

176

Town Line Road Sec. A

Hambden-Montville

Town Line Road Sec. B.

Claridon-Huntsburg

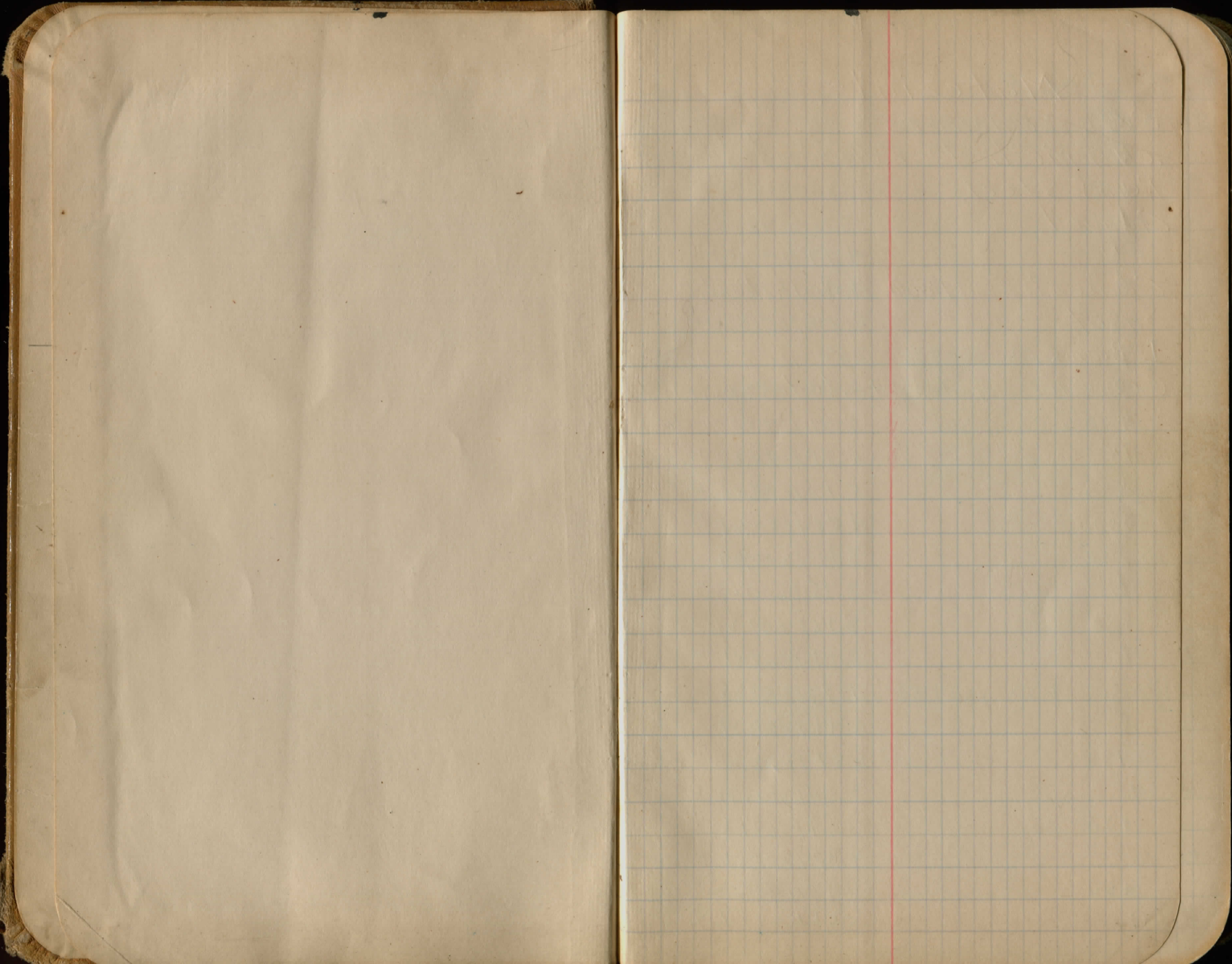
FIELD BOOK

307T

FAIRMOUNT NO. 16 C, D PGS 19- ✓  
" Levels " 25  
AUBURN CTR. CEMETERY 22-23

AUBURN CORNER CEM. 30

1958 Fairmount Rd CH#16 Sec C & D  
Profile from SR 306 E. to Watt Rd. Pg 32  
Drainage structures & BMs Pg 31



See Prints

D.M#	2.80	1201.76		1198.96
00 Mesh	2.76		1199.00	✓
+50 Steel	3.26		1198.50	✓
1 Invet	3.76		1198.00	✓
+50	4.17		1197.59	✓
Cement	4.40		1197.36	✓
+50	4.44		1197.32	✓
I.B.	5.02	1203.98	2.80	1198.96
3	6.53		1197.45	✓
+50	6.21		1197.77	✓
4	5.71		1198.27	✓
+50	5.12		1198.86	✓
5	4.53		1199.45	✓
+50	3.94	1200.04		✓
6	3.35	1200.63		✓
+50	2.76	1201.22		✓
7	2.17	1201.81		✓
T.P.+50	2.55	1204.80	1.73	1202.25
8	2.41		1202.39	✓
+50	2.57		1202.23	✓
9	3.04		1201.76	✓
+50	3.67		1201.13	✓
10	4.30		1200.50	✓
+50	4.93		1199.87	✓
11	5.56		1199.24	✓

BM# 4.26 1203.22 1198.96

32 3.28 1199.94

31 1.99 1201.23

6.89 1209.79 0.32 1202.90

30 5.54 1204.25

8.38 1215.90 2.27 1207.52

29 6.90 1209.00

6.42 1217.60 4.72 1211.18

28 3.60 1214.00

6.70 1223.09 1.21 1216.39

27 4.09 1219.00

7.48 1229.08 1.49 1221.60

26 5.08 1224.00

BM# 3 7.72 1233.88 2.95 1226.13 1226.16

25 4.88 1229.00

4.38 1235.64 2.62 1231.26

24 3.39 1232.25

4.93 1238.42 2.15 1235.49

23 6.42 1232.00

2.13 1235.62 4.93 1232.49

22 5.62 1230.00

4.85 1231.40 9.07 1226.55

21 3.20 1228.20

3.35 1230.03 4.72 1226.68

$\frac{F2.0}{19.8}$   $\frac{F2.0}{18.8}$  ← Special 1' Ditch  $\frac{F2.1}{17.3}$   $\frac{F2.2}{15.3}$

$\frac{F0.8}{21.4}$   $\frac{F0.9}{20.4}$  ← " "  $\frac{F1.7}{18.2}$   $\frac{F1.5}{19.2}$

$\frac{C1.3}{21.4}$   $\frac{F0.9}{20.4}$  ← " "  $\frac{F0.1}{20.6}$   $\frac{C0.0}{21.6}$

$\frac{C0.4}{21.9}$   $\frac{F0.6}{20.9}$  ← " "  $\frac{F0.9}{19.4}$   $\frac{F0.7}{20.4}$

$\frac{C2.2}{25.0}$   $\frac{C1.5}{24.0}$  ← " "  $\frac{C0.3}{21.8}$   $\frac{C0.4}{22.2}$

$\frac{C1.7}{25.3}$   $\frac{C1.7}{24.3}$  ← sp. Summit Sec →  $\frac{C0.1}{13.9}$   $\frac{C0.4}{14.9}$

$\frac{C3.1}{26.7}$   $\frac{C2.6}{25.7}$  ← Spec. 1' Ditch.  $\frac{F0.1}{20.6}$   $\frac{C0.0}{21.6}$

$\frac{C1.6}{24.7}$   $\frac{C1.3}{23.7}$  ← Special Ditch  $\frac{F1.1}{19.1}$   $\frac{F0.7}{20.1}$

$\frac{C1.4}{23.6}$   $\frac{C1.2}{22.6}$   $\frac{F1.7}{18.2}$   $\frac{F1.7}{19.2}$

$\frac{C2.7}{25.4}$   $\frac{C2.4}{24.4}$   $\frac{C1.1}{22.4}$   $\frac{C1.2}{23.4}$

$\frac{C3.0}{26.5}$   $\frac{C3.2}{25.5}$   $\frac{C1.5}{23.9}$   $\frac{C1.7}{24.0}$

$\frac{F2.5}{18.6}$   $\frac{F2.8}{17.6}$   $\frac{F2.8}{17.6}$   $\frac{F2.8}{18.6}$

1230.03

20

2.23 / 227.80

6.09

1232.77

3.35 / 226.68

3.97 / 228.80

2.37 / 230.40

1228.32

18

1224.50

17

1327#2

1225.75

16

1219.00

15

1213.50

14

1210.46

13

1212.34

12

11

10

9

F2.3 / 18.6

F2.8 / 17.6

C1.8 / 24.2

C1.6 / 23.2

— 26.5

— 27

— 26.5

— 18

— 21 ←

— 20

— —

— —

— —

— —

F2.9 / 18.8

F2.9 / 18.8

F0.8 / 19.6

F0.7 / 20.6

— 23

— 27

— 22.5

— 21

8' Berms → — 22

— 22

— —

— —

— —

— —

T.P. Hub at Pt of 18+50 15' off

1204.80

+50		6.19	1198.61	✓
12	1.65	1199.63	6.82	1197.98 ✓
+50		2.28	1197.35	✓
13		2.91	1196.72	✓
+50		3.46	1196.17	✓
14		3.87	1195.56	✓
+50		4.12	1195.57	✓
15		4.26	1195.37	✓
+50		4.29	1195.34	✓
16		4.33	1195.30	✓
B.M.		5.06	1194.57	1194.59

7/29

## Slopes Sec B

BM #1 4.62 1233.55 1228.93

0		12.05	1221.50	
1		9.29	1224.26	
2		6.90	1226.65	
3		6.18	1227.27	
4		6.88	1226.67	
5		7.59	1225.86	
	5.41	1232.38	6.58	1226.97
6		7.33	1225.05	
	2.71	1229.93	5.16	1227.22
7		5.69	1224.24	
	2.83	1223.51	9.25	1220.68
8		0.08	1222.43	
	4.78	1221.49	6.80	1218.71
9		-1.13	1222.62	
	7.95	1226.01	3.43	1218.06
10		4.20	1221.81	
	4.69	1227.40	3.30	1222.71
11		7.28	1220.12	
	3.09	1222.33	8.16	1219.24

(5)

$$\frac{F0.4}{21.0} \quad \frac{F0.5}{20.0}$$

Summit Sec →

$$\frac{F1.8}{15.6} \quad \frac{F1.6}{16.6}$$

$$\frac{C2.5}{25.2} \quad \frac{C2.3}{24.2}$$

"

"

→

$$\frac{C0.8}{15.0} \quad \frac{C0.9}{16.0}$$

$$\frac{F0.6}{20.6} \quad \frac{F0.8}{19.6}$$

$$\frac{F0.8}{19.6} \quad \frac{F0.8}{20.6}$$

$$\frac{C0.2}{21.3} \quad \frac{F0.3}{20.3}$$

$$\frac{F1.9}{17.9} \quad \frac{F1.9}{18.9}$$

$$\frac{C2.6}{25.4} \quad \frac{C2.4}{24.4}$$

$$\frac{C0.2}{21.1} \quad \frac{F0.3}{22.1}$$

$$\frac{C4.4}{27.7} \quad \frac{C4.0}{26.7}$$

$$\frac{C2.1}{23.9} \quad \frac{C2.3}{24.9}$$

$$\frac{C3.3}{26.4} \quad \frac{C2.1}{25.4}$$

$$\frac{C2.0}{22.8} \quad \frac{C2.1}{24.8}$$

$$\frac{F3.0}{19.2} \quad \frac{F3.1}{18.2}$$

$$\frac{F3.2}{18.4} \quad \frac{F2.7}{19.4}$$

$$\frac{F5.8}{26.8} \quad \frac{F5.9}{24.8}$$

← 8' Berms →

$$\frac{F9.4}{30.8} \quad \frac{F10.0}{32.8}$$

$$\frac{C3.4}{26.5} \quad \frac{C3.2}{25.5}$$

$$\frac{C0.0}{20.8} \quad \frac{C0.0}{21.8}$$

$$\frac{C5.1}{29.2} \quad \frac{C5.0}{28.2}$$

$$\frac{C2.3}{24.2} \quad \frac{C2.4}{25.2}$$



1222.33

12

5.66 | 21667

3.84 | 21437 11.80 | 21053

13

2.03 | 21234

14

3.91 | 21046

5.82 | 21479 5.40 | 20897

15

1.29 | 21350

12.47 | 22651 0.75 | 21904

16

7.51 | 21900

13172 6.69 | 23244 0.69 | 22582 | 22575

17

7.94 | 22450

6.28 | 23536 3.36 | 22908

18

7.04 | 22832

5.05 4.96 | 23040

19

C3.9 C3.7  
27.3 26.3

C2.6 C2.6  
24.7 25.7

C0.9 C0.0  
21.8 20.8

F4.5 F4.4  
22.0 22.0

F4.1 F4.2  
21.4 20.4

F5.1 F5.0  
22.2 23.2

F0.9 F0.9  
20.4 19.4

F3.1 F3.0  
18.2 19.2

C4.9 C4.6  
28.7 27.7

C1.3 C1.5  
22.7 23.7

C6.9 C6.5  
31.5 30.5

C2.3 C2.2  
24.2 25.2

C4.3 C4.1  
27.9 26.9

C2.1 C2.0  
23.9 24.9

Reset

BM#2 0.65 122640 122575

11.98 1225.85 12.50 1213.87

5.20 1229.56 1.49 1224.36

11

9.44 1220.12

C5.0  
29.2

C24  
252

7

Fine Grate  
Sec B

8/21

Richey  
Parks  
Rand  
Canfield

8

B.M. 4.76 1203.72 1198.96

Profile  
Reading

32+90.5 5.02 1198.70 ✓ .03 5.4

+50 4.50 1199.22 ✓ .02 4.4

32 3.88 1199.84 ✓ .01 3.8

+50 3.26 1200.46 ✓ 3.1

31 2.49 1201.23 ✓ 2.3

+50 12.53 1215.02 1.23 1202.49 ✓ 1.1

30 10.77 1204.25 ✓ 10.6

+50 8.52 1206.50 ✓ 8.7

29 6.02 1209.00 ✓ 6.5

+50 3.52 1211.50 ✓ 4.2

28 12.97 1226.97 1.02 1214.00 ✓ 1.3

+50 10.47 1216.50 ✓ 10.3

27 7.97 1219.00 ✓ F0.5 8.0

+50 5.47 1221.50 ✓ 5.4

26 2.97 1224.00 ✓ 2.5

B.M.#3 0.87 1227.03 0.87 1226.10 1226.16 9.6

+50 10.35 1236.85 0.53 1226.50 ✓ 9.6

25 7.85 1229.00 ✓ 7.9

+50 5.79 1231.06 ✓ 6.4

24 4.60 1232.25 ✓ 5.1

+50 4.29 1232.56 ✓ 4.7

23 2.77 1234.77 4.85 1232.00 ✓ 3.0

+50 3.77 1231.00 ✓ 3.6

Profile Reading

1234.77

22	4.77	1230.00	c 1.04
+50	5.77	1229.00	✓
21	6.57	1228.20	✓
+50	6.97	1227.80	✓
20	6.97	1227.80	✓
+50		1228.20	
19		1228.80	
+50		1228.90	
18		1228.32	
+50		1226.83	
17		1224.50	
BM #2		1225.75	
+50		1221.55	
16		1219.00	
+50		1216.25	
15		1213.50	
+50			
14			
+50			
13			
+50			
12			
+50			
11			

10

Pro tiles

8/21

Rochey  
Parke

2575

700

(11)

T.P.	5.55	1233.35		1227.80
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19+50			55.5	1227.8
19			4.8	1228.5
+50			5.0	1228.3
18			5.8	1227.5
+50			7.5	1225.8
17			9.1	1224.2
+50			11.0	1222.3
16	1.84	1224.43	10.76	1222.59
+50			5.0	1219.4
15			8.7	1215.7
+50			11.3	1213.1
14			12.4	1212.0
+50	9.81	1222.21	12.9	1211.5
13			12.03	1212.40
+50			10.6	1211.6
12			10.0	1212.2
+50			8.3	1213.9
11			5.5	1216.7
+50			4.0	1218.2
10			3.0	1219.2
+50			1.9	1220.3
9			0.8	1221.4
+50	5.98	1222.19	0.00	1222.21
8			6.9	1221.3
+50			6.4	1221.8
7			5.5	1222.7

1228.19

8		4.6	1223.6	
+50		4.4	1223.8	
7		3.1	1224.6	
+50		3.2	1225.0	
6		3.0	1225.2	
T.P.	4.65	1231.20	1.64	1226.55
+50		5.6	1226.6	
5		5.1	1226.1	
+50		5.1	1226.1	
4		5.0	1226.2	
+50		4.9	1226.3	
3		4.8	1226.4	
+50		4.6	1226.6	
2		5.4	1225.8	
+50		6.0	1225.2	
1		7.1	1224.1	
+50		8.1	1223.1	
00		10.3	1220.9	

2897

12

8/24 Richey  
Parks  
Rang  
Canfield

(13)

BM <sup>#</sup> 2	6.87	1232.62		1225.75
19+50			4.42	1228.20 ✓
19			3.82	1228.80 ✓
+50			3.84	1228.78 ✓
18			4.70	1227.92 ✓
+50			6.19	1226.43 ✓
17			8.32	1224.30 ✓
+50	0.13	1221.78	10.97	1221.65 ✓
16			2.78	1219.00 ✓
+50			5.53	1216.25 ✓
15			8.28	1213.50 ✓
+50			10.21	1211.57 ✓ C 1.0
14			10.92	1210.86 ✓ C 1.0
+50	11.00	1222.86	9.92	1211.86 ✓
			11.66	1211.20 ✓ C 1.0
13			10.32	1212.54 ✓
+50			8.35	1214.51 ✓
12			6.29	1216.57 ✓
+50			4.54	1218.32 ✓
11			3.24	1219.62 ✓
+50			1.96	1220.90 ✓
10			1.45	1221.41 ✓
+50	7.54	1229.45	0.95	1221.91 ✓
9			7.03	1222.42 ✓
+50			6.53	1222.92 ✓



150  
128  
280

1229.45

8		6.02	1222.43	✓
+50		5.62	1223.83	✓
7		5.21	1224.24	✓ C 1.0
+50		4.81	1224.64	✓ C 1.0
6		4.40	1225.05	✓ C 1.0
+50		4.00	1225.45	✓
5		3.59	1225.86	✓
+50		3.19	1226.26	✓
B.M. #1	2.17	0.46	1228.99	1228.93
4		4.43	1226.67	✓
+50		4.03	1227.07	✓
3		3.73	1227.37	✓
+50		3.86	1227.24	✓
2		4.45	1226.65	✓
+50		5.48	1225.62	✓
1		6.84	1224.26	✓
+50		8.22	1222.88	✓
0		9.60	1221.50	

B.M. #1 3.89 1202.85 1198.96

13.06 1214.12 1.79 1201.06

1142.74

29 5.02 1209.10 ✓

+50 7.42 1206.70 ✓

30 9.57 1204.55 ✓

+50 11.33 1202.79 ✓

31 1.32 1202.85 12.59 1201.50 ✓

+50 2.09 1200.76 ✓

32 2.81 1200.04 ✓

+50 3.53 1199.32 ✓

7/24/32

16

BM #2	9.14	1234.89		1225.75
	2.49	1230.52	6.86	1228.03
Flow R			7.64	1222.88
Stake R			6.14	
Flow L			6.90	1223.62
Stake L			3.90	

BM #2	1.26	1227.01		1225.75
	0.80	1214.82	12.99	1214.02
Flow R			6.78	1208.04
Flow L			9.60	1203.65
Stake L			8.10	
Flow R			10.40	1202.85
Stake R			8.40	

No 5

Sta 20+55

Flow	1223.5	18	19	Flow	1223.0
C	3.0			C	1.5
		← 19	20	→	

No 4

Sta 13+59

Fl.	1203.5	23	24	Fl.	1203.0
C	1.5			C	2.0
		← 24	25	→	

Fl. Line 5.7 R.  
 + 50 6.9  
 + 200 8.0

8/25/29

17

Town Line Sec B

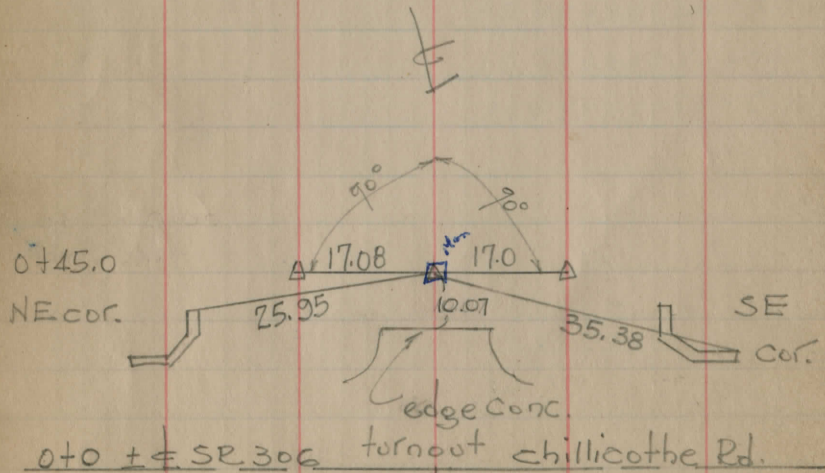
Grade stakes at Intersection

BM #1	238	123131	1228.93
E grade	9.81	122150	
NE 4	10.56	122075	
SE 4	10.86	122045	
SW 4	9.06	122225	
NW 4	8.76	122255	

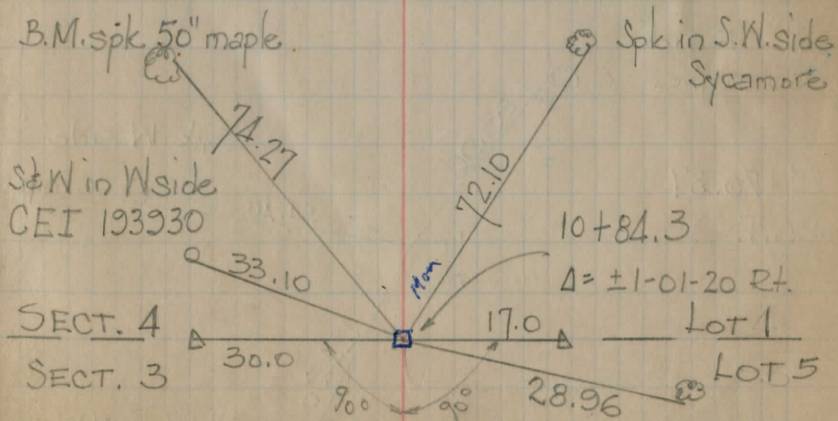
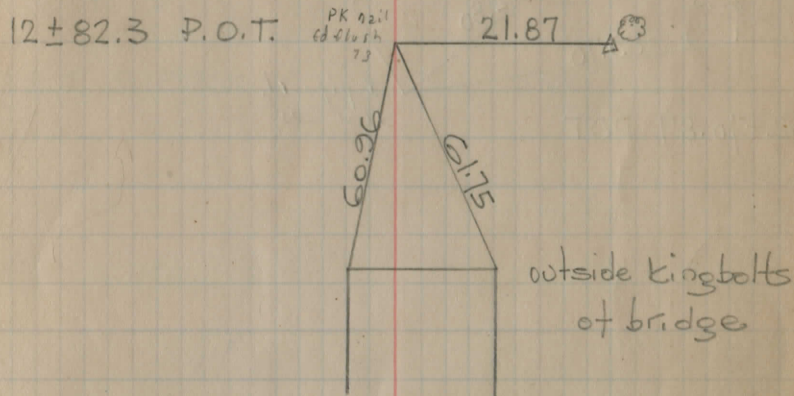
Fine Grades Reset  
8/27

B.M. #1	190	1230.83		122893
3			3.46	1227.37 ✓
4			4.16	1226.67 ✓
	2.67	1227.95	5.55	1225.28
8+50			5.03	1222.92 ✓
9			5.53	1222.42 ✓
9+50			6.04	1221.91 ✓
10			6.54	1221.41 ✓
	2.00	1221.65	8.30	1219.65
13			9.11	1212.54 ✓
+50			10.45	1211.20 ✓ C1.0
14			10.79	1210.86 ✓ C1.0
+50			10.88	1211.57 ✓ C1.0

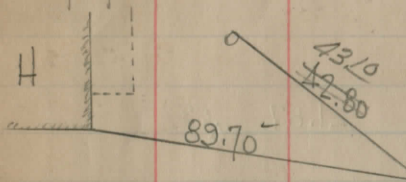
FAIRMOUNT ROAD C.H. No 16  
Alignment as of June 1954



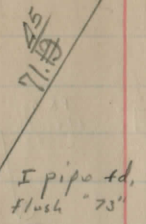
SEC. C & D pt



Spk SE side CEI  
loop pole 193899



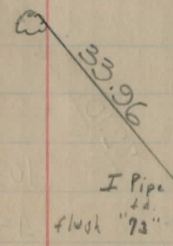
Spk in SW side  
C.E.I 566414



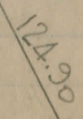
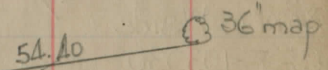
32+70.87 POT

Spk SE side  
30" maple

24+20.87  
P.O.T.



Spk W side

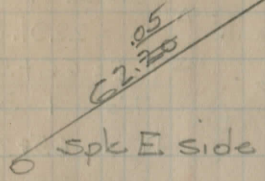
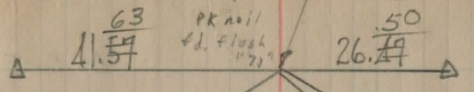


Spk in NW  
side 30" Maple

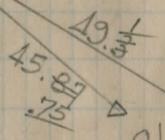
P.I. 58+08.87

20

$\Delta = 6-30 \text{ Lt}$   
 $D = 3-15-12$   
 $R = 1761.18$   
P.I 58+08.87  
T 100.00  
PC 57+08.87



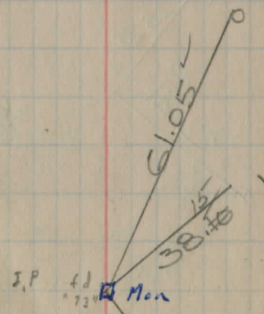
C.E.I 571973x



Ctrl of L = 199.80  
Steel fence  
post P.T. 59+08.67  
E = 2.84

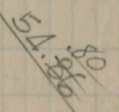
Spk in road face  
C.E.I #571971x

Vee in NE side  
8" maple

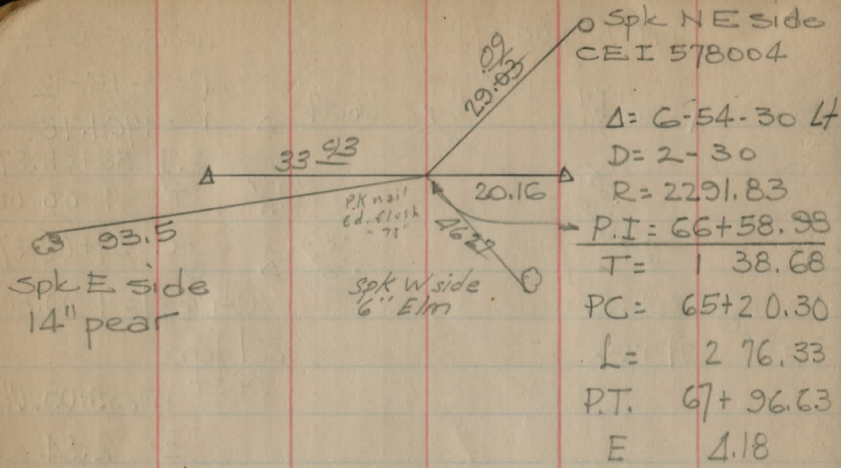


53+70.87 POT

Northwood rd  
53+64.36

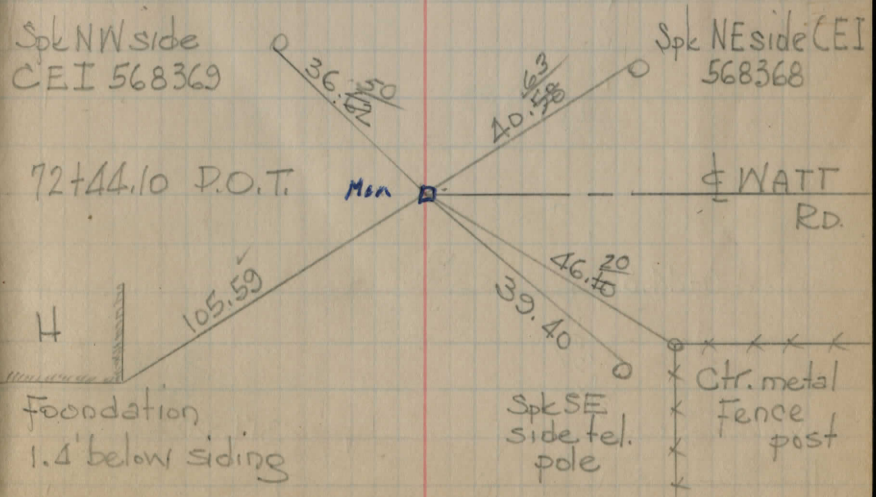
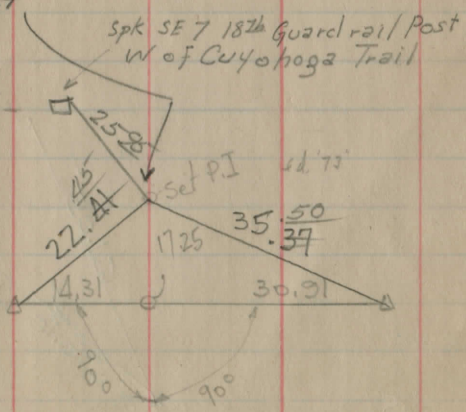


Vee in NW  
side 8" Maple



$\Delta = 6-54-30 \text{ Lt}$   
 $D = 2-30$   
 $R = 2291.83$   
 $P.I. = 66+58.98$   
 $T = 138.68$   
 $PC = 65+20.30$   
 $L = 276.33$   
 $P.T. = 67+96.63$   
 $E = 4.18$

$\Delta = 12-31-30 \text{ Rt}$   
 $D = 6-00$   
 $R = 954.93$   
 $P.I. = 62+33.17$   
 $T = 104.79$   
 $PC = 61+28.38$   
 $L = 208.75$   
 $PT = 63+37.13$   
 $E = 5.73$

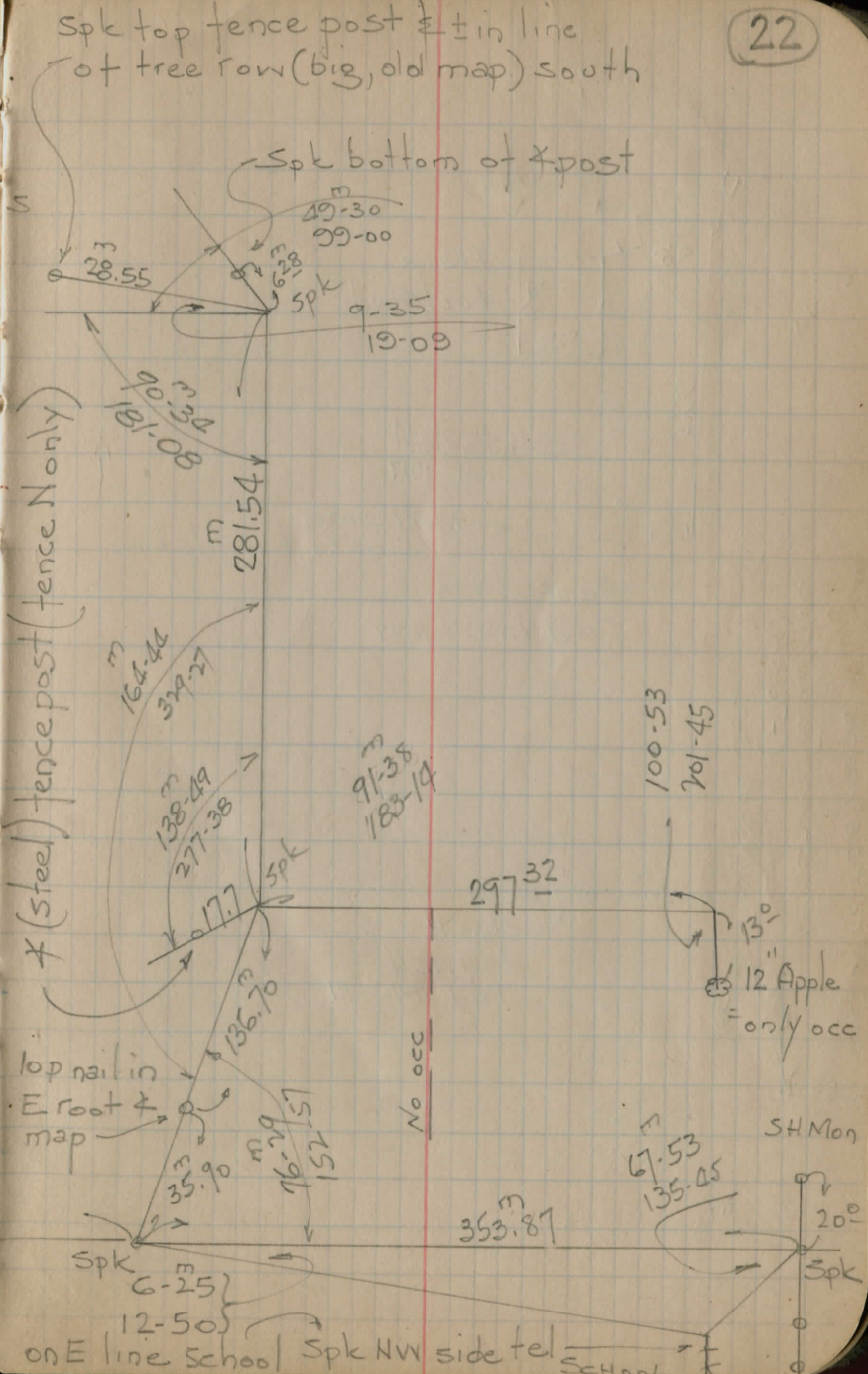
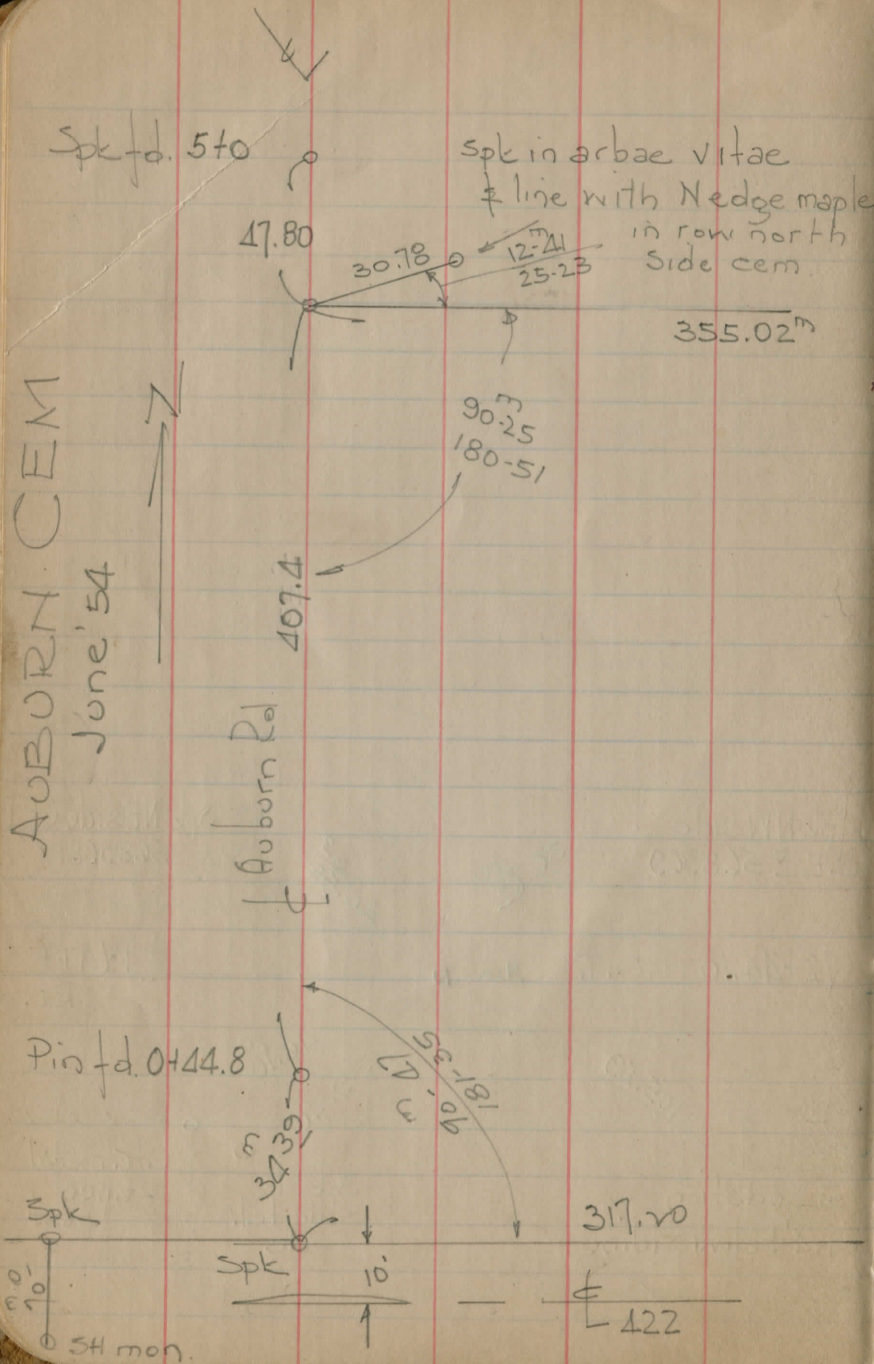


$72+44.10 \text{ P.O.T.}$   
 $Mon$   
 $WATT \text{ Rd}$   
 $Spk SE side tel. pole$   
 $Ctr. metal fence post$   
 $Foundation 1.4' \text{ below siding}$

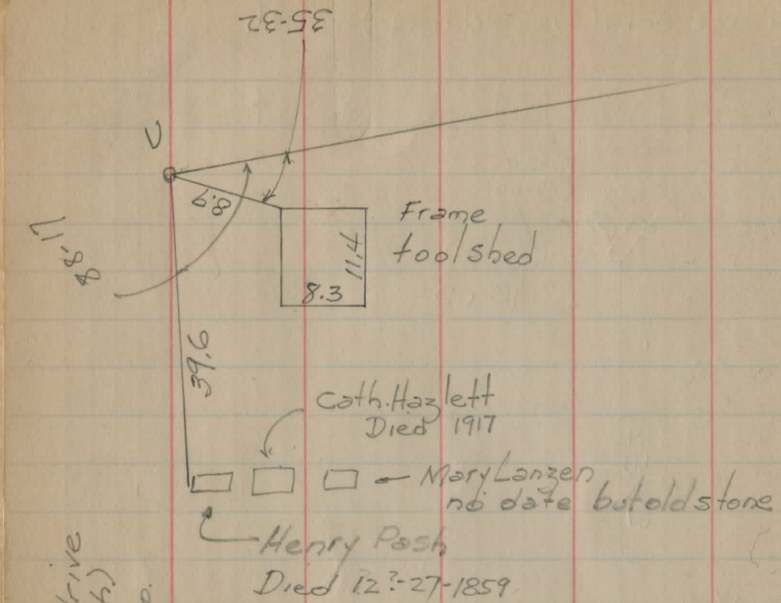


AUBORN CEM

June '54



spk W root 26" maple  
 1.P. set. in field drive (Flush)  
 spk N side 30" map.

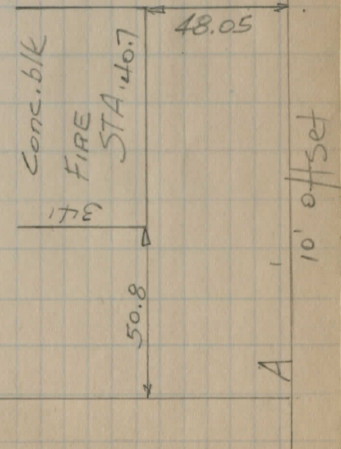
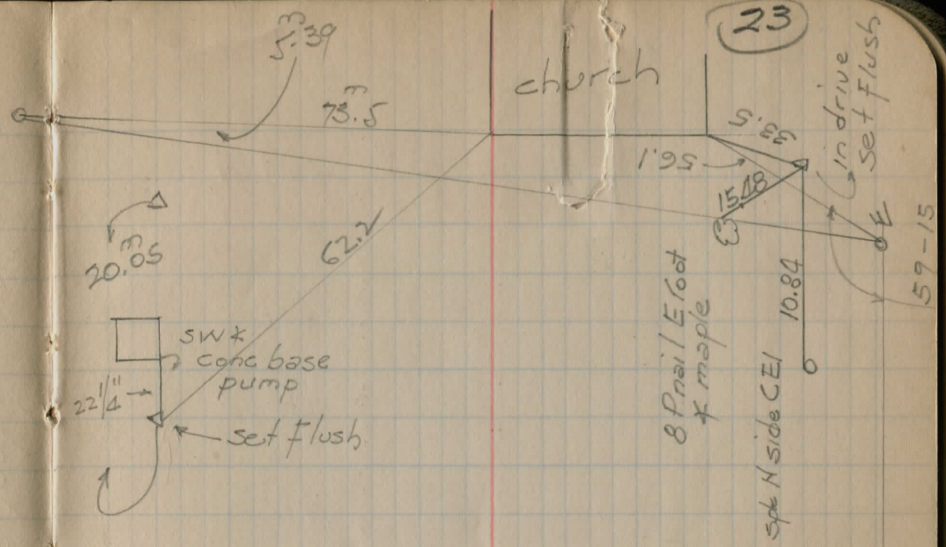


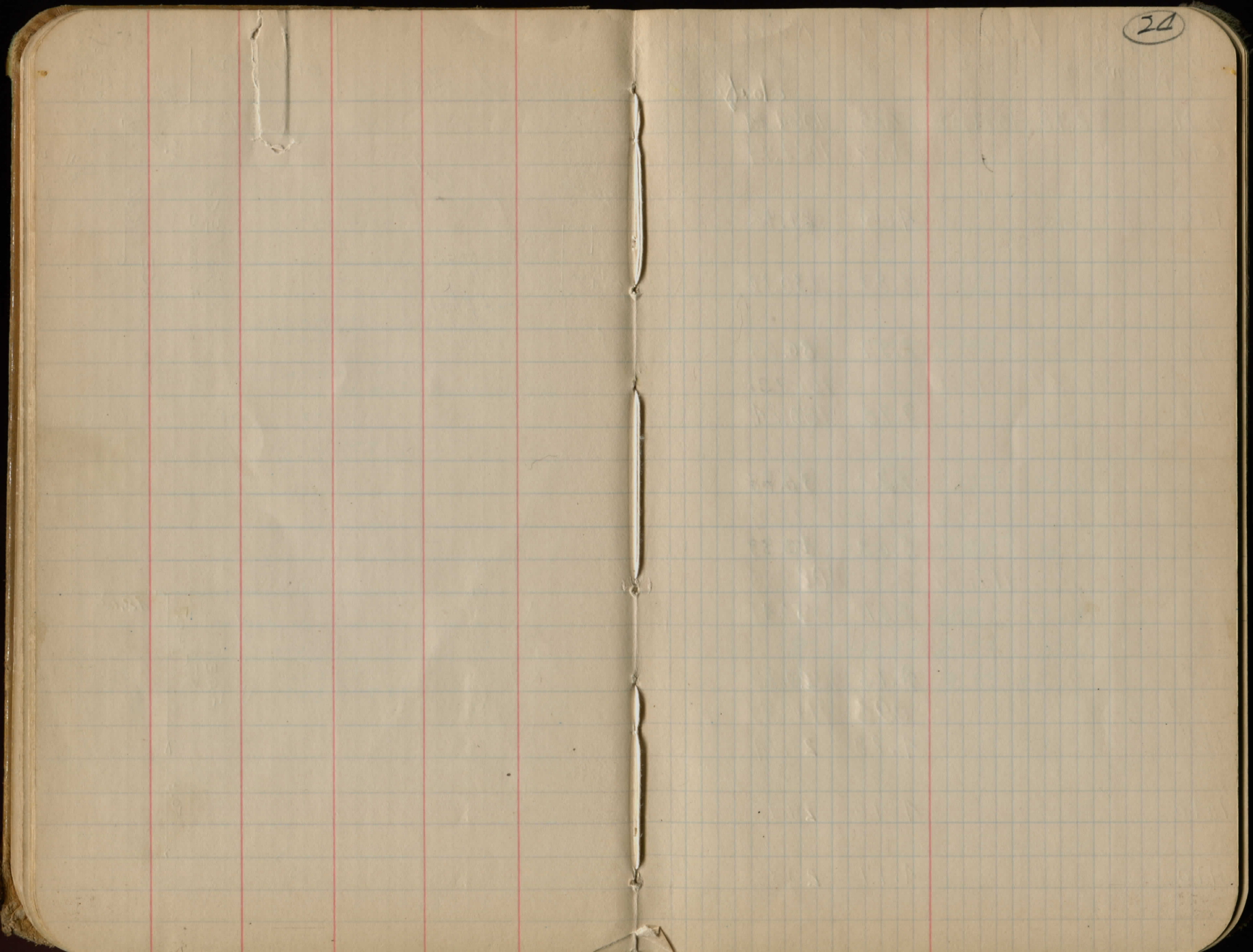
Henry Pash  
 Died 12?-27-1859

Mary Lanzen  
 no date but old stone

22.3 → □ □ □  
 Chas. H.  
 Ledwell  
 Died 11-14-81

Auburn Ctr. Cem.  
 6-30-54





H Patterson  
D. Cartfield  
T. Adams +

Fairmount  
HT -

Road June, 1859  
Elev  
cloudy  
warm  
clear

		HT	Elev
B.M	2.78	1034.02	1031.24
0+0		4.07	1029.95
1+0		4.10	29.92
2+0		3.83	30.19
3+0		3.97	30.05
4+0		3.78	30.24
5+0		3.23	30.79
6+0		3.03	30.99
7+0		3.61	30.41
8+0		4.16	29.86
9+0		4.28	29.74
10+0		4.10	29.92
11+0		4.17	29.85

		HI	Elev
		1034.02	
T.P	10.47	1040.74	1030.27
12+0			1035 1030.39
13+0			10.37 30.37
14+0			9.65 31.09
15+0			8.80 31.94
16+0			7.23 38.51
17+0			5.63 35.11
18+0			4.35 36.39
19+0			2.12 38.62
TP	12.69	1050.49	2.94 1037.80 41.55
20+0			9.39 41.10
21+0			5.67 44.82
22+0			0.85 49.64
T.P	12.57	1062.26	0.85 1049.64
23+0			6.02 56.19

	+	H/I	-	Elev
T.P.	7.00	1062.21	0.35	1064.86
24+0		1068.86	5.92	1062.94
25+0			5.33	63.53
26+0			4.56	62.30
27+0			5.35	63.51
T.P.	12.39	1075.90	5.35	1063.51
28+0			7.88	1068.02
29+0			.02	75.88
T.P.	12.44	1088.31	.02	1075.88
30+0			2.79	85.53
T.P.	12.49	1098.02	2.79	1085.53
31+0			6.67	1091.35
32+0			2.85	1095.17
B.M. +03	4.15	1102.24	0.93	1098.09
33+0			2.70	1099.54
34+0			3.69	1098.55
35+0			5.76	1096.48

spk 5.

	+	H/I	-	Elev
36+0		1102.24	6.63	1095.61
37+0			6.66	1095.58
38+0			5.72	1096.52
39+0			3.50	1098.74
T.P.	12.35	1111.09	3.50	1098.74
40+0			11.57	1099.52
41+0			11.10	1099.99
42+0			9.46	1101.63
43+0			6.99	1104.10
44+0			3.99	1107.10
45+0			0.95	1110.14
T.P.	12.60	1122.74	0.95	1110.14
46+0			9.32	1113.42
47+0			6.74	1116.00
T.P.	10.95	1126.93	6.74	1116.00

side O.B. Tel Palo

	+	H1	-	Elev
		1126.95		
48+0			8.20	1118.75
49+0			4.74	1122.21
50+0			.08	1126.87
T.P.	12.30	1139.17	.08	1126.87
51+0			7.21	1131.96
52+0			2.33	1136.84
T.P.	10.63	1147.47	2.33	1136.84
53+0			4.98	1142.49
54+0			3.30	1144.17
55+0			4.65	1142.82
56+0			9.31	1138.16
T.P.	2.78	114094	9.31	1138.16
57+0			9.73	1131.21
T.P.	1.15	113236	9.73	1131.21
58+0			7.58	1124.78
59+0			11.78	1120.58

	+	H1	-	Elev
		1132.36		
60+0			12.00	1120.36
61+0			8.45	1123.91
62+0			1.43	1130.93
T.P.	10.29	1141.22	1.43	1130.93
63+0			3.27	1137.95
T.P.	11.33		3.27	1137.95
64+0			5.22	1136.00
T.P.	12.73	1148.73	5.22	1136.00
65+0			6.88	1142.85
66+0			.88	1147.85
T.P.	8.05	1155.90	.88	1147.85
67+0			4.97	1150.93
68+0			4.76	1151.14
69+0			4.78	1151.12
70+0			4.28	1151.62
71+0			3.19	1152.71
72+0			1.99	1153.91

+

1155.90

8/20

72+44

1.38 1154.52

+

H/

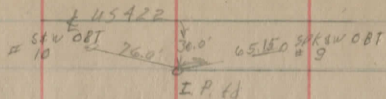
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Flou



9-12-57  
H. Patterson  
T. Adams

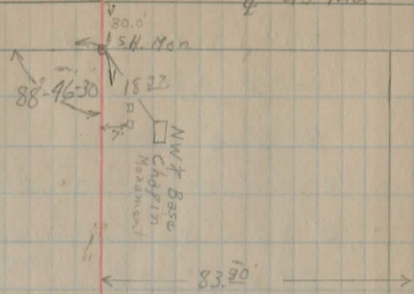
# Auburn Corners Cem



I.P. 11

266.80'

45.422



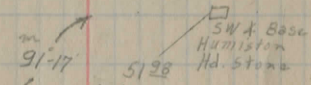
83.20'

I.P. 11

354.82'

78.60'

DRIVE



268.00'

I.P. 11  
40.02'

## Drainage Structures

CH #16 See C & D

0+35	30" X 52' CIP	
8+55	30" X 50' rein conc culv't	good cond.
	Bridge	
16+10	30" X 36' X 50	ston & conc box culv't ± 60° skew
26+50	5' X 6.5' X ± 66'	conc culv't suggest replace 40'
40+40	15" X 34' CIP	cond poor
60+80	54" X 128' Rich Conc Culv't	

## BM's 1958

#1 sta.	
0+35	SE cor S wing culv't hdwl SE quad SR 306 & CH #16 Elev 1029.04
#2 11+60	Spk S root 60" Maple 30' Lt Elev 1031.72
#3 34+69	Spk S. side 18" Catalpa 30' Lt Nearest to drive Elev 1100.87
#4 69+61	Spk S. Root 48" Elm 30' Lt Elev 1161.85

## Typical Section adjoining rdways

### Watt rd.

19'	traffic bound gravel
2'	(average) berms
25'	ditch to ditch

### #16 E of Watt Rd

20'	traffic bound gravel
2'	(average) berms
27'	ditch to ditch

### Northwood Rd

14'	traffic bound gravel
1 1/2'	(average) berms
22'	ditch to ditch

### SR 306 N & S of #16

24'	T-35 surface
10'	(average) berms
50'	ditch to ditch

### #16 W of SR 306

16'	T-35 surface
4'	(average) berms
32'	ditch to ditch

Temple  
Patterson  
Young

Profile Fairmount Rd CH<sup>#</sup>16 Sec C<sup>#</sup>4D  
also 600' of profile on all inter Rds.

April 1958

32

	+	HI	-	Elev
BM #2	6.66	1038.38		1031.72
TP	5.00	1039.70	3.68	1034.70
BM #1			10.66	1029.04
			6.1	1033.60
			5.6	1034.10
			4.4	1035.30
			2.6	1037.10
			0.1	1039.60
			-2.4	1042.10
			-4.4	1044.10
			6.3	1033.40
			5.9	1033.80
			5.4	1034.30
			4.9	1034.80
			4.9	1034.80
			4.4	1035.30
1+0			6.1	1033.60 ✓
2+0			5.8	1033.90 ✓
3+0			5.9	1033.80 ✓
TP	4.65	1038.37	5.98	1033.92
4+0			4.1	1034.27 ✓
5+0			3.7	1034.67 ✓
6+0			3.9	1034.47 ✓

Spk S root 60" maple ± sta 11+60 ± 30 ft

SE cor S wing culvert hdwl SE quad 306 & CH<sup>#</sup>16  
E int 306 & #16

100' N on 306

200' " " "

300' " " "

400' " " "

500' " " "

600' " " "

100' S on 306

200' S on 306

300' S " "

400' " " "

500' " " "

600' " " "

	+	HI	-	Elev
		1038.37		
7+0			4.7	1033.67 <sup>7</sup> ✓
8+0			5.0	1033.37 <sup>4</sup> ✓
9+0			4.9	1033.47 <sup>5</sup> ✓
10+0			4.9	1033.47
11+0			4.4	1033.97 <sup>4.0</sup> ✓
BM #2	9.00	1040.67	6.70	1031.67
12+0			6.6	1039.07 <sup>1</sup> ✓
13+0			6.5	1034.17 <sup>2</sup> ✓
14+0			5.8	1034.87 <sup>9</sup> ✓
15+0			5.0	1035.67 <sup>7</sup> ✓
16+0			3.4	1037.27 <sup>3</sup> ✓
17+0			1.8	1038.87 <sup>9</sup> ✓
T.P.	9.65	1048.51	1.81	1038.86
18+0			8.3	1040.24
19+0			6.1	1042.44
20+0			3.6	1044.94
T.P.	11.89	1059.47	0.93	1047.58
21+0			10.8	1048.67 <sup>7</sup> ✓
22+0			5.9	1053.57 <sup>6</sup> ✓
T.P.	11.99	1071.09	0.37	1059.10
23+0			10.9	1060.19 <sup>9</sup> ✓
23+50			7.4	1063.69 <sup>7</sup> ✓
24+0			4.1	1066.99 <sup>7</sup> ✓

on bridge

TH

1111

62 33.17

12 23  
62 + 15.92

9 Mon Boxes

Needed

all points except at

sta 12 + 82.39

sta 62 + 15.92

	+	HI	-	Elev
		1071.09		
24+50			3.0	1068.0 <sup>1</sup> <del>8</del>
25+0			3.7	1067.3 <sup>1</sup> <del>9</del>
26+0			4.9	1066.1 <sup>2</sup> <del>8</del>
27+0			3.6	1067.4 <sup>5</sup> <del>9</del>
TP	11.34	1082.02	0.41	1070.68
28+0			9.9	1072.1 <del>2</del>
28+50			6.4	1075.6 <del>2</del>
29+0			1.9	1080.1 <del>2</del>
TP	11.39	1093.35	0.06	1081.9 <del>6</del>
29+50			8.0	1085.3 <sup>4</sup> <del>5</del>
30+0			3.6	1089.7 <sup>8</sup> <del>5</del>
30+50			0.40	1092.9 <sup>3</sup> <del>5</del>
TP	11.49	1104.34	0.50	1092.8 <del>5</del>
31+0			8.8	1095.5 <del>4</del>
32+0			5.0	1099.3 <del>4</del>
32+50			3.2	1101.1 <del>4</del>
33+0			1.7	1102.6 <del>4</del>
33+50			1.5	1102.8 <del>4</del>
34+0			2.8	1101.5 <del>4</del>
35+0			4.9	1099.4 <del>4</del>
BM #3	3.76	1104.65	3.45	1100.8 <del>9</del>
36+0			6.0	1098.6 <sup>1</sup> <del>5</del>
37+0			6.0	1098.6 <sup>1</sup> <del>5</del>
38+0			5.1	1099.5 <sup>2</sup> <del>5</del>

Spk S side 18" Catalpa 30' Lt Nearest to drive Elev 1100.87

	+	HI	-	Elev
		1104.65		
39+0			2.8	1101.85 <sup>9</sup>
40+0			2.1	1102.55 <sup>6</sup>
41+0			1.5	1103.15 <sup>2</sup>
TP	11.50	1115.27	0.88	1103.77
42+0			10.5	1104.77 <sup>8</sup>
43+0			8.1	1107.17 <sup>2</sup>
44+0			5.0	1110.27 <sup>3</sup>
45+0			2.1	1113.17 <sup>2</sup>
TP	11.79	1126.79	0.27	1115.00
46+0			10.2	1116.59 <sup>6</sup>
47+0			7.6	1119.79 <sup>7</sup>
48+0			4.9	1121.89 <sup>9</sup>
49+0			1.4	1125.39 <sup>4</sup>
TP	9.90	1135.25	1.44	1125.35
50+0			5.2	1130.05 <sup>1</sup>
51+0			0.2	1135.05
TP	11.07	1145.17	1.15	1134.10
52+0			5.1	1140.89 <sup>7</sup>
52+50			2.6	1142.57 <sup>6</sup>
TP	8.73	1152.66	1.24	1143.93
53+0			7.1	1145.36 <sup>6</sup>
53+64 <sup>36</sup>			5.9	1146.76
			4.9	1147.76
			6.5	1146.16

int #16 @ Northwood Rd  
 100' N on Northwood  
 200' " " "

	+	HI	-	Elev
		1152.66		
			9.3	1143.36
			12.0	1140.66
			17.1	1135.56
			23.0	1129.66
54+0			5.4	1147.26
55+0			6.7	1143.96
TP	1.27	1146.0 1145.99	7.94	1144.72
56+0			4.6	1141.38
57+0			11.7	1134.29
TP	0.33	1134.32	12.0	1133.99
58+0			6.4	1127.92
59+0			10.6	1123.72
60+0			10.7	1123.62
61+0			7.2	1127.12
TP	11.62	1139.63	6.31	1128.01
62+0			6.0	1133.63
TP	11.88	1150.57	0.94	1138.69
63+0			9.9	1140.67
64+0			3.8	1146.87
TP	12.02	1162.12	0.47	1150.10
65+0			8.5	1153.62
66+0			3.4	1158.72
67+0			0.3	1161.82
TP	6.60	1166.82	1.90	1162.22

300' N on North wood

400' N " "

500' N " "

600' " " "



	+	HI	-	Elev
		1166.82		
68+0			4.8	1162.02
69+0			4.7	1162.12
70+0			4.3	1162.52
71+0			3.2	1163.62
72+0			2.1	1164.72
			1.3	1165.52
BM #4			4.91	1161.91
BM #4	8.75	1170.60		1161.85
			5.3	1165.30
			5.2	1165.40
			4.3	1166.30
			3.6	1167.00
			4.1	1166.50
			4.5	1166.10
			3.9	1166.70
			2.5	1168.10
			1.0	1169.60
TP	7.63	1177.26	0.97	1169.63
			5.8	1171.46
			4.3	1173.96
			2.2	1175.06

int #16 & Watt Rd.  
 spk S. Root 48" Elm 30' Lt sta 69+61 Elev 1161.85

100' S of #16 on Watt Rd  
 200' " " " " " "  
 300' " " " " " "  
 400' " " " " " "  
 500' " " " " " "  
 600' " " " " " "

100' E of Watt Rd on #16  
 200' E of " " " "  
 300' " " " " " "  
 400' " " " " " "  
 500' " " " " " "  
 600' " " " " " "

	+	HI	-	Elev
BM #1	11.85	1040.89		1029.04
			5.9	1034.99
TP	11.84	1052.58	0.15	1040.74
			10.6	1041.98
			4.0	1048.58
TP	11.43	1063.90	0.11	1052.47
			9.3	1054.60
			3.8	1060.10
			0.3	1063.60

See Pg 32 This Book  
100' W of 306 on " 16

200' " " " " "  
300' " " " " "  
400' " " " " "  
500' " " " " "  
600' " " " " "





41.











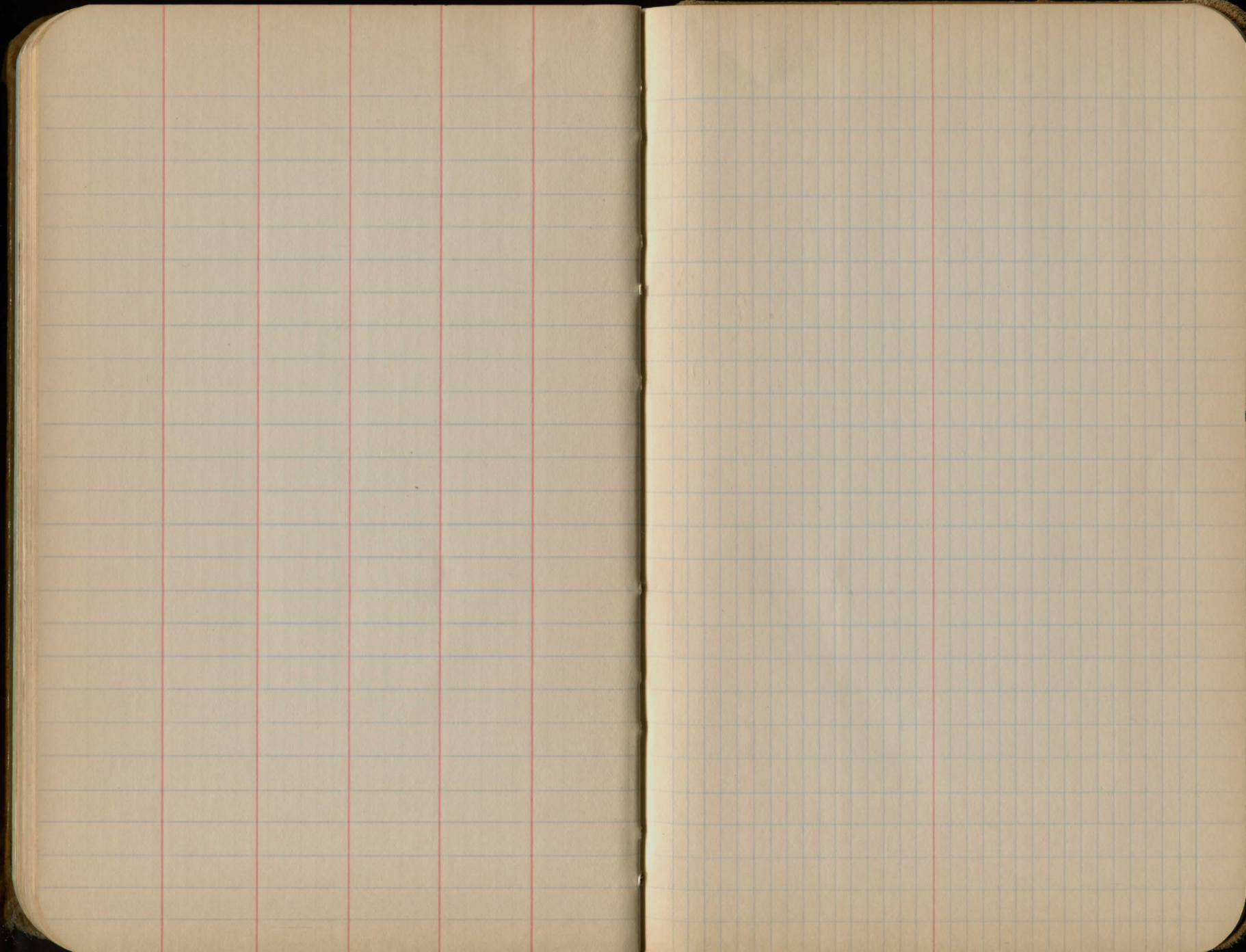


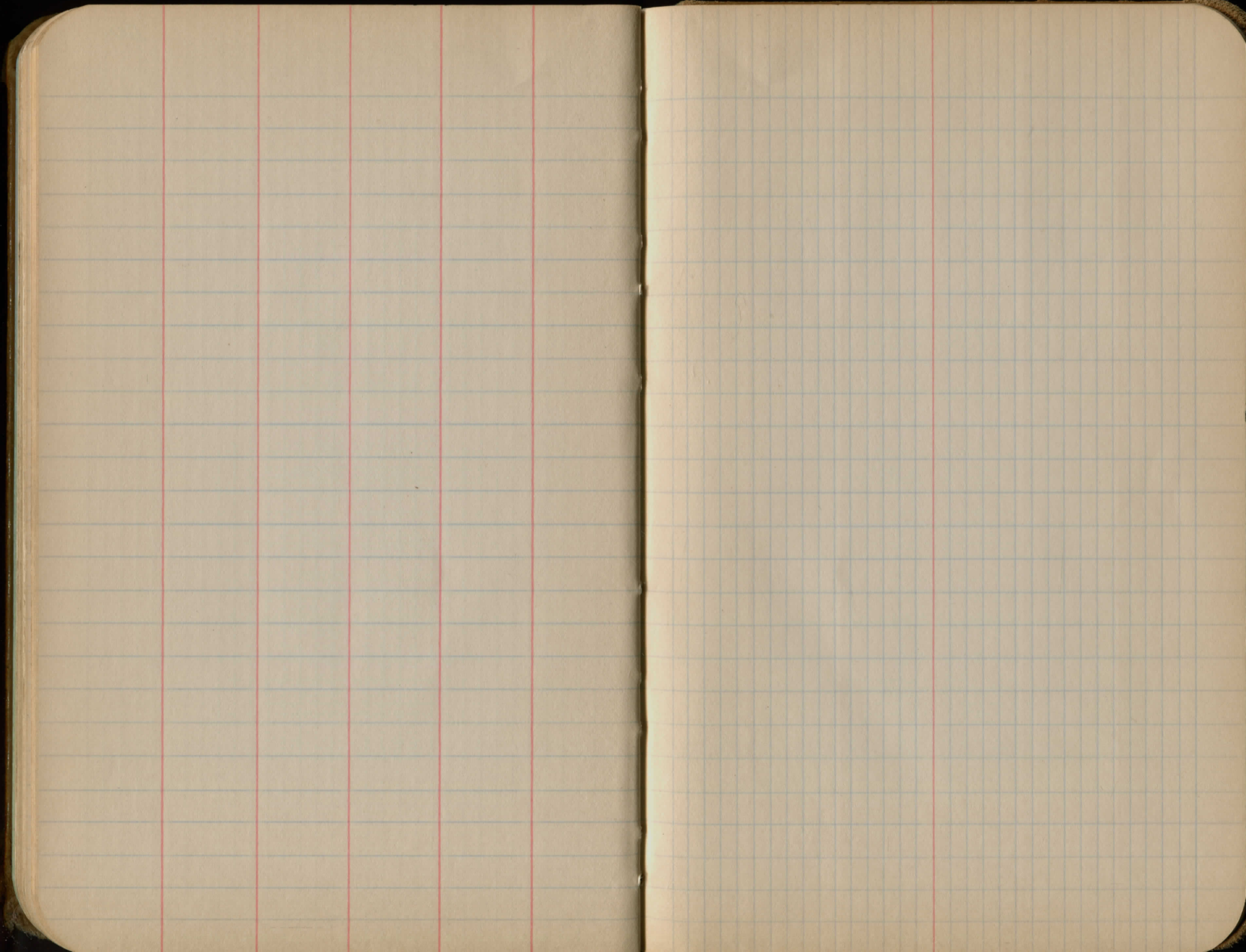




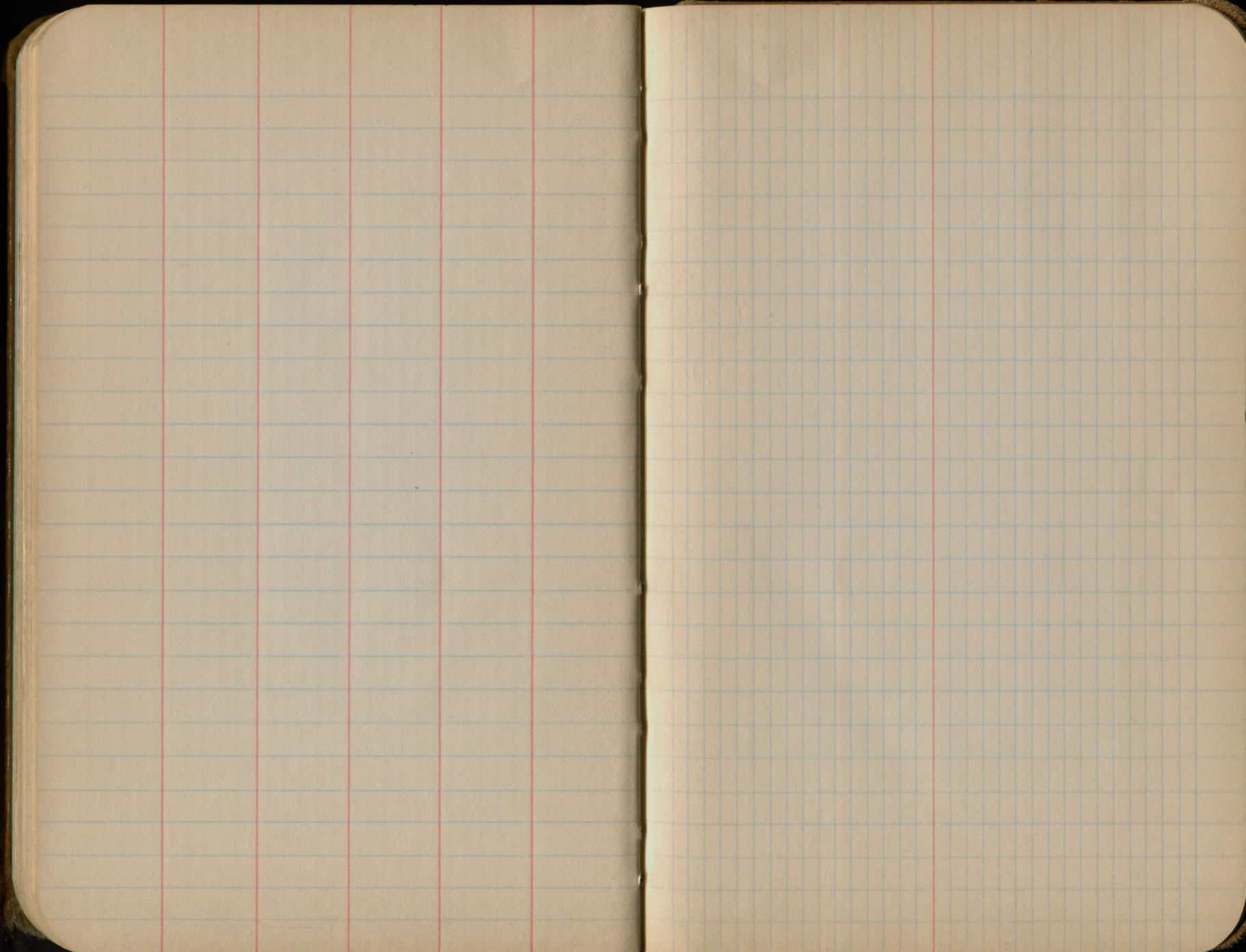


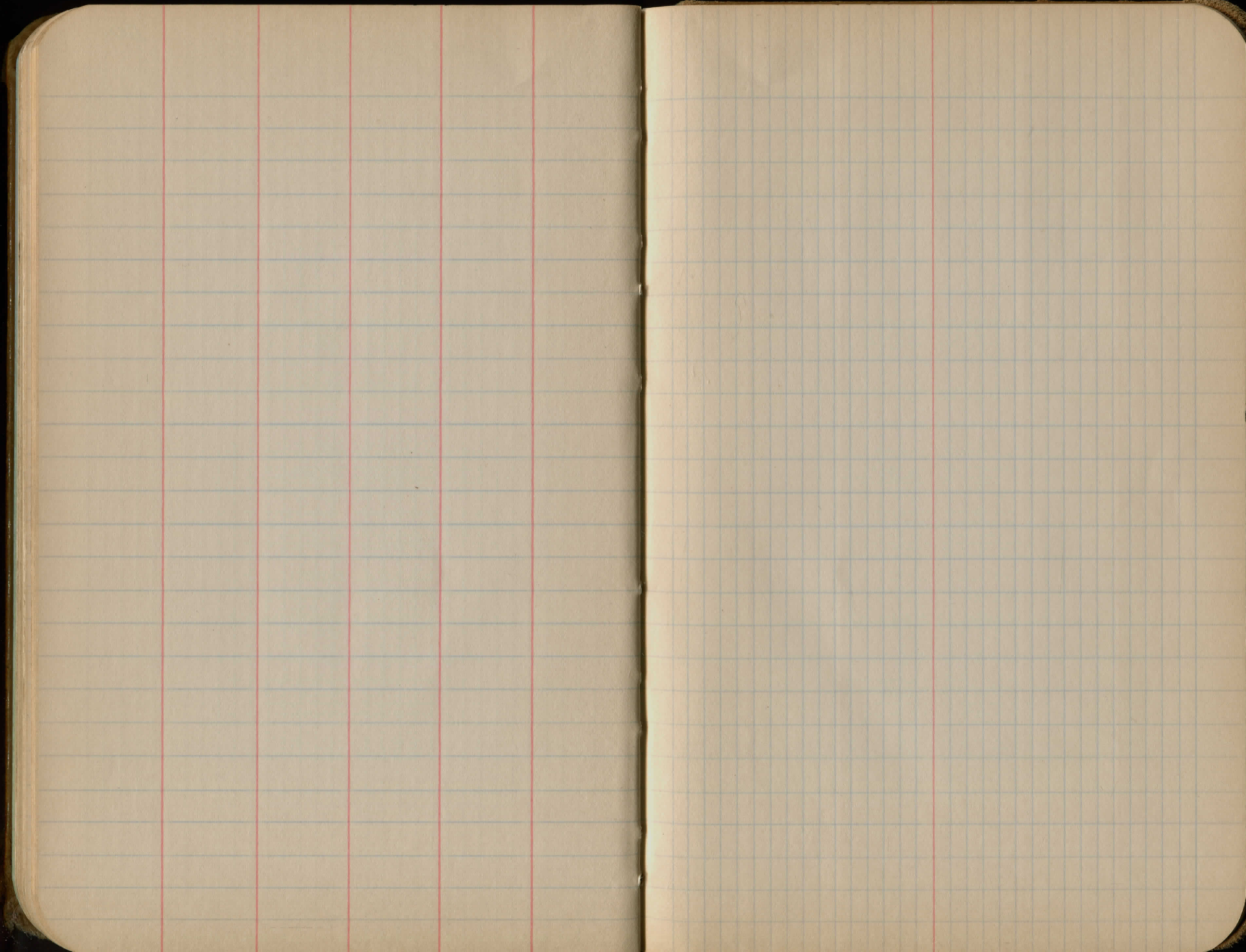


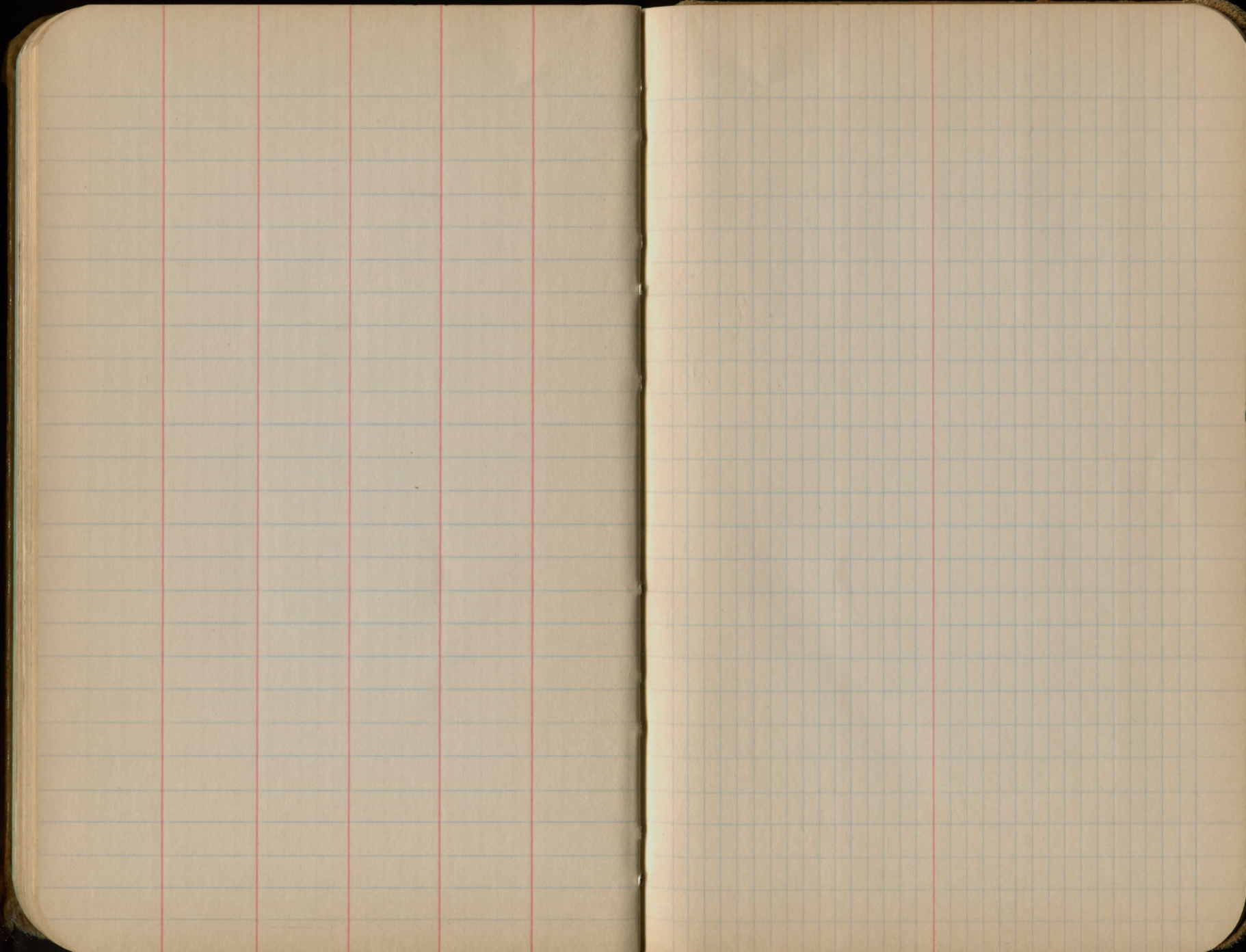


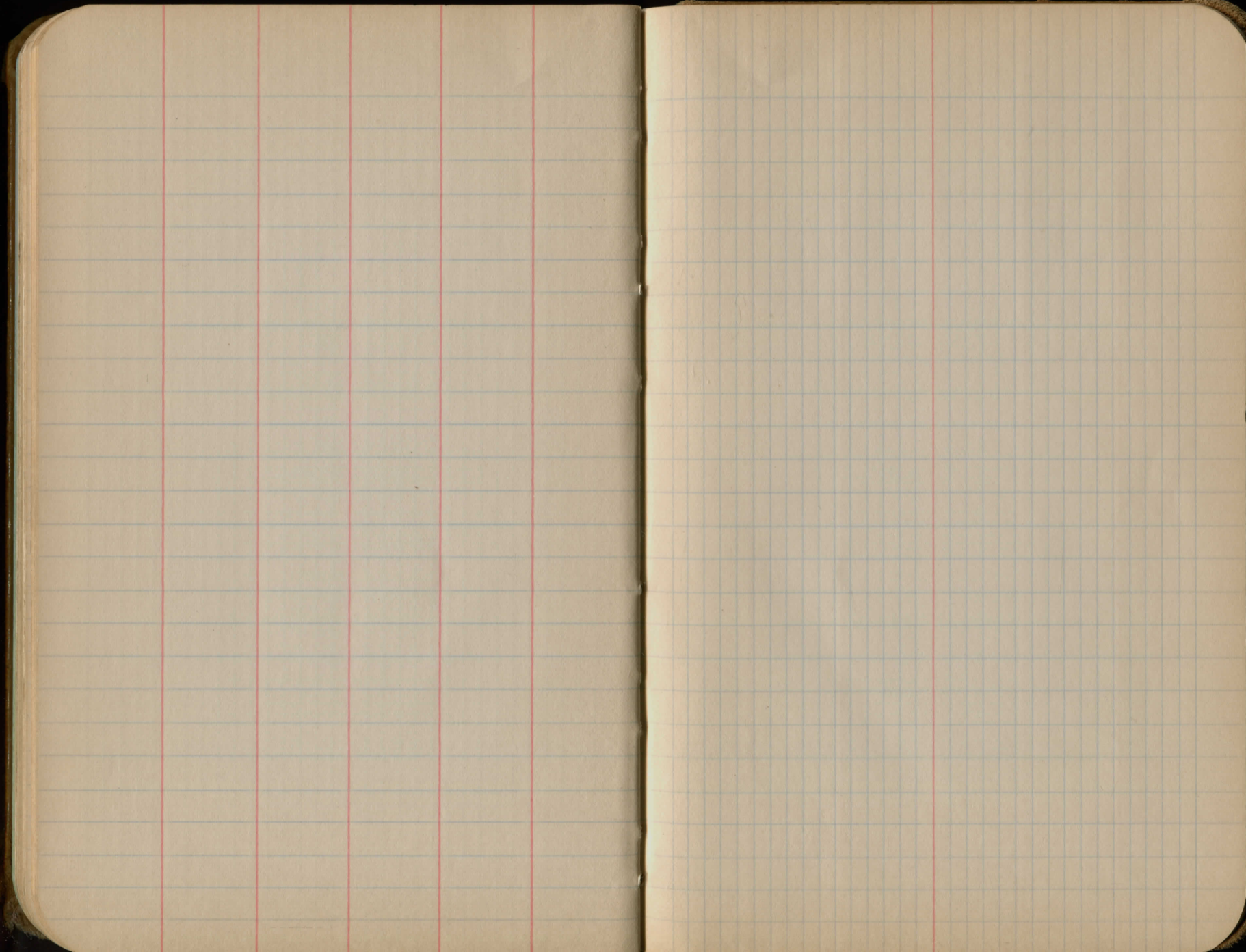


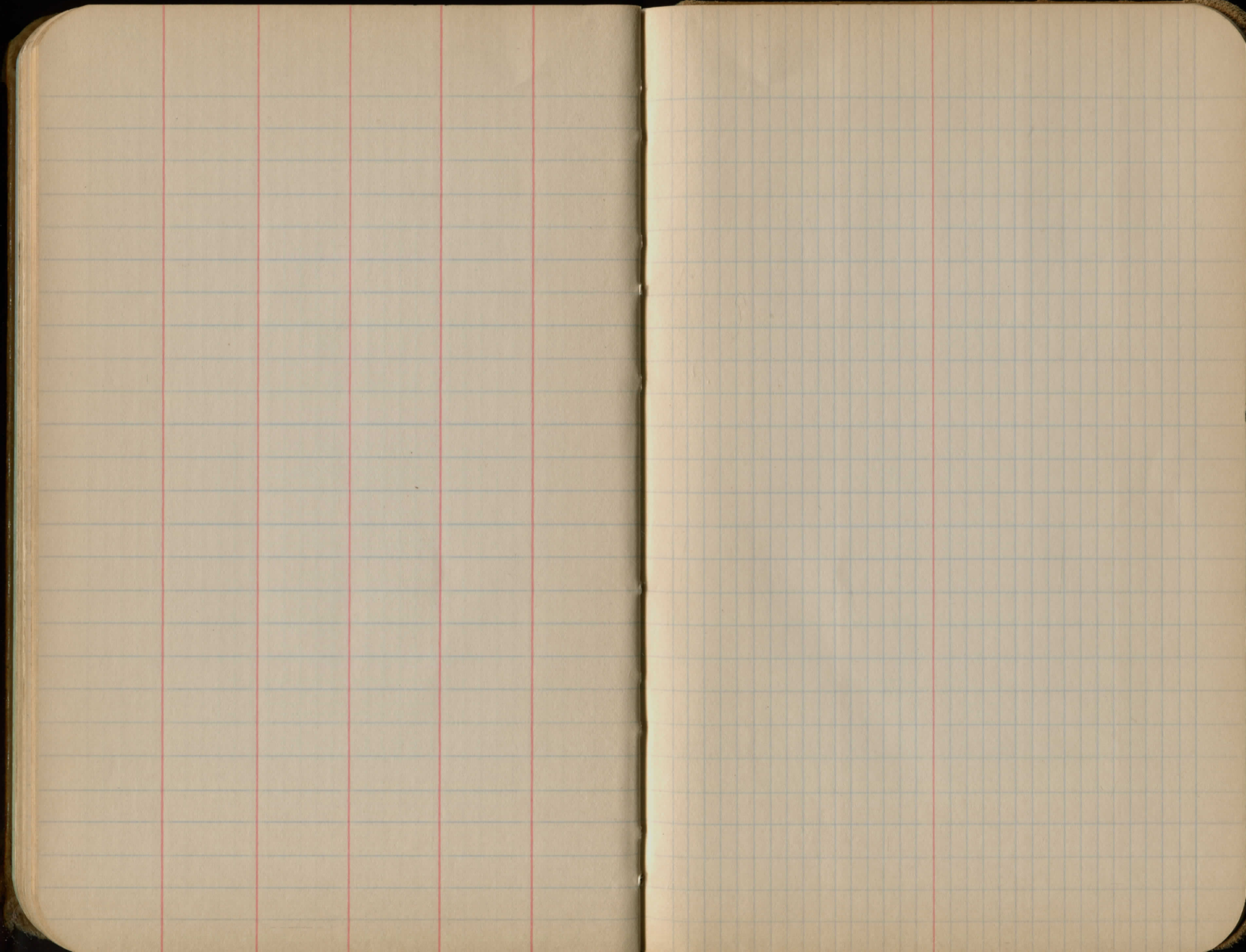


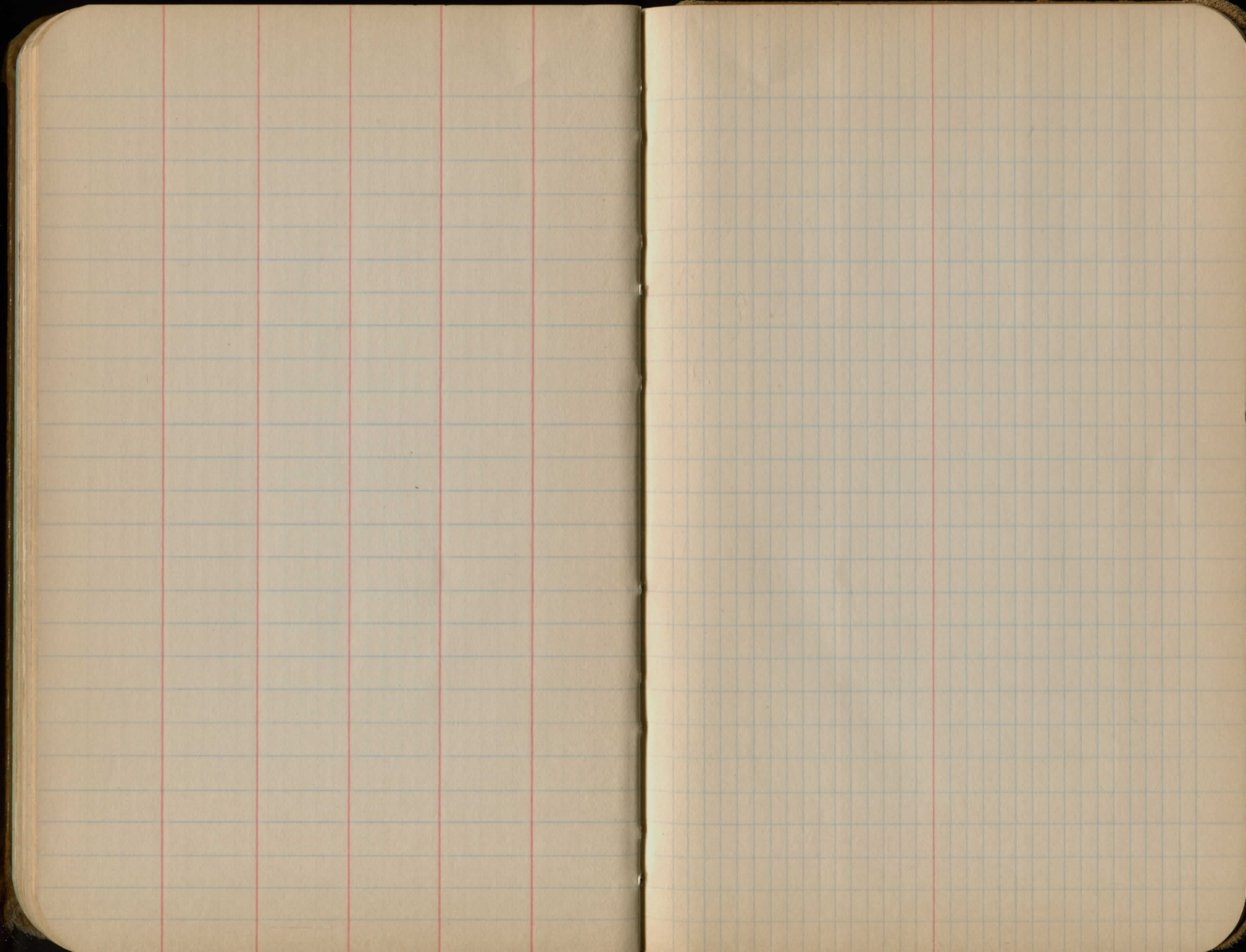


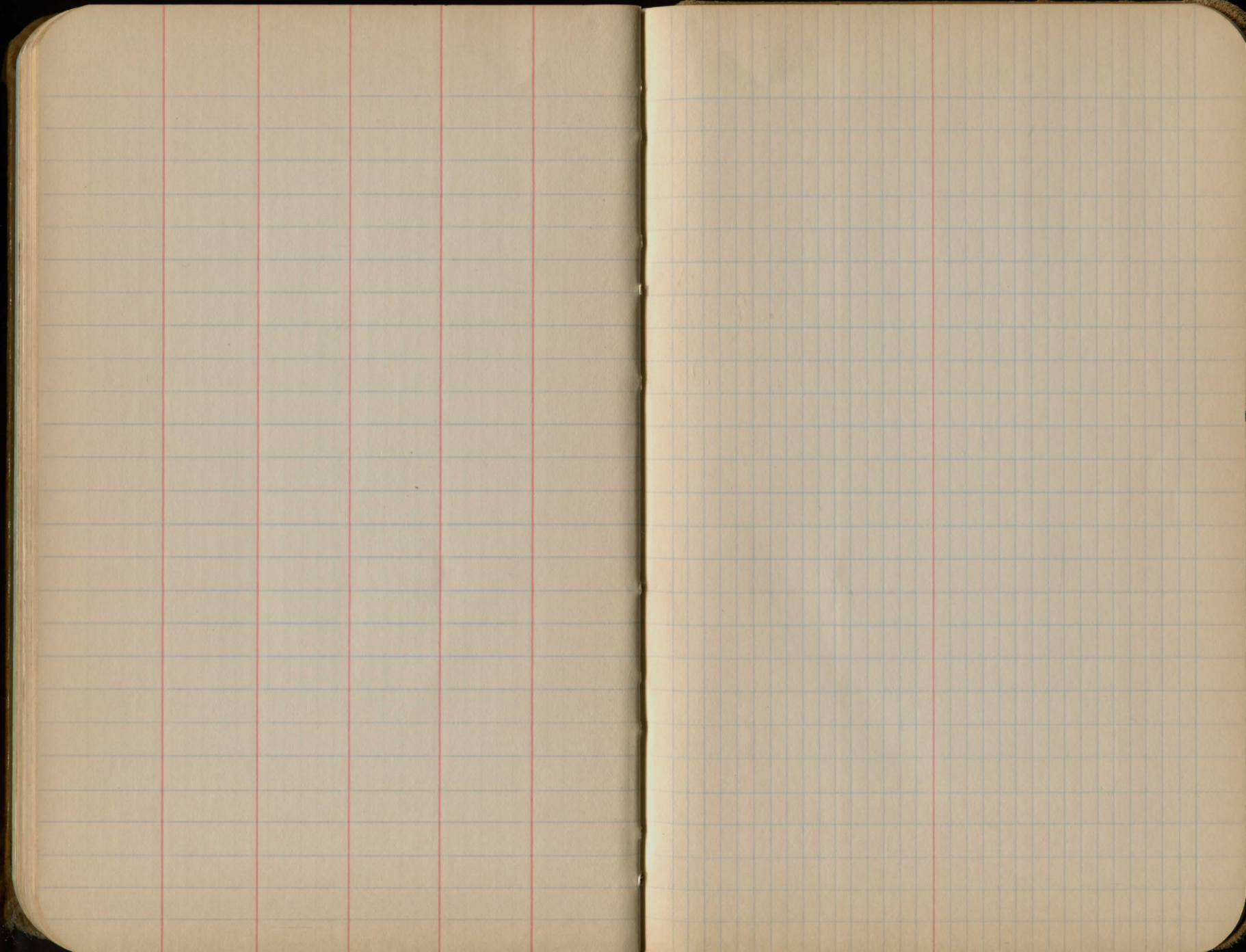


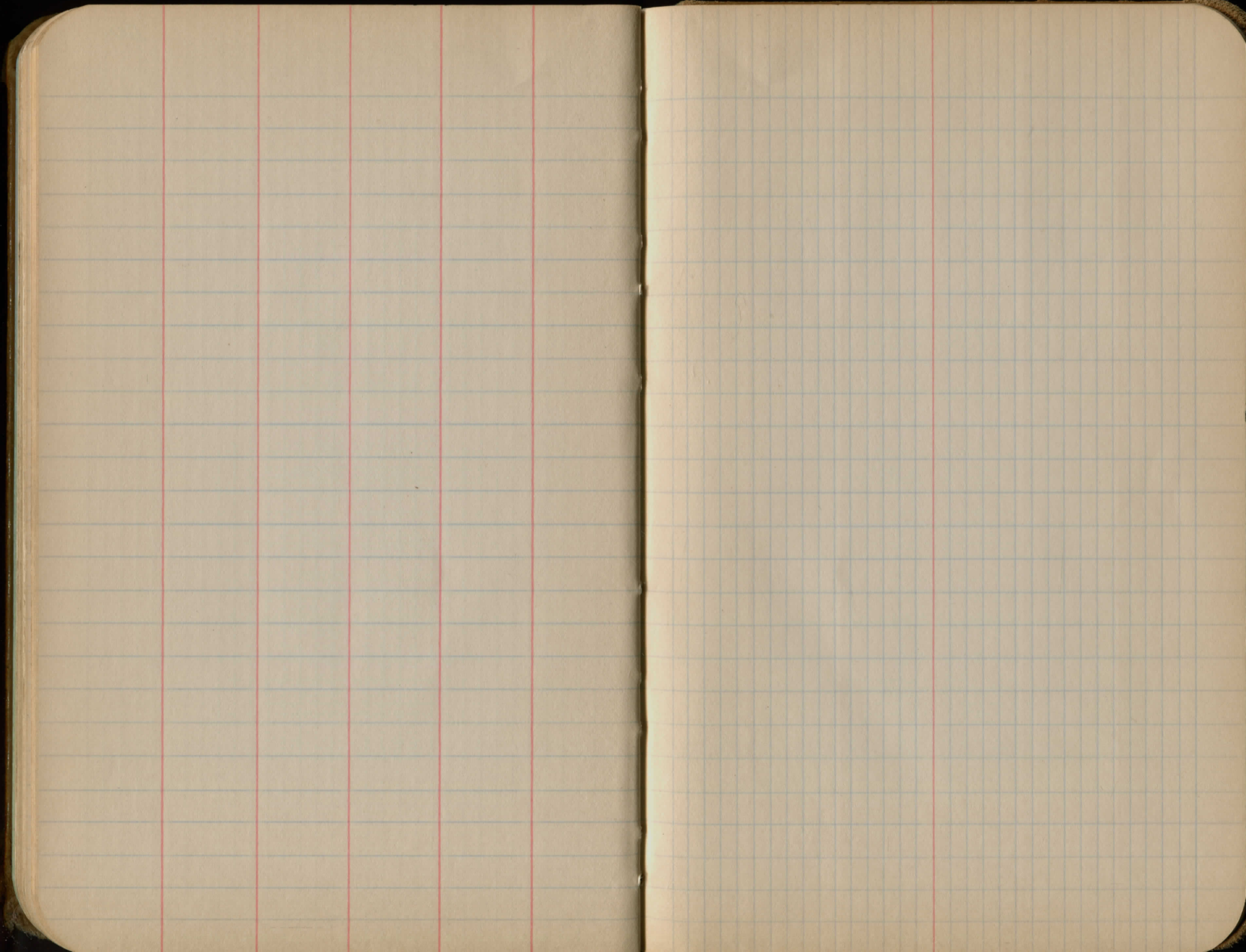




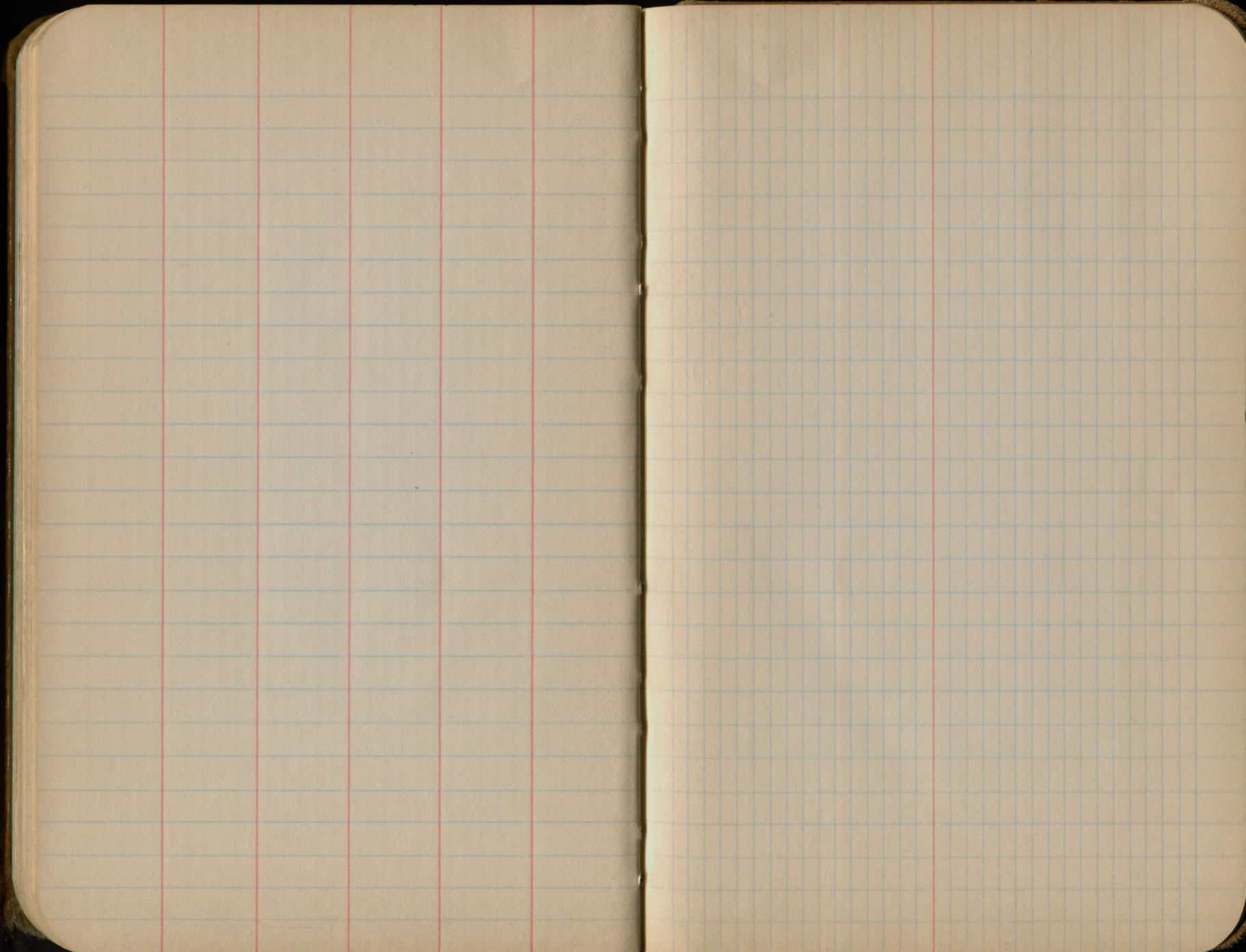


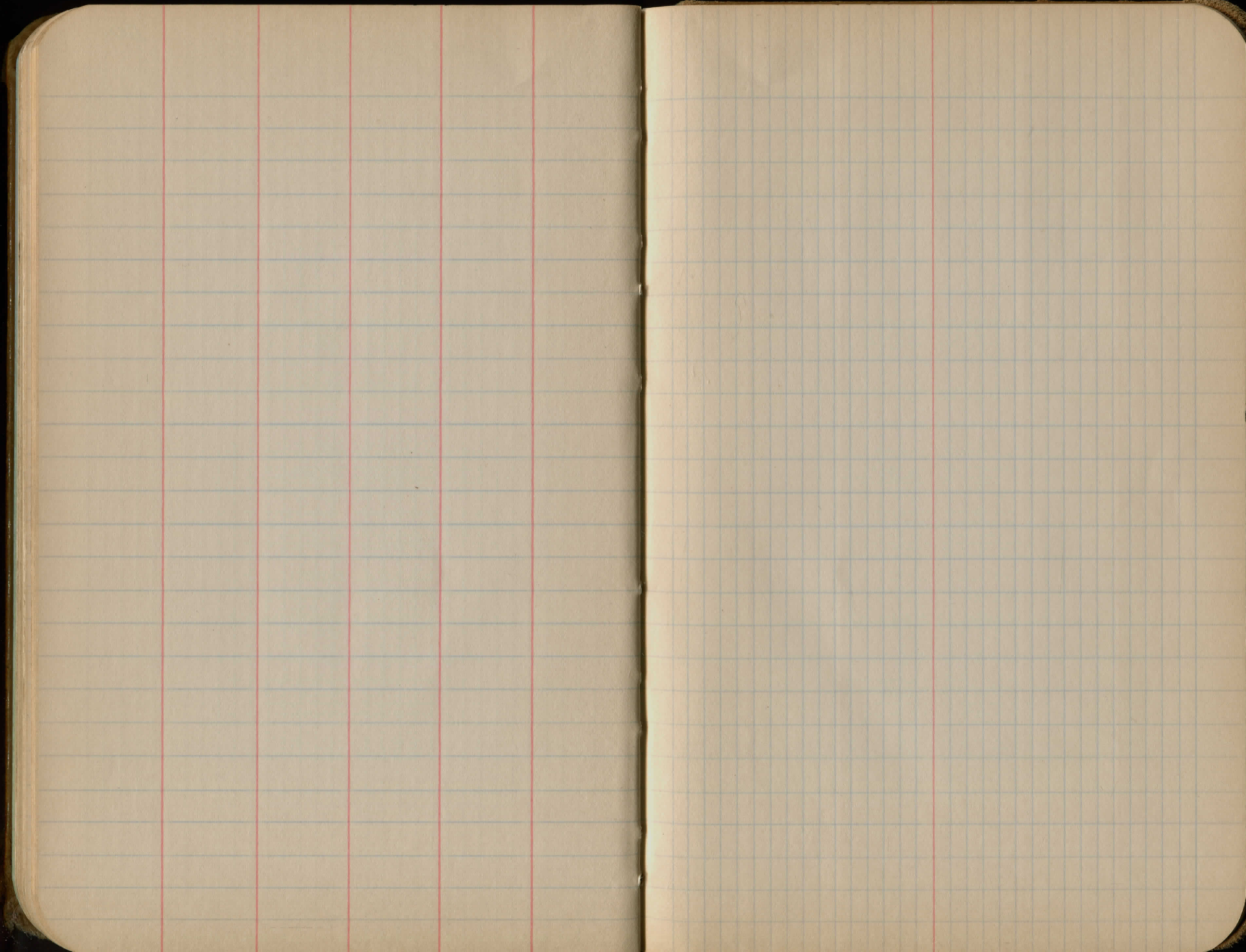


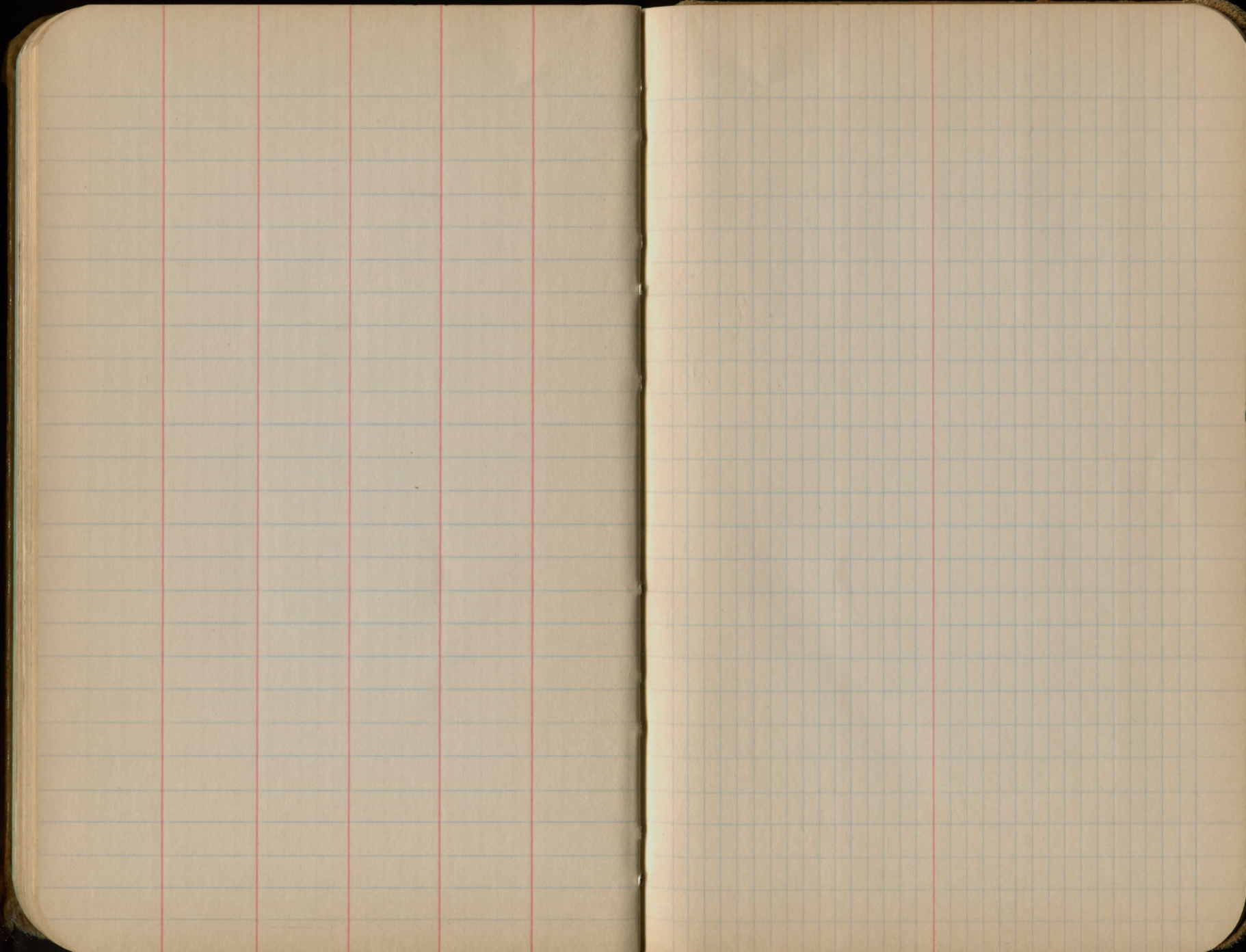


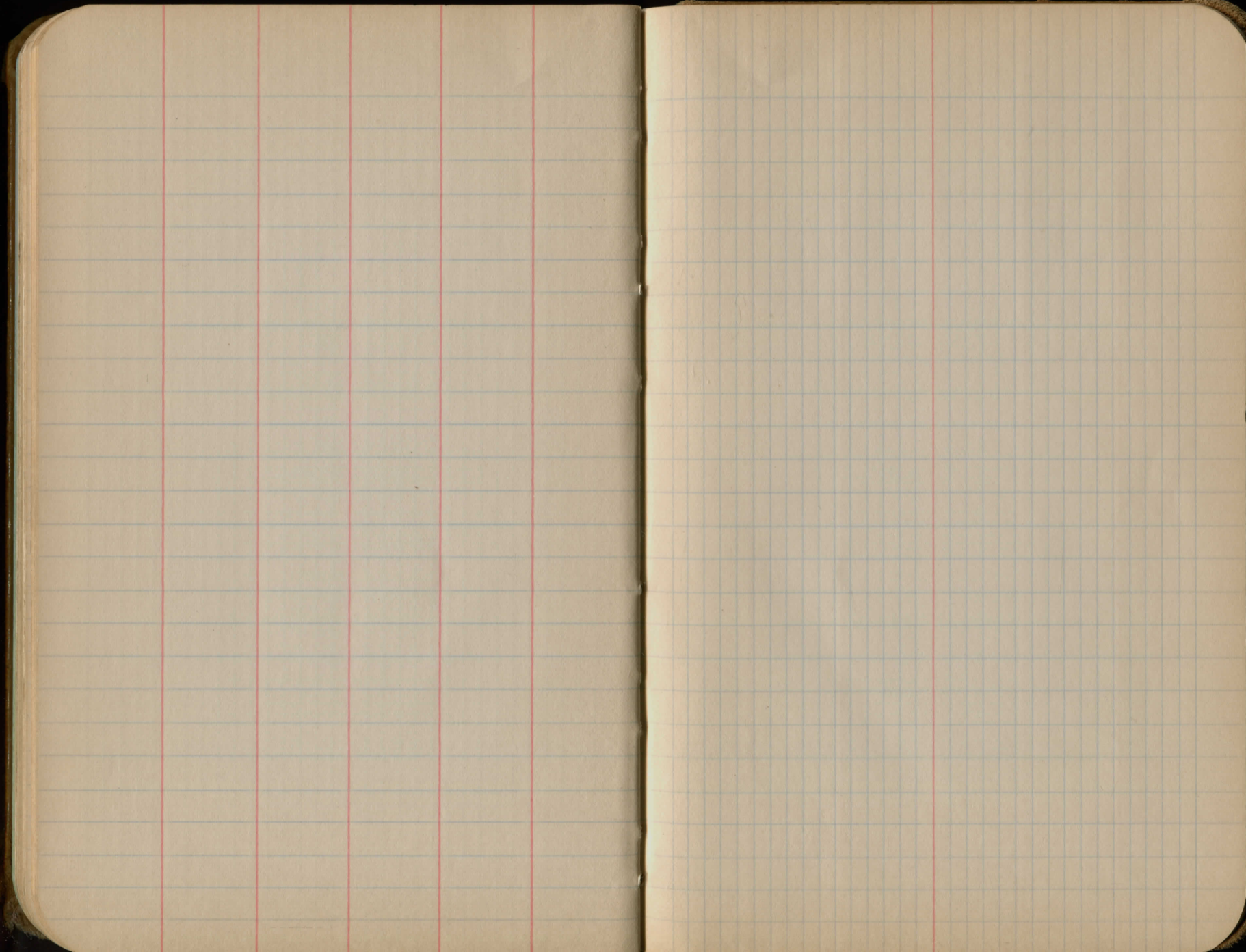


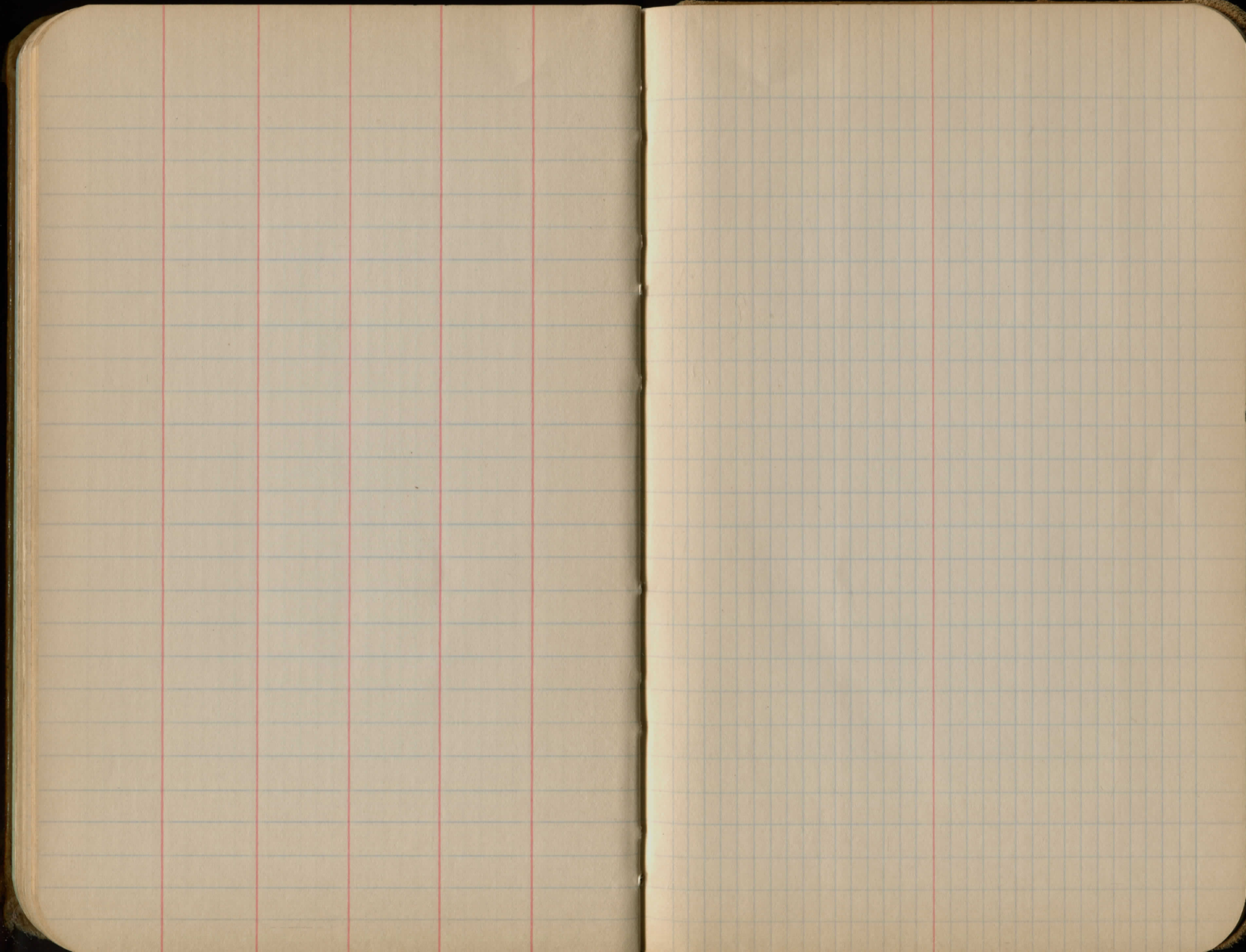












32450 +.01

32 +.02

31450 +.03

31 +.03

30450 +.02

30 +.02

29450 +.02

29 +.01

1206.5 1206.7

1209.0 1209.1

18  
16 4  
3

DIRECTIONS FOR USE OF TABLES

TABLE No. 1

Distance from side of stake to  
stake for any level, slope, or fill at side  
If ground is level, the cut or fill at side  
stake is located by the double entry method  
The number in the column and top row  
of the table is the distance from the  
stake to the side of the stake.

10.2  
9.9  
8.0  
7.6  
7.5  
7.4  
7.3  
7.2  
7.1  
7.0  
6.9  
6.8  
6.7  
6.6  
6.5  
6.4  
6.3  
6.2  
6.1  
6.0  
5.9  
5.8  
5.7  
5.6  
5.5  
5.4  
5.3  
5.2  
5.1  
5.0  
4.9  
4.8  
4.7  
4.6  
4.5  
4.4  
4.3  
4.2  
4.1  
4.0  
3.9  
3.8  
3.7  
3.6  
3.5  
3.4  
3.3  
3.2  
3.1  
3.0  
2.9  
2.8  
2.7  
2.6  
2.5  
2.4  
2.3  
2.2  
2.1  
2.0  
1.9  
1.8  
1.7  
1.6  
1.5  
1.4  
1.3  
1.2  
1.1  
1.0  
.9  
.8  
.7  
.6  
.5  
.4  
.3  
.2  
.1

IMPROVED TABLES  
AND  
INFORMATION

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

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

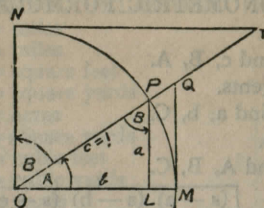


TABLE II  
TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

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

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

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

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

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

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

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

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

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

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

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

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

$$\text{Law of Sines} \quad \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

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

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

TABLE II—Continued  
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Tangents.

Given A, B, c; to find a, b, C.

Use Law of Sines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)(s-b)(s-c)}{s}} = r$$

$$\cos \frac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \frac{1}{2} A = \frac{r}{s-a}$$

$$\tan \frac{1}{2} B = \frac{r}{s-b}$$

$$\tan \frac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6} (B+b+4M)$$

h = altitude; b, B = bases; M = midsection

TABLE III  
INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11
$\frac{1}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
$\frac{3}{16}$	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271
$\frac{1}{4}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
$\frac{5}{16}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375
$\frac{3}{8}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427
$\frac{7}{16}$	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479
$\frac{1}{2}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
$\frac{9}{16}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583
$\frac{5}{8}$	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635
$\frac{11}{16}$	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688
$\frac{3}{4}$	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740
$\frac{13}{16}$	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792
$\frac{7}{8}$	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844
$\frac{15}{16}$	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896
$1$	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948
	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.0000
	0	1	2	3	4	5	6	7	8	9	10	11

TABLE IV  
USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links

$$360^\circ = 21600' = 1296000''$$

$$\text{Radius} = \text{arc of } 57.2957790^\circ$$

$$\text{Arc of } 1^\circ (\text{radius} = 1) = .017453292$$

$$\text{Arc of } 1' (\text{radius} = 1) = .000290888$$

$$\text{Arc of } 1'' (\text{radius} = 1) = .000004848$$

$$\pi = 3.141592654$$

$$\sqrt{\frac{1}{4}} = 0.564190$$

$$\frac{\pi}{4} = 0.785398163$$

$$\sqrt[3]{\frac{6}{\pi}} = 1.240700982$$

$$\frac{\pi}{6} = 0.523598776$$

$$\pi^2 = 9.869604401$$

$$\sqrt{\frac{4}{\pi}} = 1.128379167$$

$$\frac{1}{\pi^2} = 0.101321184$$

$$\frac{\pi}{6} = 0.523598776$$

$$\sqrt{\pi} = 1.772453851$$

$$\frac{4\pi}{3} = 4.188790205$$

$$\frac{1}{\pi} = 0.3183099$$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)<sup>2</sup>

Difference between arc and chord length, 0.05 feet in 11½ miles

$$\text{Probable error of a single observation} = 0.6754 \sqrt{\frac{Mv^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULAE.

Horizontal Distance = R — R sin<sup>2</sup> a + C cos a

Vertical Distance = R ½ sin 2a + C sin a

$$R = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading











**TABLE X.**  
**MIDDLE ORDINATES OF RAILS**  
Length of Rail (feet)

C ° /	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch
0-20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0-40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1-0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1-20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1-40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2-0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2-20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2-40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3-0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3-20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3-40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4-0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4-20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4-40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

**TABLE XI.**  
**SHORT RADIUS CURVES**

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

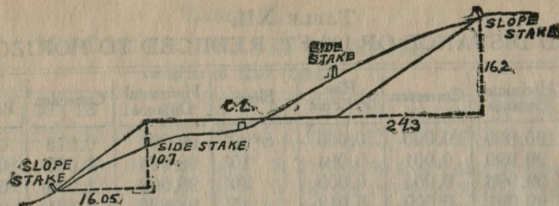
To find length of curve divide angle from P. C. to P. T. by central angle of chord and multiply by length of chord.

**TABLE XII.**  
**INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL**

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
0°00'	100.000	0.000	0.000	8°00'	99.027	0.973	0.139
15'	99.999	0.001	0.004	15'	98.965	1.035	0.143
30'	99.996	0.004	0.009	30'	98.902	1.098	0.148
45'	99.991	0.009	0.013	45'	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.093	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

**TABLE XIII.**  
**MINUTES IN DECIMALS OF A DEGREE.**

0 30"	.00833	10' 30"	.17500	20' 30"	.34167	30' 10"	.50833	40' 30"	.67500	50' 10"	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000



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
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37	55 50	55 65	55 80	55 95	56 10	56 25	56 40	56 55	56 70	56 85	37
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Computed by L. Leland Locke.

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