58

Level Note

Water Front Survey

58

Padwallader

See Book 67

2

F.B.58

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

...ble 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

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MICROFILMED
APR 4 1964

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

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

Plaintiff's exhibit No. 1
for IDENTIFICATION
action No. 35773

Plaintiff's Exhibit
In Case of
Plaintiff No.
vs
Defendant
Filed
Clerk
By
Deputy

3 Check Levels on Roseville line

Wednesday Friday 20th 1889

Sta	B.S.	I.H.	F.S.	El
				100.403
#	5.244	105.647		
			5.047	100.600
#	2.605	103.205		
			4.118	99.087
#	4.301	103.388		
			3.772	99.616
#				99.61
#	4.034	103.644		
			3.372	100.272
#	3.541	103.813		
			1.802	102.011
#	6.546	108.557		
			7.245	101.312
#				

make this 101.

100 ft added to City Elevations

See Book 67 Page 8-16

B.M. No 3 on Roseville line el = 98.610

101.312
101.254
.058

B.M. No 4 on Roseville line el = 100.290

54 from the B.M. on end of dyke

Book 1-53 New No Book 67

Thursday Feb 21st 1889

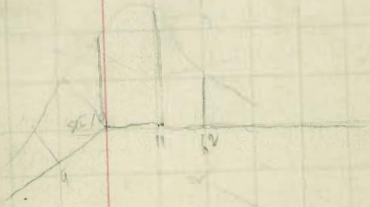
Sta	B.S.	I.H.	F.S.	El	Rod	Dist
				96.797	BM. at	
				.45	correction	
				96.843		
	4.310	101.153			5.003	
60		(called "D" line on map				L62.
61		Bartlett				L50.5
62						L37.4
C3						L40.2
C4						L51.
C5						L55.
C6						L101.
C7						L47.
C8						L17.3
C9						L49.1
~~C10~~						~~L120.8~~
T.P.			4.240	96.913		
	3.877	100.790			4.64	
C10						L162.9
C11						L292.
C11+72						L276.9
C12+72						R50.

3.85 100.79 4.64 96.15 101.153 5.003 96.150

2

Sta 69 on lath line be added

Right or left looking in the direction of the line



Angle in line

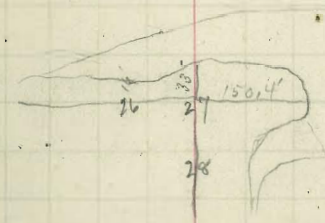
7

3

Sta	B.S.	I.H.	F.S.	El	Rod	Dist
		100.79				
C 14						R 25.6
C 15						R 14.4
C 16						R 42.
C 17						L 9.6
T.P.			4.074	96.716		
	4.645	101.361			5.211	
C 18						R 4.1
C 19						R 17.3
C 20						R 6.6
C 21						L 2.5
C 22						L 9.4
C 23						L 7.8
C 24						L 50.5
C 25						L 28.
C 26						L 16.6
T.P.			5.520	95.841		
	7.886	103.727			7.577	
C 27						L 33.3
C 27						L 150.4

checked on old turn point
.02 low

angle in C line



Sta	B.S.	I.H.	F.S.	El	Rod	Dist	
		103.727					
C 28						L 94.8	
C 29						L 77.5	
C 30						L 35.	
C 31						L 4.5	
C 32						R 10.	
C 33						R 7.6	
C 34						L 5.1	
C 34+44 = Sta 390 Main Line						L 13.1	
T.P.			5.277	98.450			BM on bank 10' E of C 34
				101.300			BM No 4 on Rasceville Line
#	3.042	104.342					
#			2.917	101.435			
	3.458	104.893					
#			6.412	98.480			98.45 = B.M. on bank at Sta C 34

average = 98.446

Corrected (94.42) from Fulton BM on Maps

11 Saturday Feb 23rd 1889

Check between My line + those of Fulton, Avery + Reese

5

Sta	B.S.	I.H.	F.S.	El	Rod	Dist
#				101.30		
	5.683	106.983				
			6.267	100.816		
			correct el	100.779		

B.M. No 6.267 4 on Roseville line

B.M. in NE cor of Hayes's fence (spk

Fulton .741 error .075

Avery .719 " .097

Reese .750 " .066

.816
.741
.075

.816
.719
.097

.816
.750
.066

.075 (2
.038
.741
.779

2.210 (3
.715

.816
.715
.101

Sta	B.S.	I.H.	F.S.	El	
				7.352	BM No 8 on my line & Kanville
#	11.876	19.228			
			2.370	17.858	
	8.106	25.964			
			2.400	23.564	BM. in Hotel

23.564
22.854
.710

Friday ~~Feb 28th 1889~~ March 1st 1889

(96.15) average high tide

Sta	B.S.	I.H.	F.S.	El	Rod	Bay side	Land side	Remarks
				2.636	+100			Army's el. of the U.S. BM at La Playa the mean of Fallon, Reese & Army
#	1.184	3.820						
#			5.937	97.883				
	3.236	101.119			4.97			
569+29.95 = U.S.M.R.						59.		
569						51.4		
568						26.		
567						35.7		
566						48.4		
565						47.5		
564						45.8		
T.P.			5.349	95.770				
	7.00	102.77			6.62			
563						39.		
562						26.4		
561						13.3		
560						3.4		
559						.6		

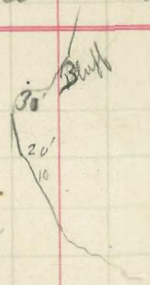
Fishing boats, masts etc

Line

Sta	B.S.	I.H.	F.S.	El	Rod	Check	Bay Side	Land Side	Remarks
		102.77							
558								20' .6	
557	ΔL						11.	25'	
T.P.			6.112	96.658					
	6.590	103.248			7.10				High Bluff
556							.9	15'	
555							1.5	5'	
554								20' 3.5'	
553							1.9	15'	
552							13.3	10'	
551+38	ΔL = Z8+62.2						20.3		
T.P.			4.942	98.306					
	3.188	101.494			5.345				
Z8		(called "G" line on map) Bartlett					16.1		
Z7							10.9		
Z6							5.5		
Z5							5.0		
Z4							10.9	take this on bisector of angle GSC	
Z3+82							10. 10.1 omit GC.		
Z3								4.2	

Sta	B.S.	I.H.	F.S.	El	Rod	Check	Bay Side	Land Side	Remarks
		101.494							
Z 2								13.2	
Z 1								27.4	
Z 0 = 545	Meas. from main line							45.1	30'
544								31.4	
543								0.2	25'
542 + 56.53 △ L							8.5 —		5'
T.P.			5.812	95.682					Bluff
	3.119	98.801			2.650				
542							0	0	8'
541								1.5 —	2'
540								20.	5'
539								33.5 —	3'
538								30.2	10'
537								33.5 —	12'
536								30.3	15'
535								19.8	12'
T.P.			2.260	96.541					
	6.840	103.381			7.23'				
534								1.	

Sta	B.S.	I.H.	F.S.	El	Rod	Check	Bay Side	Land side	Remarks
		103.381							
533							21.6		
532+1.57	ΔL						57.6		
							54.8	Omit	
531							29.9		
530							11.8		
529								1.	
528								9.4	
527								17.9	
526								22.5	
525								28.4	
T.P.			7.600	95.781					
	5.138	100.919			4.769				
524								32.5	
523								31.5	
522								29.2	
521								20.2	
520								13.5	
519								5.7	
518								3.5	
T.P.			2.734	98.181					
	6.160	104.341			8.191				



Line

Sta	B.S.	I.H.	F.S.	El	Rod	Check	Bay Side	Land Side
		104.341						
517							8.3	
516							12.4	
515							16.1	
514							14.2	
513+35.5 ΔL							6.7	
T.P.			4.800		99.541		B.M. Spk in NW Cor of 12X14 white house close to wharf 100' No of Ry grade	

Saturday March 2nd 1889

Check levels from La Playa to Roswell

Sta	B.S.	I.H.	F.S.	El	
				102.636	Avery's El of Government B.M. at La Playa
#	4.768	107.404			
			1.227	106.177	
#	9.556	115.733			
			4.492	111.241	
#	11.883	123.124			
			0.984	122.140	
#	8.953	131.093			
			4.490	126.603	B.M. No 10 on line to Roswell
			0.914	130.179	
#	3.879	136.058			
			9.120	126.938	
#	0.860	127.798			
			8.244	119.554	
#	1.915	121.469			
			10.843	110.626	

Sta	B.S.	H.I.	F.S.	El		
				110.626		
#	3.809	114.435				
			3.879	110.556		B.M. No 9 on Line & Russelle
#	6.310	116.866				
			0.704	116.162		
#	3.655	119.817				
			8.141	111.676		
#	4.179	116.855				
			6.980	108.875		
#	0.395	109.270				
			9.646	99.624	99.541	B.M. in White House N of Ky grade by the wharf.
				541 .083 62	1.041	
			8.497	100.773		B.M. in 1st cross-piece of wharf on N side & R.

29 Monday March 3rd 1884

Sta	B.S.	I.H.	F.S.	El.	Rod	Check	Bay Side	Land Side
				99.580			Spot in House by Roseville Wharf	
							99.580 = the mean of my two levels	
H	2.930	102.510			6.360			
y 12	12+97.3 = 513+35.54							
y 12	~~=513+35.54~~ (?)						8.6	
y 11							9.9	
y 10							2.3	
y 9							9.8	
y 8								9.5
y 7								19.8
y 6								26.8
y 5								31.
T.P.			4.760	97.750				
	5.615	103.365			7.315			
H								.6
y 3							18.5	
y 2							.7	
y 1								23.3
y0 = 501								4.1
500								11.4
499								14.4
498								13.6

(called "F" line on map Bartlett)

Sta	B.S.	I.H.	F.S.	El	Rod	Bayside	Landside
T.P.		103.365					
			5.015	98.250			
	3.515	101.765			5.615		
-							
497							6.4
496						6.2	
495							6.5
493+92△							1.5
493							39.6
492							44.8
491							50.5
490							48.4
T.P.			4.015	97.750			
	3.910	101.660			5.51		
489							41.3
488							30.5
487							24.
486							7.8
485						7.2	
484							3.0
483						14.9	

Sta	B.S.	I.H.	F.S.	Cl	Rod		Bay Side	Land Side	
		101.66							
482							20.9		
481							44.6		
480+56.46							53.8	(omit)	
T.P.			2.690	98.970					B.M. 200' SW of wharf (Cem Inch)
	3.345	102.315			6.165				
480							172.9	(omit)	
479									

33 Tuesday March 5th 1889

Sta	B.S.	I.H.	F.S.	El	Rod	Check	Bay Side	Land Side	Remarks
				98.420			Carried el of B.M. at sta 6 34+34		
	4.100	102.52			6.37				
390							10.9		
391								21.2	
392							2.8		
393							10.5		
394							30.3		
395							64.6		
396							58.5		
397							53.3		
398								61.3	
399								64.3	
T.P.			6.010	96.51					
	4.490	101.00			4.85				
400								24.1	
401							36.		
402							103.1		
X									The line marks such a sharp curve and the shore line is regular so I jumped to 406
406							14.7		
407								84.8	
408								105.5	

Sta	B.S.	I.H.	F.S.	El	Rod	Bay Side	Land Side	Remarks
		101.00						
409							100.6	
410							12.2	
411							97.4	
412							28.7	
T.P.			4.425	96.575				
	5.32	101.895			5.745			
413							6.1	
414							39.2	
415							33.7	
416							16.8	
417							33.2	
418							47.5	
419						21		
420						33.		
421						83.2		
422						23.7		
T.P.			4.465	97.430				
	5.435	102.865			6.715			
423							32	

Sta	B.S.	I.H.	F.S.	El	Rod	Bay side	Land side	Remarks
		102.865						
424							16.5	Sanford's party under
425						8.6		Fulton on Ry work train
426						8.3		pulled up & used some
427						21.4		of our stakes
428						25.8		
429						19.9		
430						27.6		
431						37.6		
432						44.4		
433						44.2		
T.P.			4.51	98.355				
	5.325	103.680			7.53			
434						37.5		
435						25.1		
436						14.2		
437						25.4		
438						20.6		
439						9.9		
440						2.0		
441							7.4	

Sta	B.S.	I.H.	F.S.	El	Rod	Check	Bayside	Lawn side	Remarks
		103.68							
442								15.7	
443								18.2	
T.P.			4.490	99.19					
	4.970	104.16			8.01				
444							9.7	9.7	
445							8.7	8.7	
446							6.8	6.8	
447								2.1	
448 △							10.6		
449								19.4	
450								4.8	
			1.482	102.68					B.M. No 6 on line 6 Roseville
451							6.2		
452							14.2		
453							8.		
T.P.			9.27	94.89					
	6.54	101.43			5.28				
454								15.3	

Sta	B.S.	I.H.	F.S.	El	Rod	Bay Side	Land Side	Remarks
✓		101.430						
455							39.8	
456							55.	
457							58.4	
458							48.	
459							19.1	
460						17.3		
461						17.1		
462						9.7		
463 = X0						5.00		
T.P.			3.085	98.345				
	3.790	102.135			5.985			
						×		
X1							11.6	
X2		(called "E." line on map)				17.7		
X3		Bartlett				11.5		
X4						88.8		
X5						71.9		
X6						46.8		
X7							66.8	(?)
X8						22.7		
X9						1.0		

Sta	B.S.	I.H.	F.S.	El	Rod	Bay Side	Land Side	Remarks
X 10 T.P.		102.135	6.650	95.485				at X10 was a very low spot for some distance on both sides and therefore not a true test and I jumped it

47. Wednesday March 6th 1889

Sta	B.S.	I H	7.5.	G.l	Rod		Bay Side.	Land Side	
				94.97					B.M. Page 33
#	6.370	105.34			9.19				
X 20							60.2		
X 19							84.		
X 18.							94.8		
X 17		(called "E" line on map Bartlett)					93.6		
X 16							89.		
X 15							46.5		
X 14								18.8	
X 13								20.7	
X 12							9.5		
X 11							35.7		
				98.97					-Turns to check the two lines together i.e. from La Playa & Hayes House
#	5.345	104.315							
			5.63	98.685					
									98.295 = levels run from La Playa
#	4.080	102.765							
			4.470	98.295		98.345			
						98.295			98.345 = levels run from Hayes House
						.050	= error		

49 3.58

Sta	B.S.	I.H.	F.S.	El	Rod
				96.845	
58	4.400	101.245			5.095
35+84	44				
359					
360					
361					
362					
363					
364					
365+60					

Bay Side	Land Side	Remarks
		B.M. - Page 5
		Back 1 358 is a lot of sta. Triangulated Beyond 365 is 6 line
0	0	
	13.8	
	44.9	(see book 67 p 24)
	50.1	
	42.6	
8.8		
35.6		
69.4		

Wednesday March 20th 1889

Σ Line

Sta	Bay Side	Land side	B.S.	I.H.	F.S.	El
						3.796
#			4.474	108.270		~~2.425~~
					9.455	98.815
Σ Line			3.215	102.030		
21+17.7	0	0				
21	30.2	—				
20		60.3				
19		46.5				
18		86.5				
17	△	24.1				
17		18.0				
16		15.7				
15		15.0				
14		21.0				
13		26.2				
12		21.4				
11		16.0				
10	0	0				
8	59.0					
7	21.4					
6	33.6					

("B" line on map) Bartlett

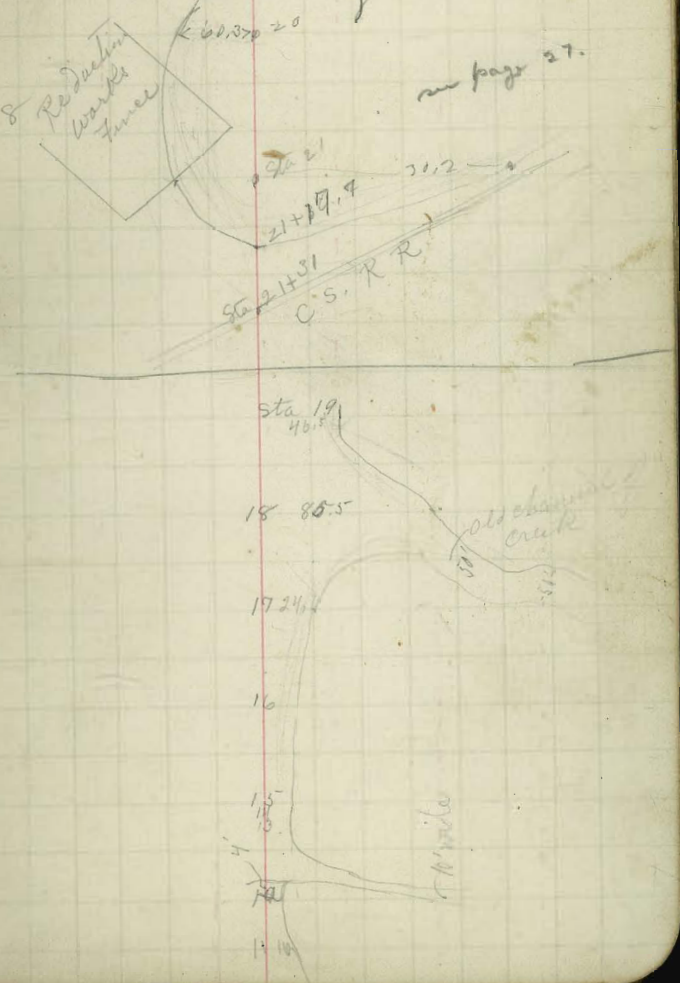
N.B. I guessed this angle as the curve was regular

96.15

Rod

El of BM in SE cor of 19th & M

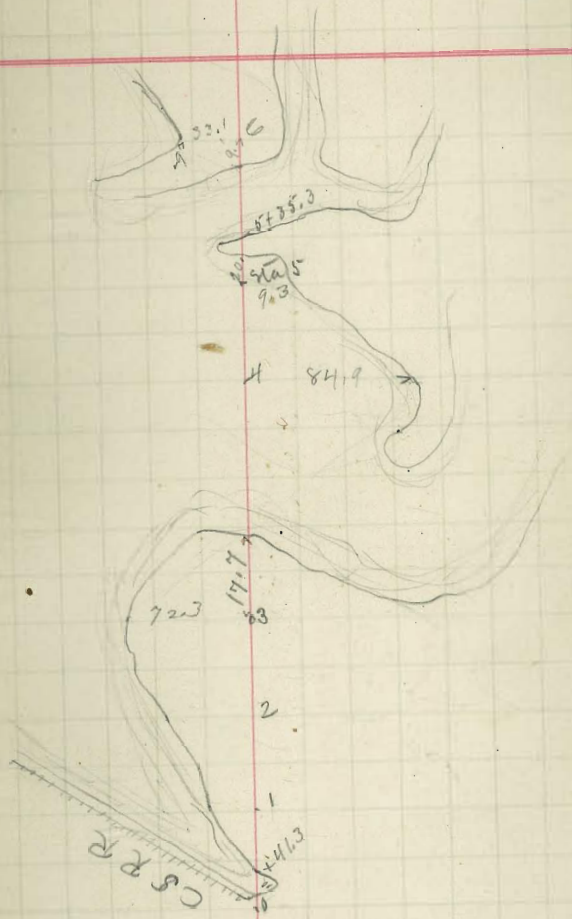
5.88



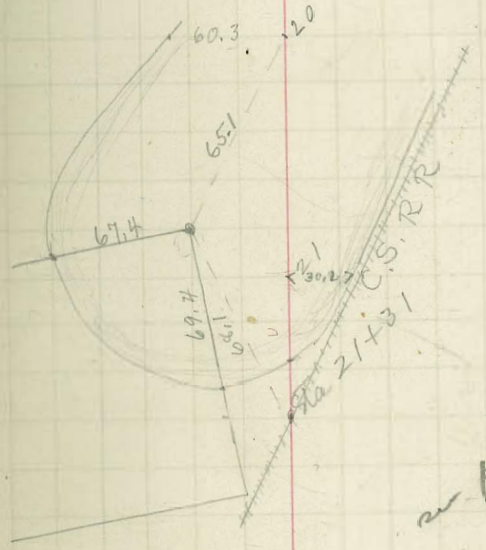
53

	Bay Side	Land Side
5		9.3
4		84.9
3	72.3	
2	47.	
1	25.1	
0		

(called "B" line on map Bartlett)



55 . Σ Aire .



sur page 28

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38

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

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

TRAVERSE TABLE FOR TRANSIT BOOK,

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91 18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67 88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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