Park Improvements

103

370

LEVEL

F.B. 103

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

103

# CRSE 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 | 10.80 | 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. | Lat. | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Degrees. |
| | DEGREES. | | ¾ DEGREE. | | ½ DEGREE. | | ¼ DEGREE. | | |

MICROFILMED

Published by H. S. Crocker Company, Stationers, Drawing Materials, Mathematical Instruments, etc., San Francisco.

103
Return to City Engineers Office
City Hall, San Diego, Cal.

Book no. 103.

name date.

| Degrees. | DE |
|---|---|
| | La |
| 0 | |
| 1 | 99. |
| 2 | 99. |
| 3 | 99. |
| 4 | 99. |
| 5 | 99 |
| 6 | 99 |
| 7 | 99 |
| 8 | 99 |
| 9 | 98 |
| 10 | 98 |
| 11 | 98 |
| 12 | 97 |
| 13 | 97 |
| 14 | 97 |
| 15 | 96 |
| 16 | 96 |
| 17 | 9 |
| 18 | 9 |
| 19 | 9 |
| 20 | 9 |
| 21 | 9 |
| 22 | 9 |
| 23 | 9 |
| 24 | 9 |
| 25 | |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | |
| 31 | |
| 32 | |
| 33 | |
| 34 | |
| 35 | |
| 36 | |
| 37 | |
| 38 | |
| 39 | |
| 40 | |
| 41 | |
| 42 | |
| 43 | |
| 44 | |
| 45 | |
| Degrees. | |

Line from Center 11th Street and South Bdy Park up Bonito Canyon

Sta 0 = Int. Cent. line 11th St & S. Bdy Park

0 Cent. line 11th St. Cent. to

| | | | |
|---|---|---|---|
| 1 | old Spike | 6°50' L | N 21°36' W. Mag. |
| 1600 | | | |
| 17+00 | | 4°20' L | N 25°50' W " |
| 800 | | | |
| 25+00 | | 15°16' R | N 10°35' W " |
| 28+80.6 | | | |
| = 0+00 "A" | | 7°05 R. | N 3°30' W " |
| 6+25 A | | 13°42 R | N 10°12' E. |
| 13+00 A | | 38°30' L | N 28°20 W. |
| 28+00 A | | 7°55' R | N 20°25 W. |
| 40.00 A | | | |

Levels from S. line of Park
to Sta 40 A =

| Sta | Rod | El. | |
|---|---|---|---|
| | (90.12) | | BM. NW 11th A |
| 0 | 6.20 | 84.92 | |
| 1 | 8.66 | 81.46 | |
| 2 | 5.52 | 84.60 | |
| 3 | 9.18 | 80.94 | |
| 4 | 11.00 | 79.12 | |
| 5 | 9.58 | 80.54 | |
| 6 | 7.54 | 82.58 | |
| 7 | 11.40 | 78.72 | |
| 8 | 5.80 | 84.32 | |
| 9 | 2.91 | 87.21 | |
| | (99.12) | | |
| 10 | 10.08 | 89.04 | |
| 11 | 7.10 | 92.02 | |
| 12 | 6.20 | 92.92 | |
| 13 | 4.80 | 94.32 | |
| 14 | 3.26 | 95.86 | |

89.87
0.25
90.12
− 2.91
87.21
+ 11.91
99.12
− 0.17
98.95
+ 10.25
109.20

Plugs at all stations.
Elevations on plugs

| Sta. | Rod | El. |
|---|---|---|
| | (99.12) | |
| 15 | 0.99 | 98.13 |
| 16 | 5.60 | 93.52 |
| 17 | 0.17 | 98.95 |
| | (109.20) | |
| 18 | 11.28 | 97.92 |
| 19 | 11.29 | 97.91 |
| 20 | 13.70 | 95.50 |
| 21 | 12.30 | 96.90 |
| 22 | 3.87 | 105.33 |
| 23 | 2.75 | 106.45 |
| 24 | 1.95 | 107.23 |
| 25 | 0.96 | 108.24 |
| | (114.18) | |
| 26 | 4.59 | 109.59 |
| 27 | 5.07 | 109.11 |
| 28 | 5.07 | 109.11 |
| +80.5 = | 3.28 | 110.90 |
| = 0+00 "A" | " | " |
| | (119.35) | |
| 1+00 A | 6.94 | 112.41 |

99.12
− 0.17
98.95
+ 10.25
0 109.20
− 0.96
108.24
+ 5.94
0 114.18
− 3.28
110.90
+ 8.45
0 119.35

| Sta | Rod | Elev. | | |
|---|---|---|---|---|
| 2 A | (119.35) 11.74 (Bench) | 107.61 | | |
| 3 " | 3.28 | 116.07 | | |
| 4 " | 3.67 | 115.68 | 119.35 | |
| 5 " | 6.94 | 112.41 | −1.68 | |
| | | | 117.67 | (6+50) △ |
| 6 " | 4.33 | 115.02 | 8.50 | |
| | | | ~~0~~ 126.17 | |
| 6+25 " | 2.80 | 116.55 | − 0.78 | |
| | | | 125.39 | |
| 7 ^ | (126.17) 9.50 | 116.67 | 11.91 | |
| 8 " | 9.65 | 116.52 | ~~0~~ 137.30 | |
| 9 " | 9.20 | 116.97 | | |
| 10 " | 5.17 | 121.00 | | |
| 11 " | (137.30) 10.90 | 126.40 | | |
| 12 " | 6.84 | 130.46 | | |
| 13 " | 4.23 | 133.07 | | |
| 14 " | 8.25 | 129.05 | | |
| 15 " | 10.08 | 127.22 | | |
| 16 " | 6.70 | 130.60 | | |
| 17 " | 8.03 | 129.27 | | |

Rod
dist. out

5' Contour = 121.55
15' " 131.55
25' " 141.55
35' " 151.55

# Cross-Sections above Dam Site = 6+25 A

## Left

| | | | | | | Sta. |
|---|---|---|---|---|---|---|
| 121.5 (5'C = 5.89) 48. | 127.4 0.0 80. | 122.3 5.10 53. | 113.4 14.0 40. | 113.4 14.0 13. | 117.0 10.40 7.0 | 6+25 A |
| | | | 141.5 25'C 166.2 | | 131.5 15'C 88.2 | " |
| 151.5 25'C 253. | (Canyon also 35' L) 131.5 15'C 151. | 124.4 top BK 4.16 96 | 121.5 5'C 95 | 119.6 8.95 89. | | 7 A |
| 141.5 25'C 120. | 131.5 15'C 96 | 128.6 0.0 90. | 121.5 5'C 81. | 116.8 11.82 73. | | 8 " |
| | 141.5 25'C 108.7 | 131.5 15'C 79. | 121.5 5'C 56. | 118.0 10.65 50. | | 9 " |
| 141.5 25'C 117.5 | 131.5 15'C 83. | 130.1 -1.5 76. | 121.5 5'C 69. | 119.9 8.70 64. | | 10 |
| | | | | | 121.5 10+19 = 5'C | |
| | 141.5 25'C 166.3 | 131.5 15'C 135. | 123.8 4.85 120. | | | 11 |
| | 141.5 25'C 124.6 | 131.5 15'C 113.6 | | | | 12 |
| | | | | | 131.5 12+53 = 15'C | |
| | 141.5 25'C 147.8 | 131.5 15'C 125.8 | 131.5 15'C 24 | | | 13 |

## Right

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 117.67 9.77 0 127.44 | 113.4 14.0 43. | 110.9 16.5 47. | 122.4 5.06 70.5 | Peg E. edge Road | 121.5 5.89 69.0 5'C | 122.7 4.70 80.0 C Road | 127.44 Peg on bank |
| | 127.44 11.70 0 139.14 | | 131.5 7.59 = 15'C 94.3 | | | 141.5 25'C 115.1 | | |
| | 116.67 11.93 0 128.60 | 114.4 14.2 25. | 115.2 13.4 55. | 121.5 7.05 = 5'C 74 | 123.5 5.08 86. | 127.2 1.4 89. | 131.5 15'C 96 | 141.5 25'C 113. |
| | 116.52 12.08 0 128.60 | 117.3 11.26 53. | 126.3 2.32 75. | Road 126.6 2.0 84. | 131.5 15'C 94. | 141.5 25'C 115.2 | | |
| C | 116.97 11.63 0 128.60 | 120.9 7.68 58. | 125.2 3.40 82. | Road 125.8 2.75 90 | 121.5 5'C 60. | 131.5 15'C 99. | 141.5 25'C 119.5 | |
| | 121.00 7.60 0 128.60 | 120.6 8.00 97. | 121.5 5'C 100. | 126.5 2.1 111. | Road 126.9 1.70 120 | 131.5 15'C 126. | 141.5 25'C 138.3 | |
| | 126.40 2.20 0 128.60 | 128.5 0.13 91. | Cent Road 100. | | 131.5 15'C 124. | 141.5 25'C 147.3 | | |
| | | 131.5 15'C 71.0 | 141.5 25'C 101.6 | | | | | |
| 0 = 137.9 | | 136.5 1.40 48. | 141.5 25'C 67.8 | | | | | |

| Left | | | | Sta | ~~0~~ | | Right | |
|---|---|---|---|---|---|---|---|---|
| 141.5<br>25'c<br>124 | 131.5<br>15'c<br>102. | 126.0<br>11.9<br>95. | | 14 | 137.9 | 131.5<br>15'c<br>35 | 141.5<br>25'c<br>88.5 | |
| 141.5<br>25'c<br>114 | 131.5<br>15'c<br>106. | 128.5<br>9.4<br>103. | | 15 | 127.22<br>10.66<br>~~0~~ 137.88 | 129.2<br>8.70<br>89 | 131.5<br>15'c<br>98 | 141.5<br>25'c<br>123. |
| | 141.5<br>25'c<br>79. | 131.5<br>15'c<br>5.3 | | 16 | 130.60<br>7.28<br>137.88 | 127.0<br>10.9<br>100. | 131.5<br>15'c<br>111.0 | 141.5<br>25'c<br>135. |
| 141.5<br>25'c<br>61. | 137.1<br>4.5<br>51. | 130.3<br>11.2<br>45 | 131.5<br>15'c<br>46.3 | 17 | 129.27<br>12.25<br>~~0~~ 141.52 | 130.6<br>10.9<br>78. | 131.5<br>15'c<br>83. | 141.5<br>25'c<br>124.5 |
| | 141.5<br>25'c<br>65. | 131.5<br>15'c<br>47. | 129.5<br>12.0<br>44. | 18 | " | | 131.5<br>15'c<br>70. | 141.5<br>25'c<br>135.5 |
| | | 141.5<br>25'c<br>53. | | 19 | " | Road<br>100 | 133.6<br>7.93<br>110.0 | 141.5<br>25'c<br>133.5 |
| | | 141.5<br>25'c<br>48. | | 20 | " | | 135.7<br>5.75<br>100. | 141.5<br>25'c<br>150. |
| | | 141.5<br>25'c<br>54. | | 21 | 135.62<br>10.76<br>~~0~~ 146.38 | | 134.6<br>11.8<br>100 | 141.5<br>25'c<br>156. |
| | | 141.5<br>25'c<br>68. | | 22 | " | | 138.0<br>8.4<br>100 | 141.5<br>25'c<br>144. |

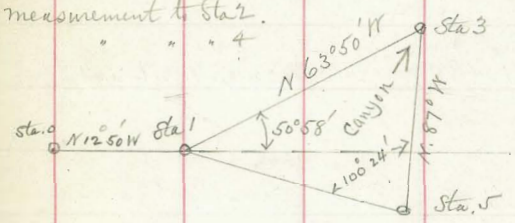
| Left | | Sta | ~~0~~ | Right | |
|---|---|---|---|---|---|
| | 141.5<br>25 c<br>86 | 23 | 146.38 | 136.0<br>10.45<br>65. | 141.5<br>25 c<br>85 |
| | 141.5<br>25 c<br>97. | 24 | | 141.5<br>25 c<br>32 | |
| | 141.5<br>25 c<br>82 | 25 | | 141.5<br>25 c<br>36. | |
| 141.5<br>25 c<br>64. | 141.5<br>25 c<br>7.0 | 25+65 = 141.5<br>25 c<br>26 A | | | |

No x-secs taken since this point

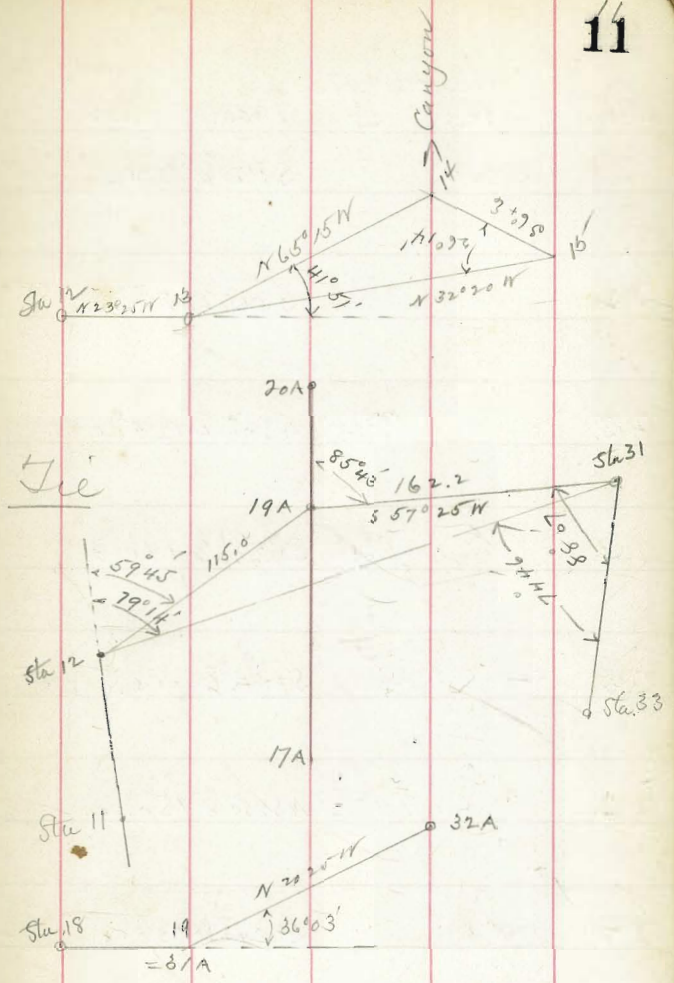
Traverse connecting points on 35' Contour set on sides of Canyon above "A" Line — Sta 6+25 A (Dam Site) to 31 A

| Sta | Deflection R | Deflection L | Mag. B | Dist |
|---|---|---|---|---|
| 6+25A | 90° from Back Site | | S. 86 30 W | 128.8 |
| 0 | 80° 36' | | N 12° 50 W | 56.5 |
| 5 | 69° 28' | | N. 62° 05' E | 60.9 |
| 6 | | 53° 10' | N 8° 50' E | 186.5 |
| 7 | | 42° 01' | N 33° 10 W | 92.1 |
| 8 | 55° 55' | | N 22° 40' E | 185.7 |
| 9 | | 41° 16 | N 18° 40 W | 169.5 |
| 10 | 7° 02 | | N. 11° 25 W | 199.9 |

no measurement to Sta 2.
" " " " 4

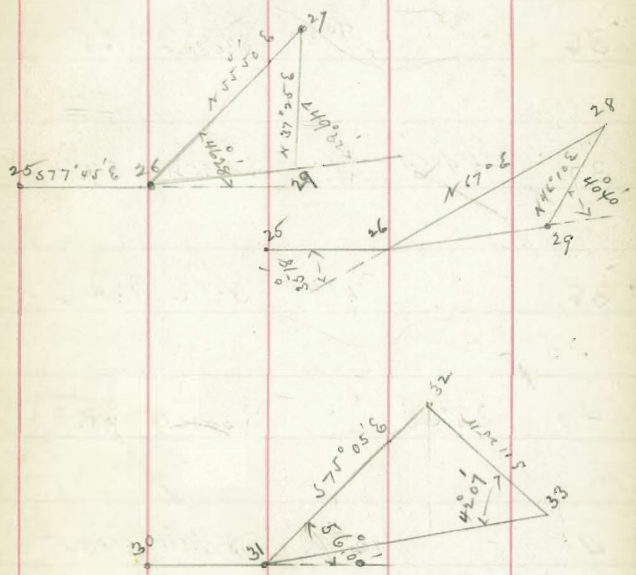


| Sta | Deflection R | Deflection L | Mag. | Dist |
|---|---|---|---|---|
| 11 | | 23°41' | N35°12W | 112.0 |
| 12 | 11°48' | | N28°25W | 162.1 |
| 13 | ½ Sta 15 | 8°58' | N32°20W | 139.4 |
| 15 | | 6°11' | N.28°30W. | 258.7 |
| 16. | 6°55' | | N31°40W | 430.6 |
| 17 | 32°05' | | N0.25E | 201.5 |
| 18 | 15°11' | | N.15°40E | 146.8 |
| 19 = 31A | | 7°04' | N.8°35E | 100.9 |
| 20 | 126°19' | | S45-E | 137.7 |



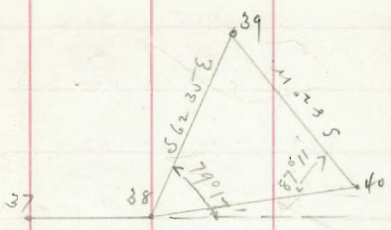
| Sta | Deflection R | Deflection L | Mag. | Dist |
|---|---|---|---|---|
| 21 | 43°41' | | S 1°20 E | 278.5 |
| 22 | | 33°38 | S 34°55 E | 221.8 |
| 23 | | 3°23' | S 38°15 E | 125.0 |
| 24 | | 5°03 | S 43.20 E | 140.0 |
| 25 | | 34°23' | S 77 45 E | 88.5 |
| 26 | | 15°22 | N 86 50 E | 160.0 |
| 29 | 119°57' | | S 26°45 W | 138.8 |
| 30 | | 45°53' | S 19°10' E | 205.4 |
| 31 | | 11°33 | S 30 35 E | 131.2 |





| Sta | Deflection R | Deflection L | Mag Brgt. | Dist. |
|---|---|---|---|---|
| 33 | 4°28' | | S26°10E | 189.9 |
| 34 | 15°50' | | S10°20E | 159.6 |
| 35 | | 18°09' | S28°30E | 159.2 |
| 36 | | 9°37' | S38°10E | 65.7 |
| 37 | 54°54' | | S16°50W | 89.0 |
| 38 | | 21°49' | S5°E | 134.6 |
| 40 | 35°33' | | S30°30W | 68.3 |
| 41 | | 12°25' | S18°05W | 193.5 |
| 42 | | 9°12' | S8°55W | 182.9 |
| 43 | 77°39' | 77' | S86°30W | 135.2 |

to Sta 6+25 A



Cross-Section of Upper Dam-Site - on line turned 90° from Sta 6+25-A (on Back-Site)

7/20/99

| Left N. | | | East | Dist E. from 6+25A | Side | | | Right S. | |
|---|---|---|---|---|---|---|---|---|---|
| | 118.7<br>4.1<br>50. | 119.1<br>3.70<br>70. | 115.9<br>6.90<br>100. | C. 116.55<br>O. 6+25 | O=122.83 | 113.4<br>9.43<br>50. | 112.4<br>10.36<br>100. | | |
| | 114.9<br>7.90<br>100. | 117.5<br>5.30<br>62. | 115.1<br>7.5<br>Center | 20' | | 113.7<br>9.4<br>35. | 115.0<br>7.83<br>60. | 117.1<br>5.74<br>85. | 112.4<br>10.40<br>100. |
| | 116.5<br>6.35<br>100. | 115.6<br>7.23<br>60. | 113.0<br>9.88<br>Center | 40' | | 115.8<br>7.0<br>3.4 | 118.8<br>4.0<br>56. | 120.1<br>2.67<br>100. | |
| 117.6<br>5.20<br>100. | 115.3<br>7.56<br>75. | 113.8<br>9.0<br>45. | 116.7<br>6.15<br>Cent. | 60' | | 121.4<br>1.40<br>20. | 122.0<br>0.85<br>55. | 122.0<br>0.8<br>100. | |
| 120.5<br>2.32<br>100. | 117.3<br>5.5<br>50. | 122.5<br>0.3<br>20. | 122.5<br>0.3<br>Cent. | 80' | 131.55<br>6.50<br>O=138.05 | | 126.3<br>11.75<br>8.0 | 131.5<br>6.55<br>50. | 134.1<br>3.9<br>100. |
| 124.6<br>13.4<br>100. | 124.0<br>14.0 Bank<br>45 | 127.1<br>10.9<br>45. | 134.5<br>3.56<br>Cent. | 100 | 151.55<br>3.30<br>O=154.85 | | 141.8<br>13.0<br>50. | 145.4<br>9.43<br>100. | |
| | 131.4<br>7.60<br>100. | 137.1<br>0.96<br>50. | | 120 | 144.0<br>10.87<br>Cent | | 151.2<br>3.67<br>50. | 153.6<br>1.20<br>100 | |
| | | 144.5<br>10.33<br>50. | 151.5<br>3.30<br>Cent | 151.5<br>135.2 | | 154.8<br>0.0<br>11.0 | 151.55<br>9.05<br>O=160.60 | 158.6<br>2.0<br>50. | 158.2<br>2.40<br>100. |

# West — Side

| North | | | | | | Dist W. from 6+25 A | | South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 112.7<br>10.1<br>100 | 113.<br>9.80<br>50 | 116.9<br>5.95<br>Cent. | | 7' | θ = 122.83 | 116.6<br>6.25<br>100. | 119.<br>3.80<br>50 | | |
| | | 112.2<br>10.6<br>100. | 114.3<br>8.56<br>50. | 113.5<br>9.3<br>Cent. | | 14' | | 115.8<br>7.05<br>50. | 118.6<br>4.25<br>100. | | |
| 119.3<br>3.5<br>100 | 116.9<br>5.93<br>50. | 122.0<br>0.85<br>40. | 121.7<br>1.13<br>30 | 116.8<br>6.0<br>25. | 113.5<br>9.3<br>Cent | 40' | | 113.8<br>9.0<br>27. | 119.2<br>3.57<br>33 | 116.8<br>6.0<br>7.9 | 114.0<br>8.8<br>100 |
| | | 118.9<br>3.9<br>100. | 118.4<br>44<br>55. | 122.2<br>0.66<br>Cent | | 52.8 | | 123.8<br>-1.0<br>48. | 120.4<br>2.40<br>50. | 117.7<br>5.12<br>100 | |
| | | 124.5<br>9.8<br>100 | 126.9<br>7.35<br>58. | 125.0<br>9.33<br>Cent | | 70' | 131.55<br>274<br>θ 134.29 | 123.2<br>11.05<br>50. | 121.1<br>13.2<br>100 | | |
| | | 130.9<br>3.40<br>75 | 133.1<br>1.20<br>50. | 132.3<br>2.0<br>Cent | | 90 | | 128.9<br>6.35<br>50. | 124.9<br>9.40<br>100 | | |
| | 130.3<br>4.0<br>100 | | | | | 110 | | | | | |
| | | | 136.5<br>15.6<br>50. | 143.4<br>8.7<br>Cent | | 110 | 141.55<br>10.57<br>θ = 152.12 | 143.7<br>8.4<br>25. | 141.3<br>10.8<br>50. | | |
| | | 136.6<br>15.5<br>100 | 145.1<br>7.0<br>50. | 151.5<br>35C<br>Cent | | 128.8 | | 149.1<br>3.0<br>50 | | | |

Canyon Opposite Pound

Sta 0 = Sta 14+60 on Line from 11th St
0 59°10' R (from sight to Sta 17)

10+80 △

15. △ 20° L

19.

10+80 66° Left Ran line 300 up side Canyon

15,+00 Small Canyon Runs about 500 ft in direction 58°30' L of line Reversed from back sight

Powder House about 30' R. of Sta 12 -

## Canyon Opposite Wells House

Sta. 0 = Sta 12 of Line from 11th St

0 96°32' R. from Sta 17 △

9+13 = Elevation 150'

## Levels

| Sta | Rod | EL |
|---|---|---|
| | (104.40) | |
| 2 | 3.46 | 100.94 |
| 3 | 0.02 | 104.4 |
| | (116.46) | |
| 4 | 5.39 | 111.1 |
| | (128.00) | |
| 5 | 9.28 | 118.7 |
| 6 | 2.60 | 125.4 |
| | (139.77) | |
| 7 | 7.19 | 132.6 |
| | (150.97) | |
| 8 | 10.48 | 140.5 |
| 9 | 2.27 | 148.7 |
| 9+13 | 0.97 | 150.0 |

El. Pkg Sta 13 = 94.37
10.08
0 104.40
0.02
104.38
12.08
0 116.46
0.21
116.25
11.75
0 128.00
0.33
127.67
12.10
0 139.77
0.39
139.38
11.59
0 150.97

Set Contour Stakes at 110', 120', 130', 140' + 150' Elevation
Resp. from stations

Levels up Canyon Opposite Pound

| Stn | Rod | | El | |
|---|---|---|---|---|
| | (108.18) | 1+45 = | 96.2 | |
| 2 | 10.69 | | 97.5 | |
| 3 | 6.36 | | 101.8 | |
| 4 | 3.33 | | 104.9 | |
| | (118.92) | | | |
| 5 | 11.25 | | 107.7 | |
| | +64.3 8.92 | | 110.0 | |
| 6 | 8.08 | | 110.8 | |
| 7 | 5.22 | | 113.7 | |
| 8 | 2.00 | | 116.9 | |
| | (130.98) | | | |
| 8+90 | 10.98 | | 120. | |
| | (130.98) | | | |
| 9 | 10.63 | | 120.4 | |
| 10 | 6.66 | | 124.3 | |
| | (142.02) | | | |
| +80 | 9.29 | | 132.7 | on mound |
| 11+045 | 12.02 | | 130. | |
| 12 | 8.67 | | 133.4 | |
| 13 | 2.61 | | 139.4 | |
| | (148.78) | | | |
| 14 | 8.63 | | 140.15 | |
| +14 | 5.78 | | 140. | |
| 15 | 6.95 | | 141.8 | |

Plug Sta 15. 98.13
10.05
0 108.18
1.01
107.17
11.75
0 118.92
0.16
118.76
12.22
0 139.98
0.99
129.99
12.63
0 142.02
2.61
139.41
9.37
0 148.78

| Sta | Rod | El |
|---|---|---|
| | (148.78) | |
| 16 | 3.97 | 144.8 |
| | (158.36) | |
| 17 | 10.06 | 148.3 |
| +72 | 8.36 | 150. |
| 18 | 7.39 | 151.0 |
| 19 | 3.51 | 154.9 |

~~0~~ 148 78
202
146 76
11 60
~~0~~ 158 36

Set Contour Stakes at 110, 120, 130, 140 + 150 ft Elevation at right angles to stations

Contour
Bot out

# Contours from Sta 0 = 11½ St to 6 H = Perpendicular to Stations

| Left | | | | Sta | Right | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 80'<br>46.5 end | 0 | 90'<br>64.5 | 100'<br>149 | 12th St.<br>110<br>261 | 120<br>389. | 130<br>590.5 |
| | | | 80'<br>22 | 1 | 90'<br>70.4 | 100<br>145.4 | 110'<br>236.9 | 120'<br>344.7 | 130<br>477.7 |
| | Sc. 76.2 Park Line | | 80<br>24 | 2 | 90'<br>45. | 100<br>219.5 | 110<br>281.5 | 120'<br>339.5 | 130<br>416. |
| 76.8 top Bk<br>132 | | 70.8<br>Pos. Cl. Cut Creek<br>151.0 | 80'<br>3.5 | 3 | 90'<br>43.5 | 100<br>113.5 | 110<br>351. | 120<br>418.<br>bot Canyon | 130<br>454 |
| | | | | 4 c. Road | 90'<br>10. | 100<br>72.8 | 110'<br>128.6 | 110<br>229.6 | 120<br>294.1 |
| | | Bot Ck<br>73.3<br>98. | 80<br>67.5 | 4+77 = 5 | 90<br>74. | 100<br>125.5 | 110<br>194.5 | 120<br>282.5 | 130<br>341.5 |
| 90<br>103.5 | 50'<br>80. | Bot. Ck<br>74.3<br>63.5 | 80<br>45.5 | 6<br>6+26 = 80'c<br>6+41 Cent R.I. | 90<br>116. | 100<br>141. | 110<br>189.3 | 120<br>254.6 | 130<br>327.7 |
| 90<br>118 | bank<br>100 | 75.8<br>Creek<br>10. | | 7<br>7+61 Cr<br>7+75.5 = 80'c | top Bk<br>83.5<br>22<br>90 | 100<br>185.3 | 110<br>226.8 | 120<br>286.8 | 130<br>342.8 |

| Left | | | | Sta | Right | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 90'<br>45. | 100<br>219.5 | 110<br>281.5 | 120'<br>339.5 | 130<br>416. | 140<br>516. | 140' Rus. fence<br>103.5 R of 583 |
| | | | | | 90'<br>43.5 | 100<br>113.5 | 110<br>351. | 120<br>418.<br>bot Canyon | 130<br>454 | 140<br>511. | |
| | | | | 4 c. Road | 90'<br>10. | 100<br>72.8 | 110'<br>128.6 | 110<br>229.6 | 120<br>294.1 | 130<br>357.9 | 130<br>10' R. 522<br>Canyon |
| | | | | 4+77 = 5 | 90<br>74. | 100<br>125.5 | 110<br>194.5 | 120<br>282.5 | 130<br>341.5 | 140<br>397.5 | 150<br>540. |
| | | | | 6<br>6+26 = 80'c<br>6+41 Cent R.I. | 90<br>116. | 100<br>141. | 110<br>189.3 | 120<br>254.6 | 130<br>327.7 | 140<br>399.5 | 150<br>472.3 |
| | | | | 7<br>7+61 Cr<br>7+75.5 = 80'c | 90 | 100<br>185.3 | 110<br>226.8 | 120<br>286.8 | 130<br>342.8 | 140<br>391.8 | 150<br>444.3 |

80' Contour

## Left

| Sta | | | | | | |
|---|---|---|---|---|---|---|
| 8 | 100 / 90.5 | 90 / 63. | | | | |
| 9 | 100 / 78.1 | 90 / 39.3 | | | | |
| 10 | 100 / 60 | 90' / 17 | | | | |
| 10+38=90'C | | | | | | |
| 11 | | 90 / 94.5 | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 129.05 / 14 | 150 / 180.6 | 140 / 169.3 | 130 / 156.5 | 120 / 84.3 | 110 / 59. | 100 / 33 |
| Op. Park Line 13+36 | 150 / 208.5 | 140 / 190. | 130 / 178. | 120 / 94.5 | 110 / 68.5 | 100 / 38.5 |
| 15 | 150 / 162.4 | 140 / 155.9 | 130 / 98.9 | 120 / 74.9 | 110 / 53.6 | 100 / 16.6 |

top Bk 3' higher 4' farther

16th St

bluff

## Right

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 77.0 Bot Ck / 35 | Road / 80 | Bk 85.3 / 63. | 90 / 140.3 | 100 / 181.3 | 110 bluff / 276.3 | 120 / 285.3 | 130 / 316.8 | 140 / 367.3 | 150 / 408.3 | | |
| 9 | 85.0 Top Bk / 68. | 77.1 Creek / 84 | 86.3 top Bk / 105 | Road / 116 | 90' / 145.7 | 100' / 198.3 | 110 bluff / 285.8 | 120 / 295.8 | 130 / 313.8 | 140 / 349.3 | 150 / 376.3 | |
| 10 | 86.9 Top Bk / 79 | 78.7 Ck / 104 | 90' Top Bk / 129 | Road / 134 | 100 / 196 | 110 / 226. | 120 / 306.5 | 130 / 313 | top bluff 140 / 367 | 150 / 422. | | |
| 11 | 87.2 Top Bk / 79. | 79.3 bot Ck. / 100 | 90' / 46 | Top Bk 90 / 140.5 | Road / 146 | 100 / 219.3 | 110 / 271.3 | 120 / 346.3 | | | | |
| 12 | 90' / 46 | 79.9 Ck / 92.5 | 90 / 120.5 | 100 / 127.4 | 110 / 233.4 | | | | | | | |
| 13 | 90' / 17'R-88 out | 80.9 Ck / 118 | 94.7 top Bk / 143 | Road / 148 | 100' / 162 | 110 / 192.6 | 120 / 236.6 | 130 / 317.6 | 140 / 397.6 | | | |
| 14 | 83.1 Ck / 60 | 92.0 E Bk / 104 | Road / 124. | 100 / 129. | 110 / 161.5 | 120 / 193.5 | 130 / 258.5 | 140 / 318.5 | 150 / 388.5 | | | |
| Op. Park Line 13+36 | fence Cor. 3½' L | | | | | | | | | | | |
| 15 | Top Bk / 65.6 | 90 / 79.6 | 84.3 Ck / 88. | 90 / 100.6 | 94.8 Top Bk / 113.1 | Road / 135.8 | 100 / 151.1 | 110 / 183.6 | 120 / 226.3 | | | |
| | | | | | | 130 / 276.8 | 140 / 331.3 | 150 / 363.3 | | | | |

## Left

| | | | | | | | Sta |
|---|---|---|---|---|---|---|---|
| 150 / 147. | 140 / 125. | 130 / 105.5 | 120 / 86.5 | 110 / 60.5 | 100 / 25 | | 16 |
| 150 / 247.7 | 140 / 183.7 | 130 / 148.7 | 120 / 125.7 | 110 / 97.1 | 100 / 20.7 | | 17 |
| C. Road / 345 | 150 = Apex Canyon / 395. | 140 / 286.5 | 130 / 214.5 | 120 / 174.5 | Pound Enclosure | | 18 |
| 150 / 195. | 140 / 166 | 130 / 142 | 120 / 119.5 | 110 / 96.5 | 100 / 18.5 | 99.2 Top Bk / 6.5 | 19 |
| 150 / 181.5 | 140 / 154. | 130 / 131. | 120 / 105.5 | 110 / 80.5 | 100 / 23.5 | | 20 |
| 150 / 173 | 140 / 152.9 | 130 / 132.9 | 120 / 113.2 | 110 / 90.5 | 100 / 40.8 | | 20+90 |
| 150 / 217.7 | 140 / 202.7 | 130 / 172.7 | 120 / 150.7 | 110 / 127.7 | 100 / 89.7 | 94.3 CK / 72.7 | 100 / 57.2 | Top Bk / 102.3 / 49.2 | 22 |
| 150 / 242. | 140 / 218.2 | 130 / 196.8 | 120 / 173.8 | 110 / 142.8 | 104.1 Top Bk / 68.3 | 100 / 47.3 | 95.8 CK / 31.8 | 100 / 22.8 | 23 |
| 150 / 10' R 349 Gully | 150 / 336.5 | 140 / 294. in Gully | 130 / 248.0 | 120 / 176.5 | 110 / 104.5 in Gully | 100 / 27. | 96.8 CK / 22. | | 24 |

## Right

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 90 / 7 | 86.3 CK bot / 15. | 93.2 Bk / 36.5 | | | | | |
| 97.1 Edge Bank / 29.5 | 90 / 53. | 87.4 CK / 80 | 99.2 Top Bk / 85. | Road / 90 | 100 / 94.5 | 110 / 163. | |
| 88.8 CK / 29. | 100 / 56. | Road / 60 | 110 / 97 | 120 / 128.7 | 130 / 184.4 | 140 / 288.4 | |
| 89.8 CK / 21.5 | 100 / 41.5 | Road / 57.5 | 110 / 81.5 | 120 / 117.5 | 130 / 145.5 | 140 / 176. | 150 / 219 |
| CK / 8. | 100 / 29. | Road / 69. | 110 / 87.5 | 120 / 115. | 130 / 141. | 140 / 172.3 | 150 / 204.3 |
| CK / 17.5 | Bk / 67.5 | 110 / 79.5 | Road / 84.5 | Left Canyon 120 / 152.5 | 130 / 189.5 | 140 / 219.5 | 150 / 251.5 |
| Road / 20 | 110 / 43.4 | 120 / 95.9 | 130 / 125.9 | 140 / 152.9 | 150 / 183. | | |
| Road / 5 | 110 / 21 | 120 / 56. | 130 / 90. | 140 / 117.5 | 150 / 145.5 | | |
| Road / 5 | 110 / 13.5 | 120 / 47. | 130 / 74. | 140 / 99.3 | 150 / 120.8 | | |

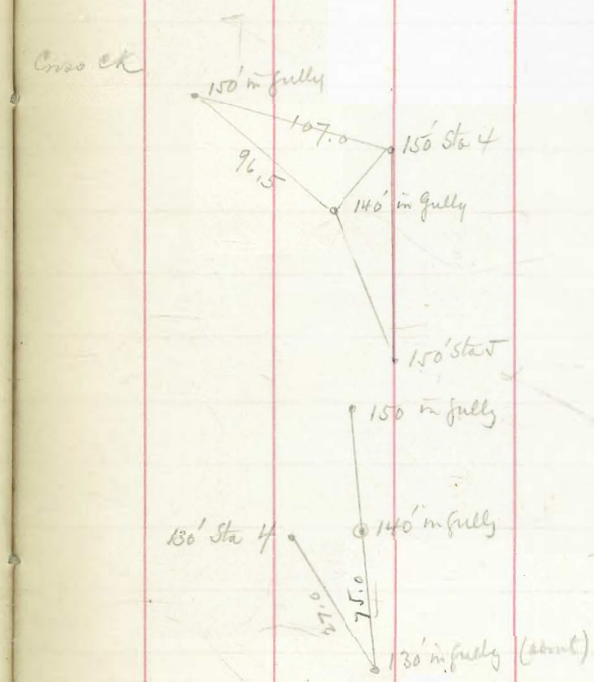
## Left

| | | | | | | | | Sta |
|---|---|---|---|---|---|---|---|---|
| 150 / 199.5 | 140 / 175. | 130 / 158.1 | 120 / 135.6 | 110 / 113.6 | 100 / 71 | 98.7 CK / 66 | 100 / 60. | 25 |
| 150 / 207. | 140 / 186. | 130 / 161.5 | 120 / 136.5 | 110 / 98. | | 99.1 CK / 22 | | 26 |
| 150 / 221.0. | 140 / 189.5 | 130 / 158.5 | 120 / 129. | 110 / 64 | | 100.3 bot Ck / 40 | | 27 |
| 150 / 250 R. 71.5 from 140 | bot Canyon 140 / 308. | 130 / 161.5 | 120 / 103.5 | 110 / 53.5 | | 101.8 CK / 35 | | 28 |
| | 130 / 23' L of 222.5 = bot Canyon | | | | | | | |
| 150 / 147.1 | 140 / 119.1 | 130 / 92.8 | 120 / 63.8 | | | | | 28+80.5 = 0+00 A |
| 150 / 140. | 140 / 119.5 | 130 / 99.5 | 120 / 74.5 (73. to 4' lower) | | | | | 1A |
| 150 / 146. | 140 / 138. | 130 / 119.5 | 120 / 93. | | | | | 2A in bot Ck |
| 150 / 176 | 140 / 152 | 130 / 128. | 120 / 109. | Cr / 82. | | | | 3A |
| in Core 150 / 208.5 | 140 / 179.5 | 130 / 146.5 | 120 / 130.5 | Cr / 47. | | | | 4A |

## Right

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Perp to 25–28 | Road / 10 | 110 / 29.3 | 120 / 52.3 | 130 / 90.3 | 140 / 117.8 | 150 / 139.8 | | |
| Road / 8. | 110 / 12.2 | 120 / 51.2 | 130 / 75.8 | 140 / 103.8 | 150 / 133. | | | |
| | 110 / 9.5 | Road / 23.5 | 120 / 42.5 | 130 / 67.5 | 140 / 95. | 150 / 124. | | |
| | 110 / 43. | Road / 62. | 120 / 98.7 | 130 / 120.7 | 140 / 148.7 | 150 / 170.7 in Cort | | |
| Perp. to Foresight on A line | 109.8 Top Bk / 41. | 103.6 Bot Ck / 50. | 110 / 64.5 | Road / 80. | 120 / 94. | 130 / 116.5 | 140 / 136.5 | 150 / 157.5 |
| bot Cr / 38 | Road / 67. | 120 / 82.6 | 130 / 111. | 140 / 135. | 150 / 163. | | | |
| | 120 / 56. | Road / 71.5 | 130 / 84.5 | 140 / 109.5 | 150 / 136.5 | | | |
| | 120 / 28.2 | Road / 38. | 130 / 55.2 | 140 / 84.2 | 150 / 110.7 | | | |
| | 120 / 30. | Road / 39 | 130 / 82 | on side of Canyon 140 / 136.5 | 150 / 176.5 | | | |

| Left | | | | | Sta | Right | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 150 / 169.5 | 140 / 148.5 | 130 / 119. | 120 / 69. | Cr / 36. | 5 A | Road / 45 | 120 / 37.3 | 130 / 70.3 | 140 / 89.8 | 150 / 113.5 |
| | | | | | 5+45 | | | | | |



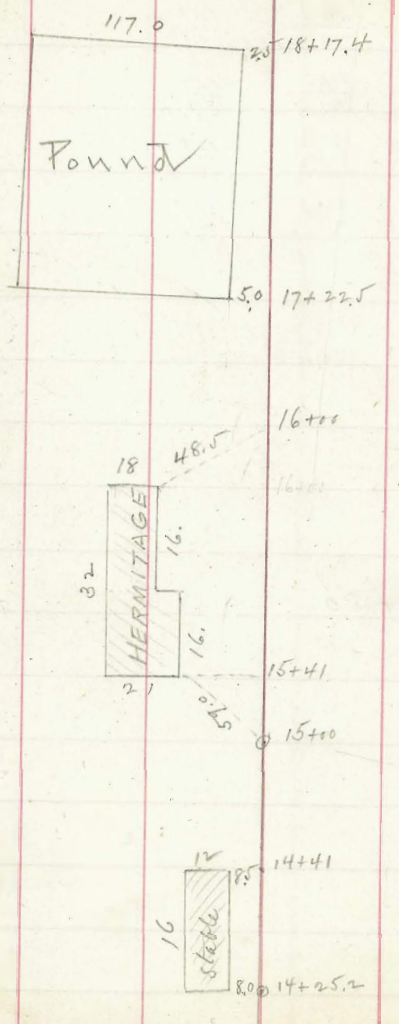
Contours on sides of Cañon opposite Wells House

| Left | | | | Sta | | Right | | | |
|---|---|---|---|---|---|---|---|---|---|
| (12' R. on other line 130/136.8) | | 120/71.4 | 110/25. | 3 | | 110/57. | | | |
| | | | | 3+87.6 = | 110' C | | | | |
| (6' R 140/142.) | 130/91. | 120/43.5 | | 4 | | 120/42. | 130/79.4 | 140/130.4 | |
| | | | | 5 | | 120/20. | 130/53. | 140/88. | 150/120.5 |
| 150/149.3 | 140/106. | 130/67. | 120/16. | 5+20.8 | = 120' C | | | | |
| 150/121. | 140/83. | 130/42. | | 6 | | | 130/26.7 | 140/61.3 | 150/93.3 |
| | | | | 6+63 | = 130' C | | | | |
| | 150/93.7 | 140/60.5 | | 7 | | | 140/46.5 | 150/80. | |
| | | | | 7+92.4 | = 140' C | | | | |
| | | 150/109. | | 8 | | | 150/67 | | |
| | | 150/23. | | 9 | | | 150/13.5 | | |
| | | | | 9+13 | = 150 C | | | | |

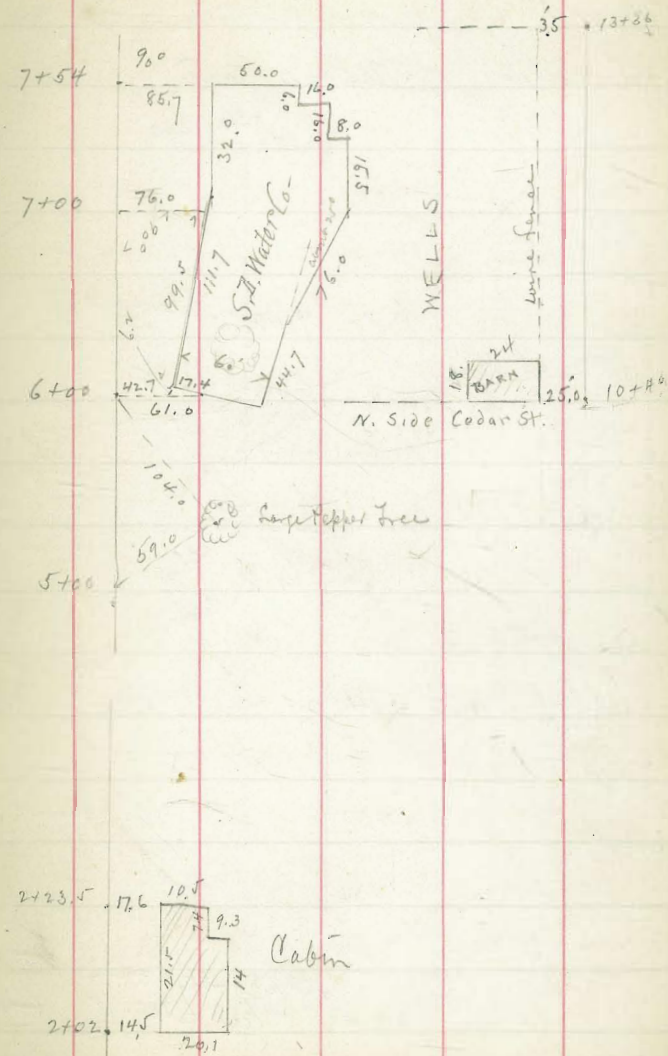
Centers on Sides of Canyon opposite Pound

| Left | | | | | Sta | Right | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Drainage 35' N of 1+45 | | | | |
| | | | 110/90 | | 3 | 110/48.5 | 120/76.5 | 130/97.5 | | |
| | | 120/84. | 110/52.5 | | 4 | 110/45. | 120/61. | 130/81. | 140/103.5 | 150/138.5 |
| 150/139.5 | 140/100.5 | 130/76. | 120/22.5 | 110/22.5 | 5 | 110/46 | 120/67. | 130/85.5 | 140/104. | 150/129. |
| 150/130. | 140/107.5 | 130/85.5 | 120/59 | | 6 | | 120/53. | 130/72.5 | 140/91. | 150/109.5 |
| 150/123.5 | 140/103.5 | 130/80.5 | 120/48.5 | | 7 | | 120/42.5 | 130/61.5 | 140/79.1 | 150/100.1 |
| 150/108 | 140/90. | 130/70.5 | 120/35.5 | | 8 | | 120/36. | 130/57.5 | 140/89.5 | 150/105. |
| | 150/104. | 140/82.5 | 130/61 | | 9 | | 130/44.5 | 140/63.0 | 150/83.0 | |
| | 150/116. | 140/91. | 130/65 | | 10 | | 130/22. | 140/38.5 | 150/64. | |

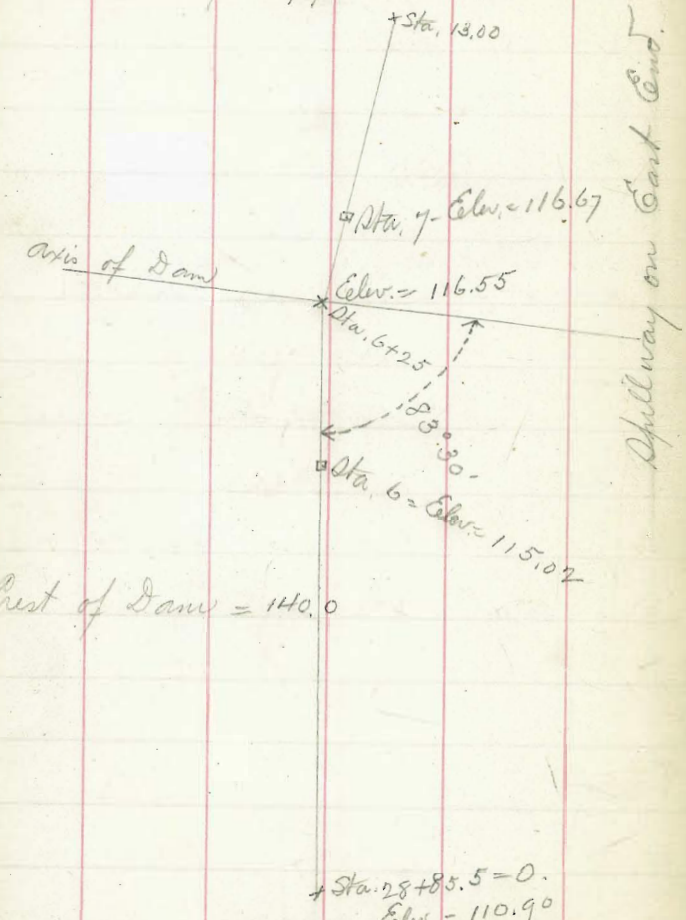
| Left | | | Sta | | | Right | |
|---|---|---|---|---|---|---|---|
| Canyon | | | 10+80 | | | 140/34. | 150/57. |
| 150/68 | 140/37. | | 12 | | | 140/63.5 | 150/87.0 |
| 150/29.5 | 140/20 | | 13 | | | 140/84. | 150/103. |
| 150/34.5 | | | 14 | | | 140/55. | 150/82. |
| | | 150/64. | 15 | | 150/47.5 | | |
| Canyon | 150/about 80 | | 16 | | 150/44 | | |
| | | 150/17 | 17 | | 150/48 | | |
| | | | 17+72 | 156' C | | | |
| | | | n | | | | |
| Contours in Canyon | | | 66° | Left from 10+80 | | | |
| | 150/98 | 140/75 | 1 | | 140/32 | | |
| | 150/66.5 | | 1+64 = 146' / 2 | C | 150/24 | | |
| | | | 2+97 | = 150 C | | | |
| | | 150/24 | 3 | | | | |




Stations from 11th St.

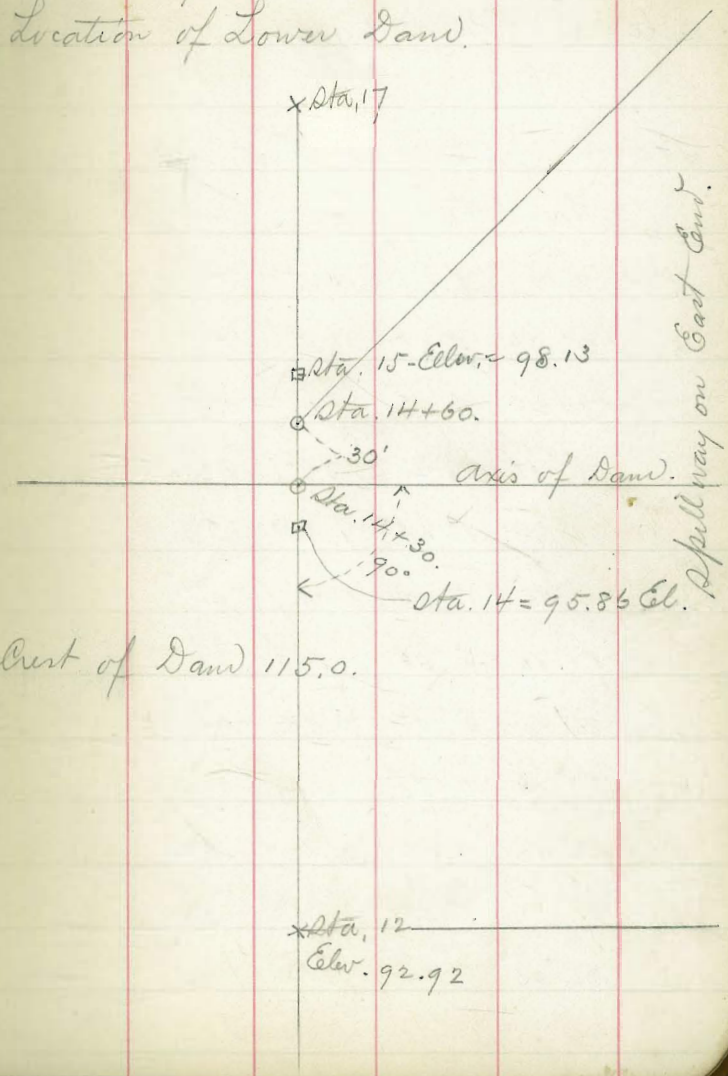


Park Improvement.
Location of Upper Dam.






Park Improvement.
Location of Lower Dam.



Nov. 8/1900.

Contour Survey of Upper Dam site in Round Canyon

115 ft. Contour on East side.

| | Horiz. | Vert. | Rod. | Counter Dist. |
|---|---|---|---|---|
| R | 0.0 | 1°.20 | 0.5 | 50 |
| R. | 26°.39' | 1°.20 | 0.5 | 50 |
| " | 57°.28' | 1°.00 | 0.6 | 60 |
| " | 75°.17' | 1°.14 | 0.8 | 80 |
| " | 84°.43 | 1° 50' | 1.4 | 140 |
| L | 25°.35 | 1° 23' | 0.74 | 74 |
| " | 50°.00 | 0° 59' | 0.88 | 88 |
| " | 81°.00 | 0° 48' | 0.94 | 94 |
| " | 89°.18' | 0° 33' | 1.40 | 140 |
| " | 92°.42' | 0°.32' | 1.42 | 142 |
| " | 90°.51' | 0° 58' | 0.96 | 96 |
| " | 66°.35' | 1°.00 | 0.80 | 80 |
| " | 38°.30' | 1°.25' | 0.60 | 60 |

115' contour. East side. Site East.

115 ft contour N. side.

11/8/1900 Upper Dam Site

| | Horiz | Vert. | Rod | Correct. Dist. | |
|---|---|---|---|---|---|
| L | 0.35 | 1° 05′ | 0.2 | 20 | |
| R. | 96° 15′ | 0° 56′ | 0.25 | 25 | |
| " | 104° 29′ | 1° 15′ | 0.65 | 65 | |
| " | 106° 46′ | 0° 18′ | 1.35 | 135 | |
| | 0.0 | 0° 30′ | 0.6 | 60 | 120′ Contour East side |
| R | 32° 23′ | 0° 25′ | 0.6 | 60 | |
| " | 54° 55′ | 0° 25′ | 0.85 | 85 | |
| " | 70° 16′ | 1° 45′ | 1.47 | 146.9 | |
| L | 25° 00′ | 1° 42′ | 0.82 | 82 | |
| " | 42° 22′ | 0° 25′ | 1.10 | 110 | |
| " | 60° 40 | 1° 56′ | 1.25 | 125 | |
| " | 68° 50′ | 1° 37′ | 1.50 | 150 | |
| " | 57° 12′ | 1° 35 | 1.60 | 160 | 170′ Contour East side. |
| " | 38° 20′ | 2° 20′ | 1.23 | 122.8 | |
| " | 21° 30′ | 2° 22′ | 0.98 | 97.8 | |
| 0.0 | 0° 0′ | 3°. 00 | 0.80 | 79.8 | on east edge of Road |
| R | 27° 06′ | 2° 40′ | 0.83 | 82.8 | |

11/8/1900 Upper Dam Site

| | Horiz. | Vert | Rod | Correct. | Dist. | |
|---|---|---|---|---|---|---|
| R | 47° 55' | 2° 40' | 1.08 | 107.8 | | |
| " | 59° 18' | 2° 30 | 1.45 | 144.7 | | |
| " | 57° 30' | 5° 10' | 1.35 | 133.9 | | 130' contour East side |
| " | 37° 58' | 6° 35' | 1.05 | 103.6 | | |
| | 0.0 | 6° 35' | 0.85 | 83.9 | | |
| L | 18° 53' | 6° 43' | 1.05 | 103.5 | | |
| " | 31° 35' | 6° 45' | 1.20 | 118.3 | | |
| " | 45° 45' | 3° 30' | 1.55 | 154.4 | | |
| " | 52° 15' | 3° 24' | 1.78 | 177.4 | | |
| " | 48° 59' | 5° 30 | 1.80 | 177.4 | | 135' contour East side |
| " | 40° 43' | 5° 41' | 1.55 | 153.5 | | |
| " | 23° 40' | 7° 22' | 1.20 | 118.0 | | |
| 0.0 | 0.0 | 10° 00' | 1.00 | 97.0 | | |
| R | 23° 18' | 10° 14' | 1.00 | 96.8 | | |
| " | 42° 35' | 8° 15' | 1.23 | 120.5 | | |
| " | 52° 30' | 6° 40' | 1.58 | 155.8 | | |
| " | 49° 58' | 7° 35 | 1.65 | 162.1 | | 140' contour East side |

1/8/1900 Upper Dam Site

| | Horiz | Vert. | Rod | Corrected Dist | |
|---|---|---|---|---|---|
| R | 40° 22' | 9° 10' | 1.35 | 131.6 | |
| " | 25° 35' | 10° 46' | 1.15 | 111.0 | |
| " | 0.0 | 11° 06' | 1.10 | 105.9 | |
| L | 27° 22' | 8° 52' | 1.50 | 146.4 | |
| " | 36° 52' | 8° 43' | 1.60 | 156.3 | |
| " | 47° 16' | 7° 00' | 1.90 | 187.2 | |
| R | 96° 38' | 2° 40' | 0.85 | 84.8 | 110' contour |
| " | 98° 53' | 1° 36' | 1.25 | 124.9 | |
| L | 68° 57' | 0.57' | 1.49 | 149.0 | 120' contour West side Site West |
| " | 63° 36' | 1° 04' | 1.10 | 110.0 | |
| " | 53° 49' | 1° 28' | 0.72 | 72.0 | |
| " | 42° 07' | 0° 45' | 0.52 | 52.0 | |
| R | 37° 41' | 0° 20' | 0.50 | 50.0 | |
| " | 70° 30' | 0° 06' | 0.95 | 95.0 | |
| " | 71° 36' | 0° 55' | 1.43 | 143.0 | |
| " | 61° 59' | 2° 40' | 1.50 | 149.7 | 125' contour West side |
| " | 43° 51' | 2° 50' | 1.28 | 127.7 | |

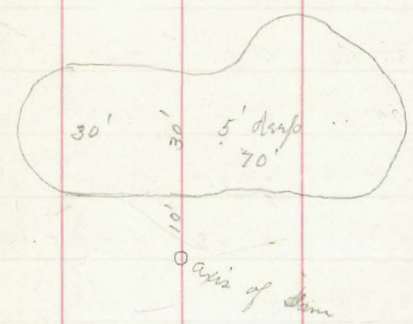
11/8/1900 Upper Dam Site

| | Horiz | Vert. | Rod | Correction | Dist. |
|---|---|---|---|---|---|
| R | 33° 33' | 4° 26' | 0.75 | 74.6 | |
| L | 0° 31' | 5° 44' | 0.68 | 67.3 | |
| " | 30° 31' | 5° 30' | 0.81 | 80.2 | |
| " | 48° 10' | 4° 40' | 1.10 | 109.3 | |
| " | 54° 22' | 3° 55' | 1.35 | 134.4 | |
| " | 60° 15' | 3° 10' | 1.65 | 163.3 | |
| L | 51° 36' | 4° 26' | 1.70 | 169.0 | 130' contour West side |
| " | 46° 48' | 4° 40' | 1.40 | 139.1 | |
| " | 29° 25' | 6° 45' | 1.00 | 98.6 | |
| " | 18° 12' | 6° 55' | 0.90 | 88.7 | |
| 0.6 | 0.0 | 7° 15' | 0.85 | 83.6 | |
| R | 16° 0' | 7° 10' | 0.90 | 88.6 | |
| " | 28° 0' | 7° 05' | 0.98 | 95.5 | |
| " | 25° 37' | 8° 15' | 1.18 | 115.3 | 135' contour West side |
| " | 9° 45' | 8° 55' | 1.00 | 97.6 | |
| 0.0 | 0.0 | 10° 45' | 0.95 | 91.7 | |
| L | 18° 07' | 10° 43' | 1.05 | 101.4 | |

11/8/1900 Upper Dam Site

| | Horiz | Vert | Rod | Computed Dist. |
|---|---|---|---|---|
| L | 31° 41' | 7° 43' | 1.18 | 115.9 |
| " | 28° 36' | 9° 40' | 1.28 | 124.4 |
| " | 16° 13' | 11° 02' | 1.12 | 107.9 |
| 0.0 | 0.0 | 12° 35' | 1.05 | 99.9 |
| R | 10° 51 | 12° 30' | 1.15 | 109.6 |
| " | 20° 26' | 9° 40' | 1.28 | 123.5 |

140' contour West side



Nov. 8th 1900

Contour Survey of Lower Dam Site in Pound Canyon

Axis of Dam = 14+24

| | Horz. | Vert. | Rod | Corrected Dist. |
|---|---|---|---|---|
| | 0.0 | 4° 20' | 0.18 | 17.9 |
| L | 39° 21' | 4° 40' | 0.48 | 47.7 |
| " | 49° 53' | 2° 16' | 0.95 | 94.8 |
| " | 63° 17' | 2° 14' | 1.20 | 119.9 |
| R | 88° 04' | 3° 40 | 0.33 | 32.8 |
| " | 92° 41' | 2° 11' | 1.00 | 99.8 |
| " | 49° 37' | 2° 17' | 1.45 | 144.8 |
| " | 64° 05 | 4° 15' | 0.80 | 79.6 |
| R | 57° 43' | 6° 30 | 0.50 | 49.4 |
| 0.0 | 0.0 | 5° 58' | 0.55 | 54.4 |
| L | 22° 02' | 4° 45' | 0.72 | 71.5 |
| " | 39° 30' | 1° 40' | 1.00 | 99.9 |
| " | 55° 00' | 2° 15' | 1.40 | 139.8 |
| " | 63° 16' | 2° 13 | 1.45 | 144.8 |
| " | 53° 36' | 1° 43' | 1.70 | 169.8 |

95' Contour West Side site East.

90' Contour West Side

90' " " East

11/8/1900 Lower Dam Site

| | Horz. | Vert | Rod | | |
|---|---|---|---|---|---|
| L | 41° 49' | 2° 10' | 1.40 | 139.8 | 90' contour East side |
| " | 28° 25' | 2° 12' | 1.15 | 114.8 | |
| " | 13° 16' | 3° 24' | 1.00 | 99.8 | |
| 0.6 | 0.0 | 4° 06 | 0.85 | 84.6 | |
| R | 27° 05 | 4° 00 | 0.85 | 84.6 | |
| " | 36° 42' | 4° 10' | 1.20 | 119.4 | |
| " | 39° 21' | 3° 20' | 1.65 | 164.4 | |
| " | 38° 16' | 1° 28' | 1.72 | 171.9 | 95' contour East side W. edge road |
| " | 28° 44' | 1° 28' | 1.45 | 144.9 | |
| " | 16° 46' | 1° 30' | 1.10 | 109.9 | |
| 0.0 | 0.0 | 1° 35' | 1.05 | 104.9 | |
| L | 21° 20' | 1° 15' | 1.20 | 119.9 | |
| " | 35° 02' | 1° 27' | 1.43 | 142.9 | |
| " | 46° 30' | 1° 20' | 1.67 | 166.9 | |
| " | 29° 05 | 0° 20' | 1.80 | 180.0 | 100' contour East side |
| " | 18° 33' | 0° 10' | 1.50 | 150.0 | |
| | 0.0 | 0° 30' | 1.30 | 130.0 | |

11/8/1900 Lower Dam Site

| | Hor. | Vert | Rod | | |
|---|---|---|---|---|---|
| R | 11°26' | 0.35' | 1.33 | 133.0 | |
| " | 23°02' | 0.35' | 1.52 | 152.0 | |
| " | 31°51' | 0.30' | 1.80 | 180.0 | |
| " | 29°37' | 1°40' | 1.85 | 185.0 | 105' contour East Side |
| " | 19°21' | 2°00 | 1.60 | 159.8 | |
| " | 8°18' | 2°00 | 1.45 | 144.8 | |
| 0.0 | 0.0 | 2°05 | 1.45 | 144.8 | |
| L | 14°20' | 1°58' | 1.60 | 159.9 | |
| " | 22°04 | 2°05' | 1.75 | 174.8 | |
| " | 24°33' | 2°00' | 1.93 | 192.8 | |
| " | 17°15' | 4°00' | 1.80 | 179.1 | 110' contour East Side |
| " | 13°22' | 4°11' | 1.70 | 169.5 | |
| | 0.0 | 4°05' | 1.55 | 154.6 | |
| R | 10°35' | 4°00' | 1.65 | 164.2 | |
| " | 24°25' | 3°30' | 1.90 | 189.3 | 115' contour East Side |
| " | 22°06' | 4°36' | 2.00 | 198.7 | |
| " | 12°26' | 4°35' | 1.80 | 178.8 | |

11/8/1900 Lower Dam Site

| | Horz. | Vert | Rod | |
|---|---|---|---|---|
| | 0.0 | 4° 45' | 1.73 | 171.8 |
| L | 8° 55' | 4° 40' | 1.80 | 178.8 |
| " | 16° 40' | 4° 45' | 1.85 | 183.7 |
| L | 59° 45' | 8° 35' | 0.80 | 78.2 |
| " | 44° 10' | 10° 45' | 0.55 | 53.1 |
| 0.0 | 0.0 | 16° 40' | 0.40 | 36.7 |
| R | 44° 04' | 17° 30' | 0.50 | 47.6 |
| " | 66° 20 | 8° 35' | 0.73 | 71.5 |
| " | 81° 07' | 3° 08' | 0.83 | 82.7 |
| " | 66° 18' | 7° 30' | 0.52 | 51.1 |
| 0.0 | 0.0 | 11° 00' | 0.25 | 24.4 |
| L | 53° 02' | 10° 21' | 0.40 | 38.7 |
| " | 71° 02' | 5° 46' | 0.80 | 79.2 |
| " | 82° 03' | 0.49' | 0.88 | 88.0 |
| " | 74° 25' | 0° 15' | 0.48 | 48.0 |
| 0.0 | 0.0 | 0° 10' | 0.13 | 13.0 |
| R | 74° 14' | 1° 18' | 0.35 | 35.0 |

115' contour West, side from Sta. "a".
at 90° Westerly 35 = a site West

the following contours taken from station "a"

110' contour West side

105' contour West side

11/8/1900 Lower Dam Site

| | Hzg | Vert | Rod | |
|---|---|---|---|---|
| R | 91° 30′ | 0° 55′ | 0.78 | 78. |
| " | 96° 26′ | 0° 37′ | 1.02 | 102 |
| L ~~Δ~~ R | 74° 28′ | 2° 20′ | 1.15 | 114.8 |
| " | 72° 29′ | 2° 15′ | 0.78 | 77.9 |
| " | 73° 38′ | 2° 39′ | 0.45 | 44.9 |
| 0.0 | 0.0 | 10° 20′ | 0.10 | 9.7 |
| R ~~R~~ | 75° 58′ | 2° 30′ | 0.43 | 42.9 |
| " | 89° 45′ | 2° 20′ | 0.90 | 89.9 |

100′ contour West side site East

103

Return to City Engineers Office
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 | 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.

## 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 |