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469

KEUFFEL & ESSER CO.

DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

Copyright, 1895, by Keuffel & Esser Co.

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

Calculated by Julien A. Hall, M. Am. Soc. C. E.

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Continued from Book 472

Otto von Seggern

Concrete Inspector

El Capitan Dam

June 2, 1934 to Aug 27, 1934

5/8" ϕ		5/8" ϕ		5/8" ϕ			
No.	Lth.	No.	Lth.	No.	Lth.	No.	Lth.
1	37.5	2	37.3	2	27.7		
5	37.1	8	38.0	3	25.0		
2	38.0	2	38.8	2	31.7		
2	39.4	2	26.8	5	31.0		
2	39.5	5	27.5	5	28.5		
2	37.8	3	26.5				
9	33.0	1	27.0	3	29.9	3	36.9
7	39.0	4	36.5	3	31.2	3	36.10
2	37.6	2	28.9	3	31.10	3	37.4
1	38.2	2	31.8	3	32.10	3	37.94
5	38.5	8	26.6	3	32.7	3	38.81
2	37.5	2	25.8	3	34.7	6	39.2
2	37.1	2	27.4	3	34.5		
2	37.8	1	26.1	3	35.0		
2	38.3	2	27.2	3	35.2		
				3	35.10		

13/16 ϕ		3/4 ϕ		1" ϕ		3/4" ϕ	
No.	Lth.	No.	Lth.	No.	Lth.	No.	Lth.
330	40.0	1	9.3	1	9.0	6	4.0
30	4.0	1	8.7	20	20.0	70	22.0
		1	7.0	7	11.4		
		1	7.5	500	4.5		
		1	5.2	7	5.0		
		1	4.6				
		1	11.0				
		1	10.5				
		3	10.0				
		118	12.0				
		1	16.0				

5/8" ϕ		5/8" ϕ		5/8" ϕ		5/8" ϕ	
No.	Lth.	No.	Lth.	No.	Lth.	No.	Lth.
20	9.4	8	2.6	15	17.1	2	20.2
23	10.3	1	4.4	5	17.5	2	19.1
57	10.5	10	2.0	1	16.7	1	20.3
20	10.8	✓38	6.7	2	18.6	1	18.7
			Bent				
26	11.0	✓20	7.0	2	16.7	3	33.8
			Bent				
23	11.3	✓15	7.5	2	18.2	2	18.8
			Bent				
38	4.2	3	36.2	1	16.8	3	25.2
3	3.2	✓20	8.0	3	17.4	1	29.2
			Bent				
6	3.5	✓20	8.6	2	16.9	2	29.3
			Bent				
6	3.0	✓20	9.2	3	19.4	6	33.5
			Bent				
5	4.0	✓20	9.0	2	17.8	4	26.3
			Bent				
3	3.0	✓20	8.4	10	18.5	3	20.
			Bent				
3	3.3	✓20	7.8	9	18.0	1	25.5
			Bent				
2	3.1	✓20	7.3	13	19.0	4	25.0
			Bent				
2	3.7	2	17.2	11	19.5	2	29.8

S1-
3 inch Bent
25-

39'-7" to 26'-7"

25'-8"

page 3

5/8" ϕ		5/8" ϕ		5/8" ϕ		5/8" ϕ	
No.	Lth.	No.	Lth.	No.	Lth.	No.	Lth.
2	28.2	8	28.0	3	34.9	2	35.5
2	29.1	1	30.3	3	32.9	5	34.2
1	29.5	2	30.7	3	38.5	2	34.7
4	29.8	4	30.5	3	38.1	1	35.5
2	29.6	2	30.5	3	37.5	2	32.7
1	29.9	3	32.9	3	35.4	2	35.2
3	24.8	3	33.7	4	37.0	2	35.7
2	36.3	1	34.8	3	39.1	3	32.3
2	34.5	1	34.0	3	35.8	3	38.8
2	35.0	2	32.4	3	37.8	2	36.8
2	34.9	9	36.0	3	34.8	2	32.5
3	33.2	3	31.8	3	30.2	6	32.1
8	29.0	1	36.9	5	31.5	6	32.0
1	27.1	2	28.1	1	13.7	2	37.9
2	31.2	15	9.7	2	34.5	2	39.6
		3	5.0				

Steel in Re C Stock Pile
 Estimate No 24 1/16/79, 1984
 COPY FROM INVENTORY

5/8" φ		5/8" φ		3/8" φ		5/5" φ	
No.	Length	No.	Length	No.	Length	No.	Length
415*	40.0	3	21.5	2	11.9	3	12.2
	<i>Per 315 May 20</i>						
462	5.0	2	24.1	1	13.7	4	9.5
	<i>Per Dowel</i>						
12	30.0	2	21.8	3	13.5	8	11.5
612 ²	40.0 ²	1	22.4	11	13.0	6	9.0
2	23.8	1	20.6	4	11.7	1	8.7
2	24.3	5	22.5	3	13.3	3	9.9
1	22.8	9	23.0	2	13.6	4	12.5
1	21.3	14	21.0	1	14.4	3	34.5
4	23.2	27	24.0	1	11.6	4	12.0
2	21.6	3	10.8	5	12.7	1	11.8
2	22.8	10	22.0	2	12.3	18	9.9
2	20.8	7	23.5	7	11.8	7	8.5
2	22.8	9	24.6	3	9.8	20	9.7
2	24.2	2	21.3	11	10.0	7	9.2

✓
June 2, 1934 7am to 4pm
Spitway Sidelining

Forms

- 1- General Foreman.
- 1- Carpenter Foreman.
- 3- Laborers 7⁰⁰ to 10 = 3
- 4- Laborers 10 to 4 = 5

Sideshiping

- 1- Laborer 3 hrs. 7⁰⁰ to 10

1839713

✓
June 4, 1934 7am to 4pm

June 3 1934 Sunday

1:2 Grout 1 Batches 5 Sx

65x 1:2:4 Max 18 Batches 108 Sx

Start 7⁰⁰ Finish 8³⁰ Delays

1- Mixing Plant.

5 Sx Lost Broken Sx.

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

1- Man

Conc Del 2 Truck Drivers

Placing Con 1- Crane Operator

1- " " Operator

2 Laborers.

East End wall

Sta 0+00 to 34' N Elev 747 to 749

Sta 0+10 to 0+45 Elev 747 to 749

✓
June 4, 1934 7am to 4pm.
Crewell Se Abl.

Stripping 7⁰⁰ to 4 = 8 hrs.

2 - Laborers

1 - Carpenter Foreman 7⁰⁰ to 11³⁰ = 4 1/2

1334713

✓
June 4, 1934 7am to 4pm.
Sp. Hwy

Stripping Forms 8³⁰ to 4 = 6 1/2

1 - No 10 Crane

1 - Crane Operator } 8³⁰ to 9³⁰ = 1 hr.

1 - " Operator }

1 - General Foreman 1 1/2

3 - Laborers 10³⁰ to 4 = 3 1/2

2 - Laborers

1 - Carpenter Foreman 12³⁰ to 4 = 3 1/2

Stripping

3 - Laborers 8³⁰ to 10³⁰ = 2 hrs.

✓
June 5, 1934 7am to 4pm

Spillway Rain in pm.

Forms. 7⁰⁰ to 11³⁰ = 4½ hrs.

1- General Foreman

1- Carpenter Foreman

3- Laborers

733
6

Corewall

Stripping 4½ hrs

9- Laborers.

3

✓
Joe June 4th

June 6, 1934

7am to 4pm.

Spillway Sidelining

1:2 Grout 1 Batch 5 5x

1:2:4 - 63x 25 Batches 15 05x

Start 7⁰⁰ Finish 10⁰⁰ Delays none
3 hrs.

Sta 0+00 to 36' N. Elev. 749 to 755

Sta 0+10 to 0+46. Elev 749 to 755

Sta 0+00 to 0+10 Subgrade to Elev 738

1- Mixing Plant

1- Barber Greene & Truck 7⁰⁰ to 11³⁰ - 4½

2- Blaw Knox Truck Mixers

1- No 70 Crane

1- General Foreman

1- Mixerman

1- Man

Conc Del. 2- Truck Drivers.

Hoisting Conc. 1- Crane Operator

1- " Oiler

2- Laborers.

June 6, 1934 7am to 4pm.
Spillway Sidelining

Forms.

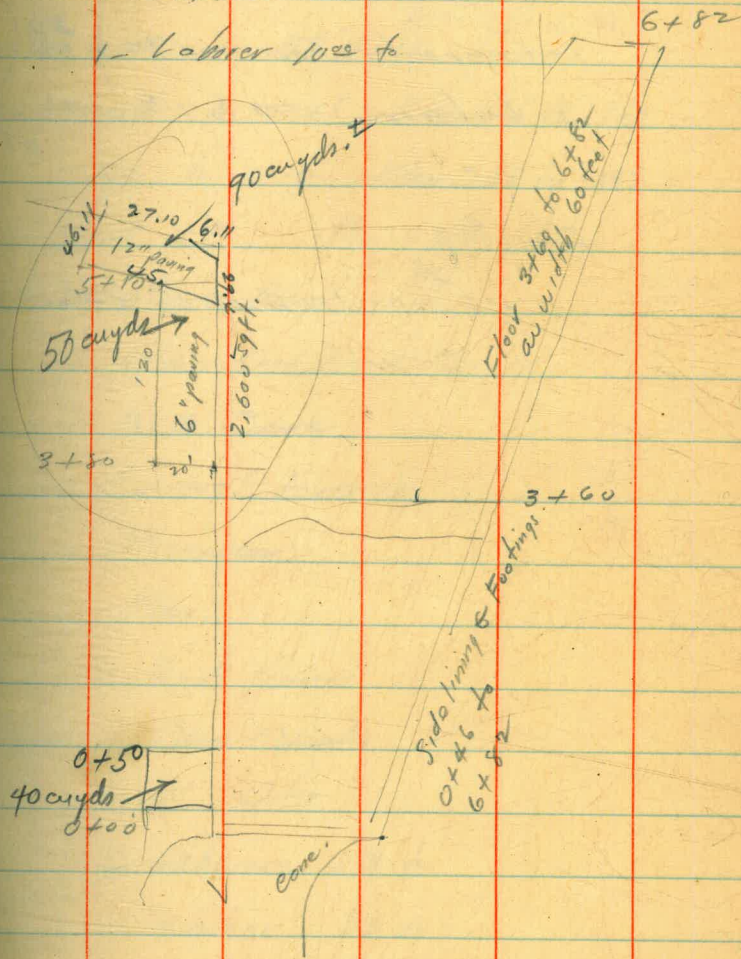
- 1- Carpenter Foreman } 7⁰⁰ to
1- Laborer. }
1- No 10 Crane.
1- Crane Operator } 10⁰⁰ to 10³⁰
1 " Oiler }
1- General Foreman } 10⁰⁰ to
2- Laborers.

5410
5480
130
20
2,800

13397113

June 6, 1934 7am to 4pm
Corewall So Mt
Stripping & Clean up.

- 1- Laborer 7⁰⁰ to
1- Laborer 10⁰⁰ to



✓
June 7, 1934 7am to 4pm

Spillway Sidelining

Forms:

1- General Foreman 7⁰⁰ to 11³⁰ = 4^{1/2} = 5

1- Carpenter Foreman 7⁰⁰ to 11³⁰ = 6

3- Laborers 7⁰⁰ to 11³⁰ = 4^{1/2} + ^{1/2} = 5

Finishing

1- Carpenter Foreman 2³⁰ to 4³⁰ = 2

1330713

✓
June 7, 1934 7am to 4pm

Spillway Sidelining

55x 1:2 Grout 1 Batches 5 SX

65x 1:2:4 2,4 Batches 14 4 SX

Sta 0+00 to 38' N (to corner)

0+10 to 0+46 Elev 755 to 760

0+00 to 0+10 Elev 738 to 743

Start 12³⁰ Finish 3³⁰ Delays

= 3hrs

1- Mixing Plant

2- Blaw Knox Truck Mixers

1- No. 10 Crane

1- General Foreman

1- Mixerman

Man.

860

733

287

15

30

45

Cone. Veh. 2- Truck Drivers

Placing Cone. 1- Crane Operator

1- " Oiler

2- Laborers 12³⁰ to

1- Laborer 3⁰⁰ to

June 8, 1934 7am to 4pm

Spillway Sidelining

Finishing 7⁰⁰ to 9³⁰ 12³⁰ to 4⁰⁰ *
 = 3^{1/2} 2^{1/2}
 1- Carpenter Foreman

Chipping Conc

1- Carpenter Foreman 9⁵⁰ to 10⁰⁰ 1/2

Stripping

1- Carpenter Foreman 10⁰⁰ to 11³⁰ 1/2

* see about man for wetting conc.

June 8, 1934 7am to 4pm

Spillway Excavation

Removing Slide near Sta. 4+50
 (1 1/2 yd. bucket)
 1- No 8 Shovel moving 7⁰⁰ to 8⁰⁰ Exc 8⁰⁰ to

1 Trucks 8⁰⁰ to
 1- Truck 2⁰⁰ to
 1- No 8 Operator. 1- Oiler 1- Truck Driver 8⁰⁰ to
 1- Truck Driver 2⁰⁰ to

Time	Truck No.	cu yds.	Time	Truck No.	cu yds.
8:27	40.	5.0			
8:33	✓	6.0	9.00	40	6.0 ✓
8.35	✓	5.5	9.25	23	5.0
8.43	✓	6.0	9.27	23	5.5 6.0
8.50	✓	6.0	9.38	23	5.5 6.0
8.52	✓	6.0	9.42	23	5.5 6.0
8.54	✓	5.5	9.47	23	5.5
8.57	✓	5.5	9.54	23	5.0
	8 ↓				
	For Repairing Road.	45.5 ✓	9.58	23	5.5
	Expensive - only 1 Truck		10.03	23	5.5
	Shovel idle 3/4 of time		10.08	23	5.5
	2. minutes to load & move truck		10.15	23	5.5
			10.20	23	5.5
	4. x 1.5 = 6.0			23	5.5
				12	65.5 ✓

June 8, 1934 7am to 4pm.

Spillway Excavation Continued

Removing slide near Sta 4+50 To D.G. Dump

Time	Truck	Cyds.	Time	Truck	Cyds.
10.24	23	5.5	12.52	23	5.5
10.30	23	5.5	12.56	23	5.5
10.33	23	5.5	1.00	23	5.5
10.38	23	5.5	Repairing Truck No 23		
10.42	23	5.5	1.13	20	5.5
10.48	23	5.5	1.20	20	5.5
10.52	23	5.5	1.30	20	5.5
10.56	23	5.5	1.37	20	5.5
11.05	23	5.5	1.42	20	5.5
11.10	23	5.5	1.52	20	5.5
11.15	23	5.5	2.00	20	5.5
11.19	23	5.5	2.11	26	5.5
12.33	23	5.5	2.15	20	5.5
12.38	23	5.5		18	66.0
12.43	23	5.5	Rock	1	
12.47	23	5.5	D.G.	8	
	16	88.0	12	16	
			16	16	
			16	16	
			12	16	
			5	16	
			1	16	
				80	

1339713

June 8, 1934 7am to 4pm.

Spillway Excavation

Removing Slides Sta 4+50 to 4+50

To D.G. Dump			Rock to Up Stream Emb.		
Time	Truck	cyds.	Time	Truck	cyds.
2.26	20	5.5	2.20	26	5.0
2.28	26	5.5			
2.31	20	5.5			
2.37	26	5.5	To D.G. Dump		
2.40	20	4.5	3.10	20	5.5
2.42	26	5.5	3.12	26	5.5
2.45	20	5.5	3.14	20	5.5
2.47	26	5.5	3.16	26	5.5
2.49	20	5.5	3.19	20	5.5
2.52	26	5.5	3.20	26	5.5
2.55	20	5.5	3.23	20	5.5
2.57	26	5.5	3.25	26	5.5
3.00	20	5.5	3.28	20	5.0
3.02	26	5.5	3.30	26	4.5
3.04	20	5.5	3.34	20	5.5
3.06	26	5.5	3.36	26	5.0
	16	87.0		12	59.0

June 8, 1934 7am to 4pm.

Spillway Excavation

Removing Slides 1400 to 4+50.

To D.G. Dump To. D.G. Dump.

Time Truck Cuyds. Time Truck Cuyds.

9.39 20 5.5

9.41 26 5.0

9.43 20 5.5

9.47 26 5.5

4 21.5

3
21.5

59

87

66

88

65.5

To D.G. 387.0
Dump

To Repair Road
45.5

387
442.5 @ .50 = 221

Shovel rental 6 per hr. = 48

2-Trucks 9 hrs @ 2 18

Operator 10

Oil 5

Truck Drivers 9 hrs @ 7 63
\$89 cost

June 9, 1934 7am to 4pm

Spillway Sidelining

Finishing 700 to

1-Carpenter Foreman

June 10, 1934 Sunday

Spillway Sidelining

Wetting Concrete 2 hrs.

1-General Foreman.

9³⁰ to 10⁰⁰

bet 2⁰⁰ & 3⁰⁰

Statement by Bill Bryan

Monday morning (Sabor)

June 11, 1934.

June 11, 1934

Wetting Concrete

1-Cabover 2 hrs.

Finishing.

1-Carpenter Foreman 8 hrs.

Spillway Side Lining ✓
Wetting Concrete

June 12	1 - Laborer	2 hrs.
13	1 - Laborer	1 hr
14	1 Laborer	2 hrs
15	1 - Laborer	2 hrs
16	1 - Laborer	2 hrs.
17	1 - Foreman 1 - Laborer	2 hrs
18	1 - Laborer	2 hrs

Finishing

Corewall So Abutment

June 11	1 - Carpenter Foreman	4 hrs.
12	"	8 hrs.

North Side Lining

June 13	1 - Carpenter Foreman	4 hrs.
14	1	8 hrs.
15	1	4 hrs.

June 27, 1934 ✓

Wed.

Spillway Apron
Excavation

1 - General Foreman
2 - Muckers.

June 28, 1934 ✓

Spillway Apron
Excavation

1 - General Foreman
2 - Muckers.
1 - Mc Millan & Cat 4 hrs.

June 29, 1934 ✓

Spillway Apron 7

Excavation 7⁰⁰ to 4⁰⁰

1 - General Foreman

4 - Muckers

1 - Compressor

June 30, 1934 ✓

Spillway Apron

Excavation 7⁰⁰ to 4

1 - General Foreman

5 - Muckers

1 - Compressor

10
July 2, 1934 ✓

Spillway Apron Excavation

1 - General Foreman 7⁰⁰ to 4 - 8 hrs.

3 - Muckers

1 - Compressor

1 - Mc Millan & Cat 2 hrs.

1 - Steel worker 12⁰⁰ to 4 - 3 1/2

✓ June 30, 1930

Percolation Test on O.G. Grout Hole.

Sta. So. Abutment. Elev. 107.00 ca.

Calabrate 10 gallon Can

Weight of Can 5[#]

1-gallon 12.5[#]

2- " 20.0[#]

3- " 27.5[#]

4- " 35.0[#]

5- " 42.5[#]

6- " 50.0[#]

7- " 57.5[#]

8- " 65.0[#]

9- " 72.5[#]

10- " 80.0[#]

11- " 87.5[#]

95.0

12⁰⁰ ✓ Say 30 gallons
June 30 Filled pipe & 8 gallons in Tank

July 2 Tank empty 3-3-3-3-3-3

3-3-3-3-3-3 = 27 gallons

Tank Filled to 10 gallons.

Drill Hole Pipe Took 17

July 3, 1934

8⁰⁰ Tank Empty 3-3-3-3-3-3

3+8 = 24 gallons.

Tank Filled to 10 gallons.

Drill Hole Pipe 14 gallons

14 Total

July 3, 1934 3³⁰ pm.

Tank Empty

3-3-3-3-3-3 = 21

Tank Filled to 10 gallons.

Drill Hole Pipe 11

21 Total

July 5, 1934

Tank Empty

Tank Filled 3-3-3-3-3-3-3 = 27
Drill Hole Pipe 17 gallons, Tank 10 gallons

July 3, 1934

Spillway Apron.

Excavation 7⁰⁰ to 4 = 8 hrs.

1 - General Foreman

3 - Muckers

1 - Powder man

1 - Compressor 2 - Jack hammers

Reinf Steel 7⁰⁰ to 11³⁰ = 4 1/2 hrs

1 - Steel worker

1 - Laborer

July 5, 1934

Spillway Apron

Excavation 7⁰⁰ to 12³⁰ = 4 1/2 hrs

3 - Muckers

1 - Powder man

1 - Compressor

Placing Reinf Steel

1 - General Foreman 4 1/2 hrs

1 - Steel worker 5 hrs

1 - Laborer

July 6, 1934

Spillway Apron.

Placing Reinf Steel

- 1- Steel worker 7⁰⁰ to 10 = 3 hrs.
- 1- Helper 8⁰⁰ to 10 = 2 hrs.
- 1- Bundler Man 7⁰⁰ to 8⁰⁰ = 1 hr.

Grouting Anchor Holes Co. Act.

- 1- Laborer 7⁰⁰ to 10⁰⁰ = 3 hrs.
- 4 5x cement.

Forms 10⁰⁰ to 11³⁰

- 1- Carpenter Foreman 10⁰⁰ to 11³⁰
- 2- Laborers, 10⁰⁰ to 12⁰⁰ 1 1/2 hrs.
To Hyd. Fill Pumps @ 12⁰⁰
- 1- General Foreman 2 hrs.

13

July 6, 1934

Corewall Excavation Stripping

- 1- General Foreman 4 hrs.
- 6- Muckers. 7⁰⁰ to.
- 1- Bundler man 8⁰⁰ to.

Placing Reinf Steel

- 1- General Foreman 2 hrs.
- 1- Carpenter Foreman 12³⁰ to 4 = 3 1/2
- 1- Helper 3 1/2

✓
July 6, 1934
Percolation Test on Grout Hole.

So. Abutment.

8⁰⁰ am Tank Empty.

3-3-3-3-3-3-3-3 = 24 gals.

Tank " "

Pipes & Grout Hole 13 "

1³⁰ pm Tank Empty.

3-3-3-3-3-3-3-3 = 21 gals.

Tank " "

Pipes & Grout Hole 10 "

3³⁰ pm Tank Empty.

3-3-3-3-3-3-3-3 = 15 gals.

Tank 10 "

Pipes & Grout Hole 5 gals.

2 hrs. 15 gals.

Rate of percolation 7 1/2 gal per hr.

✓
July 7, 1934

7⁰⁰ am Tank Empty.

3-3-3-3-3-3-3-3 = 24 gals.

Tank " "

Pipes 13 "

7³⁰ am Tank Empty. Water in Pipes

3-3-3-3-3-3-3-3 = 18 gals.

Tank " "

Pipes 7 "

2 hrs. Rate per hr. 9 gals.

11¹⁰ am Tank Empty. Water in Pipes

3-3-3-3-3-3-3-3 = 18 gals.

Tank 10 "

Pipes 8 "

1 3/4 hrs Rate per hr. 10 1/3 gals.

Note water appears on downstream
Side of corewell above flame-xing

July 13, 1934

Elevation 10 gallon Tank
for Grout Hole Percolation Tests

For Grout Hole N2997

P.M. El 770	+	-	
	5.8		
	5.8		790
	5.8		759
			<u>81</u>
	<u>2.4</u>		
	19.8	✓	El 790 of Tank

For Grout Hole N 3003

	19.8		790
	+ 5.8		753
	<u>25.6</u>	✓	<u>43</u>

July 7, 1934 ✓

Spillway North Sidewall
Excavation 7⁰⁰ to 4⁰⁰ 8

1- General Foreman 4

1- Powder man.

1- Driver

3- Helpers Muckers

1- Compressor

2- Jackhammers

1 3/4" Drill holes used for 1" \square anchors.

July 7, 1934

Spillway Apron near North Abt.

Forms. 7⁰⁰ to 4 = 8

1 - Carpenter Foreman } 8

2 - Laborers }

1 - Candy wagon 2 hrs.

1 - General Foreman 4 hrs.

16

July 7, 1934

Corewall near North Abt.

Stripping 7⁰⁰ to 14

2 Muckers. = ~~4~~ 8

July 9, 1934

Spillway North Sidewall

Excavation 7⁰⁰ to 8

1- General Foreman 2 hrs.

1- Powderman.

4- Muckers.

3- Muckers. 12³⁰ to 4 - 3/4

1- compressor

2- Jack hammers.

17

July 9, 1934

Spillway Apron

Forms 7⁰⁰ to 9⁰⁰

1- General Foreman 2 hrs.

1- Carpenter Foreman.

2- Laborers.

Corewall ✓

Forms 9⁰⁰ to 4⁰⁰ = 6

1- General Foreman 2 hrs.

1- Carpenter Foreman

3- Laborers.

✓
July 9, 1934

Corewall Stripping 7⁰⁰ to 11³⁰ = 4½

1- General Foreman 2 hrs.

2- Muckers

18

✓
July 10, 1934

Spillway North Sidewall

Excavation 7⁰⁰ to

1- Compressor }
2- Jack hammers } 8 hrs.

1- General Foreman }
1- Powderman } 7⁰⁰ to 4⁰⁰
1- Driller }

6- Muckers 7⁰⁰ to 11³⁰ = 4½

3- Muckers 12³⁰ to 4 = 3½

July 10, 1934 ✓

Corewall Near N. Abt

Forms 700 to 11⁰⁰

- 1- Carpenter Foreman
- 2- Laborers.

✓
Spillway North Sidewall

Cleaning Forms 12⁰⁰ to 4-30

- 1- Carpenter Foreman
- 2- Laborers.

19

July 10, 1934

Percolation Test Grout Hole N29

11⁰⁰ am 3-3-3-3-3-3 = 18 gallons

July 13, 1934

9 am 3⁴-3⁴-3⁴-3⁴-3⁴ = 20 gallons

Tank 10 "

Pipes 10 "

Tank Empty

1³⁰ pm 4-4-4-4 = 16 gallons

Tank 11 "

Pipes 15 "

July 14

8⁰⁰ am Tank Empty

4-4-4 = 12 gallons

Tank 11 "

Pipes 1 "

July

✓
July 16, 1934

Percolation Test Grout Hole N.

July 16 Tank Empty.

8⁰⁰ a.m. 4-4-4 = 12 gallons

Tank 10 "

Pipes 2 "

10⁰⁰ a.m. Tank Empty.

4-4-4 = 12 gallons

Tank 11 "

Pipes 1 "

Rate 6 gallons per hr.

In

July 17, 1934 Tank Empty.

8²⁰ a.m. 4-4-4 = 12 gallons.

Tank 11 "

Pipes 1 "

July 18 Tank Empty.

8⁰⁰ a.m. 4-4-4 = 12 gallons

Tank 11 "

Pipes 1 "

20
July 11, 1934

Spillway North Sidewall

Excavation Side Sloping

1- Powder man } 7⁰⁰ to

1- Drifter }

1- Mucker 8⁰⁰ to.

1- Mucker 12³⁰ to.

1- Compressor } 12⁵⁰ to

1- Jackhammer }

✓
July 15 - 1934 10 a.m.

Tank Empty

4-4-3 = 11 Gallons

Tank 11 "

Pipe None

Rate 5 1/2 gallons per hr.

✓
July 11, 1934

Spillway Apron near N Abt.

Clean up. 7⁰⁰ to 8⁰⁰ = 1 hr.

1 - Carpenter Foreman

2 - Laborers

1 - General Foreman

Concrete Plant:

1 - Mixer man } 7⁰⁰ to 8⁰⁰ 1 hr.

1 - Man }

Forms 12³⁰ to 4³⁰

1 - General Foreman

1 - Carpenter Foreman

1 - Laborer

✓
July 11, 1934

Spillway Apron

Concrete 4⁵ gal. cons.
a 7⁵x mix 1:2:4 4+2=6 Batches 42 5x
b 6⁵x mix 1:2:4 12 Batches 72 5x

Start 8⁰⁰ - Finish 9⁰⁰ } 2 Delay

1 - Mixing Plant

1 - Barber Greene & Truck

2 - Blaw Knox Truck Mixers

1 - General Foreman

1 - Mixer man

1 - Man

Concl. 2 - Truck Drivers

Placing Conc. 2 - Laborers

1 - Carpenter Foreman

App. Supply 1 - Truck Driver

Sta 5+10 El 741 to 748 from 0.6 to 42³/₅

6¹/₂ to 3'

July 11, 1934

Corewall Concrete, 50 gallons.

a 1:2:4 mix 7 5x ¹²/₆ Batches 112 Sy.

b 1:2 Grout 6 5x 1 Batches 6 Sy.

30 feet copper.

Sta N 4104 to 4128 Elev 720 to 726

Start 9⁰⁰ - Finish 11⁰⁰ Delays

1 - Mixing Plant.

1 - Barber Grease & 1 Truck.

1 - Blaw Knox Truck Mixer

1 - General Foreman

1 - Mixerman

1 - Man

Conc. Del. 1 - Truck Driver

Placing Con. 2 - Laborers.

1 - Carpenter for iron Post.

Agg. Supply. 1 - Truck Driver

July 12, 1934.

G.M.C.

Corewall. N.A.10A to N.A.128.

7⁰⁰ to 11³⁰

AM 2 men stripping forms, pointing concrete and cleaning up. Also water proofing zone.

7⁰⁰ to 11³⁰

1 carpenter, 2 helpers building forms on spillway apron.

2 laborers

1 driller

1 powder man

1 compressor

1 Jack hammer

1 General Foreman. 3

P.M.

11³⁰ to 4⁰⁰

1 carpenter, 3 helpers building forms for side wall concrete at east end spillway.

1 driller

1 powder man

4 laborers

1 compressor

1 Jack hammer 2

Excavation
Trimming slope
of spillway
north side wall.

Excavation
Trimming slope
of spillway
north side wall.

Gen. Foreman
2 hrs

✓
July 13, 1934

Spillway North Sidewall

Forms 7⁰⁰ to

1- General Foreman 3 hrs.

1- Carpenter Foreman 7⁰⁰ to

5- Laborers 7⁰⁰ to 11³⁰

3- Laborers 12³⁰ to

|
To Hyd Fill

1- General Foreman 2 hrs.

2- Laborers

23
✓
July 13, 1934

Spillway North Sidewall

Side Sloping 7⁰⁰ to

1- General Foreman 3

1- Driver 7⁰⁰ to 11⁰⁰

1- Powder man 7⁰⁰ to 11³⁰

3- Muckers 7⁰⁰ to 11³⁰

3- Muckers 12³⁰ to

✓
July 14, 1934

Spillway North Sidewall

Forms 7⁰⁰ to 9³⁰ = 2 1/2 hrs

1- Carpenter Foreman

2- Laborers

1- General Foreman

✓
Laying 2" Pipe Line 7⁰⁰ to 11³⁰

1- General Foreman

2- Laborers

1- carpenter to Hyd Fill

2- laborers

24
✓
July 14, 1934

Spillway North Sidewall

Tide Slipping None

✓
July 15 Sunday

wetting Conc.

1- Laborer 2 hrs

✓
July 16

wetting Conc.

1- Laborer 2 hrs

Clean Up - see L.M. 4^x

✓
July 17

wetting Conc.

1- Laborer 2 hrs

1- General Foreman

Clean up

1- Carpenter Foreman

2- Laborer 7⁰⁰ to 9⁰⁰

Plant Clean Up 7⁰⁰ to 9⁰⁰

1- Mixer man

1- Helper

July 17, 1934

Spillway Apron North Abt.

(a) 5 cu 1:2 Grout 2 Batches 10 cu

(b) 6 cu 1:2:4 Mix 24 Batches 144 cu

Sta 5+10 to 42' S. $\begin{matrix} 12' & \times & 15' & \times & 42' \\ N & & S & & \end{matrix}$

(c) Cleared 900 (d) Reclaimed None

Start 9⁰⁰ Finish 1⁰⁰ Delays ^{9⁰⁰ to 10⁰⁰} 1hr.
= 3hrs.

1- Mixing Plant.

1-

2- Blaw Knox Truck Mixers

1- Crane.

1- General Foreman.

1- Mixerman

3- Men.

Conc Del 2- Truck Drivers

Placing Conc. 1- Crane Operator & 1 Other

2- Laborers

25

July 17, 1934

Spillway North Sidewall

(a) 5 cu 1:2 Grout 2 Batches 10 cu

(b) 6 cu 1:2:4 Mix 24 Batches 144 cu

Sta 0+00 to Corner 38 to 40' Elev ^{760 to 765}

Sta 0+10 to 0+46 Elev 760 to 765

Sta 0+00 in corner to 0+10 Elev 743 to 748

Start 1⁰⁰ Finish 4⁰⁰ Delays
= 3

1- Mixing Plant

1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers

1- Crane.

1- General Foreman

1- Mixerman

3- Men.

Conc Del 2- Truck Drivers

Placing Conc 1- Crane Operator & 1 Other

2- Laborers

Agg Supply 1- Truck Driver.

July 18, 1934

Spillway North Sidewall

Forms & Etc. 7⁰⁰ to 8⁰⁰

1 - Crane 1 hr.

1/2 - General Foreman

2 - Laborers 2 hrs.

Clean up 8⁰⁰ to 9⁰⁰

2 - Laborers.

July 18/1934

Spillway Apron near N. abt.

Clean up 7⁰⁰ to 8⁰⁰

1 - Carpenter Foreman

2 - Laborers.

Forms 7⁰⁰ to 4⁰⁰ 8 hrs

1 - Carpenter Foreman

1 - General Foreman.

2 - Laborers.

1 - Laborer 3 1/2 hrs.

July 18, 1934

Crewall So Abt. Excavation.

Stripping 7⁰⁰ to 4-8

3 - Laborers.

July 19 ✓

Test Samples. Nos. 2956-57-58

Spillway Apron.

near Stal 5+15 to 30' S.

mix quite wet

somewhat over sanded.

Forms. 11⁰⁰ to 11³⁰ = 1/2 hr.

1 - General Foreman

1 - Laborer.

July 19, 1934

Spillway North Flow near N Wall

Laying 4" Drains. 7⁰⁰ to 7³⁰

1 - General Foreman

2 - Laborers

Clean Up. 7⁰⁰ to 7³⁰

1 - Carpenter Foreman

2 - Laborers.

Spillway North Sidewall

Forms. 7³⁰ to 10⁰⁰

1 - Carpenter Foreman 7³⁰ to 10⁰⁰ 11⁰⁰ to

2 - Laborers. 7⁰⁰ to 4

2 - Laborers. 11⁰⁰ to 4

1 - General Foreman 12³⁰ to 4

1 - Laborer 12³⁰ to 4

July 19, 1934

(12)

Spillway Floor near N. Wall.

Sta. 0+00 to 30' N

Sta. 0+00 to 0+46

65x 1:2:4 Mix. 12 Batches 36 5x

78' Feet 4" Drain Tile.

Start 10⁰⁰ Finish 11⁰⁰ Delays

55x Reclaimed

1- Mixing Plant

1- Barber Greene & 1 Truck

1- Blaw Knox Truck Mixers

1- Crane No. 8

1- General Foreman

1- Mixerman

2- Men

Conc. Del. 2- Truck Drivers

Placing Conc. 3- Laborers.

1- Crane Operator & 1- Oiler

Finishing 1- Carpenter Foreman.

App. Supply 1- Truck Driver.

July 19, 1934

(30)

28

Spillway Apron near N. Abt.

Sta. 5+10 to 42'S (24x20x42 Total)

65x 1:2:4 Mix 28 Batches 168 5x

(2) 5x 1:2 Grout 2 Batches 10 5x

Start 7³⁰ Finish 10⁰⁰ Delays none

-11x

1- Mixing Plant

1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers

1- No 10 Crane with long boom.

1- General Foreman

1- Mixerman

2- Men

Conc. Del. 2- Truck Drivers

Placing Conc. 1- Crane Operator 1- Oiler

2- Laborers.

App. Supply 1- Truck Driver

✓ F.B.
July 19, 1934

Spillway Excavation No/

1- No 8 Shovel
2- Dump Trucks.

1- Compressor.

1- Jackhammer.

1- Shovel Operator

1- " Oiler

2- Truck Drivers

1- Driller

For. No 2 see Roberts ✓

29

July 20, 1934 Shift No/

Spillway Excavation 7⁰⁰ to 9⁰⁰ 12³⁰ to 3⁰⁰ 2 1/2

1- No 8 Shovel Delay 7⁰⁰ to 8⁰⁰

2- Dump Trucks.

1- Shovel Operator 1- Oiler

2- Truck Drivers

Time	Truck	Cu yds	Time	Truck	Cu yds
	43				
	33	DG to Dump near O.G.			
					3 to downstream at 1.35
12 ³⁰	33	5			1 to Dump by mistake.
1 ⁰⁰	32	5			
1 ³⁰		5	2.20	20		4.0
1.42	32	5.0	2.30	32	5.0
1.48	33	5.0	2.43	20	5 1/2
2.00	20	4 1/2	2.50	33 to D.G. Dump	14 1/2
2.05	32	4 1/2		12	
2.10	33	5.			
					39
					14
					53

✓
July 20, 1934

Spillway North Sidewall Excavation

Side sloping 7⁰⁰ to

2 - Muckers 7⁰⁰ to

2 - Muckers 9⁰⁰ to 11³⁰

1 - Mucker 12³⁰ to

1 - Driller

1 - Compressor

1 - Jack hammer

Spillway Excavation July 20 No 2 Shift

1 - No 8 Shovel See Roberts ✓

2 - Dump Trucks

1 - Shovel Operator

1 - Oiler

2 - Truck Drivers

8 cu yds rock to load

30
✓
July 20, 1934

Spillway North Sidewall

Forms 7⁰⁰ to 9⁰⁰

1 - General Foreman 7⁰⁰ to 9⁰⁰ = 2

1 - Carpenter Foreman 7⁰⁰ to 10⁰⁰ = 3

4 - Laborers 7⁰⁰ to 9⁰⁰ = 2

1 - Laborer 7⁰⁰ to 10⁰⁰ = 3

Stripping 3⁰⁰ to 4⁰⁰ 2 1/4

1 - General Foreman

1 - Carpenter Foreman

2 - Laborers

✓
Corewall Bo. Rpt. Riddle Core River

Stripping

1 - Mucker 3 1/2 hrs

July 20, 1934

Spillway Apron near N Abt.

Stripping 7⁰⁰ to 9⁰⁰
Forms.

2 - Laborers.

Forms. 9⁰⁰ to 3⁰⁰

1 - General Foreman

3 - Laborers.

1 - Carpenter Foreman 10⁰⁰ to 3⁰⁰

1 - Laborer 10⁰⁰ to 3⁰⁰.

July 1934

Mixing Plant Clean Up to

1 - Mixerman

Laborers.

Spillway North Siderwall

Wetting Conc.

1 - laborer 9⁰⁰ to 4⁰⁰.

July 21, 1934

North Siderwall Concrete

(a) 55x 1/2 Groat 2 Batches 10 5y

(b) 65x 1/2 1/4 Mix 28 Batches 168 5y
178

Start 7⁰⁰ Finish 11⁰⁰ Delays. none = 4 hrs.

1 - Mixing Plant

1 - Barber Concrete Truck

2 - Blaw Knox Truck Mixers

1 - No 10 Crane

1 - General Foreman

1 - Mixerman

2 - Men

Conc. Del. 2 Truck Drivers

Placing Conc. 1 - Crane Operator 1 Oiler

2 Laborers.

App Supply 1 - Truck Driver.

Sta 0+00 to 0+30' N El 765 to Finish

Sta 0+30' to 0+46' El 765 to Finish

Sta 0+46' to 0+10' El 748 to 754

✓
July 21, 1934

Spitway North Sidewall

Forms 7⁰⁰ to

1 - General Foreman

1 - Carpenter Foreman 7⁰⁰ to 2⁰⁰ = 6 hrs.

3 - Laborers

Clean up. Ⓚ

2 - Laborers

✓
July 21, 1934

Spitway North Sidewall

Side Sloping

1 - Driver Ⓚ

2 - Muckers

1 - Compressor Ⓚ

1 - Jackhammer

Riddle Cove Area

Stripping 7⁰⁰ to 11³⁰ = 4 1/2

2 - Laborers

✓
July 21, 1934

Spillway North Island

Excavation 7⁰⁰ to 11³⁰

1 - No 8 Shovel

3 - Dump Trucks

1 - Shovel Operator. 1 - Ciler

3 - Truck Drivers

Time	Truck	Cu yds	Time	Truck	Cu yds.
7.52	32	5.0	9.50	20	4
8.05	20	5.0	10.00	33	4
8.17	20	4	10.15	32	4
8.20	32	5	10.20	20	4
8.37	20	5	10.50	32	4
8.45	32	4	11.00	20	4
9.15	32	4			24
9.21	20	4			40
9.45	32	4			64
		<hr/>			70

33

✓
July 21, 1934

Memorandum.

7¹⁵ O.C. Staves :- Did you order
that load of rock to the dump

O.V.S. What load of rock?

O.C. Staves That one -

O.V.S. Why that is O.C. dirt with a
hard lump on top to confuse you.

The Shovel operator has been ^{sorting} classifying
the material, ^{in a satisfactory} and I did not give
^{other} any orders this morning.

O.C. Staves We want all the rock
to go to the embankment & Mr Wood
classified it as rock.
O.V.S. That is ok with me.

8³⁰ Mr. Ayle: Do you want that
D.G. removed from the overbreak

O.V.S. That question came up yesterday
with Mr. Bryan. He decided to
remove it. It would finally slide in
and fill his forms.
Mr. Ayle. Then I will have the shovel remove it.

✓✓
July 21, 1934

Spillway Apron near N. Abt.

(a) 55% 112 cement. 2 Batches. 10 cu

(b) 65% 1:2:4 Mix 24 Batches. 114 cu

Stn 5710 to 42' 5.

Warehouse empty

Start 11⁰⁰ Finish 2⁰⁰ - Retain 2 hrs.

1- Mixing Plant

1- Barber Concrete Truck

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixer man

2- Men.

Contract 2- Truck Drivers

Placing Co 1- Crane Operator 1- Oiler

2- Laborers

Agg. Supply 1- Truck Driver

Clean up 200 to.

1- General Foreman

2 Laborers

July 21, 1934

Test Samples Spillway Apron.

No. 2967-68-69

65% cement

1300⁰⁰ Sand

1440 1/2"

680 3/4"

200 pea

3620

adjusted for

excess fines in

1 1/2" & 3/4" rock

Mix quite wet & somewhat
oversanded. for workability

July 22 Sunday July 23 Monday
see F. Brochmann

July 24, 1934 ✓

Spitway Apron near N. Abt.

Concrete. 9' 13

Sta 5+10 to 42' S.

(a) 55x 1:2 Grout 2 Batches 105x

(b) 75x 1:2:4 Mix 12 Batches 845x

~~c- 65x 1:2:4 Mix 4 Batches 925x 2~~
Start 700 Finish 900 Delay None

1- Mixing Plant.

~~1- Barber Greene & 1 Truck~~

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixer man

2- Men

Concd. 2- Truck Drivers

Plac. Con. 1- Crane Operator 1- Oiler

2- Laborers

Agg Supply 1- Truck Driver

July 24, 1934 ✓

Spitway North Sidewall

Concrete

Sta 0+00 to 0+10 El 754 to 759 ✓

(a) 55x Mix 1:2 Grout 1 Batch 55x

(b) 65x Mix 1:2:4 2 Batches 125x

(c) 75x Mix 1:2:4 4 Batches 215x

Start 900 Finish 1000 Delay None 38

1- Mixing Plant.

~~1- Barber Greene & 1 Truck~~

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixer man

2- Men

Concd. 2- Truck Drivers

Plac. Con. 1- Crane Operator 1- Oiler

2- Laborers

Agg Supply 1- Truck Driver

2- 4" Drain Tile.

July 24, 1934

Spillway North Side wall

Forms & Clean up

7 Generators

1 Carpenter Foreman 7⁰⁰ to 10⁰⁰
Man

(To Hyd. Fall)

1 Truck

2 Laborers 3⁰⁰ to 4⁰⁰ = 1 hr (X)

18/5
90

26/6
10

✓
? L. H. H.

Hauling Cement from Lakeside

1 Truck & Trailer

1 Truck Driver

2 Men

July 24, 1934

Spillway Excavation 7⁰⁰ to

1 Compressor

1 Jackhammer

1 Powerman

1 Driller

1 General Foreman 1/2

1 No 8 Shovel

2 Dump Trucks

1 Shovel Operator 1 Oiler

2 Truck Drivers

2 Muckers 7⁰⁰ to 11³⁰ = 4 1/2

3 Laborers 10⁰⁰ to 12⁰⁰ = 2 hrs.
5 Muckers 10⁰⁰ to 12⁰⁰ = 2 hrs.

Time	Truck	Cu yds.
8:15	32	4.0
8 to 10	3 Loads	12.0
		16.

1 Cat Rooter

1 Cat Operator

12³⁰ to 4 = 3 1/2

1 cat Mc Milben

1 Operator from Hyd. Fall part time

4 hrs.

4 hrs.

July 24, 1934 ✓

Spillway Apron near N. Abt.

Stripping Forms

1- General Foreman $\frac{1}{2}$

2- Laborers 10⁰⁰ to 11³⁰ = $1\frac{1}{2}$

3⁰⁰ to 4⁰⁰ = $\frac{1}{2}$

To Shop.

July 25, 1934 ✓ 7am to 4pm.

Spillway Floor Excavation

1- Compressor.

1- Sack hammer.

1- General Foreman.

1- Powder man.

1- Driller 7⁰⁰ to 11³⁰ = $2\frac{1}{4}$ + $3\frac{1}{2}$ = 8

10- Muckers. to 7⁰⁰ to 9⁰⁰ = \checkmark

8 " 9⁰⁰ to 11³⁰ = $2\frac{1}{4}$

10 " 12³⁰ to 4⁰⁰ = $3\frac{1}{4}$

Part. Time from Hqd. Est.

1- Cat Bulldozer 7⁰⁰ to 7³⁰ -

1- Operator.

1- Cat & McMillan 7⁰⁰ to

1- Cat Operator

July 25, 1934 7am to 4pm.

Spillway Apron

Stripping Forms. 7⁰⁰ to 8⁰⁰

1- Carpenter Foreman 7⁰⁰ to 8⁰⁰

1- Laborer. 7⁰⁰ to

Welding Conc.

1- Laborer 7⁰⁰ to 9⁰⁰

Finishing

1- Laborer. 7⁰⁰ to

1- Carpenter Foreman 8⁰⁰ to

1- Laborer. 9⁰⁰ to 11³⁰

Clean up. 9⁰⁰ to 10⁰⁰ (X)

3 Laborers.

July 26, 1934

Spillway Excavation 7⁰⁰ to

1- Compressor

1- Jackhammer 2- 1/2 day.

1- Cab & Mc Millan

1- General Foreman

1- Powderman.

1- Driller 7⁰⁰ to 11³⁰ 2- Driller 12³⁰ to

1- Cut Operator.

9- Muckers. 7⁰⁰ to 11³⁰

7- " 12³⁰ to

July 26, 1934

Spillway Apron

Finishing 7⁰⁰ to 4 - 8

1 - Carpenter Foreman

1 - Laborer

Wetting Conc

1 - Laborer 2 hrs.

Stripping & Clean Up.

1 - Laborer 7⁰⁰ to 6 hrs.

North

39

July 27, 1934

Spillway Apron

2 5x cement.

Finishing 7⁰⁰ to 2⁰⁰ - 6

1 - Carpenter Foreman

1 - Laborer

Wetting Concrete

1 - Laborer 2 hrs

Spillway North Sidewall

Stripping & Chipping Conc.

1 - Laborer @ 6 hrs.

North Sidewall

Finishing 2⁰⁰ to

1 - Carpenter Foreman

1 - Laborer

✓ East wind blowing
120° in shade.

July 27, 1934

Spillway Exc & Fire Grading
7⁰⁰ to

1- General Foreman

4- Muckers. 7⁰⁰ to 1³⁰

3- Muckers. 7⁰⁰ to 11³⁰ 1³⁰ to ②
all quit. acct. 120°F.

7 " 6 hrs.

1- Powderman

2- Drivers

1- Compressor

2- Jack hammers.

1- No. 8 Shovel. 12³⁰ to 1³⁰

2- Dump Trucks.

1- Shovel Operator

1- " Oiler

2- Truck Drivers

✓ see July 27
for 2 hrs.

July 28, 1934

Spillway North Sidewall
Furnishing

1- Carpenter Foreman

1- Laborer.

Stripping, Wetting Cond & Chipping
1- Laborer.

✓
July 28, 1934

Excavation 8

- 1- Compressor
- 2- Jackhammers.

- 1- Powderman
- 2- Drillers
- 1- General Foreman.

Sidesloping

- 5- Muckers.

✓ July 29 Sunday

✓ July 30 1934 7am to 4pm

Spillway Excavation

Side Sloping near East End of 506

- 5- Muckers ✓
- 1- General Foreman

Excavation

- 1- Compressor
- 2- Jackhammer

- 1- Powderman ✓
- 2- Drillers ✓

Five Grading

- 1- Mucker. ✓

July 30, 1934

Spillway North Sidewall

Finishing

1- Carpenter Foreman

1- Laborer

about August 15th, use Tapping Hammer &

Try patch of seam at Elev 750 near

center of East wall Sta 0+00 - 15' ± N

Wetting Core Stripping & Chipping

1- Laborer

also try cracked patches due to
overrich mortar on North Side wall.

42

July 31, 1934 rain to 4 pm

Spillway Excavation near East End of AG

1- Compressor

2- Jack hammers

1- General Foreman

1- Powderman

2- Drifters

Side Sloping

7- Muckers

1- No 7 Shovel 800 to 5 = 6

3- Trucks 40-33-32

1- Shovel Operator

1- " Oiler

3- Truck Drivers

Loads of Rock to up stream Emb.

Time	Truck	cuyds
2.30	40	4
1.26	39	4 1/2
2.45	32	4 1/2
2.54	40	5
		18

✓
July 31, 1934 rain to 4 pm
Spillway North Sidewall

Finishing 20x cement?

1- Carpenter Foreman

1- Laborer

Wetting Concrete Stripping & Chipping

1- Laborer

43
✓
August 1, 1934 rain to 4 pm
Spillway North Sidewall

Finishing ⊗

1- Laborer

Cleaning Forms 7⁰⁰ to 10⁰⁰ ✓

2- Laborers

1- Carpenter Foreman

✓
Spillway Floor 10⁰⁰ to
Cutting & Bending Steel
~~Clean up Forms~~

1- Carpenter Foreman

2- Laborers

✓
August 1, 1934 7am to 4pm

Spillway Excavation

- 1 - Compressor
- 2 - Jackhammers

1 - General Foreman

1 - Powderman

2 - Drillers

6 - Muckers 7⁰⁰ to 10

3 - Muckers 10⁰⁰ to 11³⁰

5 - Muckers 12²⁰ to

No 7 Shovel at 7⁰⁰ am idle

See No 2 Shift report for July 31 ✓

↓
1 - Compressor & 2 Jackhammers
moved to Spillway Floor for
Anchor Hole Drilling for No 2 Shift

✓
Aug 2 1934 7am to 4pm

Spillway Excavation 7⁰⁰ to

Side Staging 7⁰⁰ to

1 - General Foreman

6 - Muckers

1 - No 7 Shovel 8⁰⁰ to 3⁰⁰ ⁶ continued
to No 2 Shift

3 - Trucks

1 - Shovel Operator

1 - " Oiler

3 - Truck Drivers

hauling D6 to ramp for Lower Stream Emb.

Loads of Rock. None.

✓
Aug 2 1934 Rain 4 pm

Spillway Floor.

Drilling Anchor Holes.

1- Compressor

2- Jack hammers.

2- Drifters -

Cutting & Bending Steel.

1- Carpenter Foreman.

2- Laborers.

Beach Sample No 3035

Up Stream N 3620-70 = N 3550

E. 5085 El. 714 ±

For Shear Tests.

✓
Aug 3, 1934 Rain to 4 pm.

Spillway Floor.

Drilling Anchor Holes 7⁰⁰ to 9³⁰ - 2 1/2

1- Compressor

2- Jack hammers

2- Drifters

1- Bowditchian

Placing Reinf Steel & Forms. 7⁰⁰ to

1- Carpenter Foreman.

3- Laborers 7⁰⁰ to 11³⁰ = 4 1/2 hrs

2- Laborers 12⁰⁰ to 2⁰⁰ - 2

Candy wafer & Dinner 2 hr.

See sketch at back of book
B SW

✓
 Aug 3, 1934 7am to 4pm
 Spillway Excavation

- 1- No 7 Shovel
- 2- Dump Trucks
- 1- Shovel Operator
- 1- " Oiler
- 2- Truck Drivers

Side Sloping

- 1- General Foreman
- 4- Muckers
- 3- Muckers 12³⁰ to

500
 No 15 Load of 16 from
 Quarry

Loads of Rock to up Stream Embankment

Time	Truck	cu yds	Time	Truck	cu yds
7-40	33	4	10-55	33	3.0
7-50	31	4			
7-52	33	5	11 ³⁰	34	4.0
8-03	31	4			
9-10	31	4			
9-15	33	4			
10-20	31	4			
10-43	31	4 1/2			
		33 1/2			

7 - for 33
 9 - for 31

From
 Checker. 16 x 4 = 64 yds.

46

✓
 Aug 3, 1934 7am to 4pm
 Spillway Excavation 9³⁰ to 4 = 5 1/2

- 1- Compressor
- 2- Jackhammers
- 1- Powder man
- 2- Drillers

✓
Aug 3, 1934 7am to 4pm

Grouting Anchors
8 5x cement
(6+2)
5x Grout
35x for finisher

1 - Laborer 12³⁰ to 4

2 Laborers 2³⁰ to 4 = 1 1/2

✓
Aug 4

Concrete Test Samples.

No 5. 3038, 39-40

Spillway Floor Sta 4+70 - 103'N

Some cutback oversanded for
finishing

47

Aug 4, 1934

Spillway Floor ✓
7⁰⁰ to 6

Clean Up 8⁰⁰ - 1hr.

1 - General Foreman 1hr.

1 - Carpenter Foreman 7⁰⁰ to 6

3 - Laborers 7⁰⁰ to 8⁰⁰ = 1hr.

2 - Laborers 8⁰⁰ to 10⁰⁰ = 2

Laying Drain tile ✓

2 Laborers 7⁰⁰ to 8⁰⁰

Sta 3+⁹⁰/₃₄ to Sta 4+87 = 103

Mixing Plant Clean Up 7⁰⁰ to 8⁰⁰

1 - Mixer man

2 Men

1 - Truck Driver

Aug 4, 1934

Sta 3770 128' N
to Sta 4750 148' N
to Sta 4770 162' N
to Sta 4872 165' N

Spillway Floor

11.2' 4 Mix 65x 132 Butcher 792 Sx

65x Reclaimed -

Start 8:00 Finish 5:00 Delay

1- Mixing Plant.

1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

2 Men

Conc. Del. 2 Truck Drivers

Placing Conc 1- Crane Operator

1- " Oiler

2- Laborers

Hunt Process 3 hrs

1- Foreman

1- Compressor

Aug 4, 1934

Spillway Excavation

Not Sluff
or See No 2

1- No 7 Shovel

3 Dump Trucks No 2, No 31, No 39

1- Shovel Operator

1- " Oiler

Truck Drivers

Side Sloping

1- Binder man 7700 ft

2- Muckers

2- Muckers 1000 ft

Hauling D G to Ramp for P.S. Emb.

10- loads of Rock to Upstream Emb

got from Mr Lee

172 Anchors

Sta 3766 from #27 to #31 N

to Sta 5786 from #34 to #40 N

✓
Aug 5, Sunday

Aug 6.

Spillway Excavation 7⁰⁰ to

1- No 7 Shovel

3- Dump Trucks

1- Shovel Operator

1- " Oiler

3- Truck Drivers

Hauling D.G. to Up Stream Dump W.
" " " Spillway Ramp

5
2

7- Loads of Rock to Down Stream
Embarkment

✓
Aug 6, 1934

Spillway Excavation

Side Sluiceway

1- General Foreman

1- Powder man

7- Muckers 7⁰⁰ to 2⁰⁰ - 6 hrs.

5- " 9⁰⁰ to

Spillway Enter Aug

Bending & Cutting Rebar Steel 7⁰⁰ to

1- Carpenter Foreman

3- Laborers

Estimate of Overbreak
 from Progress Chart.
 for Sta. 3+70 128' N
 to Sta 4+87²⁹ 165' N.

$$K = \frac{3261}{2965} = \frac{296}{296}$$

$$296x = 1600' \text{ sq'}$$

$$x = \frac{1600}{296} = 5.406$$

$$\frac{3721}{3215} = \frac{506}{506}$$

$$\text{Area} = 506 \times 5.406 = 2,735$$

$$130 \times 20 = 2,600$$

$$\text{cu yds. } \frac{2735 \text{ cu. ft.}}{27} = 101.3$$

$$\text{Required Batches for 12" floor} = \frac{101.3 \text{ cu yds}}{1.03} = 98.34$$

Aug 7, 1934

Spillway Excavation 7⁰⁰ to 4

12³⁰ to

1 - No 7 Shovel

1 - Compressor

2 - Trucks

9 - Jackhammers

1 - Shovel Operator

2 - Drifters

1 " Oiler

2 - Truck Drivers

Side Slap

1 - General Foreman

1 - Powder man

7 - Muckers 7⁰⁰ to 11³⁰

3 - Muckers

5 - Muckers 12³⁰ to

Hauling DG to up Stream Ramp

8 Loads of Rock @ 4 = 32 cu yds

✓
Aug 8, 1934

See L. H. Hill - Daily Work Report.
I was on leave for Federal Examinations.

Aug. 9, 1934 ✓

Spillway Excavation at toe of North wall

1 - No 7 Shovel

2 - Trucks

1 - Shovel Operator

1 - " Oiler

2 - Truck Drivers

R

Rock to

Hauling S. G. to Spillway Ramp

" D.G. to Down Stream Embankment

Side Sloping

1 - Compressor

2 - Jackhammers

1 - General Foreman

1 - Powderman

2 - Drillers

3 - Muckers

2 - Muckers 7⁰⁰ to 11³⁰ 3 - Muckers 12³⁰ to

✓
Aug 10, 1934

Spillway Excavation

East Apron & North Sidewall

1 - No 7 Shovel

Dump Trucks

1 - Shovel Operator 1 Oiler

Truck Drivers

1 - Compressor

2 - Jackhammers

1 - General Foreman

1 - Powderman

2 - Drillers

3 - Muckers

3 - Muckers

Aug 11, 1934 7am to 4pm

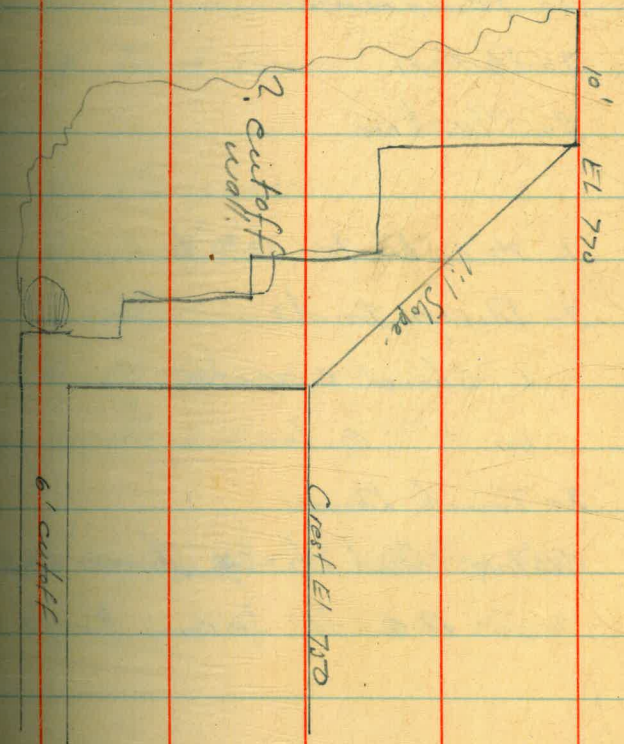
Spillway Excavation at East End Apron

- 1- No 7 Shovel
- 2- Dump Trucks

- 1- Shovel Operator
- 1- " Oiler
- 2- Truck Drivers

- 1- Compressor
- 2 Jackhammers
- 1- Powderman
- 2- Drillers
- 2- Muckers

D.G. to Road to Up Stream Emb.



Aug 12 Sunday

Aug 12, 1934 7am to 4pm

Spillway Excavation East Apron

- 1- Compressor
- 2- Jack hammers

1- General Foreman

1- Powderman

2- Drifters

2- Muckers

1- No 7 Shovel 12⁰⁰ to

2- Dump Trucks

1- Shovel Operator

1- " Oiler

2- Truck Drivers

Hauling Rock to up Stream Emb.

" D.G. to Spillway Ramp

Aug 14, 1934 7am to 4pm

Spillway Excavation

near North Side of Spillway. No 1
See No 2

1- No 7 Shovel

2- Dump Trucks

1- Shovel Operator

1- " Oiler

2- Truck Drivers

1- Compressor

2- Jack hammers

1- Powderman

2- Drifters

1- Mucker

Hauling Rock to up Stream Emb.

" D.G. to Spillway Ramp

✓
Aug 14, 1934

Loads of Rock From N. Side of Spillway
to upstream Emb.

Time Truck Cuyds.

7.42 34 5.0

8.05 34 4.5

9.25 34 5.0

10.30 34 4.0

11.26 34 4.5

12.34 34 4.0

2.55 34 4.5

70 39 1/2 = 2 1/2 average

From N. Side of Spillway
Loads of D.G. to upstream Emb.

" " " to Spillway Ramp

Handling Excavated Material

1- No 8 Shovel 12⁰⁰ to 4=3

3- Dump Trucks

1- Shovel Operator

1- " Oiler

3- Truck Drivers

54
2
Aug 14, 1934

Corewall

Excavation 7⁰⁰ to

1- General Foreman

2- laborers

Placing Rein Steel

1- Steel worker 12⁰⁰ to

✓
Aug 15, 1934

Corewall

Forms

1/2 General Foreman

1- Carpenter Foreman

2- laborers

1- No 10 Crane } 2 hrs.

1- Crane Operator

Aug 16, 1934

Spillway Excavation

near East End Apron 7⁰⁰ to 11⁰⁰

1- No 7 Shovel

Dump Trucks 34-40-9

Moved to Spillway near N. Section @ 1:00 pm.

1- Shovel Operator & 1 Oiler

Truck Drivers

Time	Truck	Cyds	Time	Truck	Cyds
7.30	30 & 12		10.40	9	5.0
8.00	40	5	10.55	9	3.0
8.30	33	2*	1.25	9	4.0
8.50	34	3*	1.45	9	5.0
9.00	33	4	1.58	40	4.5
9.30	33	3*	2.10	9	4.5
9.31	40	5	2.40	39*	4.5
9.48	31	4			31.0
9.52	34	5.5			12
10.02	31	5.0			83
10.10	9	5.0			

* From Rehaul

52 Hauling D.G. to up & down Stream beaches.

Aug 16 ✓
Spillway Excavation

56

1 Compressor 7⁰⁰ to

2 Jackhammers

1 Powderman

2 Drillers

1 Laborer

Rehauling D.G. 7⁰⁰ to

1 No 8 Shovel

Dump Trucks 40-31-33-43-39

1 Shovel Operator & 1 Oiler

Truck Drivers

Building Spillway Ramp 7⁰⁰ to 4

1- No 10 Crane & Dragline

1- Dragline operator

8
7⁰⁰ to 4 =
7⁰⁰ to 10⁰⁰ = 11⁰⁰ to = 7
= 3 1/2
2 1/2
2 1/2
5 3/4 = 5 1/2

7⁰⁰ to 4 =
7⁰⁰ to 10⁰⁰ = 11⁰⁰ to = 7
17⁰⁰ to = 3 1/2
12⁰⁰ to =

✓
Aug 16, 1934

Cornwall

Placing Reinf Steel. 7⁰⁰ to 9⁰⁰ = 2 hrs
 Forms 11⁰⁰ to 12⁰⁰ 1 hr
 1- Steel worker $\frac{2 \text{ hrs}}{8 \text{ hrs}}$
 1- Laborer To height of 9' = 2 hrs
 1- General Foreman $\frac{1}{2}$ = 4 hrs

✓
Aug 17, 1934

Cornwall

Forms 7⁰⁰ to 9⁰⁰ = 2 hrs⁴
 1- Carpenter Foreman
 2- Laborers
 1- General Foreman

See Aug 18

North Sidewall

Forms 9⁰⁰ to 12⁰⁰ = 4 hrs

1- General Foreman 8
 1- Carp Foreman
 2- Laborers

✓
Aug 17, 1934

Spillway Excavation near N. Wall

1- No 7 Shovel $\frac{8}{700 \text{ to } 1000} = 4$
 Dump Trucks $\frac{700 \text{ to } 1000}{900 \text{ to } 1000} = 5$
 No 31 - 46 - 33

1- Shovel Operator & 1 carter

Truck Drivers

Hauling D.C. to Spillway Camp.

Time	Truck	Cyals	Time	Truck	Cyals
7:30	40	2.0 Dirty			
7:35	31	3.0 Dirty			
10:10	-	5.0			
11:00	31	4.5			
	$\frac{4}{14 \frac{1}{2}}$				$= 3 \frac{1}{2}$

✓
Aug 17, 1934

Rehauling Spillway D.G. 7⁰⁰ to
1- No 8 Shovel 7⁰⁰ to 8
Dump Trucks 7⁰⁰ to 11³⁰ 8
No 43 - 34 - 39 4
12 20 to 4 4
9 1/2

1- Shovel Operator & 1 Oiler

Truck Drivers

Hauling D.G. to Up Stream & Down Stream Banks
" " to Road to Up Stream Emb.

Building Spillway Ramp 7⁰⁰ to

1- No 10 Drag line

1- Operator

Spillway Excavation 7⁰⁰ to

1- Compressor }
2- Jackhammers } ✓

1- Powder man

2- Drivers

1- Mucker

✓
Aug 18, 1934

Spillway Excavation near North wall

1- No 7 Shovel

Dump Trucks in 31 - 34 - 40
7⁰⁰ to 11³⁰ 8
7⁰⁰ to 11³⁰ 8
7⁰⁰ to 11³⁰ 8
20 = 2 1/2

1- Shovel Operator & 1 Oiler

Truck Drivers

Loads of rock to Down S. Embankment

Time	Truck	cuyds.
8 ³⁰	34	5.0
10 ²⁰ ✓	31	4.0
	2	9

Hauling D.G. to Spillway Ramp

Excavation

1- Powder man

3- Laborers

1- compressor 7³⁰ to 4 = 3 1/2
2- Jackhammers

Aug 18, 1934

Corwall Concrete. 7⁰⁰ to

Clean Up. 7⁰⁰ to 8⁰⁰ P¹

1. General Foreman

1. Carpenter Foreman

2. Laborers.

1. Crane Operator.

1. Mixerman

2 Laborers

Placing
Forms & Steel 12³⁰ to 4

1. General Foreman

1. Carpenter Foreman

2. Laborers.

✓
Aug 18, 1934

Corwall Conc.

1100 Sq Cleaned

1:2 Grout (a) 1³/₅ Batches 8 Sx

1:2:4 Mix. 6x6 24 Batches 144 Sx

1:2:4 75x4in — Batches 152 Sx

Start 8⁰⁰ Finish 11³⁰ = 3¹/₂ Delays

1. Mixing Plant

1. Barber Greene & 1 Truck

2. Blaw Knox Truck Mixers

1. No 10 Crane.

1. General Foreman

1. Mixerman

2. Laborers.

Concl. 2. Truck Drivers

Placing 1. Crane Operator 1. Carpenter Foreman
& 1 Outlet

2. Laborers.

52' Copper
40'

Sta 4104 to 4128 El 746 to 752

Sta 4128 to 4160 El 744 to 749

Aug 19 Sunday

Aug 20 1934 7am to 4pm

Spillway Excavation near N. Wall

1 - No 7 Shovel

Dump Trucks No. 31 - 34 - ^{at}

1 - Shovel Operator & 1 Operator

Truck Drivers

none Loads of Rock to Emb.

✓
Aug 20, 1934 7am to 4pm

Spillway Excavation near E Apron

1 - Compressor

2 - Jackhammers

1 - Boulder man

2 - Drifters

4 Laborers

Rehauling P.G. West Spill Bank ^{see G.C.}

1 - No 8 Shovel 12⁰⁰ to 4 idle & under repair

2 - Dump Trucks

1 - Shovel Operator & 1 Operator

2 - Truck Drivers

✓
Aug 21, 1934

Spillway Excavation near N. wall

1- No 7 Shovel

Trucks No 21 - 23

1- Shovel Operator & 1 Oiler

Truck Driver

1- Bulldozer & 1 operator

~~Building Spillway Ramp~~

Hauling D.G. ^{Hag Box material} to Up Stream Beach

" D.G. to Road to upstream Emb.

✓
Aug 27

Clean Up. 7⁰⁰ to.

1- Candy Wagner

1- Driver

1- Laborer

62
Aug 27, 1934 [✓] Harper

Rehauling D.G. from West Spill Bank

to Down Stream Beach

1- No 8 Shovel

Trucks

7⁰⁰ 7⁰⁰ 7⁰⁰ 8⁰⁰ 12⁰⁰ 12⁰⁰
40-34-31-20 (Rad) 39-25

1- Shovel Operator & 1 Oiler

1- Truck Drivers

✓
Aug 22, 1934

11³⁰ Spillway Excavation near N. Wall

✓ 1 - No 7 Shovel.

Dump Trucks 20 - 23 - 18

✓ 1 - Shovel Operator & 1 Oiler.

Truck Drivers

✓ Hauling D.G. & H.B. Material to Up Stream Beach

11³⁰

✓ 1 - Caterpillar Bulldozer. ~~this~~

✓ 1 - Compressor

✓ 2 - Jackhammers.

✓ 1 - Powderman

✓ 2 - Drillers

✓ 2 - Muckers.

63

✓
Aug 23, 1934

Spillway Excavation near N. Wall

1 - No 7 Shovel

Dump Trucks No 25 - 24

1 - Shovel Operator

1 - Oiler

Truck Drivers

Hauling D.G. & H.B. Material to up Stream Beach

Loads of Rock.

1 - Compressor.

2 - Jackhammers.

1 - Powderman

2 - Drillers

2 - Muckers.

✓
Aug 23, 1934 Harper
Rebanking D.G. from West Spoil Bank.

1- No 8 Shovel

Dump Trucks [^] 60. [^] 34 - [^] 31 - [^] 39

✓
Aug 23, 1934
Forms.

1- General Foreman

1- Carpenter Foreman

Clean up.

1- Laborer.

64
✓
Aug 24, 1934
Spillway Excavation 7⁰⁰ to

1- Compressor.

2- Jackhammers.

1- Powerman

2- Drillers.

2- Mechanics.

✓
Aug 24
Form Panels 7⁰⁰ to 10⁰⁰

1- General Foreman

1- Carpenter Foreman

1- Laborer.

✓
Covault
Placing Steel
Forms. 1⁰⁰ to

1- General Foreman

1- Carpenter Foreman

2- Laborers.

✓
Aug 24, 1934

Corwall Concrete

1:2 Grout Mix 1-Batches 55x
1:2:4 Mix 6 15 Batches $\frac{90x}{95x}$

Start 10⁰⁰ Finish 12⁰⁰ ^{= 2 hrs.} Delays

1- Mixing Plant
1- Barber Excavator & Truck
1- No 10 Crane

2. Blaw Knox Truck Mixers

1- General Foreman

1- Mechanic

2- Men.

Core Del. 2. Truck Drivers

Placing 1- No 10 Crane Operator

1- Carpenter Foreman

2- Laborers

20' copper

App Supply 1- Truck Driver

Star 4128 to 4160 ET 749 to 758

✓ Aug 25, 1934

Corwall

Forms: 7⁰⁰ to 9⁰⁰

1- General Foreman

1- Carpenter Foreman

2- Laborers.

✓
Spitway Excavation

1- Compressor $\frac{930}{1020}$ to 4

2- Jackhammers

1- Foreman

1- Powder man

2- Drillers

1- Nipper

1- Mucker

1- No 7 Shovel

Dump Trucks $\frac{1}{2}$ 40-33

1- Shovel Operator & 1 Oiler

Truck Drivers

Hauling O.G. to Sp. Stream Beach.

$\frac{5 \frac{1}{2} \text{ hrs.}}{8}$

Aug 25

#1 Test Mix	Total mix
65x cement - 564 [#]	= 5 1/2 [#]
1400 Sand (^{# short} on sand)	14 [#]
1340 1/2 } 2020	20 [#]
680 3/4 }	
200 pen	2 [#]
3620	36 [✓]

Dirty Rock Sample 3084

#2 Test Mix	
65x cement	= 5 1/2 [#]
1300 Sand	13 [#]
2020 1720 1 1/2 + 3/4	17 [#]
300	
1720 400 1/2 to 1/4	4 [#]
200 pen	2 [#]
3620	36 [✓]

Core #1 No 3085

" #2 No 3086

13087 [✓]	
# 3088 = 1/2 to 1/4 [✓]	} Fill out report.
✓ 3089 = 1" to 1/2 [✓]	
✓ 3090 = 2" to 1" [✓]	
✓ 3088 - 20 packages	} Fill out report.
Rollad Fill	

Aug 31, 1934

Spillway Extension Concrete.

Screen Tests for Canyon R. Co.

Screen	% Passing
2"	100
1 1/2"	72
1 1/4" 1 1/2" River	34
1"	5
3/4"	1
Fineness Modulus	2.12

1 1/4"	100
1"	79
3/4" 1" River	25
1/2"	3
Fineness Modulus	2.07

1"	100
3/4" 3/4" River Rock	72
1/2"	15
1/4"	1
Fineness Modulus	1.88

Aug 23, 1934

	C. R. Co.	Passing
Screen	$\frac{1}{2}$ $\frac{3}{8}$	66%
	No 4	27%
	No 8	7%
	Fineness Meters	2.00

Aug 23, 1934

	C. R. Co.	% of Total	% Passing	%
Screen	$2\frac{1}{2}$	.02	100	Passing
	2	.16	98	100
	$1\frac{1}{2}$	.21	82	82
	$1\frac{1}{4}$	.18	61	61
	1	.31	43	43
	$\frac{3}{4}$	.11	12	12
	$\frac{1}{2}$	.01	1	1
		1.00		

Blend
1/2"
1"
Burs
by
Oliver

Canyon R. Co. & R. Co. Rock

Feb 13, 1934

#21836 #21837

C.R.Co. pebbles R+O pebbles

Screen	C.R.Co. pebbles	R+O pebbles
1"	100%	
3/4"	97%	100%
1/2"	39%	75%
1/4"	4%	22%

Crusher Material
Hard & Flaky

River Gravel
Excellent

Canyon Rock Co.

April 16, 1934

1 1/2" River
Passing

1 1/2" Crusher

3/4" River

3/4" Crusher

Screen	1 1/2" River	1 1/2" Crusher	3/4" River	3/4" Crusher
1 1/2"	100%	100%	100%	100%
1 1/4"	89%	96%		
1"	59%	84%	100%	100%
3/4"	31%	36%	94%	98%
1/2"	7%	4%	29%	45%
1/4"			1%	4%

Sieve 10

66% of
2 1/2"

39% of
2 1/2"

July 18, 1932 R.C. Rock
 # 17060 for 1 1/2" Rock

Screen	1 1/2"	100% Passing
	1"	41
	3/4"	9
	1/2"	2

17061 for 3/4" Rock

Screen	1"	100% Passing
	3/4"	96%
	1/2"	31%
	1/4"	3%

70
 Nov 8 1933 Sand Test

	# 20091	# 20092
	100% passing	100% passing
1/2"		
Screen 1/4"	99	99
Sieve No 10	83	72
	20	41
	30	24
	40	17
	50	12
	100	4
F.M.	= 4.23	F.M. 3.69

% Silty Clay	3.7	2.6
--------------	-----	-----

Note Excellent material for sand sand
 permit.
 Material from large stock pile

Basic Mix for Reinforced Concrete

1:2:4 Mix

Pass $1\frac{1}{2}$ " Screen Held on $\frac{3}{4}$ " - 57%

" $\frac{3}{4}$ " " " " $\frac{3}{8}$ " - 43%

10%

1340

680

$2020^{\checkmark} = 100\%$

$2020 \times .57 = 1151$ used 1340 of 1400

$2020 \times .43 = 868$ " $\frac{680}{2020}$

2019

2020

E1.733 18.50

1.12 E1.770

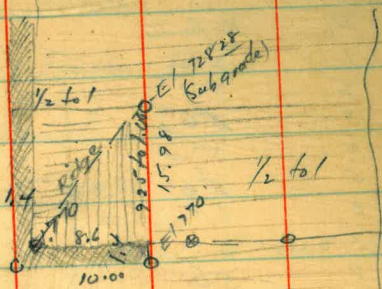
71

Warpel
conc

Face of
conc

.925 to 1.000
23.12

conc



Tan

1.00

8.54

9.54

1/2 to 1

E1.742.41

.925

10.00

10.00

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Spillway

Sketch of East End Detail

Aug 3, 1934 From
F.B. 443

Spillway Floor Anchors

No	No Anchors	Anchors Parallel to N Side not?
1	2 ^v	
2	4 ^v 5 ^w	
3	5 ^v 6 ^w Δ	A 1/2' N of No 5
4	5 ^w	Sta 3+70
5	4 ^v 6 ^w	
6	6 ^v 11	
7	6 ^v	
8	3 ^v 6 ^w	
9	6 ^v Δ 6	A 1' E & 1/2' N of No 6
10	6 ^v	
11	7 ^v	Sta 3+90
12	7 ^v	
13	7 ^v	
14	7 ^v Δ 6	A at No 7
15	7 ^v	Sta 4+10
16	7 ^v	
17	7 ^v	
18	6 ^v 10	
19	6 ^v 14 ^w Δ	A 2' N of No 8
20	5 ^v	
21	5 ^v	Sta 4+30
22	5 ^v	
23	6 ^v 5	
24	5 ^v Δ 5	A 1/2' N of No 5
25	5 ^v	Sta 4+50
26	6 ^v 5	
27	7 ^v 6	
28	6 ^v	
29	6 ^v Δ 6	A at No 6 on 2' x 4' screen
30	6 ^v	
31	7 ^v	Sta 4+70
32	7 ^v 8	
33	7 ^v Δ 6	A 1' W of No 7
	172	Sta 4+87.2 165' N of 6.
		Sta 4+80?

Below Subgrade
1.50 #5
Grade
#200

July 14, 1934

Coefficient of Friction Tests
Down Stream Bench
N 3800 E 4930
3" below surface 2 cu ft load = 190 #
pull 6 x 32 = 192 # K=1.00
pull after break 6 x 28 = 168 #
N 3620 E 4930
3" below surface 2 cu ft load = 190 #
pull to break 36 x 6 = 216 # K=1.18
pull after break 32 x 6 = 192 #
Note some hard clay lumps
in material
N 3250 E 4930
3" below surface 2 cu ft load = 190 #
pull to break 32 x 6 = 192 #
pull after break 28 x 6 = 168 # K=1.00
quite sandy

Weights ✓

N 3400 E 4927

Box 7½"

Gross 102½

Net 95 #

N 3250 E 4925

Box 7½"

Gross 107½

Net 100 #

July 10, 1934 ✓

Wells N3620

Coefficient of Friction
Up Stream Beach

N 3280 E 5080

3" below surface

pull 20" x 6 = 120 #

pull after break 16½ x 6 = 99 #

N 3700 E 5080 E1. 702

3" below surface

pull 21" x 6 = 126 #

pull after break 16½ x 6 = 99 #

N 3800 E 5080

3" below surface

pull 20" x 6 = 120 #

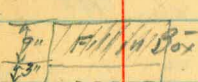
pull after break 17 x 6 = 102 #

✓
July 9, 1934
Coefficient of friction
Down Stream Beach

Sta N 3400 E 4927

pull $19'' \times 6 = 114''$

1- $12 \times 12 \times 12$ - 3" below surface.

 Weight of 1 cut =

Sta N 3360 E 4930

pull $18'' \times 6 = 108''$

3" below surface.

pull after break $15 \times 6 = 90''$

Sta N 3250 E 4925

Some Lakeside material in beach

3" below surface.
pull $16'' \times 6 = 108''$

pull after break $16 \times 6 = 96''$

Compressed Air Doc 1932
Concrete for Invert & Sidewall Sections
at Hoover Dam Tunnels,

1-part cement 2.1 Sand 4.7 gravel.

4 cu yd Batch. 1 cu yd.

Cement 2000 lbs. 500 lbs. = 55x

Sand 4,200 lbs. 1,050

3 to 1 1/2" Reck 3,380 lbs. } 845

1 1/2 to 3/4" Reck 3,010 lbs. } 9,400 752

3/4 to 1/2" Reck 3,010 lbs. } 752

16,600 lbs 3,399 lbs.

15,600

3 to 4" Slump.

For Arch Section

1-cement 2.5 Sand 4.3 gravel.

4 cu yd Batch. Cement 2000 lbs. 500

Sand 5000 lbs. 1250

8500 { 1 1/2 to 3/4" 5160 lbs } 1240
3/4 to 1/4" 3440 } 850

6 to 7" Slump.

Specific Gravity

No 13 $P = \frac{25.5}{62.5} =$

Weight of Rock % 91.5

" " " Voids %

absolute

Aggregate Tests June 11, 1934

Test No 12

3/4" River Run Rock Canyon Rock Co.

Gross 131.0

Box 38.5

Net 92.5 # Rock

Gross 156.0 Rock & water

Box & Rock 131.0

Net 25.0 # water

Test No 13

1 1/2" River Rock Canyon R. Co.

Gross 128.5

Box 37.0

Net 91.5 # Rock

Gross 154.0

Box & Rock 128.5

Net 25.5 # water

Aggregate Tests June 11, 1934

Test No 10

3/4" Crusher Rem from Canyon Rock Co

Gross $\frac{120.5}{121.0}$ Rock

Box $\frac{38.0}{38.0}$

Net $\frac{83.0}{82.5}$ # Rock

Gross. 150.5 Rock & water

Box & Rock $\frac{120.5}{120.5}$

Net 30.0 # water

Test No 11

3/2" Local Rock

Gross. 129.0 Rock

Box $\frac{37.5}{37.5}$

Net 91.5 # Rock

Gross. 158.0 Rock & water

Box & Rock $\frac{129.0}{129.0}$

Net 29.0 # water

Aggregate Tests June 11, 1934

Test No 8

1/2" Local Rock

Gross 191.5 Rock

Box $\frac{38.0}{38.0}$

Net. 93.5 # Rock

Gross. 159.0 Rock & water

Box & Rock $\frac{131.5}{131.5}$

Net. 27.5 # water

Test No 9

3/4" Local Rock (Pass 3/2" / Held on 3/4")

Gross. 144.5 Rock

Box $\frac{38.0}{38.0}$

Net. 106.5 # Rock

Gross 166.0 Rock & water

Box & Rock $\frac{144.5}{144.5}$

Net 21.5 # water

Aggregate Tests June 2, 1934

No 8 Test

pear Canyon Rock Co.

Gross. 118.5

Box 37.5

Net. 81.0

Gross 149.5

Box & Rock 118.5

Net. 31.0

$$\text{Specific Gravity} = \frac{\text{Absolute weight}}{62.5}$$

Absolute weight from

$$\text{Percentage of voids } P = \frac{V}{T}$$

$$T = \text{Total Volume} = 1$$

V = Volume of water to fill voids

$$V = \frac{W_s}{62.5} \text{ also } = P$$

77
Aggregate Tests June 2, 1934

No 6 Test

3/4" Canyon Rock Co River Rock

Gross. 132.5" Rock

Box 37.0

Net. 95.5" # 3/4" Rock 1 cu foot

Gross 157.0 Rock & water

Box & Rock 132.5

Net. 24.5 # water.

No 7 Test

3/4" Canyon Rock Co Crusher Rock

Gross. 123.0

Box 37.5

Net. 85.5 # 3/4" Rock 1 cu ft.

Gross. 152.0

Box & Rock 123.0

Net. 29.0 # water.

Batch Measures.

78
Batch Measures.

1 1/2 Grout for Anchors.

(By weight)

55x Cement

By Volume.

55x Cement.

1000⁰ Sand.

20 to
35 gallons.

10.4 cu ft. = .7 cu yd.

Yield in cu yd.

Pressure Grout.

55x Cement

35 gallons water.

Yield 7 cu ft.

Sand 95# per cu ft.

$$\frac{1000}{95} = 10.4 \text{ cu ft.}$$

Batch Measures.

65x 1:2:4 Mix Yield 1.03 cu yds.		
Original	Modified for River Rock.	Modified for Crusher Rock.
65x Cement	65x Cement.	65x Cement.
1250 ⁺ Sand.	1400 [#] Sand. 1300 [#]	1500 [#] Sand.
1340 [#] 1/2"	1340 [#] 1/2" ✓ 1440	1440 [#] 1/2" ✓ 1340
1030 ⁺ 3/4" pea.	1680 [#] 3/4" ✓ 680	560 ⁺ 3/4" ✓ 460
3620 [#] Total.	200 [#] pea 2001	220 [#] pea
Yield .99	3620 Total.	3620 Total.
	Yield	Yield

2740
1450

1290
2740
1500

1240

1340
1400

2740
680

3420
200

3620

1500 1340
1440 1500

2940 2840
460 560

3400 3400
220 220

3620 3620

75x 1:2:4 Mix Yield 1.05

Batch Measures

65x 1:2:5 Mix Yield 1.08 cu yds.		
Original	Modified for River Rock.	Modified for Crusher Rock.
65x Cement	65x Cement. = 564 [#]	65x Cement.
1250 ⁺ Sand.	1400 [#] Sand. ✓	1500 [#] Sand.
850 ⁺ 2 1/2"	850 ⁺ 2 1/2" ✓	850 ⁺ 2 1/2"
970 ⁺ 1 1/2"	970 ⁺ 1 1/2" ✓	900 ⁺ 1 1/2"
770 ⁺ 3/4"	420 ⁺ 3/4" ✓	390 ⁺ 3/4"
	200 [#] pea ✓	200 [#] pea
3840 Total.	3840 Total.	3840 Total.
Yield 1.12		

115
27
805
230
3,106 per ydr.
20 yds.
62,000 #

Oliver
 Randolph 9721

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1 1/2 TO 1

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MADE IN GERMANY.