

W
381

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

MICROFILMED

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on $1\frac{1}{2}$ see inside of back cover.

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(1)

weather clear.

MONDAY - OCT. 31 - 1932

GROUTING GROUT HOLES IN
CORE WALL - STARTING 1:30 P.M.

Equipment:

- 1- #500-Rix GROUT Pressure Tank
- 1- LeRoy Portable mixer
- 1- Ingersoll-Rand Portable Compressor
100 psi pressure

Labor: 1- Pressure tank man
1- Compressor man
1- mixer man
1- man on cement
1- General helper

Mixed 1st Batch of grout at 1:30 P.M.

12 Batches GROUT. - 84 - Cu. Ft.
86 Sacks Cement GROUT.
3 1/2 Cu. Ft. Wasted
 $84 - 3\frac{1}{2} = 80.5$ cu. ft. to be paid
for.

MR. Wells objected to not giving
credit for the 3 1/2 cu. ft. of grout
wasted. Although I did not deduct the
amount wasted in cleaning hose.

②

Note - After applying pressure for 5 min. bubbles in area ceased. after 14 C.F. of grout had been forced in under 110 # pressure.

Dec 6 1934
Agwood

76
65
82
32
76
32
2923

(Blue hose 1. #3)

(Blue hose 1. #3)

③

This hole was interconnected with five great holes South and air bubbled for large area West & North

7 N-3550²
9:16-9:37
110 #
19 C.F.

N-3540
9:45-9:50
1-C.F.

N-3532
10:18-10:34
14 C.F.

N-3523
11:07-11:11
4 C.F.

N-3513
11:17-11:29
13 C.F.

N-3503
9:36-9:41
6. #3
5

N-3493
9:56-9:59
3. #3
2

N3484
10:50-10:56
3. #3
2

7

N-3535
9:10-9:24
115 #
3 1/2 C.F.

N-3544^E
9:40-9:43
1-C.F.

N-3536^S
9:56-10:06

12 C.F.
N-3534
10:07-10:10
1-C.F.

N-3528
10:37-10:44
32 C.F.

N-3518
11:13-11:16
1-C.F.

N-3508
9:29-9:33
7. #3
6

N-3497
9:52-9:55
3. #3
2

N-3488
10:26-10:29
7. #3
6

Sta.
N3480

(Continued on page 10)

C.F. = Cu.ft. GROUT
Time for grouting each hole is recorded

(4)

N-3644^Σ 1:06-1:10 4-C.F.
 N-3634 12:55-1:00 6-C.F.
 N-3623 1:48-2:03 10-C.F.
 N-3612^Σ
 N-3602^Σ
 N-3592
 N-3591
 N-3582^Σ
 N-3581^Σ
 N-3576
 N-3570^Σ
 N-3565^Σ
 N-3560^Σ

26495 → 1:19
 N-3649 1:11-1:18 13-C.F.
 N-3640 1:01-1:05 2-C.F.
 N-3628 1:30 to 1:40 3 1/2 Cu.ft. 110#
 N-3618 2:08-2:14 5-C.F. 115#
 N-3607^Σ 3:07-3:10 4 1/2 C.F.
 N-3597 115# 2:10-2:19 30-C.F.
 N-3586^Σ 2:44-2:47 3 1/2-C.F.
 N-3576 8:22-8:30 115# 8-C.F.
 N-3565 8:43-8:49 115# 3-C.F.

NOV 13
 NOV 14
 OCT 31
 NOV 11

3 1/2 Cu.ft. material
 2037±7

(5)

Refer to Page #17

N-3729^Σ
 N-3725
 N-3720
 N-3715
 N-3710^Σ
 N-3710
 N-3705^Σ
 N-3701
 N-3697
 N-36915
 N-3686
 N-3680^Σ
 N-3675
 N-3670^Σ
 N-3669
 N-3664
 N-36615
 N-3661
 N-3658^Σ
 N-3654^Σ
 N-3652
 N-3654^Σ
 N-3652

3:34-3:40 5-Cu.ft.
 3:21-3:25 6 Cu.ft.
 3:15-3:17 1-Cu.ft.
 3:07-3:09 4-Cu.ft.
 1:54-2:05 105-Cu.ft.
 1:45-1:48 5-C.F.
 1:35-1:42 1-C.F.
 1:32-1:34 5-C.F.

NOV 11
 NOV 11

Did not finish grout to finish. PRESSURE is release through pump samp.

(6)

⊕

N-3755

⊕

⊕

N-3760

N-3747

⊕

⊕

N-3750

N-3739

⊕

⊕

N-3744

⊕

N-37345

(7)

N-3628 - 3 1/2 cu. ft. wasted - too thick.

(8)

Tuesday NOV-1-1932

GROUTING CORE WALL AS

Shown

Equipment:

- 1- Ingersoll-RAND Portable Compressor
- 1- Rix-7 cu. ft. pressure tank
- 1- Le Roi-portable mixer

- LABOR:
- 1- Pressure tank man
 - 1- mixer man
 - 2- helpers

(9)

Delayed from 7:14 P.M. to 8:10 A.M.
 starting the compressor. A mechanic
 was finally called from garage to
 start the machine.

Batches
& Time mixed

- 1- 8:20
- 1- 8:26
- 1- 8:52
- 1- 9:15
- 1- 9:19
- 1- 9:27
- 1- 9:55
- 1- 10:00
- 1- 10:23
- 1- 10:27
- 1- 10:39
- 1- 10:42
- 1- 10:46
- 1- 10:51
- 1- 10:55
- 1- 11:10
- 1- 11:18
- 1- 12:54
- 1- 1:02
- 1- 1:12
- 1- 1:15
- 1- 1:25
- 1- 1:27
- 1- 1:40
- 1- 1:53
- 1- 1:56
- 1- 1:59
- 1- 2:03
- 1- 2:05
- 1- 2:28
- 1- 2:31
- 1- 2:34
- 1- 2:38
- 1- 2:41
- 1- 2:44
- 1- 2:48
- 1- 2:52
- 1- 2:56
- 1- 3:00
- 1- 3:06
- 1- 3:17
- 1- 3:30

Delay
 8:55 to 9:10
 adding to
 pipe line

Clean hose 9:50
 9:57

10:10 to

adding pipe

12:30 P.M. to 12:50
 Changing equipment
 to grout North
 of the pressure tank

1:07 to 1:25
 waiting for Cement

42 Batches
 294 cu. ft.

222-5K5. Cement

33-holes 1 mix fuel

GROUTED

Batches	GROUT Sacks	#3
1		3.2
1		3.2
1		3.2
1		4.3
1		
1	Blu. hose	1. #3
1		7.6
1		28, 23
1		5.4
1		
1		
1		8.8
1	Blu hose	1.16 = 1. #3
1		5.4
1		
16 batches	Sacks	64
		3.2
		67. #3
		54

Dec. 6 32 10
Hew.

Continued from page 3

N ↑ E

↑

N3480
10:57-10:59
3. #3
2

Free to 3480

Tight N3475
11:01-11:07
3. #3
2

N3470
11:08
4. #3
3

Free to 3475 + 3460 + 55
11:11

Downstream side N3465
12:32-12:35
7. #3
6

Free to 3465 3460 3445

N3460
12:42-1:00
28. #3
23.

Max pressure 115 #/101

N3455
1:03-1:06
5. #3
4

N3450
1:08-1:14
9. #3
8

Tight no air thru

N3445
5. #3
4

N3440
2:00-2:04
9. #3
2

#3
24.20
76

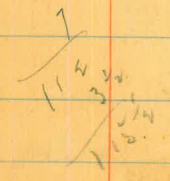
NOTE:-

138 #³ used Dec 6.
5 cleaning hose
143 #³ 3.2

from N3508 to N3410

16 batches
8 #³ each = (3 #³ cement + 5 water)
128 #³ by batches
4.3
42. #³
34

68 Sax
16 1/2 batches used total 111 cu ft
11 3/4 batches needed blowing hose 5 "



Dec 6 11
H.W.

N3435
2:06 - 2:21
24. #³
20

N. Side Br. N3430
2:22 - 2:26
7 #³ 6.
Blu. hose out 1. #³

N3420
3:15 - 3:18
9 #³
2

N3410
3:32 - 3:38
4 #³
3

N3400
9:14 - 9:16
2 cu. ft.



N3425
Missing no pipe

N3415
3:24 - 3:29
4 #³
3

12-7-32 - center

N3405 9 cu. ft
9:11 AM - 9:08

N. 3395
9:17 - 9:19
2 cu. ft.
Free to next 2 holes S.

R.W. Carter
Inspector
12/7/32

(14) GROUT CORE Wall
12.7.32
115 #0 Pressure.

Batches	Time	Sacks	Cu.ft.
1	8:59 AM	5	7
1	9:06	5	7
1	9:22	4	7
1	9:28	4	7
1	9:33	5	7
1	9:38	4	7
1	10:28	4	7
1	10:33	5	7
1	10:37	4	7
1	10:40	4	7
1	10:53	5	7

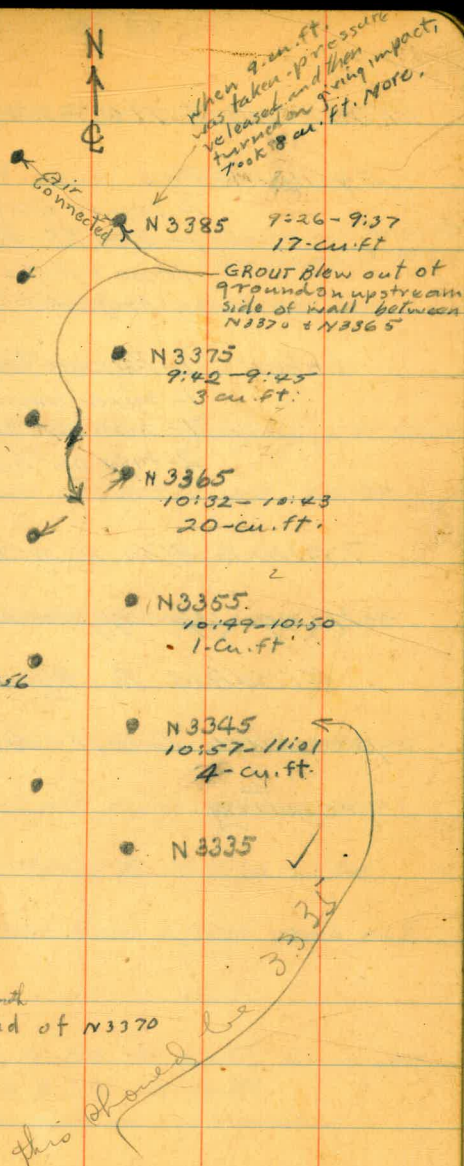
11 batches.

✓ 49.5 k's
of cement

77

77 cu-ft mixed bat only
74 cu-ft. used in holes. 3 cu-ft.
left in tank after last hole
was grouted.

{ 9:45 to 10:27 South
Blowing pipes ahead of N3370
with air only.



GROUT HOLE NOTES - 12-7-32

Equipment:

1-Jaeger portable mixer
 1-700 FT. Rix Pressure Tank.
 Hose & pipe -
 1-Compressor (Portable)

Labor: 1-Pressure tank man
 1-mixer man
 1-man on cement
 2-men on hose

7: A.M. to 8:30 A.M. moving and
 setting up apparatus.

8:30 A.M. to 9: A.M. applying
 pressure to all holes before
 grouting.

GROUT HOLE NOTES 1-4-33.

Equipment and labor same as
 on page - 15 except 1-compressor mechanic
 from Quarry - 3-hrs.

7: A.M. to 10: A.M. working on
 compressor

10: A.M. to 10:32 Applying pressure
 only to hole to blow all water
 from holes.

10:44 to 11:30 blowing grout pipes
 with air only

1: P.M. to 1:20 - Blowing holes with air
 Delay 1:25 to 1:55 Fixing threads on
 pipe at N3750 to receive valve
 because grout from N3734⁵ came out
 at N3750 -

{ Delay 2:22 to 2:30 no water for mixer
 " 3: P.M. to 3:40 no water " "
 Blew holes with air while waiting
 for water

120# 11" PRESSURE

West side

(17)
N
E

R.W. Carter
Inspector
1-9-33
East side

N3747
2:10 P.M. - 2:14
2-cu. ft.

N3739
2:03 - 2:05
4-cu. ft.

stack Drill N3730 E
12:56 - 12:59
1-cu. ft.

N3729 S
12:52 - 12:55
1-cu. ft.

N3720
12:48 - 12:51 AM
1-cu. ft.

N3715
10:33 - 10:35
3 1/2-cu. ft.

N3710
10:36 - 10:39 AM
2-cu. ft.

N3658 West To N3710 West. Page 5

Pump sump N3654 E
not drilled into rock
2:55 - 2:58
1-cu. ft.

2:47 - 2:53 P.M.
3-cu. ft.

N3652
NOT drilled
into rock

N3654 E - Pump sump
not drilled into rock
2:36 - 2:38
1/2 cu. ft.

N3654 - 2:18 P.M. 2:28
12-cu. ft.

N3652 - Pump sump
not drilled into rock
2:32 P.M. 2:35 P.M.
1/2 cu. ft.

West

(18)
N
E

EAST

N3813 E
12:57 - 1:00 P.M.
2-cu. ft.

N3806
12:52 - 12:56
5-cu. ft.

Batter N3800
11:18 - 11:22
1-cu. ft.

N3795
11:07 - 11:10
2-cu. ft.

N3785
11:03 - 11:06
5-cu. ft.

N3775
10:54 - 10:58
7-cu. ft.

N3765
2:47 - 2:50 P.M.
3-cu. ft.

N3755
2:20 P.M. - 2:22
2:31 - 2:32
2-cu. ft.

N3818
1:04 P.M. - 1:06
2-cu. ft.

N3809
1:01 P.M. - 1:03
1-cu. ft.

N3804 E
12:47 P.M. - 12:51
5-cu. ft.

N3800 Down
11:14 - 11:17
6-cu. ft.

N3790
3:57 to 4:05 P.M.
14-cu. ft.

N3780
3:46 - 3:52
3 1/2-cu. ft.

N3770
3:42 - 3:45
3 1/2-cu. ft.

N3760
2:37 P.M. - 2:40
4-cu. ft.

N3750
2:15 - 2:18 P.M.
4-cu. ft.

Jan 5 - 1933

Jan 5 - 1933

connected

connected

connected

connected

Jan 5 - 1933

Note: N3842 - N3837 and
N3832 - not grouted because
pipes not in concrete.

Note: A grout pipe was
placed in 4-ft. hole at N3825 West
not to be counted - RWC.

Batches	Time	Sacks Cement	CU. FT. GROUT
1-	10:32 AM	5	7
1-	12:38 PM	5	7
1	1:21 P.M.	5	7
1	1:25 P.M.	5	7
1-	2:02 P.M.	5	7
1	2:11 P.M.	5	7
1	2:30 P.M.	5	7
1	3:40 P.M.	5	7
1	3:53 " "	5	7
1	4:00 P.M.	5	7

Sacks of
Cement

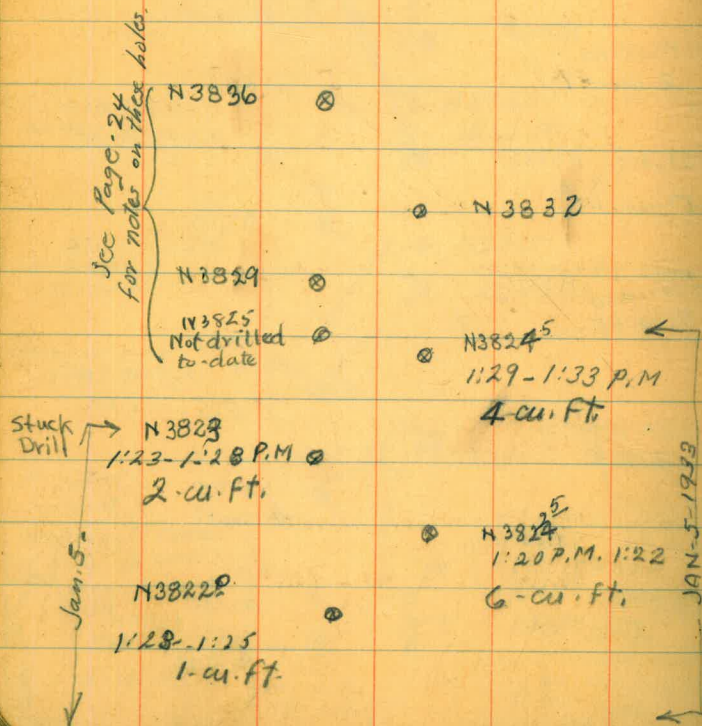
50

70-cu. ft GROUT

18-holes grouted this shift

No allowance made for loss
in cleaning hose - twice.

Jan. 4-1933



Jan. 5th 1933

Batches	Time	Sacks Cement	Cu. Ft GROUT
1	10:52 A.M.	5	7
1	10:59 A.M.	5	7
1	11:12 A.M.	5	7
1	12:32 P.M.	5	7
1	12:54 P.M.	5	7
1	1:18 P.M.	5	7
1	1:26 P.M.	5	7
1	2:13 P.M.	5	7
1	2:22 P.M.	5	7
1	2:48 P.M.	2	3
		<u>47 Sks</u>	<u>66 cu. Ft.</u>
		Cement	GROUT

120 #II" pressure.

No allowance made for cleaning base
face. Finished at 3 P.M.

R. W. Carter
Inspector

Jan. 5 - NOTES

Same labor and equipment as
on page 15 - except Compressor mechanics. 4 hrs.

7: A.M. to 10:45 Repairing compressor

10:45 A.M. 10:52 A.M. Blowing holes with air.

11:22 to 11:30 - Cleaning hose

11:30 - 12:30 - Lunch for crew.

1:06 to 1:18 - Blowing holes with air.

1:33 to 1:40 - Cleaning hose

1:40 to 2:18 change equipment
set-up to reach grout holes around
pump sump at Sta N3652

NOTE: When air was applied
to grout holes N3652 west and
N3652 East, violent bubbling of air
in water holes outside of the wall
area near the east and west
faces from Sta. N3636 To N3700
Bubbling stopped when grouted

R.W. CARTER
Inspector

Sunday, Feb. 5 - 1938 - weather cloudy

Pressure grouting in Core Wall.

Equipment:

- 1-Jaeger Portable mixer
- 1-Ingersoll-Rand Portable compressor
- 1-7-cu. ft. RIX-Pressure Tank.

- Labor: 1-Pressure-tank man
1-mixer man
2-men on discharge hose

Crew. 7: A.M. to 10:00 A.M. assembling grout equipment. - 10: A.M. to 10:30 blowing holes.

BATCHES	TIME	sacks Cement	cu. ft. Grout
1	10:30-A.M.	5	7 ^{2 cu. ft. wasted}
1	12:33-P.M.	5	7
1	12:39 P.M.	5	7
1	12:45 P.M.	5	7
1	12:51 P.M.	5	7
1	12:57 P.M.	5	7
1	1:05 P.M.	5	7
1	1:10 "	5	7
	1:12-1:25 out of Cement		
1	1:25 P.M.	5	7
1	1:33 "	5	7
1	1:46 "	5	7 ^{3-cu. ft. wasted.}
sacks of Cement-		55.0	77.0

110#2"

A.M.
10:40-10:45
5-cu. ft.
Five cu. ft.

West

N3836



EAST

N3832

N3829



connected

1:40 P.M.
to 1:45 P.M.

3-cu. ft.
Three cu. ft.

1:48-

4-cu. ft.

N3825



3-cu. ft. wasted
when grout pipe
calking broke loose.
not included in the
above 4-cu. ft.

Hose broke at 10:46
on this hole - Lost
10:46 A.M. to ^{2-cu. ft.}

12:35 P.M. - 1:37 P.M.

60 cu
sixty cu. ft.

Note - Grout pipe was not
calked tight enough to hold
pressure, causing delay from
1:49 P.M. to 2:25 P.M.

11-batches grout @ 5-sks. 55-sacks Cement

77-cu. ft. grout mixed -
5-cu. ft. " wasted

72-cu. ft. grout in place, to be
paid for.

Monday - Feb. 6 - 1933

Pressure grouting in Core wall.

Same equipment and labor as
of Feb. 5 - Page 23 - This book.Crew - 7: A.M. to 9: A.M. - assembling
grout equipment. 9: A.M. to 9: 25 A.M.
blowing holes.

Batches	Time	Sacks of Cement	cu. ft. Grout
1	9:25 A.M.	5	7
1	9:46	5	7
		<hr/> Sacks Cement 10-	<hr/> 14 cu. ft. Grout.

120 #21°



N3331

9:27 A.M. - 9:32 A.M. ⊗
1 cu. ft.

N3321

9:43 - 9:50 ⊗
2 cu. ft.

N3318

9:56 A.M. to 10:05 A.M. ⊗
7 cu. ft.

⊗ N3326

9:36 A.M. to 9:40
4 cu. ft.

MARCH - 17 - 1933

Pressure grouting. CORE TRENCH.

Same equipment as on page-23.

Labor: 1-pressure tank man
1-mixer man
2-men on hoseSetting up
equipment.
Grouting.
dismantelling

Batches	Time	Sacks of Cement	Cu. ft. Grout
1	9:27 A.M.	5	7
1	10:00 A.M.	5	7
1	10:32 A.M.	5	7
1	11:00 A.M.	5	7
1	12:38 P.M.	5	7
1	1:02 P.M.	5	7

Allow
32 cu. ft. Grout
3330-sks.
Cement.
(7 wasted)
included
a42 cu. ft. Mixed
70 cu. ft. wasted
All bubbling of water adjacent to Core
wall ceased as grouting was completed.

Note - Pressure tank plugged with full batch
at 10:34 - Tank was emptied and wasted to
repair the trouble.
3-cu. ft. from last batch wasted.
because all holes were full.

West

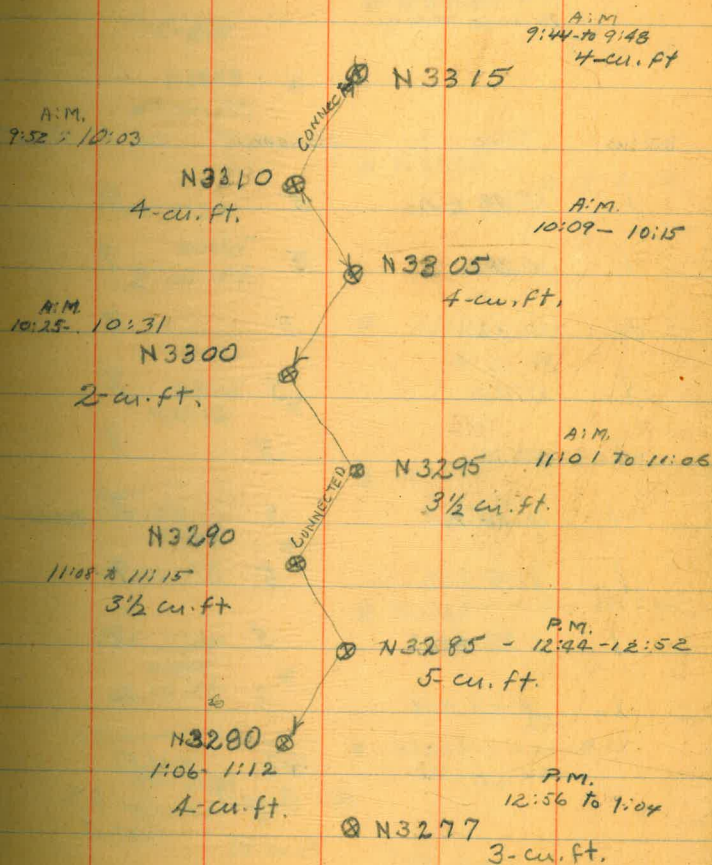
East

7 A.M. to 8:40 A.M. - setting up equipment.

8 A.M. to 9:45 A.M. - blowing holes with air only.

130^{lb} Pressure.A.M.
9:52 - 10:03A.M.
10:25 - 10:31

11:08 - 11:15

P.M.
1:06 - 1:12

Sunday, MARCH 19-
Pressure grouting Core Wall.

R. W. Carter
Inspector

Equipment } 1-JAEGER Portable mixer
1-Denver Gardner-compressor
1-7-cu. ft. Rix Pressure Tank & hose.
Labor { 1-pressure tank man
1-mixer man
2-hose men

Batches	Time	Sks. Cement	Cu. Ft. Grout
1	10:08 A.M.	5	7
1	10:26	5	7
1-	10:32	5	7
1-	11:04	5	7
1-	11:12	5	7
1	12:44 P.M.	5	7
1	1:08 P.M.	5	7
1	1:53 P.M.	5	7
1-	2:08 P.M.	3	4

43
Sks. Cement

60
Cu. Ft. Grout

1-cu. ft. wasted in cleaning hose
included in the above figure.

110 #2" pressure.

N
N

1:55-2:01
N3895
5-cu. ft.

2:02-2:06
2-cu. ft.

1:22-1:26
N3885
2-cu. ft.

1:10-2:16
N3890 -
3-cu. ft.

1:17-1:20
N3880 -
4-cu. ft.

1:05-1:12 P.M.
N3870
3-cu. ft.

12:48 P.M. - 12:52
N3865
5-cu. ft.

11:26-11:32
N3860 -
3-cu. ft.

11:20-11:24
N3858
2-cu. ft.

10:50-10:56
N3845
15-cu. ft.

11:00-11:17
N3850 -
11-cu. ft.

10:50-10:56
N3840
4 cu. ft.

Sunday March-26-1923

Same labor and equipment

as on page-29- Crew

7: A.M. to 1:15 P.M. assembling and
setting up grouting equipment.Blowing holes with 105[#] air

pressure only.

1:20 to 1:49

2:48 to 2:58

3:24 to 3:33

Batches	Time	Sks. Cement	Cu. ft. grout
1	1:50 P.M.	5	7
1	2:05	5	7
1	2:42	5	7
1	2:30	5	7
		<u>25-sks</u> Cement	<u>28-cu. ft</u> mixed

2-cu. ft.
wasted on
last batchTotal - 26-cu. ft. grout in
place.

P.M.

1:52-1:57

N3271

3 1/2 cu. ft.

P.M.

1:59-2:19

N3260

7 1/2 cu. ft.

P.M.

2:10-2:15

N3250

2-cu. ft.

P.M.

3:35-3:40

N3240

2-cu. ft.

P.M.
2:35-2:47

N3265

4-cu. ft.

P.M.

N3265 - 3:03-3:08

2-cu. ft.

P.M.

N3245 - 3:16-3:22

2-cu. ft.

P.M.

3:42-3:49

N3235

3-cu. ft.

Note: Grout holes from N3235 to N3286
reported in book #411

Thursday - MAY. 18 - 1933

- 1. Jaeger Portable mixer
- 1. Portable compressor - 120 #2"
- 1. Rix - 7 cu. ft. grout tank
- 1. pressure tank man
- 1. mixer man
- 2. hose men

7: A.M. to 10: A.M. - Setting up equipment
 10: A.M. to 10:30 - A.M. - Blowing holes with air only
 12:30 P.M. to 1:00 P.M. " " " " "
 1:35 " " 2:05 " " " " "

Batches	Time	SKS. Cement	Cu. ft. Est.	Cu. ft. Wasted
1	10:34 - A.M.	5	7	
1	10:51 - " "	5	7	Left in gun
1-	11:05 - " "	5	7	1. Clean hose
1-	1:02 P.M.	5	7	
1-	2:07 - P.M.	5	7	
1	2:27 - P.M.	5	7	
		<u>30</u>	<u>42</u>	<u>1</u>

3: P.M. to 4: P.M. moving equipment

R. W. CARTER
INSPECTORA.M.
10:40 - 10:45

5 cu. ft.

A.M.
11:03 - 11:09

9 cu. ft.

P.M.
11:24 - 11:30

2 cu. ft.

P.M.
11:28 - 11:23

1 1/2 cu. ft.

P.M.
2:09 - 2:14

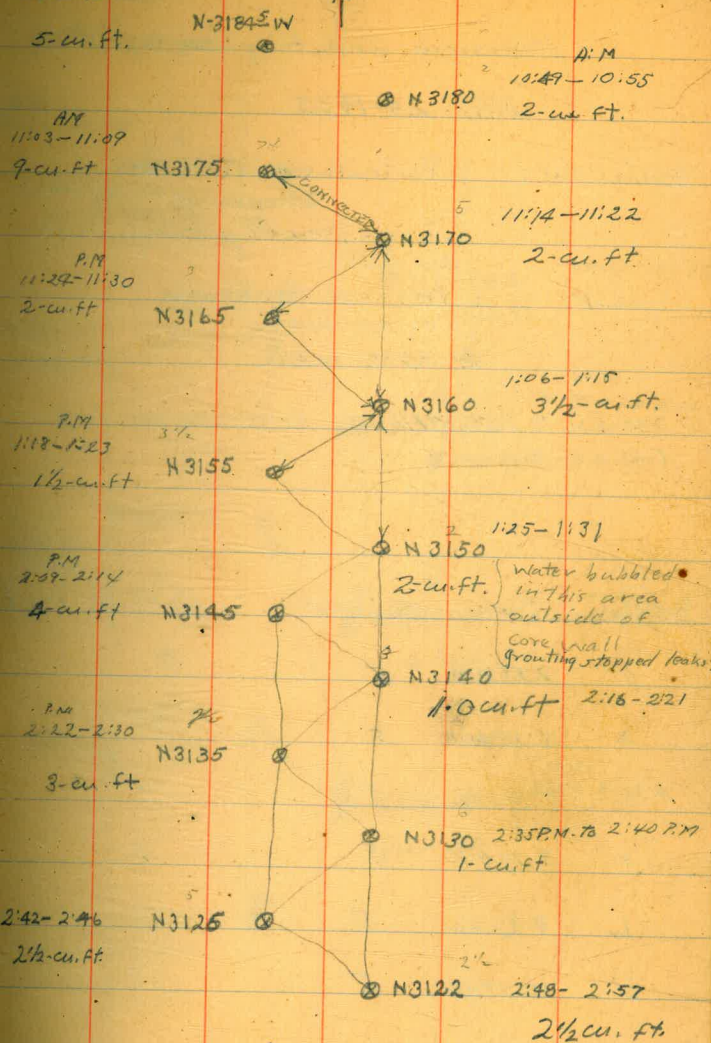
4 cu. ft.

P.M.
2:22 - 2:30

3 cu. ft.

2:42 - 2:46

2 1/2 cu. ft.



Pressure Grouting Core trench.

MAY-24-1933

Equipment: 1- Portable concrete mixer
1- " compressor (Sullivan)
1- Rix - 7-cu. ft pressure tank
air hose.

Labor: 1- Pressure tankman
1- mixer man
3- hose men

7:30-A.M. to 7:55-A.M. Blowing holes with air only.

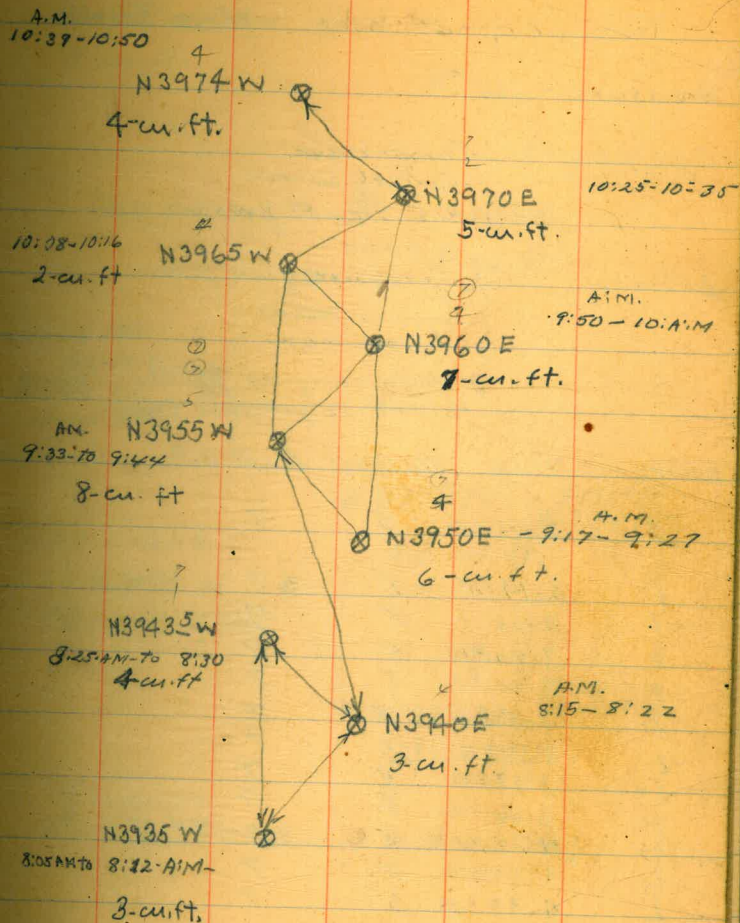
8:45-A.M. to 9:15 " " " " "

Batches	Time	Sbs. Cement	Cu. Ft. Grt.	Cu. Ft. Waste
1	7:55-A.M.	5	7	
1	8:25-A.M.	5	7	
1-	9:19-A.M.	5	7	
1-	9:36-A.M.	5	7	
1-	9:53-A.M.	5	7	
1-	10:28-A.M.	5	7	

120 #/sq. pressure

A.M.
10:39-10:504
N3974 W
4-cu. ft.10:08-10:16
2-cu. ft.

N3965 W

A.M.
9:33-9:44
N3955 W
8-cu. ft.8:25-A.M. to 8:30
N3943 W
4-cu. ft.8:05-A.M. to 8:12-A.M.
N3935 W
3-cu. ft.

July -

Pressure grout holes in Core Trench

Pressure - 105 #²"

Equipment: 1-Compressor
 1-Portable mixer
 1-Rix 7-cu.ft. pressure gun
 & hose.

Labor: 1- pressure gun man
 1-mixer man
 2-hose men
 2-men carrying grout from
 mixer to pressure tank.

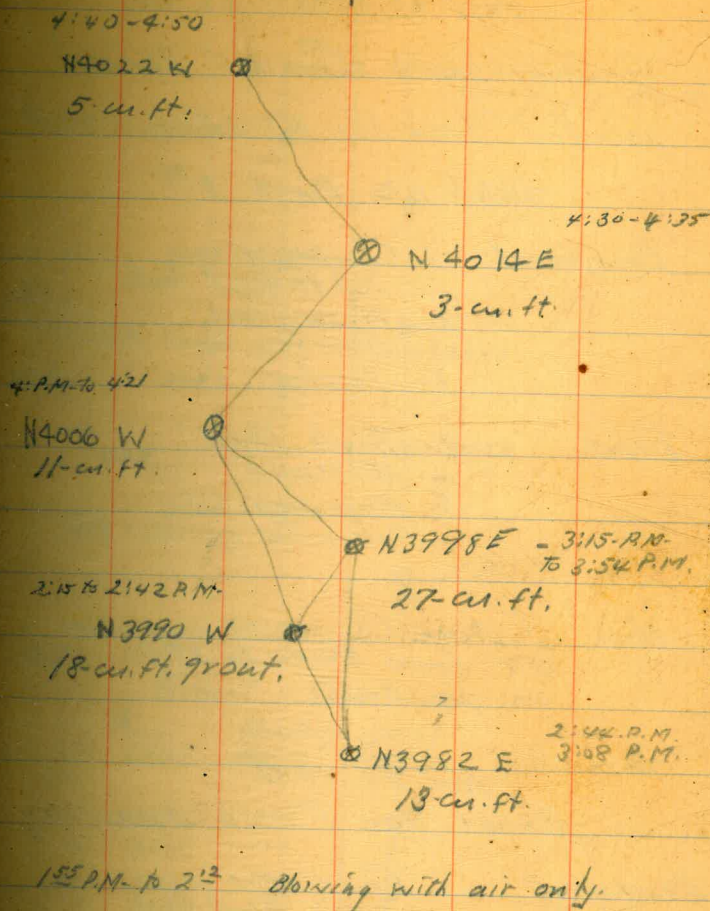
Batches	Time	Sks Cement	Cu. ft. Grt.	Ext.	Cu. ft. Water
1	2:12 P.M.	5	7		
1	2:19 P.M.	5	7		
1	2:30 - -	5	7		
1	2:50 P.M.	5	7		
1	3:00 P.M.	5	7		
1	3:18 P.M.	5	7		
1	3:30 P.M.	5	7		
1-	3:37 P.M.	5	7		
1-	3:46 P.M.	5	7	accumulated	
1-	4:04 P.M.	0	2	left over in mixer	
1-	4:08 P.M.	5	7		
1-	4:37 P.M.	5	7		

55- sacks cement

79-cu. ft. grout mixed

77-cu. ft. grout used

2 cu. ft. left
 in tank at
 finish of
 last hole



✓ O.V.S.
Nov 21 1933

Grouting South Core wall Apartment.
Located from Sta. N 3120⁺ to N 3062⁺

Start 12³⁰ Finish 9³⁰

Equipment 1- Compressor
1- 7cu. ft Grout Tank } 3 hrs
2- Hose Lines.
1- Blaw Knox Truck Mixer }
1- Tractor. } 1/2 hr

Labor. 1- Truck Driver } 3 hrs
1- Mixer man }
3- Hose men.
1- Caterpillar operator 1/2 hr.

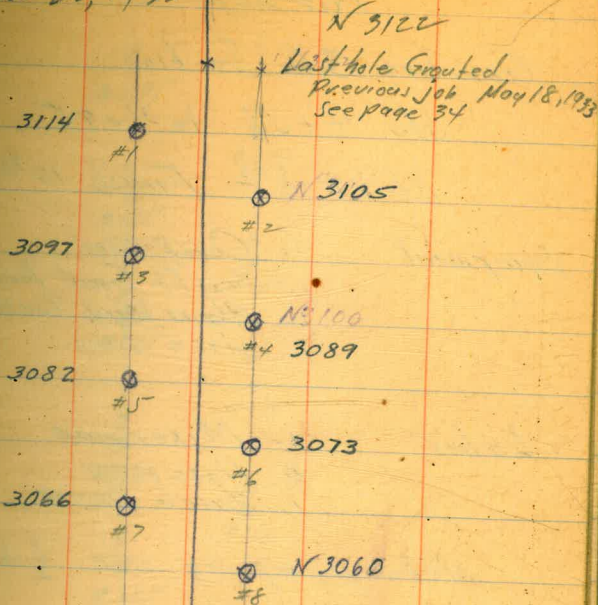
Note. Sullivan Compressor pumping
air from 2³⁰ pm to 3³⁰ pm. 1 1/2 hr.
No grouting.

Nov 27, 1933
Start 7am. Finish 2pm.

Equipment 1- Compressor
1- 7cu. ft. Grout Tank } 6 hrs
2- Hose Lines.
1- Blaw Knox Truck Mixer.

Labor. 1- Truck Driver } 6 hrs
1- Mixer man }
3- Hosesmen.

✓ N → E 40
Nov 22, 1933



Grout Quantities

No *	Sta.	Pressure per 12" Grout.	cu. ft Grout.	Remarks.
1	N 3114	120	5	Free air
2	3105	120	5	"
3	3097	120	6	"
4	3089	140	5 1/2	Tight Hole
5	3082	120	63 1/2	Free Air to 706
6	3073	120	94	" "
7	3066	120	4	" "
8	3060	120	3 1/2	Tight Hole

Totals: 100 Sx. Cement
186 1/2 cu. ft. Grout.

✓ O.V.S.
Nov 20, 1933

Grouting O.G. Section

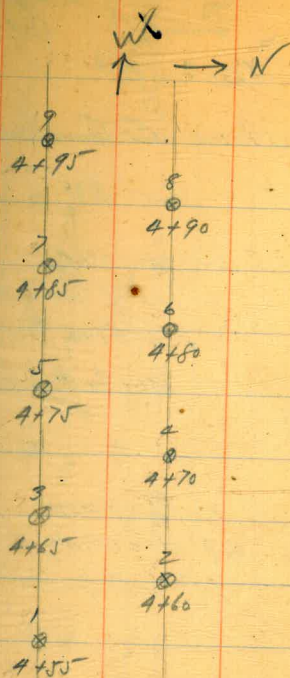
Sta. 4+56 to 4+95

Start 8⁰⁰ Finish 10³⁰ 2½ hr.

Equipment
1- Compressor
1- 7cu ft. Grout Tank
1- Blaw Knox Truck Mixer
1- Hose Line.

Labor
1- Mixer man
3- Hose men
1- Truck Driver.

Note pumping air ½ hr.



Grout Quantities

No.	Sta.	Pressure	Cu. ft. Grout.	Remarks
1	4+55 S	100	3-	
2	4+60 N	"	5	
3	4+65 S	"	6½	
4	4+70 N	"	6½	
5	4+75 S	"	6	
6	4+80 N	"	6	
7	4+85 S	"	6	
8	4+90 N	"	5	
9	4+95 S	"	5	

51 cu ft. Grout.
35 SX cement.

Dec 2, 1973

Grouting O.G. Section

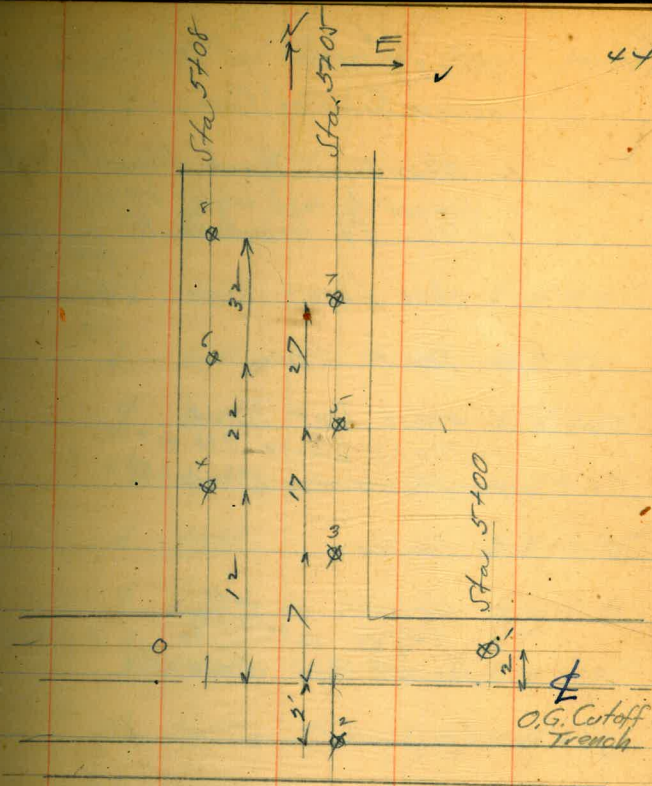
Equipment Start 8:00 Finish 11:30
3 1/2 hrs

Compressor

- 1- 7 cu. ft. Grout Tank
- 1- Blaw Knox Track Mixer
- 1- Tractor 1/2 hr.

Labor:

- 1- Mixerman
- 2- Hosemen
- 1- Truck Driver



Grout Quantities

No	Sta	Off Sets	Cu Ft Grout	Pressure	Remarks
1	5400	2' N	6.	100 [#]	Tight Holes
2	5405	2' S	5.		
3	5405	7' N	6.		✓
4	5408	12' N	5 1/2		
5	5405	17' N	6		✓
6	5408	27' N	5		
7	5405	27' N	4 1/2		✓
8	5408	32' N	6 1/2		✓
35 Sx cement			44 1/2	cu. ft. Grout	

Dec 23, 1933 ✓ See Book 470
 Pressure Grouting Corewall from 200

1- Staw Kux Truck Mixer 900 to 200

1- Jaeger Portable mixer 800 to 900

1- 7cu. Ft. Grout Tank 82 SX

Hose Lines 25 SX

77

1- Truck 1 hr.

1- water Tank Truck

1- Truck Driver 900 to 200

1- Mixer man 11⁰⁰ to 2⁰⁰

1- Driller

3- Helpers to 11⁵⁰

2- Helpers 12³⁰ to 2⁰⁰ to 4 = 3 1/2 hrs.
 Dec 23, 1933 from to

Setup Equipment

1- Driller

2- Helper

waste 4 cu ft.

Location of Corewall Grout Holes.

Pressure	Cu Ft Grout	Remarks			
" 8 1/2	tight	0	15	E-N 4165	
6	tight	0	14	W-N 4160	
4	tight	0	13	E-N 4155	
7 9 1/2	open	0	12	W-N 4150	
4	tight	0	11	E-N 4145	
4	tight	0	10	W-N 4140	
3	tight	0	9	E-N 4135	
2 4 1/2	tight	0	8	W-N 4130	
4 1/2	tight	0	7	E-N 4125	
4	tight	0	6	W-N 4120	
4 1/2	tight	0	5	E-N 4115	
4	tight	0	4	W-N 4110	
4 1/2	tight	0	3	E-N 4105	
5	tight	0	2	W-N 4100	
3		0	1	E-N 4092	

73 cu Ft.

4 wasted

77

Jan 6, 1937 7am to 4pm

Pressure Grouting Warped Section

Equipment

- 1- Compressor
- 1- Jaeger Portable Mixer
- 1- 7cuft Grout Tank
- Hose Line
- 1- Water Tank Truck

Labor

- 1- Driller
- 2- Helpers

Set up Equipment 2 1/2 hrs

Pressure Grouting 1 hr.

Clean up.

1- Driller 1 Helper 2 hrs

£

6' Cutoff in Warped Section

	Star	Grout Cu. Ft.
0	5+25 S	3.0
0	5+20 N	3 1/2
0	5+15 S	2.0
0	5+10 N	3.0
← 6' →		11 1/2

All tight holes

Used 11 1/2 cu ft Grout.

Wasted 5 " "

Total 17 1/2

15-sx cement used.

Jan 18, 1934 7am to 4pm

O. G. Section Pressure Grouting

Equipment 1- Compressor

1- 7 cu ft Grout Tank

1- Hose Line

1- Blaw Knox Truck Mixer

Labor 1- Driller

2- Helpers

Setting Up. 2 1/2 hrs

Grouting 2 hrs

Clean Up. 1/2 hr.

Sta	O. G. Section ±	Cu Ft Grout.	Remarks.
+45 S	0	3.0	Tight Hole
+40 N	0	4.0	✓
+35 S	0	4.0	✓
+30 N	0	4.0	✓
+25 S	0	6.0	✓
+20 N	0	4.5	✓
+15 S	0	4.5	✓
+10 N	0	3.5	✓
+5 S	0	4.0	✓
0+00 N	0	5.0	✓
Total		42.5	Cu. Ft.

None Wasted
30 sx cement.

Feb 7, 1934 ✓
 Pressure Grouting Corewall

Equipment

- 1- Cat 30.
- 1- Compressor
- 1- Jaeger Mixer
- 1- 7 cu ft. Grout Tank
- 2- Hose lines.

Labor Setting up 7⁰⁰ to 10³⁰
 Grouting 10³⁰ to 11³⁰
 Clean up 12³⁰ to 2⁰⁰

- 1- Driller 7⁰⁰ to 2⁰⁰
- 2- " Helper 8⁰⁰ to 2⁰⁰

Corewall ✓

No.	Sta	W	E	100' per 4" Cu. Ft. Grout.	Remarks
	Existing N 416S				From Dec 23, 1933 Free air
1	N 4169W	⊙		5.00	to all
2	N 4175E = 0700		⊙	4.00	holes.
3	0404W	⊙		3.00	
4	0409E		⊙	3 1/2	
5	0414W	⊙		4 3.00	
				18 1/2	
				1 1/2	Wasted
				20.	Total. ✓

$\frac{14}{0} = 3 \times 7 = 21$

Dr 24 5x cement from whse.
 Cr 10 5x return to whse.
 used 14 5x

✓
March 21, 1934

Pressure Grouting Corewall

Equipment

1- Compressor

1- 7 cu ft GROUT TANK

1- Blaw Knox Track Mixer

1- Hose Line

Star 0210

+ 35

+ 30

+ 25

+ 20

Corewall \$

Bulkhead
Star 0214

100# pressure 50

Grout Quantities
Cutt.

5 1/2

3 1/2

4 1/2

9

4

70 1/2

1/2 wasted

21 1/2 Total used

Labor Setting Up 3 hrs.

Pressure Grouting 1 1/2 hrs.

1- Mixerman }
2- Laborers. } 4 1/2 hrs.

used 155# cement.

April 5, 1934 7am to 4pm.

South Corewall

Pressure Grouting

Setting up equipment 7⁰⁰ to 11³⁰ = 4½ hr.

1- Mixerman

2- Laborers.

Pressure Grouting 12⁰⁰ to 4⁰⁰

1- Compressor

1- Ten ft. Grout Tank

1- Blaw Knox Track Mixer

51

Corewall

3060 Existing Pipe
cu. Ft Grout

Sta	3055 W	•	4.0 + 1½ = 5½
	3048 E	•	5½ 4.0
	3042 W	•	4.0
	3036 E	•	4.0
			<hr/> 17½ say 18

Note 3048 E showed water

in drill hole from possible
spring or Skime seepage

25 sc mixed. yied =
7

1- 55c batch = 7cu ft. $45 = 35$ cu ft

18

✓
May 7, 1934

Pressure Grouting Sa. Abt.

Setting Up Equipment 3 hrs.

Pressure Grouting 3 hrs.

1- Mixerman } 6 hrs.

1- Foreman }

1- Compressor

1- Grout Tank

1- Blaw Knox Truck Mixer

} 3 hrs.

Sta

W 3012

E 3020

W 3028

✓
52
Cu Ft Grout

4

16

3 1/2

23 1/2 Total

Remarks.

Some free air from

3028 to 3012

3020 wet Drill Hole an

indication of springs & seams.

Pressure Grouting

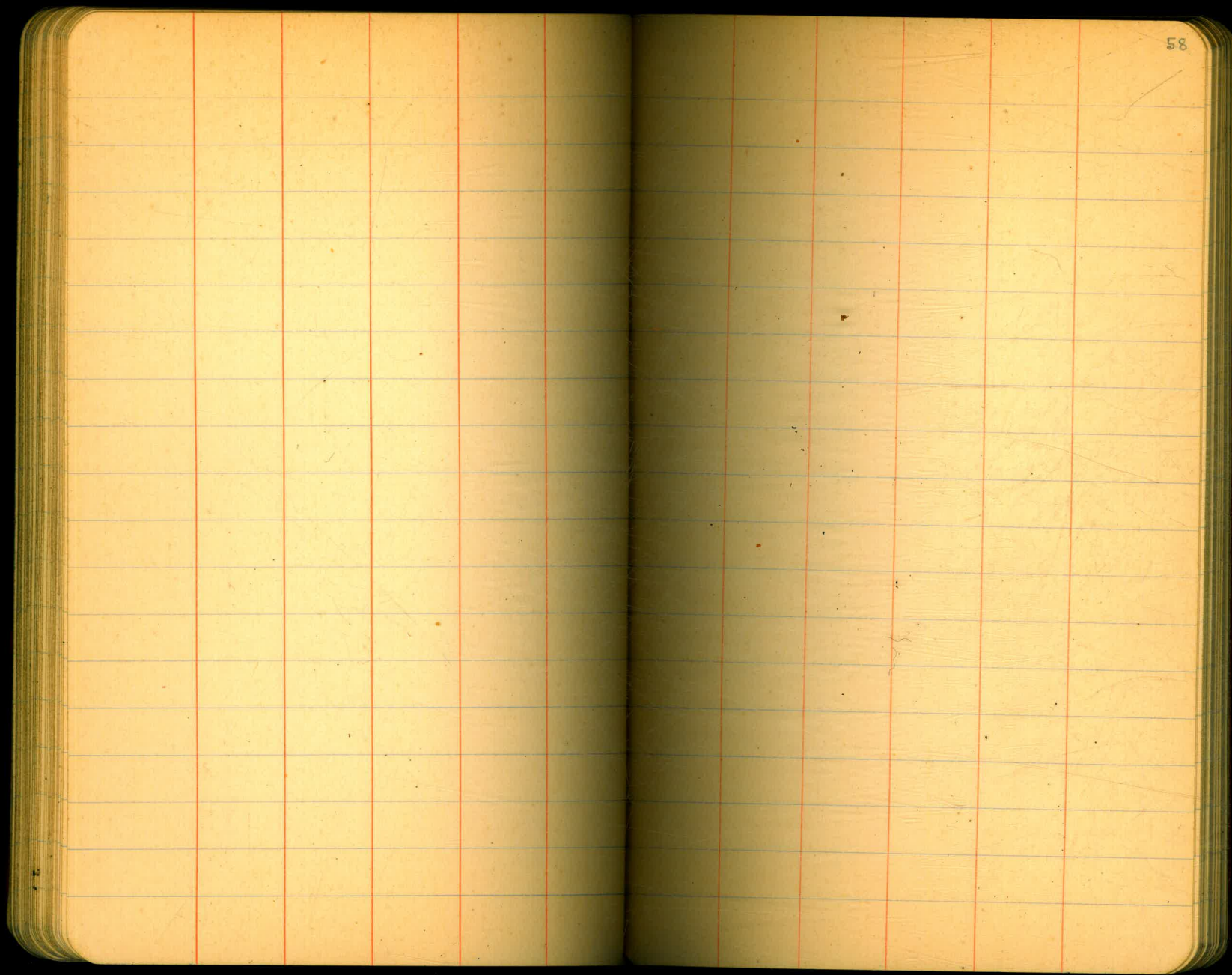
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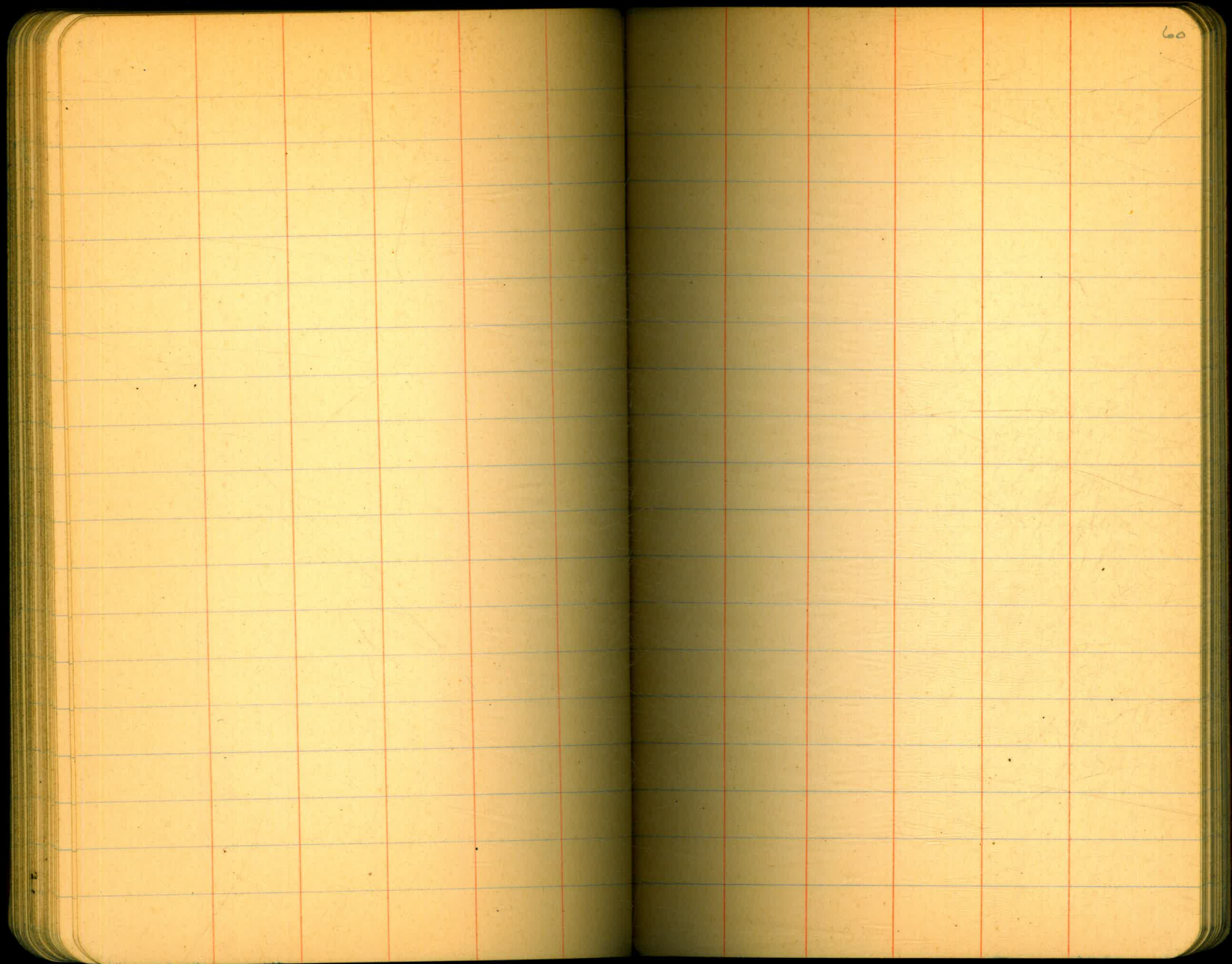
	£	Cu. Ft. Grout.
Sta N 2997 W	•	
N 3003 E	•	—
Total		—

Notes: 2- Grout Holes So. Abt.

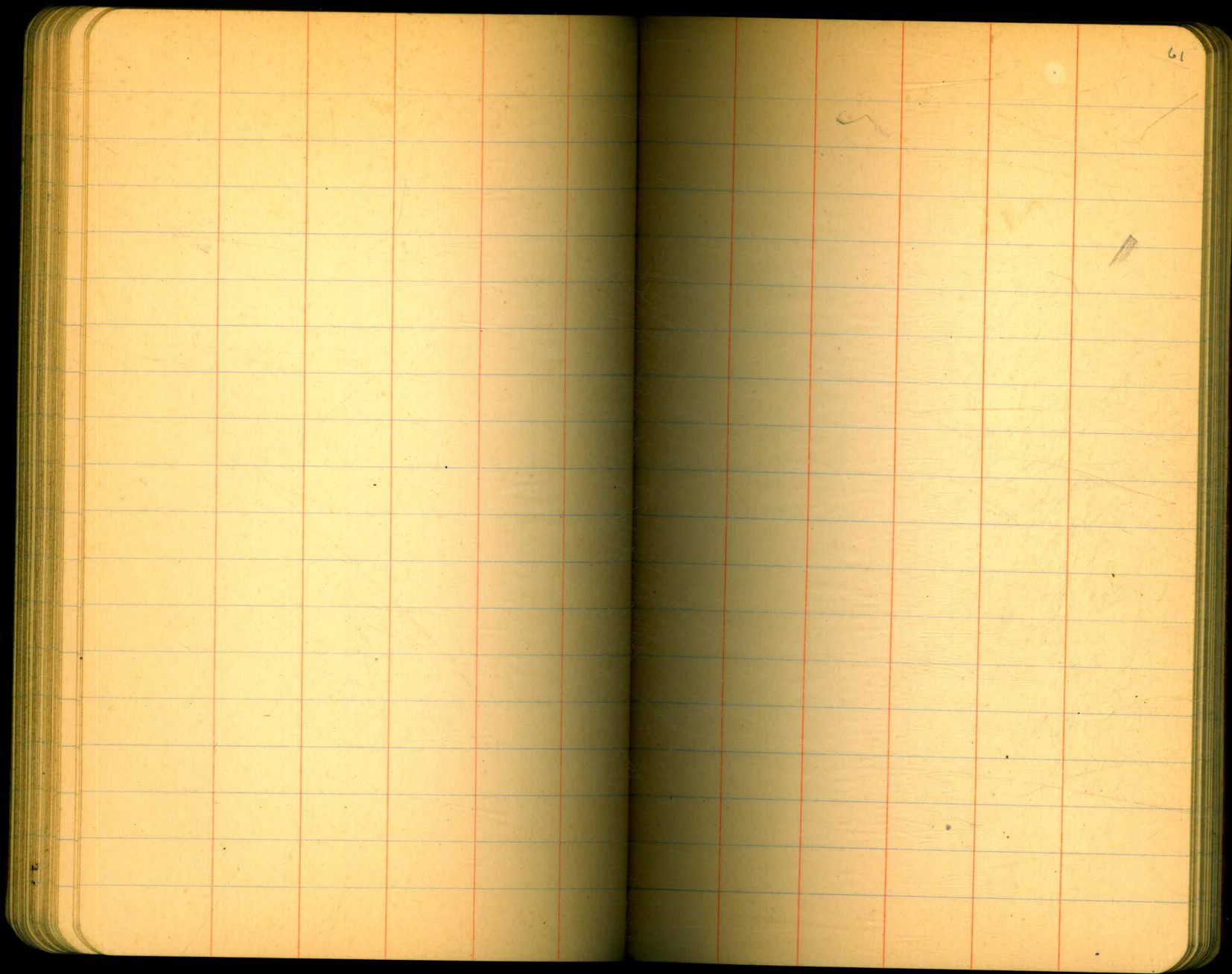
Drilled May 12, 1934

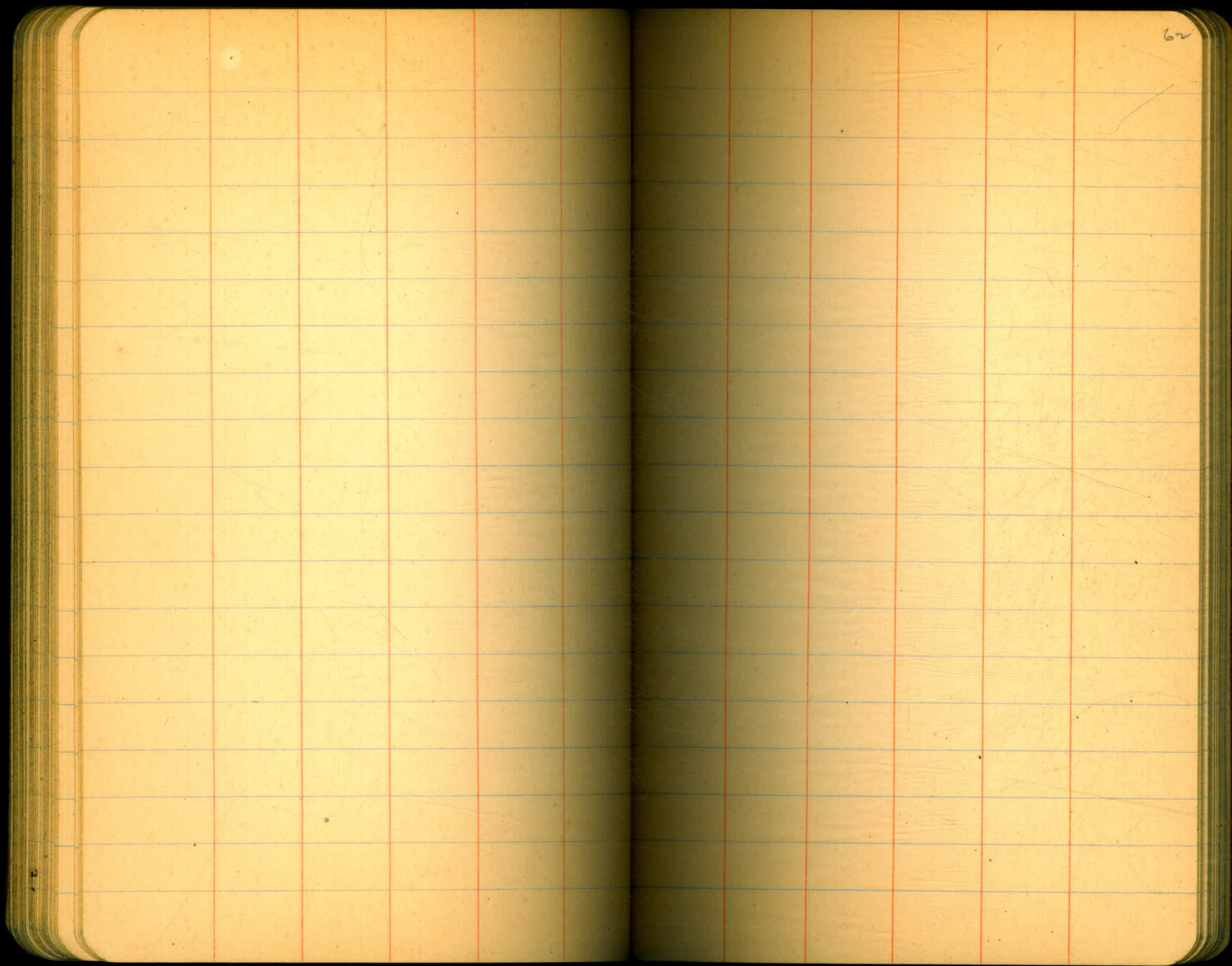
Depth	Depth in Dr.	Length of Pipe.
N 2997	= 21' 0"	—
N 3003	= 23' 10"	—





60

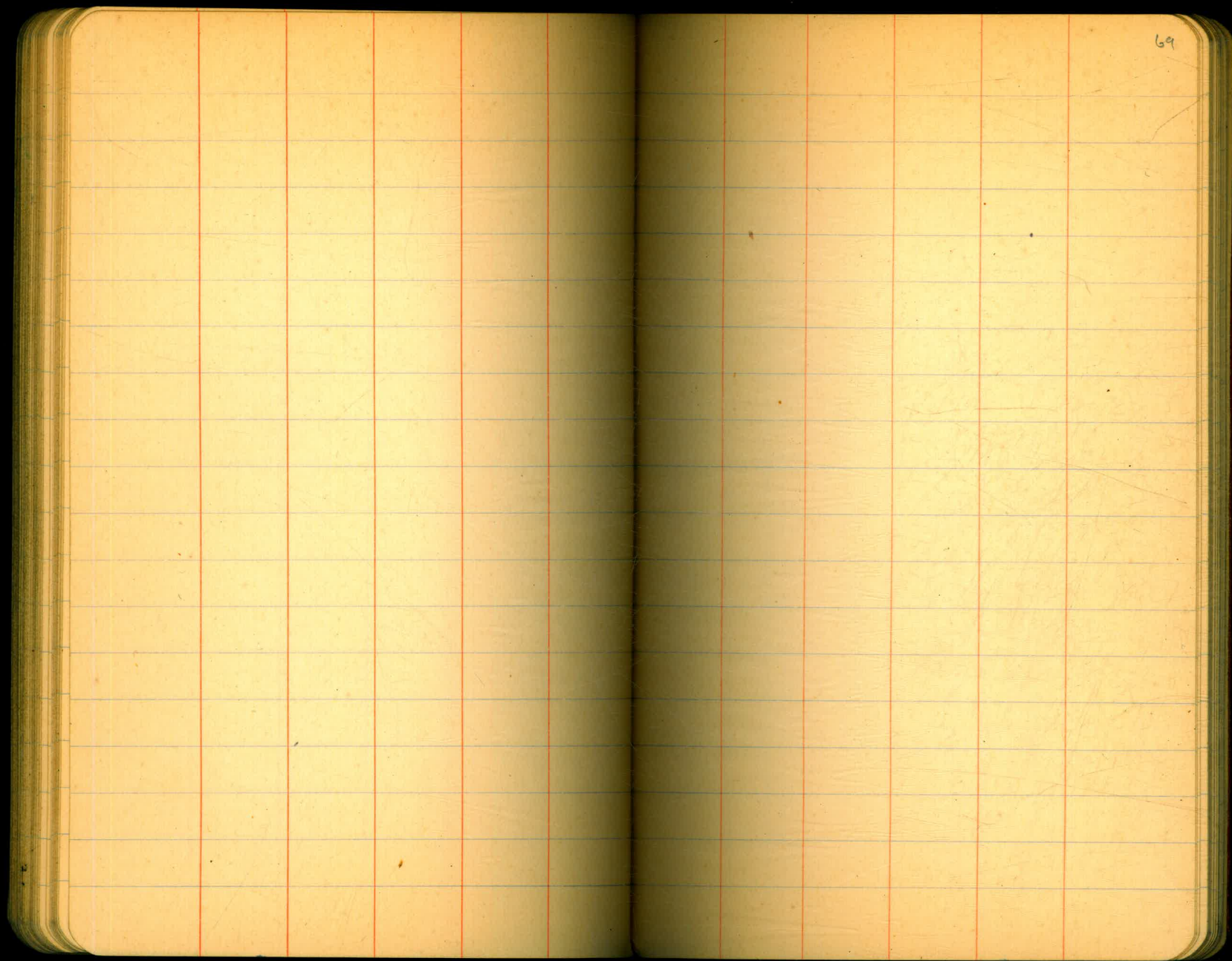


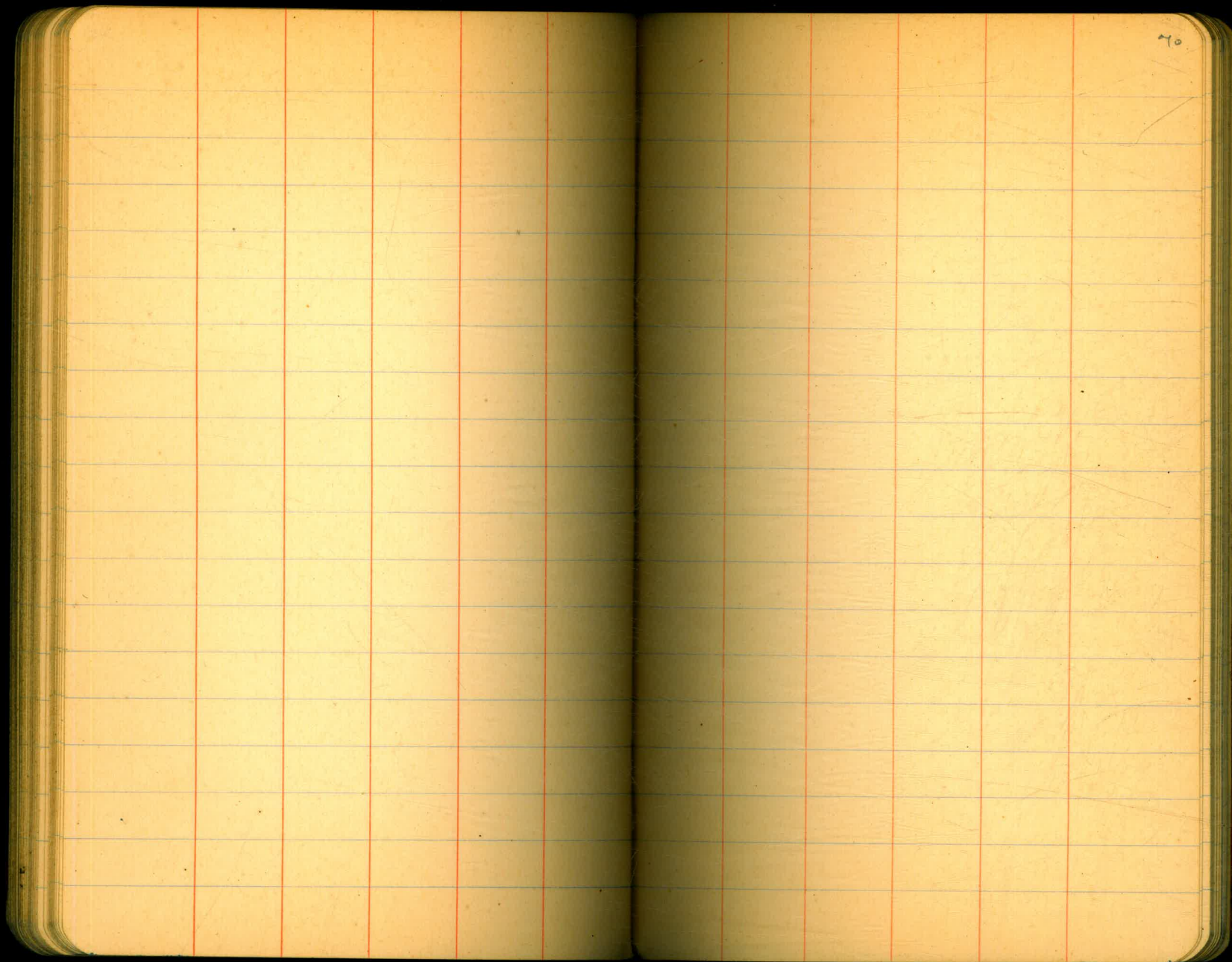


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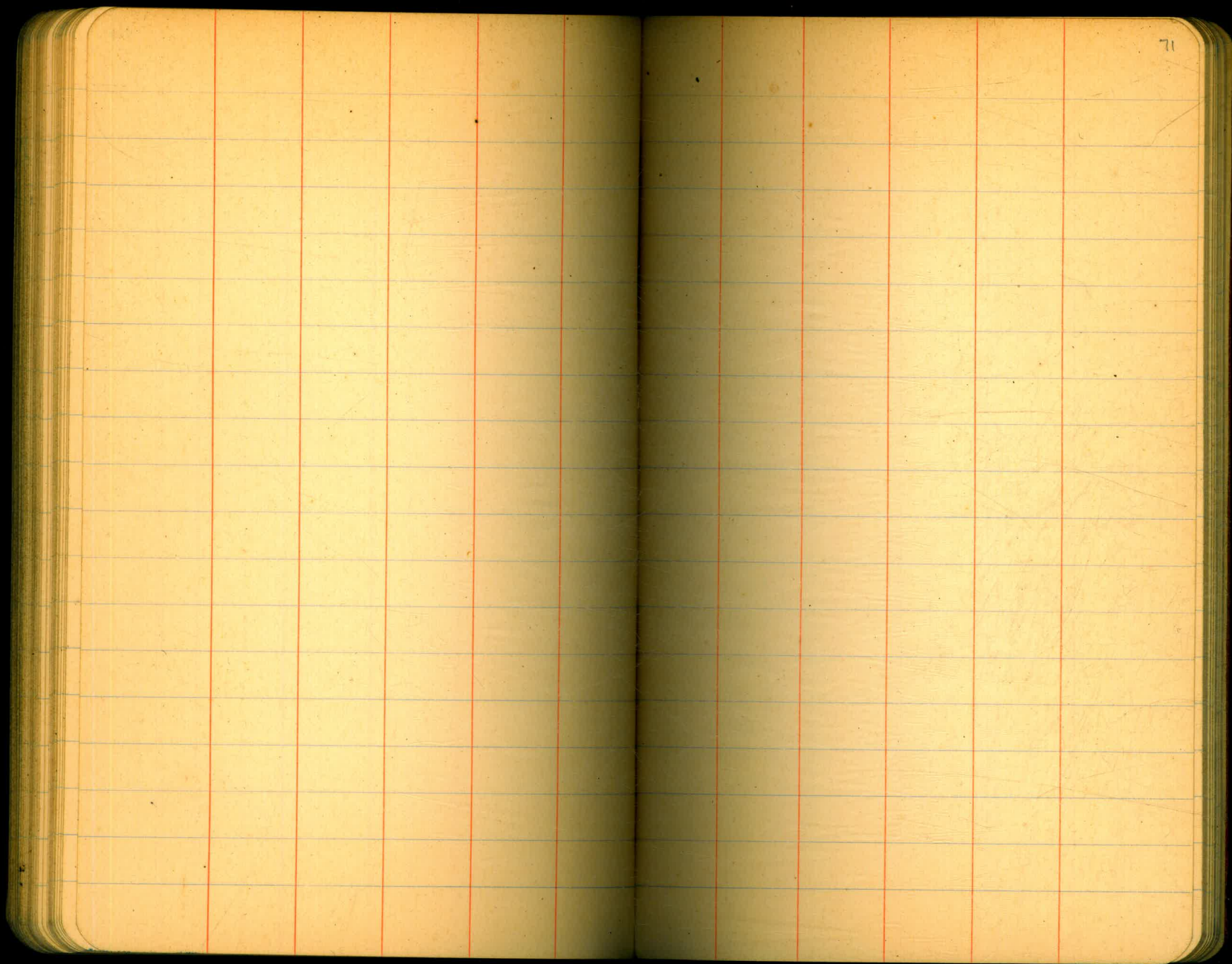
The image shows an open notebook with two facing pages. Both pages are cream-colored and feature light blue horizontal ruling. Vertical red lines create margins on both pages. The right page has the number '63' written in the top right corner. The notebook is bound in the center, and the pages appear slightly aged or off-white.

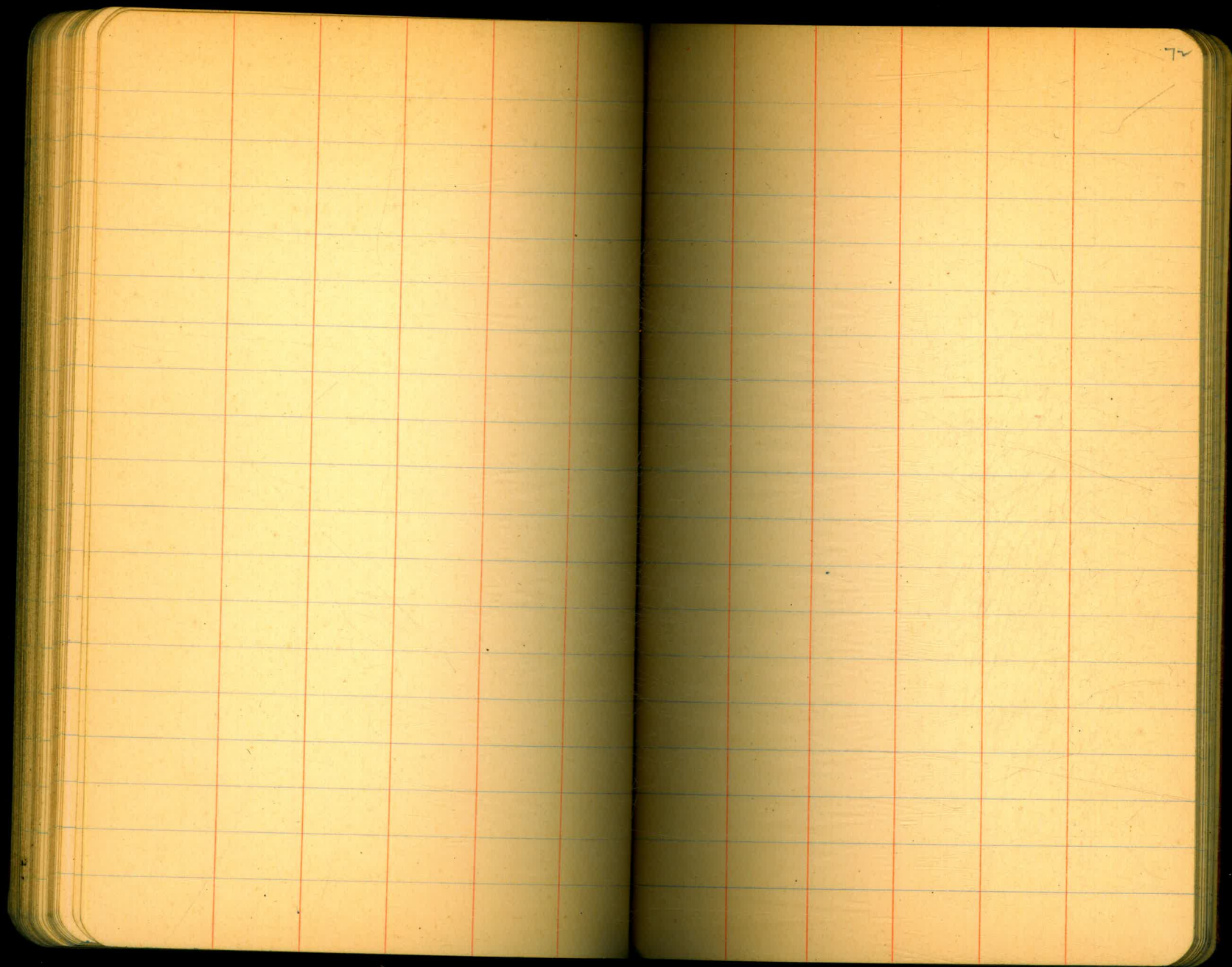
The image shows an open notebook with two facing pages. Both pages are cream-colored and feature light blue horizontal ruling. Each page has two vertical red margin lines, one on the left and one on the right, creating a central column and two side columns. The pages are otherwise blank. The number '66' is handwritten in the top right corner of the right page. The notebook is bound in the center, and the edges of the pages are visible on the left and right sides.

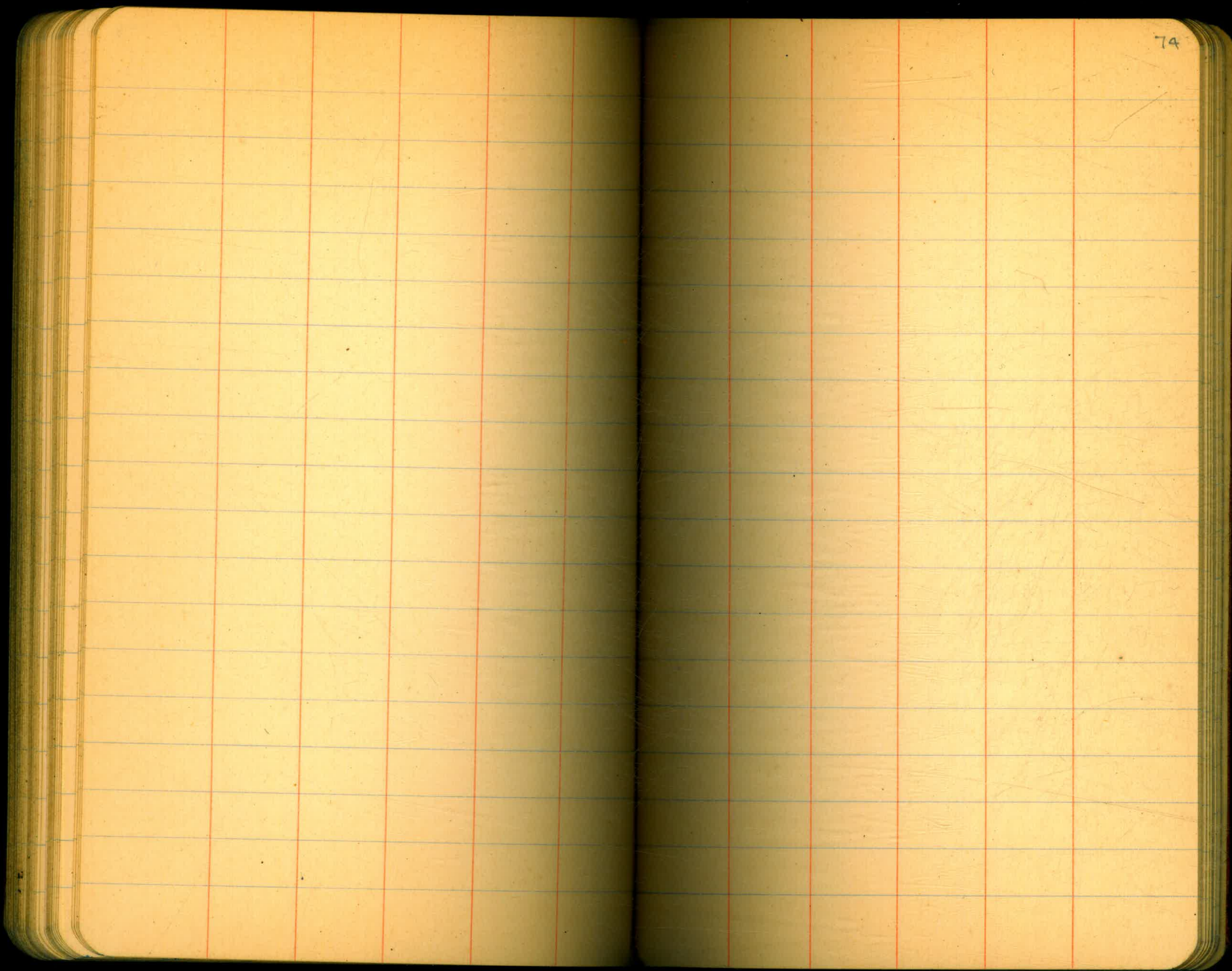


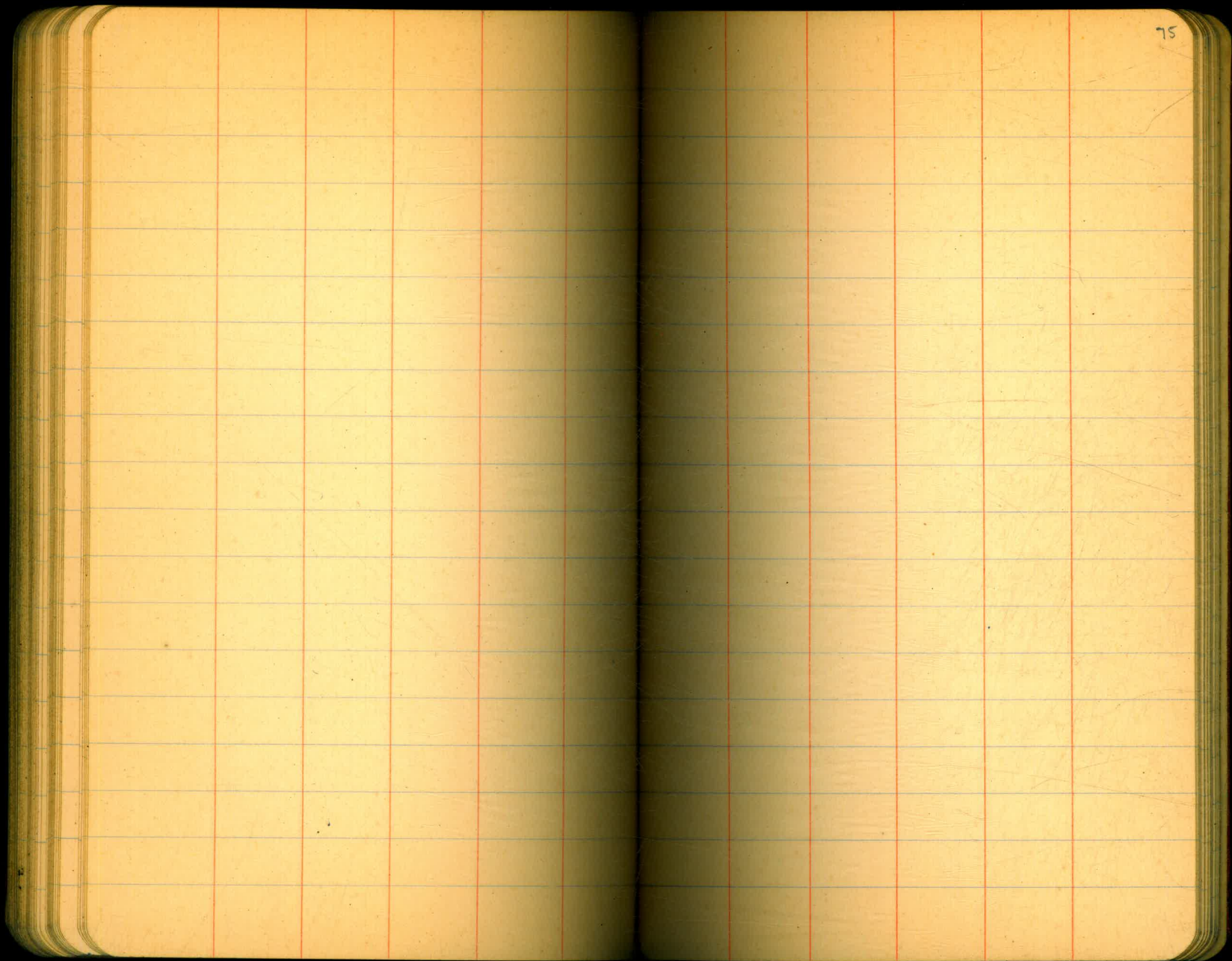


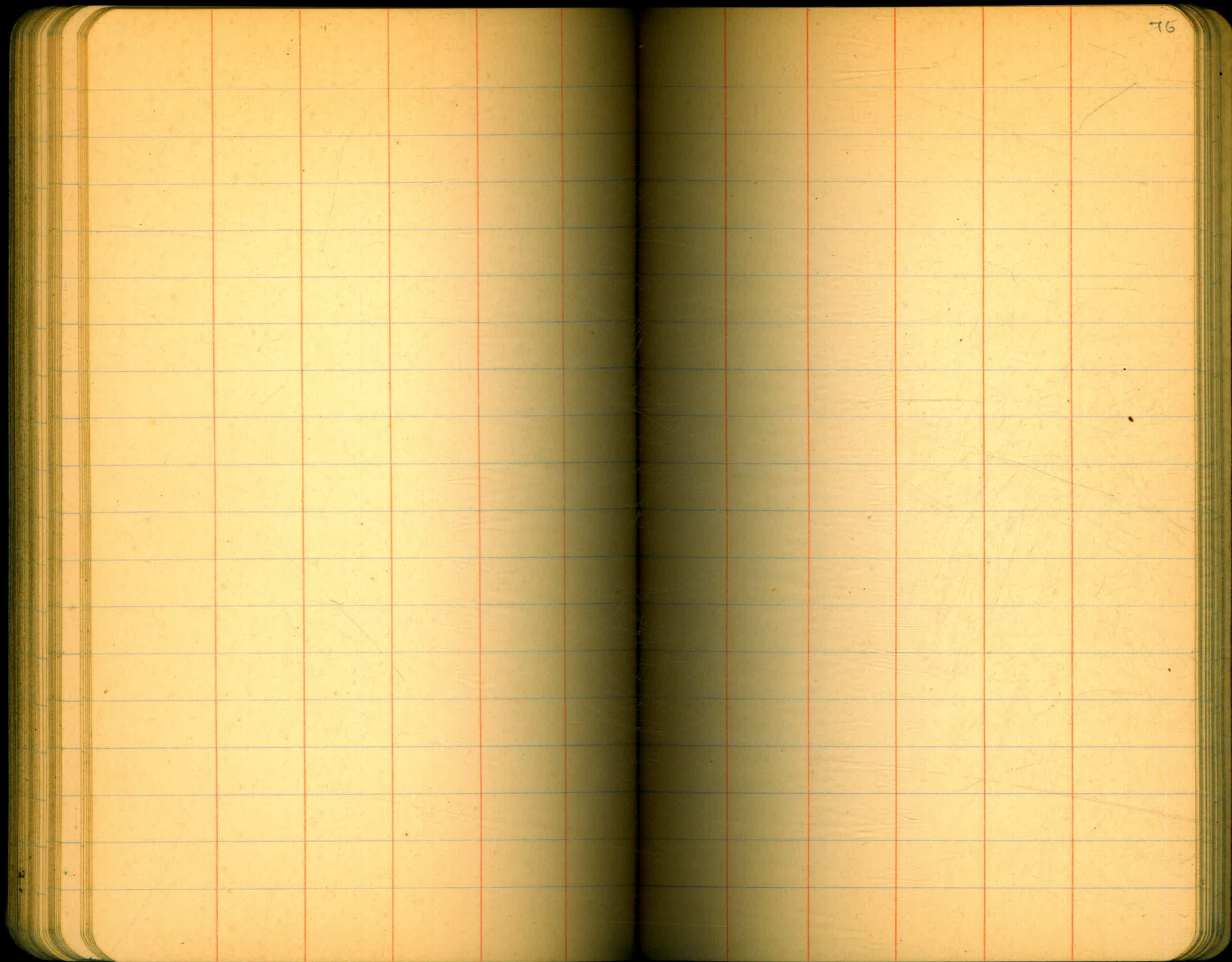
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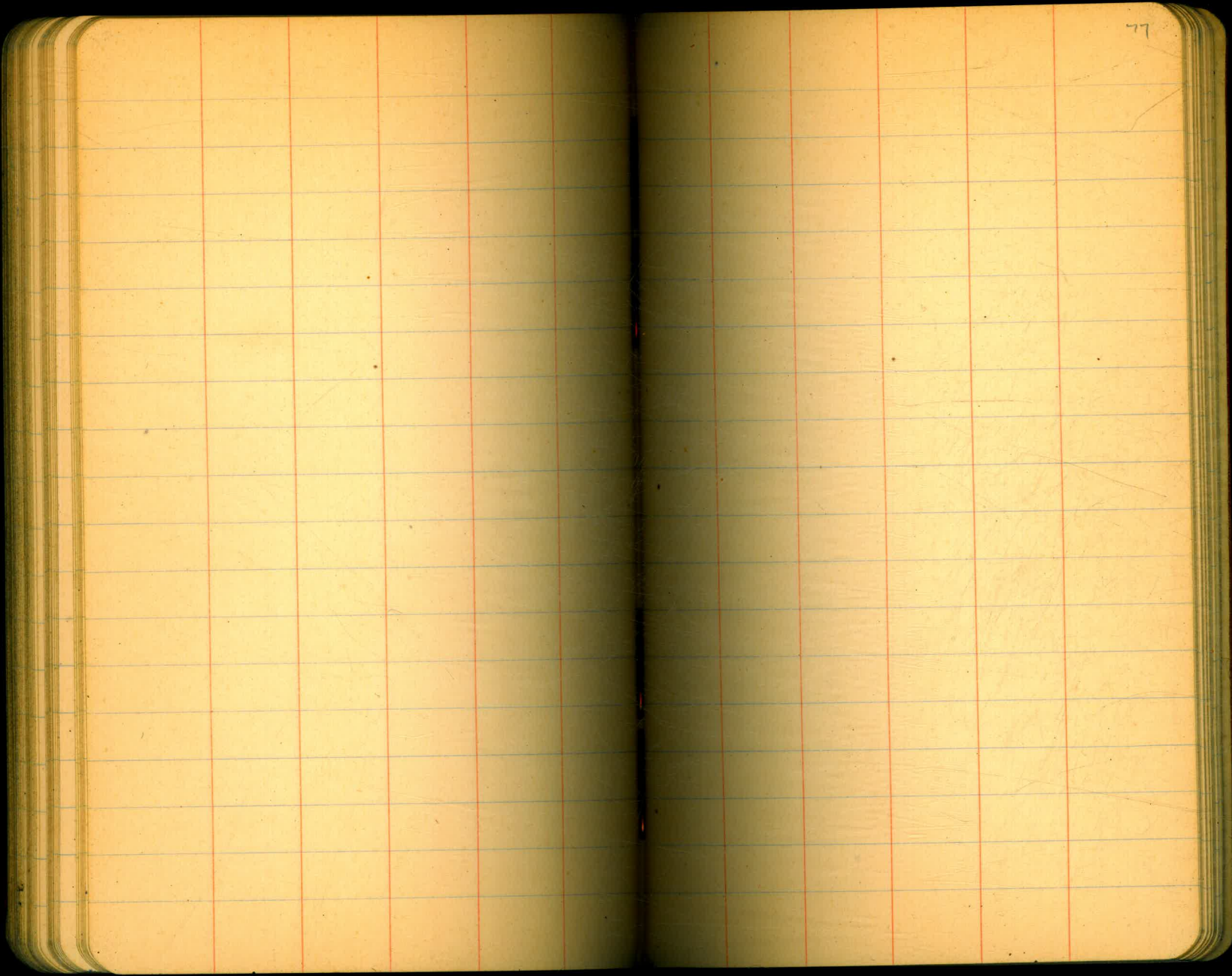


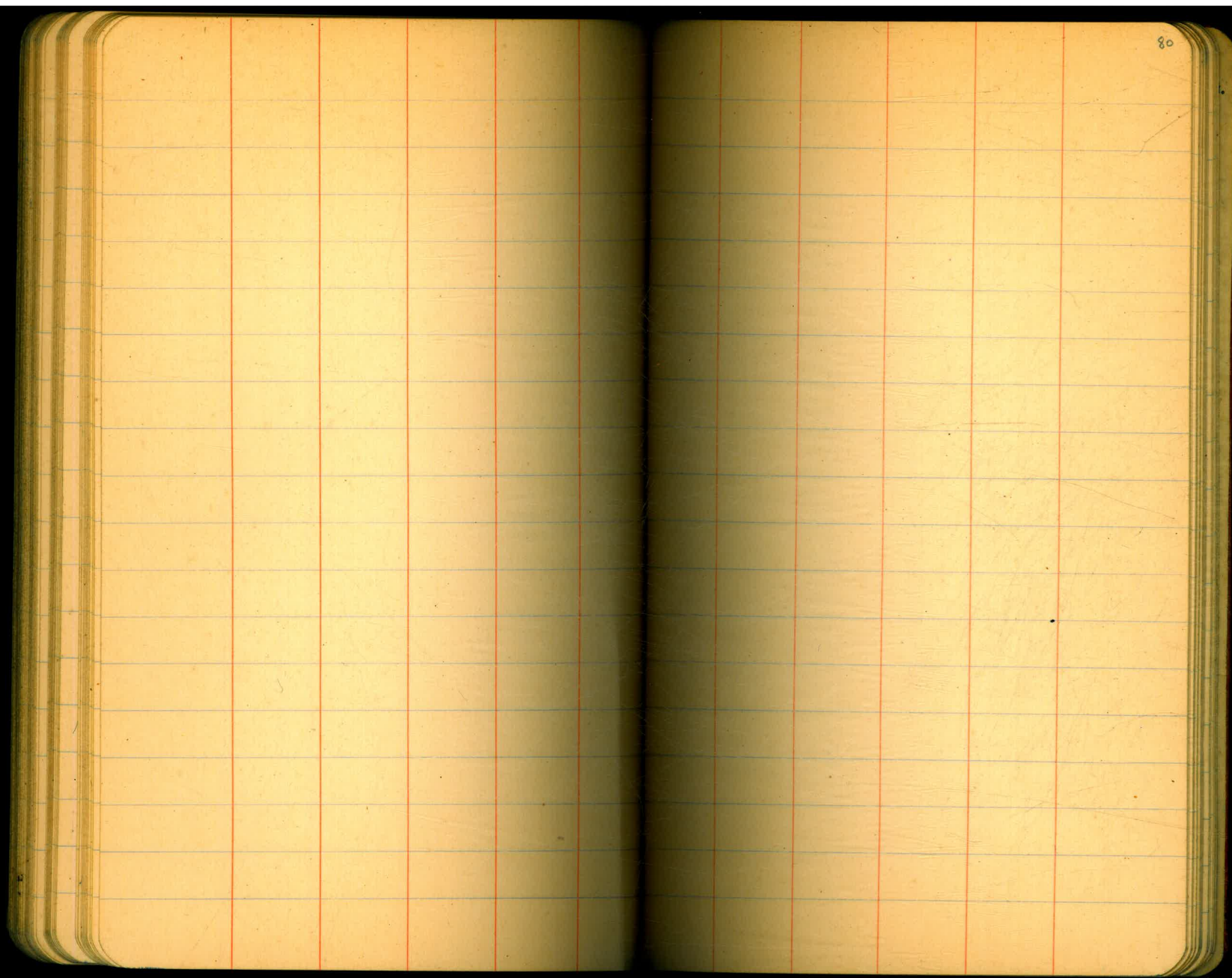




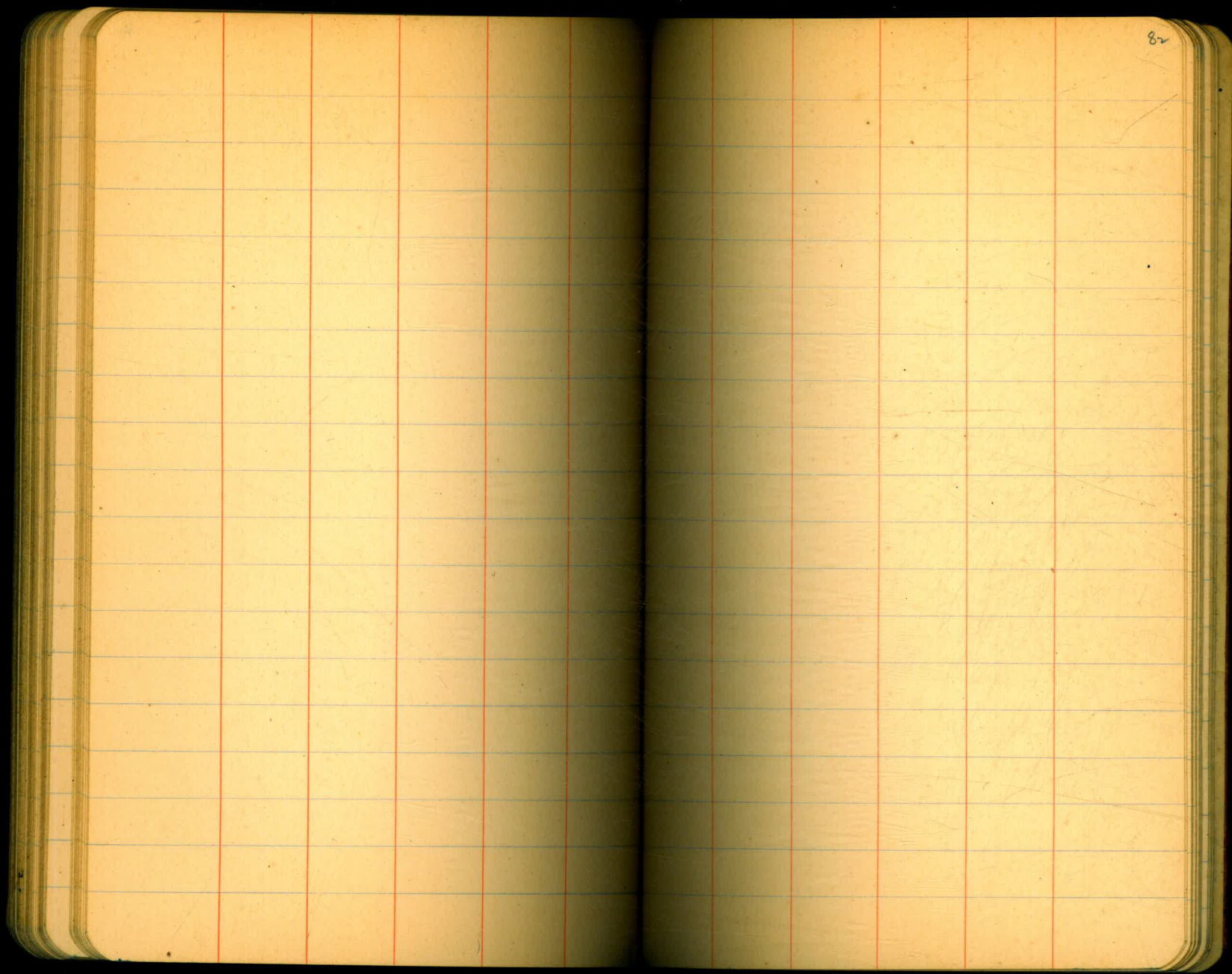




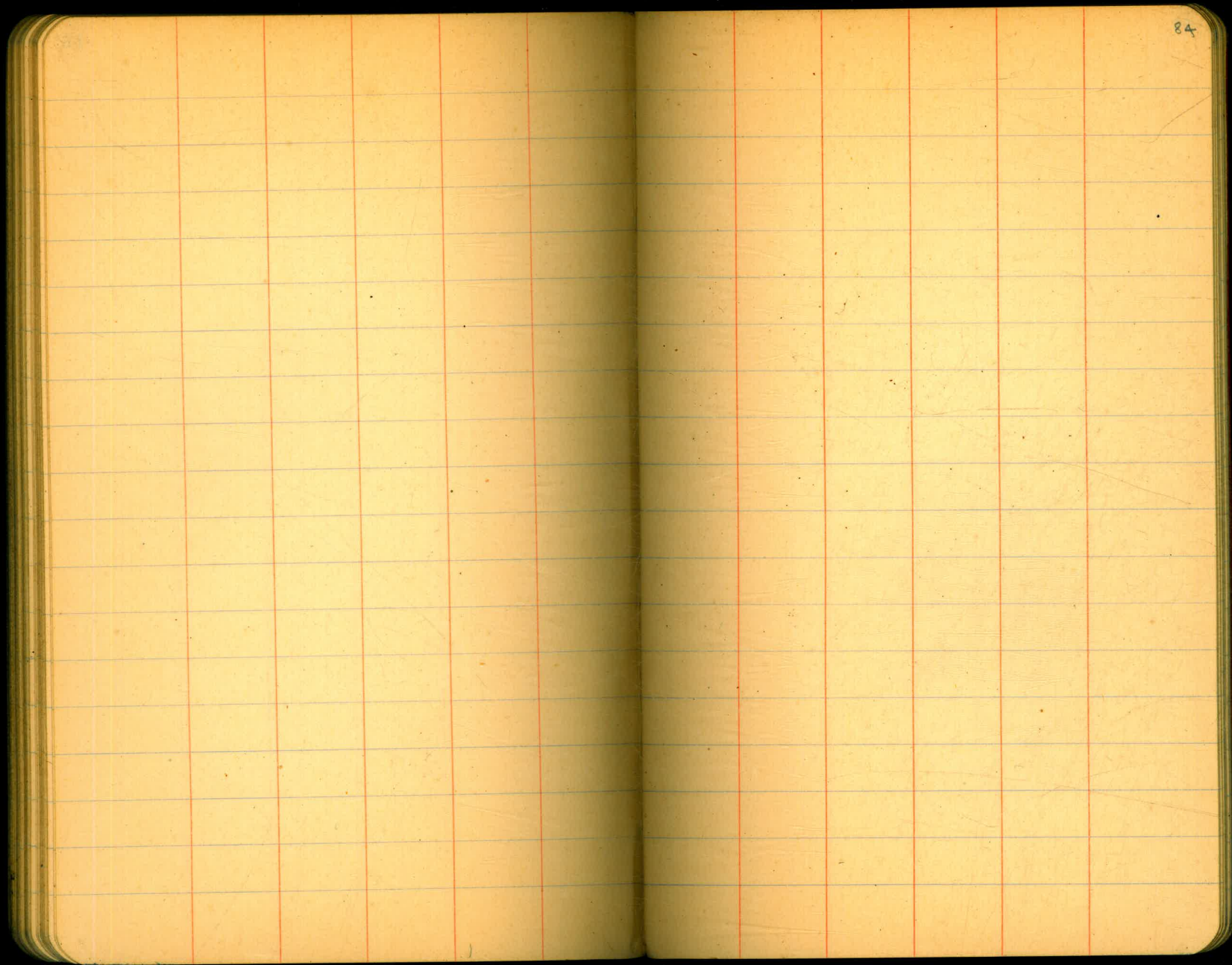


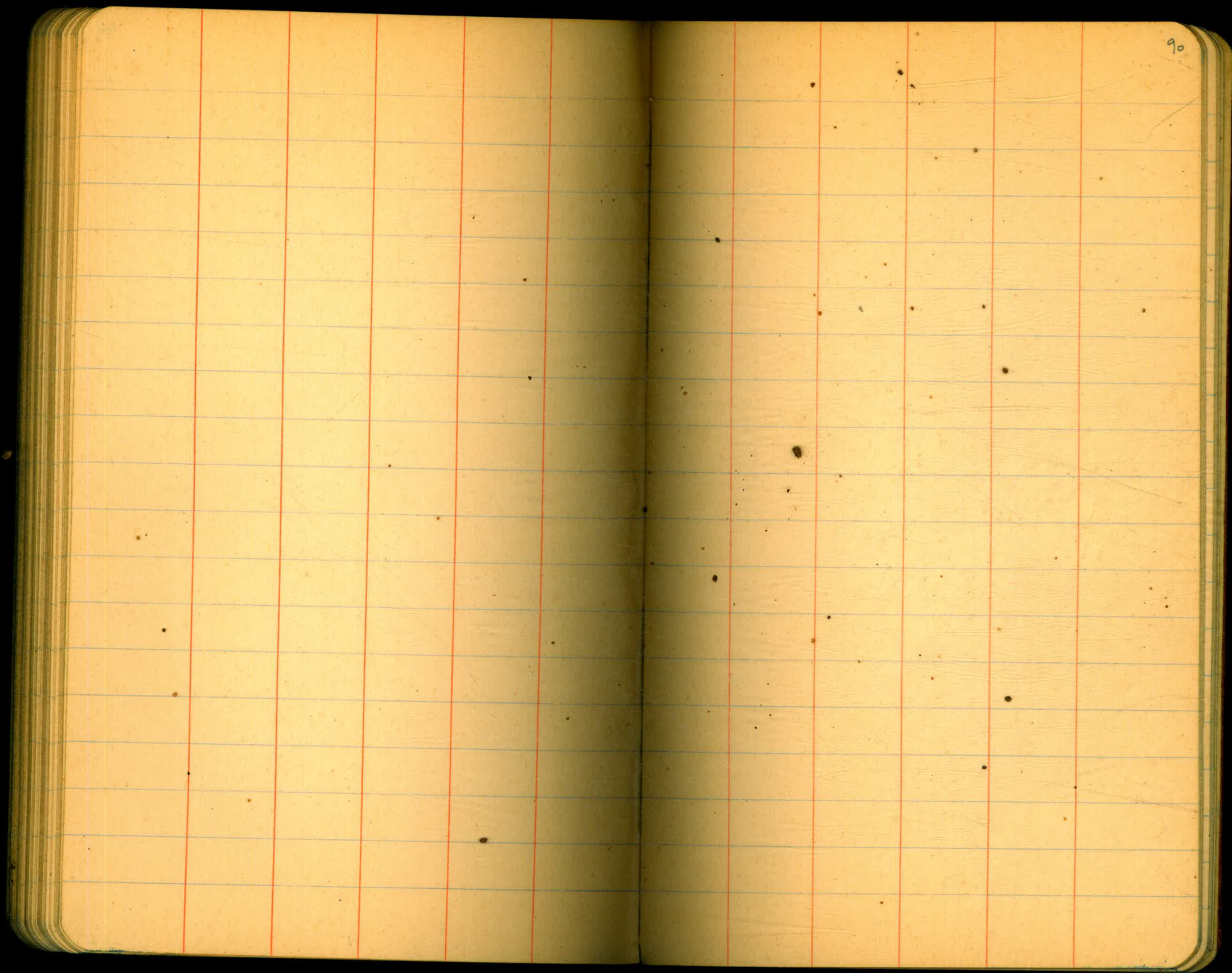


The image shows an open notebook with two facing pages. Both pages are cream-colored and feature light blue horizontal ruling. Each page has two vertical red lines that create a central column and two side margins. The notebook is bound in the center, and the pages appear slightly aged with some minor discoloration and faint smudges. The number '81' is printed in the top right corner of the right-hand page.

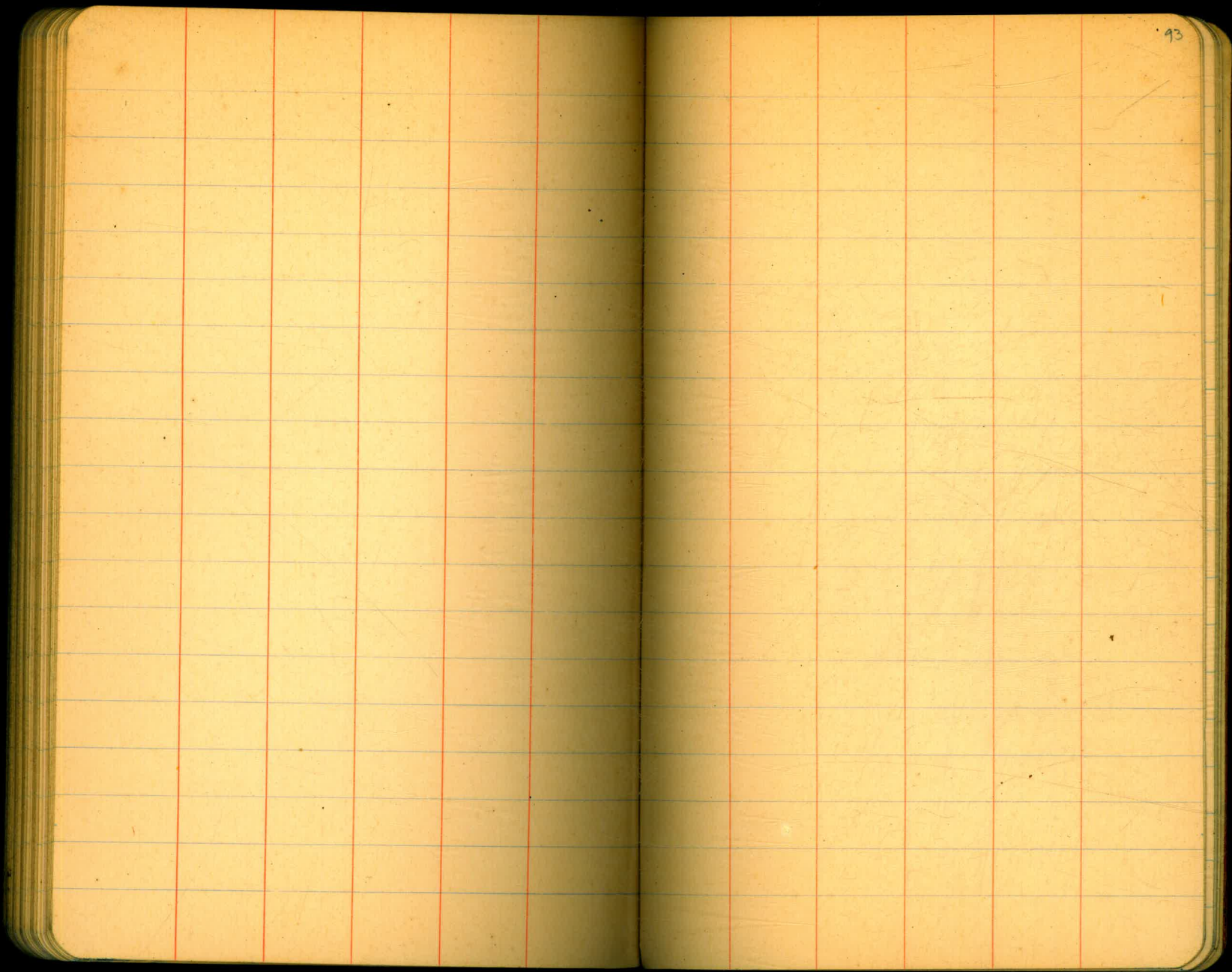


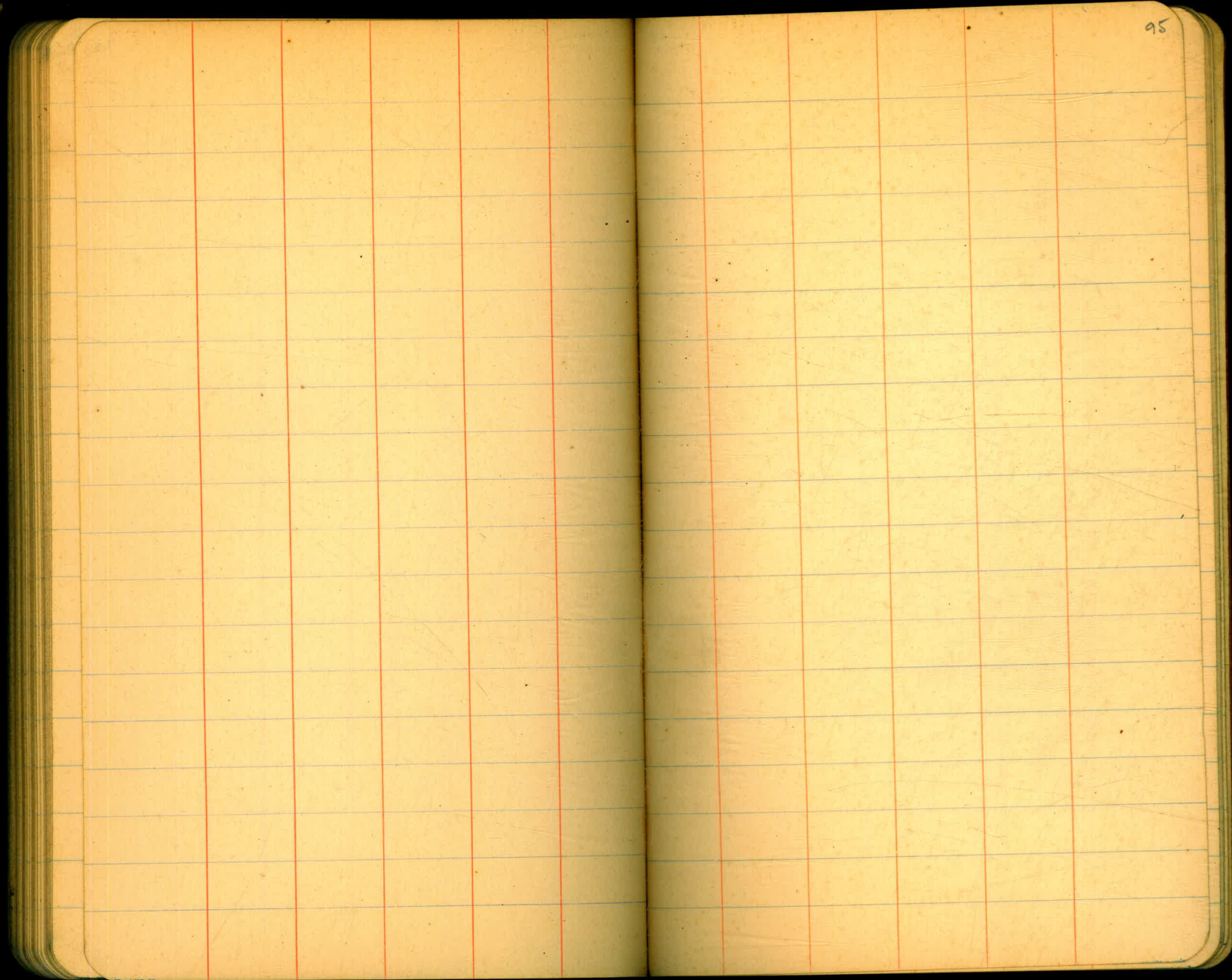
82

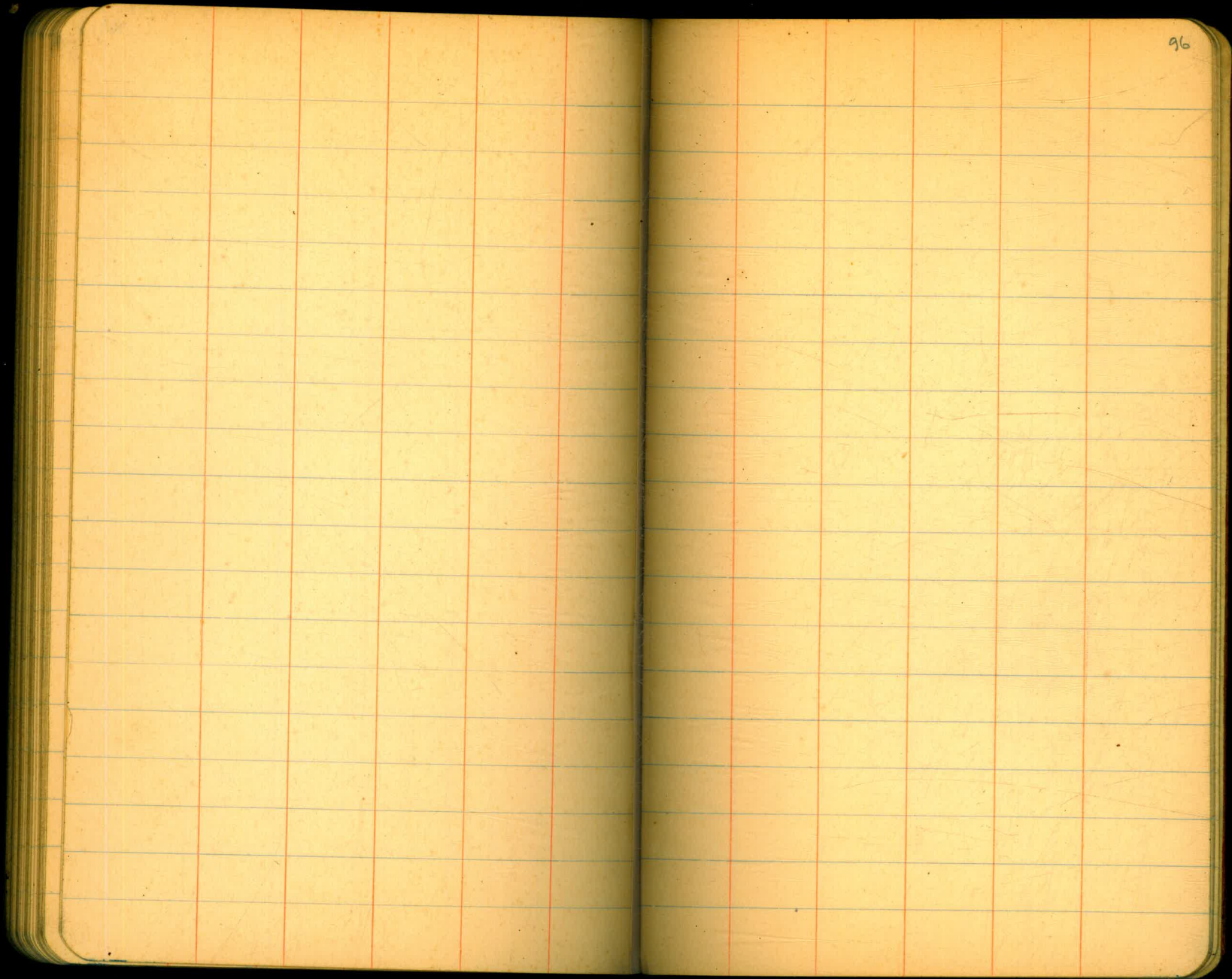


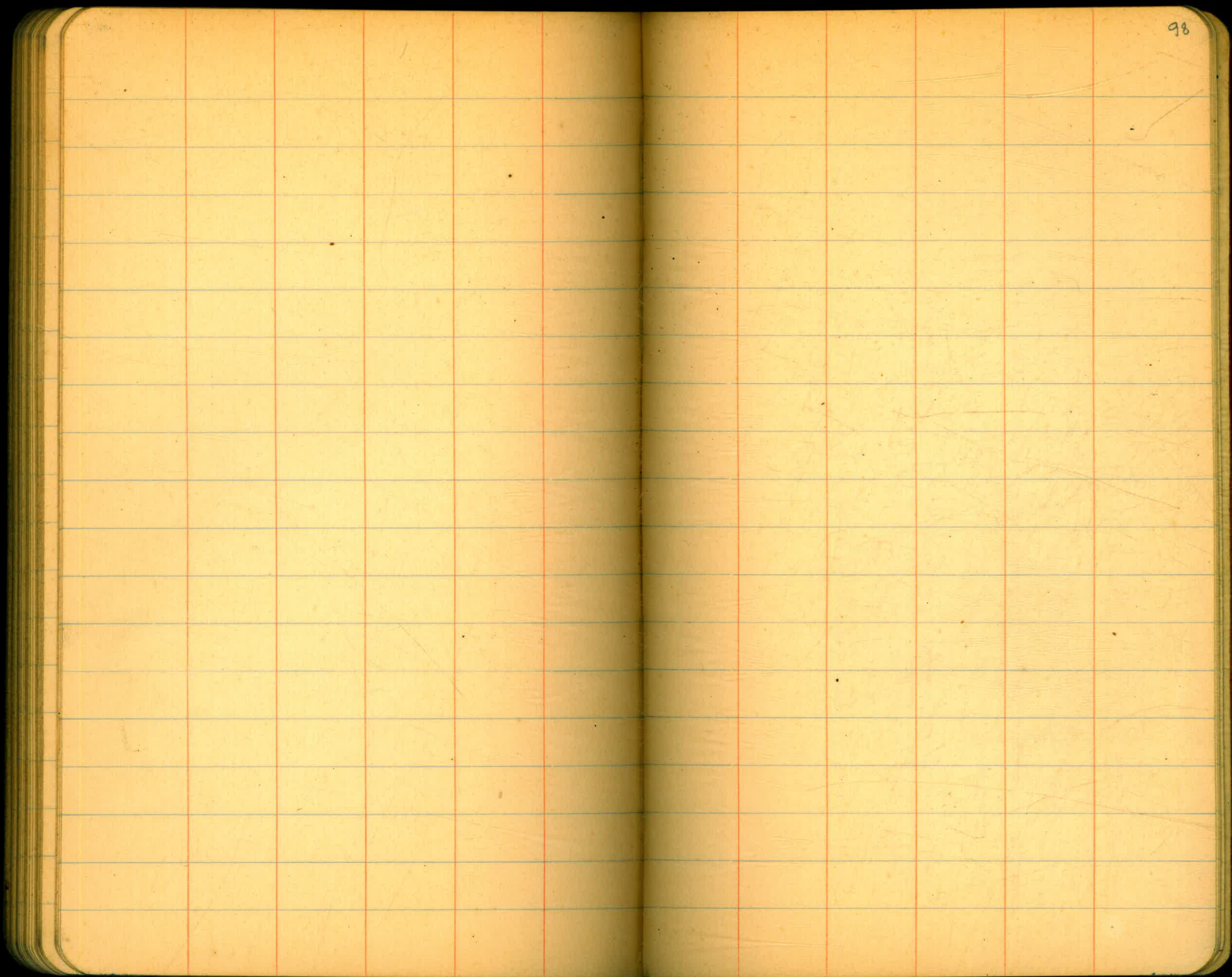


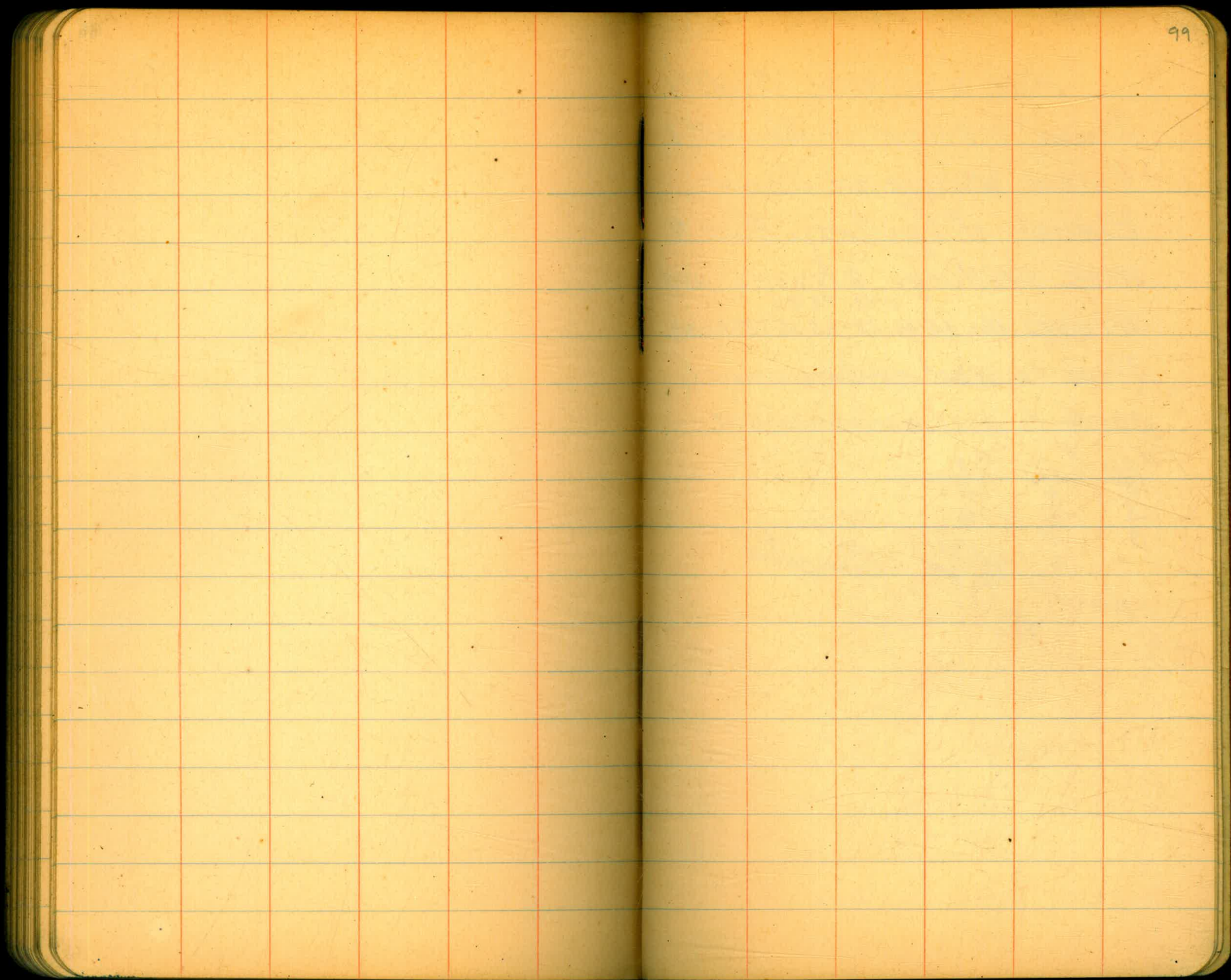
90











Mar. 21-1933. Shift #1.

Shovel #7 & crew & Shovel #8

& crew working on Upper

Bench of Spillway. Also 7

men drilling. 8 trucks and

drivers. Nos. 45-44-43-25-26-15-31-23.

and #8 & 11.

Rock to west embankment,

earth to east embankment.

#26	#11	#8
5	4	5
5	6	6
3	5	
	6	

Recorded

2/17/33

rel 359
87 62

Thurston

#2	#13	#4	#1	#8	#10
6	3.5	3	6	5	5
5	5	5	6	6	

Mar. 20-1933

Shift #1.

Shovel #7 & crew on intermediate Bench-casting.

Shovel #8 & crew on upper bench trucks & drivers. #34 #15 & #24 #14 #25 #44 #26 #20 #23

Shovel #7 moved to upper bench at 8:30 AM.

#24	#20	#26	#14	#23	9
4	5	5	4	6	22 3/4
5	5	6	5	5	19
4	4	4	9	4	21 1/2
6	4	4		4	20
4	3	19			
3	4 1/2				
5					

Recorded

About 25 yds. of rock went to the east embankment. The rest went to the west embankment.

A truck driver was injured

3.5
3.0
4.0
7.5
33
5
14.5
6
3
30
7.5
3.5
4
4
128.5
3
131.5

about 9:30 AM. A rock weighing approx. 125# fell from the bucket on the man's head.

Thurston

Cone Wall
Grout Holes

Nov. 13
Hu.

102

Blow pipe 31.0

U3405 -0.5 31.5

D3400 2.5 28.5

U3395 -1.0 32.0

D3390 2.6 28.4

U3385 2.1 28.9

Core Wall
Grout HolesNov 13
Hew
to bot. coupling

	Blow pipe			
U 3480	2.8	41.5		
D 3479	5.6	38.7		
	Blow pipe		35.0	
U 3475	2.6	32.4		
D 3470.7	7.6	27.4		
D 3460.	3.0	32.0		
U 3455.	6.3	28.7		
D 3450.	1.6	32.4		
U 3445	—	28.0	Steel 27" hole	
D 3440	4.6	30.4		
U 3435	2.0	33.0	1' N. of 4' step	
D 3430	⁵ 5.8	⁵ 29.4	33.90 + 40. = measured sta	Steel stuck along side
U 3425		13.0		
D 3420		34.0	Steel 33" hole	
	Blow Pipe		31.0	
U 3415	-1.0	32.0		
D 3410	-1.0	32.0		

5 - 84 7420.

Distance bot. coupling to concrete

Depth of Hole

End Point - 1:2 AM
 Core Wall - 2:30
 3445 to 3490 to elev
 3512 to 3540 (552)

CALCULATION OF EARTHWORK.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.55	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w = 16.2 and h = 5.3, cu. yds. = 1.48 + .028 + .089 = 1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) = h, and 1/2 the roadbed = w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2.
 For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) * 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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