

LEVELS 201
West
INDEX

C.M. Reed Elev. Inspector

Stations Rhodes #1 6.7

#2 6.5

#3 6.4

4-33 4.1

Rock 4.6

Small 3.4

34- 4.2

Constant 0.71

To reduce to solid
rock Measurement

1.35) 10000 (74
945
550 w

MICROFILMED
MAY 15 1965

Property City of
San Diego Water Development

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EL CAPITAN DAM CONSTRUCTION

457
Index

C.M. Reed.

| | |
|---------------------------------------------------------------------------|---------------------|
| Reed Spillway Excavation Inspo | 1-56 |
| Yon Sappers " " " | 57-67 |
| " Movement of Mon N of N Slope Spillway | 68-80 ¹⁵ |
| Co-ords of cracks of Mon's above El Cap. Spw. (Indexed ²⁰) | 70 |

Thu. Nov. 23. 1933

6⁵⁶ C.M. Reed
6⁵⁶ am Clear Warm

7am to 4pm

Spillway Proper

7am
5#8 El. 715 Sta. 450 Along So. Top

10:00 am El. 715 Sta. 60 No. of So. Top

12:30 pm El. 705 Sta. 20 So. Top

2:30 #8 out to clean slide Sta. 4+50 No. side

6 1/2 hrs

Bulldozer in 12:00 pm out 1:30

1 cat 1 am ice comp

1 comp - 1 JH

2 JH 1 Mudd

1 Crany

1 Powder Foreman 4 sloping

1 Gas FW 4 12:30 pm

1 Dinner

1/2 comp - 2 hrs

Tally of 7am 9 10 11 1 2 30

Trucks 3 3 3 3 3 3 0

Completed No. dumpman

11-23-33

157,900 rock to waste

7

Rock to Embankments

Spillway Rock

Lower Emb Upper Emb

| Special | Truck | Time | Yds | Shvl | Trk | Time | Yds | Shvl | Trk | Time | Yds |
|---------|-------|------------------|-------|------|-----|------------------|-------|------|-----|------|-----|
| 8 | 17 | 10 ⁰⁰ | 4 1/2 | 8 | 5 | 10 ¹⁸ | 4 | | | | |
| 8 | 6 | 10 ⁰⁰ | 4 1/2 | 8 | 6 | 10 ³⁰ | 4 | | | | |
| 8 | 17 | 10 ²³ | 5 | 8 | 5 | 10 ³⁸ | 4 1/2 | | | | |
| 8 | 6 | 12 ⁵⁷ | 4 1/2 | 8 | 5 | 11 ⁰¹ | 4 1/2 | | | | |
| 8 | 5 | 11 ² | 4 | 8 | 6 | 11 ¹⁴ | 4 1/2 | | | | |
| 8 | 6 | 1 ⁴³ | 4 1/2 | 8 | 5 | 11 ²⁰ | 4 | | | | |
| 8 | 17 | 2 ²⁰ | 3 | 8 | 17 | 12 ¹ | 4 1/2 | | | | |
| | | | | 8 | 6 | 2 ⁰⁰ | 5 | | | | |
| | | | | 8 | 17 | 2 ⁰⁴ | 4 | | | | |
| | | | | 8 | 5 | 2 ⁰⁷ | 4 1/2 | | | | |

71
30
2130

43.5
71
13.5
304.5
30,88.5
81 yds

11-23-33

Grading Spillway Floor

8³⁰am DL#10 Sta 5120 E1.720 30'So E.

12³⁰ out to concrete

1PM DL#6 5120 720 30'So E.

No Oiler

8³⁰ 4 MUCKERS

muckers
3mity 4ho

9³⁰ 2

10³⁰ 3

10⁴⁵ 4

11³⁰ 4

12³⁰ 2

1 3

2 5

2¹⁵ 3

2³⁰ 4

3 6

1 Powder Foreman 4

1 Foreman (Bill) 4

Tally of 8³⁰ 9 10 11 12

TRUCKS 1 1 1 1 1

11-23-33

Stripping NE. Abutment

2 MUCKERS

Notes

6 men - 1 cat facing downstream face
DL#10 - 1 Truck cleaning hog box
2¹⁵-2³⁰ p.m. large slide north spillway slope
station 4150

Fri. Nov. 24-1933

7am to 4pm

6:50am clear warm breeze

Spillway Proper and 06 EL 720

1 Comp

7am DL #10 out of 06

2 JH

8am out to concrete

1 Quarry

7am

1 Powder Foreman 4

1 Comp 2 JH 1 Muck

1 Comp 1/2 slope

8:45

1 Comp 15 H 5

1 JH

10:30

11am out 56 under grading

1 Cat

2:45 pm

Shovel #8 EL 720 56V Car Spillway

Tally of 2:45

Trucks 4

2:45 loads - runners count - from slide

Dumps

11-24-33

3

Spillway Rock 15% to waste
Rock to Embankments

Lower Emb

Upper Emb

Shovel Time Time Yds

| Shovel | Time | Time | Yds | Shovel | Time | Time | Yds |
|--------|------|------|----------|--------|------|------|-------|
| 6 | 17 | 2:54 | 4 | 8 | 3 | 2:52 | 4 |
| 8 | 6 | 2:55 | 4 1/2 | 8 | 15 | 3:08 | 4 1/2 |
| | | | 8.5 | 8 | 6 | 3:13 | 5 |
| | | | 71 | 8 | 3 | 3:41 | 5 |
| | | | 59.5 | 8 | 15 | 3:21 | 4 1/2 |
| | | | 6.03 5/4 | 8 | 5 | 3:36 | 5 |
| | | | | 8 | 3 | 3:40 | 4 1/2 |
| | | | | 8 | 5 | 4:02 | 4 |

36.5

71

36.5

258.5

259.15

26

10 loads

11-24-33

Final Grading Spillway Floor 520 west
from south Tee. to 40' north

DL#6 No. 0101 11³⁰ out

7am 6 muckers

8am 10

8⁴⁵ 6

9am 6

9³⁰ 4

10 5

10³⁰ 6

11am 6

11³⁰ 6

12³⁰ 7

2pm 8

2⁴⁵pm 6

cutoff 02 units 06.

2 muckers

2

2 17H 1/2 Comp

2 17H 1/2 Comp

2 " 1 Comp

3 17H 1 Comp

3 17H 1 Comp

2 " 8m separation out 2' 3" NG

Foreman 4

Foreman 4-Bill

Tally of 7am & 9¹⁰ 1 1 2

Trucks 1 1 1 1 1

11-24-33

4

stripping NW about
2 muckers 7am to 8am

Notes

7²⁰am

Shovel #8 - 3 Trucks cleaning slide

North slope 8^{am} 4 Trucks

9^{am} Leuden wants truck count on slide

9³⁰ Stoves spoke about cutoff ok. Van S. went
to see Mr Wood.

Rinnai reports 75 loads from slide Thu. pm
slide waste to east dump - 06 backfill &
pipe line work upper Emb. 3 Trucks 10 am

Sat Nov-25-1933 6:50 am Clear warm - windy
7 am to 4 pm

Spillway proper ✓

5#8 El. 720 740.0 3x car spillway ✓

2:15 pm El. 710 6460 2 spillway

1-Cat

1-Camp

2-JH

1 Quarry

1 Powder Foreman 4 hrs

9 am

1-JH - South slope

1/2 Camp

Tally of Trucks 9 10 11 12 13

TRUCKS 4 4 4 3 3 3 3 3 3

Rock to Embankments 11-25-33 5
15% good rock to waste

Spillway rock ✓✓

| Lower Emb | | | | Upper Emb | | | | Lower Emb | | | |
|-----------|------------------|-------|-----|-----------|------------------|-------|-----|-----------|-----------------|----------|-------|
| Stn | Trk | Time | yds | Stn | Trk | Time | yds | Stn | Trk | Time | yds |
| 8 3 | 7 ¹² | 4 1/2 | | 8 6 | 7 ²² | 6 1/2 | | 8 5 | 1 ⁵⁰ | 115.12 | 4 1/2 |
| 8 15 | 7 ¹⁴ | 4 1/2 | | 8 3 | 7 ⁵³ | 7 | | 8 23 | 1 ⁵² | 5 | |
| 8 5 | 7 ¹⁴ | 5 | | 8 15 | 8 ¹² | 5 1/2 | | 8 6 | 2 ³⁰ | 6 1/2 | |
| 8 3 | 7 ³³ | 5 | | 8 15 | 8 ³³ | 5 | | 8 5 | 2 ³⁵ | 5 | |
| 8 15 | 7 ⁴⁰ | 5 | | 8 5 | 9 ²⁰ | 5 | | 8 23 | 2 ⁴⁰ | 5 | |
| 8 5 | 7 ⁵⁸ | 5 | | 8 3 | 9 ³⁸ | 5 | | 8 5 | 2 ⁴⁰ | 5 | |
| 8 6 | 8 ⁰⁷ | 5 1/2 | | 8 15 | 9 ⁵² | 5 1/2 | | 8 6 | 2 ⁵⁴ | 5 | |
| 8 3 | 8 ¹¹ | 5 1/2 | | 8 6 | 10 ⁴² | 4 1/2 | | 8 23 | 3 ²⁵ | 5 1/2 | |
| 8 5 | 8 ⁵⁴ | 4 1/2 | | 8 3 | 11 ¹² | 4 1/2 | | 8 5 | 3 ³⁶ | 5 | |
| 8 3 | 9 ⁰² | 5 | | 8 6 | 11 ³⁰ | 5 1/2 | | 8 23 | 3 ⁴² | 4 1/2 | |
| 8 6 | 9 ⁰⁵ | 6 | | 8 5 | 12 ⁵² | 5 1/2 | | 8 6 | 3 ⁴⁶ | 4 1/2 | |
| 8 5 | 9 ¹⁰ | 5 | | 8 3 | 1 ⁰⁴ | 6 | | 8 23 | 3 ⁵¹ | 5 | |
| 8 15 | 9 ³² | 4 | | 8 6 | 1 ⁵⁵ | 6 1/2 | | 8 5 | 4 ⁰⁴ | 5 | |
| 8 6 | 9 ⁴² | 5 | | 8 5 | 2 ²¹ | 6 | | | | 181 | |
| 8 5 | 9 ⁴⁸ | 6 | | 8 23 | 2 ²⁵ | 6 1/2 | | | | 71 | |
| 8 6 | 10 ⁰² | 5 1/2 | | 8 6 | 3 ¹⁴ | 5 1/2 | | | | 181 | |
| 8 3 | 10 ⁰² | 6 | | 8 6 | 3 ²² | 4 1/2 | | | | 1267 | |
| 8 5 | 10 ¹² | 4 1/2 | | | | | | | | 128.51 | |
| 8 6 | 10 ¹² | 5 | | | | | | | | 129 yds | |
| 8 5 | 10 ³⁰ | 5 | | | | | | | | 94.5 | |
| 8 5 | 11 ⁰⁰ | 5 | | | | | | | | 71 | |
| 8 3 | 12 ³⁴ | 4 1/2 | | | | | | | | 94.5 | |
| 8 5 | 12 ⁵⁷ | 4 1/2 | | | | | | | | 66.15 | |
| | | | | | | | | | | 67.095 | |
| | | | | | | | | | | 5310 yds | |

11-25-33

Grading Spillway Floor

| | | | | |
|--------------------|----|-----------|----------|--------|
| 7am | 5 | | | |
| 8 | 3 | | | |
| 9 | 3 | | | |
| 10am | 3 | 2 Outlets | 1 Ripper | 1 Comp |
| 11am | 7 | | | |
| 11 ³⁰ | 7 | | | |
| 1pm | 10 | 0 | 0 | 0 |
| 1 ³⁰ | 8 | 0 | 0 | 0 |
| 2pm | 8 | 0 | 0 | 0 |
| 2 ³⁰ pm | 7 | 0 | 0 | 0 |
| 3 ¹⁵ | 4 | 0 | 0 | 0 |

1-Foreman - Bill - 4hrs

1-Powder Foreman - 4hrs

7.30 OL#6 El. 720 Sta 5+20 & spill NO OIL12³⁰ #6 out12³⁰ #10 inTally of $\frac{730 \& 912 \& 1130}{1} = 23$

Trucks 1 1 1 1 1 1 1

Notes

Shovel #9, equipped with a
silt dipper goes toward silt beds

Cutoff Trench sta 5+10 ✓

| | | | | | |
|-----------------|---|--------|---------|---------|--------|
| 2pm | 0 | MUCKER | DRILLER | DRIPPER | 1 Comp |
| 2 ³⁰ | 2 | 1 | 0 | 1 | |
| 3 ¹⁵ | 5 | 1 | 0 | 1 | |

Monday
Nov-27-1933

Tamto 4 p.m.

6:50 am. Clear, Cool
Windy

Spillway proper

7 am
5#8 E1710 6t20 30' No 50 Top

9:15 out. 2'4 hrs

1 Pm

5#7 E1710 6t20 40' No 50 Top
to
7:05 3 hrs

Bulldozer 1/2 hr

1-Comp 5 slope spillway
1/2 comp 2m
1234 5 1-34 3-Quarry 3

1-Nipper 5

1-Pwd. For 4

1-Quarry 8

9:15 am

1-Comp 24

2-Drill 24

Tally of 2 2 9 9 5 1 13 2 2

Tracks 3 3 3 at 4 4 4 4

Comp vest

11-27-33

15% good rock to waste

7

Spillway rock to Embankments

Lowal Emb

| Shovel | Time | Time | yds |
|--------|------|------|-------|
| 8 | 15 | 7:07 | 4 |
| 8 | 6 | 7:14 | 4 1/2 |
| 8 | 23 | 7:17 | 4 1/2 |
| 8 | 5 | 7:25 | 5 1/2 |
| 8 | 23 | 7:36 | 5 |
| 7 | 23 | 2:17 | 5 1/2 |
| 7 | 3 | 2:53 | 4 |
| 7 | 3 | 2:58 | 5 1/2 |
| 7 | 23 | 3:47 | 5 |

435

71

435

3045

30885

31 yds

9 Loads

11-27-33

Grading Spillway Floor

7 am 6 Muckers

7:30 4 "

8 3 "

9 4

11:30 4

4 4

D.L.#10 7 am to 11:30 am 12:30 pm to 1:30 pm

Tally of 7 8 9 10 11 11:30 12:30 1 1:30

Trucks 1 1 1 1 1 1 1 1

Dump wast

11-27-33

8 9

Cutoff Under Floor Sta 5+10

8 am 1 Mucker 1-Driller 1-Camp 1-ripper

8:30 2 " " "

9 am 1 " " "

9:15 out out out out

1 pm 0 1 1 1

4 pm 0 1 1 1 1

Notes

7:36 am Start dumping silt Sta 1+50

hog box

Tue Nov. 28-1933

6:50 am. Cloudy Cool
Showers

Spillway Propel

5#9 El. 715 Sta 6100 30' N. 50' T. 0'

rain off 8:30 am

3 Quarrymen

1 Powder Foreman

Tally at 7 & 8:30

Trucks 4 5 6

Dump west

Rock to Embankments

11-28-33

9

Lowry Emb

| shovel | Time | Tot | yds |
|--------|------|-----|-------|
| 7 | 15 | 707 | 4 |
| 7 | 23 | 723 | 5 |
| 7 | 2 | 728 | 5 |
| 7 | 5 | 733 | 5 |
| 7 | 23 | 753 | 5 1/2 |
| 7 | 5 | 822 | 4 |

29.5

71

29.5

2065

20945

21 yds

6 loads

11-28-33

Grading Spillway Floor

DL#10 Loading Truck

7am 7muckers 3Drillers 2Nippers 2Comp

8am 7 " " " "

8:30 Out out

Tally of 7

Trucks 1

11-28-37

10

Cut off stas 10

7am 1mucker 1Driller 1Comp 2Nippers

8:30am " " " "

Rain quit work 8:30am

on job 12:30 to 12:45 No work

Wed Nov. 27-1933
 Tam to 4pm

6:30 am. partly cloudy. Cold
 Showers

Spillway Proper

#7 EL 710 Sta 6700 40' x 2 3/4 Top
 12:30 EL 720 7100 5 E. cor spillway

#8 - 1:30 EL 710 Sta 5760 2 spill

1 Comp

2. JH

1 Quarry man

1 Powder Foreman

Tally of 120 2 3 4

#8 Trucks 2 2 3 3

Tally of 7 8 9 10 11 12 13 1 10 2 3

#7 Trucks 4 3 3 3 3 4 0 0 2

Rock to Embankments

11-29-33

11

20% good rock to waste

| Lower Emb | | | | Upper Emb | | | | Lower Emb | | | |
|-----------|-----|------------------|-------|-----------|-----|------------------|-------|-----------|-----|-----------------|----------|
| Shvl | Trk | Time | Yds | Shvl | Trk | Time | Yds | Shvl | Trk | Time | Yds |
| 7 | 23 | 7 ¹⁵ | 3 1/2 | 7 | 15 | 7 ¹⁵ | 4 | 7 | 5 | 2 ¹⁶ | 4 |
| 7 | 6 | 7 ²⁴ | 4 1/2 | 7 | 15 | 8 ³⁵ | 4 1/2 | 7 | 15 | 2 ²¹ | 4 1/2 |
| 7 | 15 | 7 ²⁸ | 4 | 7 | 23 | 10 ⁴⁴ | 4 1/2 | 7 | 23 | 2 ⁴⁰ | 5 |
| 7 | 5 | 7 ³⁵ | 4 1/2 | 7 | 15 | 10 ²² | 5 | 7 | 15 | 2 ⁴⁴ | 5 |
| 7 | 15 | 7 ³⁴ | 5 | 7 | 23 | 10 ²⁶ | 5 1/2 | 7 | 15 | 2 ⁴⁸ | 5 |
| 7 | 23 | 7 ³⁷ | 5 | 7 | 15 | 10 ⁵⁰ | 4 | 7 | 23 | 3 ¹⁰ | 5 |
| 7 | 5 | 8 ⁰³ | 4 1/2 | 7 | 15 | 12 ⁴³ | 5 | 7 | 23 | 3 ²⁴ | 5 1/2 |
| 7 | 15 | 8 ²² | 4 1/2 | 7 | 5 | 12 ⁴⁷ | 6 | 7 | 15 | 3 ²⁷ | 4 |
| 7 | 15 | 9 ²⁶ | 4 | 7 | 23 | 1 ⁰² | 6 | 7 | 23 | 3 ⁴³ | 5 |
| 7 | 5 | 9 ³⁰ | 5 | 7 | 15 | 1 ¹¹ | 5 | | | | 43 |
| 7 | 23 | 9 ³² | 5 1/2 | 7 | 15 | 1 ²² | 4 1/2 | | | | 107.5 |
| 7 | 5 | 11 ⁰³ | 4 1/2 | 7 | 15 | 3 ⁰⁶ | 5 1/2 | | | | 150.5 |
| 7 | 23 | 11 ⁰³ | 4 | 7 | 15 | 3 ²⁰ | 6 1/2 | | | | 108.5 |
| 7 | 15 | 11 ¹⁴ | 4 | 7 | 15 | 3 ⁴⁰ | 5 1/2 | | | | 107. yds |
| 7 | 23 | 10 ⁵⁰ | 4 1/2 | | | | | | | | 71.5 |
| 7 | 5 | 12 ³³ | 5 | | | | | | | | 71 |
| 7 | 3 | 1 ⁰⁰ | 5 | | | | | | | | 71.5 |
| 7 | 5 | 1 ¹⁴ | 4 1/2 | | | | | | | | 500.5 |
| 7 | 15 | 1 ²⁵ | 5 | | | | | | | | 50.76 |
| 7 | 5 | 1 ⁴⁰ | 5 | | | | | | | | 51 yds |
| 7 | 15 | 1 ⁵² | 5 | | | | | | | | |
| 7 | 5 | 2 ⁰¹ | 5 | | | | | | | | |
| 7 | 23 | 2 ⁰² | 6 | | | | | | | | |

416 loads

11-29-33

Grading Spillway Floor

| Time | Machos | Driller | Comp |
|------------------|--------|---------|------|
| 7 am | 4 | | |
| 7 ³⁰ | 4 | | |
| 9 ³⁰ | 3 | | |
| 10 | 6 | 1 | 1 |
| 11 ³⁰ | 6 | 1 | 1 |
| 12 ³⁰ | 5 | 1 | 1 |
| 1 ³⁰ | 4 | 1 | 1 |

5

DL#10 E1715 5105+40 40' NB 50' 70'

1³⁰ pm #10 to cone

DL#10 245 @ grade inc

Tally of 7 8 9 10 11 12³⁰ 245 3

Touchs 1 1 1 1 1 0 1 1

Cutoff 5+10

| Time | Machos | Driller | Comp |
|------------------|--------|---------|------|
| 7 am | 1 | 1 | 1 |
| 10 am | out | | |
| 12 ³⁰ | 1 | 0 | 0 |

Friday - Dec 1 - 1933

7:15 AM Chrycelia

Spillway proper

547 El 720 Station 9th Cor. Spillway

12:30 Same

2:15 pm El 705 Station 30:30 E

1 Cat PM

1/2 Camp

3 SH ?

1 Quarryman

1 Powder 4 man 4

Tally of 7 5 9 10 11 12 1 2 3

Trucks 3 3 3 3 3 3 3 3 3

12-1-33

13

30% good rock to waste

| Lower Emb | | | | Upper Emb | | | | Lower Emb | | | |
|-----------|-----|-------|--------|-----------|-----|-------|-------|-----------|-----|------|--------|
| Shvl | Trk | Time | yds | Shvl | Trk | Time | yds | Shvl | Trk | Time | yds |
| 7 | 23 | 7:12 | 6 | 7 | 5 | 8:52 | 6 | 7 | 6 | 10:7 | 4 1/2 |
| 7 | 5 | 7:22 | 5 | 7 | 6 | 9:30 | 5 1/2 | 10 | 15 | 1:42 | 4 1/2 |
| 7 | 6 | 7:24 | 5 | 7 | 5 | 9:42 | 6 | | | | 107.5 |
| 7 | 23 | 7:34 | 5 | 7 | 23 | 9:50 | 4 1/2 | | | | 116.5 |
| 7 | 5 | 7:50 | 4 1/2 | 7 | 23 | 10:42 | 5 | | | | 71 |
| 7 | 6 | 8:23 | 4 | 7 | 5 | 11:2 | 4 1/2 | | | | 116.5 |
| 7 | 23 | 8:25 | 4 1/2 | 7 | 5 | 11:2 | 6 1/2 | | | | 81.55 |
| 7 | 5 | 8:25 | 4 | 7 | 23 | 1:44 | 5 | | | | 82.715 |
| 7 | 6 | 8:42 | 4 1/2 | 7 | 5 | 2:10 | 4 1/2 | | | | 83 |
| 7 | 23 | 8:52 | 4 | | | | | | | | 47.5 |
| 7 | 6 | 9:22 | 4 1/2 | | | | | | | | 71 |
| 7 | 5 | 9:06 | 5 | | | | | | | | 47.5 |
| 7 | 23 | 9:14 | 5 | | | | | | | | 332.5 |
| 7 | 6 | 10:27 | 5 | | | | | | | | 337.25 |
| 7 | 5 | 10:28 | 5 1/2 | | | | | | | | 341.45 |
| 7 | 6 | 10:45 | 4 | | | | | | | | |
| 7 | 6 | 10:57 | 5 | | | | | | | | |
| 7 | 5 | 11:25 | 4 | | | | | | | | |
| 7 | 23 | 12:37 | 4 1/2 | | | | | | | | |
| 7 | 6 | 12:45 | 5 | | | | | | | | |
| 7 | 5 | 12:53 | 4 1/2 | | | | | | | | |
| 7 | 23 | 1:02 | 5 | | | | | | | | |
| 10 | 15 | 1:02 | 4 | | | | | | | | |
| | | | 10 1/2 | | | | | | | | |

36 loads

12-1-33

Grading Spillway Floor

| Time | Mucker | Driller | Comp |
|---------------------|--------|---------|------|
| 7 am | 4 | 0 | 0 |
| 8 am | 4 | 0 | 0 |
| 11 ³⁰ | 4 | 0 | 0 |
| 12 ³⁰ pm | 4 | 0 | 0 |
| 3 ¹⁵ pm | 3 | 0 | 0 |
| 3 ³⁰ pm | 3 | 0 | 0 |

30 side
stable 220

1 Powder Hornum 4m
1 Foreman (Bill) 4m

DL #10

12³⁰ sameTally at 7 8 9 10 11³⁰ 12³⁰ 1 2 3

TRUCK 1 1 1 1 1 1 1 1

14

Cutoff 5410

| Time | Mucker | Driller | Comp | Other |
|--------------------|--------|---------|----------|------------------------|
| 7 am | 1 | 0 | 0 | |
| 8 am | 1 | 1 | 1 | |
| 9 ³⁰ | 1 | 0 | 0 | |
| 9 | 1 | 1 | 1/2 Comp | |
| 11 ³⁰ | 1 | 1 | 1/2 Comp | |
| 12 ³⁰ | 1 | 1 | 1 | Tile ditch 2 mucker |
| 3 ¹⁵ pm | 1 | 1 | 1/2 | 1 |
| 3 ³⁰ pm | 1 | 1 | 1/2 | 0 |

7³⁰ am camp to Level Emb. 8³⁰ am
camp moved to south end of Emb. there
are no modules in this area.

Sat Dec 2-1933 6⁴⁵ am. Clear Cold

7 am to 4 pm

Spillway Proper

S#7 El 715 Sta 5195 2 Spillway

12³⁰ El 721 Sta 700 South Toe

S#8 El 715 Sta 7100 2 Spillway

8³⁰ am El 715 Sta 6120 20' No 2 Spillway

1-Cut

1-Comp since spill

2-JH

1 Quarryman

1 Powder Man 4 hrs

Tally of 7 8 9 10 11 12³⁰ 1 2 3

Trucks 3 4 4 4 4 4 4 4

Dump west

12-2-33

15

45% good rock to waste

Rock to Embankments

| Lower Emb | | | | Upper Emb | | | |
|-----------|-----|------------------|-------|-----------|-----|-----------------|-------|
| Shovel | Trk | Time | yds | Shovel | Trk | Time | yds |
| 7 | 3 | 10 ⁴⁸ | 5 | 7 | 5 | 11 ⁰ | 4 1/2 |
| 7 | 5 | 11 ²⁵ | 3 | | | | 4.5 |
| 7 | 5 | 12 ⁴⁸ | 4 1/2 | | | | 71 |
| 7 | 3 | 12 ⁵² | 3 | | | | 45 |
| 7 | 5 | 1 ⁰⁶ | 4 1/2 | | | | 315 |
| 7 | 3 | 1 ¹⁴ | 3 1/2 | | | | 3195 |
| 7 | 5 | 1 ²⁰ | 4 | | | | 3 yds |
| 7 | 3 | 1 ²⁶ | 4 1/2 | | | | |
| 7 | 5 | 1 ⁴⁵ | 3 | | | | |
| 7 | 3 | 1 ⁵⁵ | 4 1/2 | | | | |
| 7 | 5 | 2 ⁰¹ | 4 | | | | |
| 7 | 3 | 2 ¹⁴ | 4 | | | | |
| 7 | 5 | 2 ³¹ | 4 | | | | |
| 7 | 5 | 2 ⁴⁸ | 4 1/2 | | | | |
| 7 | 8 | 3 ¹⁵ | 5 | | | | |
| 7 | 5 | 3 ¹⁸ | 4 | | | | |
| 7 | 8 | 3 ³⁰ | 4 | | | | |
| 7 | 5 | 3 ³² | 4 | | | | |

73

71

73

511

5183

52 yds

19 loads

12-2-33

Grading Spillway Flood

DL#10 Ek 720 Sta 5+20 30 Yu 4

7am 3MUCK

8³⁰ To this time charge to cleaning muck
from culvert 5+10

8:30 4MUCKS

9am 4.. 10 Dilled 1-Comp

11¹⁵am 4 2.. 1 Comp

11³⁰ 4 2.. 1..

12 0 2 1"

12³⁰ 4 0 0

4 4 0 0

1 Foreman Bill 4hr

Power 4man 4hr

Tally of 7 8 9 10 11³⁰ 12³⁰ 1 2 3

Trucks 1 1 1 1 1 1 1 1

Dump West

12-2-33

16

Culvert Trench 5+10

7am 1 Muck 0 Dilled 0 Comp

8³⁰ 1 0 0

See preceding
page. Note 8³⁰am

Monday Dec 4-1933

7am to 4pm

Spillway Propol

5#7 El 720 Sta 7400 Si Toe

5#8 El 715 Sta 7420 So No. 4

7:20am El 720 Sta 5480 Spillway

1-Cat - Bulldozer 2 hrs am

1-Camp

2-JH

1-Quarryman

Power Foreman 4

Tally of 7 8 9 10 11 11² 12³⁰ 1 2 3

Trucks 4 4 4 4 4 4 4 4 4

6:50am - Rainy
PM. Partly Cloudy

✓

12-4-33 17

Rock to Embankments

25% good rock to waste

Spillway Rock

Lower Embk

Upper Emb

| shvl | TRK | Time | Yds | shvl | TRK | Time | Yds | shvl | TRK | Time | Yds |
|------|-----------------|-------------------------------|-----|------|------------------|-------------------------------|-----|------|-----|------|------|
| 7 5 | 7 ⁰² | 4 ¹ / ₂ | | 7 3 | 9 ²⁷ | 4 ¹ / ₂ | | | | | |
| 7 3 | 7 ⁰⁷ | 4 ¹ / ₂ | | 7 3 | 9 ⁴⁶ | 5 ¹ / ₂ | | | | | |
| 7 5 | 7 ¹⁵ | 5 ¹ / ₂ | | 7 3 | 10 ²³ | 5 ¹ / ₂ | | | | | |
| 7 3 | 7 ²⁰ | 5 ¹ / ₂ | | 7 3 | 10 ⁴⁹ | 5 | | | | | |
| 7 3 | 7 ²⁴ | 5 | | 7 3 | 11 ²¹ | 5 ¹ / ₂ | | | | | |
| 7 3 | 7 ⁵⁶ | 6 | | 7 5 | 11 ¹² | 4 ¹ / ₂ | | | | | |
| 7 23 | 8 ¹² | 4 ¹ / ₂ | | 7 3 | 12 ²⁸ | 4 ¹ / ₂ | | | | | |
| 7 3 | 8 ²⁴ | 4 ¹ / ₂ | | 7 5 | 12 ⁴⁸ | 4 ¹ / ₂ | | | | | |
| 7 3 | 8 ³² | 4 ¹ / ₂ | | 7 3 | 12 ⁵² | 4 ¹ / ₂ | | | | | |
| 7 3 | 9 ⁰⁷ | 4 ¹ / ₂ | | 7 5 | 1 ⁰⁵ | 5 ¹ / ₂ | | | | | |
| 7 3 | 2 ²⁰ | 5 | | 7 3 | 1 ¹⁵ | 4 ¹ / ₂ | | | | | |
| | | 54 | | | | | | | | | |
| | | 71 | | 7 5 | 1 ³² | 5 | | | | | |
| | | 54 | | | | | | | | | |
| | | 378 | | 7 23 | 1 ⁵⁴ | 5 | | | | | 112 |
| | | 383 4 | | 7 5 | 2 ⁰⁵ | 6 | | | | | 71 |
| | | | | | | | | | | | 112 |
| | | | | 7 3 | 2 ¹² | 5 ¹ / ₂ | | | | | 784 |
| | | | | 7 5 | 2 ⁵⁸ | 5 ¹ / ₂ | | | | | 7952 |
| | | | | 7 3 | 3 ⁰⁴ | 3 ¹ / ₂ | | | | | 8046 |
| | | | | 7 5 | 3 ¹⁴ | 4 ¹ / ₂ | | | | | |
| | | | | 7 3 | 3 ²⁰ | 4 ¹ / ₂ | | | | | |
| | | | | 7 3 | 3 ⁴¹ | 4 | | | | | |
| | | | | 7 5 | 3 ⁴⁵ | 5 | | | | | |
| | | | | 7 3 | 3 ⁵⁶ | 5 | | | | | |

34 loads 112

Grading Spillway Flood

DL #10 El. 710 546620 50 N 51 708

| | | | |
|------------------|-----------|-----------|----------|
| 7am | 6 MUCKERS | 1 DRILLER | 1/2 COMP |
| 7 ³⁰ | 8 | 1 | 1/2 COMP |
| 8am | 4 | 1 | 1/2 COMP |
| 9am | 4 | 1 | 1/2 COMP |
| 11 ³⁰ | 0 | 1 | 1/2 |
| 12 | 0 | 0 | 0 |
| 12 ³⁰ | 4 | 0 | 0 |
| 1 Pm | 5 | 0 | 0 |
| 3 | 5 | 0 | 0 |
| 3 ⁴⁵ | 9 | 0 | 0 |

Foreman 1 Bill 4 hrs

Ponder 4 man 4 hrs

| | | | | | | | | | |
|----------|---|---|---|----|----|------------------|------------------|----|---|
| Tally of | 7 | 8 | 9 | 10 | 11 | 11 ³⁰ | 12 ³⁰ | 12 | 3 |
| TRUCKS | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Note: 7³⁰am Comp 5 drillers south end lower embankment on angular rock. No nodules in this area.

1³⁰pm Drilling 130 from north end. 3 marked nodules in this area. 2⁴⁵pm same.

37 TUE Dec 5 1933

6:52 am clear-cold

Spillway

#7 El. 720 Sta 7+00 To Toe
 8:30 am El. 705 6+80 40' 50" spill
 12:30 pm El. 715 5+80 ♀ spillway

- 1 Cat
- 1 Comp
- 2 JH
- 1 Quarryman
- 1 Powder 4 in diam. 4 hrs

Tally of 8 9 10 11 1 2 3
 Trucks 3 3 3 3 3 3 3

12-5-33 19

Rock to Embankments
 15% to good pile to waste

| Upper Emb | | Lower Emb | |
|-----------|------------------------|-----------|-----------------------|
| Time | Yds | Time | Yds |
| 7 5 | 4 ⁰³ 4 1/2 | 7 5 | 8 ³⁵ 6 |
| 7 6 | 7 ⁰⁷ 6 | 7 6 | 8 ⁴⁵ 4 1/2 |
| 7 15 | 7 ¹³ 5 1/2 | 7 5 | 8 ⁵⁵ 5 |
| 7 5 | 7 ²³ 4 1/2 | 7 15 | 9 ⁰⁸ 5 1/2 |
| 7 6 | 7 ³³ 6 | 7 5 | 9 ³⁰ 5 |
| 7 15 | 7 ³⁵ 5 1/2 | | 26 |
| 7 5 | 7 ⁴⁵ 6 | | 71 |
| 7 6 | 7 ⁵⁰ 5 | | 26 |
| 7 15 | 7 ⁵³ 5 | | 182 |
| 7 15 | 8 ⁰⁰ 5 | | 1846 |
| 7 6 | 9 ⁰⁰ 5 | | |
| 7 5 | 9 ⁰⁸ 5 1/2 | | |
| 7 15 | 9 ¹⁰ 5 | | |
| 7 6 | 9 ²⁴ 6 1/2 | | |
| 7 15 | 9 ⁴¹ 4 1/2 | | |
| 7 6 | 9 ⁵³ 5 | | |
| 7 5 | 10 ⁰⁴ 5 1/2 | | 124 |
| 7 15 | 10 ⁰⁰ 5 1/2 | | 71 |
| 7 5 | 10 ²² 5 1/2 | | 124 |
| 7 6 | 10 ³³ 5 1/2 | | 768 |
| 7 5 | 10 ³⁸ 6 1/2 | | 7804 |
| 7 5 | 11 ⁰³ 4 1/2 | | |
| 7 6 | 11 ¹⁰ 5 1/2 | | |
| | 124 | | |

28/0945

12-5-33

Grading - pillbox floor

DL#10

7am 8MUCKAP

7³⁰ 8

9³⁰ 6

11am 7

1pm 6

2³⁰ pm 5

Tire ditch & show west
2MUCKAP

Foreman - Bill - 4hrs

Powder 4men 4hrs

Tally of 7 8 9 10 11 1 2 3

Tactics (1 1 1 1 1 1 1

Cutoff 5+10 ✓

7³⁰ am 1 mucker

2³⁰ pm out

7³⁰ am Compressor - 2 Drillers North
and lower Emb on angular rock
10¹⁰ am Drilling in north 10' of lower emb.
on angular rock. There are 5 X cuttings in this
area.

2³⁰ pm drilling angular rock

Wed. Dec. 6-1933 6⁵am. Clear-Cold

7am to 4pm

Spillway Repair

S#7 E1710 646+50 9

PM E1710 6430 No Q. 20'

- 1 Cat
- 1 Comp
- 2 J.H.
- 1 Quarry
- 1 Powder Freeman 4 hrs

Tally of 7 8 9 10 11 L 23

Trucks 3 3 3 3 3 3 4

Dump west

Rock to Embankment's
75% good rock to waste

12-6-33 21

Lower Embankment

300' Trc Time yds

10 23 210 48

3 x ds

45

71

45

315

3,195

3 x ds

1100d

42 12-6-33

Fine Grading Spillway Floor

DL#10 ✓

| Time | Mucks | Driller | %Comp | %rippd | Charge TW Ditch 340 N-S-17m 1hr |
|------------------|-------|---------|-------|--------|------------------------------------------|
| 7am | 6 | 1 | 0 | 0 | |
| 8am | 5 | 1 | 0 | 0 | |
| 9 ³⁰ | 4 | 2 | 1 | 1 | |
| 11 ³⁰ | 0 | 2 | 1 | 1 | |
| 1pm | 6 | 1 | 1 | 0 | |
| 2 ⁴⁵ | 5 | 1 | 1 | 0 | |
| 3pm | 4 | 0 | 0 | 0 | |

1 Powell Furlson 4hrs

1 Evanson Bill 4hrs

Tallyet 7 8 9 10 11 12 3

Trucks 1 1 1 1 1 1 1

12-6-33 22

7³⁰ am Drilling angular rock north
end lower Embankment10²⁰ am Drilling angular rock lower Emb12³⁰ pm " " " " " "2³⁰ pm " " " " " "

Cutoff sta 5+10.

3pm 1 muck 1 Driller 1 Comp

45 Thu. Dec. 7 1933

9am. Clear - Cool

12-7-33

23

✓
Spillway Proper

Rock to Embankments ✓

No rock today

South Slope

1-60m D

1-JH

Out 2:15 pm

12-7-33

Grading Spillway Floor

DL#10

| | | | |
|---------|-----------|-----------|----------|
| 7am | 10 Mowers | 1 Driller | 1/2 Comp |
| 7-30 | 12 " | 0 | 0 |
| 8am | 13 " | 1 | 1/2 |
| 8:30 am | 13 | 1 | 1/2 |
| 10am | 11 | 2 | 1 |
| 1pm | 10 | 2 | 1 |
| 1:30pm | 11 | 2 | 1 |
| 2pm | 10 | 2 | 1 |
| 2:15 | 5 | 3 | 2 |

1 Powder Foreman

Bill Hix

| | | | | | | | | | |
|----------|---|---|---|----|----|---|---|-----------------|---|
| Tally of | 7 | 8 | 9 | 10 | 11 | 1 | 2 | 2 ¹⁵ | 3 |
| Trucks | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | |
| Drivers | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

12-7-33

24

Cutoff 5+10

| | | | |
|--------|----------|-----------|--------------|
| 7am | 1 muller | 10 Miller | 1/2 Comp |
| 7:30 | 1 | 0 | 0 |
| 8am | 1 | 1 | 1/2 to 11:30 |
| 1pm | 0 | 1 | 1 |
| 1:30pm | 1 | 1 | 1 to 4pm |

Note: 7:15 am. 99 compressor on level Emb

8:30 am Compressor for job

9:40 Drilling angular rock

1:15 pm. Moved compressor to N.E. corner of dam

1:30 pm Talked with foreman in charge. He said they would drill only that amount sufficient to finish face

49 Fri. Dec. 8-1933

6:45 am Clear Cool

7 am to 4 pm

Spillway Project

5#8 EL 715 Sta 5150 20 No 2

Small loads
due to the
inability of
trucks to
negotiate the
grades

5#7 12³⁰ EL 680 Sta 766 2 5 pull

1 Cat

930

1 shovel

1 Comp

1 1/3

1 3/4

1 Cat

2 JH

3 JH

1 Comp

1 Comp 2 1/2

1 Quarry

1 Q

3 Tr

3 3/4

1 Powder Foreman

1

2 SH

1 3/4 7/4

1 Ripper

1

1 Dump man #7- 12³⁰

Tally of #7 1 2 3

Trucks 2 2 2

Tally of #8 1 8 9 10 11 12³⁰ 1 2 3

Trucks 3 3 3 3 4 4 4 4

Dump vest

Rock to Embankments

12-8-33 25

Grading Spillway Floor

DL#10 to concrete 12:30

20 returns

| | | | |
|---------|-----------|-----------|--------|
| 7 am | 4 Mockers | 10 shells | 1 comp |
| 7:30 am | 3 " | 2 " | 1 comp |
| 8:15 am | 2 | 3 | 1 " |
| 8:30 am | 1 | 2 | 1/2 |
| 9:20 am | 2 | 1 | 1/2 |
| 1 pm | 2 | 1 | 1/2 |
| 1:30 pm | 1 | 1 | 1/3 |

Tally of 7 8 9 10 11 1 2 15 3
 Trucks 1 1 1 1 0 1 1

4.8
 1.25
 1.75

Cutoff st 10

| | | | |
|------|--------|-----------|----------|
| 8:30 | 1 muck | 10 shells | 1/2 comp |
| 9:30 | 1 | 1 | 1/3 |
| 1 | 1 | 1 | 1/3 |

Tire ditch st 05

9:00 muck

9:30 "

8:30 am No work on Embankments

9:30 am Shovel #7 on road from SW cor. spillway
 excavation, down to lower levels
 westward

3 Sat Dec 9 - 1933

Cool. - partly cloudy

27

Tam to 4pm

Spillway

5#8 El 710 546+90 40' No 91 other 1/2 time

1pm 120000

Cutoff 5+10

3pm 0 to ripping

5#7 El 680 7460 45 pull other 1/2 time

Tam

1 Cat Ham PM 8

1/2 Camp 7 0

3 JH 4 0

1 Ripper 1 0

1 Quarry 1 4

1 Powder Foreman 1

1 Bill " 4/120

1 Dumpman

Tally 87 7 8 9 10 11 1 3

Trucks 2 2 2 2 2 2 1 2

Tally 88 7 8 9 10 11 1 3

Trucks 3 3 3 3 3 3 3

Monday Dec 11 - 1933 ✓

6⁵⁰am clear cold

28

Spillway

5#7 El. 680 Sta 4+40 E spillway diler 1/2

No work on Embankments - cut off at 5+10
or floor grading

5#8 El. 705 Sta 0+0 E spillway diler 1/2

1-Cat

2-Comp

4-JH

1-Powder Foreman

1 Kipper

1 Dump man

Tally of 7 7 8 9 10 11 1 2 3

Trucks #7 2 3 3 3 3 3 4 4

Tally of 7 8 9 10 11 1 2 3

Trucks #8 2 3 3 3 3 3 3 3

Dump rest

9 Toa Dec-12-1933

7am to 4pm

Spillway

5#7 El. 680 Sta 7#20 30' No. 4

5#8 El. 710 Sta 7#35 40' S. 4

PM 6180 60' No South Toa

1 Cat

2 Comp

3 JH

1 Ripper

1 Form Foreman

1 Dumpman

1 Quarryman

Tally of 7 8 9 10 11 1 2 3

Trucks #7 4 4 4 4 4 4 4

Tally of 7 8 9 10 11 1 2 3

Trucks #8 3 3 3 3 3 3 3

12-12-33

29

Rock to Embankments
20% good rock to waste

Lower Emb

Shvl T16 T10 yds

8 17 12⁶ 3¹/₂

8 24 1³³ 4

8 24 2¹⁵ 4¹/₂

8 15 2²² 4

8 17 2³⁰ 5

8 24 2³⁷ 4¹/₂

8 15 2⁴⁴ 4

8 24 3²² 4

8 17 3⁴⁰ 4¹/₂

8 15 3⁴⁴ 4¹/₂

8 24 3⁴⁷ 4¹/₂

47

71

4.7

329

33.3 yds.

11 loads

28 Wed. Dec. 13. 1933

7am to 4pm

No work - rain

All activities cease 9am

7:00 rainy

Thursday. Dec. 14 1933

7am. partly cloudy ³⁰

7am to 4pm

Cool ✓

29.

No work in spillway, too wet for tracks

There has been much work on shovel repair today

#11 moved to river below dam

#6 repair on 00. level

#8 moved to lower embankment

3:45 p.m. to dig ramp to cure pool

McMillan scraper stripped area north of junction of quarry road and spillway road

vi Fri. Dec. 15, 1933

Tam 11:40 PM

8:30 am. Cool cloudy
Showers

8:30 am #7 Moves to about north
to point, starts ramp to core area

#6 Repair starts on E1715

#11 Channel work on river below tunnel

12:30 pm #7 E1680 5107440 20' 50" &

1 Dumpman

Tally of 1 2 3

Tracks 3 3 3

12-15-33

30

At about 8:00 Mr. Wood told me
that the contractor must not be
permitted to disturb hydraulic
fill area and that a letter to that
effect would be out soon. I was told
to stop any work being done in
the hydraulic area except sampling.
It is state orders

9 am went to office to tell Coarise about
cross sectioning of spillway then south
of it.

10:30 am Reported to Mr. Wood that #7 was
entering beach area. He ordered that
they not be allowed to disturb even the
beaches. On my return I found the
shovel going out, having used some
5 yds of beach material.

Sat Dec. 16-1933 6:55am - clear - cool ✓

7am to 4pm

Spillway

#7 El 685 Sta 7120 ♀

#8 El 715 Sta 7140 21 No ♀

am 1pm

1 Cat 1 Cat

1 Comp 2 Comp

2 Pullers 4 JH

2 Quarrymen 0

1 Foreman 1

1 Nipper 1

Dumpman

Tally of 7 8 9 10 11 12 3

Trucks #7 3 3 3 3 3 3 3

Tally of # 7 8 9 10 11 12 3

Trucks 8 2 4 4 4 4 4 4

Dump west

12-16-33

32

Rock to Embankments ✓

80% good rock to waste

Upper Emb.

8 15 12⁵⁸ 4

8 17 12⁵⁴ 4

8
71
8
56
64 yds

2 leads

Monday Dec 18 - 1933

7am cloudy cold
Windy

7am to 4pm

Spillway

5#7 E1690 Stage 85 &

12³⁰ Same

5#8 E1705 Stage 110 with 50 T00

1³⁰ AM Down

12³⁰ 5th Con spillway E1720

Down 3pm

1 Cat

1 Comp

2 JH

2 Quarts

1 Nipper

1 Dump

1 Foreman

Bulldozer 2 hrs

Tally of 7 8 9 10 11 12³⁰ 1 2 3

Trucks #7 4 4 4 4 4 4 4 4

Tally of 7 8 9 10 11 12³⁰ 1 2 3

Trucks #8 4 4 4 0 0 4 4 4 4

12-18-33

33

Rock to Embankments
2000 good rock to waste

Upper Emb

Lower Emb

8 15 7²⁵ 4 1/2 8 25 7³⁰ 4 1/2

8 15 8³⁵ 4 1/2 8 34 7³⁷ 3 1/2

8 25 8⁴⁰ 4 1/2 8 34 8²⁵ 3 1/2

135 8 9 8²⁰ 4 1/2

71 8 34 9²⁴ 4

135 8 9 9²⁰ 5 1/2

94.5 8 25 9¹⁹ 4 1/2

958.5 8 34 9²³ 3

10yds 8 17 12⁵⁵ 5

8 25 1²² 5

8 17 12⁰ 4 1/2

8 15 1⁵⁸ 4

8 25 2³⁴ 4 1/2

8 17 2¹⁰ 4 1/2

8 25 2³⁰ 4

8 34 1³⁵ 4

8 25 2⁴² 4

72.5

71

72.5

507.5

51.475

23 loads

Tue Dec 19-1933

6:50am clear. Cold

7am to 4pm.

Spillway

#7 El. 695 Sta 6+90 20' No. 4

#8 El. 705 Sta 4+40 40' No. 50 Toe 11 14^{am} 12^{pm} start.

12⁴⁵pm start.

1 Bulldozer 8 hrs

1 Cat

1 Comp

2 JH

2 Quads

1 Nipper

1 Foreman

Dumpman

Tally at 7 9 9 10 11 1 2 3

Trucks #7 4 4 4 4 4 4 4 4

Tally at 7 8 9 9 10 11 1 2 3

Trucks #8 0 0 4 3 3 3 3 3 3

Rock to Embankments
30% good rock to waste

12-19-33

34

7am to 4pm

| Lower Emb | | | | Lower Emb | | | |
|-----------|-----|------------------|-------|-----------|-----|-----|-------|
| Shvl | TRK | TRK | yds | Shvl | TRK | TRK | yds |
| 8 | 34 | 9 ⁰⁰ | 3 1/2 | 8 | 25 | 110 | 5 1/2 |
| 8 | 17 | 9 ¹² | 4 | 8 | 25 | 118 | 5 |
| 8 | 15 | 9 ¹¹ | 4 1/2 | 8 | 17 | 124 | 4 1/2 |
| 8 | 25 | 9 ¹⁴ | 4 1/2 | 8 | 6 | 124 | 4 1/2 |
| 8 | 34 | 9 ²² | 3 | 8 | 17 | 144 | 5 |
| 8 | 17 | 9 ³⁰ | 4 1/2 | 8 | 6 | 154 | 3 |
| 8 | 15 | 9 ³² | 3 | 8 | 17 | 212 | 3 |
| 8 | 25 | 9 ⁴⁴ | 4 1/2 | 8 | 6 | 222 | 3 |
| 8 | 17 | 9 ⁵⁰ | 4 | 8 | 25 | 227 | 5 |
| 8 | 25 | 9 ⁵⁸ | 3 1/2 | 8 | 17 | 230 | 3 1/2 |
| 8 | 15 | 10 ⁰⁰ | 3 | 8 | 17 | 245 | 4 |
| 8 | 25 | 10 ¹⁰ | 2 1/2 | 8 | 6 | 255 | 4 1/2 |
| 8 | 15 | 10 ¹⁵ | 3 | 8 | 17 | 257 | 3 |
| 8 | 25 | 10 ²⁴ | 3 1/2 | 8 | 6 | 307 | 4 1/2 |
| 8 | 17 | 10 ²⁸ | 4 1/2 | 8 | 25 | 312 | 3 |
| 8 | 15 | 10 ³⁴ | 4 | 8 | 17 | 322 | 4 1/2 |
| 8 | 25 | 10 ⁴⁵ | 4 | 8 | 25 | 325 | 4 |
| 8 | 15 | 10 ⁵⁵ | 5 1/2 | 8 | 25 | 328 | 4 1/2 |
| 8 | 17 | 11 ⁰² | 4 | 8 | 17 | 349 | 4 |
| 8 | 25 | 11 ⁰⁵ | 2 1/2 | 8 | 25 | 352 | 4 |
| 8 | 17 | 11 ¹⁰ | 3 | 8 | 6 | 357 | 3 1/2 |
| 8 | 15 | 11 ¹⁴ | 3 | | | | |
| 8 | 17 | 12 ⁵³ | 4 | | | | |

172
71
172
1204
122.12 yds

44107ds

12-19-33
7am to 4pm

✓

Grading & cleaning Drain ditches

| | | | | | |
|------------------|-----------|----------|----------|---------|---------|
| 7am | 1 Driller | 1/2 Comp | 1 Mucker | | |
| 9 ³⁰ | 1 " " | 1 " " | 4 " " | 1 Crane | 1 Truck |
| 12 ³⁰ | 1 " " | 1 " " | 5 " " | 1 " " | 1 " " |
| 1 ³⁰ | 1 " " | 1 " " | 6 " " | 1 " " | 1 " " |

Wed Sept 20-1933
7am to 4pm

6⁴⁵am clear cool
windy

35

✓

Fine Grading - Trimming - cleaning

| | |
|-----|-----------|
| 7am | 4 Muckers |
| 8am | 3 " " |
| 9am | 0 |

Notes

9⁴⁰am. started dump at about sta 8+20
on line with south slope of spillway

Rock only

pm. 2 Drillers - 1 Comp at east end of
06. starting new roadway

9-20-33

Spillway

547 El. 690 Sta 7400 30 No. 4

12²⁰ Same area

548 El. 705 Sta 7400 415 No. 4

12³⁰ pm out

8 am 9 am

1 Cat 1 Cat 1

1 Comp 2 Comp 2

2 JH 4 JH 4

1 Nipper 1 Nipper 1

2 Quarry 2a 5 2 out 2 pm to cement mill

1 Foreman 1 Foreman 1

1 Dumpman 1 Dumpman 1

Bulldozer 6 hrs

Tally of 7 8 9 10 11 12²⁰ 12³⁰ 1 2 3

Trucks #7 4 4 4 4 4 4 4 4 4 4

Tally of 7 8 9 10 11 12²⁰ 12³⁰ 1 - -

Trucks #8 4 4 4 4 4 4 0 0 - -

Roll to Embankments
30% good rock to waste

36

Lower Emb

| Hour | TRK | TOT | Yds |
|------|-----|------|-----------|
| 8 | 17 | 742 | 4 |
| 8 | 34 | 752 | 4 |
| 8 | 25 | 756 | 4 |
| 8 | 15 | 758 | 3 1/2 |
| 8 | 17 | 800 | 4 |
| 8 | 34 | 802 | 4 1/2 |
| 8 | 25 | 809 | 4 |
| 8 | 17 | 812 | 4 |
| 8 | 34 | 822 | 4 |
| 8 | 25 | 828 | 4 |
| 8 | 34 | 833 | 4 |
| 8 | 25 | 841 | 3 1/2 |
| 8 | 25 | 852 | 3 |
| 8 | 17 | 901 | 3 |
| 8 | 15 | 916 | 4 1/2 |
| 8 | 25 | 920 | 3 |
| 8 | 25 | 933 | 4 1/2 |
| 8 | 17 | 936 | 3 |
| 8 | 25 | 1103 | 3 1/2 |
| | | | 72 |
| | | | 71 |
| | | | 72 |
| | | | 504 |
| | | | 51.12 yds |

19 loads

Thu Dec 21-33 6⁴⁵am Clear-Cool

7am to 4pm

Spillway

5#7 El. 715 5h 6'20 40' No. 50 Toe

12³⁰ El. 710 7h 00 50' Toe

5#8 El. 730 8h 48 20' 50' & Spillway

10 am. Out for repair & shodding

12³⁰ Same as a.m.

10am - 1pm

1 Cat 1-Cat 1

2-Comp 3-Comp 2 1/2

4-JH 5 JH 5

1 Nipper 1 mp 1

1 Loader 1 Ldr 1

4 Querry 3 Querry 3

1 Foreman 1 1

1 Dumpman 1 1

1 Bulldozer 1 1 8 hrs

Tally of 7 8 9 10 11 1 2 3

Trucks #7 3 3 3 3 3 3 3 3

Tally of 7 8 9 10 11 1 2 3

Trucks #8 1 1 1 1 1 1 1 1

Dump crest

12-21-33

37

Rock to Embankments
20% good rock to waste

Lower Emb Lower Emb

Shvl TRK Time yds

7 26 7⁴⁰ 5 7 18 3³⁵ 4 1/2

7 23 7⁴⁵ 5 1/2 7 26 3⁵⁰ 4 1/2

7 24 7⁵⁰ 5 124

7 24 8²⁰ 4 71

7 24 8²⁵ 5 124

7 24 9³⁰ 5 868

7 23 10⁰⁰ 5 88.04 yds

7 24 10¹⁰ 5 1/2

7 24 10²⁵ 5 1/2

7 17 10³⁰ 4 1/2

7 23 10⁴⁰ 5 1/2

7 17 10⁵⁰ 5 1/2

7 24 11²⁰ 4 1/2

7 23 11²⁵ 5

7 17 12⁴⁰ 5

7 26 1⁰⁰ 4 1/2

7 17 1²⁰ 5 1/2

7 17 1⁴⁰ 5

7 24 1⁵⁰ 4

7 26 2⁵⁰ 5 1/2

7 18 3⁰⁰ 5

7 26 3²⁰ 5 1/2

7 17 3²⁵ 4 1/2

25 loads

Friday, Dec 22-1933 6:50 am Clear, Windy, Cool
7 am to 4 p.m.

Spillway

5#7 El. 715 Sta 6760 So Toe

12:30 pm Same area El. 705

3 pm El. 690 Sta 40 No Toe

5#8 El. 730 Sta 6765 S Spill

12:30 pm Same area

pm

1. Cat 1

2. Comp 1

3. H 2

4. Quarry 4

1 Nipper 1

1 Foreman 1

1 Bulldozer 2 hrs. Ghr on road over OG

1 Loader 1

Tally of 7 8 9 10 11 12 3

Trucks 3 3 3 3 3 3

Tally of 7 8 9 10 11 12 3

Trucks 1 1 1 1 1 1

12-22-33

38

Rock to Embankments
25 to 5000 rock to waste

Lower Emb Lower Emb

Shovel Trucks Time Yds

3 15 7:25 6

7 25 7:50 5 1/2

7 34 7:55 4 1/2

7 26 8:03 6

7 26 8:20 5 1/2

7 25 8:56 4 1/2

7 25 9:25 5 1/2

7 26 9:12 4

7 26 9:32 5

7 25 9:40 4 1/2

7 25 10:05 4 1/2

7 25 10:37 5 1/2

7 34 10:44 5

7 25 11:05 5

7 17 1:00 5

7 25 1:20 4

7 26 1:30 4 1/2

7 25 1:37 4 1/2

7 25 1:55 5

7 26 2:15 5 1/2

7 17 2:27 4

103.5

1035
71
1035
7245
7348 5 yds

21 loads

Sat Dec 23 1933

7am to 4pm

7am clear - cool
Breezy

Spillway

3#7 El. 695 Sta 6+80 2050 ft

3#8 El. 730 Sta 6+35 2500 ft

9 am 1 pm 2

1 Cat 1 1 1

1 Comp 1 1 1

2-JH 2 2 2

1 Loader 1 1 1

1 Nipper 1 1 1

4 Cranes 3 4 5

1 Foreman 1 1 1

Bulldozer 5hr

Tally of 7 8 9 10 11 12 3

Truck #7 3 3 3 3 3 3 3

Tally of 7 8 9 10 11 12 3

Truck #8 1 1 1 2 2 2 2

12-23-33

39

Rock to Embankments

Lower Emb

8 15 10²⁰ 5

8 15 + 45 5

Tue Jan 2-1934

7am to 4pm

6:30am - Partly Cloudy
warm

No work today. To wet
for trucks. to work

Wed Jan - 3 1934 6:45am Clear Cold

7am to 4pm

spillway

#7 El. 690 7:00 40' 50' 8

#8 El. 730 07:50 2' 11"

Out. 11³⁰

4 1/2

7am 9am 1. pm

1 cat 1 1 8

2 comp 3 3 208 10 6'

4 JH 5 5 408 10 6'

1 Nipper 1 2 108 10 3'

1 Loader 1 1 105 1'

1 Foreman 1 1 105 1'

1 Bulldozer 1 hr

cat 6 scraper 4 hr

1 Dump man 7 hrs

Tally of 7 8 9 10 11 1 2 3

Trucks #7 2 3 3 2 2 2 2 2 208 10.2

Tally of 7 8 9 10 11 1 2 3

Trucks #8 2 1 1 2 2 0 0 0 10 4 1/2 10 2 1/2

Dump west and east

1-3-34

Fine grading

DL#6 Handling skips

| | |
|---------------------|-----------|
| 7am | 7 Muckers |
| 8 ³⁰ am | 9:00 |
| 12 ³⁰ pm | 11:00 |
| 2 | 10:00 |

Tally of 7 8 9 10 11 12 3

Trucks 6 0 1 1 1 1 1 107

Thu Jan 4-1933 7⁴⁰ Clear-Cold wind

7am to 4pm

Spillway

#7 El. 690 7:00 30' No 50 Top
 10^{am} out to build ramp Lower Emb
 3pm returns to spillway - same area 3^{pm}
 #8 El. 730 0:50 @ spillway 8^{pm} ✓

| | | |
|-----------|----|-------|
| Bulldozer | 5m | ✓ |
| am | | |
| 1 Cat | pm | 1 |
| 1 Mucker | 1 | 8 ✓ |
| 1 Foreman | | 4 ✓ |
| 0 Comp | 2 | @ 3 ✓ |
| 0 3H | 3 | @ 3 ✓ |
| 0 Loader | 1 | @ 3 ✓ |
| 0 Ripper | 1 | @ 3 ✓ |

Tally of 7 8 9 10 11 12 3

Trucks #7 2 2 2 0 0 0 0 2 2 @ 3 ✓

Tally of 7 8 9 10 11 12 3

Trucks 8 2 2 2 2 2 2 2 2 @ 8 ✓

1-4-33

Fine Grade Spillway

DL#10 Loading skips out 8³⁰am 1¹/₂
McMillan scrapor 8hrs ✓

| Time | 9 Mucker | 1 Comp | 2-5H | Mipper 1/2 | 1-10000 |
|--------------------|----------|--------|------|------------|---------|
| 7am | | | | | |
| 8 ³⁰ am | 4 | 1 | 3 | 1 | 1 |
| 10am | 5 | 1 | 3 | 1 | 1 |
| 11am | 6 | 1 | 3 | 1 | 1 |
| 1pm | 7 | 0 | 0 | 1 | 1 |
| 2 ³⁰ | 9 | 0 | 0 | 1 | 1 |
| 3pm | 7 | 0 | 0 | 1 | 1 |

7
8
9

Tally of 786³⁰

Trucks 110

Rock to Embankments 1-4-33

Improve Emb

| | | | |
|---|----|------------------|-----------------|
| 8 | 23 | 9 ⁴⁴ | 5 |
| 8 | 18 | 9 ⁴⁸ | 5 |
| 8 | 23 | 10 ⁴⁵ | 5 |
| 8 | 18 | 2 ³⁰ | 4 |
| 8 | 6 | 3 ⁰¹ | 5 |
| 8 | 6 | 3 ¹⁴ | 5 ¹⁴ |
| 8 | 18 | 3 ³⁴ | 6 ¹² |
| 8 | 6 | 3 ³⁰ | 4 ⁴⁴ |
| | | 40.5 | |
| | | 71 | |
| | | 40.5 | |
| | | 285 | |
| | | 287.5 | |
| | | 297.5 | |

8 loads

Fri. Jan 5-1934 10th day warm

7am to 4pm

Spillway

| 7am | 10am | 12 ³⁰ pm |
|------------------|------|---------------------|
| 1 cat | 1 | 1 |
| 2 Comp | 2 | 2 |
| 3 JH | 3 | 3 (1-Comp-1 JH 06) |
| 1 Loadl Frank | 1 | 1 |
| 1 Foreman | 4 | 1 |
| 1/2 Ripper | 4 | 1/2 |
| 5 MUCKERS | 4 | 5 (10 06) |

Bulldozer 4
 McMillan 4 (06)

Grading Spillway Floor

| | | |
|--------------------|-----------|----------------------|
| 7am | 5 MUCKERS | |
| 7 ³⁰ am | 4 | |
| 9am | 4 | Bulldozer 1 McMillan |
| 11 ³⁰ | 4 | 1 |
| 12 ³⁰ | 5 | 0 |
| 2 ³⁰ pm | 5 | 1 1 |

Bulldozer 1 1/2
 McMillan 4

Foreman - Frank - 4"

5th Sat Jan. 6-1934 7am Clear Cold ✓
7am to 4pm Windy

Spillway

| | 7am | 9am | 12 ³⁰ |
|-------------|-----|-----|------------------|
| 1-Comp | 1 | 1 | 1 |
| 2-JH | 2 | 1 | 1 |
| 1/2 Nipper | 1/2 | 1/2 | 1/2 |
| 3/4 Foroman | 3/4 | 3/4 | 3/4 |
| 1 Loader | 1 | 1 | 1 |
| 1 Comp | 1 | 0 | 0 |
| 1 JH | 2 | 0 | 0 |
| 6 Muckan | 5 | 2 | 2 |

McMillan 2hr 06
1 Cat

1-6-34 ✓

44

Fine Grade

| | |
|---------------------|-----------|
| 7am | 4 muckans |
| 10am | 5 |
| 11 ³⁰ am | 5 |

1/4 Foroman - Frank
1-Bull 40201 3hr
1-McMillan 3

Monday Jan 8 1934

✓ 7am clear
damn cold

Spillway Prepared

12³⁰ pm 5#8 El. 730 0+35 2 . 06

3pm out

7am

1 Cat

1 Comp

2 JH

1/4 Nipper

1/2 Foreman

Tally at 12³⁰ 1 2 3

Teuch 1 1 1 6

06 Cutoff, East End

7am 9am 12³⁰ pm 3pm

1 Comp 1 0 0

2 JH 1 2 0 0

1/4 Nipper 1/4 0 0

1/2 Foreman 1/2 1/2 1/2

2 Quarry 3 5 5

91 Tue. Jan. 9 - 1934 ^{7am} Clear Cool

7am to 4pm

Spillway west end. ✓

| | | |
|----------|------|-------|
| 7 am | 1230 | |
| 1 Cat | 1 | |
| 1 Comp | 0 | 4 1/2 |
| 2 JH | 0 | 4 1/2 |
| 1/4 NIP | 0 | 2 |
| 1/2 Fore | 1/2 | 4 |
| 1 Muck | 1 | 8 |

Bulldozer in 2¹⁵ pm - 4 pm 1934

46

OG. Eastern

11.9 AM #6 DL No Truck 01 25

| | | | | | |
|---------------------|--------|------|--------|---------|-------------|
| 7.9m | 2 muck | 2 JH | 1 Comp | NIP 1/4 | 1/2 Foreman |
| 10 ³⁰ | 4 | 2 | 1 | 1/4 | 1/2 |
| 12 ³⁰ pm | 6 | 0 | 0 | 0 | 1/2 |
| 2 pm | 8 | 0 | 0 | 0 | 1/2 |

13 Wed Jan 10 1934 7am Clear
Cold

Spillway west end

| | |
|-------------|-----|
| 7am | 9am |
| 1 Bulldozer | 0 |
| 1/2 Foreman | 0 |
| 2 Trucks | 0 |

1-10-34 47

East end 06 cutoff

DLH 6 Ed.

| | |
|---------------------|--------------|
| 7am | 8 Trucks |
| 10 ³⁰ am | 7 .. |
| 12 ³⁰ pm | 6 15H 1 Comp |

1
3/4
1 3/4

Fine Grade

| | | | | | |
|---------------------|----------|---------|----------|-------------|--------------|
| 9am | 2 Trucks | 1 Drill | 1/2 Comp | 1 1/2 miles | 1 Tile drain |
| 10 ³⁰ am | 3 .. | 1 .. | 1 .. | 1 .. | 1 .. |
| 12 ³⁰ | 2 .. | 0 .. | 0 .. | 1 .. | 0 .. |
| 1pm | 2 .. | 1 .. | 1/2 .. | 1 .. | 0 .. |
| 2 | 2 .. | 1 .. | 1/2 .. | 0 .. | 0 .. |
| | | | 3 1/4 | | |

Nipper 6hm
Foreman 1/2

Thu Jan 11 - 1934

7am Clear - Cold
Windy

Spillway D& Section East End. Culvert
DLH 6 ✓

Fine Grade

| | | | | |
|---------------------|--------|------|--------|-------|
| 7am | 8 Muck | 1 JH | 1 Comp | 4 1/2 |
| 12 ³⁰ pm | 9 | 0 | 0 | |

| | | | | | |
|---------------------|--------|----------|------|---------|--------|
| 7am | 2 Muck | 1/2 Comp | 1 JH | 3/4 Wip | Timber |
| 12 ³⁰ pm | 3 1/2 | 1/2 | 1 JH | 3/4 | |
| 3 pm | 2 | 1/2 | 1 | 3/4 | 1 |

Foreman 2

Spillway Proper

12³⁰ 1 ✓

Bulldozer 2

McMillan 2

Foreman 2

Bulldozer 6

McMillan 6

Foreman 4

97 Fri Jan-12-1934

6:45am Clear Cold
windy

Spillway 06 East end Culvert
DL#6 - Ed

Fine grade

49

| | | | |
|---------------------|---|------|------------------------|
| 7am | 5 | Mud | |
| 10am | 4 | 1 JH | 1 Comp ^{11/4} |
| 12 ³⁰ pm | 5 | 0 | 0 |
| 2 ³⁰ | 4 | 1 | 1 ^{11/4} |

| | | | | | | |
|---------------------|---|-----|--------|------|----------|---------------------|
| 7am | 2 | Mud | 1 Comp | 2 JH | 1 Nipper | 1 McMillan 1 MCM |
| 12 ³⁰ pm | 1 | | 1 | 2 JH | 1 | 1 Bulldozer 1 MC |
| 13 ⁰ pm | 3 | | 1 | 2 | 1 | 1 B |

| | | |
|---------------------|----------|-------------|
| 7am | West end | |
| West end | 1 Mud | |
| 10am | 1 | 1 Bulldozer |
| 12 ³⁰ pm | 1 | 0 |
| 13 ⁰ pm | 0 | 0 |

Foreman 1/4
1 Cat

Foreman 1/4

99 Sat Jan-12 1934

7 AM Clear Cold

✓ 9am to 4pm

Spillway East end D4

1-DL#6 Ed El 730 8

1. Cat 8

7am 1 Comp 15H 5 Mule

12³⁰ pm 1 1 6..

Spillway west end

^{8am}
5 #7 El. 685 sta 7120 40' No 4

Bull dozer 6m

Tally of 8 9 10 11 12³⁰ 1 2 3

Trucks 3 3 3 3 3 3 3 3

Foreman '41

50

Fine Grade

7am 1-Comp 15H 3 mule 1NIP 1-DCN

12³⁰ pm 1 2 2 1 1

Foreman '42

101 Mon Jan 15 1934

6¹⁵am Clear Calg
windy

Spillway - west end

7 am 9 am

2 Camp 1^{1/2} r

4 JH 3

1 Ripper 1

1 Foreman 1

1 Mucker 0

1 cat

Bulldozer 8 am 10 am

Foreman 4

1-15-34

51

Fine Grade

9 am 1 muck 1 JH 1/2 Camp

Foreman 4

13 Tue Jan 16 1934 ✓
7am to 4pm

6:30 am Clear Cal

1-16-34 57
7am to 4pm

Spillway Proper

SA7 El 680 Stab 95 40' No E to 50 S E

Fine Grade

7am 2 man 1 Build

12³⁰ pm 3 Mock 0

1³⁰ pm 3 1

3 pm 3 0

1 cat

2 Comp

3 JH

1 NIP

1 Fox '12

Foreman '12

Tally of 7 8 9 10 11 12 3

Tracks 3 4 4 4 4 4 4

105 Wed. Jan 17-34
7am to 4pm ✓

7am Clear-Cool

Spillway west end El 695

| | | |
|------|---------------------|-----------|
| 7am | 6 ³⁰ men | 1 Boulder |
| 8am | 4 " | 1 " " |
| 9am | 4 | 0 " |
| 10am | 0 | 0 |

Am. No Foreman

1-17-34 ✓ 53

Fine Grade

3.5
1.15

| | | |
|---------------------|----------|--------------------------------|
| 7am | 2 Attack | |
| 10am | 7 " | |
| 10 ³⁰ am | 7 " | 1 Boulder |
| 12 ³⁰ pm | 6 " | 1 1/2 comp 35H 1 Nip 12 leader |

107 Thu Jan 18 - 1934 6:45 AM Clear - Cold wind.
✓ Tam to 4 pm

pileway

5#1 E1685 5167120 50504

1:30 pm 1 muck sloping

Tally of 7 8 9 10 11 1 2 3 1
Tucks 4 4 2 3 3 3 3 3

✓ 54

Fine Grade

| Tam | 1 Comp | 2 TH | 3 Muck | 1 Leader | 1 Boulder |
|-------|--------|------|--------|----------|-----------|
| 12:20 | 1 1/2 | 3 | 6 | 1 | 1 |
| 1:30 | 1 1/2 | 3 | 5 | 1 | 1 |
| 4 | 1 1/2 | 3 | 5 | 1 | 1 |

1 Cat →

1934 Fri Jan 19 1934 Tam Clear Cool ✓
Tam to 4pm

Spillway

Cat

| | | | | | |
|--------------------|--------|------|---------|------------|----------|
| 7am | 1 Comp | 1 JH | 1/2 NIP | 1/2 Loader | |
| 9am | 1 .. | 2 JH | .. | .. | 1 Marker |
| 9 ³⁰ am | .. | .. | .. | .. | 2 .. |
| 12 ³⁰ | .. | .. | .. | .. | .. |

1/2 Foreman

55 ✓

Final Grade

| | | | | | |
|------------------|-------|------|------------|---------|-------------|
| 7am | 20 | 3 JH | 1/2 Loader | 1/2 NIP | 5 Marker |
| 9am | 20 | 2 JH | .. | .. | 4 .. |
| 9 ³⁰ | .. | .. | .. | .. | 5 Bulldozer |
| 12 ³⁰ | 1 1/2 | 2 | .. | .. | 4 .. |
| 2 ³⁰ | 1 1/2 | 2 | .. | .. | 0 out |

1/2 Foreman

III Sat Jan 20-1934

7am clear Cold

7am to 4pm ✓

Spillway Excavation

1. cat

| 7am | 2 1/2 comp | 2 JH | 1 Nip | 1 load |
|------------------|-----------------|------|-------|--------|
| 12 ³⁰ | .. | 4 | .. | .. |
| 4 ⁰⁰ | 2 ⁰⁰ | 4 | ✓ | ✓ |

1/2 Foreman

56

✓

Final Grading

| 7am | 7am | 1-Bid |
|---------------------|-----------------|-------|
| 12 ³⁰ pm | 5 ⁰⁰ | .. |
| | ✓ | ✓ |

1/2 Foreman

Sunday Jan 21, 1934

Monday Jan 22, 1934 7am to 4pm

Spillway Excavation

 $\frac{1}{2}$ Foreman

| | | | | | |
|------|----------|------------|---------|-------------|-------------------------------------|
| 7 am | 2 Compt. | 3 J.H. | 1. Nip. | 1. Bldg. | 1. Loader |
| | | 3 Drillers | | 1. operator | 7 ⁰⁰ to 11 ³⁰ |

11³⁰

✓

✓

✓

✓

✓

12³⁰

| | | | | |
|-----------|-----------|--------------------|-------------|--------------------|
| 1. Compt. | 2. J.H. | $\frac{1}{2}$ Nip. | 1. Bldg. | |
| | 2 Driller | | 1. operator | 2 ³⁰ to |

1. Cat 30

Otto von Seggern
Inspector

Fine Grading

 $\frac{1}{2}$ Foreman

3. Muck

✓

3. Muck

Jan 24, 1934 ✓

Spillway Excavation

| Time | Compr. | J.H. | Drilling | Foreman | McMillan |
|--------|--------|------|-----------|---------|----------------|
| 7am to | 1 | 2 | 1- loader | 1/2 | operator |
| 11 30 | | | 1-Nipper | | 700 to 900 - 2 |
| 12 30 | ✓ | 1 | 1-Driller | ✓ | |

| | | | | | |
|-------|------------|-----------|-----------|---------|----------|
| 12 30 | 4 7 Shovel | Star 7440 | 4 Trucks | Dumpman | McMillan |
| | 1-Operator | | | | |
| | 1-Ciler | Flod 675 | 4 Drivers | 1 | Operator |
| | | | | | 12 30 to |

Fine Grading ✓

| Foreman | Grading | Side Sloping | |
|----------|---------|--------------|--------------|
| 1/2 | Muckers | Muckers | ~ 4 1/2 hrs. |
| | 3 | 1 | |
| 1-Nipper | ✓ | ✓ | ✓ |

| | |
|---------|-----------------------|
| Foreman | D. G. Hauled to Dump. |
| 1/2 | |

Jan 25, 1934 7am to 4pm
Spillway Excavation

| Time | 1-Comp. | 1-Mc Mill. | Foreman | Muckers | Drillers |
|--------------------|---------|------------|---------|---------|----------|
| 8am - 1hr | 1 1/2 | ✓ | ✓ | 3 | 1 |
| to 1:30 = 4 1/2 | ✓ | ✓ | ✓ | 3 | 3 |
| 1:30 to 2 = 1/2 hr | ✓ | out 1/2 hr | 1/2 | 0 | 0 |
| 2:00 to | 0 | ✓ | 1/2 | 0 | 0 |

1-Cat. 30

| Start | Shovel | Sta | Trucks | Foreman |
|--------------|------------------|---------------|-----------|--------------|
| 10:00 am | 1-#7 | 7130 E1675 | 4 | |
| | 1-Operator | | 4-Drivers | Damp man 1/2 |
| to | 1-Oiler | | | |
| 2:00 to 3:00 | Shovel in repair | | | |

| Mipper | Cat open |
|--------|----------|
| 1 | 1 |
| 1 | 1 |
| ✓ | ✓ |
| 0 | ✓ |
| 0 | ✓ |

Fine Grading

Side

Sloping

Macker

Clean up.

Shovels & air
1/2 hr.

67
men mucking
2:00 to 4

D. G. Hauled to Dump.

Jan 26, 1934 7am to 4pm ✓

Spillway Excavation

| | | | | | |
|-----------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1 Cat. | 1 Compr | 2 J.H. | 1/2 Foreman | 1/2 Nipper | 2 Muskers |
| | 7 ⁰⁰ to |

2
Drivers
7⁰⁰ to

Side Slipping
Mucker
7⁰⁰ to

| | | | | |
|---------------|-----------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------|
| 283 loads. | S# 7 1 operator 1 biter 7 ⁰⁰ to | Sta 7230-105 Elev 675' | 4 Trucks 4 Drivers 7 ⁰⁰ to 9 ³⁰ 3-700 9 ³⁰ to | Dumpers Foreman 7 ⁰⁰ to |
|---------------|-----------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------|

1
Bulldozer
operator
7⁰⁰ to

283 Loads D. G. to dump

✓
 Jan 27, 1934 7am to 4pm
 Spillway Excavations 7⁰⁰ to

| | | | |
|------------------------|------------------------------------|------------------------------------|------------------------------------|
| 1-Cat. 30 | 1-Comp | 1-M&N. | Mucking |
| | Idle | Operator | 1-Driller |
| 7 ⁰⁰ to 4-8 | 7 ⁰⁰ to 9 ⁰⁰ | 7 ⁰⁰ to 9 ⁰⁰ | 7 ⁰⁰ to 9 ⁰⁰ |
| | = 2 | = 2 | = 2 |
| | 1/2 Comp | 11 ⁰⁰ to 4 | |
| | 9 ⁰⁰ to 4 | = 4 | |
| | = 6 | | |

#17-24-25

| | | | | |
|----------------------|------------|----------|----------|--------|
| 9 ⁰⁰ to 4 | # 7 Steel | 7+30 | 3-Trucks | 1-Dump |
| -6 hrs. | 1-Operator | -105 to | 3-Driver | |
| | 1-Driller | Elev 675 | | |

✓
 Fine Grading Side Shoring

| | | | | |
|---------|--------|--------------------|----------------------|--------|
| | | 1-J.H. | | |
| Foreman | Nipper | Driller | Mucker | Mucker |
| 1 | 1 | 9 ⁰⁰ to | 2 | 1 |
| | | = 6 | to 2 ³⁰ | = 8 |
| | | | 3 | |
| | | | 2 ⁰⁰ to 4 | |
| | | | = 1 1/2 | |

All Material D.G. & Hauled to Dump.
 155 Loads.

Jan 28, 1934 Sunday ✓

Jan 29, 1934 Tam to 4 pm.
Spillway Excavation 1 - Foreman.

| | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|------------------------------------|
| 1 Nipper | 2 Comp. | 2 J.H. | 2 Driller | 3 Muckers | 1 M. Mikan |
| 7 ⁰⁰ to 11 ³⁰ | 7 ⁰⁰ to 9 ³⁰ | operator |
| = 4 1/2 | 1/2 = 4 1/2 | = 4 1/2 | = 4 1/2 | = 2 1/2 | |
| 1/2 Muckmg | 1/2 = 1 1/2 | 1 J.H. | 1 = 1 1/2 | 2 Muckers | 7 ⁰⁰ to 7 ³⁰ |
| 12 ³⁰ to 4 ⁰⁰ | 12 ³⁰ to 2 ⁰⁰ | 12 ³⁰ to 1 ⁰⁰ | 12 ³⁰ to 2 ⁰⁰ | 9 ³⁰ to 10 ⁰⁰ | = 1/2 |
| = 3 1/2 | = 1 1/2 | = 1 1/2 | = 2 | 3 = 1 1/2 | |
| | 1 1/2 to 4 | 2 = 2 1/2 | 2 = 2 1/2 | 10 ⁰⁰ to 11 ³⁰ | |
| | 2 ⁰⁰ to 4 | 2 ⁰⁰ to 4 ⁰⁰ | 9 ⁰⁰ to 4 | = 1 1/2 | |

N = 2 + 2 1/2 = 6 1/2

M = 1 1/2 + 1/2 = 2

1 1/2 - 2

2 = 6 1/2

2 = 6 1/2

2 = 6 1/2

3 = 2 1/2

2 = 1/2

3 = 1 1/2

1 = 1/2

2 = 1

1 = 2

16 1/2

2 = 8

Note ✓
8³⁰ am Started dump near 9400 4100' N ± Rockerly

| | | | |
|--------------|-------------|---------|-----------------------|
| (# 7 Shovel) | 3 - Trucks | 1 | Side Sipping |
| 2 operators | 3 - Drivers | 30 Cat. | 1 - J.H. & 1 - Mucker |
| = 8 | = 8 | = 8 | 1 - Driller |
| | | | = 8 |
| | | | = 8 |

Star 7+30 40 S to 80 S Elev 675

Material 90% D.G.
10% Rock to dump near 9400

Jan 30, 1934 7am to 4pm ✓
Spillway

| | Excavation #7 | | Trucks | Truck Driver |
|------------------------------------|-------------------------------------|-------------------|--------|--------------|
| 1/2 Foreman | Bulldozer operator | 1 Shovel operator | 3 | 3 |
| 7 ⁰⁰ to 4 ⁰⁰ | 7 ⁰⁰ to 9 ⁰⁰ | ✓ | ✓ | ✓ |
| | 12 ⁰⁰ to 2 ⁰⁰ | ✓ | ✓ | ✓ |
| | 3 1/2 | | | |

✓

| | | Drilling | | | Other | |
|---------|-------------|--------------|----------------------|------------|--------|--|
| Dumpman | 1/2 Foreman | Driller J.H. | Muckers | Compressor | Nipper | |
| 1 | 1 | 3 | 3 | 1 1/2 | 1 | |
| ✓ | ✓ | ✓ | 9 ³⁰ to 4 | ✓ | ✓ | |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | | | 5 1/2 | | | |

Jan 31, 1934 7am to 4pm

Excavation Sta 7+40 - 20 to 40' Elev 670

1 Cat 30

| | | | | | |
|--------------------|----------|----------------------|---------|-------------|-------------|
| # 7 Shovel | 2 Trucks | McMillen operator | Compr | 1/2 Foreman | Shovel oper |
| 7 ⁰⁰ to | ✓ | ✓ | 2 1/2 ✓ | | oiler |

7⁰⁰ to 3⁰⁰ 7⁰⁰ to 11³⁰

1

12⁰⁰ to 4⁰⁰

Road Excavation Sta 2+00 North Side Wall E740

| | | | | |
|------------------------------------|----------|-----------|--------------------|--------------|
| # 8 Shovel | 1- Truck | 1- Bldgr. | 1- Shovel operator | 1- Truck Dr. |
| 9 ³⁰ to 4 ¹⁵ | ✓ | operator | 1- " oiler | |

= 4¹⁵ to 5⁰⁰

9³⁰ to 11⁰⁰

Drilling

| | | | | | |
|---------|--------|-------------|---------|--------------------|--------|
| 2-track | 1 Dump | 1/2 Foreman | Muckers | J.H. & Drillers | Nipper |
| Drivers | Man | | 3 | 3 | 1 |

2 1/2 7⁰⁰ to 9³⁰ 7⁰⁰ to 11³⁰ 7⁰⁰ to 11³⁰

2

2 9³⁰ to 11³⁰

3

2 12³⁰ to 1³⁰

6

1 1/2 2³⁰ to 4

Side Sloping J.H. &

| | | |
|---------|----------|------------|
| Muckers | Drillers | Compressor |
| 1 | 1 | 1/2 |

9³⁰ to 9³⁰ to 9³⁰ to 11³⁰

1

12⁰⁰ to 2⁰⁰

Material 40% Rock

60% D.G.

Feb 1, 1934 Jan to 4 pm
Spillway Excavation Sta 74 35 - N + S of 2
Elev 675

| # 7 Shovel | McMillan | Bulldozer | Trucks | Dump | Fore man |
|-------------------------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|
| 1 Operator | Operator | Operator | 2 | | $\frac{1}{2}$ |
| 1. Oiler | | | Drivers | man | |
| 7 ⁰⁰ to 8 ⁰⁰ | 7 ⁰⁰ to 9 ⁰⁰ | 7 ⁰⁰ to 4 ⁰⁰ | | | 7 ⁰⁰ to 4 ⁰⁰ |
| | = 2 | = 8 | | | |
| Out for Repair | | | | | |
| 7 ⁰⁰ to 11 ³⁰ = 4 $\frac{1}{2}$ | | | | | |
| 12 ³⁰ to 4 ⁰⁰ = 3 $\frac{1}{2}$ | ✓ | | 12 ³⁰ to 4 ⁰⁰ | 12 ³⁰ to 4 ⁰⁰ | = 4 |
| | | | = 3 $\frac{1}{2}$ | = 3 $\frac{1}{2}$ | |

Road Excavation at 6420

| # 8 Shovel | 1 |
|------------------------------------|------------------------------------|
| 1 Operator | Truck |
| 1 Oiler | Driver |
| 7 ⁰⁰ to 8 ⁰⁰ | 7 ⁰⁰ to 8 ⁰⁰ |

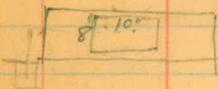
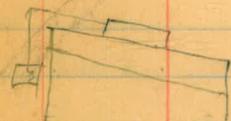
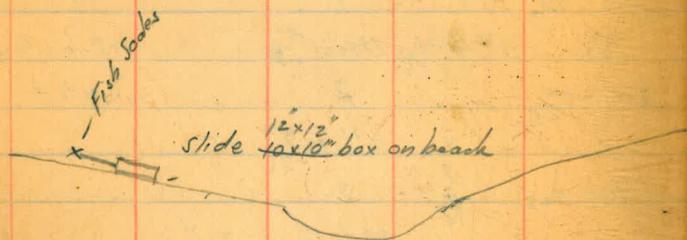
Road Work

1. McMill
Operator
9⁰⁰ to 11³⁰

Spillway Excavations Drilling

| 1 | 2 | 3 | 4 | 5 |
|-------------------------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|-------------------------------------------------------|
| Compt | Drillers | Muckers | Foreman | Nipper |
| 2 J.H. | # 2 | # 6 | | Mucking |
| 7 ⁰⁰ to 8 ³⁰ | 7 ⁰⁰ to 8 ³⁰ | 7 ⁰⁰ to 8 ³⁰ | 7 ⁰⁰ to 8 ³⁰ | 7 ⁰⁰ to 8 ³⁰ = 1 $\frac{1}{2}$ |
| = 1 $\frac{1}{2}$ | = 1 $\frac{1}{2}$ | = 1 $\frac{1}{2}$ | | |
| 2-Compt | 3 | 5 | | Nip |
| 3- J.H. | 8 ³⁰ to 11 ⁰⁰ | 8 ³⁰ to 9 ³⁰ | | 8 ³⁰ to 9 ³⁰ = 1 $\frac{1}{2}$ |
| 8 ³⁰ to 11 ⁰⁰ | = 3 | = 1 | | |
| $\frac{1}{2}$ | 12 ³⁰ to 4 ⁰⁰ | 9 ³⁰ to 11 ⁰⁰ | | 9 ³⁰ to 11 ⁰⁰ = 2 |
| 12 ³⁰ to 2 ⁰⁰ = 1 $\frac{1}{2}$ | = 3 $\frac{1}{2}$ | = 2 | | 12 ³⁰ to 4 ⁰⁰ = 3 $\frac{1}{2}$ |
| 1 | 3 | 12 ³⁰ to 3 ⁰⁰ | | = 7 |
| 9 ⁰⁰ to 4 ⁰⁰ = 2 | $\frac{9}{16}$ | = 2 $\frac{1}{2}$ | | |
| | 3 | 3 ⁰⁰ to 4 ⁰⁰ | | |
| | | = 1 | | |
| 1 x 1 $\frac{1}{2}$ | 2-8 hrs | | | |
| 6 | | 9 | | |
| $\frac{1}{2}$ | | 5 | | |
| $\frac{2}{10}$ | | 5 | | |
| = 1-8 hr | | 3 | | |
| 1-2 hr | | 24 = | | |
| | | 3-8 hrs. | | |

Material 20% Rock
80% D.G.



July 6, 1934

Spillway Apron:

Placing Reinf Steel 7⁰⁰ to 10 = 3 hrs

1- Steel worker

1- Helper 8⁰⁰ to 10 1- Powderman 1 hr.
= 2

Corewall Excavation (Stripping)

1- General Foreman.

6- Muckers.

1- Powder man 8⁰⁰ to.

Steel Cols. 11'-7" - 5'-7" 6'-0"

3-3-3-3-3-3-3-3 - 24 galls

11 Taut

13 Pipe & Drill Hole.

Grouting 6 Anchor Holes 45x cement

1- Laborer. 7⁰⁰ to 10⁰⁰

Forms.

2- Laborers. 10⁰⁰ to.

1- Carpenter Foreman

135
Movement of Monument at Top of
North Spillway slope.
Feb. 18-1935.

Simpson
Soper
Remmen

| | | | |
|------|-------|--------|-------------|
| B.M. | | | 936.30 |
| | 10.25 | 946.55 | |
| T.P. | | | 1.81 944.74 |
| | 12.70 | 957.44 | |
| Mon. | | | 4.69 952.75 |

.0.31 = Total Movement South.

0.31

68

Measurement of Observation Wells.

| Well. | Water Tape Elev. | Bottom Tape Elev. | Date | | | |
|---------|---------------------|----------------------|---------------------|-------|---------------|-------|
| 1 | 584.2 | 573.0 | Apr. 20-35 | | | |
| 3 | 620.4 | 599.0 | | | | |
| 5 | 624.0 | 594.0 | | | | |
| 6 | 609.6 | 586.0 | | | | |
| 1 | 79.6 | 583.8 | 89.7 | 573.7 | Apr. 30-35 | |
| 3 | 122.2 | 620.9 | 143.2 | 599.9 | | |
| 5 | 82.9 | 626.1 | 114.3 | 594.7 | | |
| 6 | 97.2 | 604.8 | 115.8 | 586.2 | | |
| | | | | | Elev. Casings | |
| 5/10/35 | 1 | 81.0 | 90.5 | | 663.4 | |
| " | 3 | 123.9 | 143.9 | | 743.1 | |
| " | 5 | 82.4 | 115.1 | | 709.0 | |
| " | 6 | 103.2 | 116.6 | | 702.0 | |
| | | 548.65 | Tunnel exit portal. | | | |
| 5/30/35 | | 548.55 | " | " | " | |
| | 1 | 81.2 | 582.2 | 89.5 | 574.0 | |
| | 3 | 125.0 | 618.1 | 143.5 | 599.6 | |
| | 5 | 81.5 | 627.5 | 114.5 | 594.5 | |
| | 6 | 106.7 | 595.3 | 116.0 | 586.0 | |
| 7/1/35 | | | | | | |
| # | 1 | 83.6 | 579.8 | 90.4 | 573.0 | 663.4 |
| # | 3 | 128.6 | 614.5 | 143.8 | 599.3 | 743.1 |
| # | 5 | 82.8 | 626.2 | 137.9 | 571.1 | 709.0 |
| # | 6 | 110.5 | 591.5 | 116.6 | 585.4 | 702.0 |

Set Stakes - (y-N) + (y-S), (x-N) + (x-S)
 About 25' + 50' respectively, West of Mon #1

x y
 11-14-34 30.67 35.81 F.O

Earth movements

| Date | #1 | #2 | #2 Ext. | #3 | #3 Ext. |
|-----------------------------------------|----|------|------------|------|---------|
| Apr. 10-35 ^{G.W.G.} Lost Slide | | 6.81 | Lost Slide | 6.06 | 49.81 |
| " 30 ^{G.W.G.} Lost Slide | | | | 6.06 | 49.81 |
| May 30 ^{G.W.G.} | | | | 6.07 | 49.86 |

| Date | #1 | #2 | #3 | #4 | #5 |
|--------------------------------------|----|------|------|------|------|
| Nov. 20, 1935 ^{H.F.S.} Lost | | Lost | Lost | Lost | Lost |
| Jan. 18, 1936 ^{H.F.S.} | " | " | " | " | " |

Co-ords of cracks at mon's

APRIL 14, 1948: HILL, SIMPSON, LEONARD, NIENOW, SHIPMAN,

LOCATION OF CRACKS ABOVE SPILLWAY

N. ORDINATE
 E. "

TOP OF BREAK:

on slope above Spillway.

| #4 Ext. | #5 | #6 | #7 | #7 Ext. | #8 |
|---------------|-------|------|------|---------|-------------|
| 4.03 34.08 | 4.04 | 5.03 | 6.23 | 22.05 | Lost Stake |
| 4.03 34.08 | 4.05 | 5.03 | 6.24 | 22.07 | 39.89 |
| 4.04 34.13 | 4.05 | 5.02 | 6.23 | 22.08 | 39.98 |
| 4.04 | 34.13 | 4.06 | 5.03 | 6.24 | 22.08 40.03 |
| 4.04 | 34.13 | 4.06 | 5.03 | 6.23 | 22.08 40.03 |

(use wire)

above El Cap. Spw.

AS DETERMINED FROM ABOVE MONUMENTS.

| ① | ② | ③ | ④ | NOT FOUND. |
|---------|-------|-------|-------|------------|
| N4669.3 | N4606 | N4591 | N4557 | |
| E5169.4 | E5277 | E5310 | E5324 | |

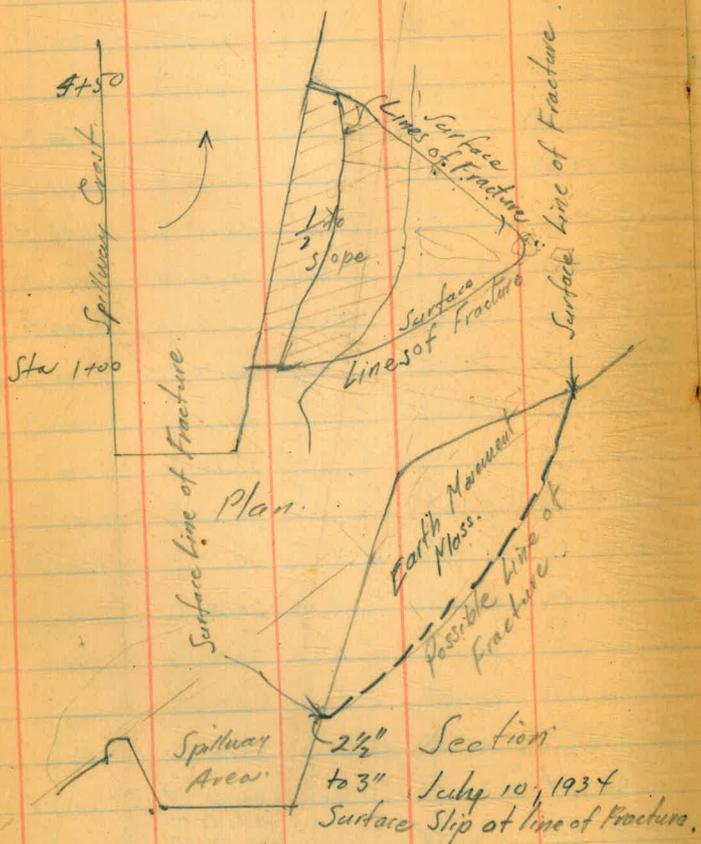
| | | |
|---------|-------|-------|
| N4617 ± | N4560 | N4530 |
| E5163.1 | E5200 | E5300 |

EARTH MOVEMENT

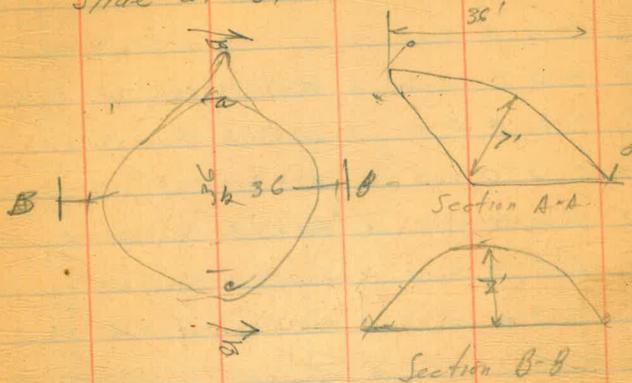
Measurements North Spillway Slope

| Time Date | #1 | #2 | #3 | #4 | #8 | #5 | #6 | #7 | #7 Ex. #9 | #2 Ex. 10 | O.V.S. |
|--------------------|------|------|------|-----------|----------------|----------------|------|------|----------------|--------------|---------------------------------------|
| 6-22-34 7:00 | 4.20 | 5.14 | 6.03 | 4.01 | 39.81 66.24 | 4.01 | 3.01 | 6.17 | 20.11 22.01 | 17.00 | ✓ |
| 6-25-34 7:00 | 4.20 | 5.14 | 6.03 | ✓ | 39.81 66.24 | ✓ | ✓ | ✓ | 20.11 22.01 | 17.00 | ✓ |
| 6-30-34 8:30 | 4.20 | 5.14 | 6.03 | ✓ | 39.81 66.24 | ✓ | ✓ | ✓ | 20.11 22.01 | 17.00 | ✓ |
| 7-3-34 7:00 | 4.20 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 20.11 | 17.00 | ✓ |
| 7-6-34 7:00 | 4.20 | 5.14 | ✓ | ✓ | 66.24 | ✓ | ✓ | ✓ | 20.11 | 32.00 | #10 changed to pt. on rock |
| 7-7-34 7:20 | 4.20 | 5.14 | ✓ | ✓ | 66.24 | ✓ | ✓ | ✓ | 20.11 | 32.00 | |
| 7-9-34 7:20 | 4.20 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 20.11 | 32.00 | |
| 7-10-34 7:20 | 4.20 | 5.14 | 6.03 | #4 Ex | 66.24 39.82 | ✓ | ✓ | ✓ | 20.11 | 32.00 | #4 Extended over 2 cracks |
| 7-13-34 7:20 | 4.20 | 5.14 | 6.03 | 34.03 1/2 | 66.25 +D1 | #3 Ex 49.75 | ✓ | ✓ | 20.11 | 32.00 | #3 Extended over several cracks |
| 7-14-34 7:20 | 4.20 | 5.14 | 6.03 | 34.03 1/2 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-16-34 7:20 | 4.20 | 5.14 | 6.03 | 34.03 1/2 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-17-34 7:15 | 4.20 | 5.14 | 6.03 | 34.04 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-18-34 3:30 pm | 4.20 | 5.14 | 6.03 | 34.04 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-20-34 8:45 | 4.20 | 5.14 | 6.03 | 34.04 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-25-34 7:20 | 4.20 | 5.14 | 6.03 | 34.04 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-28-34 7:15 | 4.20 | 5.14 | 6.03 | 34.04 | 66.25 39.82 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 7-31-34 7:10 | 4.20 | 5.14 | 6.03 | 34.04 | 66.25 | 49.75 | ✓ | ✓ | 20.11 | 32.00 | |
| 8-2-34 7:20 | 4.20 | 5.14 | 6.03 | 34.05 | 66.25 | 49.75 | ✓ | ✓ | 20.11 22.02 | 32.00 | ✓ |
| 8-7-34 7:30 | 4.21 | 5.15 | 6.03 | 34.05 | 66.25 | 49.76 | ✓ | ✓ | 20.12 | 32.01 | ✓ |
| 8-9-34 7:20 | 4.21 | 5.15 | 6.03 | 34.05 | 66.25 | 49.76 | 5.02 | ✓ | 22.02 | 32.01 | |
| 8-10-34 7:20 | 4.21 | 5.15 | 6.03 | 34.05 | 66.25 | 49.76 | 5.02 | ✓ | 22.02 | 32.01 | |
| 8-14-34 7:30 am | 4.21 | 5.15 | 6.03 | 34.05 | 66.25 | 49.76 | 5.02 | ✓ | 22.02 | 32.01 | |
| 8-17-34 7:30 am | 4.21 | 5.15 | 6.03 | 34.05 | 66.25 | 49.76 | 5.02 | ✓ | 22.02 | 32.01 | |
| 8-23-34 | 4.21 | 5.15 | 6.03 | 34.05 | 66.25 | 49.76 | 5.02 | ✓ | 22.02 | 32.01 | |

North Spillway Slope
Earth Movement. 0.1.5.



Northwall
June 1, 1934 (Occurred during No 2 or No 3 shift
of May 31.



$$\text{Volume} = \frac{36 \times 36 \times 2 \times 1.3}{27} = \frac{80 \text{ to } 90}{2} = 40 \text{ to } 45$$

| Sta | Distance | Area | Av. Area | Vol. |
|-----|----------|------|----------|-----------|
| a | 0 | 0 | 36 | 700 |
| b | 18 | 72 | 36 | 700 |
| c | 18 | 0 | | |
| | | | | 1400 = 50 |
| | | | | 27 |
| | | | | 1350 |

147 Measurements earth movement
 No side spillway. All constants .02'
 unless otherwise noted

74

C = 26.93'

| Date & Time | #1 | + #2 | + #3 | + #4 | + #5 | | #5 | #6 | #7 | | | |
|---------------------|------|------|------|------|------|---|------|----|------|---|------|---|
| 11-23-33 7:25 am | 4.13 | 0 | 5.09 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 11-24-33 | 4.13 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 11-25-33 8:35 am | 4.13 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 11-27-33 10 am | 4.13 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 11-29-33 10 am | 4.13 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-1-33 9:00 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-2-33 | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-4-33 1 pm | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-5-33 9 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-6-33 8:45 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-7-33 10:55 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-8-33 8 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-9-33 8:45 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-11-33 9:45 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-12-33 1:20 pm | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-14-33 9:35 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-15-33 8:55 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-16-33 9:35 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-18-33 8:20 am | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-19-33 2:45 pm | 4.14 | 0 | 5.10 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-20-33 8:45 am | 4.15 | 0 | 5.11 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-21-33 7 am | 4.15 | 0 | 5.11 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-22-33 8:10 am | 4.15 | 0 | 5.11 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 12-23-33 9:15 am | 4.15 | 0 | 5.11 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |
| 1-2-34 | 4.15 | 0 | 5.11 | 0 | 6.03 | 0 | 4.00 | 0 | 5.00 | 0 | 6.18 | 0 |

Measurements on earth movement
See preceeding page

| Date & Time | #1 | #2 | #3 | #4 | #5 | #6 | #7 | #8 | #9 |
|-----------------|------|------|------|------|-------|------|------|------|-------------------------------------------------|
| 1-3-34 1:30pm | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-4-34 9am | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | note 9'50. of #4 - crack opened 31" and 4' deep |
| 1-5-34 7:45am | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-6-34 9am | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | see note - page 159 |
| 1-8-34 10am | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-9-34 7:55am | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-10-34 9:15am | 4.15 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-11-34 10:25am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-12-34 9:45am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-13-34 10:29am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-15-34 9:22am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-16-34 7:22am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-17-34 7:42am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-18-34 8:25am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-19-34 10:29am | 4.16 | 5.13 | 6.05 | 4.03 | 39.80 | 4.00 | 5.00 | 6.18 | |
| 1-20-34 7am | 4.16 | 5.11 | 6.03 | 4.01 | 39.80 | 4.01 | 5.01 | 6.18 | Measurements by Ottavio Sappia |
| 1-24-34 3pm | 4.16 | 5.12 | 6.03 | 4.01 | 39.81 | 4.01 | 5.01 | 6.18 | " |
| 1-31-34 10:30am | 4.17 | 5.12 | 6.03 | 4.01 | 39.81 | 4.01 | 5.01 | 6.18 | 20.10 1.90 |
| 2-1-34 9am | 4.17 | 5.12 | 6.03 | 4.01 | 39.81 | 4.01 | 5.01 | 6.17 | 22.00 1.90 MEASUREMENTS BY F. BRACHMANN |
| 2-2-34 8:30am | 4.17 | 5.12 | 6.03 | 4.01 | 39.81 | 4.01 | 5.01 | 6.17 | 20.10 1.90 22.00-0 |
| 2-3-34 8:28am | 4.17 | 5.12 | 6.03 | 4.01 | 39.81 | 4.01 | 5.01 | 6.17 | 20.10 1.90 22.00-0 |
| 2-5-34 | 4.17 | 5.12 | 6.03 | 4.01 | 39.81 | 4.01 | 5.01 | 6.17 | 22.00-0 |

| TIME DATE | #1 | #2 | #3 | #4 | #5 | #6 | #7 | #8 | #9 | MEASUREMENTS-BY F.E. BRACHMANN. |
|--------------|------|--------|--------|--------|--------|--------|--------|------------------|-----------------|------------------------------------|
| 8:15 a.m. | | | | | | | | | | |
| 2-6-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8 a.m. | | | | | | | | | | |
| 2-7-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8 a.m. | | | | | | | | | | |
| 2-8-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 2-9-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 1-P.M. | | | | | | | | | | |
| 2-10-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8:30 a.m. | | | | | | | | | | |
| 2-12-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 1-P.M. | | | | | | | | | | |
| 2-13-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8:30 a.m. | | | | | | | | | | |
| 2-14-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 5-30 a.m. | | | | | | | | | | |
| 2-15-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 10 a.m. | | | | | | | | | | |
| 2-16-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8:30 a.m. | | | | | | | | | | |
| 2-17-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 2-20-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8 a.m. | | | | | | | | | | |
| 2-21-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 8 a.m. | | | | | | | | | | |
| 2-22-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 1-P.M. | | | | | | | | | | |
| 2-23-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 2-26-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 2-27-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 10 a.m. | | | | | | | | | | |
| 2-28-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9:30 a.m. | | | | | | | | | | |
| 3-1-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 3-2-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 3-3-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 3-6-34 | 4.17 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |
| 9 a.m. | | | | | | | | | | |
| 3-7-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 4.01 | 0 5.01 | 0 6.17 | 0 66.24 39.81 | 0 20.10 1.90 | 0 |

MEASUREMENT-ON-EARTH-MOVEMENT
NORTH-SIDE-SPILLWAY

| TIME DATE | #1 | #2 | #3 | #4 | #5 | #6 | #7 | #8 | #9 |
|-----------|----------|------------|--------|--------|----|--------|--------|--------|----|
| 9-a.m. | | | | | | | | | |
| 3-8-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-9-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-10-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-12-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-30 a.m. | | | | | | | | | |
| 3-13-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-30 a.m. | | | | | | | | | |
| 3-14-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-30 a.m. | | | | | | | | | |
| 3-15-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 10-a.m. | | | | | | | | | |
| 3-16-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 10-A.M. | | | | | | | | | |
| 3-17-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-19-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 1-30 P.M. | | | | | | | | | |
| 3-20-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-30-a.m. | | | | | | | | | |
| 3-21-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-30-a.m. | | | | | | | | | |
| 3-22-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-30-a.m. | | | | | | | | | |
| 3-23-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-30 a.m. | | | | | | | | | |
| 3-26-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-30-a.m. | | | | | | | | | |
| 3-27-34 | 4.18 | 0 5.12 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-a.m. | | | | | | | | | |
| 3-28-34 | 4.18 | 0 5.13 + 1 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-29-34 | 4.18 | 0 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-30-34 | 4.18 | 0 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 3-31-34 | 4.18 | 0 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 9-a.m. | | | | | | | | | |
| 4-2-34 | 4.19 + 1 | 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8-30 a.m. | | | | | | | | | |
| 4-3-34 | 4.19 | 0 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 7-30 a.m. | | | | | | | | | |
| 4-4-34 | 4.19 | 0 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |
| 8 a.m. | | | | | | | | | |
| 4-5-34 | 4.19 | 0 5.13 | 0 6.03 | 0 4.01 | 0 | 0 4.01 | 0 5.01 | 0 6.17 | 0 |

C=1.90- F.E. BRACHMANN

C=26.484

#8 39.81

66.24

39.81

66.24

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39.81

MEASUREMENTS-NORTH-SPILLWAY-SLOPE
EARTH-MOVEMENT.

C = .02 unless otherwise noted

| TIME | #1 | #2 | #3 | #4 | #8 | #5 | #6 | #7 | #9 | #10 |
|-----------|------|------|------|-------|-------|------|------|------|-------|---------------------|
| 8:30 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-6-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | heard 2 |
| 7:30 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-7-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 8 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-9-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 8 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-10-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 9 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-11-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 8:30 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-12-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 9 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-14-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 9 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-16-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 8 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-18-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 7:30 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-20-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 7:30 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-24-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 8:30 a.m. | | | | | 39.81 | | | | 20.10 | |
| 4-26-34 | 4.19 | 5.13 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 9 a.m. | | | | | 39.81 | | | | 20.10 | |
| 5-1-34 | 4.19 | 5.14 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | |
| 7:15 a.m. | | | | | 39.81 | | | | 20.10 | |
| 5-2-34 | 4.19 | 5.14 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | O.V.S. |
| 7:15 a.m. | | | | | 39.81 | | | | 20.10 | |
| 5-3-34 | 4.19 | 5.14 | 6.03 | 4.01* | 66.24 | ✓ | ✓ | ✓ | 22.00 | (* Local & inactive |
| 7:15 a.m. | | | | | 39.81 | | | | 20.10 | seams.) |
| 5-4-34 | 4.19 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 22.00 | |
| 7:15 a.m. | | | | | 39.81 | | | | 20.10 | |
| 5-7-34 | 4.19 | 5.14 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | measured once. |
| 8 a.m. | | | | | 39.81 | | | | 20.10 | |
| 5-8-34 | 4.19 | 5.14 | 6.03 | 4.01 | 66.24 | 4.01 | 5.01 | 6.17 | 22.00 | each week |
| 7:30 | | | | | 39.81 | | | | 20.10 | |
| 5-9-34 | 4.19 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 22.00 | Report to Hill |
| 7:30 | | | | | 39.81 | | | | 20.10 | |
| 5-10-34 | 4.20 | 5.14 | 6.03 | 4.01 | 66.24 | ✓ | ✓ | ✓ | 22.00 | |
| 7:30 | | | | | 39.81 | | | | 20.10 | |
| 5-11-34 | 4.20 | 5.14 | 6.03 | 4.01 | 66.24 | ✓ | ✓ | ✓ | 22.00 | 1700 |
| 7:30 | | | | | 39.81 | | | | 20.10 | |
| 5-12-34 | 4.20 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 22.00 | 1720 |
| 7:30 | | | | | 39.81 | | | | 20.10 | |
| 5-15-34 | 4.20 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 22.00 | 1720 |
| 7:30 | | | | | 39.81 | | | | 20.10 | |
| 5-16-34 | 4.20 | 5.14 | 6.03 | ✓ | 66.24 | ✓ | ✓ | ✓ | 22.01 | 1700 |

#7 EXT. #2 EXT.

F.E. BRACHMANN

C=1.90-

C=26.43+

heard 2

O.V.S.
(* Local & inactive
seams.)

measured once.

each week

Report to Hill

1700

1720

1720

1700

1-6-34

See Page 149. On 9-18-33 I noted a 78"

crack, 9' south of Point #4. Today I

explored this crack, westward to a

point about 65' east of point #3. Here

it enters an area of several cracks

running both north-south and east-west.

To the eastward of point #4, the

crack passes to the south of the

southern end of point #8, and is

fairly well defined to coordinate

point N. 4620 E. 5020. This

movement is beyond the limits of

our monuments, but the transit

point set to check movement is

within the limits of this movement.

In some places this crack is

1" wide and 4" deep.

DIRECTIONS FOR USE OF TABLES

TABLE No. 1

Distance of slope stake from side or shoulder
 stake for any width roadway, slope 1:1 to 1:
 If ground is nearly level the cut or fill at side
 stake is located by the double entry method in
 left column and top row. The number in body
 of table in same row and column gives distance

IMPROVED TABLES

AND

INFORMATION

TABLE No. 2

To find Tangent and External for curve of
 any other degree divide by right of curve and
 add correction found in column of corrections.
 Degree of curve with a given length be found
 by dividing tangent (or external) opposite 1 by
 given tangent (or external).
 The distance from a point on the tangent to
 the curve is very nearly the square of the tangent
 length divided by twice the radius.

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

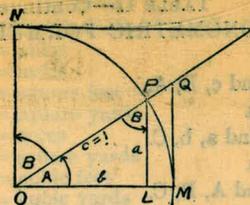


TABLE II
TRIGONOMETRIC FORMULAE.

$\angle A = \angle MOP$ $\angle B = \angle PON = \angle OPL$
 $R = OB = c = 1$

$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$

$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$

$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$

$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$

$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$

$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$

$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$

$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$

$\text{exsec } A = PQ = \text{coexsec } B$

$\text{coexsec } A = PT = \text{exsec } B$

$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}}$ $\cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$

$\sin 2A = 2 \sin A \cos A$ $\cos 2A = \cos^2 A - \sin^2 A$

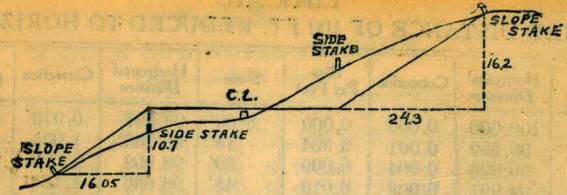
Law of Lines $\frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$

Law of Cosines $c^2 = a^2 + b^2 - 2ab \cos C$

Law of Tangents $\frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$

12-20-33 - 2 hrs on concrete relief

MOYET 2-3-1.26
1.255



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

| | 0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 0 | 0.00 | 0.15 | 0.30 | 0.45 | 0.60 | 0.75 | 0.90 | 1.05 | 1.20 | 1.35 | 0 |
| 1 | 1.50 | 1.65 | 1.80 | 1.95 | 2.10 | 2.25 | 2.40 | 2.55 | 2.70 | 2.85 | 1 |
| 2 | 3.00 | 3.15 | 3.30 | 3.45 | 3.60 | 3.75 | 3.90 | 4.05 | 4.20 | 4.35 | 2 |
| 3 | 4.50 | 4.65 | 4.80 | 4.95 | 5.10 | 5.25 | 5.40 | 5.55 | 5.70 | 5.85 | 3 |
| 4 | 6.00 | 6.15 | 6.30 | 6.45 | 6.60 | 6.75 | 6.90 | 7.05 | 7.20 | 7.35 | 4 |
| 5 | 7.50 | 7.65 | 7.80 | 7.95 | 8.10 | 8.25 | 8.40 | 8.55 | 8.70 | 8.85 | 5 |
| 6 | 9.00 | 9.15 | 9.30 | 9.45 | 9.60 | 9.75 | 9.90 | 10.05 | 10.20 | 10.35 | 6 |
| 7 | 10.50 | 10.65 | 10.80 | 10.95 | 11.10 | 11.25 | 11.40 | 11.55 | 11.70 | 11.85 | 7 |
| 8 | 12.00 | 12.15 | 12.30 | 12.45 | 12.60 | 12.75 | 12.90 | 13.05 | 13.20 | 13.35 | 8 |
| 9 | 13.50 | 13.65 | 13.80 | 13.95 | 14.10 | 14.25 | 14.40 | 14.55 | 14.70 | 14.85 | 9 |
| 10 | 15.00 | 15.15 | 15.30 | 15.45 | 15.60 | 15.75 | 15.90 | 16.05 | 16.20 | 16.35 | 10 |
| 11 | 16.50 | 16.65 | 16.80 | 16.95 | 17.10 | 17.25 | 17.40 | 17.55 | 17.70 | 17.85 | 11 |
| 12 | 18.00 | 18.15 | 18.30 | 18.45 | 18.60 | 18.75 | 18.90 | 19.05 | 19.20 | 19.35 | 12 |
| 13 | 19.50 | 19.65 | 19.80 | 19.95 | 20.10 | 20.25 | 20.40 | 20.55 | 20.70 | 20.85 | 13 |
| 14 | 21.00 | 21.15 | 21.30 | 21.45 | 21.60 | 21.75 | 21.90 | 22.05 | 22.20 | 22.35 | 14 |
| 15 | 22.50 | 22.65 | 22.80 | 22.95 | 23.10 | 23.25 | 23.40 | 23.55 | 23.70 | 23.85 | 15 |
| 16 | 24.00 | 24.15 | 24.30 | 24.45 | 24.60 | 24.75 | 24.90 | 25.05 | 25.20 | 25.35 | 16 |
| 17 | 25.50 | 25.65 | 25.80 | 25.95 | 26.10 | 26.25 | 26.40 | 26.55 | 26.70 | 26.85 | 17 |
| 18 | 27.00 | 27.15 | 27.30 | 27.45 | 27.60 | 27.75 | 27.90 | 28.05 | 28.20 | 28.35 | 18 |
| 19 | 28.50 | 28.65 | 28.80 | 28.95 | 29.10 | 29.25 | 29.40 | 29.55 | 29.70 | 29.85 | 19 |
| 20 | 30.00 | 30.15 | 30.30 | 30.45 | 30.60 | 30.75 | 30.90 | 31.05 | 31.20 | 31.35 | 20 |
| 21 | 31.50 | 31.65 | 31.80 | 31.95 | 32.10 | 32.25 | 32.40 | 32.55 | 32.70 | 32.85 | 21 |
| 22 | 33.00 | 33.15 | 33.30 | 33.45 | 33.60 | 33.75 | 33.90 | 34.05 | 34.20 | 34.35 | 22 |
| 23 | 34.50 | 34.65 | 34.80 | 34.95 | 35.10 | 35.25 | 35.40 | 35.55 | 35.70 | 35.85 | 23 |
| 24 | 36.00 | 36.15 | 36.30 | 36.45 | 36.60 | 36.75 | 36.90 | 37.05 | 37.20 | 37.35 | 24 |
| 25 | 37.50 | 37.65 | 37.80 | 37.95 | 38.10 | 38.25 | 38.40 | 38.55 | 38.70 | 38.85 | 25 |
| 26 | 39.00 | 39.15 | 39.30 | 39.45 | 39.60 | 39.75 | 39.90 | 40.05 | 40.20 | 40.35 | 26 |
| 27 | 40.50 | 40.65 | 40.80 | 40.95 | 41.10 | 41.25 | 41.40 | 41.55 | 41.70 | 41.85 | 27 |
| 28 | 42.00 | 42.15 | 42.30 | 42.45 | 42.60 | 42.75 | 42.90 | 43.05 | 43.20 | 43.35 | 28 |
| 29 | 43.50 | 43.65 | 43.80 | 43.95 | 44.10 | 44.25 | 44.40 | 44.55 | 44.70 | 44.85 | 29 |
| 30 | 45.00 | 45.15 | 45.30 | 45.45 | 45.60 | 45.75 | 45.90 | 46.05 | 46.20 | 46.35 | 30 |
| 31 | 46.50 | 46.65 | 46.80 | 46.95 | 47.10 | 47.25 | 47.40 | 47.55 | 47.70 | 47.85 | 31 |
| 32 | 48.00 | 48.15 | 48.30 | 48.45 | 48.60 | 48.75 | 48.90 | 49.05 | 49.20 | 49.35 | 32 |
| 33 | 49.50 | 49.65 | 49.80 | 49.95 | 50.10 | 50.25 | 50.40 | 50.55 | 50.70 | 50.85 | 33 |
| 34 | 51.00 | 51.15 | 51.30 | 51.45 | 51.60 | 51.75 | 51.90 | 52.05 | 52.20 | 52.35 | 34 |
| 35 | 52.50 | 52.65 | 52.80 | 52.95 | 53.10 | 53.25 | 53.40 | 53.55 | 53.70 | 53.85 | 35 |
| 36 | 54.00 | 54.15 | 54.30 | 54.45 | 54.60 | 54.75 | 54.90 | 55.05 | 55.20 | 55.35 | 36 |
| 37 | 55.50 | 55.65 | 55.80 | 55.95 | 56.10 | 56.25 | 56.40 | 56.55 | 56.70 | 56.85 | 37 |
| 38 | 57.00 | 57.15 | 57.30 | 57.45 | 57.60 | 57.75 | 57.90 | 58.05 | 58.20 | 58.35 | 38 |
| 39 | 58.50 | 58.65 | 58.80 | 58.95 | 59.10 | 59.25 | 59.40 | 59.55 | 59.70 | 59.85 | 39 |
| 40 | 60.00 | 60.15 | 60.30 | 60.45 | 60.60 | 60.75 | 60.90 | 61.05 | 61.20 | 61.35 | 40 |
| 41 | 61.50 | 61.65 | 61.80 | 61.95 | 62.10 | 62.25 | 62.40 | 62.55 | 62.70 | 62.85 | 41 |
| 42 | 63.00 | 63.15 | 63.30 | 63.45 | 63.60 | 63.75 | 63.90 | 64.05 | 64.20 | 64.35 | 42 |
| 43 | 64.50 | 64.65 | 64.80 | 64.95 | 65.10 | 65.25 | 65.40 | 65.55 | 65.70 | 65.85 | 43 |
| 44 | 66.00 | 66.15 | 66.30 | 66.45 | 66.60 | 66.75 | 66.90 | 67.05 | 67.20 | 67.35 | 44 |
| 45 | 67.50 | 67.65 | 67.80 | 67.95 | 68.10 | 68.25 | 68.40 | 68.55 | 68.70 | 68.85 | 45 |
| 46 | 69.00 | 69.15 | 69.30 | 69.45 | 69.60 | 69.75 | 69.90 | 70.05 | 70.20 | 70.35 | 46 |
| 47 | 70.50 | 70.65 | 70.80 | 70.95 | 71.10 | 71.25 | 71.40 | 71.55 | 71.70 | 71.85 | 47 |
| 48 | 72.00 | 72.15 | 72.30 | 72.45 | 72.60 | 72.75 | 72.90 | 73.05 | 73.20 | 73.35 | 48 |
| 49 | 73.50 | 73.65 | 73.80 | 73.95 | 74.10 | 74.25 | 74.40 | 74.55 | 74.70 | 74.85 | 49 |
| 50 | 75.00 | 75.15 | 75.30 | 75.45 | 75.60 | 75.75 | 75.90 | 76.05 | 76.20 | 76.35 | 50 |

Computed by L. Leland Locke.

626.1
82.9

709.0
81.5

627.5

Cavities 3263 orange
3d x 60 x 11
10 x 20 x 3.6 720 yds 425# powder
425 x 720 .59# powder for 1 yd

W.S. at portal 548.65

N. 42" valve = 2.70

S. 42" " = 1.77

Rail above S. 36" pipe 7.65

S. edge rail $\frac{1}{2}$ "

N. 36" " 7.70

N. edge rail 0.17 S. $\frac{1}{2}$ pipe

Rail above S. 42" pipe 7.37

S. edge rail = 0.24 N. $\frac{1}{2}$

giant pumps -

Rail above N. 42" pipe 7.38

N. edge rail = 0.10 S. $\frac{1}{2}$

1 - #1 Handy giant 8" pipe 8" NO 3314

to 1 pump

Water elev pool 680

Elev giant 735

Crest 750

Volume Cone = area of base x $\frac{1}{3}$ h

Volume of a sphere = dia³ x 0.5236

1 on 5000

10' west New crack

old crack

60' west

26.42
39.89
66.31