W.
477

MINING
TRANSFER BOOK
384

8.22
719.00
727.22

737.87
5.75
732.12 = East Well

737.87
4.14
3.73 = W. Well

737.87
6.08
731.80 = Water

49.40
45.93
94 83
47.41
-22

3860
3618
242

3950
3589
161

3589

477

Well #3

N3622 - Elev. 703.2

Downstream Rock Berm (5)

Outside Slope of Rock.

	See Sheet 7/6/34 xxx	Berm	See Sheet 7/6/34 xxx
N 3100		750.6	771.0
20		750.7	771.2
40	700.0	"	771.3
60	700.0	750.9	771.5
80	700.1	751.2	771.6
3200	700.3	751.3	771.8
20	700.4	751.3	771.9
40	700.6	751.5	772.1
60	700.9	751.6	772.2
80	701.0	751.9	772.4
3300	701.2	752.1	772.6
20	701.5	752.2	772.7
40	701.6	752.3	"
60	701.8	752.7	7730

9/28/34
N.

Elev. Top Dam + 1½% Swell

N 3010	770.2
20	770.3
30	"
40	770.4
50	770.5
60	770.6
70	770.8
80	770.9
90	771.0
3100	771.0
4100	770.4
10	770.3
20	770.3
30	"
40	770.2
50	"
60	770.2
70	"
80	"
90	"
4200	"

7/6/34
XXV.

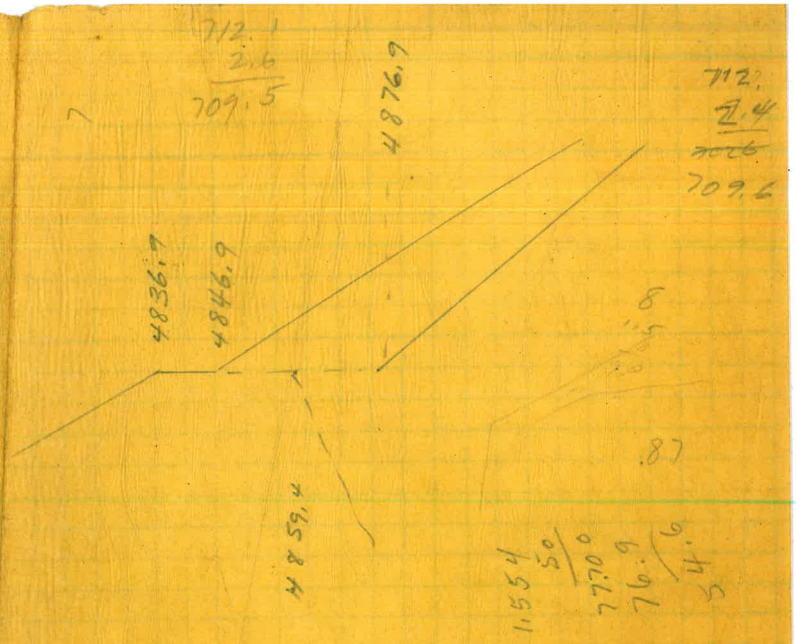
Down Stream Rock Lab. Elev. 700+ Swell.

(E 4836.92)	Elev.
N 3160 -	700.0 ✓
80	700.1 ✓
3200	700.3 ✓
20	700.4 ✓
40	700.6 ✓
60	700.9 ✓
80	701.0 ✓
3300	701.2 ✓
20	701.5 ✓
40	701.6 ✓
60	701.8 ✓
80	702.0 ✓
3400	702.1 ✓
20	702.1 ✓
40	702.1 ✓
60	702.1 ✓
80	702.1 ✓
3500.	702.1 ✓
20	702.1 ✓
40	702.2 ✓
60	702.2 ✓
80	702.2 ✓
3600	702.2 ✓
20	702.2 ✓
40	702.2 ✓
60	702.2 ✓
80	702.2 ✓
3700.	702.1 ✓

Data from Sections -

	Elev.
N 3720	702.1 ✓
40	702.0 ✓
60	701.9 ✓
80	701.7 ✓
3800	701.6 ✓
20	701.3 ✓
40	701.2 ✓
60	701.0 ✓
80	700.9 ✓
3900.	700.8 ✓
20	700.4 ✓
40	700.2 ✓

21.6



El. 699.0 = 4859.
702.0 = 4866
702.6 = 4876

1.554
8
12.432
76.92
89.35

Downstream Rock Emb (5) Sheet (1) + (2) Elev. 780+ Swell 1½% of Vertical Height 7/24/34 JRR

Outside Slope of Rock. 7/21/34 JRR

Data from Sections See Sheet 7/24/34 JRR

	See Sheet 7/6/34 JRR	Berm	See Sheet
N 3100		750.6	771.0
20		750.7	771.2
40	700.0	"	771.3
60	700.0	750.9	771.5
80	700.1	751.2	771.6
3200	700.3	751.3	771.8
20	700.4	751.3	771.9
40	700.6	751.5	772.1
60	700.9	751.6	772.2
80	701.0	751.9	772.4
3300	701.2	752.1	772.6
20	701.5	752.2	772.7
40	701.6	752.3	"
60	701.8	752.7	7730
80	702.0	"	"
3400	702.1	752.9	773.2
20	702.1	753.0	773.2
40	702.1	"	"
60	702.1	753.1	773.5
80	702.1	"	773.6
3500	702.1	753.2	"
20	702.1	"	"
40	702.2	"	"
60	702.2	"	773.5
80	702.2	"	"
3600	702.2	"	"
20	702.2	753.1	"
40	702.2	"	773.6
60	702.2	"	773.4
80	702.2	"	"

	Berm	Berm	Crest
N 3700	702.1	753.0	773.4
20	702.1	"	"
40	702.0	"	"
60	701.9	752.9	773.3
80	701.7	752.8	773.2
3800	701.6	752.6	773.0
20	701.3	752.5	772.8
40	701.2	752.1	"
60	700.9	751.9	772.4
80	700.9	751.6	772.2
3900	700.8	"	772.0
20	700.4	751.4	771.9
40	700.2	751.2	771.5
60		750.9	"
80		750.7	771.3
4000		750.5	771.2
20		750.3	771.0
40		750.2	770.9
60			"
80			770.7
4100			770.4
20			770.3
40			770.2

17.2 Upstream Rock Emb. Elev. 715+ Swell. 7/21/34 H.T.N.

Outside Slope of Rock –

N 3100	771.0	715.2	700.0
20	771.2	715.4	700.2
40	771.3	715.6	700.4
60	771.5	715.7	700.5
80	771.6	715.9	700.7
3200	771.8	715.9	"
20	771.9	716.1	700.9
40	772.1	716.3	701.1
60	772.2	716.4	701.2
80	772.4	716.5	701.3
3300	772.6	716.7	701.4
20	772.7	716.8	701.5
40	"	716.9	701.7
60	773.0 73.0	717.0 17.0	
80	"	717.1	701.8
3400	773.2	717.3	702.0
20	773.3	717.3	"
40	"	717.4	702.2
60	773.5	717.5	"
80	773.6	717.5	"
3500	"	717.5	"
20	"	717.5	"
40	"	717.5	"
60	773.5	717.5	"
80	"	717.5	"
3600	"	717.6	702.3
20	"	717.6	"
40	773.6	717.6	"
60	773.4	717.5	"

Data from Sections

N 3680	773.4	717.5	702.2
3700	"	717.5	"
20	"	717.5	"
40	"	717.5	"
60	773.3	717.4	"
80	773.2	717.4	"
3800	773.0	717.4	"
20	772.8	717.3	702.1
40	"	717.3	702.2
60	772.4	717.0	701.9
80	772.2	716.9	701.8
3900.	772.0	716.6	701.5
20	771.9	716.3	701.2
40	771.5	716.1	701.0
60	"	716.1	"
80	771.3	716.0	700.9
4000	771.2	716.0	"
20	771.0	715.7	700.6
40	770.9	715.6	700.5
60	"	715.5	700.4
80	770.7	715.4	700.3
4100	770.4	715.2	700.1
20	770.3	715.1	"
40.	770.2	715.0	700.0

Elev. 770+ & 700+ taken from sections and 715+ figured proportionately H.T.N.

8.22
719.00
727.22

737.87
5.75
732.12 = East Well

737.87
4.14
733.73 = W. Well

737.87
6.07
731.80 = Water

49.40
48.43
97.83
48.91
.22

3860
3618
242

477

3750
3589
161

Well #3

N3622
E4922 = Elev. 703.2
5.8
709.0

3589

July 5-1934

- Well #4

N3619
5082 = Elev. 708.8

Well #3 = 709.0 - July 9 - 1934

W.S. Sept. 24 = 745.8

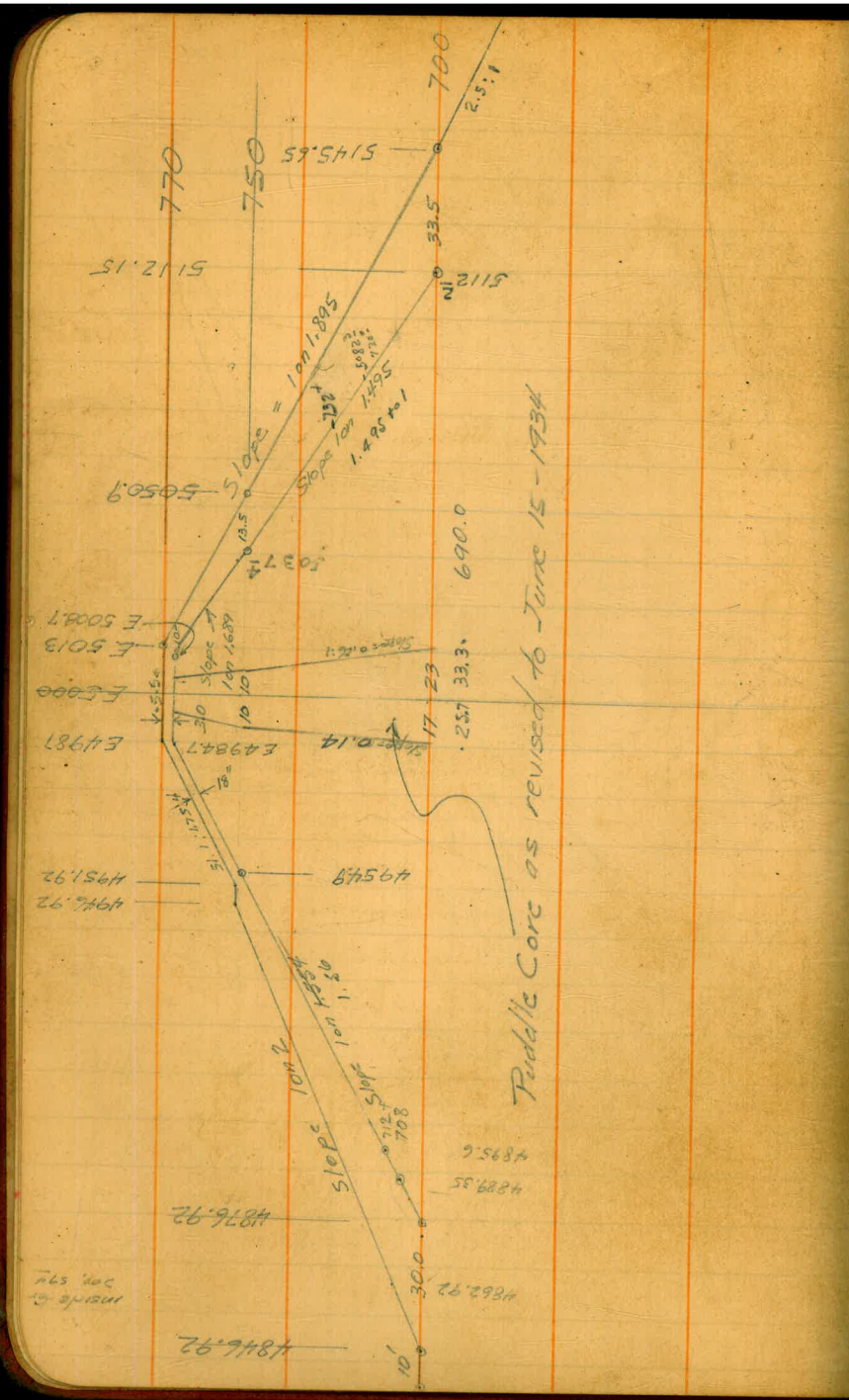
Page 1 blank.

477- Index.

Const. Levels + Points. etc

Elevs. of 700' angle in Upstream Rock Emb.

North	Elev.
3200	700.7
3240	701.1
3280	701.3
3320	701.5
3360	701.7
3400	702.0
3440	702.2
3480	702.2
3520	702.2
3560	702.3
3600	702.3
3640	702.3
3680	702.2
3720	702.2
3760	702.2
3800	702.2
3840	702.2
3880	701.8
3920	701.2
3960	701.0
4000	700.9
4040	700.5
4080	700.3
4120	700.1



Aug-17-1934 - Set flags for limits of Puddle Core — Elev. 718 — E 5018.3 E 4986.2 ←
Should be 4985.5

5018.3
4985.5
32.8

50.59.9
18.3.85
5069.85

Downstr. Rock Emb. Elev. 700+

N.			
3160	700.0	3660	702.2
80	00.1	80	02.2
3200	00.3	3700	02.1
20	00.4	20	02.1
40	00.6	40	02.0
60	00.9	60	01.9
80	01.0	80	01.7
3300	01.2	3800	01.6
20	01.5	20	01.3
40	01.6	40	01.2
60	01.8	60	01.0
80	02.0	80	00.9
3400	02.1	3900	00.8
20	02.1	20	00.4
40	02.1	40	00.2
60	02.1		
80	02.1		
3500	02.1		
20	02.1		
40	02.2		
60	02.2		
80	02.2		
3600	02.2		
20	02.2		
40	02.2		

Rock Grades April 24-1934

E 5145.7 & E 5130.5

Staff	711.6		
O.G.		11.6	700.0 ✓
"		3.6	708.0 ✓
N 3140		11.4	700.2 ✓
"		3.3	708.3 ✓
3180		11.1	700.5 ✓
"		3.0	708.6 ✓
3200		10.9	700.7 ✓
"		2.8	708.8 ✓
	April 25-1934		
Staff	712.6		
3230		11.6	701.0 ✓
3260		11.4	701.2 ✓
3290		11.2	701.4 ✓
3320		11.1	701.5 ✓
3350		10.9	701.7 ✓
3380		10.8	701.8 ✓
3410		10.6	702.0 ✓

Apr. 26, 1934 Finish Rock Grades

E. 5130.5 - Elev. 708+
E. 5145.7 - Elev. 700+

Simpson
Soper
Remmen

Core Wall		711.80		
N 3260			2.5	709.3 ✓
3320			2.2	709.6 ✓
3380			1.9	709.9 ✓
3440			9.6	702.2 ✓
"			1.5	710.3 ✓
3470			9.6	702.2 ✓
3500			9.6	702.2 ✓

April-27, 1934

Core Wall		711.70		
4100	E. 5175.7		23.6	688.1 ✓
4060	E 5175.7		23.3	688.4 ✓
Core wall		713.20		
T. P.			10.95	702.25 ✓
	3.75	706.00 ✓		
3500			3.8	702.2 ✓
3530			3.8	702.2 ✓
3560			3.7	702.3 ✓
3590			3.7	702.3 ✓
3620			3.7	702.3 ✓
3650			3.7	702.3 ✓
3680			3.8	702.2 ✓

Finish Rock Grades

E 5145.7 – Elev. 700+

April-27-1934

706.00

3710		3.8	702.2 ✓
3740		3.8	702.2 ✓
3770		3.8	702.2 ✓
3800		3.8	702.2 ✓
3830		3.8	702.2 ✓
3860		4.0	702.0 ✓
3900		4.5	701.5 ✓

April-30-1934

E 5130.5 – Elev. 708+

Core wall. 712.4

N 3110		4.2	708.2 ✓
3140		4.1	708.3 ✓
3170		3.9	708.5 ✓
3200		3.6	708.8 ✓
3260		3.1	709.3 ✓
3320		2.8	709.6 ✓
3380		2.5	709.9 ✓
3440		2.1	710.3 ✓
3500		2.1	710.3 ✓
3560		2.0	710.4 ✓
3620		2.0	710.4 ✓

Simpson
Soper
Remmen

Finish Rock Grades

E. 5130.5 – Elev. 708+

May-1-1934

Core wall	712.5		
N 3320		2.9	709.6
3290		3.1	709.4
3260		3.2	709.3
3350		2.8	709.7
3380		2.6	709.9
3230		3.4	709.1
3200		3.7	708.8
3170		4.0	708.5
3140		4.2	708.3

May-3-1934

Core wall	711.7		
3350		2.0	709.7
3380		1.8	709.9
3410		1.6	710.1
3440		1.4	710.3
3470		1.4	710.3
"		9.5	702.2
3500		1.4	710.3
3560		1.3	710.4
3590		1.3	710.4
3530		1.4	710.3

Simpson
Soper
Remmen

Simpson
Soper
Remmen,

Finish Rock Grades
E-5130^{5} - Elev. 708^{+}

May-4-1934

B.M.	6.94	712.21		705.27
N 3680			1.9	710.3
3740			1.9	710.3
3800			1.9	710.3
3860			2.1	710.1
3920			2.9	709.3
3980			3.2	709.0
4040			3.6	708.6
4100			3.9	708.3

May-5-1934

core wall		713.8		
3410			3.7	710.1
3440			3.5	710.3
3470			3.5	710.3
3500			3.5	710.3
3530			3.5	710.3
3560			3.4	710.4

May-7-1934

B.M.	7.43	712.70		705.27
3470			2.4	710.3
3500			2.4	710.3
3530			2.4	710.3
3560			2.3	710.4
3590			2.3	710.4
3620			2.3	710.4
3650			2.3	710.4

Finish Rock Grades

E 5130^{S} - Elev. 708^{+}

		712.70		
3680			2.4	710.3 ✓
3710			2.4	710.3 ✓
3740			2.4	710.3 ✓
		May-8-1934		
B.M.	8.91	714.18 ✓		705.27
3620			3.8	710.4 ✓
3650			3.8	710.4 ✓
3680			3.9	710.3 ✓
3710			3.9	710.3 ✓
3740			3.9	710.3 ✓
3770			3.9	710.3 ✓
3800			3.9	710.3 ✓
3830			3.9	710.3 ✓
		May-10-1934		
B.M.	7.46	712.73 ✓		705.27
3740			2.4	710.3 ✓
3770			2.4	710.3 ✓
3800			2.4	710.3 ✓
3830			2.4	710.3 ✓
3860			2.6	710.1 ✓
3890			2.9	709.8 ✓
3920			3.4	709.3 ✓
Top of well # ?			3.73	709.00 ✓

Simpson
Soper
Remmen.

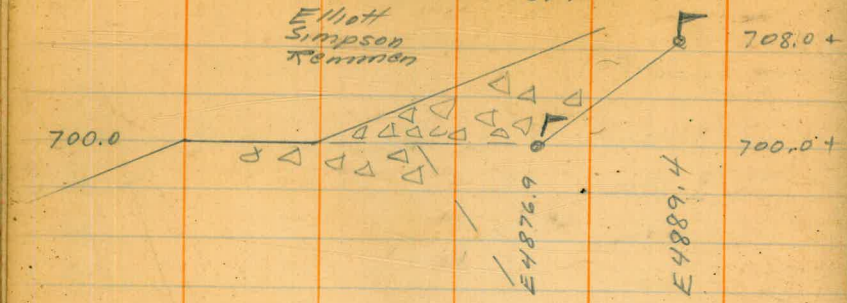
Finish Rock Grades.
E 5130^{5} - Elev. 708^{+}
May-11-1934.

B.M.	8.10	713.37 ✓		705.27
3830			3.1	710.3 ✓
3860			3.3	710.1 ✓
3890			3.6	709.8 ✓
B.M.	6.54	711.81 ✓		705.27
3920			2.5	709.3 ✓
3950			2.7	709.1 ✓
3980			2.8	709.0 ✓

July 16-1934

Grades on Downst. Emb.

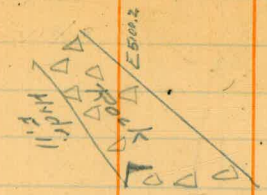
Elliott
Simpson
Remmon



N3550			
	714.6	12.4	702.2
"		4.3	710.3
3490		12.5	702.1
"		4.4	710.2
3450		12.5	702.1
"		4.4	710.2
3400		12.6	702.0
"		4.5	710.1
3350		12.9	701.7
"		4.8	709.8
3300	713.8	12.6	701.2
"		4.5	709.3
3250		13.0	700.8
"		4.9	708.9
3200		13.1	700.7
"		5.0	708.8

July 21-1934 Elliott-Simpson Rammer

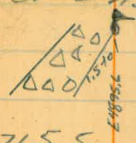
Grades for upstream by d/r.
f.ll elev. 708 + swell allowance.



Staff	714.3		
N4000		5.4	708.9
N3900		4,8	709.5
N3800		4,1	710.2
N3700		4.1	710.2

July 23 - 1934

Grades for Dnst. Hyd. F.ll Elev 712 +



Staff	715.5		
3900		2.6	712.9
3800		1.8	713.7
3700		1.3	714.2
3600		1,2	714.3
3500		1.3	714.2
3400		1,3	714.2
3300		2.2	713.3
3200		3,1	712.4

Levels to Wells 3-4
July 21-1934

13

Staff	713.8		
well #3 E4925		+0.9	714.7
well #4 E5085		+0.9	714.7

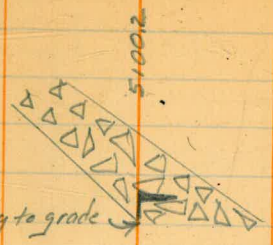
17' of pipe needed to reach rock surface from well #4 (swell not considered).
25' of pipe needed to reach rock surface from well #3 (swell not considered).

17 # 4
25 # 3.
4 Swell
46 Total

Levels to Wells #3-4
Aug. -1-1934

Staff	720.0		
well #3 E4925		+0.3	720.3
well #4 E5085.		+0.4	720.4

Grades for Upstr. Hyd. Fill
July 24-1934
Elliott-Simpson-Soper-Remmers



Staff	0.0	715.3		715.3	
4070			6.9	708.4	
4020			6.7	708.6	
3970			6.3	709.0	
3920			6.1	709.2	
3870			5.4	709.9	
3820			5.2	710.1	
3770			5.1	710.2	
3720			5.1	710.2	

Continued July 30-1934 Elliott Soper Remmers

Staff		714.6			
3100			6.6	708.0	dirt 2' high
3200			5.9	708.7	dirt 3½' high
3300			5.2	709.4	O.K.
3400			4.6	710.0	O.K.

Finish Rock Grades. (Reset)
E. 4836 - Elev. 700+

July-26-1934
Simpson
Salgado
Isabelle

B.M.	3.24	712.39		709.15	
T.P.			9.93	702.46	
	2.71	705.17			Finish Grade
3600			3.0		702.2
3560			3.0		702.2
3520			3.1		702.1
3480			3.1		702.1
3440			3.1		702.1
3400			3.1		702.1
3360			3.4		701.8
3320			3.7		701.5
3280			4.2		701.0
3240			4.6		700.6
3200			4.9		700.3
3640			3.0		702.2
3680			3.0		702.2
3720			3.1		702.1
3760			3.3		701.9
3800			3.6		701.6
3840			4.0		701.2
3880			4.3		700.9
3920			4.8		700.4
3960			5.1		700.1

Finish Rock Grades
E.48629 – Elev. 708+

T.P.				702.46
	11.40	713.80		
3600			3.5	710.3
3560			3.5	710.3
3520			3.6	710.2
3440			3.6	710.2
3360			3.9	709.9
3280			4.7	709.1
3200			5.4	708.4

July-26-1934
Simpson
Salgado
Isabelle.

Final X Sections of Spillway Floor Subgrade

B.M.	1.49	725.61		724.12
T.P.			2.72	722.89
	2.71	725.60		

See Book #451

4+87 29	7 3	7 1
	140	165
4+80	7 2	7 2
	140	163 5
+70	6 7	7 1
	140	162 5
+60	6 3	6 7
	140	158 5
+50	6 1	6 1
	138	155
+40	5 8	6 0
	135	152
+30	5 4	5 4
	130	149

Aug. 14, 1934
Osborne
Salgado
Remmer

Finish Rock Grades

East 48769 Elev. 715 +

B.M. Core Wall		722.46			722.46
T.P.			4.14	718.32	
	3.36	721.68			
N 3160				6.5	715.2
3200				6.2	715.5
40				5.9	715.8
80				5.5	716.2
3320				5.0	716.7
3360				4.7	717.0
3400				4.4	717.3
40				4.4	717.3
80				4.4	717.3
3520				4.4	717.3
60				4.3	717.4
3600				4.3	717.4
40					
80					

Grades For Up Str. Hyd. Fill

Aug.-10-1934

Set Flags to Grade-
For Elev. 720 Plus Allowance
For settlement,

720+

B.M.	4.73	724.73		720.00	
4100			4.5	720.2	✓
4000			3.7	721.0	✓
3900			3.1	721.6	✓
3800			2.3	722.4	✓
3700			2.2	722.5	✓
3600			2.1	722.6	✓
3500			2.1	722.6	✓
3400			2.4	722.3	✓
3300			3.0	721.7	✓
3200			3.7	721.0	✓
3100			4.4	720.3	✓

Simpson
Soper
Isabelle

Elevations of Wells

B.M. = Staff	725.47		725.47
T.P.		5.15	720.32
	4.73	725.05	
Well # 3 Downst. Beach			
Top of Casing		+ 1.41	726.46
Well # 4 Upst. Beach			
Top of Casing		+ 1.55	726.60

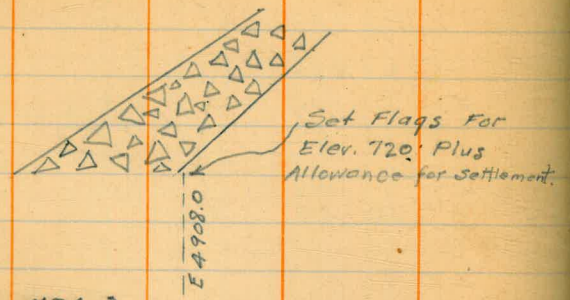
Sept. 13, 1934

Staff	7.448		
# 4		6.85	737.97
# 3		5.29	739.53
# 3	Sept. 22, =		743.1
# 4			738.0

Aug. 15, 1934
Osborne
Salgado
Remmen

Grades For Downstream Outside Line
of Rolled Embankment – Aug-17-1934.
Elev. 720+ – E.4908.0

Simpson
Soper
Isabelle



Core Wall Staff. – 726.3

3900	5.2	721.1
3800	4.4	721.9
3700	3.9	722.4
3600	3.8	722.5
3500	3.9	722.4
3400	3.9	722.4
3300	4.8	721.5
3200	5.7	720.6

Finish Rock Grades

E 4876.9 Elev. 715 +

B.M. Core Wall		723.60		723.6
T.P.	2.39	721.63	4.36	719.24
N 3240			5.8	715.8 = Finish Grade
80			5.4	716.2
3320			4.9	716.7
60			4.6	717.0
3400			4.3	717.3

Core wall	722.3		
3440		5.0	717.3
3400		5.0	717.3
3360		5.3	717.0

Aug. 23-1934

core wall staff. -	722.2		
3600		4.8	717.4
3560		4.8	717.4
3520		4.9	717.3
3480		4.9	717.3
3440.		4.9	717.3

Sept. 4, 1934

719.67

N 3640	2.3	717.4
N 3680	2.3	717.4
3720	2.4	717.3
3760	2.6	717.1

Aug. 18, 1934
Osborne
Salgado
Remmen

719.7 Finish grade

N 3800	2.9	716.8

Aug 22, 1934
Osborne
Salgado
Remmer

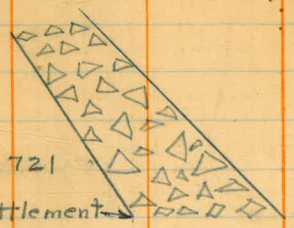
Rock Grades E. 5103.96 Elev. 722+

Core Wall 727.2

				Finish Grade	
N. 3060			4.9	722.3	✓
3100			4.9	722.3	✓
3140			4.5	722.7	✓
3180			4.2	723.0	✓
3220			4.0	723.2	✓
3260			3.7	723.5	✓
B.M.	7.04	728.04		726.00	
3260			4.5	723.5	✓
3300			4.2	723.8	✓
3340			4.0	724.0	✓
3380			3.8	724.2	✓
3435			3.5	724.5	✓
3500			3.4	724.6	✓
		Sept. 4, 1934			
3900		727.5	3.7	723.8	✓
3960			4.2	723.3	✓
4000			4.3	723.2	✓
4040			4.7	722.8	✓
4080			4.9	722.6	✓
4120				722.4	

Grades For Upstream Outside Line of Rolled Embankment — Aug.-23-1934

Elev. 721 ± — E 5080 ±



Set flags for Elev. 721

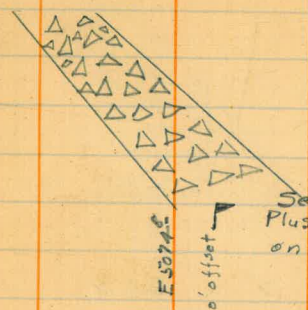
Plus allowance for Settlement →

B.M.	10.87	726.01 ✓		715.14
T.P.	3.34	726.65 ✓	2.70	723.31 ✓
3600			3.0	723.6 ✓
3500			3.1	723.5 ✓
3400			3.3	723.3 ✓
3300			3.9	722.7 ✓
3200			4.7	721.9 ✓
3100			5.3	721.3 ✓
3700			3.1	723.5 ✓
3800			3.2	723.4 ✓
3900	Set for Elev. 725±		+0.10	726.75 ✓
4000	" " " "		0.5	726.15 ✓
4100	" " " "		1.3	725.35 ✓

Simpson
Soper
Isabelle

Grades For Outside Line of Rolled Embankment, Upstream – Elev. 725 ± – E5074.8 ±

Aug. – 27 – 1934



Set Flags For Elev. 725 Plus the Allowance for Settlement on 10' offset line.

B.M.	3.08	729.08		726.00	10' offset
3600			1.3	727.8	✓ "
3500			1.4	727.7	✓ "
3400			1.6	727.5	✓ "
3300			2.2	726.9	✓ "
3200			3.0	726.1	✓ "
3100			3.7	725.4	✓ "
3700			1.4	727.7	✓ "
3800			1.5	727.6	✓ "
3900			2.3	726.8 ✓	on line
4000			2.9	726.2 ✓	"
4100			3.7	725.4 ✓	"

Simpson
Soper
Isabelle

25½

X Section of Rock Embankment And Rolled Fill At N 3600

August - 27 - 1934

B.M.	5.78	731.78		726.00	
4836	9			702.2	Finish Grade
	46	9		702.2	"
	78		15.2	716.6	✓
4900			15.0	716.8	✓
	15		5.7	726.1	✓
	45		5.6	726.2	✓
	75		5.2	726.6	✓
	90		9.2	722.6	✓
5000			11.2	720.6	✓
	10		11.2	720.6	✓
	11		9.2	722.6	✓
	20		7.7	724.1	✓
	45		7.5	724.3	✓
	75		7.2	724.6	✓
	95		6.9	724.9	✓
5102			9.3	722.5	✓
	30	5		710.4	Finish Grade

Toe of Rock Points
No. Abutment.
Sept. - 1 - 1934

B.M.	4.47	731.65'		727.18	
			2.64	729.01'	check on Corewall Staff. Elev. 729.03
E 5071.8			4.65	727.00'	inside Line of Rock
E 5097.7			6.35	725.30'	outside Line of Rock.
E 5096.8			5.85	725.80'	" " "
E 5072.9			5.35	726.30'	inside Line of Rock
B.M.	11.86	739.04'		727.18	
E 5076.5			2.54	736.50'	outside Line of Rock
E 5058.0			2.84	736.20'	inside " " "
B.M.	3.29	753.30'		750.01	
E 5054.5			5.2	748.1'	outside Line of Rock
E 5040.2			5.5	747.8'	inside Line of Rock

Grades for Outside line of Rolled Emb.
Upstream Elev. 730+ East 5067.3

B.M.	1.65	735.51		733.86
T.P.			5.14	730.37
	4.63	735.00		
N 3100			4.6	730.4
3200			3.9	731.1
3300			3.2	731.8
		735.7		
3400			3.3	732.4
3500			3.1	732.6
3600			3.0	732.7
3700			3.1	732.6
3800			3.1	732.6
3900			3.8	731.9
4000			4.4	731.3

Grades For Outside Line of Rolled Embankment
Upstream, Elev 732± — E. 5064±

B.M.		739.32			
T.P.			5.40	733.92	✓
	3.95	737.87	✓		
N 3100			Set 6.4	5.4	732.5 ✓ 6.26
3200			5.7	4.7	733.2 ✓ 5.6
3300			5.0	4.0	733.9 ✓ 4.9
3400			4.4	3.4	734.5 ✓ 4.33
3500			4.2	3.2	734.7 ✓
3600			4.1	3.1	734.8 ✓
3700			4.2	3.2	734.7 ✓
3800			4.2	3.2	734.7 ✓
3900			4.9	3.9	734.0 ✓
4000			5.5	4.5	733.4 ✓ 5.4 ✓
4100			6.3	5.3	732.6 ✓ 6.16
4200					

Sept 7, 1934
Osborne
Salgado
Remmen

28

Grades Set 1' low
as Per G.W.C.

Grades For Outside line of Rolled Embankment
Downstream – Elev. 732+ East. 4926.8

Sept. 7, 1934
Osborne
Salgado
Remmer

T.P.	2.65	736.57			733.92	
			sa	fat		
N. 3100			5.3	4.3	732.3	5.5
3200			4.8	3.8	732.8	4.7
3300			3.9	2.9	733.7	3.8
3400			3.0	2.0	734.6	
3500			3.0	2.0	734.6	
3600			2.9	1.9	734.7	
3700			3.0	2.0	734.6	
3800			3.5	2.5	734.1	
3900			4.3	3.3	733.3	
4000					732.5	

Cut of 2.6 at ground

Finish Rock Grades Upstream

Sept. 8, 1934
Osborne
Remmen

Elev. 730+ East. 5088.8

Stake N.4100	2.4	734.0 ✓		731.6	
N4100			3.5	730.5	✓
4060		736.7	3.2	730.8	✓
4020			5.7	731.0	✓
3980			5.4	731.3	✓
3940			5.3	731.4	✓
3900		737.2	4.8	731.9	✓
3860			4.9	732.3	✓
3820			4.7	732.5	✓
3780			4.6	732.6	✓
3740			4.6	732.6	✓

Sept. 12, 1934

Grades for Outside line of Rolled Emb.

East. 4931.5 Elev. 735+

B.M. Staff 3.4 740.4 ✓ 737.0 Finish Grade

	Set.			c-3.0
N 3100	5.9	4.9	735.5	✓
3200	5.6	4.6	735.8	✓
3300	4.7	3.7	736.7	✓
3400	3.8	2.8	737.6	✓
3500	3.8	2.8	737.6	
3600	3.7	2.7	737.7	✓
3700	3.8	2.8	737.6	✓
3800	4.3	3.3	737.1	✓
3900	5.1	4.1	736.3	✓
4000				

Sept. 10, 1934
Osborne
Salgado
Remmen

Set 1' Low.

Finish Rock Grades Downstream

Elev. 740+ East 4926.9

Staff	743.6			
N 3960		3.0	740.6	✓
3920		2.6	741.0	✓
Sept. 13, 1934	742.9			
3920		1.9	741.0	✓
3800		0.7	742.2	✓
3700		0.2	742.7	✓
3600		0.1	742.8	✓
Sept. 19, 1934	745.3			
3800		3.1	742.2	✓
3760		2.8	742.5	✓
3720		2.6	742.7	✓
3680		2.5	742.8	✓
	746.9			Sept 20,
3640		4.1	742.8	✓
3600		4.1	742.8	✓
	747.4			Sept. 21,
3580		4.6	742.8	✓
3530		4.6	742.8	✓
3450		4.7	742.7	✓
	747.2			Sept 22
3540		4.4	742.8	✓
3500		4.5	742.7	✓
3400	747.0	4.5	742.7	✓ Sept. 24,
3460		4.3	742.7	✓
3420		4.3	742.7	✓
3320		4.9	742.1	✓

Sept. 12, 1934
Osborne
Salgado
Remmen

	747.2	Sept. 25,		
3380		4.6	742.6	✓
3220		6.2	741.0	✓
	747.6	Sept. 26,		
3340		5.4	742.2	✓
3160		7.0	740.6	✓
	747.3	Sept. 27,		
3300		5.5	741.8	✓
3260		5.8	741.5	✓
3160		6.7	740.6	✓

Grades for Outside line of Rolled Emb. Downstream.

Sept. 13, 1934
Osborne.
Salgado
Remmen

Elev. 740' East 4939.3

Staff 744.7

	Set.			C-1.0
N 3100	5.2	4.2	740.5	✓
3200	4.8	3.8	740.9	✓
3300	3.9	2.9	741.8	✓
3400	3.0	2.0	742.7	✓
3500	3.0	2.0	742.7	✓
3600	2.9	1.9	742.8	✓
3700	3.0	2.0	742.7	✓
3800	3.5	2.5	742.2	✓
3900	4.3	3.3	741.4	

Set 1' low

Grades for Outside line of Rolled Embankment Upstream

Elev. 740 E. 5052.3

Staff	744.8				
N3100		5.2	4.2	740.6	Set 1' low
3200		4.5	3.5	741.3	
3300		3.8	2.8	742.0	
3400		3.2	2.2	742.6	
3500		3.0	2.0	742.8	
3600		2.9	1.9	742.9	
3700		3.0	2.0	742.8	
3800		3.0	2.0	742.8	
3900		3.7	2.7	742.1	
4000		4.3	3.3	741.5	
4100		5.1	4.1	740.7	

X Sections of Dam - Sept. 17 - 1934

Simpson
Osborne
Soper
Isbell

				744.75	
B.M.	2.18	746.93 ✓			
			N 3900		
E 4926			6.5	740.4 ✓	on Finished Rock.
34			8.3	38.6 ✓	
46			4.4	42.5 ✓	
65			5.1	41.8 ✓	
92			4.0	42.9 ✓	
4997			6.6	40.3 ✓	Puddle Core
5002			8.9	38.0 ✓	"
water Surface			5.2	41.7 ✓	
09			7.6	39.3 ✓	"
12			5.0	41.9 ✓	
51			4.9	42.0 ✓	
65			13.9	33.0 ✓	
5086			14.3	32.6 ✓	on Finished Rock.
T.P.	5.44	748.46 ✓	3.91	743.02 ✓	
			N 3600		
E 4880				718.2	on Finished Rock
85				16.3	
4900				16.4	
35			5.3	43.2 ✓	
65			5.5	43.0 ✓	
95			5.6	42.9 ✓	

9/17/34 [illegible]

702.2
13.1
715.3
6.7
722.0
3.8
18.2

Simpson
Osborne K
Joper
Isbell

X Sections of Dam contd.

Sept. -17-1934.

N3600

748.46

5000		8.7	739.8 ✓	
11		7.6	40.9 ✓	
17		5.7	42.8 ✓	
55		6.6	41.9 ✓	
73		13.7	34.8 ✓	
93			722.0	
5104			721.9	
20			715.3	on Finished Rock
T.P.		4.97	743.49 ✓	
	4.90	748.39 ✓		

N3200

4885	30.1	718.3 ✓	
97	31.1	17.3 ✓	
4944	5.0	43.4 ✓	
70	5.5	42.9 ✓	
90	5.8	42.6 ✓	
94	8.6	39.8 ✓	Puddle Core
98	10.0	38.4 ✓	"
5005	8.8	39.6 ✓	"
09	5.9	42.5 ✓	
33	5.7	42.7 ✓	
49	5.4	43.0 ✓	
68	15.7	32.7 ✓	
86	26.6	21.8 ✓	
5104	26.4	22.0 ✓	
5115	31.4 ✓	717.0	on finished Rock

Grades for Outside line of Rolled Emb.

Elev 745+ East. 4947.1

Staff.	747.8	Set.		
3900		2.3	1.3	746.5
3800		1.5	0.5	747.3
3700		1.0	0.0	747.8
3600		0.9		747.9
3500		1.0	0.0	747.8
3400		1.0	0.0	747.8
3300		1.9	0.9	746.9
3200		2.8	1.8	746.0
3100		3.3	2.3	745.5

Sept. 19, 1934

Osborne
Salgado
Remmen

Set. 1' Low.

Grades for Outside line of Rolled Emb.

Elev. 745+ East. 5044.9

Staff.	748.5 Set.		
4100	3.7	2.7	745.8
4000	2.9	1.9	746.6
3900	2.3	1.3	747.2
3800	1.6	0.6	747.9
3700	1.6	0.6	747.9
3600	1.5	0.5	748.0
3500	1.6	0.6	747.9
3400	1.8	0.8	747.7
3300	2.4	1.4	747.1
3200	3.1	2.1	746.4
3100	3.8	2.8	745.7

Sept. 19, 1934.
Osborne
Salgado
Remmen

Set. 1' Low.

Grades for Outside Line of Rolled Emb.

Sept. 24, 1934
Osborne
Salgado
Remmen.

Sat. 1' Low.

Elev. 747+ East. 5041.9

Staff.	751.6		
4100	set 4.8	3.8	747.8 ✓
4000	4.0	3.0	748.6 ✓
3900	3.4	2.4	749.2 ✓
3800	2.7	1.7	749.9 ✓
3700	2.7	1.7	749.9 ✓
3600	2.6	1.6	750.0 ✓
3500	2.7	1.7	749.9 ✓
3400	2.9	1.9	749.7 ✓
3300	3.5	2.5	749.1 ✓
3200	4.2	3.2	748.4 ✓
3100	5.0	4.0	747.6 ✓

Elev 747+ East 4950.2

Staff	752.7		
4000	set 6.1	5.1	747.6 ✓
3900	5.2	4.2	748.5 ✓
3800	4.4	3.4	749.3 ✓
3700	3.9	2.9	749.8 ✓
3600	3.8	2.8	749.9 ✓
3500	3.9	2.9	749.8 ✓

Grades for Outside line of Rolled Emb.

Elev. 749+ East 5038.9

Staff.	752.6	Set.		
4000		3.0	2.0	750.6 ✓
3800		1.7	0.7	751.9 ✓
3600		1.6	0.6	752.0 ✓
3400		1.9	0.9	751.7 ✓
3200		3.2	2.2	750.4 ✓

Elev. 750+ East. 5037.4

	755.3			
4000		4.7	3.7	751.6 ✓
3800		3.4	2.4	752.9 ✓
3600		3.3	2.3	753.0 ✓
3400		3.6	2.6	752.7 ✓
3200		4.9	3.9	751.4 ✓

Elev. 759+ East 5022.2

	765.2			
3200		4.5	3.5	761.7 ✓
3400		3.1	2.1	763.1 ✓
3600		2.8	1.8	763.4 ✓
3800		3.3	2.3	762.9 ✓
4000		5.1	4.1	761.1 ✓

Sept. 27, 1934
Osborne
Salgado
Remmen

Set 1' low.

Oct. 3, 1934

Osborne
Salgado
Adams

Set. 1' low.

Oct. 13, 1934
Osborne
Remmen
Adams

Finish Rock Grades

Elev. 750+ East 5050.9.

Staff.	757.2		
Toe		7.2	750.0
3100		6.5	750.7
3200		5.8	751.4
	757.1		
3060		6.7	750.4
3100		6.4	750.7
3140		6.0	751.1
3180		5.7	751.4
Oct. 3, 1934	757.2		
3100		6.5	750.7
3140		6.1	751.1
3186		5.8	751.4
3286		5.2	752.0
3380		4.7	752.5
Oct. 6, 1934	753.8		
3280		1.8	752.0
3480		0.9	752.9
Oct. 9,	755.7		
3320		3.5	752.2
Oct 11,	755.4		
3360		3.0	752.4
Oct. 13,	754.3		
3400		1.6	752.7
3430		1.4	752.9
3640		1.3	753.0

Sept 27, 1934
Osborne
Salgado
Remmen

	Oct. 16, 756.7		
N3480		3.8	752.9
Oct. 18,	757.6		
3520		4.7	752.9
3580		4.7	752.9
Oct. 20,	758.3		
3620		5.3	753.0
Oct. 22,	759.2		
3700		6.3	752.9
3800		6.3	752.9
3900		7.0	752.2
4000		7.6	751.6

Finish Rock Grades

Elev. 750+ East. 4946.9

Staff	752.9		
Toe		2.9	750.0
3100		2.5	750.4
3200		1.9	751.0
3300	Oct. 1, 1934 754.4	1.0	751.9
3100		4.0	750.4
3140		3.8	750.6
3180		3.6	750.8
Oct. 3, 1934	755.7		
3220		4.6	751.1
3260		4.1	751.6
Oct. 4, 1934	755.4		
3260		3.8	751.6
3300		3.5	751.9
8 Oct. 5,	755.5		
3340		3.2	752.3
3380		2.8	752.7
Oct 8,	757.1		
3420		4.3	752.8
3580		4.2	752.9
Oct 9, 1934	757.0		
3460		4.2	752.8
3500		4.2	752.8
Oct. 10,	757.9		
3700		5.1	752.8

Sept. 28, 1934
Osborne
Salgado
Remmen

	757.5		
Oct. 11,			
3540		4.6	752.9
3580		4.6	752.9
3620		4.6	752.9
Oct. 12,	757.1		
3580		4.2	752.9
3620		4.2	752.9
Oct. 13,	757.7		
3660		4.8	752.9
3700		4.9	752.8
Oct. 20,	756.4	set .2 low, 4 tomatoes South	
3700		3.6	752.8
3760		3.8	752.6
3800		4.1	752.3
3840		4.5	751.9
	756.6		
3880		5.0	751.6
3920		5.5	751.1
3960		5.9	750.7
Oct. 24,	755.8		
3960		5.1	750.7

Oct. 1, 1934
Osborne
Salgado
Remmen

Cross Sections of Dam for Est. 29

Staff		752.68			
		N 3300			
E. 5036			3.3	749.4	Edge of fill
5070			10.0	742.7	
5095			31.0	721.7	
5101			31.3	721.4	
5118			38.4	714.3	Finish Rock
T.P			3.00	749.68	
	3.60	753.28			
		N 3600			
4927			11.2	742.1	Finish Rock
4943			10.4	742.9	
55			2.6	750.7	
95			3.1	750.2	Edge of Puddle
5000			5.4	747.9	Bottom "
05			3.1	750.2	Edge " "
37			3.6	749.7	
52			6.0	747.3	
95			31.9	721.4	
5105			32.3	721.0	
20			39.1	714.2	Finish Rock
T.P.	4.80	754.45	3.63	749.65	
		N 3740			
5037			5.0	749.5	
52			6.0	748.5	

To Finish Rock at Elev. 730+

Grades for Outside Line of Rolled Fill

Elev. 750+ East 4954.9

Staff	754.9	Set		
3200		4.9	3.9	751.0 ✓
3400		3.1	2.1	752.8 ✓
3600		3.0	2.0	752.9 ✓
3800		3.6	2.6	752.3 ✓
3900		4.4	3.4	751.5 ✓

Oct. 6, 1934

Osborne
Remmen
Datums

Elev. 756+ East. 4965.4

	759.7			
3200		3.6	2.6	757.1 ✓
3400		1.8	0.8	758.9 ✓
3600		1.7	0.7	759.0 ✓
3800		2.3	1.3	758.4 ✓
4000		4.0	3.0	756.7 ✓

Oct. 10,

Elev. 757	761.0	E. 4967.2		
3200		3.9	2.9	758.1 ✓
3400		2.1	1.1	759.9 ✓
3600		2.0	1.0	760.0 ✓
3800		2.6	1.6	759.4 ✓
4000		4.3	3.3	757.7 ✓

Oct. 1, 1934
Osborne
Salgado
Remmen

Set. 1' Low.

Grades for Outside Line of Rolled Fill

Elev. 760+ East 5020.5 Set 1' Low

765.5

				Lower over
3200	4.9	3.9	761.6	
3400	3.5	2.5	763.0	1.0 / 1.7
3600	3.2	2.2	763.3	2.0 / 3.4
3800	3.6	2.6	762.9	1.0 / 1.7
4000	5.3	4.3	761.2	o.k.
4110	6.1	5.1	760.4	1.0 / 1.7

Elev. 763+ East 5015.4

766.6

3200	2.9	1.9	764.7	✓
3400	1.5	0.5	766.1	3.0 / 5.1
3600	1.2	0.2	766.4	4.0 / 6.8
3800	1.7	0.7	765.9	3.0 / 5.1
4000	3.4	2.4	764.2	1.0 / 1.7
4110	4.3	3.3	763.3	2.0 / 3.4

Oct. 29, Toe

767.4 Set ok.

3100	4.4		763.0	✓
3200	3.5		763.9	✓
3300	2.7		764.7	✓ 2.0 / 3.4
3400	1.9		765.5	3.0 / 5.1
3500	1.3		766.1	4.0 / 6.8
3600	0.9		766.5	4.0 / 6.8
3700	0.1		766.4	4.0 / 6.8
3800	0.2		766.3	5.0 / 8.5
	0.6		765.9	2.0 / 3.4

766.5

Oct. 16, 1934
Osborne
Remmen
Adams

Elev. 763+

768.4 Oct. 30,

3100	4.5	763.9	1.0 / 1.7
3200	3.7	764.7	1.0 / 1.7
3300	2.9	765.5	
3400	2.3	766.1	
3500	1.9	766.5	
3600	2.0	766.4	2.0 / 3.4
3700	2.1	766.3	
3800	2.5	765.9	

Grades for Outside Line of Rolled Fill

Elev. 761+ East- 4974.2

764.9

3200	3.3	2.3	762.6	✓
3400	1.8	0.8	764.1	✓ 2.5 Lower / 4.4 over
3600	1.5	0.5	764.4	✓ 3.0 / 5.2
3800	2.1	1.1	763.8	✓ 2.0 / 3.5
4000	4.0	3.0	761.9	✓ 1.0 / 1.7

Elev. 763+ East 4977.7

766.9

3200	3.3	2.3	764.6	✓ 1.0 / 1.7
3400	1.8	0.8	766.1	✓ 2.0 / 3.5
3600	1.7	0.7	766.4	✓ 3.0 / 5.3
3800	2.0	1.0	765.9	✓ 2.0 / 3.5
4000	4.0	3.0	763.9	✓ 1.0 / 1.7

769.0 O.K.

3600	6.1	2.6	766.4	✓ 3.5 / 6.1
3550	6.1	2.6	766.4	✓ 3.5 / 6.1
3500	6.1	2.6	766.4	✓ 3.5 / 6.1
3450	5.8	2.8	766.2	✓ 3.0 / 5.3
3400	5.9	2.9	766.1	✓ 3.0 / 5.3
3350	5.3	3.3	765.7	✓ 2.0 / 3.5
3300	5.6	3.6	765.4	✓ 2.0 / 3.5
3250	7.1	4.1	764.9	✓ 3.0 / 5.3
3200	6.A	4.4	764.6	✓ 2.0 / 3.5
3150	7.A	4.9	764.1	✓ 2.5 / 4.4
3100	8.2	5.2	763.8	✓ 3.0 / 5.3
3050	7.6	5.6	763.4	✓ 2.0 / 3.5

Oct. 16, 1934
Osborne
Remmen
Adams

Set. 1 Low.

Oct. 24, 1934

Osborne
Remmen
Adams

Finish Rock Grades

Oct. 23, 1934
Osborne
Remmen
Adams

Elev. 760+ East 5032

	764.3		
3700		1.1	763.2
3800		1.4	762.9
3900		2.4	761.9
4000		3.1	761.2
4110		4.0	760.3

Elev. 755+ East. 5041.4 Oct. 23,

	760.6		
3700		2.4	758.2
3800		2.7	757.9
3900		3.7	756.9
4000		4.4	756.2
Oct. 24,	760.3		
3820		2.6	757.7
3860		3.0	757.3
3760		2.2	758.1
3940		3.9	756.4
4040		4.5	755.8
	759.3		
3940		2.9	756.4
80		3.1	756.2
4020		3.4	755.9
60		3.5	755.8
4110		4.0	755.3

Finish Rock Grades

Oct. 24, 1934
Osborne
Remmen
Adams

Elev. 760+ East. 4969.4

	766.1		
3600		2.7	763.4
40		2.7	763.4
80		2.8	763.3
3720		2.9	763.2
60		3.0	763.1
3800		3.3	762.8
40		3.6	762.5
80		4.2	761.9
3920		4.4	761.7
Oct. 26,	764.2		
3960		2.8	761.4
4000		3.3	760.9
4040		3.6	760.6
Oct. 27,	765.4		
3560		2.0	763.4
20		2.0	763.4
3480		2.0	763.4
3440		2.2	763.2
3400		2.3	763.1
3360		2.5	762.9
3320		2.9	762.5
3280		3.2	762.2
3240		3.6	761.8

Cont. on other Side.

765.4

3200	3.8	761.6
3160	4.2	761.2
3120	4.4	761.0
3080	4.6	760.8
Toe	5.4	760.0

Finish Rock Grades

Oct. 26, 1934
Osborne
Remmen
Adams

Elev. 763+

	East	5026.3		
	765.8			
4110		2.5	763.3	✓
4060		2.0	763.8	✓
4020		1.8	764.0	✓
3980		1.5	764.3	✓
3940		1.3	764.5	✓
3800		+ 0.1	765.9	✓
3700		2.5	763.3	= 760+
3600		2.4	763.4	✓ 5.7 East
Oct. 29,	764.9			
Toe		1.9	763.0	✓
3060		1.4	763.5	✓
Oct. 30,	765.6			
3060		2.1	763.5	✓
3100		1.7	763.9	✓
3200		0.9	764.7	✓
	766.8			
3140		2.6	764.2	✓
3180		2.3	764.5	✓
3220		2.0	764.8	✓
Oct. 31,	769.1			
3260		4.0	765.1	✓
3300		3.6	765.5	✓
3340		3.5	765.6	✓
3380		3.2	765.9	✓

Elev 763+

Nov. 1, 1934	769.3		
3420		3.1	766.2 ✓
60		2.9	766.4 ✓
3500		2.8	766.5 ✓
3540		2.8	766.5 ✓
	770.5		
3580		4.1	766.4 ✓
3620		4.1	766.4 ✓
3660		4.2	766.3 ✓
3700		4.2	766.3 ✓

Grades for Outside Line of Rolled Fill

Elev. 765+ East 4981.2

	768.9			
4000		2.9	766.0	
3900		2.0	766.9	1.0 / 1.7
3800		1.0	767.9	2.0 / 3.5
3700		0.6	768.3	4.0 / 7.0
3600	768.6	0.5	768.4	4.0 / 7.0
3500		0.1	768.5	4.0 / 7.0
3400		0.5	768.1	3.0 / 5.3
3300		1.1	767.5	3.0 / 5.3
3200		1.9	766.7	1.0 / 1.7
3100		2.7	765.9	1.0 / 1.7

Elev. 766+ East 4983.0

	773.0			
4000		5.9	767.1	
3900	773.1	5.1	767.9	
3800		4.2	768.9	
3700		3.8	769.3	1.0 / 1.7
3600		3.7	769.4	1.0 / 1.7
3500		3.6	769.5	1.0 / 1.7
3400		4.0	769.1	1.0 / 1.7
3300		4.6	768.5	

774.6

4040		7.8	766.8	1.0 U.P. / 1.7 In.
3900		6.7	767.9	2.0 / 3.5
3800		5.7	768.9	1.0 / 1.7
3700		5.3	769.3	
3600		5.1	769.5	

Grades for Outside of Rolled Fill

			Elev. 764	East 5013.8	
		769.0			
3100			4.0	765.0	✓
3200			3.3	765.7	✓
3300			2.5	766.5	✓
3400			1.9	767.1	1.0/1.7
3500		770.7	1.5	767.5	1.0/1.7
3600			3.3	767.4	✓
3700			3.4	767.3	✓
3800			3.7	767.0	✓
3900			4.7	766.0	✓
4000			5.5	765.2	✓
4110			6.4	764.3	✓

Finish Rock Grades

Nov. 2, 1934

Elev. 770 East 4987

	773.0		
3140		1.7	771.3
3100		2.0	771.0
3050	772.8	2.5	770.5
3180		1.2	771.6
3220		0.9	771.9
Nov. 3,	775.5		
3260		3.3	772.2
3300		2.9	772.6
Nov. 5;	776.1		
3340		3.4	772.7
3380	776.8	3.1	773.0
3420		3.5	773.3
3460		3.3	773.5
3500		3.2	773.6
Nov. 6.	776.5		
3500		2.9	773.6
3540		2.9	773.6
3580		3.0	773.5
3620		3.0	773.5
Nov. 7,	777.4		
3660		4.0	773.4
3700		4.0	773.4
3740	777.9	4.0	773.4
3780		4.7	773.2
3820		5.1	772.8
3860		5.5	772.4
3900		5.9	772.0
3940		6.4	771.5
3980	774.9	3.6	771.3
4010		3.8	771.1
4040		4.0	770.9

Finish Rock Grades

Nov. 3, 1934

Elev. 770' East 5013

	773.5		
3050		3.0	770.5
3100		2.5	771.0
3140		2.2	771.3
3180		1.9	771.6
Nov. 5,	775.8		
3220		3.9	771.9
3260		3.6	772.2
3300		3.2	772.6
Nov. 6,	777.4		
3460		3.9	773.5
3500		3.8	773.6
3540		3.8	773.6
3580		3.9	773.5
3620		3.9	773.5
Nov. 7, 3660		4.0	773.4
3700		4.0	773.4
3740	778.2	4.0	773.4
3780		5.0	773.2
3820		5.4	772.8
3860	776.6	5.8	772.4
3900		4.6	772.0
3940		5.1	771.5
3980		5.3	771.3
4020		5.6	771.0

	776.6		
4060		5.7	770.9
4110		6.3	770.3

Final X Sections of Finished Top of Dam.
Nov. 20 - 1934.

Simpson
Soper
Isbell

B.M.	7.87	777.41 ✓		769.54
			N4050	
E 4990'			6.0	771.4 -
5000			5.8	771.6 -
5010			6.4	771.0 -
			N4000	
4990			5.9	771.5 -
5000			5.3	772.1 -
5010			6.2	771.2 -
			N3950	
4990			5.8	771.6 -
5000			5.0	772.4 -
5010			5.7	771.7 -
			N3900	
4990			5.0	772.4 -
5000			4.6	772.8 -
5010			5.2	772.2 -
			N3850	
4990			4.9	772.5 -
5000			4.1	773.3 -
5010			4.8	772.6 -
			N3800	
4990			4.3	773.1 -
5000			3.6	773.8 -
5010			4.1	773.3 -

Reduced 11/21/34 A.K.M.
Ck by AJ. 11/21/34

Final xsections of Finished Top of Dam contd.

		778.97 ✓	N 3450
E 4990			5.5 773.5 ✓
5000			5.0 774.0 ✓
5010			5.6 773.4 ✓
			N 3400
4990			5.8 773.2 ✓
5000			5.2 773.8 ✓
5010			6.0 773.0 ✓
			N 3350
4990			6.3 772.7 ✓
5000			5.5 773.5 ✓
5010			6.3 772.7 ✓
			N 3300
4990			6.4 772.6 ✓
5000			5.8 773.2 ✓
5010			6.4 772.6 ✓
T.P.			6.34 772.63 ✓
	4.22	776.85 ✓	
			N 3250
4990			4.6 772.2 ✓
5000			3.9 773.0 ✓
5010			4.8 772.0 ✓
			N 3200
4990			5.2 771.6 ✓
5000			4.3 772.5 ✓
5010			5.4 771.4 ✓

776.85'

	N 3150	
E 4990	5.5	771.3
5000	4.9	772.0
5010	5.6	771.2
	N 3100	
4990	5.7	771.1
5000	5.3	771.5
5010	5.8	771.0
	N 3050	
4990	6.3	770.5
5000	5.8	771.0
5010	6.4	770.4
	N 3000	
4990	6.7	770.1
5000	6.3	770.5
5010	6.8	770.0

N 2993 is original Ground.

7.16 769.69' = check on B.M. Elev.

Final X Sections of Finished Area at North End of Dam, and Finished Rock Fill at North end of Dam. -

Nov. 20 - 1934

B.M.	5.46	775.00		769.54
			N4050	
E 5013			4.3	770.7
10			3.9	771.1
5000			3.4	771.6
4990			3.6	771.4
86			4.3	770.7
80			7.8	767.2
70			12.1	762.9
60			17.2	757.8
50			19.6	755.4
49 45			20.8	754.2 = O.G.
			N4060	
5013			4.4	770.6
10			4.1	770.9
5000			3.5	771.5
4990			3.3	771.7
81			3.7	771.3
70			8.8	766.2
60			12.4	762.6
50			16.3	758.7
40			16.8	758.2
49 34			16.2	758.8 = O.G.

Plotted

Plotted

Simpson
Soper
Isbell.

Note: Rock on N4040 is Placed on lines as shown on Plans.

on Slope of Large Boulder

	775.00	N4070		
E 4925		12.8	762.2	= 0.6.
30		10.7	764.3	
40		10.4	764.6	
50		9.2	765.8	
60		7.4	767.6	
65		4.9	770.1	
70		3.9	771.1	
80		3.5	771.5	
90		3.2	771.8	
5000		3.4	771.6	
10		4.2	770.8	
13		4.5	770.5	
T.P.		4.50	770.50	
	5.91 776.41			
		N4080		
5013		6.0	770.4	
10		5.6	770.8	
5000		4.9	771.5	
4990		4.8	771.6	
80		4.8	771.6	
70		4.9	771.5	
60		5.0	771.4	
50		5.4	771.0	
40		5.1	771.3	
30		6.6	769.8	

Plotted

Plotted

Nov. 20 - 1934.

	776.41	N4080	
E 4920		6.3	770.1
10		5.8	770.6
4900		6.0	770.4
4890		6.1	770.3
80		6.1	770.3
		N4090	
4884		6.0	770.4
90		6.1	770.3
4900		6.0	770.4
10		5.6	770.8
20		5.6	770.8
30		5.3	771.1
40		5.1	771.3
50		4.9	771.5
60		4.8	771.6
70		4.9	771.5
80		4.9	771.5
90		4.8	771.6
5000		4.9	771.5
10		5.5	770.9
13		5.7	770.7

Plotted

O.G. on West See final Sections of Excavation

" " " " " "

" " "

776.41 ✓ N4100

5013	6.0	770.4
10	5.5	770.9
5000	5.1	771.3
4990	4.9	771.5
80	5.0	771.4
70	5.2	771.2
60	5.1	771.3
50	5.0	771.4
40	5.2	771.2
30	5.3	771.1
20	5.6	770.8
10	5.8	770.6
4900	6.0	770.4
4890	5.9	770.5
80	6.1	770.3
70	6.6	769.8
60	6.7	769.7
4850	7.4	769.0
	N 4110	
4845	6.8	769.6
50	6.7	769.7
60	6.6	769.8
70	6.4	770.0
80	6.2	770.2
90	59	770.5
4900	5.9	770.5

Plotted

On O.G. See Final Xsections of Excavation

" " " " " " "

776.41

N4110

E 4910	5.8	770.6
20	5.6	770.8
30	5.5	770.9
40	5.3	771.1
50	5.2	771.2
60	5.3	771.1
70	5.3	771.1
80	5.2	771.2
90	5.1	771.3
5000	5.3	771.1
10	5.6	770.8
13	6.1	770.3

N4120

5013	6.4	770.0
10	5.8	770.6
5000	5.4	771.0
4990	5.3	771.1
80	5.4	771.0
70	5.3	771.1
60	5.2	771.2
50	5.3	771.1
40	5.4	771.0
30	5.4	771.0
20	5.5	770.9
10	5.8	770.6
4900	5.7	770.7

Plotted

776.41

N4120

E 4890	5.9	770.5	
80	6.1	770.3	
70	6.5	769.9	
60	6.5	769.9	
48 50	7.0	769.4	= 0.6.

N4130

4850	6.8	769.6	= 0.6
55	6.6	769.8	
60	6.6	769.8	
70	6.4	770.0	
80	6.0	770.4	
90	5.8	770.6	
4900	5.6	770.8	
10	5.7	770.7	
20	5.6	770.8	
30	5.5	770.9	
40	5.5	770.9	
50	5.4	771.0	
60	5.3	771.1	
70	5.3	771.1	
80	5.4	771.0	
90	5.3	771.1	
5000	5.4	771.0	
10	6.1	770.3	
13	6.8	769.6	

Plotted

cont'd. on Page 65 - this Book.

X-Sections of North Abutment
Area to be filled with Rock

B.M.	3.95	773.49		769.54

N4120

4970		12.1	761.4
60		5.1	768.4
50		3.9	769.6

N4110

4968		14.8	758.7
60		9.1	764.4
55	on rock	3.8	769.7
50		4.2	769.3
40		4.2	769.3

N4100

4940		4.5	769.0
50		5.8	767.7
54	Rock	6.8	766.7
60		12.6	760.9
63		16.1	757.4

N4090

4960		15.5	758.0
50		10.0	763.5
40		6.2	767.3
30		4.9	768.6

N4080

4920		4.8	768.7
30		6.9	766.6

Reduced + Plotted CBH
ck.

11/19/34
ch. Stationing B.M.

Oct. 26, 1934
Osborne
Remmen
Adams

N 4080

773.49

4940			10.5	763.0
50			14.6	758.9
60			19.7	753.8
T.P.	4.21	764.70	13.00	760.49

N 4070

4955		12.1	752.6
50		11.1	753.6
40		4.5	760.2
30		2.8	761.9
20		0.5	764.2

N 4060

4930		5.2	759.5
40		8.7	756.0
50		12.7	752.0

N 4050

4930		7.0	757.7
40		3.8	760.9 see 489/6
47		14.7	750.0

N 4040

4949		13.8	750.9
46	Face of large Rock	5.2	759.5

ch. stationing on drew sec.

Final. superseded Original Ground line

Final Xsections of Finished Area of North End of Dam, Continued From Page 62 - this Book.

Nov. 20 - 1934

	776.41'	N4140	
E 5013		6.4	770.0
10		6.2	770.2
5000		5.8	770.6
4990		5.4	771.0
80		5.3	771.1
70		5.3	771.1
60		5.4	771.0
50		5.5	770.9
40		5.7	770.7
30		5.6	770.8
20		5.7	770.7
10		5.6	770.8
4900		5.7	770.7
4890		6.0	770.4
80		6.2	770.2
70		6.4	770.0
60		6.4	770.0
57		7.1	769.3 O.G.
		N4150	
4860		6.8	769.6 O.G.
64		6.3	770.1
70		6.2	770.2
80		6.3	770.1
90		5.9	770.5
4900		5.8	770.6
10		5.6	770.8

Plotted

	776.41'	N4150	
4920		5.7	770.7
30		5.7	770.7
40		5.7	770.7
50		5.7	770.7
60		5.6	770.8
70		5.5	770.9
80		5.5	770.9
90		5.4	771.0
5000		5.6	770.8
10		6.3	770.1
13		6.4	770.0
		N4160	
5013		6.7	769.7
10		6.4	770.0
5000		5.6	770.8
4990		5.5	770.9
80		5.8	770.6
70		5.8	770.6
60		5.8	770.6
50		5.7	770.7
40		5.7	770.7
30		5.7	770.7
20		5.7	770.7
4900		5.8	770.6
4880		5.9	770.5
4869		6.8	769.6 O.G.

Plotted

Nov. 20-1934.

	776.41'	N4170		
4895		6.8	769.6'	O.G.
4900		5.9	770.5'	
20		5.7	770.7'	
40		5.7	770.7'	
60		5.9	770.5'	
80		5.8	770.6'	
5000		5.6	770.8'	
10		6.3	770.1'	
13		6.7	769.7'	
		N4180		
5013		6.7	769.7'	
10		6.2	770.2'	
5000		5.5	770.9'	
4980		5.8	770.6'	
60		5.9	770.5'	
40		5.6	770.8'	
25		5.9	770.5'	
4923		6.1	770.3'	=O.G.
		N4190		
4940		6.2	770.2'	O.G.
45		5.8	770.6'	
60		6.0	770.4'	
80		5.8	770.6'	
5000		5.6	770.8'	
12		6.3	770.1'	

Plotted

	776.41'	N4200		
5012		6.2	770.2'	
5000		5.7	770.7'	
4980		5.6	770.8'	
4972		5.6	770.8'	
4970		5.9	770.5'	= O.G.
		N4210		
4988		6.3	770.1'	- O.G.
90		5.7	770.7'	
5000		5.9	770.5'	
5012		6.3	770.1'	
		6.87	769.54'	= B.M.
			Elev. 769.54	

Plotted

Reduced 11/21/34 A.V.M.
Ck by A.V.M 11/21/34

Levels on Measurment Hubs Sept. 3, 1934

B.M.	10.21	733.87		723.66
a-1			4.22	729.65
a-2			4.14	729.73
b-1			4.87	729.00
b-2			4.58	729.29
c-1			5.41	728.46
c-2			4.51	729.36
T.P.	4.64	735.06	3.45	730.42
d-1			6.49	728.57
d-2			5.02	730.04
e-1			6.49	728.57
e-2			4.40	730.66
T.P.			2.72	732.34
	2.22	734.56		
			10.90	723.66

B Sept. 3, 1934

Woods
Osborne

Sept. 2, 1934

Levels on Measurment Hubs

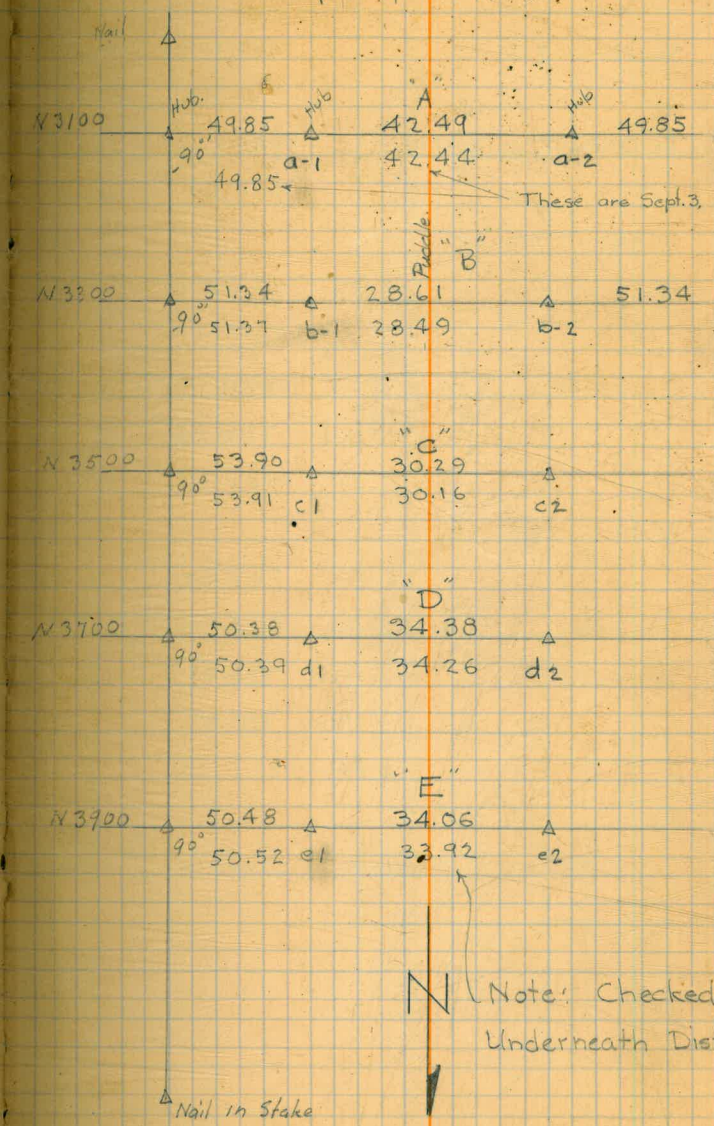
B.M.	7.77	734.95 ✓		727.18
e1			6.20	728.75 ✓
e2			4.16	730.79 ✓
d1			6.21	728.74 ✓
d2			4.78	730.17 ✓
T.P.			4.44	730.51 ✓
	3.77	734.28 ✓		
c1			5.65	728.63 ✓
c2			4.79	729.49 ✓
b1			5.12	729.16 ✓
b2			4.83	729.45 ✓
a-1			4.56	729.72 ✓
a-2			4.48	729.80 ✓

Hubs Set in Rolled Embankment to measure Movement over 24 Hour Period.

68

Sept. 2, 1934

Woods
Osborne
Salgado



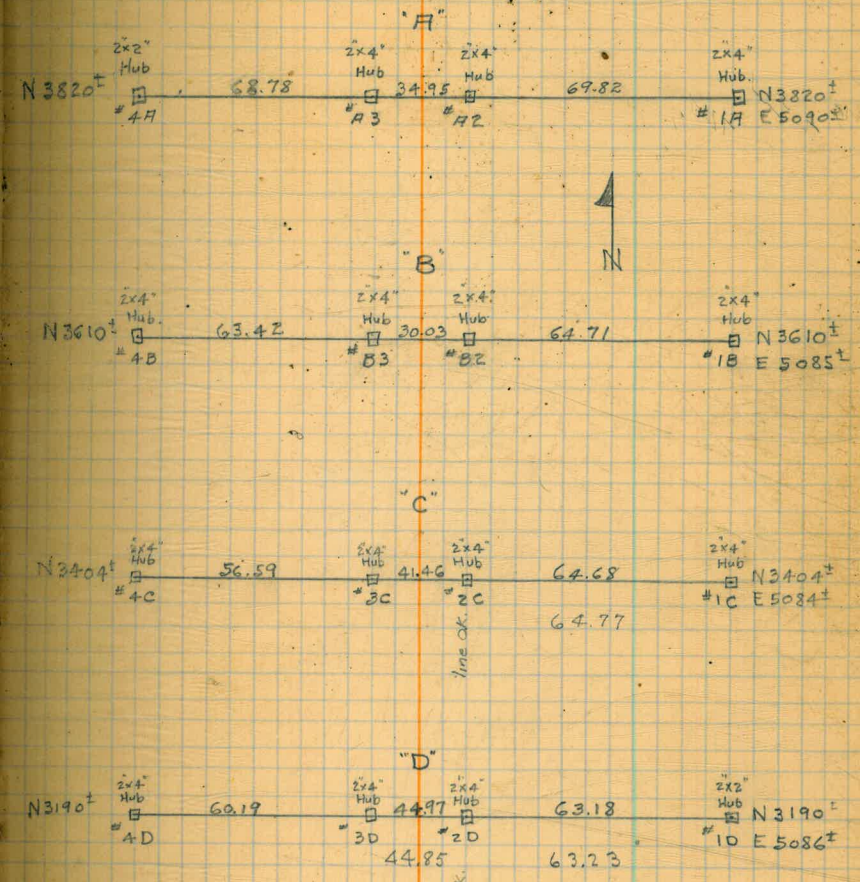
August-28-1934.

B.M.	12:56	721.09		708.53
T.P.			2.16	718.93
	11.87	730.80		
Set B.M.			7.11	723.69
	7.09	730.78		
# D2			5.21	725.57
# D3			5.76	725.02
# C2			6.61	724.17
# C3			5.54	725.24
T.P.			6.61	724.17
	8.01	732.18		
# B2			6.85	725.33
# B3			5.44	726.74
# A3			5.61	726.57
# A2			7.11	725.07
T.P.			6.86	725.32
	1.22	726.54		
B.M.			11.41	715.13 Rec. Elev. 715.14.

Hubs Set on East and West Lines across Rolled Embankment to Measure Movement in the Rolled Embankment. 69

August-28-1934.

Simpson
Soper
Isabelle.



Aug. 29, 1934 AM.
Osborne - Converse
Remmen

Check on Points Shown on Page 69
Line and Measurments Shown on Sketch.

B.M.	12.80	721.33		708.53
			0.21	721.12
	6.52	727.64		
" D 2			2.23	725.41
" D 3			2.72	724.92
" C 2			3.66	723.98
T.P.			9.52	718.12
	1.65	719.77		
			11.24	708.53

Check Points shown on Page 69 of this Book For. Movement.

Sept. 22, 1934 Set Paddle Limits Elev. 745 E 4989.3 5011.3

B.M.	1.15	751.12		749.97
			6.12	745.00

3.16

IMPROVED TABLES AND INFORMATION

Table II—Continued

TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find **c, B, A.**

Use Law of Lines.

Given A, B, c; to find **a, b, C.**

Use Law of Lines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \quad \sqrt{\frac{(s-a)\ (s-b)\ (s-c)}{s}} = r$$

$$\cos \tfrac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \tfrac{1}{2} A = \frac{r}{s-a}$$

$$\tan \tfrac{1}{2} B = \frac{r}{s-b}$$

$$\tan \tfrac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

Area $= \tfrac{1}{2}$ ab Sin C

Area $= \sqrt{s\,(s-a)\ (s-b)\ (s-c)}$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6}(B+b+4M)$$

h = altitude; b, B = bases; M = midsection

Table III

INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11	
1/16	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219	1/16
1/8	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	1/8
3/16	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	3/16
1/4	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	1/4
5/16	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	6927	.7760	.8594	.9427	5/16
3/8	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	3/8
7/16	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	7/16
1/2	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	1/2
9/16	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	9/16
5/8	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	5/8
11/16	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	11/16
3/4	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	3/4
13/16	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	13/16
7/8	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	7/8
15/16	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	15/16
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

Table IV

USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links

360° = 21600′ = 1296000″

Radius = arc of 57.2957790°

Arc of 1° (radius = 1) = .017453292

Arc of 1′ (radius = 1) = .000290888

Arc of 1″ (radius = 1) = .000004848

$\pi = 3.141592654$	$\sqrt{\frac{1}{4}} = 0.564190$
$\frac{\pi}{4} = 0.785398163$	$\sqrt[3]{\frac{6}{\pi}} = 1.240700982$
$\frac{\pi}{6} = 0.523598776$	$\pi^2 = 9.869604401$
$\sqrt{\frac{4}{\pi}} = 1.128379167$	$\frac{1}{\pi^2} = 0.101321184$
$\frac{\pi}{6} = 0.523598776$	$\sqrt{\pi} = 1.772453851$
$\frac{4.\pi}{3} = 4.188790205$	$\frac{1}{\pi} = 0.3183099$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

Probable error of a single observation $= 0.6754 \sqrt{\frac{Mv^2}{n-1}}$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULÆ.

Horizontal Distance = R — R $\sin^2$ a + C cos a

Vertical Distance = R ½ sin 2 a + C sin a

R = Reading × $\frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

708.53
1280
721.33
0.21
721.12 = T.P.
6.54
727.66
9.50
718.165
1.65
719.80
11.24
708.56

5000.0
35.7
4964.3

708.53
11.24
719.77
1.65
718.12
9.52
727.64

54.5
2.3
56.8

60.2
5.7
65.9
2.3
68.2
1.8

25.9
2.3
28.2
25.0
3.2

750
68.2
6.8

3 - 5.7
1 - 5.8
3 - 5.7

1.8
5
2.3

E5600 - TOC = 4104

27
15
12
7

754.48
6.50
760.98
0.28
760.70
10.22

771.22
49.00
2.22

771.22
755.74
15.48