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490

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.

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	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 469

Otto von Saggern
Excavations Concrete Inspector
El Capitan Dam

Aug 27, 1934 to.

490

490

Ton Seggern Insp.

Index

Spillway Excavation + Concrete, Tile, Anchors

Etc. excepting notes below — 1-80

↓
Rolled Fill Samples 1, 3-6, 9, 15, 25

↓
Core Wall Concrete 7, 13, 19, 22

↓
Tunnel Notes 18, 23, 26, 29, 31, 34, 40, 45, 49

↓
Blank Pg 73.

✓
Aug 27 1937

Spillway Excavation

- 1- Compressor
- 1- Truck
- 2- Jackhammers
- 1- Foreman
- 3- Drillers
- 1- Laborer
- 1- Nipper

No 7 Shovel 900 to

Dump Trucks

1- Shovel Operator + 1 other

Truck Drivers

✓
Holiday

Aug 28 1937

Gross 126.00 Rotted fill Tests

Box 35.30 #1 N 340 E 5050 H 725
 Net. 90.70 ^{up stream}
 #2 N 3800 E 5860 E 1725
^{up stream}
 #3 N 3600 E 4760 E 1726
^{Down stream}

Sand Full 14 Holes

3091 Bag #1 $97\frac{3}{4} - 79\frac{1}{4} = 18\frac{1}{2}$
 $\frac{27\frac{1}{2}}{18\frac{1}{2}} = 1.49 \times 90.7 = 135\frac{1}{2}$

3092 Bag #2 $93\frac{3}{4} - 76 = 17\frac{3}{4}$
 $\frac{26}{17\frac{3}{4}} = 1.46 \times 90.7 = 132\frac{1}{2}$

3093 Bag #3 $103\frac{1}{4} - 84\frac{3}{4} = 18\frac{1}{2}$
 $\frac{28\frac{1}{2}}{18\frac{1}{2}} = 1.53 \times 90.7 = 139\frac{1}{2}$

	Gross	Damp	Gross Dry	Moisture	
Caw #1	$29\frac{1}{4}$	$26\frac{7}{8}$	$2\frac{7}{8}$	$\frac{2.37}{27.5}$	$\frac{2.087}{Damp}$
up stream caw	$1\frac{3}{4}$	$1\frac{3}{4}$			
Net	$27\frac{1}{2}$	$25\frac{1}{8}$	$2\frac{3}{8}$	$\frac{2.37}{25.12}$	$\frac{.095}{Dry}$

Caw #2	$27\frac{3}{4}$	$25\frac{5}{8}$	$2\frac{1}{8}$	$\frac{2.12}{27.75}$	$.076$
up stream caw	$1\frac{3}{4}$	$1\frac{3}{4}$			
Net	26.0	$23\frac{7}{8}$			

Caw #3	30.	27 =	$3\frac{1}{2}$	$\frac{30}{30}$	$.100$
Down stream caw	$1\frac{3}{4}$	$1\frac{3}{4}$			
Net	$28\frac{1}{4}$	$25\frac{1}{4}$			

Gross total 87.00
 Check by weight Total = $87\frac{1}{2}$
 $\frac{25.25}{30} = .118$
 Dry

✓
Aug 29, 1934

Spillway Excavation

1- No 7 Shovel

Dump Trucks

7:25 to 7:40
7:40 to 8:00
8:00 to 8:20

1- Shovel Operator & 1 Oiler

Down Stream

Hauling D.G. to up Stream Beaches

Hauling Rock to Down Stream ^{Rockfall} Face

No 2 Shift Started @ 5:00

1- General Foreman

1- Laborers. 7:00 to 1:00 = 4 1/2 ✓

1- Powderman

2- Drillers

1- Cat & McMillan

1- Operator

1- compressor

2- Jackhammer.

1- Carpenter } 9:00 to 4 = 6 x 2 = 12
1- Laborer. } 4 x 1 = 4
16

✓
Aug 29, 1934

Spillway East End Abt.

Forming 7:00 to 9:00 = 2 hrs.

1- Carpenter Foreman

1- Laborer

✓
Rolloed fill

Wt. 33.5

1.75

Sample 31.75

Wt Sand

31.25

21.75

19.50

Sand wt. = 16.5 lbs for

339.3 cu inches.

Location dws. N3620

Elev 727

E4965

Sample No. 3094

Gray
in D.G

✓
Rolloed fill

Sample No. 3096

Location N3620 E 5050

Gray D.G.

Wt.

Sample

26.5

Wt

Sand

36.25

19.25

17.00

Sample No. 3095

Location ups. N3620 E 5040

Red DG + Clay.

Wt.
Sample
31.75

Wt
Sand
38.5
20.5
18.0

✓
Aug 30, 1934

Spillway Excavation

1- No 7 Shovel

Dump Trucks

N A
31- 40

1- Shovel Operator & 1 Clerk

Truck Drivers

1- Cat & McMillan

1- Compressor

2- Jackhammers

1- General Foreman

1- Cat Operator

1- Powder man

2- Drivers

2- Laborers

2- Laborers 1230 to 400

✓
Aug 30, 1934

4
Weight of Sand
used 84# Dry

Roller Fill Samples.

3097

1 N 3600 E 5060 E

Moist

Roller Fill # Sand Replaced.

Weight per Cubic
of Samples.

Removed

38 3/4 -

1.51 x 84 = 127

Net 24 1/2 #

22 1/2

16 1/4 ✓ Net

3097 Borrow Pt A mixed with D.G.

3098

2 N 3600 E 5050 E

Removed

Replaced

Net 29 1/4

22 1/2

1.72 x 84 = 144

5 1/2

17 * Net

3098 Borrow Pt A

3099

2 N 3600 E 4965 E

Removed

Replaced

Net 27 1/4

32 1/2

16 3/4

15 3/4 ✓ Net

1.73 x 84 = 145

3099

27.25 x 84 = 2287 #

15.75

D.G.

Aug 30
% of Moisture

No 1 Dump Net Dry Net % of Moisture
3097 10# - $9\frac{1}{4} = \frac{3}{4} \frac{75}{10} = 0.75\%$

2 10# - $9\frac{1}{4} = \frac{3}{4} = 0.75\%$

3098

3 10# - $9\frac{5}{16} = \frac{11}{16} = 0.6875\%$
 ~~$9\frac{1}{4} = \frac{3}{4} = 0.75\%$~~

3099

$\frac{.69}{.931} = .74\%$

$\frac{1}{8} = .125$
 $\frac{1}{16} = .0625$
 $\frac{25}{100} = .25$
 $\frac{2.06}{13} = .158$
 $\frac{9.25}{9.4} = .984$

Aug 31, 1930

Spillway Excavation

continued from
#2 sheet of
Aug 29

1- No 7 Shovel

2- Dump Trucks 40-30

1- Compressor

2- Jackhammers

1- No Shovel Operator & 1- Other

Truck Drivers

1- General Foreman

1- Powderman

2- Drillers

4- Muckers

✓
Aug 31 1934

No 3100

Moisture Sample.

Wet

Dry

#

20# Wet - 16 7/8 = 3 1/8

18.1%

E 4978.5

N 3620

E1. Bottom of Hole 720.5

E1 Sample 724.0

E1 Water 727.0

E1 Water in hole 720.8

(Observed 4 hours later)

✓
Sept. 1, 1934

Spillway Excavation

1- No 7 Shovel

Trucks 25 - 31 - 40

1- Shovel Operator & 1 Oiler

Truck Drivers

1- Cat & Mc Millan

1- Compressor } 4 hrs.

2- Jack hammers

1- General Foreman 7⁰⁰ to 2

1- Painter near

1- Cat Operator

2- Drillers 4 hrs.

5- Laborers 7⁰⁰ to 2

1- Steel worker 7⁰⁰ to 2

2- Laborers 2⁰⁰ to 4⁰⁰

✓
Sept. 7, 1934

Crewall Concrete finished

2⁰⁰ to 4⁰⁰ = 2 hrs

1- Mixing Plant

1- No 10 Crane

2- Blue Knox Truck Mixers

1- General Foreman

1- Mixer man

. Men.

Conc Del 2- Truck Drivers

Placing Conc. 1- Crane operator

1- Carpenter Foreman

2- laborers.

55x 1:2 Grout $\frac{3}{5}$ Batch 3 5x

65x 1:2:4 $\frac{1}{4}$ 9 Batches 54 5x
57 5x

✓
Sept 1, 1934

Spillway Conc 4 hrs.

Drilling Anchor Holes

1- Compressor

2- Sock hammers.

2- Drills

7

✓
Sept 2 Sunday
Sept 3 Holiday
Sept 4, ✓ 7am to 4pm

Spillway Excavation
Repairing No 7 Shovel

1- Shovel Operator & Oiler

1- Compressor

2- Jackhammers

1- General Foreman

1- Powderman

~~1- Street man~~ Placing Reinf Steel

2- Drillers

3- Laborers (Fine Grading)

1- Laborer 7:00 to 11:30
7:30 to

Clean Up 1:30 to 4:30 ✓

1- Carpenter Foreman

1- Laborer

8
✓
Sept 4, 1934

Spillway Floor Concrete

Sta 0+59 from O.G. Toe to 46' North

to Sta 1+02 from O.G. Toe to 18' North

to Sta 0+96 from 18' N to 59' N

6" Drain Tile Sta 0+59 to 1+02 = 43' ✓

4" Drain Tile Sta 0+59 to 0+96 = 37' ✓

Grouting Anchor Holes

12⁰⁰ to 1³⁰ = 1hr

1- Carpenter Foreman

2- Laborers

45x cement

used 2 1/2

Bar 1 1/2
4

Placing Reinf Steel & Forms

1- Carpenter Foreman 7:00 to 11:30

1- Laborer 2 1/2

Sept 4 ✓

Spillway Excavation ^{1230 to}

1- # 7 Shovel

Dump Trucks. 45-40-15

Sept 4 ✓

Rolled Fill Samples

Scales out of order

#1 Dump up Stream D.G.

Sand

3101

27 3/4 net

26 1/4

N3600 - E5060 El 730

9

17 net

#2 Dump up Stream Burrow P/A

3102

25 1/4 net

N3600

E5030

El 730

15 net

#3 Dump Dump Stream D.G. El

3103

27 1/4 net

25

100

N3600 E 49

El 730

15 net

Moisture

Damp

Dry

Diff

%

#1

10 #

9 1/2

#2

10 #

9 1/4

#3

10 #

9 1/2

El 730

Sept 5, 1934

Spitway Concrete.

- Sta 0+59 from O.G. Top to 46' N
- to Sta 1+02 from O.G. Top to 18' N
- to Sta 0+96 from O.G. Top from 18' N to 59' N

65x 1:2:4 Mix 78 Batches 4685x.

Start 8⁰⁰ Finish 3⁰⁰ Delays
= 6 hrs.

- 1- Mixing Plant
- 1- Barber Greene & 1- Truck
- 2- Blaw Knox Track Mixers
- 1- No 10 Crane
- 1- General Foreman
- 1- Mixer man 2 Men
- 2- Truck Drivers
- 1- Crane Operator
- 2- Laborers.

Finishing

- 1- Carpenter Foreman
- Hand Process & Laborers 1 hr.

Sept 5 ✓
Spitway Conc.

10

- Clean up 7⁰⁰ to 8 = 1 hr.
3⁰⁰ to 4 = 1 hr.
- 1- General Foreman 2 hrs
 - 1- Mixer man 2 Men
 - 1- Crane Operator
 - 1- Carpenter Foreman
 - 2- Laborers. 1 hr.

Concrete Samples.

3104 - 05 - 06

rather wet.

3107 - 08 - 09

medium.

✓
Sept 5 1934

Spillway Excavation

1- Cat & Mc Millan 3 hrs.

1- Compressor

2 Jackhammers

} 1 hr.
NOTE

1- Cat operator 3 hrs.

1- Powderman

2- Drillers

3- Muckers.

✓
Sept 5

Spillway Excavation

1- No 7 Shovel

Dump Trucks

1- Shovel Operator

Truck Drivers

7
7
7

40

7

9

1
1
1

6

Hauling D.C. to Down Stream Emb.

✓
Sept 6, 1934 ✓

Spillway Excavation

1- No 7 Shovel. ⊗

Dump Trucks 32-55-6

1- Cater Ma Mullan 12³⁰ to 1³⁰ = 1 hr.

1- Shovel Operator & 1 Oiler

Truck Drivers

1- Cat Operator. 12³⁰ to

1- Compressor.

2- Jack hammers.

1- General Foreman

1- Powderman

2- Drillers

4 Muckers 7⁰⁰ to 11³⁰

3 Muckers 11³⁰ to.

Hauling O.G. to up stream flank

" Rock to up stream Emb.

✓
Sept 6, 1934 ✓

Spillway Floor

Placing Reinf Steel

1- Steel worker. 7⁰⁰ to 11³⁰

2- Laborers 9⁰⁰ to 11³⁰

Laying 4" Drain Tile

1- Laborer. 7⁰⁰ to 9⁰⁰ - 2 hrs.

0+96 to 1+25' = 30' of 4" Drain Tile

Forms

1- Laborer. 7⁰⁰ to 9⁰⁰ - 2 hrs.

~~4/10~~
Sta 1+25 to $\frac{17}{50}$ N
 $\frac{13}{50}$

Grouting Anchors.

2- Laborers. 12⁰⁰ to 1³⁰ = 1 hr.

Clean up. 1³⁰ to 2⁰⁰ - 1/2 hr.

1- Carpenter Foreman

2- Laborers.

Sept. 6 ✓

Coverwall

Stripping Forms 2⁰⁰ to 4⁰⁰

1- Carpenter Foreman

2- Laborers

Sept 8 ✓

Coverwall 9⁰⁰ to 11³⁰ = 2½ hrs

Stripping Forms

1- Carpenter Foreman

2- Laborers

Sept 7, 1934 ✓ 1/2x Reconned. 13
400 sq. Cleaned.

Spillway Floor

Sta 0+96 from 16'N to 59'N

to Sta 1+25 from 18'N to 68'N

65x 1:2:4 Mix 5¢ Batches 3245x

Start 7⁴⁰ Finish 11³⁰ Delays
= 4½ hrs.

1- Mixing Plant

1- Barber Greene & 1 Truck

2- Blue Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

3- Men

Conc Del 2- Truck Drivers

Placing 1- No 10 Crane Operator

2- Laborers

Finishing 1- Carpenter Foreman

App Supply 1- Truck Driver

Hamst Process
1- Laborer 12²⁰ to 1³⁰

✓
Sept. 7, 1934

Spillway Excavation

1- compressor }
2- Jackhammers }

1- No 7 Shovel. 7^{00} to 9^{00} ^{17 Spillway} ^{200 Approx}
_{9⁰⁰ to}

Dump Trucks 32 6 33
_{↑ ↑}

1- Shovel Operator + 1 Helper

Truck Drivers 22 loads.

1- Powder man 33 Loads.

2- Drifters

2- Muckers

1- Foreman $3\frac{1}{2}$ hrs

Hauling D.G. to 1/4 Stream bar b.

" Rock to " " "

1- Cat; McMillan 9⁰⁰ to

1- Cat operator

14

✓
Sept. 7, 1934

Spillway Floor

Placing Reinf Steel: 12^{30} to $3 = 2\frac{1}{2}$

1- Steel worker.

1- laborer

Forms

1- carpenter Foreman

2- laborers 1 hr.

Placing 4" Drain tile

1- laborer 2 1/2 hrs.

Sta. 1+25 to 1+57 = 32'
 $\frac{25}{32}$ $\frac{25}{32}$

Sept 7 ✓

Rolled Fill Samples

#1 N 3600 E EI

Up Stream Flank of D.G.

3) $\frac{3}{8}$ " - $1\frac{3}{4}$ " = 99.62% D.G. Net.

Sand Refill $31\frac{1}{2}$ - $13\frac{3}{4}$ = 17.75

#2 N 3600 E EI

Up Stream Borrow Pit A near Core

$25\frac{3}{8}$ - $1\frac{3}{4}$ = 29.87% Borrow Pit A

Sand Refill $29\frac{1}{2}$ - $11\frac{3}{8}$ = 17.88

#3 N 3600 E EI

Down Stream D.G.

$26\frac{3}{4}$ - $1\frac{3}{4}$ = 25

Sand Refill $29\frac{1}{8}$ - $14\frac{3}{4}$ = 14.37

Sept 7 ✓ 193

Rolled Fill Test

Moisture Content

Moist. Dry Diff %

#1 10# 9 1/2 1/2

#2 10# 9 1/4 3/4

#3 10# 9 1/2 3/4

$\frac{29}{17} \times 84$

$\frac{24}{14} \times 84$

$\frac{25}{14} \times 84$

$\frac{17.75}{100} \times 100$

$\frac{1.3}{84} \times 100$

$\frac{1.7}{60} \times 100$

✓
Sept 8, 1934

Spitway Excavation 7⁰⁰ to 11³⁰

1- #7 Shovel

Dump Trucks 32 - 30 - 9 - 17

1- Shovel Operator & 1 Oiler

Truck Drivers

1- General Foreman

1- Powderman

2- Drillers

1- Compressor

2 Jackhammers

9 8- Muckers. 7⁰⁰ to 11³⁰

8 " 12³⁰ to

Handling Rock to Up Stream Emb

" DG to " " Plank

16

✓
Sept 8, 1934

Spitway Form 7⁰⁰ to 9⁰⁰

1- Carpenter Foreman

1- Laborer.

Grouting Anchor Holes 7⁰⁰ to 9⁰⁰

1- laborer.

Clean up. 3⁰⁰ to 4⁰⁰

1- Carpenter Foreman

2- laborers.

1- General Foreman

1- Crane Operator.

✓ Start. 12³⁰
Sept 8, 1934 Finish 3⁰⁰ = 2 1/2

Spillway Concrete

Sta 1+25 from 36' N to 68' N
to Sta 1+57 from 36' N to 78' N
65x 1:2:4 Mix 44 Batches 264 Sx.

- 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

Came Del. 2- Truck Drivers

Placing Conc. 1- Crane Operator

1- Oiler

2- Laborers

Finishing 1- Carpenter Foreman

Heat Process. 1- Laborer 2 hrs. Sunday

10 ✓
Sept 9, 1934 17

Spillway Floor Conc. ^{3 1/2}

Start. 12³⁰ Finish 4⁰⁰ ^{Delays}
_{None}
65x Mix 1:2:4 41 Batches. 246 Sx.

- 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

Conc. Del. 2- Truck Drivers

Placing Conc. 1- No 10 Crane Operator

3- Laborers

Finishing 1- Carpenter Foreman

Heat Process.

Sta 1+57 from 43' N to 78' N of O.G.
to Sta 1+88 from ~~36~~ N to 90' N of O.G.

Sept 5, 1934 #7 Shaft
Drilling Anchor Holes.

1- Compressor

2- Jackhammers

2- Drillers

Mixing Plant Clean up. } 2 1/2 hrs.

1- Mixerman

Sept 7, 1934

Placing Reinf. Steel & forms. 7:00 to 11:30

Laying 4" Drain Tile.

1- General Foreman } 4 1/2 hrs.

1- Carpenter Foreman

2- Laborers 3 1/2 hrs.

4" Drain Tile Sta 1+57 to.

Sta. $\frac{31}{1+88}$

Counting Anchor Holes.

35x cement.

2- Laborers. 1 1/2 hrs.

Sept 9 ✓ 10
Saturday, Sept 9, 1934

Spitway Excavation. 7:00 to 4:00

1- Compressor

2- Jackhammers

2- Drillers

1- G. Foreman 4 hrs.

1- Pouderman

5- Muckers 7:00 to 11:00

4- Muckers 12:00 to 4

1- Cat & Mc Millan } 1 hrs.

& Operator }

Tunnel work

Diverting water to pump. Sump.

Electrician } 2 hrs.

Mixerman }

1- #7 Shovel.

5- Dump Trucks.

1- Shovel Operator - 1.5 hrs

5- Truck Drivers

see L.H.

7:00 to 11:20

= 4 1/2

Sept 11, 1937

Spillway Conc. ✓

Hand Process 7⁰⁰ to 8 = 1 hr.

1- laborer.

Clean Up. 7⁰⁰ to 8 = 1 hr.

1- laborer.

✓
Coverall ~~Finishing~~
Stopper

1- Carpenter Foreman

2- laborers 8 hrs.

Sept. 11, 1937

19

Spillway Excavation

1- McMillan & Cat.

1- Compressor.

2- Jackhammers 1/2

1- General Foreman

1- Painter

2- Drillers

1- Cat Operator.

7- Muckers.

2 Shift

Drilling Anchor Holes.

1- Compressor

Jackhammers

Drillers

Sept. 11, 1934

#1 Grab Sample around pile
3121 $\frac{3}{4}$ " & pea

A 2 Fines Banded
3122 $\frac{3}{4}$ " & pea

#3 Fair Sample
3123 $\frac{3}{4}$ " & pea

#4 $1\frac{1}{2}$ & 1" Rock
3124

Sept. 8

#1 $\frac{3}{4}$ " & pea Sample
3120

20

Sept. 12, 1934

Spillway Excavation

1- Mc Millan
1- Compressor } 12³⁰ to
2- Suckhammers } 3 hrs.

1- General Foreman

1- Powder man

2- Drifters 7⁰⁰ to 10³⁰ 3 hrs.

1- Cat. Operator

~~5~~ 4- Muckers 7⁰⁰ to 12³⁰

1- Drifter 10⁰⁰ to

2- Muckers 12³⁰ to

✓
Sept. 12, 1934

Spillway Conc.

Laying 4" Drain Tile 7⁰⁰ to 8⁰⁰
= 1 hr.

1 - Carpenter Foreman

2 - Laborers

Placing Reinf Steel 8⁰⁰ to 10

1 - Steel worker

2 - Laborer.

Sta 14 88

27
2 + 15

Drain tile Sta 1488 to connection
with existing 4" tile in concrete
= 18 feet.

✓
Sept. 12, 1934

Spillway 1st form.

Grouting Anchors 10⁰⁰ to 10³⁰

1 - Laborer.

Forms 10⁰⁰ to 10³⁰

1 - Carpenter Foreman

1 - Laborer.

Sept. 12, 1934

North Side wall

Drilling Anchor Holes 10⁰⁰ to

1- Compressor

2- Jackhammers

2 ~~4~~ Drillers

✓

Sept 12

Core wall

Stripping & Finishing

1- Carpenter } 10³⁰ to 11³⁰ - 1 hr.

2- Laborers }

2- Laborers 7⁰⁰ to

Sept. 12, 1934

Spillway Floor

Stn 1+88 from ex. conc. to 90' N of O.G.

to Stn 2+15 from ex. conc. to 101' N of O.G.

65 x 1:2:4 1/4 ~~42~~ Batches ~~42~~ 52

Start 12³⁰

Finish 4⁰⁰ - 3 1/2

1- Mixing Plant

1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

2- Men

Proc. Del 2 Truck Drivers

Placing Con. 1- Crane Operator

3- Laborers

Finishing 1- Carpenter Foreman

Heat Process.

900 Cleared 2. 22

1705 x in whse.

215
118
27

32 x 44

Sept. 12, 1934

Tunnel

Clean up 7⁰⁰ to 11³⁰ = 4½

2 Men

23

Sept. 13, 1934

Spillway Floor

Hint Process 1 hr

North Side wall 7⁰⁰ to

Placing Reinf Steel

1 Steel Worker

2 Laborers

~~10~~₃ Laborers 12³⁰ to

North Side wall

Drilling Anchor Holes 7⁰⁰ to

1 Compressor

1 Jackhammer

2 Drillers

1 Compressor

1 Jackhammer

2 Drillers

} 12³⁰ to

✓
Sept. 13, 1934

Spitway Excavation 7⁰⁰ to

1- No 7 Shovel

3- Dump Trucks

1- Shovel Operator & 1 Oiler

3- Truck Drivers

1- General Foreman

1- Bowdman

1- Driver

7 # Muckers 7⁰⁰ to 12³⁰

5- " 12³⁰ to -

1- Compressor

1- Sackhammer

} 7⁰⁰ to 12³⁰

} 7⁰⁰ to 12³⁰

#7 moved from West End D.G. Dump @ 7⁰⁰

✓
Sept. 14, 1934

North Sidewall 7⁰⁰ to

Drilling Anchor Holes

1- Compressor

1- Sackhammer

2- Drillers

Placing Point Steel 7⁰⁰ to 10⁰⁰

1- Steel worker

2- Laborers.

Grouting Anchor Holes 10⁰⁰ to 11³⁰

1- Carpenter Foreman

2- Laborers.

Forms. 12³⁰ to

1- Carpenter Foreman

2- Laborers.

Sept. 14, 1934
Spillway Floor.
Excavation 7⁰⁰ to
1- #7 Shovel
Dump Trucks 31-33

1- Compressor
1- Jackhammer
1- General Foreman
1- Powderman
1- Driller
5- Muckers 7⁰⁰ to 11³⁰
4- " 12³⁰ to
1- Shovel Operator & 1 Oiler
Truck Drivers

25
Sept. 14, 1934
#1 Rolled till Samples
N 3600 E 5025 E1 740
3154
Moist $19\frac{1}{2} - 1\frac{3}{4} = 17\frac{3}{4}$ #
 $(1.48) \frac{17\frac{3}{4}}{12} \times 90.7 = 134$ #
Sand $30^* - 18 - 12$ # Sand @ 90.7
 $50\frac{1}{2}$
#2 N 3600 E 5040 E1 740
3155
Moist $18\frac{5}{8} - 1\frac{3}{4} = 16\frac{7}{8}$
Sand $30^* - 19\frac{5}{8} = 10\frac{3}{8}$ #
 $19\frac{5}{8}$
 $10\frac{3}{8} (1.63) \frac{16\frac{7}{8}}{10\frac{3}{8}} \times 90.7 = 148$ #
#3 N 3700 E 4970 E1 740
3156
Moist $24\frac{1}{2} - 1\frac{3}{4} = 22\frac{3}{4}$
Sand $27\frac{3}{4} - 10\frac{7}{8} = 16\frac{7}{8}$ #
 $(1.35) \frac{16\frac{7}{8}}{27\frac{3}{4}} \times \frac{22\frac{3}{4}}{16\frac{7}{8}} \times 90.7 = 122$ #
#4 N 3700 E E1 740
3157
Moist DG $24\frac{3}{8} - 1\frac{3}{4} = 22\frac{5}{8}$
Sand $37\frac{3}{8} - 23\frac{1}{8} = 14\frac{3}{4}$
 $(1.52) \frac{22\frac{5}{8}}{14\frac{3}{4}} \times 90.7 = 138$ #

Percent of Moisture

	Moist.	Dry	Diff	%
# 1	10 th			
# 2	10 th			
# 3	10 th			
# 4	10 th			

Tunnel Clean up

1- Trunk

1- Mixer man

1- Laborer

working near West Portal
clearing out mud & debris
at about Sta 10+00

Sept 14, 1934

Bodenbeumer Stock Pile

3159 3/4" & pea
Sample from large stock pile

3158 3/4"
Poor grade of 3/4" & some pea ^{crushed} ~~rock~~
Sample from last 2 loads.

3160 1/2" & 1"

Grab samples.

✓
Sept. 15, 1934

#2 Shift started
Spillway Excavation 6⁰⁰ to 3⁰⁰

1- No 7 Shovel

Dump Trucks 31 - ~~X~~ 30 - ¹³ 12⁰⁰

1- Shovel Operator & 10 hrs

Truck Drivers

4- Mechanics

Sept 14 # 2 or 3 Shift

near Sta 3+00 about 40' above spillway floor
several yards of O.G. broke from face of wall.

Sept. 14 # 2 or 3 Shift

Drilled & overshot O.G. along

North Side wall from Sta 4+00

to Sta 4+75'

Suggest several photographs

be taken & evidence collected before
material is disturbed or hauled away.

At Sta 4+50± the blast lifted
out about 100 cu yds of O.G.

27 x 18 x 6 = 108, which is sufficient
evidence to show excessive loading of shaft

27
Sept. 15/1934

Spillway North Side wall

Drilling Anchor Holes 7⁰⁰ to

2- Compressors.

2- Jackhammers.

4- Drillers.

~~7⁰⁰ to~~
Formed 7⁰⁰ to 8⁰⁰

1- General Foreman.

1- Carpenter Foreman

2- Laborers

The entire wall beginning at Sta 2+75
to Sta 4+00 has been overshot
and the face at grade badly
shattered. This was done several
weeks ago. At the time Mr Tom
Connelly cautioned the powderman

Black Powder
27
Bardos
27
25' = 250'
dynamite
27 empty powder
cans @ 25¢
= 675¢ powder
Some left
Came out of yesterday

✓
about using so much powder.

The work last nite shows
no heed was taken of Mr
Counolly's caution.

At 7³⁰ am. the following conversation
with Mr Staves.

O.V.S. What are you trying to
do here.

Mr. Staves: What have we done
here?

at the dampp
O.V.S. Take a look at what you
know overshooting of side walls
will have to be backfilled with
concrete.

Mr. Staves. Well the damage has
been done.

O.V.S. Yes and ~~to~~ ^{you} are going to
pay for the concrete to backfill.

Mr. Staves. Like Hell we are.

✓
Sept 15, 1934

Spillway Apron & Cutoff East E. of O.E.
Excavation 7⁰⁰ to
2 Muckers.

✓
North Side wall Continued

Placing Rinf Steel 12³⁰ to 4

Tunnel 6

1 Carpenter for man
9 laborers.

Sept 15, 1934

Tunnel Grouting

Staging 8⁰⁰ to 11³⁰ - 4 1/2 hrs.

1- Truck

1- Carpenter Foreman

2 Laborers.

Clean up. 7⁰⁰ to

1- Truck

1- Mixerman 1- Laborer.

Pressure Grouting 12³⁰ to 4 - 3 1/2 hrs.

1- Blaw Knox Truck Mixer

1- Compressor

1- Grout Tank.

1- Mixerman

1- Truck Driver

2- Laborers

Start 2⁰⁰ Fms 6 ³⁰⁰ ~~400~~ - 1 hr.

3- 65x Bit-hw = ¹⁵ ~~70~~ 5x.

Clean up 3⁰⁰ to 4⁰⁰ = 1 hr

Down Stream
End of Tunnel.

29

Sta 11+72.77.

On Aug. 22, 1933 at Sta 11+51

^{#1 & #2}
2 grout pipes, were placed

for grouting voids between
concrete at crown and top
of tunnel as excavated.

Grouting to be done at Contractor's
expense.

cu. ft. Grout.

7⁰⁰ 7.0

2²⁰ 7.0

2²⁵ 7.0

2³⁰ 7.0

2⁴⁵ -

2.50

28 cu ft

28. ²⁸ ~~9~~ cu ft. each batch. ?
Continue work Monday, Sept. 17

Grout leaking from wall in
3 places beginning at 6' from floor

to 2nd pipe.
Connected to 2nd pipe

Blow out at base of pipe

moved back to #1 pipe

Sept 16, [✓] Sunday

Sept 17, 1934. Turn to 4 pm.

Pressure Grouting Tunnel

at Sta 11+51 ^{7⁰⁰ to 11³⁰}
^{12³⁰ to 4 patching}

1- Blaw Knox Truck Mixer

1- Compressor

1- Grout Tank

1- Mixer wagon

1- Truck Driver

2- Laborers

3- Batches @ 55x - 155x

Cu ft Grout

8 ³⁰	7.00.	Grout leaking again from wall at 6' above floor.
8 ³⁰	7.00	
8 ⁵⁰	7.00	
9 ⁰⁰	5.00	
	26 cu ft.	

What about pressure grout pipes near lower 30
stream end of tunnel?

Sept 17, 1934

very poor concrete near

Sta 11+00. cut 3 holes in

wall about 6' above floor.

Evidence of construction joint

on face of wall. Cut in and

found only sand & rock no cement

at all. ^{Also} Faulty construction near

crum. from Sta 11+50 back to

beyond 11+00.

Suggest surface of entire
tunnel be carefully inspected

with tomahawk especially along

construction joints for rock pockets.

After all patches have been made,

suggest each patch be drilled

~~with~~ for 2" grout pipe and 2"

pipe be cemented into place

and after 4 weeks for cement to set

test patches with pressure grout at 100 ^{psi} pressure

Sept 17. Continued

Pressure Grouting

2nd 3 Batches @ 5 = 15^{5x}
9.55 ~~8~~ cu ft #1 pipe

10.10 7 cu ft

10.12 7 ✓ ✓

10.15 7 ✓ ✓

10.20 ~~3~~ ✓ ✓

3rd Load 4 Batches @ 5 = 20^{5x}
27

11.15 7 cu ft.

11.20 7 " "

11.25 7 " " ^{Grout flowing}
" from constr. void

11.35 7 "

~~28~~ cu ft.
6
34

Sept 15 Total = 3 - 5^{5x} = 15 = 26 ^{cu ft}

Sept 17 " = 10 - " = 50 = $\frac{87}{113}$

Sept 17

1934
12³⁰ to

North S. diurnal 7⁰⁰ to 10³⁰

Placing Rein Steel

1 - Carpenter Foreman

9 - laborers.

Grouting Anchors 10³⁰ to 11³⁰

1 - Carpenter Foreman

9 - laborers.

Forms 7⁰⁰ to

1 - Carpenter

1 - laborer

Sept 15

2 Shift ?

Drilling Anchors Floor

1 - Compressor.

1 - Saw blower

1 - Driller

✓
Sept. 17, 1930

Spillway Excavation

1- No 7 Shovel

Dump Trucks 31-³ 33-³ 6

1- Shovel Operator

1- " Oiler

Truck Drivers

4- Muckers

6- Muckers 12³⁰ to

1- Powder man

1- General Foreman

1- Mc Millan Operator

East End O. Gee.

1- Mucker

Memo. to G. W. W. for State Department.

1/2 Compressor

1- Jackhammer

1- Driller

32
✓
Sept. 17

North Side of Spillway

1/2 Compressor

1- Jackhammer

2- Drillers

✓
Sept 18 1934

Spillway Excavation

1- #7 Shovel

81 81
^ ^

Dump Trucks 33-14

1- Shovel Operator & 1 Oiler

Truck Drivers.

1- $\frac{1}{2}$ Compressor.

2- $\frac{1}{2}$ Jackhammer.

1- Powderman

1- $\frac{1}{2}$ Drillers

8- $\frac{1}{2}$ Muckers.

1- General Foreman

1- Mc Millan & Operator

12 $\frac{3}{4}$ to

33

✓
Sept 18, 1934

North Sidewall

Drilling Anchors/Holes

1- $\frac{1}{2}$ Compressor.

1- Jackhammer

2- Drillers

Placing Reinf Steel

1- Carpenter Foreman 7⁰⁰ to 11³⁰

2- Laborers. 8⁰⁰ to

Laying 4" Drain tile.

2- Laborers. 7⁰⁰ to 8⁰⁰ a hr

Sta of 46² to 1+54

Sept 18, 1934

North Sidewall

Grouting Anchors 12³⁰ to 2⁰⁰ = 1 1/2

2 ~~8~~ - Laborers

1 1/2 Sx cement.

Forms 12³⁰ to

1 - Carpenter Foreman 12³⁰ to 2⁰⁰

1 - Carpenter

2 Laborers

34

Sept 18, 1934

Tunnel Repair

Finishing 7⁰⁰ to

1 - Mixerman

2 - Laborers

8-4-4 = 12 Sx

1
13 Sx cement

1
14 Sx ✓

Sept 18, 1930

Spillway Floor

Placing Rein Steel 2⁰⁰ to 4⁰⁰
= 2 hrs.

1 - Carpenter Foreman

2 - Laborers.

35

Sept 18 # 2 Shift

North Sidelall

Forms

1 - Carpenter } 8⁰⁰ to 3 1/2
4⁰⁰ to 6⁰⁰ = 2

2 - Laborers } 4⁰⁰ to

1 - Laborer. 4⁰⁰ to

Spillway Floor

Granting Anchors

1 - Carpenter 6⁰⁰ to 8³⁰ = 2 1/2

1 - Laborer 1 1/2 hr

Excavation

1 - No 7 Shovel

Dump Trucks 14 - 31 -

1 - Shovel Operator + 1 - Oiler

Truck Drivers

✓
Sept 19, 1934

Spillway Excavation, 7⁰⁰ to 8⁰⁰
near East Apron. 8⁰⁰ to.

1- #7 Shovel

Dump Trucks, 40-31-33

1- Shovel Operator & 1 Oiler

Truck Driver

#2 shift
started @ 3⁰⁰

1- Compressor.

2- Jack hammers.

1- Powderman

2- Drillers

4- Muckers.

1- General Foreman

1- McMillan & Operator.

✓
Sept 19, 1934

36

North Sidewall

Drilling Anchor Holes 7⁰⁰ to

1- Compressor

1- Jackhammer.

2- Drillers

Form. Carpenter 12³⁰ to

2- Carpenters } 7⁰⁰ to 11³⁰

1 laborer }

1- Laborer. 9⁰⁰ to.

1- Carpenter Foreman } 8⁰⁰ to 9⁰⁰

2- Laborers }

Placing Rein Steel 7⁰⁰ to 9⁰⁰

1- Truck

2- Laborers

✓
Sept. 19, 1934

Spillway Floor 7⁰⁰ to

Clean up 7⁰⁰ to 8⁰⁰

1- Carpenter Foreman

3- Laborers

Clean up. Mixing Plant 7⁰⁰ to 9⁰⁰

1- Mixerman

2- Men

North. Siderwall

Laying 4" Ocean Tile 3⁰⁰ to 4⁰⁰

9- Laborers

1- General Foreman

1- Carpenter "

Sta 1+54 to 1+78 = 24'

✓
Sept. 19, 1934

Spillway Floor

(53)

Sta 2+15 from ext. conc. to 101' N of O.G.

to Sta 2+48 " " " to 112' N of O.G.

65 x 1'2"4" Mix 60 Barrels 360 sy

Start 9⁰⁰ Finish 3⁰⁰ = 5 hrs.

1- Mixing Plant

1- Barber Concrete Truck

2- Blau Knorr Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

2- Men

Covered 2- Truck Drivers

Placing Conc. 1- Crane Operator

2- Laborers

Finishing 1- Carpenter Foreman

Heat Process

19^v
Sept. 20, 1934

North Side wall

#2 Shift Sept. 18.

Placing Reinf Steel 8 hrs.

1 - Carpenter

2 - Laborers.

Sept. 20 #1 Shift.

Drilling Anchors.

1/2 Compressor

1 - Jackhammer.

2 - Drillers

Forms.

1 - General Foreman Abs.

2 - Carpenters.

2 - Laborers 9⁰⁰ to.

38
Sept. 20 1934

North Side wall

Placing Reinf Steel 7⁰⁰ to 3⁰⁰

1 - Carpenter Foreman 7 hrs

2 #² Laborers 7⁰⁰ to 12³⁰

1 - " 12³⁰ to 3⁰⁰

1 - Truck Driver & Truck 2 hrs

Laying 4" Drain Tile

Sta 1+78 to 1+98 = 20'

2 Laborers 7⁰⁰ to 9⁰⁰

Grouting Anchors 4 5x cement

2 laborers 9⁰⁰ to 11³⁰

1 - Carpenter Foreman } 3⁰⁰ to 4⁰⁰

1 - Laborer.

Sept 20 1934

Spillway 1st floor Excavation.

1/2 compressor.

1- Jackhammer

1- Driller

4- Muckers. 7⁰⁰ to 12³⁰

3- " 12³⁰ to 4⁰⁰

Concrete Samples

✓ Nov 14 Sidewalk

75f # 3235-36-37

3/4" Crusher pea
1 1/2" all from
Rohrer Co.

✓ 65f

9/21/34
3238-39-40

excess of fines
not enough 1 1/2"

✓ 65f

9/22/34
3241-42-43

using 3/4" pea from
old R.C. Plant.
1 1/2" from C. H. H. Co.

Sept 20, 1934

43 1/2 % 39
Overbreak
= 14 cu yds.

North Sidewalk Concrete.

#2 Sta. 0+96 to Sta 0+76

Subgrade to 5 1/2' above conc floor.

#4 Sta 0+86 1/2 to 1+09

Subgrade to 5 1/2' above conc floor.

#6 Sta 1+31 to 1+53 1/2

Subgrade to 6' above conc floor

Start 12³⁰ Finish 4⁰⁰

75x 1:2:4 Mix 44 Batches 308 5x.

1- Mixing Plant.

1- Barber Concrete 8' Truck

2- Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman.

1- Mixerman 2- Men

Conc Del. 2- Truck Drivers.

Racing Conc. 1- Crane Operator

4- Laborers.

✓
North Side wall

Panels

Sta 0+86. 3-12' panels ✓
1-¹¹⁻⁴¹12' Blank ✓
2-12' Panels ✓

17' to Sta 1+25 - 24 Blank

6 1/2' to 2-12' panels

7' to Sta 1+60

16' 7" to 2-12' Panels

2' to Sta 2+00

✓
Sept 20, 1934

Tunnel Repair 700 to 1020 = 4 1/2

1- Mixer man

2 Laborers

2 1/2 Sx cement

Sta 10+93

Large hole picked into
concrete at crown.

Sept 22, 1934

Tunnel Repair 130 to 4

1- Mixer man

2- Laborers

Mixer man sidered by Tom Connelly not
to do anymore grouting. & to cut 2 pipes
at Sta 11+51. Outside of grout area.

Sept. 21, 1934 ✓

Spruway Excavation 7⁰⁰ to

1/2 compressor } 12³⁰ to

1- Jackhammer

1- Driller

1-2-3 Muckers 7⁰⁰ to 11³⁰

2- Drillers 7⁰⁰ to 11³⁰

2- Muckers 12³⁰ to

✓
~~Heavy~~ Plant Cleanup 7⁰⁰ to 7⁰⁰

1- Mechanic 2³⁰ to 9⁰⁰

2- Laborers

1- Crane Operator

1- Truck Driver

41
Sept. 21, 1934 ✓

North Sidewalk

Forms 7⁰⁰ to

1- General Foreman

1- Carpenter Foreman 7⁰⁰ to 11³⁰

1- Carpenter

3- Laborers 7⁰⁰ to 9⁰⁰

1- Truck 2 hrs.

1- Laborer 7⁰⁰ to 9⁰⁰

1- Carpenter 12³⁰ to

Drilling punch holes 12³⁰ to

1/2 compressor

1- Jackhammer

2- Drillers

Placing Rein Steel 12³⁰ to

1- Truck

1- Carpenter Foreman

1- Laborer

57%
Overbreak
= 16 cu yds

✓
Sept. 21, 1934

75x Retained

North Siderall conc.

2nd 6 feet on #2, #3 & #5 Section

1st 6 feet on #8 Section

Start 9° Finish 23° Air ✓

a 75x 1:2:4 Mix 12 Batches 84 Sx

b 55x 1:2 Grout 3 Batches 15 Sx

c 65x 1:2:4 Mix 32 Batches 192 Sx

Less 2 Batches washed	$\frac{12}{30}$	$\frac{192}{12}$ Sx	$\frac{291}{12}$ Sx
	$\frac{180}{12}$		$\frac{279}{12}$ Sx

1- Mixing Plant.

1- Barber Concrete & Truck ^{Quarry to Station} Plant.

2- Blaw Knox Truck Mixer

1- No 10 Crane.

1- General Foreman ⊕ on forms.

1- Mixerman 2 Men

Conc Delivery 2 Truck Drivers

Placing Conc 1- Crane Operator.

4- Laborers.

✓
Sept. 21, 1934

North Siderall

Forms Continued. 2³⁰ to 4:14

1- Crane

1- Crane Operator

1- General Foreman

4- Laborers.

42

✓
Sept. 22, 1934 1052 Belamed
1650 Cleavel.

North Sidewalk Concrete.

3rd 6' Lift #2, #4, #6

2nd 6' Lift #8

Start 8⁰⁰ Finish 130 ^{5¹⁰}

(a) 55x 1:2 Grout 4 Batches 20 5x

(b) 65x 1:2:4 Mix 38 Batches 228 5x
298

1- Mixing Plant

1- Barber Greene #1 Truck

2- Blaw Knop Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

2- Men

Conc. Del. 2- Truck Drivers

Placing Conc. 1- Crane Operator

4 Laborers.

✓
Sept. 22, 1934

North Sidewalk

Drilling Anchors 700 ft.

1/2 Compressor

1- Jackhammer

2 Drillers

Forms. 700 to 8

1 Carpenter Foreman 700 to 1100

2 Carpenters.

1 E. Laborers. 700 to 1100

Cleanup. 700 to 8

1 General Foreman

6 Laborers.

1 Mixerman

2 Men

1 Crane Operator

✓
Sept. 22, 1934

Spitzer Excavator 7⁰⁰

1/2 Compressor

1- Sackhammer

1- Laborer 7⁰⁰ to 8

1- Laborer 8⁰⁰ to 7

1- McMillan Operator 1 hr

1- Laborer 10⁰⁰ to 5

1- Laborer 12³⁰ to 3 1/2

1- Laborer 1³⁰ to 4⁰⁰ 2 1/2

✓ Forms Continued 26
2 1/2

1- Truck 7⁰⁰ to

2- Laborers

1- Laborer 11⁰⁰ to 11³⁰

✓ Placing Reinf. Steel 11⁰⁰ to

1- Carpenter Foreman

1- Laborer

#2 Shift Sept. 21 ✓

44

#4 Panel 3rd Lift

top cut of line 2' to 4'

on account not using prop.

line wires See sketch

Top of wall Stations

0+66 0+91 Z

1+25 1+60

Tie Top 4x4 with #9 wire
about 3' centers

Tie bottom 4x4 to harpins
instead of vertical steel

the steel springs over about
3/4 ft and leaves unsightly
joints

West end of #2 ^{Section} pane spring out
about 1" with forms only half full.
Tie 4x4 to adjacent row of hooks.

Sept. 22, 1934.

Forms Continued ✓

- 1- Crane 12 to 4:00
- 1- Crane Operator = 2 1/2
- 1- General Foreman
- 3- Laborers.

Sept 24

✓ Rain over Sunday

25x cement rejected

Tunnel Repair 7:00 to 9:00

- 1 Mixerman
- 2- Laborers.
- 3- 5x cement

Sept 23 Sunday

Sept 24 7am to 4pm 1934

Spillway Excavation.

- 1- McMillan & Operator 7-9 AM
- 2- Oilers 7:00 to 8:00 = 1 hr.
- 7:00 to 10:00
- ③ ④ Muckers
- 4 Muckers 10:00 to
- 1- Powderman ✓
- 1/2 Compressor - 1-

near East End of 0.9

1- #7 Shovel

Dump Trucks 40 - 34 - 31

- 1- Shovel Operator
- 1- " Oiler
- 2- Truck Drivers 7:00
- 1- " " 7:00 to 9:00 = 2 hrs

✓
Sept. 24, 1934

Spillway Concrete
North Sidenail

Laying 4" Drains.

1- Laborer 7⁰⁰ to

Sta 1+98 to Sta. 2+50 = 52'

Forms.

1- General Foreman

1- Carpenter Foreman

2- Carpenters.

7⁰⁰
③ ④ Laborers. { 7⁰⁰ to 10⁰⁰
 { 2²⁵ 4⁰⁰ PM

Drilling Suckers 8⁰⁰ to.

1¹/₂ Compressor
1- Jackhammer
2- Drivers

✓
Sept 24, 1934.

North Sidenail Concrete.

4th 6' Lift Sections #2, 4, 6

3rd 6' Lift Section #8

(a) 5x 1.2 Groat 4 Batches 20 5x

(b) 65x 1.2, 4 Mix 42 Batches 25 5x
Av. Water - 40 Gal. per Batch

Start 10⁰⁰ Finish 2:45 PM
3 = 4 hrs.

1- Mixing Plant

1- Barker Concrete on Truck

2 Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mechanic

2 Men

Concrete & Truck Drivers

Hacing Case 1- Crane Operator

4 Laborers

App. Supply 1- Truck Driver *

* See Daily Report for last 3 days.

✓
Sept. 24, 1934

Plant Clean up. { 9⁰⁰ to 10⁰⁰

1. Miceumaw { 2:45 - 4:00 PM

2. Lakings.

2. Truck Drivers

✓
Sept. 24, 1934

Canyon R. Co. Samples.

3244 Dirty Rock at Bedenawee

3245 2 1/2" at Bunkers.

3246 1 1/2" " "

3247 3/4" " "

3252

~~3248~~ 1/2" River " "

3253 Fenton Pea

✓
Sept. 25, 1934

Spillway Excavation

- 1- Cab + Mc Millan + Operator 7⁰⁰ to 11⁰⁰
1- Powderman
2- Drillers 7⁰⁰ to 8⁰⁰
3- Muckers 7⁰⁰ to 8⁰⁰
1- #7 Shovel
2- Dump Trucks } Harper?
1- Shovel Operator, 1 Oiler } 11⁰⁰ to
2- Truck Drivers }

✓ North Sidewall

- Drilling Anchors 8⁰⁰ to 2³⁰ PM
1/2 Compressor
1- Jackhammer
2- Drillers
Grouting Anchors - 2⁰⁰ - 4⁰⁰
4 Laborers

Note: 2 5x Cement
delivered for Grouting

✓
Sept. 25, 1934

48

North Sidewall ✓

Forms.

- 1- General Foreman 7⁰⁰ to 10⁰⁰
1- Carpenter Foreman
2- Carpenters
4- Laborers 7⁰⁰ to 10⁰⁰

Stripping

- 3- Muckers 8⁰⁰ to 2³⁰ = 5 1/2

Sept 25, 1934

North Sidewalk Concrete

5th 6' Lift Sections # 2, 4, & 6

4th 6' Lift Section # 8

(a) 55x 1:2 Grout 4 Batches 205x

(b) 65x 1:2:4 Mix 28 Batches 1685x

(c) 63x 1:2:5 Mix 18 Batches 1085x

Start 10:00 Finish 3:45 PM = 5

Av. Gal. Water per Batch = 42

1- Mixing Plant

1- Barber Greene & 1 Truck

Blaw Knox Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

Men

Conc. Delivery Truck Drivers

Placing Conc. 1- Crane Operator

4- Laborers

App. Supply Truck Driver

(c) Note. 1:2:5 Mix used on 5th 6' lift of Section # 6.

49

Sept. 25, 1934

11:30 a.m. Conversation regarding Tunnel

Mr Tom Connelly (T.C.)

Mr O.C. Steves (O.C.S.)

Inspector Ottavon Saggam. O.V.S

Mr. T.C. - Who ordered you to

inspect the tunnel?

O.V.S - I am concrete inspector here and look after tunnel repairs.

Mr. T.C. You go cutting any more holes in the tunnel & I will start cutting holes in you.

O.V.S. You and the city had better find out what you are going to do about the tunnel. I only report work here and report conditions as I find them.

✓
Sept 26, 1934.

North Sidewall

Forms 7⁰⁰ to

1- General Foreman 7⁰⁰ to 11³⁰

✓ 2- Carpenters 7⁰⁰ to

✓ 3- Laborers 7⁰⁰ to 11³⁰

1- Laborer 12³⁰ to

✓ Stripping & Clean up 7⁰⁰ to 11³⁰

✓ 3- Laborers 7⁰⁰ to

2- Laborers 7⁰⁰ to 11³⁰

50
✓
Sept 26, 1934

Spillway Excavation 7⁰⁰ to

1- No 7 Shovel

Dump Trucks 40-31-34

1- Shovel Operator & 1 Oiler

Truck Drivers

1/2 Compressor 1- Jackhammer

✓ 1- Powder man
✓ 2- Drillers 12³⁰ to

Drilling Anchors East Warped Surface
7⁰⁰ to 11³⁰

1/2 Compressor near East Apron

2- Drillers

2- Jackhammers

1- Laborer 12³⁰ to

Sept. 26, 1934
North Sidewalk
Drilling Anchors $\frac{20}{20}$
Compressor
1- Jackhammer
2- Drillers

✓
Finishing 7⁰⁰ to 11³⁰ = 4 1/2
1- Finisher
2- Laborers
25x cement

✓ Concrete Samples 9/26/34
3258-59-60

Concrete Delivery 2- Truck Drivers
Paving Crew 1- No 10 Crane Operator
4- Laborers
Agg. Supply 1- Truck Driver

51
✓
Sept. 26, 1934
North Sidewalk Concrete.
6th 6' Lift Sections #2, 4, 6
5th 6' Lift Section #8
Start 12³⁰ Finish 6¹⁵ = 5 3/4

(a) 5x 1:2 Grout 4 Batches 20 Sx
(b) 65x 1:2:4 Mix 28 Batches 168 Sx
(c) 65x 1:2:5 Mix 24 Batches 144 Sx

1- Mixing Plant
1- Basket Concrete 8' Truck
2- Black Kover Truck Mixers
1- No 10 Crane
1- General Foreman
1- Mixerman 2 Men.

1:2:5 Mix used on
Note: 6th 6' Lift # 6 Section

Sept 27, 1934
North Sidewall

Form. 7⁰⁰ to 4⁰⁰

1- General Foreman

2- Carpenter

✓ 6- Laborers

1- Truck & Driver 7⁰⁰ to 11³⁰

2 #10 Crow & Operator

1- Helper 12³⁰ to

Finishing 7⁰⁰ to 11³⁰

1- Finisher 7⁰⁰ to 11³⁰

2- Laborers 7⁰⁰ to 9⁰⁰ ^{to be} ^{Book & use}

2- 5x cement.

4 Hunt Process

~~2 laborer~~

Plant Clean Up

1- Mixer man 12³⁰ to.

52
Sept. 27, 1934
Excavation 7⁰⁰ to 4⁰⁰

1- Compressor

2- Jackhammers

2- Drills 7⁰⁰ to 11³⁰

1- Pumperman

1- Driller 12³⁰ to

1- No 7 Shovel

Dump Trucks 40-34-31

1- Shovel Operator & O. ler

Truck Drivers

✓
Sept. 28, 1934

North Sidewall

Forms

- 1- General Foreman
- 1- Carpenter Foreman
- 2- Carpenters.
- 2- Laborers

Stripping & Clean up

- 5- Laborers.

Finishing

- 1- Finisher 10⁰⁰ to

53

✓
Sept. 28, 1934

Excavation near East Apron

- 1- #7 Shovel
- Dump Trucks ^{7⁰⁰} 40 - ^{7⁰⁰} 34
- 1- Compressor.
- 2- Jackhammers
- 1- Powderman
- 1- Shovel Operator, 1 order
Truck Drivers.

✓
Slide at East Abutment on seam
between rock & dig. at 4⁵⁵ Sept. 27
According to powderman only shots
were on floor of apron.

✓
Sept. 28, 1934

11:00 to 4:45
~~12:00~~ to

Spillway Excavation Continued

- 1 - #11 Shovel
- 3 - Dump Trucks 32-
- 1 - Shovel Operator 1 - Oiler
- Truck Drivers

✓
Sept 29, 1934

Spillway Excavation ✓

- 1 - # 7 Shovel
- 1 - Compressor
- 1 - Sledgehammer
- 1 - Cat No. Mixer & Operator 12:30 to
- 1 - Powderman
- 2 - Laborers
- 1 - Driller

Dump Trucks 39- 34-

- 1 - Shovel Operator - 1 Oiler
- Truck Drivers

54

✓
Sept 29, 1934

North Sidewalk

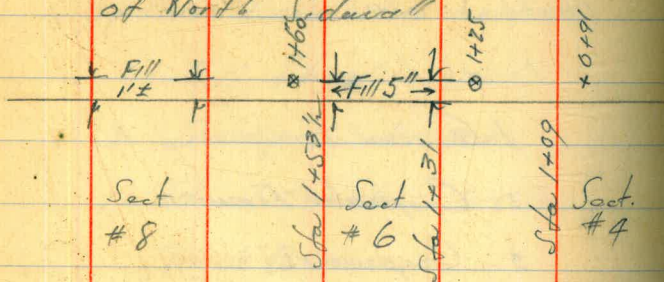
Forms

- 1 - General Foreman
- 1 - Carpenter Foreman
- 2 - Carpenters
- 5 - Laborers

✓
Finishing 10:30 to

1 - Finisher

✓
Finish Grades for Top
of North Sidewalk



Sect
#8

Sect
#6

Sect.
#4

✓
Sept. 30, 1934 Sunday
Wetting Conc.

1- Foreman }
1- Laborer } 4 hrs.

55
Sept 30, 1934 Sunday

Oct 1, 1934. 7am to 4pm

North Sidewalk

Forms.

1- General Foreman
1- Carpenter Foreman
2- Carpenters
5- Laborers.

✓
Tunnel Repair 8 hrs

1- Finisher

1- Laborer

3x cement.

✓
Oct. 1, 1934 #1 Shift

Spillway Excavation

- 1- Compressor
- 1- Cat & Mc Millan & Operator Inc
- 1- Powderman
- 2- Muckers. 7⁰⁰ to
- 1- Mucker. 12³⁰ to

Moved in at 11⁰⁰ = 4 hrs

1- #7 Shovel

Dump Trucks. 34 - 40 -

1- Shovel Operator

1- " Oiler

Truck Drivers

56

✓
Oct. 1, 1934 #2 Shift

Spillway Excavation

1- #7 Shovel

Dump Trucks 39 - 40

1- Shovel Operator

1- " Oiler

Truck Drivers

1- Mc Millan & Operator

Handling exp. & rocks to emb.

✓
Oct. 1, 1934 #2 Shift

North Sidewall

Clean up 4⁰⁰ to 5³⁰

1- Foreman

1- Crane Operator

2- Carpenters

4- Laborers

1- Mixerman

2- Men

Concrete Samples #

3320-21-22 Stwt+20 Elev 75'

Forms

2- Carpenters 5³⁰ to

Mix used. 6sx cement

1250 # Sand

3570 { 1370 # 1 1/2 & 1"

750 # 3/4 & 5/8"

200 # crusher pea

57

✓
Oct. 1, 1934 #2 Shift

North Sidewall

4th 6' Lift Sections # 3, 5, 7

3rd 6' Lift Section # 10

Start 5³⁰ Finish 10⁰⁰ =

1- Mixing Plant

1- Barber Crane & 1 Truck

3- Blain Knox Truck Mixers

1- No 10 Crane

1- Foreman

1- Mixerman

3- Men

3- Truck Drivers

Placing

1- Crane Operator

4- Laborers

App. Supply

1- Truck Driver

(a) 5sx 1:2 Grout 4 Batches 20 sx

(b) 6sx 1:2:1 Mix 33 Batches 198 sx

218 ✓

5 rows
8 rows
Sta 2+51 to 2+73
Sta 2+79 to 3+18
5 rows
8 rows
re-drill #2, 4, 6 & 8
re-drill all 6 & holes.
away of the top row
20 holes.

✓
Oct 1, 1934 #2 Shift

North Sidewalk

Forms Continued. 10⁰⁰ to

- 1- Crane
- 1- Crane Operator
- 6- Laborers.
- 2- Foreman

Condition of Audubon Notes.

Last row grouted Sta 2+45

Average Angle of Hole.

Sta 2+51 to Sta 3+18

Sta 2+79 to Sta 3+18

row # 1 to # 8 out of line,

1 2' to low

8 over 2' to low

5 rows. Sta 2+51 to 2+73

8 rows Sta 2+79 to 3+18

two ok
angled hole
out of line
Angle of hole

58

✓
Oct 2, 1934 #1 Shift

Spillway Excavation

1- #7 Shovel 7⁰⁰ to 9⁰⁰

Dump Trucks } 34-40-39

1- Shovel Operator } moved to

1- " Oiler } West Dg Spoil Bank

Truck Drivers }

1- Capt. M. Millan } 7⁰⁰ to 11⁰⁰ - 4 hrs.

1- Capt. Operator }

1- Foreman

1- Powderman

2- Drillers

5- Muckers 7⁰⁰ to 11³⁰

4- " 12³⁰ to

1- Shovel Operator

1- Oiler } ⊗

Truck Drivers }

Oct. 2, 1934 #1 Shift

North Sidewall

Forms 700 to

1. Carpenter Foreman
2. Carpenters
5. Laborers

Finishing 700 to

1. Finisher
 1. Laborer
- 5 #5 cement.

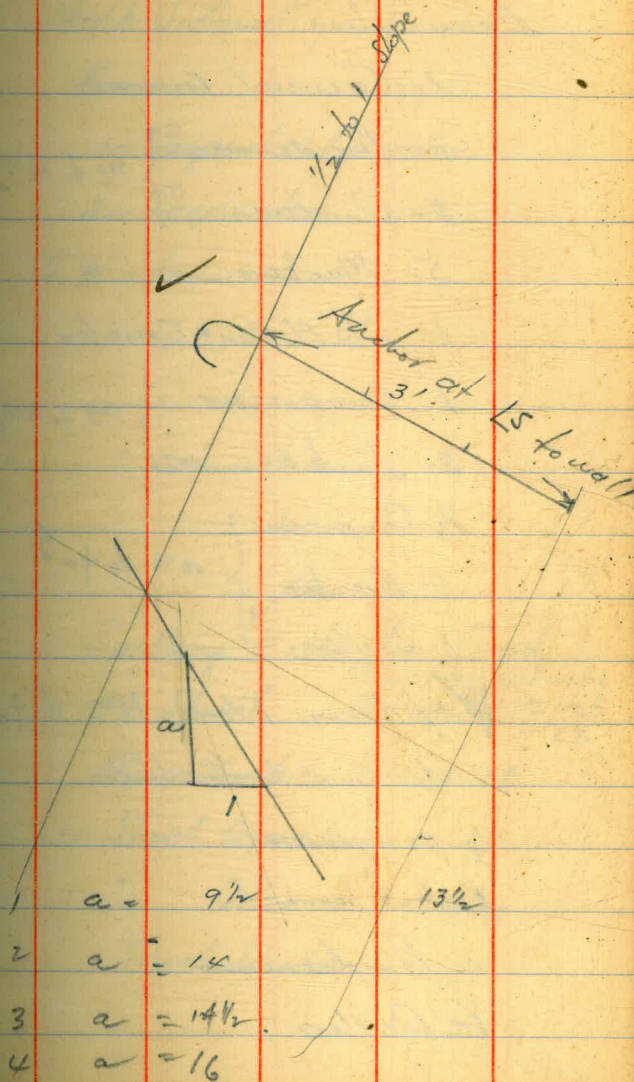
3 = 11.25

5 = 23.3

7 = 23.3

9 = 11.5

59



✓
Oct. 3, 1934 #1 Shift
Spillway
Excavation

- 1- General Foreman
- 1- Powder man } 7⁰⁰ to 10⁰⁰ M
- 2- Drillers }
- 5- Muckers
- 1- McMillan Operator
- 1- Compressor } 7⁰⁰ to 10⁰⁰ M
- 2- Jack hammers }
- 1/3 Compressor } 10⁰⁰ to 4⁰⁰ P
- 1- Breaker }
- 1- Driller }

✓ Spillway Floor 10⁰⁰ to 4⁰⁰ P

Drilling Anchor Holes

- 2/3 Compressor
- 2- Jack hammers
- 1- Powder man
- 1- Driller

60
Oct. 3, 1934 #1 Shift

North Sidewall

Forms

- 1- Carpenter Foreman
- 2- Carpenters
- 6 - laborers

✓
Spillway Excavation Cont.

1- #7 Shovel. Moved from Lohschie
Material 12³⁰ to 3
= 2 1/2

Dump Trucks 31-34-39

1- Shovel Operator

1 " Oiler

Truck Drivers

✓
Oct. 4, 1934 #1

North Side wall

Forms
1 - Carpenter Foreman 7⁰⁰ to

2 Carpenters 7⁰⁰ to

3 Laborers, 8⁰⁰ to

1 - Laborer 9³⁰ to 2⁰⁰

Finishing 7⁰⁰ to 9³⁰

1 - Finisher 9⁰⁰ to

1 - Helper

55x cement

Clean up 7⁰⁰ to 8⁰⁰

7 - Laborers

61
✓
Oct. 4, 1934 #1

Spillway Floor

Placing Steel Erecting Anchors

Setting Screeds - Clean up

1 - General Foreman

1 - Steel worker

1 - Laborers

} 7⁰⁰ to 9³⁰

15x cement

Oct. 4, 1934 #1

Spillway Excavation

- 1- Compressor
- 2- Jack hammers
- 1- McMillan & Operator 1 hr.

1- General Foreman 7⁰⁰ to 4¹²

1- Powderman

2- Drivers

1- Mucker 7⁰⁰ to 4 = 8

3- " 8⁰⁰ to 9³⁰ = 1 1/2 4 1/2

5- " 9⁰⁰ to 4 = 2 - 10

1- #7 Shovel 7⁰⁰ to 11³⁰

Pumps Trucks 31-34-

1- Shovel Operator

1 " Oiler

Truck Drivers

Hauling rock & dig to embankments

Oct 4, 1934 #1

62

Spillway Floor Concrete.

Sta 2461 from 97' to 118' N of Opp.

Sta

Start 9³⁰ Finish 2⁰⁰ = 3 1/2

65x 1:2:4 1/4 in 35 Batches 210 cu.

1- Mixing Plant

1- Barber Concrete & 1 Truck

2- Blaukamp Truck Mixers

1- No 10 Crane

1- General Foreman

1- Mixerman

3- Men

Com. Del. 2- Truck Drivers

Placing Conc. 1- Crane Operator

2- Laborers

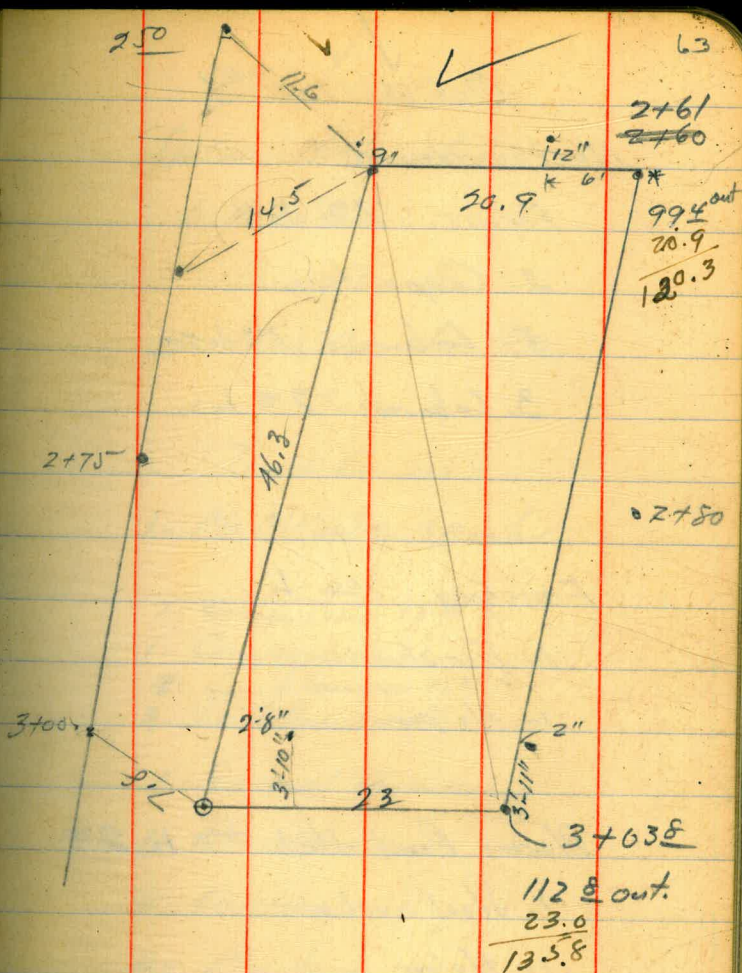
App. Supply 1- Truck Driver

Finishing 1- Finisher

Oct 4, 1934

Flood Anchors

	15 Conc.	Sandy	100 ft.	
1st row	5	2		= 7 ✓
2nd	6	1	1	= 8 ✓
3rd	5	1	1	= 7 ✓
4th	5	2	1	= 8 ✓
5th	6	2	x	= 8 ✓
6th	6	1	x	= 7 ✓
7th	5	1	1	= 7 ✓
8th	5	1	1	= 7 ✓
9th	6	1	x	= 7 ✓
10th	6	1	1	= 8 ✓
11th	5	1	1	= 7 ✓
12th		3		



✓
Oct. 5, 1934 #1

North Sidewall

Forms. 7⁰⁰ to

2. Carpenters.

5. Laborers. 7⁰⁰ to 2⁰⁰

3. Laborers. 2⁰⁰ to

Finishing 7⁰⁰ to

1- Finisher

1- Helper.

Placing Rein Steel 7⁰⁰ to 2⁰⁰

1- Steel worker

1- Helper.

Drilling Anchors 12³⁰ to 4

1- Compresso

1- Jackhammer

2- Drillers.

64

✓
Oct. 5, 1934

Spitway Excavation

1- #7 Shovel.

Dump Trucks

1- Shovel Operator

1 " Oiler

Truck Drivers

1- Mc Millan & Operator

1- Compressor 12³⁰ to

1- Compressor

1- Jackhammer 12³⁰ to

2- Jackhammers

1- General Foreman

1- Parade man.

2- Drillers

4- Members

Slide during night about 9pm 2nd shift

Loads of Dg.

7.22 #31 8.00 #31

7.46 #31

} 11 Loads

✓
Oct 5, 1934

Grouting North Sidewall Anchors

1- Carpenter foreman ^{2:00 to 3:00}

3- Laborers.

1 Sx cement $\frac{1}{2}$ $\frac{1}{2}$

Finister used.

5-3 = 2 Sx

Laying 4" Drain tile 3:00 to

Sta 1+78 to 2+84 Sta

1- Carpenter foreman

3- Laborers

2+75

12'

2+87 See Anchor Sta - 1 ft.

✓
Oct 6, 1934 #1

North Sidewall

Forms 7:00 to

2- Carpenters } 7:00 to 11:30

2- Helpers }

1- Carpenter foreman } 2:30 to 4:00

1- Helper

Placing Reinforcing Steel 7:00 to 11:30

1- Steel worker

2- Helpers

Finishing 7:00 to

1- Finister

1- Helper

5 Sx cement delivered

3 Sx to grouting Oct 5-

2 Sx for finishing

✓
Oct. 6, 1934 #1

Spitway Excavation.

- 1- #7 Shovel
- Dump Trucks
- 1- Shovel Operator (X)
- 1 " Oiler
- Truck Drivers

1- McMillan & Operator

- 1- Compressor
- 3- Jackhammers
- 1- General Foreman
- 3- Drillers 7⁰⁰ to 11³⁰ 4³⁰ to
- 1- Rouderman
- 2- Drillers 12³⁰ to 1³⁰
- 5- Muckers 7⁰⁰ to 11³⁰
- 7- " 2³⁰ to 4⁰⁰
- 4- Muckers 12³⁰ to

- 1- Compressor } 7⁰⁰ to 11³⁰
- 1- Jackhammer } 1³⁰ to
- 1- Driller 1 1/2 hr

✓
Oct 6, 1934

66

North Sidewall

- Granting Anchors 12³⁰ to 2³⁰
- 1- Carpenter foreman
- 4- Laborers 12³⁰ to 1³⁰ = 1
- 2- " 1³⁰ to 2³⁰ = 1
- II- Scaffolding
- Stripping
- 1- Laborer

Drilling Anchors 12³⁰ to 1³⁰

- 1- Compressor
- 1- Jackhammer
- 4- Driller

Laying 4" Drain Tubs

- 2- Laborers 1³⁰ to 2³⁰
- Sta 2+84 to 3+25

✓
Oct. 7, Sunday

Oct. 8, 1934 Tamboyan

North Sidwall

Forms 7⁰⁰ to 11³⁰

1- Carpenter Foreman }
2- Carpenters } 4 1/2
4- Laborers }

1- Carpenter }
1- Laborer } 12³⁰ to

Finishing 7⁰⁰ to

1- Finisher

1- Helper

Shipping & Finishing

1- Carpenter

2- Laborers

Placing Rein. Steel

1- Steel worker
Laborer

✓
Oct. 8, 1934

Excavators

1- No 7 Shovel

Dump Trucks 40-

1- Shovel Operator

1- " Oiler

Truck Drivers

2- Compressor

3- Jackhammers

4- Drillers

1- Powder man

1- General Foreman

3- Packers

Ok Harper

Oct 8, 1934 #2 Shift

North Sidewall

1st 6' Section #14 Subgrade to 6' 24'

2nd 6' Lift Section #12 24'

Start 6⁰⁰ Finish

1- Mixing Plant

1- Barber Greene #1 Truck

2- Blaw Knox Truck Mixers

1- No. 10 Crane

1- Foreman

1- Mixer man

Men

Concrete 2- Truck Drivers

Placing Cons. 1- Crane Operator

4- Men

68

Ok Harper

Oct. 8 #2 Shift

North Sidewall

Clean up, 4⁰⁰ to 6⁰⁰

1- Foreman

4- Men

1- Mixer man

2- Men

1- Crane Operator

2- Truck Drivers

Test Samples Nos.

Oct 8, 1934 ^{ok Harper} 2 Shift

Excavation

1- #7 Shovel

Dump Trucks

1- Shovel Operator

1- " Oiler

Truck Drivers

1- Compressor

2- Jack hammers

2- Drillers

4- Muckers

69
Oct 9, 1934 #1 Shift

North Sidewalk

Stripping

2- Laborers. 7⁰⁰ to

1- Carpenter. 10⁰⁰ to

Finishing 7⁰⁰ to

✓ 1- Finisher

✓ 1- Helder

✓ 2- Laborers 10⁰⁰ to

55x cement delivered

Forms. 7⁰⁰ to 10⁰⁰

1- General Foreman

1- Carpenter Foreman

2- Carpenters

3- Laborers

✓ 1- Carpenter 10⁰⁰ to

Drilling anchors 7⁰⁰ to

✓ 1- compressor

✓ 1- Jackhammer

✓ 2- Drillers

4 to timber

1 to ground

5

3 hrs.

✓
Oct. 9, 1934 #1 Shift

Excavation

✓ 1- Compressor

✓ 1- Powderman

✓ 4- Muckers

✓ 2- Drillers

1- #7 Shovel 7⁰⁰ to ~~11³⁰~~

1- #6 Shovel 7⁰⁰ to

4- Dump Trucks

#7 { 1- Shovel Operator } 7⁰⁰ to ~~11³⁰~~
1- Shovel Operator

1- Shovel Operator

1- Shovel Operator

4- Truck Drivers

✓
Oct. 9, 1934 #1 Shift

North Sidewall

Laying 4" Drain Tile

2- laborers 10⁰⁰ to 11³⁰

Sta 2+84 to 3+50 = 66'

Placing Rein Steel 10⁰⁰

1- Steel Worker

1- Laborer

1- Laborer 12³⁰ to

✓
Oct 9, 1934 #2 Shift

North Sidewall

①th 6' Lift Sections Nos. 9
3rd 6' Lift Section No. 12
2nd 6' Lift Section No. 14 42
6 gallons of water per Batch

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

5 Sx 1:2 Grout 4 Batches 20 Sx

Start 5:00 Finish 8:15 = 3hrs

1- Mixing Plant

1- Barber Greaser / Truck

2- Blaw Knox Truck Mixers

1- No 10 Crane

2 Batches grout ^{5 Sx Per batch} 20 sacks

1- Foreman

1- Mixerman

2- Men

Concrete 2- Truck Drivers

Placing 1- Crane Operator

5 Laborers

App. Supply 1- Truck Driver

N.B. Concrete crew completed shift on spur ^{excav}

✓✓
Oct 9, 1934 #2 Shift

North Sidewall

Clean up 4:00 to 5:00

1- Foreman

5- Laborers

Mixing Plant

1- Mixerman

2- Laborers

2- Truck Drivers

1- Crane Operator

1- Carpenter

✓
Oct. 9, 1934 #2 Shift
Spitway Excavation 4⁰⁰ to
1/2 Compressor
1- Jackhammers
4- Laborers
7- Laborers 8⁰⁰ to 12 = 4 hrs.

✓
Drilling Floor Anchors 4⁰⁰ to 12
= 8 hrs.
1/2 Compressor
2- Jackhammers
2- Dr. Holes

74
✓
Oct 9, 1934 #2 Shift
North Sidewall
Grouting Anchors 5⁰⁰ to 8⁰⁰
= 2 hrs.
1- Carpenter
1- Laborer

✓
1- Cement

Forms

1- Carpenter 8⁰⁰ hrs = 4 hrs.
1- Foreman
2- Helper

Oct 4. Mix for wall
on Seales

1 1/2"	1530	1530
Sand	2830	1300
3/4"	3460	630
pear	3570	
		<u>110</u>
		3570 ✓

Oct 9. Mix on Seales

1 1/2"	1470	1470
Sand	2770	1300
3/4"	3460	690
pear	3570	
		<u>110</u>
		3570 ✓

Gallons of water.

Oct 4, 1934
Spillway Floor Mix
Cleaning up $3\frac{1}{2}''$

1680 # $1\frac{1}{2}''$	1680 #
2920 # Sand.	1240
3460 $3\frac{1}{4}''$	540
3570 pea	110
	<u>3570 # Total.</u>

40 1/2 gallons. mix ok

Test Samples No.

3329 - 30 - 31

North Sidewall

3332 - 3333 - 3334

Estimate of Aug 4, 1934.
Side Lining 1500
Filter 700 overbank
Filter 800
Cutoff & Cone 200
Apron 160

3300 cu yd

Tunnel Plug . 600
4000 cu yd.

Section # 8 Sta 1+76 to 1+98.

" # 9 Sta 1+98 to 2+09

" # 10 Sta 2+09 to 2+42 1/2

Oct 1, 1934

Wall mix for 7/8" down to pea

1 1/2 x 1"	1370 #	1370 #
		1250 #
Sand	2620 #	
		750 #
3/4"	3370 #	
		200 #
crusher pen	3570 #	

for test cylinders # 3320-21-22

3570
2270

Sept. 20

North Sidewall mix

75x cement for toe of wall
65x " for walls.

1400# Sand

1370 # 3/2 x 1"

600 # 3/4"

200 # pea

for
crusher
material
poor
grading

copy to Stanes Sept. 25th

1470
1400
2870
600
3470

3270
800
1470

1370
1400
2770
600
3370
200
3570

1400

1370

600

200

3570

1:2:4 For North Sidewall

using Fenton 5/8" down 1 1/2 x 1" Campenell Co.

65x cement

1300 Sand

1680 # 1 1/2 x 1"

590 # 5/8" to pea

3570

Rock Samples

3137 Passing %

{	2"	100
	1 1/2"	86
	1 1/4"	41
	1"	9
	3/4"	1

3138

{	1"	100
	3/4"	86
	1/2"	29
	1/4"	1

Fantoms Murray Canyon 3/8" diam

3/4"	100
1/2"	84%
1/4"	12%

Sept 19, 1934

1:2:1 Mix Using Campes & Co.

1a

65% Cement

900 to 1000
1300 # Sand

2b

Try 1000 to 100
1300 # Sand

{	1680 # 1/2" x 1"	1680
	390 # 3/4"	150
		1530
2270	390 # 3/4"	
590	200 # pea	590
		1500

{	1530 # 1/2" x 1"	1530
	490 # 3/4"	490
		2020
250 # pea		250
		3570

3c

Try 100 to

Copy to Staves
Sept 28th

1350 # Sand
1530 # 1/2" x 1"
490 # 3/4"
200 # pea

4 trial Mix
for trial
65% cement

1350 # Sand
1420 # 1/2" x 1"
600 # 3/4"
200 # pea
3570 # Total

1:2:4 Mix
Using Canyon Rock Co.

65x cement.
1300# Sand
1720# 1/2" & 1" River Rock
400# 3/4" Crusher Rock
200# pea. (Crusher)

3670# Total

78
1:2:4 Mix
using Canyon Rock Co.

65x Cement.
1300# Sand
1680
~~1273~~ # 1/2" & 1" *ok mix Sept 12*
660 # 3/4"
~~990~~
200# pea
2273

2273
590

1683

Using 1/2" only.

65x cement. (+)
1350# Sand
1220 # 1/2"
800 # 3/4"
200 # pea.
~~2620~~ 3570
2270
50

2270

1:2:5 Mix

Yield 1.08

6sx cement

1400# Sand. 1300# Sand

850 # 2 1/2" Rock 850

970 # 1 1/2" Rock 970

430 # 3/4" Rock 520
600

200 # pea 200 out.

Total 3840 #

$$2\frac{1}{2}" = \frac{850}{2540} = 33$$

$$1\frac{1}{2}" = \frac{1170}{2540} = 46$$

$$\frac{3}{8}" = \frac{520}{2540} = 21$$

100

1:2:4 Mix

Yield 1.03

6sx cement

1300# Sand
1440# 1 1/2" rock

2320 } 680 # 3/4"

200 # pea

3620 # Total Aggregates

~~1:2:4 Mix for Canyon R.C.~~

~~6sx cement~~

~~1300# Sand~~

~~1 1/2" & 1" Rock~~

~~400 # 3/4"~~

~~200 # pea~~

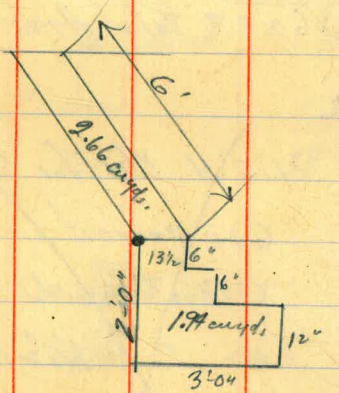
~~3547#~~

$$\frac{3620 \times .98}{2320} = 2273$$

600

1:2 Grout
 55x cement
 1000# Screened Sand.
 Yield 4 cu yd.

2 1/2" x Grout 100 Anchors.



Net Vol. per 12' panel.

Overtime Sept. 18 4hrs
 Sept. 25 4hrs
 Sept 28 3hrs
 Oct 1 7hrs #2 shift
 Oct 3 3hrs 4to5
 6to8
 Oct 8 3hrs 4to5 6to8
 Oct 19 6hrs 4to7 8to10
 40 hrs.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ 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.