

W23

LEVEL BOOK

400

H. S. CROCKER COMPANY
DRAWING MATERIALS AND
SURVEYING INSTRUMENTS
SAN FRANCISCO

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

MICROFILMED
JAN 6 1965

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

Level Book @.
S. Cal. Mt. Water
Conduit Run
Juliana to day
No 2207.
Dec 4-07
R W Wessh-

FROM
LORING'S BOOK STORE
SAN DIEGO, CAL.

Index

Sta 1130 - 1237 + 50	1-32
Turns Bm 107 - 4595 Bm 54	60-70
True Levels on #7	73-74
Transit notes on #6	75
Levels around #6	76
Check levels on #5	77-78
Levels around #5	79

Grade Hubs (continued from Book 3)

9965 1419615 140965

150

Grad +10 = Sta 1129 + 50

1130

1002

140960

11-23-07

+50

1007

0955

Walt
Sabu
Walt
Rogers

1131

1012

0950

South and Rock

+42

1016

0946

Bmgs

1124 1425.43 5425 1414.19

25

125

Plan Rg 15' P ± 1131 + 42

+53

= bath in gallery

commenced 1131 + 53

11-25-07

+84

1159 1436.34 068 1424.75

20

$\frac{10}{+15.4}$

0942

Ent 85

1132 +08 1088 1446.105 112 1435.22

15

15

Walt
Sabu
Walt
Witte
Rogers

+34

1065 1455.66 105 1445.55

15

20

54.285

8.275

2.

1455.66
 1132 + 57 1040 1465.91 0.15 1455.51

+ 78 11.53 1477.45 0.295 1465.615

1133 + 01 11.295 1488.09 0.35 1476.795

+ 28 11.69 1499.275 0.505 1487.585

+ 52 11.915 1509.67 1.52 1497.755

+ 91 11.925 1520.40 1.95 1508.475

1134 + 42 6.225 1525.845 0.78 1519.62

+ 64 4.0

1135 + 01 2.125 1516.22 11.75 1514.095
 77.105 16.545

225

170

Grade + 4.0

10 20

15 15

15 10

20 10

20 15

30 15

10 50

15.21.8 + 11.24 1409.14 = Amount

10 50

3.

	151622	
1135 + 20	0345 1505.01	1155 1504.665
+30	0845 1494.63	1122 1493.785
+59	123 1484.31	1155 1483.08
+74	100 1474.02	1129 1473.02
+93	106 1463.11	1197 1462.05
1136 + 07	112 1452.99	1124 1451.87
+19	227 1444.035	1122 1441.765
+30	1335 1433.95	1142 1432.615
+44	1955 1424.15	1149 1424.6
40005	11160	102965

355

325

quad + 4.0

10	15
10	10
10	20
10	10
5	20
10	10
10	10
10	10
5	$\frac{10}{+13.5}$ 1408.98

Bm 96

1424415

124 1415.36 10325 1414.09 (1414.12)

65

(1414.145)

Grade +4.0

Pr. 27' 11" 1136+57

By Swels page 78 By levels page 79

1136+57

642

140894

Commenced 1136+44

1137+01

646

0890

11-26-57

nearest
waterman
Saline
well
with
Papers.

+50

651

0885

1138 11575 1420425 651 140885

95

55

1138

1163

0880

East and loose Rock - Deep

+50

1168

0875

+994

1173

0870

654 1415235 1173 1408695

835

55

1139+50

659

0865

1140+10

665

0859

In gubeh

19355

28565

1415235

1140 +50

669

Gradi +40

140855

1141

674

0850

+50

679

0845

1142 +10

685

0839

+60

690

1/2 hard

0834

1143 +10

695

0829

+50

699

0825

1144

704

0820

+49

709

0815

830, 550

steep sandstone Rock
 steep sandstone Rock
 solid Rock steep
 steep sandstone Rock

6

1415234

830
550

Grade +4.0
140810

Commenced 11:48
11-27-07

1145

0
+50

5165 141326

7.14 1408095

7.14
521

65 345

08.05

Waste
(ax) water
(rod) Sakie
Wall
with
Rogers

1146

+50

1141 141936

531 140795

526
531

60 80

08.00
07.55

Gravel Slope at Point
Gutter Slope at Rock -

1147

+50

10.05 1417.85

1156 140780

1146
11.57

1 1/2 hours

07.90
07.85
07.80

1148

+50

26.25

24.01

1015

07.70

7

1417.85

1149 +50

1026

1150

1025

+50

1030

2 low

1151 +05

1035

+50

1040

0

813

1415.58

1040

1407.45

115

110

Bin 97

9865

1405.715

1152 +10

819

0739

+50

823

0735

1153

828

0730

813

1040

1275

1050

Gradet 40

1407.65

0760

Sudges & Broth

0755

0750

Sugarc

0745

Grath and Rock Outcrop

Pratt 5.715

1151 +43

8.
1415.58

1153+50

833

grade 4.0

1407.25

1154

838

0720

0

499

1412.19

838

1407.20

70

135

+50

504

0715

1155

509

0710

0

1180

1418.90

509

1407.10

90

80

+60

1186

0704

1156+17

1192

0698

1157

+59.5

1196

0694

0

5635

1415.335

920

1409.70

115

65

Bm 95

10865

140447

110' P

1156+75

not painted

1157+05

8.44

140447

0690

22425

2267

1390

1160

Earth and Rock - Fair Slope

9.

1415335

1157+50

849

1158+12

855

+38

858

0

320 1411.995

654 1408.795

175

50

1159+51

535

low

+99

540

1160+51

545

0

525 1410.665

658 1405.415

55

75

1161

4.17

+50

422

1162

427

845

1312

1615 1440

Grade+40

1406.85

0679

0676

0665

0660

0655

0650

0645

0640

Earth and Solid Rock

around cliff
x and one gutter

Earth and Solid Rock
stump

Flume

10.

1410.665

1162+50

o

7.725 1414.745

3645 1407.02

1163

+50

1164

+50

1165

o

629.5 1412.39

865 1409.95

+30.5

+50

Bm 99

14.020

12.295

1845 1565

Grade +40

140635

60

105

2 1/2 hours

0630

850

0625

855

0620

860

0615

865

0610

10

195

Rock - 7 in deep
South and 2000

= lath in gully

0605

11925 1400.565

Pran 9 1165+98
not painted

11

1412.39

1166

o

6205 1412.18

645 1405.975

+50

1167

o

11215 1417.15

628 1405.90

+50

+75

1168 + 03

+44

o

3735 1411.37

950 1407.615

+79

Bm 100

10.69 1412.705

9355 1402.015

31865

31550

19 15 18 65

Commenced Bm 100

11-29-07

Grade + 40

2 1/2 ton

1406.00

40

100

623

0595

628

0590

130

60

112

0585

1130

0582

- 155

0580 (-11.5)

1136

0576

20

35

565

3/4 ton

0572

20

35

Pt on Pt 12' Pt

1168 + 79

Waste
Waterman
Sabin
Wells
with
Rogers

(windy)

South and Rock Outcrop - Blue
Flume begin
Flume ends

4.27.05

1169 + 91 1170 1423.05 0.60 1412.105

0 1119 1433.12 1.875 1421.93

1169 + 08 85

+20 1022 1442.77 0.57 1432.55

Emr. #6

+36 1021 1452.88 0.10 1442.67

+47 1184 1463.93 0.79 1452.09

+62 11365 1473.23 0.97 1462.96

+72 10475 1484.67 0.175 1479.20

+88 10935 1493.52 0.09 1484.585
87.935 5.120

10 15

15 10

24.6 + 189 05.70

10 $\frac{5}{+26.8}$ 05.70

10 15

20 10

20 10

25 15

15 20

149552
 1170 +06 1092 1506.17 0.17 1495.35

20 10

+22 1090 1516.80 0.27 1505.95

10 15

+35 1178 1528.18 0.40 1516.40

25 20

+53 1109 1538.39 0.88 1527.30

25 15

+70 1024 1548.43 0.20 1538.19

20 10

+89 1160 1559.53 0.71 1547.25

15 15

1171 +08 1106 1569.52 1.07 1558.46

20 20

+26 1104 1580.12 0.44 1569.08

20 15

+45 1043 1589.29 1.26 1578.86

25 15

99.180 5405

114		1589.295	
1171 +67	11.11	1599.265	1.4 1588.155
+80	11.23	1610.33	0.17 1599.095
1172 +22	11.95	1621.255	0.27 1610.06
+96	2.71	1623.355	0.61 1620.645
1174 +57	10.8	1612.85	11.585 1611.77
1175	0.14	1601.405	11.585 1601.265
+30	1.77	1591.19	11.985 1589.42
+70	0.37	1580.01	11.555 1579.635
1176 +08	1.03	1569.515	11.525 1568.485
	40.645		60.425

2430 2320

20 20

20 15

25 30

120 60

15 45

15 25

10 20

10 20

10 15

15

1569.515

1176 +30 1105 1539.22 1140 1558.115

+51 1685 1550.45 1076 1548.46

+73 2475 1540.90 1172 1538.25

+89 064 1531.47 1007 1530.83

1177 +10 2135 1522.325 1128 1520.19

+31 120 1512.005 1152 1510.805

+51 015 1501.005 1115 1500.855

+70 124 1491.55 1069 1490.31

+96 112 1480.92 1165 1479.70

11750

100445

2675 2570

10 15

10 15

5 20

10 20

10 15

10 10

25 15

10 20

15 15

16

1486.82

1178 + 20

0.58

1469.995

11805 1469.015

+ 48

171

1461.13

10175 1459.42

+ 69

0.535

1450.61

11055 1450.075

+ 92

0.45

1440.34

1067 1439.94

Exit #6

1179 + 21

0.33

1479.325

1134.14 2899.5

+ 46

0.85

1419.77

10405 1418.92

Bm 101

2.86

1415.09

7.54 1412.23 (1412.24)

+ 73

1046

1180 + 50

7.265

72995

1054

2780 2715

Grade + 1.0

5

10

15

20

10

15

10

15
+ 330

0.4

10

30
+ 250

0.4

10

15
+ 149

0.4

170

By lines page 76

noted

140463

0455

P1 on P15

27.115

1179 + 56

7

1415.09

1181

+55

1182

+50

1183

0
+50

1101

1415.28

1082

1404.27

1184

+50

1185

1101

1082

3010 7835

Grade +4.0

1404.50

1059

1064

0445

1069

0440

1074

0435

In gully

1079

3 low

0430

170

175

1103

4 low

0425

1108

0420

1113

0415

1118

0410

South and Rock Outcrop

18

1415.28

1185 +50

0

11365 1415.645 1100 1404.28

1186

+50

1187

0

1143 1415.825 1175 1403.895

+55

1188

+50

+67.4

0

11825 1417.07 1008 1405.245

BM 102

346.20

32.83

3180

3010

Grade 14.0

1123

1 low

1404.05

65

80

1165

1 low

0400

1170

.0395

1175

0390

40

65

1148

0385

South and Pkts

1153

0380

1158

0375

1160

0373

50

100

1033

1406.74

Prondmnd Blr 82) # 1188+67.4

19

1188+90 1417.07
 1090 1427.64 033 1416.74

1189+06 11895 1439.125 041 1427.23

+12
 amt. #7

+25 11215 1449.405 0935 1438.19

+43 1163 1460.805 023 1449.175

+66 1101 1471.66 0155 1460.65

+84 1185 1482.135 071 1470.95

1190 +02 10885 1492575 0445 1481.69

+22 11725 1503955 0365 149221
 90465 3.580

3335

3755

Commenced 1188+674

11-30-07

Wash

Water

Salt

Pogus

15 $\frac{20}{+130}$ 1403.7-
 Grad +4.0

20 $\frac{10}{+247}$ 037-

30.1 +264 037-

15 10

15 15

10 10

10 15

15 10

10 16

20

1503.955

1196 +43 1167 1514.93 0645 1503.26

+65 1168 1526.45 020 1514.73

1191 +05 227 1528.205 048 1525.935

+73 021 1517.345 1107 1517.135

1195 +01 064 1506.44 1154 1505.80

+25 021 1495.00 1165 1494.79

+49 157 1485.005 1156 1483.435

+65 103 1473.07 1096 1474.04

+85 137 1465.02 1142 1463.65

30.655

69.590

3445 3355

15 5

20 10

50 20

10 30

5 15

10 20

5 15

10 15

10 10

21

146502

1193

151 1454.90

1163 1453.39

+16

0.155 1443.87

1185 1443.715

+36

1.145 1433.77

1174 1432.625

+55

0.45 1422.955

1176 1422.505

air #7

+71

5.37 1418.315

986 1413.095

DM103

3.68 1410.14

1185 1406.46

+84

6.92

1194 +50

0

6.65 1409.80

699 1403.15

1195

18.810

74.030

6.70

3560

3485

Crabs + A.G.

5

15

5

20

10

10

10

$\frac{10}{+19.3}$

1403.2

5

$\frac{15}{+109}$

03.2

$\frac{20}{(1406.425)}$

$\frac{20}{+14.1}$

Pramp 74

Pramp

10.9

1193 + 84

03.22

03.15

80

60

03.10

South and Rock - deep
Small oak-grave

continued 1193+71

12-2-07.

Wm
Watson
S. P. R.
Rogers.

22

1409.80

1195 + 50

+ 71

1196

+ 50

1197

0

39.45 1406.555

7.19 1402.61

+ 50

1198

+ 50

1199

39.45

7.19

6.75

6.80

6.85

6.90

3.71

3.76

3.81

3.86

1 1/2 hour

70

3 1/2 hour

1/2 hour

37.15

36.35

Grade + 4.0

1403.05

03.00

02.95 x

02.90

02.85

02.80

02.75

02.70

Oak = grave cover

= stake in head of gulch

South and some ~~St~~-with slopes

		1406.555		
0	2.16	1404.855	386	1402.695

1199 +50

1200

+51

0

1201

+50

1202

0

+36

+50

13,350

10.71

Grade +4.0

70

120

221

1402.65

226

0260

231

0255

70

100

372

0250

377

0245

382

0240

55

70

6.84

0236

= bath in gully

6.85

short

0235

24

1409.195

1203

690

+50

695

o

7.985 1406.025 106.55 1398.54

Bm 104

940

3980 3980

Grade +4.0

1402.30

02.25

1204

383

90 100

+50

388

3/4 hour

02.20

1205

393

02.15

+50

398

02.10

o

1099 1412.60 44.5 1401.61

60 140

Good Slope
Sand and Rock

1206

1060

02.05

+50

1065

02.00

18.475

15.070

0.195'

Tren PK 12' PI 1203 + 65

1412.60

1207

0
+50

619

1411.45

734

1405.26

+98

1208 +50

1209

+24

+50

1210

+50

619

734

Grade +4.0

1401.90

55

01.85

01.80

01.75

01.70

01.65

01.60

01.55

1070

180

9.60 1/2 hour

9.65

9.70

9.75 1 hour

9.80 1/2 hour

9.85

9.90

Rocky Point

no lith - studs from here on

= pair mark in gully

North and Rock

26.

1411.45

4300

4275

Commenced 1211

12-2-07

Wreck
Waterman
S. P. R.
Rogers.

1211

995

2 1/2 hours

Grade +4.0

1401.50

o

995 1410.855

SA 1406.01

165

35

+50

941

0.45

Bend in hill

+99

946

0.40

1212 +56

952

0.34

o

940 1410.735

952 1401.335

75

90

1213

944

3 hours

0.30

+50

949

0.25

1214

952

1 hour

0.20

+50

959

3 hours

0.15

1215

964

1 1/2 hours

0.10

14.245

14.96

South and Rock

27.

1410.735

1215 +50

0

6.93 1407.975

9.69 1401.045

1216

Bm 105

+50

1217

0

7.05 1408.60

7.08 1400.895

+50

1218

+50

1219

14.635

16.77

4540 4400

Grade +4.0

9.69

1401.05

55

220

6.93

Low

01.00

12.04

13.95, 935

7.03

00.95

7.08

00.90

230

90

7.15

00.85

7.80

00.80

7.85

00.75

7.90

Low

00.70

Flattest Slopes

Pran R

13. PI

1215 + 47

Stem and fine
mixture of earth

1408.60

1219 +50

795

1220

800

low

+50

805

1221

810

0

1133

1411.825

8105

1400495

120

185

+50

1138

1222 +05

1143

+50

1148

1223

1153

low

+50

1158

1133

8105

4825

4710

Grade +2.0

140065

0060

0055

0050

0045

0040

0035

0030

0025

Good slopes

South Rock outcrop

Handwritten notes and sketches on the right side of the page.

29
 1411.825
 3.50 403.745 11.58 1400.245

Bm 106

1224

+ 50

+ 88

1225 + 50

1226

0
 + 50

+ 99

13.22

15.345

865

355

360

364

370

375

975

980

4945 4995

105 180

1395.08

1400.20

00.15

00.11

00.05

1 1/2 hour

240 35

1/2 hour

Grade + 4.0

1223 + 32

1400.20

00.15

00.11

00.05

00.00

1399.95

9990

Pen TK 2 1/2

South and

In gutch

S

30

1409.70

1227 + 50

+ 74

1228

+ 50

1229

+ 50

1230 + 02

+ 50

1231

985

990

995

1000

1005

1010

1015

1020

2 1/2 rhov

5290

50.50

Grade + 4.0

1399.85

99.80

99.75

99.70

99.65

99.55

99.50

= paint out out in gully

and some rock - good ditching

= Paint out in gully

31.

1409.70

1231 +50

1025

1232

1030

0

9.80

1409.20

1030 399.40

105

2.25

+50

9.85

1 hour

9935

hillside facing north - south

1233

9.90

2 hours

9930

+50

9.95

3 hours

9925

hillside facing north

1234

\$

10.00

0

9.90

1409.03

9.07 1400.13

135

85

+50

9.88

9915

Base

1235

9.92

4 hours

9910

+50

9.98

9905

18.70

19.37

5290

5050

Grade 4.0

1399.45

9940

hillside facing north

9920

hillside facing north

9915

Base

9910

9905

32.

1409.03

1236

1003

+50

1003

0

435 403.295

1003

1398.945

2 hour

50

115

Grade + 4.0

1399.00

9895

9889

9885

1237 +10

441

+50

445

Bm 107

865

1394.645

30

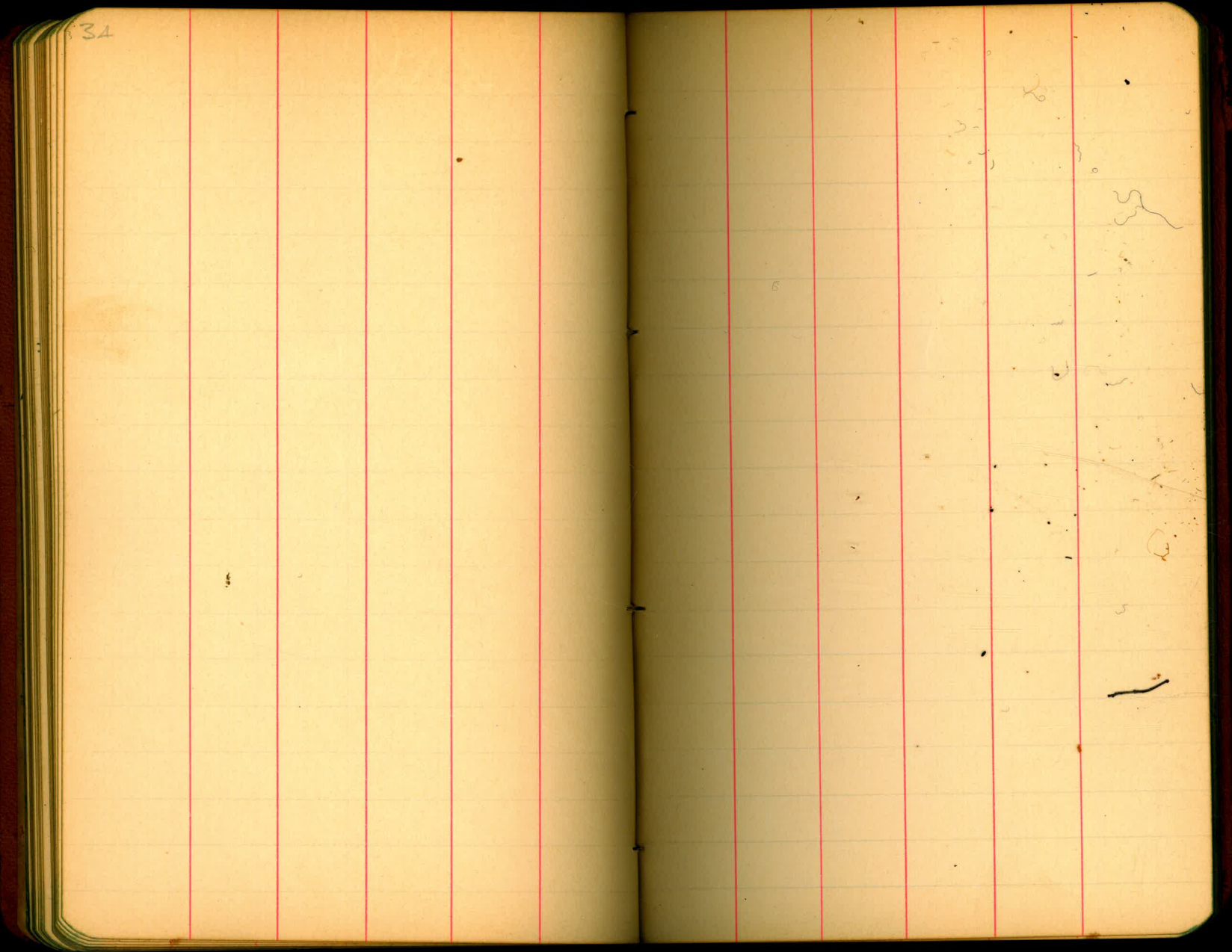
Plan P

10. P

1237 +30

435

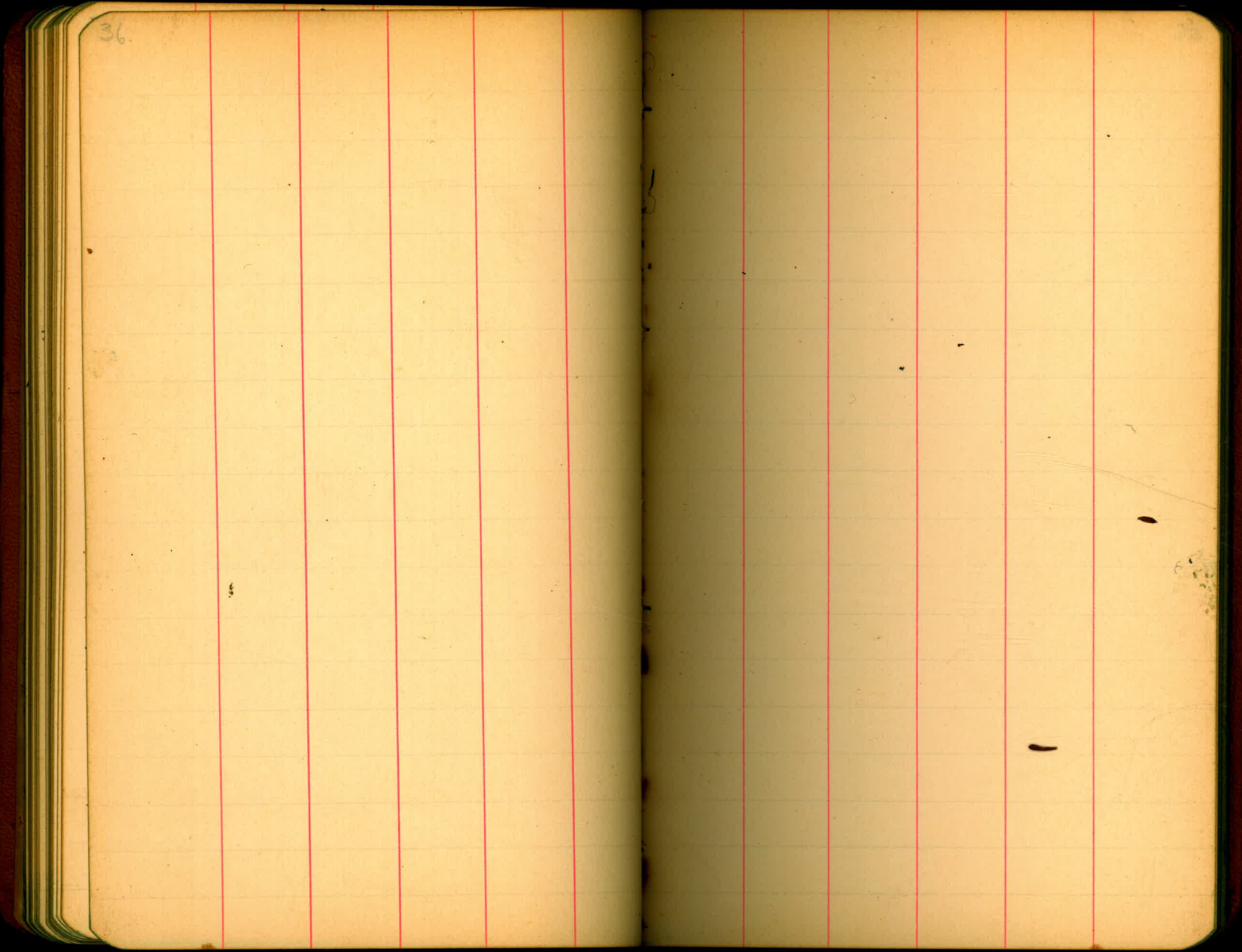
18.735



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6

Handwritten scribbles and marks on the right page, including a wavy line and some faint characters.

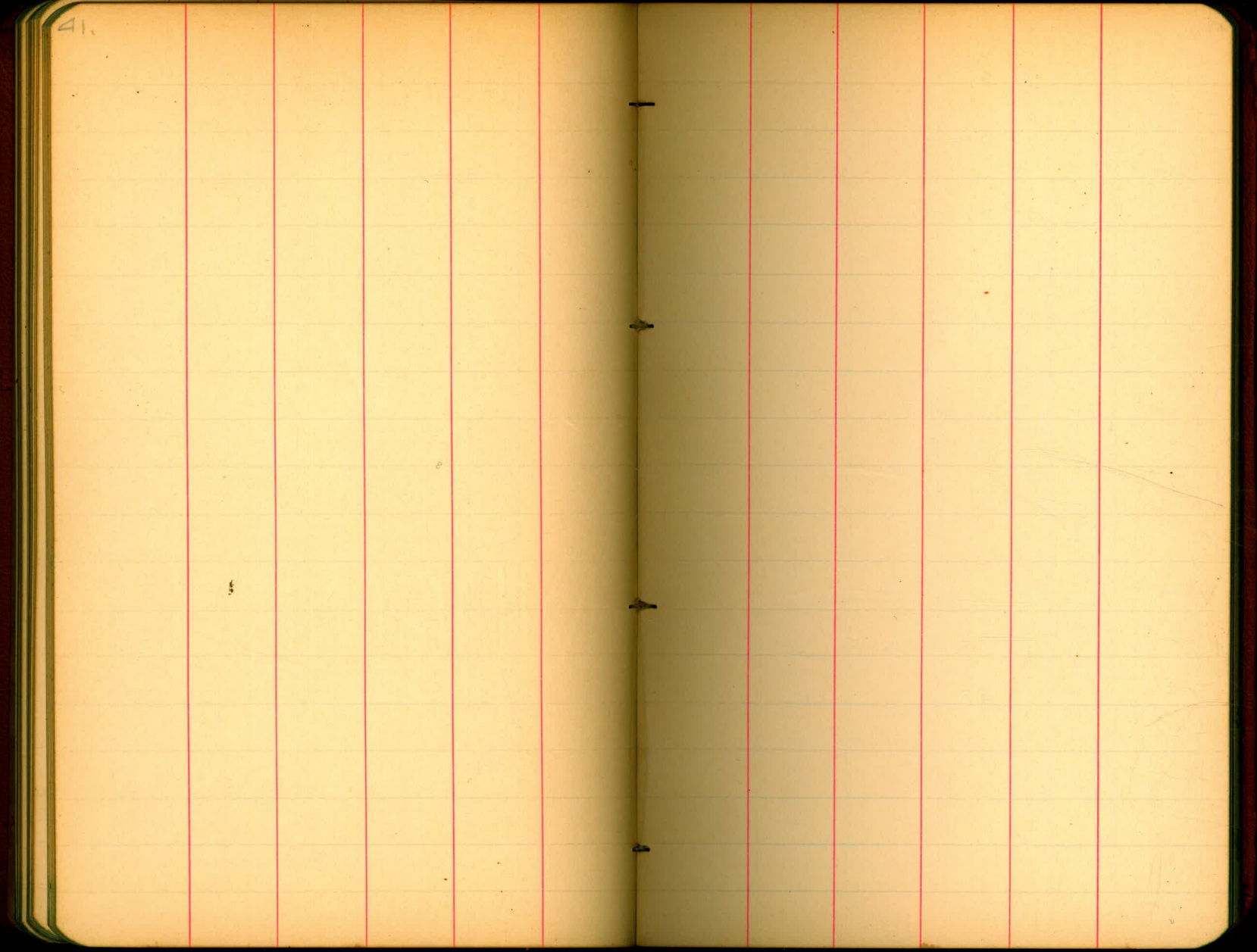


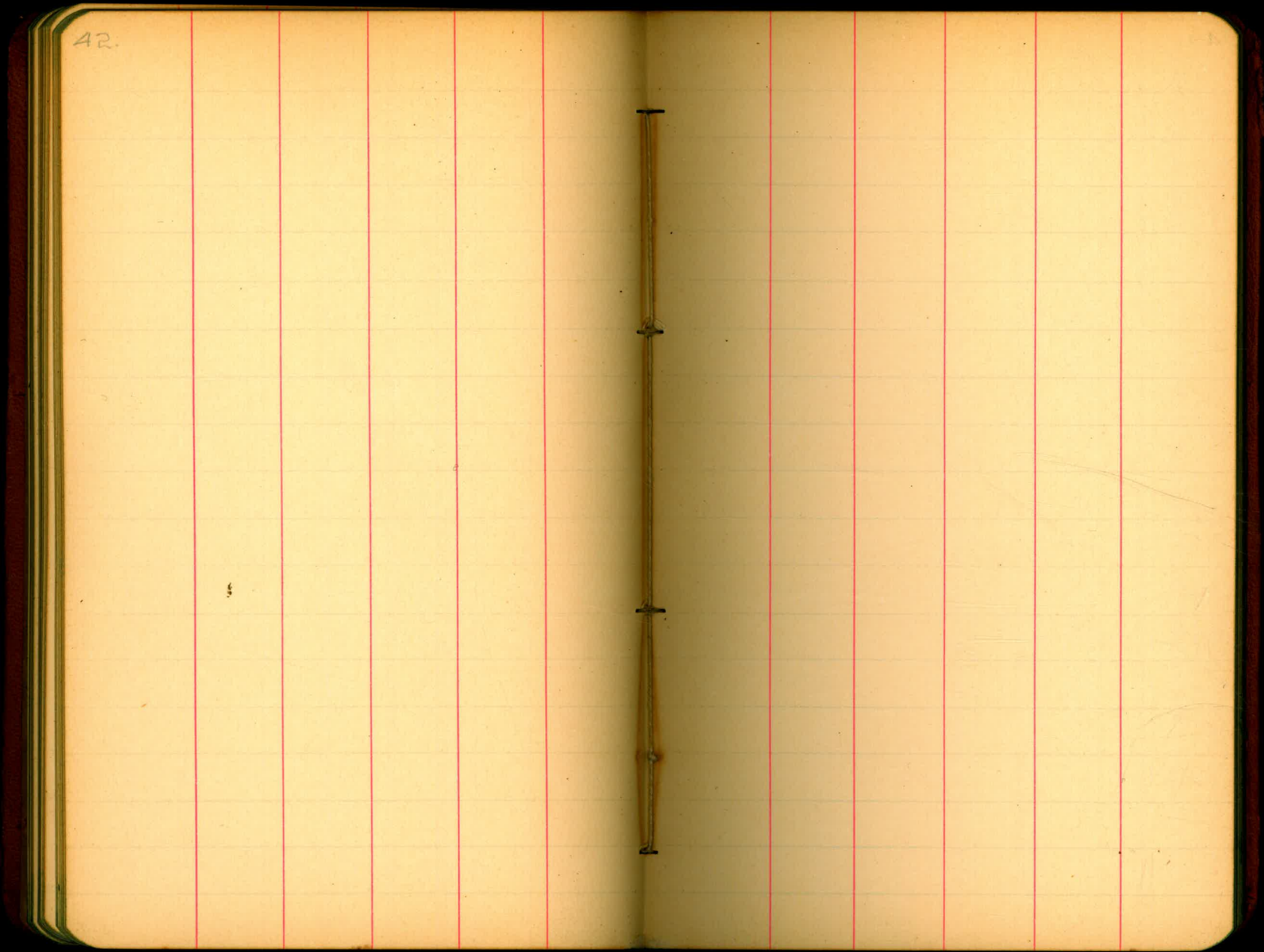
37.

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1888

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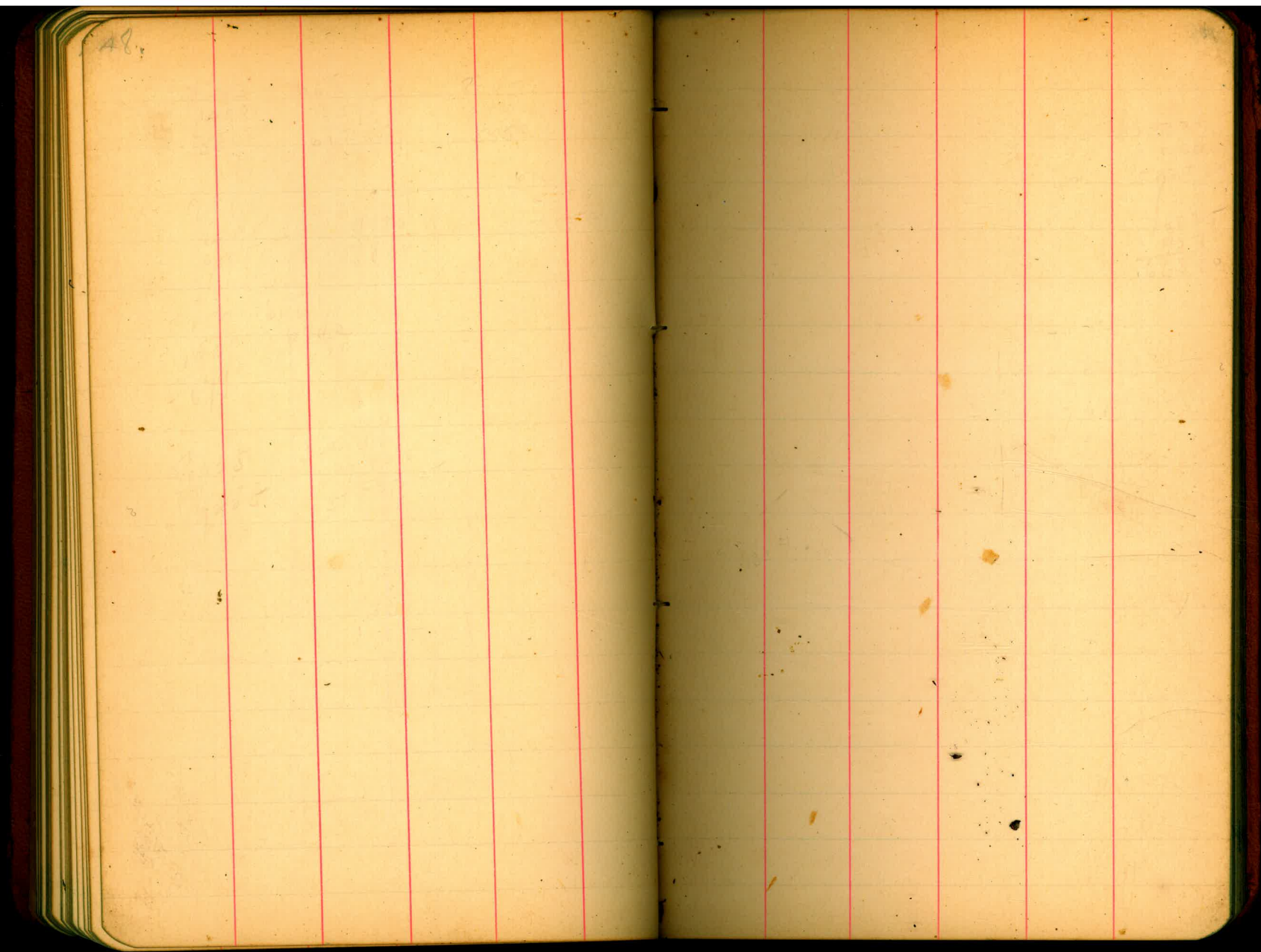
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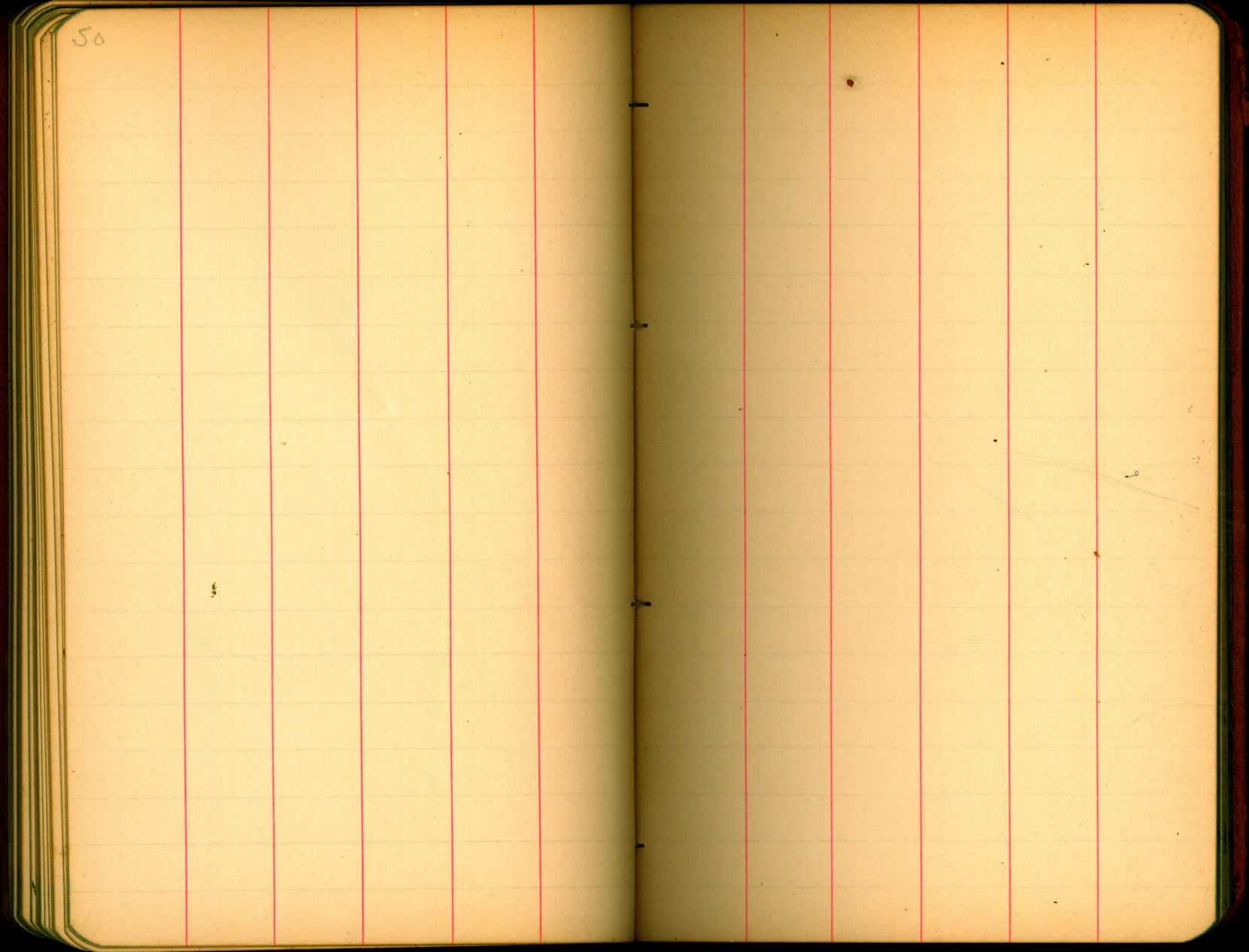
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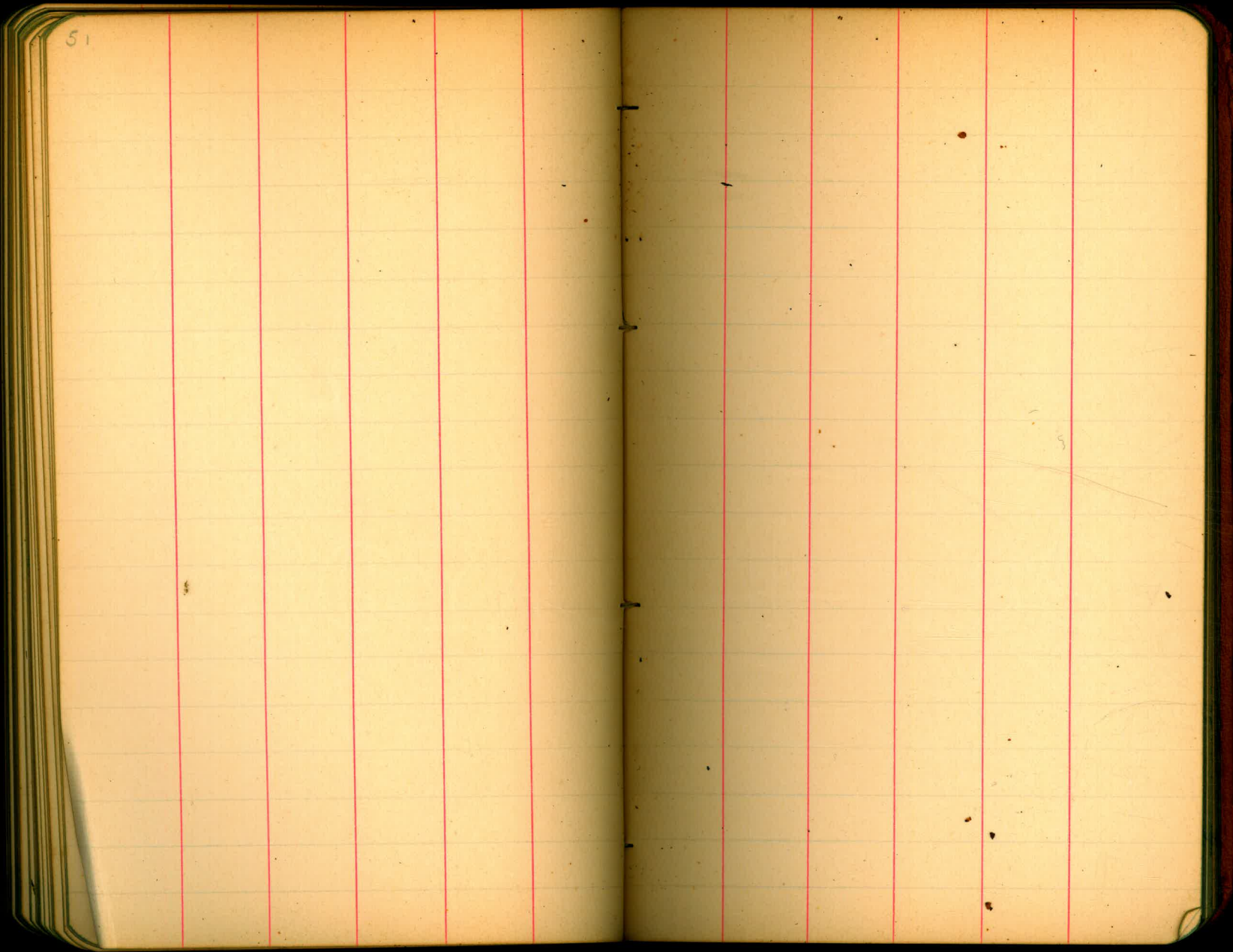


48

Aq:

50





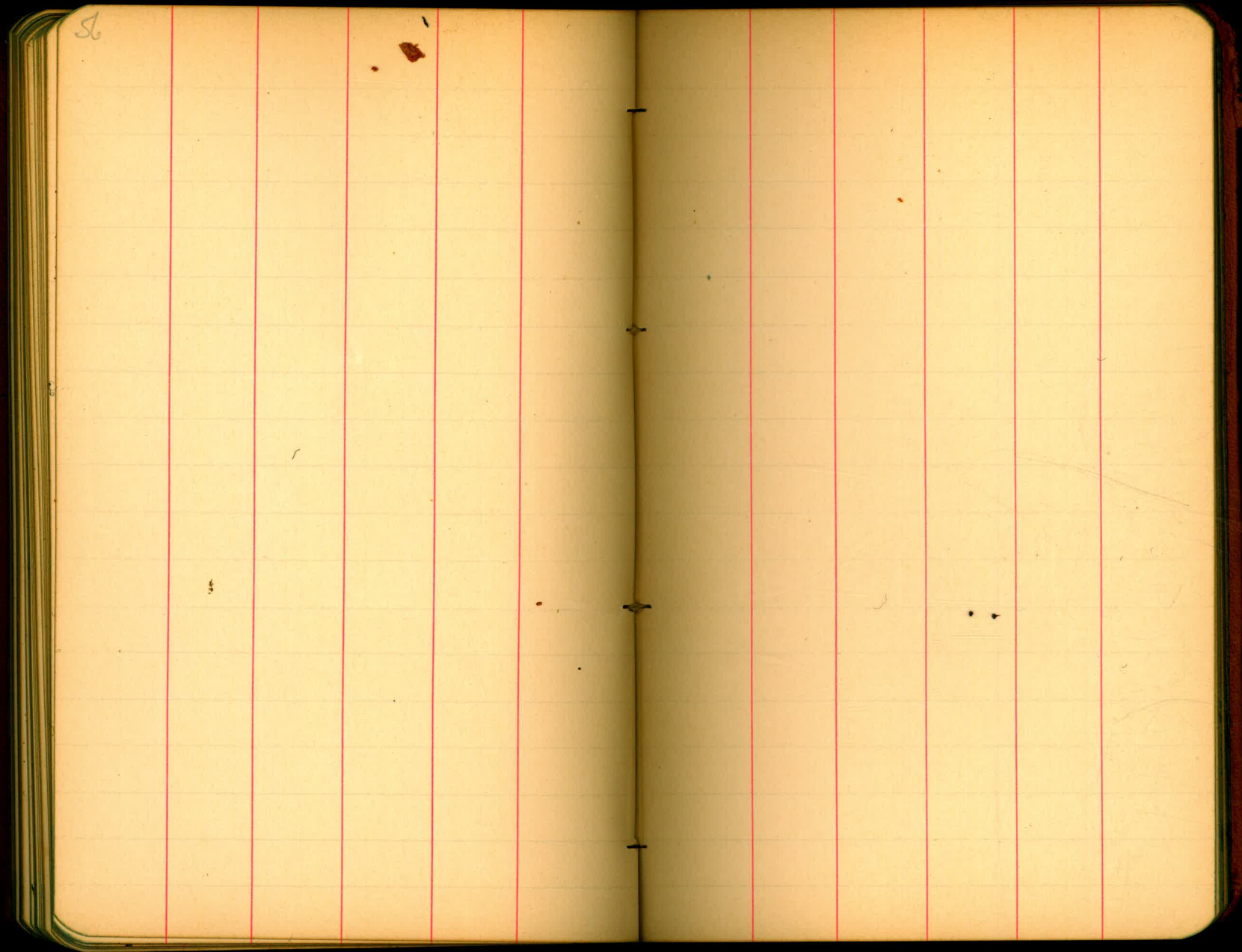
53

5A

1

0

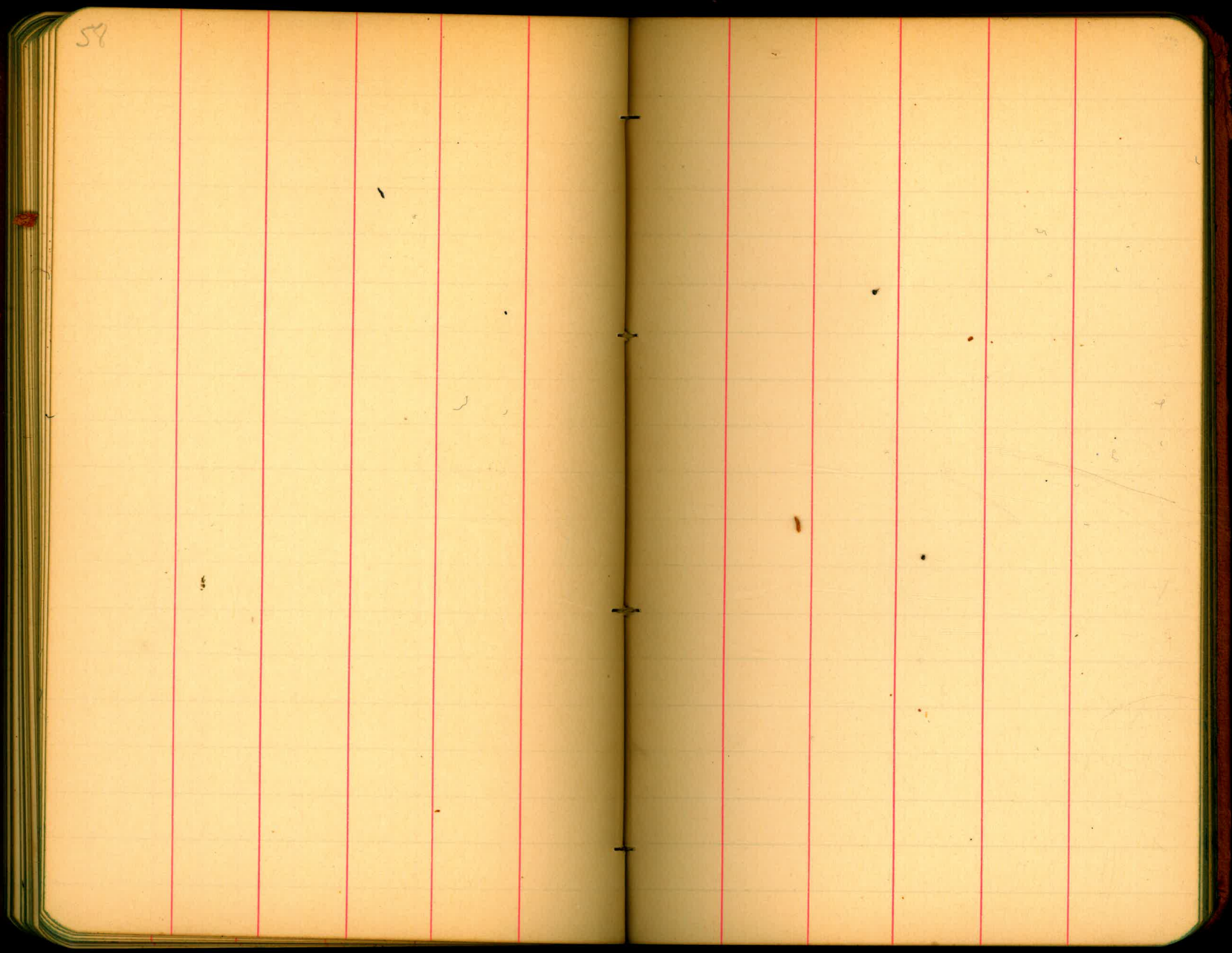
55

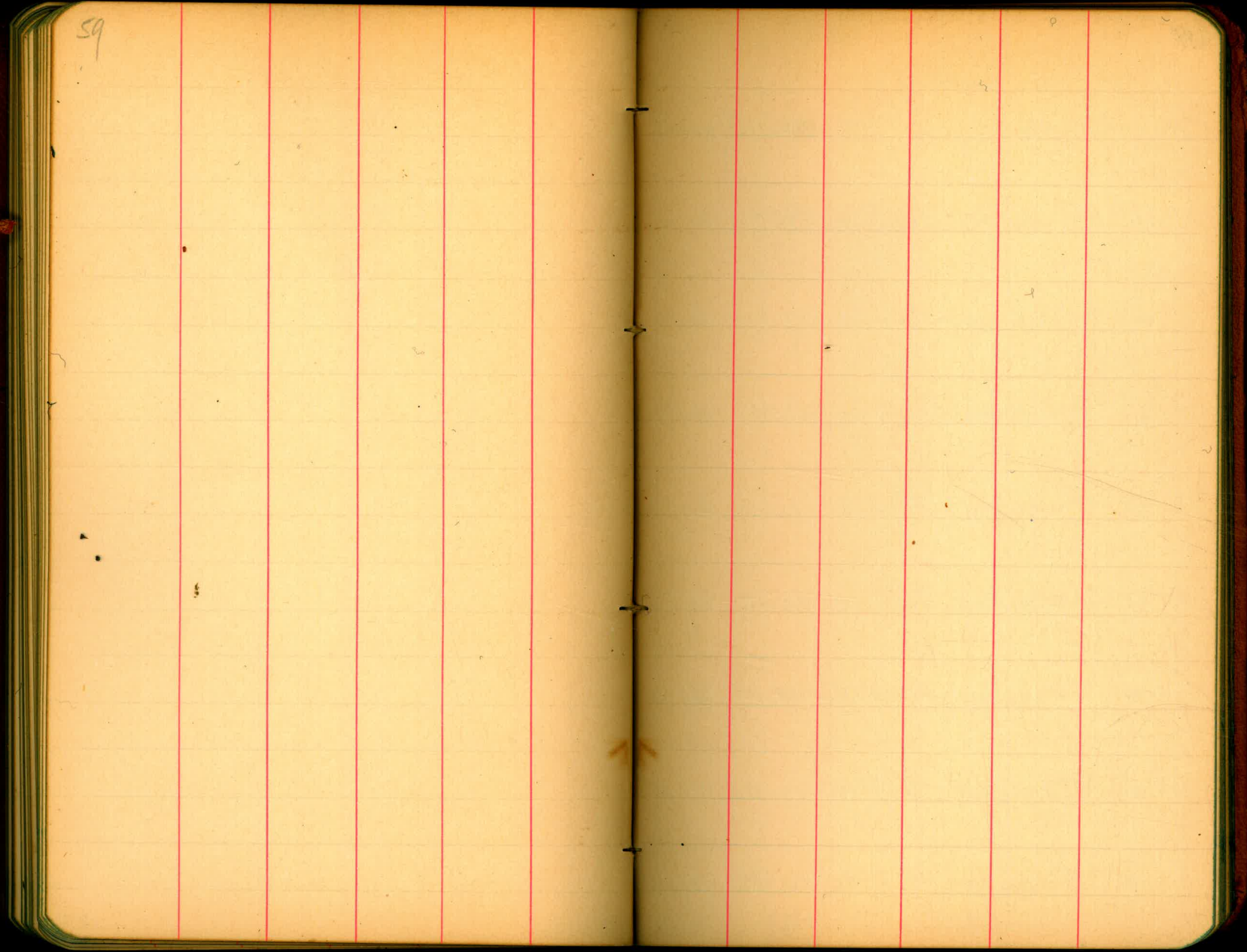


56

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59





59

60 Turns from B.M. 107 to

Waterman

B.M. 107 112 1395.765 1394.645 20

0 032 1385.665 1042 1385.345 15 10

0 163 1376.235 1106 1374.605 15 25

0 1285 1366.545 10975 1365.260 30 40

0 1995 1357.505 11035 1355.51 20 25

0 0765 1346.855 11915 1346.09 15 20

0 144 1337.455 1084 1336.015 20 20

0 1315 1327.35 1142 1326.035 10 15

0 022 1316.175 11395 1315.955 20 20

10090 88560 165 170

USGS B.M. at S. James' Place (514)

Rogers

12-4-07

B.M. 107 112 1395.765 1394.645 30
Wheat
Water
Rogers
Saturn

0 158 1385.665 1168 1384.085 15 10

0 071 1376.235 1014 1375.525 15 25

0 1855 1366.545 11545 1364.69 25 45

0 097 1357.505 1001 1356.535 20 25

0 039 1346.855 1104 1346.465 10 30

0 1005 1337.455 1040 1336.455 15 25

0 066 1327.35 1077 1326.685 20 20

0 015 1316.17 1135 1315.995 10 15

8465 86940 150 185

	1316.175	165	175
0	095 1305.59	11.535 1304.64	15 10
0	1645 1295.47	11.765 1293.925	10 20
0	093 1284.98	11.42 1284.05	25 20
0	114 1275.175	10.945 1274.035	20 35
Painted	043 1263.925	11.68 1263.495	20 20
0	209 1254.185	11.83 1252.095	20 30
0	055 1243.83	10.905 1243.28	15 15
0	046 1232.62	11.67 1232.16	10 15
0	095 1222.57	11.00 1221.62	20 20
	9.145	10.270	320 360

	1316.17	150	175
0	0895 1305.575	11.49 1304.64	10 10
0	1365 1295.455	11.465 1294.09	20 15
0	0855 1284.965	11.345 1284.11	15 10
0	1635 1275.16	11.94 1273.525	30 45
0	0455 1263.91	11.705 1263.455	15 15
0	162 1254.165	11.365 1252.545	45 55
0	1055 1243.815	11.405 1242.76	10 15
0	004 1232.605	11.75 1232.565	10 15
0	166 1222.56	11.705 1220.90	15 15
	9.580	103.190	350 380

62

	122257		320	36
o	0535 1211.42	11.65 1210.855	10	20
Panglo "B"				
o	0795 1200.83	11.485 1199.935	10	20
o	0085 1189.53	11.385 1189.445	10	20
o	033 1179.94	10.92 1178.61	10	15
o	087 1169.09	11.72 1167.22	30	15
o	070 1157.05	11.74 1156.35	15	10
o	074 1146.865	10.925 1146.125	10	30
o	173 1137.665	10.43 1136.435	10	10
o	0285 1126.78	11.17 1126.495	5	15
	5.60	101.460	430	500

o

	122256		320	380
o	047 1211.415	11.615 1210.945	15	30
o	087 1200.825	11.46 1199.955	15	25
o	034 1189.52	11.65 1189.18	10	15
o	1105 1178.935	11.69 1177.83	15	15
o	0195 1169.09	11.04 1167.895	40	20
o	063 1157.05	11.67 1156.42	10	10
o	1135 1146.865	11.32 1145.73	15	20
o	039 1137.665	9.60 1137.265	10	10
o	044 1126.77	11.375 1126.28	5	15
	5.625	101.415	455	540

63

	1126.78		430	500	
o	0085 1116.09	10775 1116.005	15	30	
o	066 1105.28	1147 1104.62	15	20	
Painted "C"					
o	065 1095.50	1043 1094.85	20	20	
o	0465 1085.30	10665 1084.835	10	20	
o	096 1074.675	11585 1073.715	15	20	
o	075 1064.445	1098 1063.695	15	20	
o	159 1054.36	11675 1052.77	10	15	
o	108 1044.745	10695 1043.665	20	20	
o	102 1034.195	1157 1033.175	20	25	
	7.260	99.845	570	690	

	1126.77		455	510	
o	014 1116.075	10835 1115.935	15	35	
o	0385 1105.26	1120 1104.875	10	15	
o	1845 1095.485	1162 1093.64	10	20	
o	071 1085.215	1091 1084.575	10	20	
o	050 1074.655	1113 1074.155	15	15	
o	060 1064.43	10825 1063.83	20	25	
o	040 1054.34	1049 1053.94	10	15	
o	108 1044.72	1070 1043.64	20	20	
o	1035 1034.17	11585 1033.135	20	25	
	6.605	99.295	585	730	

	1034.95	570	690	
0	0255 1022.965	11485 1022.71	25 70	
0	0145 1011.51	1160 1011.365	25 45	
0	0555 1001.52	5105 1000.965	20 60	
0	1905 991.945	1149 990.04 95	60	
0	214 984.205	988 982.065	15 25	
0	101 973.965	1125 972.955	20 25	
0	134 963.73	1147 962.49	10 40	
0	008 952.745	11065 952.665	20 35	
0	1255 8.585	1179 940.955	25 40	
		109570	8251000	

	1034.17	85	730
0	045 1022.94	1169 1022.49	25 70
0	026 1011.485	1176 1011.225	30 40
0	165 1001.495	1164 999.45	20 55
0	1005 991.92	1057 990.915	20 55
0	1575 984.18	9315 982.605	25 30
0	0385 973.94	10625 973.555	15 25
0	0695 963.70	10930 963.005	15 40
0	040 952.72	1138 952.32	30 40
0	054 942.18	1108 941.64	25 45
	6960	98950	950 1130

Painted "D"

	942.21	825	1090	
0	0145 931.75	1057	931.64.25	30
0	062 950.985	1152	920.265	70 40
0	131 915.775	642	944.15	15 20
0	086 905.035	1160	902.175	15 20
0	041 893.84	11605	893.43	10 20
0	071 883.34	1121	882.63	10 20
0	122 873.15	1141	871.93	5 10
0	124 862.825	11565	861.585	5 15
0	062 852.25	11195	851.63	15 10
	9135	97005	995.280	

	942.8	850	1130	
0	001 931.75	1044	931.74	20 35
0	0465 950.855	1136	950.39	70 40
0	0705 915.745	585	915.04	20
0	0595 905.005	11335	904.41	10 30
0	010 893.815	1129	893.715	10 15
0	010 883.31	10605	883.21	10 15
0	057 873.11	1077	872.54	5 15
0	047 862.775	10805	862.305	15 10
0	073 852.20	11305	851.47	20 10
	3245	93125	1050	1310

12-5-07
wrench
water10
further
Pegs

85225

995 1290

0	135	842.37	1113	841.12	10	20
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0	0345	831.295	1142	830.95	10	10
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0	179	821.58	11505	819.79	10	10
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0	0695	811.295	1098	810.60	30	15
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0	0915	801.495	10615	800.68	40	45
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0	072	791.775	1044	791.055	40	30
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0	069	781.615	1085	780.925	35	30
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0	026	771.06	10815	770.80	30	30
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0	070	760.35	1141	759.65	10	20
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7.265

99.165

210 1490

85220

1020 1310

0	0925	842.315	1081	841.39	15	20
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0	0015	831.245	11095	831.23	10	10
---	------	---------	-------	--------	----	----

0	147	821.525	1119	820.055	20	20
---	-----	---------	------	---------	----	----

0	040	811.24	10685	810.94	10	25
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0	119	801.44	1099	800.25	15	15
---	-----	--------	------	--------	----	----

0	0885	791.725	1060	790.84	10	20
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0	109	781.575	1124	780.485	10	20
---	-----	---------	------	---------	----	----

0	099	771.025	1154	770.035	10	20
---	-----	---------	------	---------	----	----

0	059	760.32	11295	759.73	15	15
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7.555

99.435

1135 1475

		76635		1210	1490		
10	157	750.535	11385	749.965	10	15	
0	162	740.46	11695	738.84	20	15	
0	029	729.005	11295	729.215	20	20	
0	0885	719.355	11035	718.47	25	20	
0	2235	709.82	1177	707.585	25	20	
0	1245	699.235	1183	697.99	20	35	
0	092	689.01	11145	688.09	20	25	
0	112	678.31	1182	677.19	20	30	
0	114	668.00	1145	666.86	15	25	
	11.025		103.378		1395	1695	

		76032		1135	1475		
0	0105	750.505	992	750.40	10	20	
0	0115	740.42	1020	740.305	10	20	
0	056	729.47	1151	728.91	10	20	
0	0775	719.325	1092	718.55	15	20	
0	031	709.79	9825	709.48	10	30	
0	083	699.20	1142	698.3	30	40	
0	0935	688.75	1116	688.04	50	40	
0	056	678.275	1126	677.715	20	30	
0	029	667.96	10605	667.67	15	20	
	4480		96940		1305	1715	

669.00

1385 1695

BM108

696 661.04 Point on RR Sledge 7 1/2 of Little

1305 1715

Rock bluff at Bendy Creek

0	144	658.285	1155	656.845	40	55	0	142	658.24	1154	656.82	35	60
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Ruk Bottom

0	079	647.41	1166	646.62	180	30	0	070	647.37	1157	646.67	150	25
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0	1955	640.61	8755	638.655	205	75	0	180	640.575	8695	638.675	190	90
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0	2335	632.725	1022	630.39	220	135	0	080	632.695	858	631.895	245	110
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0	095	622.205	1145	621.27	90	135	0	120	622.18	1175	620.98	65	160
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0	095	613.65	946	612.745	195	60	0	211	613.63	1066	611.22	115	65
---	-----	--------	-----	---------	-----	----	---	-----	--------	------	--------	-----	----

0	137	606.67	835	605.30	90	140	0	077	606.64	776	605.57	90	160
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0	5255	600.10	11825	594.845	120	200	0	510	600.07	1167	594.97	130	185
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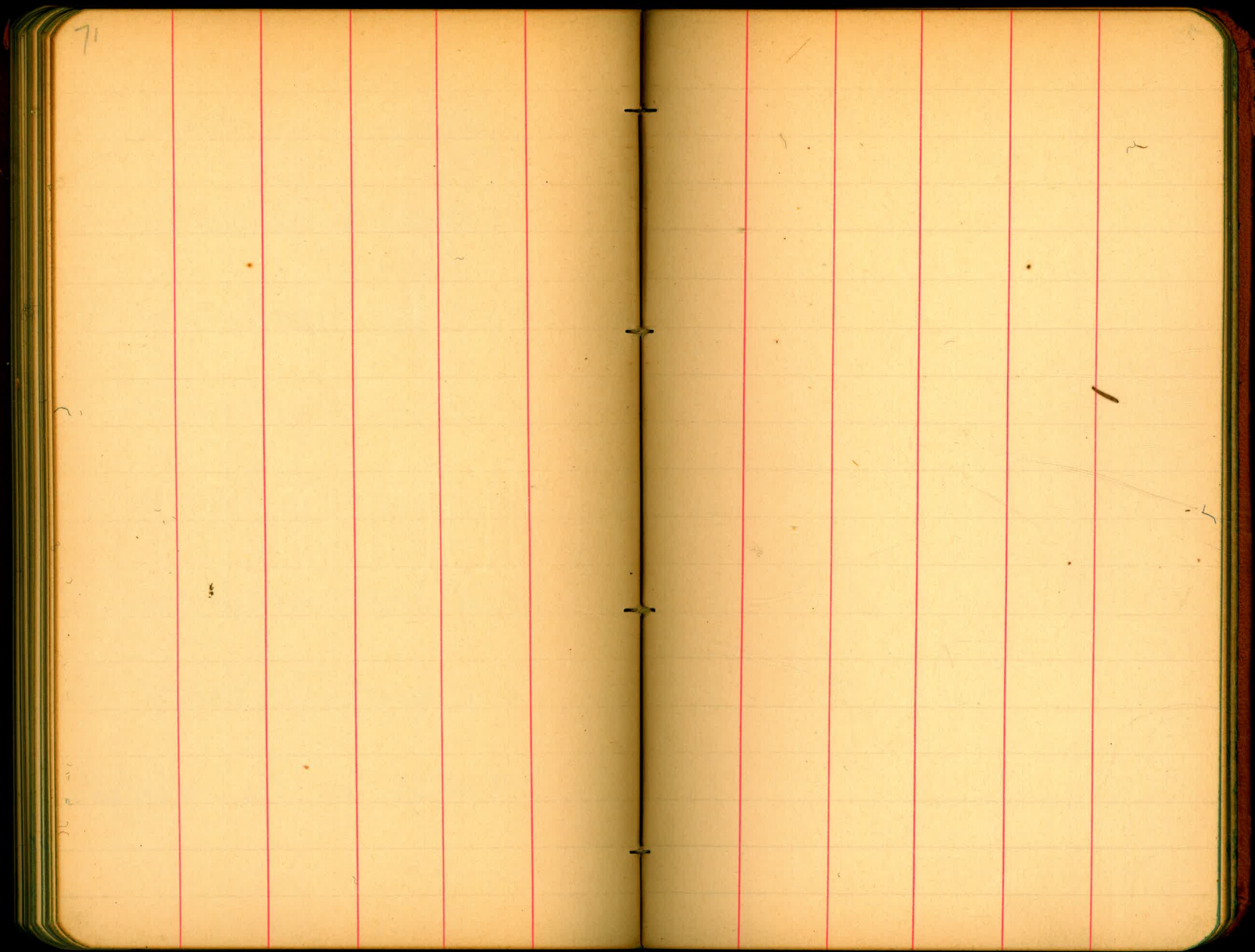
	14980		8258		2525	2525		14.00		81890		2375	2570
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69

Painted "E"	60010			2525	2525	595.895 = mkan R side of moir's holden fence	60007			2375	2570
115	590.73	1052	589.58	125	190	0	159	590.70	1096	589.11	120 185
0	0925	572.255	943	581.30	200	190	0	224	582.20	1074	579.96 200 180
0	393	573.25	2083	571.395	140	195	0	417	575.30	1107	571.13 190 200
Painted "F"	east of Road										
1019	579.075	644	568.885	100	255	0	1020	579.05	645	568.85	100 255
0	270	578.175	364	575.435	340	320	0	259	578.16	348	575.57 360 300
0	112	570.265	903	569.145	230	220	0	1255	570.235	918	568.98 225 225
0	0825	559.595	11495	558.77	120	260	0	1095	559.58	1175	558.85 115 260
0	031	552.13	7775	551.92	330	115	0	299	552.11	1046	549.12 175 250
0	422	544.56	1179	540.34	130	165	0	385	544.54	1142	540.69 120 175
	2540		80950			4290 4415		20990		4551	

	54456		290	1115
2.50	539.415	7645	536.915	185 95
8.50	541.675	6724	533.175	210 135
6.51	533.605	9.18	532.495	275 260
7.79	533.475	732	525.675	260 290
1.86	525.93	9.505	523.97	245 200
1.59	520.36	716	518.67	280 105
4.15	519.25	5.26	515.1070	195
		3915	515.335	160
27.00		56225		5785 15045

	54454			
2.345	539.395	7.19	537.05	170 105
9.64	541.655	638	533.015	210 150
6.35	532.985	9.02	532.135	265 300
7.43	533.465	6.95	526.035	280 295
2.06	520.315	9.71	523.755	230 215
1.685	520.35	7.15	518.665	240 115
5.055	519.245	6.16	514.1975	180
≅ U.S. G.S. Bm 514 at S.F. Jan 1900				
27.565		5286		



72

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117

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73 Trial levels even #7

1108	1416.325	172	1405.245
1059	1425.195	172	1414.605
1055	1434.275	147	1423.725
1162	1444.27	163	1432.645
1032	1452.51	098	1443.29
1077	1462.56	172	1451.79
1057	1472.63	050	1462.06
1091	1483.08	053	1472.10
1033	1492.985	0425	1482.655
1076	1502.96	081	1492.175
1120	1513.925	0235	1502.725
1164	1523.955	161	1512.315
11155	1531.195	3915	1520.04
075	1571.385	1056	1520.635
047	1510.525	1133	1510.055
075	1499.34	1189	1498.635
074	1488.85	1123	1488.11
216	1490.02	1099	1477.86
146.320		70.545	

90	60
40	60
15	40
20	10
10	10
30	20
25	15
20	5
30	15
20	20
30	15
15	10
60	130
10	45
100	90
10	90
10	20
15	15

= last turn page 18

11-29-07
Waste
Waterma
Waste

11-30-07
Waste
Waterma

74

	1280.02		
0.40	1468.66	1176	1469.26
0.21	1457.165	11705	1456.955
0.27	1445.61	11825	1445.34
0.81	1434.79	1163	1433.98
1.25	1424.385	11655	1423.135
1.30	1414.37	1135	1413.07
		7915	1406.425

4240

77835

610

10

10 10

15 10

10 10

10 10

10 15

20 20

10

695695

= Teil IV auf K unvollständig

75	Transit	Dist	Magn	Cal. to	Dist Ang	Stadia Rod	Diff
			(Variation Dist) (Ref at 0°)				
8		185.7		25°25'	400	627	2.27
7		143.2		25°5'	400	572	1.72
6		93.0		19°20'	400	583	1.03
5		73.9	S 79°26' W	15°9'	400	478	.78
4		127.6		4°15'	500	627	1.27
3		100.9		30°25'	300	400	1.00
2		85.8	S 80°10' W	20°15'	500	596	.96
1		101.8	S 80°5' W	27°15'	200	327	1.27
0		161.7		35°36'	458	700	2.42
		<u>1073.6</u>					

11-28-07

Offset 14.7' N

Constant 1275

Worst
Water
S. A. R.
with
Rogers

2.
356026
9.909744
2.265790

1844

2.
9.892015
9.469206
1.861301

726

2.
9.912271
9.945047
1.927318

84.5

2.
235527
9.913366
2.148894

1419

2.
1.02304
9.997701
2.101505

1263

2.
1.02804
9.998467
2.002271

100.5

2.
1.012717
9.949572
1.962420

917

2.
1.000000
9.998529
1.998529

99.6

2.
393815
9.821267
2.205182

1604

1073.6 $\sqrt{447000000}$
42944
17560
10736
68240
64416
38240
32209

2023'

76

Sewels around Tunnel #6.

1024 1412.255 1402.015

11.15 1412.69 10715 1401.54

11315 1412.71 11295 1401.395

1181 1412.52 12.00 1400.71

1031 1421.105 1725 1410.795

386 1423.825 1.14 1419.965

5845 1413.535 11.35 1412.69

813 1416.67 9995 1408.54

8045 1414.16 10555 1406.115

579 1415.83 412 1410.04

3.59 1412.24 ✓

86.495

76.270

155

= Bm 100

155 115

420 115

25 65

30 255

45 15

55 470

175 45

410 525

300 15

50

= 174 Pr on Pr

1770

1770

11-27-07.

Wuest
Wattman
Wright

77

check Levels over Tunnel #5

12.035

142.19

10.80

1.48

11.39

0.325

11.595

1.56

11.25

1.135

11.56

1.14

10.95

0.38

10.18

0.16

11.70

0.01

11.665

0.98

5.05

0.52

1.87

10.55

0.07

11.30

0.715

10.94

0.945

11.43

0.30

11.01

0.27

11.17

1.78 1452.475

11.64

124.025

85.730

= Bm 95

11-25-'07.

Went
Saw -
Waterman

78

1452485

334

11935

102

1112

137

10475

10565 14142

573

44.095

79

Seeds Around Tunnels * 5

	9.81	1419.46		1409.65
○	9.38	1419.32	9.52	1409.94
○	11.513	1421.145	9.69	1409.63
○	10.965	1420.525	11.585	1409.516
○	10.56	1420.085	11.00	1409.525
○	10.88	1419.32	11.645	1408.44
○	9.56	1418.14	10.74	1408.58
○	10.72	1419.49	9.37	1408.77
○	11.01	1419.19	11.31	1408.18
○			50.45	1414.145

94.800

89.905

11-23-07

= Sta 1129 + 50

150	
225	140
130	105
60	115
70	80
110	160
205	105
60	80
10	65
	170
1020	970

 waste
 taken
 well

= Put Pr. to right of him

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

FOR SINGLE TRACK EMBANKMENT.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

	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.