TECHNIT NOTES

O.R.-S.D. 2nd. Main Pipe Line

INDEX

"A" Line

Sta Deflec Bear Mag

Parker
Converse
Hill
Elliot
Simpson

6/10/29
Clear

10/8/29.

Note: Disregard double deflection Angles in figuring bearings.

S 41-44 W S 46-30 W

0+66.82 22-30 R

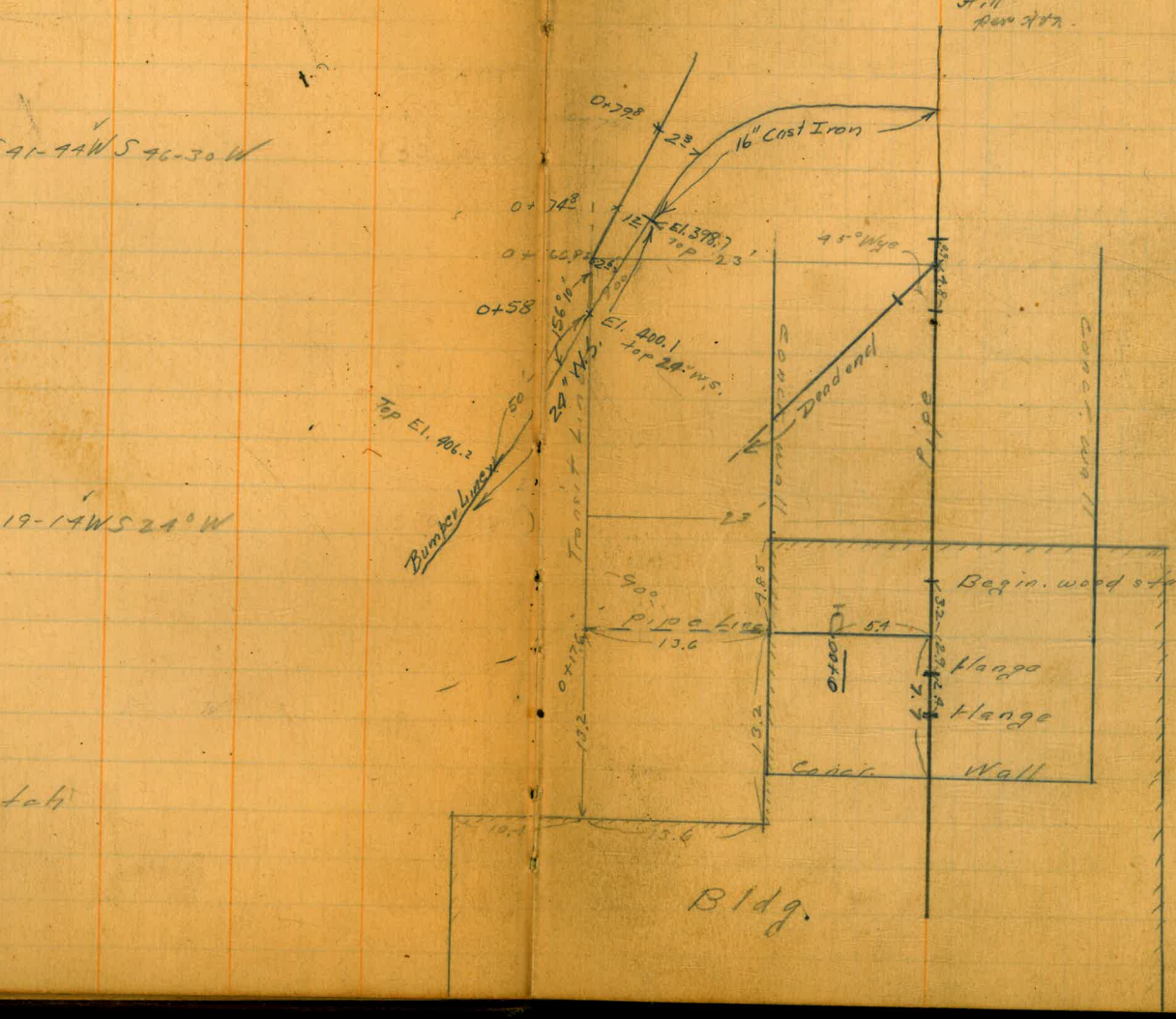
49.12

S 19-14 W S 24° W

0+17.6 90° R

17.6

0+00 See sketch



Sta Deflec Bear Mag

N74-46W N75-30W

1+52.68 P.T.

7 +52.68 23-45 Δ 5-3-30 R
+25 23-25 D 24
7 +00 20-25 T 121.22
+75 17-25 R 240.49
+50 14-25 L 222.92
+25 11-25
3 +00 8-25
+75 5-25
2 +50 2-25

2+30.98 5-3-30 R

350.98

2+29.76 P.C.

2+52.77 P.O.T. on S.T.

S51-44W S56-30W

20-00

1+67.68 10-00 R

100.36

10/17/49 Station added to the curve to check profile on it.

1-8-0

P.I. -16'

Pipe

Note Trestle #1 to be determined by intersec. of grade & ground lines.

10.8

House

6.6 1+37 9.2

Pipe

Settling basin

4.2 1+14.5

Pipe

House

7.5 0+88 14.3 Bagin wood stave

0+94.8 5.5 M.H.

Sta Defl Co. Bear. Mag.

N. 343.41 323.39

S78-30W S.78-15W

12+27.59 P.T.

	+ 27.59	13-19	Δ	26°-38' L
12	+00	11-06	D	10°
	+75	9-06	T	85.04
	+50	7-06	R	359.26
	+25	5-06	L	166.78
11	+00	3-06		
10	+75	1-06		

(11+46.17) 26-38 L

10+61.13 P.C.

N71-46W N75-30W

8+80.32 P.O.T.

814.71

6+00 P.O.T.

Waterway Span { 12+65 (2) 12+70 bot. at draw 12+40

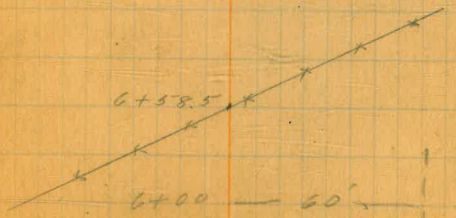
60'

Waterway Span { 11+00 10+90 bot. at draw 10+75

P.C. 60'

60'

7+59 7' ø Tel. pole



60'

5'/28

22+82.26 P.O.T.

1089.26'

18+36.57 P.O.T.

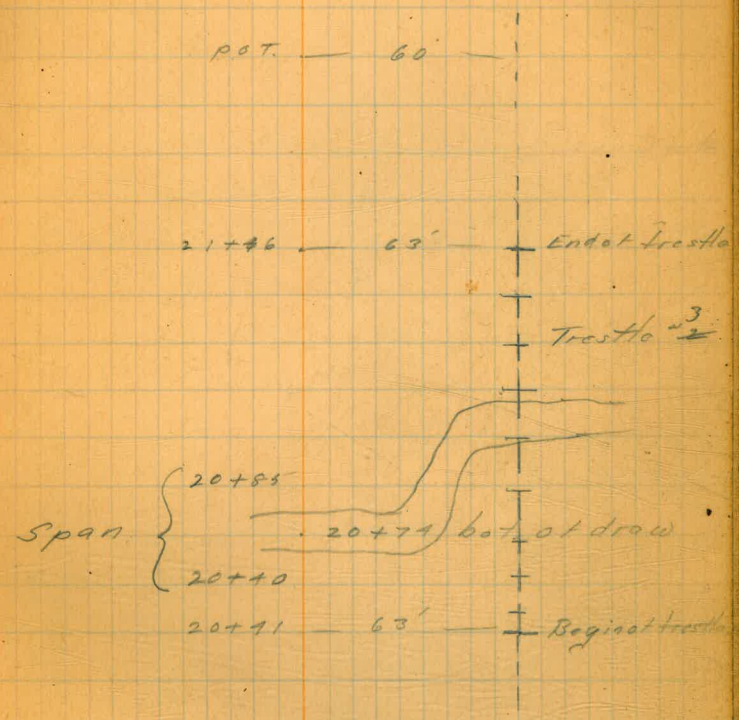
S84-06W S83-30W

15+20.26 P.T.

Δ 5°-30' R
D 8
T 31.13
L 68.75
R 71.6.78

(14+85.96) 5°-30' R

14+51.53 P.C.



Sta Petlec Bear Mag.

681.18

27+00 P.O.T.

N 87-30W N 88-30W

D 8°-04' R
D 8
T 50.54
R 716.78
L 100.83

26+16.39 P.T.

(25+66.10) 8-04 R

25+15.56 PC

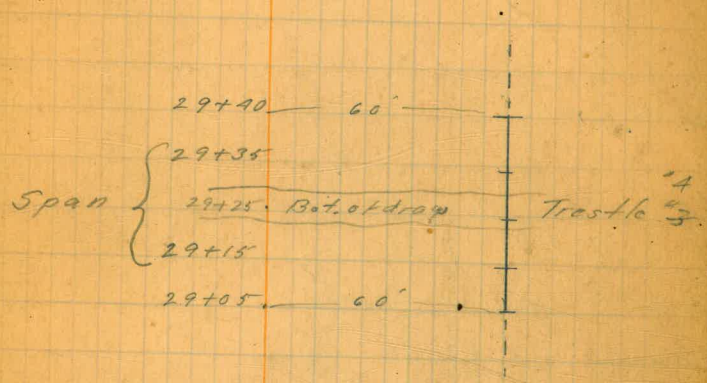
S 84-06W S 83-30W

24+64.90 P.O.T.

Parker
Converse
Hill
Elliot
Simpson

6/11/29
Clear

5



P.I. 60'

P.O.T. 60'

P. 25

St. Sta. Detlec. Bear Mag.

S 83-09 W

37+11.45 1-03 R?

27+

35+41 P.O.T.
1-67.1 L

26+1

467.67

26+0

S 84-06 W S 83-30 W

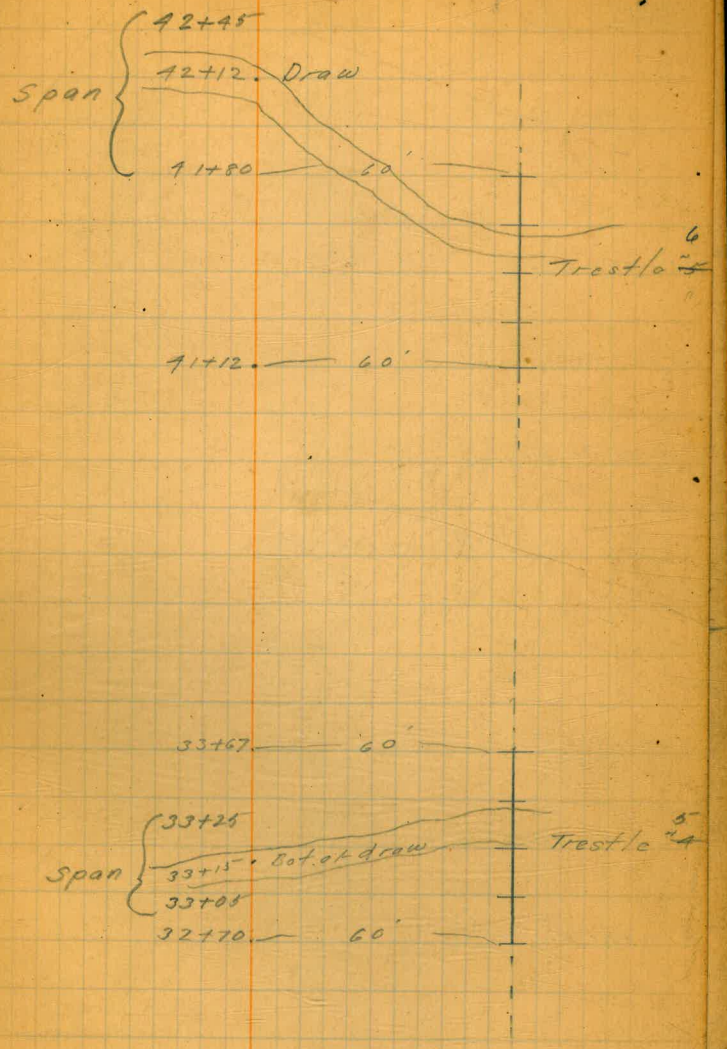
25+1 32+97.32 P.T.

A 8-04 L
D 8
T 50.57
R 716.79
L 100.83

32+47.03 8-04 L

24+9 31+96.19 P.C.

6



Sta.	Defl.	Bear.	Mag.
56+03.11 P.O.T.			
		S 54-40 W	S 54-30 W
57+73.22 R.T.			
61+09.18	10-14 L		
53+45.30 P.C.			
		S 64-54 W	S 65° W
49+47.97 P.T.			
48+85.57	10°-30 20°-15 L		
48+21.41 P.C.			
47+42.52 P.O.T.			
		S 85-09 W	S 84-30 W
43+00 P.O.T.			

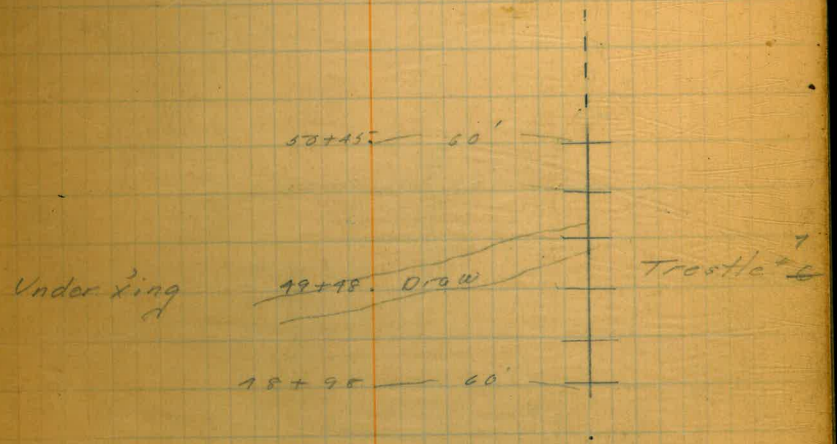
408.26

525.67

1174.12

Δ 10-14 L
D 8
T 64.18
R 716.78
L 127.92

Δ 20-15 L
D 16
T 64.16
R 359.26
L 126.56



S 79 Dettec Bear Mag

S 79 - 05 W S 79 W

(61+20.70) 8°1.0' 1-05 R

62+89.51 P.O.T.

605.18

S 75-00 W S 75 W

58+79.26 P.T.

(58+17.30) 20-20 R

57+52.87 P.C.

Δ 20-20 R
D 16
T 64.13
R 359.26
L 127.08

Porter

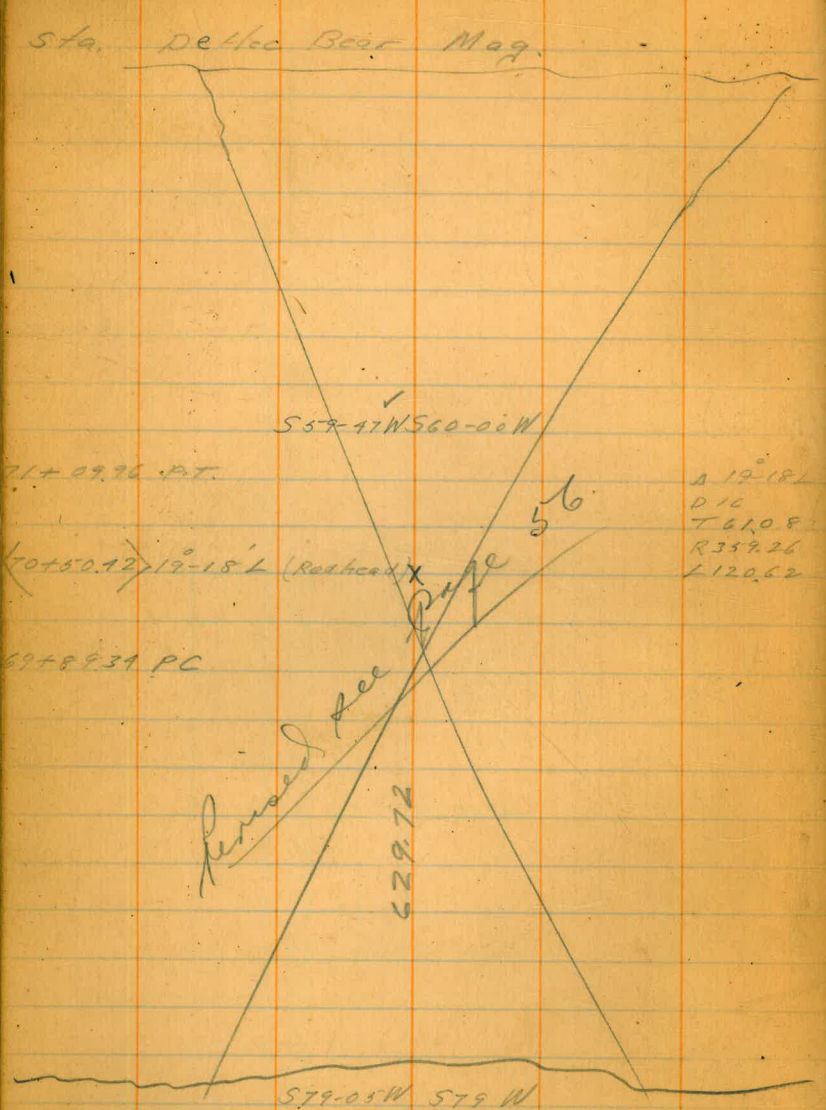
61+61.5

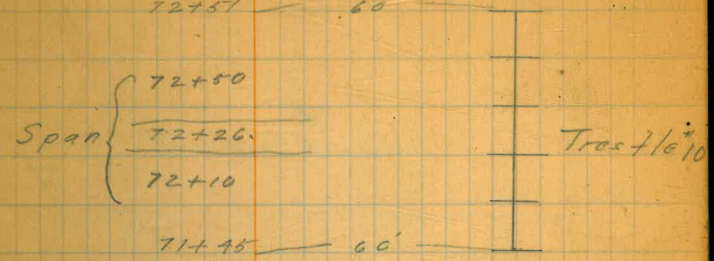
61+15 — 60'

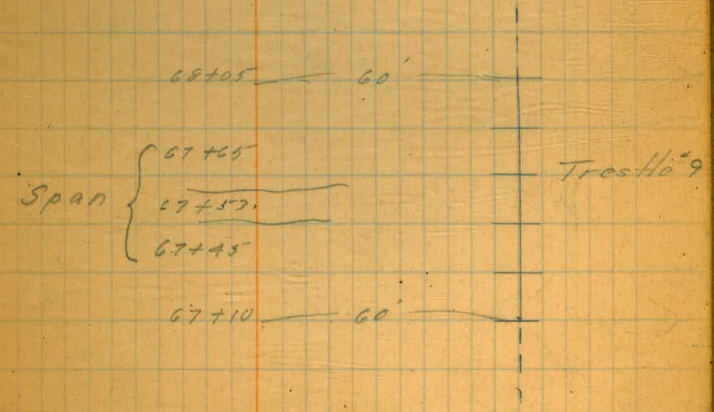
Span { 60+66 / 60+56. / 60+46 }

Trestle 10'7" 8

60+11. — 60'


Sta. Delta Bear Mag.
S57-47W560-06W
71+09.96 P.T.
Δ 19°-18' L
D 1°
T 61.08
R 359.26
L 120.62
(70+50.12) 19°-18' L (Reduced)
69+88.94 PC
Revised Tee
629.72
S79-05W 579 W
65+00 P.O.T.


72+51 — 60'
Span
72+50
72+26.
72+10
Tres H 6"10
71+45 — 60'


68+05 — 60'
Span
67+65
67+53.
67+45
Tres Ht "9
67+10 — 60'

Sta Datec Bear Mag.

S48-33W S48-30W

80+36.66 P.T.

(80+01.78) 11°14' L

79+66.48 P.C.

Δ - 11-14 L
D 16
T 38.33
R 359.26
L 70.21

Bear Range 57

Remarks

92-3 40

77+90 P.O.T.

76+82.39 P.O.T.

75+60.12 P.O.T. (Redhead)

Span { 79+40 / 79+13 Draw / 78+90

78+19 — 60' —

77+55 — 60' — Trestle "A"

Sta Deflec Bear. Mag.

S79-13W S80°W

87+98.96 P.T.

153-48-30
(84+83.60) 76°-54'R

Δ 76-54R
D 16
T 285.24
R 359.26
L 480.62

83+18.34 P.C.

381.68

84+25.81 P.C.T.

S2-49W S3°00'W

83+03.34 PT

Δ 45-44L
D 16
T 81.77
R 193.16
L 156.44

91-28
(82+32.12) 45°-44L

81+30.93 PC.

N31.09

S48°33'W.

80+36.66 P.T. "A" Line = See Page 57
80+47.66 P.O.T. "B" Line

Equation -

Parker 6/17/29 Clear
Converse
Elliot
Simpson

11.

X R.I. — 136' —

P.T. — 60' —

81+97 — 60' —

Span { 81+60
81+51 Draw
81+40

Trestle #12

80+85 — 60' —

Sta. Petloc Bear Mag

97+41.82 P.O.T.

96+76.50 P.O.T.

94+76.86 P.O.T.

91+02.70 P.O.T.

S79-43W S80°W

89+02.11 P.O.T.

99+00 — 60'

Proposed Trestle { 98+75 / 98+55 · Draw / 98+22 — 60'

Trestle #4

93+60 — 60'

Proposed Trestle { 93+22 / 93+03 · Draw / 92+88

Trestle #3

92+30 — 60'

P.O.T. — 60'

6/17/29 clear + warm
Parker
Converse
Hill
Elliot
Simpson

Sta. Deflec Bear. Mag.

S 69-26W S 60° W

106+43.6C P.T.

Δ 20°-17' L
D 16
T 64.37
R 358.26
L 126.77

40-34
105+81.26 20°-17' L

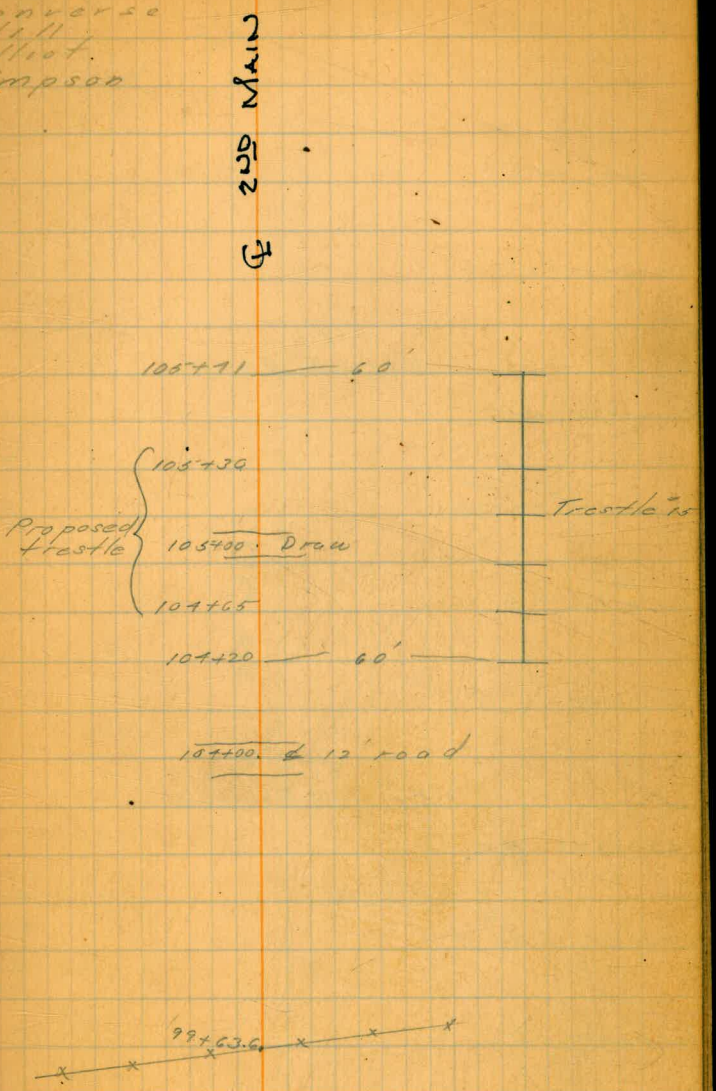
105+16.89 P.C.

S 79-13'W S 80° W

101+93.78 P.O.T.

100+80.18 R.O.T. Redhead

99+92.81 P.O.T. " "



Sta. DeHee. Bear Mag.

118+00 P.O.T.

116+06.25 P.O.T.

N81-16W ✓ N81°W

115+09.29 P.T.

Δ 27-42R
D 16
T 88.58
R 359.26
L 173.12

5-5-27
114+24.75 27-42R

36.17
113+~~27.67~~ P.C.

111+16.97

S71-02W ✓ S71-30'W

109+73.93 P.T.

Δ 11°-36' R
D 8
T 73.02
R 716.78
L 145.00

23-12,
109+01.95 11°-36' R

108+28.93 P.C.

108+02.28 P.O.T.

6/18/29 Clear & Warm
Parker
Converse
Hill
Elliot
Simpson

14

P.O.T. ✓ 60' ✓

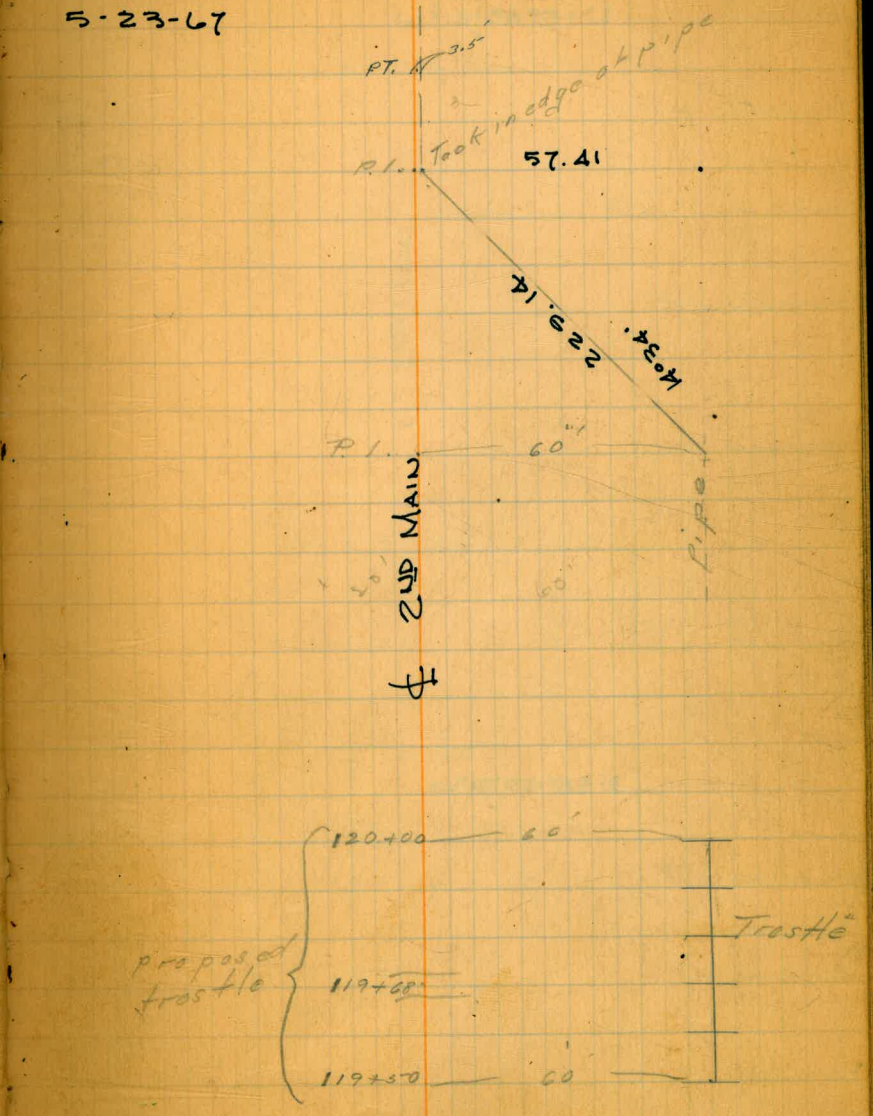
2nd MAIN

P.O.T. ✓ 60' ✓

Sta.	Detail	Beat	Mag.
		N 80°57'21"W	
		N81-16W	N81°W
130+18.8	P.T.		
129+28.00	17°-36'L	P.I.	Δ 17-36 L D 8 T 91.82 R 716.78 L 182.08
128+36.18	P.C.	N66°21'21"W	
	45.71	N66-12W	N66-30W
127+90.47	R.T.		
	29-08		Δ 17-34 R
127+00	17-34 R	P.I. Set Hub Book W 283 - 3	D 8 R 716.78 T 91.61 L 182.08
126+08.39	P.C.		
123+32.61	R.O.T.		
120+81.24	R.O.T.		
		N80°55'21"W	
		N81-16W	N81°W

INK = HATCH

5-23-67



Sta. Defl. Bear. Mag.

N 15° 49' 21" W

N 16-10 W N 16° W

140+89.30 P.T.

R 1.23-10 R
D 16
T 73.65
R 359.26
L 147.79

140+18.16 46-20, 23° 10' R

139+44.51 P.C.

139+44.11 P.O.T.

N 38° 59' 21" W

N 39-20 W N 40° W.

R 1.41-5 R
D 24
T 92.21
R 240.49
L 174.86

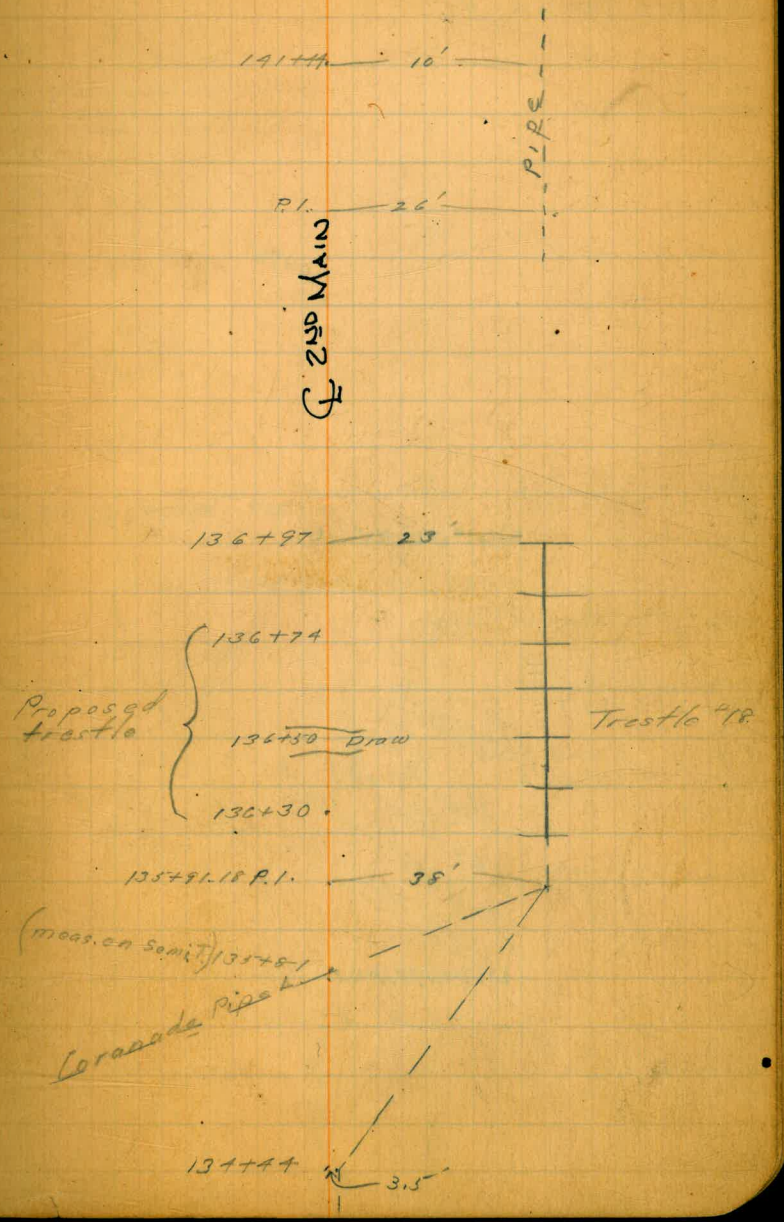
136+73.80 P.T.

135+91.18 83-56, 41-5-8 R

134+98.94 P.C.

135+26.80 P.O.T.

?



Sta. Dallec Bear Mag.

151+69.62 P.O.T.

149+97.28 P.O.T.

148+26.39 P.O.T.

N61°00'21"W

N61-21W N61-30W

145+93.51 = 145+86.11 P.O.T. Equation —

145+13.51 P.O.T. =

P.I. 87-14 N
145+47.87 43-32 L

W61°21'W

Common Tangent

Reverse Tangent

to @ 9.5 Normal Tangent

Sta 145+93.51 = 145+86.11

145+02.23 PC P.O.T.

N17°23'21"W

N17-44W N19°W

142+86.27 1-31 L

145+	21-06	
+80	20-13	P.I. 43-32 L
+70	17-37	D 5-20
+60	15-01	T 45.64
+50	12-25	R 1149.06
+40	9-49	L 83.88
+30	7-13	
+20	4-37	
145+10	2-01	

Parker
Converse
Hill
Elliot
Simpson

6/19/29
Hot

← AGREE

17

INK: HATCH
5-24-67

147+16
147+42
Field
cultivated

146+33 — 62.0 — Portal exist. tunnel (on curve)

146+29.63 (FOUND PEG)

(proposed)
Tunnel Portal 145+93.06 — 48.31 — (on curve)

37.5

P.I. — 14' —

Pipe

145+00 — 15' —

℄ 2nd Main

Sta. Deflec. Bear. Mag.

Contd. on Page #20

172+05.50 P.O.T. Ahead
172+08.97 P.O.T. Back = Equation –

N31-22W N30-W

170+30.95 P.T.

+30.95	13-29½'	
+25	13-03	
170+00	11-03	Δ 26-59 R
+75	9-03	D 16
+50	7-03	T 86.19
25	5-03	R 359.26
169+00	3-03	L 168.65
168+75	1-03	

5-3°-5-8'
169+47.99 26°-59'R ✓ NW

168+61.80 P.C.

167+65.06 - N. Portal — Plans changed to use above alignment.

166+72.94 P.O.T.

163+99.11 P.O.T.

N61-21W N61-30W

156+53.83 P.O.T.

172+08.97 . So. Portal #2.

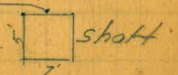
Span { 171+00. / 170+99. Draw / 170+80

(on curve) 168+85

167+65.06 No. Portal #1

166+72.94 —— 65' —— Portal axis tunnel

156+53.83 —— 65'



6/21/29 Hot

Parker
Converse
Hill
Elliot
Simpson

Sta. Deflec. Bear Mag.

N34-22W N34-30W

171+98.98 ~~P.T.~~ = Equation
172+02.45 P.O.T.
171+58.87 9°-40' R
171+18.42 ~~P.C.~~
P.O.T.

171+98.98 4'-30 Δ 9-40R
+75 3-24 D 12°
+50 1-54 T 40.95
171+25 0°-24' R 476.71
L 80.56

Void

18

See Page 19 10/23/29

N41-02W

168+78.54 P.T.

168+26.02 = 17°-19'R

167+70.31 P.C.

167+65.06 P.O.T.

168+78.54 8°-39½' Δ 17-19
+75 8-23 D 16
+50 6-23 T 54.71
+25 4-23 R 359.26
168+00 2-23 L 108.23
167+75 0°-23

P.I. — 65'

171+03

170+93. Draw } Span

170+83

170+53

Void

167+50 — 37' —

168+91.6

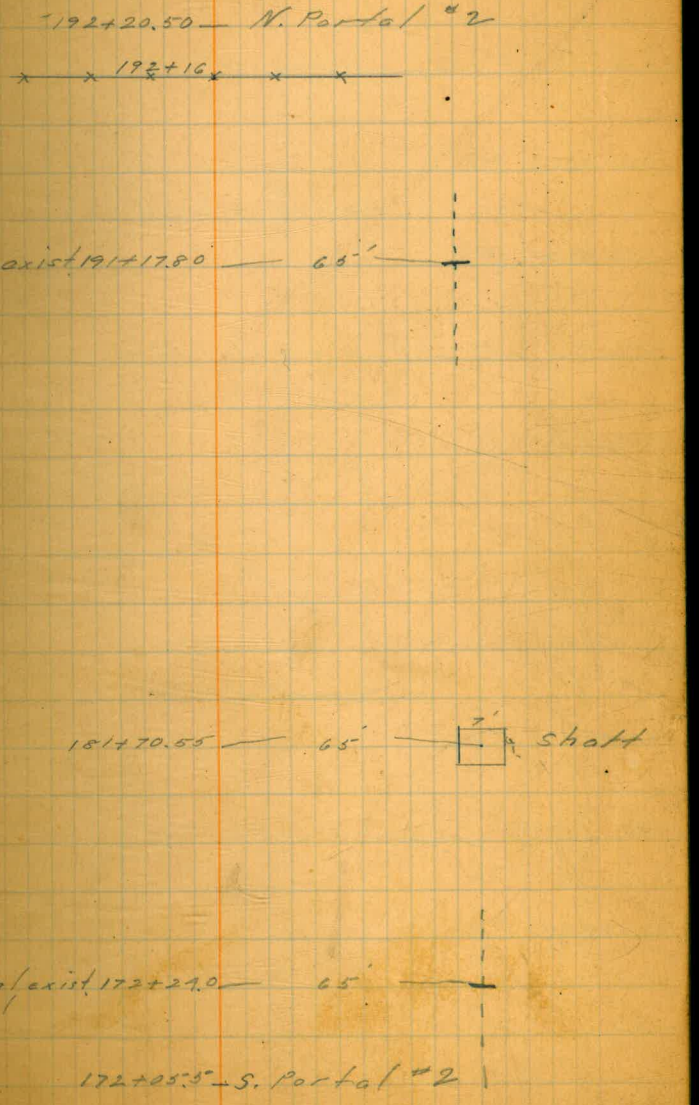
P.I. — 63' —

P.I. 20

167+65.06 — W. Portal

Sta.	Deflec.	Bear. Mag.
192+20.50	P.O.T.	
191+92.26	P.O.T.	
191+17.80	P.O.T.	
187+97.70	P.O.T.	
186+72.68	P.O.T.	
181+70.55	P.O.T.	
176+36.70	P.O.T.	
		N31-22'W N39-30W
172+05.50	P.O.T.	= Equation
172+08.97	P.O.T.	

Contd. from Page #18.



Sta.	Deflec.	Bear.	Mag.	
202+31.80	P.T.			
				Δ 8°-00' L
				D 8
201+81.92	8°-00' L			T 50.12
				R 716.78
				L 100.00
201+31.80	P.C.			
		N 18-41 W	N 19-30 W	
199+96.01	P.T.			
				Δ 26-09 R
				D 16
198+66.00	26°-09 R			T 83.43
				R 358.26
				L 163.44
197+82.57	P.C.			
		N 44-50 W	N 46° W	
195+27.77				
				Δ 10-25 L
				D 8
194+62.60	10°-28' L			T 65.66
				R 716.78
				L 130.83
193+96.94	P.C.			
193+81.65	P.O.T.			
		N 34-22 W	N 34-30 W	

P.I. — 19' —

P.I. — 62' —

197+07

193+75 Draw under xing

P.I. — 55' —

Sta. Delta. Bear. Mag.

212+05.19 P.O.T.

208+19.20 P.O.T.

205+97.88 P.O.T.

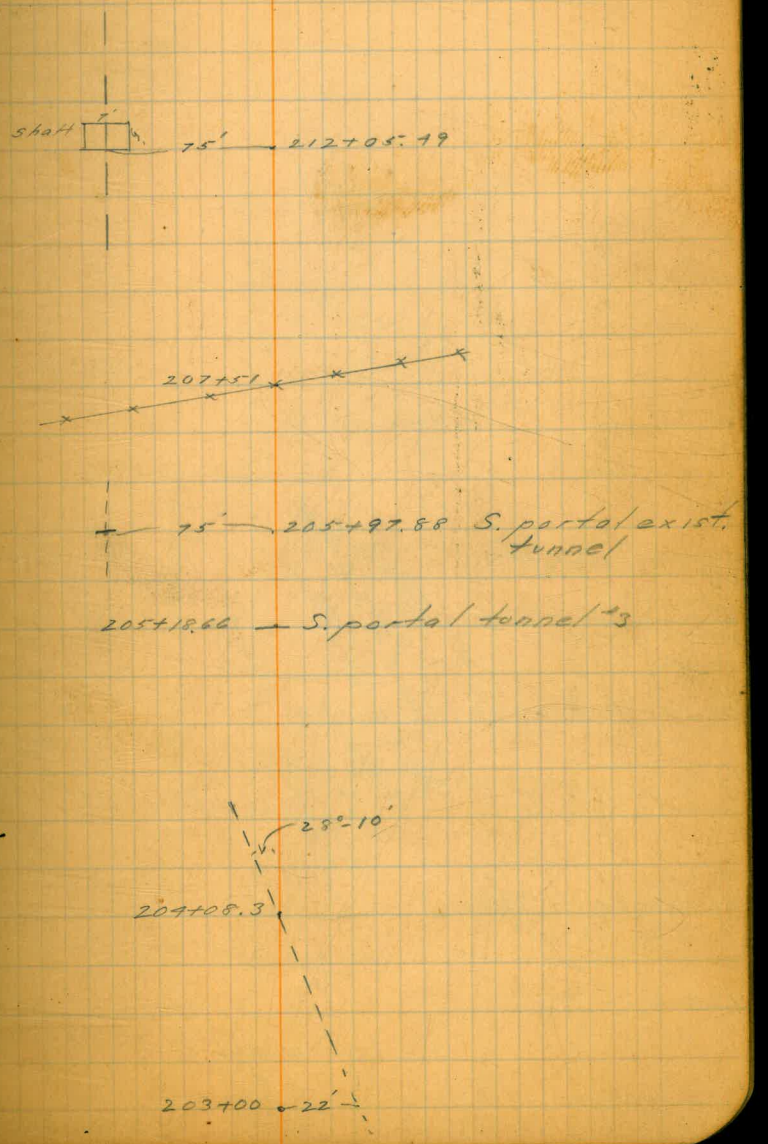
205+18.66 P.O.T.

204+95.70 P.O.T.

204+08.3 P.O.T.

203+85.85 P.O.T.

N26-1/2W N27°W



Sta Deflec. Bear. Mag.

225+97.2

N81-27W N81-30W

225+63.25 = 225+44.86

~~225+44.86 P.T.~~

121-31½'

224+85.0 60°-9 L

~~224+05.28 P.C.~~

224+05.28 P.O.T.

220+01.00 P.O.T.

N26-31W N27°W

225+ 44.86 30-23
+40 29-19
+30 27-17
+20 24-31
225+00 22-31
+90 19-19
+80 16-07
+70 13-55 Δ 60°-9'L
+60 11-43 D 27
+50 9-31 T 28.25
+40 7-19 R 133.47
+30 5-07 L 138.11
+20 2-55
224+10 0°-43

Equation

Back tangent
Same Δ 60°-9'L
Same
on tangent

225+63.25 = 225+44.86

227+00 — 27' — 19.4 — 13
25' — 226+70
Road
3'
226+10 — 4'-6" — 36" valve
225+97.2 — 19.6 — 27° (for 20' chord)
225+92 — 10'
Pipe — 25' — P.T. — 36" pipe to Spruce
(on curve) 225+20 — 45'

Changed to 224+18.66
by A.K. Parker Sept 2
P.O.G.

6' — 21' — 224+16 (on semi T.)
Pump House — 75' — 224+05.28 N. portal exist. tunnel 7'0"
14' — 224+00 proposed tunnel
36" pipe to 25.0 on hill
223+60

Sta. Defl. Bear. Mag.

241+00 P.O.T.

238+90 P.O.T.

N78-09W N78°W

8-15½'
233+57.70 4°-08 L

N74-01W N74°W

231+67.46 P.T.

Δ 13°-26 R
D 12
T 96.32
R 478.34
L 111.91

231+11.86 13°-26 R

230+55.52 P.C.

Porter
Converse
Hill
Elliot
Simpson

6/24/29

24

241+00 — 23'

238+90 — 23'

236+00 — 23' — Pipe
49'

234+88 — 43'

234+29 creek

233+55.46 — 31'

road

14' — P.I.
40'

road

Sta. Deflec Bear Mag.

S61-15-W S61-30W

251+66.60 P.T.

Δ 18-10 L
D 16
T 57.94
R 359.26
L 113.54

36-20
251+10.50 18°-10' L

250+53.06 P.C.

S29-35W S30°W

4
25[illegible]+57.57 P.T.

Δ 21-56 R
D 16
T 69.62
R 359.26
L 137.08

13-52
4
21+90.11 21°-56 L

4
2[illegible]+20.49 PC

243+12

N78-09W N78°W

251+76 — 56'

Span { 251+66 — Trestle
+40. Draw
251+16.

P.I. — 48'

P.C. — 56'

250+00 — 60'

246+40 — 60'

227+00 — 60'

P.I. — 26'±

Note One span 244+17 to 244+29

Peggy Canyon Creek

244+29
244+17
244+00 — 21'
243+72 — 25'

Sta. Deflec. Bear. Mag.

N89-25W West

262+71.21 P.O.T.

N89-25W N87-30W

258+86.33 P.T.

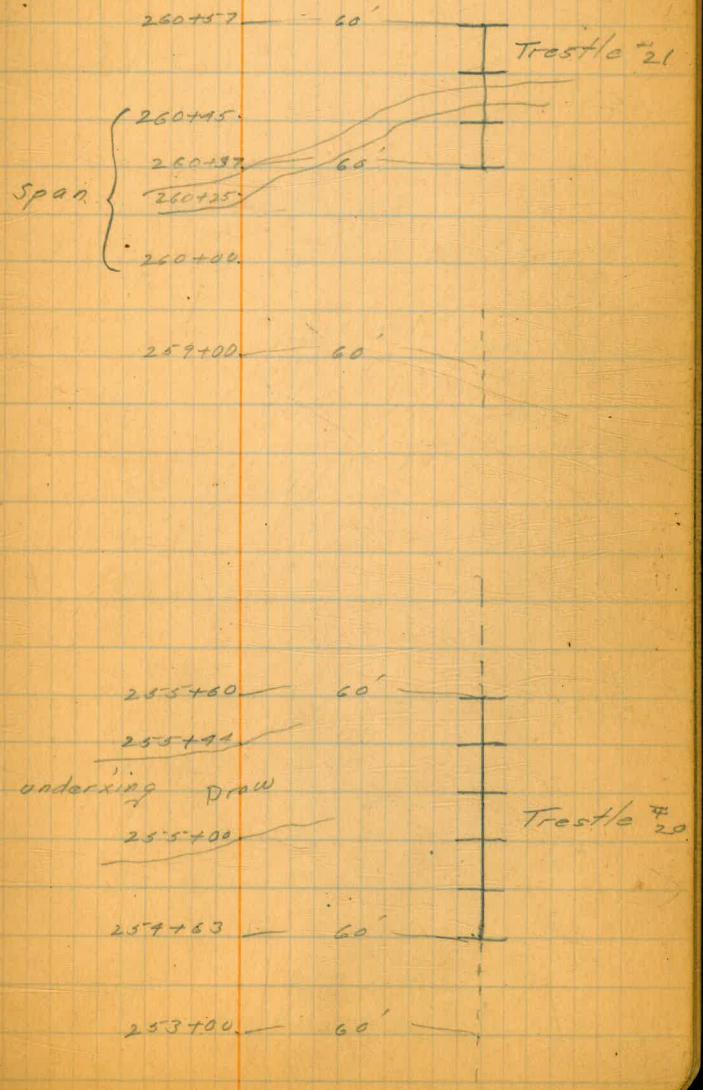
57-70,

257+98.77 28°-50 R

257+0C12 P.C

S61-45W S61-30W

A 28°-50 R
D 16
T 92.35
R 359.26
L 180.21



Sta. Petlec Bear Mag.

S63-09W S63°W

269+52.33 P.O.T. Redhead

267+59.75 P.T.

51-52
266+75.98 27-26L

265+88.29 P.C.

Δ 27-26L
D 1C
T 87.69
R 359.26
L 174.46

N89-25W West

271+22 — 60'

270+71

Span { 270+50 Draw

270+00

269+77 — 60'

Trestle #23

263+70 — 60'

265+35

Span { 265+10 Draw

264+85

264+58 — 60'

Trestle #22

263+58

Sta.	Deflec.	Bear.	Mag.
			+ 05.42 28°-00'
			281+00 27-34
			+ 75 25-34
			+ 50 23-34
			+ 25 21-34
281+05.42	P.T.		280+00 19-34
			+ 75 17-34
			+ 50 15-34
			+ 25 13-34
279+46.44	35°-00' R		279+00 11-34
			+ 75 9-34
278+13.23	P.O.S.T.		+ 50 7-34
			+ 25 5-34
277+53.42	P.C.		278+00 3-34
			277+75 1°-34'

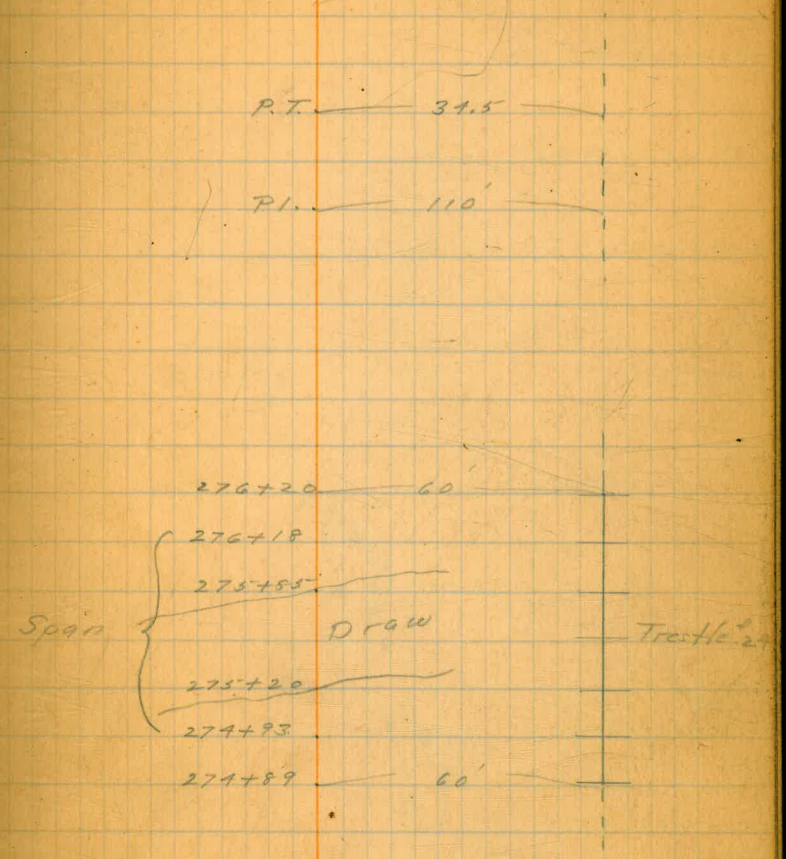
Δ 46°00' R
D 16
T 191.02
R 359.20
L 350.00

276+86.33	P.O.T.	Redhead
274+30.77	P.O.T.	Redhead

S81-38W ✓ S81°W

273+47.90	P.T.	
272+71.70	18°-29' R	
271+93.87	P.C.	

Δ 18-29 R
D 12
T 77.83
R 478.34
L 154.03



Sta. Defl. Bear. Mag.

N50-05W N50° W

294+18.98 P.O.T.

293+66.83 P.O.T.

292+10 P.O.T.

58

286+86.17 P.O.T.

N50-05W N50° W

286+38.36 P.T.

15-26

285+90.21 7-43 L

Δ 7-43 L
D 8
T 48.36
R 716.78
L 96.46

285+41.89 P.C.

+15.48
284+15.40 See Page #58.

N42-22W N43° W

291+95 ℄ 10' road

287+80 — 50' — ⊥ S. portal exist tunnel
287+70.4 47.6

286+86.17 S. portal tunnel ⊥

P.I. — 23' —

282+90 } Backfill over pipe -
282+50 } Lay grade to surface

281+55 — 23' —

6/25/29

Parker
Converse
Hill
Elliot
Simpson

Clear

Sta Defloc Bear Mag

N39-30W N12-30W

301+90.87 P.T.

42-5-0
300+85.18 21-25 L

299+76.70 P.C.

N18-05W N21-30W

299+76.15 P.T.

298+77.17 32°-00' R

297+76.15 P.C.

297+91.7 P.O.T.

297+74.17 P.O.T

N50-05W N50° W

301 + 90.87 10°-42½'
+ 75 - 9-55
+ 50 - 8-10 Δ 21-25 L
+ 25 - 7-25 D 10
301+00 - 6-10 T 108.48
+ 75 - 4-55 R 573.69
+ 50 - 3-40 L 214.17
+ 25 - 2°-25'
300+00 - 1°-10'

299+76.13 - 16°-00
+ 75 - 13-54
+ 50 - 13-54 Δ 32°-00' R
+ 25 - 11-54 D 16
299+00 - 9-54 T 103.02
+ 75 - 7-54 R 357.26
+ 50 - 5-54 L 200.00
+ 25 - 3-54'
298+00 - 1°54'

See Page 58-59

P.T. —— 15' ——

P.I. —— 4' ——

P.C. —— 25' ——

perp. to back tang.
P.I. —— 65' L ——

298+45 Draw Note Span to be determined by Hydr. grade.

297+91.7 —— 65' —— N. portal exist. tunnel

297+74.17 — N. Portal tunnel "4

Sta. Detlac Bear. Mag.

N 47° 34' W

308+00 P.O.T.

N 11° 34' W N 18° W

306+59.29 P.T.

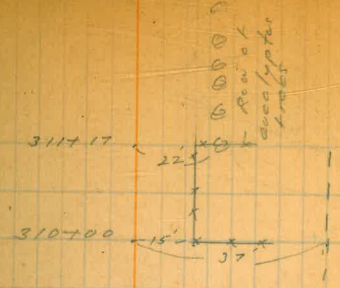
16-07-30
306+09.00 8-04 L

59° 6'

△ 8-04 L
D 8
T 50.59
R 716.78
L 100.03

306+58.16 P.C.

306+75.18 P.O.T.



309+~~91~~ Draw-under xing

309+19

P.I. 19.5

308+63 15.5 Hor. stop valve

Sta. Dallec Bear Mdg.

N78-18W N78-30W

321+68.88 P.T.

Δ 34-09L
D 16°
T 110.35
R 359.26
L 213.44

68-18
320+65.79 34-09L

319+55.44 P.C.

316+00

N41-09W N45°W

6-50.
312+14.09 3°-25R

309+72.07 N 47° 34 W

P.T. — 60'

P.I. — 40'

P.C. — 50'

316+18 ℄ 10' road

316+00 Bottom Telegraph Canyon (under x'ing)

314+28
Road
314+23

314+05 — 32'

313+19

312+14.09 — 29'
50'

Sta. Deflec. Bear. Mag.

N 52 48 W N 5 3° W

334+21.71 P.T.

Δ 14° 12 R
D 8
T 89.28
R 716.78
L 177.50

333+33.49 14° 12 R

332+44.21 P.C.

327+00 P.O.T. (Red head)

326+55.66 P.O.T.

N 67 10 W ✓ N 60° W

324+76.93 P.T.

Δ 11° 08 R
D 8
T 69.86
R 716.78
L 139.17

22° 16'
324+07.62 11° 08 R

323+37.76 P.C.

6/27/29 - clear

Parker
Converse
Hill
Elliot
Simpson

3291+0 Draw

3281+4 Road

P.T. —— 60' ——

P.C. —— 60' ——

Sta.	Deflec.	Bear. Mag.
		N33-33W N33-30W
348+22.30	P.T.	
347+91.59	39°-12' 19°-36 R	
346+58.97	P.C.	
346+36.61	P.O.T.	
343+60±	P.O.T. By W.H.S.	
340+37.80	P.O.T.	
		N6-3-09W N5-3-30W
338+15.90	1°-32' L	
		N48-37W N49°W
334+09.95	P.T.	
333+33.19	37-05-30 18°-33' R	
332+55.37	P.C.	

Δ 19°-36 R
D 12°
T 82.62
R 475.34
L 163.33

Δ 18-33 R
D 12
T 78.12
R 478.37
L 154.58

P.T. —— 60' ——

P.C. —— 60' ——

343+60± —— 37' ——

338+15.90 —— 23' ——

P.I. —— 65' ——

Sta	Delta	Bear	Mag
		N 59-~~30~~ 19 W	N 60° W
367+18.61	0°-28' 0°-14 L		
		N 59-~~36~~ 35 W	N 5-9-30 W
363+99.70	P.T.		
363+35.63	31-00 15°-30 L		
362+70.53	P.C.		
		N 11-~~36~~ 05 W	N 11-30 W
356+27.08	P.T.		
355+61.98	21-04-30 10°-32 L		
354+95.41	P.C.		
351+27.60	P.O.T.		
352+00.00	P.O.T. By W.H.S		
349+36.19	P.O.T.		

Δ 15°-30' L
D 12
T 65.10
R 478.34
L 129.17

Δ 10°-32' L
D 8
T 66.07
R 716.78
L 131.67

367+18.61	60'	
P.T.	60'	
P.C.	60'	
361+32 Draw		
P.T.	60'	
P.C.	60'	
351+19 Draw		

Sta	Deflec	Bear	Mag.
403+98.20	P.O.T.		
403+47.05	P.O.T.		
399+00.00	P.O.T.	By W.H.S.	
394+57.87	P.O.T.		
392+65.05	P.O.T.		
		N27-39W	N 28°W
390+71.69	P.T.		
389+18.93	64-19½	32°-10'R	
387+53.02	P.C.		
385+26.34	P.O.T.		
380+00.00	P.O.T.	By W.H.S.	
374+28.43	P.O.T.		
371+00.00	P.O.T.	By W.H.S.	

390+71.69	16°-05'	
+50	14-51	
+25	13-36	
390+00	12-21	
+75	11-06	
+50	9-51	Δ 32°-10R
+25	8-36	D 10
389+00	7-21	T 165.41
+75	6-06	R 573.69
+50	4-51	L 321.67
+25	3-36	
388+00	2-21	
387+75	1-06	

403+57 Road

402+80 Road

P.T. — 60 —

P.C. — 60 —

Sta.	Defl.	Bear.	Mag.
		N 8-~~44~~ 37 W	N 9° W
426+56.83	8°-14½' 4-07 L		
		N 7-~~33~~ 30 W	N 6° W
422+25.10	7-57-30 3°-59' R		
418+00.00	P.O.T. By W.H.S.		
		N 8-~~34~~ 29 W	N 8-30 W
417+36.19	P.T.		
	15°-11-30		
413+88.80	7°-36 R		
413+41.19	P.C.		
		N 16-~~00~~ 05 W	N 16-30 W
408+99.76	P.T.		
	23°-08'		
408+27.78	11°-34 R		
407+55.18	P.C.		

Δ 7°-36 R
D 8
T 47.61
R 716.78
L 95.00

Δ 11-~~°~~ 34 R
D 8
T 72.60
R 716.76
L 144.58

430+49 — 23' — 28° valve
430+35 — 30' — Wye

426+56.83 — 30'

422+25.10 — 60'

409+56 road

P.T. — 60'

P.C. — 60'

405+85 road

Sta. Defl cc Bear Mag.

143+05.24 P.O.T.

440+00 P.O.T. By w.l.s.

N8 20W N9°W

136+09.23 1°20' 0°-40' L

N7 10W N8°W

130+73.64 1°54' 0°-57' R

143+05.21 — 23' —

6" — R.P.

141+85

75-0"

50' ±

7' ±

136+09.23 — 23' — 33'

Concr. res. for Glen Abbey

134+00

Road

130+95

130+83 — 10' —

10'

Motor House

130+73.64 — 8' — 17' — 13'

Concr. chamber

130+64 — 11'

Sta. Defl°. Bear. Mag.

456+08.26 P.O.T.

N17 ~~22~~ 28 W N19°W ✓

454+22.91 P.T.

11°-24'
453+87.37 5°-12' R

Δ 5°-12' R
D 8
T 35.68
R 716.78
L 71.25

453+51.66 P.C.

451+00 P.O.T. W.H.S.

448+31.56 P.O.T.

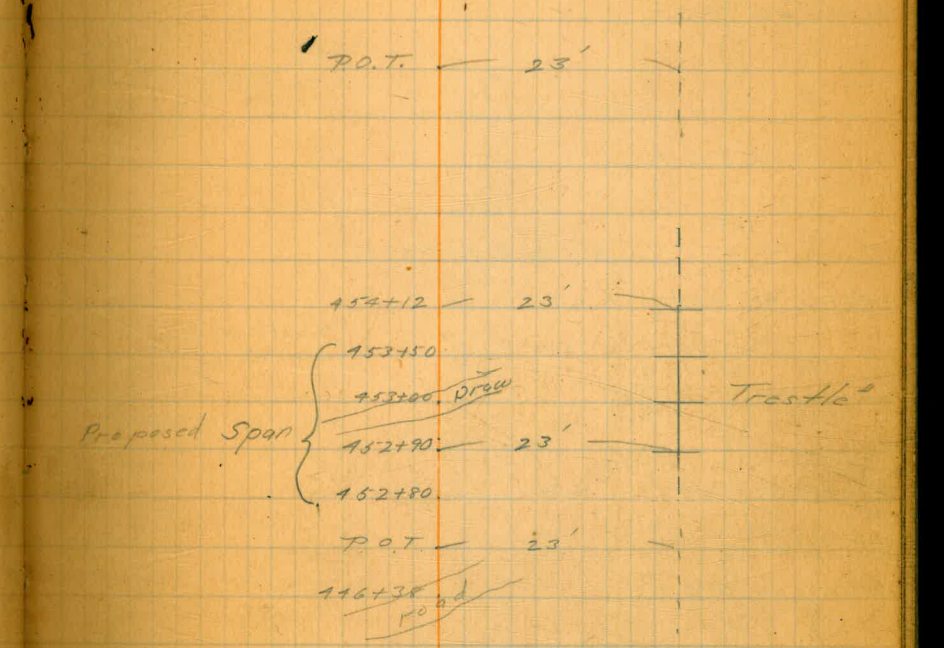
N23 ~~14~~ 10 W N24°W ✓

444+29.51 P.T.

29-40,
443+68.17 14°-50 L

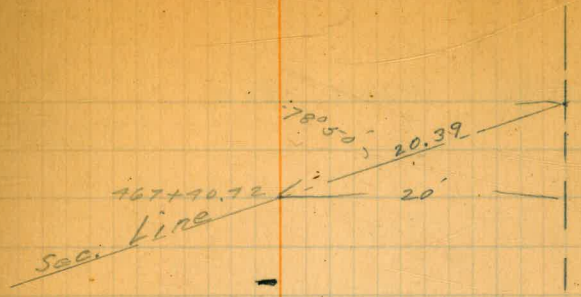
Δ 14°-50 L
D 12
T 62.27
R 478.34
L 123.61

443+05.90 P.C.



Sta.	Delec.	Bear	Mag.
467+10.72	P.O.T.		
466+64.48	P.O.T.		
		N 7-17 W ✓	N 7-30 W
466+36.88	P.T.		
466+02.21	20°-22½' 10°-11 R		
465+73.23	P.C.		
464+36.81	P.O.T.		
462+51.85	P.O.T.		
461+00.00	P.O.T.	3 y.w.n.s.	
458+00	P.O.T.		

Δ 10°-11' R
D 16
T 32.01
R 359.26
L 63.65'



Note.
Lay grade at surface with over hill.

PT — 20'

PC — 21'

458+68 — 23' — Begin. of riveted steel pipe

458+00 — 23'

Sta. Deflec. Bear. Mag.

469+25.69 P.O.T.

N 3° E

468+72.12 P.T.

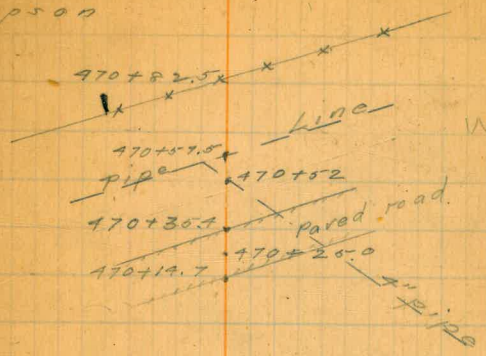
△ 18-39 R
D 16
T 33.48
R 359.26
L 63.65

468+46.34 18-09 R

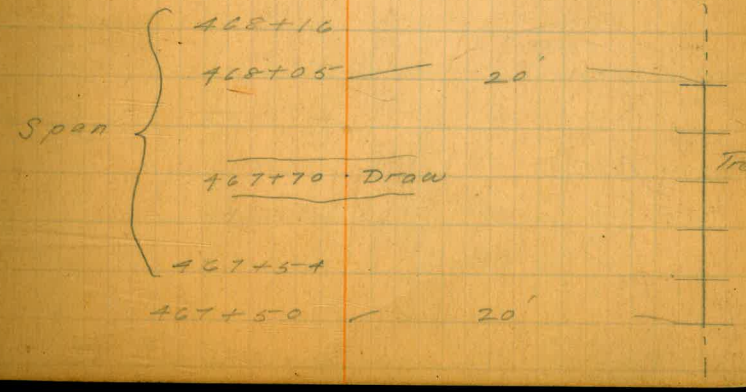
468+12.86 P.C.

7/6/29 Part cloudy

Parker
Converse
Hill
Elliot
Simpson



P.T. 20'



Sta. Dettee Bear Mag.

N17-32W N18°W

476
474+99.09 P.O.T.

474+35.18 P.T.

41-47-30
473+90.81 20°-51 L 20° 51 Turned

Δ 20°-51 L
D 4°
T. 66.26
R 359.26
L. 130.63

473+24.55 P.C.

482+80 — 20' — 6" blow off

479+32 — 5'

old Concrete Bridge (Superseded)

479+18

2.2' — 8' — 478+90

P.T. — 20'

20
23'

471+18 — 2' — 4.5 — 12" pipe — 6' — 4

Concrete Blowoff chambers

S to. Dollar Bear Mag.

487+72.59 P.O.T.

487+53.55 P.O.T.

N 18 03 ✓ N 18-30 W

485+13.78 P.T.

484+69.32 24°-16 R

Δ 24°-32'
D 16°
T 77.24
R 359.26
L 151.67

483+92.05 P.C.

165.63 Sam. to

N 42° 19' ✓ N 43° W

483+82.42 P.T.

483+06.16 24°-17 L

19°-33'-30"

483+26 ℄
24°51'15" LT

Δ 24°-17' L
D 16°
T 78.93
R 359.26
L 154.89

482+27.23 P.C.

7/6/29 OKP

Parker
Converse
Hill
Elliot
Simpson

clear

487+53.55 6'

485+71.78 6'

486+27 12" eucalyptus

483+62.00 6' offset for tree

6 6 6 6

488+10 Begin at eucalyptus grove

484+80

Road

Road

14' 16' 483+72 Bk. Ab.

483+83.8

483+78.7

17

18'

Span { 483+63 / 483+18

P.I. 28'

P.C. 20'

Bridge

Sta. Deflec Bear Mag

N18 10 W ✓ N12-30W

494+79.51 P.T.

14°-05'
7°-03' L
7° 03' 10" It Turned (Daw)

Δ 7°-03' L
D 12°
T 29.47
R 478.34
L 58.75

494+20.76 P.C.

N11 07 W ✓ N11-30W

493+39.62 P.T.

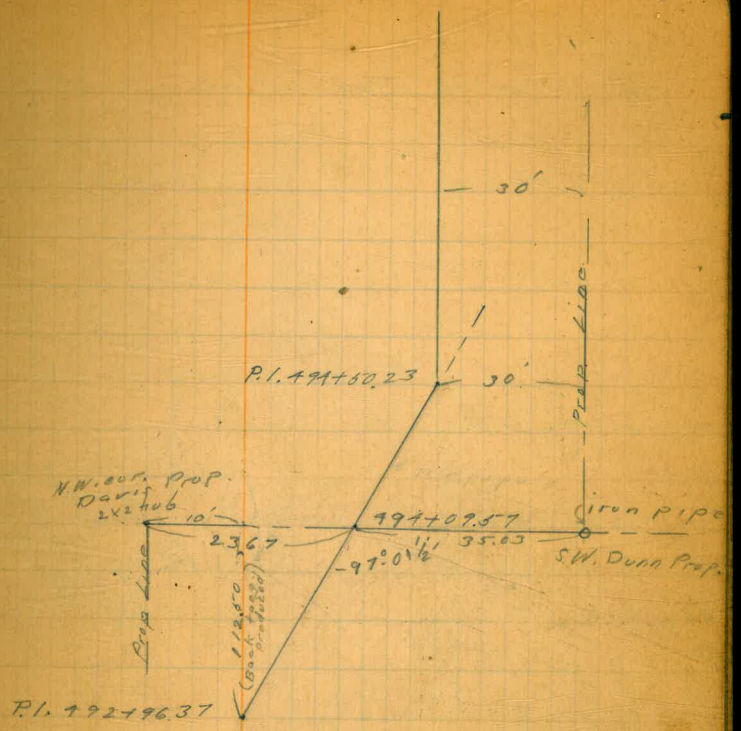
13-52
6°-56' R

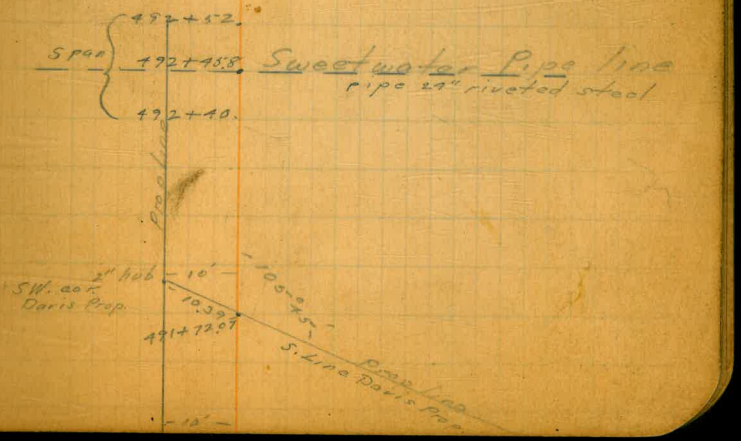
Δ 6°-56' R
D 8°
T 43.42
R 716.78
L 86.67

492+96.37

492+52.95 P.C.

491+72.07 P.O.T.





Sta. Deflec. Bear. Mag.

508+29.53 P.O.T.

50E
N37-40E N57-30E

506+66.48 P.T.

506+12.78 56°-00 R

505+44.91 P.O.S.T.

505+44.71 P.C.

505+27.24

504+12.97 P.O.T.

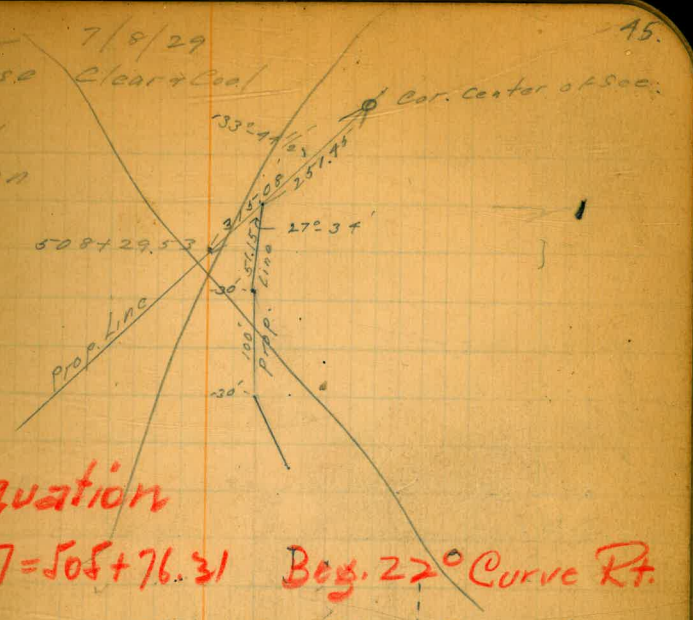
501+00 P.O.T. By W.N.S.

498+00 P.O.T.

496+32.21 P.O.T.

Void
To be relocated later
See Loose sheets marked
Revision at sta. 500
(Dunn's Prop.)

Parker 7/8/29
Converse Clear + Cool
Hill
Elliot
Simpson



Equation
505+79.57 = 505+76.31 Beg. 27° Curve Rt.

505+44.91 — 30 — Begin of course N 7°-20' E

501+21 — 31.2

498+54 — 30.5

496+32.21 — 30.0 — 2 x 2" hub V.W. cor. on Prop.

Sta Defl ec. Bear. Mag.

522+45.61 P.O.T.

515+95.36 P.O.T. by miks

510+46.73 = 510+36.49 P.O.T. 15-32 W N 6° W from Lease Leng Pg 46

Equation

510+36.49 P.T.

S 43-22 L
D 16
T 142.85
R 357.26
L 271.04

S 6-41-30
509+08.30 43-22 L

507+65.45 P.C.

517+22 — 60'

516+89.5

516+70 +

Span
1-20' + 2-12.5'

576+61 — 60'

516+49.5

P.T. — 60'

P.I. — 60

P.C. — 271.04

Sta. Pebble Bear Mag.

N12-11E ✓ N11-30E

539+60.28 P.T.

(Turned 17°42'20 Bow 20/2/57)

Δ 17°-43 R
D 8
T 111.71
R 716.78
L 221.46

35°-26'
538+50.53 17°-43 R

537+38.82 P.C.

533+00.00 P.O.T. B/W 45 32 ✓ N5-55W N6°W

529+73.97 P.O.T. Redhead

527+30.67 P.O.T.

Parker
Converse
Hill
Elliot
Simpson

7/9/29
Warm

~~540+32. Road~~

P.T. — 60' —

P.C. — 60' —

~~527+40. Road~~

P.O.T. — 60' —

Span
526+40
~~526+22. Draw~~
526+00

Sta.	Deflec.	Bearing	Mag.
		N21-05-W ✓	N21-30W
557+57.20	P.O.T.		
556+16.90	P.T.		
555+66.81	16-04-30, 8°-02-L		
555+16.48	P.C.		
551+10.81	P.O.T.		
551+66.07	P.O.T.		
548+40.17	P.T.	N13-03-W ✓	N12-30W
547+62.81	5°-28', 25°-14'-L		
596+82.96	P.C.		

Δ 8°-02-L
D 8
T 50.33
R 716.74
L 100.32

Δ 25°-14-L
D 16
T 89.41
R 359.26
L 157.71

P.T.	60'	
P.C.	60'	
550+50	60	
Span 549+85		Trestle
549+65 Draw		
549+35		
549+21	60'	
P.T.	60'	
P.C.	60'	

Sta Detlac Bear Mag.

~~N30-59W~~ N31-30W

566+80.34 P.T.

566+18.67 19-18. 9°-5-1 L (9°49'45")

565+56.59 P.C.

565+06.83 P.O.T.

562+86.41 P.O.T.

Δ 9°-5-1 L
D 8°
T 62.08
R 716.78
L 123.75

Span { 567+77 / 567+57. Draw / 567+37

P.T. 60

9°50'90 according (2/13/57 C.A.W. To RR Hubs)

P.C. 60

562+63. ~~Road~~

Span { 560+61 / 560+41. Draw / 560+21

Sta. Detlec. Bear. Mag.

N55-~~47~~W ✓ N56°W

570+70.34 P.T.

19-35-30
569+94.33 24°-18'L (24°53'00") ck.

Δ 24°-18'L
D 16
T 178.94
R 359.26
L 1655.0

569+15.34 P.C.

39.93
34.48
1.40

573+35 — 60' — Trestle

573+06 — 60'

underxing 572+83 Draw

571+42 — 60'

571+30

Span 571+19. Draw — Trestle

571+09

570+70 — 60'

P.T. — 60'

P.C. — 60'

Sta.	Defl.	Bear.	Mag.	
583+95.74	P.T.			
582+90.63	69-44 34°-52' R			Δ. 34°-52' R D 16 T 112.81 R 359.26 L 217.92
581+77.84	P.C.			
579+03.70	P.O.T.			
		N 13°39' W	N 15° W	
575+53.07	P.T.			
575+01.80	21-16-30 12°-08' R	(ck.)	(13°07'30")	Δ 12°-08' R D 12° T 50.81 R 478.34 L 101.11
574+53.96	P.C.			
573+08.36	P.O.T.			

P.T. 23'

P.C. 60'

579+55 road

577+64 60'

Trestle

577+08

Span

576+77 Draw

576+62 60'

576+18

575+76 road

Sta.	Defl.	Bear.	Mag.
		~~N7-32W~~ 29	N8°-00'W
601+27.18	4°-38' 0°-39' R		
597+97.41 ~ P.O.T.			
		~~N8-32W~~ 28	N9°00'W
594+77.20	6°-38' 3°-19' R		
		~~N11-47W~~ 47	N12°-30'W
588+13.79	6°-00' 3°00' L		
		N8° 47' W ~~N8-47W~~ W	N9-30 W

601+27.18 — 59.5

595+11 Draw

594+77.20 — 60'

593+60

593+17 Road

592+65

592+61 — 48'

Span

592+36 Draw

Trestle

592+05

592+02 — 45'

588+13.79 — 23'

Sta. Deflec. Bear. Mag.

611+86.02 P.T.

Δ 32°-35' L
D 16°
T 105.00
R 358.20
L 203.66

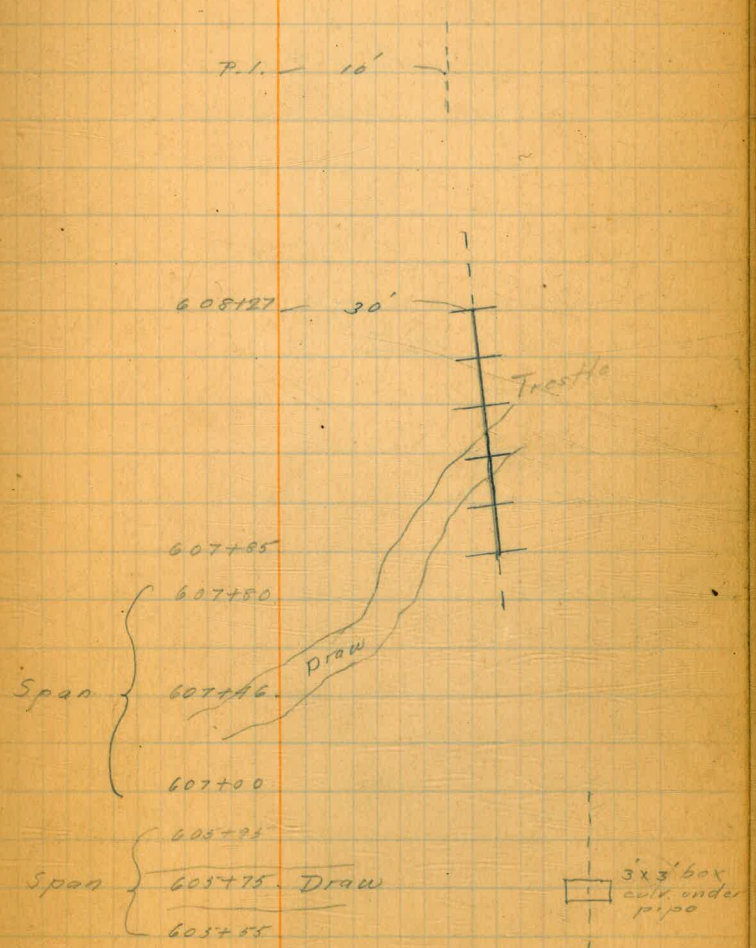
65°-10'
610+87.37 32°-35' L

609+82.37 P.C.

607+67.61 P.O.T.

Use this alignment
O.K. P.

604+00 P.O.T.



Sta. Deflec. Bear. Mag.

N 14 27 W N 15-30 W

C 15+94.10 4.5 L

N 9 36 W N 10-30 W

C 14+29.57 P.T.

60-5-5-30,

C 13+37.00 30°-2.8 R

C 12+39.17 P.C.

C 12+86

Δ 30-2.8 R
D 1C
T 97.83
R 3.3-9.26
L 190.42

C 16+94.10 ← 23'

C 14+70. Grade at ground surface one support

R.I. ← C.C. 5

C 12+86 ← 5-5'

C 12+02 - - - - - - - - -

Span { C 12+15 / C 11+90 / C 11+70 } Trestle

C 11+57. - - - - - - - - -

Stas. Deflec. Bear. Mag.

Contd. in Book # 271. Page 2.

Abandoned

632+88.38

N 14-34 W Solar

31-30"

N 14-30 W N 15-30 W

630+87.5

631+78.05 Q-0+30"L

Wat. Ranch Line

630+00 P.I. See Book # 273. Page 7.

628+22.3 P.O.T.

623+50 P.O.T.

27"

N 14 W N 15-30 W

631+48.05 ← 23'

642.6

23.03

625.57 to NW cor. of NE ¼ Sec. 28 ?

P.O.T. ← 23'

622+53 road

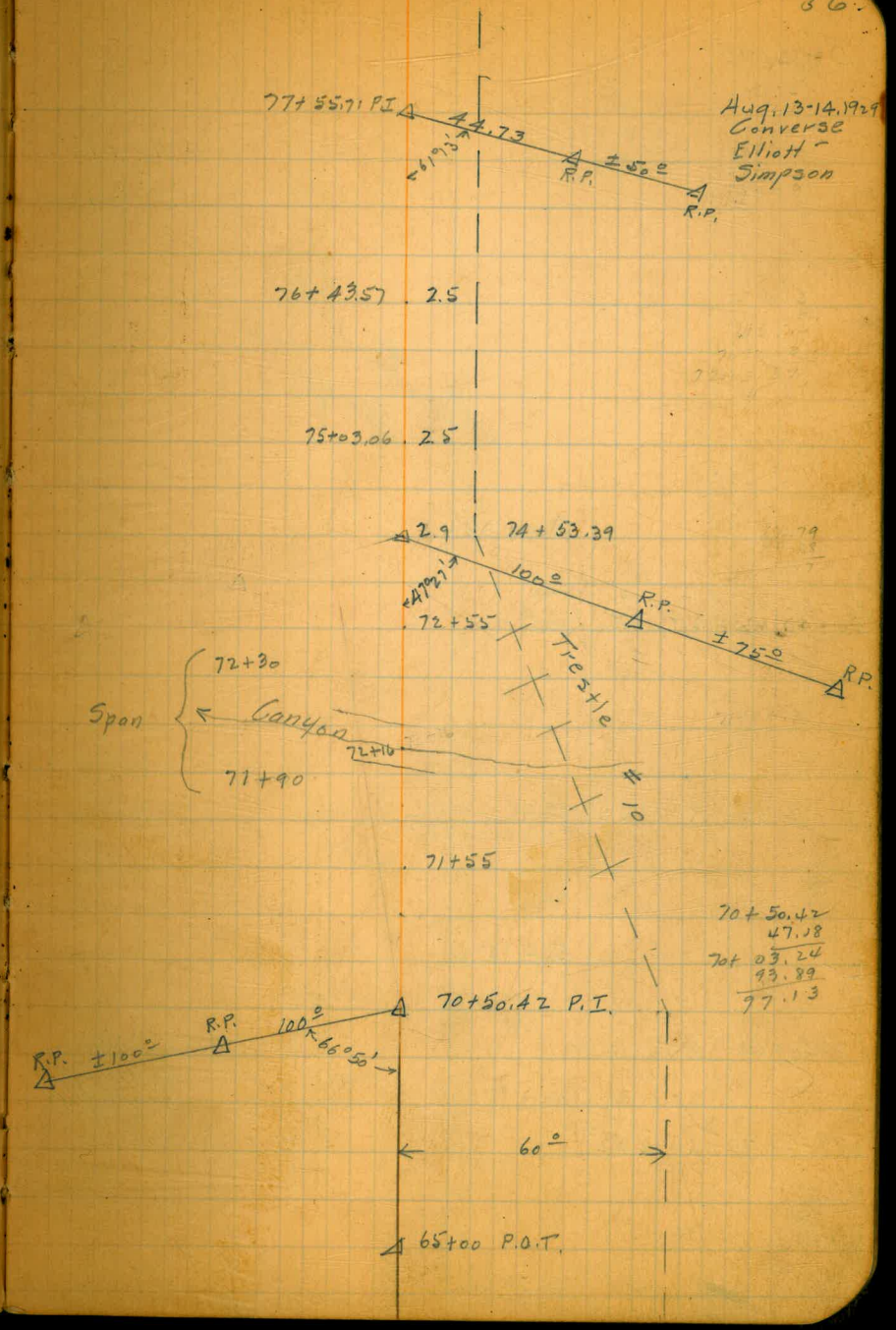
Span { 621+50 / 621+10. draw / 621+30

Grade 3'± above bot. of draw - use box culvert.

Proposed Line Change thru Deep "B" Line Cut

Used Watts Inst. 10/14/29

Sta	Deflec.	Bear	Mag.
77+55.71	P.I.		
		S.59°51'W ✓	
76+43.57	P.O.T.		
75+03.06	P.T.		
			Δ = 7°37' L D = 8° R = 716.78 T = 49.91 L = 99.58
74+53.39	7°58' L.		
74+03.48	P.C.		
		S.67°49'W ✓	
70+97.13	P.T.		Δ = 11°16' L D = 12° T = 47.18 R = 478.34 L = 93.89
70+50.42	11°16' L.		
70+03.24	P.C.		
65+00	P.O.T.	S.79°05'W	



"B" Line

Continued
Page 10

S. 48° 3' W

80+36.66 P.T. "A" Line
80+47.66 P.O.T. "B" Line

Equation -

35.33

80+12.33 R. 1° 33'

S. 46° 59' W

78+08.99 P.T.

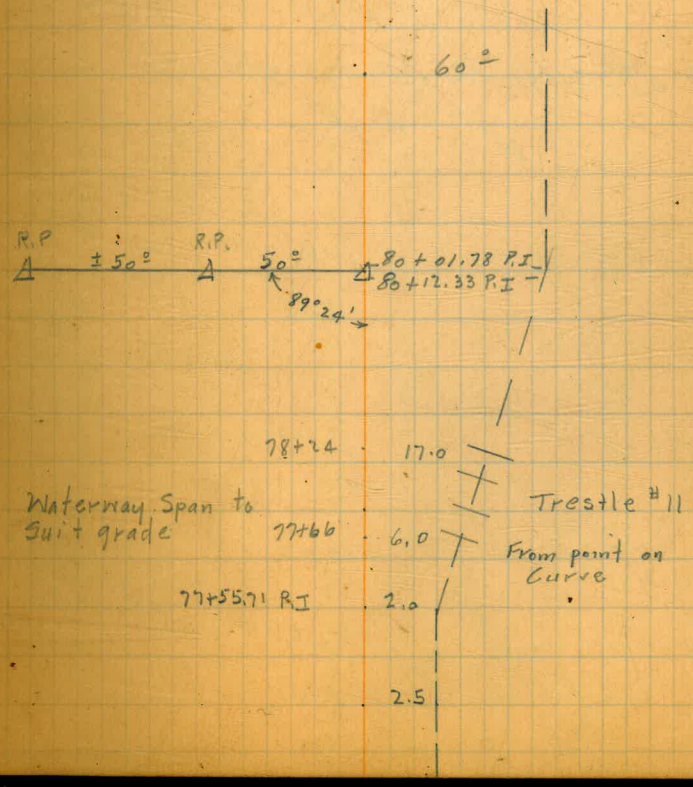
77+55.71 L. 12° 52'

77+01.77 P.C.

S. 59° 51' W

Δ = 12° 52' L
D = 12°
R = 478.34
T = 53.94
L = 107.22

35.33
80+12.33
80+47.66



Proposed Line change at Tunnel #4

Sta. Deflec. Bear Mag.

— Used, Approved 10/14/29

298+03.42 P.O.T.

N46-17W 10/6/29. Abandon Curve here & run to PI on tangents put in Special Angle. NDW.

287+08.42 ~~P.T.~~ = Equation

287+12.95 P.O.T.

286+67.56 34°-30' L

286+22.17 P.C. = P.O.T.

+08.42 17°-15' D 90°
287+00 - 15-34 T 45.37
+75 - 10-34 R 46.19
+50 - 5-34 L 86.25
287+25 - 0-34

N11-47W

286+06.63 P.T.

+06.63 15-17½
286+00 - 14-46
+75 - 12-46
+50 - 10-46 Δ 30°-35' R
+25 - 8-46 D 16
285+00 - 6-46 T 98.23
+75 - 4-46 R 359.26
+50 - 2-46 L 191.18
284+25 - 0-46

61°-09'-30"
30°-35' R

285+13.71

+15.48

284+~~21.19~~ P.C.

from Page 29

N42-22W N43°W

7/12/29 Parker Converse Hill Elliot Simpson

58

road 299+23

N portal of exist tunnel — 100' — 298+18.42

298+03.42 N Portal

S. portal exist. Tunnel — 50' — 287+93.04

287+08.42 — S. Portal

59.3 — P.I.

285+35 (on curve)

(extend to P.I.)

P.I. — 20' —

P.C. — 18.7 —

Sta. Defloc Bear. Mag.

307+78.23 P.O.T.

N61-41W

307+03.11 P.T.

+ 03.11 - 10-5-2
307+ 00 10-37 Δ 21-44 L
+ 75 - 8-37 D 16
+ 50 - 6-37 T 68.97
+ 25 - 4-37 R 339.22
306+ 00 - 2-37 L 135.83
305+ 75 - 0°-37'

306+36.25 21°-44'L

305+67.28 P.C.

N39-57W

301+12.47 P.T.

12-40,
300+86.16 6°-20 R

Δ 6°-20' R
D 12°
T 26.47
R 478.34
L 52.78

300+59.69 P.C.

52.5 P.I.

305+43

302+20 Wash caused by break in pipe line - provide under drainage

71-2/19 P.M.
Note Book called in before ties to pipe line could be taken, - See Xsecs of this section.

Span { 299+75 / 299+85 Draw / 299+95

Sta. Deflec. Bear. Mag.

Please turn page to

3.

Note This angle measured 14°06' but to avoid an equation of one minute in course, was called 14°-07'

N47-34W

Equation

309+72.07 P.O.T.

309+78.09 P.T.

309+19.68 14°-07' R

308+60.15 P.C.

309+78.09 703½ Δ 14-07 R
+75-6-5-2½ D 12
+50-5-22½ T 5-9.23
+25-3-52½ R 478.31
309+00-2-22½ L 117.21
308+75-0°-52½

P.T. — 37 —

P.I. — 33.5 —

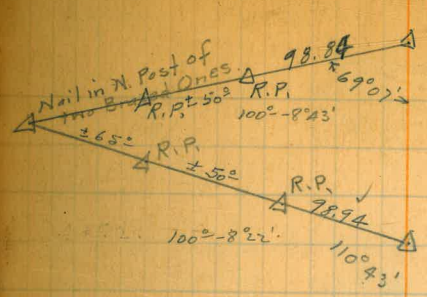
17°30'

308+12.4

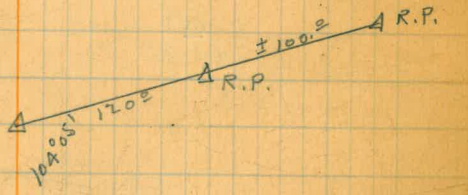
P.I.P.C.

Aug. 12. 1929.
Converse
Elliott
Simpson

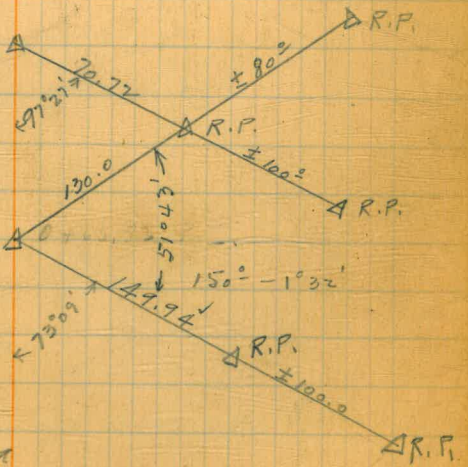
Note = All Hor. Angles to R.Ps. turned from Back Tangent unless otherwise shown.



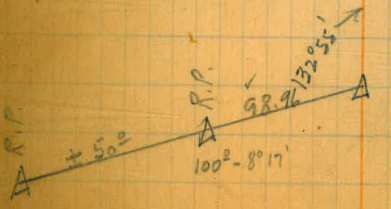
4+52.68 P.T.



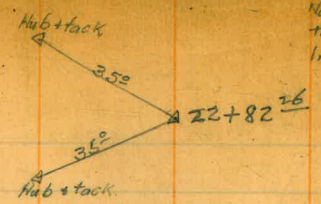
2+29.76 P.C.



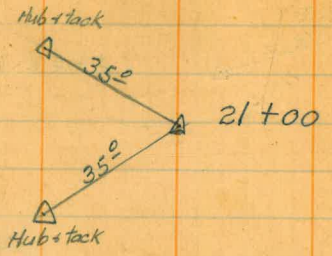
99.96
49.98
149.94

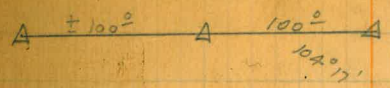


Note- Points Referenced-on this Page are not good for line.

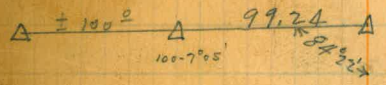


March 27-30
Elliott
Simpson
Soper
Jacobson

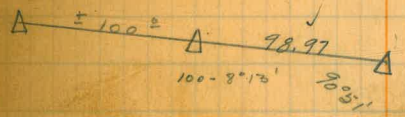




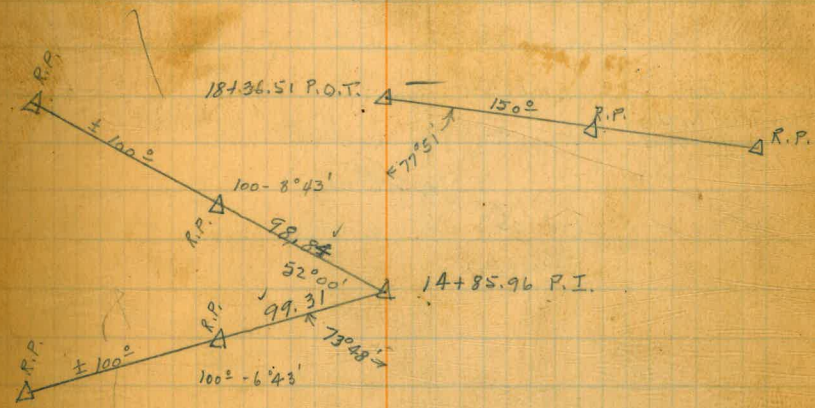
27+00 P.O.T.

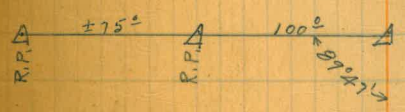


26+16.39 P.T.



25+15.56 P.C.





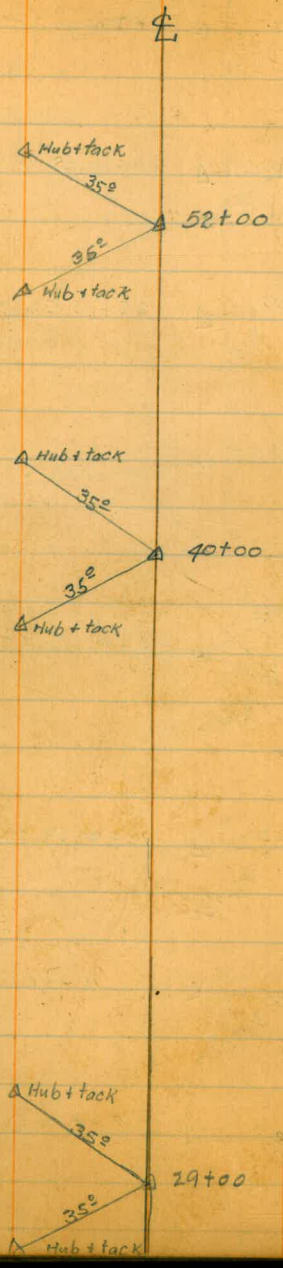
13+38
12+27.59 P.T.
10 ±

10+61.13 P.C.

8+80.32 P.O.T.

Clear and Warm

March 27-30
Hill
Elliott
Simpson
Soper
Jacobsen



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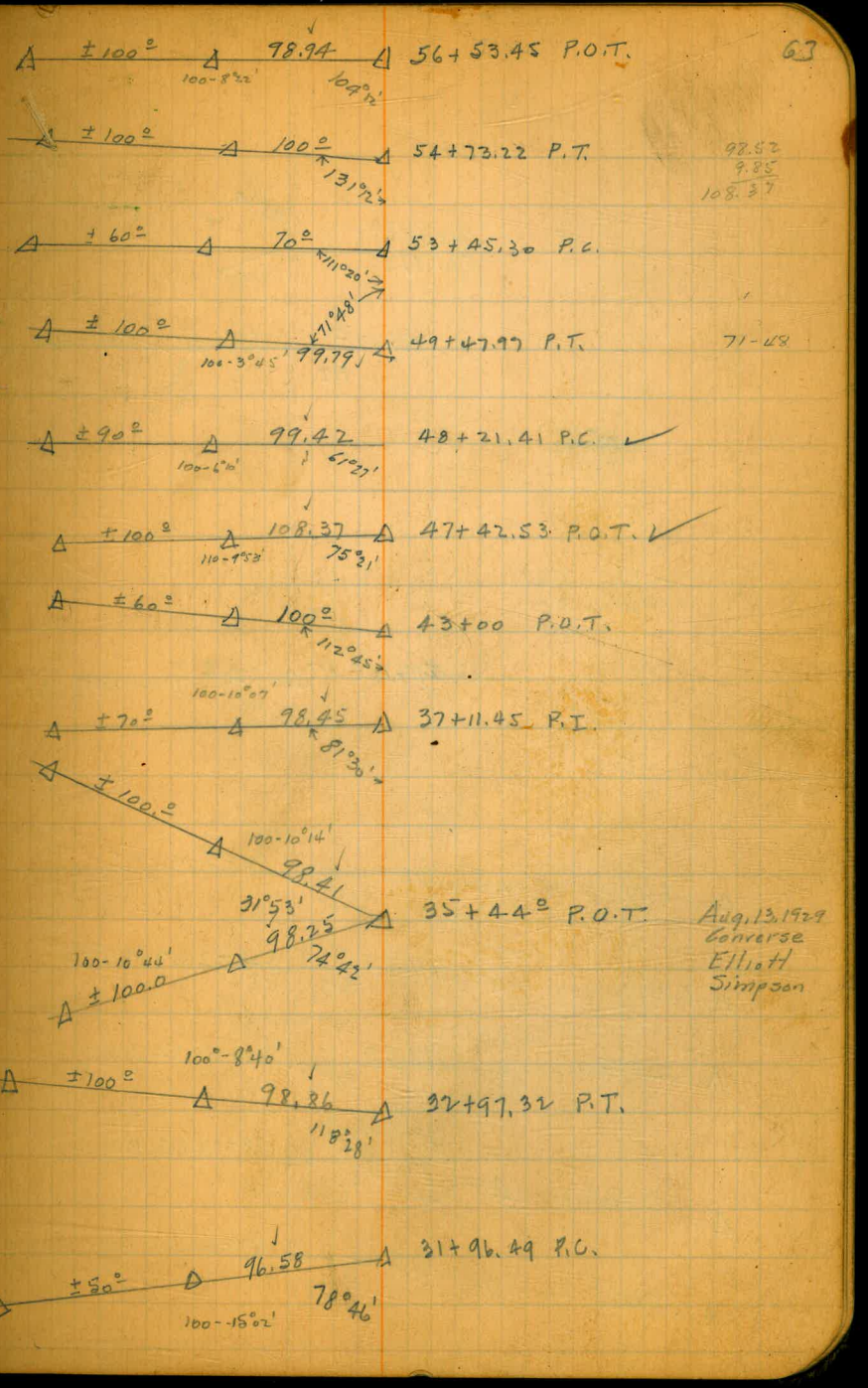


63

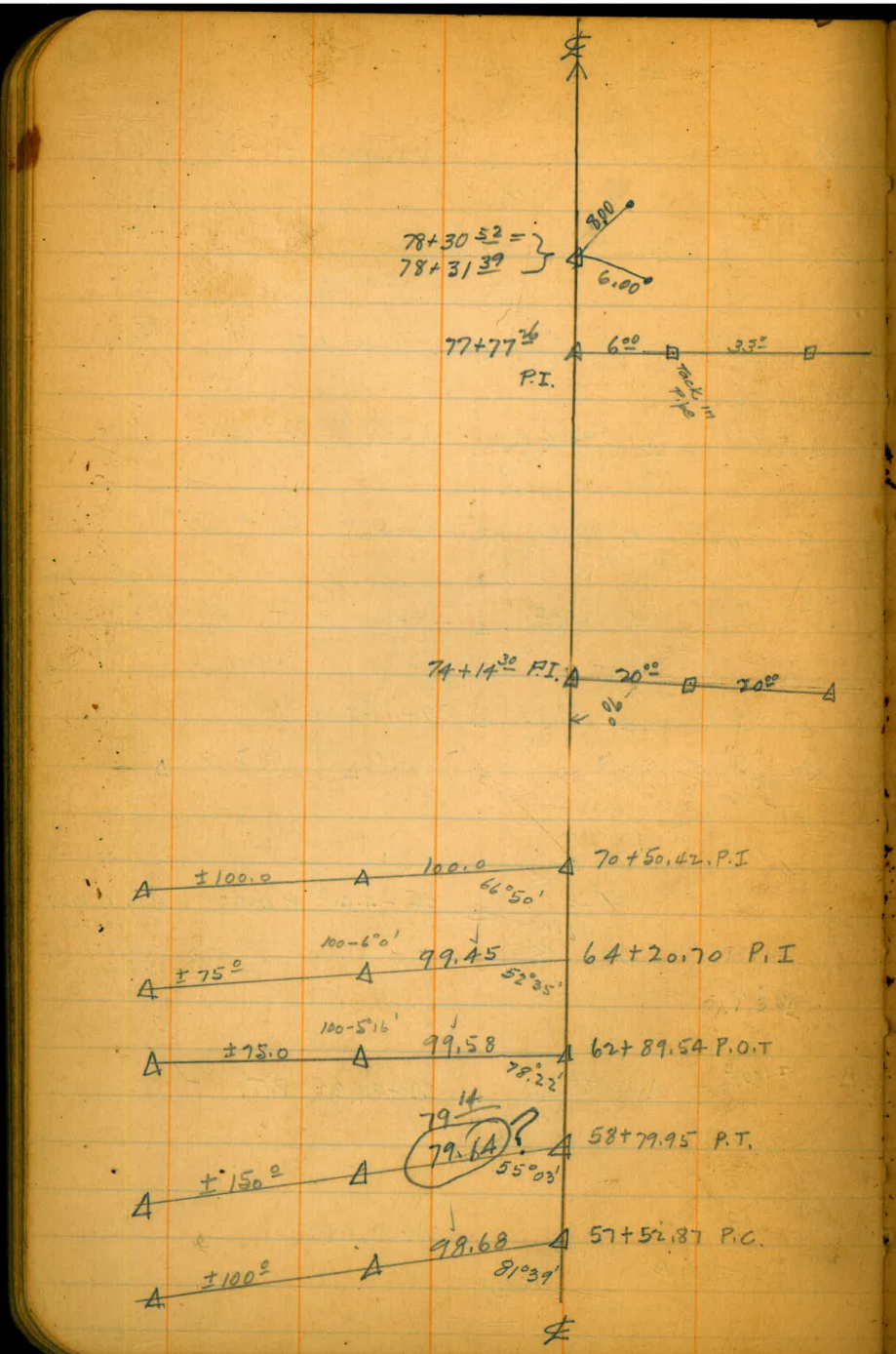
98.52
9.85
108.37

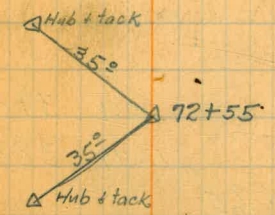
71-48

Aug. 13, 1929
Converse
Elliott
Simpson

clear and Warm.

March 27-30
Hill
Elliott
Simpson
Seber
Jacobson





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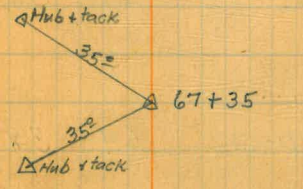
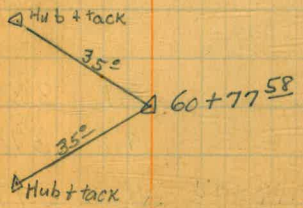




Contd. from Page 69.

401.39

77+25		8.1	393.3
B.M. #19		2.23	399.16
+50		5.3	396.1
+60		9.1	392.3
+75		10.9	390.5
T.F.		12.79	388.60
	0.05		388.65
78+00		5.1	383.5
+08	Bottom of Draw	6.4	382.2
+24		8.4	380.2
+50		9.2	379.4
+75		11.0	377.6
T.F.		12.58	376.07
	1.42		377.49
79+00		2.8	374.7

Lt. 401.39 Rt.

℄

0 401.4	96.7	92.9	96.2 Pipe	93.0	93.9	97.8	401.4
0.0	4.7	8.5	5.2	8.4	7.5	3.6	0.0
5°	1°	1°	3°	5°	6°	7°	13°

Top of Air Valve 77+35 399.11 .05

403.8	96.6	92.8	92.6	95.8 Pipe	93.8	94.1
+2.4	4.8	8.6	8.8	5.6	7.6	7.3
13°	4°	1°	2°	4°	6°	11°

400.6	96.6	95.7	92.9	95.5 Pipe	91.3	91.4
0.8	4.8	5.7	8.5	5.9	10.1	10.0
12°	7°	2°	3°	5°	7°	10°

77+66 = start of trestle #11

394.4	91.7	87.8	94.7 Pipe	86.7	
7°	9.7	13.6	6.7	14.7	
10°	7°	5°	7°	9°	

388.65

388.6	385.6	84.2	93.3 Pipe	89.0	
0.0	3.0	4.4	+4.7	+0.4	
13°	8°	9°	11°	22°	

87.2	84.3	81.9	85.1	93.0 Pipe on Trestle	
1.4	4.3	6.7	3.5	+4.4	
15°	10°	4°	12°	14°	

383.7	80.9	77.9	85.2	87.0	92.3 Top of Pipe at End of Trestle #11	
4.9	7.7	10.7	3.4	1.6	+3.7	
17°	11°	7°	9°	14°	17°	

377.49 ✓

79+10	3.5	374.0 ✓
+35	7.0	370.5 ✓
+50	10.3	367.2 ✓
+75	12.1	365.4 ✓
80	16.4	361.1 ✓
+12 33/66 P.I.	18.1	359.4 ✓
+47 66/66 P.o.t. "B" Line	24.6	352.9 ✓
= +36 66/66 P.T.		

Con°t in Bk # 275 Page 28

Profile Levels and X-sections on "B" Line

(See Page 57 for "B" Line Location)

B.M.			389.90	
	6.80	396.70		
70+00			3.8	392.9
+03.2	P.C. 'B' Line		3.4	393.3
+20			1.5	395.2
+40			1.3	395.4
+60			1.8	394.9
+75			4.4	392.3
+93			8.3	388.4
71			10.6	386.1
T.P.			12.91	383.79
	0.25	384.04		
+09			0.9	383.1
+16			4.1	379.9
+24			10.0	374.0
T.P.			12.77	371.27
	0.92	372.19		
+33			2.1	370.1
+43			8.0	364.2
+51			10.6	361.6
T.P.			12.67	359.52
	0.35	359.87		
+75			12.6	347.3
72			22.2	337.7
+10			24.5	335.4
+15			26.1	333.8

B.M. on Top of Air Valve 60'R 70+40

8/14/29

Converse-Simpson-Elliott

Peg. 71+30

Peg. 71+55

Bottom of Canyon

		359.87		
72+20			25.4	334.5
+27			25.3	334.6
+50			16.3	343.6
+80			8.9	351.0
+85			9.5	350.4
+94			7.8	352.1
+98			2.7	357.2
73			2.2	357.7
T.P.			0.72	359.15
	12.84	371.99		
+15			13.3	358.7
+37			8.3	363.7
T.P.			0.26	371.73
	13.00	384.73		
+60			11.7	373.0
74+00			2.0	382.7
T.P.			0.37	384.36
	11.66	396.02		
+30			5.1	390.9

Lt.	℄	Rt.

371.99

60.8 — 11.2 / 20°
59.7 — 12.3 / 8°
58.5 — 13.5 / 3°
61.5 — 10.5 / 12°
60.4 — 11.6 / 18°
58.3 — 13.7 / 19°
61.5 — 10.5 / 23°
Top of W.S. Pipe
59.6 — 12.4 / 25°

66.4 — 5.6 / 15°
65.7 — 6.7 / 6°
65.9 — 6.1 / 11°
64.0 — 8.0 / 16°
61.9 — 10.1 / 17°
64.3 — 7.7 / 20°
Pipe
62.1 — 9.9 / 22°

384.73

74.1 — 10.6 / 18°
72.6 — 12.1 / 12°
72.1 — 12.6 / 3°
73.4 — 11.3 / 5°
71.1 — 13.6 / 12°
66.5 — 18.2 / 15°
69.4 — 15.3 / 18°
Pipe
68.0 — 16.7 / 21°

88.7 — +4.0 / 15°
82.7 — 2.0 / 6°
80.5 — 4.2 / 7°
76.4 — 8.3 / 8°
80.7 — 4.3 / 11°
Pipe 72.7
76.9 — 7.8 / 14°
82.7 — 2.0 / 18°

396.02

93.7 — 2.3 / 13°
89.0 — 7.0 / 7°
90.7 — 5.3 / 3°
89.2 — 6.8 / 2°
83.7 — 12.3 / 4°
87.7 — 8.3 / 7°
Pipe 89.0
84.1 — 11.9 / 10°
88.6 — 7.4 / 12°
91.4 — 4.6 / 16°

396.02

74 +50		2.7	393.3
+65		3.7	392.3
T.F.		1.60	394.42
	6.97 401.39		
+75		8.6	392.8
75 +00		8.6	392.8
+50		7.3	394.1
76 +00		6.8	394.6
+50		7.5	393.9
77 +00		7.4	394.0

Cont'd. on Page #65

396.02

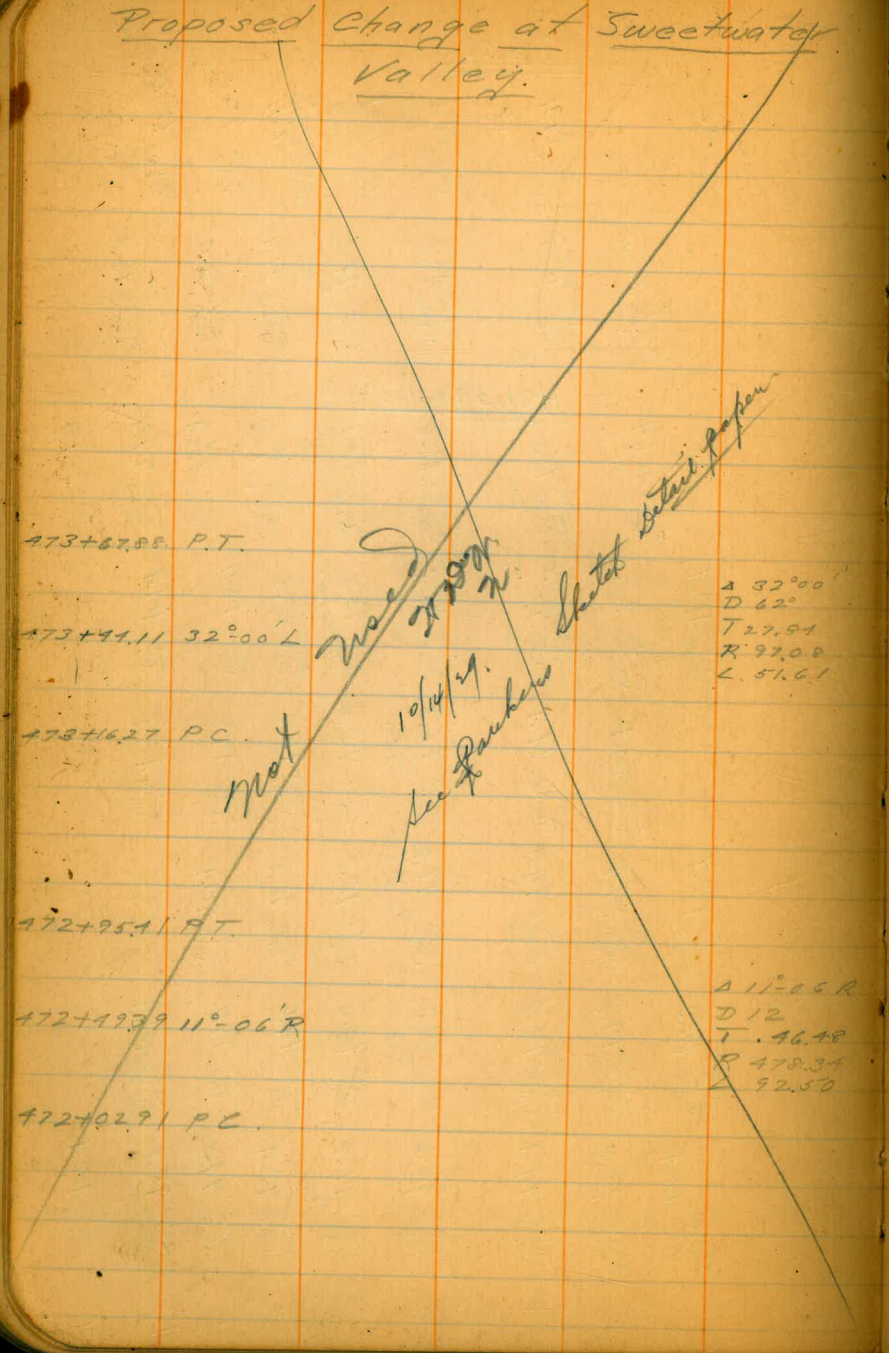
Lt.		℄		Rt.			
	94.4		88.5	92.1 Fi/he	89.1	90.3	95.2
	1.6 / 12		7.5 / 2	3.9 / 5	6.9 / 7	5.7 / 9	0.8 / 12
+400,0	95.4		90.6	94.0 Fi/he 93.3	91.1	96.0	98.8
+4.0 / 6	0.6 / 25		5.4 / 1	2.0 / 4	4.9 / 6	0.0 / 10	+2.8 / 12

401.39

401.4		95.6	91.6	95.1 Fi/he 93.7	91.9	95.4	97.7	401.4
0.0 / 6		5.8 / 2	9.8 / 2	6.3 / 3	9.5 / 7	6.0 / 8	3.7 / 10	0.0 / 13 5
401.4	96.5	93.0	92.5	95.8 Fi/he 93.2	92.8	93.7	401.4	
0.0 / 5	4.9 / 2	8.4 / 0	8.9 / 1	5.6 / 2	8.6 / 4	7.7 / 6	0.0 / 11	
	401.4	94.7	96.3 Fi/he 92.6	95,0	96.2	98.8	401.4	
	0.0 / 4	6.7 / 1	5.1 / 2	6.4 / 4	5.2 / 6	1.6 / 9	0.0 / 10	
403.7	401.4	94.9	96.2 Fi/he 92.4	95.8	96.6	401.4		
+2.3 / 7	0.0 / 3	6.5 / 1	5.2 / 2	5.6 / 4	4.8 / 6	0.0 / 10		
403,3	99.5	94.2	96.1 Fi/he 93.3	94.6	94.6	99.9	401.4	
+1.9 / 7	1.9 / 3	7.2 / 0	5.3 / 2	6.8 / 4	6.8 / 5	1.5 / 8	0.0 / 9	
403.4	98.8	94.1	93.6	96.2 Fi/he	93.4	94.0	98.0	402.4
+2.0 / 5	2.6 / 2	7.3 / 0	7.8 / 0	5.2 / 2	8.0 / 4	7.4 / 6	3.4 / 7	+1.0 / 9

96.2 3.7 92.5

Proposed Change at Sweetwater Valley.



7/6/29 Clear

70

Parker
Converse
Hill
Elliot
Simpson

"C" Line

Alternate Line Begin at 604+00 "A" line

611+86.62 P.T. "A" line

611+89.43 P.O.T. "C" line

611+76.17 P.T.

610+88.85 28°-39' L

609+97.11 P.C.

2°-30'

609+74.47 1°-15' ~~N 11 - 58 W~~ N 04 W ✓ N 10 - ~~04~~ W

N 10 - ~~14~~ 10 W ✓

606+54.57 P.T.

17°-18'

606+30.67 8°-39' L

605+76.46 P.C.

N 1 - ~~85~~ 81 W

604+37.23 P.T.

11°-36'

604+00 5°-58' R

603+62.65 P.C.

N 7 - ~~33~~ 59 W See page 57

601+27.18 P.I.

611+76.17	14°-19½'	
+50	12°-14'	Δ 28-39 L
+25	10°-14'	D. 16°
611+00	8°-14'	R 358.26
+75	6°-14'	T 91.74
+50	4°-14'	L 179.06
+25	2°-14'	
610+00	0°-14'	

		Δ 8-39 L
606+54.57	4°-19½'	D 8
+75	3°-56½	R 716.78
+50	2°-56½'	T 54.21
+25	1°-56½'	L 108.13
606+00	0°-56½'	

		Δ 5-58 R
		D 8°
		R 716.78
		T 37.35
		L 74.58

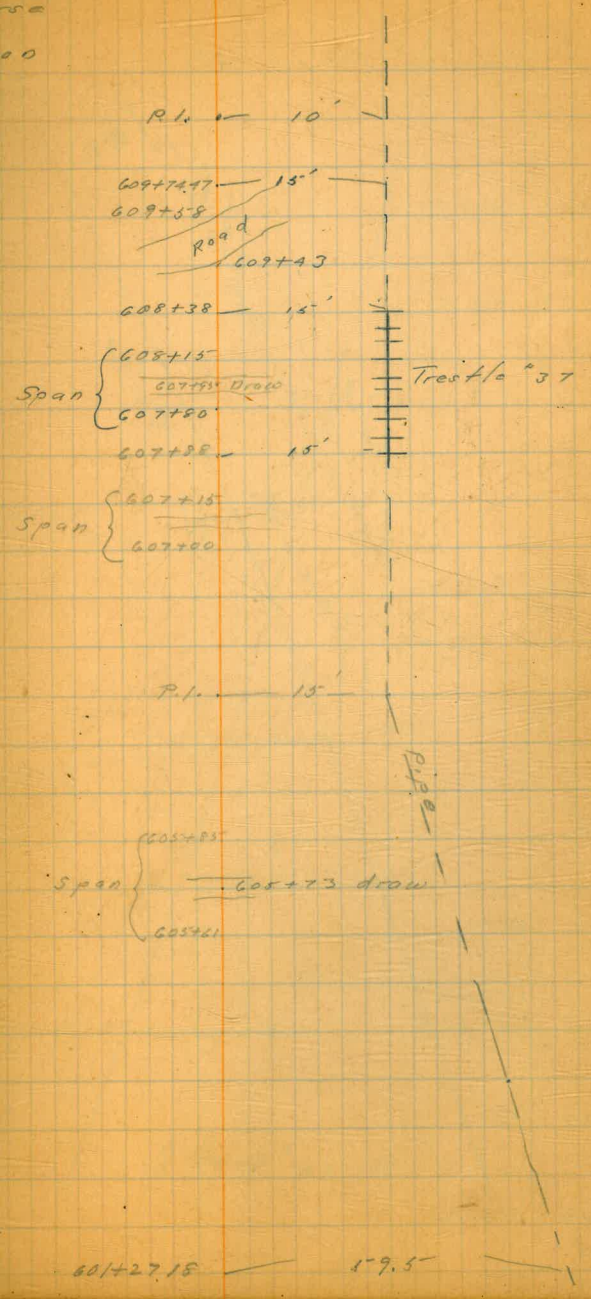
8/22/29 clear

Parker

Conrose

Hill

Simpson



6/13/29
Parker
Converse
Hill
Elliot
Simpson

Proposed change near Otay

Sta.	Defl.	Bear.	Mag.
17+08.12	P.O.T.		
13+17.29	P.O.T.		
11+79.10	P.O.T.		
9+30.38	P.O.T.		
4+59.40	P.T.	S 86-00 W	S 8.6° W
3+50.98	68-32 34°-16' R		
2+90.23	P.C.		
2+52.97	P.O.T.		

10/14/29 location not to the road

10/14/29

Otay

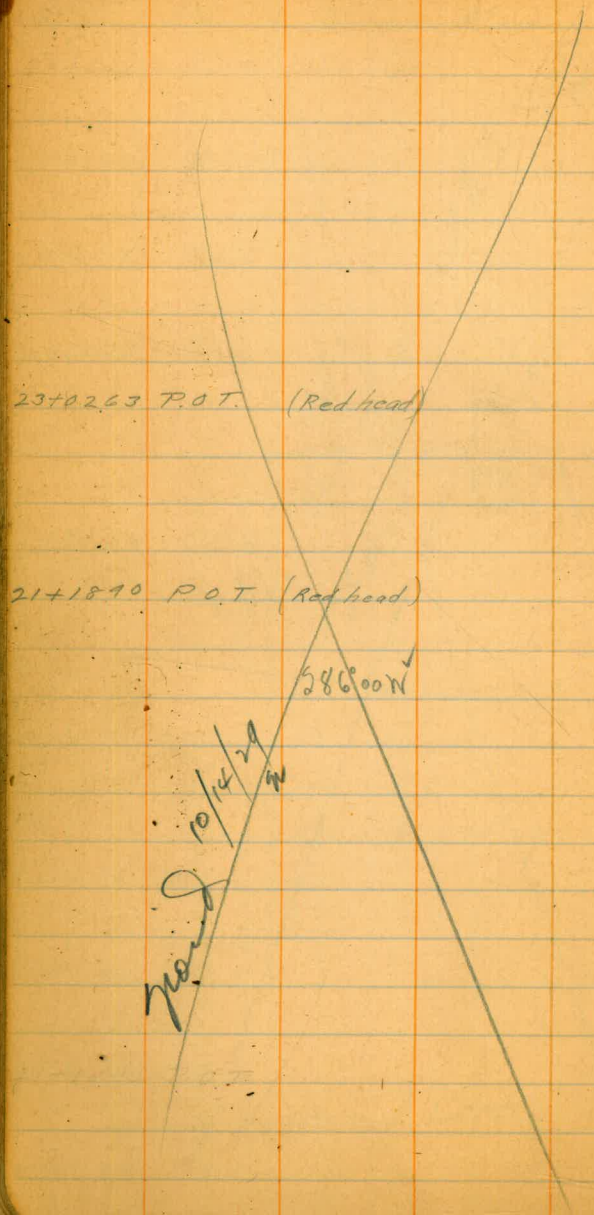
551+44 N ✓ See page ✓ N

Δ 34°-16' R
D 16°
T 110.75
R 357.26
L 214.17

Begin. of P Line

Proposed Trestle { 11+00 — 10+81 Draw — 10+12.

67.27



23+026.3 P.O.T. (Red head)

21+18.90 P.O.T. (Red head)

586°00' W

10/14/29

31+20
30+95. Draw
30+85
} trestle one span only.

Proposed trestle.
19+90.
19+40. Draw
18+75

Sta. Deflec. Bear Mag.

57+73.10 P.O.T.

50+57.95 P.O.T. Redhead

49+19.61 P.O.T. Redhead

43+00 P.O.T.

36+72.92 P.O.T.

S69-59W S70°W

34+82.21 P.T.

32-02
31+31.71 16°-01'L Redhead

33+81.20 P.C.

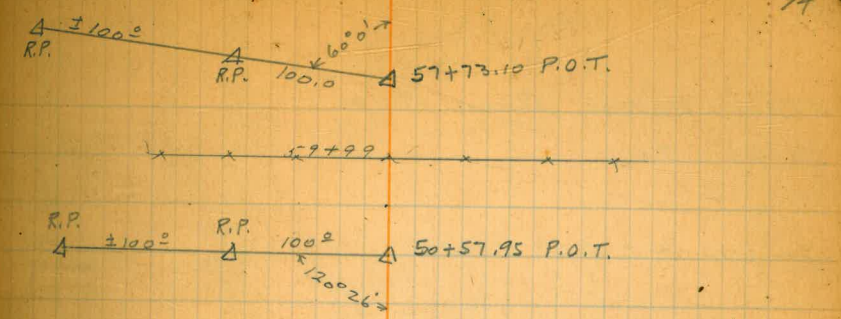
33+66.63 P.O.T. Redhead

S86-00'W S86°W

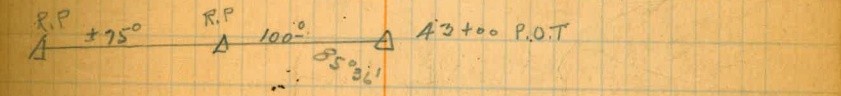
300 3

10/14/29

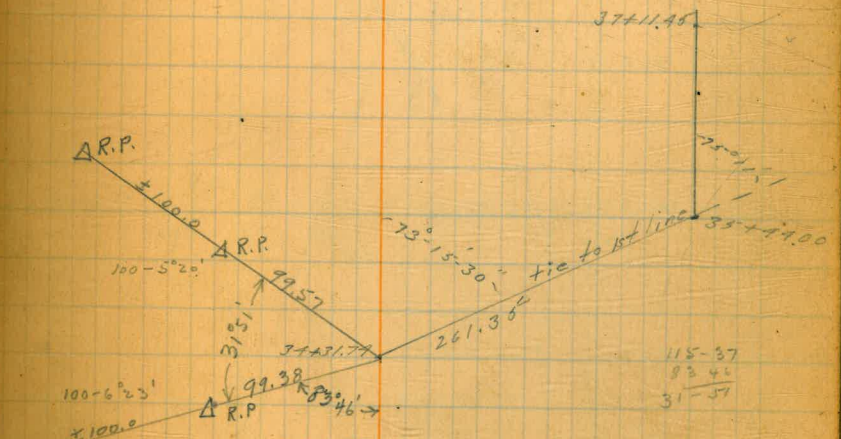
Δ 16°-01' L
D 16
T 50.97
R 357.26
L 101.04

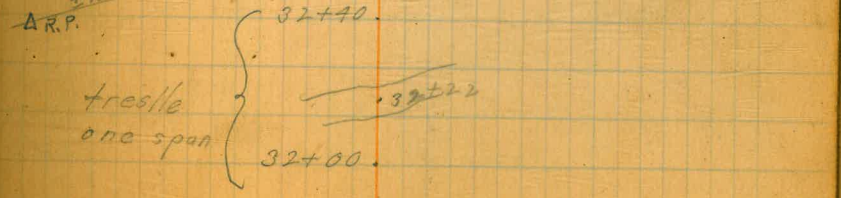


49+97 road



41+46. creek bed





Sta. Deflec Bear. Mag.

76+00 P.O.T.

71+11.70 P.O.T.

72+92.20 P.O.T.

10/14/49

69+43.78 P.O.T. Redhead

68+02.85 P.O.T.

66+31.38 P.O.T. Redhead

63+33.94 P.O.T. Red head

S69-59W S 70° W

edge of req. slope

edge of req. slope

50' 76+50 60'

Deep wash

76+15

76+00

R.P. ± 75° R.P. 99.31 74+44.70 P.O.T.

100-6°43' 78°33'

71+20

71+11.5 } trestle

71+00

R.P. ± 100° R.P. 99.58 66+31.38 P.O.T.

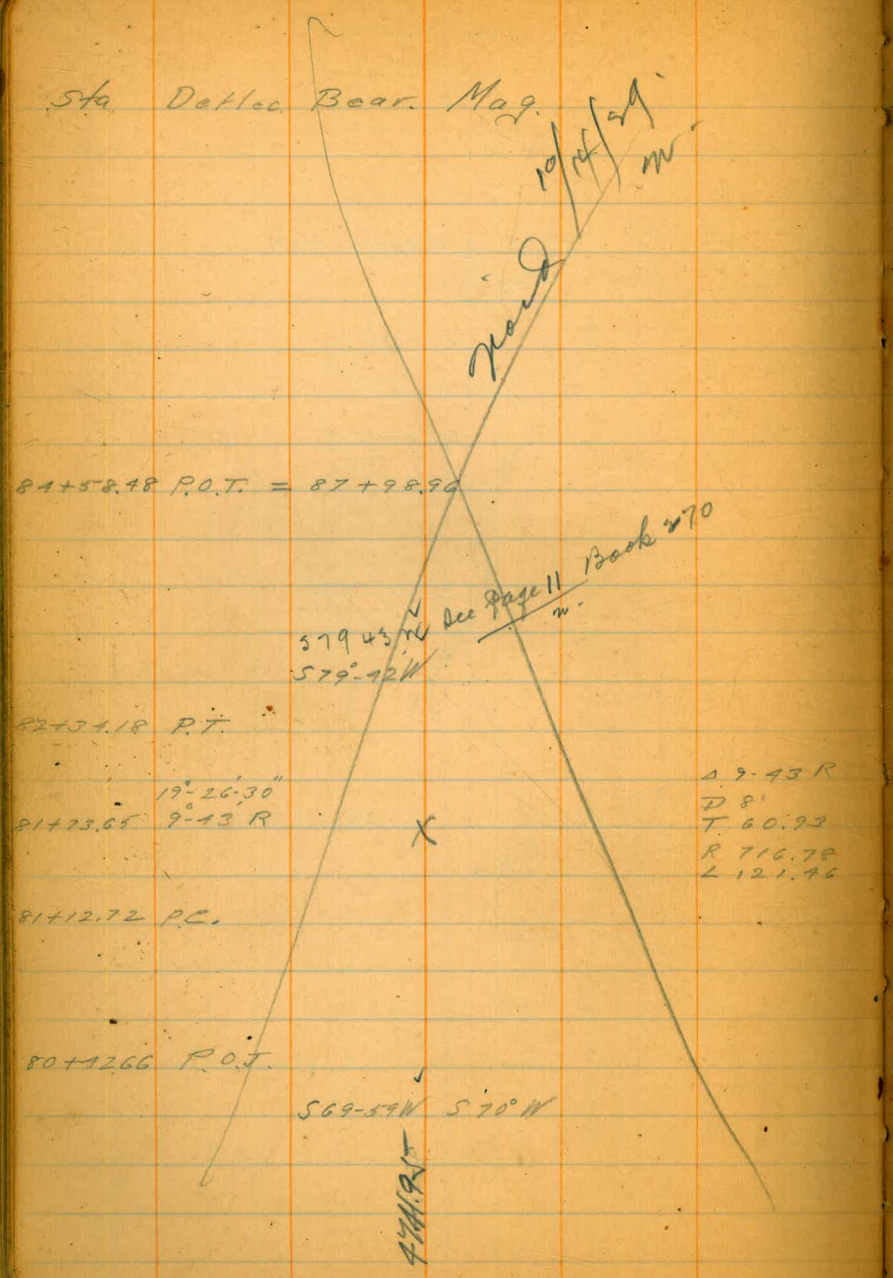
100-5°17' 86°40'

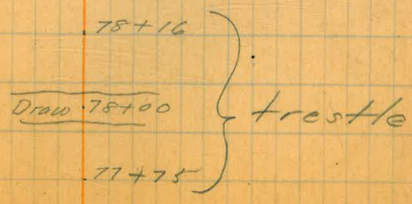
61+90

Draw 61+70 } trestle

61+55

60+95 Draw - underground xing.


Sta Deflec Bear. Mag.
10/ft/sq
N.
Draw
84+58.48 P.O.T. = 87+98.96
S79 43 W
S79°-42W
See Page 11 Book #70
N.
82+34.18 P.T.
19°-26'-30"
81+73.65 9°-43 R
Δ 9°-43 R
D 8°
T 60.93
R 716.78
L 121.46
81+12.72 P.C.
80+12.66 P.O.T.
S69-59W S 70° W
4 MAR 1


78+16
Draw 78+00
77+75
trestle

Solar observations 6/27/29

Transit at 338+15.90 back sight on 333+38.5

#1

Time	9-06½ A.M.	Time	9-19½
Hor.L	37-55 L	Hor.L	36-56½
Vert.L	75 3-02½	Vert.L	55-45

#3 (Reversed)

Time	9-09	Time	9-22
Hor.L	36-40½	Hor.L	34-34½
Vert.L	53-02	Vert.L	55-47

#2

Time	9-11½	Time	9-24
Hor.L	37-10½	Hor.L	35-07½
Vert.	54-03-15	Vert.L	56-45-15

#4 Reversed

Time	9-14	Time	9-26½
Hor.L	36-41-15	Hor.L	33-16
Vert.	54-08	Vert.L	56-45½

Av. 1,3+4 = S. 18-41½ E.

4" maul - 18" handle
Red + White blazing
1 box ½" copper tacks
2 - 31-5-25 Generals tire + tube, Heavy duty
2 x 2 x 7 Hubs

Sta 58+17.30 Sight on back tangent Solar 6/11/29

Time 2-50 P.M.
Hor.L 33-32½ R
Vert.L +48-44

Time 2-51
Hor.L 34-31
Vert.L 49-00

OTAY DAM 6/10/29

Solar Observations

Time	8-56 A.M.	Time	9.09
Hor L	73-37½ R	Hor L	258-91
Vert L	+61-37	Vert L	54-31
N 19-25 E	#1	N 19-31 E	#A Inverted
Time	8-58½	Time	9-12
Hor L	74-6-0	Hor L	256-59
Vert L	+61-37	Vert L	54-32
Time	9-01	Time	9-14½
Hor L	74-23½	Hor L	256-32
Vert L	52-42	Vert L	5-5-37
N 19-25 E	#2	N 19-31 E	#B Inverted
Time	9.03	Time	9-16½
Hor L	75-32	Hor L	256-94
Vert L	52-35	Vert L	5-5-27
Time	9.05		
Hor L	74-57½		
Vert L	53-28½	#3	
Time	9.07		
Hor L	76-11		
Vert L	53°-26'		

IMPROVED TABLES AND INFORMATION

TABLE VI (continued)
SINES, COSINES, TANGENTS, COTANGENTS (continued)

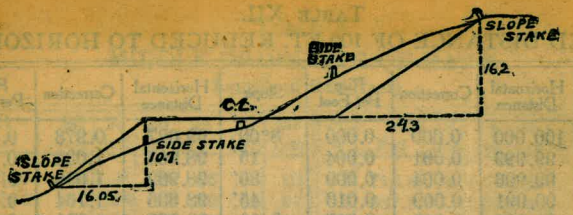
deg.	sin 0′	tan 0′	sin 10′	tan 10′	sin 20′	tan 20′	sin 30′	tan 30′	sin 40′	tan 40′	sin 50′	tan 50′	deg.
46	7193	1.0355	7214	1.0416	7234	1.0477	7254	1.0533	7274	1.0599	7294	1.0661	43
47	314	.0724	333	.0786	353	.0850	373	.0913	392	.0977	412	.1041	42
48	431	.1106	451	.1171	470	.1237	490	.1303	509	.1369	528	.1436	41
49	547	.1504	566	.1571	585	.1640	604	.1708	623	.1778	642	.1847	40
50	660	1.1918	7679	1.1988	7698	1.2059	7716	1.2131	7735	1.2203	7753	1.2276	39
51	771	.2349	790	.2423	808	.2497	826	.2572	844	.2647	862	.2723	38
52	880	.2799	898	.2876	916	.2954	934	.3032	951	.3111	969	.3190	37
53	986	.3270	8004	.3351	8021	.3452	8039	.3514	8056	.3597	8073	.3680	36
54	8090	.3764	107	.3848	124	.3934	141	.4019	158	.4106	175	.4193	35
55	192	.4281	208	.4370	225	.4460	241	.4550	258	.4641	274	.4733	34
56	290	.4826	307	.4919	323	.5013	339	.5108	355	.5204	371	.5301	33
57	387	.5399	403	.5497	418	.5597	434	.5697	450	.5798	465	.5900	32
58	480	.6003	496	.6107	511	.6212	526	.6319	542	.6426	557	.6534	31
59	572	.6643	587	.6753	601	.6864	616	.6977	631	.7090	646	.7205	30
60	660	1.7321	8675	1.7437	8689	1.7556	8704	1.7675	8718	1.7797	8732	1.7917	29
61	746	.8040	760	.8165	774	.8291	788	.8418	802	.8546	816	.8676	28
62	829	.8807	843	.8940	857	.9074	870	.9210	884	.9347	897	.9486	27
63	910	.9626	923	.9768	936	.9912	949	2.0057	962	2.0204	975	2.0353	26
64	988	2.0503	9001	2.0655	9013	2.0809	9026	.0965	9038	.1123	9051	.1283	25
65	9063	.1445	075	.1609	088	.1775	100	1943	112	.2113	124	.2286	24
66	135	.2460	147	.2637	159	.2817	171	.2998	182	3183	194	.3369	23
67	205	.3559	216	.3750	228	.3945	239	.4142	250	.4342	261	.4545	22
68	272	.4751	283	.4960	293	.5172	304	.5386	315	.5605	325	.5826	21
69	336	.6051	346	.6279	356	.6511	367	.6746	377	.6985	387	.7228	20
70	397	2.7475	9407	2.7725	9417	2.7980	9426	2.8239	9436	2.8502	9446	2.8770	19
71	455	.9042	465	.9319	474	.9600	483	.9887	492	3.0178	502	3.0475	18
72	511	3.0777	520	3.1084	528	3.1397	537	3.1716	546	.2041	555	.2371	17
73	563	.2709	572	.3052	580	.3402	588	.3759	596	.4124	605	.4495	16
74	613	.4874	621	.5261	628	.5656	636	.6059	644	.6470	652	.6891	15
75	659	.7321	667	.7760	674	.8208	681	.8657	689	.9136	696	.9617	14
76	703	4.0108	710	4.0611	717	4.1126	724	4.1653	730	4.2193	737	4.2747	13
77	744	.3315	750	.3897	757	.4494	763	.5107	769	.5736	775	.6382	12
78	781	.7046	787	.7729	793	.8430	799	.9152	805	.9894	811	5.0658	11
79	816	.1446	822	5.2257	827	5.3093	833	5.3955	838	5.4845	843	.5764	10
80	9848	5.6713	9853	5.7694	9858	5.8708	9863	5.9758	9868	6.0844	9872	6.1970	9
81	877	6.3138	881	6.4348	886	6.5606	890	6.6912	894	.8269	899	.9682	8
82	903	7.1154	907	7.2687	911	7.4287	914	7.5958	918	7.7704	922	7.9530	7
83	925	8.1443	929	8.3450	932	8.5555	936	8.7769	939	9.0098	942	9.2553	6
84	945	9.5144	948	9.7882	951	10.078	954	10.385	957	10.711	959	11.059	5
85	962	11.430	964	11.826	967	12.250	969	12.706	971	13.197	974	13.727	4
86	976	14.300	978	14.924	980	15.605	981	16.350	983	17.169	985	18.075	3
87	986	19.081	988	20.206	989	21.470	990	22.903	992	24.542	993	26.432	2
88	994	28.636	9995	31.242	9996	34.368	997	38.189	997	42.964	9998	49.104	1
89	9998	57.290	9999	68.750	9999	85.940	9999	114.58	1.000	171.88	1.000	343.77	0
deg.	60′ cos	60′ cot	50′ cos	50′ cot	40′ cos	40′ cot	30′ cos	30′ cot	20′ cos	30′ cot	10′ cos	10′ cot	deg.

TABLE VII
RODS IN FEET AND INCHES

Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches
1	16—6	21	346—6	41	676—6	61	1006—6	81	1336—6
2	33—0	22	363—0	42	693—0	62	1023—0	82	1353—0
3	49—6	23	379—6	43	709—6	63	1039—6	83	1369—6
4	66—0	24	396—0	44	726—0	64	1056—0	84	1386—0
5	82—6	25	412—6	45	742—6	65	1072—6	85	1402—6
6	99—0	26	429—0	46	759—0	66	1089—0	86	1419—0
7	115—6	27	445—6	47	775—6	67	1105—6	87	1435—6
8	132—0	28	462—0	48	792—0	68	1122—0	88	1452—0
9	148—6	29	478—6	49	808—6	69	1138—6	89	1468—6
10	165—0	30	495—0	50	825—0	70	1155—0	90	1485—0
11	181—6	31	511—6	51	841—6	71	1171—6	91	1501—6
12	198—0	32	528—0	52	858—0	72	1188—0	92	1518—0
13	214—6	33	544—6	53	874—6	73	1204—6	93	1534—6
14	231—0	34	561—0	54	891—0	74	1221—0	94	1551—0
15	247—6	35	577—6	55	907—6	75	1237—6	95	1567—6
16	264—0	36	594—0	56	924—0	76	1254—0	96	1584—0
17	280—6	37	610—6	57	940—6	77	1270—6	97	1600—6
18	297—0	38	627—0	58	957—0	78	1287—0	98	1617—0
19	313—6	39	643—6	59	973—6	79	1303—6	99	1633—6
20	330—0	40	660—0	60	990—0	80	1320—0	100	1650—0

TABLE VIII
LINKS IN FEET AND INCHES

Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches
1	0- 7.92	18	11-10.56	35	23- 1.20	52	34- 3.84	69	45- 6.48	86	56- 9.12
2	1- 3.84	19	12- 6.48	36	23- 9.12	53	34-11.76	70	46- 2.40	87	57- 5.04
3	1-11.76	20	13- 2.40	37	24- 5.04	54	35- 7.68	71	46-10.32	88	58- 0.96
4	2- 7.68	21	13-10.32	38	25- 0.96	55	36- 3.60	72	47- 6.24	89	58- 8.88
5	3- 3.60	22	14- 6.24	39	25- 8.88	56	36-11.52	73	48- 2.16	90	59- 4.80
6	3-11.52	23	15- 2.16	40	26- 4.80	57	37- 7.44	74	48-10.08	91	60- 0.72
7	4- 7.44	24	15-10.08	41	27- 0.72	58	38- 3.36	75	49- 6.00	92	60- 8.64
8	5- 3.36	25	16- 6.00	42	27- 8.64	59	38-11.28	76	50- 1.92	93	61- 4.56
9	5-11.28	26	17- 1.92	43	28- 4.56	60	39- 7.20	77	50- 9.84	94	62- 0.48
10	6- 7.20	27	17- 9.84	44	29- 0.48	61	40- 3.12	78	51- 5.76	95	62- 8.40
11	7- 3.12	28	18- 5.76	45	29- 8.40	62	40-11.04	79	52- 1.68	96	63- 4.32
12	7-11.04	29	19- 1.68	46	30- 4.32	63	41- 6.96	80	52- 9.60	97	64- 0.24
13	8- 6.96	30	19- 9.60	47	31- 0.24	64	42- 2.88	81	53- 5.52	98	64- 8.16
14	9- 2.88	31	20- 5.52	48	31- 8.16	65	42-10.80	82	54- 1.44	99	65- 4.08
15	9-10.80	32	21- 1.44	49	32- 4.08	66	43- 6.72	83	54- 9.36	100	66- .000
16	10- 6.72	33	21- 9.36	50	33- 0.00	67	44- 2.64	84	55- 5.28	101	66 -7.92
17	11- 2.64	34	22- 5.28	51	33- 7.92	68	44-10.56	85	56- 1.20	102	67- 3.84



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ 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.

7/10/29

17 60
23 50
156 10

Time 3-30 PM
Vert. 41°-53'
Hor. 48°-24'

N 81-16 W
14-34 R
N 66-42 W

Vert. 40°-49'
Hor. 47°-22½'

78-09
21 56
100 05
180
79 55

Time 3-35

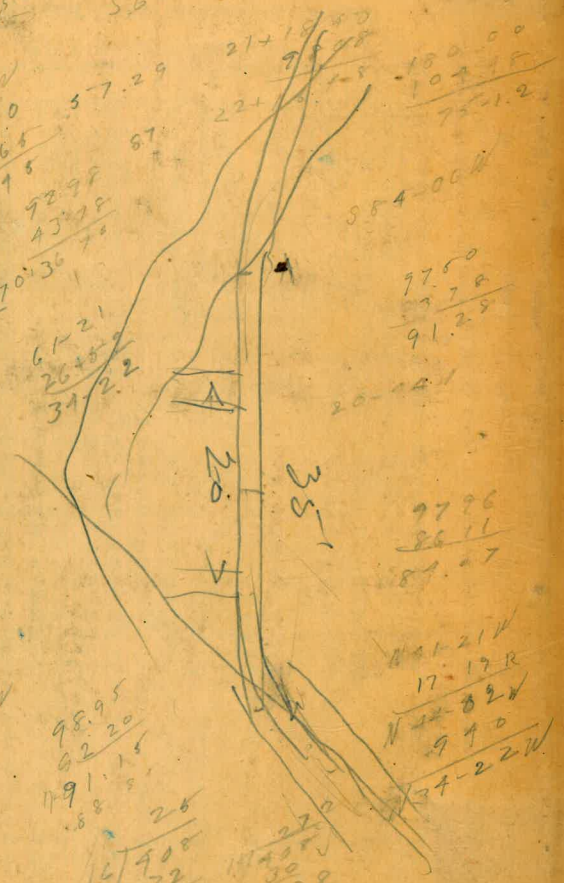
105.00
13.15
97.83
215.98

8.1 = obp 78+00 pipe
9.1 = End of Trestle
8.4 = Top pipe 78+08

612 +39 17
611 +86 02
13.15

399.11

613 37 60
610 87 37
247 63



615 94 10
614 29 59
1 65 51

T= 101.77
L= 197.16

470+82 Entrance pc 432+69.66
+57.5 pipe pt. 734+67.16
+52 4"
+33.4 N port
+14.7 S "
+25.0 ℄ port

101.77
101.77
203.54
197.71
5.83

791+07.51

691.6
211.1
905.7
496+39.21
505+44.91