San Diego & Coronado
Water Works.

Level Notes

2

F.B. 69

69

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	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100⅓
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

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

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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.

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

San Diego & Coronado Water Works

69

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

San Diego

PARTY

Lawther
Icke

X May 3rd X

Levels on new line — 1

Sta	B.S. +	H of I	Int. —	F.S. —	Elev.
135+30	12.25	185.58			173.33
T.P.				0.77	185.11
	6.83	191.94			
134+50				2.91	189.03
135				9.8	182.14
T.P.	7.95	182.25		12.64	179.3
+50				4.1	178.1
136				8.25	174.0
+50				9.25	173.0
T.P.				13.03	169.17
	1.48	170.65			
137				11.65	159.0
T.P.				12.62	158.3
	0.35	158.85			
137+50				9.05	149.8
T.P.				12.35	146.3
	0.26	146.56			
138				4.52	142.04
+50				10.75	135.81
T.P.				12.8	133.76

Sta	B.S. +	H of In.	Int.	F.S. −	elev.
	0,37	137.13			
139				4.40	129.73
T.S.O				9.60	127.53
T.P.				12.73	121.40
	0,14	121.54			
140				4.15	117.39
+40	T.P.			13.14	108.4
	1.22	109.62			
+50				4.50	105.12
T.P.				12.30	97.32
	0.16	97.48			
T.P.				12.92	84.56
	−0.1	84.46			
141				4.60	79.86
T.P.				12.85	71.61
	0.40	72.01			
+50				12.41	59.6
T.P.				11.97	60.07
	0.17	60.24			
T.P.				12.25	47.99

Sta	B.S.	H. of I.		F.S.	elev.
	0.44	48.43			
142				3.57	44.86
+50				9.1	39.33
142+50	T.P.			8.70	39.73

Sta	BS	H of I	Int	F.S.	Elev.	
142+50	4.69	44.42			39.73	
	.05	30.20		14.27	30.15	
			12.22		17.98	on Cap of Trestle (17.93)

Levels carried from Upas 5th to connect with pipe line

Δ	+	HP	−	Elv	B.M
					288.48
	2.86	291.34			
TP			9.88	281.46	
	4.56	286.02			
TP			6.65	279.37	
	10.94	290.31			
TP			2.73	287.58	
	6.25	293.83			
TP & BM			5.86	287.97	
	1.10	289.07			
TP			4.47	284.60	
	11.62	296.22			
TP			1.73	294.49	
	12.75	307.24			

Top of stake NE Cor 5th & Upas.

Sp on tel pole (tall) near E.C.

Levels of pipe line starting 1047.7 feet E of Pueblo Cor C 1167 1123 1124 running West.

Δ	+	Ht	−	Elv	Grd	+ in Inch
		287.62		280.84		
			1.05	286.57		
-1			4.50	283.12	280.0	3.1
0			4.82	282.80	280.0	2.9
1			5.12	282.50	280.0	2.6
2			5.30	282.32	280.0	2.4
3			4.70	282.92	280.0	2.11
4			3.80	283.82	280.0	3.9
TP			3.81	283.81		
	3.95	287.76				
5			3.75	284.01	280.	4.6
6			4.05	283.71	280.0	3.8
7			4.95	282.81	280.0	2.9
8			5.50	282.26	280.	2.4
9			4.95	282.81	280.0	2.9
10			5.40	282.36	280.	2.5
	7.29	288.10		280.84		
+10			6.25	281.88	280.0	1.0
+20			3.9	283.8	280.	3.8
+47.7 Δ			3.3	284.46	280.	4.5

P.I. plug at 611+72

Grd. on cut Boward

C. Road

4.6

For Continuation See Page 30

1/11/87

Δ	+	HS	−	EW	Grd	±
BM	9.60	290.44		280.84		
+70			7.20	283.24	280.7	+ 2.5
11			4.70	285.74	281.7	+ 4.0
+32			4.70	285.74	282.7	+ 3.0
+50			5.70	284.74	283.3	+ 1.4
+72			2.60	287.84	284.0	+ 3.8
TP			0.80	289.64		
	3.23	292.87				
12			1.10	291.77	285.0	6.8
+50			3.40	289.47		
13			3.10	289.77	285.0	
+50			3.30	289.57		
14			4.20	288.67		
15			4.80	288.07		
16			5.40	287.47		
17) TP BM			5.30	287.57		

Abandoned

Abandoned

For Continuation See Page 13

plug at PI 611+72 old Δ

4.00

1-5

3-10

6-10

Abandoned

Δ	+	H.C	—	Elv
BM	5.40	286.24		280.84
10+31.8			1.23	285.01
+50			3.77	282.47
11			4.78	281.46
+50			6.47	279.97
12			7.32	278.92
TP			8.82	277.42
	4.70	282.12		
+50			9.17	272.95
13			4.45	277.67
+50 TP			2.05	280.07
	6.54	286.6[illegible]		
14			6.03	280.58
+50			5.71	280.90
15			6.74	279.87
+50			4.98	281.63
16			4.47	282.14
+38 TP			4.85	281.76

Abandoned

Abandoned

Party
Lane
Tate

Δ	+	HI	−	Elev	Grd	±	In ± Inches
BM	5.05	292.62		287.57			
12+41.5 BC			2.97	289.65	285.0	+4.7	4-8
+50			3.20	289.42	285.0	+4.4	4-5
+75			2.60	290.02	285.0	+5.0	5-0
13			2.45	290.17	285.0	+5.2	5-2
+25			3.05	289.57	285.0	+4.6	4-7
+50			3.70	288.92	285.0	+3.9	3-11
+58.1 EC			3.71	288.91	285.0	+3.9	3-11
+61.4 BC			3.80	288.82	285.0	+3.8	3-10
+75			3.88	288.74	285.0	+3.7	3-8
14			3.70	288.92	285.0	+3.9	3-11
+25			2.05	290.57	285.0	+5.6	5-7
+50			3.87	288.75	285.0	3.8	3-10
+78.1 EC			3.30	289.32	285.0	4.3	4-4
15			4.47	288.15	285.0	3.2	3-2½
+50			4.90	287.72	285.0	2.7	2-8½
16			5.37	287.25	285.0	2.3	2-4
+56.1 IP			5.76	286.86	285.0	1.9	1-11
17			5.76	286.86	285.0	1.9	1-11
18			5.50	287.12	285.0	2.1	2-1

Handed

(Remarks)

Δ	+	Ht	−	Ft	Grd	±	± In Inches	
		292.62						(Cent. Road.)
19			4.90	287.72	285.0	2.7	2-8½	"
20 TP			4.60	288.02	285.0	3.0	3-0	
	4.57	292.59						
+60			4.40	288.19				
+80			3.00	289.59				
21			4.30	288.29	285.14	3.2	3-2½	
22			3.70	288.89	285.28	3.6	3-7"	
+60			3.40	289.19				
+75			2.60	289.99				
23			3.28	289.31	285.42	3.9	3-11	
+16.4			3.13	289.46				
+50					285.5			
+60			3.40	289.19				
+80			1.80	290.79				
24			2.80	289.79	285.43	4.4	4-5"	
+20			3.60	288.99				
+35			2.70	289.89				
+50			3.90	288.69				
+75			3.90	288.69				
+90			3.50	289.09				

Δ	+	Hs	—	Ew	Grd	±	In ± Inches
		292.59					
25			4.24	288.35	285.3	3.0	3-0
+25			4.50	288.09			
+40			3.50	289.09			
+65			4.20	288.39			
26			4.73	287.89	285.2	2.7	2-8½
+25			5.10	287.49			
+50			3.60	288.99			
+70			5.20	287.39			
27			4.51	288.08	285.0	3.1	3-1
+25			3.40	289.19			
+40			4.80	287.79			
TP			5.31	287.28			
	4.31	291.59					
28			4.28	287.31	284.0	3.3	3-4
+25			3.00	288.59			
+40			4.40	287.19			
29			5.80	285.79	283.0	2.8	2-10
+20			5.00	286.59			
+50			7.0	284.59			
30			5.60	285.99	282.0	4.0	4.0

0	+	H.I.	—	Elev	Grade	±	± In Inches	
		291.09						
+20			7.90	283.69				
+25			5.90	285.69				
+60			6.90	284.69				
31			7.30	284.29	281.0	3.3	3-4	
+25			8.00	283.09				Cut Road
+45			7.80	283.29				
+60			6.80	284.29				
+75			8.80	282.29				
32			7.20	284.09	280.8	4.3	4-4	
+20			9.50	281.79				
+40			8.40	283.19				
+60			10.60	280.99				
33			9.20	282.29	279.0	3.3	4-4	
+10			10.90	280.59				
+25			9.90	281.65				
TP			11.51	280.08				
	2.31	292.39						
34			3.50	288.89				
+20			7.40	284.99				

D	+	HS	—	Elv		
		287.39				
+30			15.00	272.39		
+40			10.60	271.79		
+60			6.0	276.39		
+95			3.0	279.39		East Road
35			2.50	279.89		2/77
+5			3.40	278.99		East Road
+35			3.40	278.99		
+50			2.30	280.09		
36			3.91	278.48		
+50			5.80	276.59		
+75			4.60	277.79		
37 TP			5.81	276.58		
BM (8)	8.20	284.39		276.09		
+35			2.60	276.79		
+50			2.00	277.39		
+75			8.20	276.19		
38			8.20	276.19		
+30			2.90	276.49		
+90 PI			9.40	274.99		

Δ	+	HB	—	EW
		284.39		
39			10.25	274.14
TP			11.72	272.67
	5.72	278.39		
40			7.80	270.59
+50				268.9
41			8.80	269.59
+25			6.40	271.99
+50			7.00	271.39
+75			5.10	273.29
42			5.40	272.99
+96				
43			7.00	271.39
44			9.65	268.74
		271.98		
45			2.70	269.28
+50			3.70	268.28
46			4.10	267.88
+50			3.30	268.68
47			6.40	265.58
+40			7.60	264.38
48			8.90	263.08

Along Douglass St. bet. P.L.B

Δ	+	Sta	−	EW				
		271.98						
+45 TP			8.60	26338				
	6.79	270.17						
+78.0 PI			8.25	26192				Along Dove St
49			7.20	26297				
+20			7.1	26307				
+40			5.30	26487				
+60			5.40	26477				
+75			4.20	26687				
50			4.70	26547				
+10			5.40	26477				
+30			3.80	26637				
+50			4.80	26537				
+60			3.10	26707				
51			4.10	26607				
+25			5.10	26507				Cut Road
52			3.50	26657				
+24 PI			2.65	26752				Along Washington St
+50			2.40	26777				
53			4.00	266.17	262.0	4 2	4.3	

1/13/88

Δ	+	HC	−	EW			
		270.17					
+25	✓		3.10	267.07			
+50	✓		4.70	265.47			
54	✓		5.40	264.77	262.0	2.8	2.9
+10	✓		4.70	265.47			
+25	✓		6.10	264.07			
+75	✓		5.60	264.57			
55	✓		6.70	263.47	262.0	1.5	1.6
BM (9)	5.73	273.95		268.22			
+09 PI			9.60	264.35			
56			8.40	265.55			
+15			8.60	265.35			
+30			8.10	265.85			
+50			9.60	264.35			
+70			8.30	265.65			
57			10.40	263.55			
+15			9.50	264.45			
+35			11.20	262.75			
+75			9.80	264.15			
58			10.50	263.45	262.0		

See page 39 for Continuation

Along Eagle St.

1/8/07

Δ	+	HS	−	Elv				
		273.95						
+59 I.P.			6.90	265.05				
59	✓		8.50	265.45	262.5	3.0	3.0	Along Gatti St.
+40	✓		6.00	267.95				
+70	✓		6.70	267.25				
+85	✓		5.20	268.75				
60	✓		6.10	267.85	263.0	4.9	4.11	
+25	✓		5.40	268.55				
61	✓		8.00	265.95	263.0	3.0	3.0	
+25	✓		9.10	264.85				
62	✓		9.00	264.95	263.0	2.0	2.0	
+45	✓		9.00	264.95				
+65	✓		7.30	266.65				
63	✓		6.90	267.05	263.0	4.1	4.1	
TD			6.20	267.72				
	5.81	273.53						
+25	✓		7.40	266.13				
+50	✓		5.40	268.13				
+75	✓		6.40	267.13				
64	✓		5.80	267.50	263.7	3.8	3.9	

7/13/88

Δ	+	HD	−	EL			
		770.53					
+40	✓		5.60	767.93			
+50	✓		4.50	768.03			
65	✓		4.90	768.63	264.3	4.3	4.4
+40	✓		3.60	769.93			
66	✓		4.70	769.33	265.0	4.3	4.4
67	✓		5.20	768.83	265.4	2.8	2.9
+50	✓		5.60	767.93			
+25	✓		4.60	768.93			
68	✓		5.00	767.63	265.8	1.8	1.9
+50	✓		5.70	767.83			
+25	✓		4.50	768.73			
69	✓		5.20	768.03	266.2	2.1	2.1
70	✓		3.80	769.73	266.6	3.1	3.1
TD			3.00	770.53			
	5.79	776.32					
+35	✓		4.80	771.52			
71	✓		4.80	771.52	267.0	4.5	4.6
72	✓		4.60	771.72	267.0	5.3	5.4
+25	✓		4.70	771.62			

7.3

Δ	+	Ht	−	EW				
		276.32						
+90	✓		7.50	268.82				Cut Road
73	✓		7.70	268.62	267.0	1.6	1.7	
+50	✓		7.10	269.22				
+75	✓		5.70	270.62				
74	✓		5.50	270.82	267.0	3.8	3.9	
+25	✓		4.50	271.82				
+60	✓		4.80	271.52				
75	✓		4.60	271.72	268.7	3.0	3.0	
+90	✓		2.40	273.92				
76	✓		2.20	274.12	270.3	3.8	3.9	
TP			2.45	273.87				
	5.30	279.20						
BM (10)	4.60	279.06		274.46				
77	✓		2.15	276.91	272.0	4.9	4.11	
78	✓		5.90	273.16	270.3	2.9	2.11	
+75	✓		8.10	270.96				Cut Cut Road
79	✓		8.30	270.76	268.7	2.1	2.1	
+60	✓		8.00	271.06				
80	✓		9.40	269.66	267.0	2.7	2.8	

Δ	+	HI	—	Elv				
		779.06						
TP			9.31	769.75				
	5.89	775.64						
+20	✓		5.1	770.54				
+21	✓		6.15	769.49				
+65	✓		5.60	770.04				
81	✓		6.50	769.14	267.25		2.9	2.11
+50	✓		4.60	771.14				
82	✓		4.26	771.48	267.50		3.9	3.11
83	✓		7.00	768.62	267.76		0.9	.11
+40	✓		8.00	767.62				
84	✓		6.20	769.42	266.0		3.3	3.4
85	✓		1.20	774.42	267.55		6.8	6.9½
TP			1.00	774.62				
	6.55	781.19						
+20	✓		6.40	774.79				last Round
+75	✓		6.30	774.89				
86	✓		6.90	774.29	269.11		5.2	5.2
87	✓		6.70	774.49	270.67		4.3	4.4
+50	✓		5.90	775.29				
88	✓		3.80	777.39	272.22		5.2	5.2

A	+	Hf	—	Etr.	Prel			
		281.19						
+50	✓		2.90	278.29	273.0	+5.3	5.4	
TP			3.12	278.07				
	0.78	278.85						
89	✓		1.70	277.15	272.28	+4.9	4.11	
90	✓		2.50	276.35	270.86	+5.5	5.6	
+50	✓		3.30	275.55				
91	✓		5.20	273.65	269.43	+4.2	4.2	
+50	✓		6.70	272.15				
92	✓		6.60	272.25	268.0	+4.25	4.3	
+50	✓		6.20	272.65				
93	✓		7.80	271.05	268.8	+2.25	2.3	
+40	✓		8.20	270.65				
94	✓		6.60	272.25	269.6	+2.65	2.8	
+25	✓		5.0	273.65	[illegible]			
+50	✓		4.40	274.45	270.0	+2.45	4.5	
95	✓		4.80	274.05	269.28	+4.8	4.9	
+50	✓		4.70	274.15				Cut Road
96	✓		3.40	275.45	267.86	+7.6	7.7	
+40	✓		2.30	276.55				
TP			2.71	276.14				

Δ	+	HS	—	Elv				
TP				276.14				
	0.93	277.07						
BM	5.40	276.89		271.49				
97	Δ		7.20	274.64	266.43	+8.2	8.2	
+50	✓		5.80	271.09				
98	✓		8.40	268.49	265.0	+3.3	3.5	
+25	✓		9.20	267.89				
+50	✓		8.40	268.49				East Road
99	✓		6.20	270.69	264.8	+5.9	5.11	
+50	Δ ✓		5.50	271.39	264.7	+6.7	6.8	
100	✓		6.60	270.29	264.6	+5.7	5.8	
+50	✓		7.90	268.99				
101	✓		7.70	269.19	264.4	+4.8	4.8	
+75	✓		5.90	270.99				
102	✓		7.80	269.09	264.2	+4.9	4.11	
TP			7.00	269.89				
	5.90	275.79						
+20	✓		6.60	269.19				
+50	✓		8.30	267.49				
75	✓		10.00	265.79				

B.S.	+	H.I.	−	Elev.		
		275.79				
103	✓		9.60	266.19	264.0	
+20	✓		10.80	264.99		
+95	✓		9.40	266.39		
104	✓		9.20	266.59	263.67	
+50	✓		8.90	266.89		
+75	✓		7.80	267.99		
105	✓		7.90	267.89	263.33	
+50			7.00	268.79		
+85			6.50	269.29		
106			7.80	267.99		
+75			6.70	269.09		
+50			8.50	267.29		
107			8.60	267.19		
108			9.70	266.09		
+50			10.10	265.69		
109			9.00	266.79	267.0	
BM(2)	3.70	274.75		267.05		
+50			8.60	267.15		
110			8.10	267.65		
+60			6.90	268.85		

+2.2	2.2	
+3.0	3.0	
	From Sta 105 use other peak.	
+4.6	4.7	
		Unit Road

Δ	+	HS	—	Ehr
		270.75		
111			6.50	264.25
+50			5.80	264.95
112 Δ			5.30	265.45
113			6.30	264.45
+70			5.90	264.85
114			6.70	264.05
+50			6.15	264.60
115			5.60	265.15
+25			5.20	265.55
TP			5.00	265.75
	9.60	275.35		
+40			9.70	265.65
+60			9.40	265.95
116			9.10	266.25
+40			7.40	267.95
+50			8.60	266.75
+75			7.10	268.25
117 Δ			7.20	268.15

Δ	+	H.S	—	E.H		
		٢٩٥٣٥				
+٥٥			٦.٦٥	٢٦٦٩٥		
118			٦.٥٥	٢٦٩.٣٥		
+٩٥			٦.٦٥	٢٦٨.٦٥		
+٥٥			٥.٢٥	٢٧٠.١٥		
+٦٥			٤.٦٥	٢٧٠.٦٥		
119			٥.٨٥	٢٦٩.٥٥		
BM(68)	1.49	٢٧٠.٦٥		٢٦٩.١٦		
+٦٥			1.40	٢٦٩ ٢٥		
130			0.10	٢٧٠ ٥٥		
+15			1.90	٢٦٨.٧٥		
131			٢.٥٥	٢٦٨.١٥		
+٤٥			٢.٩٥	٢٦٩٦٥		
+60			1.80	٢٦٨.٨٥		
+٨٥			٣.٨٥	٢٦٦.٨٥		
132 Δ			٣.٤٥	٢٦٩.٠٥		
+15			٣.٢٥	٢٦٩.٤٥		
+٢٥			٤.٩٥	٢٦٥٦٥		
+٦٥			٥.٢٥	٢٦٥.٤٥		
133			٦.٦٥	٢٦٢.٩٥		

Δ	+	RS	−	EW		
		270.65				
+50			9.90	276.75		
125			11.10	259.55		
+20			10.40	260.25		
+30			11.70	258.95		
TP			12.80	259.85		
	2.22	267.07				
+65			1.80	260.27		
125			4.10	257.97		
+50			7.80	254.27		
TP			11.30	250.77		
	2.18	252.95				
+75			3.60	249.35		
126			5.60	247.35		
+10.7			7.20	245.75		
+20			7.70	245.25		
+80			11.60	241.35		
127			10.50	242.45		
+50			5.60	247.35		
TP			1.50	251.45		

Δ	+	Ht	—	EH
TP				251.95
	10.80	262.75		
4.60			10.2	252.55
128			6.00	256.75
+25			1.10	261.65
TP			1.21	261.54
	7.09	268.63		
128+50			3.89	264.74
			1.90	266.73
126+80	100 E			243.5
" "	180 E			232.8

on plug

Δ	+	HG	−	EW	Grd	±	In ± Inches
BM	5.89	286.73		280.84			PI at 611+72 (See page 10)
10+53 ?			2.90	283.83	280.0	+3.8	3 − 10
+65	✓		5.00	281.73	280.0	+1.7	1 − 8
11	✓		2.30	284.43	280.0	+4.4	4 − 5
+50	✓		5.33	281.40	280.0	+1.4	1 − 5
12	✓		6.70	280.03	280.0	+0.0	0 − 0
+50	✓		7.50	279.23	280.0	−0.8	−0 − 10
13	✓		7.62	279.11	280.0	−0.9	−0 − 11
+50	✓		7.10	279.63	280.0	−0.4	−0 − 5
14	✓		5.44	281.29	280.0	+1.3	+1 − 4
+50	✓		4.94	281.99	280.0	+2.0	+2.0
15	✓		5.33	281.40	280.0	+1.4	+1.5
+50	✓		5.32	281.41	280.0	+1.4	1 − 5
16	✓		4.90	281.83	280.0	+1.8	1 − 10
+50	✓		5.30	281.43	280.0	+1.4	1 − 5
TP			5.48	281.25			
	6.53	287.78					
+86 ?	✓		6.00	281.78	280.0	1.8	1 − 10
17	✓		6.60	281.18	280.0	1.2	1 − 2
+50	✓		7.80	279.98	280.0	0.0	0 − 0
18	✓		7.40	280.38	280.0	.4	0 − 5

A	+	NG	−	EW	Gd		
		287.78					
+25	✓		6.30	281.48	280.0	1.5	
+50	✓		6.35	281.43	280.0	1.4	1-5
+75	✓		6.40	281.38	280.0	1.4	
19	✓		7.10	280.68	280.0	0.7	0-8
+35	✓		8.80	278.98	280.0	-1.00	-1-0
+50	✓		8.00	279.78	280.0	-0.2	-0.2
+70	✓		4.90	282.88	280.0	+2.9	+2-11
20	✓		4.40	283.38	280.0	3.4	3-5
+15	✓		4.50	283.28			
+35	✓		2.80	284.98			
+50	✓		2.40	285.38	281.16	4.2	4-2
TP			0.79	286.99			
	7.20	294.19					
21	✓		5.45	288.74	282.32	6.4	6-5
+50	✓		4.90	289.29	283.48	5.8	5-10
22	✓		4.30	289.89	284.64	5.3	5-4
+500	✓		3.20	290.99	285.80	5.2	5-2
23	✓		5.00	289.19	287.0	2.2	2-2
+30	✓		5.10	289.09			

∅	+	MS	—	EW			
		294.19					
+50	✓		3.60	290.59	286.75	3.84	3.10½
+75	✓		5.1	289.09	28'		
24	✓		4.5	289.69	286.50	3.2	3 2½
+50	✓		5.6	288.59	286.25	2.4	2.5
25	✓		6.1	288.09	286.00	2.1	2 1¼
+35	✓		5.9	288.29			
+50	✓		5.6	288.59	285.75	2.9	2.11
26 TP	✓		6.72	287.47	285.50	2.0	2 0
	3.38	290.85					
+35	✓		3.5	287.35			
+50	✓		2.4	288.75	285.25	3.5	3.6
27	✓		3.2	287.65	285.00	2 7	2 8½
+40	✓		2.7	288.15			
+50	✓		3.2	287.65	284.4	3 3	3 4
28	✓		4.0	286.85	283.8	3 1	3 2
+50	✓		5.0	285.55	283.3	2 3	2 4
+65	✓		3.4	287.45			
29	✓		4.9	285.95	282.7	3 3	3 4
+25	✓		6.80	284.05			
+50	✓		6.2	284.65	282.1	2 6	2 8

16 + 86.2
13.20
30.06

Δ	+	HI	−	FW			
		290.85					
+80	√		7.20	283.65			
30	√		6.7	284.15	281.5	27	29
+20	√		5.7	285.15			
+00	√		6.8	284.05	280.9	32	32
01	√		6.9	283.95	280.3	37	39
+25	√		6.35	284.35			
+50	√		7.9	282.95	279.7	33	34
TP			12.70	283.15			
	7.14	285.29					
+75	√		3.00	282.29			Left Road
32	√		7.10	285.19	279.2	40	40
+20	√		3.80	281.49			
+50	√		4.30	280.99	278.6	24	25
+70	√		4.50	280.79			
33	√		3.20	282.29	278.00	41	41
+20	√		4.80	280.69			
+50	√		5.70	279.79	277.2	24	25
+80			8.50	277.29			Foresight
34	√		11.80	274.09			
TP			10.21	274.90			

Δ	+	Ht	—	Elv				
TP	5.04	280.74		274.90				
+10	✓		12.50	268.24				
+15	✓		15.00	265.74			Trestle	
+20	✓		11.00	269.74				
+35	✓		5.40	275.34				
+50	✓		3.10	277.64				
+64 2	Δ		1.60	279.14				
36 TP			2.39	278.35				on plug

Levels from ~~264+2~~

Sta								
BM 8	10.20	286.29			276.09		on plug	
34+64 2			7.08		279.21	275.3	3 9	3.11
35	✓		6.5		279.8	274.7	5 1	5.1
+80	✓		8.9		277.4			
36	✓		9.9		276.4	273.0	3 4	3 5
+25	✓		8.6		277.7			
+40	✓		9.7		276.6			
37	✓		8.9		277.4	271.3	6 1	6 1
+20	✓		10.1		276.2			

Sta	B.S.	Hoz 1	Int	F.S.	Red L				
37+35	✓	286.29	9.4		276.9				
+50	✓		10.4		275.9				
38	✓		11.1		275.2	269.7	5.5	5.6	
+25	✓ 4.01	279.10		11.20	275.09	268.8	6.3	6.4	
39	✓		6.5		272.6	268.0	4.6	4.8	
+50	✓		9.3		269.8	268.0			
+70	✓		8.4		270.7				
40	✓		10.3		268.8	268.0	0.8	0.9	
+40	✓		9.1		270.0				
+70	✓		6.6		272.5				
41	✓		6.9		272.2	2680	4.2	4.3	
+20	✓		5.6		273.5				
42	✓		6.4		272.7	268.00	4.7	4.9	
43	✓		9.9		269.2	266.7	2.5	2.6	
44	✓		10.7		268.4	265.3	3.1	3.1	
+40	✓		10.0		269.1				
45	✓		10.3		268.8	264.0	4.8	4.9	
+50	✓		10.9		268.2				
T.P.	2.37	270.20		11.27	267.83				45+40 on rock
46	✓		3.8		266.4	262.7	3.7	3.8	

Sta	B.S.	H of I	Int.	F.S.	Red. Elev.				
46+30	✓	270.20	4.2		266.0				
+45	✓		6.1		264.1				
47	✓		6.9		263.3	261.3	2.0	2.0	
48	✓		7.7		262.5	260.00	2.5	2.6	
+11.6	✓		7.9		262.3	260.1	2.2	2.3	
T.P.	4.07	267.39		6.83	263.37				
+45	✓	267.39	3.9		263.49				
+60	✓		4.1		263.29				
49	✓		2.3		265.09	260.7	4.4	4.5	
	4.16	269.55		2.00	265.39				
+25	✓		3.6		266.0				
+40	✓		4.8		264.8				
+70	✓		3.3		266.3				
50	✓		4.0		265.6	261.3	4.3	4.4	
+25	✓		2.3		267.3				
+50	✓		4.3		265.3				Road
51	✓		3.6		266.0	262.00	4.0	4.0	
+65.2	3.70	271.15		2.1	267.45	262.0	5.5	5.6	= 52+26.1

See page 19 for Continu- to 55

39

55+12		271.15	6.5		264.7	262.00	2.7	2.9		
56	✓		5.3		265.9	262.00	3.9	3.11		
+40	✓		5.3		265.9					
+50	✓		6.5		264.7					
+70	✓		5.3		265.9					
57	✓		7.5		263.7	262.00	1.7	1.8		
58	✓		7.4		263.8	262.00	1.8	1.9		
+61.8	✓			6.15	265.0	262.3	2.7	2.8		= 58+59

see page 21 for Sta 59

40

41

BM 14	1.22				266.71
	2.73	267.93	7.93		260.00
	0.31	262.73	11.11		251.62
128		251.93		5.5	246.4
129				11.0	240.9
130				11.0	240.9
+50				7.8	244.1
131	2.02		1.96		249.97
+63.4		251.99		2.9	249.0
132				6.4	245.6
133					233.9
+39.5					225.1
+60					218.9
134					205.4
+25					196.0

134+50	def L.	27°30'	
142+45	" R	57°09'	426.5 ft R
		cor. of Pump House	

Running Benches

Δ	+	Sh	−	Elv	BM		
					284.72		on plug.
	7.81	292.53					
TP			1.10	291.43			
	8.28	299.71					
TP			2.70	297.01			
	9.87	306.88					
BM			1.76	305.12			Sp. in elect. pole
TP	"		1.61	305.27			
	10.34	315.61					
TP			0.19	315.42			
	11.76	327.18					
TP			0.63	326.55			
	12.75	339.30					
TP & BM			0.85	338.45		347.57	Highest Pt.
	3.20	341.65			350.77		
BM			5.77	335.88		34500	NW for Campus & Van Buren Ave on plug
BM			4.44			34633	SE for " Univ. Bold, Lot 1 Blk 179 " "

Δ	+	Ht	−	Elv.	BM	
					280.84	PI plug at 611+72
	10.67	291.51				
TP			3.30	288.21		
	4.45	292.66				
TP			8.95	283.71		
	3.83	287.54				
TP & BM (1)			11.45	276.09		Sp. in ground about 100' E of Stake marked II cut in stake. Sp. surrounded by 4 large rocks × on each rock
	2.23	278.32				
TP			9.88	268.44		
	1.65	270.09				
TP & BM (2)			1.87	268.22		Top of stake NE for Wash. & Fall $S\frac{10}{11}$
	3.94	272.16				
TP			4.43	267.73		
	7.96	275.69				
TP BM (3)			1.20	274.46		Cor. Lot 6 SE near Road, on plug
	6.15	280.61				
TP			3.37	277.24		
	1.13	278.37				
TP BM (4)			6.90	271.44 ~~285.30~~		near Road on plug small witness stake
	11.35	272.79 ~~286.65~~	~~1.35~~	~~279.92~~		

Δ	+	Ht	−	Elv	BM
		272.79			
BM(5) TP			5.74	267.05	
	3.43	270.48			
BM(6) TP			1.32	269.16	
	2.71	271.87			
BM(7)			5.6	266.71	

on ~~highest point~~. Knoll

Re Running

Δ	–	HI	–	Elv	BM			
BM(1)					338.45	347.57	Highest pt	
	0.61	339.06			348.18			
TP			11.34	327.72		336.54		
	3.25	330.97			340.09			
TP			11.09	319.88		329.00		
	3.54	323.42			332.54			
TP			11.68	311.74		320.86		
	1.95	313.69			322.81			
TP			11.88	301.81		310.93		
	1.14	302.95			312.07			
BM(2)			6.95	296.00	305.12	305.12	Sp in Elect pole	E 9.12 Hwy
	0.99	296.99			306.11			
BM(3) TP			9.70	287.29		296.41	" " "	
	1.95	289.24			298.36			
BM4 TP			9.62	279.62		288.94	" " "	
	3.27	282.99			292.11			
BM5			7.28	275.71		284.83	plug in lgr. near R R.	

Re Running Benches

Sta	+	HI	−	Elev	BM
BM 0					349.57
	0.61	348.18			
TP			11.24	336.84	
	3.20	340.04			
			11.09	328.95	
	3.24	332.04			
			11.68	320.36	
	1.95	322.81			
			11.88	310.93	
	1.14	312.07			
BM 1 TP			6.95	305.12	
	0.99	306.11			
3			9.70	296.41	
	1.95	298.36			
4			9.64	288.72	
	3.07	291.79			
5			7.28	284.51	284.79

Highest pt Universal Heights

Re. Running Benches.

Cmot BM

Δ	+	HS	—	EW	BM	
BM (6)					280.84	P.I. at [illegible]
	9.72	290.56				
TP			1.73	288.83		
	2.70	291.53				
TP (7) BM			4.68	286.85		Sp in gr.
	0.58	287.43				
BM (8) TP			12.03	275.40	276.09	" " " [illegible] 'E large stake [illegible] 4 large [illegible]
	1.80	277.89				
TP			11.10	266.79		
	2.59	269.38				
BM (9) TP			1.15	268.23	268.22	✓ Top of stake NE Cor. Wash & Fall near Road
	4.02	272.25				
TP			1.55	270.69		
	6.21	276.90				
BM (10) TP			2.41	274.49	274.46	SE Cor. Lot 6. on plug near Road
	5.45	279.97				
TP			2.58	277.38		
	1.26	278.59				
BM (11)			7.03	271.56	271.44	on plug near Road
	0.91	272.35				

Re Running Bunches

Δ	+	Ht	−	Elv	BM	
		272.35				
BM(12)			5.29	267.06	267.05	plug in gr near Road
	3.32	270.37				
BM(13)			1.23	269.15	269.16	" "
	2.40	271.56				
BM(14)			4.89	266.67	266.71	lowest pt.

(Benches)

BM	Elv	
1	347.57	Highest pt Univ Hts.
2	305.12	Sp in Elect pole
3	296.41	" " " "
4	288.74	" " " "
5	284.72	Plug in gr. near R.R.
6	280.84	P.I at 611+72
7	286.85	Sp. in gr.
8	276.09	" " " about 100'E of stake with D cut on it and surrounded with 4 Stones)
9	268.22	Top of stake marked NE for Marsh and Fall Sts
✓ 10	274.46	" " plug SE for Lot. 6.
11	271.44	" " " near road
12	267.05	
13	269.16	
14	266.71	on Highest pt near Old Town
B M	306.78	Cor. Block 190. R of Sta 20+50
B M "A"	351.09	Nail in sill of Water Tank University Heights

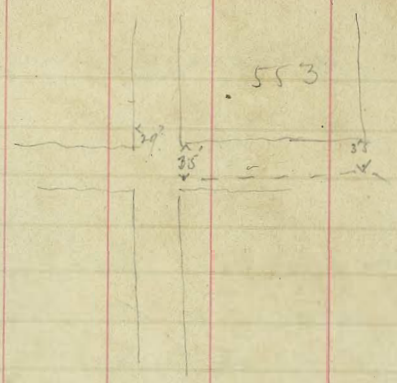
4

12.9"

4.25) 10000 (2
850
1500
1275
2250
2125

BM	Sout				
1					
2					
3					
4					
5					
6					
7					
8					
9					
✓ 10					
11					
12					
13					
14					
BM					
BM.					

553



55
300
15
350

278.83
9.47
269.36
2.62
271.98
3.20
268.78 = 44

276.09
2.76
278.83 = 149
3.80
275.03
4.7
274.1
8.2
270.6
9.9
268.9
9.2
269.6
6.7
272.1
5.9
272.9
7.50
271.00

250.77
0.6
251.37 = 48
7.90
243.47 at 100'

10.70
23277 at 180
931.27

9.999987

9.999987
2.969090
2.969077
43
47/340

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

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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	8
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	8
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	8
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	8
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	8
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	8
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	8
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	8
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	8
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	8
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	7
11	98.16	19.08	98.08	19.51	97.99	19 94	97.90	20.36	7
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	7
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	7
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	7
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	7
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	7
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	7
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	7
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	7
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	6
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	6
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	6
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	6
24	91.35	40.67	91 18	41.07	91.00	41.47	90.81	41.87	6
25	90.63	42.26	90.45	42.66	90 26	43.05	90.07	43.44	6
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	6
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	6
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	6
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	6
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	5
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	5
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	5
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	5
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	5
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	5
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	5
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	5
38	78.80	61.57	78.53	61.91	78.26	62 25	77.99	62.59	5
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	5
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	4
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	4
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67 88	4
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	4
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	4
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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