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482

KEUFFEL & ESSER CO.
DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

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

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MICROFILMED
JAN 12 1955

	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
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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
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22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
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26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
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35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

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

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Inspectors Memorandum

Book - El Capitan Dam Hydraulic

Fill operations - R. G. Gottschling Insp

This book succeeds # lost of barge 4/3/27

June 5 '34

Sand Agitator 1-Foreman - 3 men

getting equip #4 - 2 men

1-Tractor-30 1-60 - raining

Unit at N36⁷⁵ 30 to 3640 - got N36³⁷

Max. depth	A. A	B. B
by sounding 18'	33-26	52 40
	30	=46
	26	42

June 6 -34

Some units 11 pm at N3650

delays: #4 getting last 2 hours 11:30 to 1

" Agitator broke rotor bearing at 2 am on beach rest of shift

June 7 -34

Some units 11 pm N3800. 689

no delay to agitator - getting out

June 8 -34

Some units heading south from N3950

get down from 11 to 1 - agitator 11:30 to 3:30

chain broke no gain in dist. 689.2

June 9 -34

Some visits - S.A. down 11 to 3

hoist op. 1 hr. welding equip. 1 hr.

N3830 to 3800

June 10 -34

Sand ag. only - getting stopped.

Op. from N 3640 to 3630

June 11 -34

Same as 7th getting again

689.1 18 ft no delay N3575 - 3540

June 12 -34

Some units N3465 N3445

2 men only on S.A.

Borrow pit at Lake side Dragline #11

1 Hoist-op.

1 Help.

1 Dragline op.

8 Driver

1 checker

Tractor

8 Trucks

Hoist # 6

Bulldoz.

Truck #	28	Loads
10	-	1
20	-	2
23	-	6
18	-	5
15	-	5
4	-	5
5	-	4
9	-	3
51	-	3

10

20

23

18

15

4

5

9

51

June 13-34

same unit get working north 3700 to 3800
S.A. reached N3300 4:30 hour spotting
in new position N3410 to on East of Axis
11 p.m. drizzling - raining 4 am
1-foreman - 2-helps 2-get man - hoist 1-hoist - 1-help

June 14-34

S.A. only moved to N3460 ^{to 4'} lost 2 hours spotting
Motor bad order - slow going. N3470 Bp. same

June 15

No work this shift
Sand eq. finished

June 16

Placing sand on upstr beach

N3550 ⁴⁰⁴⁰ to 3 men Bulldoz. on be
Borrow pit. #9 shovel - McMill
Trucks 1 load 2 men

50-16

40-16

60-21

33-1

34-1

31-1

15-13

18-17
43 1-digger
end reached by 6 am
starting in center again
working both ways

2
raining 4 am June 17-34

#4 pump washing silt placed on
upstr beach previous 2 men til 2 am

June 18-34

same as - 2 men (Wilds) #4 pump N3500 to 3800
washing down material dumped on upstr be
cont. Connolly at 6:30

June 19-34

The first lakeside pit material is being
hauled and dumped directly into pool

#10 hoist distr. - #6 upstr. 1-foreman
3-lab.
#3-4-5-9-10-51 6 loads 1-hoist op.
5-5-5 3-4-5 distr.
666 6 6 trucks

June 20-34

Lake side pit tract. contin. dumping on
distr. with Bulldoz. on beach N3775
upstr #6 crane unloading the tractor 690.4

12 total truck #50 burned at north abut.
delaying all upstr. op - #4 pump puts out fire
Tr. #50-55-20-38-9-18-15-51 P-23-10 P burnt
Lo 5 4 6 3 4 5-6 13
1-cr.
2-lab.
1-hoist

June 21-34

Lake side pit next placing center. #4. Work up
 moved 15 ft. down str. N3750 30 tractor
 #4 pump wetting sand dustr. pushing loads
 Tr. #17-5-18-9-50-20-20-3-17 #4 18 15 1-+
 4-6-5-6-6-4 2-+
 19.7 9.7 8.9 9-8-6-18.1 21 2.4 1.2
 10.6
 80 60 45 54 48-36-72.

washing with #4 pump from 3600
 to 3200 After completing weld
 by 3 AM Hog box pump started
 and slicing to dustr. beach at
 3800 started

June 22-34

L. P. hauling contin. more trucks increased
 yardage same crew 1-1-1-2-1 up. N3225
 Tr. #18-15-23-9-5-51-4-5 P7-P9-D77-2020-26 N
 Loads 5-5 5 9 5 4 4 6 6 9 5 4 6 2
 capes.

11 + 2 at 5 am
 # trucks #9 show. - McMillan -

June 23-34

same work 19 trucks L. P. shovel broke
 down about 6 am

Bulldoz. on up str. 1- for. 6 min
 #4 pump 691.7
 welding till 3 am
 dis. N3700

June 24-34

loading out of hog box to da beach and
 south abutment 715 level stop 2 am
 3 hrs
 6 trucks # shovel-Bulldoz. 1-2-C- show crew

June 26-34
 Hydraulicizing contin. 692.7
 Hauling from pit #18-McMillan Trucks-Bull 902. check
 dustr. N3350 up 3625 (#4 jet)
 Forman #4 jet 2-Beaulab. pump-1 nozzle
 welding outfit 1/2 hr. + 1/2 hour

June 25-34

Hydraulic fill started by dumping
 over up str. ramp with trucks and

June 27-34
 Same operation. #9 show. Pit #2
 19 trucks @ 11:30
 from 1:30 many shot down actual
 pumping 5 1/2 hours #4-7 hrs
 supply #1-3 7 hrs - 2 trucks went over
 bank 2 hrs delay dumping - Mr. Wilds to have
 charge of trucking 693.7

June 28-34

19 trucks hauling from "A" & "C"

shov. #9 & McMil. Pit "A" - #7 & McMil - "C"
3-dump men 1-cof. 1-checker 2 shov. crews
Dnstr. N3800 to 3750 down 11 to 12. 1.15-2.4
4 to 5
upstr. #4 & #6 1-hr beach crew op. on
atop. 3 hr. #6 - 6 hrs
1-foreman #4 2-men beach 2 men hog box

up 5045

594.5

June 29-34

Pump #4 to 1 am #6 to 7 am (5045 etc)
Hog box op. contin interruption from checking
pump - 4 lengths to shift loss of time 4 hr
1-foreman #4 ^{N 3200} pumpman 1-Nozel. 1-7ft. 2
Pits "A" & "C" 2-shov. 2 McMil. 21 trucks 2-Bulld.
3-dumpmen 1-Bulld. op. (epstr) 1-checker

June 30-34

Better progress with HF to 4 am
#6 on dustn near north abutment
entire shift - #4 purged waste
water after 3:30 when level #6
N3550 For 2-b.L. 17ft. 2-at hog box
2-shov. 20 trucks #7. #9
2-crews 3-dump & Bulld. opr
#7 down 4 hrs 8 trucks 4 hrs
#6 mov. up. 6 am

9.

July 1-34

no work this shift

697.9

July 2-34

F.H. fill contin dnstr. Finish to S. Ab
at 3 am cut line and started new lift 3800
#6 Mon. 1 hr. at N3800
#6 upstr. 3 hrs #4. 4 hrs
#5 broke down midnight to 2 am
1-F 2-b.L. 2-men. 2-Hog box
20 trucks 2-shov. Pit "A" 3 dump 1-F

698.0

July 3-34

F.H. contin reached S.A.

Pump opr. 6 1/2

18 trucks same plan same crew

July 4-34

no work

699.3

July 5-34

F.H. contin to 3500 - hauling
from Lakeside all to Hog box
Pit A & B mate to Hog box except 15 to up
South abutment where #4 operated
21 trucks 7 to L.H. side hauled 400
#4 to #9 ~~2~~ - A & B pit #10 unloading
L.H.S. trucks at Hog box extra crews
" checker

12.8 20.0

13.2 21.0

699.6

July 6-34

H.F. downstr continue with little delay
reaching S. Ab 3 am
dismantled line and started new lifts; 30

#4 etc #6 up N.A. 4 hrs distr. N.A 2 hrs
15 trucks had been planned by trucks
1 hour up - center.

#9 p. 2 B 25 trucks - 15 to Lakeside
all to the box except 15 made to
up. center & S.A. elev. 715

LK side total 13 trucks 100 gds
all truck went over into Ab. 6:15

700.2

July 7-34

H.F. cont. 3625 to 3350 many delays

#4 pumping waste broke dn 2 am
#6 up north 3 hrs up. center 2 hrs

well date up - 12-15 dn 6-9

#7 & #9 "A-B" 22 trucks

701.0

July 9-34

H.F. cont. 39 to 35
many delays
hauling to dust. N-W

2-shov. 24 trucks

10.0 - 3750 - 13.8 - 3625

695.2

10 ft deep

bad sand
from pipes

701.9

July 10-34

H.F. continue 2 pipes at south end from 1 am
moving pipe - tractor 1 hr making level 13500

started 4 am N3900 pump do 1 hr in which
time Bot moved #6 in place distr. in abatement

Monitor crews worked #6-4 hr #4-3 hr.
well up 11.0 dn. 13

702.8

July 11-34

At 11 pm not sufficient silt to start
Hoybox. mov. #6 to distr. to wash with five
hose base for new rock layer - no connect
having been found. in 3 hrs F.H. was
started and #6 washed accumulated
dirt dug by #10 dragline 20 trucks
N 3350 up 11.5 dn 8.5 N 3550

703.1

July 12-34

No H.F. operation until 4:30 am
Pond low and distrib supply slow
in starting 1:45 to 3 am

#4 2 hr 12 to 2 #6-2 to 7
rock hauling to 1 am

well data: dn. 11.5 discharge at N 3900
depth 9 feet average

703.9

July 13-34

eye cartok gone 8-LH3
H.F. cont. to south but. by 1 am
#4 using 3 hrs to make connection
washing rocks welder 1 hr - wash 2 hr
#6 2 hrs - 2 hrs dismantling pipe in
start new opening 4 am hauling from
Lakeside thru shift 3 hrs delay 11 & 2
well up 23.0 N.C. N.A. dn 11.5 N 3800
23 Trucks #9 - #7 shov.

704.6 July 14-34

H.F. contin. many delays N3400
#4 2hr. #6 4 hrs H.F. 4 hrs beach run
5.5 feet except 11 objects.

#7 & #9 shov. 22 trucks - 8 to lake
2 tractors

705.0 July 16-34

All units out of order #4 started 12:
#3 & #5 out with burn bearings
2 mechanical work until 2:30 only
2 length of pipe at 7am
shov. #9 - 12 trucks Pit B only

705.8 July 17-34

H.F. contin. best shift reached
N3350 grad material til 4am
#6 monitor all night 6 hrs - 2 hrs N40
N3400 center of sand lens reaching
into center of pool

#9 shovel only 9 trucks all to hogbox

706.3 July 18-34

F.H. Method both beaches all material thru
hogbox 11 trucks - 1 shov. #9 - at 2:30 all
power off to 4am - valve out 6:

Bot runs beaches to high contin.
up 3400 da 3750

706.8 d-7. July 19-34

F.H. contin. both beaches slight delay
2 extra men with tractor on up str beach
dismantling pipe and lereeing
11 trucks #9 shovel 6 1/2 hours
up str. N 3675 down N 3525

707.5 July 20-34

F.H. contin. both beaches good progress
4 men on beach - 1 tractor up part from
11 trucks #9 - 2 tractors
Up str. N 3300 Down N 3550 depth N 3700 - N 3100
88 feet N 3700 - 400 - 13.00
5 loads of rock hauled out of spillway
and placed in downstream rock fill
#4 wasted water 4 1/2 hours

708.5 July 21-34

F.H. contin. dis str. N 3225 - up 3525
11 trucks #9 shovel 1-tractor

708.8 July 23-34

F.H.F. contin both beaches up to
6.A. 2 am started 4 am
distr. N 3250 - depth 7 feet except
1 man N.A. 9 took excellent material
coming thru - Wasted 3 hrs -
11 trucks #9 shovel - lost about 1 1/2 hrs

709.1

July 29-34

F.H.F. contin. both beaches
 Up 3750 Dn 3800 - depth 6 to 12
 #6 wasted 7 hrs 4950-5020
 11 trucks #9 - spillway to rock fill 402

709.4

July 25-35

F.H.F. contin. both beaches with line
 at 3200 upstr. line became plugged
 9 am - #3 pump required repairing
 all units stopped #4-6 dn 3600
 #4 wasted all night - 10 trucks - #9
 from spillway to up-ramp 1 yard rock
 depth 3-9

710.0

July 26-34

F.H.F. contin. both beaches lots
 of trouble with circulating pumps
 working pumping #6 washed
 6 hrs. trator 1 hr 6.5 cor.
 dn str. #3200 - up str. #3800
 depth 9 feet
 11 trucks #9 no spillway work

710.5

July 27-34

F.H.F. contin. 5:30 stopped pumps
 to much water threatening 5-6 cor.
 up. 3625 dn 3675
 #6 wasted 6 hrs #4 1 hr
 6 trucks #9 - 4 spillway rock

710.9

July 28-34

F.H.F. cont. dn str. to N 3400
 upstr. to south abutment
 depth 10 - 10 trucks - 2 shov. #7-#8

711.6

July 30-34

F.H.F. cont. 1 1/2 hr dn str. a midp
 Up 3725 Dn 3750 #4 2 hrs
 14 trucks 2 shov.

711.8

July 31-34

changed to 3 PM to 11 PM shift

F.H.F. contin. both beaches
 up. N 3500 - Dn 3475
 #6 - 2 hrs - 11 trucks #9
 spillway #7 - 3 trucks - 7 loads 22-14

A 712.2

Aug 1-34

F.H.F. cont. both beaches
 many delays caused by worn packing
 S-A. Up 3900 Dn 3800 in #5

no rock 3-5 - 15 trucks - 2 shov.

712.8

Aug 2-34

F.H.F. contin. up. S-A 6 am - one side only
 11 trucks 2.5 #9 792 - valve out
 spillway #7 - 8 trucks 415

715.1 Aug. 7-34
Dri. last pipe - all mat. to upstr.

Tractor 1 hr up.

14 trucks 1-R&C 2 sh. #8-#9

Spillway #7 - 2 trucks 10 to distr.

716.2 Aug. 8-34

F.H.F. contin. both beaches up N

work started 5 pm

2 sh. #9-#8 15 trucks 1 R&C N 3400

Spillway #7 - 2 trucks 14 loads

~~717~~ 716.6 Aug. 9-34

F.H.F. contin. both beaches dn. S.A. 5 pm

upstr. S.A. 9 pm

no site hauling 3 pm to 9 #8 - 8 trucks

company truck #7 moving hq box mat. on road

around on dumping side

cut bucking level dn. upstr.

start dn. str. 9:30 no spillway excor.

717.7 Aug. 10-34

F.H.F. contin. both beaches Dn.

Tractor 2 hrs

#8-#9 - 12 trucks (2 R&C)

Spillway #7 - 2 trucks

718.5 Aug. 11-34

F.H.F. contin. Distr. S.A. 3 pm

Upstr. start 3 pm dn. start 6:30

both lines of N 3700

2- shovels 11 trucks

#7 - 2 trucks - 4 yds - #7 out 9:30

Aug. 13-34

Dismantling all hydraulic equipment

beginning 3 pm

1-Foreman

11-Men

1-Welder

1-Electrician

2-Truck drivers

1-Crane operator

1-Tractor operator

Trucks hauling from lake side to temporary dump on spillway floor

#7-3 trucks 15 loads

1-crane #1

1-welding outfit

2-Flat rack trucks #9

1-McMillan

718 - Aug. 14-34

Foreman 5 men 1 crane - 1 truck

Placing lake side mat. upstr.

D.G. downstream 8 loads

713.5

Aug. 3-34

F.H.F. cont. both sides dn. S.A. 6 pm
start up 6 pm N 3800dismantled dn. re-alignment of pipe
in N-W cor.spotted #4 with fire hose conn.
in N-W cor.10 trucks #9 spillway 47-3 trucks 170
6 loads
1 tractor
Aug. 4-34

F.H.F. both beaches up - dn.

Monitor #4 washing N-W cor

Tractor distr. bucking tree

shovels 4 2 2 29 1 tractor

spillway 3 trucks #7 - 1 tractor

Aug. 6-34

F.H.F. cont. both sides
upstr. with 3 lengths to go - plugged

at 5 pm started 99 in 7:00

restarted S.A. 8:30 Distr. N 3500

upstr. dismantling

12 trucks #9

spillway #7 - 2 trucks 10 loads

mostly upstr.

718 -

Aug. 15-34

~~rolled emb. preparations
going forward Lakeside
and dg. being spread on
edge of pool. Lake will go
stream only~~

Aug. 15-34

rolled emb. preparation contin.

D.G. from spoil bank upstream

#8 shovel 4 trucks hauling to both

beaches making road along edge

of pool from 5 pm all lakeside

mat. going to upstream beach

making close to both abutments

#10 17 loads of rock

road grader #30 out 2 hrs

1-60 - taken 8 hrs 1-60-2 "

1 foreman - 5 men

Aug. 16-34

Lakeside mat. going to both beaches

Also dg. from spillway #7 shov. trucks

1 foreman 5 men up. 3 hrs

1 welding outfit

1 tractor 60 - 8 hrs

1 " " 2 "

31-7

34-3

39-1

40-2

Aug. 17 - 34

Roller fill preparation contin.

#8 moving to Pit A to dig material to be placed on beaches along pool line this mat. is to be broken up on beach and afterwards pushed into pool moving Lakeside mat towards center - A sheepfoot roller to be tried out on this material

1-Foreman
4-Men
1-Welder
1-Shovel #8
7-Trucks Pit A 5pm 1st load 5 P.M.
14- " Lakeside
1- Tractor Co-8 hr
1- " " -2 "
1- Ford truck 4 "

Aug. 18 - 34

Roller emb. preparation contin

Lakeside Trucks Drivers
to stockpile - 1- Checker
to 1- Dump man
Pit A 1-#8 shov. 1- crew
to both 1-McMillan
beaches 10 Trucks A.R.V. Drivers
1- Tractor 1- Tractor op.
1-Foreman

Aug. 20 - 34

R.F. preparation contin.

working on water line

1-Foreman
laborer
1-Tractor op.
1-Welder
Drivers
1-Dumpman
1-Checker

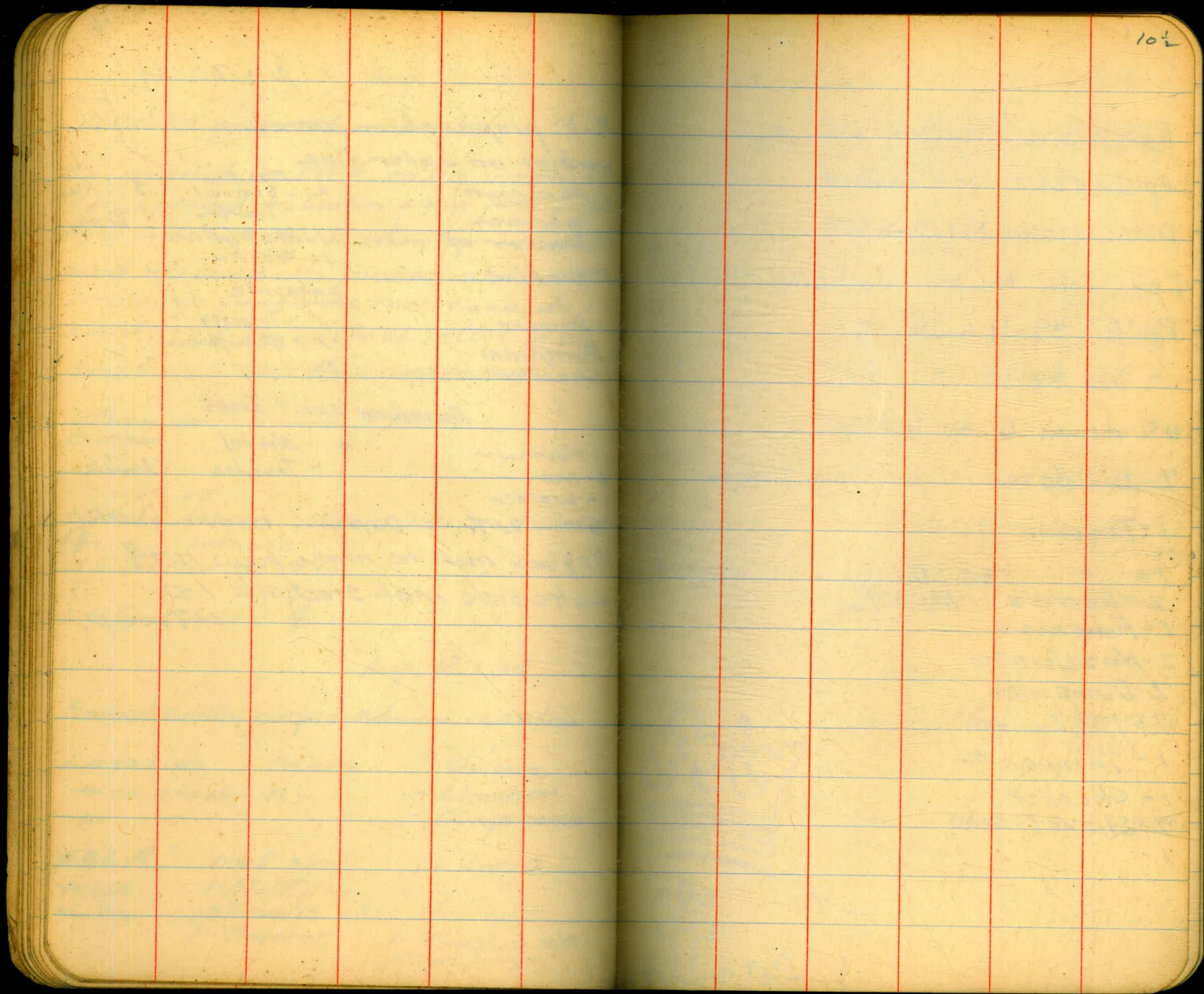
Pit A
- Shovel 2-crew
- Tractor Driver
1-McMillan
1- Checker

Lakeside
1-Trucks
1-Dumpman
1-

Downstream spoil bank

1-Foreman # Shovel -crew
4-men - Trucks - driver
1-Welder

#7 - 2 Tr. 1 Dupon moving old
logbox mat to make new road
Lakeside mat. stockpile 1-D
1-Tr. op.



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Thursday

Aug. 23-34

R.E. contin. starting course SA each side
average height 723 thru shift equal 720 1

Beach

1-Foreman
 3-Tractors -60 (2-Bulld) 4-Tractor op.
 2- " -30 2-Dumpmen
 1-cletraw -30-Bulld. 2-Nozzlemen
 3-Tampers
 1-Grader

Pt "A" 1-shovel #9 Ruck 1-crew
 1-McMillan 10-Drivers
 10-Trucks

"D.G." 1-shovel #6 R 1-crew
 8-Trucks 8-Drivers

Spillway 1-Shov. #7 R&C 1-crew 9 Rt
 3-Trucks R&C 3-Drivers
 1-Checker

Friday

Aug. 24-34

R.E. contin N-A. Both sides
start new layer 4:30 pm

1-Foreman
 3-Tractors-60 4-Tractor op.
 2- " -30 2-Nozzle
 1-cletraw-30 2-Dumpmen
 1-Grader
 3-Tamper

Pt "A" 1-shovel #9 1-crew
 1-McMillan - Drivers
 12-Trucks

"D.G." 1-shovel #6 1-crew
 8-Trucks -R- 8-Drivers

LHS 1-shov #7 1-crew
 stack pits 3-Trucks R&C - Drivers

1 hour

Spillway 1-shov #7 1-crew
 3-Trucks R&C - Drivers
 7 hr 1-Checker
 7 loads rock

Saturday

Aug. 25-31

R.E. contin. after finishing at K.A.

Starting new course on downstr. finishing
9pm starting again S-A -
center coreUpstream R & B 1 full course by 9
starting new courseUpstream an alternate R & B core layer
was put down and part of put in placeaverage heights core: 17225
up: 17235
dn: 17250Game crew on Beach
" equip "Pit "A" 1 - Shov. #9 crew
1 - M.M.
13 Trucks Driv RentPit "C" 1 - Shov. #8 crew
R & C 5 - Driv. Trucks"D.G." 1 - shov. " crew
8 - Truck Driv.L.H.S. str. 1 - shov. " crew 1 1/2 hours
3 Tru - Driv.Spillway " " 6 1/2 "
R & C

Monday

Aug. 27-31

R.E. contin. On S.A. to K.A.
Up N3500 to K.A. again talk 3700A few scattered loads of L.H.S. were put
down irregular until 5pm alt. line started
at S.A. up.3 - Bulld - 60
2 - Tractor - 30
3 - Tampers
1 - Bulld. - 30
1 - Grader1 - Fore
4 - Tractor op.
1 - " " 2 hrs
2 - Nozzle mu
1 - " " 2 "
2 - DumpersPit "A" 1 - S - #9 1 - crew
1 - M.M.
10 - Trucks Drivers RentPit "C" 1 - sh. #8 1 - crew
5 - Trucks P. Driv R & C"D.G." 1 - sh. #6 1 - crew
op. 5 - Trucks Driv 3 - R & Cspillway " 7 all to ^{rock} waste dump
2 - TruTruck at 10:10 broke overhead
section of pipe lines

Wednesday

Aug 29-34

14

Tuesday ^{no work} (excursion day) Aug 28-34

raining 4:30 pm

RE. continue down str. only occ. load
up stream N3500 to N-A.
down alt. layer pushed into cut
water out Spm

up - 725 & 726
dn - 727.5

- 1 - Foreman
- 3 - Bulld. 2 - OP.
- 2 - Tract. 2 - "
- 3 - Tamp. 3 - Nozz
- 1 - Grad. 2 - Dump.

Pit A 1 - shov. #9 1 - crew
1 - M.M.
12 - Trucks Drive

"D.G." 1 - Shov. #6 1 - crew
up. 1 - Bulld
6 - Trucks Drive

Spillway 1 - shov. #7 crew
3 - Trucks Drive

Thursday

Aug 30-34

RE continue up, N3800 to N-A and
from Spm 999m to
dn from S.A. to
Lake side to dn.

Mr. Pyle & state offic. on job today

same beach crew & equipment

Pit A 1 - shov. #9 1 - crew
10 - Trucks

D.G. up. 1 - shov. #6
6 - Trucks

Spillway #7
2 - 5 - Rocks

Tuesday Oct 30

Friday

Aug. 31 - 34

R.E. contin. up. N 3200 to N.A. 9pm
and again to N 3300

Down str. only at N.A. and occasio-
nal spillway mat. which went to center
outside

cors-727.3 up. 729. dn 728.2

- 1- Foreman
- 4- Tractor men
- 3- Nozzlemen
- 2- Dumpmen
- 1- pump
- 3- Tractor 6P
- 2- " 30
- 3- Tamper 5 - 1 1/2

Pit "A" 1-shov. #9 1-shov. crew
 1-M.M.
 11-Trucks - Drive

Spill B. 1-shov. #6 1-cr.
 UP. 5-Trucks - Dri.

Spillway shov. #7 1-cr.
 3-Trucks 3 - dri.

" old ramp 2- #10

Saturday

Sept. 1 - 34

R.E. cont. dn. only N 3700 - NA - N 3900
up. Lakeside 2 km. from to stockpile

3- Tamper only in use same crew

Pit "A" shov. #9 - out 1 1/2 hrs
10

spoil shov. #6
UP. 6-

spillway 2- #7 4- rectas

Tuesday

Sept. 4 - 34

R.E. continue up from N 3700 to S.A.
and back to N 3700

dn from S.A. to N 3900

All Lks to pool both sides from stock
pile also after 9 hrs

Pit A. Show #9
8-Trucks

3-Bull dogs

1-McMillan

1-Grader

2-Tractors - 30

3-Tampers

1-Foreman

4-Tractor ops

3-Dumps

2-Noodlans

5-Rocks

Spoil bank Show #6
up 5-Trucks

Spillway Show #7
3-Trucks

5 loading Lks - 8:45 pm

core 728.7

Wednesday

Sept. 5 - 34

R.E. continue both sides dn: N 3400 - N 3900
up: S.A. -

Lakeside up.

Pit A #9
-McMillan

crew

8-Trucks

Drive

East #6

Spoil bank 7-7 msk

2-volks

Spillway #7
2-Trucks

rocks - 4

Thursday

Sept 6 - 34

R.E. continue both sides d.g. only placing outside
all shows in d.g. up: S.A.
core 730.7 dn: N 3500 - N.A. - S.A. to

Pit A 8 #9

8-Tr

E. Sp. B #6

6-Tr

Spillway #7

3-

13-LR

8-L trucks

Friday

Sept. 7 - 34

R.E. continue red and black into
pool - all Lks direct
up 2 courses dn 1/2 course

Pit Show #9 out 1 hr

9-Trucks

E. Sp. #6

6-Tr

Spillway #7

5-R

2-Trucks

8 R

water line in pool broke

Saturday

Sept 8-34

R.E. continue On. N3600-NA. -N3400
up S.A. to NA starting 6 pm. 8-6 hrs. to go
core: 733.5 735 - flank

Pit L° #9 show.
9 - Trucks

1 - Excavator
2 - Nozz.
2 - Dumps
4 - Tractor

E. Sp. B. #6 sta
5 - Tr

Tamp. + in cp
On 6 1/2

Spillway Show #7 5-R
2-Tr 7R

Sunday

Sept. 10-34

R.E. continue up S.A. - NA by 8 Lakes. only from
stock pile - dn. S.A. - N

Pit L° #9 show
8
8 - Trucks

E. Spoil #6
7-
8

2 Rocks
5 - Rent

Spillway #7
old ramp 5 - 4 1/2 hr
L to stock 4 - 3 1/2

Tuesday

Sept. 11-34

both flanks
R.E. continue E. Spoil & Spillway W. spoil banks
sending dg. #9 show. Pit L° broke down
until 7:00 am when most pit L° went to operation
All Lakes to stock pile until 9:30 pm
Pit L° #9 - 7:00 pm core about 736
flank " 737
same crew

2 - Trucks

E. Spoil #6

6 - Trucks

W. Spoil #7

5 - Trucks

Wednesday

Sept. 12-34

R.E. continue extra on down only Lakes
All material to up - #9 bid down
cross-over put in about N 3100
routing

Pit L° #9 5 - Trucks
- 8

E. Spoil #6 6 - Rocks
- 6 P

W. Spoil #7 1 - Rocks
- 5

1 - tamper only

Thursday

Sept. 13-34

R.E. contin. all d.g. to down red on both sides lakes down upstr. to pool

core 738-739 1-tamper only

8-Truck
slow #9

L

5-Truck 8:30 to

E. Spoil #6

"L"

2 trucks quarry exp.

#7

Spillway

2-Truck

Friday

Sept. 14-34

R.E. contin. only dn. received d.g.

Placed 1-cours and started second 1-course of red up and taken tubes

1-tamper only

core ? plant 741 +

Pit L #9

7-Truck

Rent

E. Spoil #6

6-Tr

5-Rent 1 RAC

Spillway #7

3-Tr

6 Racks RSC

Quarry 9-Truck

Saturday core 742 Sept. 15-34

R.E. contin. with d.g. to dn. & red one layer of red & Lts. into pool up

core 742.0-743 down 2 mesh shot

L 9 pm heavy wind storm & rain drops #9

6-Tr

3 racks

E. Sp. #6 7-Truck

Spillway #7

3 Tr.

4 racks

quarry - 8

Monday core 742 Sept. 17-34

R.E. contin. one course of d.g. from pit 2 up-d.g. & Lts dn. also spillway tractor only all broke dn.

Pit L #9

7-Tr.

Spillway #7

8 loads

4-Tr

Quarry 9-Tr

Tuesday

Sept. 18 - 34

R.E. contin 2 courses of "L"
on both sides spill dig. dn. str.
core 742E Flanks 743

3 tractors - 10 - 1-30 - 1-Tamper - 1 grader
1-Norste - 2 dump.

Pit L^o #9 shov. McMillan

9-Trucks Rent

Spillway #7 - 8

2-Trucks

Gravary - 10

Wednesday

Sept. 19 - 34

R.E. contin. laid down red stuff
on both sides of road - dg. dn.
one bulld. only - 1 dump - only

Pit L^o #9

10-Trucks

Spillway #7 3-6

3-Tr

Gravary 10 -

Thursday

Sept. 20 - 34

R.E. contin. fill dg. both flanks
core 744.5 flank 745.5
All rock dn N3600 - S.A. except 20 N3800
1-Bulld. on rock #9 down 1 km
1-Bulld. - 1 Tractor - 1 dump - 1 Norst -

#9
2- 9-Trucks - Rent

#7
old ramp 3- 2-1

Gravary - 9 -

Friday

Sept. 21 - 34

R.E. contin. with clay both flanks
dn dg. Rack up N3300 - S.A.

#9
1- 8-

Gravary 9 trucks

core: 745.5 - 746.5

20

Saturday Sept. 22-34 Tuesday

Sept. 25-34

R.E. contin. red on both flans
one course dg. upstr.

R.E. contin. 2 courses of dg. U-D
Rock up - fine dm.

Rock all cor. mostly up-south

W. spoil #11 7- Rent

2-Bulld. (on rock) 1 30-Tr. & Tamp

Road grader 1-60 McMillan

Spillway 3 #7

9-Rock loads - 25 yds.

2-Bulld-1 Tamp (6 hr) 1-Dump. 1 No

Quarry 10-

Pit L #9 7-Tr

Spillway #7 3-Tr 10 loads rock 25 y

Quarry 9-Trucks

Monday Sept. 24-34

Wednesday 747.5 Sept. 26-34
748.0

R.E. contin. Pit L dig to
dn. 8 p.m. Pit L red stuff dn
rock to vic. N3500 dross

R.E. contin. Lakes. stock both flanks since pond
finished at 8 p.m. dg. from W. spoil
dn N3600 up N3400 from N.A.
cleaned 3.A.

Pit L #9 8-Tr

Placed drain 4" pipe up
Rock to up until 9:30 N.W. cor large

Spill. #7 2 4 R brks # 1 m

Ld stock #7 4-Tr Rent

Quarry 8-

W. spoil #11 6-Tr "

Quarry 9-Tr

749
748 up
750 dn
Thursday Sept. 27-34

R.E. contin. dn pit red stuff to 5:30
W. spoil 5:30 to end of shift dn 2-lay
up str. made windrows Mr Walsh spec
Laid by digging below water surface
All rock up, south of center

Pit #8
8- 2:30 hrs

W. spoil #11
8- 5:30

Spillway #7
1- 9:20

Quarry 9 Tr.

Friday 748⁵ - 748⁴ - 750⁵ Sept. 28-34

R.E. contin. N 3600 Red - dg dn.
Lack of water

Up Pit #8
6-Tr. 8 to 8 pm

West spoil #11
6-Tr. 8 to 11 3 R.S.C. with Rock

Spillway #7
3-Tr. 8 to 11 same area #8

#11 with 3 R.C. truck hauled rock
from W. spoil until 8:30 - 12 loads

Quarry 8 Tr.

749 - 749⁶ - 751⁶ 21

Saturday Sept. 29-34

R.E. contin. material coming slow
Pit L² two courses
#7 shovel moved into place to make
cut at north abutment 9 pm

Pit "L" #8
7-Tr.

Quarry 11-

Monday 749.5 - 750 - 751 Oct. 1-34

R.E. contin. with Pit L made up
from N 3500 South laid 2 courses
#7 in spillway

Pit "L" #8
7-Tr.

Spillway #7
2- 7 Rock

W. spoil #11
2- 9 pm to 11

Quarry 6 Tr.

2-Bull do.

1-30 Tractor & Tamper - Grader

1-D

1-K

Tuesday

751-757-752

Oct. 2-34

R.E. contin. 1 course of red each side and dig, partly slow hauling. Rock up face - long ch. N.

Pit L #8
6-W. spoil #11
4

1 - Rent 1/2 shift

" " #7
4

" "

Orany #8-

6 Rent

Wednesday

Oct. 3 - 34

R.E. contin. 2 line of red - 2 line dg. open hose in pipe line blow out center con filled in previous shift. 7:30 #8 crew and truck to dg. in w. spoil #7 & #11

Pit L #8
6-7r

4 1/2 hrs

W. Spoil #7
#7 3

10-Tr. 2 R&C

3 1/2 hrs

Orany #8-Tr

Thursday

up 752.5
dn 753.0

Oct. 4-34

R.E. contin. with 3 limits mat. coming at once and no Bulldozers in working cond. put down two courses lbs 2 red and 1 1/2 d.g. by 5:30 some order establ. to much equipment going at once.

Pit L #8
8-W. spoil #11
4 - R&C - 5 x 3 = 15 ydsL 46 #7
5 - 2 Rent

Friday

754. plus

Oct 5 - 34

R.E. contin. 2 courses of red & blast each banded to center and 3rd layer of red 3/4 away up stream. much confusion and breakdown of equip. dg. dn about 2 layers.

Pit L #8
6 - RentW. Spoil #11
4 - 3 R&CL 46 #7
5 - 2 Rent to 9 pm 5 acctsSpilling #7
3 R&COrany #7
5-

22

Saturday Oct. 6-34

R.E. contin. up 2 red & d.g. with grader ridged dn & up towards center twice dn 1 red 1 sand

PA #8
6-
W. Spoil #11
5-

Tuesday 757 Oct. 9-34

R.E. contin. 2 red 1/2 granite up & dn south 1/2

1-foreman Mr. Bok
1-Buld-1 Nozz-1 Dump 1-Lab.
1-McMillan
1-Tampers Road gr. not used

nL² #8 Rent
spill #6 2- 1 RSC
Quarry 10-

Wednesday Oct. 10-34

R.E. contin. 2 red dn - 1 red up & N.A. 2 hrs d.g. on up from spillway only

PA #8
#8-
Spillway #6
2- 1-RSC
Quarry #8
8-

Thursday Oct. 11-34

R.E. contin. 2 red - d.g. up - small amount

PA #8
#7-
Spillway #7
3- 2 RSC
Quarry 5

Friday 759.5 Oct 12

R.E. contin. dn 2 granite up 1/2

W. Spoil #11 - 8 rent
spillway -
Quarry 4-

used McMillan on S.A.

Saturday 757.5 Oct. 13 -

R.E. contin. 2 dg. down - 1 up.

W. Spoil #11 6- Water line moved to

Quarry 7-Tr. Tractor broke down
Several times

Rock went to 3600-3800

Monday 760 Oct. 14

R.E. contin. dg. 2 up 1 dn

W. Spoil #11 #7 from 8 pm

Quarry 9

All rock up - small a few loads dn.

Tuesday 760 plus 16 -

R.E. contin. 2 red both flanks

Pit "L" #8

Quarry 9-

Wednesday 17

No work - rain at night

Thursday 767 18-34

R.E. 3 red - 2 dn.

Pit "L" #8 6-

Quarry 8

LTS #7 1 hour
4- 2 tent 2 R&C

Friday 763 19-34

R.E. discontinued until rock caught up
from 3 to 4 48 X 6 trucks hauled "L" mat.
to north side N4100 to N3800

#7 & 2 R&C trucks hauled spillway mat.
to distr. N3800 to N3600 until 7:30

#11 & 2 R&C trucks (same crew as #7)
hauled rock from W. spoil bank about
10 loads - 20 yds estimated

Saturday 763 20-34

No R.E. thru shift Rock (9 Tr) to
Small up - N3700 - 199 e: all over -

Monday 763 22-34

No R.E. Quarry

Tuesday No R.E. Quarry 10- 23-34

Wednesday - No R.E. Quarry 5 - 24-34

3 men on dam 2 - Bulldoz.

3 " removing pump distr. 1 - Bulldoz.

Thursday Oct. 25-24

No R.E. Quarry 5 Tr. up 4000
dn. 3900

#6 & 2 Tr. at east end of spillway
making road 1 Bulldoz.
1 Bulldoz. 1 helper hauling
pipe from yard to tunnel

Friday Oct. 26-34

No R.E. Quarry 9 Tr. (few loads)

Saturday Oct. 27-34

No R.E. Quarry 5 Tr. 1 Bulld. 1 Pump.

Sunday Oct. 29-34

R.E. contin. four layers (single)
about 8' all from pit

Pit K # 6 - 7 Tr. rent

Quarry 7 Tr.

Tuesday Oct. 30-34

R.E. contin.

5 more
Pit L 8 - #6

Quarry 6 -

Wednesday 767 Oct. 31-34

R.E. cont. 2 full courses 100 ft on south
abutment to 770 - new quarry at north
abutment Route N 3600 - some at N.A.

Pit L #6 - 6 Tr.

Spillway #7 - 3 Tr. 1 rent

Quarry 9 trucks

Thursday Nov. 21-34

R.E. contin. 2 full courses dog. from
shovel #6 working in front of age ce. sect.

#6 - 6 Trucks

#7 - 3 " in spillway
Quarry 7 Tr.

Friday Nov. 2-

R.E. contin. dirt is batted in and
final section is made reaching N 3200
this shift #6 shovel moved to west end
of spillway 5 Trucks 2 rent
Quarry 7 Tr.

Saturday Nov. 3-34

R.E. contin. ramp building to grade N 3300

Spillway #6 - 5 Trucks

Quarry - 8 Trucks

Monday Nov. 5 - 34

R.E. contin. #6 shovel in front of ogee section loading d.g. hauled to N3300
 finished fill 1:30 am reached 3450
 A two hour delay caused by shov. running off track on ramp leading to ogee sed.
 On Dam - fore & dumpman Water - Bulldoz.
 Shov. #6 - 5 Trucks, 3 rent 5 Drivers

Quarry 4 Trucks face rock to distr.

3rd shift 1:30 am to 7 am

R.E. contin. reaching N3600 semi finished

#6 Shov 5 Tr 3 rent 5 Drive in front of ogee

Tuesday Nov. 6 - 34

R.E. contin. #6 shov in front of ogee
 8 Trucks - 3 rent 5 to 12:30 reached N3700

12:30 to 7 am same equip. N3900

Wednesday Nov 7 - 34

R.E. contin. filling around north abutment & crossing over pipelines in order to fill island - cleaned rock with extra Bulldozer -

#6 - 6 Tr -
 #7 - 2 making ramp

12:30 to 7 #6 - 4 Trucks contin ramp.

Thursday 5-1:30 AM Nov. 8 - 34

R.E. contin. beginning of south abutment

final crown put between rock facing to N3600 inclusive finished section
 #6 shov & crew #7 shov & crew in spillway
 3 Trucks - driver 1 Truck - driver
 1 Dump & foreman 1 Bulldozer
 1 water man
 1 Bulldozer operator #6 worked 3rd shift

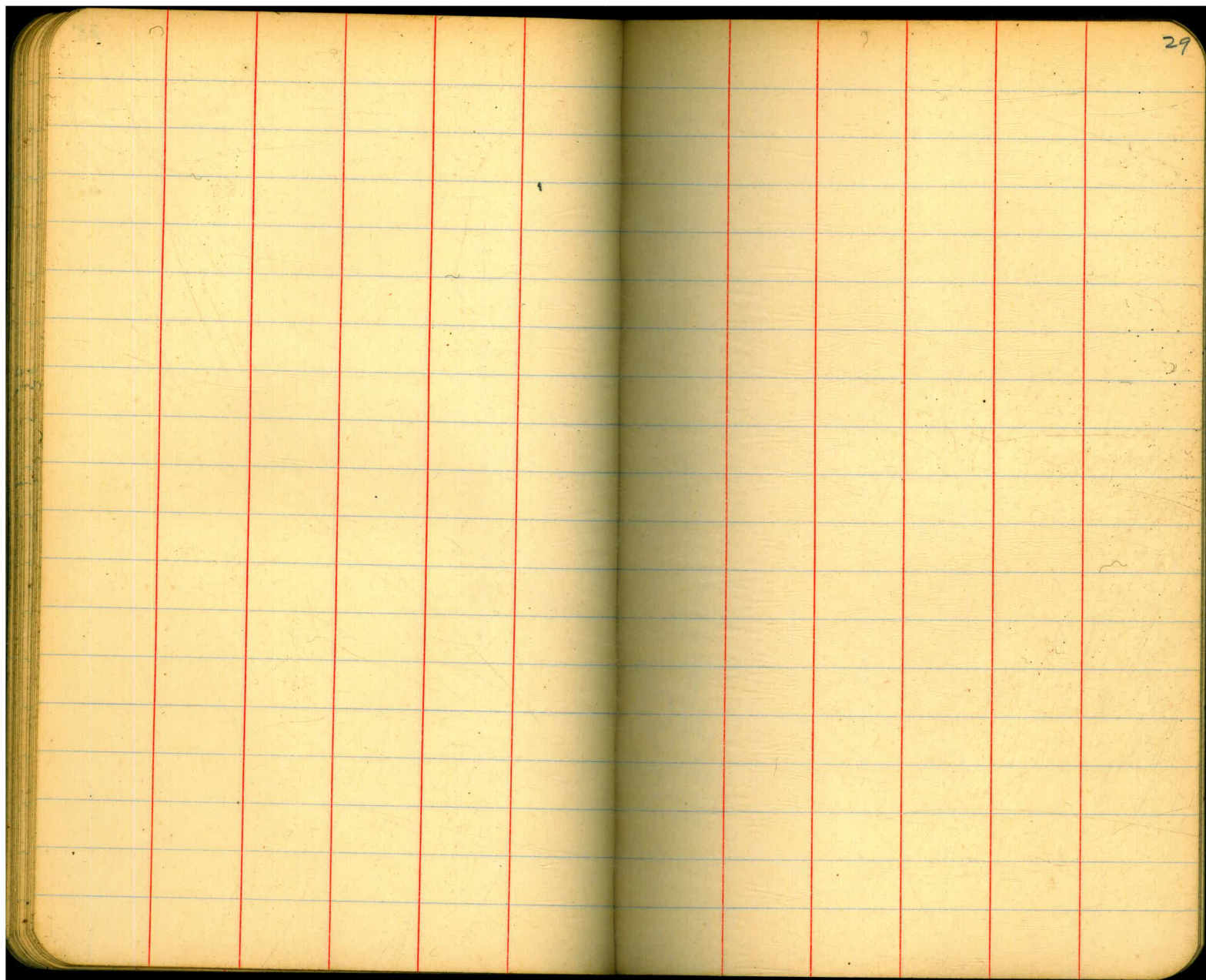
Friday same views as Thi. - reached N. Abut.

Last load 12:45 AM.

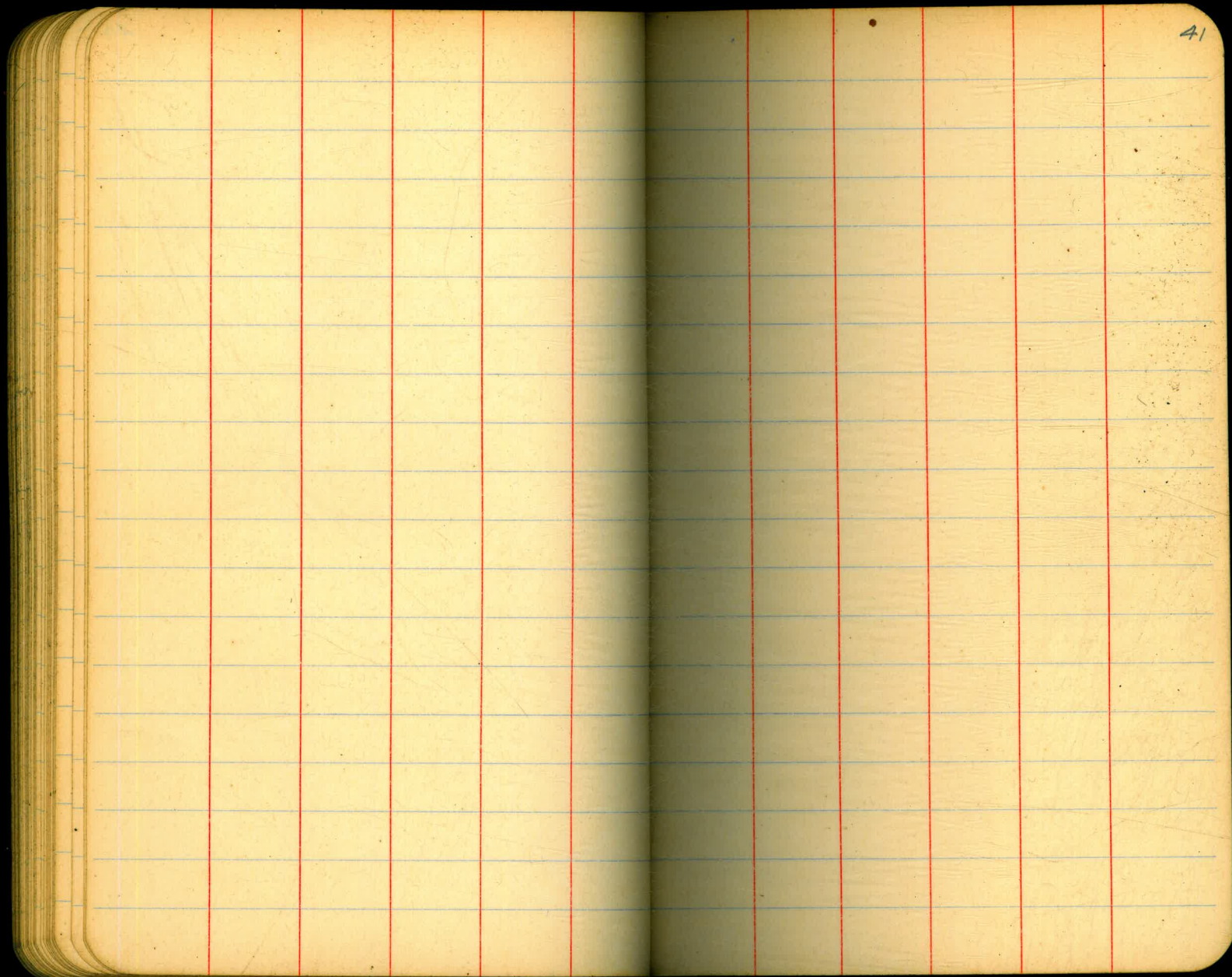
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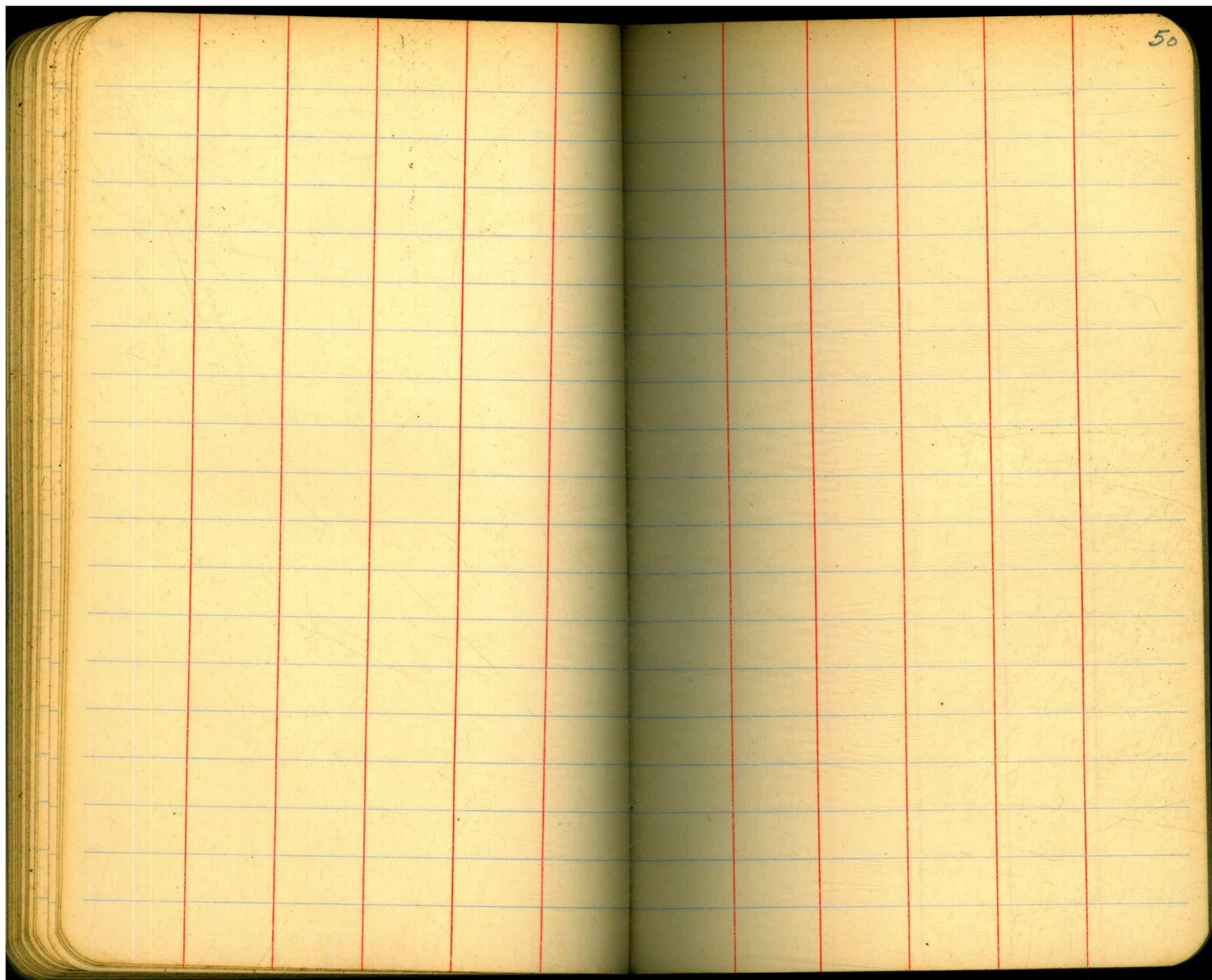
Saturday morning Nov. 10 - 34

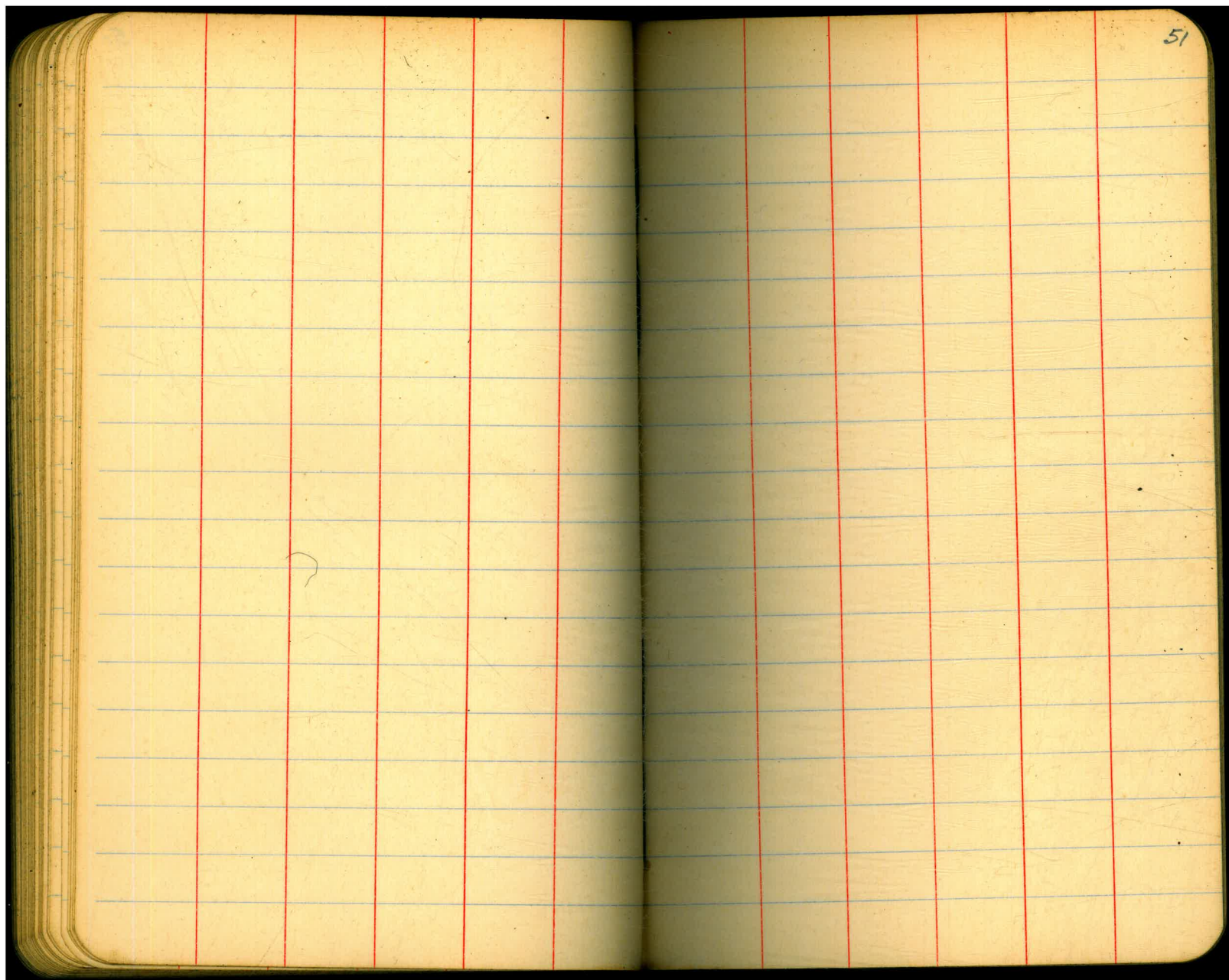
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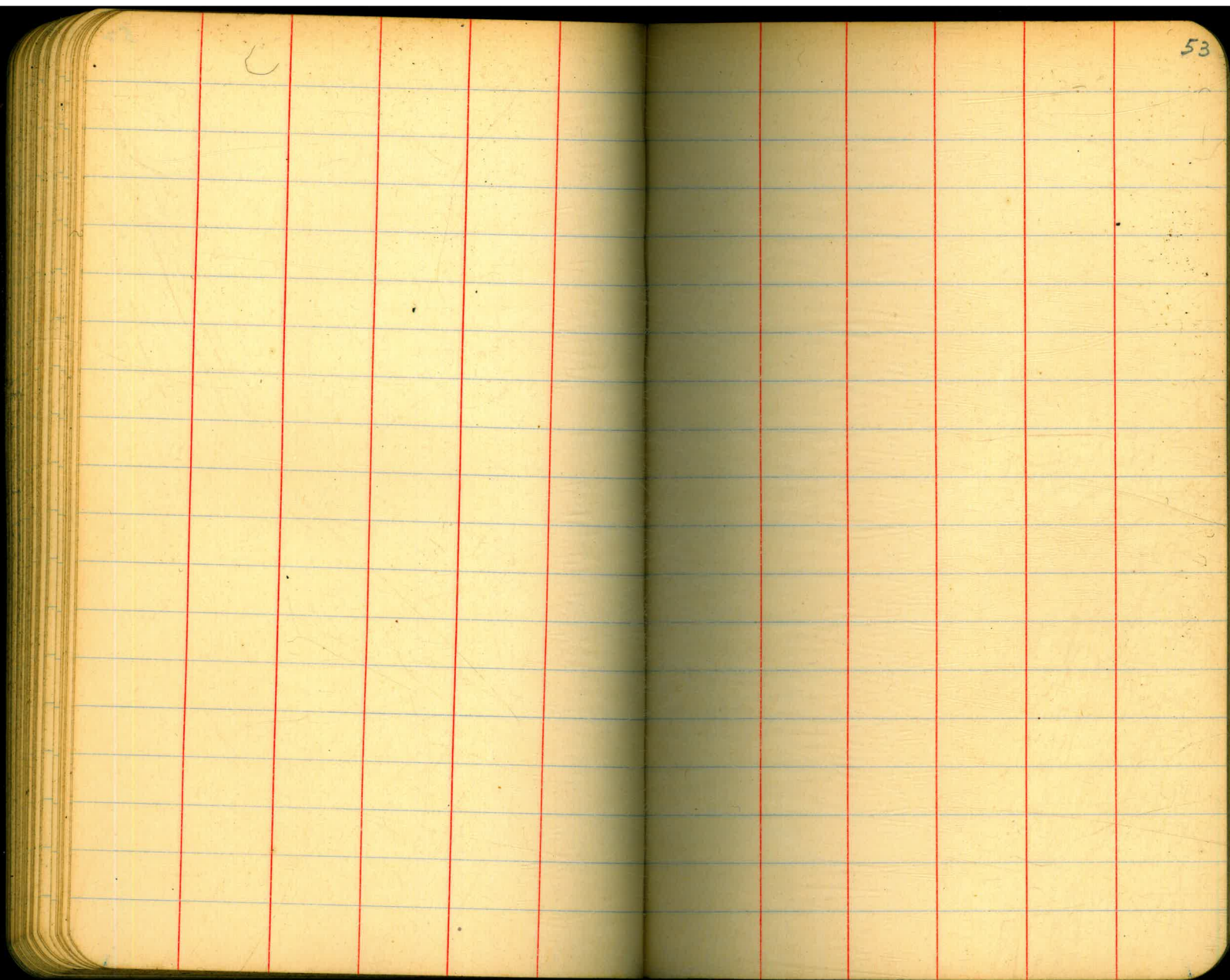




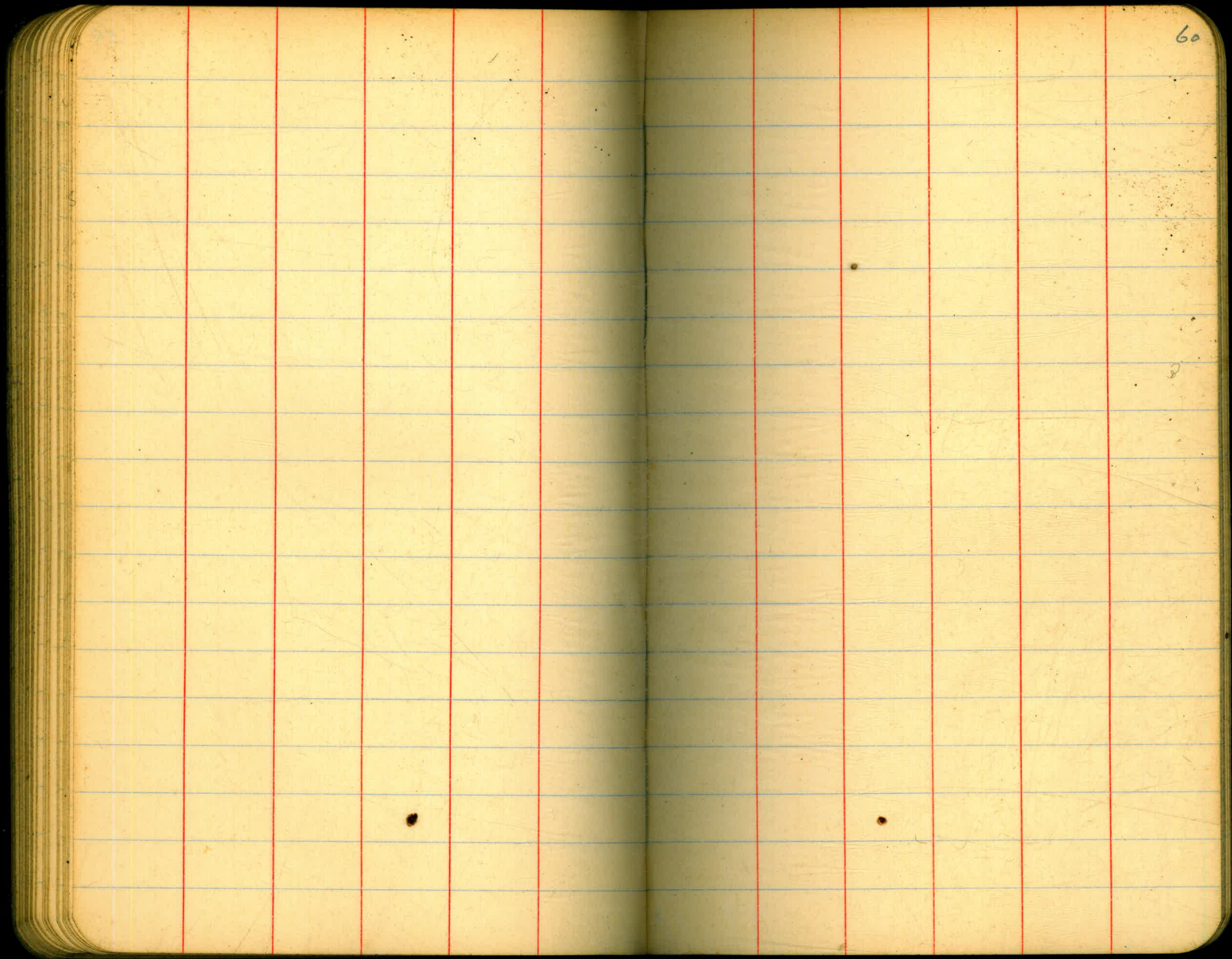


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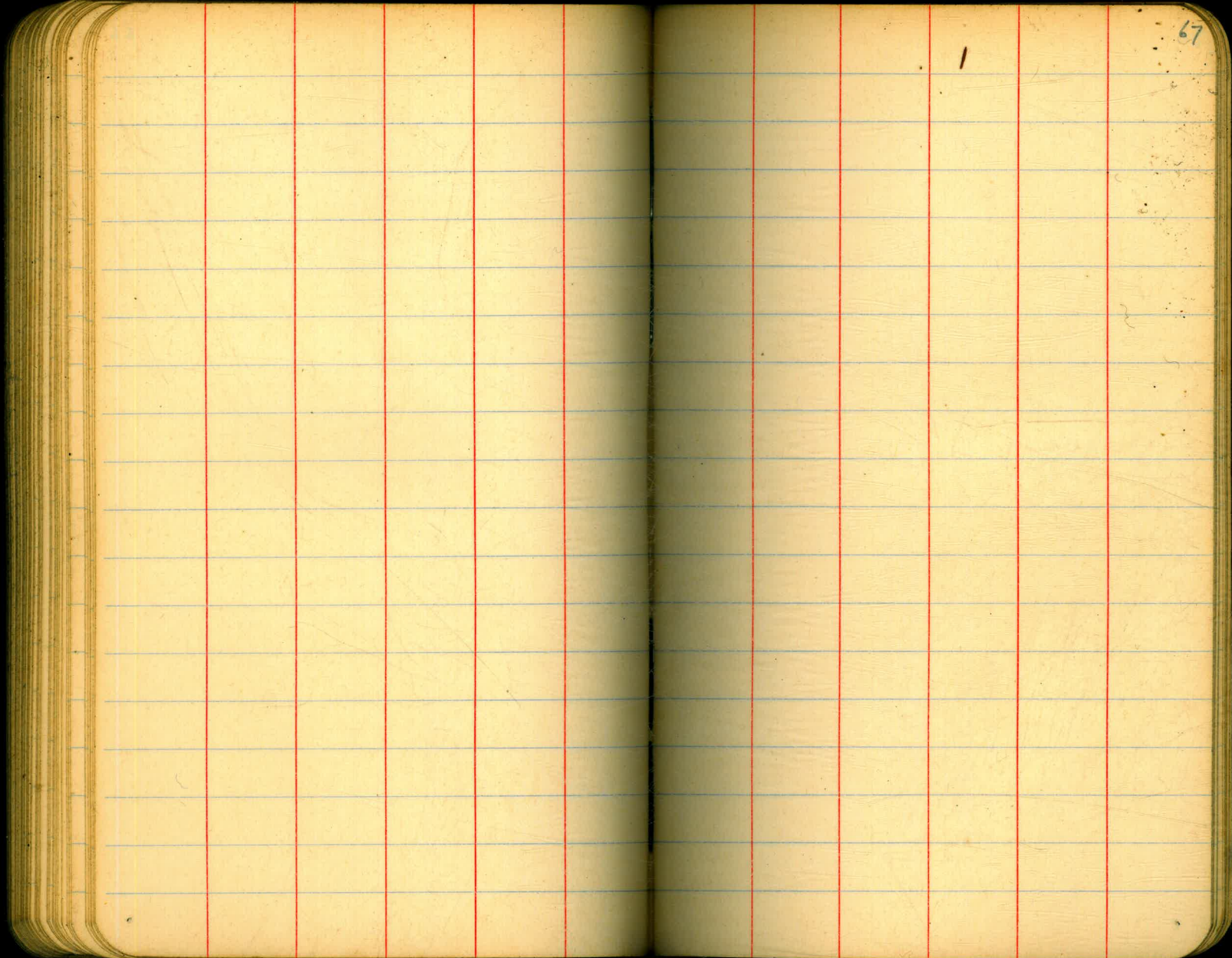
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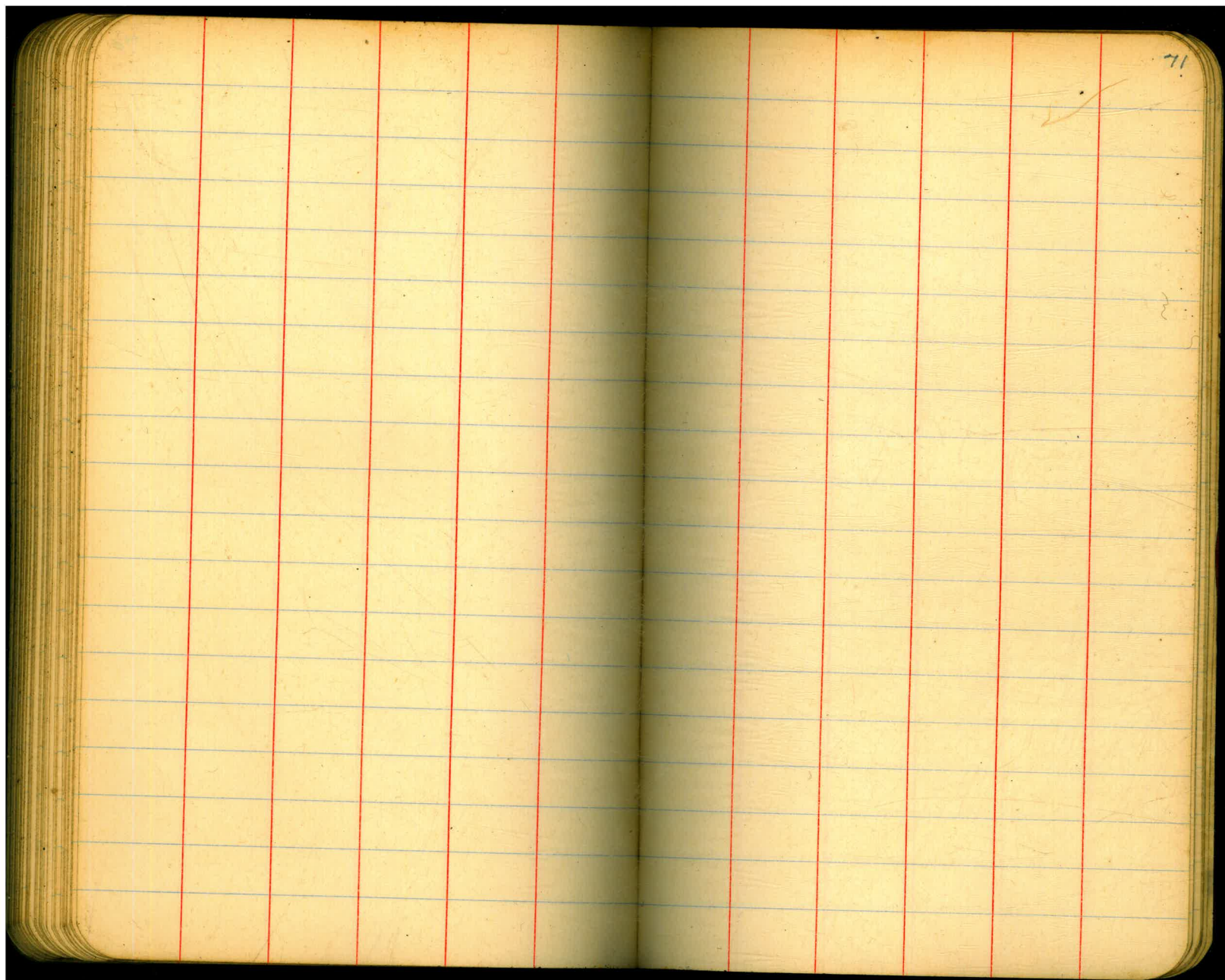


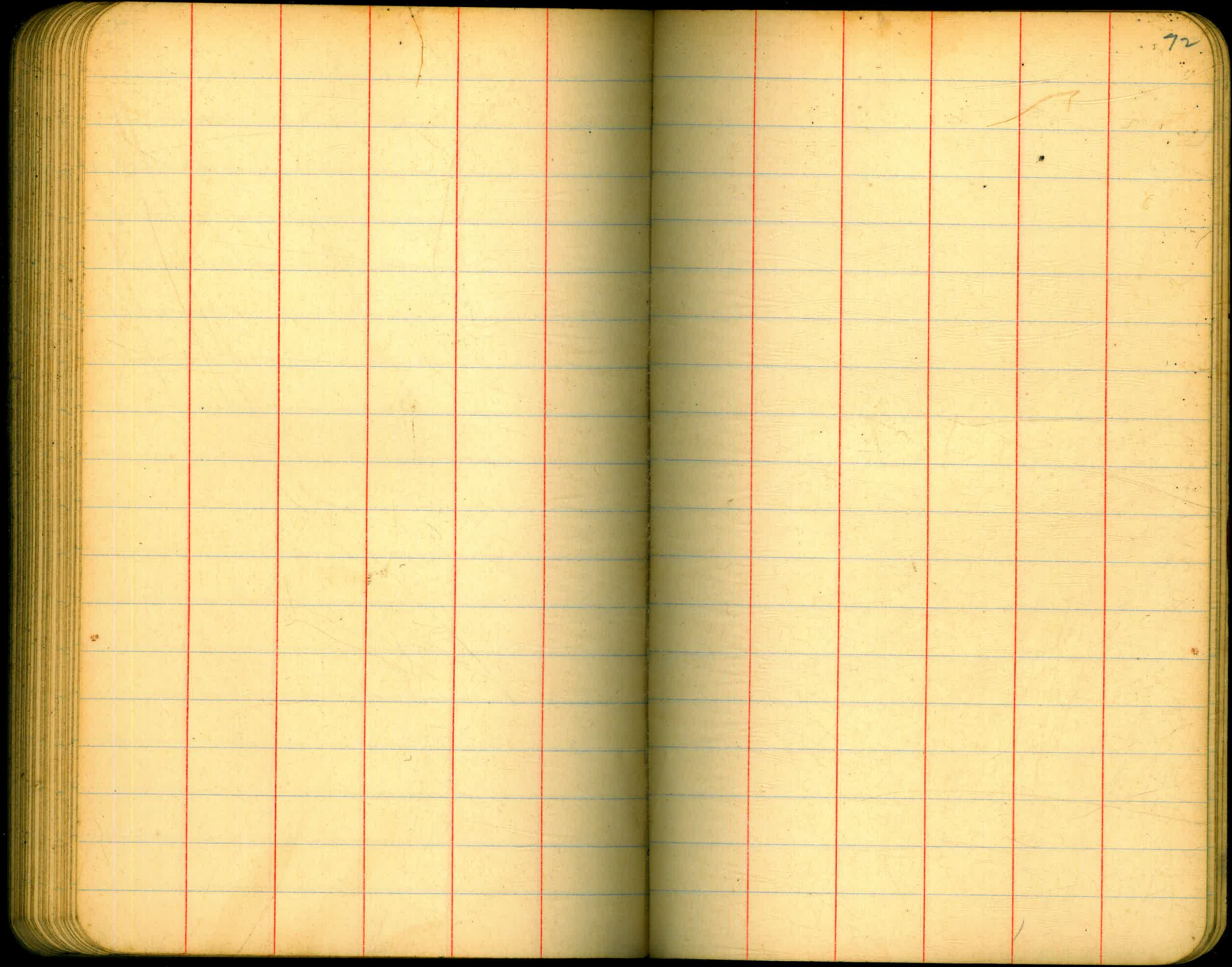
53



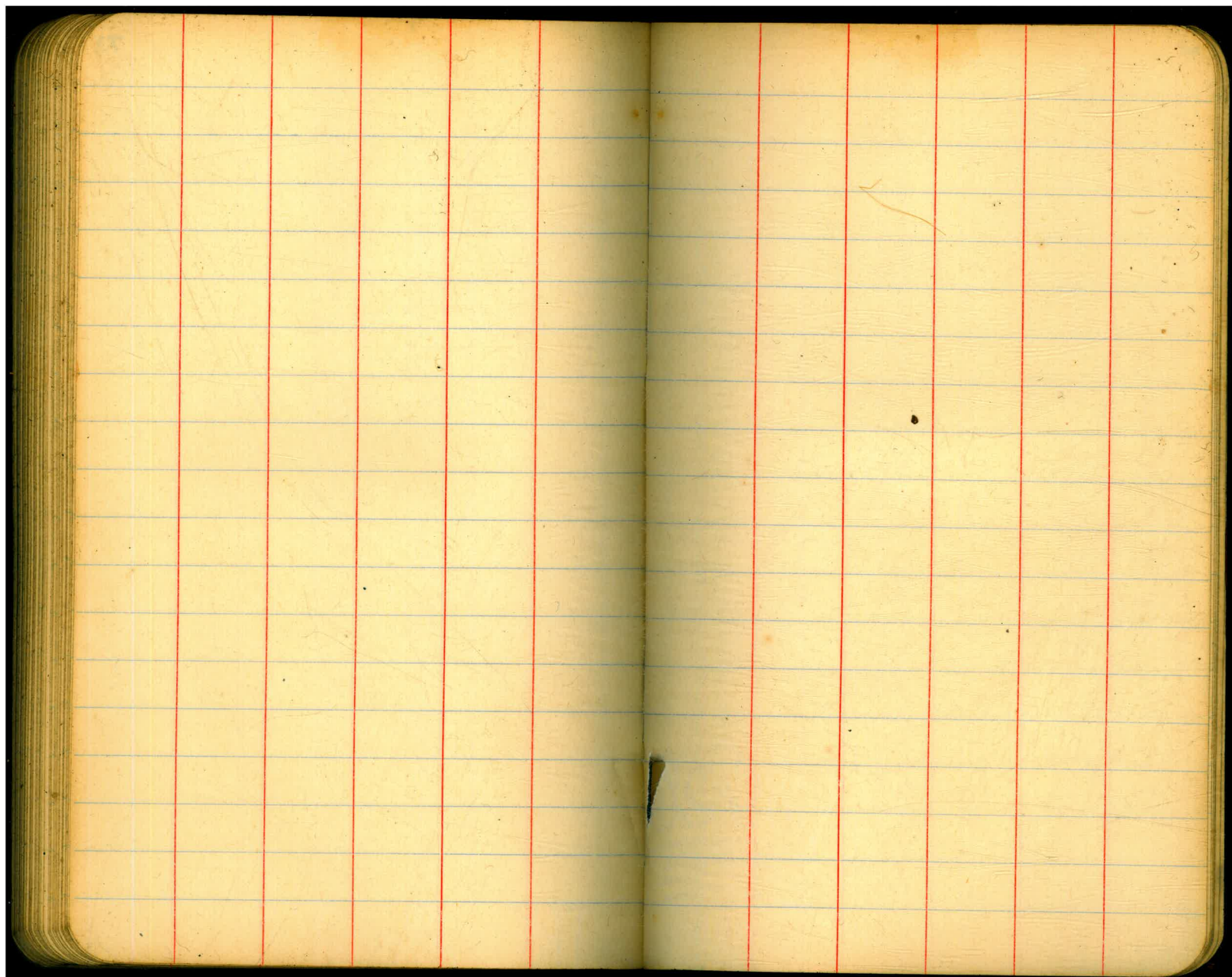
The image shows an open notebook with two facing pages. The pages are cream-colored and feature light blue horizontal ruling. Vertical red lines create margins on both pages. The right page has the number '61' written in the top right corner. The notebook is set against a dark background.







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Notes on determination of AVERAGE diam. of Tampa balls

Procedure: Selecting two rows at random each ball was measured with a mechanic calipers First there being 17 rows of each

- 1 2 15/16
 - 2 2 15/16
 - 3 2 15/16
 - 4 2 15/16
 - 5 2 14/16
 - 6 2 14/16
 - 7 2 14/16
 - 8 2 14/16
- Second
- 1 2 15/16
 - 2 2 14/16
 - 3 2 14/16
 - 4 2 15/16
 - 5 2 15/16
 - 6

diam. = 2.50"
length = 4.00"
5" & 12" from edge - 1/2" centers

#10 - 1 - 7.6
 #20 - 2 - 6.0
 #23 D - 6 - 8.0
 #18 - 5 - 8.4
 #15 - 5 - 8.2
 #3 E
 #4 x - 5 - 9.9
 #5 - 4 - 9.7
 #9 x - 3 - 8.9
 #51 Tr. - 3 - 15
 #11 Dr.
 #50 _____ 9.0

Dump Truck Load Capacities (Contd.)

cap.
 23-8.
 20-6
 18-8.4
 15-8.2
 4-9.7
 # 5-9.7
 # 51-19.7-10.6
 50-9.0
 # 3-18.1
 007-
 P7-
 P9-
 P8-
 D74-
 D76-
 2-
 1-

5034
4974

N-W cor. of
 3366 Park
 Sixth

5782 28

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

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

FOR SINGLE TRACK EMBANKMENT.

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

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

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