

Small white rectangular label on the top left corner of the book cover.

Survey of Dam Sites,  
Pound Canyon, City of San Diego  
Page 1 to 79-1/2

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

398

TRANSIT

**F.B. 164**

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 2/3
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.

MICROFILMED

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						
0		0		0		0	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07

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Survey of <sup>164</sup> Dam  
Sits in Round Canyon  
City Park.

Survey of Dam Sites  
in Round Canyon  
City Park

1

□

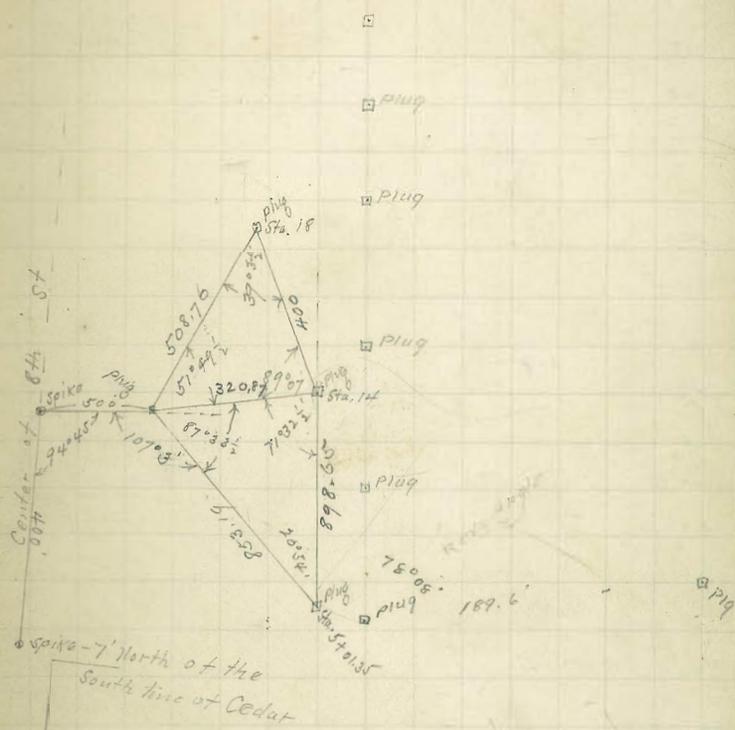
Main Line

Survey for Steam Sites  
in Round Canyon  
City Park

2

Sta	ang	mag	run
-----	-----	-----	-----

18			
17			
16			
15			
14	$\angle 19^{\circ} 19' 30''$		
13			
12			
11			
10			
9			
8			
7			
6			
5	$\angle 35^{\circ} 55'$		



0  $R. 35^{\circ} 05' N. 20^{\circ} 15' E$   
Mon. S.W. Cor. Ash and 10<sup>th</sup>  
B.S. on Mon. S.W. cor. A and 10<sup>th</sup>

Sta	angle				
37					
36					
35					□ Plug
34					□ Plug
+ 33	R. 19° 42'				
32					
31					
30					□ Plug
29					
28					
27					□ Plug
26					
25					
24	R. 18° 04'				□ Plug
23					
22					
21	R. 8° 45'				□ Plug
20					
19					
18					□ Plug



Sta.	Mag.	Decl.	Mag. Bar.
------	------	-------	-----------

79

78

77

76

75

74

73 R 1° 30'

N 30° 0' W

72

71

70

69

68

67

66

65

64

63

62

61 L 10° 12'

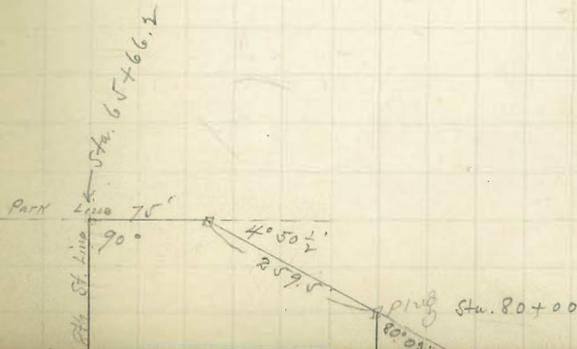
N 21° 50' W

60

59

□ Aug

Sta.	ang	Bearing	Mag. Pa.
100			
99			
98			
97			
96			
95			
94			
93			
92			
91			
90			
89			
88			
87			
86			
85			
84			
83			
82			
81			
80			





The image shows an open notebook with two pages. The left page is ruled with a grid of red lines, creating a table with 6 columns and 20 rows. The right page is ruled with horizontal lines and has the number '8' in the top right corner. The notebook has a dark cover and the pages are off-white.



d. Hemenway } 9-11-02  
Crowell  
Forsman  
Daw

10

Contours, Lower Dam Site

13+28  $\Delta$   $\rightarrow$  14.0

Contour 97.5

Hor.	Vert.	Red.	Cor. Dist.	
5°39' R	1°21'	1.25	125	✓
11°10' R	1°	0.91	91	✓
9°42' R	0°45'	0.58	58	✓
9°2' R	1°30'	0.31	31	✓
45°55' R	0°30'	0.08	8	✓
163°20' R	0°15'	0.21	21	✓
174°7' R	0°30'	0.46	46	✓
160°30' R	0°15'	0.70	70	✓
152°5' R	0°45'	0.96	96	✓
158°5' R	1°15'	1.20	120	✓
158°12' R	0°45'	1.44	144	✓
131°25' L	0°0'	1.72	172	✓
124°5' L	0°15'	1.52	152	✓
115°15' L	0°15'	1.40	140	✓
105°19' L	0°15'	1.30	130	✓
95°2' L	0°15'	1.22	122	✓
83°24' L	0°15'	1.22	122	✓
72°39' L	0°15'	1.26	126	✓

Hor.	Vert.	Rod		
62°25' L	0°15'	1.35	135	✓
53°55' L	0°0'	1.43	143	✓
50°29' L	0°0'	1.70	170	✓
47°51' L	0°0'	1.92	192	✓
45°15' L	0°0'	2.15	215	✓
42°3' L	0°0'	2.40	240	✓
37°40' L	0°0'	2.50	250	✓

Continue 95.0

35°2' L	0°15'	2.40	240	✓✓
39°2' L	0°15'	2.28	228	✓✓
42°25' L	0°30'	2.08	208	✓✓
45°5' L	0°30'	1.85	185	✓✓
45°59' L	0°15'	1.62	162	✓✓
44°52' L	0°30'	1.42	142	✓✓
38°49' L	0°30'	1.20	120	✓✓
43°59' L	0°30'	1.00	100	✓✓
57°22' L	0°30'	0.90	90	✓✓
73°24' L	0°45'	0.85	85	✓✓

	Hor.	Vert.	Rod			
4	88° 42' L	0° 30'	0.92	92	✓	✓
	101° 40' L	0° 30'	1.10	110	✓	✓
	111° 9' L	0° 30'	1.22	122	✓	✓
	120° 10' L	0° 30'	1.32	132	✓	✓
	129° 45' L	0° 30'	1.32	132	✓	✓
	135° 6' L	0° 15'	1.55	155	✓	✓
	139° 49' L	0° 15'	1.72	172	✓	✓
	144° 16' L	0° 15'	1.92	192	✓	✓
	147° 3' L	0° 0'	2.06	206	✓	✓
	164° 43' R	2° 15'	1.28	128	✓	✓
	160° 28' R	2°	1.05	105	✓	✓
	166° 19' R	2°	0.81	81	✓	✓
	172° 31' R	2°	0.60	60	✓	✓
	177° 25' R	1° 45'	0.40	40	✓	✓
	140° L	3° 15'	0.22	22	✓	✓
	63° 5' L	4° 45'	0.15	15	✓	✓
	24° 37' L	5° 30'	0.35	34.73	✓	✓
	17° 37' L	3°	0.48	48	✓	✓

Hor.	Vert.	Red.			
Contour 92.5					
13° 30' L	1°	1.00	100	✓	
15° 8' L	1° 15'	0.85	85	✓	
20° 6' L	3° 15'	0.62	62	✓	
29° 56' L	5°	0.43	42.67	✓	
61° 5' L	7° 15'	0.28	27.55	✓	
114° 5' L	8° 30'	0.28	27.39	✓	
142° 35' L	8°	0.48	47.07	✓	
171° 14' L	8°	0.48	47.07	✓	
173° 45' R	4°	0.65	65	✓	
128° 41' R	3°	0.90	90	✓	
146° 21' R	2° 45'	1.18	113	✓	
147° 41' R	2° 30'	1.42	142	✓	
167° 10' R	2° 30'	1.65	165	✓	
155° 40' L	2° 30'	1.60	160	✓	
155° 46' L	2° 30'	1.38	138	✓	
150° 15' L	2° 45'	1.15	115	✓	
138° 10' L	2° 45'	1.15	115	✓	
126° 13' L	2° 45'	1.17	112	✓	
114° 43' L	3°	1.03	103	✓	
101° 50' L	2° 15'	0.90	90	✓	

	Hor.-	Vert.	Rod		
	88° 50' L	2° 45'	0.70	70	✓
	71° 45' L	3°	0.68	68	✓
	52° 43' L	3°	0.72	72	✓
	39° 2' L	3°	0.88	88	✓
	32° 23' L	2°	1.03	103	✓
	32° 41' L	1° 30'	1.30	130	✓
	42° 18' L	1° 15'	1.40	140	✓
	43° 35' L	1° 15'	1.60	160	✓
	44° 27' L	1°	1.72	172	✓
	42° 30' L	1°	2.00	200	✓
	39° 5' L	1°	2.18	218	✓
	35° 52' L	1°	2.30	230	✓

## Contour 90.0

x	31° 45' L	0° 45'	2.40	240	✓ ✓
	31° 49' L	0° 30'	2.20	220	✓ ✓
	40° 15' L	0° 30'	2.00	200	✓ ✓
	42° 44' L	0° 45'	1.75	175	✓ ✓

Hor.	Vert.	Rod			
42° 15' L	0° 45'	1.55	155	W	✓
38° 5' L	1°	1.40	140	W	✓
27° 10' L	1°	1.30	130	W	✓
27° 35' L	1° 30'	1.05	105	W	✓
23° L	1° 30'	0.90	90	W	✓
42° 25' L	2°	0.75	75	W	✓
59° 7' L	2° 15'	0.60	60	W	✓
81° 55' L	2° 30'	0.60	60	W	✓
98° 55' L	2° 30'	0.65	65	W	✓
109° 46' L	2° 45'	0.80	80	W	✓
123° 35' L	2°	0.95	95	W	✓
137° 2' L	2°	1.03	103	W	✓
148° 25' L	1° 45'	1.05	105	W	✓
157° 35' L	2°	1.00	100	W	✓
169° 17' L	2°	1.08	108	W	✓
175° 25' L	1° 30'	1.28	128	W	✓
172° 45' L	1° 15'	1.52	152	W	✓
170° 30' L	1°	1.73	173	W	✓
169° 30' L	1°	2.00	200	W	✓
168° 50' L	0° 45'	2.20	220	W	✓
178° 19' R	0° 45'	2.20	220	W	✓

Hor.	Vert.	Rod			
173° 16' R	0° 45'	2.00	2.00	4V	✓
171° 51' R	0° 45'	1.75	1.75	4V	✓
169° 28' R	0° 45'	1.50	1.50	4V	✓
168° 50' R	1° 15'	1.22	1.22	4V	✓
169° 26' R	1° 15'	1.00	1.00	4V	✓
174° 16' R	2°	0.72	72	4V	✓
173° 5' L	2° 45'	0.56	56	4V	✓
150° 2' L	2° 30'	0.60	60	4V	✓
129° 27' L	3°	0.50	50	4V	✓
101° 50' L	6° 30'	0.35	34.55	4V	✓
62° 47' L	6° 45'	0.33	32.55	4V	✓
39° 25' L	4° 30'	0.42	42	4V	✓
28° 33' L	4°	0.55	55	4V	✓
20° 28' L	2°	0.78	78	4V	✓

Contour 87.5

24° 50' L	6° 15'	0.40	79.06	4V	✓
34° 47' L	8°	0.60	58.84	4V	✓
58° 50' L	9° 30'	0.50	48.64	4V	✓

Hor.	Vert.	Rod			
92° 41' L	11° 30'	0.32	36.49	W	
106° 20' L	11° 15'	0.50	48.11	W	
130° 36' L	8°	0.62	60.80	W	
142° 43' L	7° 30'	0.72	70.77	W	
159° 26' L	7° 45'	0.72	70.70	W	
176° 15' L	6° 45'	0.76	75	W	
173° 45' R	4°	0.92	92	W	
171° E' R	3°	1.10	110	W	
171° 6' R	3° 15'	1.20	120	W	
171° 25' R	3° 15'	1.50	150	W	
170° 33' R	3°	1.70	170	W	
174° 53' R	3°	1.95	195	W	
178° 55' R	3°	2.12	212	W	
178° 42' L	2° 45'	2.30	230	W	
170° 12' L	2° 15'	2.25	225	W	
171° 57' L	2° 30'	2.08	208	W	
173° 50' L	2° 45'	1.82	182	W	
175° 30' L	3°	1.60	160	W	
178° 30' L	4° 15'	1.40	140	W	
177° 55' L	4°	1.20	120	W	
172° 40' L	4° 45'	1.05	105	W	

Hor.	Vert.	Rod			
156° 40' L	5° 30'	1.00	99.08	W	
143° 26' L	5° 30'	1.00	99.08	W	
132° 30' L	5° 30'	0.92	91.15	W	
120° 51' L	6° 15'	0.80	79.06	W	
111° 6' L	8° 30'	0.65	63.58	W	
99° 29' L	9° 30'	0.62	60.31	W	
85° 26' L	10°	0.55	53.34	W	
66° 50' L	10°	0.52	50.43	W	
50° 53' L	8° 15'	0.65	63.67	W	
34° 43' L	8°	0.80	72.45	W	
26° 25' L	5° 30'	0.95	94.13	W	
22° 40' L	5°	1.10	109.16	W	
23° 20' L	5° 15'	1.25	123.96	W	

Continue 85.0

20° 55' L	3° 30'	1.55	155	W	✓
20° 55' L	4°	1.00	100	W	✓
27° 28' L	5°	0.80	79.39	W	✓

Hor-	Vert.	Rod			
35° 10' L	6° 30'	0.65	64.17	✓	✓
63° L	9° 15'	0.42	40.92	✓	✓
93° 27' L	9°	0.50	48.78	✓	✓
115° 30' L	8° 30'	0.60	58.69	✓	✓
129° 30' L	9°	0.71	69.26	✓	✓
142° 43' L	6° 15'	0.80	79.06	✓	✓
154° 25' L	6° 15'	0.80	79.06	✓	✓
168° 15' L	6° 15'	0.80	79.06	✓	✓
179° 10' R	5°	0.92	91.30	✓	✓
174° R	4° 15'	1.10	110	✓	✓
173° 12' R	3° 15'	1.32	132	✓	✓
172° 6' R	3° 30'	1.50	150	✓	✓
174° 8' R	2° 30'	1.75	175	✓	✓
177° 28' R	2° 30'	1.90	190	✓	✓
179° 25' L	2° 15'	2.10	210	✓	✓
173° 28' L	2° 15'	2.08	208	✓	✓
175° 38' L	2° 15'	1.92	192	✓	✓
177° 50' L	2° 30'	1.70	170	✓	✓
177° 51' R	3°	1.52	152	✓	✓
177° 17' R	3° 30'	1.30	130	✓	✓
179° 39' R	4° 30'	1.10	110	✓	✓

Hor.	Vert.	Rod			
172° 41' L	5°	0.92	91.30	✓	✓
155° 10' L	4° 45'	1.00	100	✓	✓
140° 8' L	5°	0.90	89.32	✓	✓
127° 30' L	6°	0.80	79.13	✓	✓
112° 57' L	7° 30'	0.65	63.89	✓	✓
95° 10' L	9° 15'	0.55	53.59	✓	✓
71° 10' L	9° 45'	0.48	46.63	✓	✓
49° 15' L	7° 15'	0.60	59.05	✓	✓
33° 20' L	6°	0.75	74.10	✓	✓
24° 25' L	4° 30'	1.00	100	✓	✓

Contour 82.5

134° 45' L	7° 15'	0.80	78.73	✓
151° 50' L	8°	0.90	82.25	✓
166° 6' L	7°	0.85	83.73	✓
179° 31' R	5°	0.92	91.30	✓
174° 46' R	4° 15'	1.15	115	✓
174° 12' R	4° 15'	1.38	138	✓

	Hor.	Vert.	Pod		
	173°30' R	4°	1.58	158	✓
	175°35' R	3° 15'	1.78	178	✓
	179°31' R	3° 15'	1.90	190	✓
	177°14' L	3° 15'	2.05	205	✓
	175°25' L	3° 15'	2.00	200	✓
	178°18' L	3° 30'	1.85	185	✓
	177° R	3° 30'	1.70	170	✓
	175°39' R	3° 30'	1.50	150	✓
	176°16' R	3° 45'	1.25	125	✓
	179°16' R	4° 30'	1.10	110	✓
	173° L	5° 15'	0.90	89.25	✓

Longitude 100.0

X	16°55' R	2° 30'	1.00	100	✓✓	✓
	16° 4' R	2° 15'	0.78	78	✓✓	✓
	18° 2' R	2°	0.50	50	✓✓	✓
	32° 8' R	1° 15'	0.25	25	✓✓	✓
	93°20' R	1° 30'	0.08	8	✓✓	✓✓

Hor.	Vert.	Rod			
156° 18' R	1° 15'	0.28	28	✓	✓ ✓
159° 3' R	1°	0.46	46	✓	✓ ✓
157° 35' R	1° 30'	0.65	65	✓	✓ ✓
156° 50' R	1° 15'	0.90	90	✓	✓ ✓
156° 5' R	1° 15'	1.15	115	✓	✓

Contour 102.5

153° 52' R	2° 45'	1.18	118	✓	
152° 43' R	2° 45'	1.00	100	✓	
150° 20' R	2° 43'	0.76	76	✓	
149° 46' R	2° 30'	0.49	49	✓	
140° 21' R	8° 30'	0.27	26.41	✓	
70° 6' R	9°	0.20	19.51	✓	
36° 33' R	9°	0.38	37.07	✓	
22° 30' R	4° 30'	0.56	56	✓	
22° 22' R	4° 30'	0.80	80	✓	

	Hor.	Vert.	Rod			
	Contour		100.0			
X	50° 33' L	1°	1.82	1.82	✓	✓
	56° 30' L	1°	1.63	1.63	✓	✓
	64° 10' L	1°	1.53	1.53	✓	✓
	73° 4' L	1° 15'	1.48	1.48	✓	✓
	82° 14' L	1°	1.50	1.50	✓	✓
	90° 29' L	1° 15'	1.45	1.45	✓	✓
	100° L	1° 15'	1.43	1.43	✓	✓
	107° 47' L	1° 15'	1.55	1.55	✓	✓
	116° 45' L	1° 15'	1.55	1.55	✓	✓
	123° 50' L	1°	1.65	1.65	✓	✓
	129° 45' L	1°	1.82	1.82	✓	✓
	Contour 102.5					
	128° 4' L	1° 45'	1.85	1.85	✓	
	121° 55' L	2°	1.78	1.78	✓	
	114° 6' L	2°	1.68	1.68	✓	
	106° 8' L	2°	1.62	1.62	✓	

Hor.	Vert.	Pod			
98°25' L	2°	1.61	161	✓	
90°2' L	2°	1.62	162	✓	
88°39' L	2°	1.60	160	✓	
71° L	2°	1.72	172	✓	
62°48' L	2°	1.68	168	✓	
55°46' L	1°45'	1.72	172	✓	
51°10' L	1°45'	1.90	190	✓	

Continue 105.0

x	52°12' L	1°45'	2.00	200	✓✓✓
	57°30' L	2°	1.82	182	✓✓✓
	64°22' L	2°	1.72	172	✓✓✓
	71°36' L	2°	1.70	170	✓✓✓
	79°10' L	2°15'	1.72	172	✓✓✓
	87°6' L	2°15'	1.68	168	✓✓✓
	97°57' L	3°45'	1.68	168	✓✓✓
	103°10' L	3°45'	1.72	172	✓✓✓
	110°35' L	2°45'	1.72	172	✓✓✓

Hor.	Vert.	Rad.		
117°20' L	3°30'	180	180	V V V
125°3' L	2°15'	190	190	V V V

Contour 107.5

123°50' L	2°30'	195	195	V
118°35' L	2°30'	190	190	V
111°57' L	2°45'	180	180	V
105°5' L	2°45'	175	175	V
96°20' L	3°30'	172	172	V
88°50' L	3°30'	172	172	V
79°40' L	3°30'	180	180	V
71°15' L	3°30'	180	180	V
64° L	3°15'	183	183	V
57°26' L	3°15'	192	192	V
53°10' L	3°15'	204	204	V

	Hor.	Vert.	Red		
x	Contour 110.0				
	63°58' L	3°30' 0	1.82	1.82	✓✓✓
	71°30' L	3°30'	1.88	1.88	✓✓✓
	78°15' L	3°30'	1.88	1.88	✓✓✓
	85°45' L	3°30'	1.80	1.80	✓✓✓
	93°10' L	3°30'	2.08	2.08	✓✓✓
	100°45' L	3°30'	1.80	1.80	✓✓✓
	108°35' L	3°30'	1.82	1.82	✓✓✓
	115°45' L	3°30'	1.90	1.90	✓✓✓
	122°22' L	3°15'	2.00	2.00	✓✓✓

	Contour 112.5				
	121°22' L	3°30'	2.10	2.10	✓
	144°50' L	3°30'	2.00	2.00	✓
	107°35' L	3°30'	1.88	1.88	✓
	99°45' L	3°30'	1.82	1.82	✓
	93° L	4°	1.88	1.88	✓
	86°35' L	4°	1.88	1.88	✓

Hor.	Vert.	Rad		
79°39' L	4°	1.90	1.90	✓
71°55' L	3° 45'	1.92	1.92	✓
68°50' L	3° 45'	2.00	2.00	✓
45°12' R	12°	0.70	6.7	✓
59°45' R	14°30'	0.52	4.9	✓
55°30' R	18°30'	0.48	4.3	✓
113°30' R	15°15'	0.57	5.3	✓
122°22' R	12°15'	0.72	6.9	✓

same contour right side

Contour 1110.0

X	133°50' R	12°	0.68	6.5	✓✓✓
	52°15' R	14°15'	0.50	4.7	✓✓✓
	97°50' R	17°	0.40	3.7	✓✓✓
	66°16' R	17°	0.45	4.1	✓✓✓
	48°15' R	13°30'	0.55	5.2	✓✓✓
	38°36' R	10°15'	0.72	7.0	✓✓✓
	36°10' R	8° 45'	0.85	8.3	✓✓✓

Hor.	Vert.	Pod			
Contour 107.5					
32° 5' R	7° 30'	0.88	86.5	✓	
32° 5' R	7° 30'	0.71	70	✓	
41° 45' R	9°	0.51	50	✓	
66° 50' R	11° 30'	0.35	34	✓	
103° 30' R	15° 30'	0.32	30	✓	
131° 20' R	15° 30'	0.50	46	✓	
146° 15' R	10°	0.63	61	✓	
143° 55' R	7° 45'	0.88	86	✓	

## Contour 105.0

X	146° 3' R	8°	0.88	86	✓✓✓
	146° 22' R	7° 30'	0.58	57	✓✓✓
	136° 13' R	10°	0.38	37	✓✓✓
	99° 37' R	15° 15'	0.25	23	✓✓✓
	56° 42' R	15°	0.33	3.1	✓✓✓
	34° 45' R	11° 45'	0.52	50	✓✓✓
	26° 26' R	8° 45'	0.78	76	✓✓✓

Hor.	Vert.	Rod			
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Continued 115.0

42° 50' R	11°	1.00	96	✓	✓
49° 15' R	13° 30'	0.82	78	✓	✓
56° 15' R	15° 15'	0.65	61	✓	✓
53° 34' R	17° 30'	0.52	47	✓	✓
109° 45' R	17° 45'	0.62	56	✓	✓
122° 55' R	14° 15'	0.76	71	✓	✓
131° R	12° 15'	1.00	96	✓	✓
147° 22' R	9°	1.20	117	✓	✓

Continued 117.5

133° 35' R	11°	1.25	120	✓	
128° 14' R	12°	1.10	105	✓	
122° 5' R	13° 30'	0.95	90	✓	

Hor.	Vert.	Rad			
112°53'R	15°30'	0.73	6.8	✓	
93°30'R	18°	0.62	5.6	✓	
72°25'R	17°30'	0.63	5.7	✓	
57°15'R	16°	0.80	7.4	✓	
42°45'R	13°15'	0.95	9.0	✓	
45°26'R	11°15'	1.10	10.6	✓	

Contour 117.5

69°25'L	6°	2.04	202	✓	
76°20'L	6°15'	2.03	201	✓	
83°28'L	6°	2.00	198	✓	
91°28'L	6°	1.95	193	✓	
99°	6°	2.00	198	✓	
105°59'L	6°	2.00	198	✓	
112°10'L	5°45'	2.15	213	✓	
118°45'L	5°45'	2.15	213	✓	

	Hor.	Vert.	Pod			
	Contour		115.0			
x	118° 58' L	4° 45'	2.12	2.12	✓	✓
	113° 33' L	4° 45'	2.03	2.03	✓	✓
	106° 44' L	4° 45'	2.00	2.00	✓	✓
	101° 10' L	5°	1.95	1.95	✓	✓
94	25' L	5°	1.92	1.90	✓	✓
	87° 5' L	4° 45'	1.92	1.92	✓	✓
	80° 15' L	4° 45'	1.95	1.90	✓	✓
	74° 42' L	4° 45'	2.00	2.00	✓	✓
	68° 49' L	4° 45'	2.00	2.00	✓	✓

	Contour		120.0			
x	70° 30' L	6°	2.18	2.16	✓	✓
	77° 36' L	6°	2.10	2.08	✓	✓
	85° 10' L	6°	2.10	2.08	✓	✓
	92° 13' L	6°	2.05	2.03	✓	✓
	100° 10' L	6°	2.05	2.03	✓	✓
	107° 53' L	6°	2.10	2.08	✓	✓
	113° 46' L	5° 45'	2.23	2.21	✓	✓

	Hor.	Vert.	Pod		
r-	119°25'L	5°45'	2.28	226	✓

Contour 122.5'

	118°57'L	6°	2.30	228	✓
	113°13'L	6°	2.30	228	✓
	106°31'L	6°	2.20	218	✓
	100°5'L	6°15'	2.15	213	✓
	93°7'L	6°15'	2.10	208	✓
	85°21'L	6°15'	2.10	208	✓
	79°32'L	6°39'	2.15	212	✓
	74°34'L	6°30'	2.15	212	✓
	70°10'L	6°15'	2.22	220	✓

Contour 125.0

r-	70°36'L	6°15'	2.20	218	✓
	77°25'L	6°30'	2.20	217	✓

	Hor.	Vert.	Rad		
x	84°10' L	6°30'	2.20	217	✓✓
	90°51' L	6°45'	2.18	215	✓✓
	97°53' L	6°45'	2.20	217	✓✓
	104°10' L	6°45'	2.20	217	✓✓
	111°17' L	6°30'	2.20	217	✓✓
	118°4' L	6°30'	2.25	222	✓✓

9/12/02

Point AA → 8

Contour 82.5

43°14' R	9°	1.50	146
22°49' R	8°45'	1.42	139
9°10' R	7°	1.70	167
0°45' R	6°45'	2.12	209
2°15' L	5°30'	2.60	258
4°20' L	4°45'	3.00	300
6°20' L	3°30'	3.45	345
6°30' L	3°45'	3.90	390
1°40' L	3°45'	3.95	395

Hor.	Vert.	Pod	
1°45' L	3°30'	3.40	340
0°25' R	3°	3.00	300
3° R	5°	2.50	250
7°30' R	6°	2.05	203
19°55' R	7°45'	1.58	155
39°41' R	7°30'	1.62	159
62°40' R	9°	1.40	137

Continuation 85.0

49°19' R	7°45'	1.62	159	✓
25°33' R	7°45'	1.62	157	✓
11°25' R	7°15'	1.97	194	✓
5°15' R	5°45'	2.42	240	✓
1°50' R	4°45'	2.92	292	✓
0°0' 0"	4°15'	3.35	335	✓
0°55' R	3°30'	3.90	390	✓
7°25' L	3°30'	3.90	390	✓
6°55' L	4°	3.35	335	✓
4°25' L	4°45'	2.82	282	✓

Hor.	Vert.	Pod	.	
1°54' L	6°	2.22	2.20	✓
5°25' R	7°45'	1.70	1.67	✓
16°33' R	10°	1.25	1.21	✓
38°54' R	9°15'	1.36	1.33	✓
62°45' R	10°	1.20	1.16	✓

Contours 87.5

42°55' R	10°15' L	1.28	1.24	
15°43' R	10°30'	1.00	1.00	
7°55' R	8°	1.45	1.42	
0°49' L	6°45'	1.90	1.87	
3°50' L	5°15'	2.40	2.38	
8°49' L	6°	2.90	2.87	
10°35' L	4°	3.40	3.40	
12°16' L	3°	3.90	3.90	✓
10°52' R	3°15'	4.00	4.00	
13°12' R	3°15'	3.50	3.50	
9°30' R	4°30'	2.90	2.90	
13°30' R	4°45'	2.10	2.10	

Hor.	Vert.	Red	
28°35' R	7°15'	1.73	170
49°16' R	7°15'	1.75	173
66°17' R	8°	1.45	142

Continued 90.0

55°35' R	7°	1.70	167	✓
119°50' R	5°45'	1.90	188	✓
35°35' R	6°	1.90	188	✓
26°2' R	5°	2.12	218	✓
22°35' R	4°	2.88	288	✓
19°21' R	3°15'	3.04	334	✓
15°55' R	3°	3.80	380	✓
12°50' R	2°45'	4.10	410	✓
15°14' L	3°	3.90	390	✓
15°11' L	3°	3.30	330	✓
12°20' L	3°30'	2.83	283	✓
4°31' L	4°45'	2.32	232	✓
5°13' L	5°	1.78	178	✓
0°53' R	8°	1.25	123	✓

Hor.	Vert.	Rod		
4° 8' R	11°	0.92	89	✓
29° R	11°	1.00	97	✓

Notes 92.5

68° 35' R	19°	0.53	47	•
16° 45' R	15°	0.68	63	•
18° 15' L	9°	0.79	77	•
17° 46' L	7° 45'	1.28	126	•
10° 17' L	5° 15'	1.85	183	•
11° 12' L	4°	2.38	238	•
14° 27' L	3° 15'	2.90	290	•
21° 52' L	2°	3.22	322	•
19° 11' L	2° 15'	4.00	400	•
13° 40' R	2° 30'	4.12	412	•
19° R	2° 30'	3.78	378	•
23° 27' R	2° 30'	3.30	330	•
29° 40' R	3° 15'	2.90	290	•
38° 55' R	3° 15'	2.50	250	•
50° 14' R	2° 45'	2.25	225	•

Hor.	Vert.	Pod	
64°35' R	2°45'	2.10	2.00
78°5' R	2°45'	1.90	1.90

Contour 95.0

76°15' R	3°15'	2.13	2.13	✓
67°10' R	3°15'	2.20	2.20	✓
56° R	3°15'	2.40	2.40	✓
30°51' R	3°	2.98	2.98	✓
23°50' R	3°30'	3.40	3.40	✓
20°10' R	2°15'	3.70	3.70	✓
14°28' R	2°	4.20	4.20	✓

Contour 97.5

15°22' R	1°45'	4.20	4.20
19°45' R	1°30'	3.60	3.60
23°43' R	1°30'	3.54	3.54
28°45' R	1°45'	3.15	3.15

Hor.	Vert.	Rad		
Contour 95.0				
26° 52' L	1° 45'	4.00	4.00	✓
21° 12' L	1° 45'	3.40	3.40	✓
19° 22' L	2° 30'	2.78	2.78	✓
15° 30' L	3° 45'	2.18	2.18	✓
16° 22' L	4° 15'	1.68	1.68	✓
19° 28' L	6° 30'	1.10	1.09	✓
38° 13' L	11°	0.68	68	✓
0° 34' L	11°	0.69	66.5	✓
54° 34' R	12°	0.42	38	✓
113° 25' R	18° 15'	0.65	62	✓

Contour 97.5				
114° 45' R	13° 15'	0.42	45.5	
40° 15' R	13°	0.39	37	
3° 10' L	12° 45'	0.60	57	
51° 16' L	10°	0.67	65	
27° 15' L	7°	1.05	1.03	
19° 30' L	4° 45'	1.50	1.50	

	Hor.	Vert.	Red.	
	21° 10' L	2° 15'	2.03	2.03
	20° 57' L	2°	2.52	2.52
	22° 26' L	1° 15'	2.92	2.92
	21° 10' L	1° 30'	4.12	4.12

Contours 100.0

	20° 57' L	1°	4.20	4.20	✓✓
	23° 50' L	0° 30'	3.60	3.60	✓✓
	22° 50' L	1° 15'	2.75	2.75	✓✓
	22° 53' L	1° 30'	1.80	1.80	✓✓
	19° 45' L	3° 15'	1.62	1.62	✓✓
	25° 35' L	3° 15'	1.28	1.28	✓✓
	43° 30' L	3° 30'	0.95	0.95	✓✓
	66° 50' L	5° 15'	0.80	0.79	✓✓
	16° 57' L	9° 45'	0.38	0.37	✓✓
	12° 55' R	10° 15'	0.38	0.37	✓✓
	67° 7' R	13°	0.25	0.24	✓✓
	125° 43' R	10° 45'	0.48	0.46	✓✓
	134° 8' R	5° 30'	0.80	0.79	✓✓

Hor.	Vert.	Pod	
Contour 102.5			
137° 15' R	3° 48'	0.82	82
133° 15' R	3° 30'	0.45	45
43° 55' R	17° 45'	0.21	19
9° 28' L	17° 15'	0.25	23
79° 43' L	8° 15'	0.45	42
74° 45' L	4° 15'	0.92	92
43° 2' L	4°	1.03	103 ✓
26° 35' L	3° 30'	1.40	140
21° 38' L	2° 15'	1.82	182
22° 55' L	1° 15'	2.38	238
23° L	1° 15'	2.50	280
22° 32' L	0° 45'	4.20	420

Contour 105.0			
138° 10' R	1°	1.17	117 ✓
140° 40' R	1°	0.70	70 ✓
116° 8' R	4°	0.10	10 ✓
87° 47' L	4° 15'	0.28	28 ✓

Hor	Vert.	Pod			
94° 2' L	1° 45'	0.65	65	✓	
90° 30' L	1° 45'	1.15	115	✓	
65° 12' L	1° 45'	1.12	112	✓	
36° 12' L	2°	1.30	130	✓	
28° 55' L	1° 15'	1.80	180	✓	
23° 41' L	1° 15'	2.25	225	✓	
23° 53' L	0° 30'	2.85	285	✓	
24° 52' L	0° 0'	3.50	350	✓	
23° 51' L	0° 0'	4.15	415	✓	

Bottom 107.5

24° 56' L	0° 15'	4.20	420	✓	
24° 20' L	0° 0'	3.72	372	✓	
24° 55' L	0° 0'	3.20	320	✓	
25° 15' L	0° 0'	2.65	265	✓	
25° 45' L	0° 0'	2.15	215	✓	
25° 15' L	0° 15'	1.63	163	✓	
19° 5' L	0° 15'	1.20	120	✓	
72° 28' L	0° 0'	1.32	132	✓	

Hor.	Vert.	Rod	
90° 8' L	0° 0'	1.68	168
97° 38' L	0° 15'	1.19	110
105° 32' L	0° 45'	0.52	52
106° 15' L	0° 30'	0.11	110
152° 18' R	1° 15'	0.29	29
147° R	1° 15'	0.72	73
141° 30' R	0° 30'	1.26	120

Oritions 110.0

143° 45' R	2°	1.36	130	✓
149° 35' R	0° 45'	0.85	85	✓
162° 2' R	0° 0'	0.38	38	✓
124° 45' L	0° 15'	0.32	32	✓
110° 23' L	0° 0'	0.72	72	✓
103° 6' L	0° 15'	1.16	116	✓
100° 34' L	0° 15'	1.61	161	✓
95° 20' L	0° 30'	2.18	218	✓
85° L	0° 30'	1.62	162	✓
69° 31' L	0° 30'	1.38	138	✓

Hor.	Vert.	Rod			
48° 52' L	0° 30'	1.32	132	✓	✓
37° 13' L	0° 45'	1.68	168	✓	✓
30° 45' L	0° 45'	2.10	210	✓	✓
28°	0° 30'	2.58	258	✓	✓
25° 35' L	0° 30'	3.10	310	✓	✓
25° 25' L	0° 15'	3.88	388	✓	✓
21° 6' L	0° 30'	4.36	436	✓	✓

Bottom 112.5

29° 10' L	0° 30'	4.60	460	✓	
34° 20' L	0° 45'	4.20	420	✓	
36° 40' L	0° 45'	3.80	380	✓	
39° 30' L	0° 45'	3.25	325	✓	
43° 20' L	0° 45'	2.75	275	✓	
49° 8' L	0° 45'	2.30	230	✓	
59° 50' L	1°	1.76	176	✓	✓
73° 13' L	1°	1.50	150	✓	
85° 34' L	1°	1.80	180	✓	
94° 22' L	1°	2.20	220	✓	

Hor	Vert.	Pod		
101°48' L	1°	162	162	✓
115°6' L	1°15'	0.88	88	✓
131°22' L	4°15'	0.39	39	✓
170°10' R	4°30'	0.39	39	✓
153°6' R	4°30'	0.82	82	✓
148°46' R	2°30'	1.30	130	✓

Contours 115.0

160°20' R	2°45'	0.73	73	✓✓
157°20' L	5°30'	0.39	39	✓✓
123°37' L	5°15'	0.78	78	✓✓
114°	4°	1.22	122	✓✓
107°55' L	2°30'	1.78	178	✓✓
103°25' L	2°	2.30	230	✓✓
98°18' L	2°	2.78	278	✓✓
91°50' L	1°45'	2.21	221	✓✓
83°8' L	1°45'	1.75	175	✓✓
68°57' L	2°	1.55	155	✓✓
58°34' L	1°45'	1.90	190	✓✓

Hor.	Vert.	Rod			
50° 17' L	2°	2.25	2.25	✓	✓
43° 55' L	1° 45'	2.78	2.78	✓	✓
40° 20' L	1° 30'	3.20	3.20	✓	✓
37° 23' L	1°	3.60	3.60	✓	✓
35° 4' L	0° 45'	4.15	4.15	✓	✓
31° 4' L	0° 45'	4.65	4.65	✓	✓

Contour 117.5

32° 30' L	1°	4.55	4.55	✓	
34° 25' L	1°	4.40	4.40	✓	
36° 41' L	1° 30'	3.90	3.90	✓	
40° 55' L	2°	3.52	3.52	✓	
49° 58' L	2° 45'	2.42	2.42	✓	
67° 38' L	2° 30'	1.74	1.74	✓	✓
81° 25' L	2° 30'	1.82	1.82	✓	
91° 30' L	2° 30'	2.30	2.30	✓	
96° 35' L	2° 15'	2.72	2.72	✓	
108° 50' L	2° 45'	2.10	2.10	✓	
115° 5' L	4°	1.47	1.47	✓	✓

Hor-	Vert.	Pod		
126° 2' L	7° 15'	1.00	98	✓✓
148° 43' L	6° 45'	0.62	61	✓✓
169° 56' R	7°	0.80	79	✓✓

Contour 120.0

153° 45' R	3° 45'	2.38	238	✓✓
152° 55' R	3° 30'	1.93	193	✓✓
162° 28' R	5° 15'	1.23	122	✓✓
179° 30' L	7°	0.88	87	✓✓
148° 22' L	7°	0.81	80	✓✓
128° 45' L	6° 30'	1.10	109	✓✓
120° 8' L	5° 45'	1.35	134	✓✓

Contour 122.5

122° 45' L	6°	1.50	148.5	
141° L	7°	1.05	103	
175° L	7°	0.54	53	

Hor.	Vert.	Rod	
163° 15' R	7°	1.40	138
157° 15' R	4° 15'	1.90	190
155° 5' R	4°	2.35	235

Continued 125.0

159° 37' R	4° 45'	2.40	240	✓
162° 47' R	5° 30'	1.75	173	✓
176° 47' R	6° 45'	1.33	136	✓
160° 26' L	8°	1.12	116	✓
137° 47' L	8°	1.22	120	✓
125° 56' L	7° 15'	1.55	153	✓

Continued 120.0

112° 45' L	5° 30'	1.80	178	✓
110° 22' L	3°	2.32	232	✓
114° 50' L	3° 30'	2.82	282	✓
99° 45' L	3°	3.30	330	✓

Hor.	Vert.	Rod		
95°45' L	3°30'	2.78	2.78	✓
88°48' L	3°15'	2.20	2.20	✓
79° L	3°30'	1.82	1.82	✓
64°25' L	3°30'	1.75	1.75	✓
33°25' L	1°30'	4.80	4.80	✓

Bottom 122.5

35° 8' L	2° 15'	4.80	4.80	
55° 8' L	2°	4.35	4.35	
36° 35' L	2°	3.95	3.95	
67° 27' L	4°	1.77	1.77	
81° 10' L	3° 45'	2.04	2.04	
90° 43' L	3° 45'	2.48	2.48	
95° 15' L	2° 45'	2.90	2.90	
99° 55' L	2° 30'	3.62	3.62	
117° 5' L	3° 15'	2.85	2.85	
113° L	4°	2.30	2.30	

Hor.	Vert.	Pod.			
Contours 125.0					
118°45' L	5°30'	1.90	1.88	✓	
112°36' L	4°	2.55	2.55	✓	
110°38' L	5°45'	3.00	3.00	✓	
106°12' L	3°30'	3.60	3.60	✓	
102°16' L	2°30'	3.90	3.90	✓	
96°58' L	2°45'	3.22	3.22	✓	
93°45' L	3°	2.88	2.80	✓	
88°21' L	3°30'	2.45	2.45	✓	
76°10' L	4°15'	2.00	2.00	✓	
62°36' L	4°30'	1.58	1.58	✓	
36°25' L	2°15'	4.60	4.60	✓	
8 Δ → 501.35					
Contours 80.0					
172°56' L	1°15'	1.65	1.65	✓	
149°23' L	1°	1.10	1.10	✓	
164°17' L	1°15'	0.87	0.87	✓	
99°55' L	4°	0.10	1.2	✓	
8°10' L	5°	0.55	0.5	✓	
12°8' R	2°30'	1.00	1.00	✓	

Hor.	Vert.	Rod		
21° 8' R	1° 45'	1.40	1.40	✓
23° 25' R	1° 45'	1.90	1.90	✓
27° 33' R	1° 30'	2.25	2.25	✓
29° 28' R	0° 45'	2.80	2.80	✓

Contour 82.5

30° 45' R	0° 45'	2.80	2.80	✓
29° 30' R	0° 30'	1.66	1.66	✓
20° 54' R	1° 30'	1.09	1.09	✓

Contour 85.0

27° 36' R	1° 15'	1.50	1.50	✓
32° 36' R	1° 15'	1.48	1.48	✓
31° 12' R	1°	2.00	2.00	✓

Hor.	Vert.	Red	
Contours 87.5			
33° 24' R	0° 0'	2.00	200
41° 18' R	0° 15'	1.52	152
51° 15' R	0° 15'	1.18	118

Contours 90.0			
58° 20' R	0° 45'	1.30	130 ✓
49° 10' R	0° 45'	1.30	130 ✓
38° 56' R	0° 30'	1.90	190 ✓
37° 22' R	0° 45'	2.15	215 ✓

Contours above to be worked in parallel

Hor.	Vert.	Rod			
Contour 80.0					
139°50' L	1°45'	0.88	88	✓	
28°43' L	3°15'	0.30	30	✓	
37°6' L	3°45'	0.40	40	✓	
3°2' L	4°	0.92	92	✓	
8°40' R	3°45'	1.42	142	✓	
14°12' R	2°30'	1.82	182	✓	
11°26' R	0°15'	2.06	206	✓	
12°05' R	0°15'	2.65	265	✓	
17°25' R	0°0'	3.00	300	✓	
Contour 82.5					
10°47' R	0°15'	2.80	280	✓	
17°26' R	0°15'	2.50	250	✓	
10°45' R	0°0'	1.88	188	✓	
14°13' R	2°	1.40	140	✓	
8°51' L	2°15'	0.91	91	✓	

Hor	Vert.	Rod		
Contour 85.0				
42°30' L	0°45'	1.08	108	✓
2°4' L	0°45'	1.58	158	✓
0°30' R	0°45'	2.10	210	✓

Contour 87.5				
31°55' L	0°30'	1.28	128	✓
24°33' L	0°15'	1.52	152	✓
8° L	0°15'	1.46	146	✓
3°55' L	0°15'	2.03	203	✓
5°15' L	0°15'	1.88	188	✓

Contour 90.0				
22°33' L	0°30'	1.62	162	✓
33°10' L	0°30'	1.70	170	✓
40°30' L	0°30'	1.32	132	✓

Hor.	Vert.	Rad	
Contour 92.5			
46°55' L	1°15'	1.50	1.50
35°45' L	1°30'	1.92	1.92

501.35  $\Delta \rightarrow 8$ 

Hor.	Vert.	Rad	
Contour 82.5			
113°8' L	3°	0.85	0.85
130°56' L	3°	1.20	1.20
148°5' L	2°15'	1.52	1.52
154°43' L	2°15'	1.90	1.90
178°15' L	1°	3.52	3.52

Hor.	Vert.	Rad	
Contour 85.0			
179°	L 0°30'	3.50	3.50 ✓
181°3'	L 0°30'	3.08	3.08 ✓
184°35'	L 0°30'	2.25	2.25 ✓
183°12'	L 0°45'	1.80	1.80 ✓
186°25'	L 1°	1.28	1.28 ✓
202°40'	L 1°15'	0.82	0.82 ✓

Hor.	Vert.	Rod.		
22° L	7° 30'	0.51	51	✓

9/18/02

B Δ → 501.30

Contours 87.5

15° 6' R	2°	1.27	127	•
10° 45' L	2° 45'	1.05	105	•
31° 53' L	10° 30'	1.32	128	•
57° 45' L	9°	1.68	164	•
70° 15' L	5° 15'	1.85	182	•
75° 30' L	7°	2.30	227	•
81° 35' L	5° 30'	2.75	272.5	•
86° 5' L	5°	3.15	313	•

Contours 90.0

91° 14' L	4° 30'	3.00	300	✓
84° 7' L	4° 30'	2.60	260	✓
78° 45' L	6° 30'	2.00	197	✓
69° 40' L	8° 15'	1.60	157	✓

Hor.	Vert.	Red		
45° 20' L	8° 15'	1.35	132	✓
16° 32' L	13° 15'	1.00	95	✓
12° 30' R	12° 30'	1.12	107	✓
25° 4' R	8° 45'	1.36	133	✓

Contour 92.5

27° 33' R	8° 30'	1.32	129	
7° 39' R	8° 15'	0.90	88	
27° 10' L	11°	1.00	96	
50° 25' L	9°	1.32	129	
71° 20' L	7° 30'	1.58	155	
83° 10' L	6° 15'	1.92	190	
87° 35' L	5°	2.40	240	
92° 15' L	4° 30'	2.80	280	

Contour 95.0

95° 33' L	3° 30'	2.80	280	✓
91° 55' L	3° 15'	2.25	225	✓

Hor.	Vert.	Pod			
86° 55' L	4° 15'	1.80	180	✓	
69° 30' L	6°	1.33	132	✓	
38° 10' L	8°	1.04	102	✓	
5° L	9° 15'	0.80	78	✓	
18° 15' R	10° 30'	1.04	101	✓	
32° 45' R	7°	1.50	148	✓	

Condour 97.5

34° 15' R	7°	1.43	141		
14° 37' R	11° 45'	0.75	72		
24° 45' L	11° 30'	0.78	76		
57° 30' L	9°	1.08	105		
79° 15' L	7° 15'	1.38	136		
91° 30' L	5° 15'	1.85	183.5		
95° 50' L	3° 15'	2.40	240		
98° 25' L	3° 30'	2.85	285		

Hor.	Vert.	Pod		
Contour 100.0				
105° 15' L	3°	2.75	275	✓
96° 37' L	3°	1.95	195	✓
87° 18' L	6° 30'	1.25	123	✓
51° 7' L	6° 30'	0.95	94	✓
29° 15' L	13°	0.53	50	✓
20° 57' R	12° 15'	0.75	72	✓
33° 22' R	7°	1.20	118	✓

Contour 102.5				
36° 55' R	6° 30'	1.18	116.5	
14° 55' R	8° 30'	0.50	49	
48° 13' L	10°	0.53	51	
81° L	7° 45'	0.91	89	
102° 12' L	5° 15'	1.30	129	
102° 4' L	3° 30'	1.98	198	
109° 45' L	2° 45'	2.40	240	

Hor.	Vert.	Rad		
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Continuation 105.0

114°	L 1° 30'	2.20	220	✓
110° 38'	L 3° 15'	1.48	148	✓
97° 36'	L 2° 30'	0.91	91	✓
74° 35'	L 2° 15'	0.63	63	✓
11° 15'	R 4° 15'	0.30	30	✓
39° 30'	R 4°	0.83	83	✓
39° 47'	R 4°	1.28	128	✓
52°	R 1° 15'	1.55	155	✓
61° 40'	R 1°	1.97	197	✓

Continuation 107.5

64° 25'	R 1°	2.03	203	✓
55° 9'	R 1°	1.50	150	✓
50° 22'	R 1° 45'	1.03	103	✓
48° 33'	R 6'	0.41	41	✓
45° 55'	L 7° 45'	0.25	25	✓
97° 6'	L 5° 15'	0.70	69	✓
117° 45'	L 3° 45'	1.18	118	✓
120° 35'	L 3°	1.70	170	✓

Hor.	Vert.	Red	
130°55' L	1°30'	2.00	200
140°25' L	0°45'	2.18	218

Contour 110.0

142°51' L	0°15'	2.10	210	✓
134°58' L	0°30'	1.58	158	✓
133°15' L	0°30'	1.08	108	✓
118°15' L	1°	0.62	62	✓
38°8' R	1°	0.12	12	✓
60°15' R	0°45'	0.61	61	✓
59°39' R	0°45'	1.08	108	✓
67°43' R	0°45'	1.70	170	✓

Contour 112.5

69° R	0°45'	1.97	197	✓
70°22' R	0°45'	1.40	140	✓
66°52' R	1°	0.73	73	✓
88°30' R	1°30'	0.23	23	✓

Hor.	Vert.	Red	
126°55' L	1° 15'	0.37	37
143°55' L	1°	0.98	98
140°25' L	0° 45'	1.42	142
142° 8' L	0° 30'	1.98	198

Continued 115.0

144°25' L	0° 15'	1.85	185	✓
152°27' L	0° 15'	1.98	198	✓
173°12' L	0° 15'	0.52	52	✓
95° R	0° 0'	0.53	53	✓
78°49' R	0° 15'	1.05	105	✓
78°10' R	0° 30'	1.58	158	✓

Continued 117.5

81°22' R	1°	1.70	170	✓
84° R	0° 45'	1.20	120	✓
98°15' R	1°	0.72	72	✓
152°48' R	1° 15'	0.53	53	✓

Hor.	Vert.	Rod	
165° 51' L	5° 45'	0.80	79
155° 35' L	4° 15'	1.33	133
149° 52' L	2° 45'	1.75	175

Contour 120.0

157° 20' L	2° 45'	1.95	195	✓
163° 13' L	2° 30'	1.20	120	✓
172° 1' R	2° 45'	0.89	89	✓
131° 40' R	4°	0.73	73	✓
90° 14' R	4°	1.20	120	✓
85° 15' R	1° 15'	1.78	178	✓

Contour 122.5

89° 25' R	3°	1.80	180	✓
98° 5' R	3° 15'	1.30	130	✓
126° 10' R	4°	1.00	100	✓
166° 7' R	4°	0.95	95	✓
168° 5' L	4° 45'	1.40	140	✓
160° 45' L	2° 45'	1.82	182	✓

Hor.	Vert.	Rad		
Contour		125.0		
164°36' L	3°45'	1.87	1.87	✓
172°14' R	5°	1.23	1.23	✓
138° R	5°30'	1.12	1.11	✓
112°16' R	5°	1.30	1.30	✓
95°15' R	5°	1.60	1.60	✓
88°22' R	2°45'	2.25	2.25	✓

14+33.6 → 16

Hor.	Vert.	Rad		
Contour		90.0		
81°40' L	3°30'	0.16	0.16	✓
28°5' L	3°30'	0.32	0.32	✓
5°36' R	3°30'	0.43	0.43	✓
37°22' L	3°	0.70	0.70	✓
49°40' L	3°15'	1.08	1.08	✓
34° L	2°45'	1.30	1.30	✓
7°47' L	0°45'	1.40	1.40	✓
6°5' L	0°45'	1.80	1.80	✓
7°15' L	0°45'	2.30	2.30	✓
6°36' L	0°45'	3.00	3.00	✓

Hor.	Vert.	Rod			
5°15' L	0°45'	3.47	347	✓	
7°50' L	0°45'	3.00	300	✓	
8°35' L	0°45'	2.33	233	✓	
8°55' L	0°45'	1.82	182	✓	
20°51' L	0°45'	1.42	142	✓	

Contour 95.0

17°32' L	0°45'	1.70	170	✓	
12°10' L	0°45'	2.20	220	✓	
11°10' L	0°15'	2.80	280	✓	
8°12' L	0°15'	3.30	330	✓	
6° L	0°30'	3.75	375	✓	
5°41' L	0°15'	4.10	410	✓	
3°22' L	0°15'	4.10	410	✓	
3°50' L	0°30'	3.00	300	✓	
4°25' L	0°15'	2.60	260	✓	
2°20' L	0°15'	2.00	200	✓	
3°55' L	0°0'	1.48	148	✓	
28°17' L	0°15'	1.05	105	✓	
19°47' R	2°30'	0.64	64	✓	

Hor.	Vert.	Pod		
3° 27' L	2° 30'	0.22	22	✓

Contours 100.0

78° 45' R	0° 30'	0.91	91	✓
60° 55' R	0° 45'	1.36	136	✓
36° 25' R	0° 45'	1.18	118	✓
10° 41' R	0° 30'	1.28	128	✓
4° 5' R	0° 30'	1.75	175	✓
1° 49' R	0° 30'	2.32	232	✓
1° 10' L	0° 45'	2.85	285	✓
1° 35' L	0° 30'	3.40	340	✓
22° 15' L	0° 30'	2.25	225	✓
37° 50' L	0° 30'	1.90	190	✓
53° 25' L	0° 30'	1.58	158	✓

Contours 105.0

55° 10' L	1° 30'	1.70	170	✓
46° L	1° 30'	2.10	210	✓
40° 16' L	1° 15'	2.38	238	✓

Hor	Vert	Pod			
35° 50' L	1° 15'	2.72	272	✓	
1° 50' R	1° 30'	3.40	340	✓	
3° 26' R	1° 30'	2.75	275	✓	
5° 35' R	1° 30'	2.24	224	✓	
10° R	2° 30'	1.80	180	✓	
24° R	2° 45'	1.48	148	✓	
43° 45' R	2° 30'	1.50	150	✓	
57° 22' R	2° 15'	1.95	195	✓	
76° 57' R	2° 15'	2.30	230	✓	
82° R	2° 30'	1.82	182	✓	
88° R	3° 30'	1.25	125	✓	
107° 20' R	4° 45'	0.72	72	✓	

Bottom 110.0

106° 55' R	5° 15'	1.00	99	✓	
90° 5' R	5°	1.68	168	✓	
85° R	3° 30'	2.10	210	✓	
82° 25' R	2° 45'	2.58	258	✓	
86° 45' R	2° 15'	3.10	310	✓	
78° 41' R	1° 45'	3.70	370	✓	

Hor	Vert	Pod			
76°35' R	2°45'	4.15	4.15	✓	
69°30' R	2°	3.50	3.50	✓	
63°57' R	2°30'	2.90	2.90	✓	
50°40' R	3°15'	2.05	2.05	✓	
30°30' R	3°15'	1.72	1.72	✓	
14°12' R	3°15'	2.03	2.03	✓	
8°10' R	3°	2.40	2.40	✓	
6°27' R	3°	2.75	2.75	✓	
5°20' R	2°30'	3.35	3.35	✓	

Contour 115.0

8°30' R	3°15'	3.32	3.32	✓	
10°20' R	4°	2.70	2.70	✓	
17°20' R	4°15'	2.18	2.18	✓	
33°33' R	4°45'	2.00	2.00	✓	
47°53' R	4°45'	2.23	2.23	✓	
56°51' R	3°45'	2.62	2.62	✓	
62°57' R	3°30'	3.01	3.01	✓	
66° R	3°	3.45	3.45	✓	

Hor.	Vert.	Pod			
Contour 120.0					
63°45' R	3°45'	3.50	350	✓	
58°45' R	4°	3.00	300	✓	
46° R	5°30'	2.50	248	✓	
30°37' R	6°30'	2.22	219	✓	
19°32' R	5°30'	2.45	243	✓	
11°37' R	4°30'	3.00	300	✓	
10°35' R	4°	3.60	360	✓	

Hor.	Vert.	Pod			
Contour 125.0					
12°55' R	4°45'	3.60	360	✓	
14°5' R	5°15'	3.10	307	✓	
23°20' R	6°	2.70	267	✓	
35°35' R	6°15'	2.58	265	✓	
44°13' R	6°15'	2.68	265	✓	
55°35' R	6°30'	2.95	291	✓	
59°50' R	5°15'	3.20	318	✓	
62°6' R	4°30'	3.52	352	✓	
85°30' R	5°30'	3.40	337	✓	
86°15' R	5°30'	2.90	287	✓	

Hor.	Vert.	Pod		
90°38' R	6°45'	2.40	237	✓
102°20' R	8°15'	1.82	178	✓
117°30' R	10°15'	1.35	131	✓

Contour 120.0

130°27' R	11°45'	1.06	101	✓
110°45' R	10°30'	1.32	128	✓
99°30' R	7°15'	1.78	175	✓
89°20' R	5°30'	2.25	223	✓
85°25' R	4°30'	2.80	280	✓
84°25' R	4°	3.35	335	✓

Contour 115.0

82°35' R	3°15'	3.30	330	✓
83°21' R	3°15'	2.82	282	✓
85°20' R	4°	2.40	240	✓
90°53' R	5°	1.95	195	✓
103°55' R	7°45'	1.22	120	✓

Hor.	Vert.	Rod
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D16

 $\circ$  of 2nd  
C

71.25' 60°

Sta 14+33.6

C → 14+33.6

Contour 125.0

34°45' L	4°30'	1.52	1.52 ✓
42°37' L	5°	1.10	1.10 ✓
81°4' L	7°15'	0.70	0.7 ✓
128°37' L	7°	0.8	0.8 ✓
151°40' L	7°	1.22	1.20 ✓
161°33' L	4°	1.69	1.69 ✓
169°55' L	2°30'	2.40	2.40 ✓
171°59' L	2°30'	2.95	2.95 ✓
175°33' L	2°	3.45	3.45 ✓
177° R	2°15'	3.63	3.63 ✓
174°28' R	3°	3.00	3.00 ✓
172°35' R	3°15'	2.45	2.45 ✓
166°2' R	3°45'	1.71	1.71 ✓

Hor.	Vert.	Rad	
152°47'R	6°	1.12	111 ✓
142°50'R	7°	0.88	87 ✓
119°5'R	10°30'	0.61	59 ✓
167°20'R	10°45'	0.60	58 ✓
57°53'R	7°45'	0.90	88 ✓
79°20'R	5°30'	1.15	114 ✓

Continued 129.0

24° R	3°30'	1.15	115 ✓
44°34' R	4°45'	0.74	74 ✓
122°58' R	8°45'	0.48	47 ✓
156°25' R	4°45'	1.00	100 ✓
170°30' R	2°45'	1.43	143 ✓
176°12' R	2°45'	2.00	200 ✓
178°50' R	1°15'	2.52	252 ✓
167°15' L	2°15'	1.79	179 ✓
157° L	2°30'	1.18	118 ✓
135° L	2°45'	0.78	78 ✓
83°53' L	4°	0.60	60 ✓

Hor.	Vert.	Rad	
61°10' L	4°	0.81	81 ✓
36°50' L	4°	1.28	128 ✓

Continued 115.0

27°40' L	2°15'	1.44	140 ✓
49°10' L	2°30'	0.73	73 ✓
92°47' L	2°30'	0.50	50 ✓
154°11' L	2°15'	0.80	80 ✓
184°8' R	2°	1.38	138 ✓
175°55' R	2°15'	0.71	71 ✓
118°20' R	1°30'	0.25	25 ✓
34°20' R	1°30'	0.45	45 ✓
117°26' R	1°45'	0.53	53 ✓

16+85 → 18

## Contours 110.0

138° 6' L	2° 30'	2.28	228	✓
125° 30' L	2° 30'	2.00	200	✓
110° 9' L	2° 45'	1.82	182	✓
97° 21' L	4°	1.88	188	✓
80° 26' L	4° 45'	1.85	185	✓
61° 53' L	4° 30'	1.80	180	✓
44° 56' L	3° 30'	2.04	204	✓
31° 28' L	3° 15'	2.35	235	✓
24° 20' L	2° 45'	2.68	268	✓
18° 50' L	2° 30'	3.20	320	✓

## Contours 115.0

21° 15' L	2° 30'	3.25	325	✓
25° 50' L	2° 45'	2.82	282	✓
31° 55' L	3°	2.50	250	✓
42° 57' L	3°	2.22	222	✓
56° 8' L	2° 15'	2.25	225	✓
75° 45' L	4° 45'	1.95	195	✓

Hor.	Vert.	Rod			
90°	4°45'	2.10	210	✓	
105°5'	4°30'	1.95	195	✓	
120°30'	4°15'	2.05	205	✓	
133°35'	3°	2.40	240	✓	

Bentons 120.0

133°45'	3°45'	2.50	250	✓	
125°10'	4°15'	2.30	230	✓	
115°35'	4°30'	2.18	218	✓	
101°38'	4°45'	2.08	208	✓	
90°15'	5°	2.35	235	✓	
83°45'	4°30'	2.05	205	✓	
68°	5°30'	2.12	210	✓	
57°55'	5°30'	2.20	218	✓	
43°45'	4°30'	2.35	235	✓	
34°10'	4°	2.58	258	✓	
27°	3°30'	3.00	300	✓	
22°33'	3°30'	3.32	332	✓	

Hor.	Vert.	Red		
Contour 125.0				
23°40' L	4°15'	3.40	3.40	✓
28°50' L	4°15'	3.05	3.05	✓
35°45' L	5°	2.70	2.70	✓
43°10' L	5°	2.60	2.60	✓
54°47' L	5°30'	2.30	2.28	✓
67°28' L	5°45'	2.25	2.23	✓
77°51' L	5°15'	2.50	2.48	✓
88°15' L	4°30'	2.85	2.85	✓
92°5' L	5°00'	2.35	2.33	✓
106°36' L	5°45'	2.25	2.23	✓
121°5' L	5°30'	2.32	2.30	✓
131°43' L	5°30'	2.55	2.53	✓

Contour 105.0				
60°50' L	2°30'	1.65	1.65	✓
44°28' L	0°15'	1.88	1.88	✓
32°48' L	0°45'	2.12	2.12	✓
24°50' L	0°30'	2.40	2.40	✓

Hor.	Vert.	Rod		
18°5' L	0°45'	2.88	2.88	✓
15°26' L	1°	3.30	3.30	✓

Contour 100.0

9°46' L	1°	3.20	3.20	✓
10°40' L	0°45'	2.68	2.68	✓
16°33' L	1°	2.10	2.10	✓
22°10' L	1°	1.65	1.65	✓
33°40' L	1°15'	1.30	1.30	✓
49°33' L	1°30'	1.00	1.00	✓

9/16-03

Sta 20+53 → 18'

Contour 95.0

8°11' R	2°	1.52	1.52	✓
11°18' R	2°	1.08	1.08	✓
3°13' L	2°30'	0.62	0.62	✓
40°40' R	3°30'	0.31	0.31	✓
81°20' R	3°15'	0.65	0.65	✓

Hor.	Vert.	Rod			
115°15' R	3°	0.93	93	✓	
147°57' R	1°30'	1.08	108	✓	
164°40' R	1°15'	1.40	140	✓	
143° R	1°15'	1.09	109	✓	
117°42' R	1°30'	0.95	95	✓	
83°55' R	1°30'	0.80	80	✓	
40°51' R	1°	0.40	40	✓	
6°5' R	1°30'	0.62	62	✓	
19°15' R	1°30'	1.00	100	✓	
13°45' R	1°30'	1.55	155	✓	

Contour 100.0

91°50' R	2°	0.97	97	✓	
130°5' R	2°	1.18	118	✓	
153°45' R	1°45'	1.30	130	✓	
164°52' R	1°30'	1.55	155	✓	
170°55' R	1°45'	1.40	140	✓	
156°47' R	2°15'	1.05	105	✓	
117°10' R	2°	0.72	72	✓	

Hor.	Vert.	Rod			
76°37'R	6°	0.27	27	✓	
14°50'L	4°15'	0.61	61	✓	
1°	L 2°30'	1.22	122	✓	
2°	R 1°15'	1.75	175	✓	
1°55'R	1°15'	2.32	232	✓	

Contour 105.0

4°25'L	0°0'	2.30	230	✓	
7°35'L	0°0'	1.70	170	✓	
5°25'L	0°0'	1.20	120	✓	
42°45'L	0°15'	0.60	60	✓	
137°	L 1°15'	0.21	21	✓	
178°40'R	0°15'	0.72	72	✓	
179°30'L	1°15'	1.28	128	✓	
176°	L 1°	1.72	172	✓	
174°25'L	1°	2.20	220	✓	
172°	R 1°	2.30	230	✓	
162°25'R	1°	1.90	190	✓	
146°15'R	1°	1.62	162	✓	

Hor.	Vert.	Rod			
125° R	0° 45'	1.35	135	✓	
98° 30' R	0° 30'	1.05	105	✓	
65° 35' A	0° 15'	0.98	98	✓	

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

14,33.6  
13.28  
105.6

164

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.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.

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