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58

59

60

7

	Nov 21	22	23	24
W.A. Montgomery	1	1	1	
M.O. Enterline	1	1	1	
F.F. Wright	1	1/2	1/2	1
Wm Smucker	1	1	1/2	1
H.O. Tobey	1	1	1/2	1

Line
Line
Line
Line

5/5/30

Monuments 236

1

3

5

12+36.1 PC.

13+88.5 PT

19

26+00 PC.

28+00 PT.

35

40+73.9 PC.

42+50.9 PT.

49+28.5 PC.

51+81 PT.

May 1930										
Mon.	5	1	1	1	1	1	1	1	1	1
Tues	6					1	1			
		E.K. Bridge	Hugh Baier	Dwight Gossard.	Richard Shultz	John. McCarion	D.O. Downing	Chas Downing	Ross Antrim	Irving Wiltensdor

Work.

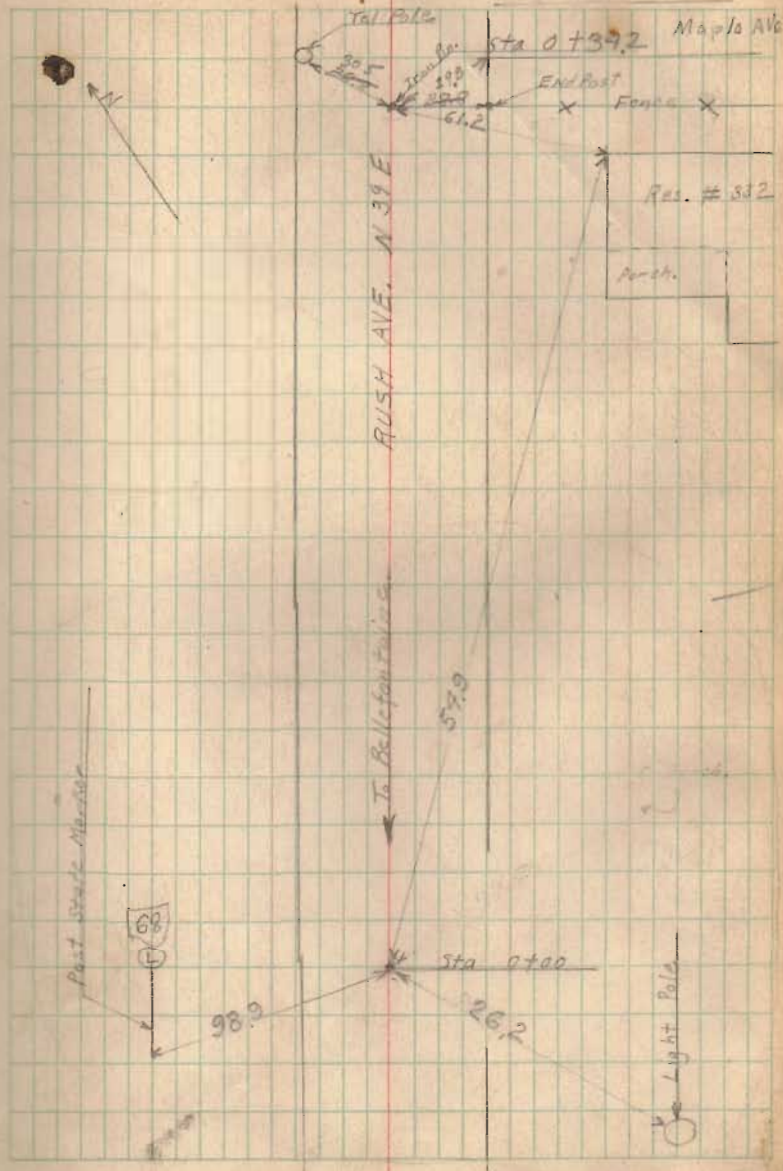
Monuments.	736	Sec.	(A)
"	"	"	(B)

Enderline
Montgomery
Wright
Smucker

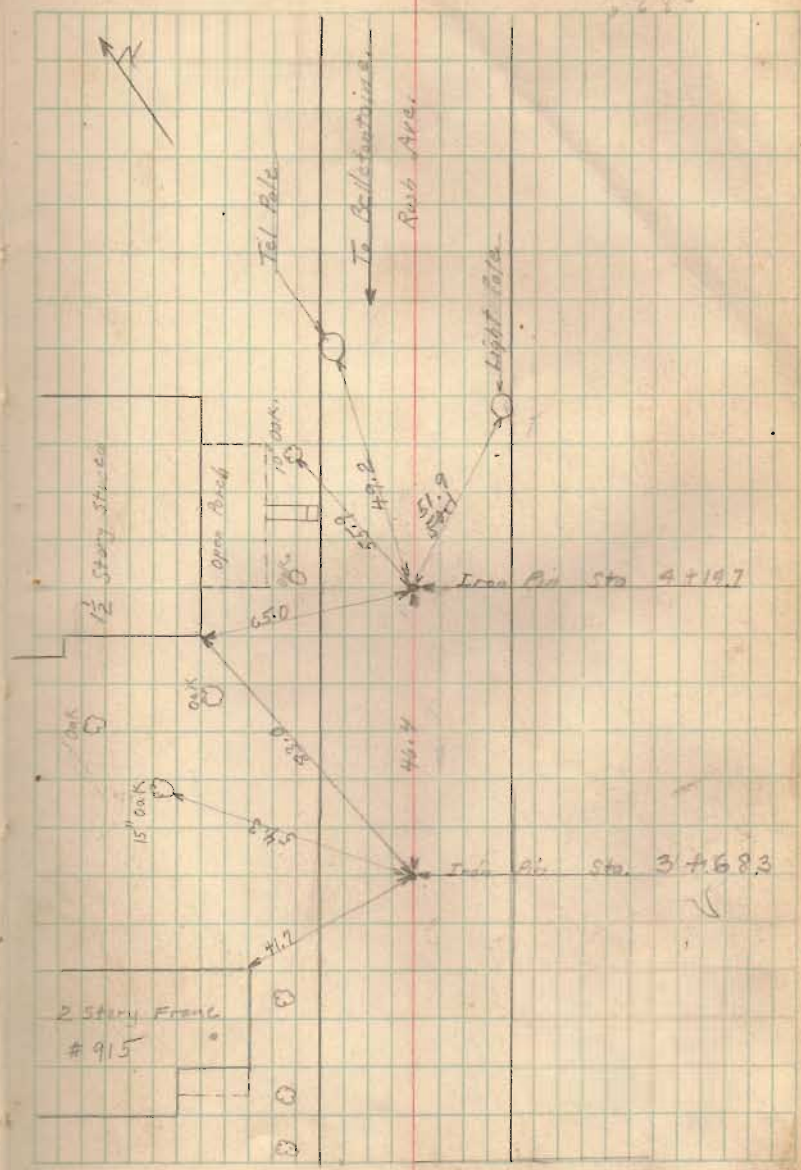
Location of Iron Rush Ave.

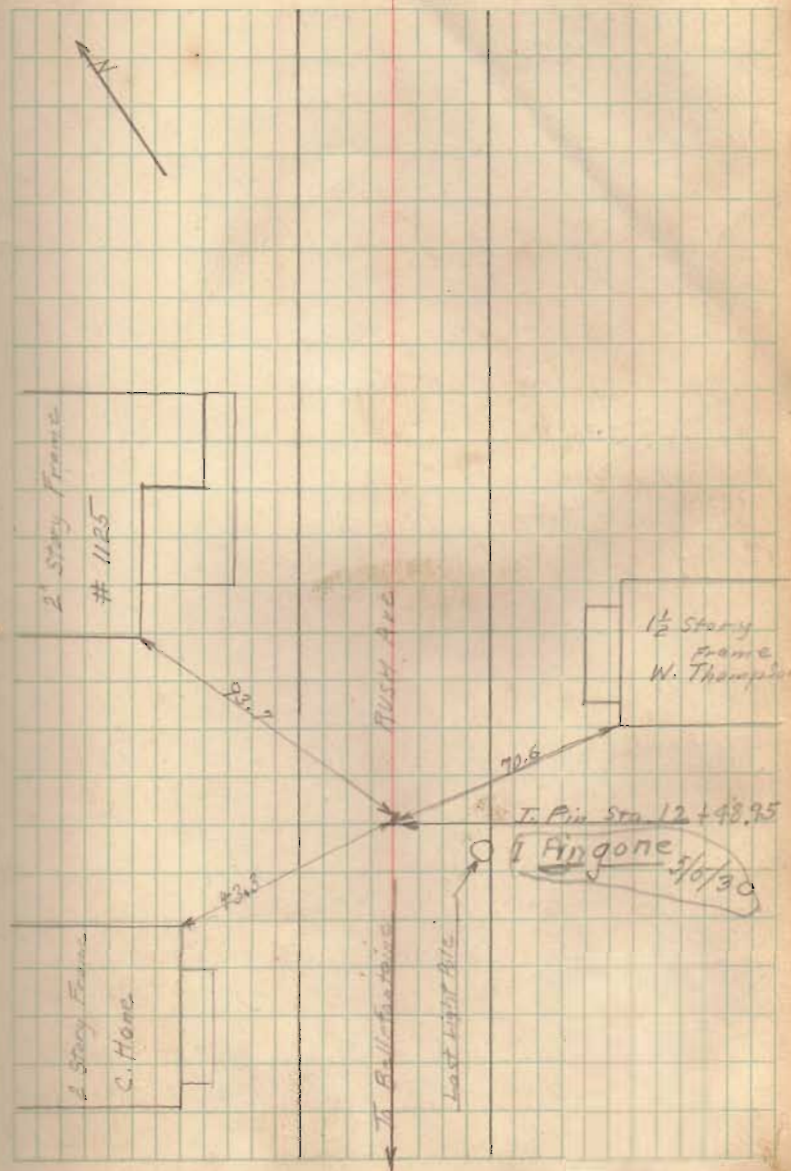
INDEXED ON MAP

4446



147
464
511





134405

6+00 9.4 1339.65

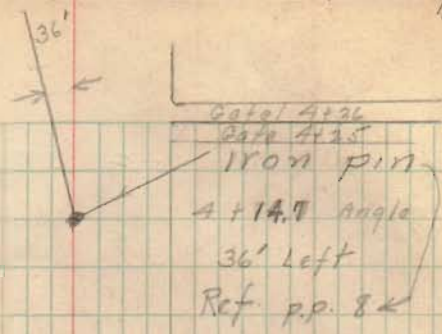
7+00 1.9 1342.15

T.P. 0.21 1343.84
 9/13
 1353.02

8+00 8.8 1344.22

9+00 7.9 1346.02

10+00 5.3 1347.72



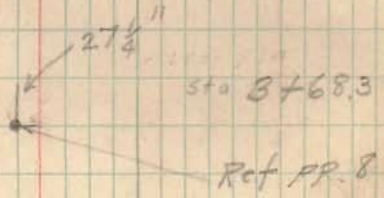
3+73 Drive

3+68.0
 Land Line

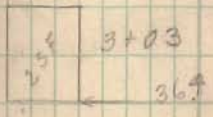
Drive 3+61

← 44.7 →

25. 3+49



Land Line 3+26.6 231



Land Line

2+66.3

← 28.1 →

1353.02

42 1348.32

57 1347.32

64736
Land Line

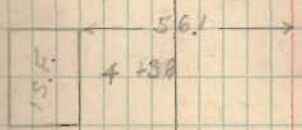
Drive 54785

5-51

Gate 5431
Fire Hydrant

54185 ~~52225~~

4475
Land Line ?

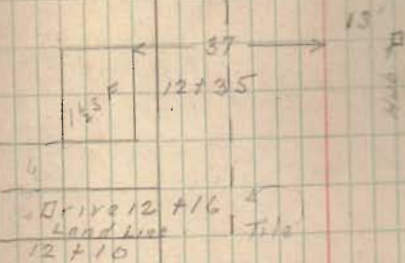


1353.02

11+00	6.2	1347.82
Cement Side work		
12+00	5.2	1347.32
Top tile 12+10	6.26	1346.66
12+00	4.9	1348.12
12+50 12 tile 4"	5.63	1347.39
Cement Work 12+25	5.6	1347.42
SW Cor 12+75	4.23	1348.79
Top tile 13+70	8.11	1344.91
13+00	5.2	1347.82
SE Corner 13+34	4.75	1348.27
Top 6" tile 13+96 Right	9.11	1344.91
14+00	5.6	1347.42
15+00	5.3	1347.72

Land Line

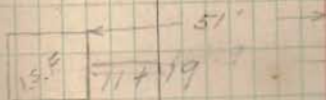
12+61.4

Drive 12+55
12+61.4

PC 12+12

References
page 3

Drive 11+50

10+78
Land Line9+46.5
Land Line

1353.02

16+00 TP 3.17 1349.05
7.32
1356.27

17+00 6.7 1350.17

18+00 4.2 1352.37

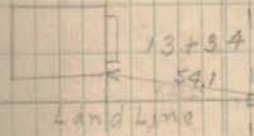
19+00 5.4 1350.87

20+00 5.9 1350.37
Final S.
20+07 7.73 1348.54

End of Hk
13+70

PT 13+88.5

Drive 13+64



N 50° 30' E

13+76
End Hk

12° 07' Right

876/0.64
76.33 Ton

13+4

8132.45
4.05

USE 8° Curve

13+0.5

P.I

Sta 13+12.4

52.0

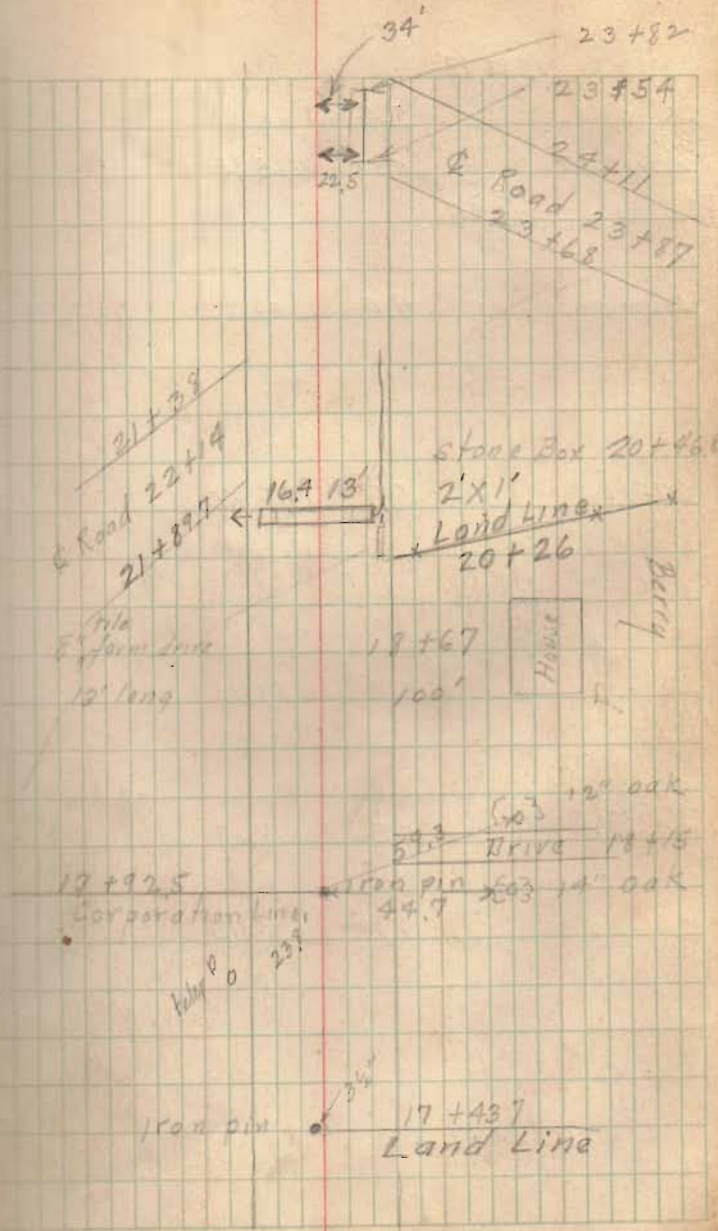
12+75 1/2 ST

612

1356.27

20+00	5.9	1350.37
Flow East	10.55	1345.72
Flow West	10.48	1345.79
21+00	5.5	1350.77
22+00	4.2	1352.07
Rd West	3.9	1352.37
50'	7.9	1348.37
10'	10.9	1345.37
23+00	1.95	1354.32
TX	1.86	1354.41
5K2	12.07	
Top Elev. 5	66.98	
	11.24	1355.12
24+00	9.3	1357.18
	10.52	1355.96
Rd East	9.8	1356.68
50'	9.8	1356.68
100'	10.5	1356.08
24+00	9.3	1357.18

8" Corq Iron pipe



1366.48

25+00 5.4 1367.08

26+00 0.52 1365.90

1374.25

26+00 9.0 1365.25

27+00 5.7 1368.55

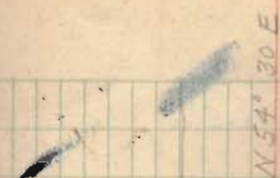
27+00 4.5 1369.75

28+00 5.56 1368.69

29+00 5.3 1368.95

50 7.05
50 1.05
49

50' 1.05



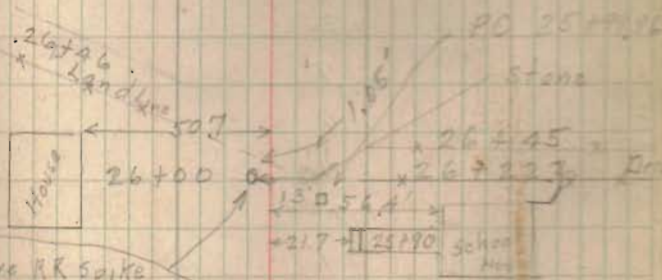
4° 00' Right

21300.00
1.75 37 Tan

21300
1.75 51T
150 20 Camp



Pl. 27+00



Dress RR Spike
50' 8" NE Cor Donells
5' NNW
See Book 479
Page 26
24 + 19.8
Fence

School
24 + 35.9
Landline

1374.25

30+00 2.7 65.6

31+00 11.00 63.3

32+00 11.6 62.6

T.P. 11.76 62.44

1474
1374.25

T. PIPE 15.09 59.16

W 14.34 59.91

E Rd. 11.7 62.5

33+00 11.0 63.3

D W C South
33+75 10.7 63.5

K. Rd. 10.1 63.2

34+00 9.1 65.2

15A 17B

32+11.5

24" CIP →

29+30
Fence

← 53' →

28+39

House

Drive 28+00

23+10

Gate

□ 15'

27+80

1374.25

35+00 7.0 66.3

36+00 6.9 67.4

37+00 4.7 69.6

BM. 28. Con
at Cornice 2.6 71.59

38+00 1.6 72.7

TF. 0.37 73.86

11.64
735.50

39+00 9.9 75.6

x 34+50
Land Line

Grid 210

Drive 32+75

< 53.5 >

32+39

1285.50

40+00 7.5 78.0

41+00 5.8 79.7

Zinc East

41+70 7.2 77.6

Culvert

Down West 7.57 76.3

0 4.7 80.8

42+00 4.4 81.1

43+00 2.9 82.7

44+00 2.9 82.6

39+97.2
Land Land

Drive 27x45

59'

House 37x39

N 33 E

13' ¹⁴⁴ PT 42 + 50.9

21° 14' Left

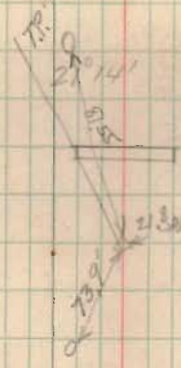
12' $\frac{1074}{89.66 \text{ Tan}}$

12' $\frac{99.56}{8.39}$

Use 12' Curve

ash bush
41 + 63.4 P.I

10'



41 + 70
12" Vit Pipe
30' Relay

eye of day

P.O.
13' \square 40 + 73.9

1385.50

45 2.7 82.8

46 2.6 82.9

47 TP. 3.00 1372.50

951
1392.01

Top 15 CIP East 11.74 80.27

C 9.5 82.5

Top West 12.83 79.18

48 9.4 82.6

49 +00 9.0 82.0

47 + 43.5

185 184

C.I.P. 15"

OK

1403.09

55 + 00 8.1 94.0

56 + 00 1.57 1400.52

864
1409.16

57 + 00 4.2 1405.0

57 + 50 3.4 1405.8

58 + 00 4.7 1404.5

59 + 00 2.4 1400.8

BM. RSL

27' (2) 51 + 26

1409.16

LTP. 12.87 1396.29

512
1401.92

60+00 5.8 95.6

61+00 8.4 93.0

flow S 12.66 88.76

A 8.9 92.5

flow N 13.10 1289.32

62+00 1.7 93.7

63+00 7.0 94.4

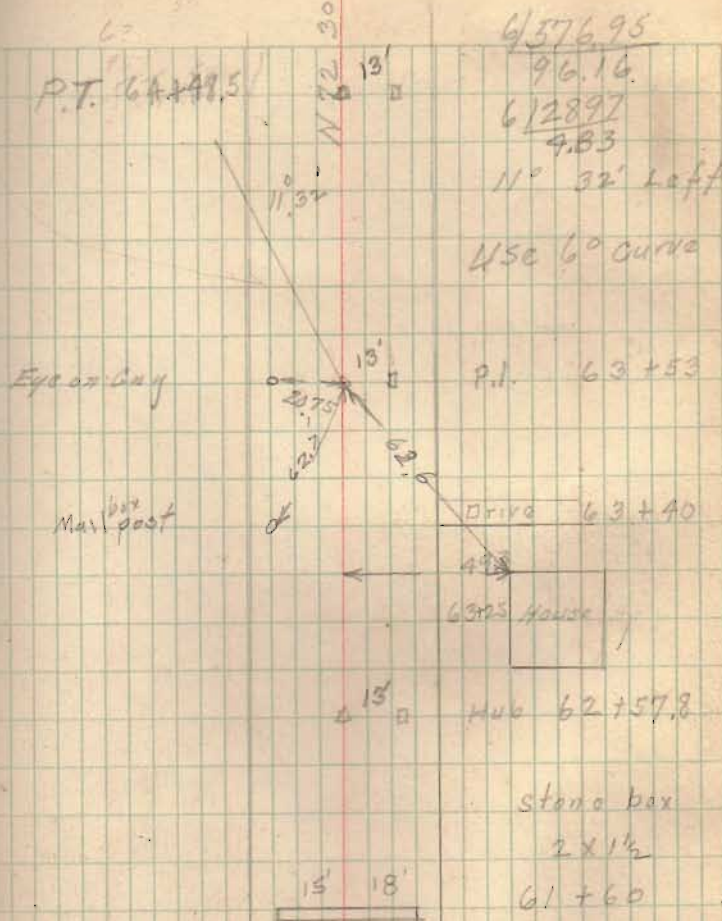
64+00 3.1 98.3

TP 0.11 1401.31

1093
1412.29

stone
15
0
57+47

65+00	1412.74	9.4	1402.8
66+00		4.5	1407.7
T.P.	5.75 1417.78	0.21	412.03
67+00		4.7	1413.1
68+00		4.2	1413.6
SM. chmn		1.21	1416.47
69+00		3.9	1412.9
flow S		9.10	1408.68
flow N		11.08	1406.70
Q		4.9	1412.9



185 177

12" C.I.P

69 + 12

wild Charric

← 30.8' → 69 + 56.7

1417.78

4.1 14130

71+00 5.1 1412.7

72+00 5.5 1412.3

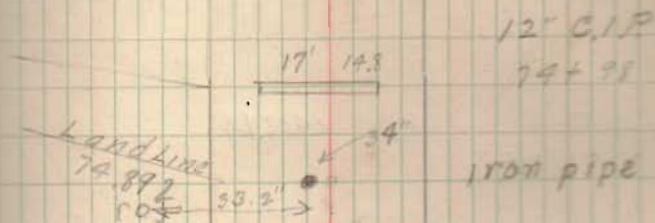
flow south 16.2 1401.6

17.1 1400.6

0. 6.3 1411.5

73+00 5.7 1412.1

74+00 6.7 1411.1

74.570 27
24.600
59.245 correctCenter
Blk. Walnut12" C.I.P
74+95

iron pipe

Stone Box
72+405

1417.78

75+00 7.6 1410.2

76+00 TP 8.5 1408.98

1410.10

77+00 5.6 1404.5

20' parts in
Roads yard

2.40 1407.70

78+00 12.2 1397.7

TP Top of Plate 12.54 1397.56

1402.78

79+50 10.7 1392.1

79+00 9.6 1393.8

79+50
Top Bank S 10.8 1392.0

Channel 16.5 1386.3

79+50
Top Bank N 9.5 1392.3

Bridge Pier 6.9 1395.7

77.13.5
96.32
76.16.18

19.25
4.3
10.1

502.5
10.1

8.23

29

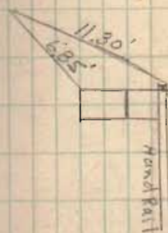
Bridge location
skew 57° 20'

79+85.5

skew
57° 20'

6.35 11.30

Hand Rail Bridge
Stone walls bad



79+68

P.C = 77+00

N 30° E

13°

37° 10' Left

20 1926.4

96.32 Tan

20 1315.2

15.76 Ext

USE 20°

House

77+13.5

Eye Comparison



Line

76+

76+16.2

1402.78

90+00 8.9 93.9

90+50 5.9 96.9

81+00 4.5 98.3

TP 0.65 1402.13

116.5
1413.78

82+00 10.6 1403.1

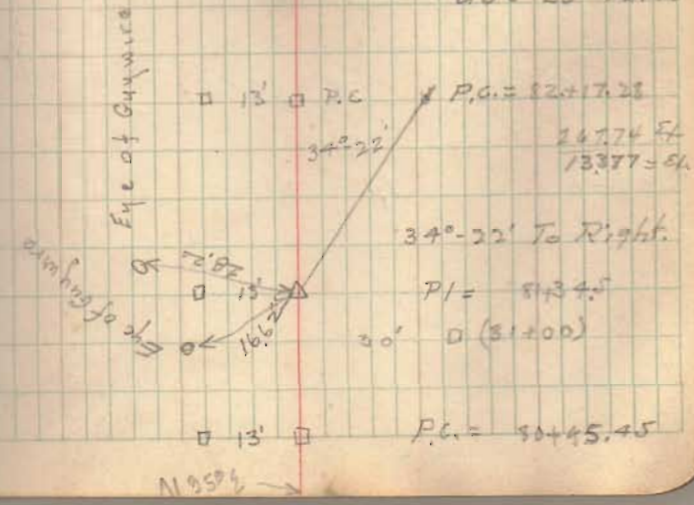
83+00 7.4 1406.4

94+00 4.9 1408.9

N 71° E

51.91
1.8
1770.852
20 1771.852
88.947
580.5
24.25

Use 20° Curve



1413.78

85+00

2.3 1411.5

86+00 TP

0.20 1413.58

9.14
1422.92

How N

12.4 1410.5

G Rd

8.0 1414.9

Flow S

15.6 1407.3

87+00

7.6 1415.3

88+00

5.1 1417.8

Large Rock

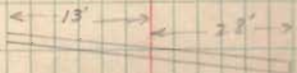
BM FP

33.8 1419.54

89+00

1.1 1421.8

BM Large Rock



86+63.5
15' ± 15'

11.53

1419.54

431.07

90 + 00

4.5

14266

90 +

0

91 + 00

0.4

1430.7

T.P

0.12

1430.95

10.86

441.81

92

10.1

1431.7

93

9.2

1432.6

94

7.3

1433.5

16'

21'

92 + 26

12' 05" P.M.

1441.81

95 4.6 37.2

96 1.6 40.2

3 M Double Elm 1.34 1440.47

1316
1433.63

97 10.2 1443.4

98 6.3 1447.3

99 3.1 1450.5

96172 * 40.5' O B.M. Double Elm.

1452.62

100 0.5 531

T.P. 0.01 5262

12.71
1466.33

101 11.5 1454.8

102 9.3 1457.0

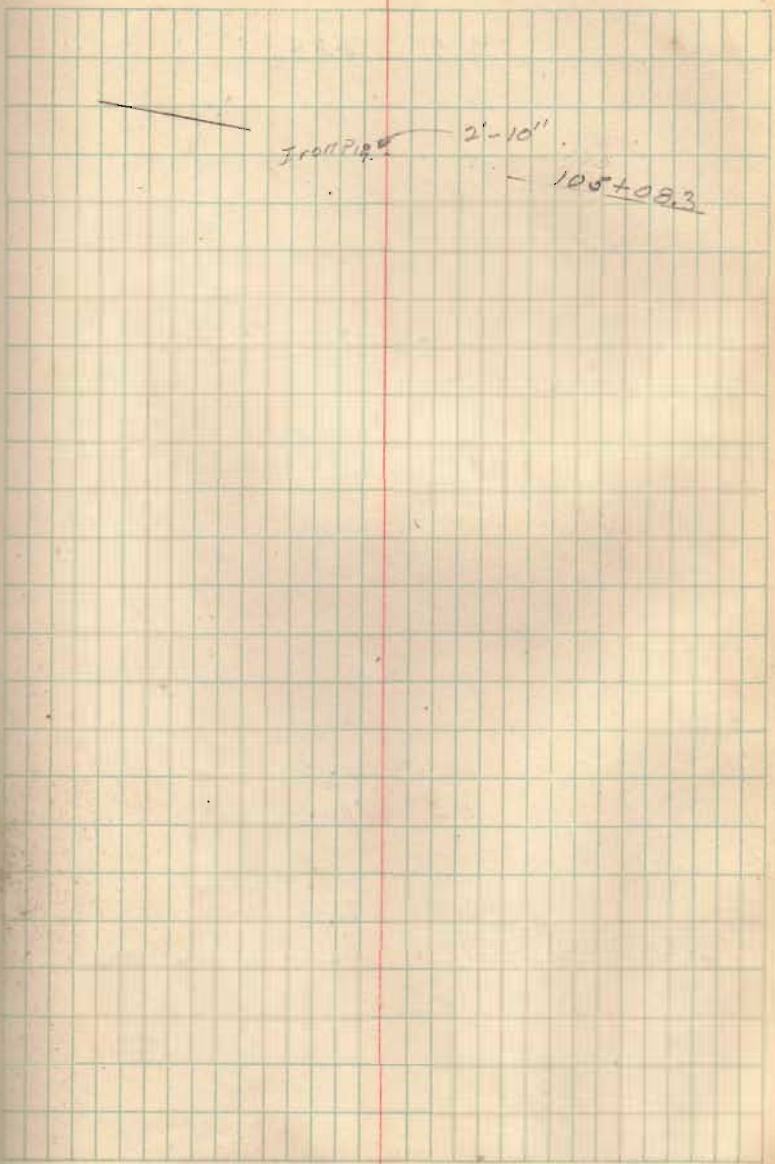
103 5.8 1460.5

104 1.3 1465.0

TP 0.47 1465.6

11.40

1477.26



147726

105 6.9 70.4

106 4.5 72.8

107 4.1 73.2

108 5.3 72.0

flw s 11.1 65.2

Calvert 5.4 71.9

flw N 13.7 63.6

109 5.2 72.1

27
29
251
53
34

60
17 12
11 10 11 5
59.86
60
11.77
6.5
13.5

PT 11A91.7



109 + 72.4 FE

← 24.8' 22.5

108+82
Stone Box
12x18"

147726
110 4.1 73.2

111 0.4
TP 0.26 1477.00

9.38
1486.38

112 6.0 1480.4

Shrink yard
BM Boulder 6.91 1479.97

113 4.0 82.4

~~Land Line
117 + 603~~

175 14.7

12" O.P.

118 + 0.3

Note

Sta 12 to Sta 13

113 1000

= Sta. 63 old

Survey

N50° 30'

13'

PT 120 + 72.5

5374 T

44 E

430 2° 0'

22 01 P. 100

2° 0'

PT

59.10

48

32.12

71.5

Top Boulder

Face east

PT 120 + 13.8

13'

PC 119 + 65.5

77° 40' 19.45
 95.53 17.00
 121.54 21.60
 132.57 27.60
 150° 0' 17.20
 177.00 18.00
 192° 25' 23.9
 215° 11' 10.65
 220 20 14.80

W. side



SE wing 216
 Figure Excavation for 36' (1/2) beam
 bridge

~~145 100~~ stone box
 12.8 + 26

44.8
 12.7 + 51

Land Line
132+89

130+314

PT 142+54

11.2.307

Eye of Curve

32° 15' Right

PI 142+07.1

HUB

HUB

20 | 1656.5

82.82

30° angle

12'

100.05'

20 | 234.65

11.73

Eye of Curve

USE 20° CURVE

PG 141+24.3

□ □

Land Line

134+20

135+41

135+02

Barn

144+56

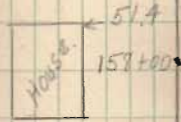
96'

Well 96' →

143+35

158 + 74,5

Harry Chamberlain



4/10

Land Line
156 + 51,5

100 right

BM ash 0.95

1413.41

1413.86

160

161

4.8 1409.1

162

9.3 04.6

T.P.

12.88 1400.99

-0.23

1400.75

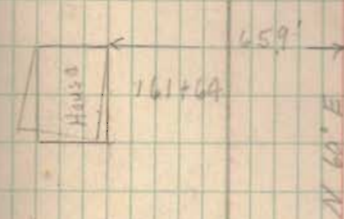
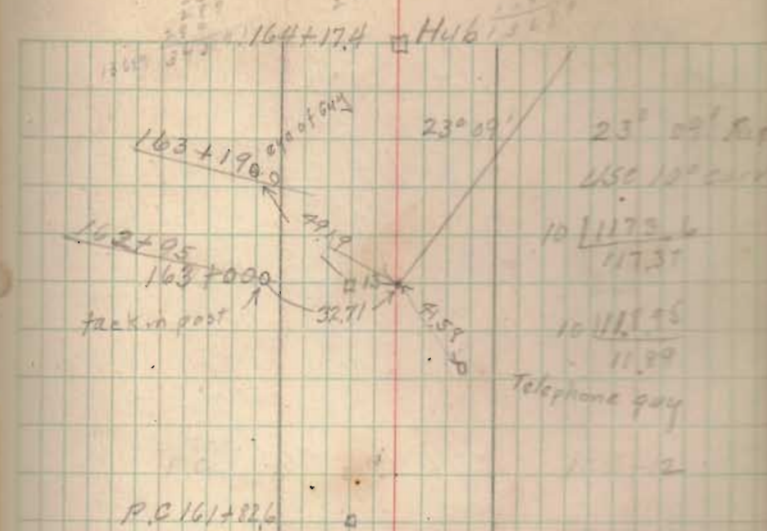
163

3.6 97.2

164

9.9 90.9

200 210
118
160
150
140
130
120
110



12° C 10'

160+00.5

1400.75

165	11.4	88.4
Flow 3	18.0	82.8
Cyrtort	10.6	90.2
Flow N.	21.8	79.0

166 10.1 90.7

Fossil-Barn 33.7 1497.31

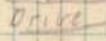
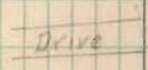
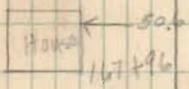
167 5.1 95.7

168 0.00 1400.8

169 1.70 1399.1

P.I. 168 + 47.4

Joe Dickinson



Drive 167+06



12"x12" stone box
165 + 76

33.63' 29.04'

1° 38'
1° 35' left



173+04

← 28'3" (O) B.M. Elm

Land Line

171+91

108+85

fence line

177+50

○

stone filter

Land Line

176+40.5

Land Line: $9''$ iron pin
182 + 29.0

25' 23'

180 + 24
stone box

CA Levels Sta 6 to 50

181.0 1349.79	1339.69
3.63 1353.75	1346.16
11.36 1365.94	1354.60
8.15 1374.77	1364.62
11.91 1378.16	1371.25
BM 2.94 1384.21	1381.15
11.68 1394.21	1397.24
9.72 1403.99	
3M.31	

L R

Cross Sections

$\frac{30}{-0.7}$	$\frac{15}{-0.5}$	②	$\frac{7}{-0.3}$	$\frac{11}{-0.1}$	$\frac{16}{-0.2}$	$\frac{18}{0}$	$\frac{30}{+0.7}$								
$\frac{34}{+3.2}$	$\frac{30}{+2.2}$	$\frac{25}{+1.8}$	$\frac{20}{-0.6}$	$\frac{17}{-0.1}$	$\frac{14}{-0.7}$	①	$\frac{10}{-0.5}$	$\frac{13}{-0.1}$	$\frac{15}{-0.5}$	$\frac{28}{+1.5}$	$\frac{30}{+2.7}$				
$\frac{23}{+0.5}$	$\frac{18}{-1.0}$	$\frac{16}{-0.7}$	③	$\frac{8}{-0.2}$	$\frac{9}{-0.6}$	$\frac{4}{-0.1}$	$\frac{17}{0}$	$\frac{19}{+0.2}$	$\frac{27}{+1.6}$						
$\frac{38}{+1.0}$	$\frac{23}{+0.8}$	$\frac{12}{+1.1}$	③	$\frac{13}{-1}$	$\frac{16}{-1.8}$	$\frac{17}{-1.8}$	$\frac{21}{-0.8}$	$\frac{21}{-0.8}$	$\frac{21}{-0.4}$						
$\frac{30}{23}$	$\frac{28}{+1.2}$	$\frac{11}{+0.1}$	④	$\frac{5}{-0.3}$	$\frac{7}{-0.1}$	$\frac{12}{-1.9}$	$\frac{15}{-2.2}$	$\frac{18}{+1.1}$	$\frac{23}{+1.6}$						
$\frac{30}{+0.4}$	②	$\frac{17}{+0.2}$	⑤	$\frac{8}{+0.1}$	$\frac{12}{0}$	$\frac{15}{-2.6}$	$\frac{17}{-1.2}$	③	$\frac{30}{-1.6}$						
②	$\frac{30}{+7.7}$	$\frac{27}{+1.1}$	②	$\frac{21}{+1.4}$	$\frac{18}{+1.5}$	①	$\frac{7}{-0.5}$	$\frac{20}{2.5}$	②	$\frac{23}{-1.7}$	$\frac{30}{-1.7}$				
$\frac{30}{+1.7}$	$\frac{28}{+1.4}$	②	$\frac{27}{+1.1}$	$\frac{26}{+1.1}$	②	$\frac{21}{+1.4}$	$\frac{18}{+1.5}$	①	$\frac{7}{-0.5}$	$\frac{20}{2.5}$	②	$\frac{23}{-1.7}$	$\frac{30}{-1.7}$		
$\frac{30}{+1.3}$	②	$\frac{27}{+1.8}$	$\frac{24}{+1.1}$	$\frac{21}{+0.5}$	$\frac{19}{+3}$	$\frac{7}{+1.7}$	②	$\frac{6}{-1.4}$	$\frac{11}{-7}$	$\frac{15}{-1.6}$	$\frac{18}{-1.3}$	$\frac{19}{+1.2}$	$\frac{23}{-1.5}$	$\frac{30}{-1.5}$	
②	$\frac{26}{-1.4}$	$\frac{23}{-1.4}$	②	$\frac{20}{-1.7}$	$\frac{19}{-1.3}$	$\frac{16}{0}$	$\frac{7}{+1.3}$	②	$\frac{6}{-9}$	$\frac{11}{-4}$	$\frac{17}{21}$	$\frac{19}{22}$	②	$\frac{28}{-1.3}$	$\frac{30}{-1.3}$
②	$\frac{25}{+1.3}$	②	$\frac{23}{-1.5}$	②	$\frac{21}{+1.7}$	$\frac{16}{0}$	$\frac{7}{+1.4}$	⑩	$\frac{7}{-1.5}$	$\frac{12}{-2}$	$\frac{17}{-9}$	$\frac{20}{-1}$	②	$\frac{24}{-1.8}$	$\frac{25}{-1.8}$
$\frac{30}{-1.9}$	②	$\frac{24}{-1.9}$	②	$\frac{21}{+1.7}$	$\frac{20}{-1.9}$	$\frac{14}{+1}$	$\frac{8}{+1.7}$	④	$\frac{8}{-3}$	$\frac{12}{0}$	$\frac{17}{-1.0}$	$\frac{23}{+1.1}$	②	$\frac{25}{+1.0}$	$\frac{30}{+1.0}$

Levels feet Arabogast Hill

Wut
Floor Bridge East

096

Channel 9.1

Channel of E 8.5

Floor 3.45

BM Bench 7.09 1371.48

1378.57

T.P. 0.34 1378.23

10.99

89.32

301 10.7 6.1 83.12

302 10.8 1.8 87.4

303 11.9 2.8 86.4

TR 50 2.66 86.54 (10+50 = 83.15)

Max 39.8
78.52

303 10.9 + 50 5.8 84.7

304 11.0 7.3 83.6

P.T. 7.6 82.9

Left

Right

Cross Section

30 25 22 21 15 6 11 12 19 20 24 30 25
-1.0 -0.9 0.7 -0.7 +1.1 +1.3 -1.2 -1.8 0.5 -1.7 +1.8 +1.1 0.5

30 24 23 23 17 15 8 13 4 22 23 30
-1.5 +1.2 0.7 -1.4 -1.5 0 +1.3 1.5 -1.2 0.5 -1.1 +1.5

21 17 13 4 13 21 30
-1.7 -2.1 -1.4 +1.2 1.5 -1.3 -2.0

30 21 21 18 17 15 5 13 20 23 25 30
+1.4 +1.2 0.7 -1.1 -1.1 +1.4 +1.3 1.5 -1.7 -1.3 0.5 +1.1

25 23 22 21 20 19 14 6 9 12 20 23 25 30 30
-2.0 -1.1 0.5 0.7 -1.3 -1.3 0 +1.4 1.5 -1.4 -1.5 0.5 +1.1 +1.1

30 24 24 22 21 20 16 7 6 14 19 25 26 30
-2.6 -2.1 -2.1 0.5 0.7 -2.1 -4 +3 1.5 -2 -3 -1.6 0.5 +1.8 +2.2

30 22 23 19 16 9 6 11 12 23 30
-1.9 0.5 0.7 -1.0 +1.1 +1.5 1.5 -1.1 +1.4 +1.4 +1.3 1.8

30 22 22 17 9 14 15 16 31
4.1 0.5 0.7 -1.5 -1.7 +1.5 1.5 -1.2 +1.5 -1.5 5.3

30 23 22 22 14 2 9 14 16 29 30
-5.0 0.5 0.7 -1.2 -1.2 +1.2 1.5 -1.2 -1.1 1.1 +1.3 +2.3

30 27 22 18 14 8 (20+44) 9 15 18 23 20
4.1 -3.2 -2.8 -2.8 -1 +2 Collect -1.2 -3.1 -2.5 +1.0 +2.0

30 25 24 22 22 13 5 10 16 18 19 24 30
-4.0 -3.4 -4.5 -4.0 0.5 0.7 -1.1 +1.2 1.5 -1.1 -1.4 -1.8 +1.3 0.5 +5.0

30 28 25 16 8 9 13 14 16 25
-1.5 -1.6 -1.3 -1.6 1.3 1.5 -1.1 -1.2 -1.3 +1.2 +2.9

L.

S₂.

R.

$$\begin{array}{cccccccccccc} \frac{30}{-1.0} & \frac{27}{-.7} & \frac{23}{.7} & \frac{22}{.7} & \frac{21}{-1.0} & \frac{19}{-.9} & \frac{16}{+.1} & \frac{9}{+.5} & \textcircled{23} & \frac{12}{.2} & \frac{15}{-.9} & \frac{17}{-.9} & \frac{18}{0} & \frac{20}{+.3} & \textcircled{22} & \frac{25}{+.8} & \frac{30}{+.5} \end{array}$$

$$\begin{array}{cccccccccccc} \frac{30}{-2.1} & \frac{24}{-1.2} & \frac{22}{.7} & \frac{15}{-.2} & \frac{15}{-.2} & \frac{9}{+.2} & \textcircled{24} & \frac{14}{+.2} & \frac{13}{-.2} & \frac{24}{+.5} & \frac{30}{-.6} \end{array}$$

$$\begin{array}{cccccccccccc} \frac{30}{+.8} & \textcircled{23} & \frac{22}{.7} & \frac{21}{+.9} & \frac{19}{-.2} & \frac{17}{-.1} & \frac{9}{+.4} & \textcircled{20} & \frac{13}{0} & \frac{23}{+.3} & \frac{30}{+.5} \end{array}$$

$$\begin{array}{cccccccccccc} \frac{30}{+1.1} & \textcircled{23} & \frac{22}{.7} & \frac{19}{+.3} & \frac{16}{+.1} & \frac{7}{+.7} & \textcircled{26} & \frac{3}{-.1} & \frac{4}{+.3} & \frac{21}{+.6} & \frac{30}{+.7} \end{array}$$

$$\begin{array}{cccccccccccc} \frac{30}{+.2} & \frac{16}{+.6} & \frac{13}{-.7} & \frac{3}{+.3} & \textcircled{27} & \frac{4}{-.5} & \frac{30}{-.1} & \textcircled{29} \end{array}$$

$$\begin{array}{cccccccccccc} \frac{30}{-1.9} & \textcircled{20} & \frac{17}{.7} & \frac{13}{-1.0} & \frac{11}{-.5} & \textcircled{28} & \frac{6}{-.5} & \frac{17}{-.5} & \frac{30}{+.8} \end{array}$$

$$\begin{array}{cccccccccccccccc} \frac{30}{+3.0} & \frac{26}{+.7} & \frac{23}{+.3} & \frac{22}{+.2} & \frac{21}{.7} & \frac{18}{+.4} & \frac{13}{+.2} & \textcircled{29} & \frac{6}{-.7} & \frac{16}{-.2} & \frac{23}{-.6} & \frac{26}{+.8} & \textcircled{28} & \frac{30}{+.7} \end{array}$$

$$\begin{array}{cccccccccccccccc} \frac{30}{+5.0} & \frac{24}{+.0} & \textcircled{22} & \frac{19}{.7} & \frac{18}{+.6} & \frac{13}{-.1} & \frac{2}{+.2} & \textcircled{30} & \frac{6}{-.8} & \frac{22}{-.6} & \frac{27}{-.3} & \textcircled{29} & \frac{28}{+.5} & \frac{30}{-1.5} \end{array}$$

$$\begin{array}{cccccccccccccccc} \frac{30}{+2.3} & \frac{26}{+.8} & \frac{24}{+.25} & \textcircled{21} & \frac{20}{+.2} & \frac{16}{-.3} & \frac{13}{-.8} & \frac{10}{0} & \frac{2}{+.1} & \textcircled{31} & \frac{5}{-.5} & \frac{18}{-.11} & \frac{22}{-.2} & \frac{26}{-1.7} & \frac{30}{-2.0} \end{array}$$

$$\begin{array}{cccccccccccccccc} \frac{30}{-1.0} & \frac{24}{-1.4} & \textcircled{23} & \textcircled{20} & \frac{17}{-2.1} & \frac{14}{-1.9} & \frac{9}{-.3} & \frac{3}{+.1} & \textcircled{32} & \frac{4}{-.7} & \frac{13}{-.7} & \frac{22}{-3.4} & \textcircled{26} & \frac{26}{-3.5} & \frac{30}{+.5} \end{array}$$

convert. Same

$$\begin{array}{cccccccccccccccc} \frac{30}{+.1} & \textcircled{23} & \frac{19}{.7} & \frac{18}{-.3} & \frac{17}{-1.0} & \frac{15}{-.9} & \frac{12}{-.3} & \frac{3}{+.3} & \textcircled{33} & \frac{6}{-.7} & \frac{15}{-.4} & \frac{21}{-1.0} & \frac{24}{+.1} & \frac{23}{+.25} & \frac{30}{+.25} \end{array}$$

Left Star. Right

$$\frac{36}{+5.5} + \frac{29}{+5.0} + \frac{23}{+1.3} + \frac{21}{+1.7} + \frac{18}{+1.3} + \frac{16}{+1.5} + \frac{5}{+1.7} + \frac{34}{+1.7} + \frac{5}{-1.7} + \frac{14}{-2.2} + \frac{12}{-4.4} + \frac{21}{+1.8} + \frac{23}{+2.2} + \frac{30}{+2.2}$$

$$\frac{30}{-2.0} + \frac{25}{-1.9} + \frac{21}{+1.7} + \frac{15}{0} + \frac{6}{+1.4} + \frac{35}{+1.4} + \frac{6}{-2.2} + \frac{12}{-3.9} + \frac{16}{-3.3} + \frac{18}{-3.3} + \frac{20}{+1.5} + \frac{24}{-5.7} + \frac{30}{+1.7}$$

$$\frac{30}{-1.5} + \frac{23}{-1.8} + \frac{15}{-3.3} + \frac{7}{+1.4} + \frac{36}{+1.4} + \frac{4}{-1.7} + \frac{13}{-3.3} + \frac{14}{-6.6} + \frac{15}{-6.6} + \frac{17}{0} + \frac{19}{+1.5} + \frac{30}{-1.7}$$

$$\frac{30}{-2.2} + \frac{14}{0} + \frac{7}{+1.5} + \frac{37}{+1.5} + \frac{3}{-1.7} + \frac{15}{-1.7} + \frac{17}{+1.5} + \frac{17}{+1.5} + \frac{30}{+1.5}$$

$$\frac{30}{+1.0} + \frac{24}{+1.0} + \frac{22}{+1.0} + \frac{21}{+1.0} + \frac{17}{+1.5} + \frac{16}{+1.8} + \frac{9}{+1.8} + \frac{38}{-1.3} + \frac{7}{-2.2} + \frac{14}{-2.2} + \frac{16}{+1.8} + \frac{23}{+1.8} + \frac{30}{+1.7}$$

$$\frac{30}{-1.7} + \frac{24}{-2.2} + \frac{22}{-2.2} + \frac{21}{-2.2} + \frac{17}{-2.2} + \frac{15}{0} + \frac{7}{+1.5} + \frac{39}{+1.5} + \frac{4}{-2.2} + \frac{9}{-2.2} + \frac{11}{-2.2} + \frac{12}{+1.6} + \frac{13}{+1.6} + \frac{15}{0} + \frac{16}{+1.2} + \frac{17}{+1.2} + \frac{20}{+1.2}$$

$$\frac{30}{-1.0} + \frac{24}{-1.0} + \frac{22}{+1.7} + \frac{22}{-1.8} + \frac{17}{+1.2} + \frac{7}{+1.7} + \frac{40}{+1.7} + \frac{4}{-2.2} + \frac{12}{-1.5} + \frac{13}{-1.5} + \frac{14}{-1.5} + \frac{15}{+1.3} + \frac{17}{+1.3} + \frac{30}{+1.5}$$

$$\frac{30}{-2.9} + \frac{23}{-2.0} + \frac{22}{-2.5} + \frac{21}{+1.7} + \frac{21}{-2.8} + \frac{14}{+1.1} + \frac{7}{+1.5} + \frac{41}{+1.5} + \frac{8}{-1.3} + \frac{14}{+1.4} + \frac{17}{-1.0} + \frac{12}{-1.0} + \frac{19}{-1.5} + \frac{21}{+1.4} + \frac{22}{+1.3} + \frac{25}{+1.3} + \frac{29}{+1.3}$$

$$\frac{30}{-3.5} + \frac{24}{-3.3} + \frac{21}{-2.6} + \frac{18}{-2.4} + \frac{13}{-1.8} + \frac{3}{+2.2} + \frac{42}{+2.2} + \frac{5}{-1.7} + \frac{13}{-2.2} + \frac{17}{-1.2} + \frac{19}{-1.5} + \frac{23}{+1.2} + \frac{24}{+1.9} + \frac{30}{+1.9}$$

$$\frac{30}{-2.0} + \frac{25}{-1.9} + \frac{21}{-1.3} + \frac{18}{+1.7} + \frac{15}{-1.8} + \frac{12}{0} + \frac{2}{+1.2} + \frac{43}{+1.2} + \frac{14}{-1.5} + \frac{20}{+1.2} + \frac{24}{+1.0} + \frac{26}{+1.2} + \frac{30}{+1.2}$$

$$\frac{30}{-2.5} + \frac{22}{-1.9} + \frac{18}{+1.7} + \frac{17}{-2.2} + \frac{15}{-1.9} + \frac{7}{-2.2} + \frac{4}{+1.3} + \frac{44}{+1.3} + \frac{8}{-1.4} + \frac{14}{-1.5} + \frac{21}{-1.0} + \frac{25}{0} + \frac{30}{+1.8}$$

$$\frac{30}{-2.8} + \frac{24}{-2.1} + \frac{19}{+1.7} + \frac{17}{-2.1} + \frac{12}{-2.2} + \frac{5}{+1.3} + \frac{45}{+1.3} + \frac{7}{-1.5} + \frac{14}{-1.5} + \frac{21}{-1.3} + \frac{23}{-1.4} + \frac{26}{+1.5} + \frac{24}{+1.0} + \frac{30}{+1.4}$$

L,

E
Sta

R.

$$\begin{array}{cccccccc} \frac{30}{5.2} & \frac{29}{2.4} & \frac{21}{2.1} & \frac{19}{2.9} & \frac{17}{2.9} & \frac{13}{-2} & \frac{4}{+5} & \textcircled{46} & \frac{2}{-5} & \frac{14}{-5} & \frac{13}{-14} & \frac{19}{-14} & \frac{29}{-4} & \frac{27}{22.2} & \frac{30}{-2.2} \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-2.9} & \frac{28}{-2.1} & \textcircled{21} & \frac{20}{-1.9} & \frac{19}{-2.4} & \frac{16}{-2.5} & \frac{12}{+3} & \textcircled{47} & \frac{12}{-6} & \frac{18}{-2.4} & \frac{22}{-2.2} & \frac{25}{-2} & \textcircled{23} & \frac{30}{-3} & \end{array}$$

ditto 6 same

$$\begin{array}{cccccccc} \frac{30}{-2.1} & \frac{20}{-1.8} & \frac{14}{-1.7} & \frac{12}{-1} & \frac{4}{+3} & \textcircled{48} & \frac{12}{-3} & \frac{17}{-1.4} & \frac{24}{-1.8} & \textcircled{28} & \frac{30}{-11} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-2.1} & \frac{22}{-1.5} & \textcircled{19} & \frac{19}{-2.1} & \frac{16}{-1.8} & \frac{12}{+1} & \frac{3}{+4} & \textcircled{49} & \frac{3}{-3} & \frac{13}{-2} & \frac{21}{-2.1} & \frac{24}{-2.1} & \frac{30}{0.2} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-2.1} & \frac{23}{-1.9} & \frac{20}{-1.8} & \frac{14}{+3} & \frac{5}{+5} & \textcircled{50} & \frac{13}{-6} & \frac{17}{-1.2} & \textcircled{29} & \frac{30}{+1.2} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-5} & \frac{24}{-1.0} & \frac{22}{+1.0} & \frac{19}{+2} & \frac{13}{+7} & \frac{5}{+5} & \textcircled{51} & \frac{10}{-5} & \frac{15}{-2.0} & \textcircled{20} & \frac{5.5}{-2.1} & \frac{5.5}{-3.0} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-5} & \frac{24}{-1.1} & \frac{19}{-2.1} & \frac{15}{-2.0} & \frac{12}{-1.3} & \frac{8}{-3} & \frac{10}{-1} & \frac{28}{-2.2} & \textcircled{23} & \frac{25}{-2.3} & \frac{27}{-2.1} & \frac{30}{-2.1} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-1.7} & \textcircled{20} & \frac{17}{-1.7} & \frac{7}{-2.2} & \frac{7}{-3} & \textcircled{52} & \frac{13}{-3} & \frac{13}{-1.3} & \textcircled{24} & \frac{25}{-2.2} & \frac{27}{-1.9} & \frac{30}{-1.5} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-3.1} & \textcircled{22} & \frac{17}{-2.2} & \frac{13}{-1.3} & \frac{9}{-1.6} & \textcircled{53} & \frac{14}{-2} & \frac{23}{-1.9} & \frac{25}{-1.5} & \frac{20}{+6} & \frac{40}{+7.6} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{-1.9} & \frac{25}{-2.9} & \textcircled{21} & \frac{17}{-2.5} & \frac{12}{-1.6} & \textcircled{54} & \frac{14}{-0.6} & \frac{19}{-3.1} & \textcircled{25} & \frac{30}{-3.2} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{0} & \frac{26}{0} & \textcircled{21} & \frac{19}{-1.3} & \frac{14}{-9} & \textcircled{55} & \frac{8}{+1} & \frac{17}{-1.6} & \textcircled{25} & \frac{24}{-1.2} & \frac{27}{+8} & \frac{30}{+1.6} & \end{array}$$

$$\begin{array}{cccccccc} \frac{30}{+3.9} & \frac{26}{+3.9} & \textcircled{20} & \frac{15}{-0.5} & \frac{12}{-0.9} & \frac{9}{-3} & \textcircled{57} & \frac{16}{+1} & \textcircled{21} & \frac{30}{+3.3} & \end{array}$$

Rockland Levels. ^{9/26/30} W.P. Montgomery
 Levels from B John Montgomery

R

B.M. Ash

138855

402 -
 1392.57 0.84 1391.73

758
 1399.31 11.56 1387.75

116
 1388.91 60 1388.91

1260
 1401.51 0.88 1400.63

1306
 1413.69 0.65 1413.04

1146
 1424.54 2.08 1422.46 Rock
 1.18 1423.36 H. P.
 00 245 near here.

$\frac{30}{+5}$ $\frac{24}{+2}$ $\frac{22}{E}$ $\frac{20}{-4.0}$ $\frac{17}{1.7}$ $\frac{14}{1.4}$ $\frac{7}{-8}$ (57) $\frac{15}{-1}$ $\frac{13}{-0.5}$ $\frac{21}{+2}$ $\frac{30}{-5.0}$

$\frac{20}{-2.5}$ $\frac{21}{E}$ $\frac{15}{-2.0}$ $\frac{13}{-2.9}$ (58) $\frac{15}{8}$ $\frac{20}{-1.1}$ $\frac{21}{E}$ $\frac{24}{-4}$ $\frac{30}{+1}$

$\frac{30}{-1.8}$ $\frac{24}{-1.7}$ $\frac{18}{-2.6}$ $\frac{13}{-1.1}$ (59) $\frac{10}{-7}$ $\frac{14}{-2}$ $\frac{21}{-1.4}$ $\frac{30}{-1.8}$

$\frac{30}{+2.7}$ $\frac{24}{+2.0}$ $\frac{20}{E}$ $\frac{17}{-1.2}$ $\frac{13}{-1.0}$ $\frac{12}{-5}$ (60) $\frac{11}{-3}$ $\frac{16}{+1}$ $\frac{23}{E}$ $\frac{24}{-1.5}$ $\frac{25}{-2}$ $\frac{20}{-2}$

$\frac{30}{-2.9}$ $\frac{25}{-3.4}$ $\frac{20}{E}$ $\frac{17}{-2.7}$ $\frac{12}{-1.8}$ (61) $\frac{12}{-5}$ $\frac{21}{-2.8}$ $\frac{23}{E}$ $\frac{25}{-2.7}$ $\frac{27}{-1.6}$ $\frac{30}{-1.5}$

Calculated same ↓

$\frac{30}{-4.0}$ $\frac{24}{-3.2}$ $\frac{24}{-2.4}$ $\frac{17}{-2.1}$ $\frac{15}{-1.2}$ (62) $\frac{9}{-3}$ $\frac{14}{-1.1}$ $\frac{22}{E}$ $\frac{30}{-1.2}$

$\frac{30}{+1.9}$ $\frac{22}{-8}$ $\frac{20}{-1.7}$ $\frac{19}{E}$ $\frac{14}{1.4}$ (63) $\frac{11}{-3}$ $\frac{24}{-2}$ $\frac{30}{+2}$ $\frac{34}{+3.0}$

$\frac{30}{+4}$ $\frac{24}{+4}$ $\frac{20}{E}$ $\frac{14}{1.5}$ (64) $\frac{3}{+1}$ $\frac{14}{-5}$ $\frac{16}{-1.0}$ $\frac{18}{-1}$ $\frac{23}{+5.2}$ $\frac{25}{-2.5}$ $\frac{30}{-2.5}$

$\frac{30}{-2.4}$ $\frac{21}{E}$ $\frac{18}{-2.6}$ $\frac{15}{1.5}$ (65) $\frac{16}{-1.0}$ $\frac{21}{E}$ $\frac{23}{+3}$ $\frac{30}{-2}$

near here

$\frac{30}{-2.4}$ $\frac{22}{-2.0}$ $\frac{20}{E}$ $\frac{18}{2.2}$ $\frac{15}{-1.1}$ $\frac{6}{-5}$ (66) $\frac{7}{-3}$ $\frac{16}{-3}$ $\frac{18}{-7}$ $\frac{22}{-3}$ $\frac{25}{+6}$ $\frac{30}{+6.0}$

$\frac{30}{-1.8}$ $\frac{23}{-1.9}$ $\frac{16}{-1.4}$ $\frac{8}{-1.6}$ (67) $\frac{10}{-5}$ $\frac{19}{1.5}$ $\frac{20}{E}$ $\frac{27}{+4.7}$ $\frac{30}{+7}$

$\frac{30}{-2.7}$ $\frac{21}{E}$ $\frac{17}{-1.7}$ $\frac{15}{-1.4}$ (68) $\frac{12}{-5}$ $\frac{19}{-5}$ $\frac{23}{+1.7}$ $\frac{30}{+2.5}$

$$\begin{array}{r} 30 \\ -5.1 \\ \hline \end{array} \quad \begin{array}{r} 21 \\ -4.2 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -4 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ -7 \\ \hline \end{array} \quad \textcircled{69} \quad \begin{array}{r} 13 \\ -1.6 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -2.5 \\ \hline \end{array} \quad \begin{array}{r} 21 \\ -2.5 \\ \hline \end{array} \quad \begin{array}{r} 24 \\ -1.2 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ -11 \\ \hline \end{array}$$

Column sum ↑

$$\begin{array}{r} 30 \\ -1.2 \\ \hline \end{array} \quad \begin{array}{r} 27 \\ -1.6 \\ \hline \end{array} \quad \begin{array}{r} 22 \\ -2.3 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -2.5 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ -5 \\ \hline \end{array} \quad \textcircled{70} \quad \begin{array}{r} 11 \\ -6 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ -1.4 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -1.4 \\ \hline \end{array} \quad \begin{array}{r} 22 \\ 0 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ +11 \\ \hline \end{array}$$

$$\textcircled{103} \quad \begin{array}{r} 30 \\ 0 \\ \hline \end{array} \quad \begin{array}{r} 29 \\ 0 \\ \hline \end{array} \quad \begin{array}{r} 28 \\ -1.9 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ -7 \\ \hline \end{array} \quad \textcircled{71} \quad \begin{array}{r} 11 \\ -5 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ +6 \\ \hline \end{array} \quad \begin{array}{r} 27 \\ +5.0 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ 5.0 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ -3.2 \\ \hline \end{array} \quad \begin{array}{r} 22 \\ -2.9 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ -3 \\ \hline \end{array} \quad \textcircled{72} \quad \begin{array}{r} 10 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ -3.2 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -3.3 \\ \hline \end{array} \quad \begin{array}{r} 23 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ -1.4 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ -13.7 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ -4.7 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ -5 \\ \hline \end{array} \quad \left(\begin{array}{l} \text{row sum} \\ \text{column} \end{array} \right) \quad \begin{array}{r} 12 \\ -9 \\ \hline \end{array} \quad \begin{array}{r} 25 \\ -7.8 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ -2.8 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ -1.6 \\ \hline \end{array} \quad \begin{array}{r} 26 \\ -1.3 \\ \hline \end{array} \quad \begin{array}{r} 21 \\ 2.2 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ 2.3 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ -1.6 \\ \hline \end{array} \quad \textcircled{73} \quad \begin{array}{r} 10 \\ -1.5 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ -1.6 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ 1.6 \\ \hline \end{array} \quad \begin{array}{r} 22 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ +1.0 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ -1.6 \\ \hline \end{array} \quad \begin{array}{r} 28 \\ -1.0 \\ \hline \end{array} \quad \begin{array}{r} 22 \\ -1.4 \\ \hline \end{array} \quad \begin{array}{r} 20 \\ -1.5 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ -1.4 \\ \hline \end{array} \quad \textcircled{74} \quad \begin{array}{r} 11 \\ -1.3 \\ \hline \end{array} \quad \begin{array}{r} 21 \\ +1.7 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ -4 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ -9.0 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -3.2 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ -5 \\ \hline \end{array} \quad \textcircled{75} \quad \begin{array}{r} 11 \\ 4 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ -1.0 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ -2.5 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ 2.5 \\ \hline \end{array} \quad \begin{array}{r} 21 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ +1.2 \\ \hline \end{array} \quad \begin{array}{r} 27 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 23 \\ -3 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ -3 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +3 \\ \hline \end{array} \quad \textcircled{76} \quad \begin{array}{r} 12 \\ -3 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ +6 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ +3 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ +2.8 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ -3.0 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ -9 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ -1.0 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ -8 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ -1.4 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ -11 \\ \hline \end{array} \quad \textcircled{77} \quad \begin{array}{r} 10 \\ +9 \\ \hline \end{array} \quad \begin{array}{r} 22 \\ -3 \\ \hline \end{array} \quad \begin{array}{r} 31 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 34 \\ +3 \\ \hline \end{array} \quad \begin{array}{r} 38 \\ +2.3 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ 3.1 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ +3 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ +1.3 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ +1.0 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ +5 \\ \hline \end{array} \quad \begin{array}{r} 21 \\ +1.4 \\ \hline \end{array} \quad \begin{array}{r} 24 \\ +4 \\ \hline \end{array} \quad \begin{array}{r} 30 \\ +3 \\ \hline \end{array}$$

Read ↓

$$\begin{array}{r} 30 \\ -7.6 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ -1.8 \\ \hline \end{array} \quad \textcircled{78} \quad \begin{array}{r} 1 \\ 0 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ -1.7 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ -5 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ +1.4 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ +2.7 \\ \hline \end{array} \quad \begin{array}{r} 26 \\ +3.2 \\ \hline \end{array} \quad \begin{array}{r} 36 \\ +2.8 \\ \hline \end{array} \quad \begin{array}{r} 40 \\ +3 \\ \hline \end{array}$$

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$$\begin{array}{cccc} 30 & 27 & 11 & \\ +4.0 & +3.5 & 1.3 & \end{array} \quad (91) \quad \begin{array}{cccc} 16 & 18 & 23 & 30 \\ +1.2 & -1.5 & -1.1 & -1.0 & +1 \end{array}$$

$$\begin{array}{cccc} 30 & 28 & 26 & 18 & 10 \\ +1.4 & +1.2 & -1.3 & -1.3 & -0.9 \end{array} \quad (92) \quad \begin{array}{cccc} 16 & 17 & 14 & 30 \\ -1.7 & -1.8 & -2.5 & -2.8 \end{array}$$

$$\begin{array}{cccc} 30 & 26 & 14 & \\ +1.2 & -1.7 & -1.7 & \end{array} \quad (93) \quad \begin{array}{cccc} 2 & 15 & 17 & 13 & 22 & 20 & 21 \\ +1 & -3 & -1.8 & -2.2 & -1.8 & -1.8 & -1.8 \end{array}$$

$$\begin{array}{cccc} 30 & 28 & 25 & 15 & 8 \\ +1.8 & +1.3 & -1.4 & -1.6 & -1.5 \end{array} \quad (94) \quad \begin{array}{cccc} 3 & 14 & 16 & 17 & 21 & 23 & 30 \\ +1 & -1.4 & -1.6 & -1.8 & -1.8 & -1.8 & -1.8 \end{array}$$

$$\begin{array}{ccc} 30 & 7 & \\ -1.3 & -1.6 & \end{array} \quad (95) \quad \begin{array}{cccc} 17 & 20 & 20 & 25 & 32 \\ +1.1 & -1.5 & -1.8 & -2.1 & -2.2 & -2.5 \end{array}$$

$$\begin{array}{cccc} 30 & 15 & 14 & 13 & 12 & 7 \\ -1.9 & -2.1 & -1.4 & -1.3 & -1.7 & -1.7 \end{array} \quad (96) \quad \begin{array}{cccc} 3 & 15 & 16 & 24 & 21 & 30 \\ 0 & -1.8 & -1.8 & -3.0 & -3.0 & -1.4 \end{array}$$

$$\begin{array}{cccc} 30 & 16 & 17 & 15 & 13 & 12 \\ +1.5 & -1.2 & -1.5 & -2.0 & -1.6 & -1.7 \end{array} \quad (97) \quad \begin{array}{cccc} 3 & 11 & 16 & 21 & 25 & 28 & 30 \\ 0 & -1.6 & -1.4 & -1.6 & -1.8 & -1.4 & -1.4 \end{array}$$

$$\begin{array}{cccc} 30 & 24 & 14 & 11 \\ +1.6 & -1.2 & -1.2 & -1.4 \end{array} \quad (98) \quad \begin{array}{cccc} 10 & 15 & 16 & 21 & 23 & 30 \\ -1.7 & -1.7 & -1.6 & -1.2 & -1.4 & -1.4 \end{array}$$

$$\begin{array}{cccc} 30 & 25 & 24 & 12 & 11 & 6 \\ +1.6 & +1.5 & 1.6 & 1.3 & -1.2 & -1.2 \end{array} \quad (99) \quad \begin{array}{cccc} 6 & 16 & 22 & 28 & 30 \\ 0 & -1.8 & -1.7 & -1.2 & -1.5 \end{array}$$

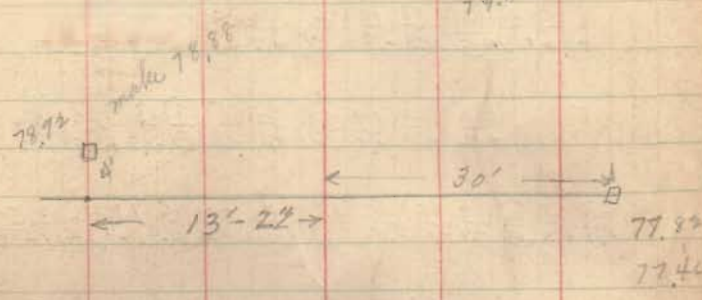
$$\begin{array}{cccc} 30 & 19 & 16 & 12 & 5 \\ +1.9 & -1.5 & -2.0 & -1.6 & -1.1 \end{array} \quad (100) \quad \begin{array}{cccc} 10 & 13 & 12 & 25 & 30 \\ -1 & -1.7 & -1 & -1.9 & -1.9 \end{array}$$

$$\begin{array}{cccc} 30 & 30 & 29 & 13 \\ +1.0 & -1.0 & -1.0 & -1.2 \end{array} \quad (101) \quad \begin{array}{cccc} 10 & 16 & 17 & 18 & 25 \\ -1.3 & -1.7 & -1.8 & -1.8 & -1.8 \end{array}$$

$$\begin{array}{cccc} 32 & 29 & 18 & 11 & 7 \\ +1.5 & +1.2 & -1.3 & -1.5 & -1.2 \end{array} \quad (102) \quad \begin{array}{cccc} 17 & 14 & 30 \\ -1.2 & -1.8 & -2.2 \end{array}$$

73.0
 36.34
 10-3
 14-3
 18-3
 22-3
 26-3
 30-3
 34-3

flow 7892
 7782
 201.10
 796.3
 48
 30
 18
 7782
 79.88



88.55
 0.50
 89.05

5.84 83.71 78.85 78.8
 12.52 76.53

76.53
 9

Left. Sta. Right.

(31) (30) (32) 27 24 17 8
 F F F +1.8 +.4 -1.4 -1.7 -2
 (103) 7 13 17 17 20 30
 -2 -4 F F -20 -20
 34 (83) 20 18 11
 +5.1 F -1.7 -1.7 +2 (104) 12 19 F (30)
 +2 -2.5 -3.2
 33 31 30 25 19 14 5
 F F +6.0 +5.0 +8 -3 -6 (105) 9 13 20 30
 -4 0 F -5.4
 30 26 16 8
 -1.9 +7.9 +2 -2 (106) 4 11 18 19 30
 +1.1 -5 -3 5 0
 30 25 22 17 11 7 4
 +3.5 +3.5 +1.5 -1 -1.6 -2 -3 (107) 9 12 19 30
 -2 -3 12 -5
 30 27 26 25 19 17 11 9
 F F F F F F F F (108) 8 18 F 24 30
 -1 -1.5 -2.2 2.0 -2.9 -3 1.1 0 -3.6 -3.6 -2.0
 cutout canopy
 30 27 25 24 10 5
 -8.0 F F -7.1 -1.6 -4 (109) 7 11 19 F 30
 -5 -7 -2.8 -2.9
 28 30 24 16 10 5
 F F F F F F (110) 8 15 17 30
 -1.4 -1.5 -2.1 -1.1 -1 +3 -2.8 5 +1.2
 30 25 22 19 14 8
 +4 +3 +3 F 14 14 24 28 30
 +2 -6 F -2 +2.2
 30 25 23 21 16 8
 +1.4 +1.5 F -2 -1.6 +2 (112) 12 17 27 30
 -1.1 -1.0 F -1.0
 30 27 22 21 17
 +1.0 +1.0 F F -1.2 -2 (113) 8 14 17 20 30
 -1.2 -1 -1.0 -1 F -1.2

Gantz



KEITH'S RAILROAD CURVE TABLES.

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HOW TO USE KEITH'S TABLES.

EXAMPLE.

Wanted a Curve with an Ext. of about 12 ft. Angle
of Intersection or I. P. = $23^{\circ} 20'$ to the R. at Station
542+72.

Ext. in Tab. IV opposite $23^{\circ} 20' = 120.87$
 $120.87 \div 12 = 10.07$. Say a 10° Curve.

Tan. in Tab. IV opp. $23^{\circ} 20' = 1183.1$
 $1183.1 \div 10 = 118.31$.

Tab. V correction for A. $23^{\circ} 20'$ for a 10° Cur. = 0.16
 $118.31 + 0.16 = 118.47 =$ corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. $23^{\circ} 20' = 23.33^{\circ} \div 10 = 2.3383 =$ L. C.

$2^{\circ} 19\frac{1}{2}' =$ def. for sta.	542	I. P. = sta.	542+72
$4^{\circ} 49\frac{1}{2}' =$ " " "	+50	Tan. =	1.18.47
$7^{\circ} 19\frac{1}{2}' =$ " " "	543	B. C. = sta.	541+53.53
$9^{\circ} 49\frac{1}{2}' =$ " " "	+50	L. C. =	2.33.33
$11^{\circ} 40' =$ " " "	543+	E. C. = Sta.	543+86.86
	86.86		

$100 - 53.53 = 46.47 \times 3' (\text{def. for 1 ft. of } 10^{\circ} \text{ Cur.}) = 139.41' =$
 $2^{\circ} 19\frac{1}{2}'' =$ def. for sta. 542.

Def. for 50 ft. = $2^{\circ} 30'$ for a 10° Curve.

Def. for 36.86 ft. = $1^{\circ} 50\frac{1}{2}'$ for a 10° Curve.

(These tables are published in Field Books of
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