

W  
500

LEVEL BOOK

No. 500

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

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

504

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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Made in U. S. A.

504  
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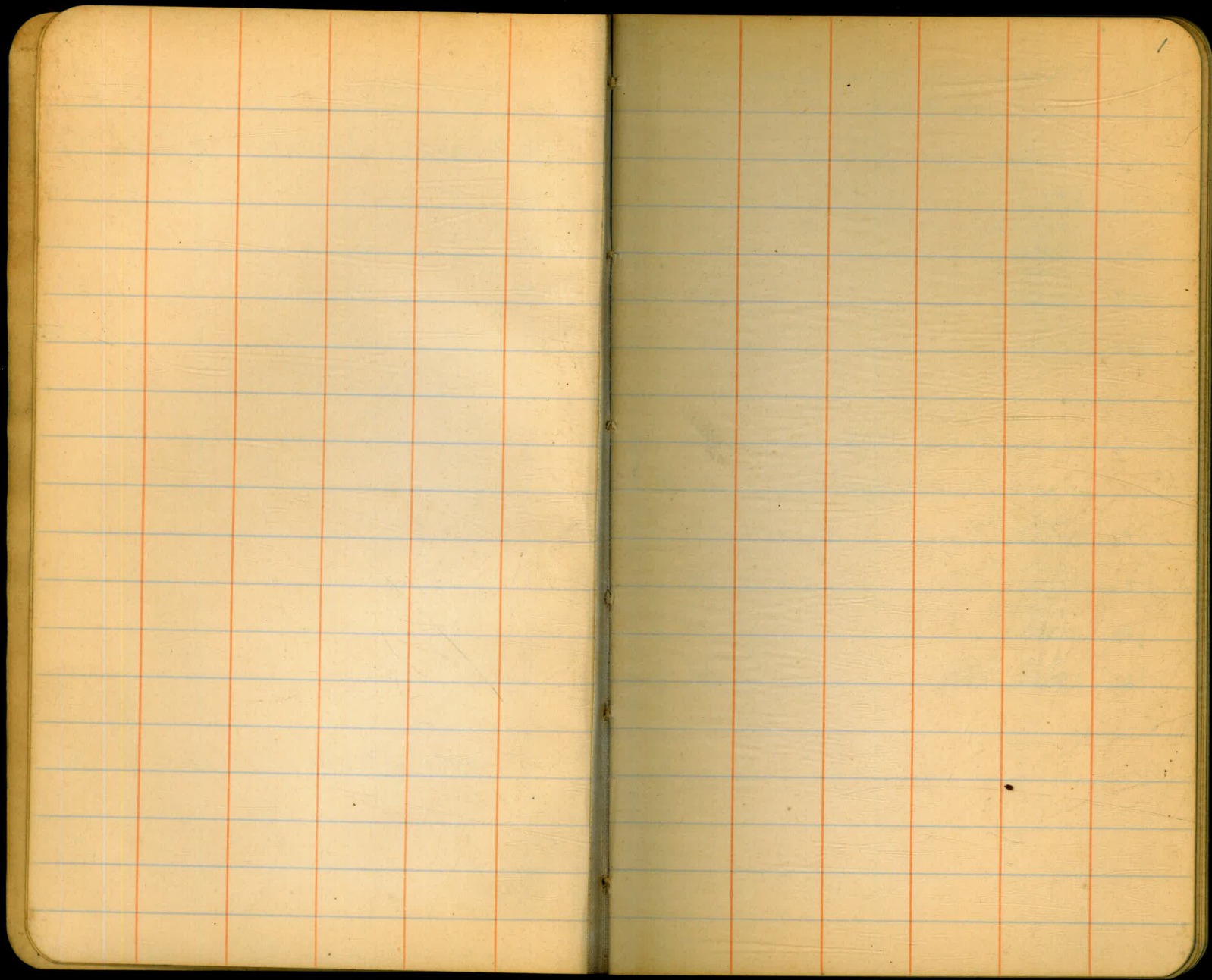
Sketch of Rock on Plaza 80

D

H

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E  
to be  
of road  
exam  
30.6 =



Movement of Monuments

Feb. 9-1935.

600' Berm Upstream.

Mon. No.	Total Move.		B.M.	1.64	606.77	605.13
1	0.12 0.115	E.	1			6.55 600.22 06-
2	0.44 0.44	E.	2			6.17 600.60 39-
3	0.06 0.06	E.	3			6.13 600.64 04-

Feb. 11-1935

625' Upstream.

			B.M.	3.21	629.37	626.16
1	0.17 0.165	E.	1			3.35 626.02 17-
2	0.22 0.22	E.	2			4.13 625.24 28-
3	0.19 0.19	E.	3			3.26 626.11 27-
4	0.10 0.10	E.	4			4.44 624.93 14-

Simpson  
Soper  
Remmen.

Feb. 11-1935.

3

## 650' Upstream

Mon. No.			B.M.	0.11	658.90	655.79	
1	0.12	E.	1			5.27	650.63 13-
2	0.195	E.	2			4.93	50.97 28-
3	0.41	E.	3			5.26	50.64 69-
4	0.17	E.	4			5.87	50.03 26-
5	0.11	E.	5			5.58	50.32 18-

## 675' Upstream

			B.M.	5.50	678.77	673.27	
1	0.17 0.17	E.	1			3.52	675.25 09-
2	0.26 0.26	E.	2			4.02	74.74 27-
3	0.31 0.30		3			3.13	75.64 32-
4	0.37 0.37		4			2.66	76.11 35-
5	0.34 0.335		5			3.25	75.52 42-
6	0.26 0.26		6			3.90	74.87 50-
7	0.15 0.15		7			3.10	75.67 14-

Feb. 11-1935.

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## 700' - Upstream

Mem. No.	Total Move.		B.M.	0.46	708.99	708.53	
1	0.12 E.		1			12.32	696.67 08-
2	0.205 E.		2			11.42	697.57 29-
3	0.285 E.		3			10.41	698.58 35-
4	0.365 E.		4			9.92	699.07 44-
5	0.335 E.		5			8.69	700.30 1.04-
6	0.46 E.		6			6.83	702.16 51-
7	0.48 E.		7			5.69	703.30 58-
8	0.26 E.		8			3.52	705.97 12-

## 725' - Upstream

			B.M.	6.94	730.63	723.69	
1	0.08 E.		1			3.74	726.89 14-
2	0.08 E.		2			4.11	26.53 30-
3	0.09 E.		3			5.28	25.35 46-
4	0.12 E.		4			3.57	27.06 54-
5	0.13 E.		5			3.38	27.25 61-
6	0.19 E.		6			4.19	26.14 59-
7	0.17 E.		7			4.40	26.23 42-
8	0.12 E.		8			4.85	25.78 16-

Feb. 11-1935.

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Monuments on Top of Dam

Mon. No.	Total Move.		B.M.	7.24	776.91		769.67	
1	0.02 E.		1			5.66	771.25	= inside 15-
2	0.05 E.		2			5.67	771.24	= outside 14-
3	0.085 E.		3			4.84	72.07	28-
4	0.12 E.		4			4.84	72.07	27-
5	0.15 E.		5			4.40	72.51	39-
6	0.17 E.		6			4.40	72.51	39-
7	0.20 E.		7			3.58	73.33	47
8	0.17 E.		8			3.59	73.32	47-
9	0.14 E.		9			3.12	73.49	50-
10	0.07 E.		10			3.42	73.49	50-
			T.P.	4.67	777.55	4.03	772.88	
			6			3.92	773.63	51-
			7			3.93	73.62	51-
			8			4.43	73.12	48-
			9			4.41	73.14	48-
			10			5.09	72.46	41-
						5.09	72.46	41-
						5.64	71.91	29-
						5.64	71.91	29-
						6.29	71.26	10-
						6.30	71.25	09-
			B.M.			8.04	769.51	

769.54  
769.51  
03



Feb. 11, 1935.

725' - Downstream

Mon. No.	Total Move.		B.M.	3.85	730.71	726.86	
1	0.05	E.	1			3.34	727.37 30-
2	0.13	E.	2			3.52	27.19 54-
3	0.16	E.	3			3.80	26.91 66-
4	0.15	E.	4			5.13	25.58 68-
5	0.12	E.	5			4.64	26.07 63-
6	0.09	E.	6			6.99	23.72 51-
7	0.01	E.	7			6.85	23.86 23-

700' - Downstream

			B.M.	12.15	706.24	694.09	
1	0.115	W.	1			5.21	701.03 76-
2	0.08	W.	2			4.65	701.59 27-
3	0.04	W.	3			4.41	701.83 54-
4	0.045	W.	4			4.64	701.60 28-
5	0.10	W.	5			4.89	701.35 29-
6	0.10	W.	6			5.27	700.97 10-

Feb. 11-1935.

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## 675'- Downstream

Mon. No.	Total Move.		B.M.	5.72	680.45	674.73	
1	0.05 w.		1			4.56	675.89 04-
2	0.12 w.		2			5.33	75.12 12-
3	0.13 w.		3			4.84	75.61 14-
4	0.15 w.		4			4.35	76.10 15-
5	0.11 w.		5			4.66	75.79 15-
6	0.095 w.		6			5.00	75.45 13-
7	0.07 w.		7			5.21	75.24 07-

## 650'- Downstream

			B.M	6.14	655.51	649.37	
1	0.03 w.		1			5.17	650.34 02-
2	0.10 w.		2			4.98	50.53 06-
3	0.12 w.		3			5.54	49.97 08-
4	0.28 w.		4			4.74	50.77 29-
5	0.07 w.		5			4.53	50.98 08-
6	0.08 w.		6			4.77	50.74 07-
7	0.045 w.		7			5.09	50.42 02-

Feb. 11-1935.

8

625'-Downstream

Mon. No.	Total Move.	B.M.	2.48	630.14	627.66	
1	0.015 W.	1			4.69	625.45 03-
2	0.035 W.	2			4.47	25.67 05-
3	0.035 W.	3			3.81	26.33 06-
4	0.01 W.	4			3.72	26.42 06-

600'-Downstream

		B.M.	5.75	605.41	599.66	
1	0.025 W.	1			4.74	600.67 00
2	0.12 W.	2			4.76	600.65 21-
3	0.01 W.	3			3.94	601.47 01-

Downstream Toe-wall

		B.M.	12.39	576.04	563.65	
1	0.02 W. 0.02	1			1.03	75.01 00
2	0.005 E.	2			1.04	75.00 02-
3	0.03 W.	3			1.13	74.91 01+

# Movement of Monuments.

Feb. 20 - 1935

## Monuments on Top of Dam.

Mon. No.	Total Move	B.M.	7.235	776.905	769.67	
1	0.025 E.	1			5.64	71.24 = inside 14-
2	0.07 E.	2			5.66	71.24 = outside 14-
3	0.11 E.	3			4.85	72.05 30-
4	0.155 E.	4			4.85	72.05 " 29-
5	0.18 E.	5			4.42	72.48 " 43-
6	0.22 E.	6			4.43	72.47 " 44-
7	0.245 E.	7			3.62	73.28 " 53-
8	0.23 E.	8			3.63	73.27 " 53-
9	0.20 E.	9			3.46	73.44 " 57-
10	0.10 E.	10			3.47	73.43 " 58-
		T.P.	4.25	777.08	4.075	772.830
		6			3.51	73.57 59-
		7			3.52	73.58 " 57-
		8			4.03	73.05 " 57-
		9			4.01	73.07 " 57-
		10			4.68	72.40 " 50-
					4.68	72.40 " 50-
					5.21	71.87 " 36-
					5.21	71.87 " 36-
					5.82	71.76 " 73-
					5.83	71.75 " 73-
		B.M.	7.55	769.53		
						769.54
						69.53
						.01

Feb. 20-1935.

## 725'- Upstream

Mon. No. Total Move

1 0.075 E.

2 0.10 E.

3 0.12 E.

4 0.16 E.

5 0.18 E.

6 0.23 E.

7 0.22 E.

8 0.11 E.

## 700'- Upstream

1 0.13 E.

2 0.25 E.

3 0.34 E.

4 0.42 E.

5 0.38 E.

6 0.55 E.

7 0.55 E.

8 0.26 E.

B.M.

7.31

731.00

723.69

1

4.12 26.88 15-

2

4.49 26.51 32-

3

5.68 25.32 49-

4

3.98 27.02 58-

5

3.80 27.20 66-

6

4.91 26.09 64-

7

4.82 26.18 47-

8

5.25 25.75 19-

B.M.

0.47

709.00

708.53

1

12.33 696.67 08-

2

11.44 97.56 30-

3

10.44 98.56 37-

4

9.96 99.04 47-

5

8.73 700.27 107-

6

6.90 702.10 57-

7

5.75 703.25 63-

8

3.55 705.45 14-

Feb. 20-1935.

## 675'- Upstream

Mon. No. Total Move.

1	0.19	E.
2	0.33	E.
3	0.37	E.
4	0.43	E.
5	0.42	E.
6	0.355	E.
7	0.19	E.

## 650'- Upstream

1	0.15	E.
2	0.25	E.
3	0.49	E.
4	0.22	E.
5	0.15	E.

11

B.M. 739 680.66 673.27

1	5.42	75.24	10-
2	5.96	74.70	31-
3	5.06	75.60	36-
4	4.59	76.07	39-
5	5.21	75.45	49-
6	5.92	74.74	63
7	5.01	75.65	16-

B.M. 0.27 656.06 655.79

1	5.48	50.58	18-
2	5.15	50.91	34-
3	5.48	50.58	75-
4	6.10	49.96	33-
5	5.81	50.25	26-

Feb. 20-1935.

## 625' - Upstream

Mon. No. Total Move

1 0.21 E.

2 0.29 E.

3 0.25 E.

4 0.12 E.

Note: Monuments on 600 Berm Covered By Water.

## 725' - Downstream

1 0.055 E.

2 0.13 E.

3 0.165 E.

4 0.14 E.

5 0.13 E.

6 0.09 E.

7 0.01 W.

B.M.

3.61 629.77

626.16

1

3.79 25.98 31-

2

4.58 25.19 33-

3

3.69 26.08 30-

4

4.87 24.90 17-

B.M.

4.27 731.13

726.86

1

3.76 27.37 30-

2

3.95 27.18 55-

3

4.22 26.91 66-

4

5.56 25.57 69-

5

5.07 26.06 64-

6

7.42 23.71 52-

7

7.28 23.85 24-

12

Feb. 20-1935.

13

## 700'- Downstream

Mon. No. Total Move.

1	0.115	W.
2	0.08	W.
3	0.04	W.
4	0.05	W.
5	0.11	W.
6	0.11	W.

B.M.

12.26 706.35

694.09.

1

5.32 701.03 26-

2

4.76 701.59 27-

3

4.52 701.83 54-

4

4.75 701.60 28-

5

5.00 701.35 79-

6

5.38 700.97 10-

## 675'- Downstream.

1	0.05	W.
2	0.11	W.
3	0.135	W.
4	0.145	W.
5	0.12	W.
6	0.09	W.
7	0.07	W.

B.M

5.31 680.04

674.73

1

4.14 75.90 03-

2

4.91 75.13 11-

3

4.42 75.62 13-

4

3.93 76.11 14-

5

4.25 75.79 15-

6

4.60 75.44 14-

7

4.80 75.24 07-



Feb. 20-1935.

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## 650' - Downstream

Men. No.	Total Move.	B. M.	6.09	655.46	649.37
1	0.02 W.	1			5.13 50.33 03-
2	0.105 W.	2			4.94 50.52 07-
3	0.115 W.	3			5.50 49.96 09-
4	0.275 W.	4			4.70 50.76 30-
5	0.075 W.	5			4.49 50.97 09-
6	0.08 W.	6			4.74 50.72 09-
7	0.05 W.	7			5.07 50.39 05-

## 625' - Downstream

		B. M.	2.15	629.81	627.66
1	0.01 W.	1			4.36 25.45 03-
2	0.04 W.	2			4.14 25.67 05-
3	0.04 W.	3			3.48 26.33 06-
4	0.01 East	4			3.39 26.42 06-

Feb. 20-1935.

15

600'-Downstream

Mon.	No.	Total Move.	B.M.	5.63	605.29	599.66
	1	0.025 W.	1			4.62 600.67 00
	2	0.115 W.	2			4.64 600.65 21-
	3	0.005 W.	3			3.82 601.47 01-

Downstream Toewall

			B.M.	12.37	576.02	563.65
1	0.025 W. 0.025 W.		1			1.00 75.02 01+
2	0.005 E.		2			1.02 75.00 02-
3	0.03 W.		3			1.11 74.91 01+

Movement Of Monuments  
Mar. 1-1935

Monuments on Top of Dam.

Mon. No.	Total Move
1	0.025 E.
2	0.08 E.
3	0.13 E.
4	0.18 E.
5	0.22 E.
6	0.28 E.
7	0.29 E.
8	0.27 E.
9	0.23 E.
10	0.135 E.

Simpson  
Soper  
Remmen

16

B.M.	7.32	776.99	769.67
1	5.74	71.25	- inside -15
1	5.75	71.24	- outside -14
2	4.96	72.03	-32
2	4.96	72.03	" -31
3	4.54	72.45	-46
3	4.54	72.45	" -46
4	3.75	73.24	-57
4	3.75	73.24	" -56
5	3.60	73.39	-62
5	3.60	73.39	" -62
T.P.	4.33	777.11	4.21 772.78
6	3.59	73.52	-64
6	3.60	73.51	" -64
7	4.12	72.99	-63
7	4.09	73.02	" -62
8	4.78	72.35	-55
8	4.76	72.35	" -55
9	5.29	71.82	-41
9	5.28	71.83	" -40
10	5.87	71.24	-15
10	5.88	71.23	-14
B.M.	7.58	769.53	769.54 69.53 01

March 1-1935.

17

725' Upstream

Mon. No.	Total Move.	B. M.	7.21	730.90	723.69
1	0.09 E.	1			4.02 26.88 -15
2	0.12 E.	2			4.42 26.48 -35
3	0.15 E.	3			5.60 25.30 -51
4	0.18 E.	4			3.91 26.99 -61
5	0.19 E.	5			3.73 27.17 -69
6	0.25 E.	6			4.84 26.06 -67
7	0.26 E.	7			4.75 26.15 -50
8	0.13 E.	8			5.17 25.73 -21

700' Upstream

		B. M.	0.24	708.77	708.53
1	0.125 E. 0.125	1			12.11 696.66 -09
2	0.25 E.	2			11.23 697.54 -32
3	0.37 E.	3			10.24 98.53 -40
4	0.45 E.	4			9.75 99.02 -29
5	0.41 E.	5			8.53 700.24 -1.10
6	0.60 E.	6			6.69 702.08 -59
7	0.595 E.	7			5.55 703.22 -66
8	0.30 E.	8			3.33 705.44 -15

March 1-1935.

18

675' - Upstream

Mon. No.	Total Move.	B.M.	7.80	681.07	673.27
1	0.205 E.	1			5.83 75.24 -10
2	0.35 E.	2			6.39 74.68 -33
3	0.41 E.	3			5.48 75.59 -37
4	0.48 E.	4			5.02 76.05 -41
5	0.46 E.	5			5.65 75.42 -52
6	0.365 E.	6			6.35 74.72 -65
7	0.21 E.	7			5.43 75.64 -17

650' Upstream

		B. M.	0.82	656.61	655.79
1	0.16 E.	1			6.04 50.57 19-
2	0.28 E.	2			5.71 50.90 35-
3	0.50 E.	3			6.04 50.57 76-
4	0.23 E.	4			6.66 49.95 34-
5	0.15 E.	5			6.37 50.24 27-

March 1-1935.

625' - Upstream

Mon. No. Total Move

1	0.23	E.
2	0.30	E.
3	0.26	E.
4	0.14	E.

725' - Downstream

1	0.05	E.
2	0.14	E.
3	0.18	E.
4	0.16	E.
5	0.14	E.
6	0.10	E.
7	0.00	

B.M.	4.23	630.39		626.16
1			4.43	25.96 33-
2			5.22	25.17 35-
3			4.33	26.06 32-
4			5.51	24.88 19-

B.M.	4.78	731.64		726.86
1			4.28	27.36 31-
2			4.47	27.17 56-
3			4.75	26.89 68-
4			6.08	25.56 70-
5			5.59	26.05 65-
6			7.95	23.69 54-
7			7.79	23.85 24-

March. 1-1935.

700' Downstream

Mon. No. Total Move.

1	0.12	w.
2	0.08	w.
3	0.04	w.
4	0.05	w.
5	0.10	w.
6	0.11	w.

675' Downstream

1	0.06	w.
2	0.10	w.
3	0.14	w.
4	0.13	w.
5	0.12	w.
6	0.10	w.
7	0.05	w.

20

B. M. 12.185 706.275 694.09

1	5.25	701.02	27-
2	4.69	701.58	28-
3	4.45	701.82	55-
4	4.68	701.59	29-
5	4.92	701.35	29-
6	5.30	700.97	10-

B. M. 6.51 681.24 674.73

1	5.35	75.89	06-
2	6.12	75.12	12-
3	5.63	75.61	14-
4	5.14	76.10	15-
5	5.45	75.79	15-
6	5.80	75.44	14-
7	6.01	75.23	08-

March 1-1935.

21

650' - Downstream

Mon. No. Total Move.

1	0.03	W.
2	0.11	W.
3	0.11	W.
4	0.27	W.
5	0.065	W.
6	0.07	W.
7	0.05	W.

B. M. 6.07 655.44 649.37

1	5.10	50.34	02-
2	4.92	50.52	07-
3	5.48	49.96	09-
4	4.68	50.76	30-
5	4.47	50.97	09-
6	4.72	50.72	09-
7	5.03	50.41	03-

625' - Downstream

1	0.015	W.
2	0.04	W.
3	0.03	W.
4	0.01	E.

B. M. 2.12 629.78 627.66

1	4.34	25.44	04-
2	4.12	25.66	06-
3	3.46	26.32	07-
4	3.37	26.41	07-



March 1-1935.

22

600'-Downstream

Mon. No. Total Move.

1 0.035 W.  
2 0.13 W.  
3 0.02 W.

B. M. 548 605.14 599.66

1 4.47 600.67 00  
2 4.50 600.64 22-  
3 3.67 601.47 01-

Downstream Toe-wall

1 0.015 W.  
2 0.00  
3 0.025 W.

B. M. 1246 576.11 563.65

1 1.09 75.02 01+  
2 1.10 75.01 01-  
3 1.20 74.91 01+

Movement Of Monuments  
March - 11 - 1935

625' - Upstream

Mon. No. Total Move

1 0.255 E.

2 0.33 E.

3 0.29 E.

4 0.16 E.

Simpson  
Soper  
Remmen.

23

B. M.

3.66 629.82

626.16

1

3.92 25.90 39-

2

4.68 25.14 38-

3

3.79 26.03 35-

4

4.97 24.85 22-

650' - Upstream

1 0.19 E.

2 0.32 E.

3 0.55 E.

4 0.27 E.

5 0.18 E.

B. M.

0.93 656.72

655.79

1

6.20 50.52 24-

2

5.89 50.83 42-

3

6.21 50.51 82-

4

6.83 49.89 40-

5

6.52 50.20 31-

March 11-1935.

24

675'- Upstream

Mon. No. Total  
Move.

B. M.

6.80

680.07

673.27

1 0.21 E.

1

4.85 75.22 12-

2 0.39 E.

2

5.44 74.63 38-

3 0.445 E.

3

4.53 75.54 42-

4 0.51 E.

4

4.07 76.00 46-

5 0.54 E.

5

4.73 75.34 60-

6 0.42 E.

6

5.47 74.60 77-

7 0.23 E.

7

4.45 75.62 19-

700'- Upstream

B. M.

0.74

709.27

708.53

1 0.13 E.

1

12.61 696.66 09-

2 0.26 E.

2

11.74 697.53 33-

3 0.42 E.

3

10.77 698.50 43-

4 0.48 E.

4

10.27 699.00 51-

5 0.46 E.

5

9.05 700.22 1-12-

6 0.66 E.

6

7.23 702.04 63-

7 0.67 E.

7

6.10 703.17 71-

8 0.30 E.

8

3.85 705.42 17-

March 11-1935

725' - Upstream

			B.M	8.61	732.30	723.69	25	
1	0.09	E.	1			5.44	726.86	17-
			2			5.84	26.46	37-
2	0.12	E.	3			7.04	25.26	55-
3	0.16	E.	4			5.35	26.95	65-
4	0.18	E.	5			5.17	27.13	73-
5	0.21	E.	6			6.29	26.01	72-
6	0.27	E.	7			6.20	26.10	55-
7	0.30	E.	8			6.57	25.73	21-
8	0.12	E.						

Monuments on Top of Dam

			B.M.	7.22	776.89	769.67		
			1			5.67	71.22 - inside 18-	
						5.68	71.21 - outside 17-	
1	0.035	E.	2			4.89	72.00	35-
						4.89	72.00	34-
2	0.095	E.	3			4.49	72.40	51-
						4.49	72.40	51-
3	0.17	E.	4			3.70	73.19	62-
						3.71	73.18	62-
4	0.21	E.	5			3.57	73.32	69-
						3.56	73.33	68-
5	0.24	E.	T.P.	4.31	777.04	4.16	772.73	
						3.59	73.45	71-
6	0.29	E.	6			3.60	73.44	71-
						4.12	72.92	70-
7	0.32	E.	7			4.09	72.95	69-
						4.76	72.28	62-
8	0.29	E.	8			4.76	72.28	62-
						5.27	71.77	46-
9	0.23	E.	9			5.27	71.77	46-
						5.82	71.22	17-
10	0.12	E.	10			5.84	71.20	17-

769.54  
69.52  
02

March 11-1935.

26

725' - Downstream

Mon. No.	Total Move.		B. M.	3.80	730.66	726.86	
1	0.05	E.	1			3.31	27.35 32-
2	0.14	E.	2			3.50	27.16 57-
3	0.19	E.	3			3.78	26.88 69-
4	0.16	E.	4			5.12	25.54 72-
5	0.15	E.	5			4.63	26.03 67-
6	0.11	E.	6			6.97	23.69 54-
7	0.01	W.	7			6.81	23.85 24-

700' - Downstream

			B. M.	12.16	706.25	694.09	
1	0.12	W.	1			5.23	701.02 27-
2	0.08	W.	2			4.68	701.57 29-
3	0.04	W.	3			4.43	701.82 55-
4	0.03	W.	4			4.66	701.59 29-
5	0.11	W.	5			4.90	701.35 29-
6	0.09	W.	6			5.28	700.97 10-

March 11-1935.

27

675' - Downstream

Mon. No.	Total Move.		B.M.	6.52	681.25	674.73	
1	0.06	w.	1			5.36	75.89 04-
2	0.11	w.	2			6.14	75.11 13-
3	0.15	w.	3			5.65	75.60 15-
4	0.15	w.	4			5.16	76.09 16-
5	0.12	w.	5			5.46	75.79 15-
6	0.10	w.	6			5.80	75.45 13-
7	0.07	w.	7			6.01	75.24 07-

650' - Downstream

			B.M.	6.08	655.45	649.37	
1	0.03	w.	1			5.11	50.34 02-
2	0.095	w.	2			4.93	50.52 07-
3	0.11	w.	3			5.49	49.96 09-
4	0.28	w.	4			4.69	50.76 30-
5	0.07	w.	5			4.48	50.97 09-
6	0.08	w.	6			4.72	50.73 08-
7	0.04	w.	7			5.05	50.40 04-

March 11-1935.

28

625'- Downstream

Mon. No. Total Move.

1 0.01 W.  
2 0.035 W.  
3 0.03 W.  
4 0.00

B.M. 2.65 630.31 627.66

1 4.87 25.44 04-  
2 4.65 25.66 06-  
3 3.99 26.32 07-  
4 3.90 26.41 07-

600'- Downstream

1 0.03 W.  
2 0.12 W.  
3 0.00

B.M. 5.48 605.14 599.66

1 4.48 600.66 01-  
2 4.50 600.64 22-  
3 3.67 601.47 01-

Downstream Toe-wall

1 0.025 W.  
2 0.00  
3 0.03 W.  
0.035

B.M. 12.10 575.75 563.65

1 0.73 75.02 01+  
2 0.75 75.00 02-  
3 0.845 74.905 01+

Movement Of Monuments.

March - 20 - 1935.

Simpson  
Soper  
Remmen

29

Mon. No. Total Move

625' - Upstream

1	0.27	E.
2	0.34	E.
3	0.30	E.
4	0.175	E.

B.M. 3.48 629.64

626.16

1	3.75	25.89	40-
2	4.51	25.13	39-
3	3.61	26.03	35-
4	4.79	24.85	22-

650' - Upstream

1	0.215	E.
2	0.355	E.
3	0.57	E.
4	0.30	E.
5	0.215	E.

B.M. 0.91 656.70

655.79

1	6.21	50.49	27-
2	5.90	50.80	45-
3	6.22	50.48	85-
4	6.83	49.87	42-
5	6.52	50.18	33-



March 20-1935.

30

675' - Upstream

Mon. No.	Total Move.	
1	0.23	E.
2	0.43	E.
3	0.49	E.
4	0.55	E.
5	0.57	E.
6	0.50	E.
7	0.24	E.

B. M.	6.77	680.04	673.27	
1			4.84	75.20 ✓ 14-
2			5.44	74.60 ✓ 41-
3			4.51	75.53 ✓ 43-
4			4.05	75.99 ✓ 47-
5			4.73	75.31 ✓ 63-
6			5.48	74.56 ✓ 81-
7			4.43	75.61 ✓ 20-

700' - Upstream

1	0.135	E.
2	0.30	E.
3	0.45	E.
4	0.53	E.
5	0.50	E.
6	0.69	E.
7	0.70	E.
8	0.32	E.

B. M.	0.71	709.24	708.53	
1			12.58	696.66 ✓ 09-
2			11.72	697.58 ✓ 34-
3			10.75	698.49 ✓ 44-
4			10.26	698.98 ✓ 53-
5			9.03	700.21 ✓ 115-
6			7.22	702.02 ✓ 65-
7			6.09	703.15 ✓ 73-
8			3.83	705.41 ✓ 18-

March 20-1935.

31

725' - Upstream

Mon. No. Total Move.

Mon. No.	Total Move.	B. M.	6.82	730.51	723.69	
1	0.095 E.	1			3.65	26.86 ✓ 17-
2	0.14 E.	2			4.06	26.45 ✓ 38-
3	0.17 E.	3			5.27	25.24 ✓ 57-
4	0.20 E.	4			3.58	26.93 ✓ 67-
5	0.21 E.	5			3.40	27.11 ✓ 75-
6	0.28 E.	6			4.53	25.98 ✓ 75-
7	0.29 E.	7			4.43	26.08 ✓ 57
8	0.11 E.	8			4.80	25.71 ✓ 23

8

March 20-1935.

Monuments on Top of Dam

Mon. No. Total Move.

1 0.025 E.

2 0.10 E.

3 0.17 E.

4 0.23 E.

5 0.28 E.

6 0.32 E.

7 0.35 E.

8 0.31 E.

9 0.25 E.

10 0.13 E.

B.M. 7.27 776.94<sup>✓</sup>

1

2

3

4

5

T.P. 4.56 777.27<sup>✓</sup>

6

7

8

9

10

B.M.

5.72

5.73

4.96

4.96

4.57

4.57

3.79

3.79

3.64

3.63

3.84

3.85

4.37

4.35

5.02

5.01

5.51

5.50

6.04

6.06

769.67<sup>✓</sup>

71.22 inside

71.21 outside

71.98 ✓

71.98 ✓

72.37 ✓

72.37 ✓

73.15 ✓

73.15 ✓

73.30 ✓

73.31 ✓

772.71<sup>✓</sup>

73.43 ✓

73.42 ✓

72.90 ✓

72.92 ✓

72.25 ✓

72.26 ✓

71.76 ✓

71.77 ✓

71.23 ✓

71.21 ✓

7.73 769.54<sup>✓</sup>

769.54

769.54

March 20-1935.

33

725' - Downstream

Mon. No.	Total Move:
1	0.06 E.
2	0.15 E.
3	0.20 E.
4	0.17 E.
5	0.15 E.
6	0.11 E.
7	0.00 E.

B.M	3.95	730.81	726.86	
1			3.46	27.35 ✓ 32-
2			3.66	27.15 ✓ 58-
3			3.94	26.87 ✓ 70-
4			5.28	25.53 ✓ 73-
5			4.78	26.03 ✓ 67-
6			7.73	23.68 ✓ 55-
7			6.97	23.84 ✓ 25-

700' - Downstream

1	0.11 W.
2	0.08 W.
3	0.04 W.
4	0.04 W.
5	0.10 W.
6	0.10 W.

B.M	12.15	706.24	694.09	
1			5.22	701.02 ✓ 27-
2			4.67	701.57 ✓ 29-
3			4.43	701.81 ✓ 56-
4			4.66	701.58 ✓ 30-
5			4.91	701.33 ✓ 31-
6			5.28	700.96 ✓ .11

March 20-1935.

34

675' - Downstream

Mon. No.	Total Move.	B. M.	5.44	680.17 ✓	674.73 ✓	
1	0.065 w.	1			4.28	75.89 ✓ 04-
2	0.115 w.	2			5.05	75.12 ✓ 12-
3	0.15 w.	3			4.57	75.60 ✓ 15-
4	0.15 w.	4			4.07	76.10 ✓ 15-
5	0.14 w.	5			4.38	75.79 ✓ 15-
6	0.11 w.	6			4.72	75.45 ✓ 13-
7	0.07 w.	7			4.93	75.24 ✓ 07-

650' - Downstream

		B. M.	6.09	655.46 ✓	649.37 ✓	
1	0.025 w.	1			5.13	50.33 ✓ .03-
2	0.10 w.	2			4.94	50.52 ✓ .07-
3	0.115 w.	3			5.50	49.96 ✓ 09-
4	0.28 w.	4			4.71	50.75 ✓ 31-
5	0.07 w.	5			4.49	50.97 ✓ 09-
6	0.08 w.	6			4.74	50.72 ✓ .09-
7	0.05 w.	7			5.06	50.40 ✓ .04-

March 20-1935.

35

625'-Downstream

Mon. No.	Total Move.	B.M.	2.97	630.63	627.66	
1	0.015 W.	1			5.19	25.44 ✓ 04-
2	0.04 W.	2			4.97	25.66 ✓ 06-
3	0.035 W.	3			4.31	26.32 ✓ 07-
4	0.02 W.	4			4.22	26.41 ✓ 07-

600'-Downstream

		B.M.	5.60	605.26	599.66	
1	0.02 W.	1			4.59	600.67 ✓ .00
2	0.115 W.	2			4.61	600.65 ✓ .21-
3	0.00	3			3.79	601.47 ✓ 01-

Downstream Toe-wall

		B.M.	12.24	575.89	563.65	
1	0.025 W.	1			0.87	75.02 ✓ .01+
2	0.00	2			0.88	75.01 ✓ .01-
3	0.035 W.	3			0.98	74.91 ✓ .01+

3/21/35  
reported  
NPN

Movement of Monuments.  
April-1-1935.

Simpson  
Saper  
Remmen.

36

Mon. No. Total  
Move.

Monuments on Top of Dam

Mon. No.	Total Move.		B.M.	7.38	777.05		769.67	
1	.03	E.	1			5.83	71.22 inside	-18
						5.85	71.20 outside	-18
2	.10	E.	2			5.09	71.96	-39
						5.09	71.96	-38
3	.19	E.	3			4.71	72.34	-57
						4.71	72.34	-57
4	.25	E.	4			3.93	73.12	-69
						3.94	73.11	-69
5	.30	E.	5			3.79	73.26	-75
						3.79	73.26	-75
			TP.	4.75	777.41	4.39	772.66	
6	.34	E.	6			4.04	73.37	-79
						4.05	73.36	-79
7	.36	E.	7			4.57	72.84	-78
						4.54	72.84	-77
8	.35	E.	8			5.21	72.20	-70
						5.20	72.21	-69
9	.27	E.	9			5.70	71.71	-52
						5.69	71.72	-51
10	.10	E.	10			6.21	71.20	-19
						6.23	71.18	-19
			B.M.			7.88	769.53	
							769.53	
							.01	

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April 1-1935

37

725' - Upstream

Mon. No.	Total Move.		B.M.	774	731.43	723.69		
1	0.10	E	1			4.57	26.86	17-
2	0.17	E	2			5.00	26.43	40-
3	0.20	E	3			6.21	25.22	59-
4	0.23	E	4			4.53	26.90	70-
5	0.24	E	5			4.35	27.08	78-
6	0.32	E	6			5.47	25.96	77-
7	0.32	E	7			5.37	26.06	59-
8	0.12	E	8			5.74	25.69	75-

700' - Upstream

			B.M.	0.46	708.99	708.53		
1	.15	E.	1			12.35	696.64	11-
2	.33	E.	2			11.50	697.49	37-
3	.49	E.	3			10.53	698.46	47-
4	.56	E.	4			10.03	698.96	55-
5	.52	E.	5			8.81	700.18	1.16-
6	.74	E.	6			7.00	701.99	68-
7	.74	E.	7			5.87	703.12	76-
8	.34	E.	8			3.58	705.41	18-



April 1-1935.

38

675<sup>1</sup>- Upstream

Mon. No. Total Move.

		B.M	6.68	679.95	673.27
1	.24 E.	1	4.76	75.19	15-
2	.45 E.	2	5.37	74.58	43-
3	.495 E.	3	4.44	75.51	45-
4	.56 E.	4	3.98	75.97	49-
5	.59 E.	5	4.67	75.28	66-
6	.51 E.	6	5.43	74.52	85-
7	.27 E.	7	4.37	75.58	73-

650<sup>1</sup>- Upstream

		B.M.	1.13	656.92	655.79
1	.23 E.	1	6.47	50.45	31-
2	.37 E.	2	6.14	50.78	47-
3	.58 E.	3	6.46	50.46	87-
4	.32 E.	4	7.06	49.86	43-
5	.215 E.	5	6.75	50.17	34-

April 1-1935.

39

625' - Upstream

Mon. No. Total Move.

Mon. No.	Total Move.	B.M.	2.65	628.81	626.16
1	.29 E.	1			2.95 25.86 43-
2	.35 E.	2			3.69 25.12 40-
3	.32 E.	3			2.80 26.01 37-
4	.19 E.	4			3.96 24.85 27-

725' - Downstream

Mon. No.	Total Move.	B.M.	5.01	731.87	726.86
1	.055 E.	1			4.53 27.34 33-
2	.16 E.	2			4.73 27.14 59-
3	.20 E.	3			5.01 26.86 71-
4	.17 E.	4			6.35 25.52 74-
5	.16 E.	5			5.85 26.02 68-
6	.105 E.	6			8.20 23.67 56-
7	.01 W.	7			8.03 23.84 25-

April 1-1935.

40

700'- Downstream

Mon. No. Total Move.

			B.M	12.19	706.28	694.09		
1	.12	w.	1			5.26	701.02	27-
2	.08	w.	2			4.72	701.56	30-
3	.04	w.	3			4.47	701.81	56-
4	.04	w.	4			4.70	701.58	30-
5	.11	w.	5			4.94	701.34	30-
6	.09	w.	6			5.33	700.95	12-

675'- Downstream

			B.M	5.87	680.60	674.73		
1	.06	w.	1			4.70	75.90	03-
2	.12	w.	2			5.49	75.11	13-
3	.15	w.	3			5.00	75.60	15-
4	.15	w.	4			4.51	76.09	14-
5	.13	w.	5			4.82	75.78	16-
6	.11	w.	6			5.16	75.44	14-
7	.09	w.	7			5.36	75.24	07-

April 1-1935

41

650' - Downstream

Men. No. Total Move.

Men. No.	Total Move.		B. M	659	655.96	649.37
1	.03 w.		1			5.63 50.33 03-
2	.10 w.		2			5.44 50.52 07-
3	.11 w.		3			6.01 49.95 10-
4	.28 w.		4			5.21 50.75 31-
5	.08 w.		5			5.00 50.96 10-
6	.07 w.		6			5.25 50.71 10-
7	.045 w.		7			5.57 50.39 05-

625' - Downstream

			B. M	1.51	629.17	627.66
1	.02 w.		1			3.73 25.44 06-
2	.04 w.		2			3.52 25.65 07-
3	.03 w.		3			2.85 26.32 07-
4	.01 w.		4			2.76 26.41 07-

April 1-1935.

600'-Downstream

Mon. No. Total Move.

1 .025 w.

2 .12 w.

3 .00

Downstream Toewall

1 .015 w.

2 .00

3 .015 w.

B.M. 5.77 605.43 599.66

1 4.76 600.67 00

2 4.78 600.65 21-

3 3.96 601.47 01-

B.M. 11.83 575.48 563.65

1 0.46 75.02 01+

2 0.47 75.01 01-

3 0.57 74.91 01+

# Movement Of Monuments.

April-10-1935.

## Monuments on Top of Dam

Mon. No. Total Move.

1 0.03 E.

2 0.11 E.

3 0.18 E.

4 0.25 E.

5 0.275 E.

6 0.33 E.

7 0.36 E.

8 0.34 E.

9 0.27 E.

10 0.10 E.

Simpson  
Soper  
Remmen

43

B.M.	7.53	777.20	769.67	
			5.99	71.21 = inside -19
			6.00	71.20 = outside 18-
			5.26	71.94 -41
			5.26	71.94 " 20-
			4.89	72.31 -60
			4.89	72.31 " 60-
			4.12	73.08 73-
			4.12	73.08 " 72-
			3.98	73.22 79-
			3.98	73.22 " 79-
T.P.	4.73	777.35	4.58	772.62
			4.01	73.34 82-
			4.02	73.33 " 82-
			4.53	72.82 80-
			4.51	72.84 " 80-
			5.17	72.18 72-
			5.16	72.19 71-
			5.65	71.70 53-
			5.64	71.71 " 52-
			6.15	71.20 19-
			6.16	71.19 " 18-
B.M.			7.83	769.52
				469.54
				09.52
				.02

Apr. 10-1935.

44

## 725'- Upstream

Mon. No. Total Move.

1 0.09 E.

2 0.15 E.

3 0.19 E.

4 0.22 E.

5 0.22 E.

6 0.31 E.

7 0.32 E.

8 0.15 E.

B. M. 8.05 731.74 723.69

1 4.88 26.86 17-

2 5.32 26.42 21-

3 6.53 25.21 60-

4 4.85 26.89 71-

5 4.67 27.07 79-

6 5.80 25.94 79-

7 5.69 26.04 61-

8 6.05 25.69 25-

## 700'- Upstream

B. M. 1.07 709.60 708.53

1 0.155 E.

2 0.33 E.

3 0.52 E.

4 0.57 E.

5 0.54 E.

6 0.77 E.

7 0.79 E.

8 0.37 E.

1 12.94 696.66 09-

2 12.10 697.50 36-

3 11.14 698.46 47-

4 10.64 698.96 55-

5 9.42 700.18 1.16

6 7.61 701.99 68-

7 6.48 703.12 76-

8 4.18 705.42 17-

Apr. 10-1935.

45

## 675' - Upstream

Mon. No. Total Move.

1	0.265 E.
2	0.46 E.
3	0.50 E.
4	0.58 E.
5	0.60 E.
6	0.49 E.
7	0.25 E.

B.M. 6.75 680.02 673.27

1	4.83	75.19	15-
2	5.45	74.57	44-
3	4.51	75.51	45-
4	4.05	75.97	49-
5	4.74	75.28	66-
6	5.50	74.52	85-
7	4.45	75.57	24-

## 650' - Upstream

1	0.255 E.
2	0.38 E.
3	0.59 E.
4	0.33 E.
5	0.21 E.

B.M. 1.30 657.09 655.79

1	6.68	50.41	35-
2	6.32	50.77	48-
3	6.65	50.44	89-
4	7.26	49.83	46-
5	6.94	50.15	36-



Apr. 10-1935.

46

## 625'- Upstream

Mon. No. Total Move.

Mon. No.	Total Move.		B.M.	3.50	629.66	626.16	
1	0.295	E.	1			3.81	25.85 44-
2	0.355	E.	2			4.55	25.11 41-
3	0.32	E.	3			3.66	26.00 38-
4	0.21	E.	4			4.83	24.83 24-

## 725'- Downstream

			B.M.	3.89	730.75	726.86	
1	0.055	E.	1			3.41	27.34 33-
2	0.15	E.	2			3.62	27.13 60-
3	0.20	E.	3			3.90	26.85 72-
4	0.17	E.	4			5.24	25.51 75-
5	0.15	E.	5			4.74	26.01 69-
6	0.10	E.	6			7.08	23.67 56-
7	0.02	W.	7			6.92	23.83 76-

Apr. 10-1935.

47

700'- Downstream

Mon. No. Total Move.

1	0.12	w.
2	0.08	w.
3	0.03	w.
4	0.04	w.
5	0.11	w.
6	0.11	w.

B. M. 12.21 706.30 694.09

1	5.29	701.01	28-
2	4.75	701.55	31-
3	4.50	701.80	57-
4	4.73	701.57	31-
5	4.97	701.33	31-
6	5.35	700.95	12-

675'- Downstream

1	0.06	w.
2	0.11	w.
3	0.145	w.
4	0.15	w.
5	0.13	w.
6	0.11	w.
7	0.07	w.

B. M. 6.64 681.37 674.73

1	5.48	75.89	02-
2	6.26	75.11	13-
3	5.78	75.59	16-
4	5.28	76.09	16-
5	5.59	75.78	16-
6	5.93	75.44	14-
7	6.13	75.24	07-

Apr. 10-1935.

48

## 650' - Downstream

Mon. No. Total Move.

Mon. No.	Total Move.		B.M.	6.10	655.47	649.37
1	0.02 w.		1			5.14 50.33 03-
2	0.105 w.		2			4.95 50.52 07-
3	0.12 w.		3			5.52 49.95 10-
4	0.29 w.		4			4.72 50.75 31-
5	0.08 w.		5			4.50 50.97 09-
6	0.08 w.		6			4.75 50.72 09-
7	0.055 w.		7			5.07 50.40 04-

## 625' - Downstream

			B.M.	0.30	627.96	627.66
1	0.015 w.		1			2.52 25.44 04-
2	0.045 w.		2			2.31 25.65 07-
3	0.035 w.		3			1.64 26.32 07-
4	0.00		4			1.55 26.41 07-

Apr. 10-1935.

49

600' - Downstream

Mon. No. Total Move.

1 0.03 w.  
2 0.13 w.  
3 0.015 w.

B.M. 5.50 605.16 599.66

1 4.49 600.67 00  
2 4.51 600.65 21-  
3 3.69 601.97 01-

Downstream Toewall

1 0.015 w.  
2 0.00  
3 0.02 w.

B M 11.89 575.54 563.65

1 0.52 75.02 01+  
2 0.535 75.005 02-  
3 0.63 74.91 01+

Movement Of Monuments.

April-20-1935.

Hill-Simpson  
Soper-Remmen.

50

Mon. No. Total  
Move.

Monuments On Top of Dam

1	0.03	E.
2	0.12	E.
3	0.19	E.
4	0.26	E.
5	0.29	E.
6	0.35	E.
7	0.39	E.
8	0.37	E.
9	0.30	E.
10	0.15	E.

B.M.	666	776.33	769.67		
			5.14 Ips.	71.19	21-
			5.15 Out.	71.18	20-
			4.42	71.91	44-
			4.41	71.92	42-
			4.05	72.28	63-
			4.06	72.27	64-
			3.28	73.05	76-
			3.29	73.04	76-
			3.15	73.18	83-
			3.14	73.19	82-
TP	4.69	777.29	3.73	772.60	
			3.98	73.31	85- 84-
			3.99	73.30	85- 84-
			4.52	72.77	85- 84-
			4.49	72.80	84- 83-
			5.15	72.14	76- 75-
			5.14	72.15	75- 74-
			5.63	71.66	57- 55-
			5.62	71.67	56- 54-
			6.12	71.17	22- 20-
			6.13	71.16	21- 19-
B.M.			7.78	769.51	769.54 69.51 .03

April-20-1935.

51

725' upstream

Mon. No.	Total Move.	
1	0.105	E.
2	0.17	E.
3	0.23	E.
4	0.25	E.
5	0.27	E.
6	0.35	E.
7	0.38	E.
8	0.16	E.

B.M.	6.56	730.25		723.69
1			3.41	26.84 19-
2			3.85	26.40 43-
3			5.07	25.18 63-
4			3.39	26.86 74-
5			3.21	27.04 82-
6			4.33	25.92 81-
7			4.23	26.02 63-
8			4.60	25.65 79-

700' upstream

1	0.16	E.
2	0.35	E.
3	0.55	E.
4	0.61	E.
5	0.57	E.
6	0.79	E.
7	0.81	E.
8	0.39	E.

B.M.	0.10	708.63		708.53
1			11.98	96.65 10-
2			11.14	97.49 37-
3			10.18	98.45 48-
4			9.68	98.95 56-
5			8.46	00.17 117-
6			6.64	01.99 68-
7			5.52	03.11 77-
8			3.20	05.43 16-

April-20-1935.

52

675' upstream

Mon. No.	Total Move.	
1	0.27	E.
2	0.48	E.
3	0.50	E.
4	0.57	E.
5	0.61	E.
6	0.52	E.
7	0.30	E.

B.M.	5.30	678.57	673.27	
1			3.41	75.16 18-
2			4.02	74.55 46-
3			3.08	75.49 47-
4			2.61	75.96 50-
5			3.31	75.26 68-
6			4.07	74.50 87-
7			3.04	75.53 28-

650' upstream.

1	0.27	E.
2	0.39	E.
3	0.60	E.
4	0.34	E.
5	0.23	E.

B.M.	0.34	656.13	655.79	
1			5.76	50.37 39-
2			5.38	50.75 50-
3			5.70	50.43 90-
4			6.30	49.83 46-
5			5.97	50.16 35-

April-20-1935

53

625' upstream.

Mon. No.	Total Move.	
1	0.32	E.
2	0.37	E.
3	0.36	E.
4	0.21	E.

725' Down Stream

1	0.06	E.
2	0.15	E.
3	0.20	E.
4	0.17	E.
5	0.14	E.
6	0.11	E.
7	0.00	

B.M. 3.62 629.78

626.16

1	3.94	25.84	45-
2	4.68	25.10	44-
3	3.79	25.99	39-
4	4.94	24.84	73-

B.M. 3.75 730.61

726.86

1	3.29	27.32	35-
2	3.51	27.10	63-
3	3.80	26.81	76-
4	5.13	25.48	78-
5	4.63	25.98	72-
6	6.96	23.65	58-
7	6.78	23.83	76-



April-20-1935

54

700' Downstream.

Mon. No.	Total Move.	
1	0.12	W.
2	0.08	W.
3	0.04	W.
4	0.05	W.
5	0.11	W.
6	0.11	W.

B.M.	12.25	706.34	694.09	
1			5.34	01.00 29-
2			4.80	01.54 32-
3			4.55	01.79 58-
4			4.77	01.57 31-
5			5.00	01.34 30-
6			5.38	00.96 11-

675' Downstream.

1	0.07	W.
2	0.125	W.
3	0.15	W.
4	0.16	W.
5	0.14	W.
6	0.12	W.
7	0.09	W.

B.M.	5.98	680.71	674.73	
1			4.82	75.89 04-
2			5.60	75.11 13-
3			5.12	75.59 16-
4			4.62	76.09 16-
5			4.92	75.79 15-
6			5.26	75.45 13-
7			5.46	75.25 06-

April-20-1935

55

650' Downstream

Men. No.	Total Move.	
1	0.03	W.
2	0.10	W.
3	0.12	W.
4	0.29	W.
5	0.08	W.
6	0.09	W.
7	0.05	W.

625' Downstream.

1	0.02	W.
2	0.05	W.
3	0.04	W.
4	0.00	

B.M.	6.37	655.74	649.37	
1			5.41	50.33 03-
2			5.23	50.51 08-
3			5.80	49.94 11-
4			5.00	50.74 32-
5			4.77	50.97 09-
6			5.02	50.72 09-
7			5.33	50.41 03-

B.M.	2.82	630.48	627.66	
1			5.05	25.43 05-
2			4.84	25.67 08-
3			4.16	26.32 07-
4			4.07	26.41 07-

April-20-1935

56

600' Downstream

Mon. No.	Total Move.	
1	0.03	W.
2	0.12	W.
3	0.01	W.

Downstream Toe Wall

1	0.025	W.
2	0.00	
3.	0.03	W.

B.M.

599.66

5.66 605.32

1	4.66	600.66	01-
2	4.68	01.64	22-
3	3.85	01.47	01-

Use Same Elevs. As Apr. 10.

Movement Of Monuments.

April - 30 - 1935.

Mon. No. Total Move.

Monuments On Top of Dam.

1 0.03 E.  
2 0.115 E.  
3 0.20 E.  
4 0.27 E.  
5 0.31 E.

6 0.36 E.  
7 0.41 E.  
8 0.38 E.  
9 0.30 E.  
10 0.15 E.

Hill - Simpson  
Soper - Remmen

57

B.M. 7.56 777.23

769.67

6.04 71.19 inside 21-  
6.05 71.18 outside 20-  
5.31 71.92 43-  
5.31 71.92 42-  
4.96 72.27 64-  
4.96 72.27 " 63-  
4.19 73.04 77-  
4.20 73.03 " 77-  
4.05 73.18 82-  
4.04 73.19 81-

4.60 777.19

4.64 772.59

3.89 73.30 85-  
3.90 73.29 85-  
4.42 72.77 84-  
4.39 72.80 83-  
5.05 72.14 74-  
5.04 72.15 73-  
5.52 71.67 54-  
5.51 71.68 53-  
6.01 71.19 19-  
6.02 71.17 18-

B.M.

7.67 769.52

769.54  
69.52  
.02

Apr. 30-1935

58

## 725' - Upstream

Mon. No.	Total Move.		B.M.	8.43	732.12	723.69	
1	0.10	E.	1			5.26	26.86 17-
2	0.17	E.	2			5.70	26.42 21-
3	0.22	E.	3			6.93	25.19 62-
4	0.25	E.	4			5.24	26.88 72-
5	0.27	E.	5			5.06	27.06 80-
6	0.35	E.	6			6.18	25.94 79-
7	0.38	E.	7			6.07	26.05 60-
8	0.20	E.	8			6.43	25.69 25-

## 700' - Upstream

			B.M.	1.19	709.72	708.53	
1	0.155	E.	1			13.07	696.65 10-
2	0.34	E.	2			12.24	697.48 28-
3	0.54	E.	3			11.28	698.44 49-
4	0.58	E.	4			10.77	698.95 56-
5	0.55	E.	5			9.55	700.17 117-
6	0.79	E.	6			7.74	701.98 69-
7	0.81	E.	7			6.61	703.11 77-
8	0.35	E.	8			4.31	705.41 18-

Apr. 30-1935

59

## 675' - Upstream

Mon. No.	Total Move.		B.M.	8.73	682.00	673.27	
1	0.29	E.	1			6.84	75.16 18-
2	0.51	E.	2			7.45	74.55 46-
3	0.53	E.	3			6.50	75.50 46-
4	0.58	E.	4			6.04	75.96 50-
5	0.64	E.	5			6.74	75.26 68-
6	0.53	E.	6			7.51	74.49 88-
7	0.30	E.	7			6.47	75.53 28-

## 650' - Upstream

			B.M.	1.38	657.17	655.79	
1	0.27	E.	1			6.79	50.38 38-
2	0.39	E.	2			6.41	50.76 49-
3	0.61	E.	3			6.73	50.44 89-
4	0.34	E.	4			7.34	49.83 46-
5	0.24	E.	5			7.01	50.16 35-

Apr. 30-1935.

60

## 625'-Upstream

Mon. No.	Total Move.		B.M.	5.11	631.27	626.16	
1	0.315 E.		1			5.43	25.84 45-
2	0.38 E.		2			6.17	25.10 42-
3	0.36 E.		3			5.28	25.99 39-
4	0.21 E.		4			6.44	24.83 26-

## 725'-Downstream

			B.M.	2.39	729.25	726.86	
1	0.06 E.		1			1.92	27.33 36-
2	0.16 E.		2			2.13	27.12 61-
3	0.20 E.		3			2.42	26.83 76-
4	0.19 E.		4			3.76	25.49 77-
5	0.17 E.		5			3.26	25.99 71-
6	0.13 E.		6			5.10	23.65 58-
7	0.00		7			5.43	23.82 27-

Apr. 30-1935.

61

## 700'- Downstream

Mon. No.	Total Move.		B.M.	12.19	706.28	694.09	
1	0.12	w.	1			5.27	701.01 28-
2	0.09	w.	2			4.73	701.55 31-
3	0.05	w.	3			4.48	701.80 57-
4	0.05	w.	4			4.71	701.57 31-
5	0.11	w.	5			4.95	701.33 31-
6	0.11	w.	6			5.32	700.96 11-

## 675'- Downstream

			B.M.	5.79	680.52	674.73	
1	0.065	w.	1			4.63	75.89 04-
2	0.125	w.	2			5.41	75.11 13-
3	0.15	w.	3			4.93	75.59 16-
4	0.16	w.	4			4.43	76.09 16-
5	0.14	w.	5			4.74	75.78 16-
6	0.12	w.	6			5.08	75.44 12-
7	0.08	w.	7			5.29	75.23 08-



Apr. 30-1935.

62

650' - Downstream

Mon. No.	Total Move.		B.M.	6.10	655.47	649.37	
1	0.03	w.	1			5.13	50.34 02-
2	0.105	w.	2			4.95	50.52 07-
3	0.13	w.	3			5.52	49.95 10-
4	0.29	w.	4			4.72	50.75 31-
5	0.07	w.	5			4.50	50.97 09-
6	0.09	w.	6			4.75	50.72 09-
7	0.05	w.	7			5.07	50.40 04-

625' - Downstream

			B.M.	2.53	636.19	627.66	
1	0.02	w.	1			4.75	25.44 04-
2	0.05	w.	2			4.54	25.65 07-
3	0.04	w.	3			3.87	26.32 07-
4	0.00		4			3.78	26.41 07-

Apr. 30-1935.

63

600' - Downstream

Mon. No. Total Move.

1 0.03 W.  
2 0.13 W.  
3 0.02 W.

B.M. 5.56 605.22 599.66

1 4.55 600.67 00  
2 4.57 600.65 31-  
3 3.75 601.47 01-

Downstream Toe Wall

1 0.025 W.  
2 0.01 E.  
3 0.02 W.

B.M. 12.14 575.79 563.65

1 0.765 75.025 01+  
2 0.78 75.01 01-  
3 0.87 74.92 02+

# Movement of Monuments.

May-10-1935.

Mon. No. Total Move.

## Monuments On Top of Dam

1 0.035 E.

2 0.12 E.

3 0.21 E.

4 0.27 E.

5 0.31 E.

6 0.36 E.

7 0.38 E.

8 0.37 E.

9 0.30 E.

10 0.15 E.

Simpson  
Soper  
Remmen,

64

B.M. 7.70 777.37

1

6.20

6.22

769.67

71.17

71.15

=inside 23-

=outside 23-

2

5.49

5.48

71.89

71.89

47-

45-

3

5.14

5.14

72.23

72.23

68-

68-

4

4.36

4.37

73.01

73.00

80-

79-

5

4.23

4.22

73.14

73.15

86-

85-

T.P. 4.63 777.19

6

3.93

3.93

73.26

73.26

88-

87-

7

4.46

4.43

72.73

72.76

89-

86-

8

5.09

5.08

72.10

72.11

78-

77-

9

5.55

5.54

71.64

71.65

56-

55-

10

6.03

6.04

71.16

71.15

20-

19-

B.M.

7.68

769.51

769.54

69.51

.03

May 10-1935.

65

725'- Upstream

Mon. No.	Total Move.		B.M.	8.42	732.11	723.69	
1	0.11	E.	1			5.27	26.84 19-
2	0.18	E.	2			5.72	26.39 44-
3	0.24	E.	3			6.95	25.16 65-
4	0.25	E.	4			5.27	26.84 76-
5	0.28	E.	5			5.09	27.02 84-
6	0.34	E.	6			6.20	25.91 82-
7	0.38	E.	7			6.08	26.03 67-
8	0.17	E.	8			6.42	25.69 25-

700'- Upstream

			B.M.	0.88	709.41	708.53	
1	0.16	E.	1			12.76	696.65 10-
2	0.36	E.	2			11.95	697.46 40-
3	0.55	E.	3			10.99	698.42 51-
4	0.60	E.	4			10.49	698.92 59-
5	0.59	E.	5			9.26	700.15 1.19-
6	0.79	E.	6			7.44	701.97 70-
7	0.83	E.	7			6.32	703.09 79-
8	0.37	E.	8			4.00	705.41 18-

May 10-1935.

66

675' - Upstream

Mon. No. Total Move.

1	0.29	E.
2	0.50	E.
3	0.52	E.
4	0.58	E.
5	0.64	E.
6	0.53	E.
7	0.30	E.

B. M.	761	680.88	673.27	
1		5.76	75.12	22-
2		6.35	74.53	48-
3		5.41	75.47	49-
4		4.95	75.93	53-
5		5.64	75.24	70-
6		6.41	74.47	90-
7		5.37	75.51	30-

650' - Upstream

1	0.28	E.
2	0.40	E.
3	0.62	E.
4	0.34	E.
5	0.25	E.

B. M.	0.92	656.71	655.79	
1		6.35	50.36	40-
2		5.96	50.75	50-
3		6.28	50.43	90-
4		6.87	49.84	45-
5		6.55	50.16	35-

Note: 625' monuments are under water.

May 10-1935

67

725' - Downstream

Mon. No. Total Move.

1	0.06	E.
2	0.16	E.
3	0.20	E.
4	0.17	E.
5	0.17	E.
6	0.11	E.
7	0.00	

B.M. 4.16 731.02 726.86

1	3.69	27.33	34-
2	3.91	27.11	62-
3	4.20	26.82	75-
4	5.53	25.49	77-
5	5.03	25.99	71-
6	7.37	23.65	58-
7	7.17	23.85?	24-

700' - Downstream

1	0.12	W.
2	0.09	W.
3	0.05	W.
4	0.05	W.
5	0.11	W.
6	0.11	W.

B.M. 12.14 706.23 694.09

1	5.22	701.01	28-
2	4.69	701.54	32-
3	4.44	701.79	58-
4	4.67	701.56	32-
5	4.90	701.33	31-
6	5.28	700.95	12-

May 10-1935.

68

675- Downstream

Mon. No.	Total Move.
1	0.075 w.
2	0.13 w.
3	0.15 w.
4	0.17 w.
5	0.14 w.
6	0.12 w.
7	0.08 w.

B.M	6.78	681.51	674.73
1			5.62 75.89 04-
2			6.40 75.11 13-
3			5.92 75.59 16-
4			5.42 76.09 16-
5			5.73 75.78 16-
6			6.06 75.45 13-
7			6.26 75.25 06-

650'-Downstream

1	0.025 w.
2	0.11 w.
3	0.12 w.
4	0.29 w.
5	0.08 w.
6	0.09 w.
7	0.06 w.

B.M.	6.90	656.27	649.37
1			5.94 50.33 03-
2			5.76 50.51 06-
3			6.33 49.94 11-
4			5.53 50.74 32-
5			5.31 50.96 10-
6			5.56 50.71 10-
7			5.87 50.40 06-

May 10-1935.

69

625'-Downstream

Mon. No.	Total Move.	
1	0.02	W.
2	0.05	W.
3	0.04	W.
4	0.00	

B.M.	2.52	630.18	627.66	
1			4.75	25.43 05-
2			4.53	25.65 07-
3			3.86	26.32 07-
4			3.77	26.41 07-

600'-Downstream

1	0.03	W.
2	0.11	W.
3	0.00	

B.M.	5.38	605.04	599.66	
1			4.38	600.66 01-
2			4.39	600.65 21-
3			3.56	601.48 00

Measurements of Wells.  
May-10-1935

Well #	Water Depth	Bottom		
1	81.0	90.5	582.4	573.0
" 3	123.9	143.9	619.7	599.7
" 6	103.2	116.6	598.8	585.4
" 5	82.4	115.1	626.6	594.0





May 20-1935.

71

Mon. No. Total Move.

725' - Upstream

1	0.10	E.
2	0.17	E.
3	0.23	E.
4	0.24	E.
5	0.26	E.
6	0.34	E.
7	0.36	E.
8	0.17	E.

B.M	8.15	731.84	723.69	
1		5.00	26.84	19-
2		5.46	26.38	45-
3		6.70	25.14	67-
4		5.02	26.82	78-
5		4.83	27.01	85-
6		5.94	25.90	83-
7		5.82	26.03	63-
8		6.15	25.69	25-

700' - Upstream

1	0.15	E.
2	0.36	E.
3	0.55	E.
4	0.59	E.
5	0.59	E.
6	0.82	E.
7	0.83	E.
8	0.37	E.

B.M	1.32	709.85	708.53	
1		13.20	696.65	10-
2		12.39	697.46	40-
3		11.43	698.42	51-
4		10.93	698.92	59-
5		9.71	700.14	1170-
6		7.88	701.97	70-
7		6.76	703.09	79-
8		4.43	705.42	17-

May 20-1935.

72

Mon. No. Total Move.

675'- Upstream

B.M. 8.62 681.89 673.27

1	0.30	E.	1	6.77	75.12	72-
2	0.50	E.	2	7.37	74.52	49-
3	0.52	E.	3	6.43	75.46	50-
4	0.60	E.	4	5.97	75.92	54-
5	0.64	E.	5	6.66	75.23	71-
6	0.53	E.	6	7.43	74.46	91-
7	0.30	E.	7	6.38	75.51	30-

650'- Upstream

B.M. 1.31 657.10 655.79

1	0.28	E.	1	6.75	50.35	41-
2	0.40	E.	2	6.37	50.73	54-
3	0.62	E.	3	6.69	50.41	92-
4	0.345	E.	4	7.28	49.82	47-
5	0.25	E.	5	6.95	50.15	36-

May 20-1935.

73

Mon. No. Total Move.

725' - Downstream

B.M

3.69 730.55

726.86

1	0.06	E.	1	3.23	27.32	35-
2	0.16	E.	2	3.45	27.10	63-
3	0.20	E.	3	3.74	26.81	76-
4	0.17	E.	4	5.07	25.48	78-
5	0.16	E.	5	4.57	25.98	72-
6	0.11	E.	6	6.90	23.65	58-
7	0.00		7	6.72	23.83	76-

700' - Downstream

B.M

12.17 706.26

694.09

1	0.12	W.	1	5.26	701.00	79-
2	0.08	W.	2	4.73	701.53	33-
3	0.05	W.	3	4.48	701.78	59-
4	0.05	W.	4	4.70	701.56	32-
5	0.11	W.	5	4.93	701.33	31-
6	0.11	W.	6	5.30	700.96	11-

May 20-1935.

74

Men. No. Total Move.

675'- Downstream

B.M

5.63 680.36

674.73

1	0.07	W.	1	4.47	75.89	04-
2	0.13	W.	2	5.26	75.10	14-
3	0.15	W.	3	4.78	75.58	17-
4	0.16	W.	4	4.28	76.08	17-
5	0.13	W.	5	4.58	75.78	16-
6	0.12	W.	6	4.92	75.44	14-
7	0.08	W.	7	5.11	75.25	06-

650'- Downstream

B.M.

6.10 655.47

649.37

1	0.025	W.	1	5.14	50.33	03-
2	0.10	W.	2	4.96	50.51	08-
3	0.12	W.	3	5.53	49.94	11-
4	0.29	W.	4	4.72	50.75	31-
5	0.08	W.	5	4.50	50.97	09-
6	0.09	W.	6	4.75	50.72	09-
7	0.06	W.	7	5.06	50.41	03-

May 20-1935.

75

Mon. No. Total Move.

625'- Downstream

B.M. 1.56 629.22 627.66

1	0.025	w.	1	3.79	25.43	05-
2	0.06	w.	2	3.58	25.64	08-
3	0.04	w.	3	2.91	26.31	08-
4	0.00		4	2.82	26.40	08-

600'- Downstream

B.M. 5.48 605.14 599.66

1	0.04	w.	1	4.48	600.66	01-
2	0.13	w.	2	4.49	600.65	21-
3	0.00		3	3.67	601.47	01-

Measurements in Wells.

May - 20 - 1935.

	Water Depth.	Bottom Casing	Water El.	Bottom El.	
# 1	81.7	90.5	663.4	581.7	572.9
# 6	105.8	116.6	702.0	596.2	585.4
# 3	124.6	143.9	743.1	618.5	599.2
# 5	82.3	115.2	709.0	626.7	593.8







## Elev. at Tunnel Outlet Portal

79

April 30. 1935

B.M.	1.08	564.73	563.65
------	------	--------	--------

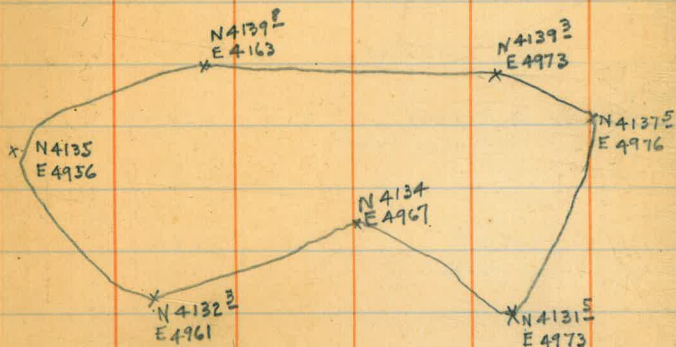
T.R.		10.79	553.94
------	--	-------	--------

	1.81	555.75	
--	------	--------	--

Set Red Head in Railrig		5.75	550.00
Post outside of Tunnel Portal.			

Water Surface at		7.15	548.60
Tunnel outlet Portal.			

Outline of Rock on Plaza at  
N. end of Dam



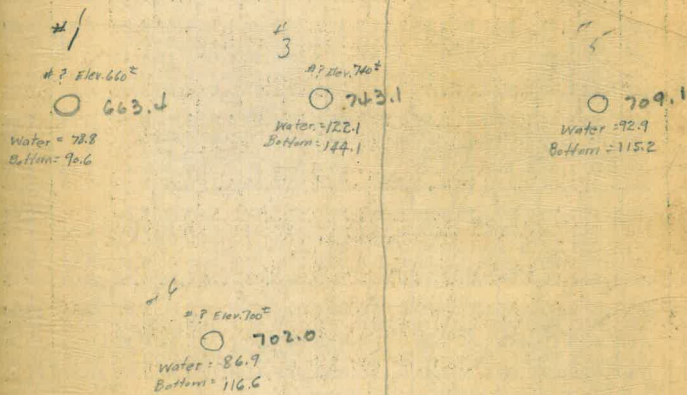
1/4 1/2  
Point  
to  
office

Length 12"  
Width 2 1/2"  
Height 1 3/4"  
Bavel 3 1/2"

65.13  
4.74  
60.39  
6.14  
603.73

80

Apr. 1-1925



CALCULATION OF EARTHWORK.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

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

Table with columns: HEIGHT, 1-15; and rows: Width (1-40). It provides cross-sectional dimensions for various heights and widths.

Table with columns: H, 0, .1, .2, .3, .4, .5, .6, .7, .8, .9, H; and rows: 0-40. It provides distance values from the center of roadway for cross-sectioning.

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth 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 the figures opposite width considering the heights from 1 to 9 as tenths.

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.