

W
496

ENGINEERS
LEVEL BOOK

No. 412 F

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

496

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on $1\frac{1}{2}$ see inside of back cover.

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Meyer.

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Movement of Monuments
on Darn - Lateral + Vertical

11/13/34 to 1/30/34

1-79

Bench Marks Top Darn

80.

El Capitan Dam Slope Monuments

Nov. 13, 1934

600' Berm Upstream

Mon. No.	Total Move	
	.02	East
1	.02	East
	.32	E.
2	.30	E.
	.02	E.
3	.02	E.

Meyer
Salgado
Remmen

B.M.	1.79	606.92	605.13
1			6.65 600.27 01-
2			6.15 600.77 22-
3			6.25 600.67 01-

625' Upstream

	.05	E.
1	.05	E.
	.06	E.
2	.06	E.
	.05	E.
3	.05	E.
	.02	E.
4	.02	E.

B.M.	3.39	629.60	626.21
1			3.33 626.27 02-
2			4.11 625.49 03-
3			3.26 626.34 04-
4			4.55 625.05 02-

650' Upstream

	.05	E.
1	.05	
	.05	E.
2	.05	
	.23	E.
3	.22	
	.02	E.
4	.02	
	.02	E.
5	.03	

B.M.	0.54	656.33	655.79
1			5.60 650.73 03-
2			5.13 651.20 05-
3			5.44 650.89 04-
4			6.07 650.26 03-
5			5.88 650.45 06-

Movement of Monuments Cont.
Nov. 13, 1934

2

675 Upstream

Mon. No.	Total Move		B.M.	8.67	681.94	673.27
	.12 E.					
1	.13		1			6.63 675.31 03-
	.10 E.					
2	.11		2			6.99 674.95 06-
	.12 E.					
3	.10		3			6.05 675.89 07-
	.17 E.					
4	.17		4			5.55 676.39 07-
	.11 E.					
5	.13		5			6.08 675.86 08-
	.07 E.					
6	.09		6			6.65 675.29 08-
	.06 E.					
7	.08		7			6.16 675.78 03-

700 Upstream

			B.M.	0.40	708.93	708.53
	.08 E.					
1	.08		1			12.22 696.71 04-
	.13 E.					
2	.12		2			11.26 697.67 19-
	.12 E.					
3	.11		3			10.13 698.80 13-
	.15 E.					
4	.14		4			9.58 699.35 16-
	.07 E.					
5	.05		5			8.33 700.60 14-
	.12 E.					
6	.09		6			6.44 702.49 18-
	.13 E.					
7	.15		7			5.36 703.57 31-
	.10 E.					
8	.10		8			3.40 705.53 06-

Movement of Monuments Cont.
Nov. 13, 1934

725 Upstream

Mon. No.	Total Move
1	.05 E. .04
2	.05 E. .03
3	.03 E. .04
4	.05 E. .04
5	.03 E. .00
6	.03 E. .01
7	.03 E. .02
8	.03 E. .02

B.M.	7.62	731.38	723.69
1			4.41 724.77 06-
2			4.65 724.73 10-
3			5.69 725.49 12-
4			3.90 727.48 12-
5			3.70 727.48 18-
6			4.82 726.54 17-
7			4.84 726.54 11-
8			5.51 725.87 07-

725 Downstream

1	.04 E. .04
2	.09 E. .08
3	.10 E. .10
4	.10 E. .08
5	.07 E. Disturbed .07
6	.03 E. .05
7	.02 W. .00

725 Downstream			
B.M.	3.73	730.59	726.86
1			3.11 727.48 19-
2			3.19 727.40 33-
3			3.40 727.19 38-
4			4.71 725.88 38-
5			4.24 726.33 37-
6			4.44 723.95 28-
7			6.62 723.97 12-

Movement of Monuments Cont.

Nov. 13, 1934

4

700 Downstream

Total
Mon. No. Move

1	.08 W.
	.10
	.06 W.
2	.08
	.03 W.
3	.05
	.05 W.
4	.03
	.08 W.
5	.08
	.06 W.
6	.06

B.M.	12.04	706.16	694.09
1		5.05	701.10 19-
2		4.43	701.72 14-
3		4.16	701.99 38-
4		4.40	701.75 12-
5		4.67	701.48 16-
6		5.12	701.03 04-

675 Downstream

1	.04 W.
	.04
	.07 W.
2	.09
	.10 W.
3	.11
	.11 W.
4	.12
	.08 W.
5	.09
	.09 W.
6	.09
	.06 W.
7	.07

B.M.	412	678.85	674.73
1		2.94	675.91 02-
2		3.67	675.18 06-
3		3.16	675.69 06-
4		2.65	676.20 05-
5		2.97	675.88 06-
6		3.33	675.52 06-
7		3.57	675.28 03-

Movement of Monuments Cont.

Nov. 13, 1934

650 Downstream

Mon. No.	Total Move
	.03 W.
1	.03
	.08 W.
2	.09
	.07 W.
3	.08
	.23 W.
4	.25
	.04 W.
5	.04
	.03 W.
6	.05
	.04 W.
7	.04

625 Downstream

	.01 E.
1	.00
	.00
2	.01 W.
	.02 W.
3	.01
	.00
4	.00

600 Downstream

	.02 W.
1	.03
	.11 W.
2	.10
	.00
3	.00

B.M. 414 655.53 649.37

1	5.17	650.36 00
2	4.95	650.58 01-
3	5.50	650.03 02-
4	4.70	650.83 23-
5	4.48	651.05 01-
6	4.74	650.79 02-
7	5.08	650.45 01+

625 Downstream

B.M. 134 629.00 627.66

1	3.52	625.48 00
2	3.28	625.72 00
3	2.62	626.38 01-
4	2.54	626.46 02-

600 Downstream

B.M. 543 605.09 599.66

1	4.39	600.70 03+
2	4.42	600.67 19-
3	3.61	601.48 00

Movement of Monuments

Nov. 14, 1934

600 Upstream

Total

Mon. No. Move

	.02 E.
1	.01
	.30 E.
2	.29
	.02 E.
3	.02

625 Upstream

	.05 E.
1	.04
	.07 E.
2	.06
	.05 E.
3	.05
	.04 E.
4	.03

650 Upstream

	.04 E.
1	.03
	.06 E.
2	.04
	.24 E.
3	.22
	.02 E.
4	.00
	.03 E.
5	.02

Meyer
Salgado
Remmen

6

B.M. 1.28 606.41 605.13

1 6.14 600.27 01-

2 5.65 600.76 23-

3 5.74 600.67 01-

B.M. 4.28 630.49 626.21

1 4.23 626.26 03-

2 5.02 625.47 05-

3 4.16 626.33 05-

4 5.45 625.04 03-

B.M. 0.46 656.25 655.79

1 5.53 650.72 04-

2 5.05 651.20 05-

3 5.37 650.88 45-

4 6.00 650.25 04-

5 5.79 650.46 05-

Movement of Monuments Cont.

Nov. 14, 1934

675 Upstream

Total

Mon. No. Move

1	.11 E.
	.09
2	.13 E.
	.11
3	.12 E.
	.11
4	.15 E.
	.14
5	.11 E.
	.10
6	.03 E.
	.07
7	.04 E.
	.07

700 Upstream

1	.06 E.
	.06
2	.12 E.
	.10
3	.12 E.
	.11
4	.13 E.
	.11
5	.03 E.
	.03
6	.10 E.
	.12
7	.14 E.
	.13
8	.09 E.
	.08

B.M.

8.11 681.38

673.27

1

6.08 675.30 04-

2

6.45 674.93 08-

3

5.50 675.88 08-

4

5.01 676.37 09-

5

5.54 675.84 10-

6

6.09 675.29 08-

7

5.62 675.76 05-

700 Upstream

B.M.

0.14 708.67

708.53

1

11.98 696.69 06-

2

11.02 697.65 21-

3

9.89 698.78 15-

4

9.34 699.33 18-

5

8.09 700.58 76-

6

6.19 702.48 19-

7

5.12 703.55 33-

8

3.14 705.53 06-

Movement of Monuments Cont.

Nov. 14, 1934

72.5 Upstream
Total

Mon. No. Move

8

B.M. 6.92 730.61

723.69

1 .05 E.
.05

1

3.64 726.97 06-

2 .03 E.
.04

2

3.89 726.72 11-

3 .03 E.
.02

3

4.92 725.69 12-

4 .03 E.
.03

4

3.14 727.47 13-

5 .02 E.
.00

5

2.94 727.67 19-

6 .02 E.
.02

6

4.07 726.54 19-

7 .04 E.
.04

7

4.09 726.52 13-

8 .02 E.
.03

8

4.73 725.88 06-

72.5 Downstream

72.5 Downstream

B.M. 4.21 731.07

726.86

1 .04 E.
.03

1

3.58 727.49 18-

2 .09 E.
.07

2

3.66 727.41 32-

3 .10 E.
.09

3

3.88 727.19 38-

4 .06 E.
.06

4

5.21 725.86 40-

5 .05 E. Disturbed
.06

5

4.72 726.35 35-

6 .02 E.
.02

6

7.14 723.93 30-

7 .04 W.
.05

7

7.12 723.95 14-

Movement of Monuments Cont.

Nov. 14, 1934

700 Downstream

Total
Mon. No. Move

1	.09 W.
	.10
2	.07 W.
	.08
3	.03 W.
	.05
4	.03 W.
	.04
5	.08 W.
	.09
6	.06 W.
	.08

675 Downstream

1	.04 W.
	.04
2	.07 W.
	.08
3	.10 W
	.10
4	.10 W
	.10
5	.10 W
	.10
6	.08 W
	.07
7	.06 W
	.06

B.M. 12.22 706.31 694.09

1	5.22	701.09	20-
2	4.40	701.71	15-
3	4.33	701.98	39-
4	4.58	701.73	15-
5	4.85	701.46	18-
6	5.28	701.03	04-

B.M. 496 679.69 674.73

1	3.77	675.92	01-
2	4.50	675.19	05-
3	4.00	675.69	06-
4	3.50	676.19	06-
5	3.82	675.87	07-
6	4.17	675.52	06-
7	4.42	675.27	04-

Movement of Monuments Cont.

Nov. 14, 1934

10

650 Downstream

Mon. No.	Total Move	B.M.	607	655.44	649.37
1	.02 W. .03	1			5.09 650.35 01-
2	.07 W. .08	2			4.87 650.57 02-
3	.07 W. .09	3			5.42 650.02 03-
4	.23 W. .24	4			4.63 650.81 25-
5	.03 W. .03	5			4.41 651.03 03-
6	.05 W. .05	6			4.67 650.77 04-
7	.03 W. .03	7			5.01 650.43 01-

625 Downstream

		B.M.	095	628.64	627.66
1	.00 .00	1			3.16 625.48 00
2	.02 W. .03	2			2.93 625.71 01-
3	.02 W. .02	3			2.27 626.37 02-
4	.09 .01 E.	4			2.19 626.45 03-

600 Downstream

		B.M.	5.34	605.02	599.66
1	.03 W. .04	1			4.32 600.70 03+
2	.11 W. .12	2			4.35 600.67 11-
3	.00 .00	3			3.54 601.48 00

Movement of Monuments

Nov. 15, 1934

Upstream Toewall

Total

Mon. No.	Move
	.00
1	.015 W.
	.02 E.
2	.00
	.00
3	.00

Downstream Toewall

1	.02 W. .02
2	.00 .005 W.
3	.03 W. .03

600 Upstream

1	.02 E. .01
2	.31 E. .30
3	.01 E. .02

625 Upstream

1	.06 E. .05
2	.08 E. .06
3	.06 E. .06
4	.02 E. .04

Meyer
Salgado
Remmen

11

B.M.	0.42	581.68	581.26
1		6.69	574.99 01+
2		6.70	574.98 01-
3		6.72	574.96 01+

Downstream Toewall

B.M.	13.01	576.66	563.65
1		1.62	575.04
2		1.64	575.02
3		1.74	574.92

600 Upstream

B.M.	1.77	606.90	605.13
1		6.64	600.26 02-
2		6.13	600.77 22-
3		6.22	600.68 00

625 Upstream

B.M.	3.67	629.88	626.21
1		3.63	626.25 04-
2		4.41	625.47 05-
3		3.55	626.33 05-
4		4.83	625.05 02-

Movement of Monuments Cont.
Nov. 15, 1934

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650 Upstream
Total

Mon. No.	Move
1	.05 E. .05
2	.05 E. .05
3	.25 E. .23
4	.02 E. .00
5	.03 E. .02

B.M.	0.68	656.47	655.79
1			5.74 650.73 03-
2			5.27 651.20 05-
3			5.58 650.89 44-
4			6.21 650.26 03-
5			6.01 650.46 05-

675 Upstream

1	.12 E. .11
2	.13 E. .12
3	.12 E. .11
4	.15 E. .13
5	.09 E. .10
6	.05 E. .07
7	.08 E. .06

B.M.	8.02	681.29	673.27
1			5.97 675.32 02-
2			6.33 674.96 05-
3			5.39 675.90 06-
4			4.90 676.39 07-
5			5.44 675.85 09-
6			6.00 675.29 08-
7			5.52 675.77 04-

Movement of Monuments Cont.

Nov. 15, 1934

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700 Upstream

Mon. No.	Total Move	B.M.	0.58	709.11	708.53
1	.07 E.	1			12.44 696.67 08-
2	.12 E.	2			11.46 697.65 21-
3	.12 E.	3			10.34 698.77 16-
4	.14 E.	4			9.79 699.32 19-
5	.05 E.	5			8.54 700.57 77-
6	.11 E.	6			6.65 702.46 21-
7	.15 E.	7			5.56 703.55 33-
8	.07 E.	8			3.60 705.51 08-

725 Upstream

Mon. No.	Total Move	B.M.	7.71	731.40	723.69
1	.05 E.	1			4.42 726.98 08-
2	.05 E.	2			4.66 726.74 09-
3	.02 E.	3			5.70 725.70 11-
4	.04 E.	4			3.93 727.47 13-
5	.03 E.	5			3.72 727.68 18-
6	.02 E.	6			4.84 726.56 17-
7	.03 E.	7			4.86 726.54 11-
8	.04 E.	8			5.51 725.89 05-

Movement of Monuments Cont.
Nov. 15, 1934

14

725 Downstream

Mon. No.	Total Move	B.M.	323	730.09	726.86
	.04 E				
1	.04	1		2.62	727.47 20-
	.08 E.				
2	.07	2		2.69	727.40 23-
	.10 E.				
3	.08	3		2.90	727.19 38-
	.08 E.				
4	.08	4		4.22	725.87 39-
	.06 E.				
5	.06	5		3.74	726.35 35-
	.03 E.				
6	.02	6		4.14	723.93 30-
	.02 W.				
7	.02	7		4.12	723.97 12-

700 Downstream

		B.M.	1218	706.27	694.09
	.09 W.				
1	.10	1		5.18	701.09 20-
	.07 W.				
2	.09	2		4.56	701.71 15-
	.04 W.				
3	.04	3		4.28	701.99 38-
	.03 W.				
4	.04	4		4.53	701.74 14-
	.09 W.				
5	.09	5		4.82	701.45 19-
	.06 W.				
6	.07	6		5.24	701.03 04-

Movement of Monuments Cont.

Nov. 15, 1934

675 Downstream

Mon. No.	Total Move	B.M.	4.44	679.17	674.73
1	.04 W. .05	1		3.27	675.90 03-
2	.07 W. .09	2		4.00	675.17 07-
3	.11 W. .11	3		3.49	675.68 07-
4	.11 W. .11	4		2.98	676.19 06-
5	.09 W. .10	5		3.30	675.87 07-
6	.08 W. .08	6		3.65	675.52 06-
7	.06 W. .06	7		3.88	675.29 02-

650 Downstream

		B.M.	6.14	655.53	649.37
1	.02 W. .03	1		5.18	650.35 01-
2	.07 W. .08	2		4.95	650.58 01-
3	.07 W. .09	3		5.50	650.03 02-
4	.24 W. .23	4		4.70	650.83 73-
5	.03 W. .03	5		4.49	651.04 02-
6	.04 W. .04	6		4.74	650.79 02-
7	.04 W. .04	7		5.08	650.45 01+

Movement of Monuments Cont.
 Nov. 15, 1934

625 Downstream

Mon. No.	Total Move
	.00
1	.01 W.
	.01 W.
2	.02
	.02 W.
3	.02
	.01 E.
4	.00

B.M.	1.31	628.97	627.66
1		3.49	625.48 00
2		3.25	625.72 00
3		2.59	626.38 01-
4		2.51	626.46 02-

600 Downstream

1	.03 W. .04
2	.10 W. .12
3	.01 E. .01

B.M.	544	605.10	599.66
1		4.39	600.71 01+
2		4.42	600.68 18-
3		3.61	601.49 01+

Movement of Monuments

Nov. 17, 1934

675 Upstream

Total

Mon. No. Move

1 .12 E.
 .12
 2 .13 E.
 .13
 3 .12 E.
 .12
 4 .17 E.
 .17
 5 .11 E.
 .11
 6 .05 E.
 .05
 7 .09 E.
 .09

700 Upstream

1 .07 E.
 .07
 2 .12 E.
 .12
 3 .12 E.
 .10
 4 .13 E.
 .13
 5 .06 E.
 .04
 6 .12 E.
 .12
 7 .17 E.
 .16
 8 .10 E.
 .10

Meyer
 Salgado
 Remmen

B.M. 8.31 681.58

673.27

1 6.27 675.31 03-
 2 6.65 674.93 08-
 3 5.70 675.88 08-
 4 5.21 676.37 09-
 5 5.74 675.84 10-
 6 6.30 675.28 09-
 7 5.81 675.77 06-

700 Upstream

B.M. 0.08 708.61

708.53

1 11.92 696.69 06-
 2 10.94 697.67 09-
 3 9.83 698.78 15-
 4 9.28 699.33 18-
 5 8.03 700.58 76-
 6 6.13 702.48 19-
 7 5.04 703.57 31-
 8 3.07 705.54 05-

Movement of Monuments Cont.

Nov. 17, 1934

18

725 Upstream

Mon. No.	Total Move	B.M.			
		7.71	731.40		723.69
1	.05 E. .04	1		4.43	726.97 06-
2	.03 E. .03	2		4.66	726.74 09-
3	.00 .02 E.	3		5.70	725.70 11-
4	.04 E. .04	4		3.93	727.47 13-
5	.03 E. .03	5		3.73	727.67 19-
6	.03 E. .03	6		4.85	726.55 18-
7	.03 E. .01	7		4.84	726.56 09-
8	.06 E. .06	8		5.50	725.90 04-

725 Downstream

		B.M.			
		3.00	727.86		726.86
1	.04 E. .04	1		2.37	727.49 19-
2	.10 E. .08	2		2.46	727.40 33-
3	.10 E. .10	3		2.68	727.18 39-
4	.08 E. .08	4		4.00	725.86 40-
5	.04 E. .04	5		3.52	726.34 36-
6	.04 E. .04	6		5.92	723.94 29-
7	.02 W. .02	7		5.88	723.98 11-

Movement of Monuments Cont.

Nov. 17, 1934

19

700 Downstream

Mon. No.	Total Mere	B.M.	11.92	706.01	694.09
1	.09 W. .10	1			4.91 701.10 19-
2	.06 W. .08	2			4.31 701.70 16-
3	.03 W. .04	3			4.04 701.97 40-
4	.03 W. .05	4			4.28 701.73 15-
5	.07 W. .09	5			4.54 701.45 19-
6	.07 W. .09	6			4.98 701.03 06-

675 Downstream

		B.M.	4.69	679.42	674.73
1		1			3.50 675.92 01-
2		2			4.25 675.17 07-
3		3			3.74 675.68 07-
4		4			3.24 676.18 07-
5		5			3.55 675.87 07-
6		6			3.90 675.52 06-
7		7			4.14 675.28 03-

Movement of Monuments
Nov. 20, 1934

600 Upstream
Total

Mon. No.	Move
	.02 E.
1	.01
	.30 E.
2	.29
	.01 E.
3	.01

Meyer
Salgado
Remmen

B.M.	1.73	606.86	605.13
1		6.59	600.27 01-
2		6.09	600.77 22-
3		6.18	600.68 00

625 Upstream

	.05 E.
1	.05
	.07 E.
2	.07
	.06 E.
3	.05
	.04 E.
4	.02

B.M.	2.95	629.16	626.21
1		2.90	626.26 03-
2		3.68	625.48 04-
3		2.82	626.34 04-
4		4.11	625.05 02-

650 Upstream

	.04 E.
1	.04
	.05 E.
2	.04
	.24 E.
3	.24
	.01 E.
4	.01
	.02 E.
5	.02

B.M.	0.76	656.55	655.79
1		5.82	650.73 03-
2		5.35	651.20 05-
3		5.66	650.89 44-
4		6.29	650.26 03-
5		6.09	650.46 05-

Movement of Monuments Cont.
Nov, 20, 1934

21

675 Upstream

Mon. No. Marc

Mon. No.	Marc
1	.11 E.
	.11
2	.13 E.
	.13
3	.10 E.
	.12
4	.14 E.
	.16
5	.09 E.
	.12
6	.06 E.
	.07
7	.03 E.
	.07

700 Upstream

1	.07 E.
	.07
2	.12 E.
	.12
3	.12 E.
	.12
4	.15 E.
	.13
5	.05 E.
	.04
6	.11 E.
	.11
7	.14 E.
	.15
8	.10 E.
	.09

B.M. 6.38 679.65

673.27

1	4.34 675.31 03-
2	4.70 674.95 06-
3	3.76 675.89 07-
4	3.27 676.38 08-
5	3.81 675.84 10-
6	4.38 675.27 10-
7	3.88 675.77 06-

700 Upstream

B.M

0.23 708.76

708.53

1	12.07 696.69 06-
2	11.10 697.66 20-
3	9.99 698.77 16-
4	9.44 699.32 19-
5	8.18 700.58 76-
6	6.29 702.47 20-
7	5.22 703.54 34-
8	3.23 705.53 06-

Movement of Monuments Cont.

Nov. 20, 1934

725 Upstream

Total

Mon. No. Move

1	.05 E.
	.05
2	.04 E.
	.03
3	.02 E.
	.02
4	.04 E.
	.04
5	.02 E.
	.02
6	.03 E.
	.03
7	.03 E.
	.03
8	.07 E.
	.05

B.M. 739 731.08 723.69

1	4.12	726.96	07-
2	4.37	726.71	12-
3	5.42	725.66	15-
4	3.64	727.44	16-
5	3.44	727.64	22-
6	4.57	726.51	22-
7	4.57	726.51	16-
8	5.21	725.87	07-

725 Downstream

1	.04 E.
	.03
2	.08 E.
	.08
3	.11 E.
	.10
4	.07 E.
	.07
5	.06 E.
	.06
6	.03 E.
	.03
7	.03 W.
	.03

B.M. 725 Downstream 2.73 729.59 726.86

1	2.13	727.44	21-
2	2.22	727.37	36-
3	2.44	727.15	42-
4	3.75	725.84	42-
5	3.27	726.32	38-
6	5.68	723.91	32-
7	5.62	723.97	12-

Movement of Monuments Cont.

Nov. 20, 1934

700 Downstream

Total

23

Mon. No. Move

B.M. 11.98 706.07 694.09

1	.10 W. .11	1	4.98	701.09	20-
2	.06 W. .08	2	4.37	701.70	16-
3	.04 W. .05	3	4.10	701.97	20-
4	.05 W. .05	4	4.34	701.73	15-
5	.08 W. .08	5	4.61	701.46	18-
6	.06 W. .08	4	5.04	701.03	04-

675 Downstream

B.M. 4.46 679.19 674.73

1	.04 W. .05	1	3.27	675.92	01-
2	.08 W. .08	2	4.02	675.17	07-
3	.10 W. .11	3	3.51	675.68	07-
4	.11 W. .12	4	3.00	676.19	07-
5	.10 W. .11	5	3.32	675.87	07-
6	.08 W. .08	6	3.67	675.52	06-
7	.07 W. .06	7	3.91	675.28	03-

Movement of Monuments Cont.

Nov. 20, 1934

650 Downstream

Total

Mon. No. Move

1	.02 W.
	.03
2	.07 W.
	.09
3	.07 W.
	.08
4	.24 W.
	.25
5	.04 W.
	.04
6	.05 W.
	.05
7	.04 W.
	.04

625 Downstream

1	.00
	.00
2	.02 W.
	.02
3	.01 W.
	.02
4	.00
	.01 E.

600 Downstream

1	.03 W.
	.03
2	.12 W.
	.12
3	.00
	.00

24

B.M. 413 655.50 649.37

1	5.14	650.36	00
2	4.93	650.57	02-
3	5.47	650.03	02-
4	4.67	650.83	23-
5	4.45	651.05	01-
6	4.71	650.79	02-
7	5.05	650.45	01+

625 Downstream

B.M. 128 626.94 627.66

1	3.46	625.48	00
2	3.22	625.72	00
3	2.54	626.38	01-
4	2.48	626.44	02-

600 Downstream

B.M. 513 604.79 599.66

1	4.10	600.69	02+
2	4.11	600.68	18.
3	3.30	601.49	01+

Movement of Monuments

Nov. 23, 1934

Upstream Toewall

Total

Meyer
Salgado
Remmen

25

Mon. No. Move

B.M. 0.95 582.21 581.26

1 .00
1 .00
2 .01 E.
2 .005 E.
3 .00
3 .00

1 7.225 574.985
2 7.23 574.98
3 7.25 574.96

Downstream Toewall

Downstream Toewall

B.M. 12.45 576.30 563.65

1 .02 W.
1 .02
2 .00
2 .00
3 .02 W.
3 .03

1 1.24 575.04 03+
2 1.27 575.03 01+
3 1.38 574.92 02+

600 Upstream

600 Upstream

B.M. 2.34 607.47 605.13

1 .03 E.
1 .02
2 .31 E.
2 .30
3 .02 E.
3 .02

1 7.21 600.26 02-
2 6.71 600.76 23-
3 6.80 600.67 01-

625 Upstream

625 Upstream

B.M. 3.02 629.23 626.21

1 .05 E.
1 .05
2 .07 E.
2 .07
3 .06 E.
3 .06
4 .04 E.
4 .03

1 2.97 626.26 03-
2 3.76 625.47 05-
3 2.91 626.32 06-
4 4.19 625.04 03-

Movement of Monuments Cont.

Nov. 23, 1934

26

650 Upstream

Total
Mon. No. Move

1	.05 E.
	.05
2	.07 E.
	.06
3	.26 E.
	.26
4	.02 E.
	.02
5	.04 E.
	.04

B.M. 0.83 656.62

655.79

1	5.89 650.73 03-
2	5.43 651.19 06-
3	5.74 650.88 45-
4	6.37 650.25 04-
5	6.16 650.46 05-

675 Upstream

1	.13 E.
	.12
2	.13 E.
	.13
3	.13 E.
	.13
4	.16 E.
	.16
5	.11 E.
	.13
6	.06 E.
	.08
7	.07 E.
	.08

B.M. 6.15 679.42

673.27

1	4.13 675.29 05-
2	4.50 674.92 09-
3	3.55 675.87 09-
4	3.06 676.36 10-
5	3.60 675.82 12-
6	4.17 675.25 12-
7	3.67 675.75 06-

Movement of Monuments Cont.

Nov. 23, 1934

27

700 Upstream

Mon. No.	Total Move	B.M.	0.08	708.61	708.53
1	.07 E.	1			11.91 696.70 05-
2	.13 E.	2			10.95 697.66 20-
3	.12 E.	3			9.84 698.77 16-
4	.15 E.	4			9.29 699.32 19-
5	.06 E.	5			8.04 700.57 77-
6	.11 E.	6			6.15 702.46 21-
7	.14 E.	7			5.05 703.56 32-
8	.10	8			3.08 705.53 06-

725 Upstream

		B.M.	6.87	730.56	723.69
1	.05 E.	1			3.61 726.95 08-
2	.04 E.	2			3.86 726.70 13-
3	.03	3			4.92 725.64 17-
4	.02 E.	4			3.14 727.42 18-
5	.05 E.	5			2.94 727.62 26-
6	.04 E.	6			4.06 726.50 23-
7	.04	7			4.06 726.50 15-
8	.04 E.	8			4.70 725.80 08-
	.05				

725 Upstream

Movement of Monuments Cont.

Nov. 23, 1934

28

725 Downstream

Mon. No.	Move	B.M.	3.32	730.18	726.86	
	Total					
1	.04 E.	1			2.72	727.46 21-
2	.09 E.	2			2.82	727.36 37-
3	.11 E.	3			3.04	727.14 43-
4	.10	4			4.36	725.82 44-
5	.07 E.	5			3.88	726.30 40-
6	.06 E.	6			6.28	723.90 33-
7	.03 E.	7			6.23	723.95 14-
	.03 W.					
	.03					

700 Downstream

		B.M.	12.07	706.16	694.09	
1	.09 W.	1			5.08	701.08 21-
2	.10	2			4.47	701.69 17-
3	.07 W.	3			4.20	701.96 41-
4	.08	4			4.43	701.73 15-
5	.04 W.	5			4.70	701.46 18-
6	.04	6			5.13	701.03 04-
	.05 W.					
	.05					
	.08 W.					
	.09					
	.07 W.					
	.08					

Movement of Monuments Cont.

Nov. 23, 1934

675 Downstream

Total
Mon. No. Move

1	.05 W.
	.05
2	.09 W.
	.09
3	.12 W.
	.12
4	.13 W.
	.13
5	.11 W.
	.10
6	.08 W.
	.08
7	.06 W.
	.06

B.M. 5.26 679.99 674.73

1	4.07	675.92	01-
2	4.82	675.17	07-
3	4.31	675.68	07-
4	3.80	676.19	06-
5	4.12	675.87	07-
6	4.48	675.51	07-
7	4.72	675.27	04-

650 Downstream

1	.02 W.
	.03
2	.07 W.
	.08
3	.07 W.
	.08
4	.24 W.
	.24
5	.04 W.
	.04
6	.05 W.
	.05
7	.04 W.
	.04

B.M. 6.13 655.50 649.37

1	5.15	650.35	01-
2	4.94	650.56	03-
3	5.48	650.02	03-
4	4.68	650.82	24-
5	4.47	651.03	03-
6	4.72	650.78	03-
7	5.07	650.43	01-

Movement of Monuments
Nov. 23, 1934

625 Downstream

Mon. No. Move

Total

	.00
1	.01 W.
	.02 W.
2	.04
	.01 W.
3	.02
	.00
4	.00

B.M. 123 628.89 627.66

1 3.41 625.48 00

2 3.18 625.71 01-

3 2.51 626.38 01-

4 2.44 626.45 03-

600 Downstream

	.01 W.
1	.02
	.11 W.
2	.12
	.00
3	.00

B.M. 553 605.19 599.66

1 4.51 600.68 01+

2 4.52 600.67 19-

3 3.70 601.49 01+

Movement of Monuments

Nov. 30, 1934

600 Upstream

Total

Mon. No. Move

1	.03 E.
	.02
2	.31 E.
	.30
3	.03 E.
	.01

Meyer
Solgado
Remmen

B.M.	1.73	606.88	605.15
1		6.61	600.27 01-
2		6.11	600.77 22-
3		6.20	600.68 00

625 Upstream

1	.06 E.
	.06
2	.09 E.
	.08
3	.07 E.
	.07
4	.04 E.
	.04

B.M.	3.08	629.29	626.21
1		3.03	626.26 03-
2		3.81	625.48 04-
3		2.95	626.34 04-
4		4.23	625.06 01-

650 Upstream

1	.05 E.
	.05
2	.07 E.
	.06
3	.25 E.
	.25
4	.03 E.
	.03
5	.03 E.
	.03

B.M.	0.72	656.51	655.79
1		5.79	650.72 04-
2		5.32	651.19 06-
3		5.63	650.88 45-
4		6.26	650.25 04-
5		6.06	650.45 06-

Movement of Monuments

Nov. 30, 1934

675 Upstream

Total

Mon. No.	Mover
1	.12 E.
	.12
2	.13 E.
	.14
3	.12 E.
	.12
4	.15 E.
	.17
5	.11 E.
	.13
6	.06 E.
	.08
7	.02 E.
	.05

B.M. 6.61 679.88

673.27

1	4.59 675.29 05-
2	4.95 674.93 08-
3	4.01 675.87 09-
4	3.53 676.35 11-
5	4.06 675.82 12-
6	4.61 675.27 10-
7	4.12 675.76 05-

700 Upstream

1	.06 E.
	.08
2	.12 E.
	.14
3	.11 E.
	.13
4	.14 E.
	.16
5	.05 E.
	.07
6	.14 E.
	.14
7	.14 E.
	.14
8	.08 E.
	.11

B.M. 0.17 708.70

702.53

700 Upstream	
1	12.03 696.67 08-
2	11.06 697.64 22-
3	9.94 698.76 17-
4	9.41 699.29 22-
5	8.16 700.54 20-
6	6.26 702.44 23-
7	5.16 703.54 24-
8	3.18 705.52 07-

Movement of Monuments

Nov. 30, 1934

725 Upstream

Total

Mon. No. Move

1	.05 E.
	.05
2	.04 E.
	.03
3	.02 E.
	.02
4	.03 E.
	.03
5	.01 E.
	.01
6	.03 E.
	.03
7	.03 E.
	.03
8	.03 E.
	.03

B.M. 6.83 730.52

723.69

1	3.57	726.95	08-
2	3.84	726.68	15-
3	4.91	725.61	20-
4	3.15	727.37	23-
5	2.94	727.58	28-
6	4.06	726.46	27-
7	4.04	726.48	17-
8	4.66	725.86	08-

725 Downstream

1	.04 E.
	.03
2	.08 E.
	.08
3	.11 E.
	.10
4	.07 E.
	.07
5	.05 E.
	.06
6	.03 E.
	.04
7	.03 W.
	.03

B.M. 3.61 730.47

726.86

725 Downstream

3.02	727.45	22-
3.14	727.33	40-
3.37	727.10	47-
4.69	725.78	48-
4.21	726.26	44-
4.40	723.87	36-
4.54	723.93	16-

Movement of Monuments

Nov. 30, 1934

34

Top of Dam

Mon. No.	Total Move		B.M.	8.03	777.70		769.67	
1	.00		1			6.31	771.39	Outside Pipe
	.00					6.30	771.40	Inside Pipe
2	.01 E.		2			5.36	772.34	0
	.00					5.36	772.34	I 01-
3	.01 E.		3			4.81	772.89	02-
	.00					4.81	772.89	02-
4	.00		4			3.92	773.78	02-
	.00					3.91	773.79	02-
5	.01 W.		5	4.10	778.07	3.73	773.97	04-
	.01					3.73	773.97	04-
6	.00		6			3.95	774.12	03-
	.01 W.					3.94	774.13	03-
7	.00		7			4.45	773.62	02-
	.01 E.					4.47	773.60	02-
8	.00		8			5.175	772.895	00-
	.01 W.					5.18	772.89	01-
9	.01 W.		9			5.84	772.23	00
	.02					5.84	772.23	00
10	.01 E.		10			6.71	771.36	01-
	.00					6.69	771.38	01-

B.M. 8.55 769.52 769.54

700 Downstream

700 Downstream

			B.M.	12.01	706.10		694.09	
1	.11 W.	09W	1			5.02	701.09	21-
	.11							
2	.08 W.	07W	2			4.41	701.69	27-
	.09							
3	.05 W.	04W	3			4.15	701.95	42-
	.06							
4	.06 W.	05W	4			4.39	701.71	17-
	.06							
5	.11 W.		5			4.65	701.45	19-
	.11							
6	.09 W.		6			5.07	701.03	04-
	.10							

Movement of Monuments

Nov. 30, 1934

675 Downstream

Mon. No.	More		B.M.	534	680.07	674.73
	Total					
1	.05 W.		1		4.15	675.92 01-
	.05					
2	.08 W.		2		4.87	675.19 06-
	.09					
3	.12 W.		3		4.39	675.68 07-
	.12					
4	.12 W.	13W	4		3.89	676.19 07-
	.12					
5	.11 W.		5		4.20	675.97 07-
	.11					
6	.09 W.	08W	6		4.54	675.51 07-
	.09					
7	.06 W.		7		4.79	675.28 03-
	.06					

650 Downstream

			B.M.	420	655.57	649.37
1	.02 W.		1		5.22	650.35 01-
	.03					
2	.08 W.		2		5.01	650.54 03-
	.08					
3	.08 W.		3		5.55	650.02 03-
	.10					
4	.25 W.	24W	4		4.75	650.92 24-
	.25					
5	.04 W.		5		4.54	651.03 03-
	.04					
6	.06 W.	05W	6		4.79	650.78 03-
	.06					
7	.04 W.		7		5.13	650.44 00
	.04					

Movement of Monuments Cont.
Nov. 30, 1934

625 Downstream

Mon. No.	Move	Total
	.00	
1	.01 W.	00
	.02 W.	00
2	.03	
	.02 W.	00
3	.02	
	.00	00
4	.00	

B.M.	1.32	628.98	627.66
1		3.50	625.48 00
2		3.24	625.72 00
3		2.40	624.38 01-
4		2.52	624.44 02-

600 Downstream

1	.02 W.	
	.03	01W
2	.11 W.	00
	.11	00
3	.00	
	.01 E	00

B.M.	5.74	605.40	599.66
1		4.72	600.68 01+
2		4.73	600.67 19-
3		3.92	601.49 00

Movement of Monuments

37

Movement OF Monuments

Dec. 10-1934.

Upstream Toe Wall

Mon. No.	Total Move.
	0.00
1	0.01 W.
	0.01 E.
2	0.00
	0.005 E.
3	0.00

600' upstream.

	0.3 E
1	0.2
	.31 E
2	.30
	0.2 E
3	0.2

625' upstream

	.07 E
1	.06
	.09 E
2	.07
	.07 E
3	.08
	.04 E
4	.05

Simpson - ∇ — Saper - Chain
 Isbell - Level - Remmen - Rod.
 Salgado - Notes

38

Upstream Toe Wall

B.M.	2.29	583.55	581.26
1		8.57	574.98 00
2		8.57	574.98 01
3		8.60	574.95 00

B.M.	1.09	604.17	605.13
1		5.91	600.26 02
2		5.41	600.76 23
3		5.51	600.44 02

B.M.	5.86	632.07	626.21
1		5.81	626.24 03
2		6.59	625.48 04
3		5.74	626.33 05
4		7.02	625.05 06

450' upstream

Mon. No.	Total Move	
	.065	E
1	.055	
	.075	E
2	.075	
	.28	E
3	.28	
	.05	E
4	.04	
	.045	E
5	.035	

B.M.	0.67	656.46	655.79
1		5.74	650.72 04°
2		5.28	651.18 07°
3		5.59	650.87 ↓6°
4		4.22	650.24 05°
5		4.01	650.45 06°

475' upstream

	.14	E
1	.14	
	.17	E
2	.16	
	.14	E
3	.15	
	.20	E
4	.20	
	.16	E
5	.15	
	.09	E
6	.10	
	.09	E
7	.09	

B.M.	9.41	682.68	673.27
1		7.38	675.30 04°
2		7.74	674.92 09°
3		6.82	675.86 10°
4		6.33	676.35 11°
5		6.86	675.82 12°
6		7.42	675.26 11°
7		6.92	675.76 05°

700' upstream

Mon. No. Total
Move

1	.10	E
	.09	
2	.15	E
	.15	
3	.15	E
	.14	
4	.17	E
	.17	
5	.09	E
	.10	
6	.16	E
	.16	
7	.18	E
	.17	
8	.13	E
	.13	

B. M. 0.22 708.75 708.53

1	1206	696.69	06-
2	1110	697.65	21-
3	1000	698.75	18-
4	946	699.29	22-
5	822	700.53	81-
6	633	702.49	25-
7	522	703.53	35-
8	322	705.53	06-

725' upstream

1	.07	E
	.04	
2	.05	E
	.05	
3	.03	E
	.02	
4	.05	E
	.04	
5	.03	E
	.03	
6	.06	E
	.06	
7	.08	E
	.06	
8	.09	E
	.09	

B. M. 8.51 722.20 723.69

1	523	726.97	06-
2	553	726.47	16-
3	660	725.60	21-
4	484	727.36	24-
5	463	727.57	29-
6	575	726.45	28-
7	573	726.47	19-
8	632	725.89	06-

725' Downstream

Man. No.	Total Move		B.M.	3.42	730.29	726.86
1	.03	E	1		2.85	727.43 20°
2	.09	E	2		2.97	727.31 42°
3	.12	E	3		3.21	727.07 50°
4	.09	E	4		4.54	725.74 52°
5	.09	E	5		4.05	724.23 47°
6	.02	E	6		6.43	723.85 38°
7	.04	W	7		6.35	723.73 16°

700' Downstream

			B.M.	9.22	703.31	694.09
1	.11	W	1		2.23	701.09 20°
2	.09	W	2		1.64	701.67 19°
3	.04	W	3		1.38	701.93 44°
4	.05	W	4		1.62	701.69 19°
5	.10	W	5		1.87	701.44 20°
6	.11	W	6		2.29	701.02 05°

675' Downstream

Mon. No.	Total Move		B. M.	4.71	679.44	674.73
1	.05	W	1		3.53	675.91 02
2	.10	W	2		4.29	675.15 09
3	.13	W	3		3.78	675.66 09
4	.12	W	4		3.28	674.16 09
5	.10	W	5		3.59	675.85 09
6	.08	W	6		3.95	675.49 09
7	.07	W	7		4.18	675.26 05

650' Downstream

			B. M.	3.75	653.12	649.37
1	.03	W	1		2.77	650.35 01
2	.09	W	2		2.56	650.56 03
3	.09	W	3		3.15	650.01 02
4	.16	W	4		2.31	650.81 75
5	.06	W	5		2.09	651.03 03
6	.05	W	6		2.34	650.78 05
7	.05	W	7		2.68	650.44 00

625' Downstream

Mon. No.	Total Move
	.00
1	.01 W
	.02 W
2	.04
	.03 W
3	.03
	.00
4	.00

B.M.	1.17	628.83	627.64
1		3.35	625.48 00
2		3.13	625.70 00
3		2.46	626.37 00
4		2.38	626.45 00

600' Downstream

	.03 W
1	.03
	.11 W
2	.11
	.00
3	.00

B.M.	5.31	604.97	599.66
1		4.29	600.68 01
2		4.31	600.64 20
3		3.49	601.48 00

Downstream Toewall

	.015
1	.020 W
	.00
2	.005 W
	.015
3	.015 W

B.M.	12.45	576.10	563.65
1		1.06	575.04 00
2		1.08	575.02 00
3		1.17	574.93 00

Movement Of Monuments.

45

Dec. 20-1934.

Mon. No. Upstream Toe Wall

B. M. 116 582.42 581.26

1	.01 .01 .005	W E	1	7.43	574.99	01+
2	.000 .005	E	2	7.43	574.99	00
3	.010		3	7.45	574.97	02+

600' upstream

B. M. 432 609.45 605.13

1	.03 .02	E	1	9.19	600.26	02-
2	.31 .30	E	2	8.69	600.76	23-
3	.02 .02	E	3	8.79	600.66	02-

625' upstream

B. M. 417 632.38 626.21

1	.07 .06	E	1	6.13	626.25	04-
2	.08 .08	E	2	6.91	625.47	05-
3	.08 .07	E	3	6.06	626.32	06-
4	.05 .05	E	4	7.33	625.05	02-

Dec. 20 '34

46

650- upstream

Mon. No.		E	B. M.	0.69	654.48	655.79
1	.06	E	1			5.77 650.71 05-
	.05					
2	.07	E	2			5.31 651.17 08-
	.04					
3	.24	E	3			5.62 650.84 07-
	.25					
4	.06	E	4			4.24 650.22 07-
	.05					
5	.05	E	5			4.05 650.43 08-
	.05					

675' upstream

		E	B. M.	8.25	581.52	673.27
1	.14	E	1			6.24 675.28 06-
	.14					
2	.16	E	2			6.63 674.89 12-
	.16					
3	.15	E	3			5.69 675.83 13-
	.14					
4	.20	E	4			5.19 676.33 13-
	.20					
5	.16	E	5			5.72 675.80 14-x
	.15					
6	.11	E	6			6.28 675.24 12-
	.11					
7	.11	E	7			5.77 675.75 06-
	.10					

Dec. 20 '34

47

700' upstream

Mon. No

1	.09	E
	.09	
2	.15	E
	.14	
3	.15	E
	.14	
4	.17	E
	.16	
5	.09	E
	.10	
6	.16	E
	.15	
7	.20	E
	.20	
8	.16	E
	.15	

B.M.

0.38

708.91

708.53

1

12.22

696.69

06-

2

11.24

697.65

21-

3

10.17

698.74

19-

4

9.63

699.28

23-

5

8.40

700.51

82-

6

6.50

702.41

26-

7

5.39

703.52

36-

8

3.38

705.53

06-

725' upstream

1	.04	E
	.05	
2	.04	E
	.04	
3	.01	E
	.02	
4	.02	E
	.02	
5	.01	E
	.02	
6	.05	E
	.05	
7	.05	E
	.06	
8	.08	E
	.08	

B.M.

8.28

731.97

723.69

1

5.04

726.93

10-

2

5.32

726.65

18-

3

4.41

725.56

25-

4

4.65

727.32

28-

5

4.45

727.52

24-

6

5.54

726.41

32-

7

5.52

726.45

20-

8

6.11

725.86

06-

Mon. on Top of Dam

Mon. No.

1	.005	E
	.005	
2	.015	E
	.010	
3	.010	E
	.010	
4	.020	E
	.010	
5	.010	E
	.005	

B.M. 7.37

777.04

769.67

1/2" pipe

5.69

771.35

05-

3" Pipe

5.70

771.34

04-

4.79

772.25

10-

4.79

772.25

07-

4.26

772.79

11-

4.28

772.76

13-

3.40

773.64

14-

3.40

773.64

14-

3.21

773.83

16-

3.21

773.83

16-

P

3.82

777.01

3.85

773.19

3.03

773.98

16-

3.04

773.97

16-

3.55

773.46

14-

3.53

773.48

14-

4.23

772.78

10-

4.23

772.78

10-

4.86

772.15

06-

4.87

772.14

07-

5.64

771.35

02-

5.67

771.34

01-

check
on
B.M.

7.49

769.52

769.54

69.52

.02

Dec. 20 '34

49

725' Downstream

Mon. No

B.M. 404 730.90

724.84

1	.03	E	1	3.48	727.42	25-
	.03					
2	.10	E	2	3.41	727.29	44-
	.09					
3	.12	E	3	3.84	727.04	53-
	.11					
4	.08	E	4	5.19	725.71	55-
	.09					
5	.08	E	5	4.70	724.20	50-
	.07					
4	.03	E	6	7.08	723.82	41-
	.03					
7	.02	W	7	6.99	723.91	18-
	.01					

700' Downstream

B.M. 925 703.34

694.09

1	.11	W	1	2.28	702.04	23-
	.11					
2	.09	W	2	1.70	701.64	22-
	.09					
3	.05	W	3	1.44	701.90	27-
	.05					
4	.07	W	4	1.68	701.64	22-
	.06					
5	.11	W	5	1.94	701.40	24-
	.11					
6	.10	W	6	2.34	701.00	07-
	.10					

675' Downstream

Mon. No.

1	.04	W
	.05	
2	.10	W
	.10	
3	.13	W
	.14	
4	.13	W
	.14	
5	.12	W
	.12	
6	.09	W
	.10	
7	.07	W
	.07	

B.M.

541 680.14

674.73

1	424	675.90	03-
2	499	675.15	09-
3	449	675.65	10-
4	399	676.15	10-
5	430	675.84	10-
6	465	675.49	09-
7	488	675.26	05-

650' Downstream

1	.02	W
	.02	
2	.09	W
	.09	
3	.10	W
	.10	
4	.24	W
	.27	
5	.05	W
	.05	
6	.05	W
	.05	
7	.06	W
	.05	

B.M.

3.01 652.38

649.37

1	204	650.34	02-
2	183	650.55	04-
3	238	650.00	05-
4	158	650.80	26-
5	134	651.02	01-
6	161	650.77	04-
7	193	650.45	01+

Dec. 20 '34

51

625' Downstream

Mon. No.

1	.00	
1	.00	
	.02	W
2	.03	
	.03	W
3	.03	
	.01	E
4	.01	

B. M. 1.54 629.20 427.64

1	3.73	625.47	01-
2	3.50	625.70	02-
3	2.83	626.37	02-
4	2.75	626.45	03-

600' Downstream

1	.03	W
	.02	
2	.11	W
	.11	
3	.01	W
	.00	

B. M. 2.27 601.93 599.64

1	1.25	600.48	01+
2	1.27	600.60	20-
3	0.45	601.48	00

Downstream Toe wall

1	.015	W
	.020	
2	.005	E
	.005	
3	.010	W
	.020	

B. M. 13.05 676.70 563.65

1.67	675.03	01+
1.68	675.02	00
1.78	674.92	01+

Movement Of Monuments.

Dec. 31, 1934.

52

Upstream Toe Wall.

Mon. #	Total Move.		B.M.	0.39	581.65	581.24	
1	.005 .010	W				6.66	574.99 01x
2	.000 .000					6.66	574.99 00
3	.000 .005	W				6.69	574.96 01x

600-Upstream

			B.M.	0.46	605.59	605.13	
1	.03 .03	E				5.34	600.25 02x
2	.31 .31	E				4.84	600.75 7d-
3	.03 .02	E				4.93	600.66 02x

625-Upstream

			B.M.	4.79	631.00	626.21	
1	.00 .06	E				4.74	626.24 05-
2	.09 .09	E				5.54	625.46 06-
3	.08 .08	E				4.69	626.31 07-
4	.05 .05	E				5.96	625.04 03-

Felt Quite Strong Earth Quake At 11:15- 30-40 Seconds
Lasted About

U.S.

Dec. 31, 34

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650- Upstream

Mon. No.		E	B.M.	0.36	656.15	655.79	
1	.06 .04	E	1			5.44	650.71 05'
2	.08 .08	E	2			4.99	651.16 09'
3	.29 .28	E	3			5.30	650.95 18'
4	.04 .05	E	4			5.94	650.21 08'
5	.05 .05	E	5			5.72	650.43 08'

675- Upstream

			B.M.	9.22	672.49	673.27	
1	.14 .14		1			7.21	675.28 06'
2	.17 .17	E	2			7.58	674.91 10'
3	.16 .14	E	3			6.65	675.84 12'
4	.20 .20	E	4			6.14	676.33 13'
5	.15 .16	E	5			6.70	675.79 15'
6	.13 .13	E	6			7.25	675.24 13'
7	.11 .11	E	7			6.74	675.75 06'

Dec. 31 '34

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700- Upstream

Mon. No.

1	.10	E
	.10	
2	.14	E
	.14	
3	.16	E
	.14	
4	.18	E
	.18	
5	.09	E
	.10	
6	.18	E
	.17	
7	.21	E
	.21	
8	.15	E
	.14	

B.M. 0.06

708.59

708.53

1	11.91	696.68	07
2	10.95	697.64	22
3	9.86	698.73	20
4	9.33	699.24	25
5	8.08	700.51	83
6	6.19	702.40	27
7	5.08	703.51	27
8	3.08	705.51	08

725- Upstream

1	.06	
	.04	
2	.04	E
	.03	
3	.01	E
	.01	
4	.03	E
	.02	
5	.01	E
	.01	
6	.02	E
	.03	
7	.06	E
	.05	
8	.08	E
	.08	

B.M. 7.00

730.69

723.69

1	3.74	726.93	10
2	4.07	726.62	21
3	5.16	725.53	28
4	3.41	727.28	22
5	3.21	727.49	28
6	4.31	726.38	25
7	4.25	726.44	21
8	4.83	725.86	06

Mon. on Top of Dam

Mon. No.

1	.005	E
	.000	
2	.020	E
	.020	
3	.020	E
	.015	
4	.020	E
	.010	
5	.020	E
	.015	

B.M.

7.40 777.07

769.67

5.74	771.33	07-
5.75	771.32	06-
4.84	772.21	14-
4.84	772.21	12-
4.34	772.73	18-
4.35	772.72	19-
3.48	773.59	22-
3.49	773.58	22-
3.29	773.78	23-
3.30	773.77	24-

P

4.13 777.25

3.95 773.12

6	.025	E
	.020	
7	.030	E
	.040	
8	.040	
	.040	E
9	.030	
	.050	E
10	.050	

3.33	773.92	24-
3.34	773.91	24-
3.84	773.41	21-
3.82	773.43	21-
4.52	772.73	17-
4.52	772.73	17-
5.15	772.10	13-
5.15	772.10	13-
5.92	771.33	06-
5.93	771.33	06-

B.M.

7.73

769.52

769.54
69.52
<hr/>
.02

Dec. 31 '34

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725-Downstream

Mon. No

	.04	
1	.04	
	.09	E
2	.09	
	.12	E
3	.12	
	.08	E
4	.09	
	.08	E
5	.08	
	.04	E
6	.05	
	.02	W
7	.02	

B.M. 3.49 730.35 726.84

1	2.93	727.42	75'
2	3.08	727.27	46'
3	3.33	727.02	55'
4	4.64	725.69	57'
5	4.18	725.17	53'
6	4.55	723.80	43'
7	4.44	723.91	18'

700-Downstream

	.12	W
1	.12	
	.09	W
2	.10	
	.06	W
3	.04	
	.05	W
4	.05	
	.10	W
5	.10	
	.10	W
6	.10	

B.M. 8.75 703.04 694.09

	1.97	701.05	74'
	1.41	701.63	78'
	1.15	701.89	48'
	1.38	701.66	72'
	1.64	701.40	74'
	2.04	701.00	67' X

Dec. 31, '34

57

675-Downstream

Mon. No.

B.M. 5.09 679.82 674.73

	.05	W			
1	.06	W		3.91	675.91 02-
	.11				
2	.11			4.67	675.15 09-
	.13	W			
3	.13	W		4.14	675.66 09-
	.14	W			
4	.14			3.67	676.15 10-
	.13	W			
5	.12			3.98	675.84 10-
	.11	W			
6	.11			4.33	675.49 09-
	.06	W			
7	.06			4.55	675.27 04-

650-Downstream

B.M. 4.37 653.74 649.37

	.03	W			
1	.03			3.39	650.35 01-
	.09	W			
2	.09			3.18	650.56 03-
	.11	W			
3	.11			3.73	650.01 04-
	.27	W			
4	.27			2.93	650.81 75-
	.07	W			
5	.07			2.72	651.02 04-
	.08	W			
6	.08			2.97	650.77 04-
	.05	W			
7	.05			3.30	650.44 00

625-Downstream

Mon. No

1	.00	
	.00	
2	.04	W
	.04	
3	.03	W
	.03	
4	.01	W
	.01	

B.M.	0.00	627.64	627.64
		2.18	625.48 00
		1.95	625.71 01
		1.29	626.37 01
		1.22	626.44 04

600-Downstream

1	.03	W
	.03	
2	.13	W
	.13	
3	.01	W
	.00	

B.M.	3.30	602.94	599.64
		2.28	600.68 01
		2.31	600.65 71
		1.49	601.47 01

Downstream Towell

1	.010	W
	.020	
2	.005	E
	.005	
3	.020	W
	.020	

B.M.	12.90	576.55	563.65
		1.52	575.03 02
		1.53	575.02 00
		1.44	574.91 01

Movement Of Monuments

Jan. 10, 1935

Monuments on Top of Dam

Mon. No.	Total Error
1	0.01 E 0.01 E
2	0.025 E 0.025 E
3	0.01 E 0.015 E
4	0.01 E 0.015 E
5	0.015 E 0.015 E
6	0.02 E 0.02 E
7	0.05 E 0.045 E
8	0.035 E 0.03 E
9	0.05 E 0.03 E
10	0.04 E 0.04 E

Simpson
Soper
Remmen.

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B.M. 7.14 776.81 769.67

Mon. No.					
		5.49	771.32	= inside	08-
1		5.50	771.31	= outside	07-
		4.63	72.18	"	17-
2		4.63	72.18	"	16-
		4.13	72.68	"	23-
3		4.14	72.67	"	24-
		3.27	73.54	"	27-
4		3.28	73.53	"	27-
		3.08	73.73	"	28-
5		3.08	73.73	"	28-
	T.P.	4.10	777.19	3.72	773.09
		3.32	73.87	"	29-
6		3.33	73.86	"	29-
		3.83	73.36	"	26-
7		3.81	73.38	"	26-
		4.50	72.69	"	21-
8		4.50	72.69	"	21-
		5.12	72.07	"	16-
9		5.12	72.07	"	16-
		5.87	71.32	"	07-
10		5.88	71.31	"	06-
	B.M.	7.67	769.52	769.54	

769.52
02

Jan. 10 - 1935

60

725' Upstream.

Mon. No.	Total Move.
1	0.07 E 0.07 E
2	0.04 E 0.035 E
3	0.015 E 0.01 E
4	0.02 E 0.02
5	0.005 E 0.00
6	0.04 E 0.04
7	0.05 E 0.04
8	0.06 E 0.06

B.M.	8.03	731.72	723.69
1			4.80 726.92 11-
2			5.11 726.61 22-
3			6.21 725.51 30-
4			4.47 727.25 35-
5			4.26 727.46 40-
6			5.36 726.36 37-
7			5.30 726.42 23-
8			5.88 725.84 10-

700' Upstream

1	0.10 E. 0.095
2	0.16 E. 0.155
3	0.155 E. 0.15
4	0.185 E. 0.185
5	0.10 E. 0.10
6	0.17 E. 0.17
7	0.23 E. 0.21
8	0.17 E. 0.17

B.M.	1.32	709.85	708.53
1			13.17 696.68 07-
2			12.23 697.62 24-
3			11.14 698.71 22-
4			10.62 699.23 28-
5			9.37 700.48 86-
6			7.47 702.38 29-
7			6.36 703.49 32-
8			4.34 705.51 08-

Jan. 10-1935

61

675' Upstream.

Mon. No.	Total Move.
1	0.14 E. 0.145
2	0.17 E. 0.175
3	0.17 E. 0.17
4	0.215 F. 0.215
5	0.175 E. 0.175
6	0.125 E. 0.125
7	0.14 E. 0.14

B.M.	8.76	682.03	673.27
1			6.75 675.28 06-
2			7.14 674.89 12-
3			6.21 675.82 14-
4			5.72 676.31 15-
5			6.25 675.78 16-
6			6.81 675.22 15-
7			6.29 675.74 07-

650' Upstream

1	0.065 E. 0.065
2	0.09 E. 0.085
3	0.29 E. 0.28
4	0.06 E. 0.06
5	0.06 E. 0.06

B.M.	1.37	657.16	655.79
1			6.46 650.70 06-
2			6.01 651.15 10-
3			6.32 650.84 19-
4			6.95 650.71 08-
5			6.73 650.43 08-

Jan. 10-1934

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625' Upstream

Mon. No.	Total Move	B.M.	4.44	630.65	626.21
1	0.075 E. 0.07	1			4.41 626.24 05-
2	0.105 E. 0.10	2			5.20 625.45 07-
3	0.09 E. 0.09	3			4.34 626.31 07-
4	0.06 E. 0.055	4			5.61 625.04 03-

600' upstream

		B.M.	2.35	607.48	605.13
1	0.03 E. 0.025	1			7.23 600.25 03-
2	0.31 E. 0.31	2			6.73 600.75 24-
3	0.03 E. 0.025	3			6.82 600.66 02-

Note: Upstream Toe wall covered with
About 3' water

578.6 = Elev. of Water Surface at
upstream Rock Embankment.
(2:30 P.M.)

Jan. 10-11 - 1935

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725-Downstream

Mon. No.	Total Move		B.M.	6.01	732.87	726.86	
1	0.04 0.035	E.				5.47	727.40 27-
2	0.095 0.095	E.				5.63	727.24 49-
3	0.115 0.12	E.				5.89	726.98 59-
4	0.10 0.10	E.				7.22	725.65 61-
5	0.08 0.075	E.				6.92	726.15 55-
6	0.05 0.05	E.				9.09	723.78 45-
7	0.04 0.025	W.				8.97	723.90 19-

700-Downstream

			B.M.	12.22	706.31	694.09	
1	0.115 0.12	W.				5.26	701.05 24-
2	0.095 0.095	W.				4.69	701.62 24-
3	0.06 0.06	W.				4.43	701.88 49-
4	0.06 0.06	W.				4.67	701.64 24-
5	0.10 0.115	W.				4.91	701.40 24-
6	0.10 0.105	W.				5.30	701.01 06-

Jan. 10-11-1935

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675 - Downstream

Mon. No.	Total Move		B.M.	6.10	680.83	674.73	
1	0.055 0.06	W.				4.93	675.90 03-
2	0.11 0.115	W.				5.69	675.14 10-
3	0.135 0.14	W.				5.20	675.63 12-
4	0.14 0.14	W.				4.70	676.13 12-
5	0.12 0.125	W.				5.00	675.83 11-
6	0.105 0.105	W.				5.35	675.18 10-
7	0.07 0.07	W.				5.56	675.27 02-

650 - Downstream

			B.M.	6.36	655.73	649.37	
1	0.025 0.03	W.				5.38	650.35 01-
2	0.095 0.10	W.				5.19	650.54 05-
3	0.12 0.12	W.				5.74	649.99 06-
4	0.27 0.27	W.				4.93	650.80 26-
5	0.08 0.08	W.				4.72	651.01 05-
6	0.07 0.08	W.				4.97	650.76 05-
7	0.05 0.05	W.				5.30	650.43 01-

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625 - Downstream

Mon. No.			B.M.	1.58	679.7A	627.66	
1	0.01 0.01	W.				3.78	675.46 02-
2	0.035 0.035	W.				3.56	675.68 04-
3	0.035 0.035	W.				2.89	676.35 04-
4	0.00 0.005	W.				2.80	676.44 04-

600 - Downstream

			B.M.	5.59	605.75	599.66	
1	0.025 0.025	W.				4.57	600.68 01+
2	0.115 0.115	W.				4.59	600.66 20-
3	0.005 0.005	W.				3.77	601.48 00

Downstream Toewall

			B.M.	12.30	575.95	563.65	
1	0.02 0.025	W.				0.92	575.03 02+
2	0.00 0.00					0.94	575.01 01-
3	0.02 0.035	W.				1.04	574.91 01+

Movement Of Monuments.

Jan. 21-1935.

Simpson
Paper
Remmen.

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Monuments on Top of Dam.

Mon. No.	Total Move.	B.M.	7.41	777.02	769.67	
1	.005 E. .01	1			5.78	771.30 inside -.10
2	.03 E. .03	2			5.79	771.29 outside -.09
3	.03 E. .03	3			4.93	72.15 " -.20
4	.04 E. .04	4			4.93	72.15 " -.19
5	.06 E. .05	5			4.45	72.63 " -.28
6	.07 E. .06	6			4.46	72.62 " -.74
7	.06 E. .06	7			3.60	73.48 " -.33
8	.05 E. .05	8			3.61	73.47 " -.33
9	.06 E. .06	9			3.43	73.65 " -.36
10	.04 E. .04	10			3.43	73.65 " -.36
		TP	4.19	777.22	4.05	773.03
		6			3.39	73.83 " -.33
		7			3.41	73.81 " -.34
		8			3.91	73.31 " -.31
		9			3.89	73.33 " -.31
		8			4.57	72.65 " -.25
		8			4.57	72.65 " -.25
		9			5.17	72.05 " -.18
		9			5.17	72.05 " -.18
		10			5.90	71.32 " -.07
		10			5.91	71.31 " -.06
		B.M.			7.69	769.53
						769.54
						769.53
						.01

Jan. 21 - 1935

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725' - Upstream

Mon. No.	Total Move.		B.M.	6.80	730.49	723.69	
1	0.07 0.07	E.	1			3.59	726.90 -13
2	0.05 0.05	E.	2			3.92	726.57 -26
3	0.02 0.02	E.	3			5.04	725.45 -36
4	0.055 0.045	E.	4			3.31	727.18 -42
5	0.05 0.045	E.	5			3.11	727.38 -48
6	0.055 0.06	E.	6			4.20	726.29 ↓↓
7	0.05 0.06	E.	7			4.13	726.36 -79
8	0.06 0.07	E.	8			4.67	725.82 -14

700' - Upstream

			B.M.	0.55	709.08	708.53	
1	0.11 0.10	E.	1			12.40	696.68 -07
2	0.18 0.17	E.	2			11.47	697.61 -25
3	0.20 0.19	E.	3			10.40	698.68 -25
4	0.24 0.235	E.	4			9.90	699.18 -33
5	0.17 0.165	E.	5			8.66	700.42 -94
6	0.25 0.24	E.	6			6.76	702.32 -35
7	0.25 0.255	E.	7			5.63	703.45 -43
8	0.19 0.19	E.	8			3.58	705.50 -09

Jan. 21 - 1935

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675' - Upstream

Mon. No.	Total Move.		B.M.	2.58	681.85	673.27	
1	0.145 E. 0.15		1			6.56	675.29 -05
2	0.19 E. 0.19		2			6.98	674.87 -14
3	0.205 E. 0.205		3			6.06	675.79 -17
4	0.27 E. 0.27		4			5.59	676.26 ²⁰ -80
5	0.22 E. 0.21		5			6.12	675.73 -21
6	0.165 E. 0.16		6			6.67	675.19 -18
7	0.125 E. 0.125		7			6.11	675.74 -07

650' - Upstream

			B.M.	0.36	656.15	655.79	
1	0.08 E. 0.08		1			5.47	650.68 -08
2	0.125 E. 0.12		2			5.06	651.09 -16
3	0.33 E. 0.325		3			5.38	650.77 -56
4	0.10 E. 0.09		4			6.01	650.14 -15
5	0.085 E. 0.085		5			5.77	650.38 -13

Jan. 21, 1935

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725' - Downstream

Mon. No.	Total Move.	B.M.	4.33	731.19	726.86	
1	0.045 E. 0.04	1			3.80	727.39 -78
2	0.11 E. 0.10	2			3.97	727.22 -51
3	0.14 E. 0.13	3			4.23	726.96 -61
4	0.11 E. 0.11	4			5.56	725.63 -63
5	0.105 E. 0.09	5			5.07	726.12 -58
6	0.055 E. 0.055	6			7.44	723.75 -48
7	0.03 W. 0.02	7			7.32	723.87 -77

700' - Downstream

		B.M.	12.17	706.26	694.09	
1	0.115 W. 0.115	1			5.22	701.04 -75
2	0.09 W. 0.09	2			4.65	701.61 -75
3	0.04 W. 0.045	3			4.40	701.86 -51
4	0.05 W. 0.055	4			4.63	701.63 -75
5	0.10 W. 0.10	5			4.88	701.38 -76
6	0.08 W. 0.095	6			5.27	700.99 -08

Jan. 21 - 1935.

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675' - Downstream

Men. No.	Total Move.		B.M.	6.22	680.95	674.73
1	0.055 0.055	W.	1			5.04 75.91 -02
2	0.11 0.115	W.	2			5.81 75.14 -10
3	0.125 0.135	W.	3			5.31 75.64 -11
4	0.15 0.15	W.	4			4.82 76.13 -12
5	0.115 0.125	W.	5			5.13 75.82 -12
6	0.12 0.12	W.	6			5.48 75.47 -11
7	0.08 0.07	W.	7			5.69 75.26 -05

650' - Downstream

			B.M.	6.66	656.03	649.37
1	0.03 0.03	W.	1			5.69 650.34 -02
2	0.095 0.10	W.	2			5.49 50.54 -05
3	0.105 0.105	W.	3			6.04 49.99 -06
4	0.275 0.28	W.	4			5.24 50.79 -27
5	0.06 0.06	W.	5			5.03 51.00 -06
6	0.08 0.08	W.	6			5.28 50.75 -06
7	0.05 0.06	W.	7			5.60 50.43 -01

Jan. 21, 1935.

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625' - Downstream

Men. No.	Total Move.		B.M.	1.98	629.64	627.66	
1	0.01 W. 0.01		1			4.19	625.45 -03
2	0.03 W. 0.03		2			3.96	25.68 -04
3	0.03 W. 0.03		3			3.30	76.34 -05
4	0.005 W. 0.00		4			3.22	26.42 -06

600' - Downstream

			B.M.	5.69	605.35	599.66	
1	0.02 W. 0.03		1			4.67	600.68 +01
2	0.11 W. 0.115		2			4.68	600.67 -19
3	0.01 W. 0.00		3			3.87	601.48 -00

Downstream Toewall

			B.M.	12.21	575.96	563.65	
1	0.01 W. 0.02		1			0.93	575.03 +02
2	0.005 E. 0.00		2			0.95	75.01 -01
3	0.02 W. 0.025		3			1.05	74.91 +01

Movement Of Monuments.

Jan. 30 - 1935

Monuments on top of Dam.

Mon. No.	Total Move.
1	0.015 E.
2	0.03 E.
3	0.045 E.
4	0.07 E.
5	0.075 E.
6	0.08 E.
7	0.10 E.
8	0.08 E.
9	0.08 E.
10	0.06 E.

Simpson
Soper
Remmen.

73

B.M	7.34	777.01	769.67	
			5.73	771.28 inside -14
1			5.74	771.27 outside -11
			4.89	772.12 " -13
2			4.89	772.12 " -14
			4.42	772.59 " -14
3			4.43	772.58 " -13
			3.58	773.43 " -13
4			3.59	773.42 " -13
			3.41	773.60 " -11
5			3.41	773.60 " -11
T.P.	4.30	777.28	4.03	772.98
			3.53	773.75 -11
6			3.54	773.74 -11
			4.04	773.24 -13
7			4.02	773.26 " -13
			4.70	772.59 " -14
8			4.69	772.59 " -13
			5.28	772.00 " -13
9			5.28	772.00 " -13
			5.98	771.30 " -09
10			5.99	771.29 " -08
			7.76	769.52
				769.54
				69.52
				02

Jan. 30-1935.

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725' Upstream

Mon. No.	Total Move.		B.M.	8.09	731.72		
	0.065	E.				723.69	
1			1		4.81	726.91	-1v
2	0.05	E.	2		5.15	726.57	-76
3	0.05	E.	3		6.30	725.42	-39
4	0.06	E.	4		4.58	727.14	-46
5	0.06	E.	5		4.38	727.34	-5v
6	0.08	E.	6		5.47	726.25	-48
7	0.09	E.	7		5.39	726.33	-3v
8	0.10	E.	8		5.93	725.79	-15

700' Upstream

			B.M.	0.67	709.20		
	0.11	E.				708.53	
1			1		12.53	696.67	-08
2	0.19	E.	2		11.61	697.59	-v7
3	0.22	E.	3		10.56	698.64	-79
4	0.27	E.	4		10.07	699.13	-38
5	0.20	E.	5		8.84	700.36	-98
6	0.28	E.	6		6.94	702.26	-41
7	0.30	E.	7		5.80	703.40	-44
8	0.19	E.	8		3.73	705.47	-1v.

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675' Upstream

Mon. No.	Total More.		B.M.	7.57	680.84		673.27	
1	0.16	E.	1			5.58	675.26	-08
2	0.23	E.	2			6.02	674.82	-19
3	0.25	E.	3			5.12	675.72	-74
4	0.30	E.	4			4.65	676.19	-77
5	0.24	E.	5			5.19	675.65	-79
6	0.18	E.	6			5.74	675.10	-77
7	0.14	E.	7			5.15	675.69	-14

650' Upstream

			B.M.	0.17	655.96		655.79	
1	0.10	E.	1			5.29	650.67	-09
2	0.15	E.	2			4.89	651.07	-18
3	0.36	E.	3			5.22	650.74	-59
4	0.13	E.	4			5.85	650.11	-18
5	0.09	E.	5			5.59	650.37	-14

Jan. 30-1935.

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625'-Upstream

Men. No.	Total Move.	B.M.	4.65	630.86	626.21
1	0.125 E.	1			4.70 626.16 -13
2	0.165 E.	2			5.48 625.38 -14
3	0.14 E.	3			4.63 626.23 -15
4	0.06 E.	4			5.85 625.01 -06

600'-Upstream

		B.M.	0.42	605.55	605.13
1	0.065 E.	1			5.30 600.25 -03
2	0.37 E.	2			4.81 600.74 -45
3	0.05 E.	3			4.89 600.66 -07

Jan. 30-1935.

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725' - Downstream

Mon. No.	Total Move.	B.M.	4.41	731.27	726.86	
1	0.04 E.	1			3.89	727.38 -49
2	0.105 E.	2			4.06	727.21 -57
3	0.14 E.	3			4.32	726.95 -64
4	0.12 E.	4			5.65	725.62 -64
5	0.11 E.	5			5.16	726.11 -59
6	0.07 E.	6			7.53	723.74 -49
7	0.00	7			7.40	723.87 -47

700' - Downstream

		B.M.	12.55	706.64	699.09	
1	0.11 W.	1			5.60	701.04 -25
2	0.10 W.	2			5.03	701.61 -25
3	0.05 W.	3			4.78	701.86 -51
4	0.07 W.	4			5.01	701.63 -25
5	0.11 W.	5			5.27	701.37 -27
6	0.12 W.	6			5.66	700.98 -09

Jan. 30-1935.

675' - Downstream

Mon. No.	Total Move.
1	0.05 w.
2	0.105 w.
3	0.14 w.
4	0.14 w.
5	0.13 w.
6	0.12 w.
7	0.07 w.

650' - Downstream

1	0.025 w.
2	0.105 w.
3	0.11 w.
4	0.28 w.
5	0.08 w.
6	0.07 w.
7	0.05 w.

78

B.M.	5.52	680.25	674.73
1			4.35 75.90 -03
2			5.12 75.13 -11
3			4.62 75.63 -12
4			4.13 76.12 -13
5			4.44 75.81 -13
6			4.79 75.46 -12
7			5.01 75.24 -07

B.M.	6.14	655.51	649.37
1			5.16 50.35 -01
2			4.97 50.54 -05
3			5.53 49.98 -07
4			4.73 50.78 -78
5			4.52 50.99 -07
6			4.77 50.74 -07
7			5.10 50.41 -03

Jan. 30-1935.

79

625' - Downstream

Mon. No. Total Move.

- 1 0.005 W.
- 2 0.04 W.
- 3 0.04 W.
- 4 0.00

B.M. 3.21 630.87 627.66

- 1 5.41 25.46 -07
- 2 5.19 25.68 -02
- 3 4.53 26.34 -05
- 4 4.45 26.42 -06

600' - Downstream

- 1 0.025 W.
- 2 0.13 W.
- 3 0.005 W.

B.M. 5.62 605.28 599.66

- 1 4.60 600.68 +01
- 2 4.63 600.65 -21
- 3 3.81 601.47 -01

Downstream Toe wall

- 1 0.02 W.
- 2 0.005 E.
- 3 0.025 W.

B.M. 12.51 576.16 563.65

- 1 1.13 575.03 +02
- 2 1.15 75.01 -01
- 3 1.25 74.91 +01

Bench Marks - Top of dam.

South End = 769.67

North End = 769.54

1.00011



602.00

+12.45

614.45

- 0.10

614.35

+12.37

626.72

- 0.50

626.22

+12.83

639.05

- 0.59

638.46

+12.80

651.26

- 0.02

651.24

+12.63

663.87

80

553

55

608

623

628

633

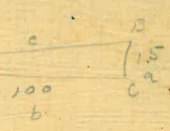
638

643

648

653

0.512"



663

608

58

1015

100 | 1.500

100

500

668

613

52

60

113

602.00
+1.13
603.13
-12.44
590.69
+4.99
595.68
8.78
586.90

CALCULATION OF EARTHWORK.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth of the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth of the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w=16.2 and h=5.3, cu. yds. = 1.43+.028+.089 = 1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) =h, and 1/2 the roadbed =w, add the triangles formed by taking the distance out to each break in turn (=w') by the difference between the cuts (or fills) on each side of it (=h') always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9+(20-16)+2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

Made in Germany.