

*U.S. Army Engineers Office
City Hall, San Diego, Cal.*

12

TRANSIT.

F.B. 54

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City Hall, San Diego, Cal.

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

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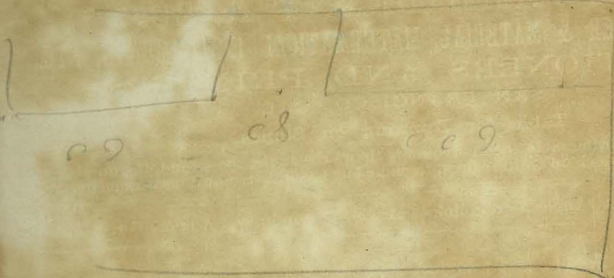
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Table for Running on Slopes.

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
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

Return to City Engineers Office
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Survey of Pueblo Lot 9	1120	10
" " "	1121	20 - 27
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" " Unnumbered lot bounded on NE by lot A and NW by old Town and on South by 1121		16 - 19
Survey of NE 1/4 of lot 9		28 - 31
Survey of Pueblo lot 1122		32 - 39

22

Sta

Angle

Survey of

Public Lot A

1790

June 11 1890

(N 14° 25' W mag.)

14 + 18.20 = 1304.43 (1912 kept)

13 1304.43 (1912 kept)

12 1304.43 (1912 kept)

11 1304.43 (1912 kept)

10 + 09.95

9

8

copied from the original
map in the Book 655
page 14

High in old mound, observation
marked SE NW 1/4 A facing NW

(The correct distance)

line

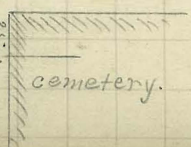
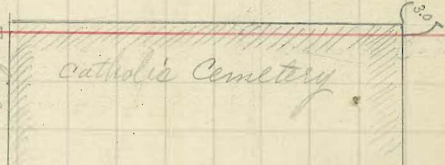
1790

1790

7
6 + 45
5
4 + 81.83
3
2 + 86.13
1 + 92.24
0

(N 13° 15' W mag.)

o = SE corner of Lot A
← Station mark



Play in mound the SE
corner of Lot A

Sta 1786

Sta
Angles
Survey of Puella Mt. A

$$\begin{array}{r} 2987 \\ 2621 \\ \hline 13170 \end{array}$$

28
875° 35' E

90° of left

□ 44' at stake measured N on S.M. the
N.E. cor of Puella Mt. A

27
+21.76

26

25

24

23
+49.26

□ Plug line

22

N 14° 20' W

□ line

21

+83.06

□ S.E. cor of N 1/2 of N.E. 1/4 of Sta A

20

+64.16
0° of left

19

18

17

16

15
+78.81

□ line

Sta
Angle
Survey of Public Lot A

42.

41

40

+38.170
+13.0739
0° 10' R197N7.

875° 35' W mag.

38

+71.01

37

36

+78.36

35

34

+255.19

33

32

31

30

+98.97

29

205.0
all stakes in large mound

494.0 stake in base of M on S.E. side
N.E. 1/4 of Lot A

line

line

line

line

56. Ste

Angle

Survey of public lands

55

54

53

+14.98

52

51

50

44584
2601.7
1826.7

□ line

49

48

47

+55.11

46

(322° 0' W. Mag)

45

+58.36

53° 45' left

44

43

53° 45'

□ line

3 1/4" stone in mound the NW cor of lot 17 (in old 8 acre line)

McClain line

Sta. Angle Survey of Pointe de la P

70

69

+ 06.81

68

67

(371° 45' E Mag.)

66

+ 37.96

9844 top

65

64

+ 95.19

63

+ 10.42

62

61

60

59

58

+ 19.21

57

□ line

□ spike in stone returned by
4444 stone Nat. Geog. M.A.

□ line

□ Blug in ground NW cor of
Johnston tower height to table

□ line

Sta
+ 65.13
84
+ 231.78
83
+ 83.69
82
+ 33.15
81
80
+ 43.16
79
78

N76° 26' E

(971° 55' E mag)

Angle

Survey of Powell lot A.

line

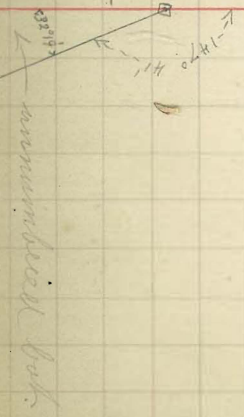
line(?)

line by large 4 1/4" stake
the SW cor of lot A.

line

30° 52' left

Stake at cor of west
numbers 81, 82, 83 and 84.



77

76

75

74

73

+ 98.01

72

71

line

Sta

Angels

Summary of results 1/17/77

98 See next page

97

96

+02.61

95

94

93

92

91

90

89

88

87

86

+60.74

85

N 76° 45' E Mag.

0° 28' 12" Right

□ line

□ 414" stake in mound of

Rock the SE. cor. of
Johnston's Heights field

Quips	Bearing	Distance of Pickets	Remarks
1818.7	N 0° 35' E		
660.6	N 0° 37' W		
667.7	N 6° 41' W		
1319.0	S 89° 12' W		
521.8	S 89° 22' W		
2077.0	S 33° 37' W		
1403.5	S 58° 10' E		
359.6	S 59° 09' E		
276.3	N 89° 59' E		
1293.4	S 89° 32' E		

Distance of Pickets
 Station
 South East West North

+ 58.15
 98

89° 54' 1/2" left

(N 13° 15' W mag)

East line of lot A

Play in mound also SE
 corner of lot A

Sta. Angle Survey of Johnston Heights Sta.
 copied from the original notes
 Book 55 page 21

13

12

11

10

9

+ 53.18

8

7

□ Area

6

5-

N 75° 45' E Mag.

4

+ 27.57

53° 46' Right

3

□ Plug in around the NW
 cor of Johnston Heights

2

+ 44.42

□ Area

1

N 22° 0' W Mag.

0

Stubaie Park

□ 3 1/2 in. pebble returned
 by 4241' note

Sta Angle & mag of Johnston Heights Sta

29

28

27

+68.41

26

25

24

23

22



□ line

+86.33

21

20

19

+85.09

18

89° 59' Right

17

16

+18.84

15

□ line

□ line in direction of rock
the NE corner of Johnston
Heights,

□ line

Sta

Angle

Survey of Johnston's Keyhole

+ 06.11 = 0 93° 47' Right Lt. Sta 1744.42

44 m in scanning

51

50

49

48

47

46

45

Summary of Johnston Heights Add.

Distance	Bearing	Distance	Departure
326.6	N 35° 37' E	N	19
1357.5	N 82° 23' E	E	W
1198.2	S 0° 38' E		
276.3	N 89° 58' W		
358.6	N 59° 10' W		
1403.8	N 58° 11' W		

Survey of mountain but not part A & Buckle tower and
 All towns on the left. east 50 x 100
 copies from the original in
 book 65 pages 11-13

Sta angle

Humber

after

William's

Kornel's

13

12

+96.85

line

11

871°45'E

10

+28.0

86°14' angle

spike in sand line

+25.60

8

7

6

5

4

3

+23

2

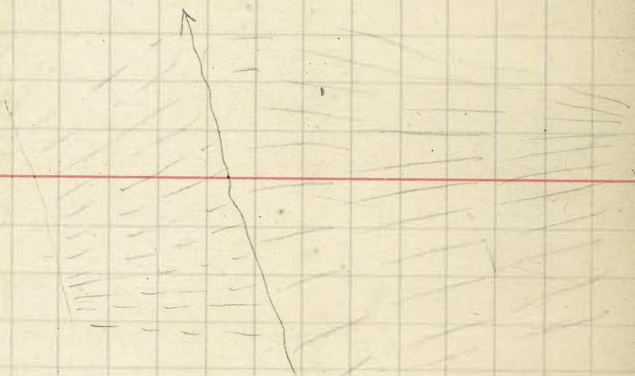
N 22° 05' E

1

+81.1

0

Stuck's mark



Flag in mound of rock

man's 1. Buckle's tower

his line

17

Survey of Unnumbered lot between F and Donald St

Sta

Angle

Turn and add Town on the North

+ 98.90

29

line

28

27

26

+ 28.75

25

N 75° 45' E

line

24

+ 33.60

147° 41' Right

F

1/2" Gang Stake in instead of

23

2" post.

22

21

20

19

18

17

+ 56.45

16

line

15

Survey of Cunningham Hill lot bet 7th & Middle town and
 the angle

+69. = 0 126° 05' Right

40

89

88

87

86

85

84

83

82

+16.25

81

80

△ Plug in mound, the
 front of beginning

△ line

<i>Bearing</i>	<i>Bearing</i>	<i>Latitude</i>	<i>Longitude</i>
928.60	N 35° 36' E	N	E
1405.0	S 58° 10' E	S	E
1735.4	S 89° 31' W		W

Sta

Survey of Public Lot 1121

20

14

+140.07

13

12

11

10

9

+88.96

8

7

+68.33

6

5

4

3

2

1

0

813° 30' E

Station Mark

300° 16' E

line

line

1122

1121

at top of our fence

at the corner

Sta

+94.28

Angle

Survey of Puello Lot 1121

□ line

29

28

+37.77

27

26

25

24

N 83° 0' W Mag.

23

+87.70

110° 34' Right

N 69° 16' W

□ Poly.

22

21

20

19

+79.32

18

□ line

17

+56.43

16

□ line

15

Sto

+62.52

Angle

Survey of Public Lot 121

□ center of Beechley St

47

48

49

41

+53.01

40

39

38

37

□ center of the Bee St.

+80.26
+38.56
+06.5210° 16' RIGHT
N 59° 6' W□ Man. 26
□ center of Prairie Street
□ line

36

35

34

33

32

+88.18

31

30

□ center of Prairie Street

8th

+ 72.45

59

57

56

+ 90.18

55

+ 73.02

54

53

Survey of Public Lot 1121

Angle

□ center of Wright Street

□ center of East Miller St

□ center of Kelly Street

52

51

50

49

+ 71.98

48

47

46

45

□ center of Stone Street

Site

Angle

Survey of Rockledge Sub 1121

74

73

72

N 76° 0' W.

+ 100.93

53° 55' Right

N 89° 30' E

71 + 86.93

94° 35' Right

N 35° 35' E

+ 106.70

70

69

68

+ 34.85

67

66

65

64

+ 53.25

63

62

61

60

Piling on mound NW. cor. of 1121.
 Iron 1 on end of stone block line
 South base of Witterbee
 Street

center of south St

center of Bandman's St

Sta

Angle

Survey of Peckham Oct 11/21

24

89

87° 05' E

+ 36.33

31° 20 1/2 Right 559° 09' E

□ Bench Stake in mound of
rock

88

87

86

85

84

83

82

+ 71.03

81

+ 58.38

80

□ line

□ line

79

78

77

76

75

St. Single Survey of Public Lot 1121

104.
+ 35.78

□ Area

103

102

101

100

99

98

97

96

95

+ 53.91

N 76° 42' E
0° 28 1/2' RIGHT
S 89° 33' E

94

+ 53.33

□ Area

93

+ 66.95

□ Area(?)

92

+ 76.86

N 76° 26' E
30° 53' LEFT
N 89° 39' E

91

+ 26.32

□ 44' stake in mound of rock
the SW cor- of Lot A

90

□ Area

Sta Angle Survey of Public Lot 1121

119

80° 24' 21.97" <

99° 31'

118

(50° 11' E)

117

97° 17' along

+ 49.28

+ 12.20

115

N 82° 32' E

+ 39.88

116

+ 48.67

114

113

N 89° 57' E

611.6

from this point
N 89° 57' E 611.6 to SE

corner cemetery
89° 52' A along east line of
1121

cemetery.

112
111
+ 37.44
N. 76° 10' E.

89° 26' Right

S 89° 57' E



line

N. 13° 15' W.

89° SW 1/2 LEFT

N 0° 32' E

line measured the SE corner of lot A

108

+ 51.32

107

106

105

Course	Bearing	Survey of Pueblo Lot 1121							
		N	S	E	W	N	S	E	W
2287.7'	S 0° 10' E		2287.7	6.7			2284.3	6.7	
1392.6	N 69° 16' W	493.0			1302.4	493.7			1303.6
3406.6	N 59° 0' W	1754.5			2920.0	1757.1			2922.8
14.0	N 35° 35' E	11.4		8.1		11.5		8.1	
1735.4	N 89° 30' E	15.1		1735.3		15.1		1733.7	
340.6	S 59° 09' E		174.6	292.5			174.3	292.3	
277.0	N 89° 59' E	0.1		277.0		0.1		276.7	
1297.4	S 89° 33' E		10.1	1297.3			10.1	1296.1	
190.6	N 0° 32' E	190.5		1.8		190.5		1.8	
611.6'	N 89° 58' E	0.4		611.6		0.4		611.0	
		2465.0	2472.4	4230.3	4222.4	2468.7	2468.7	4226.4	4226.4
			2465.0	4222.4					
			7.4	7.9					

	N	S	E	W	+	-
		-2284.3	8446.1			19,293,426.2
+	493.7		7149.2		3,529,560.0	
+	1757.1		2922.8		5,135,651.9	
+	11.5		8.1		93.1	
+	15.1		1749.9		26423.5'	
		-174.3	3775.9			658,139.4
+	0.1		4344.9		434.5'	*
		-10.1	5917.7			59,768.8
+	190.5		7215.6		1,374,571.8	
+	0.4		7828.4		3131.4	
					10,069,866.2	
						20,011,334.4
						10,069,866.2
						2/9941,468.2
						4970,734.1

Mangala piece $14 \frac{93}{100}$ - $114 \frac{112}{1000}$ acm

Sta

Angle

Survey of NE 1/4 of Packer Lot A

28

14

+17.73

89°49' R 1911+

□ Plug in mineral indicator

by 212" stroke marker.

13

12

+45.93

□ line

11

10

9

8

7

+57.6

0°04' Right

□ Plug in mineral #8 E corner

of NE 1/4 of Lot A

6

+38.70

□ line

5

4

+22.50

□ line

3

2

1

0

Sta 0 in the NE corner of Packer Lot A
Stake mark

Sta
 angle
 Survey of 1901 W of
 14 of

29

+ 92.35

28

27

+ 37.10

20° 14' Right

26

25

24

23

+ 23.91

22

21

20

19

18

17

16

15

□ line

□ taking an amount the SW corner
 of NE 1/4 of F
 80° 31' E
 4.16

□ place in amount the NE
 corner of Johnson's Homestead

□ line

Sta. Angle Survey of 1881 1/4 of Buckles-M.A.

44

+ 17.94

□ line

43

42

+ 25.29

□ line

41

40 + 83.23

+ 57.60

39 + 18.70

89° 57' Right

Buckles

□ 4x4" at the NW cor of NE 1/4

□ line N. of Lot A, Buckles T. on SE

38

37

36

35'

34

33

+ 97.85'

0° 07' left

32

31

30

□ 4x4" at the SW cor of N 1/2
of NE 1/4 of Lot A. Buckles
T. on NE

Survey of NE 1/4 of Pueblo lot A

Course	Distance	Angle
Section line	8	W
Section line		E
Section line		W

657.7 S 0° 41' E
660.6 S 0° 37' E

S 29° 18' W
N 0° 34' W
N 0° 41' W
N 89° 16' E

1319.0*

58. +74.54 90° 03' Right to Sta 5+72.5 on Bank line

South line of N 1/2 of NE 1/4 of A

Note from SE cor of N 1/2 of NE 1/4 of lot A 889° 27' W, 5+93.23 line to

9+89.87 " "

12+55.46 " "

12+93.11 " "

13+19.65 to SW cor of

N 1/2 of NE 1/4 of Pueblo lot A

31

87

50

49

+97.33

48

47

46

+71.11

45'

□ line

□ line

□ 4+11.23 on NE cor of lot A
marked T on SW

Sta

Angle

Survey of Puello - Feb. 1922.

29

28

27

+ 06.81

26

90° 31' Right

376° 16' W

25

24

23

22

21

+ 79.98

20

19

+ 70.28

18

17

16

15

314° 20' E

1123
1122

□

Point out of
land around
old station on N side
of station

□ line

□ line

Sta

Angle

Inventory of Pueblo lot 1122

44

43

42

41

40

39

38

37

36

35

34

33

32

31

30

N. 76° 05' W.

0° 06' Right +

□ Station marked the S.E. corner
of the SW 1/4 of 1122

□ Line

□ Line

□ Line

□ Line

+ 23.70

+ 40.94

+ 49.68

+ 32.91

+ 62.91

Ste

Angle

Survey of Puelto Sta 1122

74

73

72

71

+ 04.11

70

69

68

+ 84.31

67

66

65

64

+ 23.26

63

62

61

+ 17.07

60

61

□ line

□ line

□ line

□ line

Sta Angle

Survey of Pucker lot 1122.

89

+ 19.96

88

87

86

85

84

83

82

81

80

79

78

77

+ 20.96

91° 07' Right

76

75

□ line

□ 4 1/4" stake cor of center line

Survey of Pueblo July 11 82

+73.574

88° 21' Right to Sta 4+48.5

108

C

1123

D

1122

101

100

99

98

97

96

+05.69

95

94

93

92

91

90

□ line

Bearing	course	Latitude		Longitude	
		N	S	E	W.
S 89° 01' E	2602.7		44.7	2602.4	
S 0° 40' E	2606.8		2606.7	30.3	
S 89° 57' W	1317.7		3.4		1317.0
S 89° 45' W	885.7		3.9		885.7
N 42° 08' W	442.3	328.8			297.4
N 69° 16' W	134.5	47.6			125.8
N 0° 10' W	2284.2	2284.2			6.7
		2660.6	2658.7	2632.7	2632.6
		2658.7		2632.6	
		- 1.9		0.1	

49

48

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City Hall, San Diego, Cal.

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City Hall, San Diego, Cal. ⁷⁵

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

Degrees.	DEGREES.		¼ DEGREE.		¼ DEGREE.		¼ 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.
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