

EL CAPITAN

Pipe Line Survey

Final Location

Transit

No 4

W186A

*El Capitan Pipe Line*  
*Relocated Line Computed*  
*in office*

**MICROFILMED**

**JAN 8 1965**

Paper Relocation of El Capitan  
Pipe Line Survey -

Sta	L	Bear.	Dist.	Curve Data
14+24.4	B.C.			
13+25.3	E.C.	N73°57'W	99.1	
Δ 12+48.9	9°11'R			$E=3.1$ $T=76.7$ $R=954.93$ $D=6°00'$ $L=153.1$
11+72.2	B.C.			
11+68.0	E.C.	N83°08'W	4.2	
Δ 10+51.5	14°03'R			$E=7.2$ $T=117.7$ $R=954.93$ $D=6°00'$ $L=234.2$
9+33.8	B.C.			
Δ 8+51.3	1°42'R	582°49'W	82.0	
Δ 7+49.1	5°27'L	581°07'W	102.7	
2+34.3	E.C.	586°34'W	514.8	
Δ 1+91.0	21°01'L			$E=4.1$ $T=44.3$ $R=238.73$ $D=24°00'$ $L=87.6$
1+46.7	B.C.			
0+00		N72°25'W	146.7	
0+00	Imp. from Axis			

57 N/E  
11  
89

63

T. A. Mills (1)

H.C.L.

68.9

31.1

72-25

71-01

586 → CW

72-25

71-85

124

70-177

203.1

Old Sta 11+98.1

1986

Old Sta 9+99.5

1997

Old Sta 7+99.8

1987

1987

1987

1987

1987

On Axis N1°28'E - 120' from Old Sta 0-52.87

TRICK

Sta	L	Bear	Dist	Curve Data
Δ24+77.3	11°41' L			E=1.2' T=24.4 R=288.75 D=24°00' L=48.7
24+52.9	B.C.			
		N79°44'W	180.8	
22+72.1	E.C.			
Δ22+35.0	28°45' R			E=4.9' T=38.6 R=150.78 D=38°00' L=75.7
21+96.4	B.C.			
		S71°31'W	193.3	
21+03.1	E.C.			
Δ20+15.5	10°32' L			E=4.0 T=88.0 R=954.93 D=6°00' L=175.6
19+27.5	B.C.			
		S82°03'W	177.0	
17+50.5	P.O.T			
		S82°03'W	250.3	
15+00.2	P.O.T			
		S82°03'W	21.3	
14+78.9	E.C.			
Δ14+52.1	24°00' L			E=2.9' T=27.7 R=130.12 D=44°00' L=54.5
14+24.4	B.C.			
		N73°57'W	99.1	

Old sta 24+25

243.8

Old sta 21+81.2

219.9

A

265.0

Old sta 16+98.3

258.3

Old sta 14+48

49.0

A

203.5

LACL

5+  
 $\Delta 31+54.9$   $8^{\circ}13'R$  ✓  
 Bear Dist

Curve

Date

E=2.5 ✓

T=68.6 ✓

R=954.93 ✓

D=60.00 ✓

L=136.9 ✓

30+85.8 B.C.

N81°38'W 24.1 ✓

30+61.7 E.C.

 $\Delta 29+55.3$   $17^{\circ}09'R$  ✓

E=8.1 ✓

T=108.0 ✓

R=716.20 ✓

D=80.00 ✓

L=214.4 ✓

28+47.3 B.C.

581°13'W 29.7 ✓

28+17.6 E.C.

 $\Delta 27+97.8$   $21^{\circ}40'R$  ✓

E=1.9 ✓

T=20.3 ✓

R=106.10 ✓

D=54.00 ✓

L=40.1 ✓

27+77.5 B.C.

N77°07'W 141.0 ✓

26+36.5 E.C.

 $\Delta 25+77.2$   $14^{\circ}18'R$  ✓

E=3.7 ✓

T=59.9 ✓

R=477.47 ✓

D=122.00 ✓

L=119.2 ✓

25+17.3 B.C.

588°35'W 15.7 ✓

25+01.6 E.C.

24+52.9 B.C.

N79°44'W 180.8

See Previous  
Page

71"

200.7

Old Sta 29+00

158.0

A"

221.2

Old Sta 25+25

100.0

Sta  $\Delta 38+59.8$  ✓ L  $15^{\circ}07'R$  ✓ Bear Dist  $\left\{ \begin{array}{l} \text{Curve} \\ \text{Data} \\ E=2.1 \\ T=31.7 \\ R=238.73 \\ D=24000' \\ L=63.0 \end{array} \right.$  ✓ ✓ ✓ ✓ ✓ ✓ ✓

"A"

38+22.1 B.C.  $N85^{\circ}34'W$  31.0 ✓

37+90.1 E.C.

$\Delta 37+66.5$  ✓ L  $21^{\circ}58'L$  ✓

$\left\{ \begin{array}{l} E=2.4 \\ T=25.3 \\ R=130.22 \\ D=44000' \\ L=49.9 \end{array} \right.$  ✓ ✓ ✓ ✓ ✓ ✓ ✓

"B"

37+41.2 B.C.  $N63^{\circ}36'W$  35.4 ✓

37+05.8 E.C.

$\Delta 36+33.7$  ✓ L  $17^{\circ}27'R$  ✓

$\left\{ \begin{array}{l} E=5.6 \\ T=73.3 \\ R=47747 \\ D=12000' \\ L=145.4 \end{array} \right.$  ✓ ✓ ✓ ✓ ✓ ✓ ✓

"C"

35+60.4 B.C.  $N81^{\circ}03'W$  108.1 ✓

34+52.3 E.C.

$\Delta 33+50.1$  ✓ L  $7^{\circ}38'L$  ✓

$\left\{ \begin{array}{l} E=3.2 \\ T=95.6 \\ R=1432.40 \\ D=4000' \\ L=190.8 \end{array} \right.$  ✓ ✓ ✓ ✓ ✓ ✓ ✓

"D"

32+61.5 B.C.  $N73^{\circ}25'W$  38.8 ✓

32+22.7 E.C.

136.9

See Page 3

"E"

30+85.8 B.C.

 $N81^{\circ}38'W$

A.C.L.

Sta	L	Bear	Dist	Curve Data
Δ 44+11.9	12° 46' L			E = 3.6 ✓ T = 64.1 ✓ R = 572.96 ✓ D = 10° 00' ✓ L = 127.67 ✓
43+47.8	B.C.			
		N64° 23' W	25.4	
43+22.4	E.C.			
Δ 42+83.2	15° 48' L			E = 2.7 ✓ T = 39.8 ✓ R = 286.48 ✓ D = 20° 00' ✓ L = 79.0 ✓
42+43.4	B.C.			
		N48° 35' W	88.4	
41+55.0	E.C.			
Δ 41+25.8	5° 51' R			E = 0.7 ✓ T = 29.3 ✓ R = 572.96 ✓ D = 10° 00' ✓ L = 58.5 ✓
40+96.5	B.C.			
		N54° 26' W	96.3	
40+00.2	E.C.			
Δ 39+43.4	16° 01' R			E = 4.0 ✓ T = 57.6 ✓ R = 409.26 ✓ D = 14° 00' ✓ L = 114.4 ✓
38+85.8	B.C.			
38+85.1	E.C.	N70° 27' W	0.7	
Δ 38+53.8	15° 07' R			
38+22.1	B.C.			
		N75° 34' W	63.0	See page 4

"E"

129.3

Old Sta 42+35.7

157.5

Old Sta 40+78.2

183.2

Old Sta 38+95

90.0

"A"

Sta	C	Bear	Dist	Curve Data
52+69.9	B.C.			
		N82°05'W	127.0	
Δ 51+42.9	2°43' L			
		N79°20'W	168.8	
49+74.1	E.C.			
Δ 49+55.0	12°15' L			
				$E=1.0$ $T=19.2$ $R=179.65$ $D=32°00'$ $L=38.3$
49+35.8	B.C.			
		N67°05'W	107.5	
48+28.3	E.C.			
Δ 47+89.3	25°22' R			
				$E=4.5$ $T=40.3$ $R=179.65$ $D=32°00'$ $L=79.3$
47+49.0	B.C.			
		S87°33'W	56.9	
46+92.1	E.C.			
Δ 46+72.6	14°57' L			
				$E=1.3$ $T=19.8$ $R=150.78$ $D=38°00'$ $L=39.3$
46+52.8	B.C.			
		N77°09'W	177.3	
44+75.5	E.C.			
			127.7	See Page 5
43+47.8	B.C.			
		N64°23'W		

188.0"

"B"

167.0

"C"

117.0

"D"

261.2

"E"



Sta	L	Bear	Dist	Curve	Date
65+49.3	B.C.				
		N53°59'W	394.2		
61+55.1	E.C.				
Δ 61+35.5	17°24'L			E=1.5 ✓ T=19.9 ✓ R=130.22 ✓ D=44°00' ✓ L=39.5 ✓	
61+15.6	B.C.				
		N36°35'W	4.3		
61+11.3	E.C.				
Δ 60+64.2	7°33'R			E=1.6 ✓ T=47.3 ✓ R=716.20 ✓ D=8°00' ✓ L=94.4 ✓	
60+16.9	B.C.				
		N44°08'W	282.2		
57+34.7	E.C.				
Δ 56+52.9	19°50'R			E=7.2 ✓ T=83.5 ✓ R=477.47 ✓ D=12°00' ✓ L=1653 ✓	
55+69.4	B.C.				
		N63°58'W	186.5		
53+82.9	E.C.				
Δ 53+26.9	18°05'R			E=4.5 ✓ T=57.0 ✓ R=358.10 ✓ D=16°00' ✓ L=113.0 ✓	
52+69.9	B.C.				
		N82°03'W	127.0		

511.4

"C"

71.5

Old Sta 60+15

413.0

Old Sta 56+02

327.0

Old Sta 52+75

784.0

Sta	L	Bear	Dist	Curve
Δ 76+07.3	7°55' L			E=0.7 T=19.8 R=286.48 D=20°00' L=39.6
75+87.5	B.C.		40.2	
75+47.3	P.O.T			
		N82°35'W	264.0	
Δ 72+83.3	4°42' R			
		N87°17'W	48.2	
72+35.1	E.C.			
Δ 71+78.0	30°23' R			E=8.0 T=59.8 R=220.37 D=26°00' L=116.9
71+18.2	B.C.			
		S62°20'W	98.2	
70+20.0	E.C.			
Δ 70+00.9	29°41' L			E=2.6 T=20.0 R=75.39 D=76°00' L=39.1
69+80.9	B.C.			
		N87°54'W	242.7	
67+38.2	E.C.			
Δ 66+46.6	34°00' L			E=14.5 T=97.3 R=318.31 D=18°00' L=188.9
65+49.3	B.C.			
		N53°59'W		

600.0  
 264.0  
 105.0  
 17.5  
 360.0  
 511.9

Old sta 74+78

Old sta 72+14

Old sta 71+06

A

B

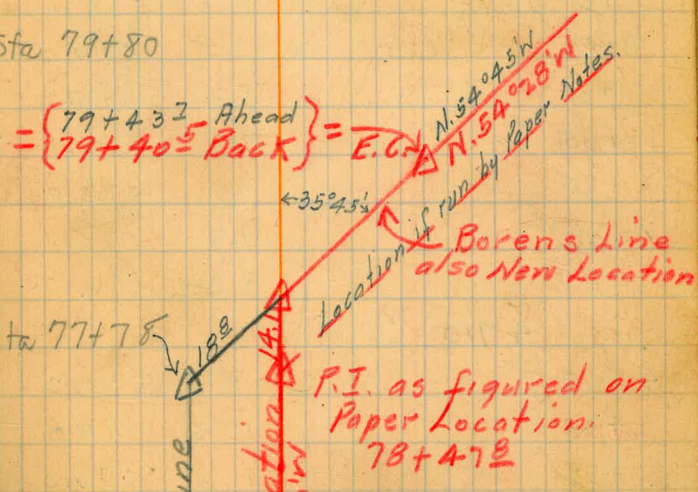
H.C.L.

Sta	L	Bear	Dist.	Curve Data
91+62.7	B.C.			
Δ 85+93.3	3°06'L	N65°21'W	569.4	
83+97.3	E.C.			
Δ 83+77.5	11°09'R	N62°15'W	196.0	E=1.0 T=20.0 R=204.63 D=28°00' L=59.8
83+57.5	B.C.			
81+36.8	E.C.			
Δ 80+43.0	18°56'L	N73°24'W	220.7	E=7.9 T=95.5 R=572.96 D=10°00' L=189.3
79+47.5	B.C.			
79+43.7				
<del>79+40.3</del>				
79+44.5	E.C.	N54°28'W =N54°45'W	3.8 3.0	
78+61.9	35°45'R			E=16.4 T=102.5 R=378.31 D=18°00' L=200.2
Δ 78+47.8	36°02'R			E=13.2 T=83.2 R=260.44 D=22° L=162.5
77+78.2				
77+49.3	B.C.			
76+27.1	E.C.	589°30'W	150.9 17.2	
75+87.5	B.C.			
		N82°35'W		

See Page 8

663.2  
Old Sta 85+36.8  
216.0  
A"  
336.2  
Old Sta 79+80  
183.2  
Old Sta 77+78  
254.6  
A"

Tie to Borens Line with Equation of Station and Bearing.



Profile 0-52.8 to 7+9

Sta	+	π	-	Elev.
BM#1				571.460
	7.596	579.056 ✓		
0+00			7.2	571.8
1+00			9.9	569.2
+21			9.4	569.7
+25			8.0	571.1
BC +47.5			8.0	571.1
CC opp. R.I. +90°			3.6	575.5
T.P.			3.637	575.19 ✓
	10.087	585.506 ✓		
EC 2+32.9			4.9	580.6
2+61			7.5	578.0
3+00			5.5	580.0
+35			5.4	580.1
+65			9.8	575.7
+80			8.5	577.0
4+00			9.9	575.6
T.P.			8.632	576.875 ✓
	4.710	581.584 ✓		
4+25			8.4	573.2
+35			10.8	570.8
+55			11.6	570.0
7+56.8			10.9	570.7
5+00			9.2	572.4
756+00			6.3	575.3

47.5  
47.7  
90.2

Sta	+	∓	-	Elev.
		587.564		
6+50			2.0	579.6
7+00			3.7	577.9
T.P.			2.929	578.655 ✓
	0.367	579.022 ✓		
7+25			1.4	577.6
+48.5			2.6	576.4 ×
8+00			7.5	571.5
+15			8.7	570.3
△ 8+50.5			8.6	570.4
T.P.			8.736	570.286 ✓
	3.353	573.629 ✓		
T.P.			5.552	568.089 ✓
	5.518	573.605 ✓		
B.M.			3.045	570.565 ✓
				570.561 B.M.#1

Opp 9+99.5 (old line) in Syc. tree

LHCM

Sta L Bear Dist Curve Data

105+59.1 B.C.

N 81° 31' W 268.3

Δ 102+90.8 2° 07' L

99+95.8 P.O.T.

N 79° 24' W 362.3

99+28.5 E.C.

$$\left\{ \begin{array}{l} E=7.5 \\ T=69.7 \\ R=318.31 \\ D=18^{\circ}00' \\ L=137.3 \end{array} \right.$$

Δ 98+60.9 24° 43' L

97+91.2 B.C.

N 54° 41' W 144.3

96+46.9 E.C.

$$\left\{ \begin{array}{l} E=3.4 \\ T=99.3 \\ R=1432.40 \\ D=4^{\circ}00' \\ L=198.3 \end{array} \right.$$

Δ 95+47.9 7° 56' L

94+48.6 = B.C.

94+34.6 =

94+54.9 P.O.T.

N 46° 45' W 85.9  
99.9

93+48.7 E.C.

$$\left\{ \begin{array}{l} E=7.6 \\ T=93.8 \\ R=572.96 \\ D=10^{\circ}00' \\ L=186.0 \end{array} \right.$$

Δ 92+56.5 18° 36' A

91+62.7 B.C.

N 66° 21' W

315.6

Old Sta. 102+30

295.0

Old Sta. 99+35

137.0

A

313.3

B

93.0

Old Sta. 94+00

200.0

Old Sta. 92+00

643.2

Note - Found mistake of 14° ft  
in chaining on Borens line  
and made the following

Equation

$$94 + 48.6 \text{ Ahead} = 94 + 34.6 \text{ Back} =$$

LHCM

Sta.	L	Bear.	Dist.	Curve Data
116+51.9	E.C.			
Δ 116+32.5	9°22'L			$E = .8$ $T = 19.6$ $R = 238.73$ $D = 24^{\circ}00'$ $L = 39.0$
116+12.9	B.C.			
		N87°06'W	16.5	
115+96.4	E.C.			
Δ 115+15.7	48°14'L			$E = 19.6$ $T = 91.6$ $R = 204.63$ $D = 28^{\circ}00'$ $L = 172.3$
114+24.1	B.C.			
		N38°52'W	102.6	
Δ 113+21.5	4°38'L			
		N34°14'W	282.5	
110+39.0	E.C.			
Δ 108+55.3	38°14'R			$E = 33.4$ $T = 198.6$ $R = 572.96$ $D = 10^{\circ}00'$ $L = 382.3$
106+56.7	B.C.			
		N72°28'W	7.1	
106+49.6	E.C.			
Δ 106+04.4	9°03'R			$E = 1.8$ $T = 45.3$ $R = 572.96$ $D = 10^{\circ}00'$ $L = 90.5$
105+59.1	B.C.			
		N81°03'W		

615.0

Old Sta. 116+00

127.7

Old Sta. 114+72.3

194.2

Old Sta. 112+78.1

481.1

Old Sta. 107+97

251.0

Old Sta. 105+46

313.6

Sta	L	Bear	Dist.	Curve Data.
135+03.0	E.C.	S44°24'W		E=11 ✓ T=38.9 ✓ R=716.20 ✓ D=8°00' ✓ L=77.7 ✓
134+64.2	6°13'R ✓			
134+25.3	BC			
		S38°11'W	75.0 ✓	
133+50.3	E.C.			E=0.7 ✓ T=23.1 ✓ R=409.26 ✓ D=14°00' ✓ L=46.2 ✓
133+27.2	6°28'L ✓			
133+04.1	BC			
		S44°39'W	519.0 ✓	
127+85.1	E.C.			E=11.7 ✓ T=98.4 ✓ R=409.26 ✓ D=14°00' ✓ L=193.2 ✓
126+90.3	27°03'L ✓			
125+91.9	B.C.			
		S71°42'W	197.2 ✓	
123+94.7	E.C.			E=7.7 ✓ T=148.4 ✓ R=1432.40 ✓ D=4°00' ✓ L=295.8 ✓
122+47.3	11°50'L			
120+98.9	B.C.			
		S83°32'W	447.0 ✓	
116+51.9	E.C.			

275.0

Old Sta. 134+33 (P.O.T.)

137.0

A

640.5

B

444.0

Old Sta. 122+15

615.0



Sta	L	Beat	Dist	Curve Data
150+64.2	EC	S42°39'W		E=2.4 ✓ T=52.2 ✓ R=572.96 ✓ D=10°00' ✓ L=104.2 ✓
Δ 150+12.2	10°25' L			
149+60.0	BC			
149+48.0	EC	S53°04'W	12.0	
Δ 148+98.7	24°01' R			E=5.3 ✓ T=50.8 ✓ R=238.13 ✓ D=24°00' ✓ L=100.1 ✓
148+47.9	BC			
142+14.1	EC	S29°03'W	633.8	
Δ 141+17.8	35°55' R			E=16.3 ✓ T=103.2 ✓ R=318.31 ✓ D=18°00' ✓ L=199.5 ✓
140+14.6	BC			
138+24.0	EC	S6°52'E	190.6	
Δ 137+39.1	51°16' L			E=22.3 ✓ T=98.2 ✓ R=204.63 ✓ D=28°00' ✓ L=183.1 ✓
136+40.9	BC			
135+03.0	EC	S44°24'W	137.9	

397.8

Old Sta. 152+00

115.0

Old Sta. 150+85

187.8

Old Sta. 141+00

392.0

Old Sta. 137+08

275.0

Sta	L	Beat	Dist	Curve Data
161+154	B.C.			
			S33°37'W	50.9
160+64.5	E.C.			
Δ160+080	1556'L			
159+50.7	B.C.			
			S49°33'W	232.6
157+10.1	E.C.			
Δ156+77.4	2451'R			
156+35.3	B.C.			
			S24°42'W	26.4
156+08.9	E.C.			
Δ155+68.8	14°31'L			
155+28.3	B.C.			
			S39°13'W	118.5
Δ154+09.8	3°26'L			
			S42°39'W	345.6
150+64.2	E.C.			

E=4.0 ✓  
T=57.3 ✓  
R=409.26 ✓  
D=14°00' ✓  
L=113.8 ✓

E=4.6 ✓  
T=42.1 ✓  
R=190.99 ✓  
D=30°00' ✓  
L=82.8 ✓

E=2.6 ✓  
T=40.5 ✓  
R=318.31 ✓  
D=18°00' ✓  
L=80.6 ✓

221.6

Old Sta. 162+00

332.0

Old Sta. 158+68

169.0

Old Sta. 157+59

159.0

Old Sta. 156+00

397.8

Sta. ~~172+47.5~~ ✓ L Beat Dist. Curve Data  
170+47.5 B.C.

~~172+45.7~~ ✓ N89°11'W 2.3 ✓  
170+45.2 E.C.

~~171+96.8~~ ✓  
Δ169+96.8 31°48'L ✓

~~171+45.8~~ ✓  
169+45.8 B.C.

~~171+18.7~~ ✓ N.57°23'W 27.1 ✓  
169+18.7 E.C.

~~170+75.6~~ ✓  
Δ168+75.6 74°53'R

~~170+14.7~~ ✓  
168+14.7 B.C.

~~166+46.7~~ ✓  
=168+46.7 E.C. S47°44'W 168.0 ✓

Δ165+42.2 16°51'L ✓

164+36.1 B.C.

163+36.6 E.C. S64°35'W 99.5 ✓

Δ162+28.8 30°58'R ✓

161+15.4 B.C.

E=7.1 ✓  
T=51.0 ✓  
R=179.05 ✓  
D=32°00' ✓  
L=99.4 ✓

E=20.6 ✓  
T=60.9 ✓  
R=79.58 ✓  
D=72°00' ✓  
L=104.0 ✓

E=7.8 ✓  
T=106.1 ✓  
R=716.20 ✓  
D=8°00' ✓  
L=210.6 ✓

E=15.4 ✓  
T=113.4 ✓  
R=409.26 ✓  
D=14°00' ✓  
L=221.2 ✓

93.0

Old Sta. 172+07

139.0

Old Sta. 170+68

336.0

Old Sta. 167+33

319.0

221.6

Sta. L B. Dist. Curve Data  
A 205+17.2 (S 85° 08' W)

204+12.4 B.C.  
S 37° 45' W 1829.4

A 185+83.0 1° 26' R  
S 36° 19' W 300.0

A 182+83.0 3° 15' A  
S 33° 04' W 179.1

181+03.9  
179+03.9 E.C.  
179+93.6  
A 177+83.6 9° 39' L  
178+62.7  
176+62.7 B.C.

E=5.1  
T=120.9  
R=1432.40  
D=4° 00'  
L=241.2

175+59.6  
173+59.6 E.C.  
S 42° 43' W 303.1

174+53.2  
A 172+53.2 17° 09' L  
173+45.2  
171+45.2 B.C.

E=8.1  
T=108.0  
R=716.20  
D=8° 00'  
L=214.4

173+24.9  
171+24.9 E.C.  
S 59° 52' W 20.3

172+87.2  
A 170+87.2 30° 57' L  
172+47.5  
170+47.5 B.C.

E=5.4  
T=39.7  
R=1432.4  
D=40° 00'  
L=77.4

N 89° 11' W

Old Sta. 206+34

1934.2

Old Sta. 186+00

300.0

Old Sta. 183+00

300.0

Old Sta. 180+00

532.0

Old Sta. 174+68

168.0

Old Sta. 173+00

93.0

Sta L B Dist C.D.

227+72.0 B.C.

N59°16'W 187.4

225+85.4 E.C.

E=13.2 ✓  
T=51.8 ✓  
R=95.49 ✓  
D=60°00' ✓  
L=95.0 ✓

Δ 225+42.2 57°00'R

292.0

Old Sta. 226+B1

224+90.4 B.C.

S63°44'W 225.0

222+65.4 E.C.

E=20.9 ✓  
T=69.9 ✓  
R=106.10 ✓  
D=54°00' ✓  
L=123.6 ✓

Δ 222+11.7 66°44'L

346.7

221+41.8 B.C.

N49°32'W 378.9

217+62.9 E.C.

E=15.0 ✓  
T=74.8 ✓  
R=119.05 ✓  
D=32°00' ✓  
L=141.7 ✓

523.6

Δ 216+96.0 45°20'R

Old Sta. 218+25

216+21.2 B.C.

S85°08'W 1011.4

206+09.8 E.C.

E=22.0 ✓  
T=104.8 ✓  
R=238.73 ✓  
D=24°00' ✓  
L=197.4 ✓

1191.0

Δ 205+17.2 47°23'R

Old Sta. 206+34

204+12.4 B.C.

S37°45'W 1829.4

1934.2

Sta. L B D D.C.

237+10.3 B.C.

S2°16'W 140.5

235+69.8 E.C.

E=10.2  
T=77.30  
R=286.48  
D=20°00'  
L=151.0

280.0

A 234+96.1 30°12' L

Old Sta. 236+50

234+18.8 B.C.

S32°28'W 37.9

195.0

233+80.9 E.C.

E=5.5  
T=79.8  
R=572.96  
D=10°00'  
L=158.5

Old Sta. 234+55

A 233+02.2 15°51' L

232+22.4 B.C.

S48°19'W 13.7

132.0

A 232+08.7 E.C.

E=5.1  
T=38.5  
R=143.24  
D=40°00'  
L=75.3

Old Sta. 233+23

A 231+71.9 30°07' L

231+33.4 B.C.

S78°26'W 259.9

351.2

228+73.5 E.C.

E=9.9  
T=52.8  
R=136.42  
D=42°00'  
L=100.7

A 228+25.6 42°18' L

292.0

227+72.8 B.C.

N59°16'W

Sta L B D C. D-  
256+108.5 B.C.

S77°10'W 724.1  
730.9

248+77.6 E.C.

A 247+94.8 6°38' R

E=2.4  
T=83.0  
R=1432.40  
D=4°00'  
L=166.8

247+11.8 B.C.

S70°32'W 87.4

246+24.4 E.C.

A 245+63.9 19°32' R

E=5.3  
T=61.6  
R=358.10  
D=16°00'  
L=122.1

245+02.3 B.C.

S51°00'W 372.0

A 241+30.3 E.C.

E=8.0  
T=81.4  
R=409.26  
D=17°00'  
L=160.7

A 240+51.0 22°30' L

239+69.6 B.C.

S73°30'W 151.4

238+18.2 E.C.

E=20.0  
T=62.2  
R=86.81  
D=66°00'  
L=107.9

A 237+72.5 1°14' R

237+10.3 B.C.

S2°16'W

~~883.0~~  
876.3

Old Sta. 249+72

232.0

Old Sta. 247+40

575.0

Old Sta. 242+25

295.0

Old Sta. 239+30

280.0

Sta.  $\checkmark$  L B D C.D.  
278  $\checkmark$  B.C.  
276+63.5

S66°38'W 221.2  $\checkmark$

276  $\checkmark$  F.C.  
274+42.3

275  $\checkmark$  17°30'R  
243+55.5

E=6.7  $\checkmark$   
T=66.2  $\checkmark$   
R=572.96  $\checkmark$   
D=10°00'  $\checkmark$   
L=175.0  $\checkmark$

274  $\checkmark$  B.C.  
272+67.3

S49°08'W 121.1  $\checkmark$

273  $\checkmark$  F.C.  
271+46.2

272  $\checkmark$  17°59'L  
270+57.1

E=7.1  $\checkmark$   
T=90.7  $\checkmark$   
R=572.96  $\checkmark$   
D=10°00'  $\checkmark$   
L=179.8  $\checkmark$

271  $\checkmark$  B.C.  
269+66.4

S67°07'W 921.4  $\checkmark$

260+45.0  $\checkmark$  F.C.  
=262+45

E=10.0  $\checkmark$   
T=37.9  $\checkmark$   
R=66.62  $\checkmark$   
D=86°00'  $\checkmark$   
L=68.9  $\checkmark$

260+14.0  $\checkmark$  159°17'L

259+76.1  $\checkmark$  B.C.

257+25.4  $\checkmark$  = E.C.  
257+31.4

N53°36'W 250.7  $\checkmark$   
N.53°30'W 238.6  $\checkmark$

256+70.9  $\checkmark$  49°20'R  
427.71.16 19.14R

E=15.1  $\checkmark$   
T=69.1  $\checkmark$   
R=150.78  $\checkmark$   
D=38°00'  $\checkmark$   
L=129.6  $\checkmark$  } O.K.

256+01.7  $\checkmark$  B.C.  
256+08.5

S77°10'W 724.1  $\checkmark$

350.0

Old Sta. 275+50

300.0

Old Sta. 272+50

1050.0

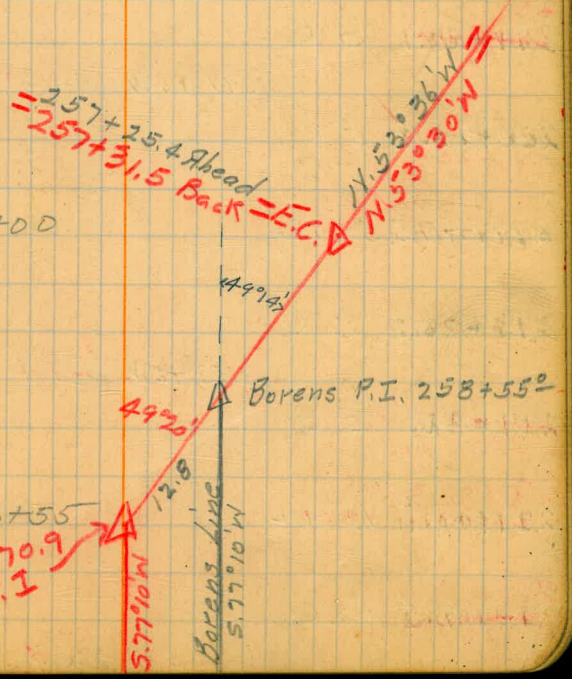
Old Sta. 262+00

245.0  
357.8

Old Sta. 258+55

883.0  
876.3

256+70.9 P.I.





Sta  $\checkmark$  L B D C.D.  
294  $\checkmark$  B.C.  
292+30.6

288  $\checkmark$  E.C.  
286+62.0  
S42°49'W 568.6  $\checkmark$

288  $\checkmark$  L  
286+34.0 7°51' L

288  $\checkmark$  B.C.  
286+05.9

285  $\checkmark$  E.C.  
283+45.7  
S50°40'W 260.2  $\checkmark$

284  $\checkmark$  R  
282+65.6 32°57' R

283  $\checkmark$  B.C.  
281+80.9

282  $\checkmark$  E.C.  
280+76.1  
S17°43'W 104.8  $\checkmark$

282  $\checkmark$  L  
280+03.7 35°59' L

279  $\checkmark$  B.C.  
279+26.2

279  $\checkmark$  E.C.  
277+44.3  
S53°42'W 181.9  $\checkmark$

279  $\checkmark$  L  
277+04.1 12°56' L

278  $\checkmark$  B.C.  
276+63.5

S66°38'W 221.2

E=1.0  $\checkmark$   
T=28.1  $\checkmark$   
A=409.26  $\checkmark$   
D=14°00'  $\checkmark$   
L=56.1  $\checkmark$

E=12.3  $\checkmark$   
T=84.7  $\checkmark$   
A=286.48  $\checkmark$   
D=20°00'  $\checkmark$   
L=164.8  $\checkmark$

E=12.3  $\checkmark$   
T=77.5  $\checkmark$   
R=238.73  $\checkmark$   
D=74°00'  $\checkmark$   
L=149.9  $\checkmark$

E=2.3  $\checkmark$   
T=40.6  $\checkmark$   
A=358.10  $\checkmark$   
D=16°00'  $\checkmark$   
L=80.8  $\checkmark$

666.0

Old Sta. 288+40

373.0

Old Sta. 284+67

267.0

Old Sta. 282+00

300.0

Old Sta. 279+00

350.0

Sta L B. D. C.D.

308+56.2 ✓ B.C

S79°07'W 250.9 ✓

306+05.3 ✓ E.C

E=1.8 ✓

T=59.4 ✓

305+46.1 ✓ 7°07'L

R=954.93 ✓

D=6°00' ✓

L=1186 ✓

304+86.7 ✓ B.C

S86°14'W 235.0 ✓

302+51.7 ✓ E.C

E=1.9 ✓

T=60.6 ✓

301+91.2 ✓ 7°16'R

R=954.93 ✓

D=6°00' ✓

L=1211 ✓

301+30.6 ✓ B.C

S78°58'W 331.6 ✓

297 ✓  
295+99.0 ✓ E.C

E=1.8 ✓

T=49.8 ✓

295+54.3 ✓ 8°57'R

R=572.96 ✓

D=10°00' ✓

L=895 ✓

297 ✓  
295+09.5 ✓ B.C

S70°01'W 142.9 ✓

295 ✓  
293+66.6 ✓ E.C

E=8.3 ✓

T=69.3 ✓

294 ✓  
292+99.9 ✓ 27°12'R

R=286.48 ✓

D=20°00' ✓

L=136.0 ✓

294 ✓  
292+30.4 ✓ B.C

S42°49'W 568.6 ✓

384.0

Old Sta. 305+55

355.0

Old Sta. 302+00

437.0

Old Sta. 297+63

257.0

Old Sta. 295+06

666.0

Sta L B D C.D.

341+62.9 2°20'R

S23°3'W 490.5

336+72.4 E.C

E=138  
T=126.7  
R=572.96  
D=10°00'  
L=249.3

335+49.8 24°56'L

334+23.1 B.C

S48°09'W 1881.8

315+46.3 E.C.

E=108  
T=94.4  
R=409.26  
D=14°00'  
L=185.6

314+50.1 25°59'L

313+55.7 B.C

S74°08'W 60.5

312+95.2 E.C

E=3.1  
T=42.1  
R=286.48  
D=20°00'  
L=83.7

312+53.6 16°49'L

312+11.5 B.C

N87°08'W 208.4

310+03.1 E.C

E=3.8  
T=73.7  
R=716.70  
D=8°00'  
L=146.9

309+29.9 11°45'R

308+56.2 B.C

S79°07'W 250.9

617.0

B

2103.0

A

197.0

Old Sta 312+63.2 P.O.T.

324.2

Old Sta 309+39

384.0

Sta L B D C.D.

~~428+189.2~~ 45°17'L

428+94.1

~~428+34.5~~

~~428+27.5~~ B.C.

N.53°34' 469.2  
~~462.3~~

423+165.2 E.C.

E=10.9  
T=145.0  
R=954.93  
D=6°  
L=257.8

~~422+22.4~~ 17°16'R

420+77.4 B.C.

N.70°48' 602.8  
~~596.3~~

~~414+74.6~~  
~~414+81.2~~ E.C.

E=9.2  
T=73.2  
R=286.48  
D=20°  
L=143.2

~~414+04.9~~  
~~414+11.2~~ 28°39'R

413+314.1  
~~413+38.0~~ B.C.

S80°33'W 2061.7  
~~2067.3~~

4392+70.2 0°54'L

S81°08'W 3092.7

4361+77.5 E.C.

E=20.0  
T=82.3  
R=159.16  
D=36°00'  
L=151.9

4361+089 54°41'R

4360+25.6 B.C.

1862.7  
S26°21'W 1891.1

4341+62.9 2°20'R

S23°13'W

Old Sta. = 431+04.7

~~667.0~~  
673.9

~~811.4~~  
821.0

422+25.9

~~2110.0~~  
2134.4

~~414+14.6~~

~~3125.0~~

~~1945.0~~  
1945.0  
8.7

1945.0  
82.3  
1862.7

Sta  $\checkmark$  L B D C.D.  
501+09<sup>1</sup> E.C.

E=4.3  
T=111.3  
R=1432.4  
D=4  
L=222.1

A 499+98<sup>3</sup> 8°53'L

498+87<sup>2</sup> B.C.

S79°26'W 392.3

494+94<sup>2</sup> E.C.

E=4.9  
T=118.4  
R=1432.4  
D=4  
L=236.2

A 493+76<sup>2</sup> 10°03'L

492+58<sup>5</sup> B.C.

S89°29'W 1202.3

480+56<sup>2</sup> E.C.

E=2.0  
T=153.3  
R=716.2  
D=8  
L=106.5

A 480+03<sup>0</sup> R. 8°31'

479+49<sup>2</sup> B.C.

S80°58'W 2435.7

A 455+19<sup>0</sup> 10°43'P  
0 47 R

S51°03'W

A 444+77<sup>0</sup> 10°51'L  
1°00'L

S80°20'W  
S80°11'W 1337.0

431+38<sup>5</sup>  
429+47<sup>4</sup> =  
429+40<sup>7</sup> E.C.  
431+49<sup>7</sup>

1038.4  
5.81°11'W 1036.5

E=12.0  
T=59.7  
R=143.24  
D=4  
L=113.2

A 428+87<sup>2</sup> 45°17'L  
428+94.1

"A"  
622.0

Old Sta. 494+00

1374.0

Old Sta. 480+26

1332.0 2489.0

Old Sta. 455+37

Old Sta. 442+00

1098.1

Old Sta. 431+04

Borens P.I.  
49+26<sup>2</sup>

S. 80°58'W  
S. 81°03'W

Borens P.I.  
455+37<sup>2</sup>

Location Line  
Borens Line.

Borens P.I.  
442+00

588+44<sup>2</sup>

~~588+44<sup>2</sup>~~

B.C.

5689.9

S. 46° 33' W 5693.2

531+55<sup>0</sup> 0° 10' R

S. 46° 23' W 1689.5

514+65<sup>5</sup> E.C.

E=1.7 ✓  
T=57.1 ✓  
R=954.93 ✓  
D=6° ✓  
L=114.2 ✓

514+08<sup>4</sup> 6° 51' R

513+51<sup>3</sup> B.C.

S. 39° 32' W 255.9

510+95<sup>4</sup> 3° 04' L

S. 42° 36' W 314.4

507+81<sup>0</sup> E.C.

E=6.7 ✓  
T=113.6 ✓  
R=954.93 ✓  
D=6° ✓  
L=226.1 ✓

506+68<sup>3</sup> 13° 34' L

505+54<sup>2</sup> B.C.

S. 56° 10' W 128.9

504+26<sup>0</sup> E.C.

E=7.6 ✓  
T=120.5 ✓  
R=954.93 ✓  
D=6° ✓  
L=239.7 ✓

503+06<sup>8</sup> 14° 23' L

501+86<sup>3</sup> B.C.

S. 70° 33' W 77.2

501+09<sup>17</sup> E.C.

~~5772.4~~  
5769.1

Old Sta 531+71.6

1746.6

Old Sta. 514+25

313.0

428.0

363.0

309.0

716+29<sup>4</sup> B.C.

5.69°33'N 2205.4

694+24.0 E.C.

A 693+24<sup>1/2</sup> 20°10' L

692+22<sup>3</sup> B.C.

5.89°43'N 4666.1

E.C.

A 645+56<sup>2</sup> 1°24' L

B.C.

N. 88°53'N 5424.9

591+31<sup>3</sup> E.C.

A 590+62.8 30°56' L

589+90<sup>2</sup> B.C.

~~589+78~~  
~~589+79.7~~  
~~589+83~~

E.C.

N. 57°57'N 7.7

A ~~589+27~~  
~~589+24~~ 75°30' R

~~589+24~~  
~~588+44.2~~

B.C.

5.46°33'N 5693.2

E=9.0  
T=101.9  
R=572.96  
D=10°  
L=201.7

E=9.8  
T=72.1  
R=260.44  
D=22°  
L=140.6

E=27.1  
T=79.2  
R=102.31  
D=56°  
L=134.8

717+35 Old Sta.

(27)

2367.0

Old Sta. 693+68

4768.0

Old Sta. 646+00

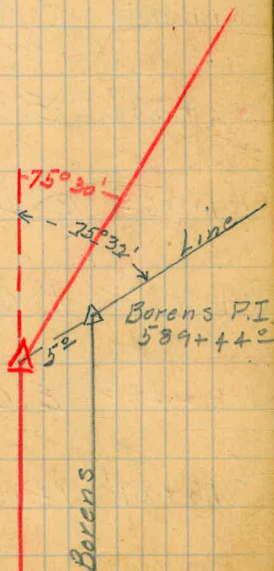
5497.0

Old Sta. 591+03

~~159.0~~  
164.0

Old Sta. 589+44

~~5772.4~~  
5769.1



Contd. on Page 31  
Book #5

March 11  
Converse  
McCarthy  
Saper  
Simpson

800+992 B.C. =  
801+02.1 B.C.

N80°44'W 1167.4  
N. 80°42'W

789+348 / 1°07' L  
Δ 789+318 0°48' L

N79°35'W 834.8  
N79°56'W 1968.4

781+00 0°21' R  
770+314 E.C.

N79°56'W 1068.6

E=1.3  
T=50.6  
R=954.93  
D=6°  
L=101.1

Δ 769+809 6°04' R

769+303 B.C.

N86°00'W 3676.6

732+537 E.C.

E=5.7  
T=127.8  
R=1432.40  
D=4°  
L=255.0  
Mar. 11.

Δ 731+265 10°12' R

729+987 B.C.

S. 83°48'W 1250.5

717+482 E.C.

E=3.7  
T=59.7  
R=477.47  
D=12°  
L=118.8

Δ 716+891 14°15' R

716+294 B.C.

S. 69°33'W 2205.4

Start 732+537

(28)

Contd. on Page 35.

1603.0  
1286.0

Old Sta 789+79

RPA 20° Δ 789+348 7° Δ RP

781+00 PPT Δ 12° Δ 11° Δ

RPA 20° Δ

RPA 44° Δ 11° Δ RP

Old Sta. 770+28 (51 NE)

RPA 48° Δ 10° Δ RP

762+00 POT Δ 35° Δ 10° Δ

754+00 Pot Δ 10° Δ 9° Δ

Old hubo. 85 N by E 742+00 POT Δ 34° Δ 9° Δ

731+73 Old Sta.

1438.0

Old Sta. 717+35

2367.0



817+99.4 EC

A 817+68.27°30'L

817+36.9 B.C.

S70°41'W 0.0

817+30.9 EC.

A 816+88.1 20°45'L

816+44.4 B.C.

N88°34'W 367.4

812+77.0 EC.

A 812+31.3 70°59'L

811+69.4 B.C.

N17°35'W 552.5

806+16.9 E.C.

~~A 805+34.8 63°09'L~~

~~804+31.2 B.C.~~

N80°44'W 1499.4

E=1.0

T=31.3

R=477.47

D=12°

L=62.5

E=4.0

T=43.7

R=238.73

D=24°

L=86.5

E=19.8

T=61.9

R=86.8

D=66°

L=102.6

~~E=29.2~~

~~T=53.6~~

~~R=113.52~~

~~D=31°~~

~~L=185.1~~

(29)

660.0

Old Sta 818+54

81.0

Old Sta 817+73

473.0

Old Sta 813+00

718.0

~~Old Sta 805+82~~

old Sta 802+65 = 802+17.8 on new line

805+34.8  
3 17.0

---

802+17.8

805+82  
802+65

---

3+17

830+54.4 E.C. S71°29'W 4.8

Δ 829+72.0 6°36'R

828+89.4 B.C.

S64°53'W 224.8

826+64.6 E.C.

Δ 826+20.6 30°42'R

825+74.3 B.C.

N84°25'W 1.7

825+72.6 E.C.

Δ 825+23.2 24°06'R

824+72.2 B.C.

S71°29'W 1.9

824+70.3 E.C.

Δ 824+28.1 8°18'R

823+86.5 B.C.

S65°11'W 587.1

817+99.4 E.C.

E=2.4  
T=82.6  
R=432.40  
D=4°  
L=165.0

E=6.2  
T=46.3  
R=168.52  
D=34°  
L=90.3

E=5.4  
T=51.0  
R=238.73  
D=24°  
L=100.4

E=1.5  
T=41.6  
R=572.96  
D=10°  
L=83.8

Old Sta. 829+50

H

Old Sta. 825+08.5

Old Sta 824+14

Old Sta 824+00 = Old Sta 823+00

S36°56'W 10.3

837+01.6 E.C

E=10.2  
T=84.3  
R=572.96  
D=10°  
L=167.3

836+18.6 16°44'L

835+34.3 B.C

S53°40'W 61.7

834+72.6 E.C

E=5.1  
T=47.8  
R=220.87  
D=26°  
L=94.1

834+26.3 24°18'L

833+78.5 B.C

S78°08'W 110.9

832+67.6 E.C

E=24  
T=41.4  
R=358.1  
D=16°  
L=82.4

832+26.6 13°11'L

831+85.2 B.C

N88°41'W 2.0

831+83.2 E.C

E=5.4  
T=62.6  
R=358.1  
D=16°  
L=124.0

831+21.8 19°50'R

830+59.2 B.C

S71°29'W 4.8

830+54.4 E.C

142.0

Old Sta. 835+83

193.8

B''

200.6

A''

106.0

Old Sta. 831+00

150.0

S4°40'W

843+60.1 E.C

E=5.5  
T=56.4  
R=286.48  
D=20°  
L=111.3

843+05.2 22°16'L

Old Sta. 842+54

842+48.8 B.C

S26°56'W 108.6

841+40.2 E.C

E=4.1  
T=51.0  
R=318.31  
D=18°  
L=101.2

840+90.0 18°13'R

Old Sta. 840+38

840+39.0 B.C.

S8°43'W 74.2

839+64.8 E.C

E=8.0  
T=42.1  
R=106.1  
D=54°  
L=80.2

839+26.7 43°17'L

838+84.6 B.C.

S52°00'W 78.5

836+06.1 E.C.

E=3.1  
T=47.4  
R=358.10  
D=16°  
L=94.2

837+59.3 15°04'R

Old Sta. 837+25.0

837+11.9 B.C.

S36°56'W 10.3

837+01.6 E.C.

172.0

168.0

167.3

167.3

216.0

233.0

854+56.8 E.C. S42°-14'W 308.1 ✓

E=4.2 ✓  
T=51.7 ✓  
R=318.31 ✓  
D=18° ✓  
L=102.6 ✓

Δ854+05.9 18°28'R ✓

853+54.2 B.C. ✓

S23°-46'W 141.8 ✓

852+12.4 E.C. ✓

E=9.7 ✓  
T=89.5 ✓  
R=409.26 ✓  
D=14° ✓  
L=176.3 ✓

Δ851+25.6 24°41'R ✓

850+36.1 B.C. ✓

S0°-55'E 43.5 ✓

Δ849+92.6 3°40'R ✓

S4°-35'E 239.9 ✓

Δ847+52.7 1°51'L ✓

S2°-44'E 132.0 ✓

Δ846+20.7 4°51'L ✓

S2°-07'W 84.0 ✓

Δ845+36.7 2°33'L ✓

S4°-40'W 176.6 ✓

843+60.1 E.C. ✓

452.0

Old Sta 853+53

283.0

Old Sta 850+70

133.0

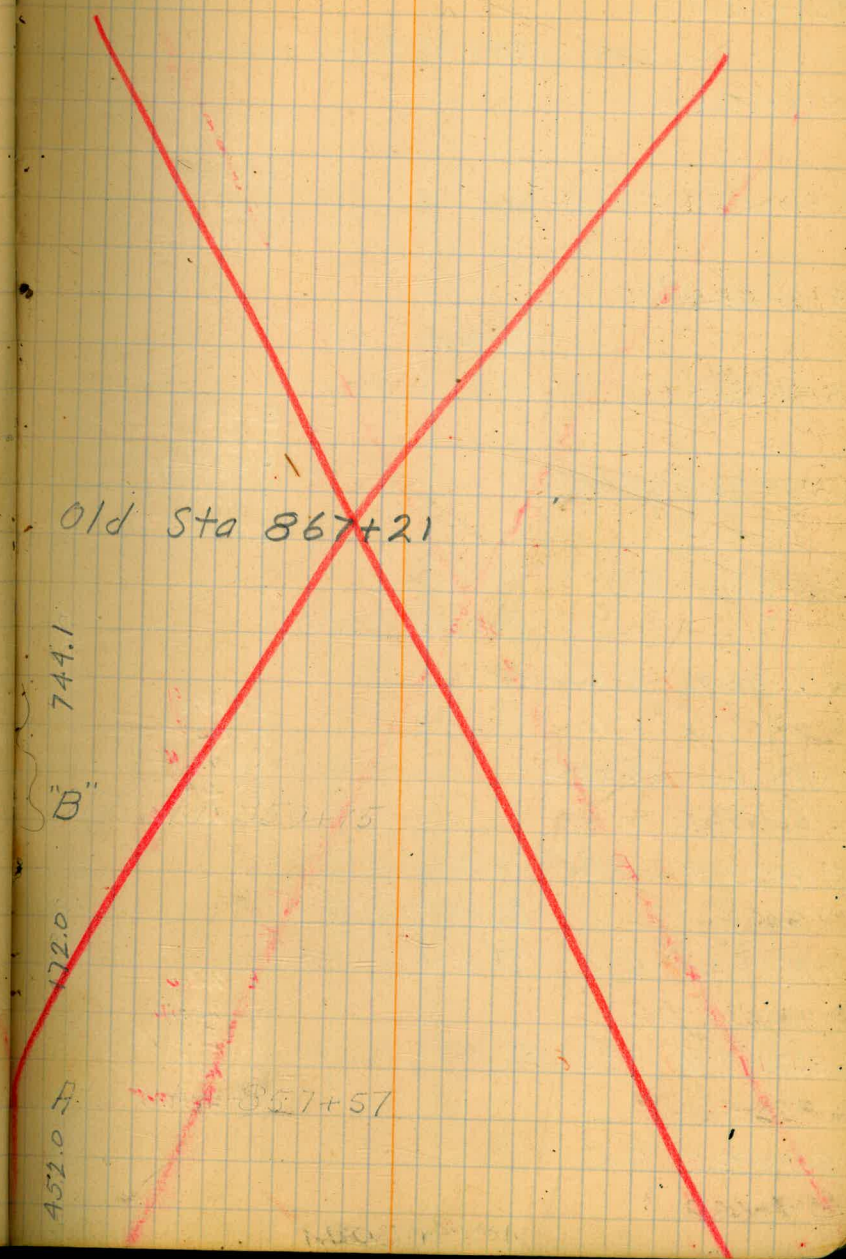
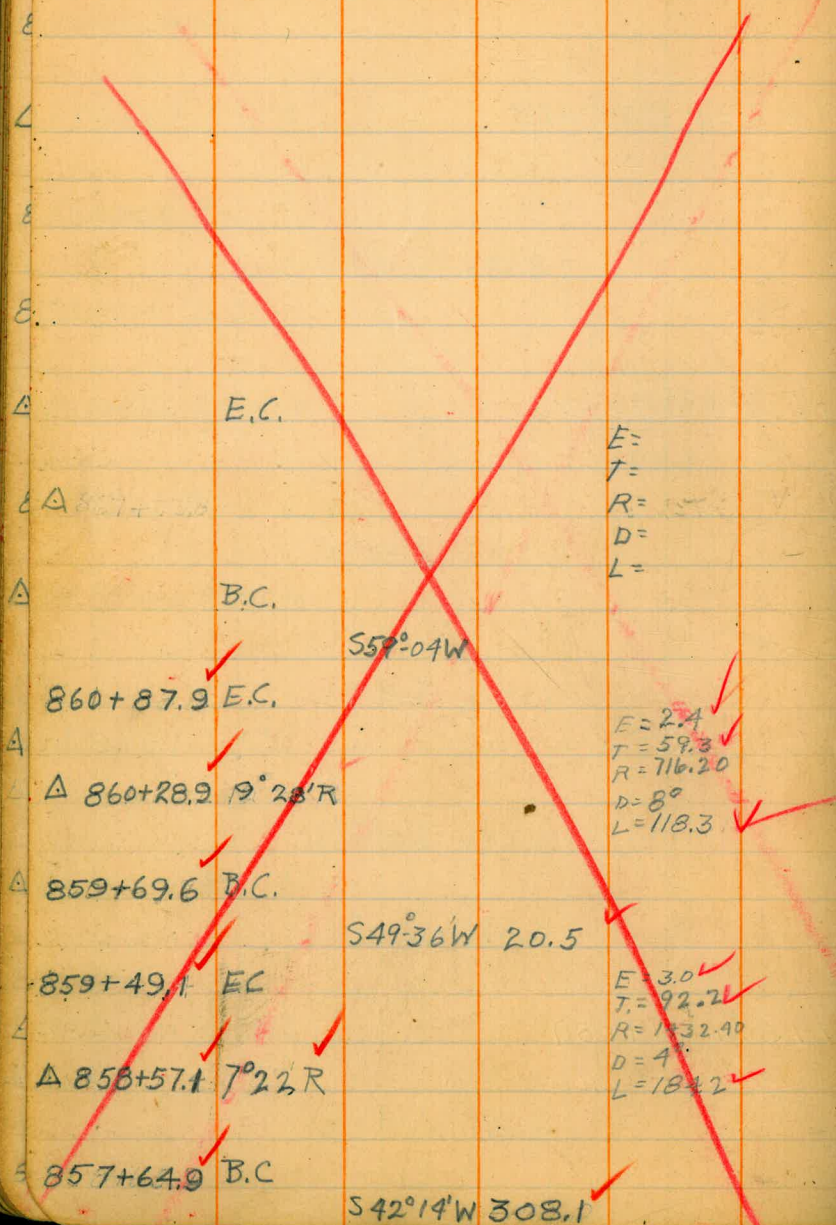
239.9

132.0

84.0

Old Sta. 844+87

233.0



822+08.4 B.C.

819+35.0 POT S63°11'W 532.6 ✓

816+75.8 E.C.

E=0.8 ✓

T=23.5 ✓

R=358.10 ✓

D=16° ✓

L=46.9 ✓

Δ 816+52.4 7°30' L ✓

816+28.9 B.C.

S70°41'W 5.1 ✓

816+23.8 E.C.

E=4.8 ✓

T=52.4 ✓

R=286.48 ✓

D=20° ✓

L=103.8 ✓

Δ 815+72.4 20°45' L ✓

815+20.0 B.C.

N88°34'W 336.9 ✓

811+83.1 E.C.

E=19.6 ✓

T=83.7 ✓

R=168.52 ✓

D=34° ✓

L=155.3 ✓

Mar. 17 ✓

Δ 811+11.5 52°48' L ✓

810+27.8 B.C.

N35°46'W 703.7 ✓

803+24.1 E.C.

E=23.6 ✓

T=118.6 ✓

R=286.48 ✓

D=20° ✓

L=224.9 ✓

Δ 802+17.8 49°58' R ✓

800+99.2 B.C.

801+02.1 B.C. =

N80°44'W 1167.4 ✓

(35)

660.0 ✓

RPA 15° Δ P.T. 35° Δ RP

81.0 ✓

Old Sta 818+54

RP Δ 15° Δ 30° Δ

Δ 12° Δ 30° Δ

473.0 ✓

Old Sta 817+73

RPA 7° Δ 27° Δ

RPA 15° Δ 19° Δ

906.0 ✓

Old Sta. 813+00

Contd. in Book #5  
Page #8.

RPA 20° Δ 20° Δ RP

Δ 20° Δ 20° Δ

1286.0 ✓

Old Sta 802+65 (P.O.T.)

Δ 40° Δ 20° Δ

Contd. from Page 38

844+28.8 B.C.

S4°-40'W 130.1

842+98.7 E.C.

Δ 842+48.8 22° 16' L

841+97.5 B.C.

S26°-56'W 244.4

839+53.1 E.C.

Δ 838+28.4 10° 00' L

837+03.1 B.C.

S36°-56'W 80.2

836+22.9 E.C.

Δ 835+81.0 34° 33' L

835+36.5 B.C.

826+60 P.O.T.

S71°-29'W 1020.6

824+15.9 E.C.

= 825+15.9 E.C.

Δ 823+12.3 8° 18' R

822+08.4 B.C.

S63°-11'W 532.6

Convers  
McCarty  
Soper  
Simpson

E=5.0  
T=51.3  
R=260.44  
D=22°  
L=101.2

March 15

E=5.5  
T=125.3  
R=1432.40  
D=4°  
L=250.0

E=6.8  
T=44.5  
R=1432.4  
D=4°  
L=86.4

E=3.8  
T=103.9  
R=1432.40  
D=4°  
L=207.5

(36)

233.0

Δ 14° Δ 27° Δ

Δ 15° Δ 25° Δ

Old Sta 842+54 old hub 14 left

421.0

Δ 15° Δ 31° Δ

Δ 15° Δ 16° Δ

Old Sta 838+33 old hub 12 Left and back

250.0

Δ 15° Δ 25° Δ

Δ 15° Δ 22° Δ

Old Sta 835+83 old hub 12 Left and back

1169.0

Δ 15° Δ 15° Δ

Δ 20° Δ 15° Δ

Δ 15° Δ 28° Δ

Old Sta 824+14

660.0

RPA 15° Δ 38° Δ



523-46W

851+16.6 E.C.

Δ 850+62.2 19° 48' R

850+06.6 B.C.

53°-58'W 59.9

849+46.7 E.C.

Δ 848+38.1 13° 05' R

847+28.6 B.C.

59°-01'E 75.9

846+52.7 E.C.

Δ 846+05.3 7° 36' L

845+57.7 B.C.

51°-31'E 25.8

845+31.9 E.C.

Δ 844+80.4 6° 11' L

844+28.8 B.C.

54-40W 130.1

Converse  
Mc Carty  
Soper  
Simpson

E=4.8  
T=55.6  
R=318.31  
D=18°  
L=110.0

March 16

E=6.3  
T=109.5  
R=954.93  
D=6°  
L=218.1

E=1.6  
T=47.6  
R=716.20  
D=8°  
L=95.0

E=1.4  
T=51.6  
R=954.93  
D=6°  
L=103.1

(37)

283.0

Old Sta 850+70 is 12 left

36° 04' down 47

225.0

Old Sta 848+45 is 12 left

33° 31' up 16  
34° 42' down 44

233.0

Δ 15L Δ 36° Δ

Δ 16° Δ 33° Δ

33° 47' 38

Old Sta 846+12 is 16 left

185.0

Δ 20° Δ 33° Δ

Δ 15° Δ 31° Δ

Old Sta 844+87 is 15 left

233.0

Converse  
McCarty  
Soper  
Simpson

March 17

✓  $\Delta$  867+10.9  $5^{\circ}10'R$   $S64^{\circ}20'W$

✓ 859+99.1 E.C.  $S59^{\circ}10'W$  720.8

✓  $\Delta$  859+65.0  $10^{\circ}04'R$

✓ 859+39.8 B.C.

✓ 858+04.3 E.C.  $S49^{\circ}06'W$  135.5

✓  $\Delta$  857+47.2  $6^{\circ}52'R$

✓ 856+89.9 B.C.

✓ 853+94.9 E.C.

✓  $\Delta$  853+44.0  $18^{\circ}28'R$   $S42^{\circ}14'W$  295.0

✓ 852+92.3 B.C.

✓ 851+16.6 E.C.  $S23^{\circ}46'W$  175.7

E=1.1  
T=25.2  
R=286.48  
D=20°  
L=50.3

E=1.7  
T=57.3  
R=954.93  
D=6°  
L=114.4

E=4.2  
T=51.7  
R=318.31  
D=18°  
L=102.6

387.0  
746.0  
218.0  
404.0  
283.0

Old Sta 867+21  $\Delta$  23°  $\Delta$  34°  $\Delta$  is 3° back

Old Sta 859+75  $\Delta$  14°  $\Delta$  25°  $\Delta$  is 2° back

Old Sta 857+57 is 2° N by E

Old Sta 853+53 is 2° S.E.

(38)

28°09' up 27  
25°03' down 37

31°37' down 28

38°48' up 24  
28°25' down 29

30°29' up 25

37°49' 3E  
36°22' up 25

31°38' down 27

36°05 35

$\Delta$  18°  $\Delta$  26°  $\Delta$

$\Delta$  20°  $\Delta$  22°  $\Delta$

$\Delta$  21°  $\Delta$  26°  $\Delta$

$\Delta$  16°  $\Delta$  22°  $\Delta$

$\Delta$  15°  $\Delta$  29°  $\Delta$

880+52.3 B.C.

50° 25' E 148.3

879+04.0 E.C.

E=7.5  
T=119.8  
R=954.93  
D=6°  
L=238.3

Old Sta 878+00

Δ 877+85.5 14° 18' L

876+65.7 B.C.

513° 53' W 469

876+18.8 E.C.

E=7.8  
T=80.3  
R=409.26  
D=14°  
L=158.6

Old Sta 875+53

Δ 875+40.5 22° 12' L

874+60.2 B.C.

536° 05' W 137.7

Δ 873+22.5 2° 24' L

Old Sta 873+35

538° 29' W 154.0

871+68.5 E.C.

E=8.3  
T=73.0  
R=318.31  
D=18°  
L=143.6

Old Sta 871+08

Δ 870+97.9 25° 51' L

870+24.9 B.C.

S64° 20' W 314.0

387.0

227.0

218.0

247.0

327.0

528-55'W 87.5

888+29.9 E.C.

E=9.8  
T=60.0  
R=179.05  
D=32°  
L=115.8

Δ 887+74.1 37°04'R

887+14.1 B.C.

58°09'E 53.4

886+60.7 E.C.

E=4.8  
T=62.6  
R=409.26  
D=14°  
L=124.3

Δ 885+99.0 17°24'L

885+36.4 B.C.

59°-15'W 7.5

885+28.9 E.C.

E=2.5  
T=83.9  
R=1432.40  
D=4°  
L=167.5

Δ 884+45.36°42'L

883+61.4 B.C.

S15°57'W 192.2

881+69.2 E.C.

E=4.2  
T=58.9  
R=409.26  
D=14°  
L=116.9

Δ 881+11.2 16°22'R

880+52.3 B.C.

S0°25'E 148.3

Old Sta 887+92

Old Sta 886+16

Old Sta 884+62

Old Sta 881+27

242.0  
176.0  
154.0  
335.0  
327.0

~~A 896+16.8 1°42' L~~ ✓  
522°06'W 2814.1 ✓

~~894+81.6 E.C.~~ ✓  
523°48'W 135.2 ✓

~~A 894+05.3 24°49' R~~ ✓  
E=8.6 ✓  
T=78.8 ✓  
R=358.10 ✓  
D=16° ✓  
L=155.1 ✓

~~893+26.5 B.C.~~ ✓  
51°01'E 12.4 ✓

~~893+14.1 E.C.~~ ✓  
E=3.0 ✓  
T=46.8 ✓  
R=358.10 ✓  
D=16° ✓  
L=93.1 ✓

~~Δ 892+67.8 14°54' L~~ ✓  
513°53'W 115.7 ✓

~~892+21.0 B.C.~~ ✓  
E=6.2 ✓  
T=94.5 ✓  
R=716.20 ✓  
D=8° ✓  
L=187.9 ✓

~~891+05.3 E.C.~~ ✓  
528°55'W 87.5 ✓

~~A 890+11.9 15°02' L~~ ✓

~~889+17.4 B.C.~~ ✓

~~888+29.9 E.C.~~ ✓

2957.0 ✓  
Old Sta 896+43

214.0 ✓  
Old Sta 894+29

138.0 ✓  
Old Sta 892+91

257.0 ✓  
Old Sta 890+34

242.0 ✓

N85-32W 306.0

~~Δ935+56.3 24°56'L~~

~~935+07.6 B.C.~~

~~N60-36'W 1.9~~

~~935+05.7 E.C.~~

~~Δ934+58.227°08'R~~

~~934+08.8 B.C.~~

~~N87-44'W 290.2~~

~~931+18.6 E.C.~~

~~Δ930+18.242°09'R~~

~~929+07.8 B.C.~~

~~S50°07'W 196.7~~

~~927+11.1 E.C.~~

~~Δ925+73.828°01'R~~

~~924+30.9 B.C.~~

~~S22°06'W 2814.1~~

~~E=5.3  
T=48.7  
R=220.37  
D=26°  
L=95.9~~

~~E=5.9  
T=49.4  
R=204.63  
D=28°  
L=96.9~~

~~E=20.5  
T=110.4  
R=286.48  
D=20°  
L=210.8~~

~~E=17.6  
T=142.9  
R=572.96  
D=10°  
L=280.2~~

475.0

Old Sta 936+00

100.0

Old Sta 935+00

450.0

Old Sta 930+50

450.0

Old Sta 926+00

2957.0

(42)

951+84.7 B.C.

58°13'W 16.8

957+67.9 E.C.

E=15.6

T=95.9

Δ950+78.8 37°00'L

R=286.48

D=20°

L=185.0

Old Sta 951+33

949+82.9 B.C.

S45°13'W 669.1

943+13.8 E.C.

E=4.0

T=76.0

Δ942+38.3 12°07'L

R=716.20

D=8°

L=151.5

Old Sta 942+92

941+62.3 B.C.

S57°20'W 20.7

941+41.6 E.C.

E=19.7

T=120.3

Δ940+29.8 37°08'L

R=358.19

D=16°

L=232.1

Old Sta 940+75

939+09.5 B.C.

N85°32'W 306.0

936+03.5 E.C.

205.0

841.0

217.0

475.0

S14-15W 558.2 ✓

967+26.1 E.C.

E=4.6 ✓  
T=26.2 ✓  
R=358.10 ✓  
D=16° ✓  
L=52.4 ✓

A966+99.9 8°23'R ✓

966+73.7 B.C.

S5-52'W 377.9 ✓

962+95.8 E.C.

E=4.9 ✓  
T=68.9 ✓  
R=477.47 ✓  
D=12° ✓  
L=136.8 ✓

A962+27.9 16°25'L ✓

961+59.0 B.C.

S22-17'W 43 ✓

961+54.7 E.C.

E=13.9 ✓  
T=126.8 ✓  
R=572.96 ✓  
D=10° ✓  
L=249.7 ✓

A960+31.8 24°58'L ✓

959+05.0 B.C.

S47-15'W 542.9 ✓

953+62.1 E.C.

E=15.9 ✓  
T=92.3 ✓  
R=260.44 ✓  
D=22° ✓  
L=177.4 ✓

A952+77.0 39°02'R ✓

951+84.7 B.C.

S8-13W 16.8 ✓

727.0

Old Sta 967+73

473.0

Old Sta 963+00

200.0

Old Sta 961+00

762.0

Old Sta 953+38

205.0



989+80.3 B.C.

470.7

Eq - old 10ft

S32°51'W 460.7

985+19.6 E.C.

E=24.6

T=169.7

R=572.96

D=10°

L=330.0

A983+59.3 33°00'R

981+89.6 B.C.

S0°09'E 41.6

981+48.0 E.C.

E=8.0

T=213.7

R=2864.80

D=2°

L=426.7

A979+36.0 8°32'L

977+21.3 B.C.

S8°23'W 143.7

975+77.6 E.C.

E=3.6

T=142.5

R=2864.80

D=2°

L=293.3

A974+26.9 5°52'L

972+84.3 B.C.

S14°15'W 558.2

967+26.1 E.C.

672.6

682.6

425.0

Old Sta 980+00

500.0

Old Sta 975+00

727.0

Checked To here

S43°10'W 485.7

1011+02.7 E.C.

98 Δ1009+97.8 21°13' R

E=10.0  
T=107.3  
R=572.96  
D=10°  
L=212.2

A Line 28+16.7

9 1008+90.5 B.C.

S21°57'W 7.7

Δ 1008+82.8 E.C.

E=20.2  
T=153.5  
R=572.96  
D=10°  
L=300.0

593.0  
268.5

9 Δ1007+36.3 30°00' R

1005+82.8 B.C.

S8°03'E 742.3

9 998+40.5 E.C.

E=43.8  
T=182.5  
R=358.10  
D=16°  
L=337.5

For Notes of Field Work  
from Sta. 1000-West - See  
Transit Book #6. Page #9.

Δ 996+85.5 54°00' L

995+03.0 B.C.

S45°57'W 33.2

Δ 994+69.8 4°40' R

990+64.6 E.C.

S41°17'W 405.2

E=1.6  
T=42.2  
R=572.96  
D=10°  
L=84.3

Δ 990+22.5 8°26' R

989+80.3 B.C.

S32°51'W 460.7

1078.3  
215.7  
447.4  
672.6

A Line 15+05.6

A Line 12+89.9

A Line 8+42.6

S42°10'W 2208.1 ✓

9 1077+64.5 E.C. ✓

E=3.7 ✓  
T=65.3 ✓  
R=572.96 ✓  
D=10° ✓  
L=130.0 ✓

1  
Δ 1066+99.8 13°00' R ✓

1076+34.5 B.C. ✓

S29°10'W 533.6 ✓

1071+09.9 E.C. ✓

E=2.7 ✓  
T=55.2 ✓  
R=572.96 ✓  
D=10° ✓  
L=110.0 ✓

Δ 1070+46.1 11°00' L ✓

1069+90.9 B.C. ✓

S40°10'W 2609.8 ✓

Δ 1043+81.1 2°00' R ✓

2481.9 ✓

A Line 95+18.7 ✓

654.1 ✓

A Line 88+65 ✓

2665.0 ✓

A Line 62+00 ✓

S38°10'W 1249.9 ✓

1031+31.2 E.C. ✓

E=1.7 ✓  
T=50.1 ✓  
R=716.20 ✓  
D=8° ✓  
L=100.0 ✓

Δ 1030+81.3 8°00' L ✓

1300.0 ✓

A Line 49+00 ✓

1030+31.2 B.C. ✓

S46°10'W 1442.8 ✓

Δ 1015+88.4 3°00' R ✓

1492.9 ✓

A Line 34+07.1 ✓

S43°10'W 485.7 ✓

1011+02.7 E.C. ✓

593.0 ✓

1139+03.8 E.C. S6°46'E

E=25.7

T=124.1

R=286.48

D=20°

L=234.2

Δ 1137+93.7 46°50' L

1136+69.6 B.C.

S40°04'W 1564.2

1121+05.4 E.C.

E=174

T=142.3

R=572.96

D=10°

L=279.0

Δ 1119+68.7 27°54' R

1118+26.4 B.C.

S12°10'W 371.0

1114+55.4 E.C.

E=63.2

T=200.6

R=286.48

D=20°

L=350.0

Δ 1113+06.0 70°00' L

1111+05.4 B.C.

S82°10'W 732.8

1103+72.6 E.C.

E=36.8

T=208.5

R=572.96

D=10°

L=400.0

Δ 1101+81.1 40°00' R

1099+72.6 B.C.

S42°10'W 2208.1

1077+64.5 E.C.

193.0

D-Line 1140+30

1830.6

D-Line 137+85

713.9

A Line 131+24.3

1141.9

A Line 120+00

2481.9

1159+83.2 E.C. S25°15'E 233.9 ✓

E=3.5 ✓  
T=40.8 ✓  
R=238.73 ✓  
D=24° ✓  
L=80.9 ✓

Δ 1159+43.1 19°25'L ✓

1159+02.3 B.C. ✓

S5°50'E 353.9 ✓

Δ 1155+48.4 1°06'L ✓

S4°44'E 126.2 ✓

1154+22.2 E.C. ✓

E=2.8 ✓  
T=73.8 ✓  
R=954.93 ✓  
D=6° ✓  
L=147.2 ✓

Δ 1153+48.8 8°56'L ✓

1152+75.0 B.C. ✓

S4°06'W 411.8 ✓

1148+63.2 E.C. ✓

E=5.5 ✓  
T=79.8 ✓  
R=572.96 ✓  
D=10° ✓  
L=158.7 ✓

Δ 1147+84.3 15°52'R ✓

1147+04.5 B.C. ✓

S1°46'E 731.8 ✓

1139+52.2 ✓  
Δ 1139+72.7 5°00'L ✓

S6°46'E 68.9 ✓

1139+03.8 E.C. ✓

314.3

Old Sta 1161+94.7

394.7

Old Sta. 1158+00

200.0

Old Sta. 1156+00

565.4

Old Sta. 1150+34.6

811.6

Old Sta 1142+23

193.0

1172+70.4 ✓ E.C.

S27°29'W 121.8 ✓

Δ1172+14.9 ✓ 6°40'R ✓

E=1.6 ✓  
T=55.6 ✓  
R=954.93 ✓  
D=6° ✓  
L=111.1 ✓

1171+59.3 ✓ B.C.

S20°49'W 452.1 ✓

1167+07.2 ✓ E.C.

E=8.3 ✓  
T=55.3 ✓  
R=179.05 ✓  
D=32° ✓  
L=107.2 ✓

Δ1166+55.3 ✓ 3419R ✓

1166+00.0 ✓ B.C.

S13°30'E 117.1 ✓

1164+82.9 ✓ E.C.

E=1.9 ✓  
T=36.6 ✓  
R=358.10 ✓  
D=16° ✓  
L=72.9 ✓

Δ1164+466 ✓ 11°40'L ✓

1164+10.0 ✓ B.C.

S1°50'E 114.8 ✓

1162+95.2 ✓ E.C.

E=4.1 ✓  
T=39.6 ✓  
R=190.99 ✓  
D=30° ✓  
L=78.1 ✓

Δ1162+56.7 ✓ 23°25'R ✓

1162+17.1 ✓ B.C.

S25°15'E 233.9 ✓

1159+83.2 ✓ E.C.

196.0

Old Sta 1174+72

563.0

Old Sta 1169+09

209.0

Old Sta 1167+00

191.0

Old Sta 1165+09

314.3

1183+57.0 E.C.  $S3^{\circ}45'W$  108.5 ✓  
 $E=5.8$  ✓  
 $T=105.7$  ✓  
 $R=95493$  ✓  
 $D=6^{\circ}$  ✓  
 $L=210.6$  ✓

$\Delta 1182+52.1$   $12^{\circ}38'R$

1181+46.4 B.C.  $S8^{\circ}53'E$  250.8 ✓

1178+95.6 E.C.  
 $E=1.0$  ✓  
 $T=26.5$  ✓  
 $R=35810$  ✓  
 $D=16^{\circ}$  ✓  
 $L=52.8$  ✓

$\Delta 1178+69.3$   $8^{\circ}27'L$

1178+42.8 B.C.

1177+80.6 E.C.  $S0^{\circ}26'E$  62.2 ✓

$E=1.0$  ✓  
 $T=23.3$  ✓  
 $R=26044$  ✓  
 $D=22^{\circ}$  ✓  
 $L=46.4$  ✓

$\Delta 1177+57.5$   $10^{\circ}13'L$

1177+34.2 B.C.

1174+29.1 E.C.  $S9^{\circ}47'W$  305.1 ✓

$E=1.4$  ✓  
 $T=18.6$  ✓  
 $R=119.37$  ✓  
 $D=48^{\circ}$  ✓  
 $L=36.9$  ✓

$\Delta 1174+10.8$   $17^{\circ}42'L$

1173+92.2 B.C.

1172+70.4 E.C.  $S27^{\circ}29'W$  121.8 ✓

266.0

Old Sta. 1185+10

383.0

Old Sta. 1181+27

112.0

Old Sta. 1180+15

347.0

Old Sta. 1176+68

196.0

(57)

Δ 1192+45.8 4°44' R ✓  
S49°02' W 216.4 ✓

Δ 1189+75.8 5°28' L ✓  
S39°18' W 270.0 ✓

1188+69.5 E.C. ✓  
S44°46' W 106.3 ✓

Δ 1188+30.9 6°11' L ✓  
E=1.0 ✓  
T=38.7 ✓  
R=716.20 ✓  
D=8° ✓  
L=77.3 ✓

1187+92.2 B.C. ✓  
S50°57' W 82.0 ✓

1187+10.2 E.C. ✓

Δ 1186+93.1 1428' L ✓  
E=1.1 ✓  
T=17.3 ✓  
R=136.42 ✓  
D=42° ✓  
L=34.4 ✓

1186+75.8 B.C. ✓  
S65°25' W 116.9 ✓

1185+58.9 E.C. ✓  
E=14.3 ✓  
T=51.8 ✓  
R=86.81 ✓  
D=66° ✓  
L=93.4 ✓

Δ 1185+17.3 61°40' R ✓  
D=66° ✓  
L=93.4 ✓

1184+65.5 B.C. ✓  
S3°45' W 108.5 ✓

1183+57.0 E.C. ✓

245.0  
Old Sta. 1195+15

270.0  
Old Sta. 1192+45

145.0  
Old Sta. 1191+00

138.0  
Old Sta. 1189+62

186.0  
Old Sta. 1187+76

266.0



1209+33.9 E.C.

S35°19'W 207.1 ✓

E=2.2 ✓

T=50.1 ✓

R=572.96 ✓

D=10° ✓

L=100.0 ✓

Δ1208+84.0 10°00' L ✓

1208+33.9 B.C.

S45°19'W 130.0 ✓

1207+03.9 E.C.

E=13.5 ✓

T=55.2 ✓

R=106.10 ✓

D=54° ✓

L=101.9 ✓

Δ1206+57.2 55°00' R ✓

1206+02.0 B.C.

S9°41'E 15.9 ✓

1205+86.1 E.C.

E=10.9 ✓

T=56.9 ✓

R=143.24 ✓

D=40° ✓

L=108.3 ✓

Δ1205+34.7 43°20' L ✓

1204+77.8 B.C.

S33°39'W 419.1 ✓

Δ1200+58.7 2°23' L ✓

S36°02'W 539.4 ✓

1195+19.3 E.C.

E=1.0 ✓

T=28.6 ✓

R=409.26 ✓

D=14° ✓

L=57.1 ✓

Δ1194+90.8 8°00' L ✓

1194+62.2 B.C.

S44°02'W 216.4 ✓

205.2  
235.3  
128.0  
476.0  
568.0  
245.0

"B" Line 2+353

Old Sta. 1209+32

Old Sta. 1208+04

Old Sta. 1203+28

Old Sta. 1197+60

For Notes of Field Work  
see Transit Book #6. Page #1.

E.C.

A

B.C

S00°02'E

1308+68.1 E.C

E=49.5 ✓

T=119.4 ✓

R=119.37 ✓

D=48° ✓

L=187.5 ✓

Δ 90°00'L

1306+80.6 B.C.

S89°58'W 9466.4 ✓

1212+14.2 E.C.

E=36.0 ✓

T=148.0 ✓

R=286.48 ✓

D=20° ✓

L=273.2 ✓

Δ 1210+89.0 54°39'A ✓

1209+41.0 B.C

S35°19'W 7.1 ✓

1209+33.9 E.C.

16' W of Center Line of Idaho

9733.8

B Line 4+40.5

205.2

Location for El Capitan Pipe  
Line Starting at Sta. 810+42<sup>81</sup> B.C.  
and Keeping within County Highway  
Right-of-Way thru Mission Gorge.

Note - This Line Has been  
Abandoned.  
and New Line Rerun.

Converse  
McCarty  
Soper  
Simpson

820+31

↓  
S63°42'W

816+91.69 EC

816+20<sup>Δ</sup> 29°20'L

815+45<sup>○</sup> BC

813+84

↓  
N86°58'W 374<sup>15</sup>

811+70<sup>81</sup> EC

811+11<sup>5</sup> P.I. 51°12'L

810+42<sup>87</sup> B.C.

↓  
N.35°46'W 718<sup>77</sup>

803+24<sup>1</sup> E.C.

802+17<sup>8</sup> P.I.

E=  
T=74.98  
R=286.48  
D=20°  
L=146.67

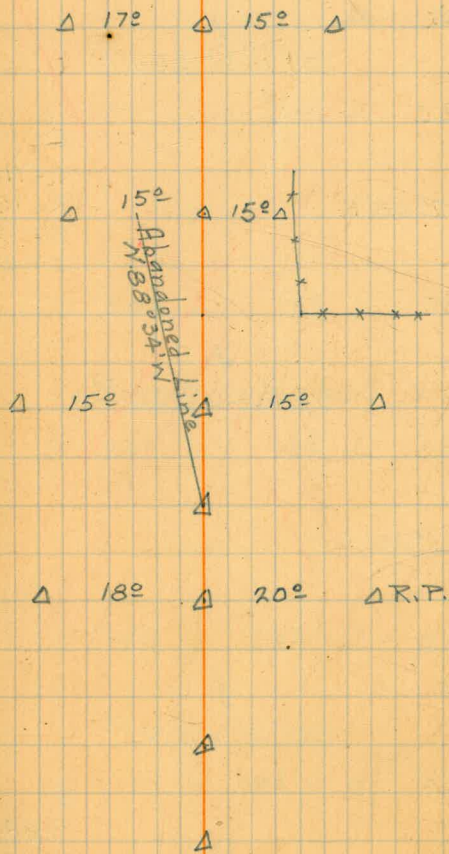
E=  
T=68.63  
R=143.24  
D=40°  
L=128.09

T=118.6

Mar. 19

(56)

==== Culvert 12" concrete pipe



$547^{\circ}06'W$   
 $833+96^{69} EC$   
 $833+33 \quad 34^{\circ}10'L$   
 $832+65^{28} BC$   
 $830+10^{85} EC$   
 $829+40 \quad 17^{\circ}08'R$   
 $828+68^{07} BC$   
 $826+19^{78} EC$   
 $825+61 \quad 26^{\circ}20'L$   
 $825+00^{08} BC$   
 $824+95^{67} EC$   
 $824+30 \quad 26^{\circ}46'R$   
 $823+61^{84} BC$

$E =$   
 $T = 67.72$   
 $R = 220.37$   
 $D = 26^{\circ}$   
 $L = 131.41$

$E =$  Mar. 20  
 $T = 71.93$   
 $R = 477.47$   
 $D = 12^{\circ}$   
 $L = 142.78$

$581^{\circ}16'W \quad 254^{43}$

$564^{\circ}08'W \quad 248^{29}$

$N89^{\circ}32'W \quad 670^{15}$

$E =$   
 $T = 68.16$   
 $R = 286.48$   
 $D = 20^{\circ}$   
 $L = 133.83$

$\Delta 20^{\circ} \quad \Delta 11^{\circ} \quad \Delta$   
 $\Delta$   
 $831+90^5 \quad \Delta 20^{\circ} \quad \Delta 14^{\circ} \quad \Delta$   
 Culvert  
 12" Concrete pipe  
 $\Delta 17^{\circ} \quad \Delta 20^{\circ} \quad \Delta$   
 $\Delta$   
 $\Delta 20^{\circ} \quad \Delta 15^{\circ} \quad \Delta$   
 $827+35 \quad \Delta 20^{\circ} \quad \Delta 13^{\circ} \quad \Delta$   
 Culvert 12" concrete pipe  
 $\Delta$   
 $\Delta 15^{\circ} \quad \Delta 28^{\circ} \quad \Delta$   
 $\Delta 15^{\circ} \quad \Delta 28^{\circ} \quad \Delta$   
 $\Delta$   
 $824+05 \quad \Delta 26^{\circ} \quad \Delta 15^{\circ} \quad \Delta$   
 Culvert 12" Concrete Pipe

Converse  
McCarty  
Soper  
Simpson

8 844+43<sup>64</sup> BC

55° 40' W 196 <sup>35</sup>

8 842+47<sup>31</sup> EC

E=  
T=65.52  
R=286.48  
D=20°  
L=128.83

8 841+84 25° 46' L

8 841+18<sup>48</sup> BC

531° 26' W 56 <sup>81</sup>

8 840+61<sup>67</sup> EC

E=  
T=67.66  
R=318.31  
D=18°  
L=133.33  
March 22

8 839+96 24° 00' R

8 839+28<sup>34</sup> BC

57° 26' W 32 <sup>01</sup>

8 838+96<sup>33</sup> EC

E=  
T=68.89  
R=190.99  
D=30°  
L=132.22

8 838+33 39° 40' L

8 837+64<sup>11</sup> BC

547° 06' W 367 <sup>42</sup>

8 835+06<sup>1</sup> POT

(58)

89° 08' L EC  
A 11 <sup>54</sup> Δ  
Nail in rock wall 11° Δ

Δ

Δ 15° BC Δ 8° Δ

840+90 16" Gal. Iron  
Culvert

Δ 15° Δ 12° Δ

Δ

Δ 15° Δ 14° Δ

Δ 17° Δ 16° Δ

Δ

Δ 15° Δ 20° Δ

P.I. 835+31°  
Relocated line →

5° 42'

Abandoned

Converse  
McCarty  
Saper  
Simpson

↓  
S43°56'W

853+93<sup>37</sup> EC

853+52 16°40'R

E=  
T=41.96  
R=286.48  
D=20°  
L=83.33

853+10<sup>04</sup> BC

↓  
S27°16'W 112<sup>12</sup>

851+97<sup>92</sup> EC

E=  
T=54.41 Mar. 23  
R=477.47  
D=12°  
L=108.33

851+44 13°00'R

850+89<sup>59</sup> BC

↓  
S14°16'W 89<sup>47</sup>

850+00<sup>12</sup> EC

E=  
T=71.55  
R=409.26  
D=14°  
L=141.67

849+30 19°50'R

848+58<sup>45</sup> BC

↓  
S5°34'E 302<sup>46</sup>

845+55<sup>99</sup> EC

E=  
T=56.34  
R=572.96  
D=10°  
L=112.33

845+00 11°14'L

844+43<sup>66</sup> BC

↓  
S5°40'W 196<sup>35</sup>

△ 12° △ 14° △

Nail in  
rock wall  
△ 9° △ 11° △

△ 15° △ 45° △

△ 13° △ 25° △

△ 18° △ 30° △

△ 14° △ 25° △  
848+36 = 12" Concrete pipe  
Culvert

Tack in Rock  
Wall  
90°  
845+57 = Cor. Iron Culvert - 14"  
90°  
△ 17° △

Tack in  
rock wall  
△ 82°15' L △ 9° △

McCarty  
Leach  
Soper  
Simpson

561° 42' W

868+35<sup>64</sup> EC

867+47 10° 40' L

866+57<sup>86</sup> BC

572° 22' W 8<sup>94</sup>

866+48<sup>92</sup> EC

865+95 13° 00' R

865+40<sup>59</sup> BC

559° 22' W 340<sup>59</sup>

862+00 0° 26' R

558° 56' W 222<sup>46</sup>

859+77<sup>54</sup> EC

859+09° 11° 00' R

858+40<sup>04</sup> BC

547° 56' W 190<sup>04</sup>

856+50° 4° 00' R

543° 56' W 256<sup>63</sup>

853+93<sup>37</sup> EC

E=  
T=89.14  
R=954.93  
D=6°  
L=177.78

E=  
T=54.41  
R=477.47  
D=12°  
L=108.33

E=  
T=68.96  
R=716.20  
D=8°  
L=137.50

March 24

Pt. on W. Line Lot  
and Intersection  
Borens Line

Pt. on W. Line  
Lot  
and 340 ft. Contour  
on So Side Gorge.

25071 → Pt. on W. Line Lot  
and No. Edge Rd. (60)

28-10-40

N. 89° 53' E  
15' Δ 30° Δ

Culvert 18" Corr. Iron  
868+02

Δ 13° Δ 14° Δ

Δ 11° Δ 22° Δ

Δ 15° Δ 19° Δ

Δ 18° Δ 21° Δ

861+215 Culvert  
18" Corr. Iron pipe

Δ 12° Δ 107° 16'  
34' Δ

Δ 19° Δ 11° Δ

Δ 12° Δ 20° Δ

854+90 E-end 854+97 W-end



April 7 1926

Converse  
McCarty  
Leach  
Duermit  
Rimpson

Rain -

(61)

878 + 57.<sup>30</sup> E.C.

877 + 97 24° 30' L

April 7

877 + 34.<sup>30</sup> B.C.

✓  
S16°48' W

875 + 70.<sup>58</sup> E.C.

875 + 00 17° 04' L

874 + 28.<sup>36</sup> B.C.

✓  
S33°52' W

873 + 19.<sup>08</sup> E.C.

872 + 40 6° 20' L

871 + 60.<sup>75</sup> B.C.

✓  
S40°12' W

870 + 80.<sup>85</sup> E.C.

870 + 40 21° 30' L

869 + 98.<sup>16</sup> B.C.

✓  
S61°42' W

E =  
T = 62.20  
R = 286.48  
D = 20°  
L = 122.50

E =  
T = 71.64  
R = 477.47  
D = 12°  
L = 142.22

E =  
T = 79.25  
R = 1432.40  
D = 4°  
L = 158.33

E =  
T = 41.84  
R = 220.37  
D = 26°  
L = 82.69

Δ 17° Δ 17° Δ

Δ 9° Δ 18° Δ

Δ 12° Δ 7° Δ

Δ 12° Δ 12° Δ

Δ 11° Δ 10° Δ

872 + 61 = Culvert 12" concrete pipe

Δ 10° Δ 7° Δ

Δ 14° Δ 8° Δ

Tack in  
rock wall

81° 8' 30" →  
977 Δ 9° Δ

April 9, 1926

Moq

Converse  
Leach  
Duermit  
Simpson  
Reynolds

Rain

(62)

S38°08'W

888+81.42 E.C.

E=  
T=34.75  
R=286.48  
D=20°  
L=69.17

Δ 888+47.2 13° 50' R

888+12.25 B.C.

S24°18'W

888+06.67 E.C.

E=  
T=46.49  
R=190.99  
D=30°  
L=91.11

Δ 887+6.22 27° 20' R

887+15.56 B.C.

S3°07'E

885+71.43 E.C.

E=  
T=62.38  
R=409.26  
D=14°  
L=123.81

Δ 885+10.2 17° 20' L

April 9,

884+47.62 B.C.

S14°18'W

881+09.31 E.C.

E=  
T=55.69  
R=286.48  
D=20°  
L=110.00

880+50 22° 00' R

879+94.31 B.C.

S7°42'E

April 8.

Δ 13° Δ 12° Δ

Δ 15° Δ 10° Δ

Δ 13° Δ 10° Δ

Δ 11° Δ 6° Δ

Δ 15° Δ 10° Δ

883+43 = Culvert 14" C.M.P.

Δ 15° Δ 16° Δ

Δ 11° Δ 15° Δ

Δ 16° Δ 11° Δ

878+75 = Culvert 12" concrete pipe

Warm and Cloudy

Converse  
Leach-T  
Simpson  
Duermit  
Reynolds

April 10,  
Moo  
S 10° 58' W S 17° 15' W

896+71.87 E.C.  
 Δ 896+22° 10° 00' L  
 895+71.87 B.C.  
 894+20.25 E.C.  
 April 10,  
 Δ 893+73° 29° 00' R  
 893+23.61 B.C.  
 892+78.71 E.C.  
 Δ 892+28° 10° 10' L  
 891+77.94 B.C.  
 890+40.33 E.C.  
 Δ 890+00° 28° 00' L  
 889+57.98 B.C.  
 888+81.42 E.C.

S 28° 58' W  
 S 10° 08' W  
 S 38° 08' W

E  
 T=50.13  
 R=572.96  
 D=10°  
 L=100°

E=  
 T=49.39  
 R=190.99  
 D=30°  
 L=96.67

E  
 T=50.96  
 R=572.96  
 D=10°  
 L=101.67

E=  
 T=42.02  
 R=168.52  
 D=39°  
 L=82.35

897+14 12" Culvert Concrete  
 Δ 14° 13° Δ

Δ 21° Δ 11° Δ

Δ 20° Δ 6° Δ

Δ 18° Δ 11° Δ

Δ 14° Δ 9° Δ

Δ 26° Δ 11° Δ  
 891+69 15" Culvert - C.M.P.  
 890+78 12" Culvert Concrete  
 Δ 17° Δ 10° Δ

Δ 15° Δ 12° Δ

April 12, '26

Converse  
Leach - T  
Duermit  
Webb -  
Clovert

Warm and cloudy

720

(64)

S 79° 22' W

E.C.

Δ 904+53<sup>25</sup> 3° 44' 45" R

B.C.

E.C.

S 75° 37' 15" W

Δ 902+63 = 72° 59' 15" R

E = 16°  
T  
R  
D  
L

B.C.

S 2° 38' W

901+73<sup>32</sup>

E.C.

E =  
T = 33.51  
R = 143.24  
D = 40°  
L = 65.83

Δ 901+41°

26° 20' L

901+07<sup>49</sup>

B.C.

April 12

S 28° 58' W

900+68<sup>12</sup>

E.C.

E  
T = 83.55  
R = 954.93  
D = 6°  
L = 166.67

Δ 899+85°

10° 00' R

899+01<sup>45</sup>

B.C.

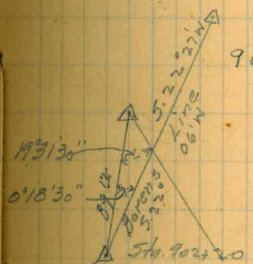
S 18° 58' W

896+71<sup>52</sup>

E.C.

183° 45' R  
473.7° 59'  
183° 44' 45" R

C.M.P.  
252° 59' 30" R  
411011° 57'  
252° 59' 15" R



902+73 = Culvert



Sta. 902+20 P.O.T. Borens Line

Nail in bank Δ 8° 22° Δ

Δ 11° 12° Δ

Δ 25° 14° Δ

900+01 = Culvert 20" C.M.P.

Δ 21° 17° Δ

April 13 '26

Converse  
Leach T  
Duermit  
Webb  
Clarett

Warm

(65)

927+00 P.O.T.

S17°22'46"W

S17°22'46"W

E.C.

A 918+55° 24°04'R

E=4°  
T  
R  
D  
L

B.C.

S16°41'14"E

E.C.

A 915+74° 25°11'53'R

E=6°  
T  
R  
D  
L

B.C.

S31°53'07"E

E.C.

April 13, '26

A 910+59° 108°20'15"L

E=68  
T=132  
R=60  
D=60  
L=

S76°27'08"W  
S77°27'08"W

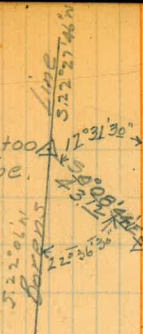
B.C.

A 906+30° 2°54'52"L

E.C.

S79°22'W

Sta. 922+00  
Borens Line  
P.O.T.



927+00 P.O.T.

204°04'  
41816°16'  
209°04'

916+80

6x6 Wooden Culvert

205°12'  
41820°47'30"  
205°11'52.5"

71°40' R.  
41286°39'  
71°39'45"

907+47 = Culvert 12"

177°05' R.  
41708°20'30"  
177°05' 7.5"

E.C

N52°05'59"W Mag. -  
N54°04'45"W

E = 10'

T =

R =

D =

L =

Δ 943+75 1649'19" R

B.C

N68°55'18"W

E.C

E = 12'

T =

R =

D =

L =

Δ 936+80 3931'26" R

B.C

S71°33'16"W S70°30'W

E.C

E = 4'

T =

R =

D =

L =

Δ 931+47 1735'22" R

B.C

S53°57'54"W

E.C

E = 19'

Δ 928+46 36°35'08" R

B.C

S17°22'46"W

Δ 927+00 P.O.T.

(66)

196°49'30" ✓  
41707'17'15"  
196 49 19"

942+73 A.R. - 4x4 Arch Culvert  
Concrete

940+50 == Culvert 12" Concrete

938+56 == Culvert 12" Concrete

219°31'30" ✓  
41878°05'45"  
219°31'26"

935+00 == Culvert 12" Concrete

931+83 == Culvert 12" Concrete

197°35'15" ✓  
41790°21'30"  
197°35'22"

216°35'30" ✓  
41866°20'30"  
216 35 08"

Mag-

April 14,

Converse  
Leach  
Duermit  
Webb  
Clovert.

Cloudy and Warm.

(67)

N72°19'08"W N74°20'W

E.C.

E=9'

Δ 952+47 33°51'08" L

April 14, B.C.

N38°28'00"W N39°50'W

E.C.

E=12'

T=

R=

D=

L=

Δ 950+69 41°09'22" R

B.C.

N79°37'22"W

E.C.

E=6'

T= not used

R=

D=

L=

Δ 949+15 51°00'15" L

B.C.

N28°37'07"W N30°10'W

E.C.

E=9'

T=

R=

D=

L=

Δ 946+84 23°28'52" R

B.C.

N52°05'59"W

E.C.

$$\begin{array}{r} 146^{\circ} 09' \\ 4 \overline{) 589^{\circ} 35' 30''} \\ \underline{146^{\circ} 08' 52''} \end{array}$$

$$\begin{array}{r} 221^{\circ} 9' 30'' \\ 4 \overline{) 884^{\circ} 37' 30''} \\ \underline{221^{\circ} 09' 22''} \end{array}$$

950+47 ——— Culvert 12" Concrete

$$\begin{array}{r} 128^{\circ} 59' 00'' \\ 4 \overline{) 515^{\circ} 56' 00''} \\ \underline{128^{\circ} 59' 45''} \end{array}$$

$$\begin{array}{r} 203^{\circ} 29' \\ 4 \overline{) 813^{\circ} 55' 30''} \\ \underline{203^{\circ} 28' 52''} \end{array}$$

946+74 ——— Culvert 12" Concrete

S28°41' W

E.C.

E

 $\Delta 970+05 = 20^{\circ}58'15'' L$ 

B.C.

S23°22' W S21°15' W

 $\Delta 967+29 = 4^{\circ}22'30'' L$ 

S27°24'56'' W S25°30' W

E.C.

E = not over 2k

 $\Delta 964+10 = 12^{\circ}10'22'' L$ 

T =

P =

D =

L =

B.C.

S39°35'18'' W S37°15' W

 $\Delta 961+28 = 0^{\circ}45'08'' L$ 

S40°20'26'' W S38°00'' W

E.C.

E = 16°

T =

P =

D =

L =

 $\Delta 956+72 = 67^{\circ}20'26'' L$ 

B.C.

N72°19'08'' W

E.C.

$$\begin{array}{r} 159^{\circ}02'00'' \\ 4 \overline{) 636^{\circ}07''} \\ \underline{159^{\circ}01'45''} \end{array}$$

$$\begin{array}{r} 175^{\circ}37'32'' \\ 4 \overline{) 702^{\circ}30'00''} \\ \underline{175^{\circ}37'30''} \end{array}$$

$$\begin{array}{r} 167^{\circ}49'35'' \\ 4 \overline{) 671^{\circ}18'30''} \\ \underline{167^{\circ}49'38''} \end{array}$$

Nail in road

$$\begin{array}{r} 179^{\circ}15'00'' \\ 4 \overline{) 716^{\circ}59'30''} \\ \underline{179^{\circ}14'52''} \end{array}$$

$$\begin{array}{r} 112^{\circ}39'30'' \\ 4 \overline{) 450^{\circ}38'15''} \\ \underline{112^{\circ}39'34''} \end{array}$$



April 15

Converse  
Leach  
Duermit  
Webb  
Clavert

S87°50'53"W

E.C.

975+18<sup>Δ</sup> 26°49'30"R

S28°30'W

B.C.

S59°01'23"W

E.C.

974+39<sup>Δ</sup> 94°36'04"R

B.C.

S35°39'41"E S37°30'E

E.C.

973+56<sup>Δ</sup> 16°01'08"R

B.C.

S53°35'49"E S55°05'E

E.C.

970+80<sup>Δ</sup> 55°40'L

B.C.

S2°04'11"W

E.C.

Clear and Warm -

(69)

Note - Contd in Book #5. Page #2.

208°49'30"  
4 | 835°18'00"  
208°49'30"

Nail in road

274°36'  
4 | 1098°24'15"  
274°36'04"

974+33

2 1/2 x 2 1/2 Arch Culvert Concrete

Nail in road

198°01'15"  
4 | 792°04'30"  
198°01'08"

Nail in road

124°20'  
4 | 497°20'  
124°20'

150.9	3.8
19.8	95.5
83.9	83.9

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 1/2 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in the column and top row. The number in body of table in same row and column gives distance

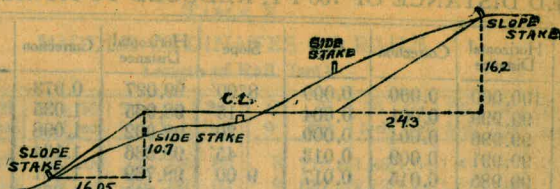
**IMPROVED TABLES**  
**AND**  
**INFORMATION**

level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at the side stake and hold cut target. If it does not make the slight adjustment

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

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.



**DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.**

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
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	72.50	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.

108 8  
20 15  
577° 27' 08"

30 53 07  
25 11 53  
24 06 12  
5 41 12

22-36-30

0 51 16

18 22 46

17 31 30

0 51 16

5 22 87 46 W

23 27 46

22 06

10 21 46

N 2° 38' E

19 31 30

5 22 09 30 W

18 30

22 27 46

22 06

21 46

21 51 N 2° 38' E

19 31 30

N 22° 09' 30" E

18 30 W

B 21° 51' W

5.22° 06'

21 51

= 15

882400  
 886400  
 902+20  
 19° 31' 30"  
 720  
 935530  
 8135530  
 203  
 779+33  
 734° 59'  
 183  
 4112  
 89.12  
 671715  
 720  
 47871715  
 179 59 60  
 71 39 45  
 108 20 15  
 204 04  
 180  
 24 04  
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 180  
 25 11 53  
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 720  
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 3 4  
 78061  
 31.2244  
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 62 38  
 74412  
 44  
 297648  
 297648  
 3274128  
 170  
 37  
 107  
 1518  
 .83115  
 38  
 63 42  
 26 46  
 179 60  
 90 28  
 89 32  
 865 + 95.00  
 54.41  
 865 + 40.59  
 1 08.33  
 866 + 48.92  
 5.61° 42'  
 28 11  
 587 53 W