

2. Topog

6

LEVEL BOOK

370

W93

# KEUFFEL & ESSER CO.

DRAWING MATERIALS

AND

SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

## Tables for Excavations and Embankments.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 36 FEET WIDE. SIDE SLOPES 1 TO 1.

FOR SINGLE TRACK EXCAVATION.

Copyright, 1895, by Keuffel & Esser Co."

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

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



INDEX

Pgs Pg

complete

List Elevations Coord Inter 1-9.

Levels Coord Intersections 9-27

Check Levels " " 28

2' Topog 28-55

Location Notes for Drift 56

2' Topog <sup>old</sup> Edge of Quarry 57-65

Begin 2' Topog <sup>Copied from #1</sup> 65-

"A" Line

A 00	9709	A 13	6496	A 24	8195
A 1	8814	A 14	6599	A 25	7784
A 2	8049	A 15	6595	A 26	7619
A 3	8320	A 15-8N	7057	A 27	7852
A 4	8286	<sup>416-5W</sup> 934'N	9263	A 28	7843
A 5	8266	<sup>2'N</sup> 416		A 29	7735
A 6	6899			A 30	7777
A 7	4799	A 17-5N	41473	A 31	8120
A 7		<sup>7'5</sup>		A 32	8118
6'N	3921	A 18	2333	A 33	8146
A 7-16N	2592	<sup>3'5</sup> A 18	2879	A 33	8098
A 8	708	A 18	3211	A 33	8098
A 8		<sup>37</sup>		A 34	7129
03'N	1580	A 19	4644	A 34	7129
A 8-13N	0238	A 20	<sup>5590</sup> <del>5603</del>	A 35	
A 9	8504	A 21	6341	A 36	8560
A 10	6987	A 22		A 37	8375
A 11	6655	A 22	<sup>13.66W</sup> Flag	A 23	7123
A 12	6508	A 23	8215		
		<sup>15.28S</sup> A 23	8229		

"B" Line

B 00	9400	<sup>6'5</sup> B 18	1367	B 35	7104
B 1	8757	<sup>8'N</sup> B 18	2734	<sup>5'5</sup> B 36	7890
B 2	8268	B 19	3416	B 37	7702
B 3	7893	B 20	4514	B 38	7366
B 4	7584	B 21	5510		
B 5	6027	B 22	6166		
B 6	5140	B 23	6290		
B 7	3415	B 24	6952		
B 8	1991	B 25	7006		
B 8-	1012	<sup>12'N</sup> B 26	6367		
B 9	9716	B 27	6329		
B 10	7454	B 28	6477		
B 11	6669	B 29	6378		
B 12	6505	B 30	6758		
B 13-		B 31	7224		
B 14		B 32	7353		
B 15	6636	B 33	7197		
B 16	6641	B 34	7077		
B 17	9208	✓			



"C" Line

C 00 89.21  
 C 1 83.65 C 17 75.61  
 C 2 78.80 C 18 41.11  
 C 3 71.63 C 18 40.37  
 C 4 63.21 C 19 27.28  
 C 5 54.86 C 20 34.06  
 C 6 47.94 C 21 45.7  
 C 7 37.37 C 22 47.44  
 C 8 21.11 C 23 48.98  
 C 9 C 31 59.57  
 C 10 81.18  
 C 11 70.71 C 34 67.37  
 C 12 64.92 C 36 69.27  
 C 13 65.10  
 C 14  
 C 15 66.62  
 C 15 68.72  
 C 16 66.68

E "Line" ✓

E 00 83.07 E 18 92.20  
 E 1 74.62 E 19 02.88  
 E 2 69.61 E 20 08.73  
 E 3 62.47  
 E 4 53.26  
 E 5 46.22  
 E 6 38.00  
 E 7 29.42  
 E 8 19.19  
 E 9 400.40  
 E 10 900.7  
 E 11 800.6  
 E 11 704.6  
 E 12 650.9  
 E 13 650.7  
 E 15 667.6  
 E 16 653.3  
 E 17 852.7

"D" List

D 00	8865	D 16	6598
D 1	7897	D 17	7913
D 2	7289	D 18	40193
D 3	6721	D 19	1654
D 4	5926	D 20	7098
D 5	4920	D 21	2712
D 6	4016	D 22	3205
D 7	3140	D 23	3362
D 8	1776		
D 9	9596		
D 10	8639		
D 11	7800		
D 12	6509		
D 15	6666		
1514			
D 15	6923		

F

F 00	7895
F 1	7068
F 2	6461
F 3	5920
F 4	5014
F 5	4325
F 6	3498
F 7	2636
F 8	1222
F 9	10231
F 10	7330
F 11	6585
F 12	6536
F 15	6692
F 16	6538
F 17	7858
F 18	8818
F 19	

3

1925  
7  
32



"G"

G 00 7378  
 G 1 6741  
 G ✓ 6297  
 G 3 5507  
 G 4 4671  
 G 5 3931  
 G 6 3113  
 G 7 2377  
 G 8 1551  
 G 9 40837  
 G 10 6735  
 G 11 6615  
 G 12 6520  
 G 13 6555  
 G 15 6680  
 G 16 6699  
 G 17 7113  
 G 18 7460

"H"

4

H 00 7026  
 H 1 6456  
 H ✓ 5902  
 H 3 5191  
 H ✓ 4409  
 H 5 3695  
 H 6 2581  
 H 7 1917  
 H 8 40971  
 H 9 40336  
 15983  
 H 10 8894  
 H 10 6794  
 H 11 6614  
 H 12 6572  
 H 15 6683  
 H 16 6754  
 H 17 6915  
 H 18 7426

I 00	68 <sup>✓</sup>	I 16	671 <sup>✓</sup>
I 1	63.9 <sup>✓</sup>	I 17	6896
I ✓	56.41	I 18	7688
I 3	49.41	I 19	8184
I 4	40.59	I 20	8465
I 5	30.35	I 21	88.00
I 6	20.3 <sup>✓</sup>	I 22	9517
I 7	10.18	I 23	101.14
I 8	401.80	I 24	
14.5			
I 9	105.47	I 25	
I 9	96.61	I 26	
15.985			
I 10	97.68		
I 10	71.43		
I 11	66.34		
I ✓	65.33		
I 13	65.40		
I 14	67.21		
I 15	66.98		

5

M 00	50.05	M 20	6926
M 1	8883	M 21	7069
M ✓	8388	M 22	6857
M 3	8335	M 23	7155
M 4	7987	M 24	7513
M 5	7038	M 25	7559
M 6	6786	M 26	8263
4'N			
M-7	3781	M 27	8504
M 8	2009	M 28	856 <sup>✓</sup>
9.3'N			
M 8	11.4 <sup>✓</sup>	M 29	8583
M 9	99.0 <sup>✓</sup>	M 30	8514
M 10	79.29	M 31	86.67
M 11	66.24	10'N M 32	88.0 <sup>✓</sup>
M 14		M 34	71.26
M 15	65.70	10'N M 35	89.95
M 16	71.16	M 37	89.17
M 17	88.9 <sup>✓</sup>		
14.98-114.02			
M 17	99.20		



"N"

N 00 50305 N 17 9039  
 N 1 9515 <sup>9.35N</sup> N 17 399.10  
 N 2 8872 <sup>15'N</sup> N 17 409.21  
 N 3 8342 N 18 1822  
 N 4 7731 <sup>12'N</sup> N 18 2287  
 N 5 6915 N 19 3336  
 N 6 6105 <sup>15'N</sup> N 19 4644  
 N 7 5036 N 20 5347  
<sup>15.3N</sup> N 7 4125 N 21 6646  
 N 8 2530 <sup>9'N</sup> N 22 7206  
 N 8 1624 N 23 7982  
 N 9 0106 N 24 7651  
 N 10 8447 N 25 7966  
 N 11 6654 N 26 8717  
 N 11 6482 N 28  
 N 13 6489 N 33 71.10  
 N 15 66.00 N 34 71.04  
 N 16 74.99 N 37 9302

"O"

20.75 6

0-00 50660 017 77.64 033 8070  
 0-1 50066 <sup>17.84N</sup> 017 40239  
 0-2 93.25  
 0-3 8746 <sup>12'N</sup> 018 2763  
 0-4 7898 019 3593  
 0-5 7291 <sup>15'N</sup> 019 4939  
 0-6 6398 020 5612  
 0-7 55.55 021 70.54  
<sup>16'N</sup> 0-7 4694 022 76.42  
<sup>15.18E</sup> 08 3887 026 9027  
 08 3114 028 9220  
<sup>7.5'N</sup> 08 2003 030 9370  
 0-9 0492 <sup>15'N</sup> 031 9284  
 0-10 89.59 033 70.98  
<sup>13'N</sup> 0-10 96.01 <sup>2'S</sup> 035 9674  
 0-11 7663 037 9739  
 0-12 64.75 <sup>3'N</sup> 034 7894  
 015 6579



"P"

P 00 1215 P 15 6557  
 P 1 505<sup>v</sup> P 17-Q18 816<sup>v</sup>  
 173 on Diag  
 P ✓ 9826 P 17 7629  
 P 3 9096 P 18 8129  
 3885  
 P ✓ P 18 866<sup>v</sup>  
 P 5 P 21 7270  
 P 6 P 22 8027  
 P 7 P 23 8400  
 P 8 3470 P 24 8753  
 5' S  
 P 9 0437  
 8' N  
 P 9 9824 P 37 50045  
 P 9 401.17  
 4.953  
 P 10 95.53  
 2' N  
 P 10 8467  
 P 10 87.03  
 P 11 69.55  
 P 12 65.18  
 P 13 64.7<sup>v</sup>

"Q"

7

Q 00 518.05 Q 18 1058  
 17' N  
 Q 1 12.30 Q 19 4078 8' N Q 33 7872  
 12' N  
 Q 2 0343 Q 20 550<sup>v</sup>  
 Q 3 9287 Q 20 6519  
 12' N  
 Q ✓ Q 21 73.75<sup>73</sup>  
 Q 5 Q 22 7989  
 Q 6 Q 23 8556  
 Q 7 Q 24 8943  
 Q 8 Q 26 9285  
 4' W  
 Q 9 9343 Q 28 9560  
 Q 10 69.11 Q 30 9736  
 Q 11 6606 Q 30 9823  
 16' N  
 Q 12 65.5<sup>v</sup> Q 32 7076  
 Q 15 65.56 Q 33 7078  
 Q 10-R 11 8064 5' N Q 34 50012  
 ON OR 1045  
 Q 17 7327 Q 37 0426  
 2075  
 Q 18 8464 Q 33 8070?  
 14.55  
 Q 19 20.24 Q 32 7924



R 00	525.75	R 17	96.86
R 1	16.63	R 18	97.13
R 2	507.38	R 19	25.46
R 3	89.82	R 20	41.39
R 4	C.H.F.	R 21	646 <sup>61</sup>
R 5	399.85	R 22	79.10
R 6	98.39	R 23	86.05
7	91.76	R 24	89.43
8	82.57	R 25	91.51
9	71.73	R 26	93.51
10	66.13	R 28	96.41
11	65.98	R 30	98.33
12	64.67	R 32	70.64
13	64.70	R 34	02.29
14	65.51	R 35	02.92
15	65.60	R 37	05.29
R 16	68.98		
R 17	87.97		

E Dorr.  
Points on Tang.

PT 5+43 <sup>79</sup>	471.42
5+50	75.54
5+75	63.75
6+00	73.90
6+25	80.31
6+50	84.70
6+75	89.01
7+00	90.75
7+25	92.94
7+35 <sup>79</sup>	93.40

At Mt. sight 0  
PT - 46° 55' R  
Dist - 15.62  
At PT K 21 to  
OR 88° 51'

"T"

T26 9373 T34 0328

T28 9692

<sup>11'N</sup>  
T29 9813

<sup>2'N</sup>  
T30 7929

<sup>6'N</sup>  
T32 7854

T31 7042

T32 7042

<sup>4'S</sup>  
T33 9730

"V"

<sup>11'S</sup>  
V26 9290 V30 7942

V28 9389

V29 9239

V30 7030

<sup>12'N</sup>  
V31 7828

V31 7026

<sup>5'N</sup>  
V32 9778

V34 0341

"X"

X26 8554

X27 8456

X28 8245

X29 6997

X30 7006

<sup>10'N</sup>  
X30 7686

X31 7784

X32 9543

X33 50001

X34 0421

<sup>5'S</sup>  
X29 7832

9/18/17  
"Y"

9

Y26 7506

Y27 7465

Y28 7278

Y29 6666

Y30 6972

Y31 8792

Y32 9617

Y33 500638

Y34 50636

<sup>10'N</sup>  
Y30 7679

"Z"

<sup>15.6'N</sup>  
Z26 6276 Z29 65.51 Z33 50156

<sup>3'N</sup>  
Z27 5985 Z30 7337 Z34 508.05

<sup>15'N</sup>  
Z27 5998 Z31 8720 Z29 45397

<sup>8'N</sup>  
Z28 4860 Z32 9599



392.46

13.32 379.14 D 17

8.48 391.98 B 17

11.94 413.86  
433.00401.92  
421.06 D 181.80 412.06  
431.20 C 180.14 413.72  
432.86 B 18 6'S Marked C 18 6'S11.28 425.00  
444.14424.89  
443.99 TR10.30 434.17  
454.270.17 426.42  
446.57 B 18 8' N7.75 433.24  
453.34 B 190.93 426.32  
446.42 C 1913.24 446.39  
466.497.85 433.15  
453.25 C 2012.27 456.53  
476.631.02 444.26  
464.56 B 202.13 454.20  
474.34 B 212.33 444.50  
464.40 C 2111.73 446.53  
466.63 C 22

456.53  
~~476.53~~

8.47

448.06

~~468.16~~

6.23

11



13.06 429.67

416.61 D19

2.40 427.27 C19

0.21 427.06

2.29 427.35 B 18-8' N

12.10 441.98

0.21 429.55  
7.45 434.53 C20

7.35 434.63 B19

12.07 453.27

0.78 447.20 ~~C19~~

7.08 446.19 C21

5.37 447.90 C22

7.64 445.63 B20  
~~C20~~

12.91 466.50

0.18 453.69

10.42 455.58 B21

3.82 459.18 B22

2.62 463.38 B23

13.09 478.17

0.92 465.05

8.12 470.05 B24

7.58 470.59 B25

9/18/1713

Bub Level

H. Katzenbach Road

478.17

B 26	110 ✓ 752 ✓	1397	464/20	B 26
B 27		1139		
B 28		991	6531	
B 29		1092	6430	
B 30		712	6810	
B 31		244	7278	
B 32	1281 8687	116	7406	TT
A 33-43IN		535	815 ✓	
A 33		487	8200	
A 34		517	8170	
A 31		513	8174	
A 30		855	7832	
A 29		899	7788	
A 28		791	7896	
A 27		783	7904	
A 26		1016	7671	



86.87

~~A 25 8.50 78.37~~

~~A 24 4.40 82.47~~

~~A 23 4.20 82.67~~

~~A 23 4.07 82.80~~

~~M 24 11.22 75.65~~

~~M 25 10.76 76.11~~

~~M 26 3.71 83.16~~

~~M 27 6.7 92.29 1.30 85.57~~

TT.

~~5.70 87.09~~

~~BM 5.20 91.77 48.57~~

USG BM.

M 26 ✓ 9.14 82.63

M 27 ✓ 6.73 85.04

M 28 ✓ 6.15 85.62

M 29 ✓ 5.94 85.83

M 30 ✓ 5.63 85.14

M 31 ✓ 5.10 86.67

M 32 ✓ 3.75 88.02

9/18/1715

91.77

A 33		✓	10.31	81.46		
4.31 N		✓	10.79	80.98		
A 33						
A 32		✓	10.59	81.18		
A 31		✓	10.57	81.20		
A 37		✓	8.02	83.75		
A 36		✓	6.17	85.60		
10.44						
M 35		✓	1.82	89.95		
M 37		✓	2.60	89.17		
T.P.	12.96	02.92	✓	1.81	89.96	Hub. M 35-10 N
2.5						
O 35		✓	6.20	96.72		
O 37		✓	5.53	97.39		
N 37	✓		✓	9.90	93.02	
P 37		✓	2.47	00.45		
TP	8.0	10.21	✓	1.31	01.61	Rock
Q 37		✓	5.95	04.26		
R 37		✓	1.92	05.29		



A10.21

R 35	✓	729	02.92
R 34	✓	792	02.29
5' N			
Q 34	✓	1009	00.12
T 34	✓	6.93	03.28
V 34	✓	680	03.41
4' 5			
T 33	✓	1291	97.30
5' N			
V 32	✓	1243	97.78
X 33	✓	1020	500.01
X 34	✓	6.00	04.21
Y 34	✓	385	06.36
Y 33	✓	958	500.63
Z 33	✓	865	501.56
Z 34	✓	216	5080.5
P	100	98.56	✓ 1265 97.56
X 32	✓	313	95.43
Y 32	✓	239	96.17

9856

Z 32		✓	257	95.99	
Z 31		✓	1136	87.20	FP.
Y 31		✓	1064	87.92	
FP.	102	✓	8822	87.20	
X 31		✓	1038	77.84	
12.1N					
V 31		✓	998	78.24	FP.
10.1N					
X 30		✓	1136	76.86	
FP.	139	✓	77.43	1218	76.04
3.1N					Rock
Z 30		✓	406	73.37	
15.6N					
Z 29		✓	1192	65.51	
Y-30		✓	771	69.72	
Y 29		✓	1077	66.66	
X 29		✓	746	69.97	
X 30		✓	737	70.06	
Y 30		✓	713	70.30	



7743

Y 28			515	✓	72.28	
Y 27			278	✓	74.65	
Y 26			237	✓	75.06	FP.
FP.	278	67.56	1265	✓	64.78	Rock
Z 26			480	✓	62.76	
Z 27			771	✓	59.85	
<sup>15'N</sup> Z 27	113	61.11	758	✓	59.98	FP.
<sup>8'N</sup> Z 28			1251	✓	48.60	
P.	519	7549		✓	70.30	V 30
V 31			523	✓	70.26	
T 31			507	✓	70.42	
T 32			507	✓	70.42	
R 32			485	✓	70.64	
Q 32			473	✓	70.76	
Q 33			471	✓	70.78	

7549

O 33			4.51	✓	70.98	
N 33			4.39	✓	71.10	
N 34			4.45	✓	71.04	
M 34			4.23	✓	71.86	
A 34			4.20	✓	71.29	
B 34			4.72	✓	70.77	
B 35	1203	8307	4.45	✓	71.04	FP
<sup>5.5</sup> B 36			4.17	✓	78.90	
B 37			6.05	✓	77.02	
B 33			11.10	✓	71.97	
B 32			9.54	✓	73.53	
B 31			10.83	✓	72.24	
A 30			5.30	✓	77.77	
A 29			5.72	✓	77.35	
A 28	928	87.71	4.64	✓	78.43	FP
A 27		✓	9.19	✓	78.52	



8771

A26		1152	✓	76.19
A25		987	✓	77.84
A24		676	✓	81.95
A23		556	✓	82.15
<del>15285</del>				
A23		542	✓	82.29
		114	✓	86.57
FP	049 8706	8706	✓	48.57
N25		740	✓	79.66
N24		1055	✓	76.51
N23		723	✓	79.83
M24		1193	✓	75.13
M25		1147	✓	75.59
P	096 7748	1054	✓	76.52
M23		593	✓	71.55
M22		891	✓	68.59
M21		679	✓	70.69

Check on USG B.M. 486.569  
 USG B.M. 9/19/17

Rock x

9/19/17 21

7748

5'11  
M-20

822 ✓ 6926

P.

1151 ✓ 6597

Rock 2' N A 20

N 21

1102 ✓ 6646

P.

N 22

542 ✓ 7206

O 22

108 ✓ 7640

P.

O 21

700 ✓ 7048

P 21

478 ✓ 7270

Q 21

375 ✓ 7373

R 21

1287 ✓ 6461

P.

0.71 6717

✓ 6646

N 21 on Hub

5+75

342 ✓ 6375

P.

327 5809

1235 ✓ 5482

Rock

N 20

462 ✓ 5347

N 19-15N

1168 ✓ 4641

A 19

1170 ✓ 4639

P.

P

1267 8907

✓ 7640

Hub O 22



9/19/17 22

8907

P22		880	✓	80.27
P23		507	✓	8400
P24		154	✓	8753
Q28		351	✓	8556
Q22		918	✓	7989
R22		997	✓	7910
R23		302	✓	8605
R	1016 98.95	028	✓	8879
Q24		952	✓	8943
Q26		610	✓	9285
Q28		235	✓	9560
Q30		159	✓	9736
16'N				
Q30		072	✓	9823
15'N				
O31		611	✓	9284
O30		525	✓	9370
O28	✓	675	✓	9220

Book

O-26	9895	868	✓	9027	
N 26		1178	✓	87.17	
R-28	457 0098	254	✓	96.41	T.P. on Heb.
<sup>7.11</sup> R-30		265	✓	98.33	
R 26		747	✓	93.51	
R 25		947	✓	91.51	
R 24		11.55	✓	89.438	
T 26		725	✓	93.73	
T 28		406	✓	96.94	
<sup>11.11</sup> T-29		285	✓	98.138	
V 29		859	✓	92.39	
V 28		709	✓	93.89	
U-26		808	✓	92.90	
R.	186 9027	1257	✓	88.41	Rock
X-26		473	✓	85.54	
X-27	✓	571	✓	84.56	
X-28	✓	782	✓	82.45	



5-5	90.27				
X-29		11.95	✓	78.32	
FP	583	83.27	1283	✓	77.44
11'-5					Rock
V-30		385	✓	79.47	
7'N					
T-30		398	✓	79.29	
14.5 S					
Q 32		403	✓	79.24	
20.75					
O 33		257	✓	80.90	
3'N					
O-34		433	✓	78.94	
8'N					
Q 33		455	✓	78.77	
6'N					
T-32		473	✓	78.54	
12'N					
V-31		504	✓	78.28	

BA	013	8.70		✓	186.57	USG BM
FP	134	75.25	12.79	✓	73.91	Rock
B 30			767	✓	67.58	
B 29		✓	1147	✓	63.78	
B 28			1048	✓	64.77	

	7525					
B 27		11.96	✓	63.79		
B 26		11.58	✓	63.67		
B 25		5.19	✓	70.06		
B 24		5.73	✓	69.52		
B 23		12.35	✓	62.90	TP	
( 8.33	71.23		✓	62.90	) Hand Level.	
A 23-15W		00	✓	71.23		
	0.88	63.78	✓	62.90	P. Hub B 23	
B 22		2.12	✓	61.66		
B 21		8.68	✓	55.10		
P.	1.42	52.88	12.32	✓	51.46	Rock
A 19		6.51	✓	46.37	Check A 19	
B 20		7.74	✓	45.14		
C 21		7.16	✓	45.72		
C 22		5.44	✓	47.44		
C 23		3.90	✓	48.98		



5288

FR 100 41.93 11.95 ✓ 40.93 Rock

D23 831 ✓ 33.62

D22 988 ✓ 34.05

C20 787 ✓ 34.06

B19 777 ✓ 34.16

FR 10.93 ✓ 31.00 Rock Near B19

FR 001 29.91 12.03 ✓ 29.90 " 15' W C-20

C19 268 ✓ 27.23

D20 8.93 ✓ 20.98

D21 279 ✓ 27.12

FR 126 18.54 12.63 ✓ 17.28 Rock

D19 200 ✓ 16.54

E20 981 ✓ 08.73

FR 085 07.29 12.10 ✓ 06.44 Rock

E19 4.46 ✓ 02.83

D18 ✓ 5.44 ✓ 01.85 Chack

1374 ✓ 40729 618 401.11 401.22 - Nail in Rock W Side Draw, 40' out of Boston

Check Levels

40729  
 1713 18.57 0.85 406.44  
 11.47 28.76 1.28 17.29  
 1260 40.98 0.38 28.38  
 P. 11.08 29.90 Rock  
 P. 11.78 52.05 0.71 40.27 Rock of 23' Line  
 10.54 41.51  
 30.7 48.98 Check C 23  
 5.68 46.37 " A 19

0.06 31.06 31.00 P Rock on B line about B 18-12' N  
 B18-8N 3.72 ✓ 27.34  
 P 0.24 19.56 11.74 19.32 Rock  
 B18-6S ✓ 5.89 ✓ 13.67  
 Cont next pages



Check Levels

Bub-Level 28  
 Kotzenbock-Rod  
 9/19/17

	0.53	8710		486.57	USG B.M.
P	1.52	7583	12.79	74.31	Rock
P	0.43	63.17	13.09	62.74	"
P	0.94	52.19	11.92	51.25	"
FP	1.11	41.48	11.82	40.37	"
			7.86	33.62	D. 23
P	0.19	29.73	11.94	29.54	Rock
P	0.46	18.41	11.78	17.95	Rock
E 20			9.65	08.76	Check on E 20
FP	0.97	07.22	12.16	06.25	Rock
	✓		6.06	40.16	

Cont. from pg 27

19.56

10.72 408.84

✓

Pat. Inst. 29  
 Bub Notes  
 Henry - Rod

500 41711		C18 41211 - 09.45		C18-9'S		04.37	
C18-9'S	12.74	404.37	✓98	6,3	343	✓98	58,5 241-30
			✓98	4,8	357	✓98	60,5 243
H.I. = 508 09.45	At C18-9'S	04.37	✓98	5,8	296-30	✓98	64,5 240
			✓98	6,5	330	✓98 <sup>Ring</sup>	45 255
<del>98</del>	<del>19,5 281</del>	<del>98 <sup>corn</sup> 53 60</del>	<del>✓98</del>	<del>19,8</del>	<del>282</del>	<del>✓98</del>	<del>44,5 260-30</del>
<del>98</del>	<del>8,7 311</del>	<del>98 <sup>steel</sup> 53 61</del>	<del>✓98</del>	<del>26,8</del>	<del>262-30</del>	<del>✓98</del>	<del>42 262</del>
<del>98</del>	<del>7,2 287</del>	<del>✓98 53,5 60-30</del>	<del>✓98</del>	<del>31,</del>	<del>263</del>	<del>✓98</del>	<del>37,5 264</del>
<del>98</del>	<del>4,8 355</del>	<del>✓98 52 60</del>	<del>✓98</del>	<del>36,3</del>	<del>258-30</del>	<del>✓98 <sup>point</sup></del>	<del>42,8 259-30</del>
<del>98</del>	<del>5,3 355</del>	<del>✓98 46 60</del>	<del>✓98</del>	<del>37,5</del>	<del>255</del>	<del>✓98 <sup>point</sup></del>	<del>26,5 271-30</del>
<del>98</del>	<del>7,5 25</del>	<del>✓98 <sup>corn</sup> 45 65</del>	<del>✓98</del>	<del>41,8</del>	<del>254-30</del>	<del>✓98</del>	<del>26,5 266-30</del>
<del>98</del>	<del>1,9 69</del>	<del>✓98 39 63-30</del>	<del>✓98</del>	<del>44,8</del>	<del>252-30</del>	<del>✓98</del>	<del>26,3 274</del>
<del>98</del>	<del>21,8 65</del>	<del>✓98 37,5 64</del>	<del>✓98</del>	<del>44,2</del>	<del>249-30</del>	<del>✓98</del>	<del>24 273-30</del>
<del>98</del>	<del>33,3 73</del>	<del>✓98 31,8 73</del>	<del>✓98</del>	<del>47</del>	<del>257</del>	<del>✓98</del>	<del>25 266</del>
<del>98</del>	<del>36,5 65-30</del>	<del>✓98 26,7 66-30</del>	<del>✓98</del>	<del>47,5</del>	<del>247</del>	<del>✓00</del>	<del>62 236-30</del>
<del>98</del>	<del>40 64</del>	<del>✓98 20,8 66</del>	<del>✓98</del>	<del>53,5</del>	<del>246-30</del>	<del>✓00</del>	<del>59,5 240</del>
<del>98</del>	<del>45,5 65</del>	<del>✓98 19 68</del>	<del>✓98</del>	<del>56,5</del>	<del>245-30</del>	<del>✓00</del>	<del>56,5 240-30</del>
<del>98</del>	<del>47,5 60-30</del>	<del>✓98 6,5 1</del>	<del>✓98</del>				



0945	C18-9'S	0437	0945	C18-9'S	0437
✓ 00 55 239	✓ 00 13,2 265	✓ 02 33 72-30	✓ 02 33 72-30	✓ 17,8 279	30
✓ 00 53,3 244-30	✓ 00 5,3 356	✓ 02 22 68-30	✓ 02 22 68-30	✓ 13 289	
✓ 00 51,8 246	✓ 00 7,5 28	✓ 02 19,8 71	✓ 02 19,8 71	✓ 12,8 272	
✓ 00 44 246	✓ 00 20,2 68	✓ 02 14,7 61-30	✓ 02 14,7 61-30	✓ 18,5 261-30	
✓ 00 41,5 252	✓ 00 22 65-30	✓ 02 12,7 66	✓ 02 12,7 66	✓ 27,5 262	
✓ 00 37,3 251	✓ 00 33 72-30	✓ 02 8,8 46	✓ 02 8,8 46	✓ 33 246	
✓ 00 36 254	✓ 00 35,8 67	✓ 02 5,2 22	✓ 02 5,2 22	✓ 33,5 249	
✓ 00 30,5 254	✓ 00 40 64-30	✓ 02 4,5 16	✓ 02 4,5 16	✓ 37,5 249	
✓ 00 29,8 259	✓ 00 45,2 65-30	✓ 02 16,5 258-30	✓ 02 16,5 258-30	✓ 39,2 248	
✓ 00 26 260	✓ 00 52,5 60	✓ 02 17,5 262-30	✓ 02 17,5 262-30	✓ 40,8 244	
✓ 00 22,5 262	✓ 00 53,5 61	✓ 02 19 252	✓ 02 19 252	✓ 48 243	
✓ 00 21,2 271	✓ 02 53,5 62	✓ 02 19,8 250	✓ 02 19,8 250	✓ 49,8 241	
✓ 00 18,2 275	✓ 02 53,9 60	✓ 02 21,8 250-30	✓ 02 21,8 250-30	✓ 52,8 256-30	
✓ 00 19 283	✓ 02 42,5 69	✓ 02 21,5 254	✓ 02 21,5 254	✓ 52,5 240	
✓ 00 10 304	✓ 02 43 66	✓ 02 21,5 259	✓ 02 21,5 259	✓ 54 240	
✓ 00 9,3 277	✓ 02 36 68-30	✓ 02 20,3 270	✓ 02 20,3 270	✓ 54,5 239	
✓ 00 13 5 270	✓ 02 35,2 73 20	✓ 02 17,5 272-30	✓ 02 17,5 272-30	✓ 58,3 239	

RC

RC  
Rising



0945

C-18-9-5

0437

0945

C-18-9-5

0437

31

✓ 02 61	236-30	✓ 04 13,5	258-30	✓ 04 35,8	74-30	✓ 06 15	72-30
✓ 04 57,5	236-30	✓ 04 11,5	264	✓ 04 35,8	70	✓ 04 13,5	77
✓ 04 54,5	234-30	✓ 04 6,8	271	✓ 04 40	69	✓ 06 9	74
✓ 04 48	236	✓ 04 6,5	281	✓ 04 41,8	70	✓ 06 1,5	220
✓ 04 45,5	240	✓ 04 3	3	✓ 04 51,8	61	✓ 06 10	232-30
✓ 04 41	238	✓ 04 2	54	✓ 04 53	63	✓ 06 24,2	243-30
✓ 04 41	241	✓ 04 3	58	✓ 06 52,3	65	✓ 06 19,5	241-30
✓ 04 39,5	242-30	✓ 04 6	22	✓ 06 52,5	62	✓ 06 29,5	242
✓ 04 36	242-30	✓ 04 6	54	✓ 06 51,5	61	✓ 06 33	237
✓ 04 35,3	244	✓ 04 12	71	✓ 06 40,5	73-30	✓ 06 33,5	239
✓ 04 31	241	✓ 04 14	61-30	✓ 06 41	70-30	✓ 06 40,5	236
✓ 04 28,5	243-30	✓ 04 19,5	72	✓ 06 37,5	71-30	✓ 08 39	236
✓ 04 25,5	243-30	✓ 04 19,5	70	✓ 06 38,8	77	✓ 08 35,5	237
✓ 04 24,5	245-30	✓ 04 23,8	74	✓ 06 33	72-30	✓ 08 30,5	236
✓ 04 19,3	243	✓ 04 25,5	71	✓ 06 31,2	77-30	✓ 08 25,8	235
✓ 04 17,0	247	✓ 04 30,5	74-30	✓ 06 29,3	81	✓ 08 24,8	238
✓ 04 14,8	250	✓ 04 33	72-30	✓ 06 26,5	76	✓ 08 11,5	225



0945

C18-9'S

0437

H1-38

1749 At B18-6'S

3✓

1367

✓ 08 10	228-30	10 30.1	47	10 29.2	259
✓ 08 6	211	10 29.4	45	10 31.7	261-30
✓ 08 4.5	213	10 22.5	46	10 33.7	260-30
✓ 08 6	99	10 17.5	51-30	10 35.5	258-30
✓ 08 7	84	10 15.1	46-30	10 46.5	256-30
✓ 08 14.2	84	10 14.2	48	12 47,	255-30
✓ 08 16.5	79	10 11.5	31-30	12 44.1	255
✓ 08 26.5	81.30	10 7	37-30	12 43.4	256-30
✓ 08 29.5	84	10 6.8	314-30	12 35.8	256-30
✓ 08 31.7	77	10 6.5	296-30	12 32.7	260
✓ 08 35.5	76	10 16.6	274	12 26.2	260
✓ <sup>cut</sup> 08 39.5	78-30	10 20.3	263	12 25.7	268
✓ <sup>cut</sup> 08 44.5	72	10 22.5	269	12 23.	266-30
✓ <sup>cut</sup> 08 49	68	10 25.1	270	12 25.1.	254-30
✓ <sup>cut</sup> 08 51.2	64-30	10 26	268	12 20	258
✓ <sup>steel</sup> 08 51.8	66-30	10 25.8	261-30	12 16	258
		10 28.4	262-30	12 12.7	268

1749	B18-6'S	1367	1749	B18-6'S	1367
12 5,9 292	14 22,5 46-30	14 41,7 256-30	16 15,8 86		
12 4,8 315-30	14 19,5 51,30	16 41,8 256	16 15,9 82	corn	
12 2,1 59	14 17,4 62	16 39,7 255	16 16,8 82	corn	
12 5,2 42	14 13 66	16 39 251-30	16 25 58-30	steel	
12 10,0 54	14 9,8 58	16 36,2 250-30	16 25,8 60-30		
12 10,8 52	14 3 255-30	16 34,4 254-30			
12 72,6 57-30	14 4,9 267	16 28 255			
12 12,5 51	14 12,6 254	16 28,6 249			
12 14,5 51-30	14 14,1 251	16 18,9 255			
12 16,1 47-30	14 16,1 256-30	16 16,0 255			
12 16,8 52-30	14 19,2 257	16 15,6 246-30			
12 22,3 46-30	14 26,3 252	16 10,5 242-30			
12 29,2 44-30	14 27,5 256	16 9,5 234			
steel 12 29,7 48-30	Point 13,2 24,6 265-30	16 6,9 234-30			
14 29,7 49-30	14 34,7 256-30	16 6,8 79			
14 28,6 48-30	14 35,9 252-30	16 7,4 90			
14 28,5 44,30	14 39,7 254-30	16 9,4 83			



H1 = 4.15

3145

	Steel		con		
18	32.7	44	20	20.1	50-30
18	32.6	39	20	29.6	41-30
18	20.6	48-30	20	30.8	46
18	17.8	35-30	22	29.3	49
18	14.9	293	22	29.6	47
18	17.2	300	22	29.	41
18	18.8	296	22	18.8	52-30
18	18.2	289-30	22	17.0	46
20	17.7	288	22	8.4	26
20	14.6	293-30	22	9.4	17-30
20	13.7	286-30	22	7.5	341.30
20	8.8	316	22	5.6	320
20	6.8	320	22	6.5	307-30
20	8.0	350	22	7.9	308-30
20	11.6	18	22	13.4	279
20	10.6	19-30	22	15.5	288-30
20	18.6	44	22	16.9	287

3145

	con				
24	23	275-30	26	14.8	82
24	14.8	284	26	14.4	67-30
24	13.5	270-30	26	9.7	69
24	6.9	292	26	8.2	57
24	3.4	302-30	26	4.9	50
24	4.4	353-30	26	3.4	15
24	14.9	56	26	2.5	335-30
24	14.3	65	26	1.6	336-30
24	14.5	70	26	1.5	297
24	14.1	73-30	26	4.0	271
24	15.7	78	26	9	259
24	24.5	59	26	14.4	267
24	27.3	52-30	26	17.6	268
24	27.8	53-30	26	20.9	271
26	26.1	59	26	21.8	275-30
26	24.9	57	26	25	272-30
26	24.4	59	26	25.3	267

B18-8'N

2734

415  
273  
31.4  
13.0

34



3145

B 18-8N

2734

H1 = 457

31.80

C 19

✓ 35

27.23

26 28,2 247 28 4,5 229

20 17,7 350 20 25,9 236

26 32,3 243 28 3,5 206

20 16,9 317 20 29,9 233-30

26 34,7 245-30 28 2,4 214-30

20 16,2 309 20 34,5 226-30

26 39,2 234-30 28 1,2 228

20 17,4 299 20 37,4 228-30

28 28,5 237 28 2,5 82-30

20 19,6 289 20 38,2 226-30

28 24,6 252-30 28 5,6 63

20 19, 279 20 39,6 226

28 19,2 253 28 8,0 68

20 17,4 281 20 39,8 229-30

28 22,3 261-30 28 9,0 75-30

20 18,2 276 20 42,7 229-30

28 20,5 266 28 9,6 87-30

20 16,5 271-30 20 46,8 222-30

28 17 264 28 13,1 92

20 17,4 268-30 20 47

28 18,1 257-30 28 24,4 59

20 18,8 274 22 45,7 223

28 17,4 247 28 26,1 61

20 20,5 263-30 22 43,2 221

28 15,6 251-30

20 20,3 257 22 42,1 223-30

28 15,5 262

20 25,6 257-30 22 35,9 225-30

28 12,9 265

20 25,6 254 22 28,6 222

28 13,4 255-30

20 19,9 250-30 22 29,5 229-30

28 12,2 242

20 26,1 247-30 22 24,3 226



3180

C19

2723

3180

C19

36  
2723

<del>21</del>	<del>25,9</del>	236	24	10,2	235	24	35,8	224-30	26	29,4	212-30
22	22,3	241	24	13,1	230-30	24	37,4	223	26	28,5	214
22	18,3	240-30	24	16,1	238	24	39,5	222-30	26	25,7	208
22	18,3	247	24	18	238	24	40,8	219	26	24,7	214
22	18,6	256-30	<sup>Print</sup> 24	16,4	239	24	42,6	221-30	26	22,4	214
22	15,4	265-30	24	18,3	247	24	43,3	220	26	20,1	218-30
22	15,4	266	24	16,2	253	24	46,1	221-30	26	18,6	214
22	9,5	308-30	24	11,7	258	<sup>Print</sup> 25,6	44,8	220	26	14,5	217-30
22	11,2	313-30	24	11,4	247-30	26	45	211-30	26	14,4	211-30
22	10,4	327	24	12,6	240-30	26	42,5	209-30	26	13,1	213-30
22	12,4	325-30	<sup>Print</sup> 26,1	15,4	244	26	41,2	211-30	26	18,7	230
22	13,8	329	24	20,1	222	26	41	213-30	28	2	40
22	13,5	351-30	24	22,8	222-30	26	38,7	217-30	28	3,1	191-30
24	8,5	356-30	24	23,9	227-30	26	33,8	213	28	3,9	229
24	8,4	335-30	24	25,5	224	26	33,3	215	28	5	208-30
24	6,2	298	24	30,5	220-30	26	34,8	218-30	28	8,6	215
24	7,7	275-30	24	33,7	223	26	33,5	220-30	28	11,9	205

3180

C19

2723

H1 6.15

22.7

D 19

37

16.54

28	19.3	211-30	30	29.9	199-30	10	20.14	10	25.4	231-30
28	24.3	205-30	30	28.9	201-30	10	15.56	10	27.2	235
28	27.1	205	30	22.8	205	10	13.26	10	29.1	231
28	30.3	204	30	18.9	191	10	15.1357	10	30.6	225-30
28	39.3	206-30	30	14.4	186	10	14.3350	10	32.9	226-30
28	40.9	210	30	10.9	187	10	11.6346	10	42.3	215
28	44	208	30	8	193	10	14.5326-30	10	44.1	213-30
28	44	205	30	8.4	186	10	12.1310	10	45.0	209-30
28	49.7	205	30	5.2	190	10	9.6311	10	50.8	210
30	47.9	203-30	30	5.3	131-30	10	9.4283	12	50.5	207-30
30	46	203	30	3.3	100	10	8.7258	12	48.9	208
30	43.5	200	30	2.6	119-30	10	17.8252-30	12	47.7	208
30	42.3	201	30	4.8	107-30	10	17.5257	12	37.4	209-30
30	40	199	30	3.6	82	10	19.8257	12	36.2	216
30	37.5	201	30	1.5	82	10	20.1248-30	12	24.2	226
30	37.2	205				10	16.7246-30	12	23.5	230-30
30	35	199				10	18.0234	12	19.9	230



rr69

D19

1654

rr69

D19

38  
1654

12	15,9	223	14	11,8	5	14	32,5	212	16	27,8	201
12	13,7	229-30	14	12,4	359	14	34,4	209-30	16	23,3	204
12	12,6	247-30	14	12,3	350-30	14	37	209	16	20,5	196
12	7,8	247-30	14	11,5	342	14	40,9	207	16	13,7	195
12	7,6	263	14	9,9	342-30	14	46,2	207	16	7,2	214
12	9	265-30	14	9,9	328	14	51,5	202-30	16	7,2	226-30
12	9,3	277	14	8,2	267	16	48,2	200	16	6	246
12	11,4	338-30	14	6,6	258-30	16	47,1	199-30	16	2,5	250-30
12	13,3	355-30	14	9,7	237-30	16	45,1	202	16	4,7	288
12	13,1	7-30	14	10,7	244-30	16	42,7	203	16	6,1	344-30
12	14,9	6	14	11,8	242	16	39,8	203-30	16	5,3	352
12	19,8	14	14	11,9	229	16	39,6	206-30	16	3,1	325
14	22,2	24	14	14,7	217	16	37,3	206-30	16	4,1	6
14	16,9	26	14	20,8	209	16	35,3	208	16	7,0	1
14	16,4	17	14	25,2	210-30	16	33,7	207-30	16	8,0	23-30
14	14,8	11-30	14	26,7	213-30	16	31,5	203-30	16	13,3	8
14	13,4	9	14	28,4	210	16	29,1	203	16	15,8	18-30

4469

D19

1654

4469

D19

- 39

1654

16 16,3 25

18 15,9 29

18 18,7 186

22 40,2 192

16 15,1 27

18 15,3 22

18 19,5 192

22 47,7 190

14 15,7 29-30

Point  
↓ 18,7 21,9 30-30

18 22,1 193

22 49,9 192

18 32,3 50

18 12,6 44-30

18 25,2 192

24 47,6 187

18 29 49-30

18 9,4 41

18 29,6 201

24 46 187-30

18 14,4 40-30

18 7,1 23

18 34,6 203

24 44,7 185-30

Ring

18 12,9 25

18 3,9 29-30

18 34,9 205-30

24 43,2 185-30

18 15,1 34

18 4,5 75

18 37-3 206

24 43,2 188-30

18 19,2 29-30

18 2,7 36-30

18 45,4 198

24 41,5 188-30

18 21,5 34

18 1,5 141

18 47,9 198

24 40,5 185-30

18 19,9 39

18 3,1 208-30

20 ~~4~~ 49 194

18 24,6 48-30

18 2,9 168

20 47,2 193-30

18 27,8 44-30

18 6,6 198

20 44,5 197

18 25,1 40-30

18 14,1 175-30

20 35,9 194-30

18 22,5 44-30

18 15,5 190

20 35,6 191-30

18 23,1 30

18 17,4 189-30

22 34,1 191

18 21,1 25

18 17,1 184

22 39,1 188



2113.65  
06.48

E 19

02.83

06.48

E 19

80

0283

94	32.5	241	98	19.7	232	00	8.9	225	04	56	198
94	33.2	230	98	20	224	00	6	240	04	29.4	196-30
94	38	228	98	29.7	215	00	8.7	233-30	04	22.5	199
96	36.1	214-30	98	32.6	209-30	02	1.7	171	04	21.8	208
96	34.2	214-30	98	36.3	209-30	02	6.5	196	04	19	200-30
96	34.8	217-30	98	41.5	204	02	11.2	227	04	17.5	205
96	29.3	222-30	00	41	202-30	02	18.7	213	04	15.5	193-30
96	29.5	227	00	32	208-30	02	20	206-30	04	10.7	206
96	27	226-30	00	31	207	02	23.7	210	04	8.2	168-30
96	24.7	231	00	28.4	213	02	28.5	206	04	3.7	158-30
98	6.3	293	00	26.4	212-30	02	30.9	201	08.6	5.1	81
98	11.8	242	00	24.3	216	12	34.1	232-30			
Ring 98	12.4	250	00	21.2	215	02	36	202			
98	14.4	250	00	21.3	221-30	02	36.5	198-30			
98	12.5	259	00	19.3	221-30	02	46.4	195			
98	13.5	255	00	15.7	225-30	04	45.7	193			
98	17.4	235	00	15.4	230-30	04	42	192-30			

H1 5,1

13.83

E 20

08.73

H1 = F 20 0873

1383

08.16.7

21

Set up at y

31

41

8792

06 46.4 24

06 16.3 204

08 20 16

88 50.7 96°30

06 31 22

06 24.2 196

08 22.4 18

43.4 96°30

06 30 24-30

08 23.3 190-30

08 24.3 24-30

35.4 99°

06 27 20

08 20.5 185-30

08 26.5 24-30

27. 100°

06 26 20

08 15.7 190-30

08 30 30

20.6 87°

06 24 19

08 14.7 185

08 35.8 29-30

8. 86°30'

06 22.8 15-30

08 5.5 201

08 36.3 26

3.2 111°

06 20.5 13

08 5.1 233

08 40.8 25

5.6 245°

06 17.4 19-30

08 2.5 284-30

9.3 240°

06 12.4 6

08 3.8 9

13. 239°

06 8 359

08 6.2 6

17.4 240°

06 4.7 308

08 7 16-30

42.6 254°30'

06 6.2 284-30

08 9.8 13

- 90 42.4 252

06 5.2 257-30

08 12 28

38.8 248

06 8.3 242

08 13.1 23-30

30.4 247

06 9.5 218

08 16.2 29

18 232

06 12 221

08 18.7 25

16 220-30

11 187-30



Y 31

8792

H.I. 506.54

At Y 33

A2  
500.63

90	10	149	20	226	94	49.8	307	98	50.8	76
	15	125	22	229		36.6	327-30	500	49.2	83
	18.7	146	21.8	234		34.4	308-30		35.6	75
	40	103-30	24.3	237		38.8	32		20.6	56
	57	102-30	31.8	241		49.8	54		5	9
92	50	110	35.9	245	96	45.4	61		15.6	279-30
	40	110	39.5	245		34.6	41		24.6	274-30
	27	115-30	43.8	249-30		27.4	12		49.2	275-30
	15.4	127	51.1	252-30		27.7	333	502	48.6	267-30
	15.6	134				39.6	305		37.9	263
	12.6	144				52.4	295-30		24	244
	12.5	162-30			98	49.5	284		<del>10.4</del>	<del>180</del>
	12.4	178				28	294		5.6	180
	12.8	194				15.5	340		15.6	104-30
	15	210				18.6	25		29	94
	17	211-30				30.2	49		42.4	92-30
	18.3	220				40	66-30	504	41.8	101-30

505-54

Y33

504	21.7	122
	14.5	167
	23.2	217-30
	46.5	240

911 4.92

500.63 08.33

47 V 84

43

03.41

96	55	30-	00	39.6	41-
✓	52.5	19-	✓	31-	22-
✓	49.7	9-	✓	27	359.30
✓	48.4	3-	✓	42.3	381
✓	47.7	355	✓	45	322
✓	45.7	345	00 ✓	48.6	31330
✓	44.6	33430	02 ✓	49.8	29630
✓	47.6	323.30	✓	32	305
96 ✓	50.4	316.30	✓	18	336
98 ✓	49.5	315-	✓	16.2	33-30
✓	46.2	324	✓	27	45
✓	43.5	33730	02 ✓	35.5	50
✓	44.5	347-	04 ✓	45.5	86-
✓	42.3	1	✓	28.3	84-
✓	41.5	1930	✓	8.5	102-
96 ✓	45.5	36-	✓	10	245-
✓			✓	23.3	261.30



492  
 0833 47 V 34  
 04 L 41.6 263-  
 04 L 50.5 261-  
 06 L 46.5 248  
 L 30.5 233  
 L 17.3 189  
 L 20- 129  
 L 35 109  
 06 L 49.1 98-30

0341

H1

500

02.83

At V 92-5° N 97.78  
 94 37 74 92 92 31  
 19.7 50-30 12 38  
 14.7 55-30 16 47  
 9.3 45-30 19.5 42  
 6.4 357 25 53-30  
 8.4 298 90 38.2 64  
 9.8 285 22.2 41  
 20 268 19.7 37  
 32.3 261 16.5 34  
 39. 260 10.6 22-30  
 47 259-30 10.5 357  
 92 45.6 261 19 283-30  
 36.6 264 23.6 276  
 25.4 269-30 32.4 269  
 15.6 289 34.7 266  
 9.4 325 42.3 265  
 8.4 ✓ 45.9 263

41

496					
08.24		At T34		0328	
506	40.6	204	26.4	325	
	49.8	212	29.7	311-30	
	25.4	188	35	300	
504	11.5	243	41	290	
	24	267	42.7	286	
	37.4	269	50	282	
	47.6	255	49.8	50.7	283-30
502	49	278-30	43.7	287-30	
	38.7	286	42.2	291	
	30.5	302-30	40.7	291	
	21.9	334-30	35.7	303	
	21.2	31	28.5	326	
	28	52	25	338	
500	32.2	15-30	26.5	350	
	28.8	8	29.2	359	
	26.8	359	30	✓	
	24.3	348-30	496	31.5	356
	24	336			

08.24					
	At T34		0328		
A96	28.8	347-30	94	5.8	324
A96	29.1	337		8.6	28 ✓
A96	35.2	315		11.7	274
A96	36.5	307-30		12.2	269-30
A96	51.2	285-30		15.8	269
				21.5	266
				27	264
				31	260
				32	258
				37	257-30
				40.6	256-30
			92	40.5	259
				33	26 ✓
				28.7	267-30
				15.3	275
				11.5	276
				8.5	287
				8.3	293



50v4v

733

92	6.6	318
	8.7	10-30
	10.4	29-30
90	9.5	1
	8.5	351
	9	320-30
	10	305-30
	9.2	292-30
	11.4	282
	14	279
	18	282
	28.6	272-30
	36	265
	40.5	261
	52.8	258
92	518	255-30
94	51.5	254-30

97.30

496

\* 09.22

06	46.7	68	102	428	0
	47	167	500	51.5	338
	32.3	97	"	41.5	321-30
	31.3	140-30		35.8	303
04	48	37		29	270
	29.5	45		32.6	235
	19	47-30		42.5	206-30
	6	1	498	45.8	232-30
	4.3	284		44	267
	2.7	207		49.6	294
	18.5	177-30		54	306-30
	33.5	179			
02	30.4	202			
	16.5	230			
	13.6	292-30			
	25.4	340			
	36.8	356			

A6

2426

428	0
51.5	338
41.5	321-30
35.8	303
29	270
32.6	235
42.5	206-30
45.8	232-30
44	267
49.6	294
54	306-30





50176

0-35-2'S

96.72

9482

At 17 35 20 12

48

$$\begin{array}{r} 8995 \\ 44.87 \\ \hline 94.82 \\ 50 \end{array}$$

42.8 242-30

90

9.8 45 86 27

50.5 229

4.4 16-30 12.6 29-30

90 44.2 263

0 0 8.2 352-30

35.5 267

6.4 173 14.3 290-30

30.5 268-30

24.6 179 17.2 276-30

21.5 286

40.2 175 84 21.7 278-30

11.2 50

50 169 16.6 284

14.5 35-30

88 48.5 182 15.4 293

17.3 40

37.5 193-30 10 358

22 44

23.2 208 17.4 34

28.7 47

14.1 230-30 22.2 43

52 58

11.2 275-30 29.8 48

4.8 334-30 82 29.2 45

18.8 50 26.2 41

23.3 55-30 22.1 40

32.6 54-30 19.2 30

86

31.5 51 13 346

948✓

N35-10N

8905

9776

A+N37

49  
930✓

82 16.6 300

18.6 286

21.4 283

~~25.7~~ ~~281.30~~

31.5 197

29.5 211

32.2 224

34.2 235.30

9776

A+N37

93.02  
4.24  
~~97.76~~

96 16.7 61.30 92 42.2 154.30

20 112.30 90 42.7 163

36.6 132 27.5 174

94 34 142 18 206

23.5 140 17.8 248

8.6 121 24.4 284

8.1 18 88 29.6 253  
27.3 248

12.1 10 24.2 204.30

92 22.7 326 29.4 189

15.2 307 37.8 170

10 236 50.3 174

17 170 86 39.3 194

29.4  
~~28~~ 155 52.5 180.30



H.1.

8404

A O 34-3' N

7894 8404

A O 34-3' N

50  
78.94

84	495	247	80	242	78
84	98	174	82	207	78
84	90	125	82	85	91.30
84	83	114	82	74	123
84	14	84	82	88	191
	198	78	82	31	257
	244	78	80	49	250-30
	312	74.30	80	40	250-30
	337	74	80	31.7	258
	37.2	75	80	10.4	218-30
	385	74	80	32	189
	426	75	80	62	107
	495	71.30	80	85	88.30
82	496	71	80	96	88.30
82	469	72.30	80	14.0	70
82	367	31.30	80	22.5	71
82	29	74	80	24.3	76.30

Top wall

480 79.7

79.0

Top wall

478 79.2

Top wall

505 78.99

Top wall

80	30.3	72
80	364	70
80	428	72
80	457	72
80	504	70-30
80	50	253
80	32	00
80	25	256-20
80	25	63-30

4.75

8329

AT 32-6'N

7854

Fl 78.72	South of 23-5'N	00	80	19.3	241
Wall	1.0				
78.30	South 7326N	80	80	26.3	251
Wall	2.1				
78.8		80	80	36.0	250
Wall	5.0, 0	25.2			
48 78.47			80	41	251
Wall	25.0	25A-20			
49 78.34			80	50.5	250
Wall	25.0	64.30			
50 78.24			82	50	249-30
Wall	5.00	67.0			
80	42	69	82	41	250
80	37.7	71	82	26.5	249
80	33.3	69	82	17.4	235
80	18.3	69	82	13.0	228-30
80	13	64	82	8.2	241
80	9.2	69	82	25	90
			2 common points		
80	3.5	70	82	5.0	67
84 86			82	9.0	82
82 80	2.5	160	82	15.6	68
82 80	3.3	219	82	31.0	69
80	6.8	243	82	39	72.30
80	11	233			

8329

AT 32-6'N

51  
7854

82	42.2	69
84	41.8	71
84	37.7	74
84	13.5	70-30
84	9.0	85-30
82	3.0	73
84	4.0	80
84	9.8	237
84	15	228
84	25	245-30
84	45	248-30
84	50.3	248



495  
83.18

Wall 78.20  
495  
Wall 78.498

80  
80  
80  
80  
80  
80  
82  
82  
82  
82  
84  
84

1.8  
25  
29.3  
24.0  
22.3  
13.6  
80  
4.2  
11.5  
4.0  
76  
148  
24  
26  
76  
152  
75

South V 31  
12.12

00  
65.30  
81  
82  
79  
73.30  
82  
228  
252  
212  
96  
76.30  
81  
85  
85  
80-30  
109

84 55 210  
84 118 244

41. 495

Bottoms

Lod.

52

7624 A 34  
71.40  
Bottom Wall North 25.76 180° 484  
71.33  
" " South 14.68 00° 491

501  
7605 A+ N 34 71.04  
71.28  
Bottom Wall North 7.28 180° 477  
71.22  
" " South 33.05 00° 483

517  
7615 A+ O 33 70.98  
71.11  
Bottom Wall North 23.0 180° 504  
71.09  
" " South 17.3 00 506

520  
75.96 A+ Q 32 70.76  
70.92  
Bottom Wall North 29.9 180° 504  
70.83  
" " South 10.72 00° 513



H.I. = 527

75.91     At R 32  
 70.84  
 Bottom Wall North 204 180°  
 70.84  
 "     "     South 1998 00

Red     4.60  
 70.64     83.84  
 507     80  
 507     80.68  
            033-203

At Q 32 1453     528  
 79.24  
 50     248-30  
 Red:  
 3/6

5.23  
 75.65     At T 31  
 70.55  
 Bottom Wall North 2680, 180°  
 70.58  
 "     "     South 1362 00°

70.42  
 510  
 507

80     434     248-30     82     31.6     250-30  
 80     37.7     248-30     82     43.3     248-30  
 80     19.7     249-30     82     45.2     250-30  
 80     9.8     259-30     82     48.2     249

5.24  
 75.50     At V 31  
 70.48  
 Bottom Wall North 8.01 180°  
 70.47  
 "     "     South 3211 00°

70.26  
 508  
 508

80     40     244-30     84     50     251  
 80     49.7     70     84     46     251-30  
 82     48.1     68     84     40.1     250  
 84     82     336     65     84     356     252-30

5.27  
 75.48     At X 30  
 70.26  
 Bottom Wall North 1464 180°  
 70.15  
 "     "     South 25.5 00°

70.06  
 502  
 513

82     28.1     67-30     84     32.3     251  
 82     22.5     62.5     84     27.8     253  
 82     10.7     60-30     84     24.4     260-30  
 82     5.0     67-30     84     16.2     268

82     7.5     224-30     84     6.2     260  
 82     10.5     268     84     1.5     355  
 82     26.0     253-30     84     4.8     47-30



8384 At Q32 14.5S 7924

84 8.0 17-20

84 18.2 63

84 23.2 61

84 31.2 66

84 42.2 66

84 16.0 63-30

84 5.0 63.30

Top Wall 1.5 180°

Top wall 1.38 023-207.5 E/c

Top wall 2.5 246.20 T

Top Wall 2.5 73.30

Top wall 5.0 71.30

5.1  
78.74  
488  
78.96  
59.4  
78.80  
50.5  
78.79  
5.20  
78.64

Top Wall

At O-33-202 S.

Top Inside wall 1.3 180°

50.5

84.34 At T 30-7'N 79.29

80 30.4 247-30 82 29.1 258

80 16.9 245-30 84 31.1 255-30

80 10.3 260 84 25.8 261

80 5.3 248 84 16.8 270-30

80 22.2 70 84 8.2 271

80 33.6 72-30 84 3.5 318

80 48.0 69-30 84 13.6 48

80 47.7 68 84 21.6 59

82 13.1 70-30 84 21.5 63.30

82 26.4 69 84 33.2 68-30

82 8.6 52-30 84 40.9 68-30

82 4.9 267-30 Top wall 2.2 180

82 14.8 265 Top wall 25.0 75°

82 23.0 254 Top wall

578 78.56  
578 78.56

44

838<sup>v</sup>

ATV 30-11'S

794<sup>v</sup>

80 17.7 71.30

80 05 00

82 54 52.30

82 12.0 58.0

82 19.2 68

82 33.4 68.30

84 33.0 67.0

84 20 65

84 10.7 51

84 12.0 49.30

84 9.8 49.30

84 25 350

84 6.2 38.30

537 845

Top Well

1.8 18.0

554 7827

Top Well

25.0 73.30

55



Location of Drift

15 Lt 15 Rt

9/29/17

Sub-Notes  
Part-Instr 56  
Henry K. Rod

0+91.4 END - Face 9/29/17

0+74.1 LRF 45°

5  
5.5  
0+16.5 ALT 21° 28'

0+00 = P.O.T. on C Line  
C 10

○ 0+00 = C 10  
P.O.T.

○ C 17

H1 4.78

103.02

At P 9-8, N 98.24

96	33.5	267-30	96	47	58-30
96	32.9	266	96	7.1	107
96	30.6	265-30	98	18.9	49
96	29.3	269	98	18.6	57
96	33.1	266	98	14.5	67
96	16.6	258	98	14.8	78
96	12.5	252	98	13.3	79-30
96	11.2	252	98	13.0	24
96	10.8	246-30	98	7.7	100-30
96	8.8	241	98	7.0	60-30
96	8.5	266	98	6.5	40-30
96	7.5	284	98	4.5	32
96	6.7	300	98	5.8	16-30
96	6.0	302-30	98	3.5	10
96	4.7	207	98	3.0	57
96	3.9	156-30	98	3.5	143
96	3.0	60	98	2.4	183

03.02

At P 9-8, N 98.24

98	44	23.7	11.6	275.30	
98	88	220	00	104	289
98	75	303-30	00	95	291
98	16.0	272-30	00	10.2	320
98	22.1	271-30	98	11.6	275
98	22.5	267-30			
98	27.4	268	98	10.5	259-30
98	29	272	98	9.4	260-30
00-98	33.4	269	98	9.0	245.30
00	32.3	274	98	10.6	248
00	31.2	272	99	10.2	253
00	28.3	273	00	4.9	245
00	28.2	270	00	7.6	20
00	24.5	269	00	8.0	31
00	23.0	274	00	7.5	49-30
00	20.9	271	00	7.9	51.30
00	18.7	278-30	00	7.8	60
			00	10.8	48

57

98.24

$$\begin{array}{r} 00 \ 08 \\ 02 \ 08 \\ 02 \ 08 \\ 00 \ 005 \end{array}$$

RC

Top.



H.I. = 993

030	✓	At P9 - 8' N	9824
00	11.4	47.0	02 54 341
00	10.9	74	<sup>06</sup> 04 02 102 318
00	13.9	64.30	<sup>04</sup> 02 96 306-30
00	14.1	49.30	02 108 297
00	15.8	48	<sup>00</sup> 02 188 281
02	13.4	52	02 20.1 272
RC	02	13.1	<sup>04</sup> 02 22.2 273
"	02	12.8	<del>02 59 168</del>
"	02	11.6	64-30
"	02	11.8	57
"	02.3	11.8	61
02	10.8	42-30	
02	9.7	47-30	
02	8.5	47	
02	10.4	36	
02	9.2	8°	
02	8.3	08	

09.85	At 09	58
02	59 168	04 94 306
02	67 176-30	04 58 288
02	71 197	04 65 164
02	54 228-30	04 75 153
02	7.0 223-30	04 83 136
02	7.2 246	06 19.2 297
02	7.8 231-30	06 17.9 295
02	8.2 247-30	06 16.9 296
02	9.5 247	06 17.4 298-30
02	12.6 227	06 15.7 304
04	15.5 286-30	06 14.0 301-30
04	13.5 238	06 13.2 310
04	10.2 267-30	06 12.3 313
04	8.7 254	06 11.5 319
04	9.0 284-30	06 3.3 294
04	10.5 284-30	06 2.5 327
04	12.3 299	06 4.0 352

09.85

At 09

06 2.5 28.30

06 5.2 23

06 6.5 20.30

06 6.3 Av

06 11.2 117

RC 06 12.3 280

" 06 13.6 243

" 06 16.4 257

" 06 17.7 279

~~RC 04 11.9 294~~~~" 04 8.8 287~~~~" 04 8.6 264~~~~" 04 10.3 254~~20 06.9  
Toplock 137 264

04.92

473

12.86

At 0.9 - 15.1 E

59

08.138

~~ff~~ 794 12.86 0494

08 58 43 RC 2.5 325

03 58 43 RC 2.4 263

06 2.2 85 RC 4.8 307

06 20 25 <sup>11.5</sup>  
Toplock 3.2 308

04 3.0 90

04 3.6 132

04 2.2 143

RC 08 19 62

" 08 1.0 204

<sup>-10</sup>  
" 08 5.3 193

" 08 6.7 204

RC 10 5.7 199

" 10 3.0 212

" 10 1.5 348

" 10 5.5 307



H.I. = 51

013.23	At	0-9-15.1E	08.13	413.23	At	09-15.1E	08.13	60
08 10	17	46	10	8 46	46	16	06	29.4 55.3 04 19.5 65
10	12	8	45				06	22.5 57-30 04 29.5 58.30
06 10	08 12 14	12.5	41	08	12.5	41	06	19.2 5.3 04 28.8 56.1
10	08 12	14.0	48	08	14	48	06	17.3 6.4 04 31.1 60
10	08 12	17.0	48	08	13.7	53-30	06	14.9 6.2 30 04 35.0 54
10	12	19.6	41	08	17	48	06	12.8 7.8 02 39.8 52
10	08 12	21	48	08	19.3	50	06	12.5 4.8 02 36.5 55
10	08 12	20.8	52-30	08	21	48	06	12.5 4.1 02 33 61
10	08 12	24.7	54	08	20.8	52-30	06	5.8 4.3 02 31.4 64-30
12	37.6	49	08	22.5	57.30		04	5.8 4.3 04 30 58
12	32.3	51	08	24.7	54		04	1.0 4.5 02 25.7 61
10	32.1	55	08	25.5	53		04	11.4 4.6 02 25.5 65-30
10	26.4	51	08	29.8	55		04	11.5 8.3 02 21.4 82-30
10	24.7	54	06 08	31.3	56		04	12.9 8.3 02 19.5 81-30
04.476	10	22.5	57-30	08	32.3	55	04	12.9 7.8.30 check 02 20.6 89-30
10			10	30.6	36.4	51	04	15.5 7.8-30
			06	32.3	55			



10/1/761

1323	A+09-15'E					0813
RC 04	12N	79°	98	294	700	
" 04	180	79°	98	26.2	710	
404	20°	86°	98	26.8	790	
" 04	19°	86°	98	25.8	790	
<u>TR 5.3</u>	18°	81°	98	24.5	73.30	
			Tie 98	23.3	74.0	
00	20.8	82.30	Tie 98	24.0	78.30	
00	23.3	75.0	RC 04	9.5	82.30	
00	23.2	68.0	RC 04	70	102°	
00	28.6	67.30	RC 04	74	74°	
98 00	30.0	63.0	TR 04	74	86°	
98 00	32.2	65.0	18	7.3	344	
00	35.0	57.30	16	7.0	344	
tie in.			20	8.3	344	
00	39.9	53.30	22	10	344	
98	40.6	56	14	6	12°	
98	35	60-30	14	11	42	
98	32.2	65.0	16	13	38	
98	30.0	63.0	18	14	37	

1323	A+09-15'E					0813
18	14	37				
20	14.5	37				
HI-39	A+08-					3114
35.04						
26	3.7	156	24	2.0	66	
26	7.7	158	34	3.9	78-30	
26	9.4	153	34	5.0	126-30	
26	10.3	158	34	11.5	119-30	
26	14.8	159				
26	17.7	146				
26	26	125				
diff. 26	28.3	117.30				
diff. 24	27.0	123				
24	21.6	133				
24	18.0	153				
24	15.0	162-30				
24	11.0	162-30				



H.I. = 48

39.50		AT P. 8	
34	15.5	248	38
34	7.0	234-30	8.0
34	5.3	223	
34	4.1	225	
34	1.5	199	
diff 34	3.0	146	
diff 32	4.5	154	
diff 30	6.5	165	
36	9.9	256	
36	5.8	227	
36	3.7	266	
diff 36	3.0	150	
38	9.9	256	
38	1.0	262	
38	5.0	296	
38	4.4	341-30	
38	6.3	345	

H.I. = 49

34.70	18.69	AT P. 8 - 11.9 E	6.2	13.79
7 <sup>0</sup> -30				
	12.58	20.71	08.13	15.1 E
			6.92	13.79
	06	6.5	11.2	04
	06	6.2	70-30	04
	06	6.2	5.1	04
02	04	06	10.2	29°
04	08	06	16.2	02°
	06	20.7	356	08
	08	06	23.2	351
10	08	06	28	354-30
	06	31.3	2030	08
	04	06	36.0	0.3
	04	32.4	3.30	08
	04	28.0	5 <sup>0</sup> -30	08
	04	24.4	8 <sup>0</sup> -30	08
	04	21	02°	08

6.2

13.79

0-9

15.1 E

P. 8  
11.9 E

0.2

29

39-30

88

123

110

78

47

22°

02

351

354-30

356

355-30

1869	194	P8-119E	1379
08	33.5	358	12 6.3 145-
08	35.7	1 <sup>o</sup> -30	12 10.5 <del>14.9</del>
<del>10</del>	<del>39.0</del>	<del>2<sup>o</sup></del>	
10	36.3	359	12 11.0 350-
10	34.2	355	12+14 15.0 345-30
10	28	354-30	12 18.3 340-
10	26.8	353	12-18 23.5 341-30
10	27.2	349-30	12 32.8 353-
10	25.0	349-30	12 35.3 352-
10	24.2	347-30	12 39.5 355-
10	21.0	349	12 <sup>21.4</sup> 40.5 1-30
10	18.0	344	14 40.0 351-
10	16.0	355-30	14 36.3 352-
10	11.5	7-30	14 34.2 346-
10	6.3	22-30	14-18 23.5 341-30
10	4.5	49-	14-16 18.2 332-30
10	3.0	86-	14 15. 345-30
10	5.8	93-	14 10.9. 352-
10	6.8	110-	

1869	P8-119E	68	1379
14	10.2 7- 16.	8.2	329.
14	5.0 12- 16.	7.5	342-
14	2.5 349- 16	15.	344
14	1.8 104- 16	16.8	342-30
14	5.3 140- 16-	18.2	332-30
14	6.5 154-	16-18 23.5	341-30
14-18	10.3 197-	<sup>x overhang</sup> 16-32 31-	<sup>look out for 14</sup> 343-
14-18	11.5 213-	16-28 34.5	343-
14-22	17- 223-30	16 35.4	348-30
16-22	17. 223-30	16-18 40.	351-
16	14. 224-30	18-28 34.5	343-
16-18	11.5 213-	18-32 31.	343-
16-18	10.3 197-	18 23.5	341-30
16	6.3 213-	18 18.6	330-
16	4.2 153-30	18 12.3	325-
16	3.0 218-	18 9.5	341-30
16-20	2.5 304-	18 8.7	338-



11-503

1869 17+ P 8-11.9 E  
 18 9.5 324-  
 18 7.2 319-  
 18-22 6.4 298-  
 18-20 2.5 304-  
 18 5.2 218-  
 18 1.3 237-  
 18 7.4 208-  
 18 10.3 197-  
 18 11.5 213-  
 18 10.5 222-  
 18 13.5 223-  
 18-22 17. 22330

1379 2705 A P 8- 4.36 E  
 1376 1705  
 33 356  
 395 357  
 220 1°  
 86 338  
 51 358-30  
 36 38  
 53 23-30  
 54 112-30  
 41 175  
 93 187  
 104 199  
 84 197  
 77 18  
 27 15  
 49 90  
 37 324

diff. 1379  
 32 73 322  
 22 137 340  
 22 15 348  
 24 165 352  
 24 165 344  
 use common Points  
 24 1. 270

64  
 2202  
 0-9  
 15.1E

7/26/17 Beginning to Topog Notes.

H1=46

Top for Excavation Quantities

At I II Sight Ivo for 092127 <sup>66.34</sup>

48 70.94 66.4

7/27/17

At M<sup>10</sup>

74 246° 12 78 125° 13

" 231 " 78 112° 18

" 196 9.5 78 108 24.5

" 144 "

" 134 16.5

" 118.30 26

76 114 25

76 133 16

76 138-30 10.5

" 196 6.5

" 238 11.0

" 288 14.5

78 282 12

78 268-30 10

7/27/17

H1=47

70.9

At M<sup>4</sup>

66 187-30 14

66 127-30 18.5

70 319 1.5

70 350 14.5

70 36 17.3

70 48 18.0

70 55 18.0

70 66 24

68 74 22.5

" 71 15.5

" 64 17.3

" 50 14

" 54-30 15.5

" 44-30 17.5

" 24 15.3

" 350-30 13.5

Willcomb Notes 65

Bub Inst.

Dilleys - Rod

6624

68 336-30 10

68 327-30 11

68 327-30 13

68 317 15

Copied from Transit #1 Page 27



H.I. = 50  
89.5

At 1710.

84.5

H.I. = 71.2

Copied from T. BK 1

66

Copied from Bk. T-1-19 25

86	292-30	39	86	283	20
88	287-30	32.5	86	280-30	23
88	294	32	86	286	25
88	300	24	86	286	29
88	294-30	22	86	286	36.5
"	289	21.5	88	287	24
"	291-30	18.5	88	288-30	28.5
"	316-30	14	88	293-30	24.0
"	329	10.5	84	274	26
"	2°	9.5	84	271	18
"	18°	5	84	273	16
"	59-30	4.2	84	271	12
88	80-30	7.0	84	283-30	3
86	95-30	6.5	84	179	3
"	81-30	3	84	133	2
"	17°	4	84	139-30	5
"	303-30	8.5	84	137	10.5
86	289	15	82	163	11
			82	209-30	4.5
			82	254-30	15
			82	272	22
			82	274	28

7/28/17

At N 11

66.5

70	336-30	71	72	105-30	22
72	336-30	12	70	115	22
70	1°	90	72	112-30	24.5
72	1°	100	70	115-30	24
70	71-30	65	70	115-30	28
72	71-30	95	70	119	27
70	33-30	7.5	70	129-30	31
72	33-30	95	68	132	34
70	73-30	60	66	133	34
72	73-30	90	68	129-30	29
72	92	85	66	129-30	28
70	102	12.5	66	131	25.5
72	92	18.0	66	121	24.5
72	990	15	68	117	26.5
70	990	22	68	122-30	22
72	990	24	66	126	20
70	105-30	19.5	66	115	16



71			At N 11		66.5
66	268°	15	68	93	5.5
66	219-30	12.3	68	111	2.5
68	103°	17	68	142	5
RC 68	118°	12	68	63-30	3
RC 68	118°	13.5	68	18-30	5.5
			68	318-30	8
H1 = 495					
8155			At O 11		766
RC 74	153	18	72	184	15.5
" 74	159.30	17.5	72	178	20.3
" 74	159-30	15.3	72	164	24
" 74	167-30	15.3	72	152-30	20.5
" 74	171	14	72	194-30	10.0
" 74	174	21	72	156	8.5
" 74	166	23.5	72	149-30	5.5
Point 76	166-30	17.5	72	128	9.5
RC 72	152	16	72	105	17
RC 72	181	13	72	89-30	20.5

H1 = 816			At O "		766
72	79	21.5	74	109	9.5
72	68	28	74	79	19
72	74-30	34	74	71	22
Cliff 70	74-30	34	72	61-30	21.5
70	87	22.5	74	63	25
70	97-30	26.5	74	73	34
70	110-30	18	76	71	32
70	143	17	76	55	21
70	141-30	19	76	81-30	13
70	153-30	22	76	163	2
70	161-30	23.5	76	254	5.5
70	178	22	76	259	10
74	298	26	76	277	11
74	306	18	76	311	17
74	277-30	12	76	299	28.5
74	255-30	9.5	78	304	28
74	197-30	3	80	304	28



H1 Copied from T.H. 1

81.6

A+ 0"

76.6

68

78 305 22

80 305 22

78 311 17.3

H 80 311 17.3

H 78 311-30 9.5

H 80 311-30 9.5

H 78 323 4.

R 80 337 5

H 78 72-30 7

H 80 62 7.5

H 78 59-30 15

H 80 50-30 10.5

" 78 48 19

" 80 44 17.5

Pan

R

R

67

1

-1

1

1

1

1

1

Pa

1

1





31



72

73



74

75



76

77



28

B.M. 5

USG-BM.

Rock Concrete Basin

Bolt in Ledger W. Side <sup>Coffer</sup> 75' E Perm.

(139.40)

486.569

(147.71)

494.89

371.30

89



2723  
45

31,746360

2723400

1654  
45

2104

6368  
2200  
6140

47730  
846

6110

48581

1654

48124

45727

48124

6283

1283668

6158

94

10'5 429  
481- W D-00

50206-  
387

505.92

5-98

49994

372  
852  
7.09

08,73

4

127

6304  
200  
61027

787

6400  
687

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.  
ROADWAY 14 FEET WIDE. SIDE SLOPES 1 1/4 TO 1.  
FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

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