6.5 39.0 5.728

5.525⁴ 57.816⁴

6.847 6.0 35.0 132.828⁹ 0.265
Tie Pin 'A'

8.663 6.0 50.0 Page 6 0.113

6.509 6.0 30.0 0.073

8.450 6.5 60.0 0.138

8.461 6.5 32.0 0.376

7.764 6.5 25.0 0.203

8.808 6.5 30.0 0.176

5.550⁴ 1.344⁴

96.0
95.935
95.943 Tie Pin Start
+0.008 = error

187.0
X86.986

T	B	d	BM	-	B	d	Elev.
8.970	6.0	32.0	186.986 ^{7.0}	0.116			195.840 ⁹ Tie Pin C
0.110	6.0	32.0		8.960			
0.172	6.5	30.0		8.804			
0.173	7.0	25.0		7.707			
0.346	7.0	32.0		8.469			
0.173	7.5	60.0		8.480			154.394 ⁴ Tie Pin D
9.944				42.536			

Weather - Fair

K&E Precise Level #15105

Florida Rod

August 12 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
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0.083	9.0	50.0	⁴ 154.894	6.537			
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0.149	9.0	50.0	Tie Pin "D" See Page 8	8.678			
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0.270	9.0	30.0		6.851			
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0.502				22.066			
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9.280	6.0	70.0	⁹ 195.840	0.307			
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9.600	6.0	60.0	Tie Pin "C" Page 8	0.310			
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9.866	6.0	58.0		0.271			
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0.267	6.5	58.0		9.860			
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0.298	6.5	60.0		9.587			
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0.302	6.5	70.0		9.278			
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29.613				29.613			
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6.830	7.0	98.0	⁷ 223.898	1.091	7.29		
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Tie Pin "E"
see above

⁹132.828
⁷132.830 Tie Pin Start
+ 0.002 = error

⁷223.698 Tie Pin "E"

⁹195.840
⁷195.840 Tie Pin Start
± 0.000 = error

⁵229.437 Landscape St 1st Polecrest hill near Hamstead
Stables hd RAS pit & grd

+	B	d	BM	-	B	d	Elev
1.814	7.0	66.0	⁵ 229.437				⁵ 224.411 Tietin G

Weather - Fair

M+E Precise Level #15105
Florida Rod

August 13 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

T	B	d	BM	-	B	d	Elev
0.830	8.0	78.0	⁵ / _{Tie Pin G} 224.11	8.624			
2.370	7.5	59.0	Page 10	6.831			
2.602	7.0	73.0		1.281			⁵ / _{Tie Pin H} 213.77
1.285	7.0	73.0		2.606			
6.830	7.0	59.0		2.369			
8.614	7.0	78.0		0.819			
6.838	7.0	66.0		1.816			
1.115	7.5	98.0		6.855			⁷ / _{Tie Pin E Start} 223.898 223.794 -0.004 = error
30.484				31.401			
7.317	7.0	52.0	⁵ / _{Tie Pin H} 213.781	0.227	1.430		
8.750	7.0	70.0	Sec above	0.320	7.0	60.0	
7.262	6.5	45.0		0.434	6.5	55.0	
9.404	6.5	70.0		0.019			
32.753				1.000			

218.047 old BM app.
Homesstead
Gate Landside

t.	B	d	BM	-	B	d	Elev.
9.786	7.0	90.0		0.234			
7.798	6.5	93.0		2.905			
2.899	7.0	93.0		7.790			
0.213	7.0	90.0		9.770			
0.013	7.0	70.0		9.397			
0.742	7.5	50.0		7.569			
0.998	7.0	64.0		9.430			
0.227	7.5	52.0		7.317			
22.576				54412			

Weather - Fair

M+E Precise Level # 15105

Florida Rod

Loma Ave + Landscape St. NE Cor.
259.859 hd RR Spille Pole grd

⁵
213.481
213.478 T.P.H. Start
-0.003 = error

August 14 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
4980	8.0	100.0	259.859 ⁷ ✓ BM				6.717
0.622	7.5	82.0	Page 12				7.603
2393	7.5	100.0					6.114
1320	7.5	130.0					4.830
4834	7.5	130.0					1.324
6.115	7.5	100.0					2.395
7.577	7.5	82.0					0.598
6.207	7.5	100.0					4.473
34048							34.054
5969	7.0	102.0	243.150 ⁸ ✓ Tie Pin "K"				2.139
8.644	7.0	99.0	Sec above				0.335
6.687	6.5	102.0				1.851	6.5
6.400	6.5	125.0					2.178
2.185	7.0	125.0					6.404
29.885							12.907

243.110⁸ ✓ Tie Pin "K"

259.853
259.859 BM Start
- 0.006 = error

94.0¹⁰

Moved
5.0 Loma Ave Charles St. NE cor
26.812 hd RR Spite cor Fence Post grad

+	B	d	BM	-	B	d	Elev.
1852	7.0	94.0		6.687	7.0	102.0	
0293	6.5	99.0		8.605			
2157	7.0	102.0		5.988			
4302				31.280			

243.815
~~243.815~~ Tie Pin "Start"
 ± 0.000 = error

Weather - Windy

H+E Precise Level = 15105
 Florida Rod

August 17 1908

Wheeler - Observer
 Ellsworth - Rod
 Lambert - Chain

+	B	d	BM	-	B	d	Elev.
0.487	7.0	165.0		6.902			
2.352	7.0	100.0		5.005			
4.444	7.0	100.0		4.783			
4.837	6.5	150.0		5.417			296.550 Tie Pin 0"
12.120				12.107			

Weather - Windy

K&E Precise Level #15105
Florida Rod

August 19 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
2.236	7.0	98.0	296.550 ⁶				8355
			Tie to 0				
0.168	6.5	85.0	Page 16				9.296
2.404 ⁴							17.651 ⁴
7.454	6.0	67.0	306.537 ⁶				0.933
			BM				
7.056	6.0	80.0	Page 75				0.324
8.336	5.5	89.0					0.126
9.157	5.5	65.0					0.145
0.139	6.0	65.0					9.151
0.100	6.0	89.0					8.308
0.136	6.0	80.0					6.865
0.936	6.0	67.0					7.460
							306.537 ⁶
							306.539 BM Start
							+0.002 = error
33314 ⁴							33312 ⁴
8.897	6.5	61.0	337.812 ¹				0.379
			Tie to P				
			See above				

+	B	d	BM	-	B	d	Elev
8.55.9	6.5	71.0		1.265			
8.44.4	7.0	81.0		0.028			
8.86.4	6.5	91.0		1.087			
5.03.8	7.0	99.0		3.297			370.858 ⁸ Tie Pins
30.905				5.677			

Weather - Fair

M+E Precise Level #15105

Florida Rod

August 20 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
6.993	8.0	154.0	370.758 ⁸ Tie Pin "S" Page 18	0.300			
6.278	7.0	93.0		1.117			
1.115	7.5	93.0		6.276			
0.110	7.0	154.0		6.805			
3.407	7.0	99.0		5.151			
1.087	7.5	91.0		8.865			
0.062	7.0	81.0		8.477			
1.262	7.0	71.0		8.554			
0.617	7.0	61.0		9.136			
20.931 ¹				54.681 ¹			
4.394	8.0	90.0	259.758 ⁷ BM Page 12	2.825			
2.825	8.0	90.0		5.870			
5.873	8.0	90.0		2.830			
13.092 ¹				11.525 ¹			

Point Loma Ave brass Plug in Concrete Monument Inside
Fence West Reservoir Street Wireless Station

382.812⁷

337.812¹
337.808 Tie Pin "P" Start
-0.004 = error

Point Loma Ave head of Landscape brass Plug in
Concrete Monument inside Homestead Fence

261.827³258.882² Tie Pin "T"

+	B	d	BM	-	B	d	Elev
2830	8.0	90.0			4400		259.58
							259.55 BM start
							-0.003 = error

Weather - Fair

H+E Precise Level #15105
Florida Rod

August 21 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
1382	7.5	100.0	36.008 [©] 17 th -M	8.050			
1138	7.5	93.0		7.405			17 th N Sts NW cor brass Plug end return
6560	7.0	167.0		3.145			18 th N Sts NE cor brass Plug end return
7390	7.0	145.0		0.907			19 th N Sts NE cor hd PPA Spillc Pole grd
6136	7.0	136.0		4.163			20 th N Sts NE cor brass Plug end return
8807	7.0	144.0		0.821			21 st N Sts NW cor hd PPA Spillc Pole grd
9028	7.0	168.0		2.555			22 nd N Sts NE cor hd PPA Spillc Pole grd
6035	6.5	90.0		2.688			
6283	6.5	103.0		2.528			56324 [©] BM 22 nd -M
52759'				32262'			

Weather-Fair

August 22 1908
Saturday

+ BM	B	d	BM	- B	d	Elev
3370						4285
3387	7.0	150.0	258.182			4297
6870			Tie to T			6870
7038	7.0	162.0	Page 19			7038
3893	6.5	158.0				8277
						252.888 ⁹ Point Loma Ave
						hd RR Spike braced Pole grd
3026	6.5	96.0				248.179 ² Tie to "W"
7738	7.0	96.0				3029
8222	6.5	158.0				3844
6821	6.5	162.0				6818
4318	7.0	150.0				3405
						258.182 ²
						258.182 ² Tie to T "Start"
						± 0.000 error
44443						44.443
4844	7.0	84.0	248.179 ²			5925
			Tie to "W"			
0982	7.0	80.0	See above			6280
1018	7.0	95.0				5134
1722	7.0	76.0				4997
						5 Point Loma Ave SE corner of Place
						234.409 hd RR Spike cor fence Post grd
8566						22336

+	B	d	BM	-	B	d	Elev.
3.681	7.5	148.0	6.382	-			231.708 ⁸ Tie Pin "A"
6.377	8.0	148.0	3.675				234.410 ⁵ TPBM B ₂ = 22
10.058			10.057				

Weather - Fair

W+E Precise Level #15105
Florida Rod

August 24, 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Setups in deep sand
very difficult

T	B	d	BM	—	B	d	Elev
5.205	8.5	76.0	⁵ 234.410	✓	1.931		
5.117	7.5	95.0	BM Page 22		0.998		
6.174	7.5	80.0			0.872		
5.806	7.5	84.0			4.722		² 248.179 248.889 Tie Pin W Start +0.010 = error
22.302					8.523		
1.352	7.0	99.0	³⁵ 231.781	+0.000 @	8.115		
4.285	6.5	86.0	Tie Pin A Page 23		0.861		
8.851	6.5	62.0			0.796		
8.167	7.0	95.0			0.151		
9.050	7.5	62.0			0.425		
8.851	7.0	62.0			1.936		
7.811	7.5	76.0			0.591	7.5	64.0
9.537	7.5	97.0			9.910	7.5	109.0 ⁹⁷ 266.880 Tie Pin B
57.904					22.785		

+	B	d	BM	-	B	d	Elev.
9902	7.5	109.0		9532	7.5	97.0	⑤
0598	7.5	64.0		7818	7.5	76.0	
1883	8.0	62.0		8800			
0397	8.5	62.0		9023			
0266	8.5	95.0		8284			
13046				43457			

⁵⁵
236.489 Tie Tin "C"

Weather - Fair

M+E Precise Level #15105

Florida Rod

August 25, 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Setups in deep sand
very difficult

+	B	d	BM	-	B	d	Elev
1.055	7.5	62.0	⁵⁵ 236.889 Tie Pin C				9.113
0.846	7.0	86.0	Page 25				4.269
8.080	6.5	99.0					1.317
9.981							1.4699
0.225	6.0	45.0	⁹⁷ 266.887 Tie Pin B				9.226
0.275	6.0	45.0	Page 24				9.763
0.370	6.0	33.0					8.244
0.710	5.5	30.0					8.995
8.988	5.5	30.0					0.705
8.227	5.5	33.0					0.351
9.741	6.0	45.0					0.254
9.263	6.0	45.0					0.259
37.799							37.797

⁸⁵
231.781
231.891 Tie Pin A Start
-0.010 = error

³²
232.889 Tie Pin E

⁹⁷
266.887
266.889 TP B Start
+0.002 = error

+	B	d	BM	-	B	d	Elev
10.027	7.0	34.0	³² 232.179				7.682
0360	7.5	30.0	Tie in E Page 26				8.604
2337	6.5	20.0					6.397
6.395	7.0	20.0					2.338
9.119							25.021

Weather - Fair

N+E Precise Level #15105

Florida Rod

37 Point Loma Ave (Ocean Beach) 1st RR Spike
212220 in large Fence Post NW cor Clift Place

42 Tie Pin "G"

August 26 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
8.744	9.0	30.0	⁴² 216.877 Tie Pin G	0.503			³² 232.229
7.724	9.0	34.0	Page 27	0.071			³² 232.221 TP E Start - 0.008 = error
16.468				0.574			
0.212	8.0	44.0	³⁷ 212.226 BM	9.284			
0.235	7.0	48.0	Page 27	7.487			
0.135	6.5	38.0		7.890			
2.373	6.5	50.0		9.334			³³ 181.286 Tie Pin G
9.331	6.5	49.0		2.287			
5.807	7.0	35.0		0.085			
9.364	7.0	25.0		0.164			
9.252	7.5	44.0		0.178			³⁷ 212.226 212.226 BM Start ± 0.000 = error
36.709				36.709			

+	B	d	BM	-	B	d	Elev
0.418	6.5	26.0	³³ 181.886 Tie Pin "G"	7.483			
0.735	6.5	26.0	Page 28	7.407			
3.079	6.5	45.0		8.849			
8.850	7.0	45.0		3.079			
7.566	7.0	26.0		0.893			
7.405	7.0	26.0		0.340			
28.053				28.051			

Weather - Windy

M+E Precise Level #15105

Florida Rod

⁸² 161.889 Tie Pin "H"

³³ 181.886
181.888 TPG Start
+0.002 = error

August 27 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
1155	8.0	55.0	⁸² / 161.889 Tie T ₁₀ H	9.802			
0.300	8.0	40.0	Page 29	8.720			
0.482	7.0	45.0		8.215			
2.064	7.0	65.0		7.916			
7.919	7.0	65.0		2.065			
8.252	6.0	45.0		0.521			
8.732	6.5	40.0		0.312			
9.520	6.5	55.0		0.873			
38424				38424			
1.165	6.5	30.0	¹⁷ / 131.027 BM	9.874			
0.664	6.5	25.0	See above	8.312			
0.264	6.5	25.0		7.569			
0.166	6.5	30.0		7.834			
2.759				33589			

¹⁷ /
131.027 ✓ Head Gvizot St hd RR Spine 12 x 12 Panna Post Spaulding Place

⁸² /
161.889 /
161.889 T₁₀H Start
± 0.000 = error

+	B	d	BM	-	B	d	Elev.
1.143	6.5	30.0		9.022			
0.753	6.5	30.0		9.057			84.16 ¹⁶ ✓ Tie Pin "J"
9.052	7.0	30.0		0.748			
9.021	7.0	30.0		1.143			
7.832	7.0	30.0		0.664			
7.606	7.0	25.0		0.298			82 ⁸² / Tie Pin "K" 114.82
35407				20932			

Weather - Fair

M+E Precise Level #15105
Florida Rod

August 28 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

T	B	d	BM	-	B	d	Elev
8.303	7.5	25.0	⁸² 114.882 Tie Pin H	0.656			
9.567	7.5	30.0	Page 31	0.859			¹⁷ 131.887 131.027 BM Start ± 0.000 = error
17.870				1.515			
0.190	6.0	100.0	¹⁶ 84.884 Tie Pin J	9.729			
0.390	6.0	90.0	Page 31	8.972			
2.423	5.5	65.0		8.034			⁴³ Point Loma Ave nr Fraude St S side hd P.P. Splice 12 x 12 Fence Post in Spaulding Place
0.324	5.5	100.0		9.517			
0.515	5.5	100.0		9.357			
0.255	5.0	85.0		9.122			⁵³ 33.380 Tie Pin M
9.113	5.5	85.0		0.243			
9.337	5.5	100.0		0.493			
9.607	6.5	100.0		0.417			
8.052	5.5	65.0		2.439			
40.206				58.323			

+	B	d	BM	-	B	d	Elev.
8.969	6.0	90.0		0.385			
9.702	6.5	100.0		0.165			
18.671				0.550			
3.098	6.5	80.0	⁵² 33.3X8 Tie Pin M Page 32	8.373			

14
84.8X4
84.8X8 TPJ Start
+0.004 = error

25
28.8X3 Tie Pin O

August 31, 1908

Weather - Fair

N+E Precise Level #15105

Florida Rod

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev.
0.808	8.5	90.0	²⁵ 28.X03 ✓				7.571
3.017	8.5	150.0	11c Pin 0 Page 33				3.878
6.102	8.0	150.0					3.325
6.492	8.0	150.0					3.083
5.243	7.5	135.0					3.000
2.993	6.5	135.0					3.158
3.158	6.5	135.0					2.993
2.993	6.5	135.0					5.238
3.100	6.5	150.0					6.550
3.360	7.0	150.0					6.093
3.882	7.0	150.0					3.003
7.563	7.5	90.0					0.800
8.410	7.0	80.0					3.136
57.121 ✓							51.848

K+E Precise Level #15105

87 Orchard Ave + DeFoe St SW cor inside
28.X23 property line brass plug concrete monument

52 /
33.378
33.376
-0.002 = error

September 1 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
7680	7.0	150.0	⁸⁷ 28723				3383
5200	7.0	150.0	BM Page 34				4836
5710	6.5	150.0					2110
8810	6.5	150.0					6190
1595	6.5	80.0					5870
4750	6.5	185.0					3440
3508	6.5	185.0					3563
3563	6.5	185.0					⁹ 3508
⁹ 3508	6.5	185.0					4810
5873	7.0	80.0					1620
6184	7.5	150.0					8790
2094	7.5	150.0					5702
4848	7.5	150.0					5203
3384	7.5	150.0					7683
66708							66709

⁷³
36584 Delmonte Ave + De Foe NE cor inside Crawell Ford
brass Plug concrete monument

⁸⁷
28723
28722
-0.001 = error

+	B	d	BM	-	B	d	Elev
2852	7.5	1830	36.584				33.8X1 Tie Pin P
			731				96 ✓
			BM				
			Page 35				

K+E Precise Level #15105
Florida Road

Concrete Monument planted
+ Elevation of same established

September 2, 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chair

Weather - Fair

T	B	d	BM	-	B	d	Elev.
2117	8.0	164.0	96 33.8X1 "HePin" P"	✓			7133
2665	8.0	159.0	Page 36				6374
2639	8.0	164.0					6733
2925	7.5	161.0					4752
4262	7.0	113.0					4817
1212	7.0	159.0					6814
3960	7.5	154.0					4848
4847	7.5	154.0					3962
6818	7.0	159.0					1216
4857	7.5	113.0					4301
4808	7.5	161.0					2977
6746	7.0	164.0					2655
6395	7.5	159.0					2690

27 Newport Ave + Bacon NE cor inside property
12.XR0 line brass Plug concrete monument

54.951

59.272

+	B	d	BM	-	B	d	Elev
7.153	7.5	164.0					2135
5.638	7.5	183.0					2862
12.790							4997

W+E Precise Level #15105
Florida Rod

Concrete Monument planted
+ Elevation of same established

~~31.584~~
~~36.583~~ BM Start
-0.001 = error

September 3, 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Weather - Fair

+ /	B	d	BM.	-	B	d	Elev
5.543	6.5	55.0	⁹⁶ 33.871 ✓ Tie Tri P	5.340			
3.865	6.5	125.0	Page 35	4.435			
4.156	6.0	125.0		4.070			
5.725	6.0	125.0		2.920			
7.320	5.5	100.0		1.323			
8.218	6.0	100.0		2.531			
3.867	5.5	39.0	38.194	5.108	25.732		
5.108	5.5	39.0		3.868			
2.514	6.0	100.0		8.199			
1.258	6.0	100.0		7.345			
2.763	6.0	125.0		5.545			
4.062	6.0	125.0		4.132			
4.407	5.5	125.0		3.862			
20.112				32.951			

Line rerun
see page 40

Magara Avex Ebers St NW corner inside
See page 44 property line brass flag concrete monument

+	B	d	BM	-	B	d	Elev
5,327	6.0	55.0		5,530			TPP ² Start

5,530	6.0	55.0	⁹⁶ 33,871 Tie Pin P	5,327			
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4,047	6.0	125.0	Page 36	4,672			
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4,264	6.0	125.0		4,122			
-------	-----	-------	--	-------	--	--	--

5,530 ²	6.0	125.0		2,882			
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19,373				17,003			
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Weather - Fair

M & E Precise Level #15105

Florida Rod

³³
36X81 Tie Pin R

September 4 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Concrete Monument planted +
Elevation of same established

T	B	d	BM	B	d	Elev
7.660	9.0	100.0	³³ 36X81 TicPin R	1738		
8.427	9.0	100.0	Page 40	2769		
4.132	8.5	39.0		5346		
20.219				9553		
6.270	8.0	150.0	⁹⁹ 46.844 BM	7024		
3.541	7.5	150.0	See above	4980		
3.640	6.5	118.0		4346		
7.435	6.5	150.0		3130		
6.535	6.5	150.0		6008		
3.245	6.5	178.0		2200		
4.850	6.5	56.0		5984		
5.982	7.0	56.0		4850		
41.498				38524		

⁹⁹ Niagara Ave + Ebers St NW cor inside property
46.847 line brass Plug in concrete monument

Line error = +0.006

⁸³ Muir St + Line Pcdle Lot 205 inside property line
48.888 brass Plug in concrete monument

+	B	d	BM	-	B	d	Elev
2197	7.5	178.0		3.258			
5999	8.0	150.0		6.515			
3105	8.0	150.0		7.410			
11301				17.183			

Weather - Fair

W+E Precise Level #15105
Florida Rod

⁴⁰⁸
43.938 Tie Pin 'S'

September 8 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Concrete Monument set +
Elevation of same established

+	B	d	BM	-	B	d	Elev
4382	7.0	118.0	⁴⁰⁸ 43.858 "Tie Pins"	3.660			
5000	7.0	150.0	Page 42	3.493			
6.926	7.0	150.0		6.258			
14.308				13.711			
7.117	6.5	125.0	⁸⁴ 48.253 "Muir + Toehls Line"	0.255			
9.704	6.5	70.0	Page 41	0.308			
9.392	7.0	47.0		0.207			
9.362	7.0	45.0		0.145			
9.244	7.0	49.0		0.302			
7.902	7.0	90.0		1.832			
7.700	7.0	145.0		4.825			
0.263	7.0	100.0		7.259			
60.684				15.133			

99 ✓
46.844 ✓
46.835 ✓ BM Niagara + Ebers
-0.009 = error

+	B	d	BM	-	B
0.506	6.0	60.0	8648		
1.727	6.0	47.0	8968	9.190	
8.967	6.5	47.0	1729		
8.674	7.0	60.0	0.531		
19.874			19.876		

Weather - Windy

H & E Precise Level #15105

Florida Rod

44

old Hub 9.01 Mendocino Blvd & Valtaire St SW Cor inside
 78.630
 78.639 78.861 property line brass Plug concrete monument

39
 94.242 Tie Pin "T"

September 10 1908

Wheeler - Observer
 Ellsworth - Rod
 Lambert - Chair

Concrete Monument set +
 Elevation of same established

+	B	d	BM	-	B	d	Elev
7.282	7.5	100.0	³⁹ 94.242 Tie Pin T.	0.885			
4.836	7.5	145.0	Page 44	7.710			
1.854	7.5	90.0		7.926			
0.284	7.5	49.0		9.231			
0.131	7.5	45.0		9.350			
0.222	7.5	47.0		8.167			
0.516	7.5	50.0		6.870			
2.595	7.5	33.0		6.871			
0.240	^{3.988} 7.5	125.0		7.109			
17.960				6.519			
0.391	5.5	95.0	^{7.1} 382.814 Wireless BM	5.551			
2.753	7.5	50.0	Page 19	5.530			
3.144				11.081			

⁸⁴
~~48.883~~
48.883 BM Start
-0.010 = error

⁷
~~374.477~~ ^{Point Loma Ave. + Catalina St NE cor}
brass Plug concrete monument inside property line

+	B	d	BM	-	B	d	Elev
5.457		50.0		2.680			
5551		95.0		0.391			
11.008				3.071			

~~382.814~~
~~382.414~~ BM Start
 $\pm 0.000 = \text{error}$

46

Weather - Fair

K + E Precise Level #15105
 Florida Rod

September 11, 1908

Wheeler - Observer
 Ellsworth - Rod
 Lambert - Chain

Concrete Monument Set &
 Elevation of same established

t	B	d	BM	B	d	Elev
1465	7.0	100.0	36008 [⊙] 17 th +M			8129
1448	6.5	93.0				23101 17 th +NSts NW cor brass Plug end return
6662	6.0	167.0				26512 18 th +NSts NE cor brass Plug end return
7006	5.0	145.0				32993 19 th +NSts NE cor hd PPS Sp Mc Pole grd
5980	4.5	136.0				34960 20 th +NSts NE cor brass Plug end return
8244	4.5	144.0				42854 21 st +NSts NW cor hd PPS Sp Mc Pole grd
7687	5.0	168.0				
5192	5.0	135.0				
4656	4.5	162.0				
6536	4.5	125.0				54.967 [⊙] 54.947 BM 24 th +M -0.020 = error
54.876						35937

Weather - Heat Waves bad

H+E Precise Level #15105
Florida Rod

September 12 1908
Saturday

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
0.198	8.0	42.0	^{9.01} 78886 6.180				
1.244	8.0	100.0	BM Page 44	7.612			
0.766	8.0	122.0		6.637			
5.915	7.5	148.0		1.624			
8.215	7.5	100.0		2.675			
7.375	8.0	150.0		2.650			
7.477	8.0	150.0		0.883			
0.883	7.0	150.0		7.478			
2.895	6.5	150.0		7.618			
2.676	7.0	100.0		8.215			
1.626	7.0	148.0		5.916			
6.670	7.0	122.0		0.803			
7.625	7.5	100.0		1.259			
6.180	7.5	42.0		0.197			
59.745				59.747			

^{9.41}
81.885 Tie Pin "U"

^{9.01}
~~78886~~
~~78887~~
~~78884~~ BM Start
-0.002 = error

+	B	d	BM	-	B	d	Elev
4.485	7.5	150.0	⁹⁴ 81.XX5 Tie Pin "U"	4.221			
4.748	7.5	150.0	Page 48	5.092			
9.233				9.313			

Weather - Fair

K+E Precise Level #15105
Florida Rod

49

September 14 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

	+	B	d	BM	-	B	d	Elev
--	---	---	---	----	---	---	---	------

4	4093	7.5	100.0	⁸⁶ 81.885				3056
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4	5606	7.5	110.0	Tie Pin W. Page 49				0993
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	0992	8.0	110.0					5607
--	------	-----	-------	--	--	--	--	------

	3092	7.5	100.0					4127
--	------	-----	-------	--	--	--	--	------

	4937	7.0	150.0					4595
--	------	-----	-------	--	--	--	--	------

	4790	7.0	150.0					5050
--	------	-----	-------	--	--	--	--	------

	23510							23428
--	-------	--	--	--	--	--	--	-------

	1693	7.0	150.0	⁵¹ 87.385				3407
--	------	-----	-------	-------------------------	--	--	--	------

	2606	7.5	125.0	BM Sec above				5855
--	------	-----	-------	-----------------	--	--	--	------

	0540	7.5	146.0					7077
--	------	-----	-------	--	--	--	--	------

	7078	8.0	146.0					0542
--	------	-----	-------	--	--	--	--	------

	5843	8.0	125.0					2590
--	------	-----	-------	--	--	--	--	------

	17760							19471
--	-------	--	--	--	--	--	--	-------

⁵¹ Warrington + Terry's on Sts SW cor inside property
87.385 line brass Peg in concrete monument

⁹⁴
81.885
⁹⁴
81.887 TPU Start.
+0.002 = error

^{6.01}
75.885 Tie Pin 2

+	B	d	BM	-	B	d	Elev
3460	8.0	150.0		1.747			87.365 87.367 BM start +0.002 = error
1424	7.5	100.0	^{6.01} 75885	5.590			
2425	7.5	125.0	Tie Pin 2" Page 50	5.775			⁴⁹ 68.349 Tie Pin A
5784	8.0	125.0		2.432			6.01 75885 75886 TPZ Start +0.001 = error
5576	8.0	100.0		1.411			
15209				15.208			

Weather - Fair

K+E Precise Level #15105

Florida Rod

September 15, 1908

Wheeler - Observer

Ellsworth - Rod

Lambert - Chain

Concrete Monument set +

Elevation of same established

+	B	d	BM	-	B	d	Elev
3301	8.5	100.0	⁴⁹ 68.349 Tie Pin A	4300			
2322	8.0	150.0	Page 51	4982			
1339	7.5	100.0		6483			
0959	7.0	125.0		6656			
3390	6.5	125.0		5528			
2408	7.0	125.0		6798			
1624	7.0	125.0		6829			
2357	7.0	100.0		6315			
2650	7.0	83.0		5739			
5739	7.0	83.0		2650			
6329	7.0	100.0		2367			
6839	7.0	125.0		1637			
6837	7.0	125.0		2450			
46094				62734			

21
35.889 Tie Pin B

t	B	d	BM	-	B	d	Elev
5510	7.5	125.0					3.404
6798	7.5	125.0					1.068
6412	7.5	100.0					1.270
4986	7.5	150.0					2.322
4310	8.0	100.0					3.310
28016							11.374
0.937	7.5	90.0					6.922
1.958	8.0	90.0					7.165
2402	8.0	93.0					6.544
5.297							20.637

Weather - Windy

K & E Precise Level #15105
Florida Rod

68.349
68.351 TPA Start
+0.002 = error

88
19.X35 Tie Pin C

September 16 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chair

T	B	d	BM	-	B	d	Elev
1.749	9.0	90.0	⁸⁸ 19735				7.936
0.224	8.5	146.0	the Tin C Page 53				6.439
4.351	8.0	81.0					5.726
5.725	8.0	81.0					4.350
6.440	8.0	146.0					0.226
7.944	8.0	90.0					1.758
6.346	8.0	93.0					2.203
7.150	8.0	90.0					1.943
6.912	8.0	90.0					0.926
46.841							31.507

			⁷ 259859				
5.501	8.0	50.0	BM Page 12				3.925
3.925	8.5	50.0					5.501

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

6.111
6.108' BM Rosecrans & Newell
-0.003 = error

21
35.889
35.889 TPB Start
±0.000 = error

3
261.835 Point Loma Archdeacon's Landcapz ST/inside Homestead
property line nr Cedar tree brass Plug in
concrete monument
259859
259859 BM Start
±0.000 = error

September 17 1908

+	B	d	BM	-	B	d	Elev
4.999	9.0	125.0	1.750	3.200			
6.810	8.5	125.0	^{BM} Tide, Lyttel	0.410			
8.350	8.0	100.0		0.711			
8.409	8.0	100.0		0.036			
8.238	8.0	50.0		1.221			
7.257	8.0	56.0		0.790			
0.789	8.0	56.0		7.258			
1.028	8.0	50.0		8.044			
0.040	8.0	100.0		8.416			
0.700	8.0	100.0		8.337			
0.026	8.0	125.0		6.423			
3.190	8.0	125.0		4.990			
49.836				49.836			

Rosecrans & Lyttel, SE cor. inside property line
39.445 brass Plug in concrete monument

1.750'
1.750' BM Start
±0.000 = error

+	B	d	BM	-	B	d	Elev
7672	7.5	50.0	9.01 78.846 @ 2.365 BM				
9207	7.5	41.0	Page 44	0.984			
8740	7.0	43.0		0.099			
8441	7.0	30.0		0.479			
9155	7.5	34.0		0.651			
7975	7.5	44.0		0.235			
7357	8.0	42.0		0.136			
0.137	8.5	42.0		7.358			
0.178	7.5	44.0		7.922			
58.862				20.229			

Weather - Fair

K+E Precise Level #15105
Florida Rod

September 18, 1908.

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Concrete Monument set &
Elevation of same established

t	B	d	BM	-	B	d	Elev
0.133	8.5	34.0	⁶⁴ 117.489 Tie Pin "G"				8.631
0.159	8.5	30.0	Page 56				8.231
0.116	7.5	43.0					8.646
0.0728	7.5	41.0					8.949
2.356	7.5	50.0					7.671
3.492							42.128
7.159	7.0	31.0	⁶¹ 132.484 Tie Pin "E"				0.339 6.820
6.555	7.5	33.0	Page 56				0.026 6.529
8.960	8.0	74.0					1.382
1.382	8.5	74.0					8.958
0.020	8.0	33.0					6.551 6.531
0.219	8.5	31.0					7.037 1.818
24.295							24.293

9.01
~~78.886~~
~~78.883~~
 -0.003 = error

⁵⁴
 153.381 Tie Pin "H"

⁶¹
~~132.484~~
~~132.486~~ TPE Start
 +0.002 = error

t	B	d	BM	-	B	d	Elev
3.985	7.5	117.0	⁵⁴ ✓ 153.881 Tie Pin "H"	3.272	0.71		
7.183	8.0	89.0	Page 57	1.756	5.43		
7.448	8.9	84.0		0.839		²⁹ ✓ 166.740 Tie Pin "I"	
0.840	9.0	84.0		7.449		²⁸ ✓ 159.531 Tie Pin "J"	
19.456				13.316			

Weather - Fair

K + E Precise Level #15105
Florida Rod

September 21 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
1.702	9.0	89.0	²⁸ 159.531 Tie Pin J	7.128	54.2		
3.245	8.5	117.0	Page 58	3.960	27.15		⁵⁴ 153.381 153.380 T.P.H. S.G.H. -0.001 = error
4.947				11.088			
8.849	8.5	84.0	²⁹ 166.240 Tie Pin I	0.131			
8.292	7.0	100.0	Page 58	3.240			
7.028	8.0	70.0		0.914			¹⁷ 186.246 Tie Pin K
0.915	8.5	70.0		7.029			
3.350	8.5	100.0		8.401			
0.194	7.5	84.0		8.913			²⁹ 166.240 166.240 ±0.000 = error
28.628				28.628			

Weather - Fair

H + E Precise Level #15105

Florida Rod

September 22 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
8.790	7.5	50.0	¹⁷ 186.824	1.288	7.50		
7.216	7.5	150.0	The Link Page 59	4.416	2.600		
1.843	7.5	135.0		2.457			
2.457	7.5	135.0		1.845			
4.635	7.5	150.0		7.235	2.600		
1.315	7.0	50.0		8.816	7.50		
26.256				26.257			
6.390	6.0	150.0	⁶⁶ 195.5X2 BM	2.844			
9.190	6.0	150.0	Secabore	0.264			
8.631	6.5	82.0		1.500			
4.224	6.5	143.0		8.728			
3.950	6.5	150.0		6.190			
3.643	7.0	150.0		4.689			
36.028				24.215			

⁶⁶
Newport Ave - Santa Barbara St NE corner inside
195.5X2 property line cross Plug concrete monument

¹⁷
186.824
186.823 T.P.M. Start
= 0.001 = error

+	B	d	BM	-	B	d	Elev
1857	7.5	150.0		4.827			
1.142	7.5	150.0		7.535			
3.518	7.5	150.0		7.723			
1.935	8.0	135.0		4.671			
8.575	8.5	65.0		2.004			
17.027				26.760			

Weather - Cloudy

H+E Precise Level #15105
Florida Rod

61

⁹⁰/₁
~~193.887~~ Tie Pin M

⁷⁴/₁
~~192.882~~ Tie Pin O

September 23, 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

Concrete Monument set +
Elevation of same Established

+	B	d	BM	-	B
6.798	8.5	114.0	197.692 Tie Pin O	do not change 1463	
1.577	8.0	150.0	Page 61	2.388	
5.690	8.0	150.0		2.800	
7.076	7.5	135.0		0.557	
9.682	7.5	84.0		0.025	
9.346	7.5	125.0		0.719	
7.493	7.5	160.0		2.902	
47.66				10.854	
3.475	9.0	52.0	203.029 Tie Pin Fence Post see above	5.118	
5.117	9.0	52.0		3.475	

K+E Precise Level #15105
Florida Rod

Concrete monument set &
Elevation of same established &

1.420 0.018
203.027 Fence Post nr La Jolla Catalina
234.504
234.500 BM Office Page 22
-0.004 = error
Catalina Blvd Orchard Ave SW corner
201.386 line brass Plug in sidewalk
203.029
203.028 TP Start
0.001 = error

September 24 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

t	B	d	BM	Elev
4363	7.0	50.0	11.772 ⁰ 5.599	
5599	7.0	50.0	Hancock & Wetherby 4.363	
5917	6.0	65.0	40.524 1.979	
1.979	6.0	65.0	BM opp. old Tom Hill train 5.883	
2.841	7.0	157.0	5.337	
4.058	7.0	150.0	6.480	
1.434	7.0	93.0	9.614	
0.337	7.0	150.0	8.537	
0.374	7.0	150.0	7.065	
3.377	7.0	150.0	5.476	
5.555	7.5	50.0	4.320	
25.877			54.691	

Two concrete monuments set +
Elevation of same established

Hancock & Wetherby SW cor inside property line
10.536 brass Plug in concrete monument
11.772
11.772 BM Start
±0.000 = error

La Jolla Avenue + Trias St SW cor inside property
line brass Plug in concrete monument

LINE FORUM
see page 63, 65
BM

BM monument Hancock & Wetherby
11.772
11.710 BM Hancock & Wetherby (Spitz)
0.062 = error

October 1st 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
5.858	10.0	39.0	14.315 ⁰	5.672			
5.672	10.0	39.0	San Antonio + Kellogg	5.857			

San Antonio + Kellogg NW cor inside property
line brass Plug in concrete monument.

14.315
14.315 BM Start
-0.001 = error

2.859	9.5	93.0	21.714 ⁰	3.254			
3.256	9.5	93.0	Rosecrans + Talbot	2.860			
2.859	9.5	93.0		5.564			
4.360	9.0	95.0		3.763			
3.667	9.0	177.0		4.417			
3.997	9.5	174.0		6.153			
20.998				26.011			

Rosecrans + Talbot NE cor inside property line
brass Plug in concrete monument

16.702
16.701 BM Rosecrans + Byron
-0.001 = error

5.492	9.5	68.0	23.594	4.630			
4.629	9.5	68.0	Rosecrans + Zouch	5.492			

Rosecrans + Zouch NE cor inside property line
brass Plug in concrete monument

23.594
23.593
-0.001 = error

October 2 1908

Three concrete monuments set
+ Elevation of same established

Wheeler - Observer
Ellsworth - Rod
Lambert - Chair

T	B	d	BM	-	B	d	Elev
5.791	9.5	78.0	229.971		5.039		
5.039	9.5	78.0	5th Juniper Plug		2.687		
6.625	9.0	44.0			2.314		
8.876	8.0	100.0			1.671		
7.782	8.0	100.0			3.648		
5.656	7.5	189.0			2.453		
3.735	7.5	135.0			5.725		
5.725	7.5	135.0			3.217		
3.217	7.5	135.0			3.735		
5.785	7.5	150.0			2.233		
6.363	7.0	125.0			3.389		
6.083	7.0	125.0			2.903		
6.723	6.5	140.0			1.339		
7.740.0					40353		

230.699
 230.725 BM Hyd 5th Juniper
 + 0.024 = 230.749

237.386 Park Ave + Juniper St Wood brass Plug end return

251.928 Park Ave + Laurel St Wood brass Plug end return
 249.948
 249.938 BM Plug 5th Laurel
 252.445
 252.446 BM Hyd 5th Laurel

255.480 Park Ave + Maple St Wood brass Plug end return

267.018 Park Ave + Olive St Wood brass Plug end return

+	B	d	BM	-	B	d	Elev
6823	6.0	125.0		2289			
7107	5.0	100.0		3386			275.273 Part Ave. Blm St NW cor brass Plug end return
6387	6.0	125.0		2682			
6864	6.5	125.0		3620			
5810	6.5	125.0		3859			
5516	6.5	125.0		4182			
4775	6.5	125.0		3420			
5132	6.5	125.0		4574			287.420 Part Ave. Thair St SW cor brass Plug end return
5642	7.0	125.0		4222			
4689	7.0	88.0		4463			289.061 Part Ave. Upas St SW cor brass Plug end return
2908	7.5	140.0		7.060			284.918 284.914 BM 5th Upas Plug - 0.004 = error
61650				43.757			

N+E Precise Level #15105

Florida Rod

October 3 1908

Wheeler - Observer
Elsworth - Rod
Lambert - Chain

	+	B	d	BM	+	B	d	Elev
	4.402	8.5	150.0	283525	5.005			
	5566	7.0	157.0	Elect. Mount W. Salt 18. Univ.	4.054			284434 BM 8 th Univ.
	3.659	6.0	166.0		4.326			283767 BM 9 th Univ.
	3.843	6.0	158.0		5.517			282093 412 P39
	5.798	6.0	150.0		1.879			282093 BM 10 th Univ.
	6.267	6.0	140.0		2.512			289763 BM Vermont Univ.
	3.333	5.5	176.0		5.070			288026 Vermont + Essex SW cor. hd Spike Pole rd
	4.052	5.0	109.0		2.861			
	3.987	5.5	94.0		5.420			287784 Vermont Ave - Robinson St SE cor. hd 711 Spike Pole rd
	6.857	5.5	150.0		2.820			
	4.770	5.0	164.0		2.038			
	5.265	5.0	110.0		5.365			294453 Richmond St + Robinson St SW cor. hd Spike Pole rd
	5.365	5.0	110.0		4.239			
	4.324	5.0	128.0		4.199			295704 Richmond St + Essex St NW cor. hd Spike Pole rd
	67.488				55.305			

t	B	d	BM	B	d	Elev
5.265	5.0	136.0				3810
1.480	5.5	150.0				5433
2.218	6.0	190.0				5666
8.963						14.913
5.765	6.0	150.0	297.1620			3.071
4.716	6.5	88.0	Richmond Univ.			2.844
10.421						5.915
2.844	6.5	88.0	301.728			4.085
6.555	6.5	155.0	Univ Ave x Univ Blvd			3.375
4.431	7.0	114.0				2.481
2.481	7.0	114.0				4.431
16.311						14.372

K+E Precise Level #15105
Florida Rod

68

297.159 BM Richmond Univ

289.763
289.758 BM Vermont Univ
-0.005 = error

old BM 18c
3933-291.491

301.728 BM Univ Blvd Univ Ave

305.617 Tie Pin B

303.667 Tie Pin A

October 6, 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
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3350	7.5	155.0		6.563			
------	-----	-------	--	-------	--	--	--

6.102	7.5	58.0	Tie Pin A Page 68	4826			
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9.452				11.389			
-------	--	--	--	--------	--	--	--

6.977	6.0	150.0	305.617	6.973			
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6.973	6.0	150.0	Tie Pin B Page 68	0.475			
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5503	6.0	90.0		1.715			
------	-----	------	--	-------	--	--	--

1.714	6.0	90.0		5503			
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0.567	6.0	150.0		7.063			
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7.063	6.0	150.0		7.067			
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28.797				28.796			
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5.379	5.5	150.0	315.907	0.427			
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7.662	5.5	125.0	Univ Ave + Park Blvd	1.284			
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13.041				1.711			
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301.728

301.730 BM Univ Blvd + Univ Ave

+0.002 = error

305.621 University Ave + Center St + Forth St + Spike Pole

315.907 University Ave + Park Blvd + World St + Spike Pole

BM

305.617

305.618 TPB Start

+0.001 = error

T	B	d	BM	—	B	d	Elev
6908	8.0	94.0		1.945			332,200 Park Blvd + Lincoln Ave NE cor brass flag end return
1.945	6.0	94.0		4.339			
2.459	6.0	136.0		6.256			326,009 Lincoln Ave + Centre St NW cor hd PPS pipe Pole
6.256	7.0	136.0		2.458			
4.339	7.0	94.0		1.945 ³			
5.608	6.5	150.0		2.564			
5.958	7.0	158.0		2.528			338,885 Park Blvd + Polk Ave SE cor hd PPS pipe Pole
3.245	6.0	154.0		5.117			337,013 Polk Ave + Georgia St. NW cor brass flag end return
5.117	6.0	154.0		3.245			
7.140	6.0	150.0		3.265 ²			
6.236	7.0	104.0		4.641			344,358 Campus Ave + Univ. Blvd NE cor brass flag end return
2.171	7.0	125.0		7.908			
1.414	7.5	94.0		9.518			
1.207	7.5	60.0		8.324			323,400 Tie Pin "C"
60,003				63,840			

October 7 1908

Wheeler - Observer
 Ellsworth - Rod
 Lambert - Chain

+	B	d	BM	B	d	Elev
1179	9.5	60.0	323.400 "1277 C"	8.605		
2102	8.5	42.0	Page 70	5118		312.958 Lincoln Ave Univ Bldg SE corner brass Plug end return
2564	7.5	150.0		6902		
3114	7.0	150.0		5815		305.969 Blanchester Univ Blvd NE corner brass Plug end return
2515	7.5	187.0		6760		301.728 301.724 3M Univ Ave Univ Blvd -0.004 = error
11524				33200		
4354	7.0	100.0	312.9100	6087		
0307	6.5	57.0	Lincoln + Univ Blvd	6134		305.400 Lincoln Ave + Cleveland St SE corner PPS Splice Pole grad
2200	5.5	150.0		6238		
4027	5.5	125.0		5402		
2673	6.0	133.0		4143		298.517 Lincoln Ave + Johnson Ave NE corner PPS Splice Pole
1798	6.0	168.0		4907		
2392	6.0	143.0		5738		292.062 Lincoln Ave + Vermont Ave SW corner PPS Splice Pole grad
5737	6.0	143.0		2392		
23488				41041		

+	B	d	BM	-	B
4802	7.0	168.0		1692	
4138	7.0	132.0		2665	
5116	7.0	125.0		3742	
6252	7.5	150.0		2212	
6358	7.0	57.0		0530	
6204	7.0	100.0		4472	
32870				15313	
5369	7.0	161.0	305.3980	1428	
5608	7.5	80.0	Lincoln Cleveland	3345	
4171	7.5	81.0		4532	
3655	7.5	80.0		4658	
18803				15963	

K+E Precise Level #15705
Florida Rod

d Elev

312.910
312.964 BM Union Blvd + Lincoln
+0.004 = error

310.238 Cleveland thru Tyler St SW cor'd rd PPSpike Pole 91d

October 8 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

	+	B	d	BM	-	B	d	Elev
	6.542	7.0	138.0	310238 Cleveland + Tyler	0.077		133.0	
	8493	6.5	70.5		1.205		75.5	
	8.654	6.0	100.0		0.720			
	7.836	5.5	57.0		2.824		336.947	Cleveland Ave + Van Buren Ave SE corner flag on curb
	7.073	5.0	146.0		3.110			
	6.036	5.0	100.0		3.735			
	5.616	4.5	99.0		3.963		344.864	Cleveland Ave + Maple Ave SW cor. 1st RR Spitz Pole grd
	4.727	5.0	133.0		3.768			
	4.896	5.0	135.0		3.667			
	4.834	4.5	75.0		4.155		347.731	Cleveland + Monroevilles SW cor. 1st RR Spitz Street Pole
	3.863	4.5	146.0		6.630		344.964	Maryland + Monroevilles SE cor. 1st RR Spitz Pole
	6.630	5.0	146.0		3.863			
	5.120	5.0	150.0		4.105			
	4.888	4.5	100.0		3.996			
	4.814	5.0	104.0		4.496		349.956	Cleveland + Madisonville SE cor. 1st RR Spitz Pole grd
	90.032				50.314			

+	B	d	BM	-	B	d	Elev
4496	50	104.0	349956 Clevelandy	5566			
4885	50	107.0	Madison Pole	3612			350.159 Madison Maryland Aves NE cor W 7th St McTelegrd
2234	55	136.0		5672			
4632	60	69.0		5577			345.776 Madison Delaware Aves NE cor W 7th St McTelegrd
3139	60	118.0		5801			
3039	60	96.0		4884			341.269 Tie Pin E
22425				31.112			

Weather - Windy

K+E Precise Level #15105

Florida Rod

October 12 1908

Wheeler - Observer
Ellsworth - Rod
Lambert - Chain

+	B	d	BM	-	B	d	Elev
3510	7.0	133.0	341.269 Tie Pt. E	3.592			341.187 Madison + New York Ave cor hd of Spilke Paley rd
3592	7.0	133.0	Page 74	4.448			
4727	7.5	61.0		5.172			339.886 Madison + Trade Island St cor brass Pkg concrete monument } inside property line
5172	8.0	61.0		4.727			
4441	8.0	133.0		3.585			
3585	8.0	133.0		3.507			
4873	8.0	96.0		3.026			
5741	8.0	118.0		3.078			
5568	8.0	69.0		4.623			
5762							
5715	8.0	136.0		2.274			
3601	8.0	107.0		4.872			
4761	8.0	83.0		3.630			349.956 349.961 B.M. Madison + Cleveland + 0.005 = error
55226				4.634			
3630	8.0	83.0	349.956 Cleveland	3.708			Cleveland + Madison St. NE Cor. inside property 349.878 line brass Pkg concrete monument
4975	8.0	135.0	+ Madison - Spilke Paley	2.225			
8605				5.933			

+	B	d	BM	B	d	Elev
3.980	8.0	59.0	4.072			352.536 Madison Campus Ave. SE corner Plug and return
2.899	8.0	150.0	4.615			
3.756	8.5	152.0	5.544			349.032 Monroe Campus Ave. NE corner RR Spike Pole rd
4.897	9.0	150.0	3.960			
3.688	9.5	191.0	5.720			347.997 Meade Campus Ave. NE corner RR Spike Pole rd
19.220			23.831			

K+E Precise Level #15105

Florida Prod

October 13, 1908

Wheeler - Observer
 Ellsworth - Rod
 Lambert - Chair

State + Hawthorn

3rd + Spruce

11th + A

21st + M (NE)

18th + M

3rd + C

2nd + B

8th + D

271.53

230.50

5.819

236.671

282.740

5.660

295.400

3.933

291.473

229.963

5.791

235.754

5.039

230.715

Park + Palm

596.9

St + Palm

4770

51
32

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

Degrees.	DEGREES.		½ DEGREE.		¼ DEGREE.		¼ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0	99.98	1.75	100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.94	3.49	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.86	5.23	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.76	6.98	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.62	8.72	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.45	10.45	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.25	12.19	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.03	13.92	99.20	12.62	99.14	13.05	99.09	13.49	82
8	98.77	15.64	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.48	17.36	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.16	19.08	98.40	17.79	98.33	18.22	98.25	18.65	79
11	97.81	20.79	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.44	22.50	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.03	24.19	97.34	22.92	97.24	23.34	97.13	23.77	76
14	96.59	25.88	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.13	27.56	96.48	26.30	96.36	26.72	96.25	27.14	74
16	95.63	29.24	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.11	30.90	95.50	29.65	95.37	30.07	95.24	30.49	72
18	94.55	32.56	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.03	34.20	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	35.84	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	37.46	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	39.07	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	40.67	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	42.26	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	43.84	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	45.40	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	46.95	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	48.48	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	50.00	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	51.50	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	52.99	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	54.46	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	55.92	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	57.36	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	58.78	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	60.18	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	61.57	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	62.93	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	64.28	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	65.61	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	66.91	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	68.20	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	69.47	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	70.71	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71		70.71						