

W283

Our Leather Bound Engineers Note Books are carried in the following rulings:

- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
- No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.
- No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
- No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

We also carry the Note Books listed above, bound in extra strong Fabri-Hide (otherwise the same quality of book), which can be furnished at a somewhat lower price.

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THE FREDERICK POST CO.
ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

MICROFILMED

JAN 11 1965

466+0529
3084
6840

848+000
1922
848+1578
3982
848+5560

22 46
22 461

INDEX

Ret. pts. 82+32.42 to Lantana
OTAY P.L. Tunnel #3
Location of Proposed Grade North portal

Pages

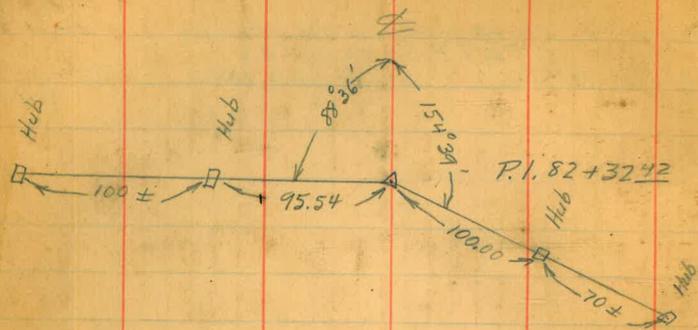
1-47

49-51 ✓
Alice

MICROFILMED

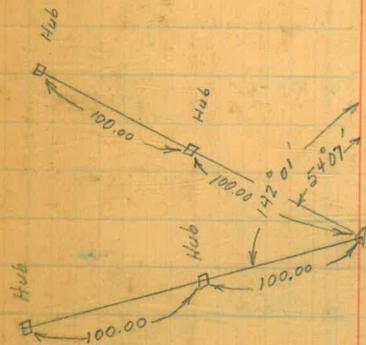
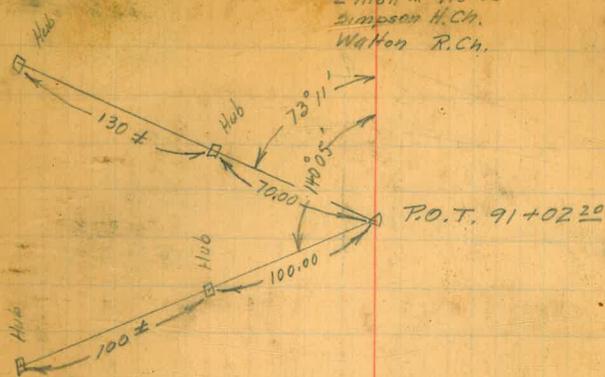
JAN 1 1985

Stag-San Diego 2nd Main Pipe Line
 Ret. pts. from 82+32.42 to 855+34.63

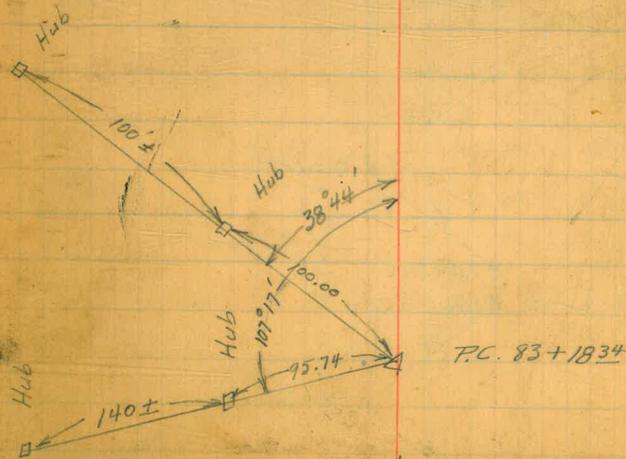


Note: All Angles Turned From Forward
 Tangents

Oct 9 1929
 Hill Chief of Party
 Elliott M. notes
 Simpson H. Ch.
 Walton R. Ch.



"P" P.O.T. 84+58.48 =
 P.T. 87+98.96

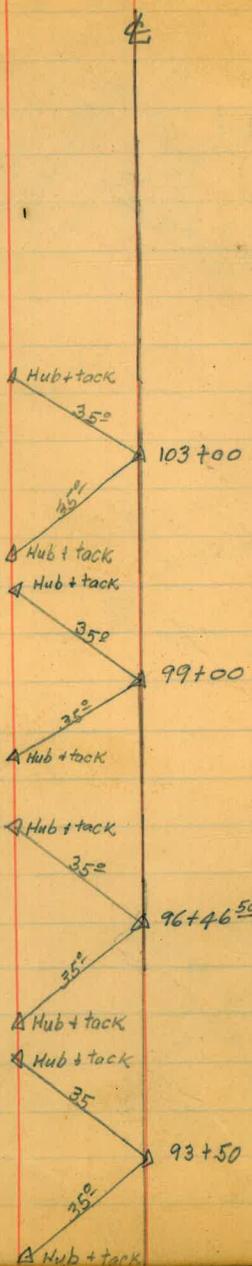


clear and warm.

March 27-30

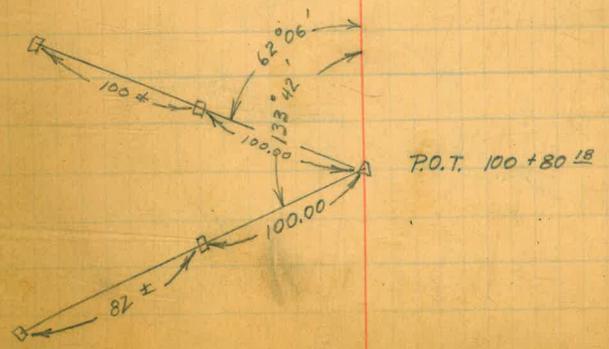
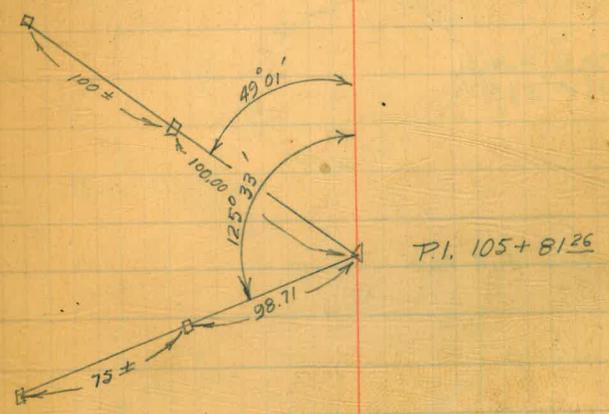
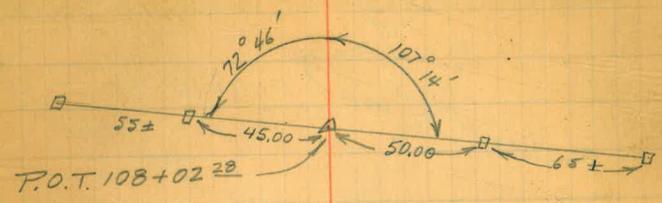
Hill
Elliott
Simpson
Seber
Jacobson

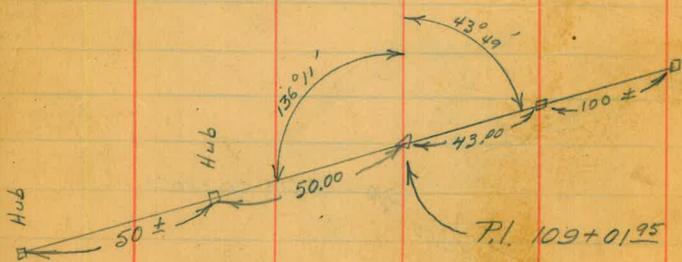
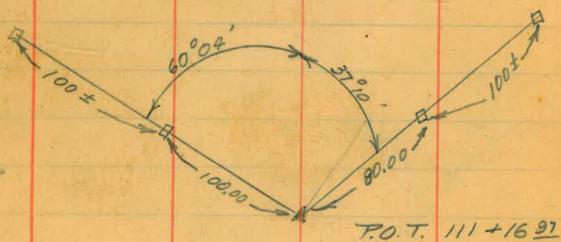
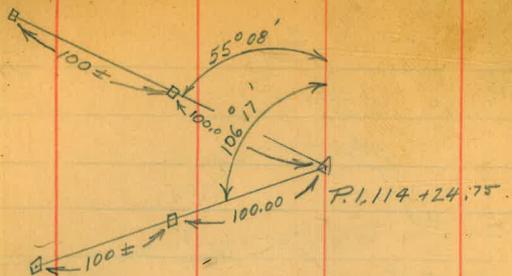
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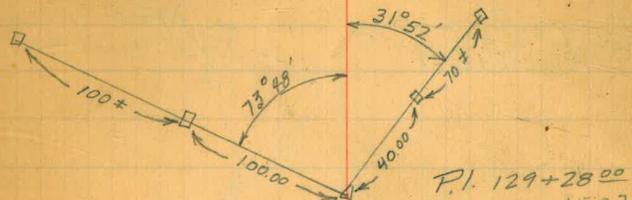
75
18
56

note: Points
Referenced on
this Page are
not good for line.





Note: All angles turned from forward tangent, all R.T.'s are red wood hubs + tacks, unless otherwise shown.



P.I. 129+28.00

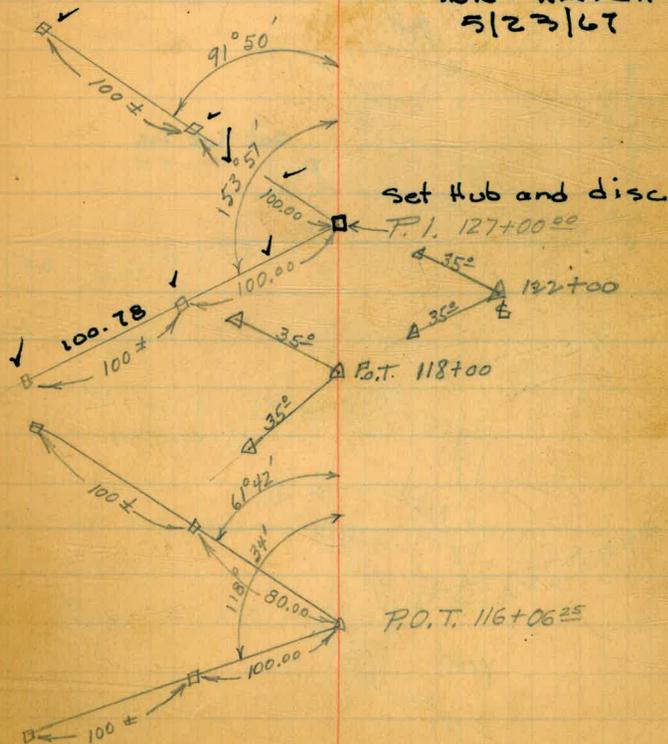
15.87

129+12.13

71.52

128+20.31

WR = HATCH
5/27/67



Set Hub and disc

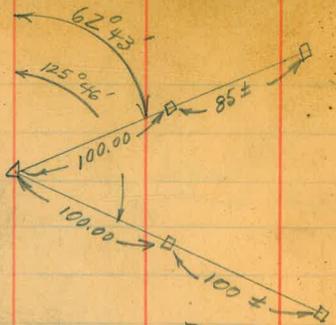
P.I. 127+00.00

132+00

P.O.T. 118+00

P.O.T. 116+06.25

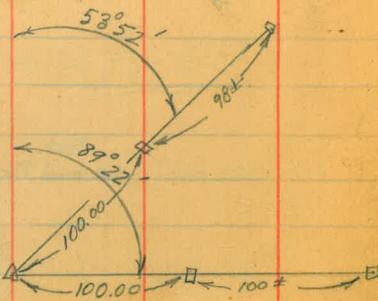
P.I. 171+58.07



Hub at Intersection of Tunnel Lines 1 and 2 Produced

Line of Tunnel #1

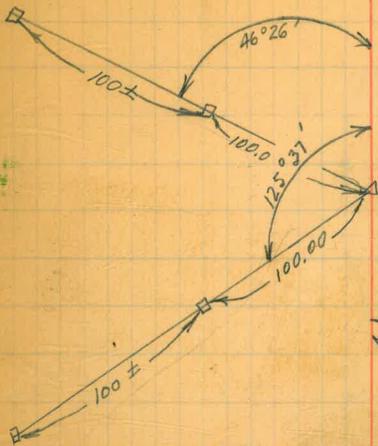
P.I. 168+25.02



Oct 10 1929
Hill Chief of Party.
Elliott & notes
Simpson M. Ch.
Walton R. Ch.

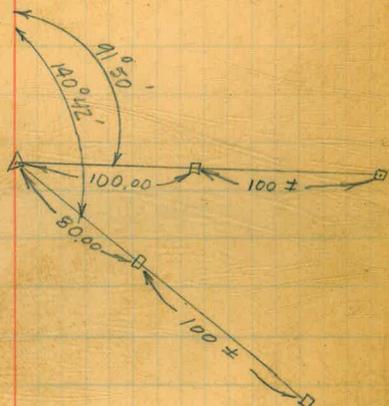
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Note: All angles turned from forward tangents, all T.P.s are redwood hubs & tacks - unless otherwise shown.

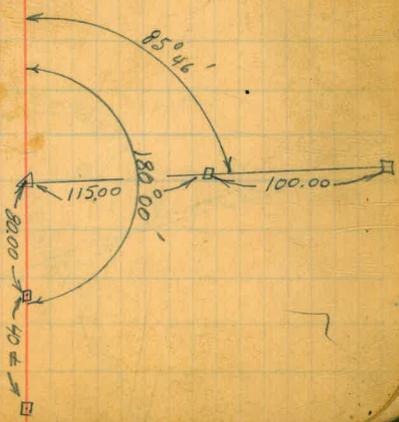


P.I. 198+66.00

P.I. 194+62.60

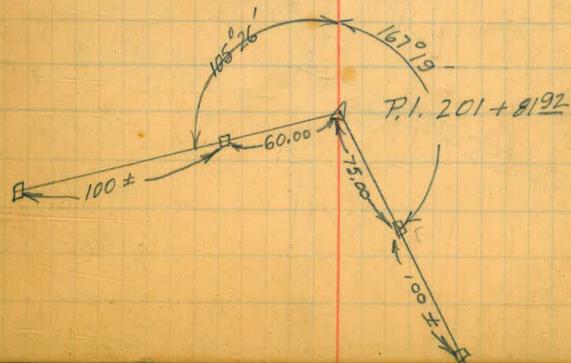
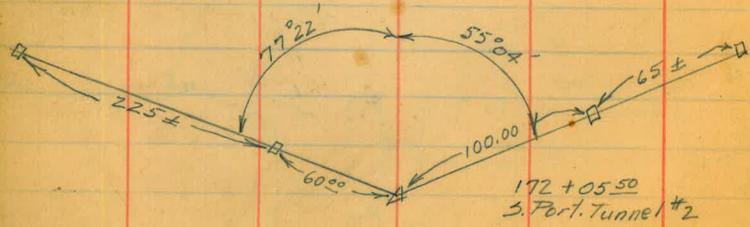
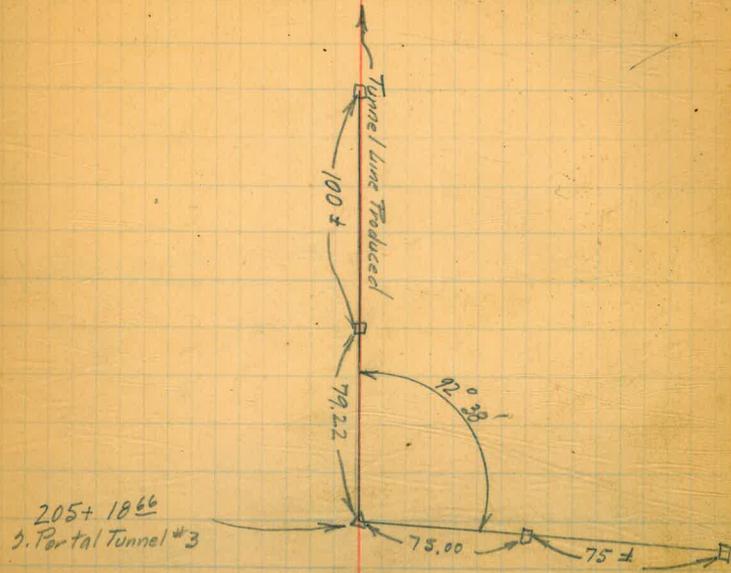


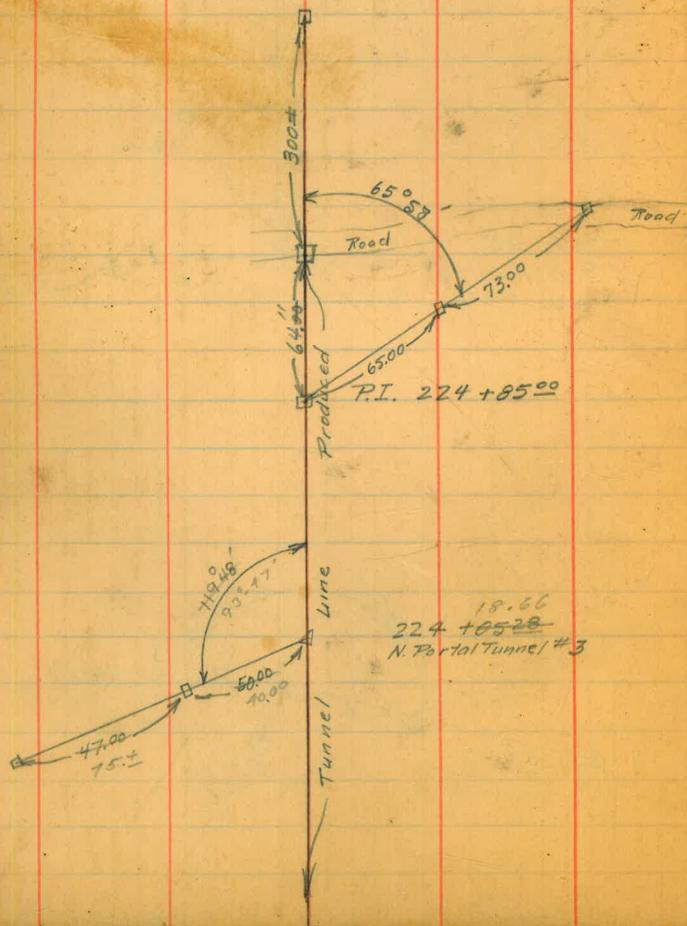
192+20.50
N. Portal Tunnel #2



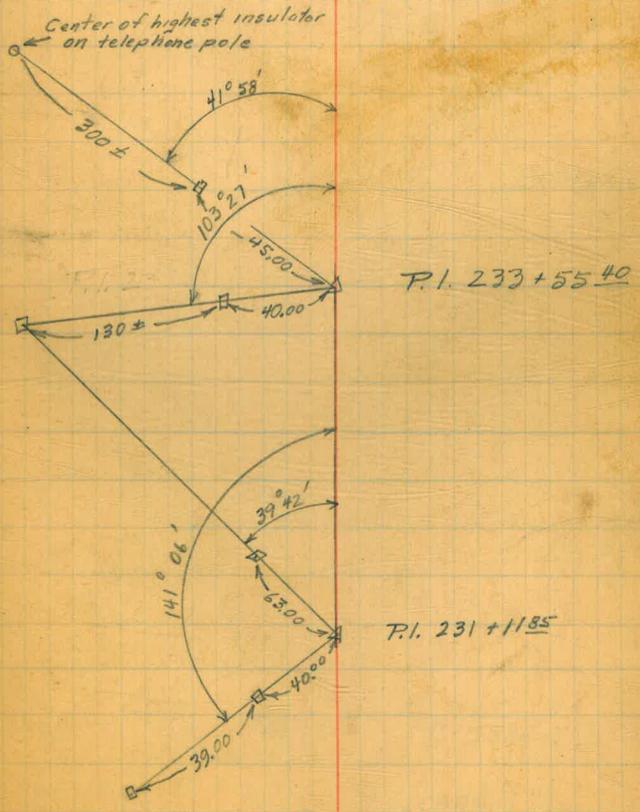
Oct. 10, 1929.

6



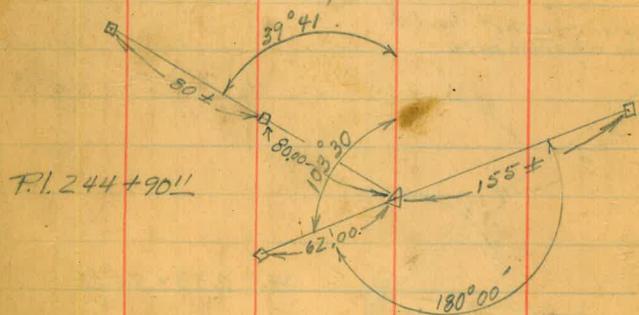


Note: All angles Turned from foreward tangents, all R.P.s
 Redwood hubs + tracks — unless otherwise shown.

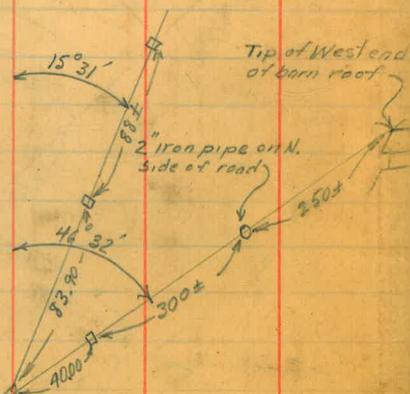


Oct 10, 1929

Q



P.O.T. 244+90.11

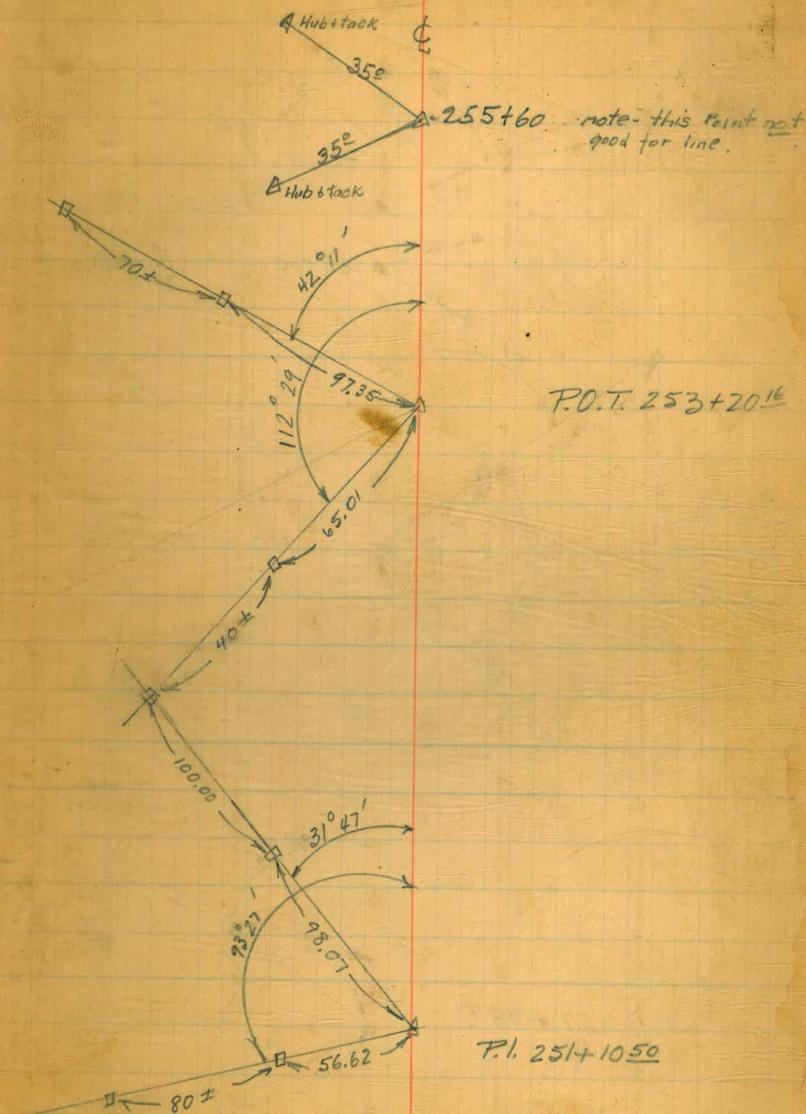


P.O.T. 238+90.97
 237+37.60
 153.34

Oct 11, 1929

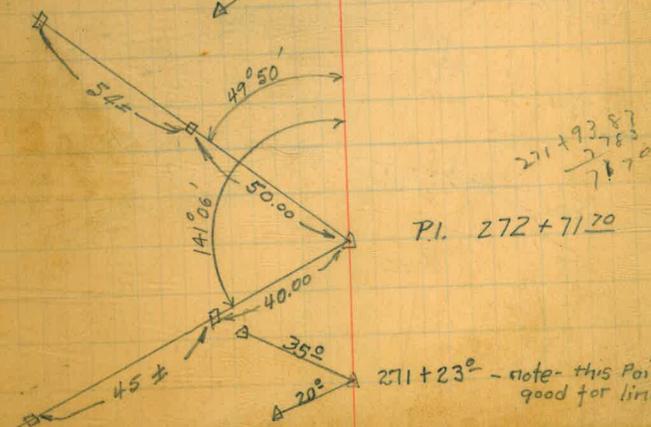
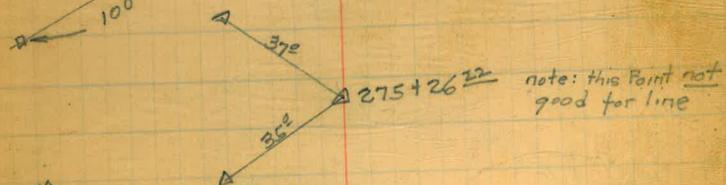
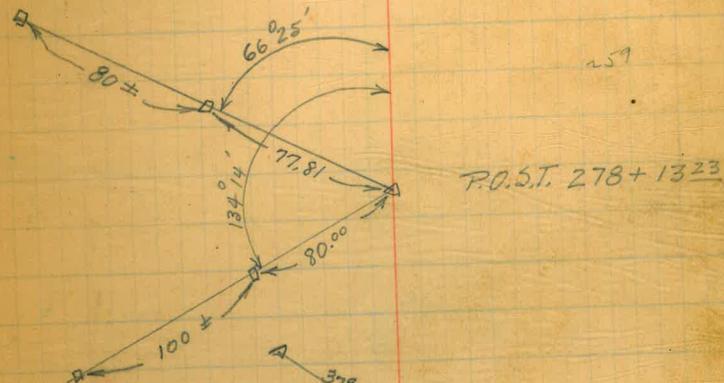
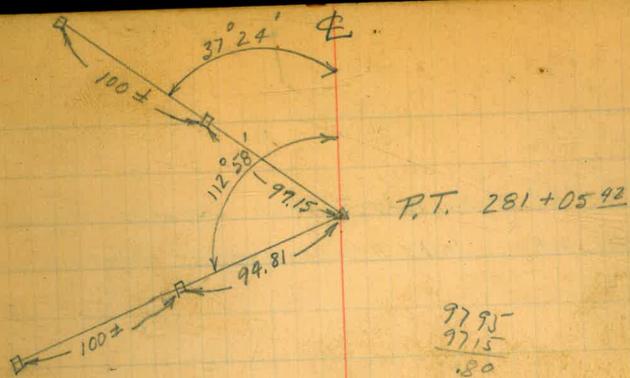
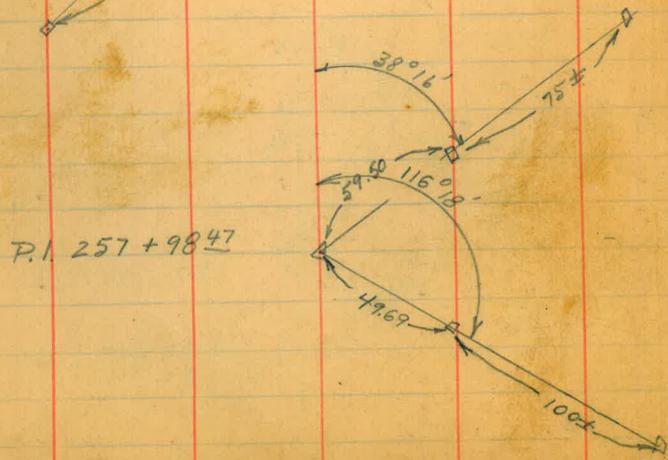
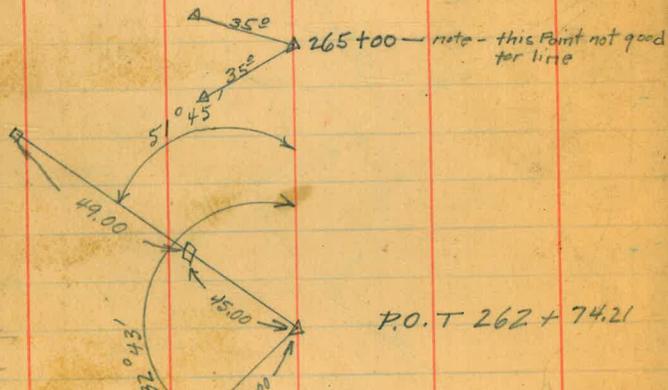
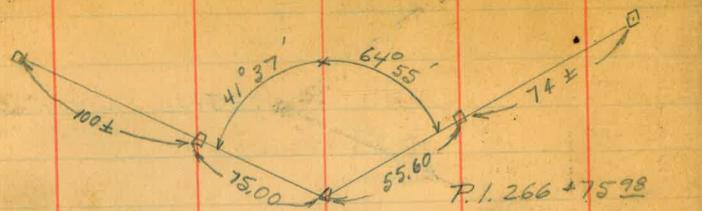
Same Party

8

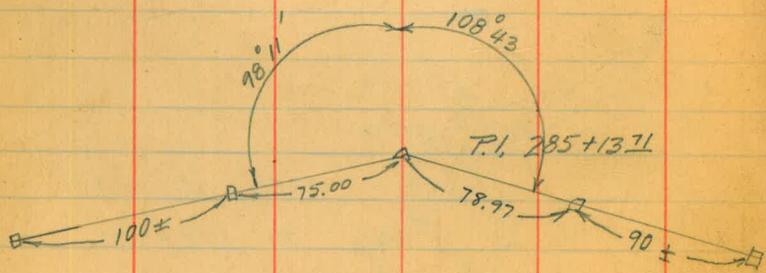


P.O.T. 253+20.16

P.O.T. 251+10.50



Note: All angles turned from forward tangents,
all T.P.s are redwood hubs & tacks - unless otherwise shown



Oct. 11, 1929.

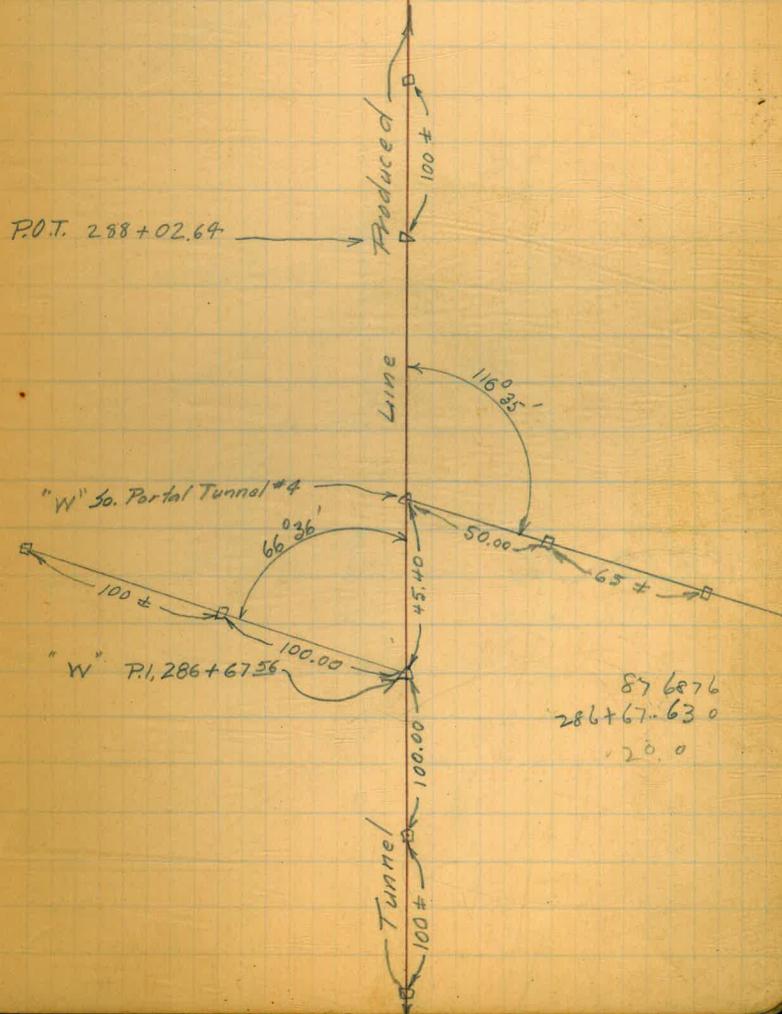
Hill Chief

Elliott & Notes

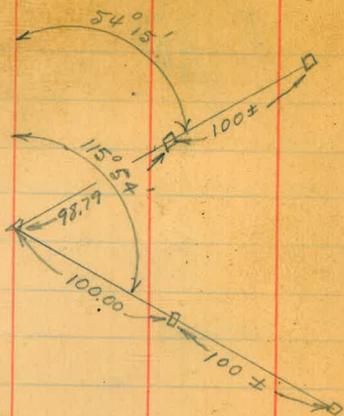
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Walden R.Ch.

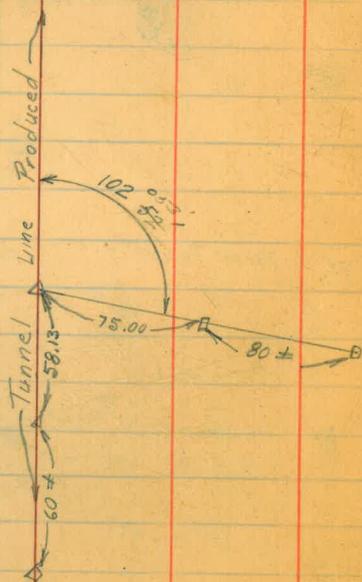
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"W" P.I. 300+86.16

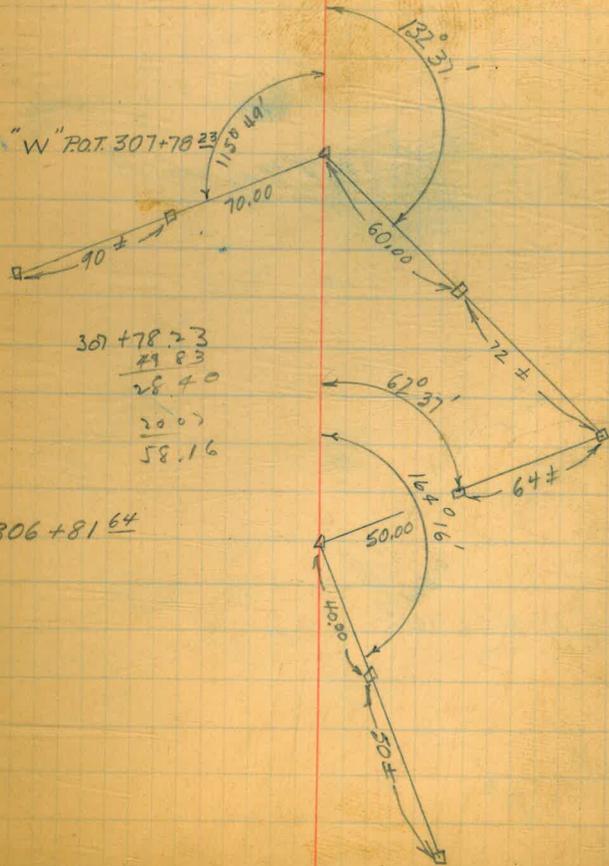


P.O.T. 298+03.42
N. Portal #4



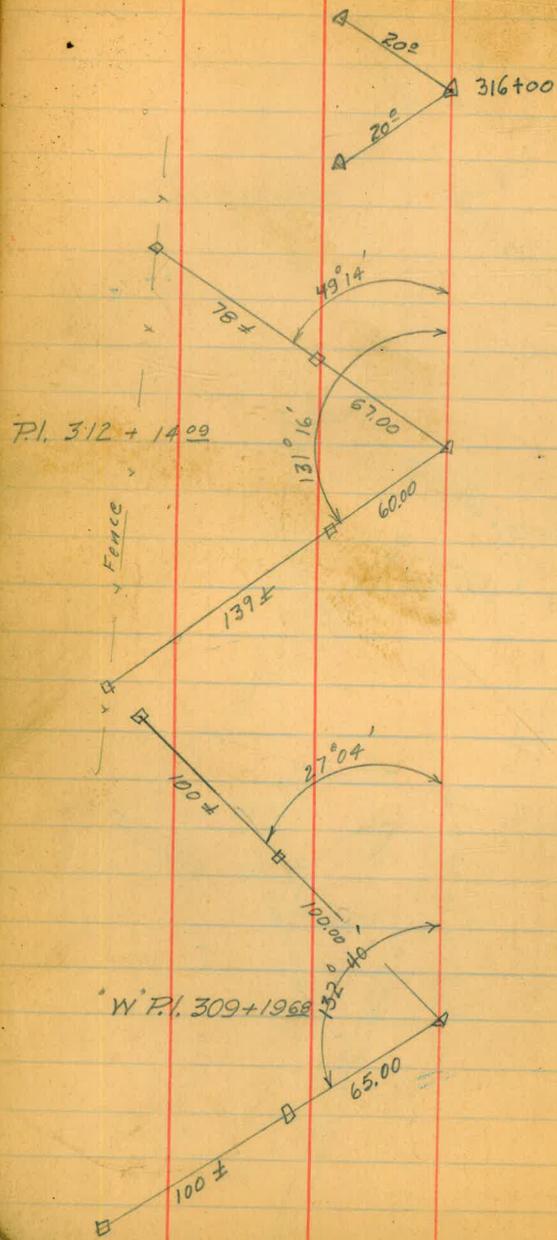
P.O.T. 298+03.42

"W" P.O.T. 307+78.23

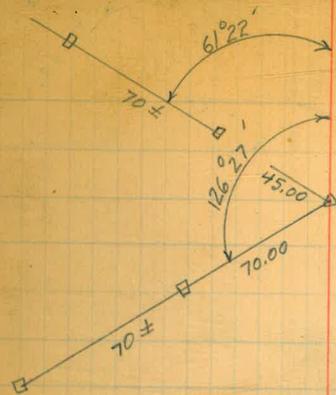


307+78.23
49.83
28.40
20.07
58.16

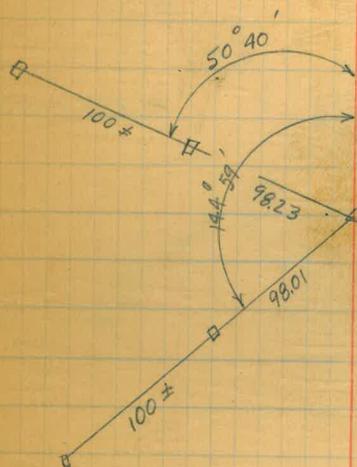
P.I. 306+81.64



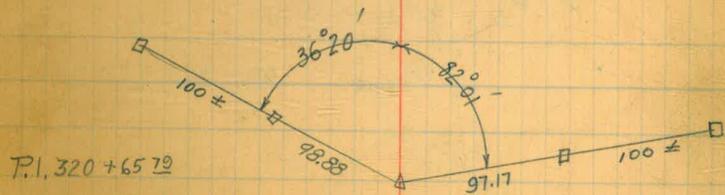
note: this Point not
good for line



P.O.T. 326 + 55.60



P.I. 324 + 07.52

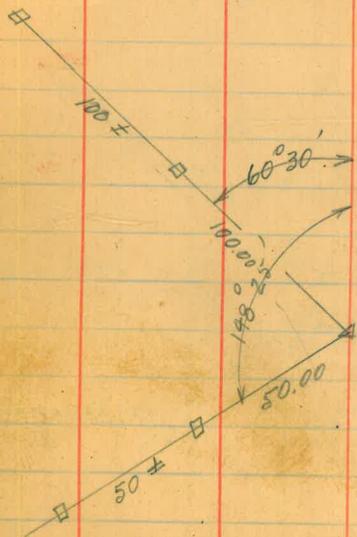


P.I. 320 + 65.72

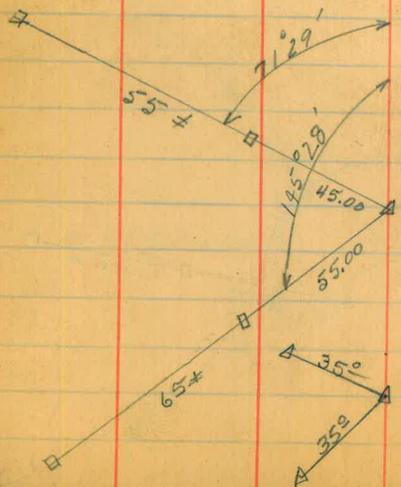
3 P.M. Oct 14, 1929

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Hill Chief
Elliott & notes
Simpson H.Ch.
Walton R.Ch.

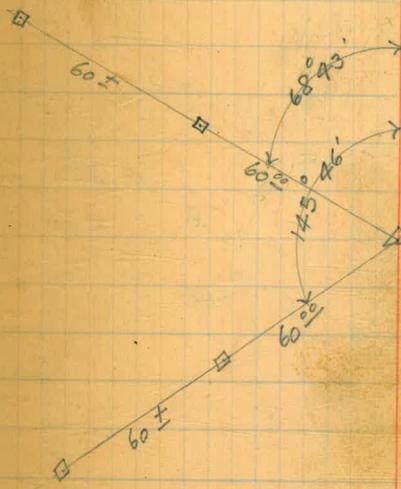


P.I. $338 + 15.90$

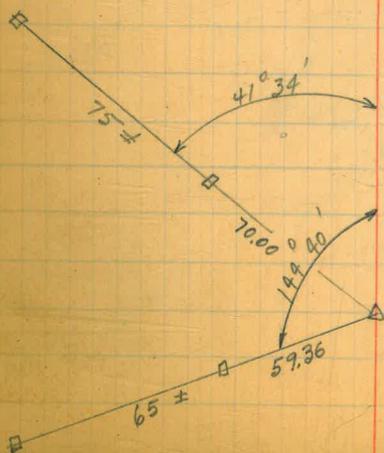


P.I. $333 + 33.49$

$329 + 65^{\circ}$ ← note: this Point not good for line



P.O.T. $343 + 60.00$



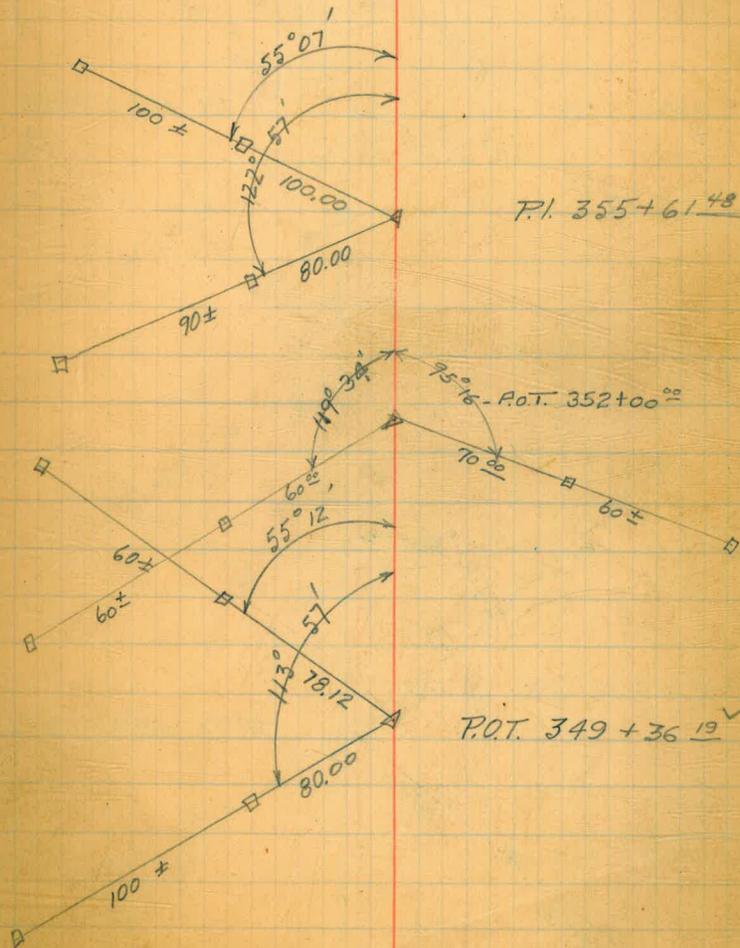
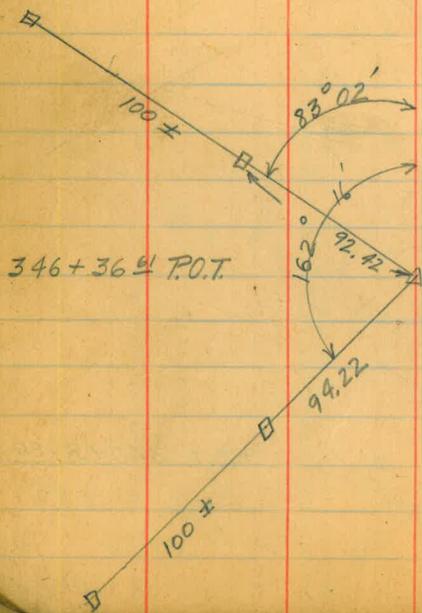
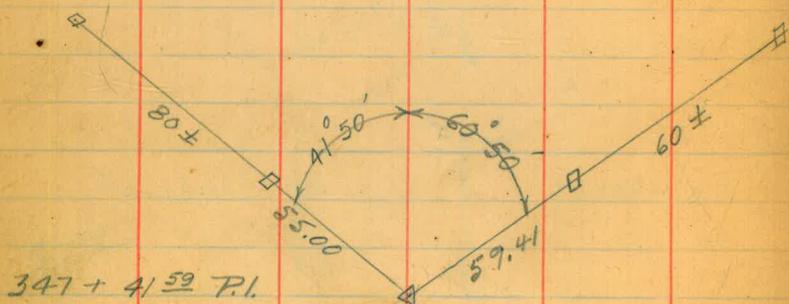
$342 + 87$
P.O.T. $340 + 3780$
2492

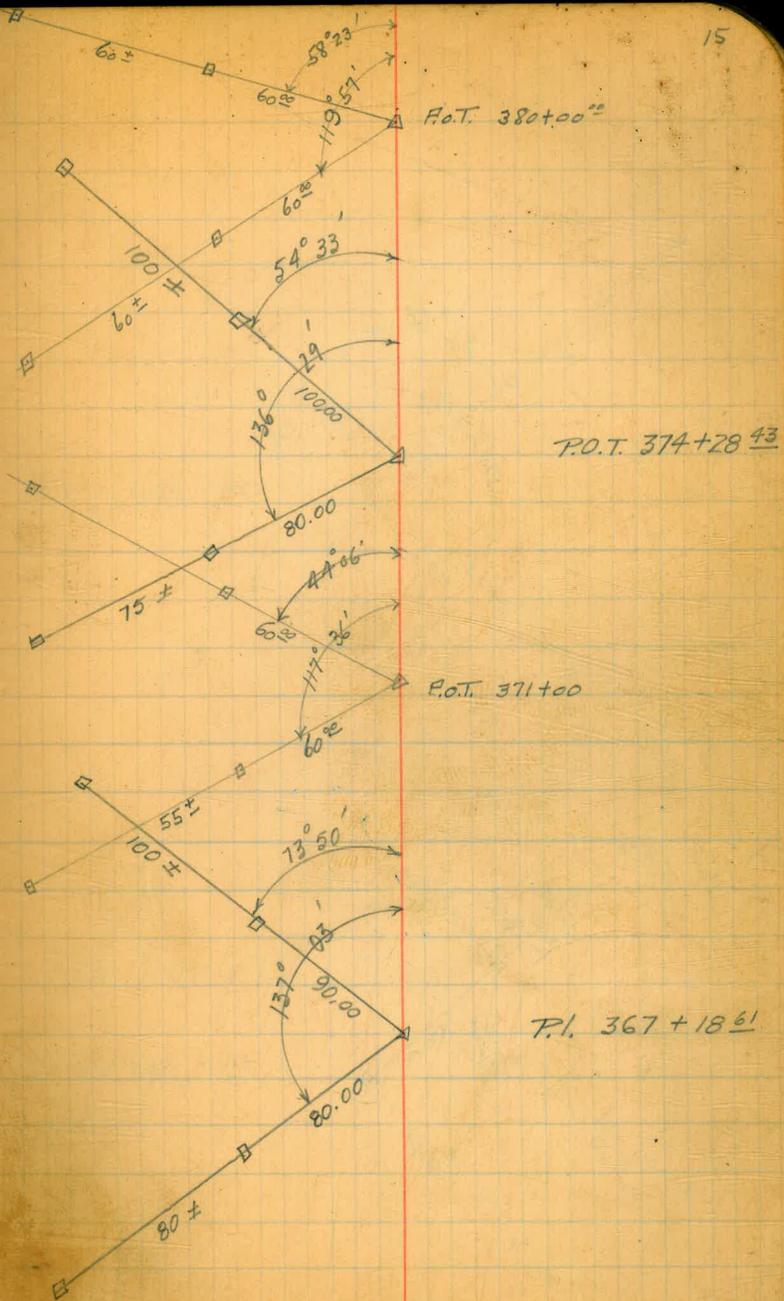
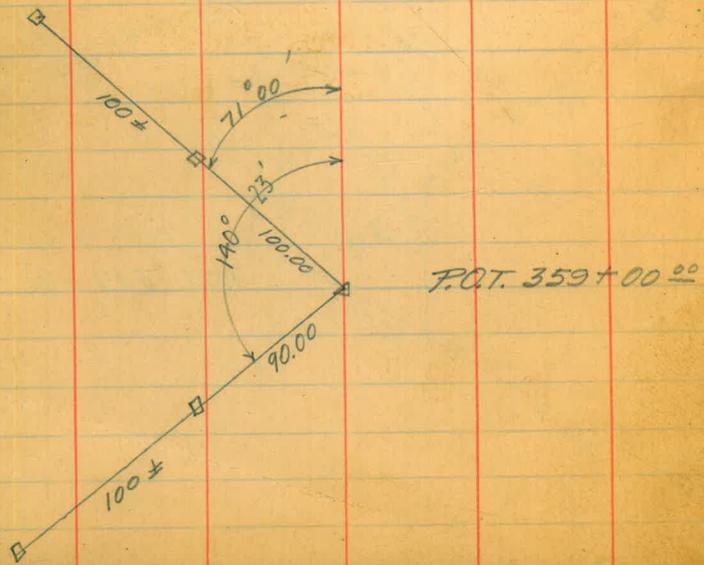
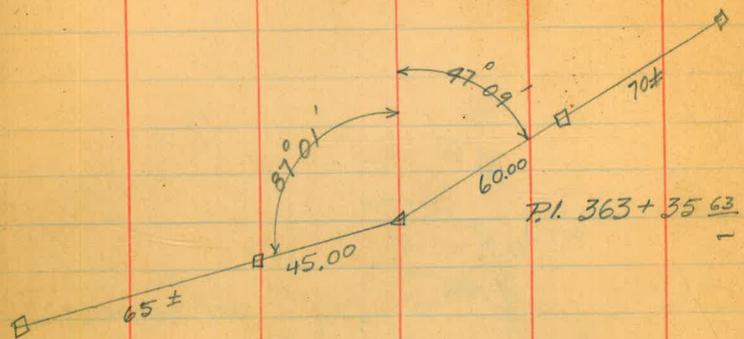
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 all P.P.s are P.W. hubs & tacks — unless otherwise
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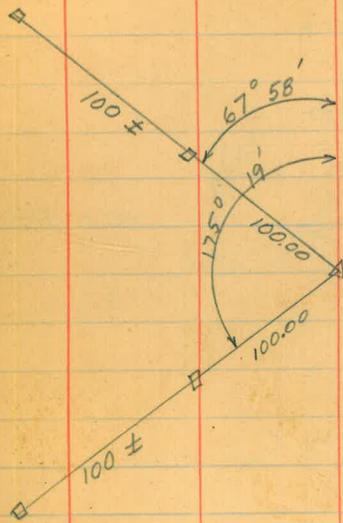
Oct 15 1929
 Cold - Windy

14

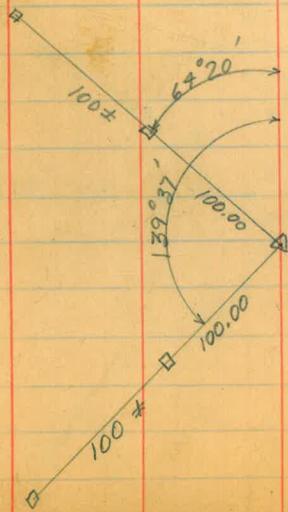
6607
 27.06
 38.



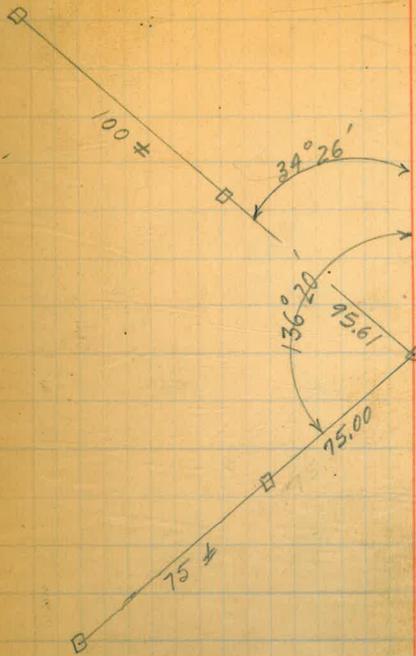




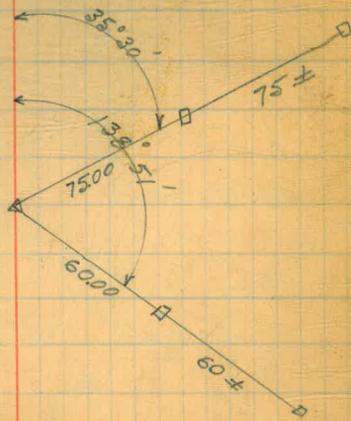
P.I. 389 + 18.43



P.O.T. 385 + 26 ³⁴
 82 47.
 2 79.3

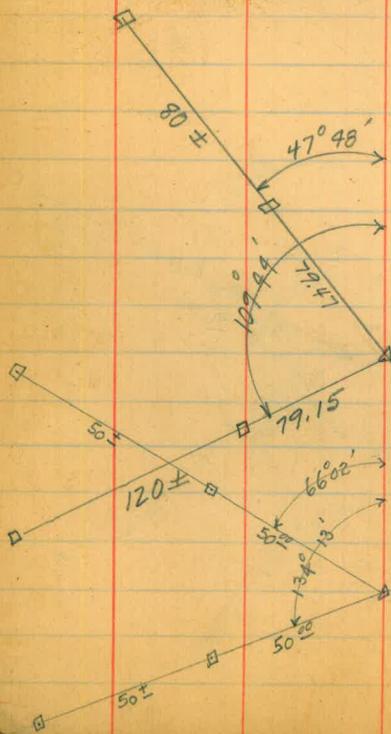
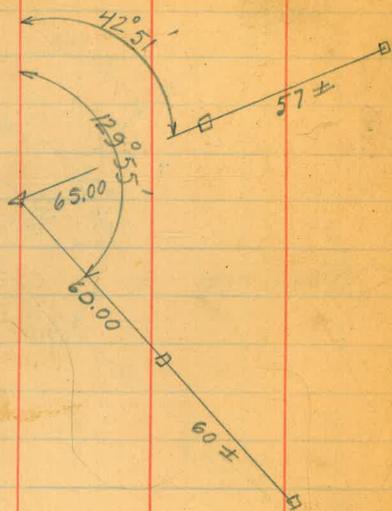


95 67
 P.O.T. 394 + 87.87
 71.1



P.O.T. 392 + 65.05

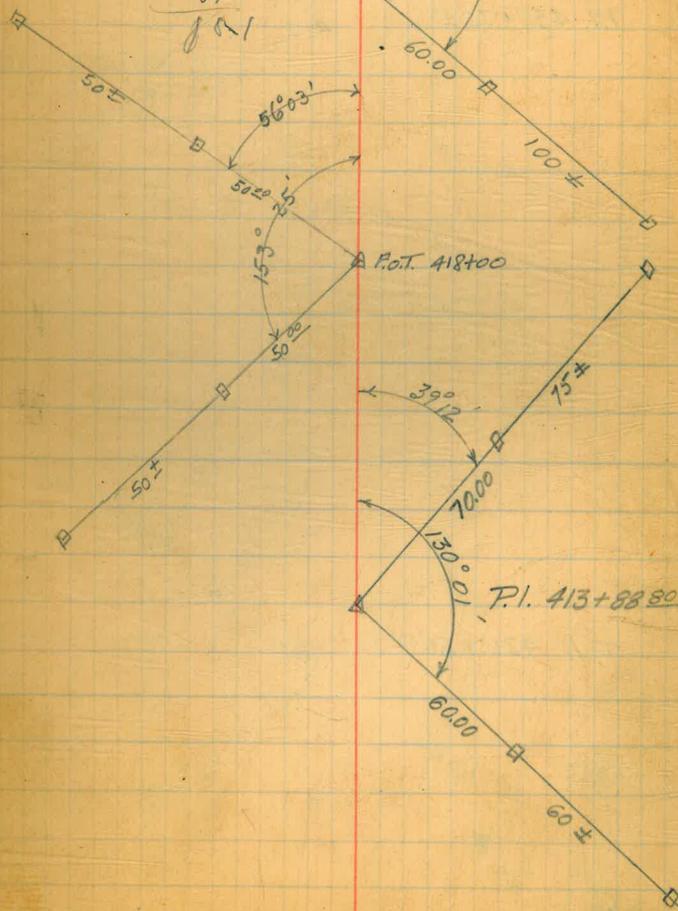
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P.O.T. 403 + 47.05

P.O.T. 399 + 00.00

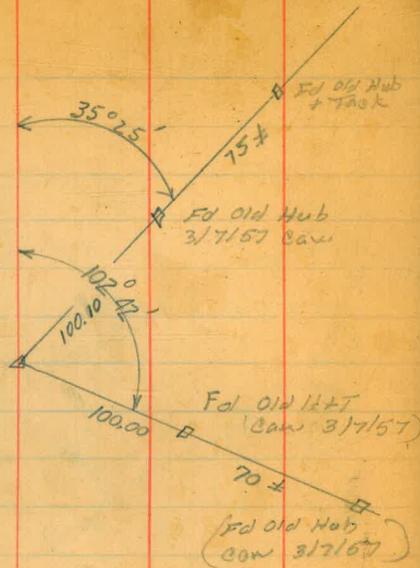
P.I. 422 + 25.10
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8-1



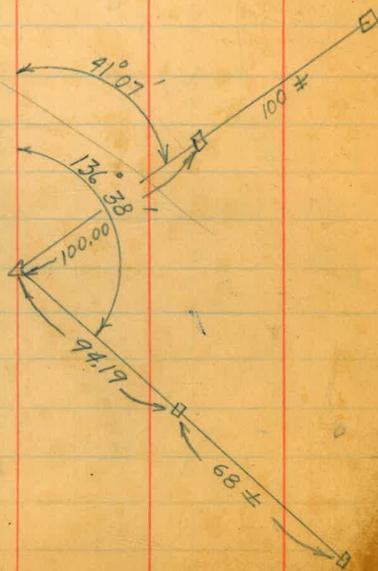
408 + 99.76
408 + 97
12.8

P.I. 413 + 88.80

P.I. 430+73.64

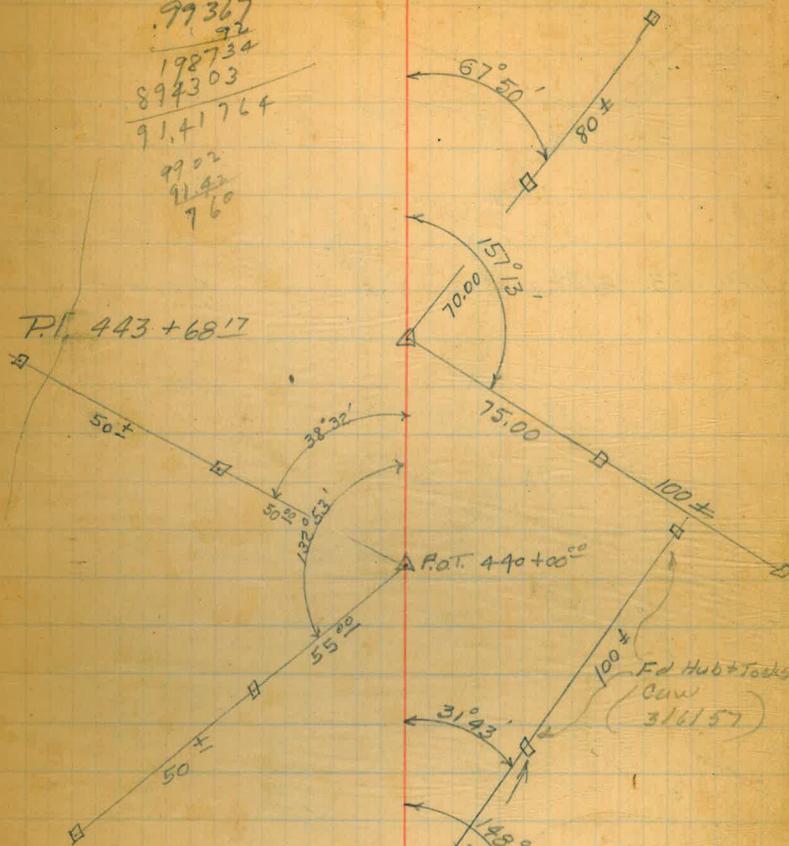


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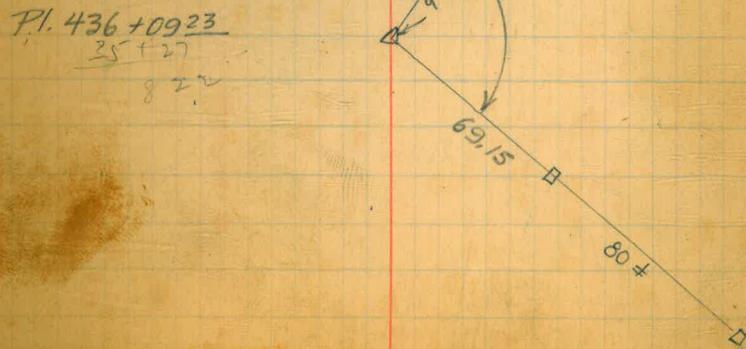


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 9143
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P.I. 443+68.17

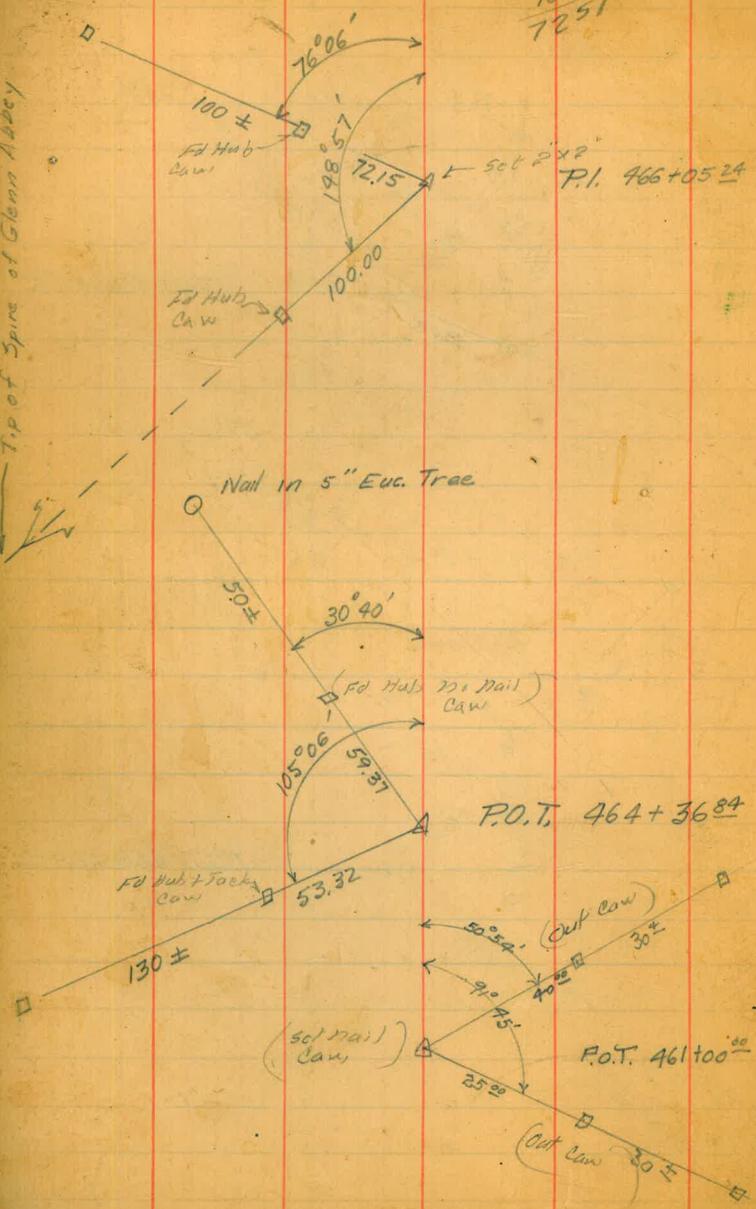


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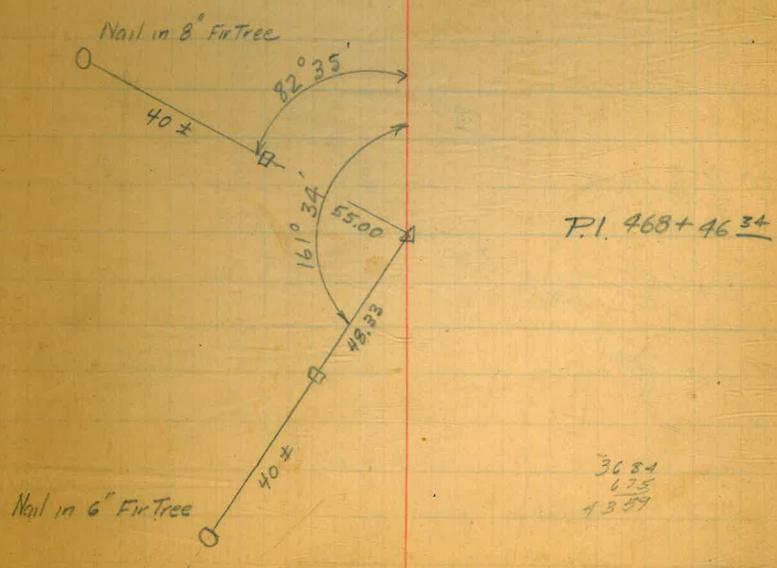
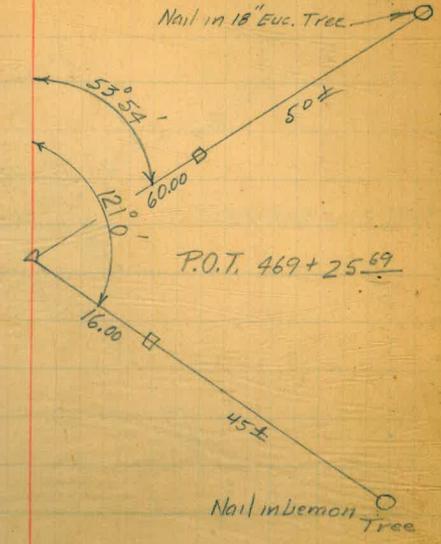


Tip of Spire of Glenn Abbey

148.57
76.06
72.51



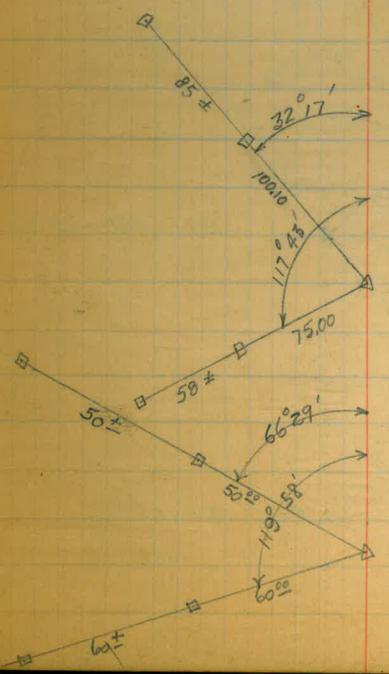
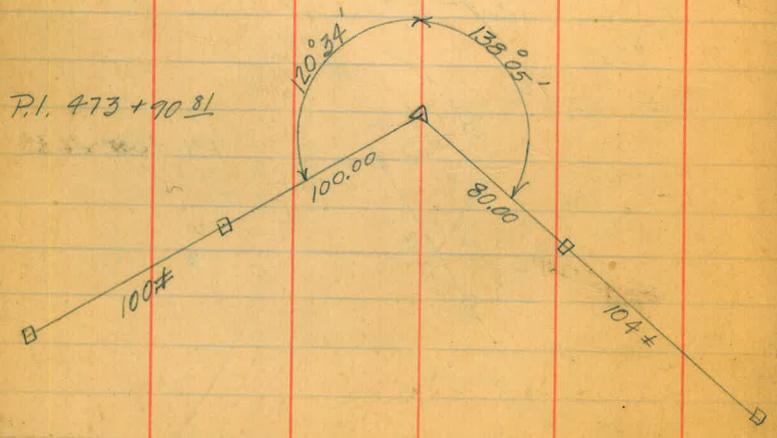
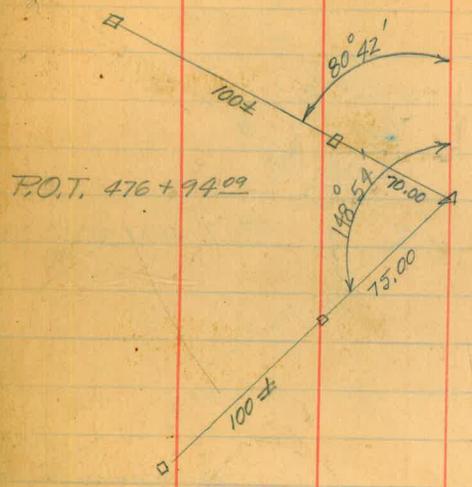
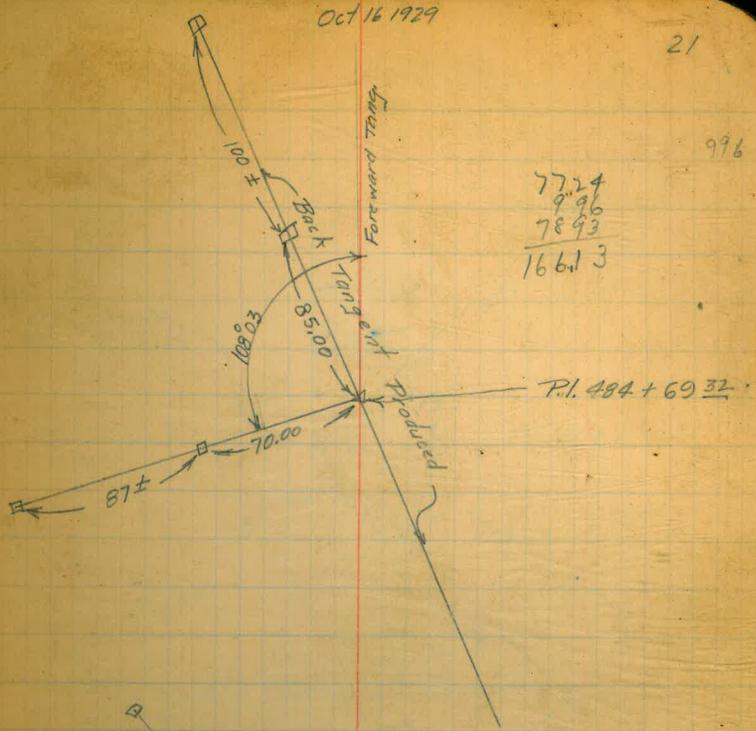
Note: All angles turned from forward tangents,
all T.P.s are T.W. Hubs + ticks - unless otherwise shown.
Nail in 18" Euc. Tree



36.84
6.75
43.59

996

77.24
9.96
78.93
166.13

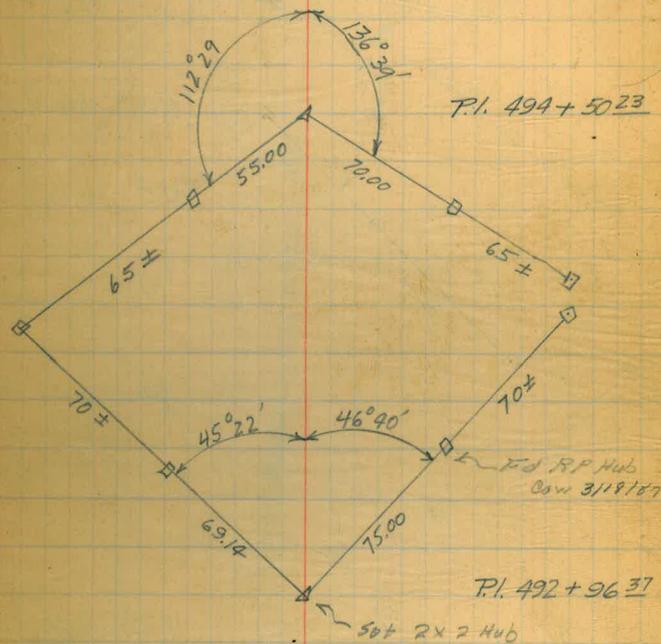
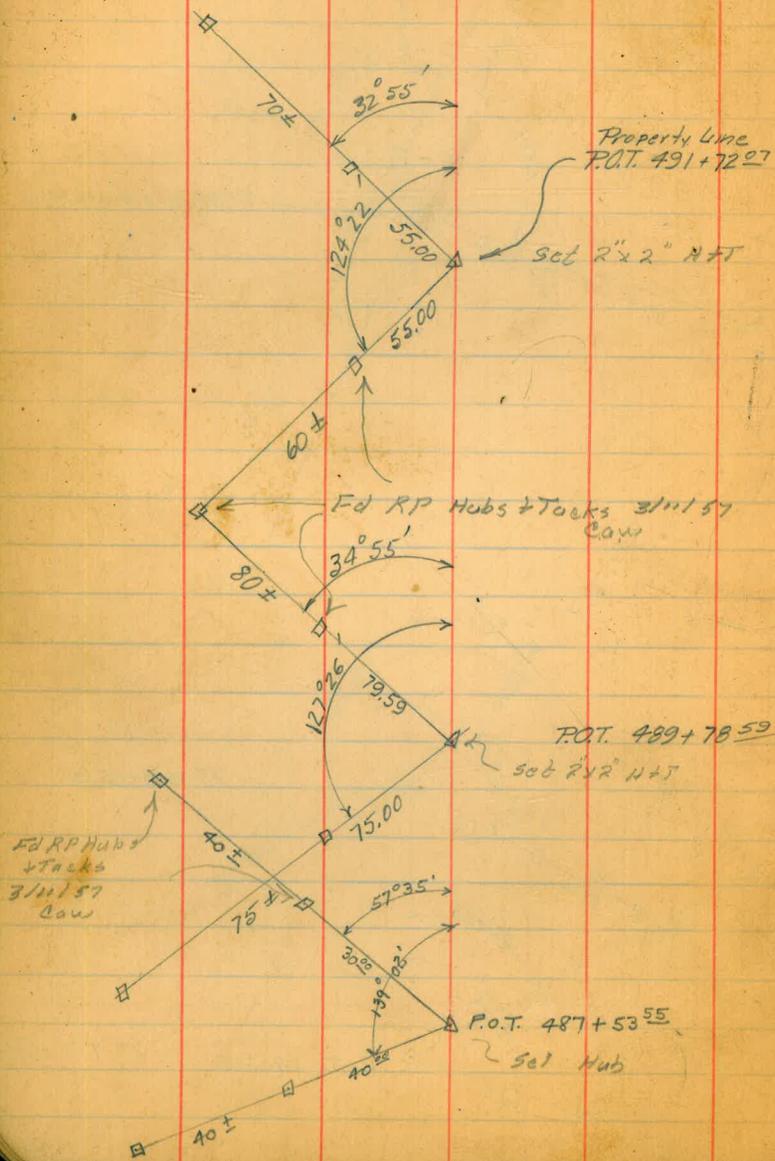


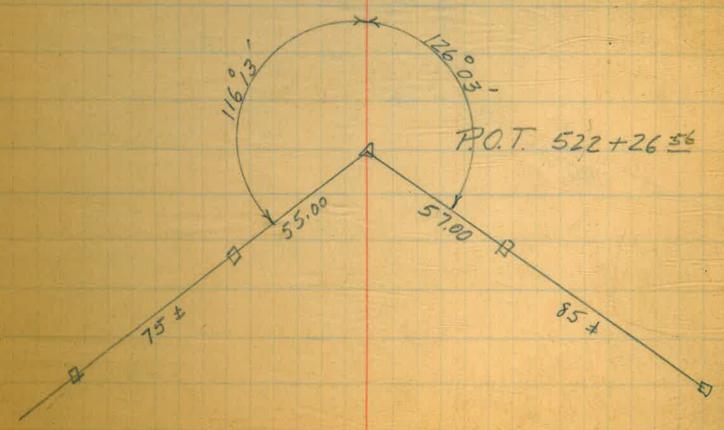
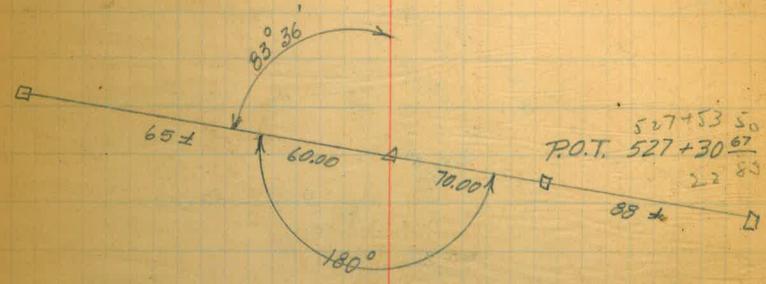
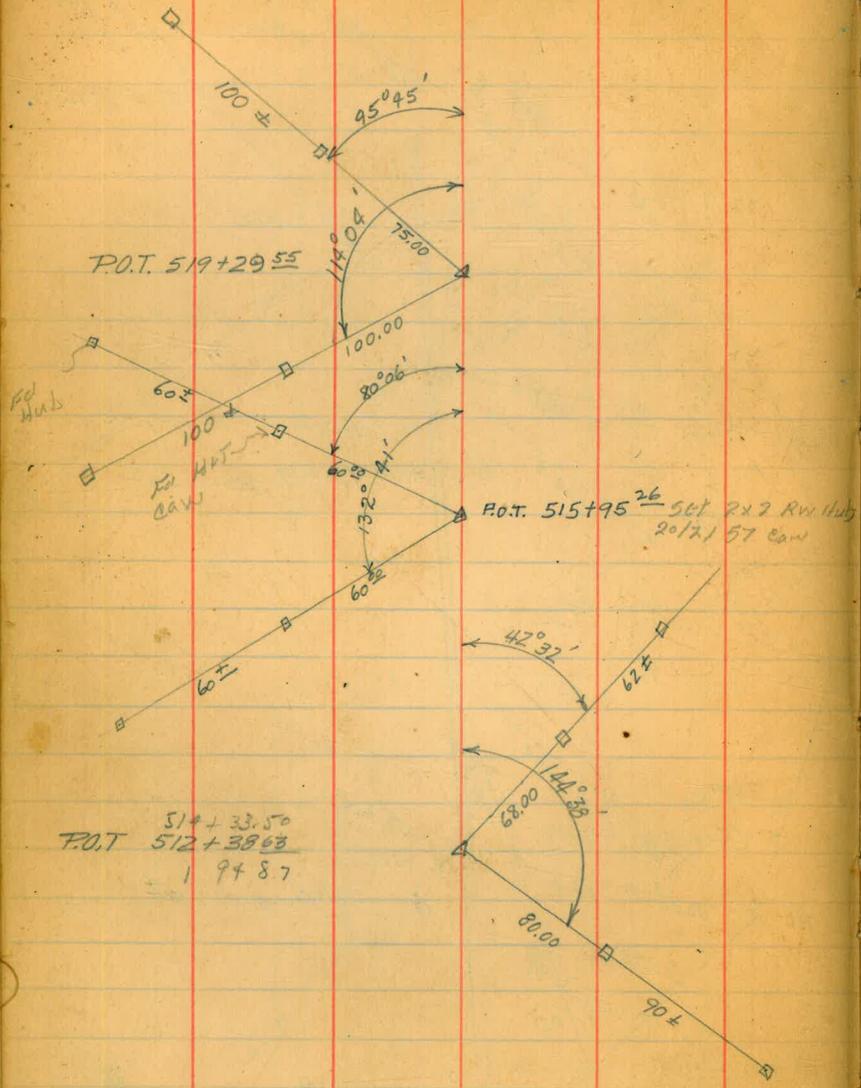
P.O.T. 480 + 00

P.I. 483 + 06.16

Oct. 16, 1929

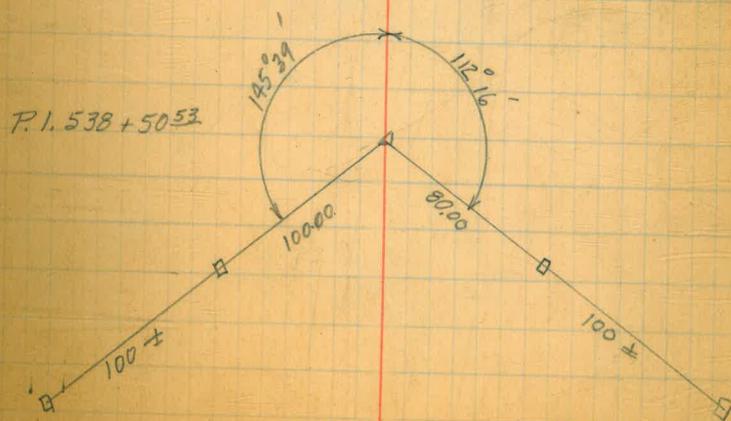
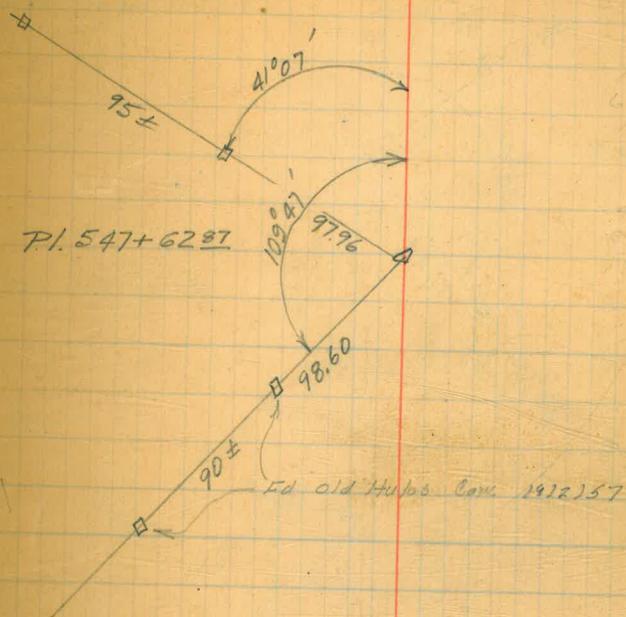
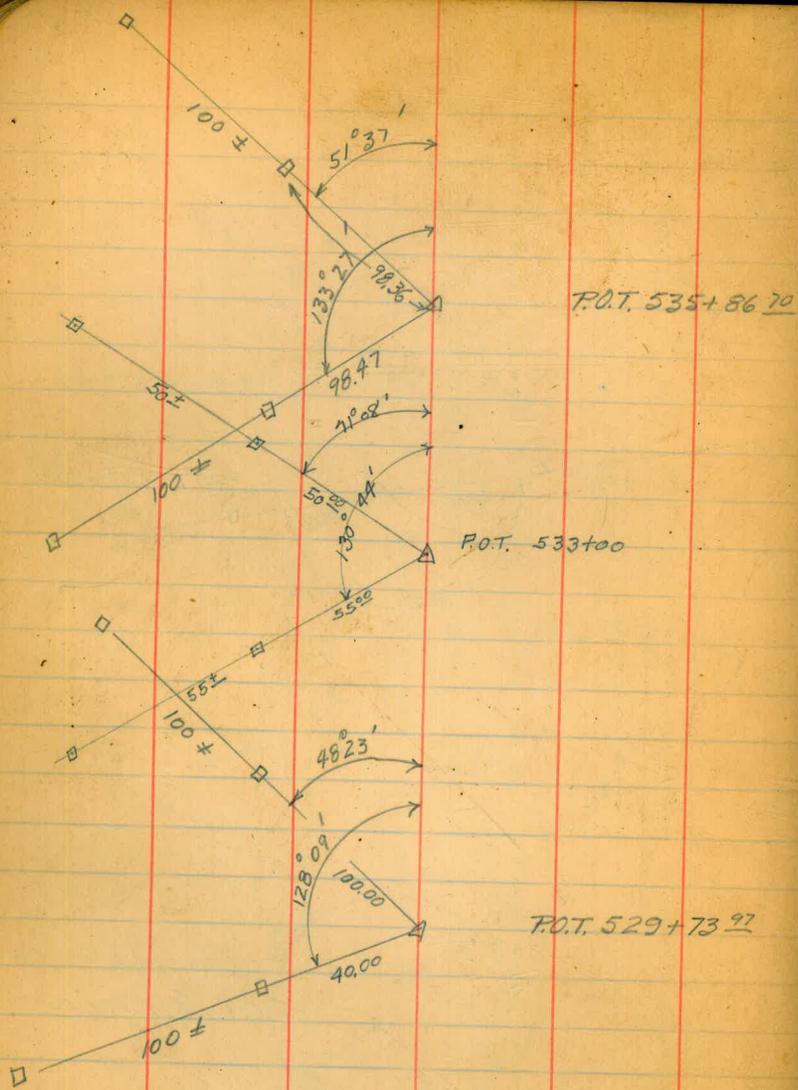
22

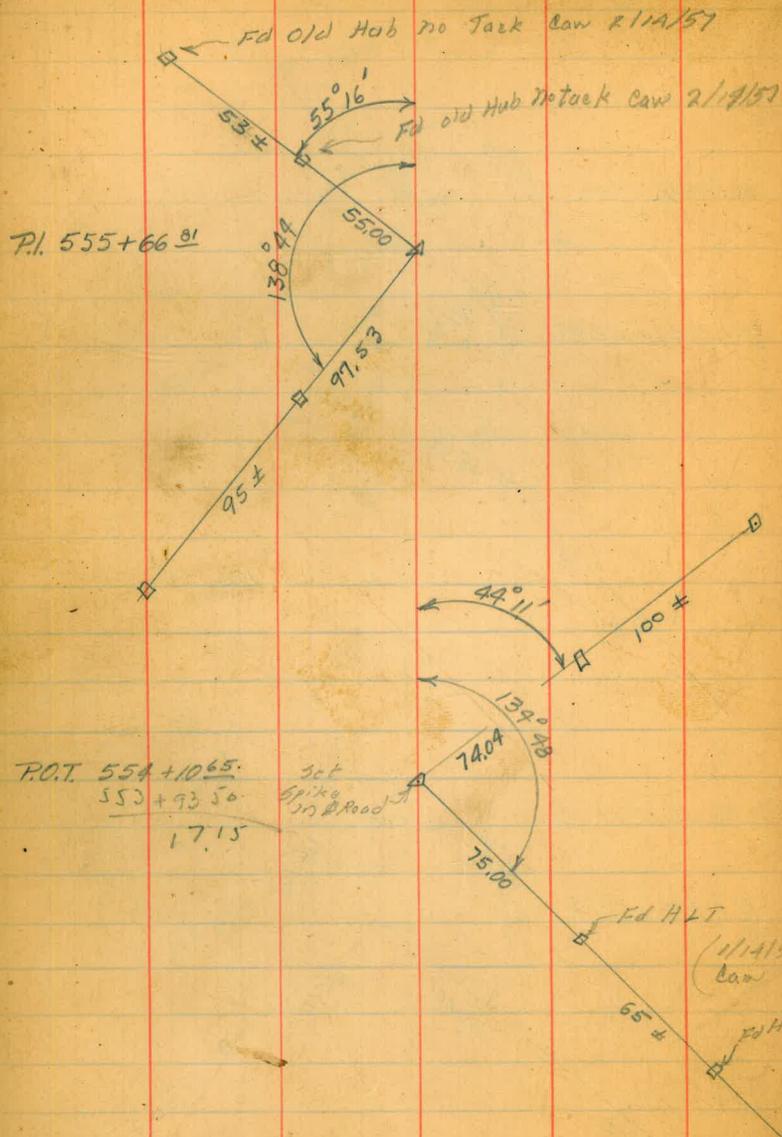




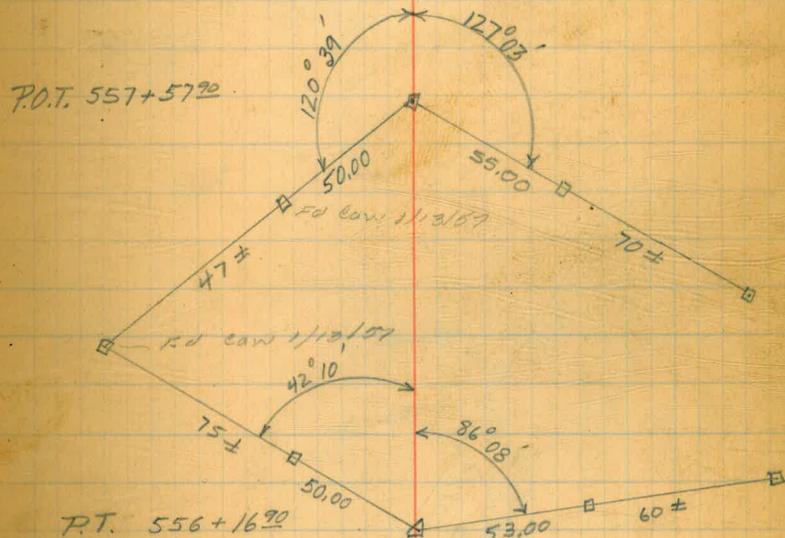
Oct. 17, 1929

25





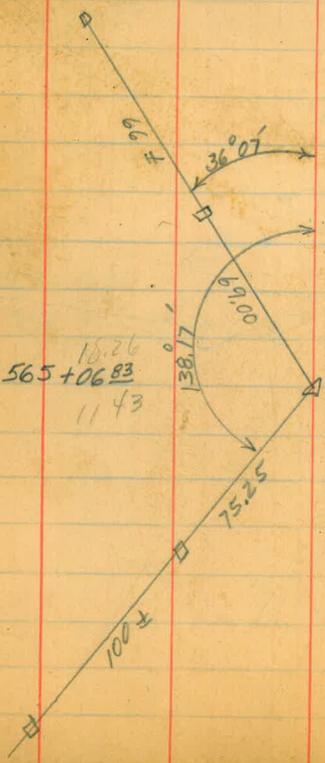
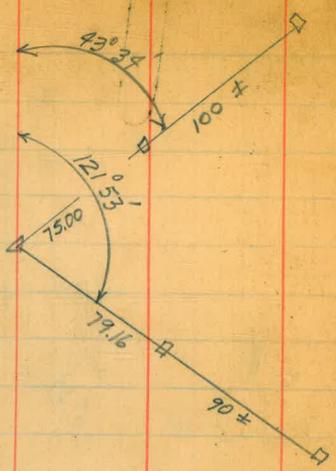
556+16⁹⁰
 50.33
 556+66⁵⁷



555+66⁸¹
 557+10⁶⁵
 156.16

Hill Chief
 Elliott & notes
 Simpson H. Ch.
 Walton R. Ch

P.O.T. 562 + 86.44

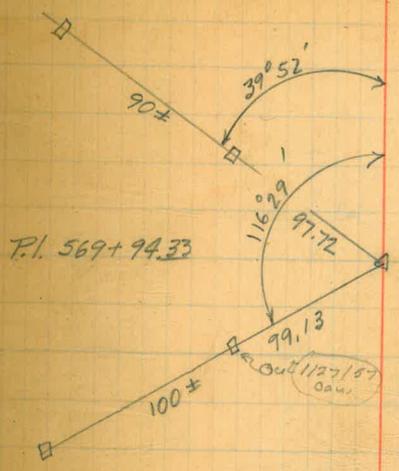


P.O.T. 565 + 06.83
 16.26
 11.43

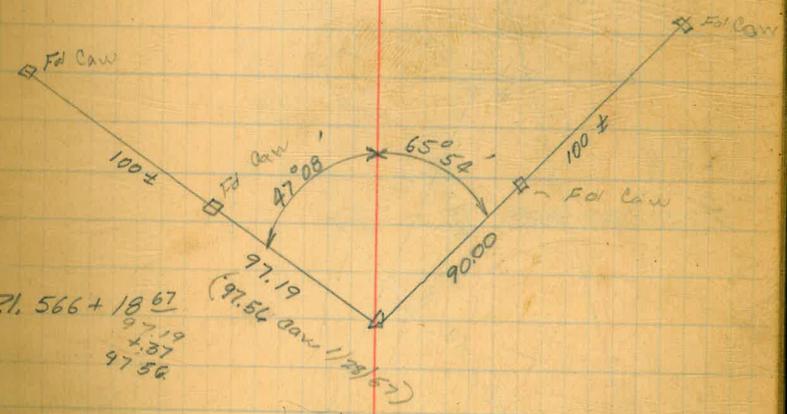
Oct 18, 1929

27

Note: All angles turned from forward tangents, all
 R.P.s redwood hubs + tacks — unless otherwise shown.

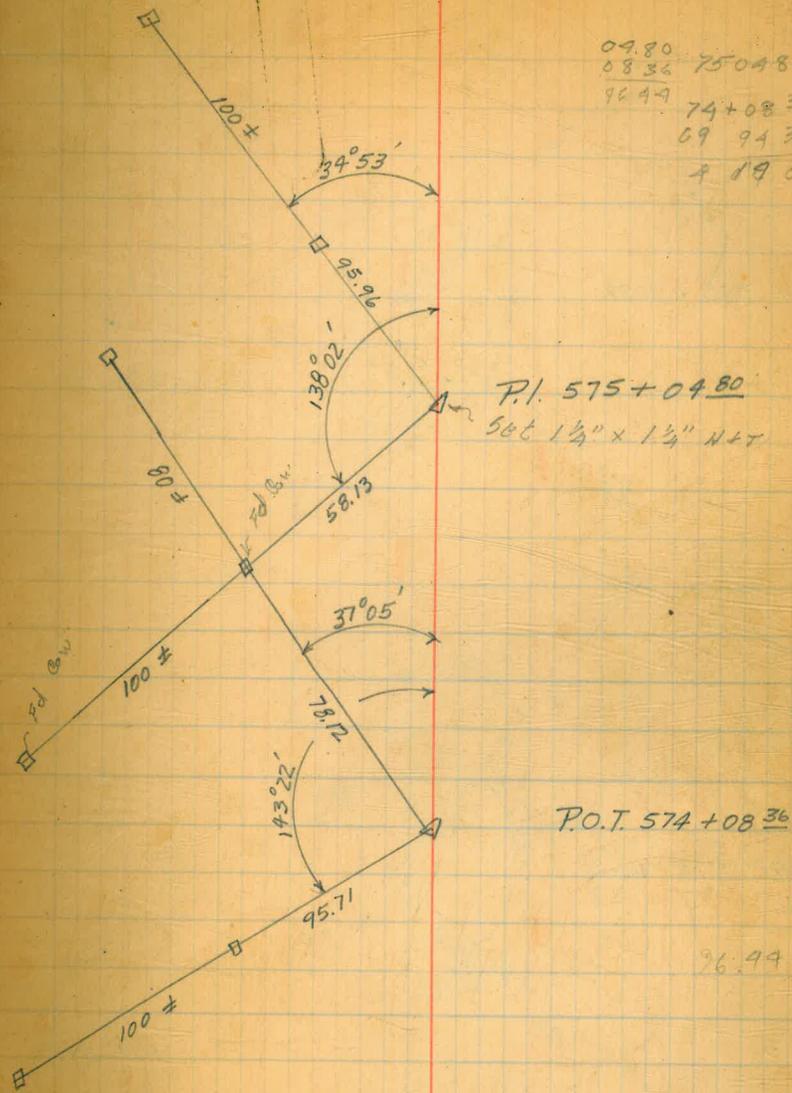
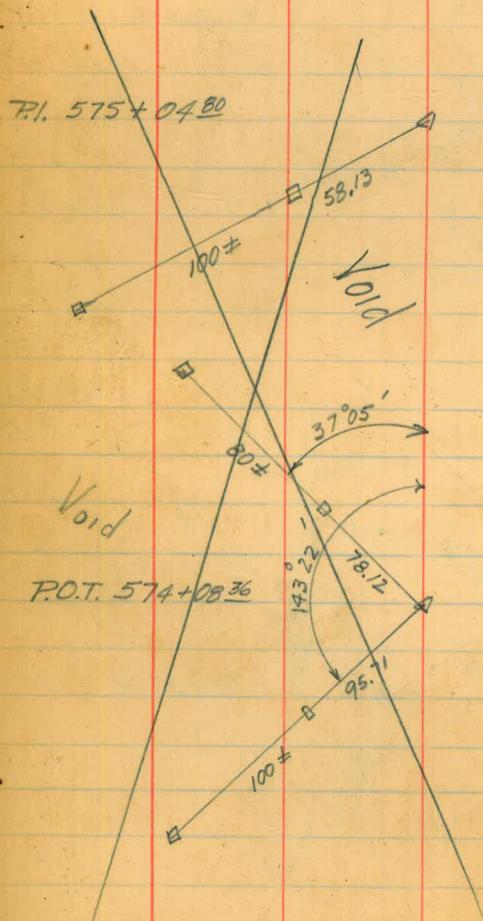


P.I. 569 + 94.33



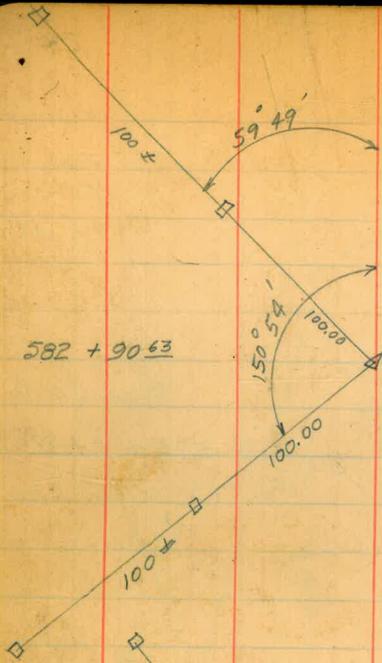
P.I. 566 + 18.67
 97.19
 4.87
 97.56

566 185
 587 + 58
 8-60 5

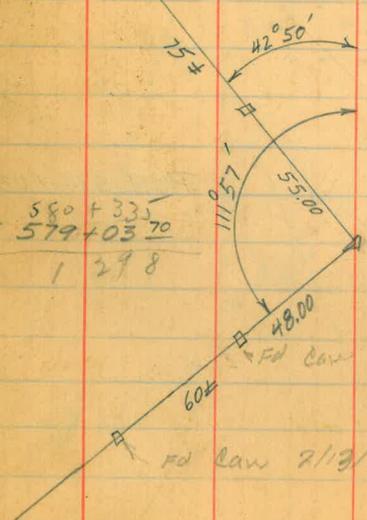


04.80
 08.36 75+04.80
 96.99 74+08.36
 09 94.33
 9 19.03

P.I. 582 + 90.63



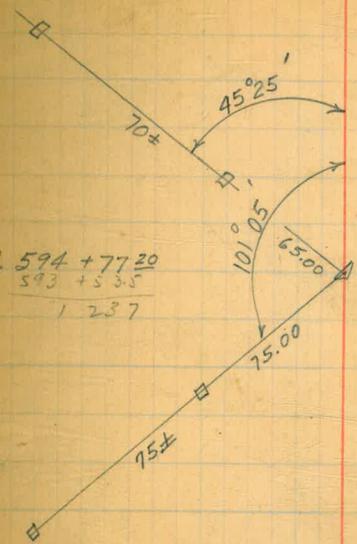
580 + 335
 P.O.T. 579 + 03.70
 1 298



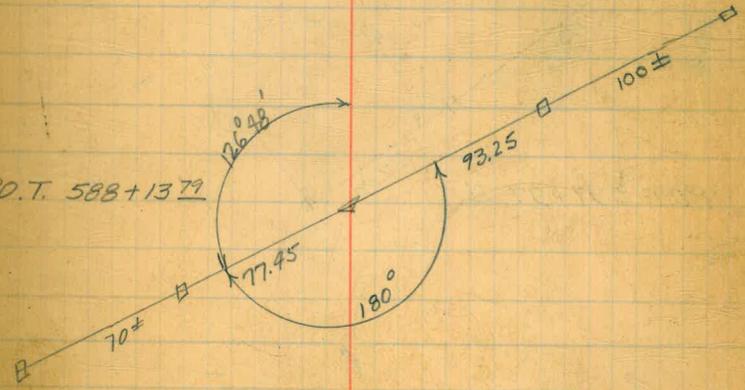
1157
 4250
 6907

Fd Curve 7/13/57

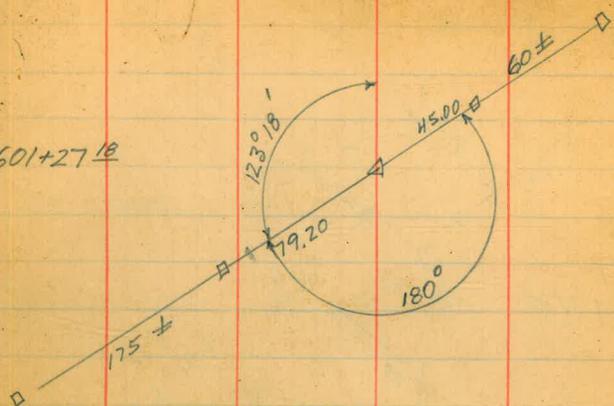
P.I. 594 + 77.20
 593 + 53.5
 1 237



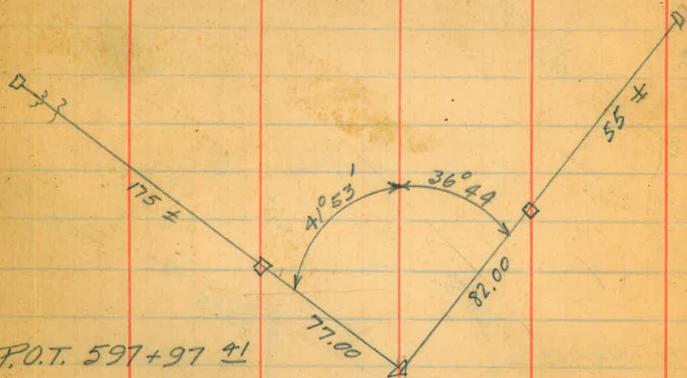
P.O.T. 588 + 13.72



P.I. 601+27.18



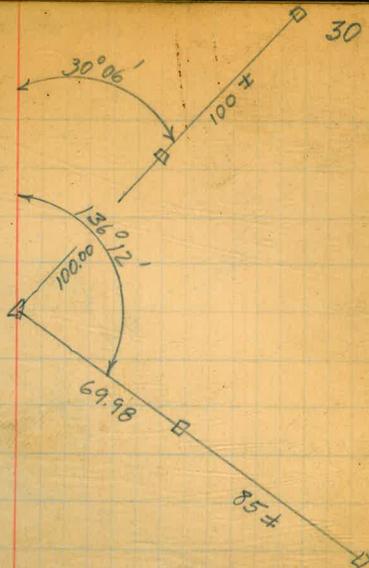
P.O.T. 597+97.41



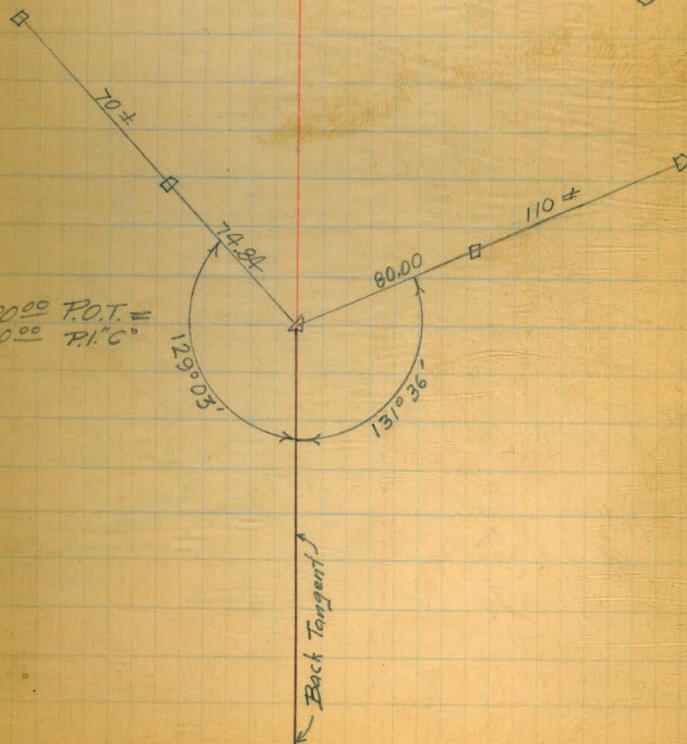
57.28
31.68

607+05
606+73.5
31.5

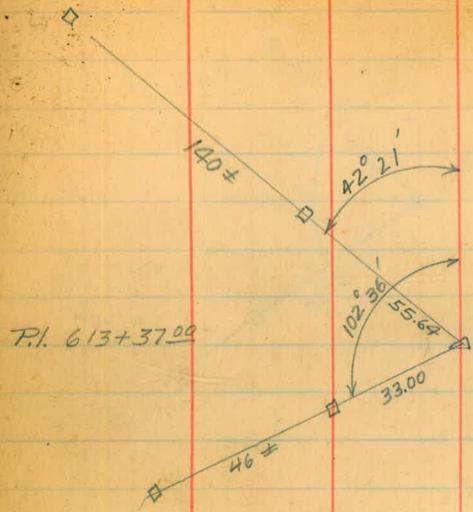
P.C. 609+82.37



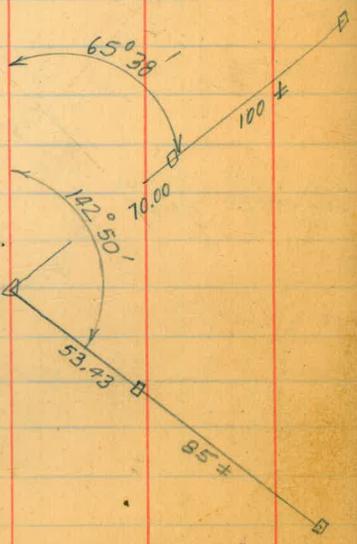
604+00.00 P.O.T. =
604+00.00 P.I.C.



Oct. 18, 1929



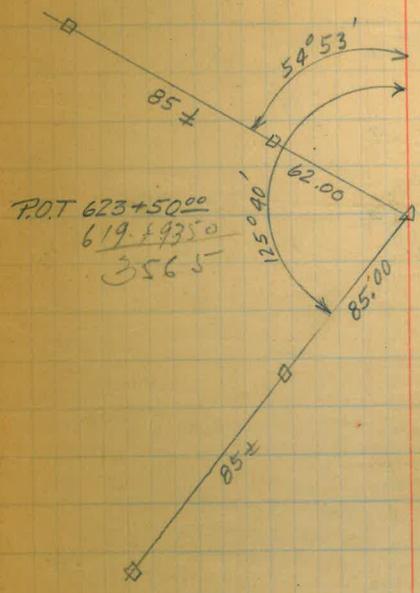
P.I. 613+37.00



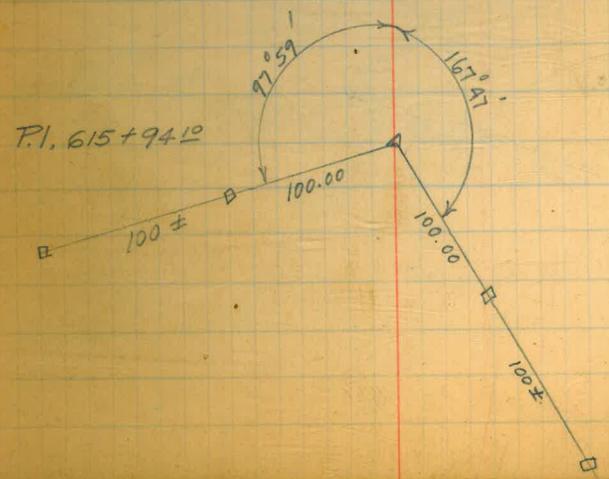
P.I. 610+87.37
"C" P.I. 610+88.85

Oct 18, 1929

31



P.O.T 623+50.00
619.49350
3565

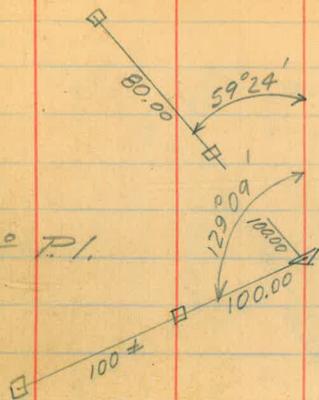


P.I. 615+94.10

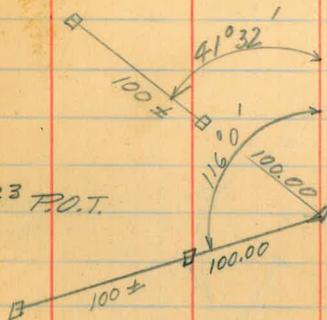
Nov 25 1929

Hill
Elliott
Simpson
Walton

630+00.00 P.I.

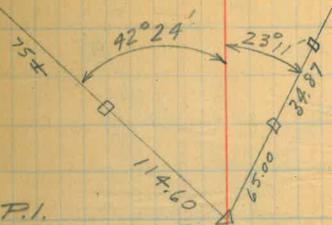


628+02.23 P.O.T.

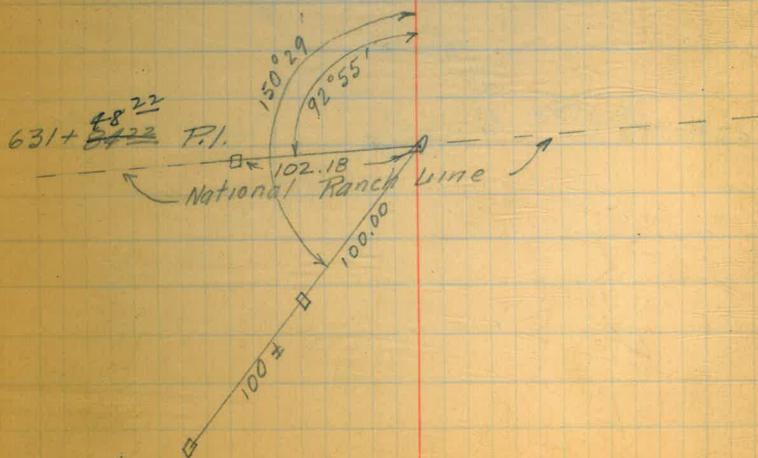


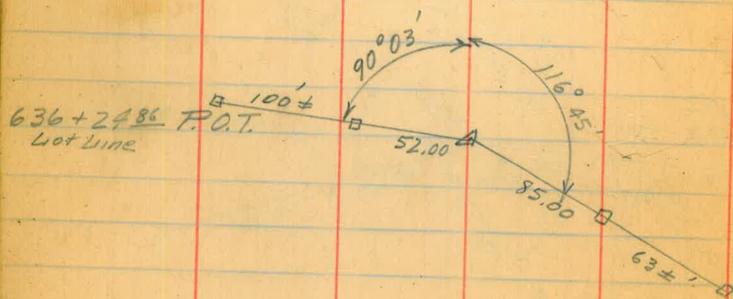
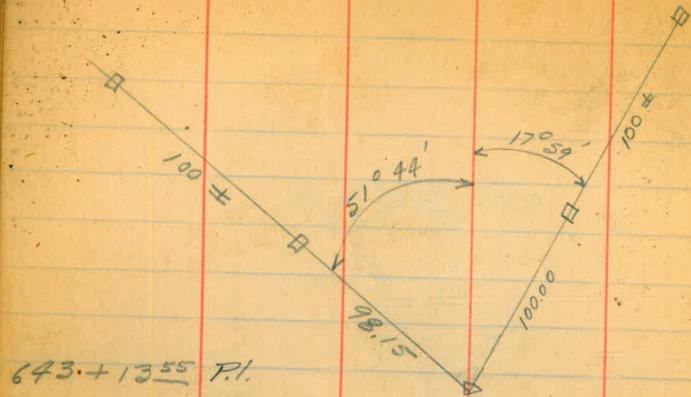
Tack + target in
side of chicken house

634+09.99 P.I.



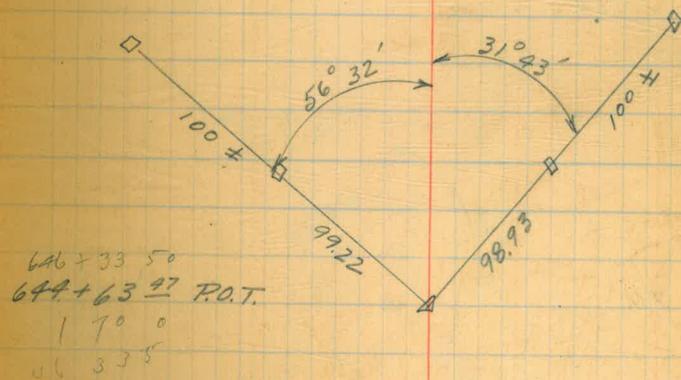
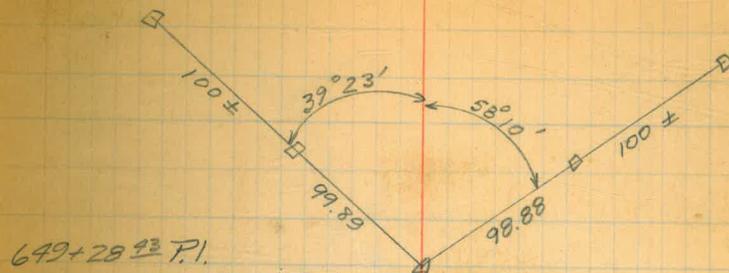
631+~~57.22~~^{48.22} P.I.





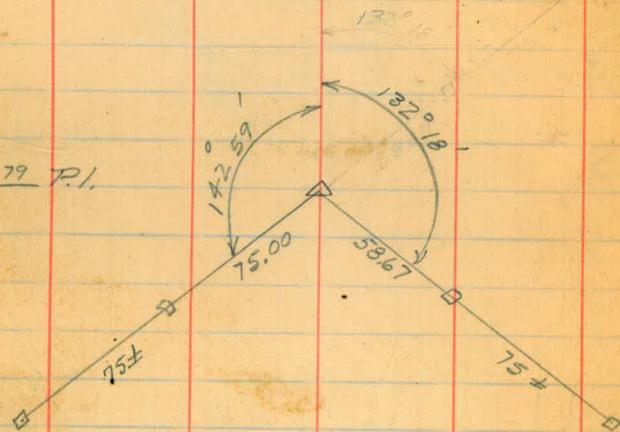
Nov 26 1929

33

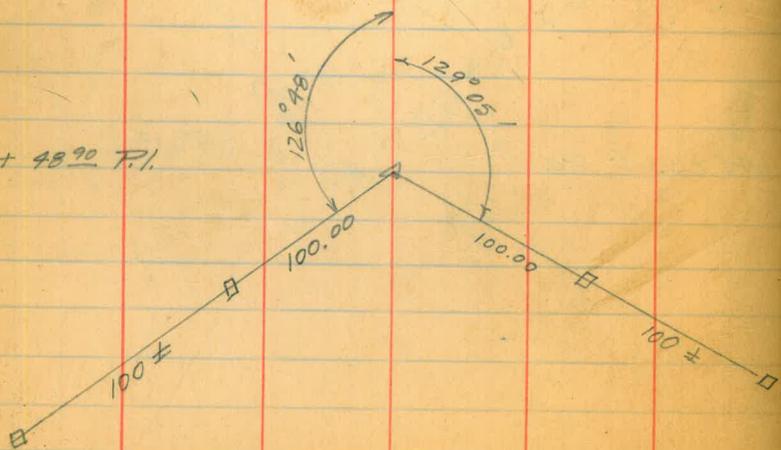


644 + 6397 P.O.T.
1700
46335

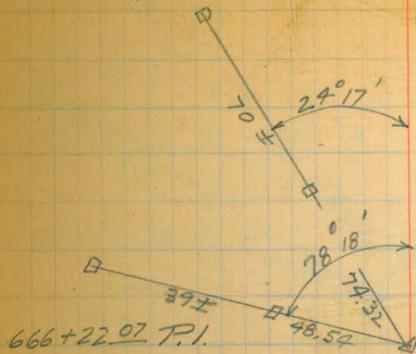
658 + 80.79 P.I.



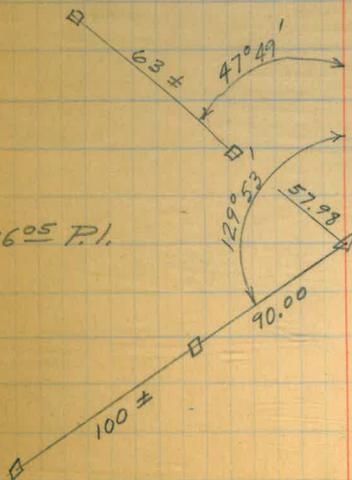
652 + 48.90 P.I.



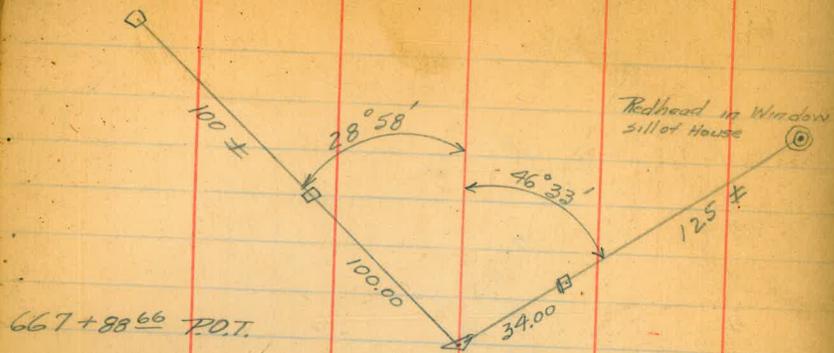
666 + 22.07 P.I.



663 + 76° 05' P.I.



Nov 26 1929



27° 52'

179+30.62

179+35.00

179+35.12

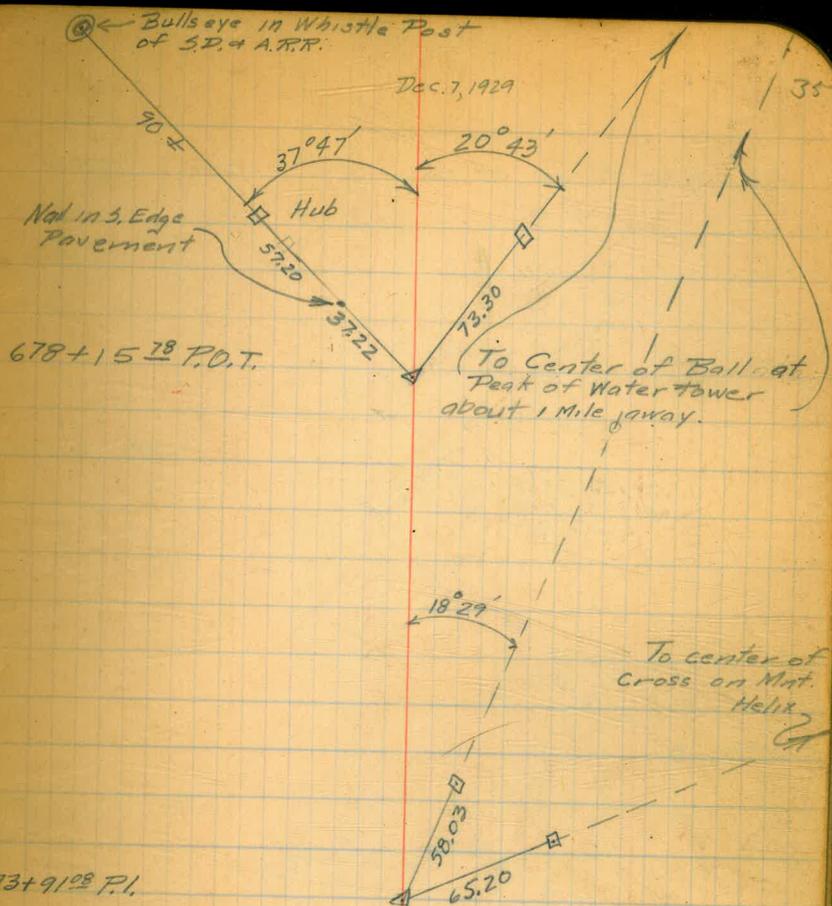
179+35.12

179+35.12

Bullseye in Whistle Post of S.D. & A.R.R.

Dec. 7, 1929

35



673+91.28 P.I.

673+95.15

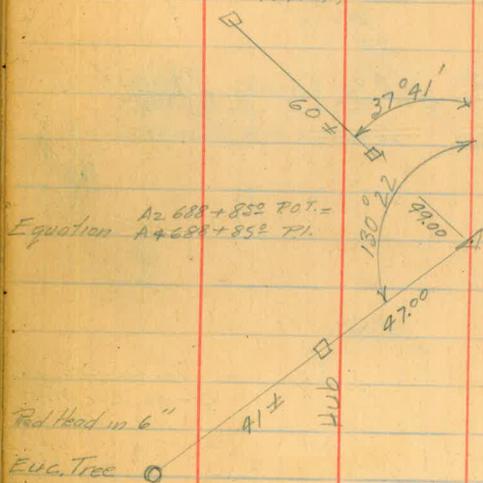
672+73.5

7165

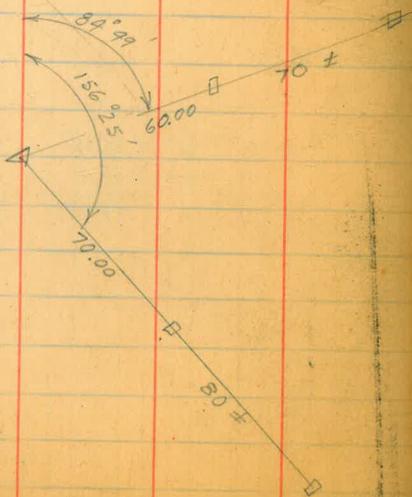
Dec 7, 1929

L. Hill
Elliott
Simpson
Walton

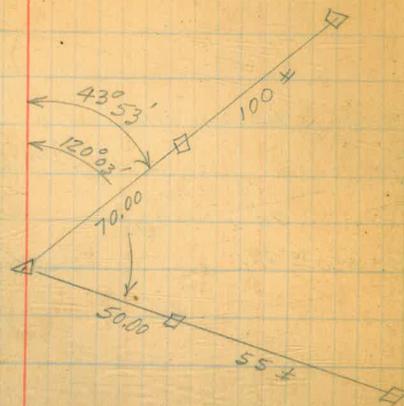
All angles turned to the right from forward tangents, all T.P.s are hubs & tacks unless otherwise shown.



$683 + 54^\circ \text{ P.O.T.}$
(Nail in edge pavement)



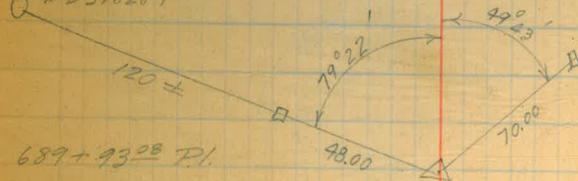
$692 + 96^\circ \text{ P.O.T.}$

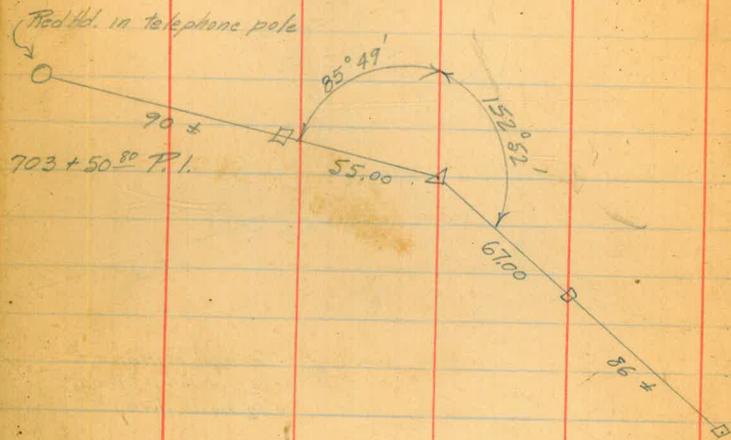


To ball on top of
Water tower about
1/2 mile away

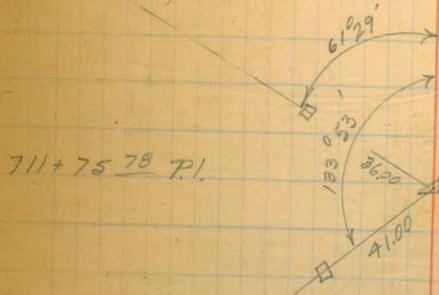
Red Hd. in Power Pole
D 37828 T

$689 + 93^\circ \text{ P.I.}$



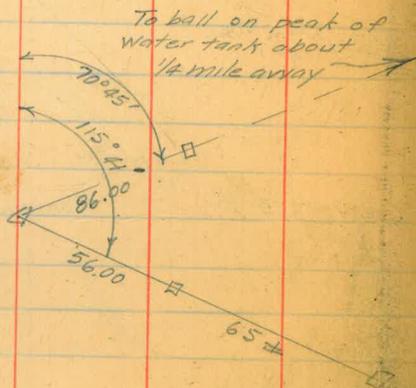


To S.W. Cor. of green house trimmed with white about 1500' away

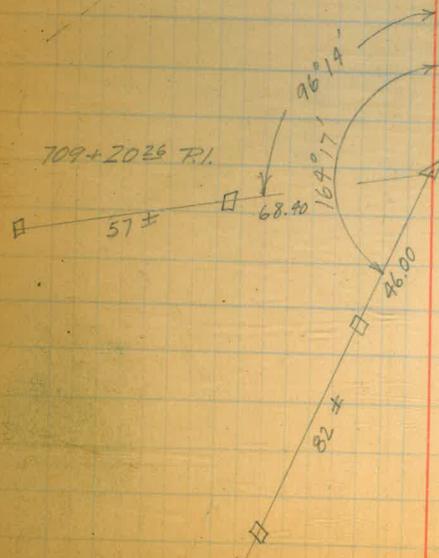


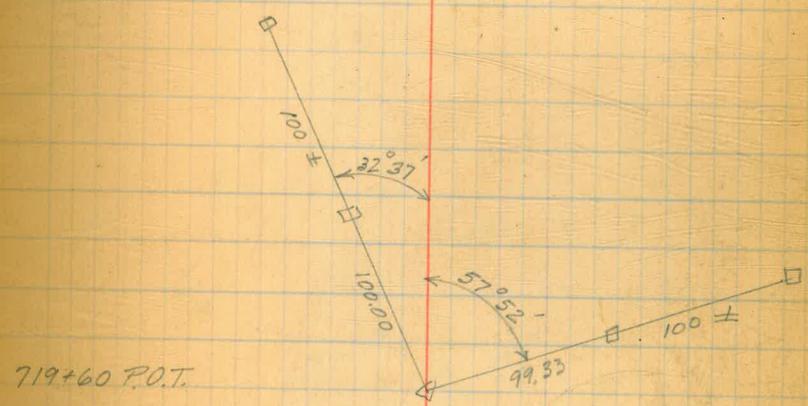
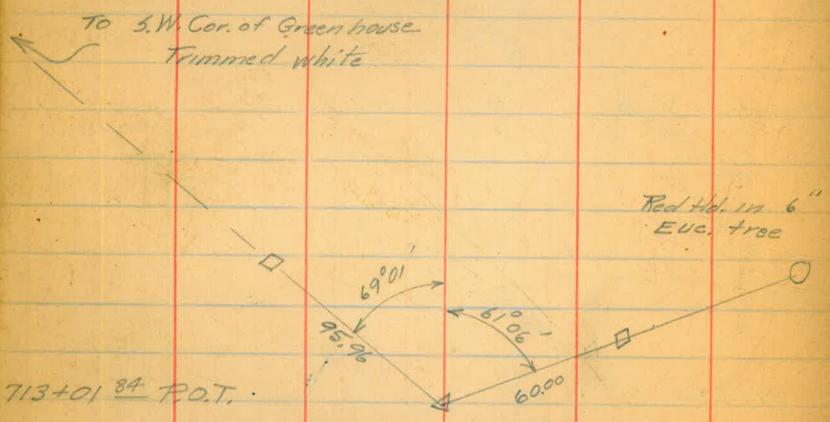
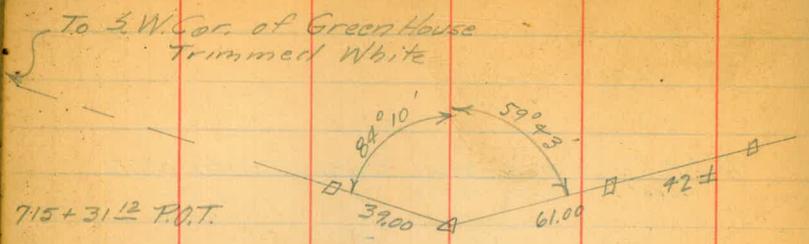
To vertex of 'Y' in Valencia Park sign about 1 1/2 miles away

699 + 01.12 P.O.T.

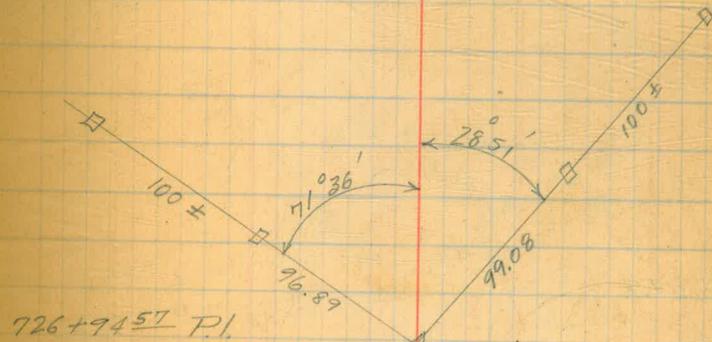
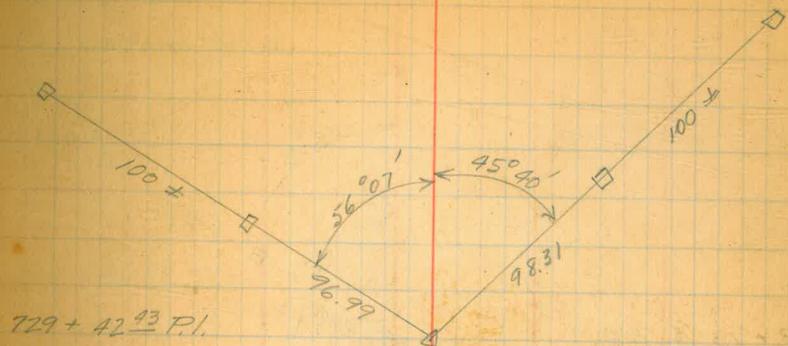
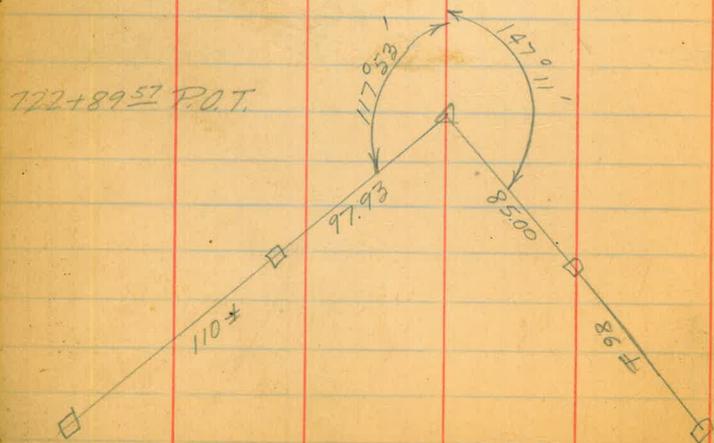
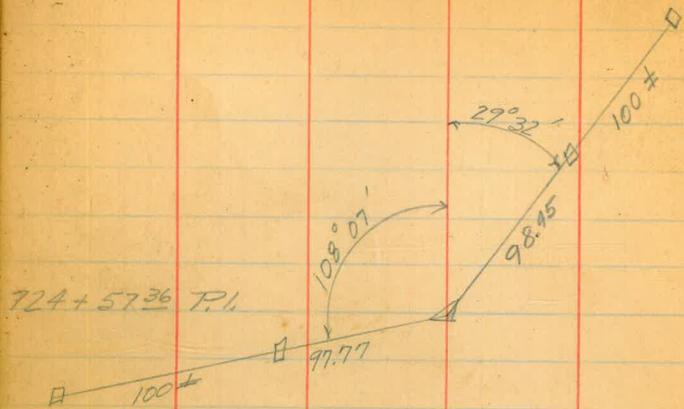


709 + 20.26 P.I.



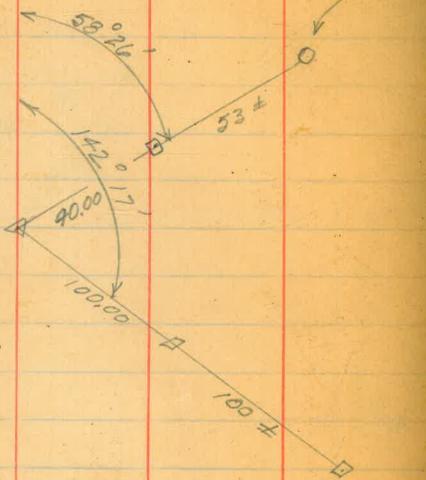


Dec. 4, 1929.
Hill
Elliott
Simpson
Walton

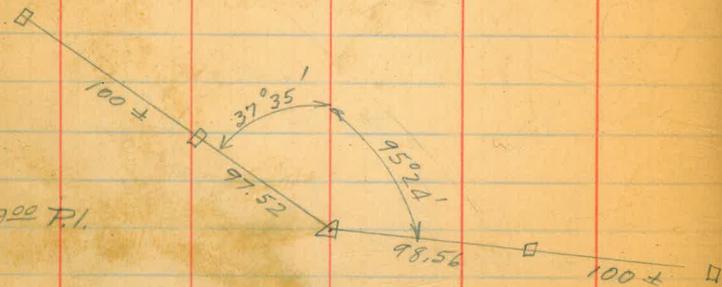


Rad Hd in power pole

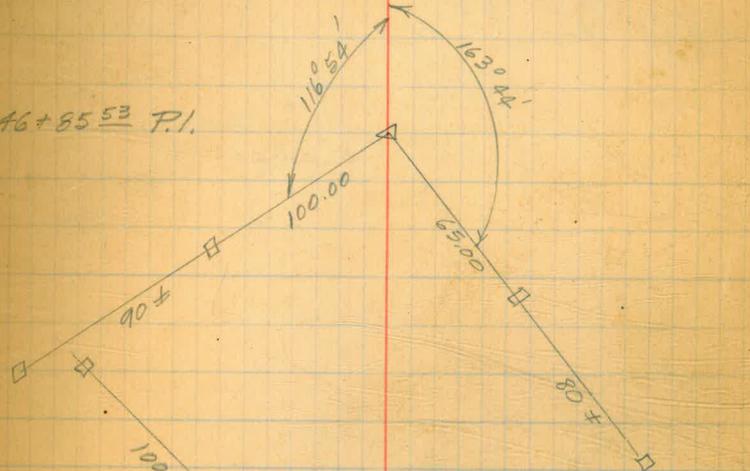
738+93⁰³ P.O.T.



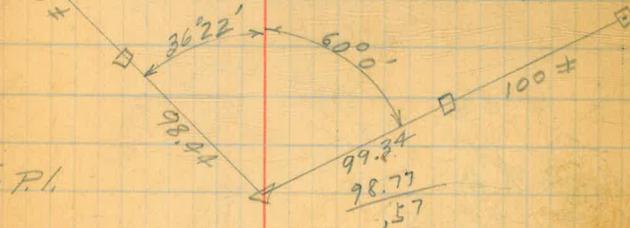
733+89⁰⁰ P.I.

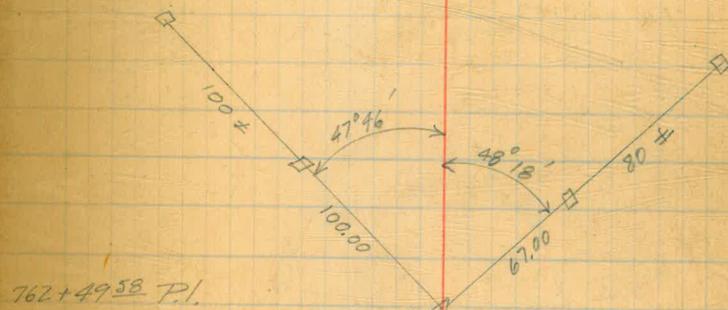
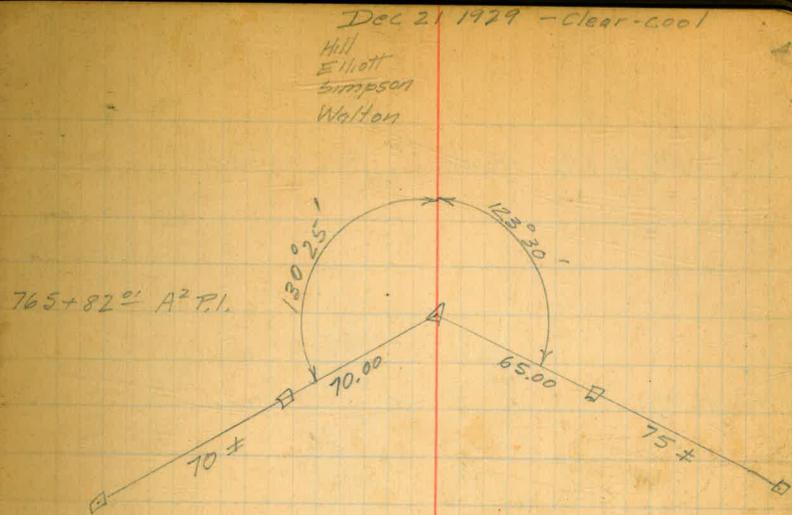
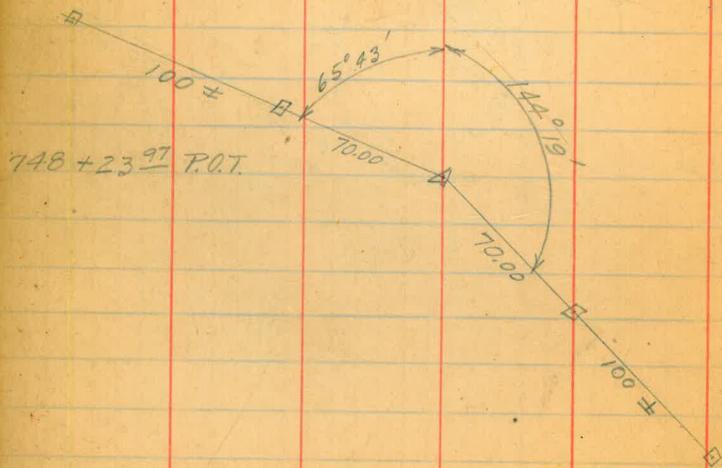
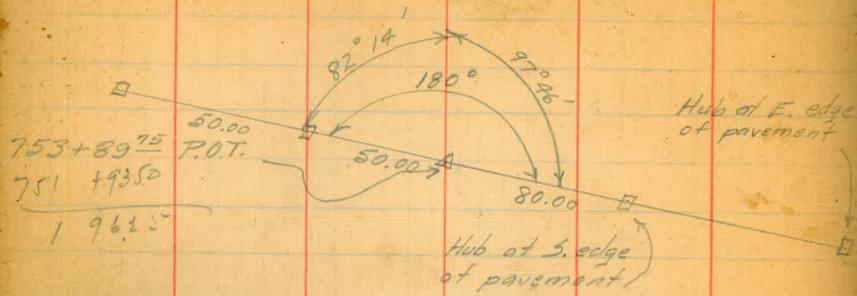


746+85⁵³ P.I.

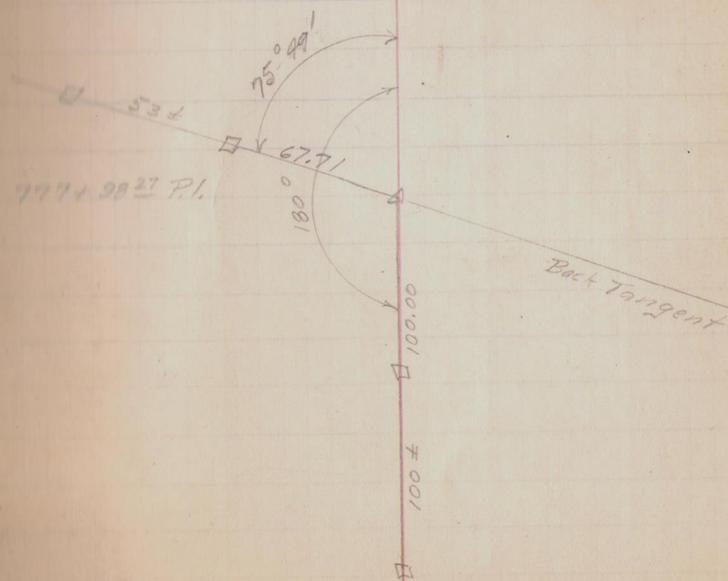
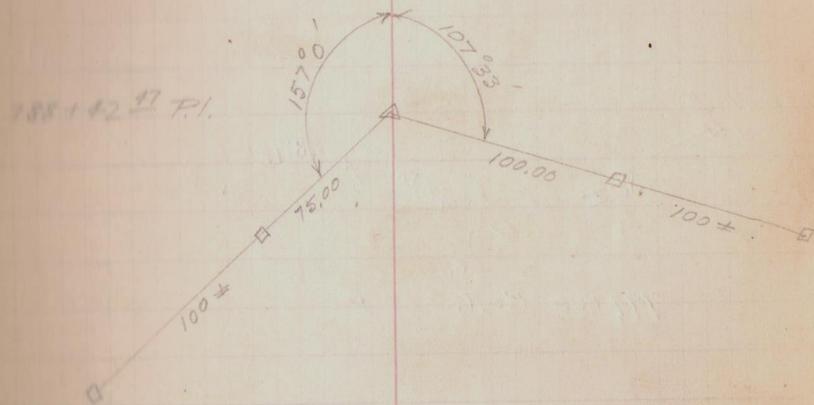
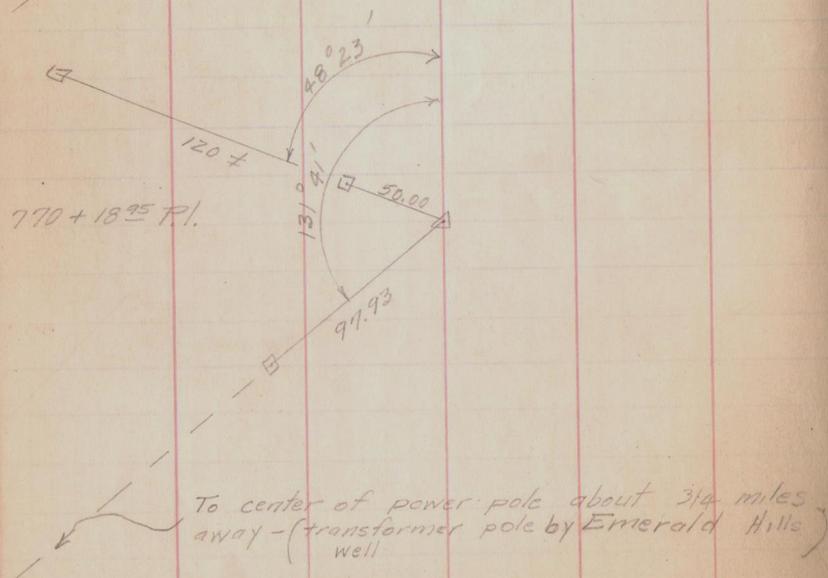
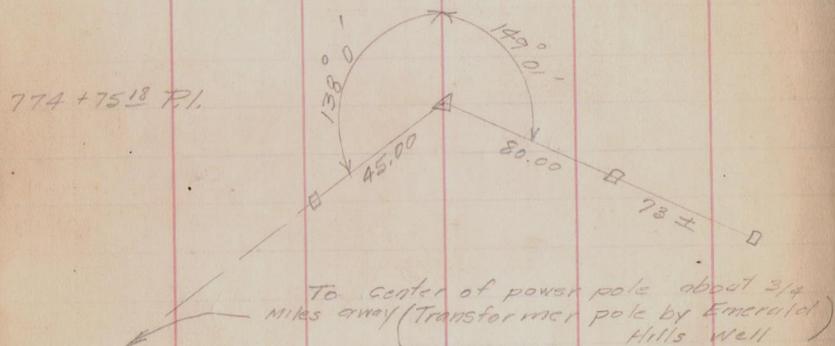


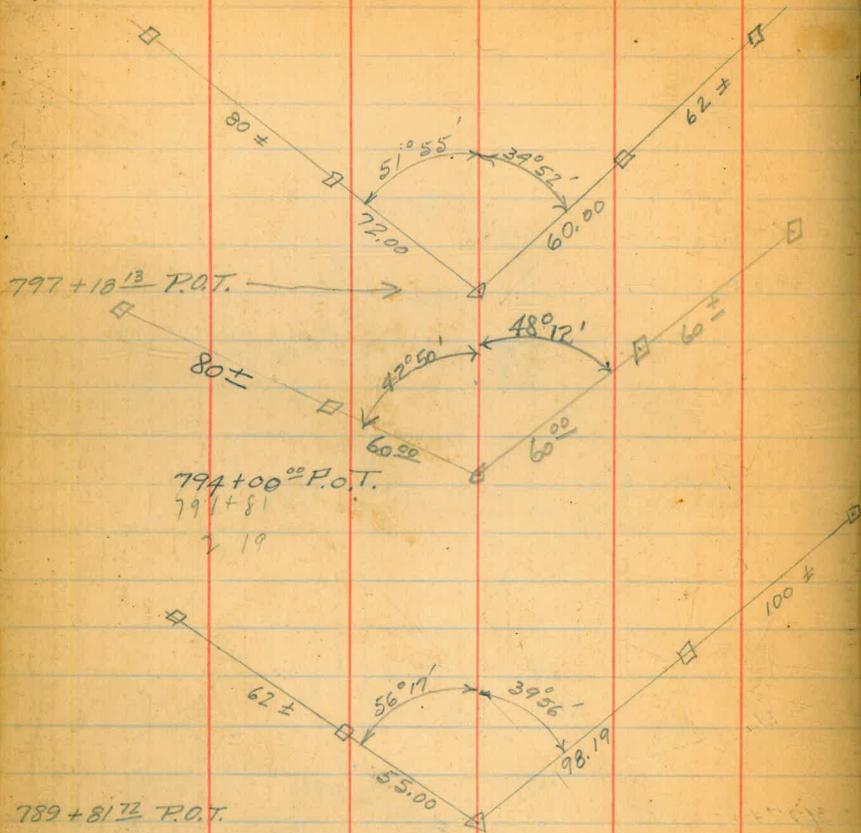
742+58⁰⁵ P.I.



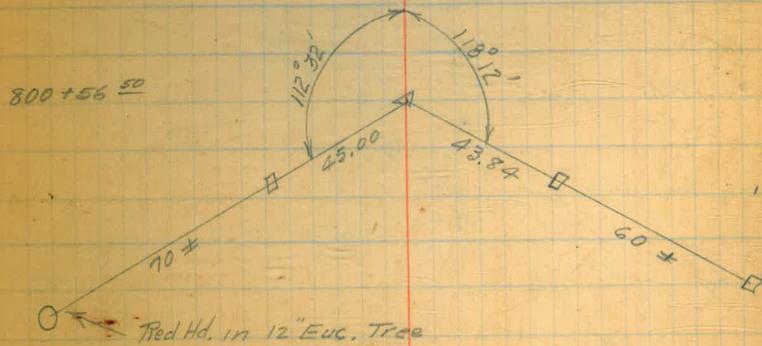


Note: All angles turned from forward tangents

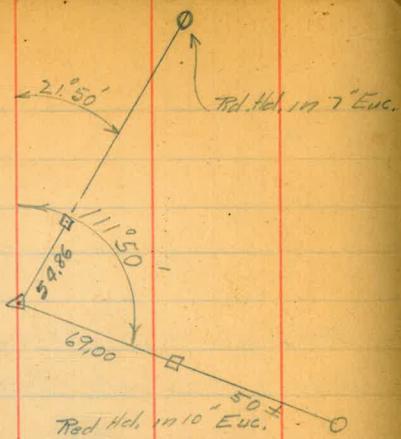




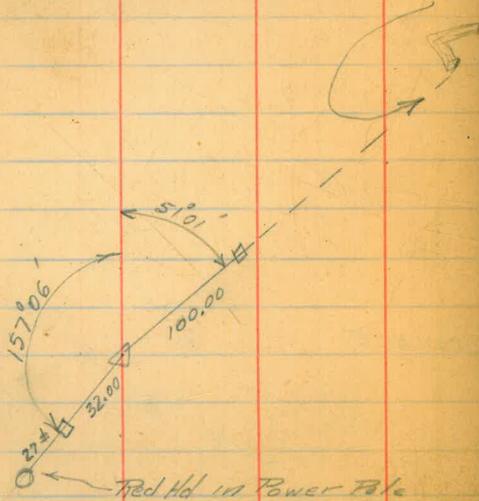
All angles turned from forward tangents
 unless otherwise shown



Equation $802 + 212\frac{1}{2} = P.I.$
 $800 + 66\frac{2}{3}$



To top of south radio tower
 guard rail post, S.W. Cor. of Walk.



$801 + 67\frac{2}{3} P.I.$

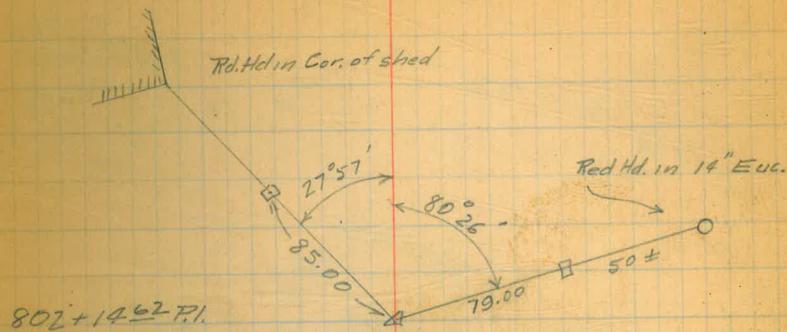


$801 + 41\frac{2}{3} P.I.$

Dec 28, 1929 Clear-Warm.

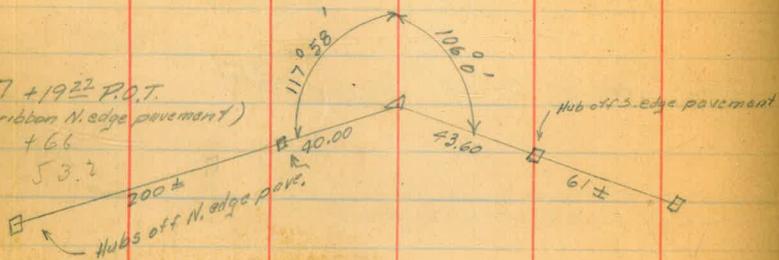
44

Hill
 Elliott
 Simpson
 Waton



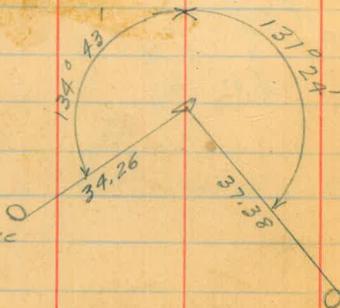
$802 + 146\frac{2}{3} P.I.$

817+192² P.O.T.
 (Nail in ribbon N. edge pavement)
 816+66
 53.2



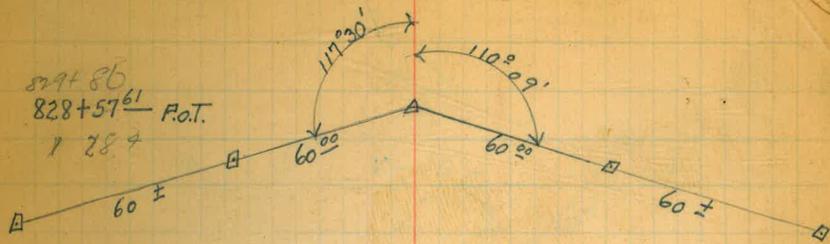
804+37² P.O.T.
 863+46
 91.2

Rd. Hd. in 6" pepper trace

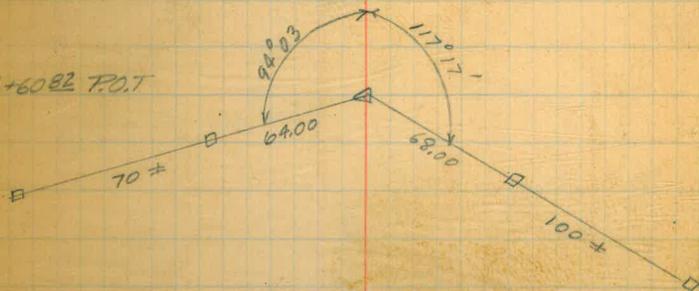


Rd. Hd. in 8" Euc. tree

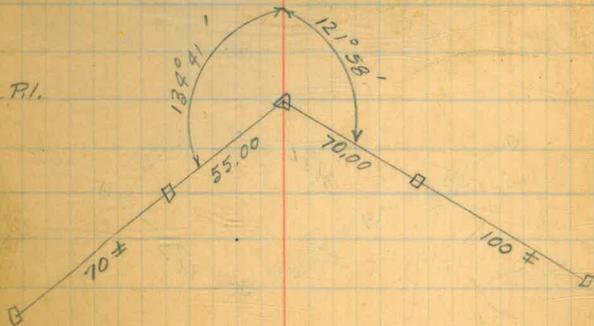
827+86
 828+57⁶¹ P.O.T.
 1 28.4



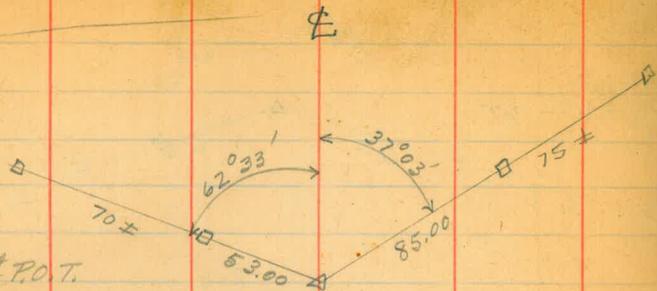
826+6082 P.O.T.



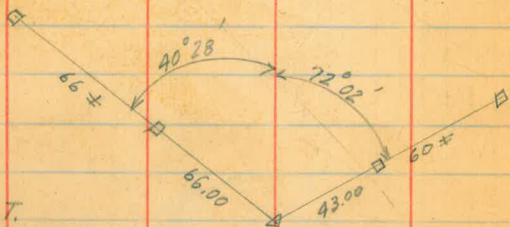
825+051³ P.I.



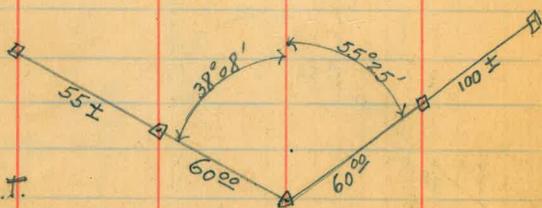
843 ± 66
840+02 64 P.O.T.
3 02 ±



837+13 78 P.O.T.



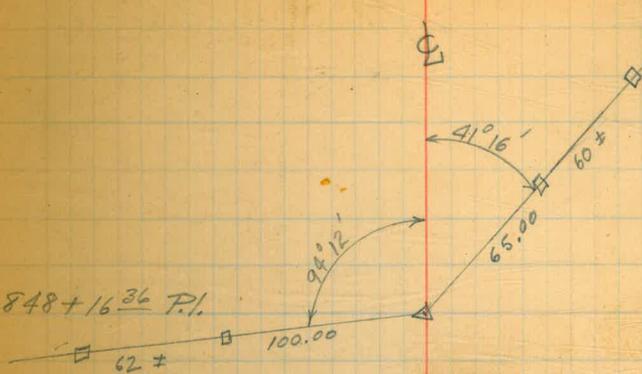
834+00 P.O.T.



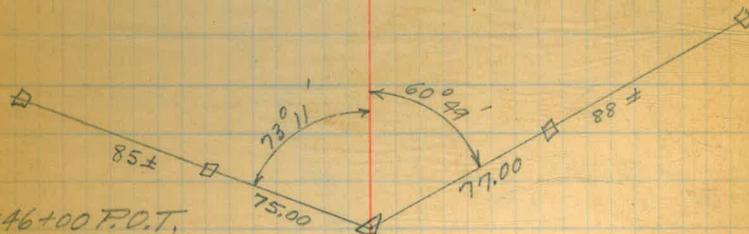
Dec. 30, 1929 - Cool, cloudy 46

Elliott
Simpson
Watson

848+16 36 P.I.



846+00 P.O.T.

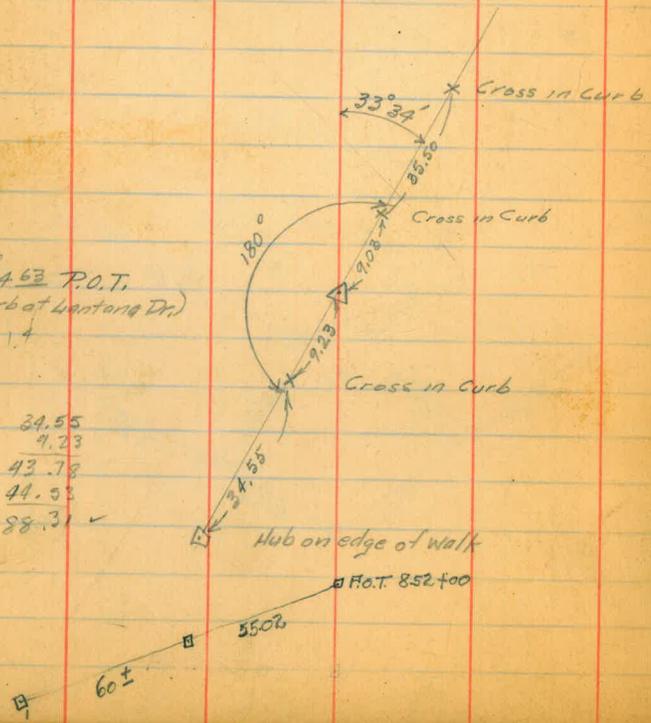


855 + 34 63
 855 + 12 05
 22.58

CL

856 + 26
 855 + 34.63 P.O.T.
 (X on S. Curb of Lantong Dr)
 914

34.55
 9.23
 43.78
 44.53
 88.31 ✓



Reference Points for each Pier at
Trestle #38

768+35^E Pier #5

768+35^E Pier #4

768+20^E Pier #3

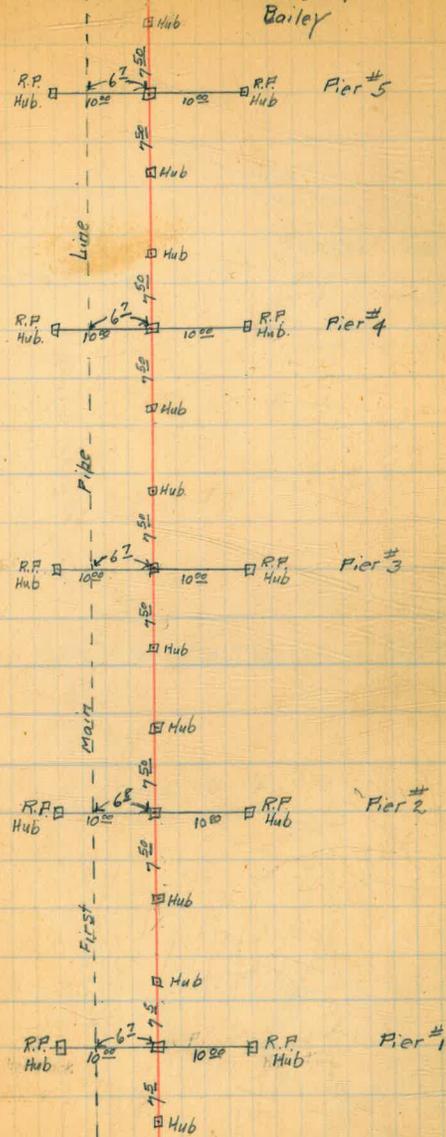
768+05^E Pier #2

767+90^E Pier #1

clear + warm.

March 29-30
Simpson
Jacobson
Bailey

70



Profile Proposed Anode

Revised by
M. H.
Jan 11, 1956

	9.47	401.57		392.10
0+00			0.72	401.15
+09			0.79	401.13
+09			6.5	395.1
+11			3.34	398.23
0+50			6.2	395.4
+77			4.6	397.0
1+00	9.92	406.23	5.26	396.31
+25			7.5	398.7
+50			7.9	398.3
2+00			7.6	398.6
+50			5.8	400.4
3+00			3.7	402.5
+50			1.5	404.7
4+00	10.77	416.03	0.97	405.26
+50			9.3	406.7
+75			7.1	408.9
5+00			5.2	410.8
+50			3.7	412.3

Top of 40" PL @ 0+00

Top of Cone Box 0+00

Top end Cone Exit Wall

Ground

Top Air Valve

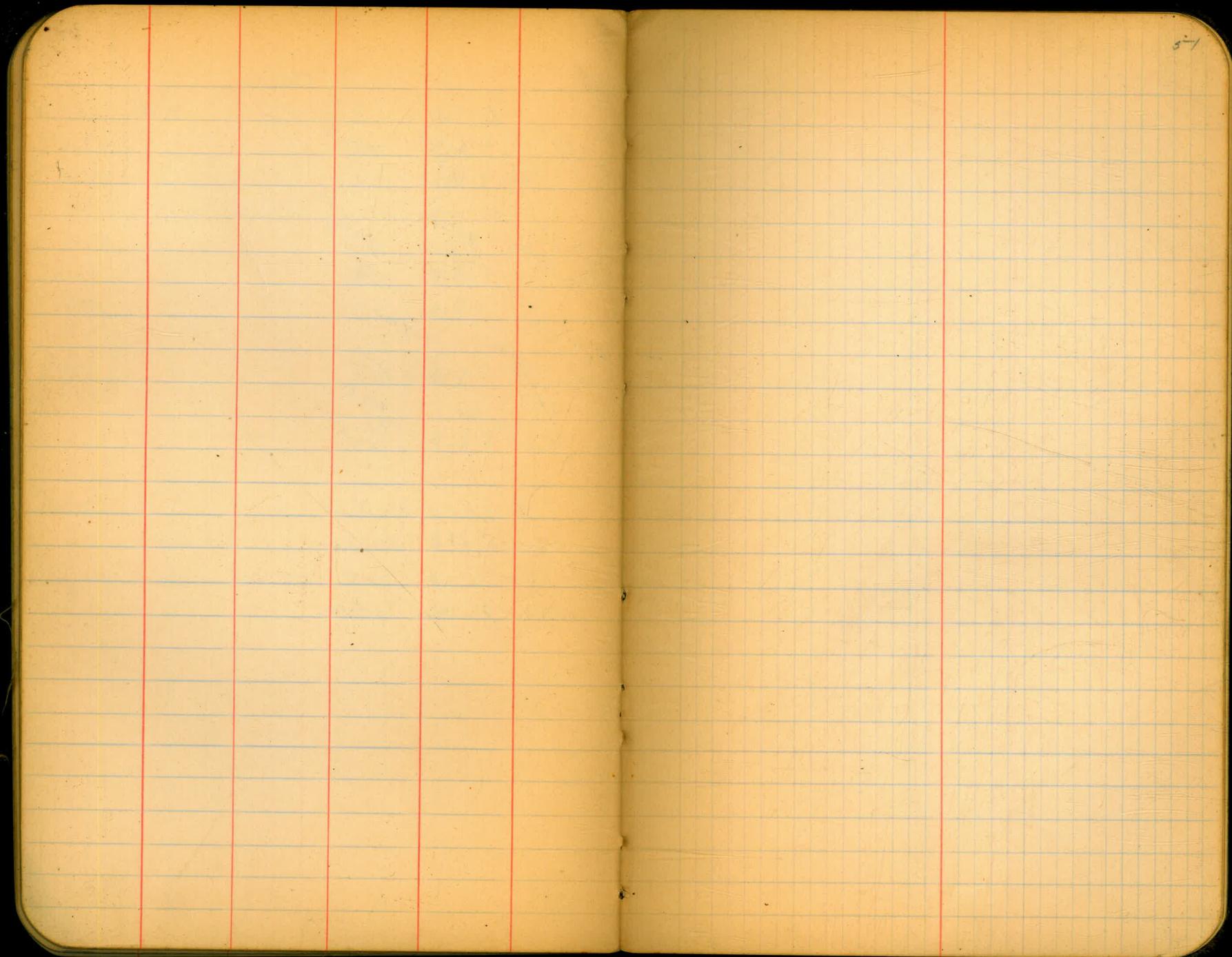
	395.9		399.6	401.6
	$\frac{5.7}{10}$		$\frac{2.0}{6' RT}$	$\frac{0.0}{11' RT}$
edge Ditch Road	397.2		397.6	402.9
	$\frac{9.0}{10}$		$\frac{8.6}{12' RT}$	$\frac{3.3}{13' RT}$
	401.8		397.2	
	$\frac{4.4}{46' RT}$		$\frac{9.0}{25' RT}$	

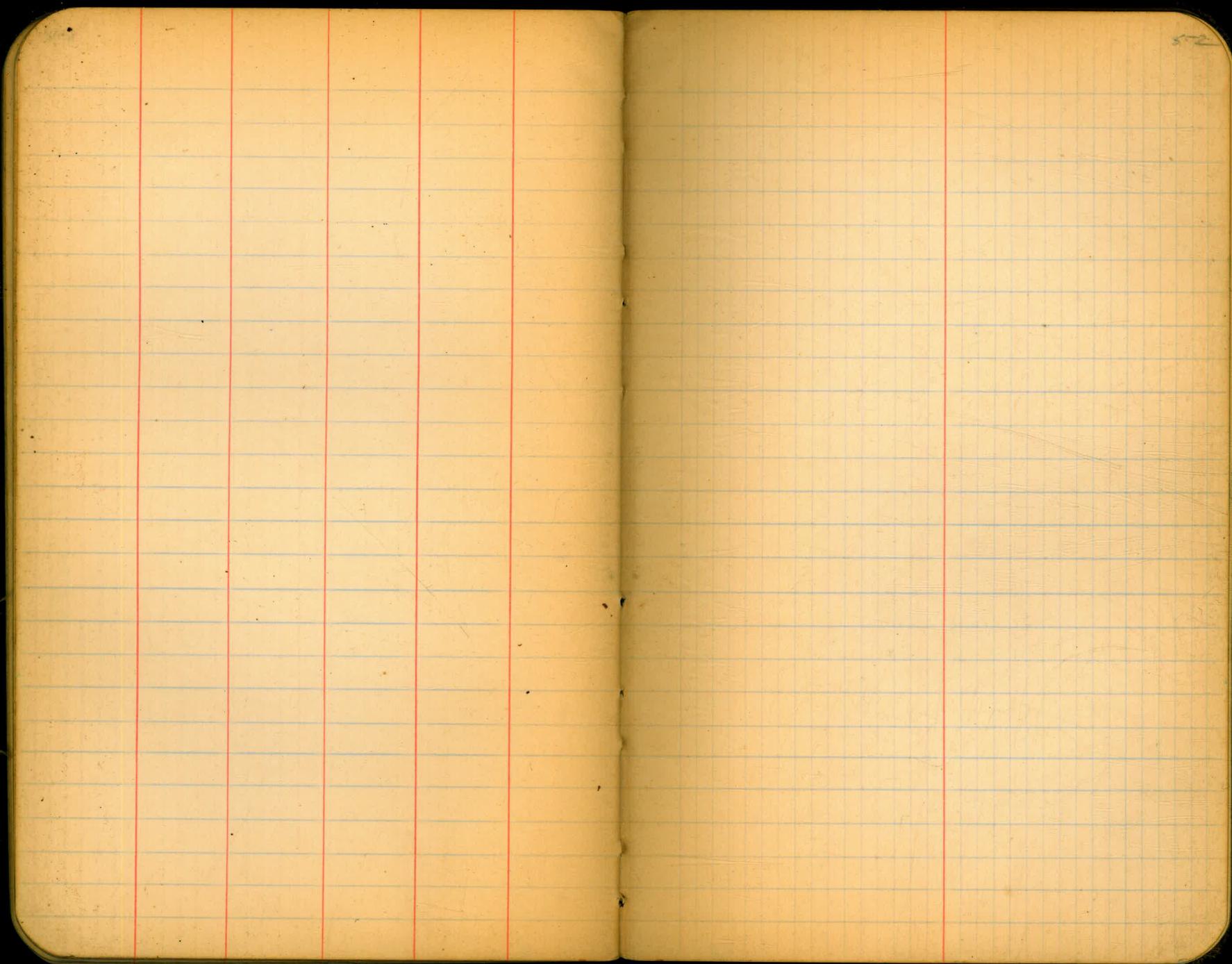
403.0		400.3
$\frac{3.2}{38}$ South edge Road		$\frac{5.9}{25' RT}$ Ditch

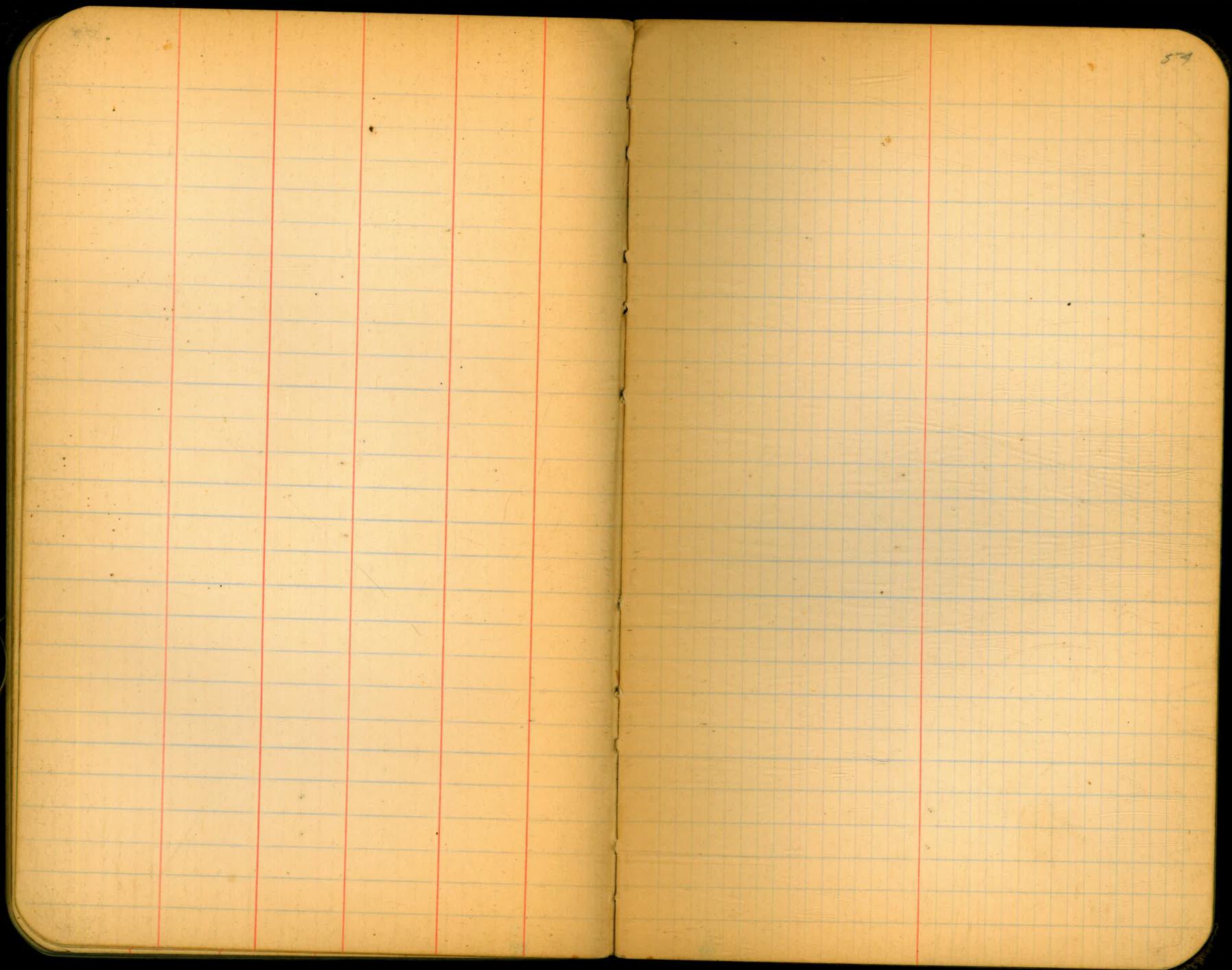
408.5		401.7		406.3
$\frac{11.5}{32' RT}$ edge Road		$\frac{14.3}{23' Ditch}$		$\frac{9.7}{8' RT}$

406.7		403.3		410.3
$\frac{9.3}{35' RT}$ edge Road		$\frac{12.7}{21' RT}$		$\frac{5.7}{4' RT}$

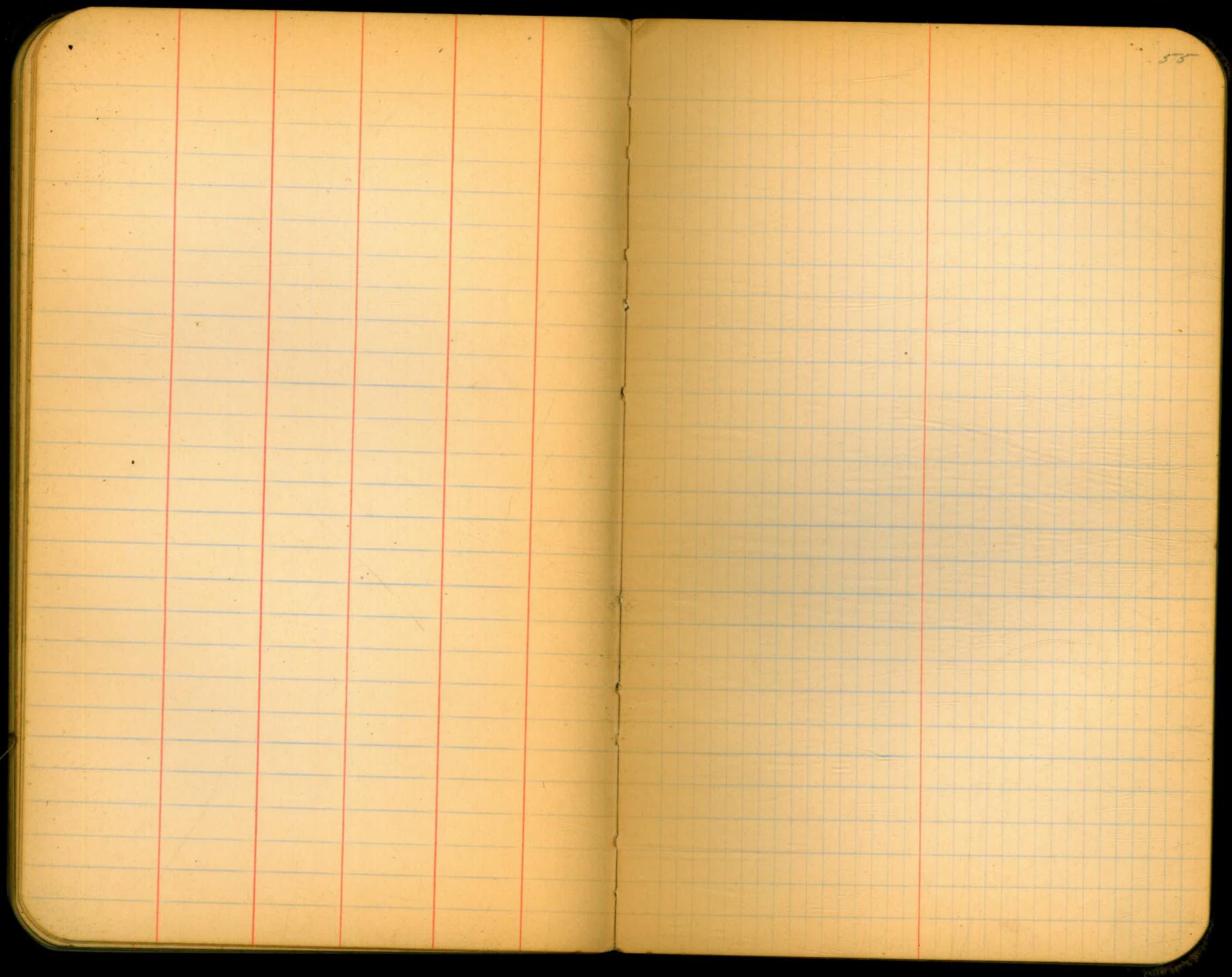
PP 81579 19' RT



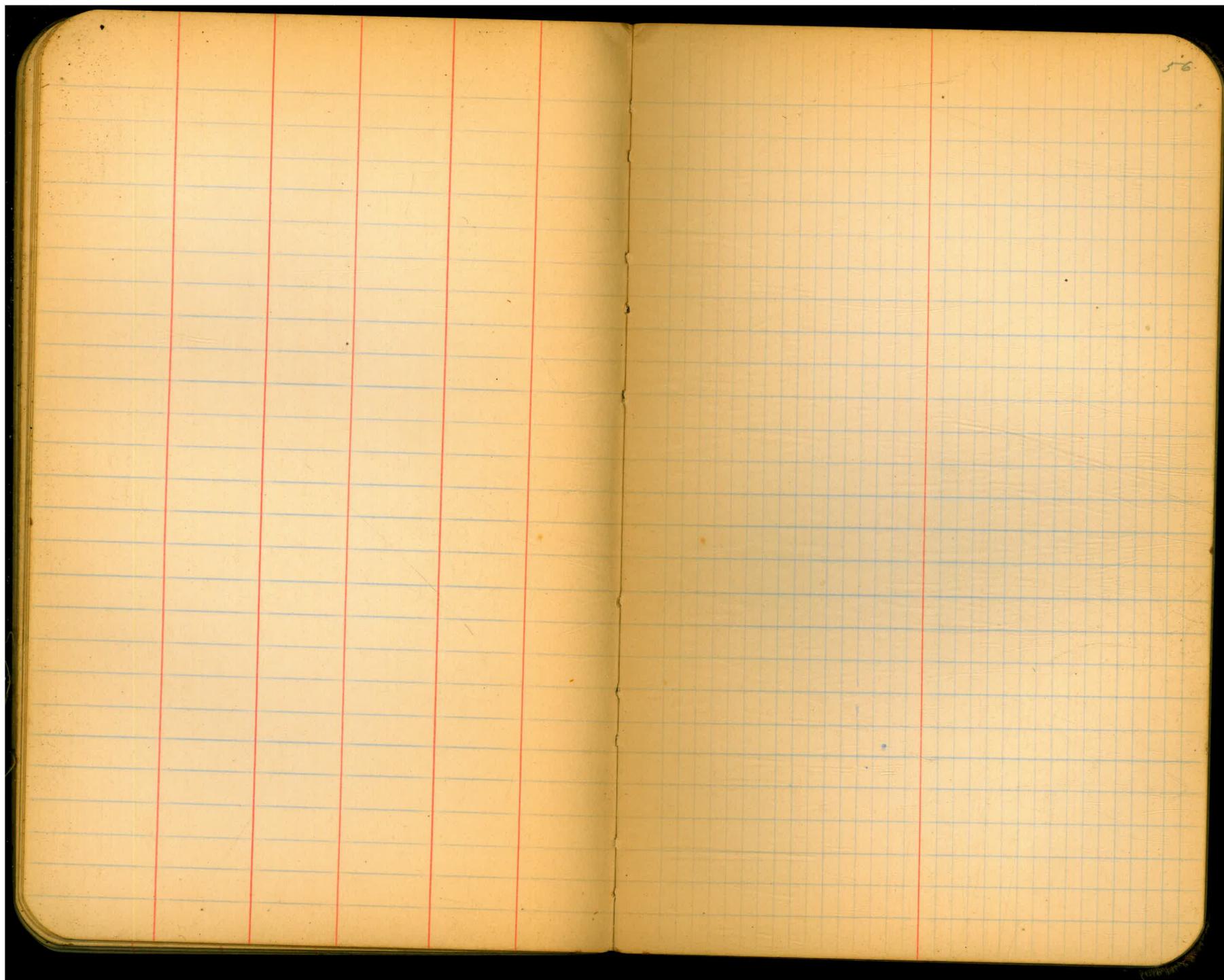


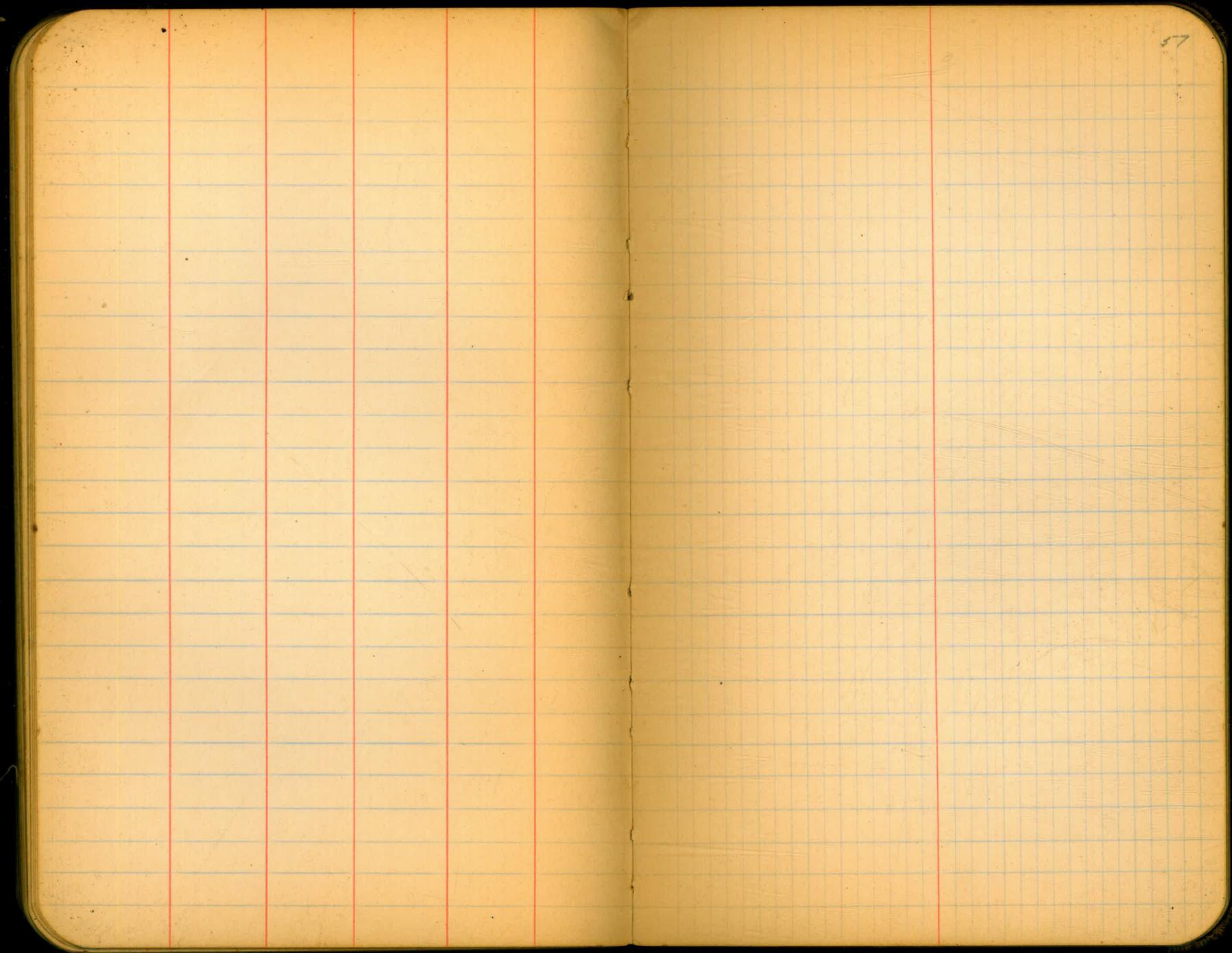


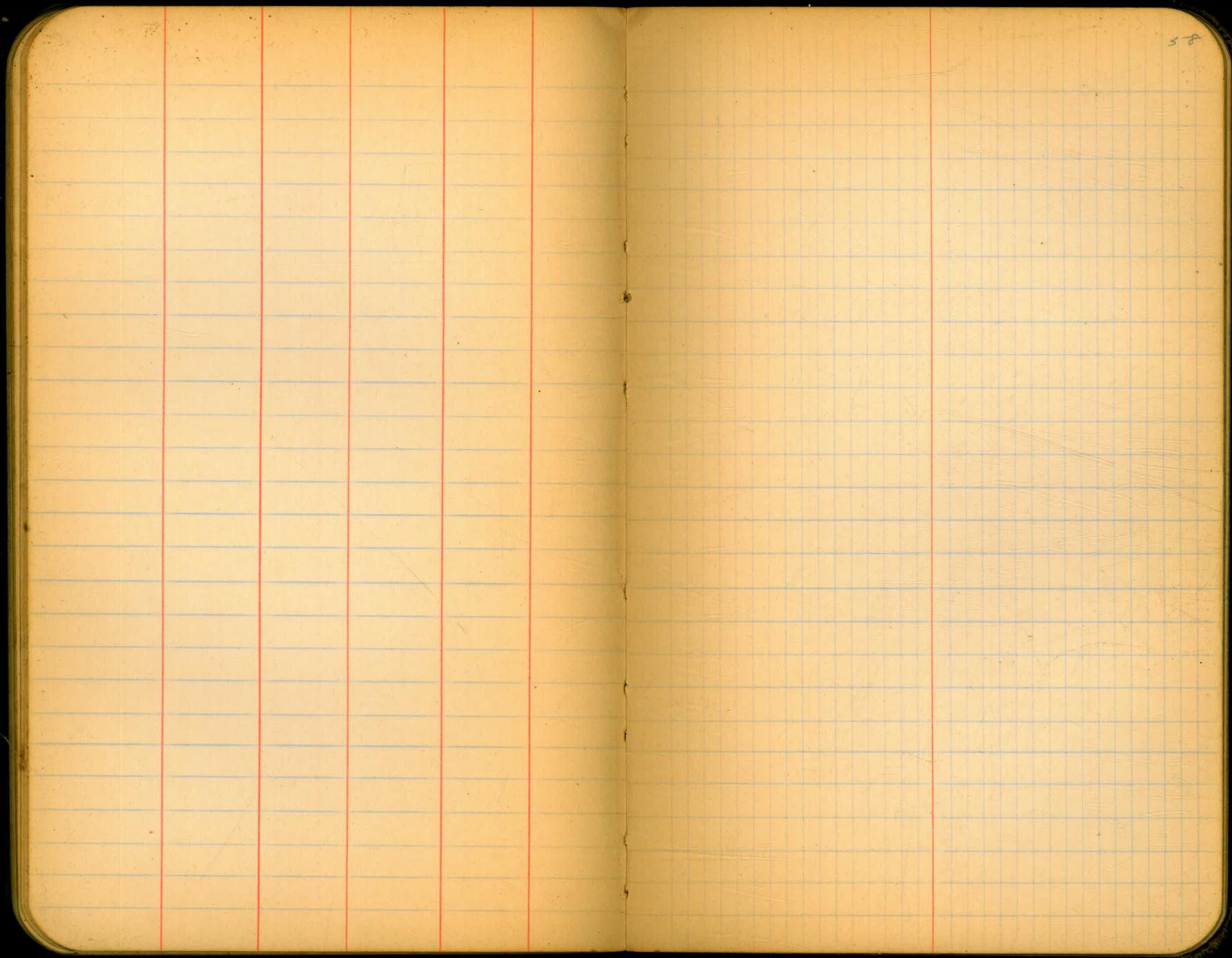
57



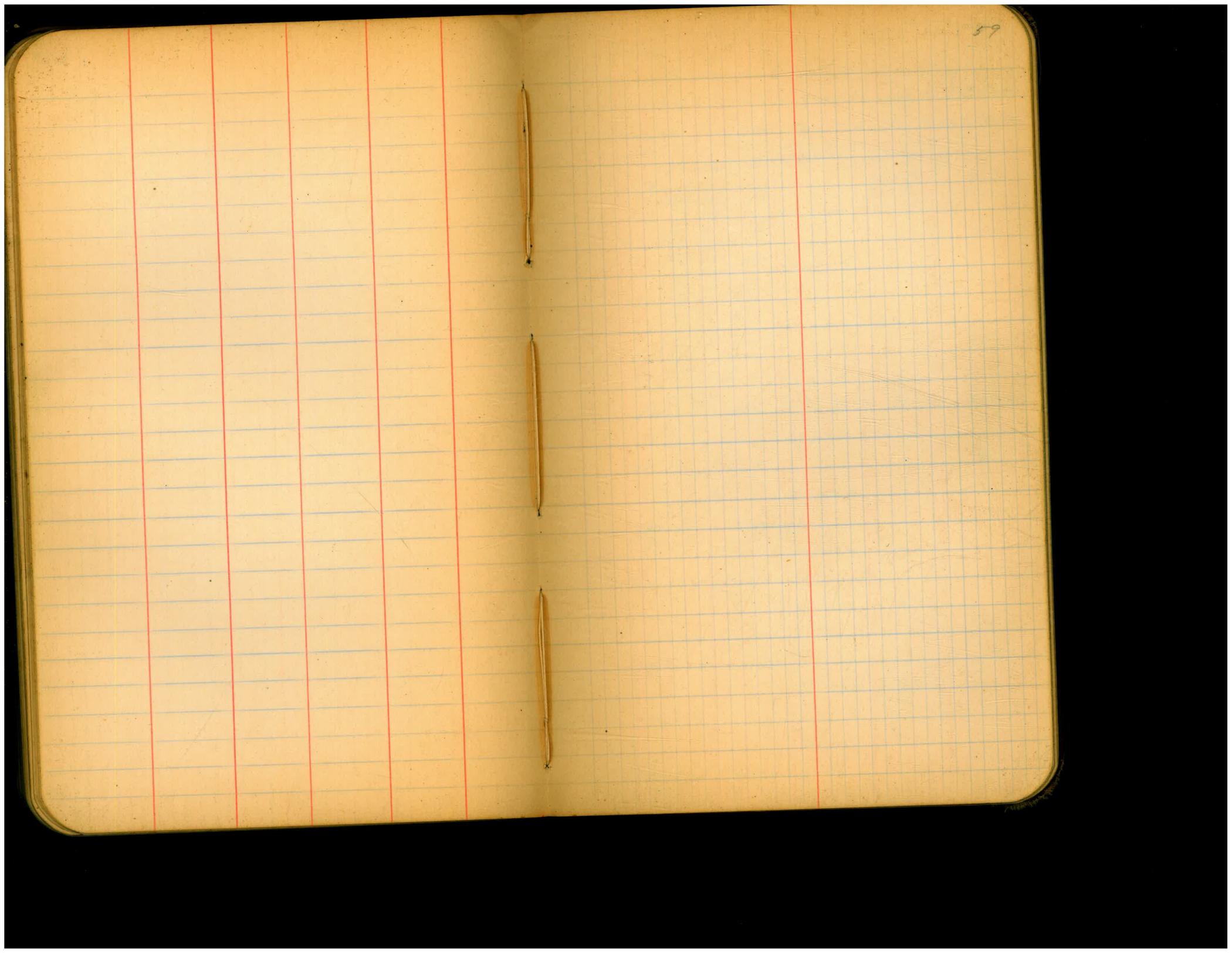
58







58



12/16/29 Hill
 clear Elliot K
 Simpson-4
 Walton

Check levels 2 over tunnel 1

BM #2	12.00	397.19	385.19
BM #4		0.63	396.56
	12.91	409.47	
T.P.		0.47	409.00
	12.63	421.63	
T.P.		0.35	421.28
	12.32	433.60	
T.P.		0.33	433.27
	12.83	446.10	
T.P.		0.34	445.76
	12.91	458.67	
T.P.		0.36	458.31
	12.31	470.62	
T.P.		0.24	470.38
	13.01	482.39	
T.P.		0.44	482.95
	12.41	495.36	
BM		2.06	493.30
	7.38	500.08	
BM		1.95	498.73
T.P.		12.71	457.97
	0.80	488.77	
T.P.		13.11	475.66
	0.40	476.06	
T.P. B.M.		11.14	464.92

Top of air valve - Coronado wye (135+81)
 36" GV.

Sta. 147+14 El. 396.54
 #
 396.56 BM #4 July 12 1956
 + 8.10 Beatty
 404.66 N. Smith
 - 8.75
 395.91 IP
 + 0.00
 395.91 N.
 - 0.30
 395.61 IP
 + 0.27
 395.88 N.
 - 8.75
 387.13 IP
 + 4.61
 391.74 N.
 - 6.24
 385.50 SET BM SE Cor 36" Val. Chamber
 + 6.77
 392.27
 1.96
 390.31 IP
 9.00
 399.31 N.
 - 2.77
 396.54 = OK BM
 396.56

Top of iron pipe 149+22.70

" " " 157+26.03

Nail in side of shaft

	0.78	165.70		164.92
T.P.			12.59	153.11
	11.47	164.58		
T.P.			7.10	157.48
	0.57	158.05		
B.M.			10.16	147.89
T.P.			12.58	145.47
	0.34	145.81		
T.P.			12.74	133.07
	0.29	133.36		
B.M.			11.27	122.09
	0.94	123.03		
B.M.			10.69	112.34
	0.73	113.27		
T.P.			11.78	101.59
	0.17	102.06		
B.M.			5.17	396.89

61
R.P. iron pin of tunnel #2 - about 600' So. of Portal

iron pin of tunnel #1 sta 166+39.48

R.P. iron pin of tunnel #2 - about 300' So. of S Portal

Nail in cap So. Portal Tunnel #2

12/13/29 clear

Hill
Elliott &
Simpson &
Walton

Dec 13 1929 Cool-Cloud

62

Check levels over tunnel #1

B.M. 34			396.54
	13.05	409.59	
T.P.			2.87 406.72
	11.88	418.60	
Set B.M.			4.83 413.77
T.P.			0.16 418.44
	12.54	430.98	
T.P.			0.38 430.60
	12.78	443.38	
T.P.			0.26 443.12
	12.49	455.61	
T.P.			0.37 455.24
	12.98	468.22	
T.P.			0.53 467.69
	12.89	480.58	
T.P.			0.40 480.18
	12.92	493.10	
T.P.			0.49 492.61
	8.79	501.40	
Set B.M.			8.09 493.31
Set B.M.			2.68 498.72
T.P.			12.09 489.31
	1.49	490.80	
T.P.			12.95 477.85
	1.32	479.17	

Top A.V. 144+14

Top of First R.P. bolt South of Portal Tunnel #1

Top of R.P. bolt Sta 149+97.2

" " " " " 151+26.03

	479.17		
T.P.		12.75	466.42
	1.57	467.99	
B.M. #35		3.07	464.92
T.P.		11.70	456.29
	1.15	457.44	
Set B.M.		9.52	447.92
T.P.		12.53	444.91
	1.90	446.81	
T.P.		12.56	434.25
	0.68	434.93	
Set B.M.		12.81	422.12
	0.75	422.87	
Set B.M.		10.50	412.37
T.P.		12.78	410.09
	0.52	410.61	
T.P.		8.93	401.68
	4.55	406.23	
T.P. B.M. #37		9.33	396.90
	<u>TUNNEL #2</u>		
	12.98	409.88	
T.P.		0.33	409.55
	12.27	421.82	
Set B.M.		6.10	415.72
T.P.		0.34	421.48
	12.88	434.36	

Check at this B.M. See Page 74
969.92

Nail in S.W. Cor. Air Shaft Tunnel #1 El. 464.86

Top of R.P. bolt (South R.P. of Tunnel #2 - about 600' S of Portal)

Top of R.P. bolt Sta. 166 + 39.98 (Tunnel #1)

" " " " (R.P. of Tunnel #2 - about 300' S of Portal)

El. 396.80

Nail in face of cap S. Portal Tunnel #2

Top of R.P. Pin (Most Northernly R.P. of Tunnel #1)

	434.36		
T.P.		0.74	433.42
	12.81	446.73	
T.P.		0.38	445.85
	13.03	458.88	
T.P.		0.40	458.48
	12.44	470.92	
Set B.M.		4.30	466.62
T.P.		0.74	470.18
	12.83	483.01	
B.M. '38		1.56	481.45
	12.96	494.41	
Set B.M.		2.13	492.28
	1.10	493.38	
T.P.		12.63	480.75
	0.40	481.15	
T.P.		12.87	468.28
	0.38	468.66	
T.P.		12.68	455.98
	1.42	457.40	
T.P.		12.79	444.61
	0.79	445.40	
T.P.		12.58	432.82
	0.56	433.38	
T.P.		12.54	420.84
	1.36	422.20	

Top of R.P. Pin Sta 176+86 7/16

Nail in S.W. cor. of sill of shaft. E. 481.36.

Top of iron pin at 187+28.75

12/16/29 clear
some crow

68

722.20

Set B.M.		6.72	415.48
T.P.		12.96	409.24
	1.10	410.34	
T.P.		12.92	397.42
	1.99	399.41	
B.M. #39		4.00	395.41
	0.22	395.63	
T.P.		12.86	382.77
	0.37	383.14	
T.P.		13.05	370.09
	0.16	370.25	
T.P.		1.51	368.74
	12.90	381.64	
T.P.		0.39	381.25
	8.77	390.02	
B.M. set		0.95	389.07
T.P.		6.23	383.79
	12.99	396.78	
B.M. #40		4.27	392.51
	TUNNEL #3 12/16/29		
	12.87	405.38	
T.P.		0.96	405.02
	12.51	417.53	
T.P.		0.50	417.03
	12.55	429.58	
T.P.		0.39	429.19

Top of iron pin R.P. tunnel #3 about 1400' South

Air valve El. 395.35

Top of iron pin R.P. N. portal tunnel #2 - 612921

Air valve 392.47 El.

	12.24	442.13		429.19
T.P.			0.49	441.64
	12.25	459.59		
B.M. (set)			9.62	444.97
T.P.			0.51	454.08
	12.20	466.98		
T.P.			0.61	466.37
	12.26	478.63		
Set B.M.			4.58	474.05
T.P.			0.36	478.27
	12.14	490.91		
T.P.			0.59	489.87
	10.30	500.27		
B.M. # 41			7.93	492.34
T.P.			0.26	500.01
	12.81	512.82		
B.M. # 42			5.50	507.32
T.P.			0.39	512.13
	1.31	516.74		
B.M. set			2.92	513.82
T.P.			12.63	504.11
	0.72	504.83		
T.P.			12.98	491.85
	1.53	493.38		
B.M. set			8.38	485.00

Top of iron pin - sta. 206 + 75.92

Top of iron pin - sta. 208 + 92.62

Nail in N.E. Cor. of Air Shaft El 492.35

Nail in tel. pole 215 + 53, El 507.33

Top of iron pin sta 216 + 07.97

Top of iron pin sta 219 + 44.14

		773.38		
T.P.			12.74	780.87
	0.29	781.67		
T.P.			12.81	768.82
	0.70	769.22		
T.P.			12.55	756.67
	0.45	757.12		
T.P.			12.70	744.42
	0.13	744.55		
T.P.			12.67	731.88
	0.30	732.18		
T.P.			12.76	719.42
	0.71	719.23		
T.P.			12.59	707.24
	0.71	707.65		
B.M. # 43			12.72	394.93
			12/16/29	same as 39
B.M. # 54				395.18
	12.61	407.79		
T.P.			0.28	407.51
	11.07	418.58		
T.P.			0.42	418.16
	12.07	430.23		
Set B.M.			3.68	426.55
T.P.			0.48	429.75
	12.73	442.18		

Air valve 226+64 El. 394.91

Top Cor. cap S.W. Cor. S. Portal Tunnel #4

Top of iron pin 288+53.88

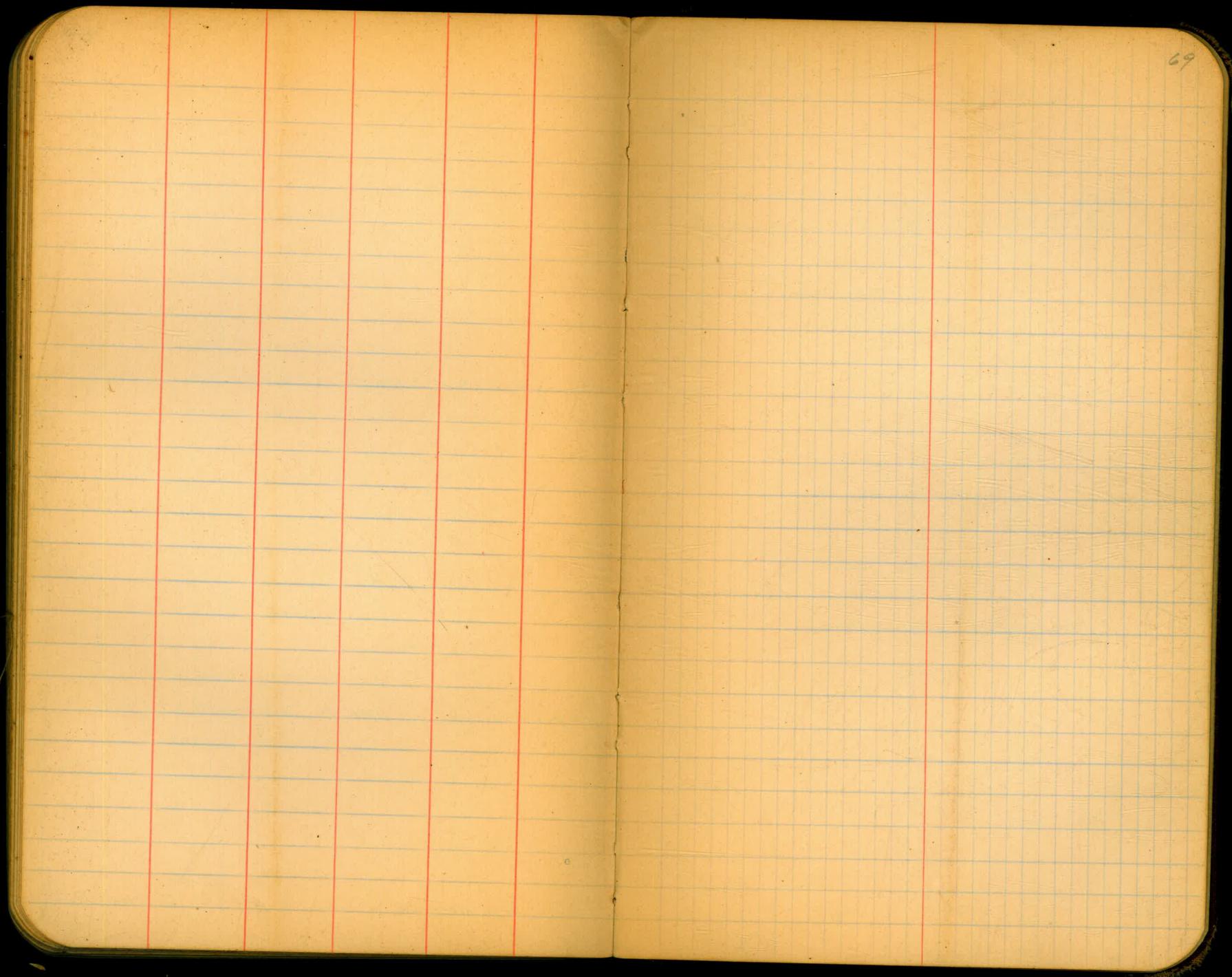
		112.48		
T.P.			0.53	442.05
	12.11	454.16		
T.P.			0.90	453.76
	12.29	466.05		
T.P.			0.50	465.55
	12.82	478.37		
T.P.			0.34	478.03
	6.37	484.90		
Set B.M.			5.23	479.17
" "			5.66	478.74
T.P.			12.84	474.56
	1.73	473.29		
T.P.			12.71	460.58
	0.91	461.42		
T.P.			12.94	448.55
	1.32	449.87		
T.P.			13.00	436.87
	0.95	437.82		
Set B.M.			12.93	424.89
	1.07	425.96		
T.P.			12.60	413.36
	0.71	414.07		
T.P.			12.98	401.09
	1.56	402.65		
B.M. 55			8.15	394.50

Top of iron pin sta. 292+82.64

" " " " 294+72.00

Top of iron pin sta. 297+39.21

N. Portal
Top of concrete portal S.E. cor. Tunnel



69

12/3/29 clear

12/4/29 "

Tunnel #1 - ret. points

Note All iron pins placed
about 1.0' below surface

Parker
Converse
Hill
Elliot
Simpson
Walton

70

□ Iron pin

193.23

Note in check 167+65.06 — NO. PORTAL
chaining distance
to N. Portal was made
167+65.28. The hub was
moved back 0.22 to
conform to stationing
shown on profile sheet

166+39.48 □ Iron pin

11

151+26.03 □ Iron pin

149+92.70 □ Iron pin

145+93.06 — SO. PORTAL

165.06

□ Iron pin

186.99

□ Iron pin

12/4/29 clear

12/11/29

Tunnel #2 - Ret. points

Note Dec. 546 with Williams on
road loc. near Otag.

Parker
Converso
Hill
Elliot
Simpson
Walton

71

□ Iron pin

518.92

old sta. 192+20.50

192+20.81

NO. PORTAL

187+28.75 □ Iron pin

176+86.91 □ Iron pin

172+02.00 SO. PORTAL

○ P.I.

112.0

□ Iron pin

126.18

□ Iron pin

12/11/29
clear

12/12/29

Hill
Elliot
Simpson
Walton

72

Tunnel 3 - ret. points

□ Iron pin

500 ±

old sta 224+18.66

224+18.99 — NO. PORTAL

216+07.97 □ Iron pin

208+92.62 □ Iron pin

206+75.97 □ Iron pin

205+18.66 — SO. PORTAL

1400 ±

□ Iron pin

12/12/29 clear

Tunnel "A" - ret. points

Hill
Elliot
Simpson
Waltan

73

□ Iron pin

500 ±

old sta. 278+03.72

278+03.92

NO. PORTAL

W.H. 298+03.42

297+39.21 □ Iron pin

294+72.00 □ Iron pin

292+82.64 □ Iron pin

288+53.88 □ Iron pin

287+08.42 SO. PORTAL

500 ±

□ Iron pin

Nail in S.W. cor. Air shaft Tunnel #1 (see page 63)

B.M. 35

2.94	467.86		464.92
	Void.	12.45	455.41
1.995	457.405		
		12.540	444.865 ✓
0.325	445.190		
		12.720	432.47
0.98	433.45		
		10.49	422.96
			80
			422.16

B.M.

12.99
0.60
12.39

432.47	
12.99	
445.46	267
60	1.87
404.86	.80
11.98	
456.84	
1.43	
455.41	
12.18	
467.59	
2.67	
464.92	

P.M. 167+

April 22 1930
Clear. Hot

Elliott
Simpson
Bailey + Remmen

Check Levels over Tunnel #1

75

B.M.	6.65	499.95	493.30	
			1.25 1/2	498.69 1/2
			12.78	487.17
	0.59	487.76		
			-12.23	475.53
	0.97	476.50		
B.M.			11.63 1/2	464.86 1/2
	2.14	467.00 1/2		
			12.95	454.55 1/2
	1.99 1/2	456.55		
			12.54	444.01
	0.32 1/2	444.33 1/2		
			12.72	431.61 1/2
	0.98	432.59 1/2		
B.M.			10.49	422.10 1/2
	1.17 1/2	423.29 1/2		
			10.22	413.07 1/2
	3.97 1/2	417.05		
			10.69 1/2	406.35 1/2
	2.98	409.33 1/2		
			12.29 1/2	397.04
	1.19	398.23		
Set B.M.			5.52	392.71
	2.94	395.65		
B.M.			1.94	393.71
B.M. (Set)			6.56	389.09

Record on sheets.
464.86

Use
Record
422.12

Top Iron Pin 149+92.79

~~Top Iron Pin 151+76~~

Nail in Cor. Air Shaft (Disturbed)

Top pin 166+39.98

Iron pin in bank Lt. 171+60

Iron pin 167+63.48

11/1	385.60	11/1	385.60
11/2	385.60	11/2	385.60
11/3	385.60	11/3	385.60
11/4	385.60	11/4	385.60
11/5	385.60	11/5	385.60
11/6	385.60	11/6	385.60
11/7	385.60	11/7	385.60
11/8	385.60	11/8	385.60
11/9	385.60	11/9	385.60
11/10	385.60	11/10	385.60
11/11	385.60	11/11	385.60
11/12	385.60	11/12	385.60
11/13	385.60	11/13	385.60
11/14	385.60	11/14	385.60
11/15	385.60	11/15	385.60
11/16	385.60	11/16	385.60
11/17	385.60	11/17	385.60
11/18	385.60	11/18	385.60
11/19	385.60	11/19	385.60
11/20	385.60	11/20	385.60
11/21	385.60	11/21	385.60
11/22	385.60	11/22	385.60
11/23	385.60	11/23	385.60
11/24	385.60	11/24	385.60
11/25	385.60	11/25	385.60
11/26	385.60	11/26	385.60
11/27	385.60	11/27	385.60
11/28	385.60	11/28	385.60
11/29	385.60	11/29	385.60
11/30	385.60	11/30	385.60

Should be

$$\begin{array}{r} 96.06 \\ 66.07 \\ \hline 29.99 \end{array}$$

$$\begin{array}{r} 97+84.38 \\ 77+50.38 \\ \hline 29.00 \end{array}$$

$$\begin{array}{r} 96+66.07 \\ 96+46.50 \\ \hline 19.57 \end{array}$$

$$\begin{array}{r} 75 \\ 12.72 \\ \hline 62.28 \\ 25.00 \\ \hline 29.99 \end{array}$$

$$\begin{array}{r} 96.06 \\ 66.07 \\ \hline 29.99 \end{array}$$

$$\begin{array}{r} 97+25.88 \\ 96+96.00 \\ \hline 29.82 \end{array}$$

$$\begin{array}{r} 66.07 \\ 46.50 \\ \hline 29.57 \end{array}$$

$$\begin{array}{r} 97+25.88 \\ 77 \\ \hline 29.50 \end{array}$$

$$\begin{array}{r} 98+12.72 \\ 97+84.38 \\ \hline 38.39 \end{array}$$

1.53
74
75.53
75.49

DIRECTIONS FOR USE OF TABLES

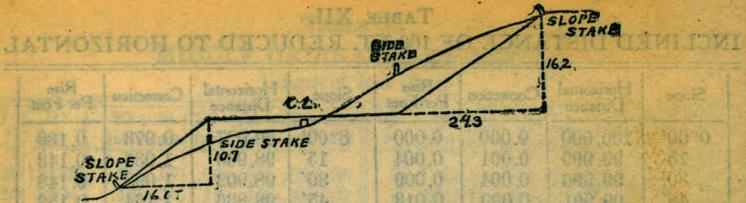
TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not

IMPROVED TABLES AND INFORMATION

TABLE No. 2.

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 T may be found by dividing tangent (or external), opposite T 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.



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

SLOPE 1 1/4 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0 30	0 45	0 60	0 75	0 90	1 05	1 20	1 35	0
1	1 50	1 65	1 80	1 95	2 10	2 25	2 40	2 55	2 70	2 85	1
2	3 00	3 15	3 30	3 45	3 60	3 75	3 90	4 05	4 20	4 35	2
3	4 50	4 65	4 80	4 95	5 10	5 25	5 40	5 55	5 70	5 85	3
4	6 00	6 15	6 30	6 45	6 60	6 75	6 90	7 05	7 20	7 35	4
5	7 50	7 65	7 80	7 95	8 10	8 25	8 40	8 55	8 70	8 85	5
6	9 00	9 15	9 30	9 45	9 60	9 75	9 90	10 05	10 20	10 35	6
7	10 50	10 65	10 80	10 95	11 10	11 25	11 40	11 55	11 70	11 85	7
8	12 00	12 15	12 30	12 45	12 60	12 75	12 90	13 05	13 20	13 35	8
9	13 50	13 65	13 80	13 95	14 10	14 25	14 40	14 55	14 70	14 85	9
10	15 00	15 15	15 30	15 45	15 60	15 75	15 90	16 05	16 20	16 35	10
11	16 50	16 65	16 80	16 95	17 10	17 25	17 40	17 55	17 70	17 85	11
12	18 00	18 15	18 30	18 45	18 60	18 75	18 90	19 05	19 20	19 35	12
13	19 50	19 65	19 80	19 95	20 10	20 25	20 40	20 55	20 70	20 85	13
14	21 00	21 15	21 30	21 45	21 60	21 75	21 90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23 10	23 25	23 40	23 55	23 70	23 85	15
16	24 00	24 15	24 30	24 45	24 60	24 75	24 90	25 05	25 20	25 35	16
17	25 50	25 65	25 80	25 95	26 10	26 25	26 40	26 55	26 70	26 85	17
18	27 00	27 15	27 30	27 45	27 60	27 75	27 90	28 05	28 20	28 35	18
19	28 50	28 65	28 80	28 95	29 10	29 25	29 40	29 55	29 70	29 85	19
20	30 00	30 15	30 30	30 45	30 60	30 75	30 90	31 05	31 20	31 35	20
21	31 50	31 65	31 80	31 95	32 10	32 25	32 40	32 55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33 60	33 75	33 90	34 05	34 20	34 35	22
23	34 50	34 65	34 80	34 95	35 10	35 25	35 40	35 55	35 70	35 85	23
24	36 00	36 15	36 30	36 45	36 60	36 75	36 90	37 05	37 20	37 35	24
25	37 50	37 65	37 80	37 95	38 10	38 25	38 40	38 55	38 70	38 85	25
26	39 00	39 15	39 30	39 45	39 60	39 75	39 90	40 05	40 20	40 35	26
27	40 50	40 65	40 80	40 95	41 10	41 25	41 40	41 55	41 70	41 85	27
28	42 00	42 15	42 30	42 45	42 60	42 75	42 90	43 05	43 20	43 35	28
29	43 50	43 65	43 80	43 95	44 10	44 25	44 40	44 55	44 70	44 85	29
30	45 00	45 15	45 30	45 45	45 60	45 75	45 90	46 05	46 20	46 35	30
31	46 50	46 65	46 80	46 95	47 10	47 25	47 40	47 55	47 70	47 85	31
32	48 00	48 15	48 30	48 45	48 60	48 75	48 90	49 05	49 20	49 35	32
33	49 50	49 65	49 80	49 95	50 10	50 25	50 40	50 55	50 70	50 85	33
34	51 00	51 15	51 30	51 45	51 60	51 75	51 90	52 05	52 20	52 35	34
35	52 50	52 65	52 80	52 95	53 10	53 25	53 40	53 55	53 70	53 85	35
36	54 00	54 15	54 30	54 45	54 60	54 75	54 90	55 05	55 20	55 35	36
37	55 50	55 65	55 80	55 95	56 10	56 25	56 40	56 55	56 70	56 85	37
38	57 00	57 15	57 30	57 45	57 60	57 75	57 90	58 05	58 20	58 35	38
39	58 50	58 65	58 80	58 95	59 10	59 25	59 40	59 55	59 70	59 85	39
40	60 00	60 15	60 30	60 45	60 60	60 75	60 90	61 05	61 20	61 35	40
41	61 50	61 65	61 80	61 95	62 10	62 25	62 40	62 55	62 70	62 85	41
42	63 00	63 15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64 35	42
43	64 50	64 65	64 80	64 95	65 10	65 25	65 40	65 55	65 70	65 85	43
44	66 00	66 15	66 30	66 45	66 60	66 75	66 90	67 05	67 20	67 35	44
45	67 50	67 65	67 80	67 95	68 10	68 25	68 40	68 55	68 70	68 85	45
46	69 00	69 15	69 30	69 45	69 60	69 75	69 90	70 05	70 20	70 35	46
47	70 50	70 65	70 80	70 95	71 10	71 25	71 40	71 55	71 70	71 85	47
48	72 00	72 15	72 30	72 45	72 60	72 75	72 90	73 05	73 20	73 35	48
49	73 50	73 65	73 80	73 95	74 10	74 25	74 40	74 55	74 70	74 85	49
50	75 00	75 15	75 30	75 45	75 60	75 75	75 90	76 05	76 20	76 35	50

Computed by L. Leland Locke.

167+6506

0.69 373.51

372.82

12 17 361.34

2.09 363.93

12 35 351.08

0.21 351.29

12 42 338.87

0.63 339.50

12 81 326.69

1.12 327.81

10 42 317.39 R.M.

9.43 326.82
379.51
2.37

87.69

90.7

$$\begin{array}{r} 56 \\ 12 \\ \hline 96705 \\ 907 \\ \hline 676935 \\ 870345 \\ \hline 87711935 \end{array}$$

$$\begin{array}{r} 224 + 18.66 \\ 33 \\ \hline 224 + 18.66 \\ 99 \end{array}$$

$$\begin{array}{r} 110.81 \\ 65 \\ \hline 97.81 \end{array}$$

$$\begin{array}{r} 173.08 \\ 45.37 \\ \hline 127.71 \end{array}$$

127.71

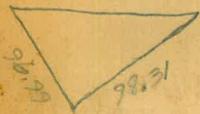
D = 1°

494 + 20.76

494 + 28.84 = 0°29'

494 + 57.85 = 2°13'

494 + 79.51 = 4°33'



$$\begin{array}{r} 1889 \\ 100 \\ \hline 808 \end{array}$$

$$\begin{array}{r} 179.60 \\ 167.47 \\ \hline 12.13' \end{array}$$

$$\begin{array}{r} 80.8 \\ 2.6 \\ \hline 4848 \\ 2929 \\ \hline 29088 \end{array}$$

$$\begin{array}{r} 7951 \\ 57.85 \\ \hline 2166 \\ 36 \\ \hline 5285 \\ 2880 \\ \hline 2701 \\ 36 \\ \hline 2996 \\ 6998 \\ \hline 78976 \end{array}$$

$$\begin{array}{r} 17406 \\ 8703 \\ \hline 104436 \end{array}$$

$$\begin{array}{r} 29 \\ 1445 \\ \hline 2135 \\ 785 \\ \hline 3320 \end{array}$$

$804 + 37.59 = 87.71 = 5 + 23 \pm \text{new location}$

$$\begin{array}{r} 22^\circ 17' \\ 16 \ 16 \\ \hline 60 \ 01 \end{array}$$



$$\begin{array}{r} 179.60 \\ 107.14 \\ \hline 72.46 \end{array}$$

$$\begin{array}{r} 99.92 \\ 37.22 \\ \hline 57.20 \end{array}$$

609 + 82.37

460.25

605 + 22.12

-x-x-x-x-8

$$\begin{array}{r} 48.08 \\ 36.22 \\ \hline 11^\circ 46' \end{array}$$

492 + 52.95

492 + 75 = 0°53'

493 + 00 = 1°53'

493 + 37.62 = 3°28'

$$\begin{array}{r} 7500 \\ 5295 \\ \hline 12.05 \\ 2.20 \\ \hline 8820 \\ 4410 \\ \hline 52920 \end{array}$$

$$\begin{array}{r} 3962 \\ 291 \\ \hline 15848 \\ 7924 \\ \hline 9508.8 \end{array}$$

$$\begin{array}{r} 25 \\ 24 \\ \hline 100 \\ 300 \\ \hline 600 \end{array}$$

$$\begin{array}{r} 153 \\ 135 \\ \hline 328 \end{array}$$