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.

	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 Julian A. Hall, M. Am. Soc. C. E.

470

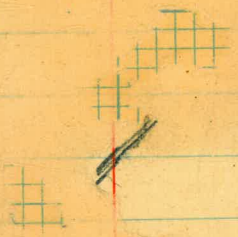
El Capitan Dam.
Concrete Field Book
By

Otto von Seggern
Concrete Inspector

Dec 19, 1933 to Jan 22, 1934.

Grading 2, 21, 39

Blank Pg. 1, 59, 60, 65, 68-76



Sketch Transferred
to Book No 471

Dec 19, 1933

Corewall Grout Holes.

No	Sta	Depth.	Pipe Lth.
1	E 4092	25'-6"	20'-9"
2	W 4100	25'-6"	20'-6"
3	E 4105	25'-8"	20'-8"
4	W 4110	25'-8"	21'-8"
5	E 4115	25'-6"	21'-2"
6	W 4120	25'-8"	20'-4"
7	E 4125	25'-6"	21'-0"
8	W 4130	25'-5"	20'-6"
9	E 4135	25'-5"	19'-3"
10	W 4140	25'-5"	20'-3"
11	E 4145	25'-5"	20'-4"
12	W 4150	25'-5"	18'-11"
13	E 4155	25'-5"	19'-8"
14	W 4160	25'-6"	20'-0"
15	E 4165	25'-6"	21'-3"

Data By

Mr Buchanan

Inspector

Nite Shift.

Dec 19, 1933 7 am to 4 pm

Corewall 8 hrs.

Drilling Grout Holes.

1- Compressor

1- Water Liner

1- Driller

2- Helpers. (Nite Shift will finish)

Clean up 12^00 am to 7^30 am
7½ hrs.

1- Laborers 7^00 to 9^00

Forms.

1- General Foreman
1- Carpenter Foreman
1- " Helper
2- Laborers. } 7^00 to 1^30 = 5½

1- Laborer - - 1^30 to
Excavation 9^00 to 9^30 = ½ hr.

1- No 10 Crane
1- Truck

1- No 10 crane Operator
1 " " Oiler
1- Truck Driver
4 Muckers.

✓

Dec 19, 1933 7am to 4pm

O.G. Section

Excavation 1- No10 Crane
7 to 9 = 1/2 compressor
2 hrs. 1- Truck

1- No10 crane operator
1- " " oiler
1- Truck Driver
3- Muckers

Forms.

1- General Foreman } 1 80 to
1- Carpenter Foreman. }

✓

Dec 19, 1933 7am to 4pm

Tunnel Finishing 3 SK

1- Jumbo Frame
1- Truck

1- Finisher
1- " Helper
1- Laborer

Mixing Plant Gerhardt

1- Compressor
Dec 18, Dec 19,
1- Mixerman
1- Laborer

✓

Dec 19, 1933.

State Inspection of Corewall

Sta N4088 to N 4164

Elev 700 & Elev 706.

1 30 pm. (ok) message by H.W.

Cutoff at Sta 5+10 to 16' also. ok.

✓

(1-Driller & 2 Helpers Finish 12 to 7 shift at 7 15)

Dec 20, 1933.

Corewall Concrete.

Sta N 4088 to N4100 Elev 700 to 706

Sta N 4088 to N 4166 Elev 706 to 716

Sta N 4096 to N 4166 Elev 716 to 720

Dec 20, 1933.

Test Samples. 34 gals.

Special 1:2:5 Mix Corewall

Sta N 4088 to N 4166 Elev 706 to Elev 720

Nos 1428-29-30.

✓

Dec 20, 1933 7am to 4 pm

Corewall Concrete.

Special Mix for 61 Sections no steel

6 sx cement (220 cu yds.)

1250# Sand — 1000 sx cleaned — 850 / 970 / 770 / 2590 — 1340 / 1030 / 2370

850# 2½" Rock — 1049 sx — 2590 / 2370 / 220 extra.

970# 1½" Rock — 239 Batches Conc.

770# ¾" Rock — 1 3 Batches Grout

Start 7 30 Finish 6 30 10
See Delay 1 30 to 3 00
3 15 to 4 15

Equip 1- Mixing Plant.

3- Blaw Knox Truck Mixers 7 30 to 11 30
3 - Blaw Knox Truck Mixers 12 30 to.
~~1- Barber Greene & Truck~~ 4 15 to 6 30

1- Drag Line & 2 Truck 7 00 to 4 00

1- Gen. Foreman.

Labor. Mixing 1- Mixerman
— Men

Conc. Del. 2 Truck Drivers 7 30 to 11 30
3 Truck Drivers 12 30 to.

Placing 3 Laborers.
" 1- Carpenter Foreman

Forms. 1- Carpenter Foreman. ½

Cleanup 3 Laborers. ½ hr.

Agg Supply 2- Truck Drivers
1- Crane Operator

Copper 12+14+70= 96'

2- Carloads on siding Dec 19
Steves failed to provide sufficient trucks to haul from R.R. Station to warehouse.

1 30 pm 3 00 Out of cement

Whse. down to 6 sx at end of run.
1- load of — sx delivered later.

Hauling Cement.
2-Trucks
4-Men

Dec 20, 1933. 7am to 4pm

Tunnel Finishing 35x 8hrs.

1- Truck

1- Jumbo Frame.

1- 60 caterpillar 1hr.

1- Finisher

1- " Helper

1- Laborer.

1- Cat. Operator. 1hr.

Dec 21, 1933 7am to 4pm

Carewall

Chipping Cone

3- Laborers ½ hr. 10⁰⁰ to 10³⁰

5 Laborers 9⁰⁰ to 10⁰⁰

Forms

1- General Foreman

1- Carpenter Helper ½ hr.

Erecting Str. Steel & Timbering

1- Carpenter Foreman 7⁰⁰ to 9⁰⁰

1- " Helper. 7³⁰ to 9⁰⁰

1- Truck & Driver 1hr.

4 Laborers. 8⁰⁰ to 9⁰⁰ = 1

2/6 Laborers 1hr 7⁰⁰ to 8⁰⁰ = 1/1

Timbering & Er. Str. Steel

1- Carpenter Foreman } 10³⁰ to 4 = 4½

3 Laborers. }

1- Laborer 10³⁰ to 2⁰⁰ = 2½

1- Carpenter Helper } 9⁰⁰ to 4⁰⁰ = 1 3/4

1- Laborer }

See about special location Horz. Steel.

Dec 21 1933 7am to 4pm

O. G. Section

Grout Holes. Finish 1:30

1- Compressor
1- Water Leaner } 1:30 = 5½ hrs
1- Driller 1- Helper

Cleanup 1- Driller } 1:30 to.
1- Helpers.

Erecting Str Steel Cols. (see Dec 29th)

1- welder + outfit 1 hr.
2- Laborers. 1 hr.
1- General Foreman
1- Laborer 10:00 to 10:30
1- Carp. Foreman } ~~9:00 to 10:00~~
1- " Helper.

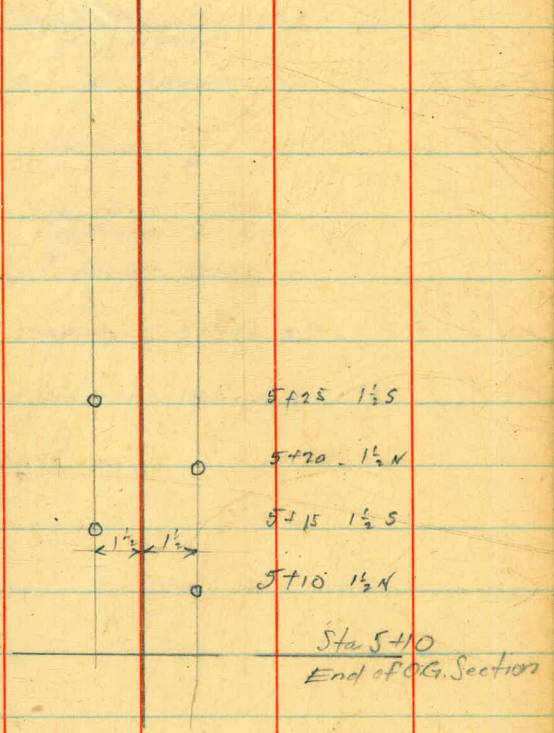
Erecting Gate

1- Truck
1- Laborer } 7:00 to 8:00 ~~to 5~~
1- Carpenter Helper
1- " Foreman 9:00 to 10:00

Dec 21, 1933 7am to 4pm

No	Sta	Depth.	Pipe Depth
1	5+10 N1½'	25'-8"	20'-7"
2	5+15 S1½'	25'-0"	21'-5"
3	5+20 N1½'	25'-6"	20'-11"
4	5+25 S1½'	25'-8"	21'-5"

℄ of 6' Trench



Dec 21, 1933 7am to 4pm

Tunnel Finishing & Repair 3 Sx.

1 - Jumbo Frame

1 - Truck

1 - General Foreman

1 - Finisher

1 - " Helper

1 - Laborer.

Dec 22, 1933 7am to 4 pm

O.G. & Warped Section

1 - General Foreman

Clean up 2 - Laborers 7⁰⁰ to 7³⁰ = ½ hr.

Stripping 2 - Laborers X

15 - Anchor Holes 7⁰⁰ to.

1 - Compressor

2 - Jackhammer

1 - Driller

1 - Driller 12³⁰ to -

Forms 7⁰⁰ to

1 - Carpenter Foreman 7⁰⁰ to 4

3 - Laborer. 1 hr

2 - Laborers 8⁰⁰ to 2³⁰ = 6½

1 - Laborer 2³⁰ to 4 = 1½

Dec 22, 1933 7am to 4pm

Core wall

Note 950± sx in whse

Forms. 1- Carpenter Helper } 7½ to ?
1- General Foreman
1- Laborer 8½ to 2½ = 5 hrs

Grouting 15 Holes. 12½ to 4

see Book 381 p 45-46

Dec 22, 1933.

Spillway Floor.

Clean up. 2. Laborers. 2½ to 4 = 11 hrs

Dec 22, 1933 7am to 4 pm

Tunnel Finishing & Repair

1- Jumbo Frame 7 sx cement

1- Truck

1- Finisher

1- " Helper

1- Laborer.

Removing Air Pipes 7½ to 11½ = 4 hrs.

1- Driller

2. Helpers

Dec 23, 1933 7 am to 4 pm

Spillway Floor 800 sx cleaned 13 sx Rec.

Mix 6 sx 1:2:4 23 Batches

138

Start 8:00 Finish 10:00

1- Mixing Plant.

1. Blaw Knox Truck Mixers

Mixing 1- Mixerman

1 Men.

Conc Del. 1 Truck Drivers

Placing Conc. 2 Laborers.

Finishing 1- Finisher } 1/2 hr.

1- " Helper.

Cleanup. 1- Water Tank Truck

2- Laborers. 1/2 hr.

Hunt Process.

1- Laborer 1 1/2 hr.

Sta 5+61 Beg. 74'N to 103'N of Base Line

to Sta 5+79 Beg 72'N to 103'N of Base Line.

Dec 23, 1933 7 am to 4 pm.

O.G. & Warped Section.

Forms. 7 am to 11:30

(Erecting Str. Steel.)

1- General Foreman.

1- Carpenter Foreman.

1- Carp. Foreman, 1- Laborer, 12:30 to 4:00 (add to Dec 23 day Daily Report)

1- Carpenter Helper 7:00 to 11:30 = 4 1/2

2- Laborers ~~7:30 to 7:30~~ 10:00 to

Clean up.

2 Laborers. 12:30 to 2:00 = 1 1/2

16 Anchor Holes 7:00 to 2:00 = 6 (to Sta 5+30)

1- Compressor

1- Jackhammer

1- Driller

1 Jackhammer } 9:00 to 11:30 = ~~3 1/2~~ 2 1/2

1 Driller

Finishing 1 sx cement.

1- Laborer 10:00 to 11:30

1- Finisher } 12:30 to 4:00

~~1- " Helper.~~

1- Laborer

Dec 23, 1933.

Concwall Grouting see Book 381

Forms. 1- caupenter Helper 12:30 to 4

Clean up 3- Laborers. 2 to 4:00

Dec 23. 1933.

Tunnel Finishing 3 SX

1- Jumbo Frame

1- Truck

1- Finisher
1- Finisher Helper } 11:00 = 4
1- Laborer.

Dec 23, 1933. Finished placing of Bars Dec 28th

O.G. & Warped Section.

Electing Stk. Steel & Placing Bars. 5+26

Sta 5+10 to Bulkhead, Sta 5+25 Elev 706 up to Elev 721±

3- 24' Steel Cols (with lags)

13/16" Hor Steel Bars 6" ctrs. 2 rows.

Begin at Elev. 709.8 up to Elev. 714½ 2 Rows. 6" ctrs.

= 11+11 = 22 - 13/16 ϕ Bars 10½' long + 3' = 13½'

Elev 714½ to Elev 721±

= 12+12 = 24 - 13/16 ϕ Bars = 16½' long ins 3' dowels

Vert. Steel Bars. 20 - 7/8 ϕ Col Bars x 22'

Dec 24, 1933 Sunday Holiday

Dec 25, 1933 Christmas Holiday

Dec 26 1933 Tuesday Holiday

Dec 27 1933. Wednesday Holiday

Dec 28 1933. Thursday 7am to 4pm

✓

O.G Section ½hr. 7⁰⁰ to 7³⁰

Placing Steel Bars.

1- Candy Wagon

1- ~~Truck Driver or Laborer~~

2 Laborers.

1- Driller

Corewall Steel Dec 28th. 1933

Sta 4088 to 4096 Elev — to Elev 725.6

Hor. $\frac{8}{8}$ $\frac{13}{16}$ ✓ $\frac{13}{16}$ ϕ Bars 6" ctrs. x 8'-0"

Vert. x 22'-0"

3 holes left in B.H.

Sta 4088 to 4160 Elev 725.6 to Elev —

Hor $\frac{21}{21}$ $\frac{13}{16}$ ϕ Bars 6" ctrs. x 72'-0".

Vert. $\frac{45}{45}$ } 90 ϕ $\frac{7}{8}$ ϕ Corr. Bars x 22'-0"

9- 24' Columns - 2-4x4x½ ∠ Latticed

✓

Dec 28, 1933. 7am to 4pm

Corewall.

Placing Steel Bars. 7⁰⁰ to 4.8

1- Gen. Foreman.

1- Carp. Foreman. 7hr.

2- Laborers 7³⁰ to 3 = 6½

2- Laborers) 7⁰⁰ to 4 = 8

1- Driller 7³⁰ to 4 = 7½

1- ~~Truck Driver or Laborer~~ 7³⁰ to 4

Forms & Schutes.

1- Carp. Foreman } 1hr.

2- Laborers.

✓

350 Sx cleaned.
+ 5x Rec.

Dec 29, 1933. 7am to 4 pm.

Corewall 200 cuy to Elev 714

Mix 6Sx 1:2:5 ~~37~~ 36 gal. 169 Batcher Conc.
1014 Sx ✓

Start 8:00 Finish 4:30 20 Sx ✓ Batcher Grout.

Equipment 1- Mixing Plant 7½ 4
1- Barber Greene & Truck 8:00 to 10:00 = 2hrs.
1 Blaw Knox Truck Mixer 8:00 to 4:30 = 7½
1- Blaw Knox Truck Mixer 10:30 to 5½
1- No10 crane & Truck 9:00 to 4:00 = 6hrs
1- Truck 10:00 to 11:30 = 1½
1- Gen. Foreman 7½ hrs

Labor. 1- Mixerman 8½

Mixing 3 Men

Conc. Delivery 2 Truck Drivers 8½
1- Carp Helper 8:00 to 9:00 = 1

Placing Conc. ~~9~~ Laborers 8:00 to 4:30 = 7½

Agg. Supply 1- No10 Crane Operator } 9:00 to 4:30
1- Truck Driver. ½
1- " " 1½

Cleanup & Forms. 7:00 to 8:00

1- Carp. Foreman 1hr

1- " Helper. 1hr ~~12:30 to~~

3- Laborers. 1hr.

✓

Dec 29, 1933. 7am to 4 pm.

Corewall

Sta 4088 to Sta 4096 Elev 716 to 722

Sta 4088 to Sta 4160 Elev 722 to 726

Sta 4104 to Sta 4160 Elev 726 to 738

Removing Timbers 2:00 to 3:00 = 1hr.

1- Carpenter Foreman

1- Driller

2- Laborers

1- Carp. Helper 12:30 to 4:30 = 4 hrs.

Copper. 104 ft. ✓

Dec 29, 1933.

O.G. & Warped Section

Forms 8[00] to 11[30] = 3½

1 - Gen. Foreman 1 hr.
1 - Carp. Foreman 4½
1 - " Helper 9[00] to 11[30] = 2½
1 - Driller 7[00] to 9 = 2 hrs.
1 - Laborer 3[00] to 4[00] = 1 hr.
1 - Candy Wagon. } ½ hr.
½ { 1 Laborer
1 - Truck Driver }
1 - Laborer.

Placing Reinf Steel 12[30] to 2[00] = 1½

1 - Candy Wagon.
2. Laborers. 1 hr.
1 - Carp. Foreman 3[00] to 4 = 1 hr. = 2½
1 - Driller 3[00] to 4 = 1 hr. = 2½
1 - Laborer. 1[30] to 2[00] = ½

Dec 30 Saturday.

Dec 31 Sunday.

Jan 1st New Year. Monday.

Dec 30, 1934 Copy from Memo By Mr. Hill.

Corewall

Placing Reinf Steel

1 - General Foreman.
1 - Carpenter Foreman.
1 - " Helper } 4½
5 - Laborers.

Rain at Noon

Jan. 2nd 1934 7am to 4pm

Core wall.

Forms & Placing Reinf Steel

1- General Foreman. 4½ hrs.

1- Carpenter Helper. 8 hrs

1- Carpenter Foreman. 8 hrs.

3- Laborers. $\frac{7}{12}$ to $11^{30} = 4\frac{1}{2}$

Wetting & Cleanup.

3- Laborers ½ hr.

(48) Sta 4112 to Sta 4160 Elev. 734 to 740

(32) Sta 4128 to Sta 4160 Elev. 740 to 744

Hor. Steel. Sta 4088 to Sta 4160

38- 13/16 Round Reinf Steel x 72' (not including lap.)

(1- Hole Left in Str. Steel Col. at Sta 4156 23'-6" from Elev. 721.40

Note 1st Steel Bar at Elev 725.5

133713

500 SX Cleaned 14

Jan 2 1934

Mix 6 SX 1:2:5 66 Batches Conc.

2 Batches 1:2 Grout.

Start 1^{00} Finish $6^{00} = 5$

Equipment 1- Mixing Plant

2 Blaw Knox Truck Mixers

($1.^{30}$ 1- B.K. Truck out of order.) to

1- Barber. Greene & Truck

Labor.

Mixing 1- General Foreman

1- Mixerman

4 Men.

Conc Delivery 2- Truck Driver

Placing Conc. 3 Laborers.

Agg Supply 1- Truck Driver 5^{00}

Copper 68'

Jan 3, 1934 7am to 4pm.

O. Gr Warped Section

Forms
1- Gen. Foreman
1- Carp. Foreman } 8 hrs.
1- " Helper
3- Laborers. 10^00 to 11^30 = 1½
1- Laborer 12^30 to 2^30

Tile Drains

2- Laborers 2 hrs

4" Tile Drains in So. Side Wall Sta 5+20 to 5+40 = 20'
2- Lines of Dev. 4" Drains 12'
Total 32'

Finishing
1- Finisher } 8 hrs.
1- " Helper

Haunt Process 1- Laborer 2^30 to 4
1- Compressor

Grouting Anc Holes.
1- Laborer. 10^00 to 11^30 = 1½

Placing Steel
1- Laborer 2^00 to 4
1- Steel Foreman } 2^00 to 4
1- " Man

Jan 3, 1934

Corewall

Chipping Conc.
1- Laborer 7^00 to 9 = 2
1- Laborer 8^00 to 9^00 1

Removing Forms & Clean up.
2- Laborers 9^00 to 10 = 1

Repairing Mixing Plant
1- Mixerman } 8 hrs.
1- Laborer

Sorting S.H. Lumber & Cleaning at Band Saw & Pile
5- Laborers 4 hrs.
1- Laborer 8 hrs.

✓

Jan 4, 1954 7am to 4pm

O.G. & Warped Section

Finishing 1- Finisher } 7:00 to 9:00
1- " Helper }

Forms 1- Gen Foreman
1- Carp. Foreman ✓ 8
1- Carpenter 2:30 = 5½
1- " Helper 2:30 = 5½
1- Laborer 2:00 to 4:00 & 7:00 to 9:00 = 4hrs.
2- Laborers 5½ Compressor (each & oiler)
4- Laborers 9:00 to 11:30 = 2½ + ½ = 3hrs.

Placing Reinf. Steel.
1- Steel Foreman } 7:00 to 9:00 = 2 hrs.
1- " man }
1- Laborer 7:00 to 9:00 = 2hrs.

13 Anchor Holes Sta ~~5+36~~ to Sta.
1- Compressor
2- Jackhammers
2- Drillers ⅓ Nipper

Hunt Process
1- Compressor } 1:00 to 2:00
1- Laborer }

Clean up.
3- Laborers. 1:30 to 2:00 = 1½
2- Laborers 2:00 to 2:30 ½

✓

Corewall Excavation 7am to 4pm.
1- Compressor } 8 ½
2- Jackhammers }
2- Drillers 4½ hrs. 1- Driller 12:30 to 4 3½
⅓ - Nipper

3- Muckers 8:30 to 4 7½

1- No 6 Crane & Truck 7½

1- No 6 Crane Operator
1- " " Oiler
1- Truck Driver

Forms. 1- Carpenters Helper } 2:30 to 4 = 1½
1- Finisher
1- Laborer

~~X~~ O.G. & Warped Section

Clearing Forms. ✓
1- Finisher 9:00 to 2:30 6½
1- " Helper 9:00 to 2:30 = ½

Jan 4, 1934. 7am to 4 pm.

Spillway Floor 9⁰⁰ to 4 = 6,

~~Placing~~ Reinf Steel.

Hauling

~~1 - Steel Foreman~~

1 - " Man.

Note Add to Daily Work Report of Jan 5th or 6th.

Jan. 5th

Hauling Reinf Steel

1 - Steel Foreman

1 - " Man.

(Sidewall)

O.G. & Warped Section - Steel.

Vert. 11 - ~~3/4" □ Bars. ap. 4th 6+2 to 38+2~~

1 - 3/4" □ Bar. 14'

Vert 5 - 3/4 " □ Bars x 28 40.

Horz. 3 - 3/4" □ Bars. x 26

4 - 5/8" ϕ Bars. x 26

16 - 5/8" ϕ Bent Dowels x 4½

Jan 6.

Jan 5, 1934. 7am to 4 pm.

Carewall Excavation

1 - No 6 Crane x 9³⁰ to

1 - No W Track. x 9³⁰ to.

1 - Compressor 7⁰⁰ to.

2 - Jackhammers. 7⁰⁰ to.

1 - No 6 Crane Operator x 9³⁰ to 5½

1 - " " Oiler x 9³⁰ to ~~5½~~

1 Drillers 7⁰⁰ to 8

3 Muckers 7⁰⁰ to 4½

1 - Truck Driver x 7⁰⁰ to 8

4 - Muckers. 12³⁰ to 3½

Forms 7⁰⁰ to 2³⁰

1 - Carpenter 7⁰⁰ to 2³⁰

1 - Finisher 7⁰⁰ to 2³⁰

1 - Carpenters Helper 7³⁰ to 11⁰⁰

~~12³⁰ to~~

1 - Carpenter Foreman 7³⁰ to 11³⁰

1 - Laborer 7³⁰ to 2³⁰

Jan 5, 1934 ✓ 7am to 4 pm.

O.G. & Warped Section 721D

Sta 5+10 to Sta ~~5+36~~ Elev 706 to ~~711~~

Forms & Cleanup 1/3 721

1 - Carp. Foreman x 7⁰⁰ to 7³⁰ = ½

1 - " Helper 7⁰⁰ to 7³⁰ = ½

2 - Laborers 7⁰⁰ to 7³⁰ = ½

Start 7³⁰ Finish 11³⁰ = 4

Mix 6Sx 1:2:5 498 83 Batches Conc.

Mix 6Sx 1:2:4 60Sx 10 Batches Conc

1:2 Grout 5Sx 1 Batches.

Equipment 1 - Mixing Plant.

2 Blaw Knox Truck Mixers

1 - Barber Greene & Truck

Copper 16' + 14' = 30'

Labor 1 - General Foreman 4

Mixing 1 - Mixerman & 4 Men

Conc Pal 3 Truck Drivers

Placing Conc. 3 Laborers.

Agg. Supply 1 - Carpenters Helper 11⁰⁰ to

1 - Truck Driver

Placing Conc 2 Laborers 12³⁰ to 1⁰⁰

Jan 5, ✓ 1934 7am to 4 pm.

So. Sidewall Sta 5+36 to

1 - General Foreman 4

Forms 1 - Carpenter 2³⁰ to 4 = 1½

~~1 - Carpenter Help~~

1 - Carpenter Foreman 12³⁰ to 1⁰⁰ ½

1 - Finisher 2³⁰ to 4 1½

1 - Laborer 12³⁰ to 3 1½

2 Laborers 3³⁰ to 4 = 1

— Anchor Holes 7⁰⁰ to 4

1 - compressor

2 Jackhammers

2 Drillers

½ Nipper

Placing Steel

1 - Steel Foreman } 12³⁰ to 3³⁰

1 - " Man

Candy Wagon & Driver 1 hr.

Hauling Lumber.

75% Mix.

Grouting Anc. Holes 12³⁰ to 3³⁰ = 3

1 - Blaw Knox Truck Mixer

1 - Truck Driver

2 - Men

O.G. Sec. Erecting Reinf Steel

1 - Carpenter Foreman. 1⁰⁰ to 4

1 - " Helper 12³⁰ to 4

½ - Laborers. 1⁰⁰ to 4

Jan 5, 1934.

O.G. & Warped Section

Reinf Steel. Sta 5+10 to Sta 5+26

Horizontal Steel. Elev ~~721~~ to Elev ~~728~~

28 - (14+14) 13/16" Plain Bars. × 13'-0" *

28 - (14+14) 13/16" Plain Bars. × 9'-0" *

* including steel for lapping joints.

1339713

19

Jan 6, 1934 7am to 4pm.

O.G. - Warped Section

Clean up & Chipping Conc.

5 - Laborers. 7^00 to 8^30 = 1½ hr

Forms. 7^00 to 10^30 = 4 hr

1 - General Foreman

1 - Carp. Foreman

1 - " Helper.

1 - Carpenter.

1 - Laborer

3 - Laborers 8^30 to 9^30 = 1 hr

2 - Laborers 9^30 to 11^30 2 hr

45' Tile Drains

2 - Laborers. 8^30 to 9^30 1 hr

Clean up.

1 - Laborer 12^30 to 2^30 = 2 hr

✓

Jan 6, 1934 7am to 4 pm.

South Side Wall 7⁰⁰ to 3

Anchor Holes

1- Compressor
2- Jackhammers
2- Drillers } 7 hr.
1/3 Nipper

Placing Reinf Steel
1- Steel Man
1- Steel Foreman } 7⁰⁰ to 11³⁰ = 4½

✓Steel Used. (also see Anchor Hole Schedule) 40 1" ◻ x 5'-6" Anc Bars

Horz.
Vertical 3/4" ◻ Core Bars. in Core from 5+10 to 5+36.

6- 40	Vertical	1- 9'6	Vertical	
1- 34-8	"	1- 7'6'	"	
			9- 3/4 ◻	
1- 33-6	"		Horz.	5- 5/8"
		1- 25		x 25'
1- 29-6	"	1- 24-4	1- 25	
		1- 23-9	1- 24'4	
1- 24-4	"	1- 23-3.	1- 23'9	
		1- 22-8	1- 23-3	
3- 19-6	"	1- 22-0	1- 22-8	
1- 14-6	"	1- 21-5	1- 22'0	
1- 13-0	"	1- 20-10	1- 21-5	
		1- 20-4	1- 20'10	
			1- 20'4"	

✓

Jan 6, 1934 7am to 4 pm.

Corewall Excavation

1- No 6 Crane
1- No 15 Truck
1- Compressor } 8 hrs.
1- Jackhammer

1- No 6 Crane Operator
1- Truck Driver
1- Driller
3- Muckers } to 3⁰⁰ = 7 hrs.
2- Drillers 3⁰⁰ to 4 = 1 hr.
1/3 Nipper = 2½

Jan 6, 1934

Corewall Forms.

Batter Sections

(a) 1.8
(b) 5.6 Sta 4088 to Sta 4096 Elev 732 to 732

5.6 Sta 4096 to Sta 4104 Elev 726 to 732

5.6 Sta 4104 to Sta 4112 Elev 739 to 740
18.6

✓
Jan 6, 1934

South Side Wall

Forms. 12 30 to 4 = 3½
1 - Foreman
1 - Carpenter Foreman
1 - Carp. Helper
1 - Carp.
1 - laborer. 12 30 to 2 00 = 1½

✓ Tile Drains

1 - Laborer. 12 30 to 2 30 = ½ hr.
1 - Laborer 2 30 to 4 00 = 1½ hr.
3½

See Grout Book 381 ✓

Jan 6 ✓ 1934 7am to 4pm

Warped Section Grouting

Sta	Pressure	Cu Ft Grout	Remarks.
5+10	4	3.0	open from
5+15		2.0	5+10
5+20	X	3½	to
5+25	3		5+25

Wasted 5.00 cu. ft. 11½

Setup. 12 30 to 3 00 Run 3 00 to X 00

Grouting Equipment 1 - Compressor.

1 - Jaeger Portable Mixer
1 - 7 cu ft Grout Tank } 3½
1 - Water Tank Truck 20 cu ft
1 - Driller
2 - Laborers. } 3½

Cleanup 1 - Driller 1 - laborer 2 hr.

15 to 90 sx

Used 11½ cu ft.
Wasted 5. " "
Total 17½ " "

15 sx cement used.

Jan 7, 1934 Sunday

✓

Jan 8, 1934 7am to 4pm

Sou. Side Wall 5+37½ / 24 / 5+61½

Anchor Holes.

1 - compressor

2 - Drillers 7⁰⁰ to 11³⁰

¼ Nipper

Forms 1 - General Foreman 4 hrs.

1 - Carpenter Foreman 7⁰⁰ to 11³⁰
2 - Laborers 12³⁰ to 4
1 - Carpenter.
1 - Carpenter Helper 7³⁰ to 9³⁰ - 2
12³⁰ to 4 - 3½
1 - Carpenter Helper
4 - Laborers } 11⁰⁰ to 11³⁰ - ½

Placing Reinf Steel.

1 - Steel Foreman
1 - " Man. } ⊗ 1 hr.

✓18 - 5/8 ∅ Bars x 4½' Bent Dowels.
Steel to Sta 5+71
✓41' - Placing Side Drain to Sta 5+71

1 - Laborer 7⁰⁰ to 9⁰⁰

Jan 8, 1934 ✓ 7am to 4pm. ⊗

O.G. & Warped Section

Sta 5+10 to 5+26 } Elev 720 to 725 5x no. cleaned.
So. Side Wall 5+10 to 5+36 } Elev 721 to 726
Forms & Clean up. 7⁰⁰ to 7³⁰

1 - Carpenters Helper

3 - Laborers 2 - Batches 1:2 Grout

Mix 1:2:5 6 sx 78 Batches Conc.
Divided Mass @ 4.80
Start 7³⁰ Finish 10³⁰ Side Lining @ 9.00 = 3 hrs.

1 - Mixing Plant 78 / 46 / 268

2 - Blaw Knox to 9⁰⁰
3 - Blaw Knox 9³⁰ to 10³⁰
1 - Barber Greene & 2 Tracks

1 - General Foreman 2 hrs.

Mixing 1 - Mixerman

4 Men.
2 - Truck Drivers 7⁰⁰ to 9
Conc. Delivery 3 Truck Drivers 9 to

Placing Conc. 3 - Laborers To 11⁰⁰

1 - Carp. Helper 1 hr. 9³⁰ to 11⁰⁰

Agg. Supply. 2 - Truck Drivers

Erecting Str. Steel.

1 - Carpenter Foreman
2 - Laborers } 12³⁰ to 4

Copper 16 / 10 / 26

✓

Jan 8, 1934 7am to 4pm.

Corewall Excavation

1 - No 6 Crane } 7⁰⁰ to 11³⁰
1 - No 15 Truck } 3⁰⁰ to

1 - Compressor

1 - Jackhammer

1 - No 6 crane operator }
1 - " " oiler } 7⁰⁰ to 11³⁰ } 5½
1 - Truck Driver } 3⁰⁰ to 4

1 - Driller 7⁰⁰ to 11³⁰ = 4½

3 - Muckers 7⁰⁰ to 9⁰⁰ = 2

4 - Muckers 9⁰⁰ to 11³⁰ (2½), 12³⁰ to 1³⁰ = 1/3½

½ Nipper - 2 hrs.

2 - Drillers 12³⁰ to 4 = 3½

2 - Muckers 1³⁰ to 3 = 1½

3 - Muckers 3⁰⁰ to 4 = 1

✓

Jan 8, 1934 7am to 4 pm

Spillway Floor

Anchor Holes.

1 - compressor 12³⁰ to 4 = 3½

2 - Drillers

54 54+80-26 54+76-26 54+84-26 54+88-26

54+92-25

Jan 8, 193 4

Tunnel Repair

1- Finisher

1- " Helper.

3 to 4 Sx cement

for Repair #2 Sta.

Jan 9, 193 4 7 am to 4 pm.

O.G. & Warped Section

Forms

1- General Foreman 7⁰⁰ to 1- Carpenter Foreman 12 30 to

1- Carpenter 7⁰⁰ to 2- Laborers ~~12 30 to~~

1- " Helper 7⁰⁰ to

1- Laborer 7⁰⁰ to 2 30

Chipping Conc.

2- Laborers 7⁰⁰ to 9⁰⁰

Erecting Str. Steel

1- Carpenter Foreman 7⁰⁰ to 12 30

1- Laborer 7⁰⁰ to 11 30

1 Laborer 9⁰⁰ to 11 30

Laying 4" Tile Drain (15' for 2 Vert. Lines)

1- Laborer 9⁰⁰ to 2 30 2 1/2

Sta 57.20 717.01 + 20.2 = Elev. 737.21

Clean up.

2- Laborer 12 30 to 3 30 = 3

2- Laborer 2 30 to 3 30 = 1/4

1- Laborer 2 30 to 4 = 1 1/2

Jan 9, 1934 7am to 4 pm.

Corewall Excavation

1 - No 6 Crane
1 - No 15 Truck } $10^{30} = 3\frac{1}{2}$

1 - Compressor

2 - Jackhammers.

1 - No 6 Crane Operator
1 - " " Oiler } to $10^{30} = 3\frac{1}{2}$
1 - Truck Driver

1 - Driller

4 - Muckers. to $10^{30} = 3\frac{1}{2}$

1/4 Nipper am 1/3 Nipper pm.

2 - Muckers 10^{30} to 2^{00} $1\frac{1}{2}$

$7\frac{1}{2}$

Jan 9, 1934

Spillway Floor

Anchor Holes

1 - Compressor

2 - Jackhammers

2 - Drillers

1/4 Nipper am. 1/3 Nipper pm.

3 - (Muckers). Laborers $3\frac{30}{}$

Jan 9, 1934 — 7am to 4pm.

So. Side Wall

Placing Reinf. Steel

1 - Steel Foreman
1 - Steel Man. } 7.00 & 9.00

Anchor Holes. 12.30 to.

1 - compressor
2 - Jackhammers.
2 - Drillers

Nipper 1/3 for pm.

Jan 10, 1934 7am to 4pm.

O. G. Warped Section

Cleanup & wetting

3 - Laborers 7.00 to 8.00 1 hr.

Jan 10, 1934

O.G. Warped Section (90)

Reinf Steel.

56 26 - 13/16 x 10'
56 26 - 13/16 x 13'
3 2 - 24' cols.
24 16 - 7/8" Bars x 22'-0"

900 on Jan 8 -
+700 Sx Cleaned
14 Sx Recovered

Copper 16 + 8 = (33')

Cutoff Sta 5+10 to 5+26 Elev 727 to 732 7'

Sheaar Sta 5+10 to 5+36 Elev 726 to 734

Divided Class 1 & Class 2 concrete

Mix 1:2½:5 (103 - 21 = 82) Batches Conc (2 Batches Grout)

Start 8.00 Finish 11.30 - 3½

1 - Mixing Plant 2½ & 1 = 3½
2 - Blaw Knox Truck Mixers
1 - Barber Greene & 2 Trucks = 2½
1 - General Foreman
1 - Mixerman } 2½
4 Men.

8.26 / 49½

Conc Del. 7 Truck Drivers 3½

Plc. Conc. 3 Laborers 3½

Agg. 2 Truck Drivers 3½

Clean up. 2 Laborers 12.30 to 1.30 - 1 hr

Jan 10, 1934

Spillway Floor.

Setting Forms.

1- Carpenter Foreman 7:00 to 8:00

1- Carpenter.

Anchor Holes.

1- compressor to 9:00 ½ comp. 9:00 to 10:30 = 1½
12:30 to 1:00 1:00 to 4 = 3½
5

2- jackhammers

2- Drillers to 9 1 Driller 9:00 to 10:30 - 12:30 to

1- Nipper 1 hr

Laying 4" Tile 2nd line S. for 4" Line to Sta 6+05 = 21'

1- Carpenter Foreman 8:00 ½ hr.

Placing Reinf Steel

1- Steel Foreman 12:30 to 1:30

1- " Man

Jan 10, 1934

So. Side Wall.

Forms.

1- carpenters Helper 7:00 to 8:00 12:30 to 4 = 4½

1- Carpenter 8:00 to 4 = 7

1- Laborer 12:30 to 1:00 = ½

2- Laborers 2:30 to 4 = 1½

Anchor Holes 1:30 to 2:30 Grouting Anc Holes = 1hr.

1- Compressor 1- Baw Knox ½ Mixer

2- Jackhammers 1- Truck Driver

2- Drillers 2- Laborers.

1- Nipper 1 hr. ? 1/3 Batches 1:2 Grout

½ x 5 = nay 2 sk
3 sk
5 sk

Placing Reinf Steel

1- Steel Foreman 7:00 to 11:30 1:30 to 2:30 4½ 1 = 5½

1- " Man

Reinf Steel & Anchors. from Sta 5+71 to Sta 6+10 see next page

Hr. 2 5/8" ϕ x 40'

Vert 2- extra. 1- 5/8 ϕ - 25 - 1 5/8 - 30 1- 5/8 - 34

23
18 5/8" ϕ Bent Dowels.

9 ft - 3/4" ϕ Bar Sta 5+10 to 5+36 see next page.

Jan 10, 1934

So. Side Wall

Sta 5+36 to 5+61 Elev Sub Grade to Elev. 722.5

Mix 1:2:4 (21) Batches Conc.

Start 9:00 Finish 11:00 = 3

1- Mixing Plant

1- Barber Greene + 2 Truck

1 Blaw Knox Truck Mixers

1- Minerman

4 Men.

Conc Del 1 Truck Drivers

Plac. Conc. 1 Laborers 1 carpenter Foreman

Agg 2 Truck Drivers grade. 1 " Helper

1- Gen. Foreman.

4" Tile to Sta 5+92 = 15'

Spillway Floor

Grouting Anchor Holes 1:00 to 3:30

1- Blaw Knox Truck Mixer

1 Truck Driver

2- Laborers.

(2/3) Batches 1:2 Mix

Jan 10, 1934

Test Samples. 0.6 Warped Surface.

1:2:5 Mix.

6 Sx Cement.

1250 # Sand 850 # 2½" 970 # 1½" 770 # ¾"

Sta 5+10 to 5+26 Elev 725 to 732

1685 - 1686 - 1687

Sta 5+10 to 5+36

Reinf. Steel 0.6 Warped Section

1- ¾" ∅ 19'-8"

19'-2"

18'-7"

18'-0"

17'-5"

16'-10"

16'-3"

15'-8"

15'-0"

18- ⅝" ∅ x 4'-4" Dowels.

5+71 to 6+10

South Side Wall

3 Extra Verticals

1- ⅝" ∅ x 25'

1- ⅝" ∅ x 30'

1- ⅝" ∅ x 35'

Jan 10, 1934

O. G & Warped Section

Forms. 12^{30} to 4

1- General Foreman

1- Carpenter.

2- Laborers. 1^{30} to 4

Er. Str. Steel 12^{30} to 4

1- Carpenter Foreman

2- Laborers.

Tunnel.

20 joints ± of 2½ pipe (disconnected)

in 3 piles on invert.

Should be removed from tunnel

Jan 11, 1934 7am to 4 pm

Spillway Floor (1 sk cement wasted out in weather.

Anchor Holes

½ compressor

1- Jack hammer

1- Driller

1- Nipper 1 hr.

Placing Reinf. Steel 7^{00} to 3^{30}

1- Steel Foreman

1- " Man.

Forms.

1- Carpenter Foreman 12^{30} to 2^{00}

1- Laborer.

1st line S

2nd Line 4" Tile Drain Sta 5+89 to 6+07 = 22'

Jan 11, 1934 pay days.

So. Side wall

Anchor Holes 7^00 to 11^30

1 - compressor

2 - Jackhammer

2 - Drillers

1 - Nipper 1 hr

Forms.

1 - Carpenter. 12^30 to

1 - General Foreman 1^30 to

1 - Carpenters Helper 1^30 to

Clean up

2 - Laborers 2 to 4 = 2 hrs.

Jan 16 1934 7am to 4 pm.

O.G. & Warped Section

Chipping Conc.

2 Laborers. 7^00 to 8^30

Forms 1 - General Foreman 7^00 to 1^30 = 5½

1 Carpenter Foreman 7^00 to 11^30 6½ 2^00 to 4

1 - Carpenter 7^00 to 11^30 4½

1 - Carpenter Helper 7^00 to 1^30 4½

1 - Laborer 7^00 to 11^30 6½ 2^00 to 4

Str. Steel. 3' to 24' Column.

Reinf Steel

Next 12' 6 - 7/8" x 22:0" + 16 = 2

Flor. 56 30 - 13/16 x 10:0" 23 3½ - 7/8 x 10 - 3.5

" 56 30 - 7/16 x 13:0" 16 7 to Elev 739

72' - Copper.

16' 4" Tile Drain to Elev 740.

1 Laborers 8^30 to 9^00 = 1½

Clean up

1 - Laborer 8^30 to 9^00

See Groat Book 381 for Jan 6
See 5 Side Wall Steel to 6+10
Jan 12, 1934, for Jan 10.

Test Samples Spillway Floor

~~1685 87~~ 1690 ~~1780~~.

1:2:4 Mix 6 sx

Sta 5+80 to Sta 6+02 80' to 80' Sta

1801 – 1802 – 1803

11/8
2(19/95)

$\frac{25.5 \times 9.5 \times 1.7}{27} = 15$

$25.5 \times \frac{9.5}{27} \times 2 = 19$

✓

Jan 12, 1934 7am to 4pm

O.G. & Warped Section

Clean up & wetting

3- Laborers. 7^00 to 7^30 564 RP 10 SY

Mix 1:2:5 Special 6 sx

Sta 5+10 to 5+26 Elev 732 to 739

Sta 5+10 to 5+36 Elev 734 to 740

Start 7^30 Finish 10^00 = 2½ ✓ 91 +3 94 ✓ Batches Com

1- Mixing Plant 2 Batches Gant Mixer

1- Barber Greene & 1 Trucks.

2- Blaw Knox Truck Mixers 7^30 to 8^30

3 Blaw Knox Trucks. Mixers 8^30 to 10 = 1½

1- General Foreman

Mixing 1- Mixerman

4 Men.

Conc Del 2 Truck Drivers to 8^30 3 from 8^30 to

Placing Conc 3 Laborers.

2- Laborers 10^00 to 11^30

Clean up 1- Laborer 12^30 to 2^30

Forms. 1- Carpenter Foreman ~~8^00 to~~.

1- General Foreman 2^00 to 4

Jan 12, 1934 7am to 4 pm.

Spillway Floor.

Sta 5+61 from ℄ to 40'N thence to Sta. 5+98 to 41'N

Sta 5+79 from ℄ to 32'S thence to Sta 5+81 from 32'S to 66' thence to Sta 6+02 from ℄ to 96'S.

Mix 1:2:4 133 Batches Conc.

Start 10 00 Finish 4 30

1½ 4 = 5½

1- Mixing Plant
1- Barber Greene } 5½

2 Blaw Knox Truck Mixers 10 to 2 00 = 3
3 = 2½

Mixing
1- General Foreman 4 to 4 30 to 2 00 = 3½
1- Mixer man } 5½
4 Men

Cone Det. Truck Drivers 2 3 hrs 3-2½ hrs.
1- Laborer 2 30 to 4 30 = 2

Placing Conc.
1- Laborer } 10 to 11 30 12 30 to 2 30
1- Carp. Foreman } 1½ 2 hrs.
1- Laborer 12 30 to 4½ = 4 3½
1- Finisher } 12 30 to 5 = 4½
Finishing 1- Finishers Helper } +(2)

Clean up & washing 7 00 to

1- Carpenter Foreman 7 30 to 8 00 8 30 to
=1
1- carpenter 7 00 to 8 00 - 8 30 to 9 00 = 1½
1- " Helper 7 00 to 8 00 8 30 to 11 30 =
1

Jan 12, 1934 7am to 4 pm.

Spillway Floor

Anchor Holes.

½ compressor
1- Jackhammer
1- Driller
1- Nipper ?

Placing Reint Steel 7 00 to 10 00 = 3

1- Steel Foreman
1- " Man

1 Batches Count

Erecting Anchor Holes 8 00 to 8 30

1- Blaw Knox Truck Mixer
1- Truck Driver
1- Carpenter Helper
1- General Foreman
1- Carpenter Foreman

Jan 12, 1934

O.G. Section

Drilling Grout Holes

1- Driller

2- Helpers

Sou. Side Wall

Forms 9⁰⁰ to 10

1- carpenter Foreman 9⁰⁰ to 10⁰⁰, 2³⁰ to 4

1- Carpenter 9⁰⁰ to 10⁰⁰ 12³⁰ to 4

1- Carpenters Helper 12³⁰ to 4

Jan 13, 1934 7am to 4 pm

O.G. & Wairpt Section

Chipping Conc.

2- Laborers 7⁰⁰ to 9³⁰ = 2 hrs

Forms 1- Carpenter Foreman 7⁰⁰ to 9³⁰ = 2½ 12³⁰ to 4 = 3½ = 6

1- General Foreman 8 hrs

1- Carpenter = 8 hrs.

1- Carpenter Helper 12³⁰ to 4 = 3½

1- Laborer 7³⁰ to 11³⁰ 2³⁰ to 4 = 1½ = 5

1- Laborer 12³⁰ to 3⁰⁰ = 2½

1- Laborer 9⁸⁰ to 3⁰⁰ = 4½

Sta. 0+00 to 0+78

Drilling Grout Holes 1 hr to get started

1- compressor } mechanic

1- Water Leyner } 8 hrs.

1- Driller } 8 hrs.

2- Helpers } 8 hrs.

1- Handy Wagon & Driver 2 hrs.

Clean up 2 Laborers 3⁰⁰ to 4 = 1 hr.

Placing Reinf Steel 9³⁰ to 11³⁰ = 2 hrs.

1- Carpenter Foreman

1- Laborer

" Jan 13, 1934 Jan to 4pm.

Spillway Floor

Hunt Process

1- Laborer 7^00 to 7^00 = ½ 12^30 to 2^30 = ½ = 2 hrs.

Finishing

1- Finisher 7 to ½ 8^00 - 1 10^30 to 11^30

1- " Helper 5 to 7 Jan 12 (4 hrs total)

Anchor Holes.

1- compressor
1- Jackhammer
1- Driller } 6 hrs.
1- Nipper 1 hr.

Jan 13 1934

Cofferdam Excavation

1- Mucker 7^00 to 11^30 = 4½ hrs.

See Jan 15 report

D.G. Warped Section Steel.

Hor. 36 - 13/16" x 10' plain Bars

36 - 13/16" x 13' " "

Less 5 - 2 - 4 x 4 x ¼" Cols

Vertical Dowels: Copper. 16 / 11 / 27

2 - ⅞" ϕ x 5'-0" Elev 735 to 750

2 - ⅞" ϕ x 7'-0"

2 - ⅞" ϕ x 9'-0"

2 - ⅞" ϕ x 11'-6"

2 - ⅞" ϕ x 13'-0"

2 - ⅞" ϕ x 16'-0"

Condition of Stock Piles.

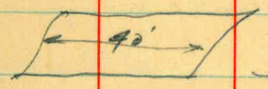
Jan 13, 1934

Stock Piles-

1- Bulldozer & operator 7.00 to 10.00

Preliminary Estimate of

Sand & Dirt Yardage



X 50' long.

Sand & Dirt with large lumps of clay

$= \frac{40 \times 6 \times 50}{27} = 400$ to 500 cu yds.

2 1/2" Rock & Sand overlap.

Say 400 to 600 cu yds.

3/4" Rock & Sand overlap Say 100 cu yds.

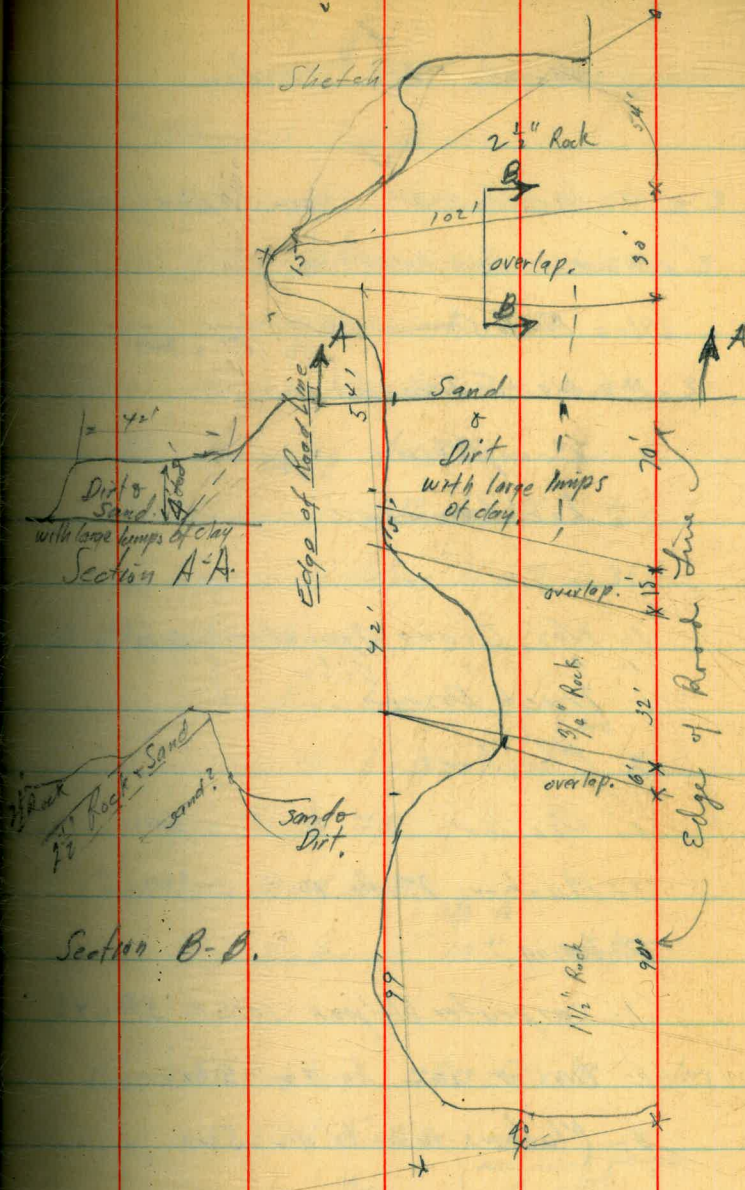
1 3/4" & 3/4" Rock overlap very little

Contractor plans on pouring Sa. Side Wall and Warped Section Monday.

see letter to H.W.

Contractors cleaned up Sand Strike Pile Monday.

Sketch



Jan 14, 1934 Sunday

Jan 15, 1934 7am to 4 Pm.

Carryall Excavation

1- No 6 Crane
1- No 15 Track } to 10^00 = 3 hrs.

1- Compressor
1- Jackhammer } 8 hrs.

1- No 6 Crane Operator
1- " Oiler
1- Truck Driver } to 10^00 = 3 hrs.

~~X~~ Muckers. . . 30

1- Driller 7^00 to 10^00 = 3 hrs

3- Muckers 7^00 to 10^00 = 3 hrs.

Timbering

1- carpenter Helper 10^00 to 3^30 = 4½

1- Driller 10^00 to 4 = 5 hrs

3- Muckers 10^00 to 4 = 5 hrs.

Jan 15, 1934 7am to 4 pm.

Warped Section

Forms 1- General Foreman to 10^00 = 3

1- Carpenter Foreman to 10^00 = 3

1- Carpenter to 10^30 = 3½

1- Carpenter Helper to 10^00 = 3

3- Laborers to 9^30 = 2½

2- Laborers 9^30 to 10^00 = ½

1- Carpenters Helper to 10^30 = 3½

Stripping Forms

1- Finisher
1- " Helper } 8 hrs.

Clean up & wetting

1- Laborers 9^30 to 10^00 = ½ hr.

Placing Reinf Steel 8^00 to 10^00 = 2 hrs.

1- Steel Foreman
1- " Man } see next page for steel.

(0+00 to 0+18)

Hauling Form Lumber 1^30 to 2 = ½ hr.

1- Track
1- Carpenter Helper

Jan 15, 1934 7 am to 4 pm

Spillway Floor

Forms:

1 - carpenter foreman 10^{30} to 11^{30} = 1

1 - Carpenter 10^{30} to 1^{30} = 3

1 - Carpenters Helper 10^{30} to 1^{00} = 1½

Warped Section (Sidewall part)

Reinf Steel

1 - 3/4" ϕ x 14'-6"

1 " 14'-8"

1 " 13'-5"

1 " 12'-8"

1 " 12'-7"

1 " 11'-7"

Jan 15, 1934

OG Section 7 am to 4 pm

Drilling Grout Holes

1 - Compressor 1 - hr delay

1 - Water Leyner mechanic

1 - Driller } 7^{00} to 4^{00} = 8 hrs.

2 - Helpers }

Forms.

1 - Carpenter Foreman 12^{30} to 4 = 3½

1 - Carpenter 1^{30} to = 2½

1 - Carpenter Helper #2 1^{00} to 4 = 3'

1 - Carpenter Helper 3^{30} to 4 = ½

(Hauling see Warped Section)

Jan 15, 1934 Continued

1250 cleared
6 Sx reclaimed
317 SX. in whse.

Warped Section - Concrete

Mix 1:2:5 6 Sx 2" Batches Grout 10 SX

Start 1:30 Finish 5:30 = 4 hrs.

Sta 5+10 to 5+26 } Elev 739 to 749 = 10"
" 5+10 to 5+36 } Elev 740 to 749 = 9"
79 Batches Conc.
4 hrs 4 Sx Rate for Sidewall Class 1 & class 2 Conc.

Equipment

1 - Mixing Plant 4 hrs.

1 - Barber Greene & 1 Truck 2½

2 - Blaw Knox Truck Mixers 4 hrs.

1 - General Foreman.

1 - Mixerman

4 Men

Conc Delivery 2 Truck Drivers 4 hrs

Placing Conc. 3 Laborers 4 hrs.

1 - No 6 Crane
1 - " " Operator } 3:00 to 5:30 = 2½
1 - " " Oiler

Jan 15, 1934

107
218
79

So. Side Wall

Forms 10:00 to 10:30 = ½

1 - General Foreman.
1 - Carpenter Foreman } 2½
1 - Carpenter Helper #2

Sta 5+61 to 5+86 Elev Subgrade to Elev 719.00

Sta 5+36 to 5+61 Elev 722 to Elev 728

Clean Up.

3 Laborers 10:00 to 10:30 = ½

Mix 1:2:4 6 Sx 168 CY

Start 10:30 Finish 1:30 28 Batches Conc.
3 hrs

1 - No 6 Crane
1 - Mixing Plant
2 Blaw Knox Truck Mixers

1 - Barber Greene & 1 Truck

Mixing 1 - Mixerman 4 Men.

Placing Conc:

1 - No 6 Crane Operator
1 - " " Oiler
1 - General Foreman.
3 - Laborers

Conc Delivery 2 Truck Drivers.

Agg. Supply 1 - Truck Driver

Jan 16, 1934 ✓

O. G. Section (0+00 to 0+48) * layoff until 12:30 for late run.

Forms. 1- General Foreman 10:30 to 11:30 = 1

1- Carpenter foreman 7:00 to 3:00 = 7

1- Carpenter 10:30 to 11:30 = 1

1- " Helper 7:00 to 3:00 = 7

1- Laborer 7:00 to 9:00 * = 2

1- Carpenter Helper 10:30 to 11:30 = 1

Clean up.

1- Driller 3- Laborers. 7:00 to 11:30 = 4½

✓

Warped Section (5+10 to 5+26)

Forms

1- General Foreman to 10:30 12:30 to 4 = 7

1- Carpenter to 10:30 12:30 to 4 = 7

1- " Helper to 10:30 = 3½

1- Laborer 8:00 to 9:00 * 12:30 to 4 = 4½

Placing Reinf Steel 1- Steel Foreman, 1- " Man } 11:00 to 11:30 = ½ hr.

Chipping Conc. 1- Laborer 8:00 to 9:00 * = 1 hr.

Finishing

1- Finisher 7:00 to 4 = 8 hrs

1- " Helper 7:00 to 12:00 + 1 = 5½

Erecting Str. Steel. 1- Carpenter Foreman, 1- " Helper } 3:00 to 4 = 1

✓

O. G. Section Jan 15, 1934.

10 Grout Holes.

℄

✓

Depth.	Length Pipe			
24'-0"	21'-4"	0	0+45	S
23'-4"	18'-8"	0	0+40	N
24'-0"	21'-3"	0	0+35	S
25'-10"	18'-11"	0	0+30	N
25'-6"	20'-7"	0	0+25	S
25'-0"	20'-8"	0	0+20	N
26'-0"	20'-4"	0	0+15	S
25'-9"	19'-2"	0	0+10	N
26'-0"	20'-3"	0	0+05	S
26'-0"	21'-4"	0	0+00	N

Jan 16, Sa Side Wall

Chipping Conc

2 - Laborers. 7:00 to 8:00

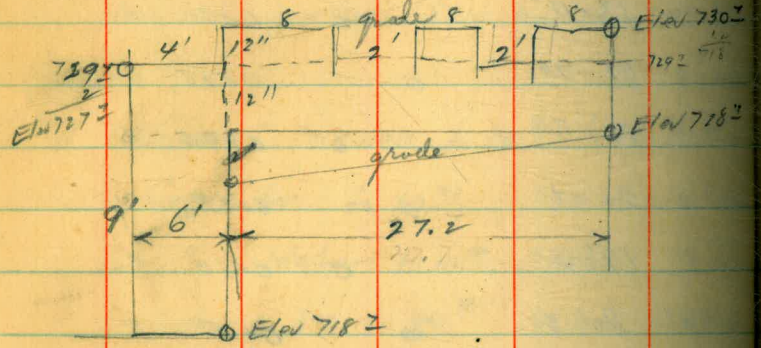
Forms 12:30 to 4 - 3½

1 - Carpenter Helper.

2 - Laborers.

Estimate O.G Section Jan 16, 1934

Sta 0+00 to 0+48 Elev. 706 to Elev.



a Vol. = 6 × 9 × 48 = 2592

b = 27 × 1 × 48 = 1296

c = 24 × 1 × 48 = 1152

5040

5040 / 27 = 186 cu yds.

say 190 ±10

Jan 16, 1934

Corewall Excavation

1 - No 6 Crane

1 - No 5 Truck

1 - No 6 Crane Operator

1 " " Oiler

1 Truck Driver

2 - Drillers

2 - Muckers

Jan 16, 1934

Spillway Floor

Laying Tile Drains

1 - Finishing Helper 12:30 to 3 = 2½ hrs.

4" Tile Drains 1st line S. of ℄

Sta 6+02 to 6+58 = 56'

2-5 @ 5 = 11.25

Jan 17, 1934 7am to 4pm

O. G. Section

Sta 0+00 to 0+48 Elev 718 to 730

Mix 1:2½:5 5 Sx

Start 7:10 AM Finish 4:30

4 Batches Grout 2-2-5 Batches Conc. @ 5 Sx.

0 Sx cleared 0 Sx Recovered.

Equipment

1 - Mixing Plant

1 - Barber Greene & 1 Trucks

1 Blow Knox Truck Mixers 7h 4PM

1 " " " " 7a 9a 6

1 " " " " 9a 4p

1 - General Foreman Part Time

Mixing 1 - Mixerman

4 Men.

Conc Delivery 3 Truck Drivers.

**Placing Conc. 3 Laborers. (2 Placing + 1 Dump)

Agg. Supply Truck Drivers Variable

(*) * 1 Carpenter Key forms 2-4:30

1 " Helper Wire Anchors.

1 Cat 30 B.S. + op. + 1 Dumpman

Messrs Wood & Albert on work 8 AM.

** To 4:30 PM

1 Welder 1 hr 4 to 5 PM. Hor to Vert Conn.

Copper 9 48 57 61

33-40 23 43 39 3 R.R. 31 34 7 R.R. 1 R.R. 21

Jan 17th 1934 H.R.K.

Core Wall Excavation - Ja. to Ogee

1 No 6 Crane Move to El. 750 Sta 2 " at 715 + Idle - Repairs + to Hy Fill

1 No 6 Crane Operator Repairs ~~1 hr 8 to~~ + to Hy Fill

1 " " " Oiler " "

AM only 4 Muckers 7:00 to 11:30

1 Foreman Part 7:00 to 10:00 time (Tony)

Spillway Floor.

Drilling Anchor Holes Spillway Floor

1 Portable Comp. ½

1 Driller 7 AM. Same 4 PM. 8 hrs.

2 " 8 " 3½ hrs 8 hrs

2 Steel Men 9 A.M. to 4 P.M.

Ogee Sec Forms Warped Sec Sta 5+10 -

1 Gen Foreman Part Time

(*) 2 Carp.

7 " Helpers

1 Finisher

1 " helper.

2 Laborers Clean up Cont forms PM.

Jan 18, 1934 7am to 4pm.

Warped G. Section

Reinf Steel

16 - 13/16" ϕ x 26'-0" Plain Bars.

6 - 7/8" ϕ x 11'-0" Corr Bars.

4 - 7/8" ϕ x 22'-0"

Copper 28'

Forms 7:00 to 11:30 - 4½ hrs.

1 - Carpenter Foreman

1 - " Helper

1 - Laborer 11:00 to ⊗

Hunt Process

1 - Laborer 8:00 to 11:00

Jan 18, 1934

O.G. Section

Forms

1 - General Foreman 8

1 - Carpenter 8

1 - Carpenter Helper 8

1 - Laborer 10:00 to 5

Chipping & Cleaning

1 - Finisher to 3:00 7

1 - " Helper 7:00 to 2:30 6½

3 - Laborers to 8:00 1

9 - Laborers 8:00 to 10 2

Forms Continued →

1 - Laborer 10 to 2:30 3½

1 - Laborer 11 to 2:30 4½

1 - Carpenter Foreman 12:30 to 4 - 3½

1 - Carpenters Helper 12:30 to 2:30 = 2

yield = 6 × 7 = 42 cu ft

Jan 18, 1934

O. G. Section 1 — 30 Sx cement

Pressure Grouting — 6 Batches.

Setting Up 7^00 to 9^30

1 - Driller 2 - Helpers. - 1 Truck Driver

Pressure Grouting 9^30 to 11^30

1 - Compressor

1 - 7 cu ft Grout Tank

1 - Hose Line

1 - Blaw Knox Truck Mixer

No.	Station	Pressure	Cu Ft.	Remarks.
1	0 + 45 S	100#	5.00	open from
2	+ 40 N	"	4.00	next last Hole.
3	+ 35 S		3.5	"
4	+ 30 N		4.5	"
5	+ 25 S		4.5	"
6	+ 20 N	2½ #	6.0	"
7	+ 15 S		4.0	"
8	+ 10 N		4.0	"
9	+ 5 S		4.0	"
10	+ 00 N		3.0	"

Wasted. Mixer

Clean Up. 12^30 to 1^00 — 42.5 cu ft.

Jan 18, 1934

Spillway Floor.

Placing Point Steel

1 - Steel Foreman } 7^00 to 11^30

1 - " Man }

Anchor Holes.

1 - compressor 4½

½ compressor 2½

1 - Jackhammer

1 - Driller.

11 Sx

2 - Batches 1:2 Mortar

Grouting Anchor Holes. 1^00 to 3^00

1 - Blaw Knox Track Mixer

1 - Truck Driver

1 - Driller

2 - Helpers.

Cleanup.

1 - Finisher 3^00 to 4

2 - Drillers Helpers.

2 - Laborers.

(20 ft) Laying 4" Tile Drain 1st Line N Sta. 6+39 to 6+58 — 19 / 58

2 - Laborers 2^30 to 3^00

Forms. 2^30 to 4

1 - Carpenter Helper

1 - Finishers Helper.

✓

Jan 19, 1933 7am to 4pm

Spillway Floor (50)

Clean up. 7⁰⁰ to 8⁰⁰

1- Carpenter Helper

2- Laborers

Mix 1:2:4 (6sx) 52 Batches Conc. 312 sx

Start 8⁰⁰ Finish 10³⁰ = 2½

1- Mixing Plant

3 Blaw Knox Truck Mixers

1- Barber Greene & 2 Truck

1- No 3 Caterpillar

1- Mixerman

4 Men

Conc Del. 3 Truck Drivers

Placing Conc. 3- Laborers & 1 Cat. operator

Agg. Supply 2- Truck Driver

Finishing 1- Finisher 9³⁰ to 2⁰⁰

1- Finishers Helper 9³⁰ to 4⁰⁰

@ Sta 6+02 to 26.5 ; Sta 6+21 to 26.5

@ Sta 5+98 to 41.N ; Sta 6+21 to 41.N

Hunt Process.

1- Laborer 3³⁰ to 4⁰⁰

✓

Jan 19, 1934 7am to 4pm

O. G. Section

Forms

1- General Foreman 7³⁰ to 10³⁰ = 3

1- Carpenter Foreman 7⁰⁰ to 10 = 3

1- Carpenter 7³⁰ to 9³⁰ =2½ 9³⁰ to 4 = 8

1- Carpenters Helper 7⁰⁰ to 12³⁰ 12³⁰ to 4 = 8

1- Finisher 2⁰⁰ to 4⁰⁰ = 2

1- Finishers Helper } 7⁰⁰ to 9³⁰ = 2½

1- Carpenter Helper 8⁰⁰ to 10⁰⁰ = 2

Clean up.

1- Driller 7⁰⁰ to 9³⁰ } 2½

2 Helpers 7⁰⁰ to 9³⁰ }

1- Laborer & water Truck 7⁰⁰ to 8⁰⁰ = 1

✓ Jan 19, 1934

Spillway Floor

Anchor Holes.

½ compressor. 1 Jackhammer

1- Driller

Jan 19, 1934 7am to 4 pm.
1300 SX cleaned.

O.G. Section

Sta 0+00 to 0+24 Elev 730.7 to 738.5

Mix 1:2½:5 (5SX) = 10 SX

149 / 745 SX Batches Conc. 2 Batches 1:2 Grout

Start 10:30 Finish 3:30 = 4

1- Mixing Plant

1- Barber Greene & 2 Truck

3 Blaw Knox Truck Mixers

1- General Foreman.

1- Mixerman

4 Men

Conc Del. 3 Truck Drivers

Placing Conc. 3 Laborers.

Agg Supply 2- Truck Drivers

Headers. 1- Carpenter Helper 2.00 to 3.00

Copper = 24+16 = 40'

Estimate

$9 \times 24 \times \frac{24+16}{2} = 190$ - say 200

27

Jan 19, 1934

So. Side Wall

Forms 10.00 to 4.00 = 6

1- Carpenter Foreman

1- Carpenter Helper. 10.00 to 2.00 3.00 to 4.00

1- Carpenter Helper ⊗

1- Finisher ⊗

Test Samples. O.G. Section

1817 - 1818 - 1819.

1:2½:5 Mix 5 SX.

Sta 0+00 to 0+28 Elev 730 to 738

Jan 20, 1934 7am to 4pm

So. Side Wall (?) 1300 sx. cleared
6 sx. Reclaimed

Forms

1- Carpenter Foreman 7:00 to 9:30 = 2

1- Carpenter 7:00 to 9:00 = 2

1- Finisher 7:00 to 9:30 = 2½

Clean up. 9:00 to 9:30 = ½

3 Laborers.

Mix 1:2:4 75x (a) 8 Batches Conc. 56

1:2:4 65x (b) 46/96 Batches Conc. 96

Start 3:00 Finish 5:00 = 2

* 1 hr over to 6?

1- Mixing Plant 1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers

1- No 11. Crane

Mixing 1- Mixerman 1- General Foreman

4 Men.

Conc Delivery 9 Truck Drivers

Placing Conc. 3 Laborers. 1- Wall Crane Operator & 1 oiler

Agg. Supply. 1- Truck Driver.

Sta 5+36 to 5+61 Elev 728 to 733

Sta 5+61 to 5+86 Elev 719 to 725

Note Form broke at Sta 5+60 to 61 See for Rock pro to Elev 719 Sta 5+

Jan 20, 1934 7am to 4 pm.

O.G. Section Sta 0+00 to 0+25

Clipping Cone 7:00 to 9:00 = 2

1- Carpenter Helper

1- Finishers Helper

3- Laborers

Forms

1- General Foreman. 7:00 to 9:30 = 2½

1- Carpenter Helper 7:00 to 3:30 = 7½

1- Finishers Helper } 7:00 to 4:00 = 8

1- Carpenter. 9:00 to 3:30 } = 5½

1- Carpenter Helper 7:00 to 3:30 = 7½

1- Carpenter Foreman 9:30 to 3:30 = 5

1- Finisher 9:30 to 4:00 5½

Jan 20, 1934 7am to 4pm.

Anchor Holes.

½ compressor

1- Jackhammer

1- Driller

Jan 20, 1934 7am to 4pm.

Warped Section.

Cleanup & Wetting Conc. 9^{30} to 10^{30} = 1

2- Laborers.

Forms. 1- Carpenter Foreman 9^{30} to ⊗

1- General Foreman. 9^{30} to 10^{30} = 1

Mix 1:2½ 6 sk 1 Batches Grout 5 sk

Start 10^{30} Finish 3^{00} = $5\frac{1}{2}$ Batches Conc 323 sk.

1- Mixing Plant. Divided Class 1 & 2 Conc

1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers

1- No 11 Crane

1- Mixerman 1- General Foreman. 9^{30} to 4^{00} = ½

4 Men.

Conc. Del. 2 Truck Drivers

Placing Conc. 3 Laborers.

1- No 11 Crane Operator

1- No 11 " Oiler

Agg. Supply. 1 Truck Driver

*Delay 10^{30} to 11^{30}

Forms: 1- Carpenter Foreman 9^{30} to 4^{00} = ½
1- " Helpers
2- " Carpenters.

Sta 5410 to 5426 Elev 749 to 754 =

Sta 5410 to 5436 Elev. 749 to 755 = 6'

Jan 21, 1934 Sunday

Jan 22, 1934 7am to 4pm

O.G. Section

Wetting & Clean up.

1- Laborer & Water Tank 7⁰⁰ to 7³⁰

Mix 1:2½:5 (5SX) 92 Batches Conc

8 Batches Grout

Start 8⁰⁰ Finish 11⁰⁰ = 3 hrs.

1- Mixing Plant

1- Barber Greene & 1 Truck

2- Blaw Knox Truck Mixers to 9³⁰ = 1½

3- Blaw Knox Truck Mixers 9³⁰ to 11 1½

Mixing 1- General Foreman

1- Mixerman

4- Men

Conc Delivery 2- Truck Drivers 1½

3- Truck Drivers 1½

Placing Conc. 3- Laborers.

Agg. Supply 1- Truck Driver

Sta 0+00 to 0+24 Elev 738½ to 745

12"-1½" copper.

Forms 1- General Foreman } 11⁰⁰ to 11³⁰ = ½ hr

3- Laborers.

1- Laborers 3⁰⁰ to 4 = 1 hr.

Jan 22, 1934 7am to 4pm

Warped Section

Forms 1- Carpenter Foreman 7⁰⁰ to 4 = 8

1- Carpenter 7⁰⁰ to 4 = 8

1- Carpenters Helper 7⁰⁰ to 4 = 8

1- Carpenters Helper 9³⁰ to 4 = 5½

1- General Foreman 12³⁰ to 4 = 3½

Finishing 1- Finisher 7⁰⁰ to 10⁰⁰ = 5

1- Finisher Helper ⊗

Placing Reinf Steel 8⁰⁰ to 9⁰⁰ = 1 hr.

1- Steel Foreman

1- " Man

Clean up 1- Finishers Helper 9⁰⁰ to 11³⁰ = 2½

Placing Str. Reinf. Steel.

For 6 Cols		For So. Side Wall	
2	15'-6"	1-¾"⌀	11'-0"
2	15'-0"		
2	14'-6"	1	10'-6"
2	14'-0"		
2	13'-6"	1	9'-10"
2	13'-0"		
2	12'-6"	1	9'-4"
2	12'-0"		
2	11'-6"	1	8'-8"
2	11'-0"		
2	10'-6"	1	8'-0"
2	9'-6"		

Jan 22, 1934 7am to 4pm.

So. Side Wall

Chipping Conc.

2 Laborers 7.00 to 8.30 = 1½ hr.
1 Laborer 3.30 to 4 = ½ hr. } 1½ 1c

Mix ___ Batches Conc.

___ Batches Conc

Start. ⊗ Finish ⊗

1 Mixing Plant.

1 Barber Greene & 1 Truck

2 Blaw Knox Truck Mixers

Mixing 1 General Foreman
1 Mixerman
5 Men.

Conc. Delivery 2 Truck Drivers

Placing Conc. 3 Laborers.

Agg. Supply 1 Truck Driver

Jan 22, 1934 7am to 4pm

Spillway Floor

Clean up.

2 Laborers 7.30 to 8.00 = ½ hr.

1 Finishers Helper 7.00 to 9.00 = 2

1 Carpenters Helper 7.00 to 9.30 = 2½

1 Laborer & Water Tank 7.30 to 8.00 = ½

(2) 1c Tile Drains see Jan 18

Anchor Holes 12.30 to 4 = 3½

1 Compressor

1 Jackhammer

1 Driller

½ Nipper 3 1½/2

3.00 pm Mr Wood introduced Mr Holmes State Inspector

(?) 1200 Sx. cleaned
14 Sx. Reclaimed
see Jan 19 & 20

Jan 22, 1934

Spillway Floor

to { Sta 6+21 - 41'N } to { Sta 6+21 - 26 S } 47 batches
Sta 6+40 - 42 N Sta 6+40 - 26 S.

Mix 1 : 2 : 4 6 Sx 47 Batches Conc. 282 cu yds

Start 12^39 Finish 2^30 = 2 hrs

1 - Mixing Plant
1 - Barber Greene & 1 Truck
3 - Blaw Knox Truck Mixers
1 - No 3 Caterpillar

Mixing 1 - Mixerman
4 - Men.

Conc Del. 3 - Truck Drivers
Placing Conc. 3 - Laborers
1 - Cat. Operator.
Finishing 1 - Finisher 1^00 to 4 - 3
3 - Laborers 2^30 to 3^00 = 1/2
2 - Laborer 3^00 to 4 = 1

42" Spillway Floor Anchor Holes.

Sta. #140 5+64 S. of ℄	Date	Sta. 5+68 #141 S. of ℄	Date	Sta. 5+72 #142 S. of ℄	Date
Finished to 26 S	Dec 7	Finished to 26 S	Dec 7	Finished to 26 S	Dec 7
N of ℄		N of ℄		N of ℄	
6	Jan 10 ✓	6	Jan 10 ✓	6	Jan 10 ✓
10 ✓		10 ✓		10 ✓	

42" Spillway Floor Anchor Holes.

Sta. 5+76 #143 S. of ℄	Date	Sta. 5+80 #144 So. of ℄	Date	Sta. 5+84 ✓ #145 So. of ℄	Date
Finished to 26 S.	Dec 7	Finished to 26 S.	Dec 7	1 ✓	
				4	Jan 10
				9	Jan 9 ✓
				25	Dec 4 (#1 to 8)
Only re drilled & cleaned					
26 ✓	Jan 8	26 ✓	Jan 8	26 #✓	Jan 8
N of ℄		N of ℄		N of ℄	
6	Jan 10 ✓	6	Jan 10 ✓	4	Jan 10 ✓
10 ✓		11 ✓		10 ✓	Jan 11 ✓

Spillway Floor Anchor Holes

Sta.	Date	Sta.	Date	Sta.	Date
5+88		5+92		5+96	
#146		#147		#148	
So. of ℄		So of ℄		So of ℄	
3	Jan 10	3	Jan 10	3	Jan 10
9	Jan 9	9	Jan 9	9	Jan 9
17	Dec 4	22	Jan 8	22	Jan 8
26 *	Jan 8	25 *		25 *	
N of ℄		N of ℄		N of ℄	
3	Jan 10	3	Jan 10	3	Jan 10
9	Jan 11	9	Jan 11	9	Jan 11

Spillway Floor Anchor Holes

Sta.	Date	Sta.	Date	Sta.	Date
6+00		6+04		6+08	
#149		#150		#151	
So of ℄		So of ℄		So of ℄	
3	Jan 10	4	Jan 11	4	Jan 12
10	Jan 9	13	Jan 9	11	Jan 17
25 *	Jan 8	25 *	Jan 8	19	Jan 18
				24	Jan 24
N of ℄		N of ℄		N of ℄	
3	Jan 10	9	Jan 11	5	Jan 11
9	Jan 11				

4' ctrs. 4½" Holes.

Spillway Floor Anchor Holes

Sta. #152 6+12 S of ℄	Date	Sta. #153 6+16 S of ℄	Date	Sta. #154 6+20 S. of ℄	Date
1		1		1	
2		2		2	
3		3		3	
4	Jan 12	4	Jan 12	4	Jan 12
5		5		5	
6		6		6	
7		7		7	
8		8		8	
9		9		9	
10		10		10	
11		11	Jan 17	11	Jan 17
12		12		12	
13		13		13	
14	Jan 17	14		14	Jan 19
15		15		15	
16		16		16	
17		17		17	
18		18	Jan 18	18	
19		19		19	
20	Jan 18	20		20	
21		21		21	
22		22		22	Jan 24
23		23		23	
24	Jan 24	24	Jan 24	24	
25		25		25	

N of ℄		N of ℄		N of ℄	
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6	Jan 11	6	Jan 12	6	Jan 12
7		7		7	
8		8		8	
9		9		9	
10		10		10	
11		11		11	
12		12		12	
13		13		13	
14		14		14	
15		15		15	

Spillway Floor Anchor Holes.

Sta. #155 6+24 S. of ℄	Date	Sta. #156 6+28 S. of ℄	Date	Sta. #157 6+32 S. of ℄	Date
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5	Jan 12	5	Jan 12	5	Jan 12
6		6		6	
7		7		7	
8		8		8	
9		9		9	
10	Jan 18	10		10	Jan 19
11		11	Jan 18	11	
12		12		12	
13		13		13	
14		14		14	
15	Jan 19	15		15	Jan 20
16		16	Jan 20	16	
17	Jan 20	17		17	
18		18		18	
19		19		19	
20		20		20	
21		21		21	
22		22	Jan 24	22	Jan 24
23	Jan 24	23		23	
24		24		24	
25		25		25	

N of ℄		N of ℄		N of ℄	
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6	Jan 12	6	Jan 12	6	Jan 12
7		7		7	
8		8		8	
9		9		9	
10		10		10	
11		11		11	
12		12		12	
13		13		13	
14		14		14	
15		15		15	

42" Spillway Floor Anchor Holes 4' Cts.

#158 Sta. 6+35 S. of ℄	Date	#159 Sta. 6+39 S. of ℄	Date	#160 Sta. 6+43 S. of ℄	Date
1		1		1	
2		2		2	
3	✓	3	✓	3	✓
4	Jan 13	4	Jan 13	4	Jan 13
5		5		5	
6		6		6	
7		7		7	
8		8		8	
9	Jan 19 ✓	9	Jan 19 ✓	9	Jan 19 ✓
10		10		10	
11		11		11	
12		12		12	
13		13		13	
14	✓	14	✓	14	✓
15	Jan 24	15	Jan 24	15	Jan 24
16		16		16	
17		17		17	
18		18		18	
19		19		19	
20	✓	20	✓	20	✓
21		21		21	
22	Jan 25	22	Jan 25	22	Jan 25
23		23		23	
24	✓	24	✓	24	✓
~~25~~ ?	Jan 27 ✓	~~25~~ ?	Jan 27 ✓	~~25~~ ?	Jan 27 ✓

N of ℄		N. of ℄		N of ℄	
1		1		1	
2		2		2	
3		3	✓	3	
4	✓	4		4	
5		5		5	
6	Jan 12	6	Jan 12	6	
7		7		7	
8		8		8	
9		9		9	
10	✓	10		10	✓
11		11		11	
12		12		12	Jan 13
13		13	✓	13	
14		14		14	
15		15	Jan 13	15	
16		16 ✓		16 ✓	

42" Spillway Floor Anchor Holes 4' Cts.

#161 Sta. 6+47 S. of ℄	Date	#162 Sta. 6+51 S. of ℄	Date	#163 Sta. 6+55 S. of ℄	Date
1		1	✓	1	✓
2		2	Jan 13	2	Jan 13
3	✓	3		3	
4	Jan 13	4		4	✓
5		5	✓	5	
6		6		6	Jan 19
7		7	Jan 19	7	
8		8		8	
9	Jan 19 ✓	9		9	
10		10		10	
11		11		11	
12		12	✓	12	✓
13		13		13	
14	✓	14	Jan 25	14	Jan 25
15		15		15	
16	Jan 25	16		16	
17		17		17	
18		18		18	
19		19		19	
20		20	✓	20	✓
21		21	Jan 27	21	Jan 27
22		22		22	
23		23		23	
24	✓	24	✓	24	✓
~~25~~	Jan 27 ✓	~~25~~		~~25~~	

N of ℄		N of ℄		N. of ℄	
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6		6		6	
7		7		7	
8		8		8	
9		9		9	
10	✓	10		10	
11		11	✓	11	✓
12	Jan 13	12	Jan 13	12	Jan 13
13		13		13	
14		14		14	
15		15		15	
16 ✓		16 ✓		16 ✓	

42' Spillway Floor Anchor Holes

#164 | #165 | #166

Sta (3')	Date	Sta	Date	Sta	Date
6+58		6+62		6+66	
S of ℄	Jan 13 ✓	S. of ℄		S. of ℄	
	Jan 19 ✓		Jan 24 ✓		Jan 27 ✓
	Jan 27 ✓		Jan 27 ✓	18 ✓	Feb 8 ✓
			Feb 8 ✓	24 ✓	
N of ℄		N. of ℄		N of ℄	
	Jan 13 ✓		Jan 24 ✓		Jan 24 ✓
			Jan 22 ✓	10 ✓	Jan 22 ✓
16 ✓		16 ✓			

42' Spillway Floor Anchor Holes 4 cts.

#167 | #168 | #169

Sta	Date	Sta	Date	Sta	Date
6+70		6+74		6+78	
S of ℄	Jan 27 ✓	S of ℄	Jan 27 ✓	S of ℄	Jan 27 ✓
16 ✓	Feb 7 ✓	12 ✓	to Feb 7 ✓	11 ✓	to Feb 9 ✓
19 ✓	to Feb 9 ✓	19 ✓	to Feb 9 ✓	19 ✓	to Feb 12 ✓
24 ✓		24 ✓		24 ✓	
N of ℄		N of ℄		N of ℄	
	Jan 24 ✓		Jan 24 ✓		Jan 24 ✓
10 ✓	Jan 22 ✓	10 ✓	Jan 22 ✓	10 ✓	Jan 22 ✓
				16 ✓	Feb 1 ✓
				21 ✓	Feb 2 ✓
				24 ✓	

42" Spillway Floor Anchor Holes. 4 Qtrs

Sta #170 6+82	Date	Sta #171 6+86	Date	Sta #172 6+89	Date	Sta #173 6+99	Date	Sta #174 6+97	Date	Sta #175 7+01	Date
S. of ℄	Jan 27 ✓	S. of ℄	Jan 27 ✓	S of ℄	Jan 29 ✓	S of ℄	Jan 30 ✓	S of ℄	Jan 30 ✓	S of ℄	
9 ✓		7 ✓		4 ✓		7		6 ✓		1	
10		8		5				7		to	Feb 9 ✓
to	Feb 9 ✓	to	Feb 9 ✓	7	Jan 29 ✓	8		to	Feb 9 ✓	12 ✓	
17 ✓		17 ✓		8		to	Feb 9 ✓	15 ✓		13	
18	Feb 12 ✓	18	Feb 12 ✓	to	Feb 12 ✓	15 ✓		16		to	Feb 12 ✓
to		to		15 ✓		16		to	Feb 12 ✓	24 ✓	
24 ✓		24 ✓		16		to	Feb 12 ✓	24 ✓			
				to	Feb 12 ✓	24 ✓					
				24 ✓							
N. of ℄		No ℄		No ℄		No ℄		No of ℄		N of ℄	
1		1		1		1		1		1	
2											
3											
4											
5	Jan 27 ✓										
6											
7											
8			Jan 27 ✓		Jan 29 ✓		Jan 29 ✓		Jan 31 ✓		Jan 31 ✓
9											
10											
11											
12											
13	Jan 27 ✓										
14											
15											
16 ✓		16 ✓		16 ✓		16 ✓		16 ✓		16 ✓	
17	Feb 1 ✓	17	Feb 1 ✓	17	Feb 1 ✓	17	Feb 1 ✓	17	Feb 1 ✓	17	Feb 1 ✓
21 ✓		21 ✓		21 ✓		21 ✓		21 ✓		21 ✓	
22	Feb 2 ✓	22	Feb 2 ✓	22	Feb 2 ✓	22	Feb 2 ✓	22	Feb 2 ✓	22	Feb 2 ✓
24 ✓		24 ✓		24 ✓		24 ✓		24 ✓		24 ✓	

Spillway Floor Anchor Holes.

Sta.	Date	Sta.	Date	Sta	Date
7+04 #176		7+08 #177		7+12 ~~#178~~	
S of ℄		S of ℄		S of ℄.	
1 to 6	Feb. 6 ✓	1 to 6	Feb 6 ✓		
7 to 12	Feb 9 ✓	7 to 12	Feb. 9 ✓		
13 to 24 ✓	Feb 16 ✓	13 to 24 ✓	Feb 16 ✓		
N of ℄		N of ℄		N of ℄	
1 to 24	Feb 6 ✓	1 to 24	Feb 6 ✓		

Cut off 7+10 to 7+12 ✓

Spillway Floor Anchor Holes.

Sta.	Date	Sta.	Date	Sta.	Date
7+16 #178		7+20 #179		7+24 #180	
S of ℄		S of ℄		S of ℄	
1 to 14	Feb 26 ✓	1 to 9	Feb 26 ✓	1 to 9	Feb 26 ✓
15 to 24	Feb 16 ✓	10 to 24 ✓	Feb 17 ✓	10 to 24 ✓	Feb 17 ✓
N of ℄		N of ℄		N of ℄	
1 to 5	Feb 28 ✓	1 to 5	Feb 28 ✓	1 to 5	Feb 28 ✓
6 to 13	Mar 1 ✓	6 to 13	Mar 1 ✓	6 to 13	Mar 1 ✓
14 to 24	Mar 2 ✓	14 to 24	Mar 2 ✓	14 to 24	Mar 2 ✓

Sta #181 7+28	Date	Sta #182 7+32	Date	Sta #183 7+35	Date	Sta #184 7+39	Date
S of ℄		S of ℄		S of ℄		S of ℄	
1 to 9	Feb 26	1 to 9	Feb 26	1 to 9	Feb 26	1 to 9	Feb 26
10 to 24	Feb 17	10 to 24	Feb 17	10 to 24	Feb 17	10 to 24	Feb 17
N of ℄		N of ℄		N of ℄		N of ℄	
1 to 5	Feb 28	1 to 5	Feb 28	1 to 5	Feb 28	1 to 5	Feb 28
6 to 13	Mar 1	6 to 13	Mar 1	6 to 13	Mar 1	6 to 13	Mar 1
14 to 24	Mar 2	14 to 24	Mar 2	14 to 24	Mar 2	14 to 24	Mar 2

South Side Wall Anchor Holes.

Sta & Number 1¼ x 5'-0"	Date Depth 42"	Sta & Number 1¼ x 5'-0"	Date Depth 42"	Sta & Number 1¼ x 5'-0"	Date 42"
5+17	Dec 23	5+23	Dec 23	5+29	Dec 23
1		1		1	
		2		2	
				3	
				4	
				5	

Sou. Side Wall Anchor Holes. 6' ctrs.

Sta Number	Date Depth.	Sta.	Date Depth.	Sta	Date Depth.
5+35 1"□+5'-6"	42"	5+41 1"□×4'-0"	42"	5+47 1"□×4'-0"	42"
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6		6		6	
7		7		7	
8		8		8	
9.		9.			
Note					

used 9"×5"×1'-0" posts

Sou. Side Wall Anchor Holes.

5+53 1"□×4'-0"	42"	5+59 1"□+4'-0"	42"	5+65 1"□×4'-0"	42"
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6		6		6	
7.					

42" Drill Holes 1"⌀×4'0" Anchors

42" Sou. Side Wall Anchor Holes. 6' ctrs

Sta.		Sta.		Sta		Sta.		Sta.		Sta.	
			(6' spacing)								
5+71	42" ⊗	5+77	42"	5+84	42"	5+90		5+96		6+02	
1"⌀×4'0"		1"⌀×4'0"		1"⌀×4'0"		1"⌀×4'0"		1"⌀×4'0"	42-1"⌀×4'0" Anc. Bars. ← to here	1⌀×4'0"	
1	13-5/8×36'6" Hor.	1	4" Tile to here. Jan 6	1	Jan 6	1		1	Jan 6 Total 29	1	Jan 8
2	26-5/8×40'0" Vert.	2		2		2		2		2	
3	Jan 6	3		3		3		3		3	
4		4		4		4	Jan 6	4		4	
5		5		5		5		5		5	
6		6		6		6					

26
23
9

Vertical Steel List Beginning at Sta 5+71

11-	5/8"⌀	× 40	Jan 6
1	"	39'-6"	
1	"	37'-11"	
13	"	36'-6"	
7-	"	36'-0"	
2-	"	35'-6"	
2-		35'-0"	
2	–	34'-6"	
2	–	34'-0"	

Vertical Steel list Continued from Sta 5+71 to Sta 6+10

2-	5/8"⌀ ×	33'-6"	Jan 10
2	"	33'-0"	
3	"	32'-6"	
2	"	32'-0"	
2	"	31'-6"	Sta 6+10

Extra

1- 5/8⌀ × 25'-0"
1 5/8⌀ × 30'-0"
1- 5/8⌀ × 35'-0"

Horizontal Steel.

24- 5/8 × 40
1- 5/8 × 22½ } extra
1- 5/8 × 10½ }

42° Drill Holes: 1" ϕ x 4'0 Anchors.

So. Side Wall Anchor Holes. 6' ctrs

Sta	Date	Sta	Date	Sta	Date
6+08		6+14		6+20	
1	Jan 6, 1934	1		1	
2		2		2	
3		3	Jan 9	3	Jan 9
4		4		4	
5 ✓		5		5	Jan 24

Jan 10 Sta 5+10

5/8" ϕ Vertical Steel

2 - 36-0	Extra
2 - 35-6	1 - 5/8" ϕ x 25
2 - 35-0	1 - 5/8" ϕ x 35
2 - 34-6	1 - 5/8" ϕ x 35
2 - 34-0	
2 - 33-6	
2 - 33-0	
3 - 32-6	
2 - 32-0	
2 - 31-6	

Hor 92 - 40-0"

So. Side Wall Anchor Holes

Sta.	Date.	Sta.	Date.	Sta	Date.
6+26		6+32		6+38	
1		1		1	
2		2		2	
3	Jan 24 ✓	3	Jan 24 ✓	3	Jan 24 ✓
4		4 ✓		4 ✓	
5 ✓		5		5	

Sta.	Date.	Sta.	Date.	Sta	Date.
6+44		6+50		6+56	
1		1		1	
2		2		2	Jan 25 ✓
3	Jan 24 ✓	3	Jan 24 ✓	3	
4		4 ✓		4 ✓	

Sta.	Date.	Sta.	Date.	Sta	Date.
6+62		6+68		6+74	
1		1		1	
to	Feb 7 ✓	to	Feb 7 ✓	to	Feb 8 ✓
4		4		4	

South Side Wall

Sta	Date	Sta	Date	Sta	Date
6+80		6+86		6+92	
1		1		1	
to	Feb 8 ✓	to	Feb 8 ✓	to	Feb 8 ✓
4		4		4	
7+16		7+22		7+28	
1		1		1	
to	Feb 16 ✓	to	Feb 16 ✓	to	Feb 16 ✓
4		4		4	

South Side Wall

Sta.	Date	Sta.	Date	Sta.	Date
6+98		7+04		7+10	
1		1		1	
to	Feb 9 ✓	to	Feb 9 ✓	to	Feb 16 ✓
4		4		4	
7+34		7+40			
1		1			
to	Feb 17 ✓	to	Feb 17 ✓		
4		4			

North Side Wall

Sta.	Date	Sta.	Date	Sta.	Date
7+40		7+34		7+28 ✓	
1	Feb 26 ✓	1	Feb 26	1	Feb 26 ✓
2		2		2	
3		3	Jan 30 ✓	3	Jan 30 ✓
4	Jan 30 ⊗	4		4	

North Side Wall

Sta.	Date	Sta.	Date	Sta.	Date
7+22		7+16		7+10	
1	Feb 26 ✓	1	Feb 26 ✓	1	
2		2		2	
3	Jan 30 ✓	3	Feb ✓	3	Feb ✓
4		4		4	

North Side Wall

Sta.	Date	Sta.	Date	Sta.	Date
7+04		6+98		6+92	
1		1		1	
2	Feb 2 ✓	2	Feb 2 ✓	2	Feb 2 ✓
3		3		3	
4		4		4	

North Side Wall.

Sta.	Date	Sta.	Date	Sta.	Date
6+86					
1					
2	Feb 2 ✓				
3					
4					

Mar 5, 1934

South Side Wall

Forms. 7th A

1- Carpenter Foreman

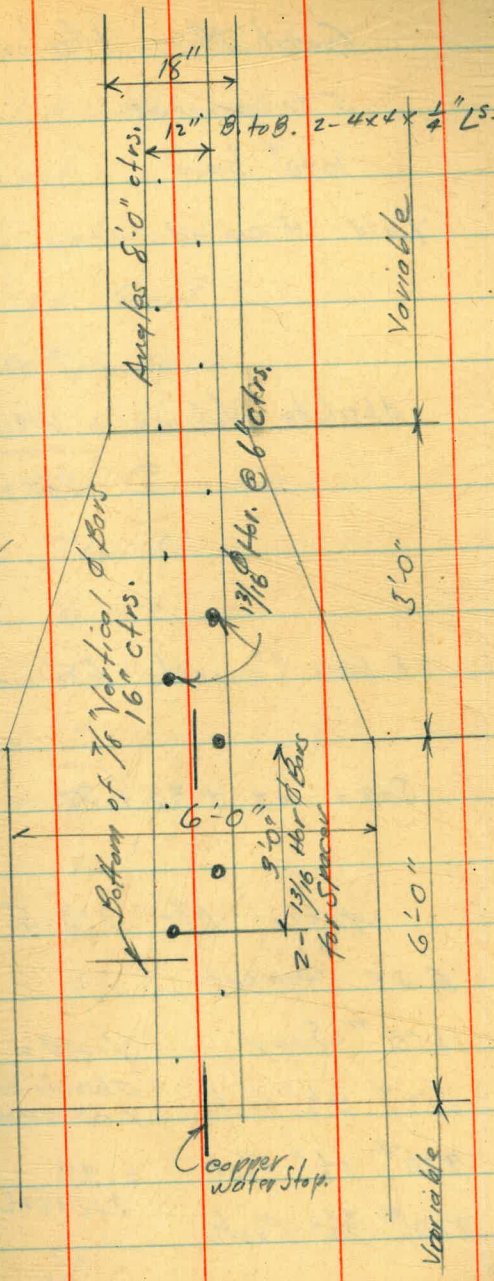
1- " Helper

1- Laborers.

1- Finisher

1- General Foreman } go to.

2- Laborers.



Batch Measure

Grout Mix (Mortar) 1:2

5 Sx cement

1040# Sand

Yield .4 cu yd.

Absolute Volume = $\frac{\text{Weight}}{\text{Sgr} \times 62\frac{1}{2}}$

28 Day Concrete Estimate

$S_{28} = S_7 + 30\sqrt{S_7}$

Special Mix 1:2:5

6 Sx cement

1250# Sand

850# 2½" Rock

970# 1½" Rock

770# ¾" Rock

1030
770
260 ¾"

Yield = 1.1 plus.

Absolute Volume
1 Sx cement

$= \frac{94}{3.25 \times 62\frac{1}{2}} = \frac{.5}{27} = .02$ ✓

$= \frac{1.1}{.02}$

1.12

Thin Pressure Grout

Cement & Water only

5 Sx cement

35 gals water

= 7 cu ft Grout.

Use 100# per Sq in.

Grout Tank Capacities -

2'-9" = 7 cu. ft. =

2'-0" = 6 " "

1'-8" = 5 " "

1'-4" = 4 " "

1'-0" = 3 " "

8" = 2 " "

4" = 1 " "

0" = 0" "

* Grout Pipes to be set in each patch and pressure grouted at 100#

Location of Tunnel Lining Repairs

No (Plotted)	Sta	to Sta	Size	Location
✓(1)✓	6+00	6+16	1×16	N Side wall 10' above invert
✓(2)✓	6+27 ⊗		8×8	S side wall 7' above invert
✓(3)✓	4+70	Repaired	2 – 2×2 4×5?	N side wall
✓(4)✓	3+38		3×3	N Side wall 8' above invert
✓(5)✓	4+00±		2×3	N side wall at Invert.
✓(6)	1+62	1+67	7×–	S. side of invert
✓(7)✓	1+98		16×7½	N. side of invert
✓(2a)=(8)	6+27		3×3	N side wall at Invert
✓ 9	10+00± ⊗		4×6	N side of ℄ at Crown
✓10	10+00±		1×6±	Near spring line to crown S. side wall
1 to 23	3+38	9+00	Small seepage holes	on side walls.

First * Repair Date 1933	Tunnel Lining Repairs. Remarks.
Dec 15	set 1" pipe for drain (to be capped)
Jan 81	* cut out to 3" behind steel, place drain pipes.
Dec 15	Rock Pocket. (two) small patches.
Dec 15	Rock Pocket. (Requires 1" Drain pipe & Cap)
Dec 15	Rock Pocket
	Grout raised Floor. (Repair summer 1934)
Dec 13	Seamed Floor. (removed entire slab.)
Dec 15	Rock Pocket. (Requires 1" Drain pipe & cap)
Dec 22	Rock Pocket. cut out to (3) 1" behind steel.
Dec 22	Rock Pocket.

* No Compressor on job for this work
Probably Did not remove sufficient material
Drill 2½ to 3" holes & set 2" pipe with cap in caulking cement.
for Grouting in 1934

Total Grout Pipes to be set = 33±

Batch Measures

1:2½:6 Mass Concrete. (1600# conc)

- ✓ 5 Sx Cement — Not over 4" Slump.
- ✓ 1250# Sand
- ✓ 660# 2½" Rock — 1600# per □'
- 970# 1½" Rock — minimum
- 770# ¾" Rock — Test up to 2440

Yield
1.1 cu. yd.

1:2:4 Regular. 2000# conc. Min

Floor

6 Sx Cement — Use any slump to fit
1250# Sand — the work for workability.
1340# 1½" Rock — Tests up to 3880
1030# ¾" Rock

Yield
.99 cu yd.

1:2:4 Modified — 2000# conc. Min

7 Sx cement — 3" Slump for 6' Sections
1250# Sand — 8" to 9" Slump in 18" wall
1340# 1½" Rock
1030# ¾" Rock

Yield
1.03 cu. yd.

Lap. Steel 40 diameters

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.