

G-166

ROSE CANYON

CULVERTS.

G 166

FIELD BOOK

NO. 734 F



*Entire Book*

**INDEXED**

*W. K.*  
**DEC 29 1948**

**MICROFILMED**

**APR 9 1965**

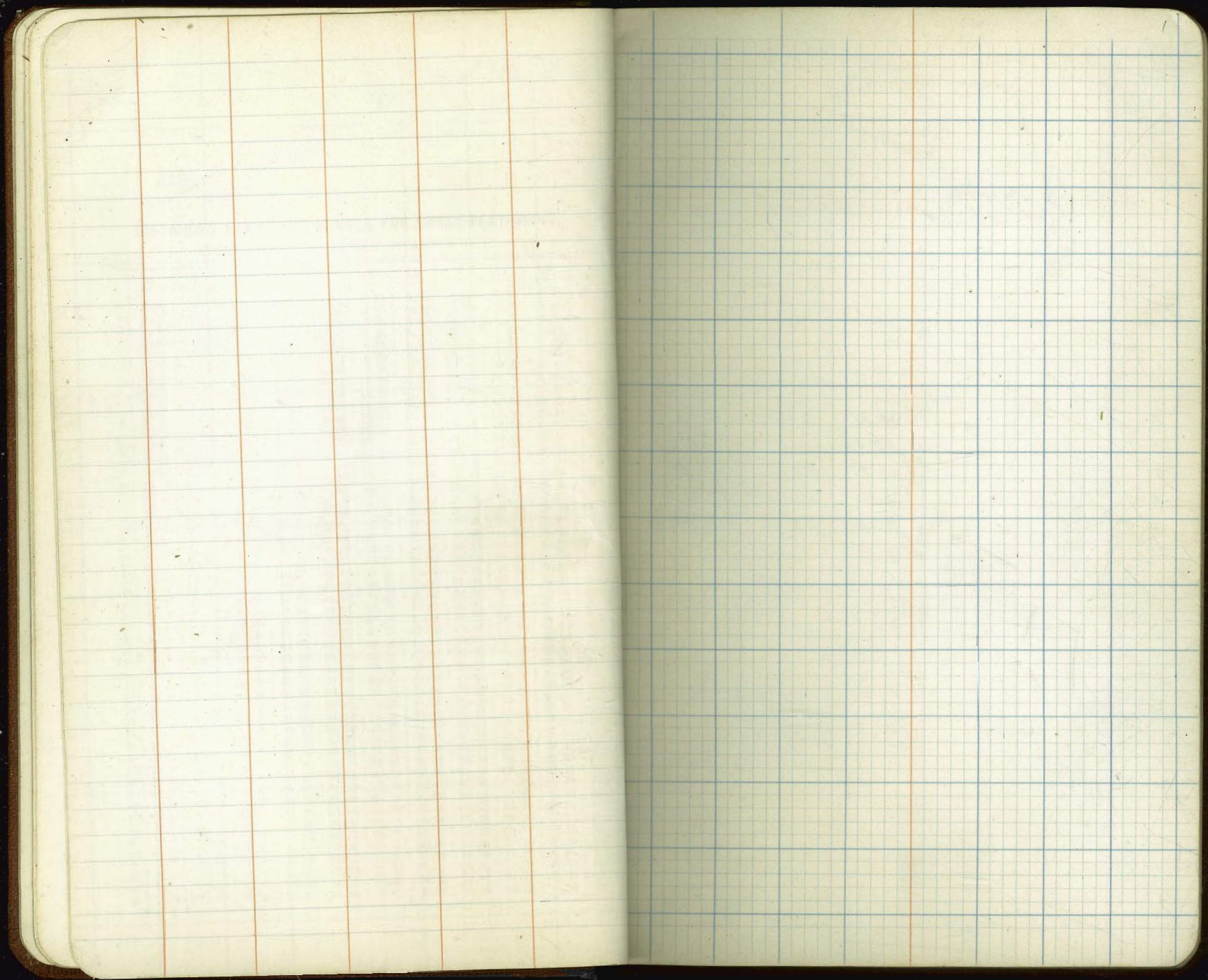
STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

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DIST.	COUNTY	ROUTE	SECT.	BOOK
VII	Alameda	2	4	

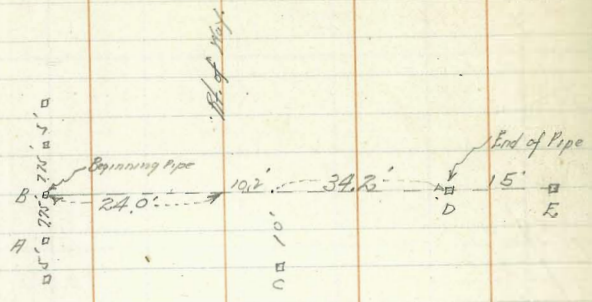




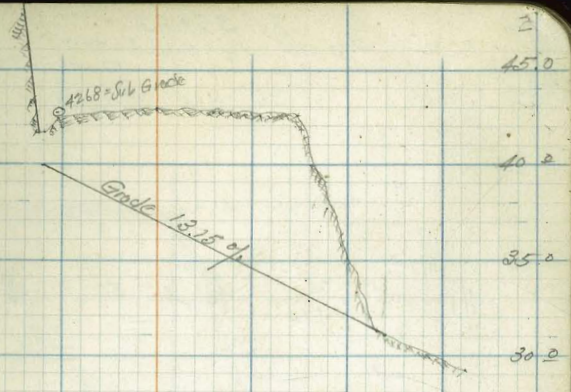


Walker  
 11/20/30  
 L. District  
 in the town  
 of High  
 4-30-30

Station 29+50  
 69'-18" R.C. Pipe  
 GRADE = 13.15%  
 Azimuth = 90°



	Elev. stake	GRADES	Flow line	W.M. fills
E	14.81	23.57	31.00	-1.43
D	12.49	31.89	31.00	+0.89
C	1.77	42.61	35.50	+7.11
B	2.34	42.04	40.00	+2.04
H	2.32	42.06	40.00	+2.06



29.1	29.1	28.0
31.1	31.1	30.0
42.7	42.7	43.0
42.7	42.7	43.0
42.9	42.9	44.0
42.9	42.9	43.0
41.7	41.7	40.0
41.38	41.38	

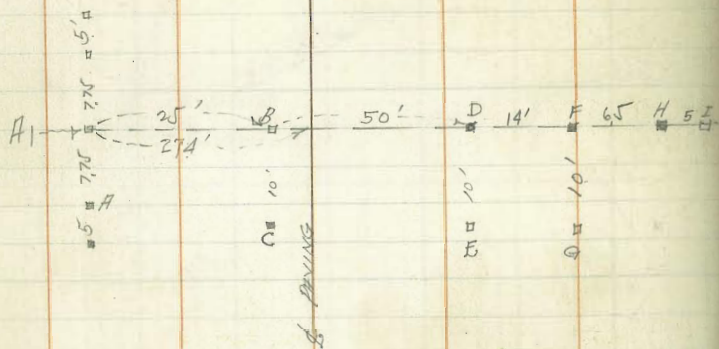
601 44.38

33.37

Temp. B.M. 11.1  
 H. of st. 31200 P.

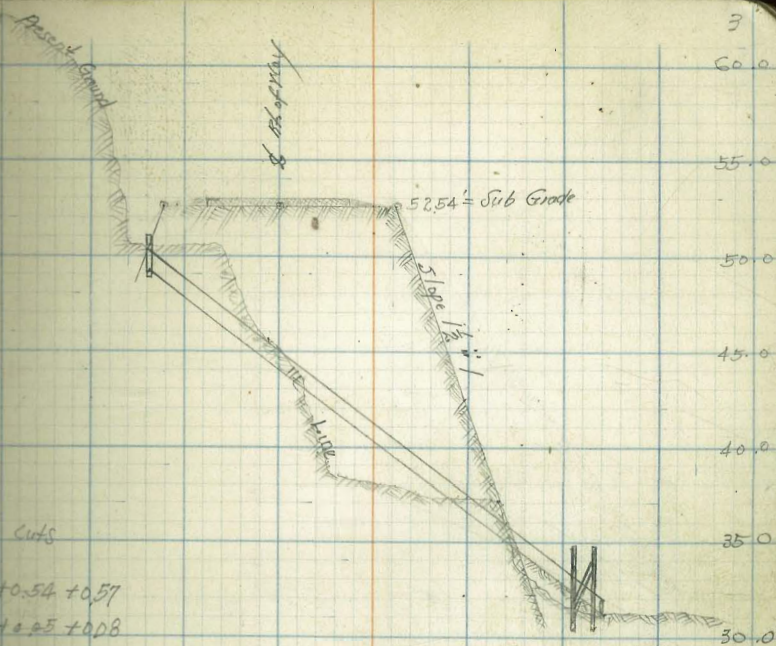


Sta. 35+88  
 3-6-30' Slope dist. 18" culvert = 37.27'  
 Grade 13.0% H<sub>3</sub> 30°  
 36' Pipe will do



	Elevations		Flow width		Cuts
I	42.75	11.12	31.63	31.03 <sup>06</sup>	+0.54 +0.57
H = End Pipe	42.75	11.61	31.14	31.03 <sup>06</sup>	+0.45 +0.08
G	42.75	11.35	31.40	32.32 <sup>29</sup>	-0.92 -0.89
F	42.75	10.76	31.99	32.32 <sup>29</sup>	-0.93 -0.70
E	42.75	4.44	38.31	34.95	+3.36
D	42.75	5.64	37.11	34.95	+2.16
C	52.13	6.45	45.68	44.45	+1.23
B	52.13	6.52	45.61	44.45	+1.16
A = beginning Pipe	52.13	1.63	50.50	49.20	+1.30
A1	52.13	1.43	50.70	49.20	+1.50

T.P.	253	42.75	11.91	40.22	3' Nails in Pipe
T.P.	13.76	52.13	0.78	38.37	20 ft 31+00
T.P.	9.85	39.15	3.35	29.30	3' Nails in Pipe
	7.19	32.65		25.46	on X 23+00
					B.M. #1
					63' 4" 16+95



52.13

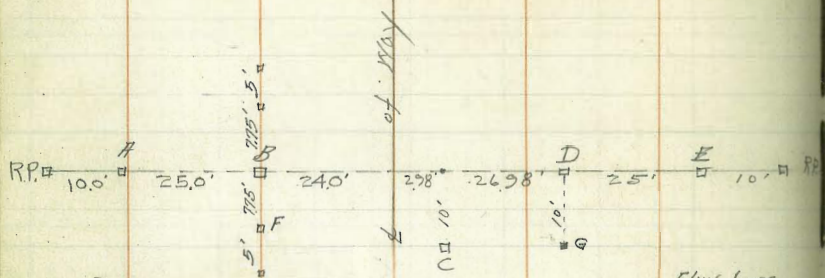






Walker  
Locke  
Horton  
Hornay  
10-15-29

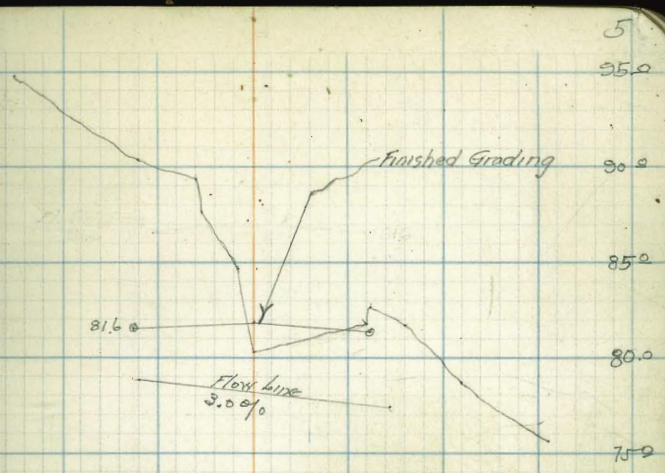
Sto. 57+99  
54-18" R.C. Pipe  
Rz. 90° GRADE 3.0%  
Build 1-Straight Man.



	Flow Line	Cuts
D	5.11 81.93 77.28	+4.65
G	5.13 81.91 77.28	+4.63
C Reset	5.64 81.40 78.09	+3.31
B "	5.94 81.06 78.90	+2.16
F	5.50 81.54 78.90	+2.64
	5.11 87.04 81.93	
		Elev. Stake 0 below
	Flow Line GRADE	Cuts and Fills
E	87.09 10.20 76.89 77.28	-0.39
D	87.09 5.16 81.93 77.28	+4.65
C	87.09 6.56 80.53 78.09	+2.47
B	97.84 7.47 90.37 78.90	+11.47
A	97.84 2.86 94.98 78.90	+16.98

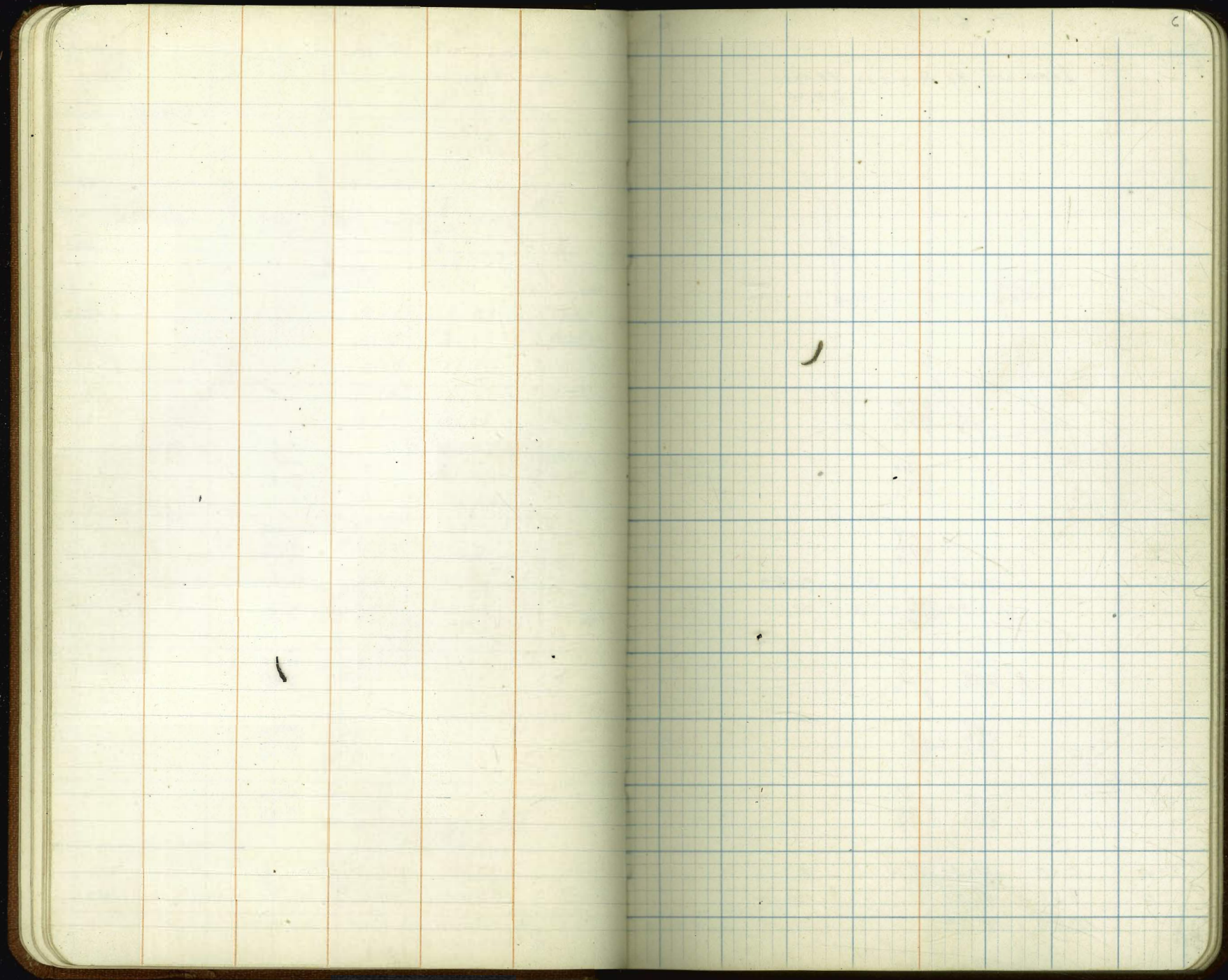
Rep. chh. on 58+00

	o.l. - spot	80.2 - stake	80.1
T.R	1.96	87.09	12.71 85.13
T.P	2.15	97.84	2.95 95.69
	7.05	98.64	91.59 Stake B Page 8



84.8	12.0	21.0	75.5	11.6	86.0
84.8	12.0	21.0	78.8	8.3	88.0
87.7	10.1	18.0	81.7	5.4	87.0
82.4	8.4	12.0	82.6	4.5	89.0
84.9	9.3	12.0	81.8	5.3	88.0
82.9	7.5	10.0	80.2	6.5	84.0
82.9	8.2	11.0	80.2	24.0	
87.8			87.1		







Walker  
 10-18-27  
 Wotton  
 Kariag

Sta. 61+71

Leave out by Permission - F.H. REED  
 3-31-30

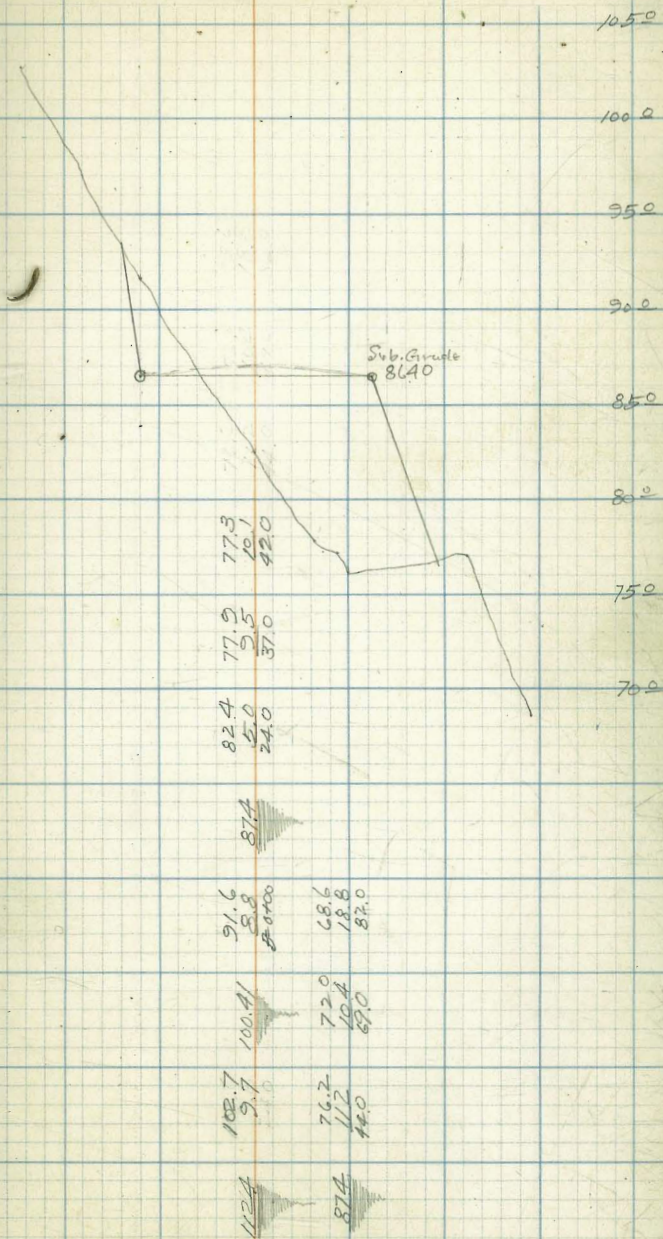
E			
D			
C			
B	100.41	8.82	91.59
A	112.39	9.73	102.66

Flow Line  
 GRADE

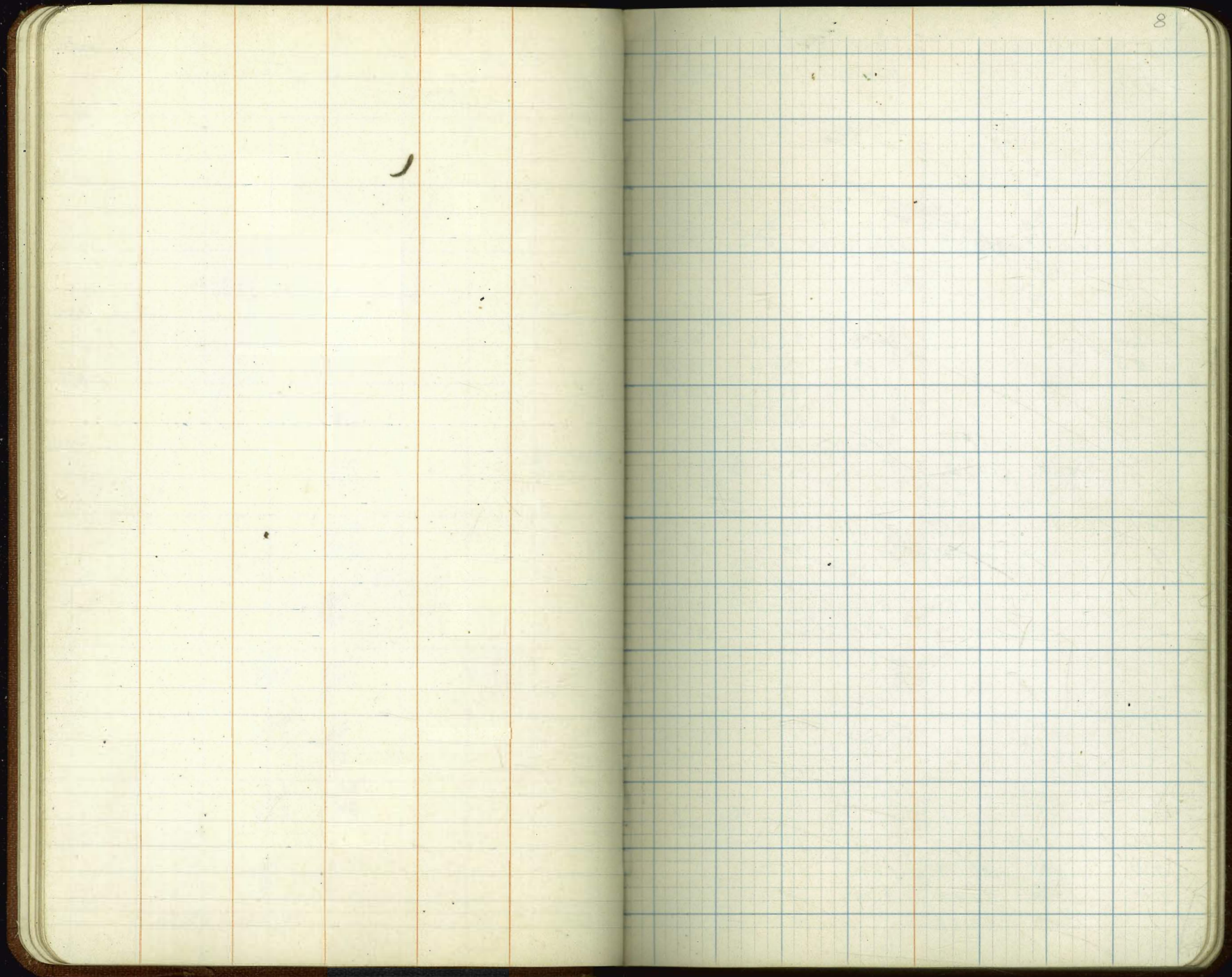
CA. <sup>and</sup> fills.

T.P.	0.15	87.41	13.15	87.26
TP	0.85	100.41	12.83	99.56
	12.20	112.39		100.19

Elev. on  
 Stake A, Page 2



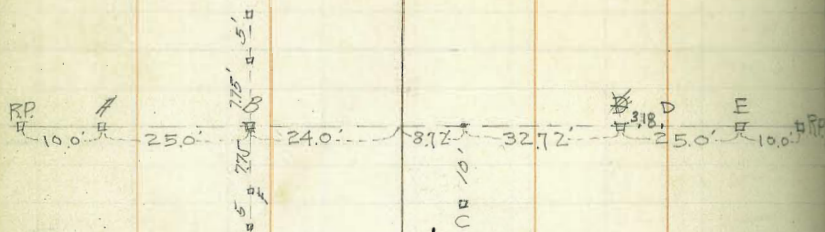






Walker  
Lecter  
Mulloon  
Kanagay  
10-18-29

Sta. 63+30  
"EXTRA"  
69'-66"-18" RC Pipe 10.4%  
#3, 90° GRADE #777  
Build - 1 - Straight Hd. Wall

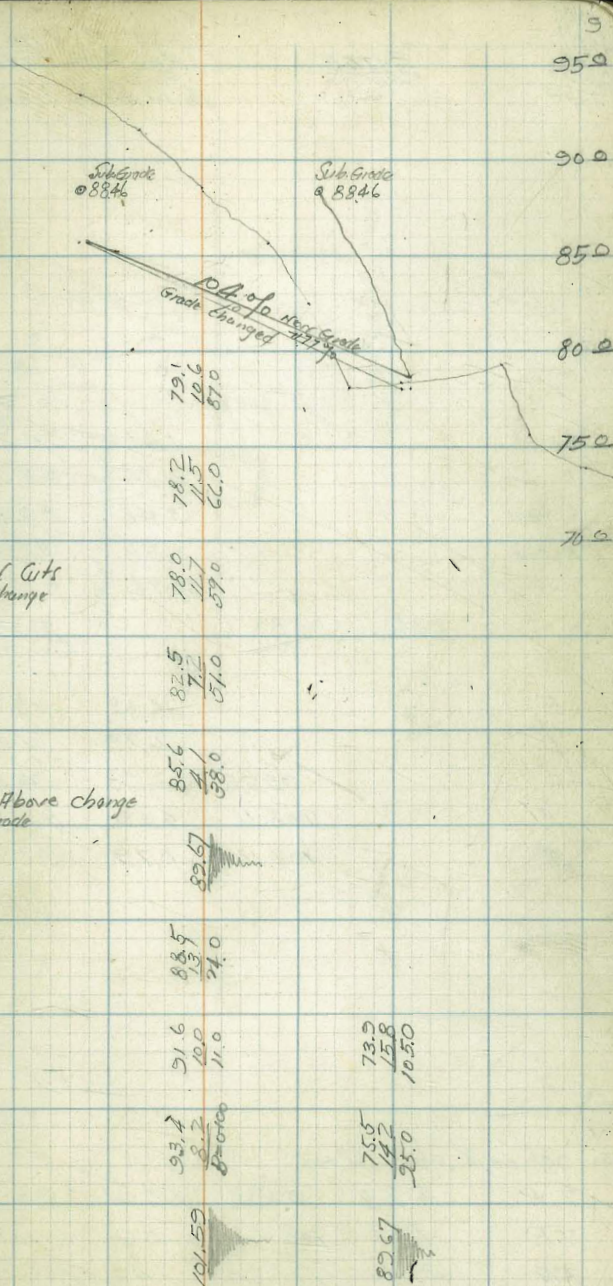


				Flow Line
E Rect.	14.58	76.36	78.57	
D Rect.	11.83	79.11	78.57	
C "	2.17	88.77	82.30	
B "	2.58	88.36	85.70	
F	2.63	88.25	85.70	
	14.58	90.94	76.36	Flow Line GRADES
E	89.67	13.31	76.36	78.00
D	89.67	11.55	78.12	78.00
C	89.67	2.47	87.20	81.85
B	101.59	8.24	93.35	85.70
A	101.59	1.40	100.19	85.70

Chk. on stake 63+30

TR	0.73	89.67	12.65	88.94
TR	12.86	101.59	0.79	88.73
	13.19	89.52		76.33

0.0 = Error  
89.2 = Elev. Stake  
89.2 = Bk 163-70  
B.M. #1 - 5' 4.24"  
160' 17.26' 66726



Cuts and Fills

-2.21	79.1	78.2
+0.54	79.5	78.5
+6.47	87.0	77.7
+2.66	78.0	77.7
+2.55	77.5	77.0

Next Cuts For change

Cuts and Fills

-1.64	82.5	82.5
+0.12	82.5	82.5
+5.35	85.6	81.0
+7.65	82.67	82.67
+14.49	83.4	83.4

See Above change in Grade

78.9  
75.8  
70.50

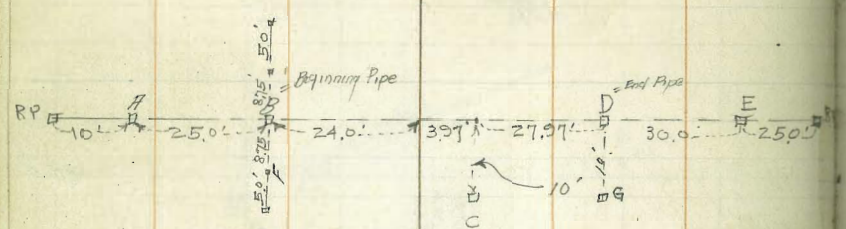
75.5  
72.2  
25.0

82.67



Walker  
Lockey  
Metheny  
Nanagy  
10-18-29

Sta. 66+40  
56-24" R.C. Pipe  
60' A3. 20% GRADE 4.0%  
"EXTRA"  
Build - 1 - Straight. Hdvr.

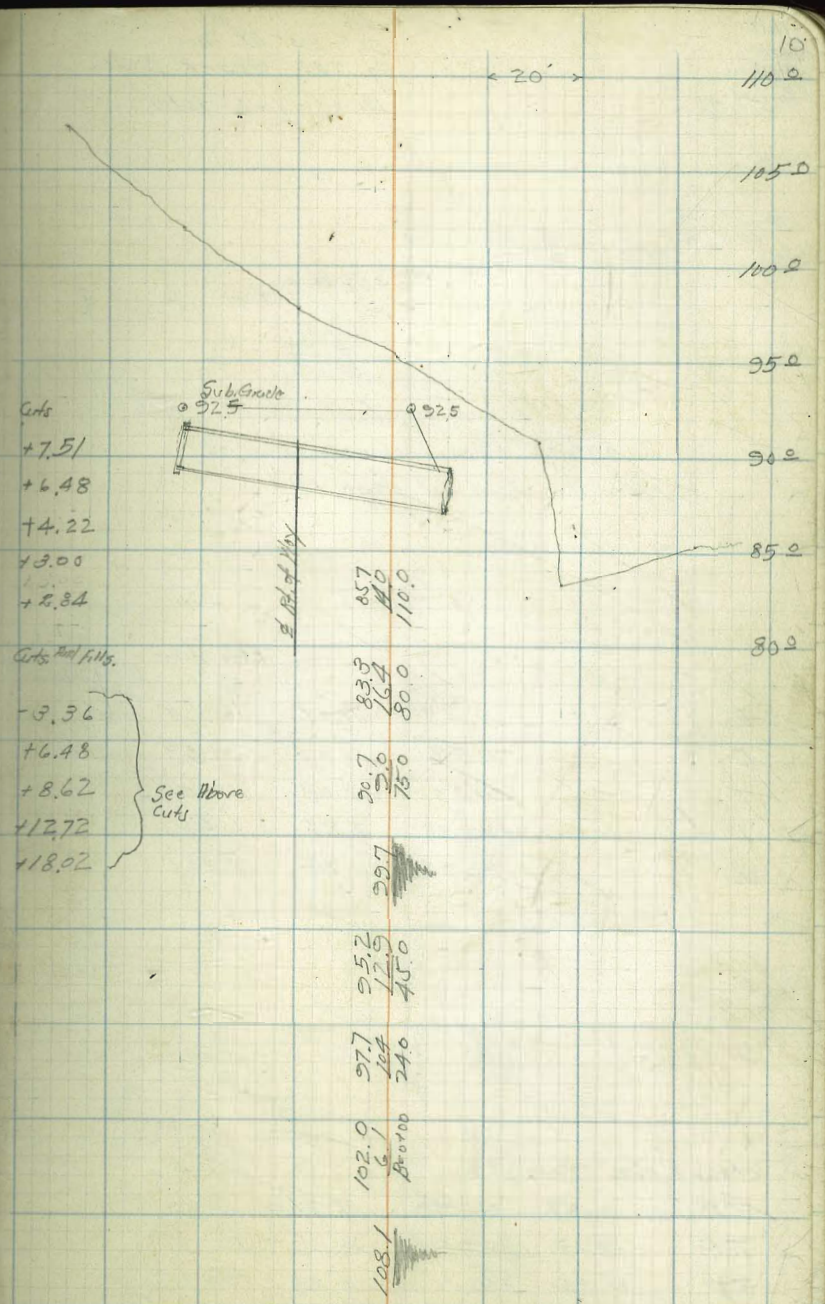


			Flow Line	
G		1.31	94.57	87.06
D		2.34	93.54	87.06
C - Rest		3.48	92.40	88.18
B - Rest		3.58	92.30	89.30
F		3.74	92.14	89.30
	2.34	95.88		
			93.54 = Elev. Stake D Below	
			Elev. Stakes	Flow Line
				GRADES
E		16.03	83.70	87.06
D		6.19	93.54	87.06
C	99.73	2.33	96.80	88.18
B	108.11	6.09	102.02	89.30
A	108.11	0.79	107.32	89.30

0.1 = 5mm  
98.5 = Stake Book. 163-21  
98.4

Chk. on 2' stake 66+50				
T.P.	4.23	99.73	12.61	95.50
T.P.	752	108.11	8.69	100.59
T.P.	13.01	101.28	1.40	88.27

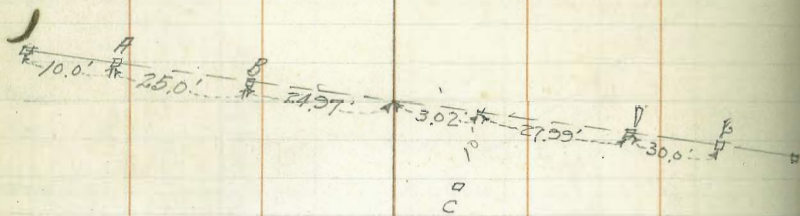
89.67 = Page 3





Walker  
Lecky  
McHoon  
Kearney  
10-18-25

Stn. 75+40  
56'-24" R.C. Pipe  
Pg. 74<sup>2</sup> GRADE 2.5%  
Build - 1-L Hdry.

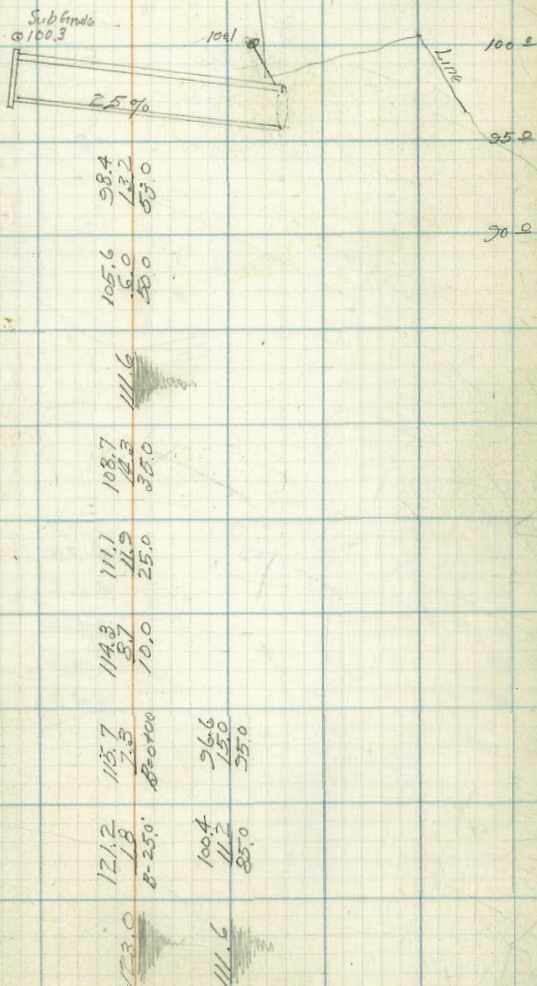


By Permission F.A. REED R.E.  
Location this Culvert changed  
New Location on Page 12

	$\pi$		Elev. Stakes	Flow Line GRADE	GRADES
E	111.59	11.15	100.44	35.70	+4.74
D	111.59	13.00	98.59	35.70	+2.89
C	111.59	2.08	109.51	36.40	+13.11
B	122.98	7.31	115.67	37.10	+18.57
A	122.98	1.78	121.21	37.10	+24.11

chk. on 2 Stake 72+00			00-21701. 104.4 = Elev. stake Book 163-23
T.P.	0.87	111.59	12.26 110.72
T.P.	13.13	122.98	0.26 109.85
T.P.	11.26	110.11	0.88 98.85

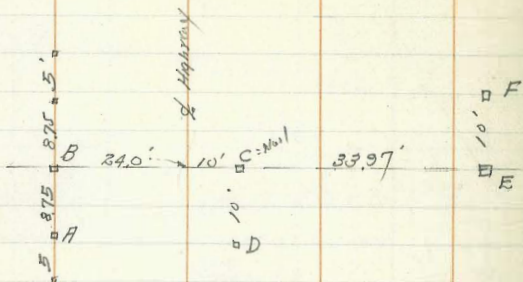
99.73 =  $\pi$  Page 10





Walker  
 1121.0185  
 L. D. Dyer  
 Matheson  
 3-31-30

Sta. 71+75  
 68'-34" R.C. pipe  
 6A' Grade 3.0% Hg. 902



	Elev. stakes	Flow Line	Cuts
F	5.89	98.20	+4.24
E	8.33	95.76	+1.80
D	4.66	99.43	+4.45
C out	4.66	94.98	
B	3.53	100.56	+4.56
A	4.47	99.60	+3.60

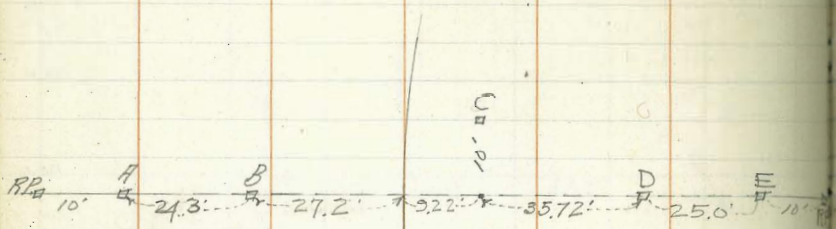
3.65 104.09

100.44 Elev. stake L  
 on page 11



OK

Sta. 77+00  
 72-30" R.C. Pipe  
 H<sub>g</sub> 90' Grade 12.5%  
 Sunk - 1 - Straight Hd. Man H

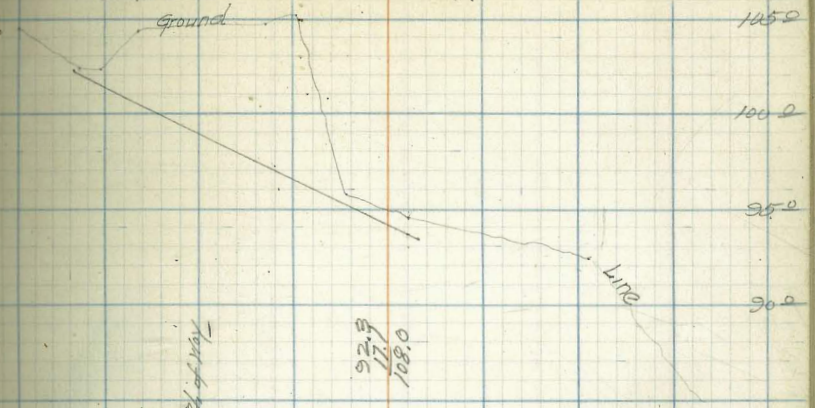


			Flow Line GRADES	Gr. H <sub>g</sub> H <sub>g</sub>
E	16.12	93.32	93.47	-0.15
D	15.02	94.42	93.47	+0.95
C	4.82	104.62	97.84	+6.78
B	6.92	102.61	102.89	+0.22
A	4.18	105.26	102.89	+2.87

TP 0.27 109.44 5.93 109.17

115.10 = Page 15

Sup. 1161  
 Sub: 10610



104.5	102.4	102.4	104.5	92.8
2.0	2.0	2.0	14.8	17.7
8-0100	5.0	5.1	70.0	108.0
109.44	102.4	102.4	95.7	92.8
	2.0	2.0	13.7	17.7
	5.0	5.1	07.0	108.0







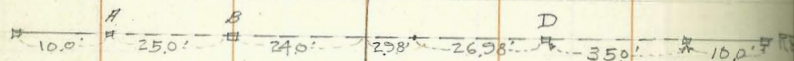
Walker  
Lecky  
Nelson  
Hanson  
10-17-29

Station 81+19  
54' - 18" R.C. Pipe  
By 30% GRADE 3.0%

Build - 1 - Straight Hx.

(Leave out) 3-31-30 R<sub>c</sub>

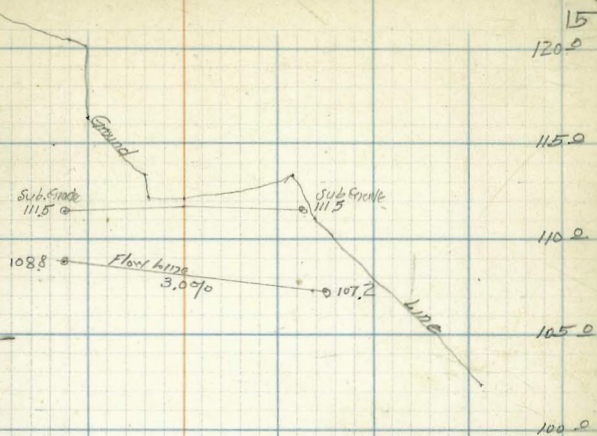
C  
D



				Flow line Grades	Gr. and Fills
E	115.10	12.77	102.33	107.20	- 4.87
D	115.10	4.03	111.07	107.20	+ 3.87
C	115.10	2.43	112.67	108.00	+ 4.67
B	125.63	5.22	120.41	108.80	+ 11.61
A	129.48	2.48	127.00	108.80	+ 18.20

TR	2.21	115.10	12.74	112.89
TR	5.22	125.63	9.07	120.41
TR	9.07	129.48	5.22	120.41
TR	11.81	125.63	2.25	113.82

116.07 = π P-17



111.1  
111.5

113.8  
12.3  
47.0

112.3  
23.3  
24.0

112.2  
23.4  
18.0

113.4  
12.2  
17.0

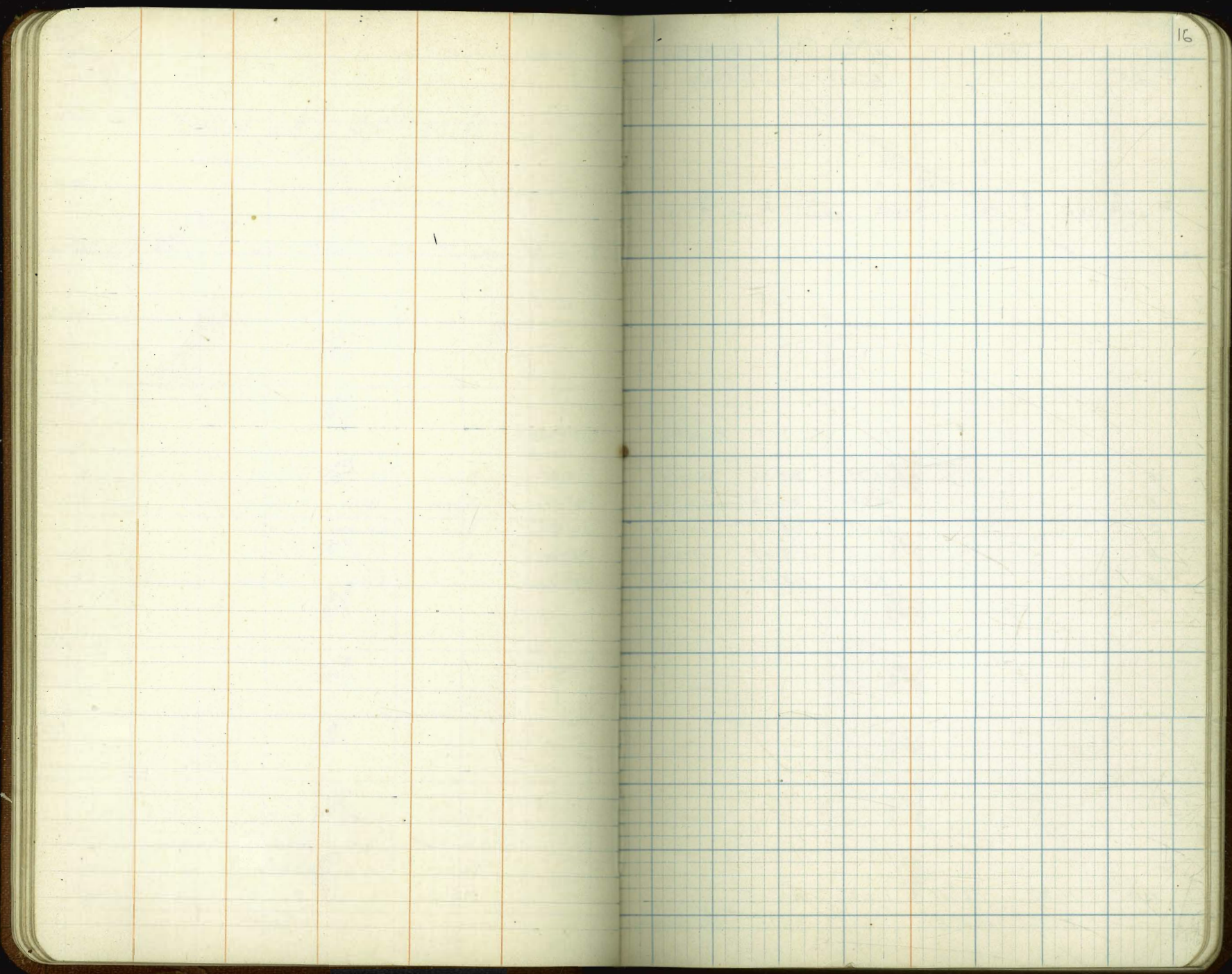
116.4  
2.2  
4.0

120.1  
5.5  
3.0

120.4  
5.2  
B=2000

125.63



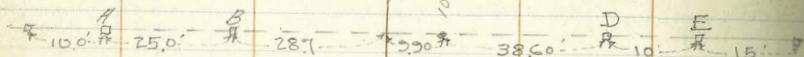




Walker  
Lerkey  
M. H. Wain  
Horsing  
10-17-29

Sta. 86+50  
78'-18" R.C. Pipe  
Hgt. 90' GRADE 14.234%

Build - 1 - Straight Hd. W.



Sub Grade  
@ 115.1

Sub Grade  
@ 115.1

17

115.0

110.0

115.0

110.0

14.234%

			Flow Line GRADES	Cuts and Fills		
E	16.71	92.36	100.30	-0.94	100.5	77.0
D	15.58	100.49	100.30	+0.19	105.6	
C	10.26	105.81	105.80	+0.01	104.5	38.0
B	1.06	115.01	111.30	+3.71	107.4	29.0
A	1.88	114.13	111.30	+2.89	109.8	13.0

107.4  
8.7  
29.0

109.8  
6.3  
13.0

115.0  
1.1  
5.0

115.1  
1.0  
8.0

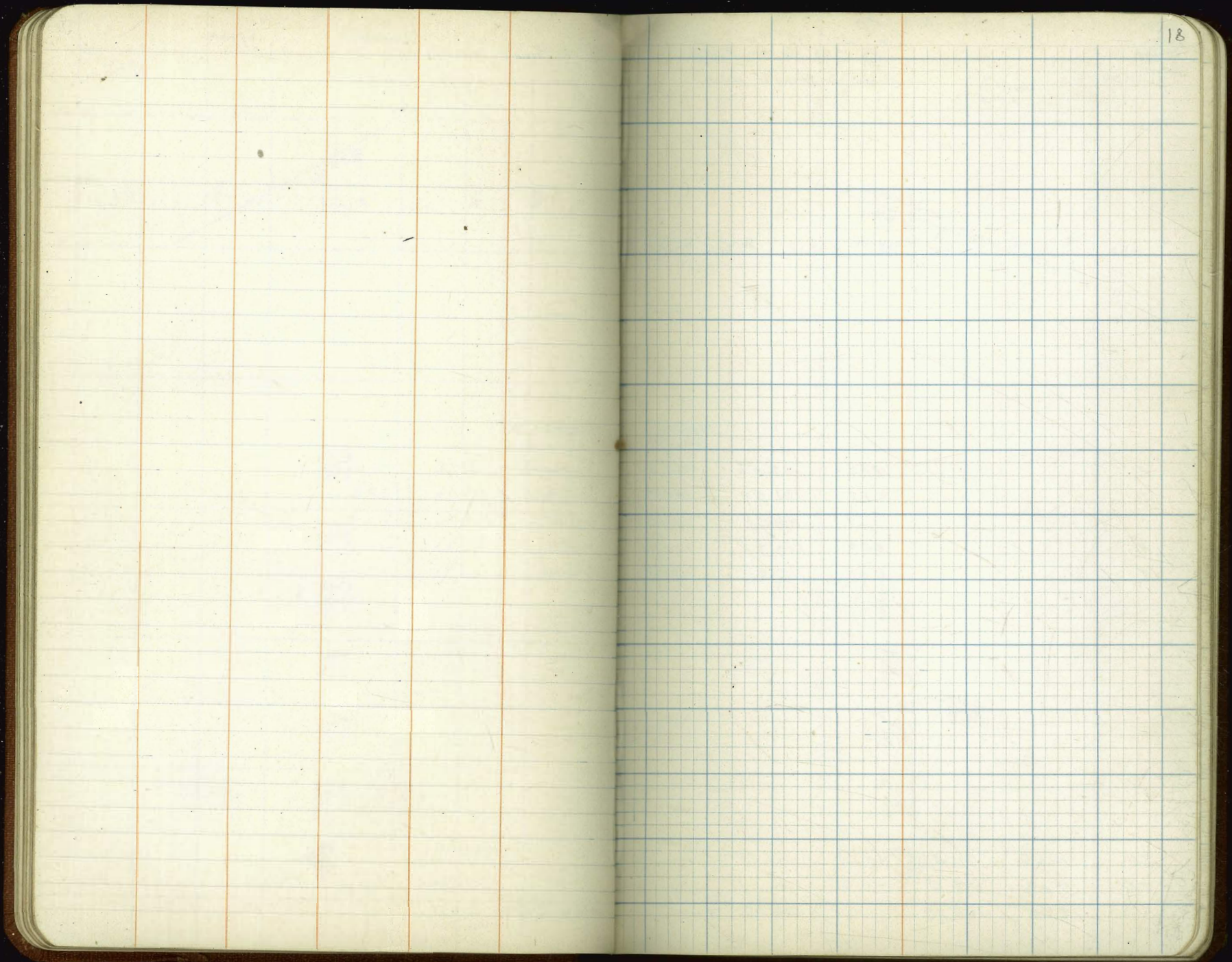
116.07

TP	11.02	116.07	0.05	105.05
	12.35	105.10		92.15

BM #5 - 2' x 4' Hb.  
85' Ht. 34 + 88.36

on Pueblo base







Walker  
Lockef  
Mattoon  
Kearney  
10-17-29

Sta: 89+40  
76" - 30" R.C. Pipe  
By 30% GRADE 8.4%  
Build 1-Straight Hd.H.

45.0' 18.0' 30.10' 7.75' 37.85' 20.0' 15.0'

			Flow line GRADES	Cuts and fills
E	14.40	102.06	104.24	-2.18
D	11.89	104.57	104.24	+0.33
C	7.83	108.63	107.42	+1.21
B	5.49	110.97	110.60	+0.37
A	0.95	115.51	110.60	+4.91

TP	10.65	116.46	10.26	105.81
TP	11.02	116.07	-2.05	105.05
	12.35	105.10		92.15

BM#5  
Page 17

19

Sub Grade  
116.8

Sub Grade  
116.5

120.0

115.0

110.0



10.48  
11.7  
7.60

107.0  
5.5  
55.0

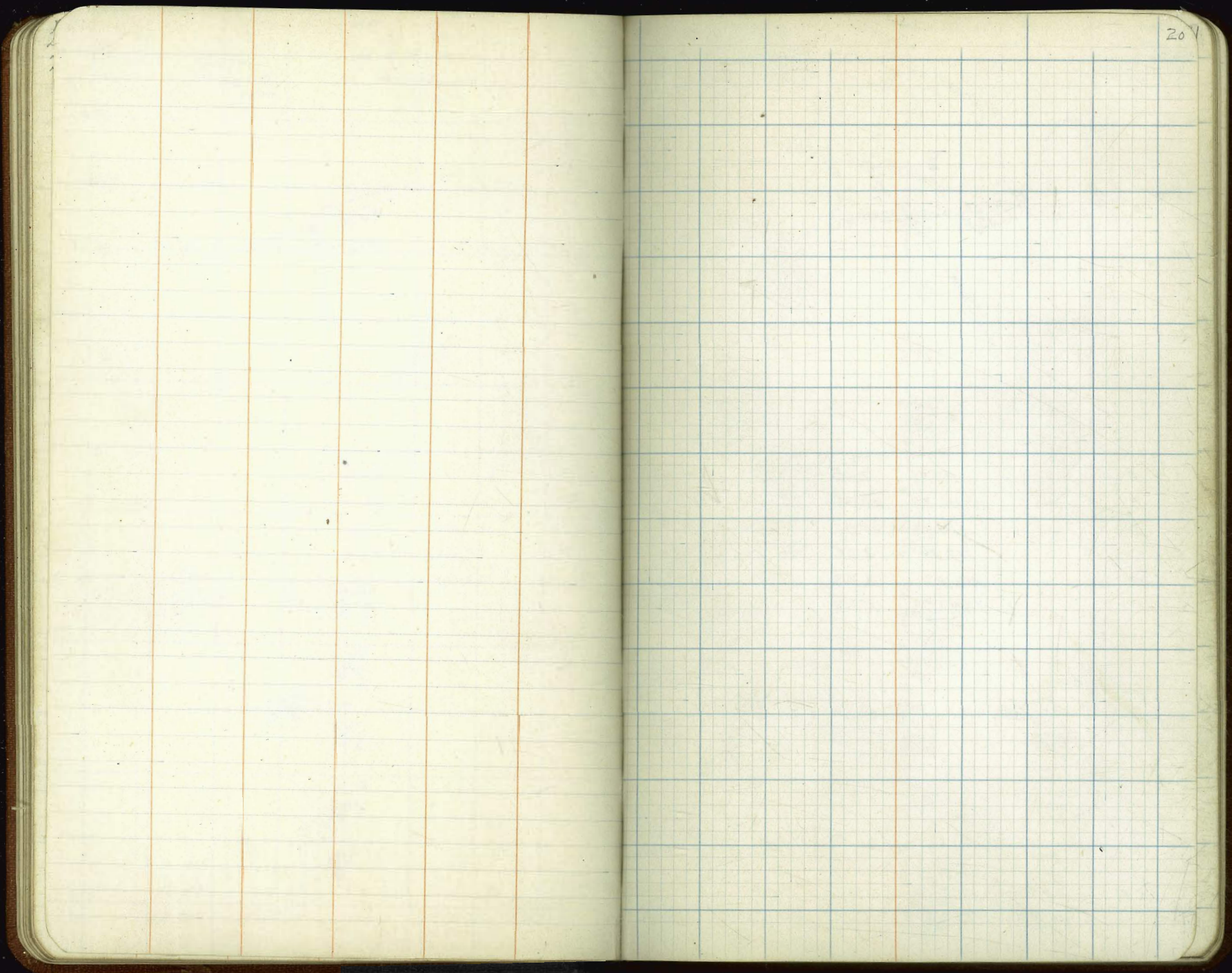
110.1  
6.4  
10.0

20.0  
2.5  
30.0

111.3  
5.2  
8.0

116.4

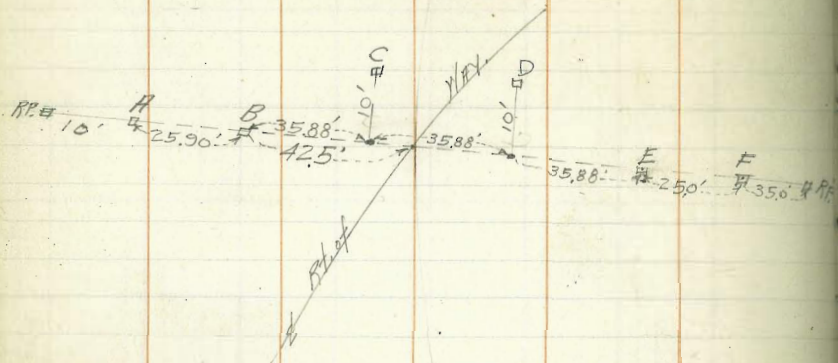






Walker,  
Kenagy  
McHoon,  
Sommerer  
10-16-29

Sta. 98+00  
108' - 60" T.C. Pipe  
Az. 79° GRADE 8.3%  
Build 1 - Straight Hd. Wall

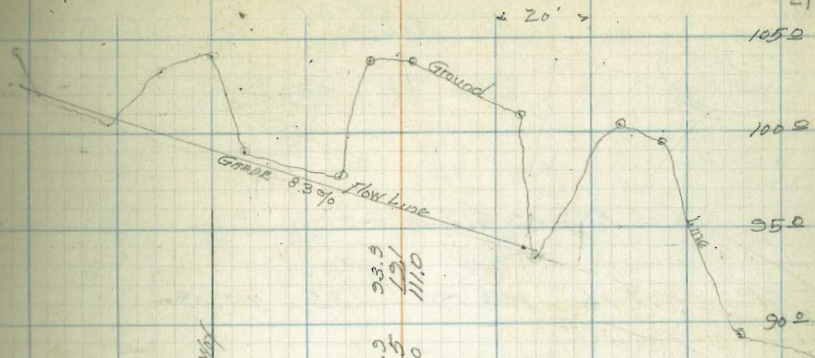


				Flow Line GRADES	
F	112.38	12.65	99.73	93.66	+6.07
E	112.38	12.34	100.04	93.66	+6.38
D	112.38	15.92	96.46	96.64	-0.18
C	112.38	4.55	107.83	99.62	+8.21
B	112.38	8.59	103.79	102.60	+1.19
A	123.79	5.23	118.56	102.60	+15.96

Note:

FOR YARDAGE THIS DITCH See Pages 22 and 23  
C.B.Y.

T.P.	12.19	123.79	138	111.00	B.M. #6 24274
	11.38	112.38		100.40	46' H. Sta. 98+00



Cut & Fill

93.5  
93.1  
111.0

100.9  
102.5  
108.0

103.5  
86.0

103.9  
86.5  
76.0

97.7  
70.0

99.0  
134  
50.0

104.0  
84  
43.0

103.1  
33  
32.0

100.4  
12.0  
81.0

102.0  
104  
5.0

104.1  
83  
87.0

112.38

89.4  
23.0  
154.0

99.4  
13.0  
138.0

140.3  
12.1  
139.0

21



17-19-29  
R.F.R.

Cross Sections For Gilbert  
Location P-21  
Sta. 28+00

X. Section Cont. on P-23

T.P. 7.16 108.19 112.35 101.03

1+11  $\frac{17.0}{10.0}$   $\frac{13.8}{6.0}$   $\frac{13.1}{0.0}$   $\frac{14.1}{2.0}$   $\frac{8.4}{10.0}$

1+08 = "E"  $\frac{16.7}{10.0}$   $\frac{18.8}{6.0}$   $\frac{18.8}{2.0}$   $\frac{11.5}{0.0}$   $\frac{8.0}{10.0}$   
93.6 93.6 100.9 104.4

0+86  $\frac{16.8}{10.0}$   $\frac{16.8}{6.0}$   $\frac{3.5}{4.0}$   $\frac{8.9}{0.0}$   $\frac{6.4}{10.0}$   
95.6 102.9 103.5 106.0

0+76  $\frac{16.4}{10.0}$   $\frac{15.6}{3.0}$   $\frac{8.5}{0.0}$   $\frac{5.9}{10.0}$   
96.0 96.8 103.9 106.5

0+70  $\frac{15.8}{10.0}$   $\frac{4.7}{0.0}$   $\frac{8.0}{2.0}$   $\frac{5.3}{10.0}$   
96.6 97.7 104.4 107.1

112.38

Cont. on Lower Left Page

22

0+4  $\frac{7.6}{10.0}$   $\frac{15.4}{6.0}$   $\frac{14.9}{0.0}$   $\frac{14.9}{1.0}$   $\frac{8.1}{3.0}$   $\frac{6.2}{6.0}$   $\frac{4.8}{10.0}$   
97.2 97.5 97.5 104.3 106.2

0+50  $\frac{5.8}{10.0}$   $\frac{6.9}{6.0}$   $\frac{8.6}{2.0}$   $\frac{13.2}{0.0}$   $\frac{14.0}{6.0}$   $\frac{7.0}{8.0}$   $\frac{6.6}{10.0}$   
105.5 103.8 99.0 98.4

0+43  $\frac{5.1}{10.0}$   $\frac{5.3}{5.0}$   $\frac{8.4}{0.0}$   $\frac{13.8}{5.0}$   $\frac{13.8}{8.0}$   $\frac{6.2}{10.0}$   
106.5 104.0 98.6

0+32  $\frac{4.3}{10.0}$   $\frac{5.2}{6.0}$   $\frac{9.3}{0.0}$   $\frac{13.3}{5.0}$   $\frac{5.0}{10.0}$   
107.2 103.1 99.1

0+21  $\frac{3.1}{10.0}$   $\frac{4.7}{5.0}$   $\frac{11.8}{2.0}$   $\frac{12.0}{0.0}$   $\frac{12.0}{3.0}$   $\frac{4.6}{5.0}$   $\frac{3.5}{10.0}$   
107.7 100.6 100.4 100.4

0+05  $\frac{2.7}{10.0}$   $\frac{5.2}{8.0}$   $\frac{2.5}{6.0}$   $\frac{10.4}{0.0}$   $\frac{7.2}{3.0}$   $\frac{6.4}{7.0}$   $\frac{3.1}{10.0}$   
102.5 102.0 105.2

0+100  $\frac{4.2}{10.0}$   $\frac{8.8}{5.0}$   $\frac{8.3}{0.0}$   $\frac{8.3}{1.0}$   $\frac{3.0}{3.0}$   $\frac{5.7}{3.0}$   $\frac{10.7}{10.0}$   
103.6 104.1 104.1 107.4 106.7

112.38



1454	76	20	180	188	156	101	93
	100	7.0	2.0	00	2.0	8.0	10.0

1488	148	168	144	88	65
	10.0	4.0	3.0	00	10.0

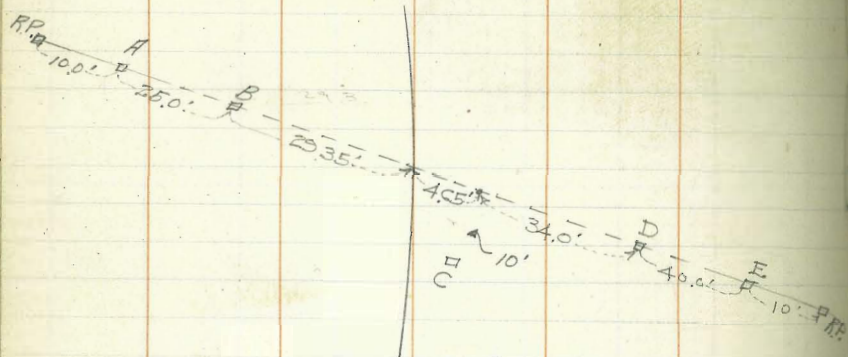
1489	33	147	167	79	53
	10.0	7.0	3.0	0.0	10.0

108.19



Walker  
 10-15-10

Sta. 106+59  
 68" 48" R.C. Pipe  
 13.1032 GRADE 2.0%  
 Build - 1 Straight Hd/W.

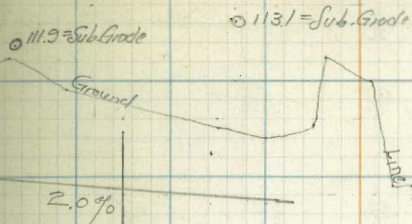


	Flow Line	GRADES	Cuts	Fill
E	8.84	108.58	103.64	+4.94
D	9.63	107.79	103.64	+4.15
C	3.47	113.95	104.32	+9.63
B	6.59	110.83	105.00	+5.83
A	1.87	116.15	105.00	+11.15

Note:  
 For YARDAGE THIS DITCH See P. 25

3.71 117.42

BM 7 = 242.42  
 110.81 Sta. 107+00



111.2	112	13.0	
107.7	27	70.0	102.1
107.0	20	20.0	103.0
107.6	2.8	50.0	102.7
109.5	2.5	18.0	127
111.3	5.1	5.0	110.0
110.8	6.8	5.0	104.6
	110.0	74	12.8
	82.0	82.0	57.0
	117.42		



Moiter  
10-16-29

Cross Sections  
For 48" Culvert  
Location on Page 24

116.81

P.E.R 12-17-29

Q

1+06  $\frac{82}{10.0}$   $\frac{118}{8.0}$   $\frac{118}{5.0}$   $\frac{67}{0.0}$   $\frac{62}{10.0}$   $\frac{68}{10.0}$

0+99  $\frac{8.3}{10.0}$   $\frac{56}{0.0}$   $\frac{64}{7.0}$   $\frac{10.4}{10.0}$

"D" 0+93  $\frac{115}{10.0}$   $\frac{78}{8.0}$   $\frac{70}{5.0}$   $\frac{90}{0.0}$   $\frac{107}{3.0}$   $\frac{101}{10.0}$   
109.2 107.8 106.1 106.7

0+80  $\frac{6.0}{10.0}$   $\frac{4.9}{6.0}$   $\frac{36}{2.0}$   $\frac{35}{0.0}$   $\frac{87}{5.0}$   $\frac{5.3}{6.0}$   $\frac{5.3}{10.0}$   
111.9 107.2 107.3 108.1

0+55  $\frac{3.8}{10.0}$   $\frac{38}{5.0}$   $\frac{82}{0.0}$   $\frac{3.5}{2.0}$   $\frac{2.4}{10.0}$   $\frac{113.3}$   
113.0 108.1

0+35  $\frac{3.1}{10.0}$   $\frac{6.8}{6.0}$   $\frac{62}{0.0}$   $\frac{6.1}{2.0}$   $\frac{3.1}{4.0}$   $\frac{1.1}{10.0}$   $\frac{1.1}{10.0}$   
110.0 110.6 110.7 113.7

"B" 0+25  $\frac{4.3}{10.0}$   $\frac{5.3}{8.0}$   $\frac{6.0}{0.0}$   $\frac{5.2}{5.0}$   $\frac{1.6}{8.0}$   $\frac{1.1}{10.0}$   $\frac{1.1}{10.0}$   
111.5 110.8 111.6

0+13  $\frac{1.8}{10.0}$   $\frac{4.5}{5.0}$   $\frac{4.7}{0.0}$   $\frac{4.1}{6.0}$   $\frac{1.0}{10.0}$

0+07  $\frac{1.7}{10.0}$   $\frac{6.3}{0.0}$   $\frac{1.8}{10.0}$

See Page 24

f=0+00  $\frac{1.6}{10.0}$   $\frac{0.7}{0.0}$   $\frac{1.6}{10.0}$

chk. on stake C P. 24

9.10 116.81

2.86

200 Error  
113.95 - date

113.95

107.71

B.M. #7 Page 24

116.81

146  $\frac{104}{10.0}$   $\frac{108}{6.0}$   $\frac{142}{2.0}$   $\frac{146}{0.0}$   $\frac{116}{5.0}$   $\frac{113}{10.0}$

1458  $\frac{98}{10.0}$   $\frac{109}{4.0}$   $\frac{145}{3.0}$   $\frac{145}{0.0}$   $\frac{132}{3.0}$   $\frac{140}{10.0}$

1457  $\frac{98}{10.0}$   $\frac{109}{4.0}$   $\frac{14.0}{3.0}$   $\frac{145}{0.0}$   $\frac{132}{10.0}$

1443  $\frac{35}{10.0}$   $\frac{102}{8.0}$   $\frac{134}{7.0}$   $\frac{12.9}{1.0}$   $\frac{11.0}{0.0}$   $\frac{108}{2.0}$   $\frac{13.1}{10.0}$

1437  $\frac{26}{10.0}$   $\frac{126}{7.0}$   $\frac{13.3}{4.0}$   $\frac{10.7}{2.0}$   $\frac{10.5}{0.0}$   $\frac{32}{3.0}$   $\frac{13.0}{10.0}$

1425  $\frac{8.5}{10.0}$   $\frac{12.5}{4.0}$   $\frac{12.8}{1.0}$   $\frac{10.5}{0.0}$   $\frac{7.6}{5.0}$   $\frac{7.6}{9.0}$   $\frac{10.7}{10.0}$

1424  $\frac{8.5}{10.0}$   $\frac{10.1}{5.0}$   $\frac{12.5}{4.0}$   $\frac{12.8}{0.0}$   $\frac{10.4}{1.0}$   $\frac{7.6}{5.0}$   $\frac{7.6}{9.0}$   $\frac{10.7}{10.0}$

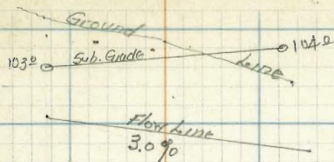
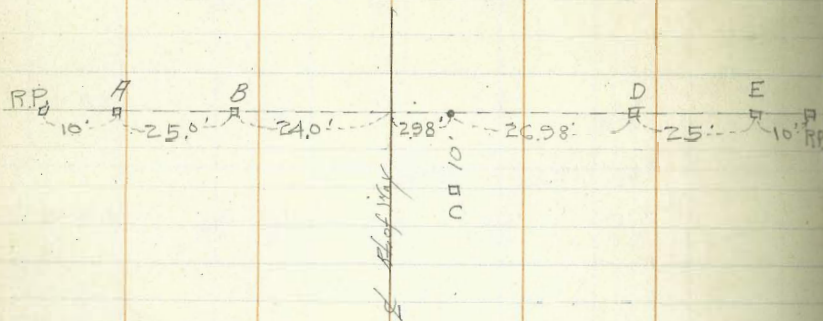
1415  $\frac{7.5}{10.0}$   $\frac{12.3}{2.0}$   $\frac{12.4}{0.0}$   $\frac{11.9}{3.0}$   $\frac{8.6}{5.0}$   $\frac{7.0}{10.0}$



Marker  
level  
No. 100  
Survey  
10-15-29

Sta. 110+00  
54'-18" R.C. Pipe  
R3 90.2 Grade 3.4%

Build 2-Straight Horiz.



26

105.0

100.0

95.0

			Flow Line GRADES.	Cut
E	10.42	100.36	98.68	+1.68
D	8.82	101.96	98.68	+3.28
C	6.73	104.05	99.49	+4.56
B	5.11	105.67	100.30	+5.37
A	3.27	107.51	100.30	+7.21

102.2  
8.6  
53.0

104.2  
6.6  
24.0

105.7  
5.1  
8.000

110.78

T.P. 7.57 110.78 1.41 103.21  
T.P. 12.00 104.62 0.07 92.62

92.62 = X from Page 28

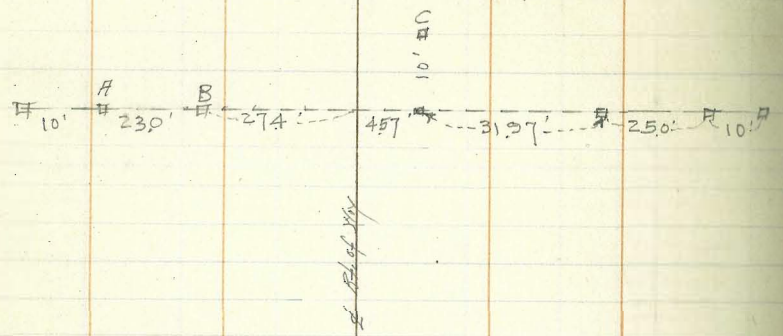






Mulker  
 Lecky  
 Madison  
 10-15-29

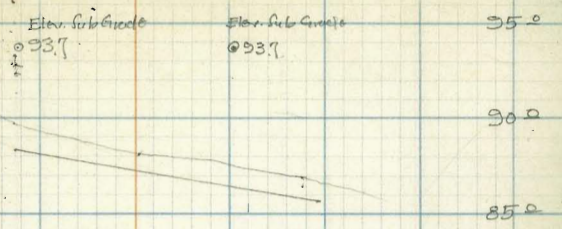
Sta. 114+56  
 CA - 48" RC. Pipe  
 Hg. 30" GRADE 4.00%  
 Build 1 Straight Hd. Man



			How Line GRADES.	Cuts Feet/Sec.
E	6.38	86.31	85.72	+0.59
D=End of Pipe	5.71	86.98	85.72	+1.26
C	4.20	88.49	87.00	+1.49
B=Eq. Pipe	2.82	89.87	88.28	+1.59
A	0.99	91.70	88.28	+3.42

6.02 92.69

86.67 BM #3 - 2" x 2" RIM N.Y.  
 100' RT. Sta 114+95



92.69  
 89.7  
 88.1  
 87.0  
 85.7  
 84.0  
 82.0  
 80.0

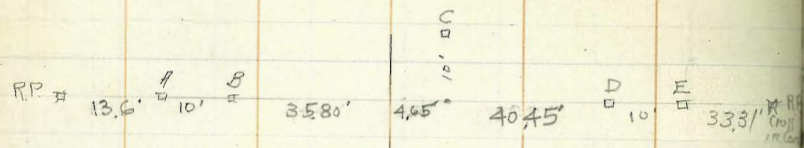




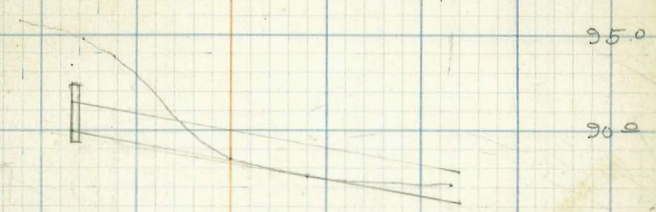


7/6/19  
 10-15-29

Sta. 125+50  
 "EXTRA" 81-18" RC Pipe  
 Hg. 20' GRADE 5.06%  
 Build - 1 - Straight Hd. Wall



Sub. Grade 0992      Sub. Grade 0992



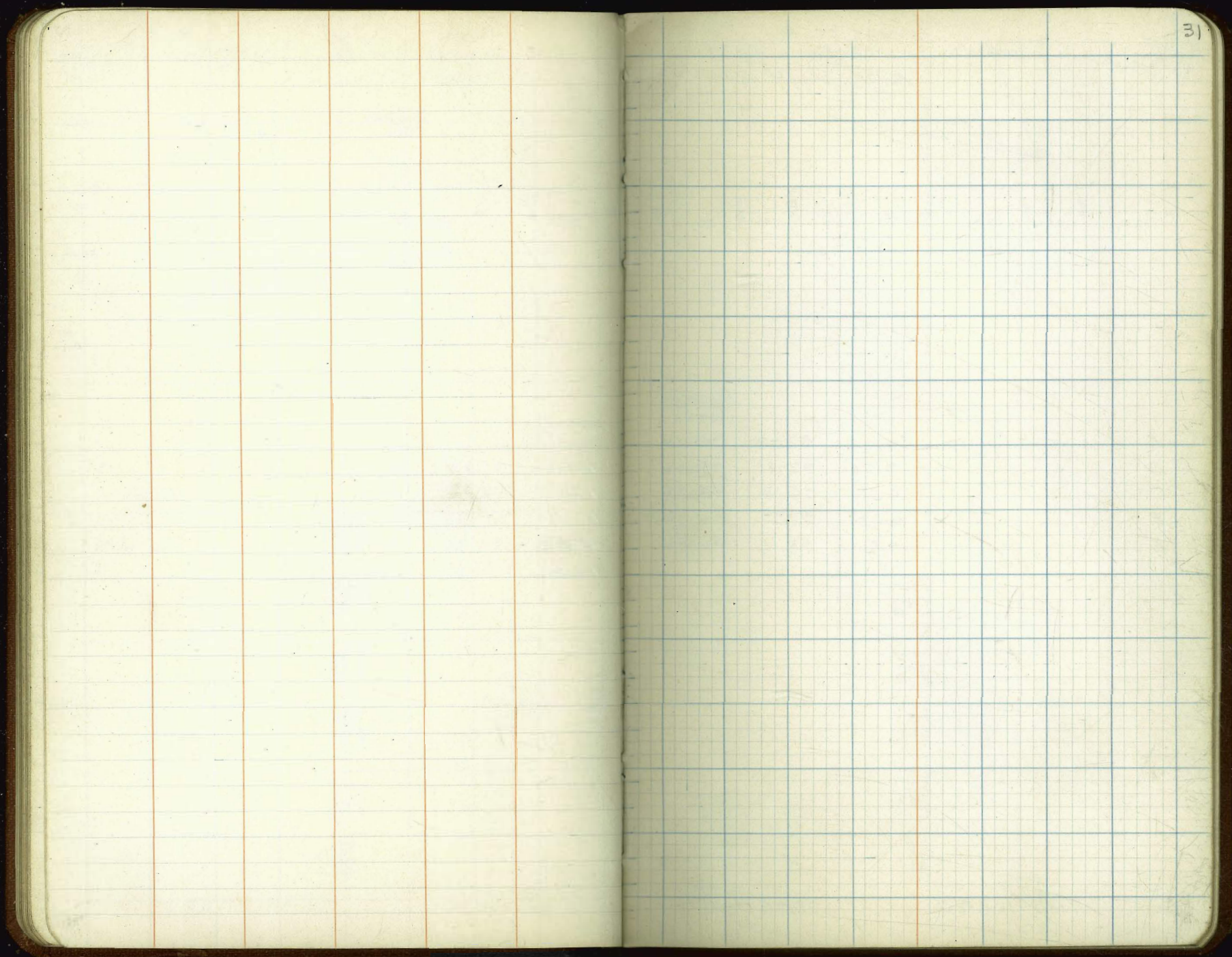
30  
 105.0  
 100.0  
 95.0  
 90.0  
 84.3  
 Exit  
 advert

			Flow Line GRADES	Calc. and Fills
E	12.74	86.23	86.00	+0.23
D = End Pipe	12.00	86.97	86.00	+0.97
C	10.72	88.25	88.03	+0.22
B = beg. Pipe	3.69	95.29	90.06	+5.23
A	2.55	96.42	90.06	+6.36

87.1  
 11.9  
 78.0  
 87.5  
 11.5  
 47.0  
 88.5  
 6.5  
 31.4  
 92.8  
 5.2  
 6.0  
 92.8  
 1.2  
 B-0100  
 98.97

5.01      98.97      93.96      BM #9  
 1770 32



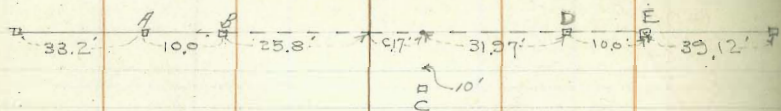




Water  
Level  
Marking  
10-14-29

Sta. 157+45

24" - 48" R.C. Pipe  
13.30% GRADE 4.01%  
Build 1 straight Hd. Wall

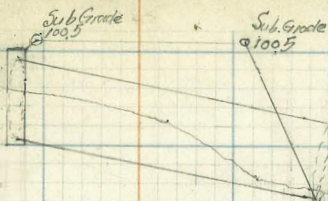


			Flow Line GRADES	Cuts. Hills
E	3.69	92.73	92.50	+0.23
D	3.60	92.82	92.50	+0.32
C	6.27	96.15	93.79	+2.36
B	4.69	97.73	95.08	+2.65
A	4.31	98.11	95.08	+3.03

846 102.42

93.96

RM#9 2'x2'  
50' H. 12811



102.42  
97.9  
96.1  
94.1  
93.2  
92.8  
92.5  
92.0  
91.0  
90.5  
90.0

32

100.0

95.0

90.0



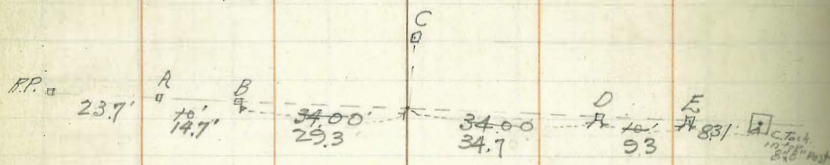




Walker  
Keeley  
Magoon  
Kerry 10-11-29

Sta. 140+70

64' - 48" R.C. Pipe  
#3 1032. Grade 2.35%  
Build 1 - Straight W. Wall.



			Flow Line GRADES
E	5.68	102.73	102.38 102.40
D	5.56	102.85	102.38 102.40
C	5.26	103.15	103.22
B	4.33	104.08	103.89 104.00
A	4.09	104.32	103.89 104.00

Cuts & Fills
+0.55
+0.45 +0.47
-0.07
+0.08 +0.19
+0.32 +0.43

T.P.	1.81	108.41	1.44	106.60
T.P.	1.44	108.04	4.99	106.60
	1.73	111.59		109.80

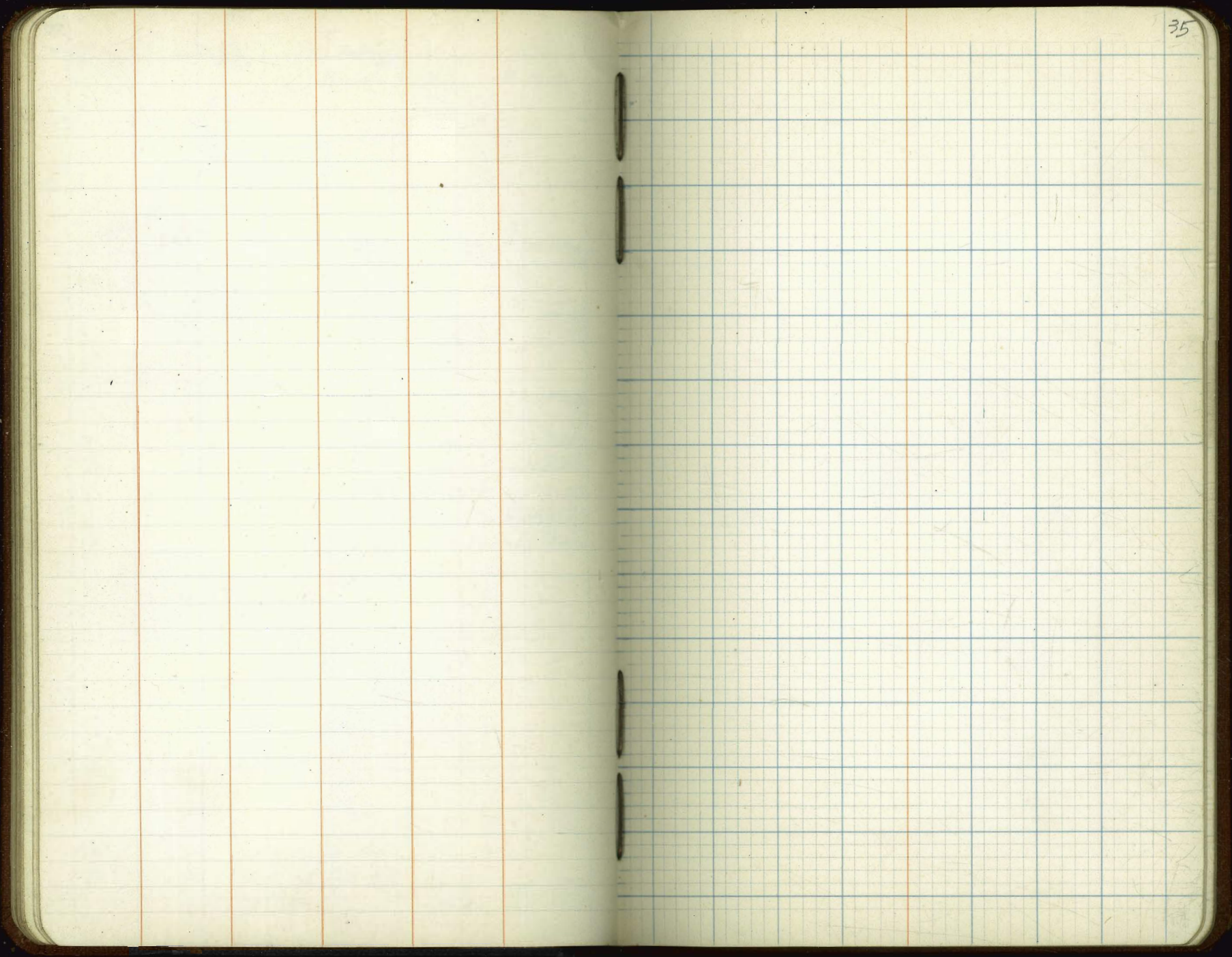
BM 10 3 1/2' H  
55' 1/2' 111+00



34  
110.0  
105.0  
100.0

104.2  
103.3  
102.8  
102.5  
102.0  
101.5  
101.0  
100.5  
100.0  
99.5  
99.0  
98.5  
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69.5  
69.0  
68.5  
68.0













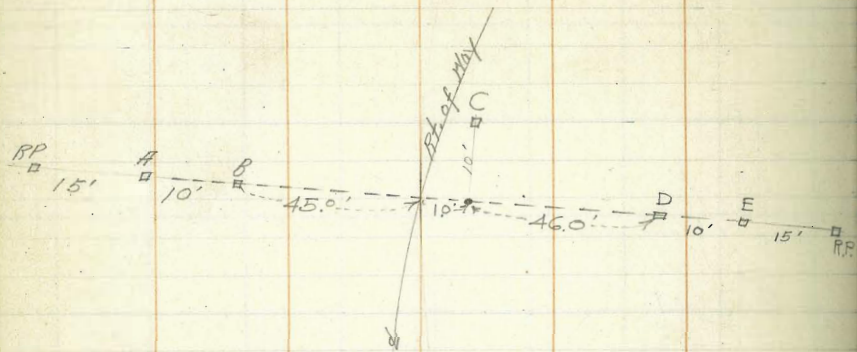


Sta. 154+46

32'-36" R.C. Pipe

13.85% GRADE 1.80%

Build 1 straight Hd. Wall



			Flow Line GRADES	Cut & fills offsets
E	10.54	101.49	100.25	+1.24
D	10.84	101.19	100.25	+0.94
C	7.12	104.91	101.08	+3.83
B	9.94	102.09	101.90	+0.19
A	10.15	101.88	101.90	-0.02

1.93    112.03    7.98    110.10    BM #11  
 1.15    118.88    116.93    Page to this Book

101.2  
10.8  
52.0

100.5  
14.5  
75.0

102.6  
24  
45.0

102.1  
29  
50.0

112.03

95.0  
100.0  
105.0  
108



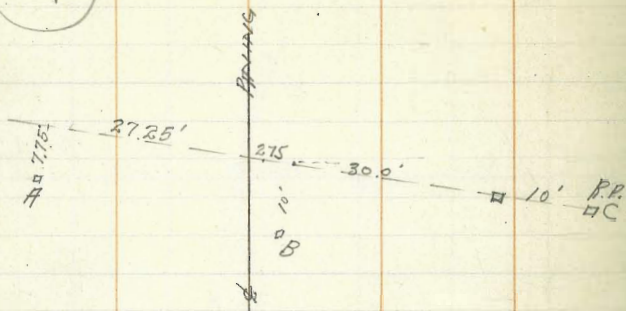


Walker  
 W. Bliss  
 District  
 No. 100  
 2-18-30

EXTRA



Sta. 161+54  
 60" 18" R.C. Pipe  
 103°30' 1.50%



			Flow Line GRADES.	Cuts
C	8.47	117.34	115.85	+1.49
B	6.28	119.53	116.30	+3.23
A	8.05	117.76	116.75	+1.01

5.75 125.81

120.06

Temp 84° F. 40  
 sp. in. 100



116.7  
 5.1  
 3.0  
 117.3  
 7.8  
 4.0  
 119.4  
 6.4  
 10.0  
 119.8  
 6.0  
 5.0  
 117.3  
 8.5  
 6.0

125.81



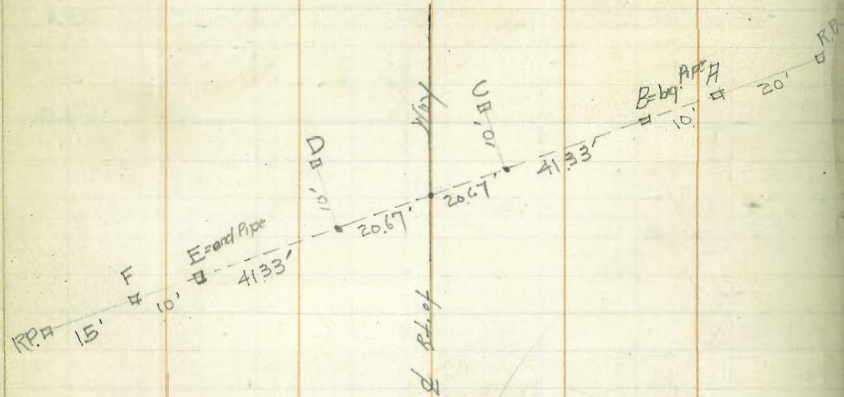
Walker  
Leeks  
No. 1000  
Kenny 10-11-29

Sta. 161+73

12A'-36" R.C. Pipe

13-43% GRADE 0.80%

Build 1 straight Hd Wall



Abandoned

			Flow Line Grades	Flow Cuts and fills	offsets
F	13.13	107.82	108.10	-0.28	
E	12.35	108.60	108.10	+0.50	
D	11.82	109.13	108.77	+0.36	10' North
C	11.57	109.38	108.44	+0.94	10' "
B	11.62	109.33	109.10	+0.23	
A	10.60	110.35	109.10	+1.25	

T.P.	0.89	120.95	2.33	120.06
	5.46	122.39		116.93

Temp BM  
5' to 7' tie  
50' L + 16.24 = 0  
B.M. #11 = R.P.

Sp to 10 8"x8"x6" Aut

© 1190  
Elev. Sub grade

© 120.3  
Elev. Grade

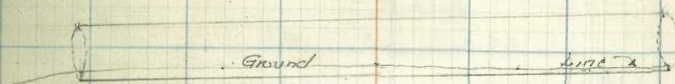
40

120.0

115.0

110.0

105.0



108.6  
108.3  
108.8  
108.1  
109.1  
109.1  
109.3  
109.6  
109.0  
108.0  
107.0  
106.0

120.25



Walker  
 1st class  
 Detroit  
 Mich  
 2-18-30

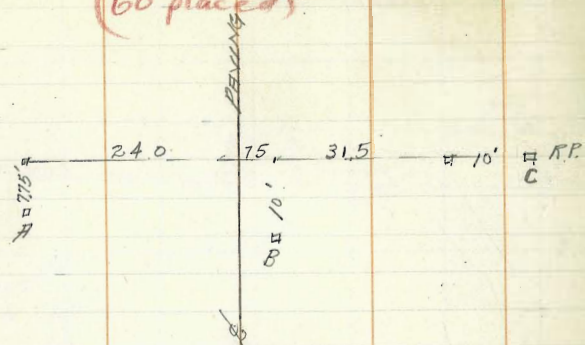
EXTRA

Sta. 162+83

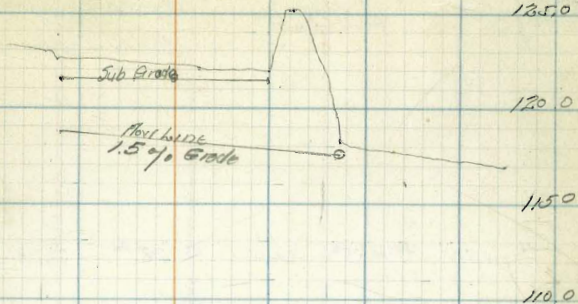
~~18"~~ 18" R.C. Pipe

H<sub>3</sub> 202 15% GRADE

(60 places)



			Flow line GRADES	Cuts
C	6.44	119.37	117.76	+1.61
B	3.72	122.09	118.23	+3.86
A	3.17	122.64	118.70	+3.94



118.3  
 117.7  
 65.0

125.2  
 0.6  
 30.0

122.0  
 3.8  
 45.0

122.1  
 3.7  
 30.0

122.5  
 3.3  
 40.0

125.81

125.81 from P-33



Walker  
Lecky  
Warren } 9-26-39

Sta. 170+75  
54'-18" R.C. Pipe  
"Extra"  
13.902 GRADE 3.7.0%  
Build 1-Straight Hd. Wall

15.0' 10.0' 24.0' 2.98' 26.98' 10.0' 15.0'

13.902

	+	x	-	Flow Line GRADES	Grd. Fill offsets
B			8.54	134.81	131.70 + 3.11
C			5.85	137.50	132.70 + 4.80 10' 10"
H			2.53	140.82	133.70 + 7.12

135.5  
135

137.4  
6.0  
32.0

139.1  
2.3

139.8  
3.6  
13.0

143.55

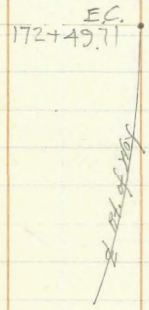
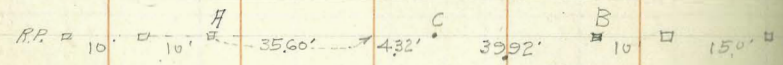
12.35 143.35

131.00 EN. #10 on Fence  
135' R. 170+76



Walker  
Lester  
No. 100  
2-26-29

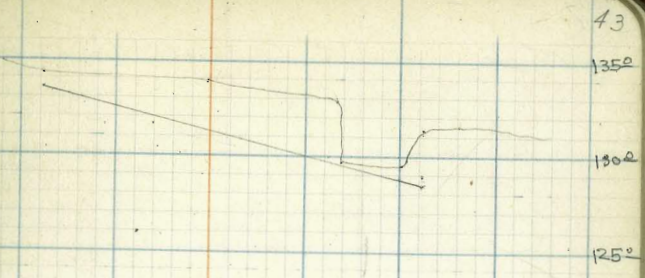
Sta. 173+00  
80'-24" R.C. Pipe  
H<sub>3</sub> 50% GRADE 6.25%  
Build 1-straight H<sub>3</sub> Wall



			Flow line GRADE	
B.	6.81	132.43	128.50	
C	5.45	133.79	131.00	
A	3.20	136.04	133.50	

Sta	Flow line GRADE	Flow line GRADE	Cuts & Fills offset	
134.3	134.3	134.3	+3.23	131.3
4.5	134.5	134.5	+2.79	129.5
7.0	134.7	134.7	+2.54	129.7
12.8	132.8	129.8		76.0
132.9	132.9	132.9		66.0
133.0	133.0	133.0		65.0
134.3	134.3	134.3		65.0
139.24	139.24	139.24		65.0

T.P	2.11	139.24	11.35	137.12	Temp. B.M. Book 113-51
	0.31	140.08		148.77	



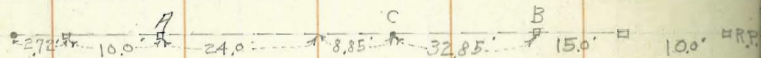




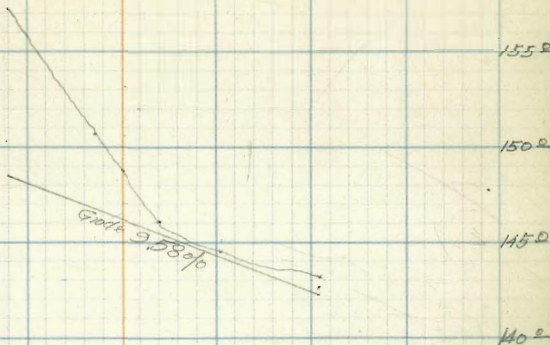


Walker  
Lester  
Matheson  
9-25-29

Sta. 179+50  
66' - 18" R.C. Pipe  
Ry. 302 GRADE 0.58%  
Build 1-L-Hd. 1/16"



to top of way



	+	π	-	Elev. stakes	Flow Line GRADES
B			10.58	142.78	142.20
C	153.36	7.26	146.10	145.35	
A	161.33	0.26	161.07	148.50	

Cuts and Fills offsets

143.1  
10.3  
66.0

144.5  
8.9  
45.0

146.0  
7.4  
32.0

148.7  
4.7  
24.0

150.6  
2.8  
18.0

153.36

157.1  
4.2  
16.0

161.33

Set Temp. BM for  
C. level on Pipe 47  
on face line

25' Ht  
182.150

	11.92	161.33	3.25	149.41
T.P.	3.95	153.36	11.92	149.41
T.P.	11.92	161.33	0.09	149.41
	10.07	149.50		139.43

BM #13 - 25206 on face line  
80' Ht. 176.60

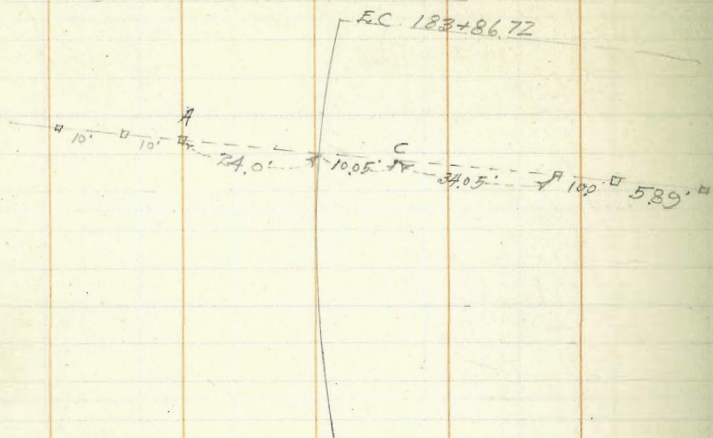




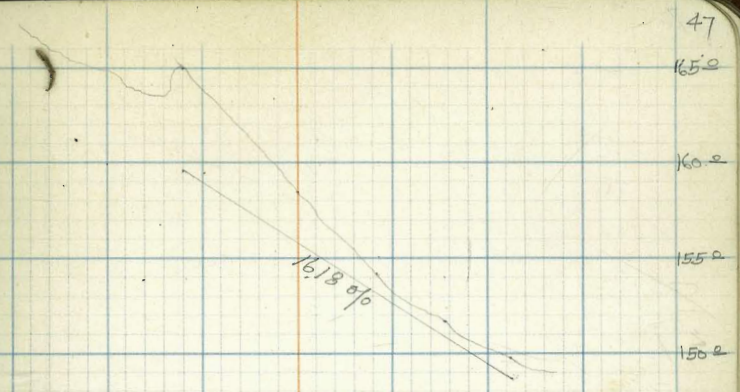


Walker  
Leahy  
McHoon  
9-25-29

Sta. 183+60  
69'-18" R.C. Pipe  
Rz. 302 GRADE 16.18%  
Build 1-L. Hd. Wall



			Flat Line GRADES	Grts. and fills offsets	
B	13.99	149.51	148.60	+0.91	151.6 149.7
C	163.50	8.03	155.47	+1.37	159.8 158.5
A	169.59	4.34	165.25	+5.65	170.9 165.3
					158.4 155.1 24.0
					163.5 162.2
					165.0 163.7 1.3
					169.6 168.3
TP	5.52	163.50	11.61	157.98	
	8.52	169.59		161.07	Temp B.M. P-45



47  
165.2  
160.2  
155.2  
150.2

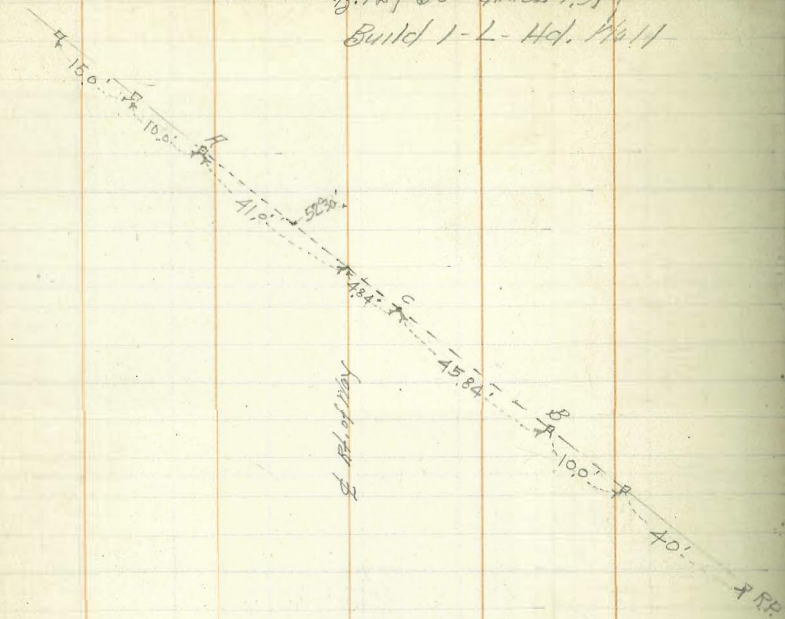






Water  
Leaky  
(No. 100)

Sta. 187+66  
52'-24" RC Pipe  
B. 187+30' GRADE 7.914  
Build 1-L-Hd. Wall



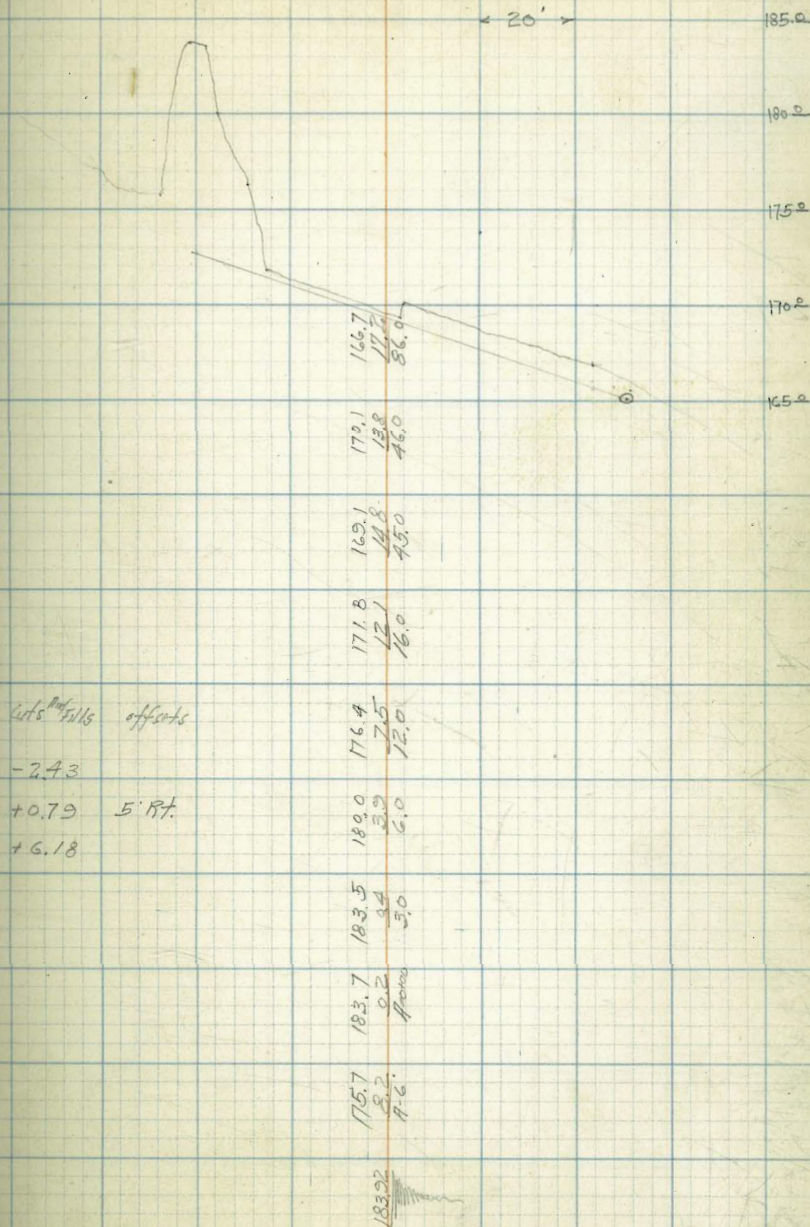
	Elev. Station	Flow Line GRADES	diff. <sup>in</sup> feet	offsets	
B = End of Pipe	13.13	162.67	165.10	-2.43	
C	175.80	6.11	169.69	168.90	+0.79
A = beg. pipe	184.18	5.30	178.88	172.70	+6.18

0.05 = Error

170.0 - Elev. stub.  
Book 143-57

Rgh. Ch. on slope	Station	Dist.	Elev.	Notes
T.P.	1.17	175.80	9.55	174.63
T.P.	3.44	184.18	3.18	180.74
T.P.	3.18	183.92	7.95	180.74
T.P.	0.34	188.69	12.01	188.55
	9.18	200.36		191.18

0.1" 2" 4" 17" Pipe Post  
40' 12" 12" 75"  
Book 143-58



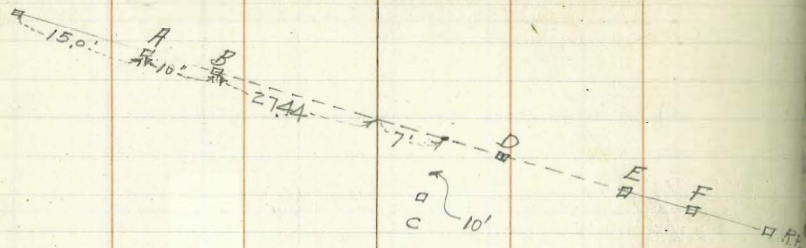




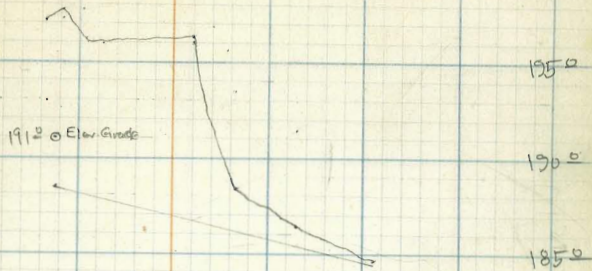


Yak Mr.  
Lecky  
McHoon  
Karnay 10-10-27

Sta. 191+66  
63'-18" R.C. Pipe  
B. 1192 Grade 5.52%  
Build. 1-L. Hd. Wall



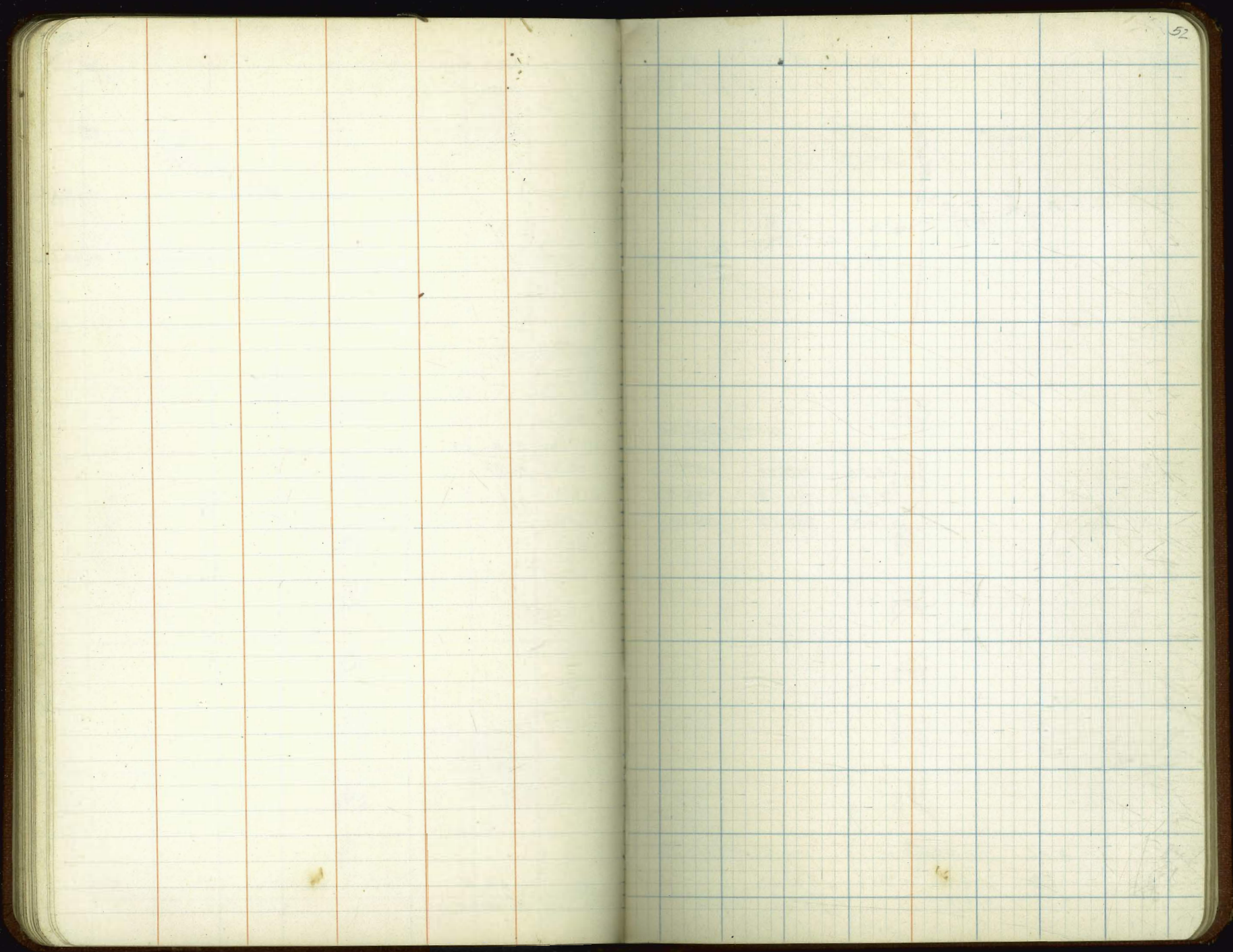
	$\pi$	-	Elav. Stake	Flow Line Grades	Cuts and fills offsets
F	194.92	10.91	184.01	184.50	-0.49
E	194.92	10.11	184.81	184.50	+0.31
D	194.92	5.73	189.19	186.13	+3.06 on d.
C	202.91	6.83	196.08	186.40	+9.68 10' off.
B	202.91	5.82	197.09	188.30	+8.79
A	202.91	3.25	199.66	188.30	+11.36



184.7  
182  
69.0  
186.4  
16.5  
55.0  
188.6  
14.3  
40.0  
196.4  
6.5  
31.0  
191.0  
6.9  
7.0  
197.7  
5.2  
4.0  
192.1  
5.8  
30.00  
202.91

T.P. 206 194.92 10.05 192.86 Temp. B.M.  
11.73 202.91 191.18 40' off Sta. 191+70. B. 1192 106'-18" x 7' R.C. Pipe







Walker  
Lockyer  
Matheson  
Barraquet 10-10-20

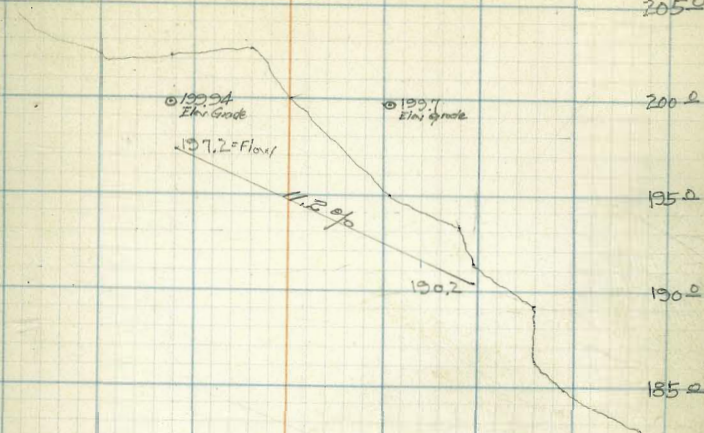
Sta. 196+00  
63'-18" RC Pipe  
By 100' GRADE 11.2%  
Build 1'-Striped Hd. Wall



			Flowline GRADES	
B	14.30	189.28	190.20	-0.92
C	2.95	200.63	193.70	+6.93 10' H.
A	1.45	202.13	197.20	+4.93

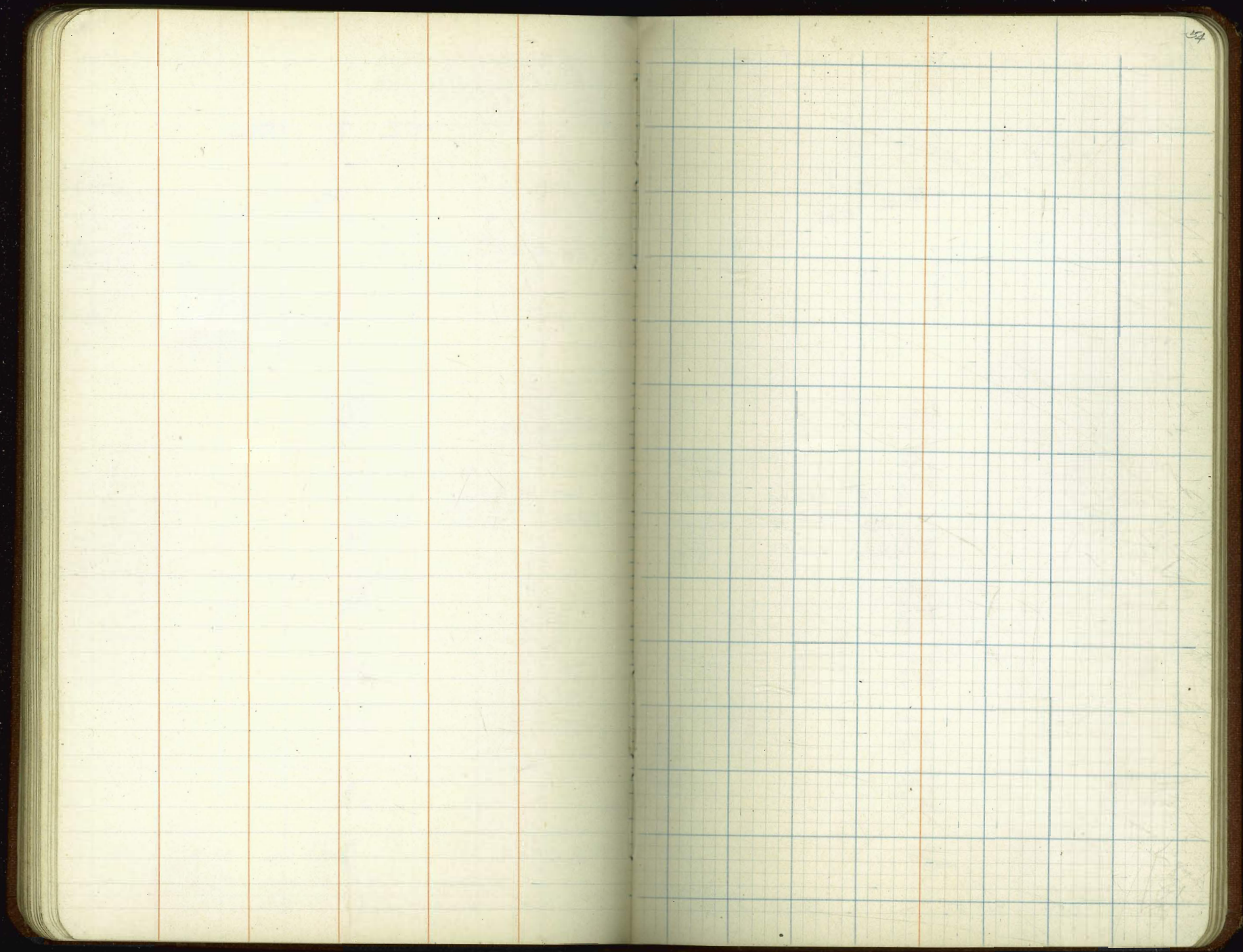
T.P.	8.86	203.58	10.23	194.72	Temp. B.M. 3.44 at 197+00 50' H. 197+00
T.P.	1.59	204.95	9.16	203.36	

212.52 = H.I. from P. 55 this book.



Cuts and fills offsets			
	189.1	189.1	76.0
	191.3	191.3	63.0
	193.2	193.2	60.0
	195.0	195.0	46.0
	200.0	200.0	24.4
	202.5	202.5	17.0
	202.2	202.2	16.0
	203.58	203.58	15.0

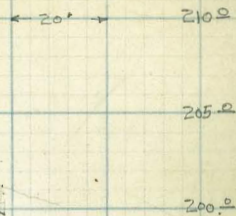
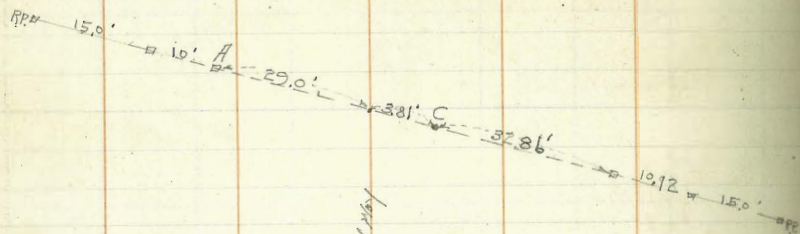






Walter  
Lester  
Matheson  
9-24-29

Sta. 200+60  
66"-18" R.C. Pipe  
Pg. 105 GRADE 9.15%  
Build 1 L Hd. Wall



55

B+10.4  
C  
A-10

11.68	200.84	199.80
6.59	205.93	202.80
1.98	210.59	205.80

Flow Line  
GRADE

Cuts and Fills offsets

+1.04	
+3.13	10' ft.
+4.79	

201.2  
11.3  
57.0

202.6  
9.2  
50.0

204.5  
8.0  
37.0

208.0  
4.5  
31.0

208.8  
3.7  
29.0

207.8  
4.7  
22.0

206.6  
5.9  
17.0

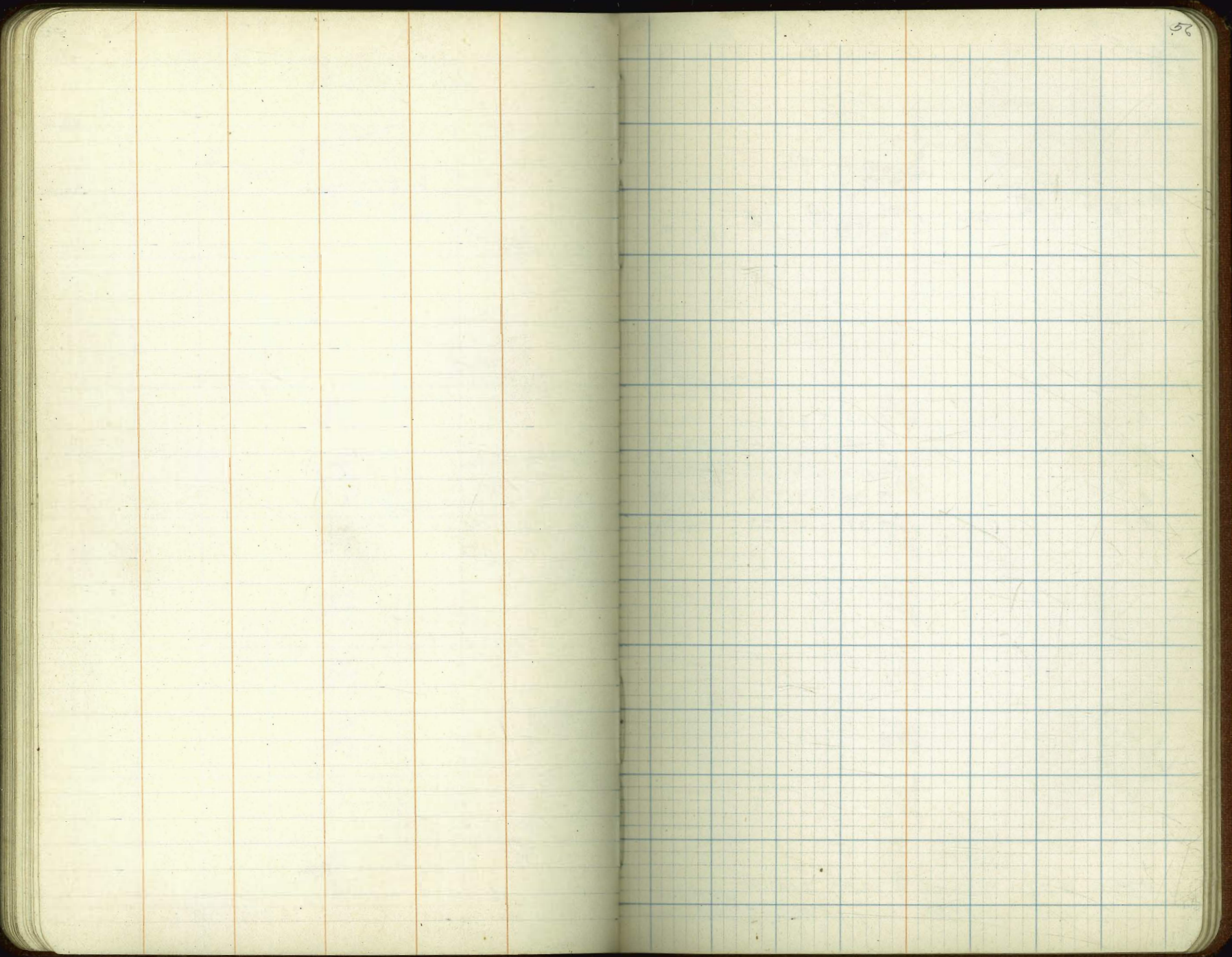
212.52

6.28 212.52

206.24

Temp. BM. in Fence  
Box. K2-61

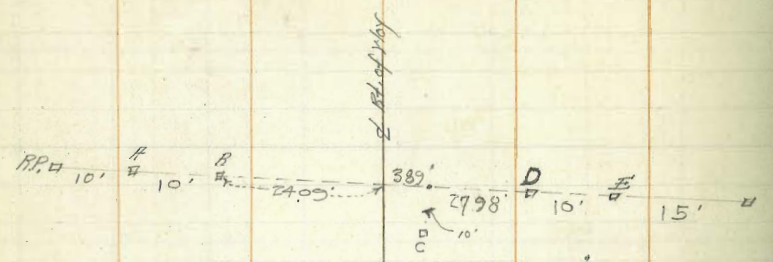






Milky  
Lakes  
Mudstone  
Barney  
10-10-29

Sta. 204+42  
56' - 30" R.C. Pipe  
H<sub>2</sub>O 95% GRADE 3.0%



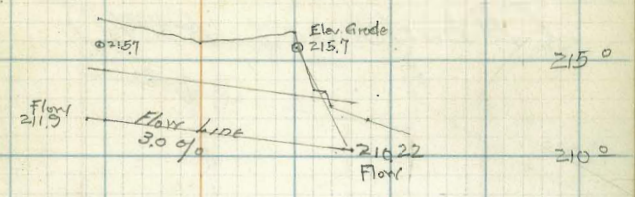
			Flow Line GRADES	
E	9.04	211.02	210.22	+0.80
D	8.04	212.02	210.22	+1.80
C	4.00	216.06	211.06	+5.00
B	2.93	217.13	211.90	+5.23
A	2.31	217.75	211.90	+5.85

Gts. <sup>and</sup> fills offsets

213.0	21.0	69.0
212.6	21.5	52.0
212.3	21.8	51.0
212.5	21.6	49.0
211.5	21.6	44.0
216.0	21.7	14.0
217.2	21.5	40.00
220.06		

T.P.	3.72	220.06	10.90	216.34	BM #15-200 Hds
	1.07	227.24		226.17	7421 St 203+00

220.0



215.0

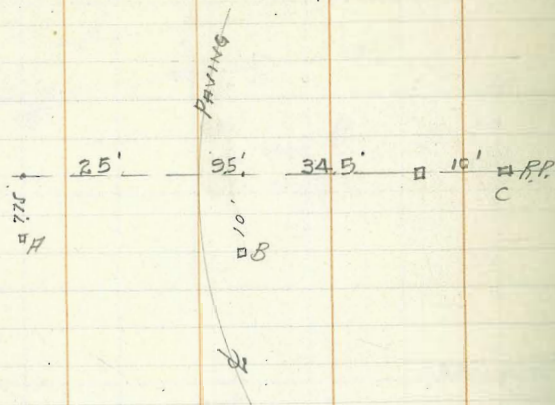
210.0



1/41 Rev  
 1/20 8155  
 Matheson  
 Debert  
 2-16-30

Sta. 215+77.2  
 63' - 18" RC Pipe  
 13.202 GRADE = 4.0%

(Abandoned P.E.R.)



		Flow Line	Cuts	
C	8.63	221.61	221.39	+0.22
B	4.65	225.59	222.77	+2.82
H	2.30	227.34	224.15	+3.19

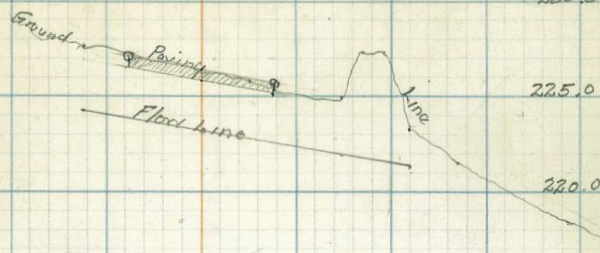
0.08 - Error

227.79 - Temp 81%

chk. on Temp 81% P-65 2.37 227.87

230.24 - T from P-60

58



218.3  
 11.9  
 105.0

221.6  
 8.6  
 80.0

222.2  
 7.0  
 70.0

227.1  
 3.1  
 45.0

227.1  
 3.1  
 60

225.0  
 5.2  
 55.0

225.8  
 4.6  
 35.0

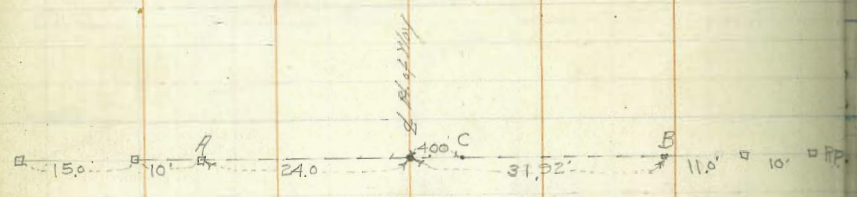
227.7  
 2.5  
 20.0

230.24



1/20/29  
 1/20/29  
 1/20/29

Sta. 209+55  
 56' - 24" RC Pipe  
 H<sub>3</sub> 302 GRADE 5.00 %  
 Build I.L. Prof. 1. Straight Hd. Wall



	x		Elev. Hd. Wall	Flow Line GRADES	Grav. H <sub>3</sub> offsets.
B. +11'		18.57	216.74	217.10	-0.36
C		10.09	225.22	218.47	+6.75 10' H <sub>3</sub>
A. -10'		3.08	232.23	219.90	+12.33

T.P.	6.27	235.31	1.55	229.04	
T.P.	5.38	230.59	2.76	225.21	
T.P.	9.44	227.97	8.18	218.53	
	+0.54	226.71		226.17	RM#15 2x2 1/2 444.96 208140

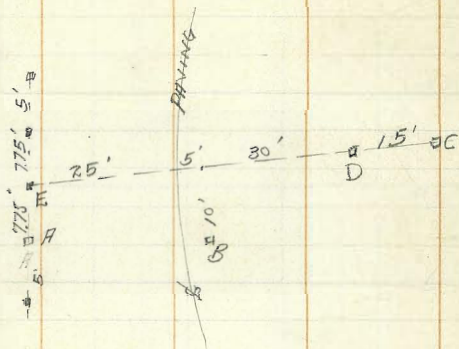
17.0  
 57.0  
 45.2  
 48.0  
 10.0  
 39.0  
 10.0  
 15.0  
 6.8  
 from  
 235.31



Walker  
 Wm Bliss  
 McHooy  
 Drebert.  
 2-16-30

EXTRA

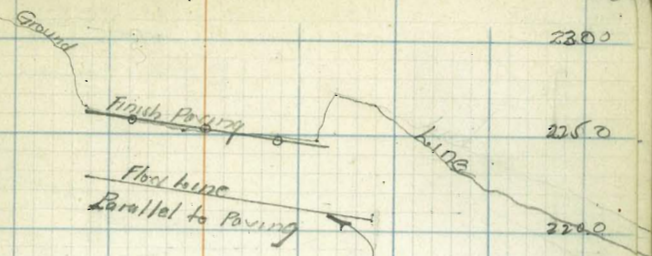
Sta. 213 + 32.87  
 60'-18" R.C. Pipe  
 H<sub>g</sub> 81°25' GRADE = 4.0%



			Flow line GRADES.	Cuts
C	7.07	223.17	220.47	+ 2.70
B	5.39	224.85	221.67	+ 3.18
A	4.32	225.32	222.87	+ 3.05
C	7.36	223.17	220.97 220.47	+ 2.70 + 2.20
D	4.41	226.12	220.97 222.17	+ 5.65 + 5.15
B	5.68	224.85	221.67 223.97	+ 3.18 + 2.68
E	3.90	226.63	222.97 223.37	+ 3.21
A	4.45	226.08	222.87	+ 2.71
	5.68	230.53	224.85	Elev. stake B Above
T.P.	1.52	230.24	11.92	228.72
T.P.	2.40	240.64	12.74	238.24
	1.13	250.98		249.85

B.M. #16

60



Note Flow line raised 0.5'  
 See new notes lower left Page

Cuts

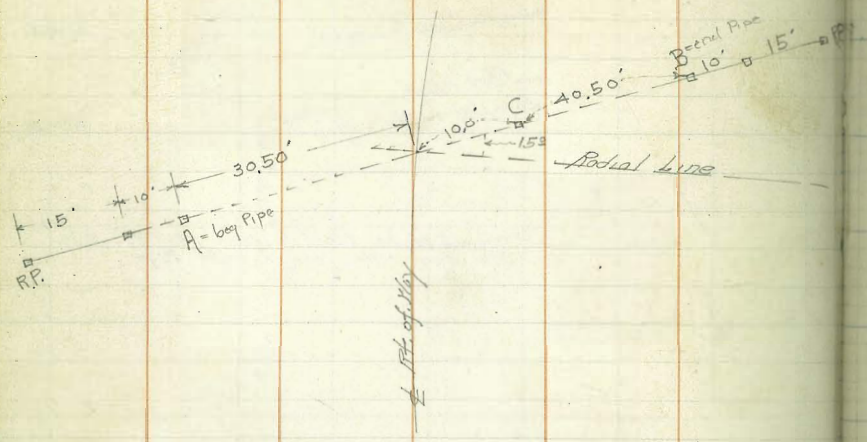
Non Cuts

226.7  
226.5  
227.2  
5.0  
220.0  
226.0  
224.8  
5.9  
48.0  
225.1  
5.1  
20.0  
226.5  
3.7  
230.24



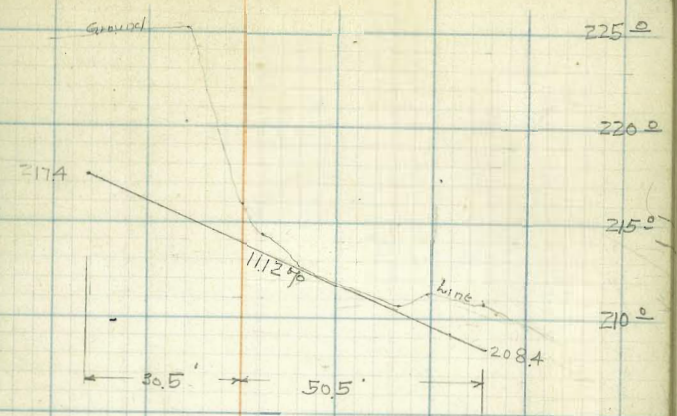
Y. Walker  
Lee Co.  
No. 1052  
9-24-29

STA. 217+50  
81' - 18" RC Pipe  
B. 1052 GRADE 11.12 %  
Build 1 straight Hd. well



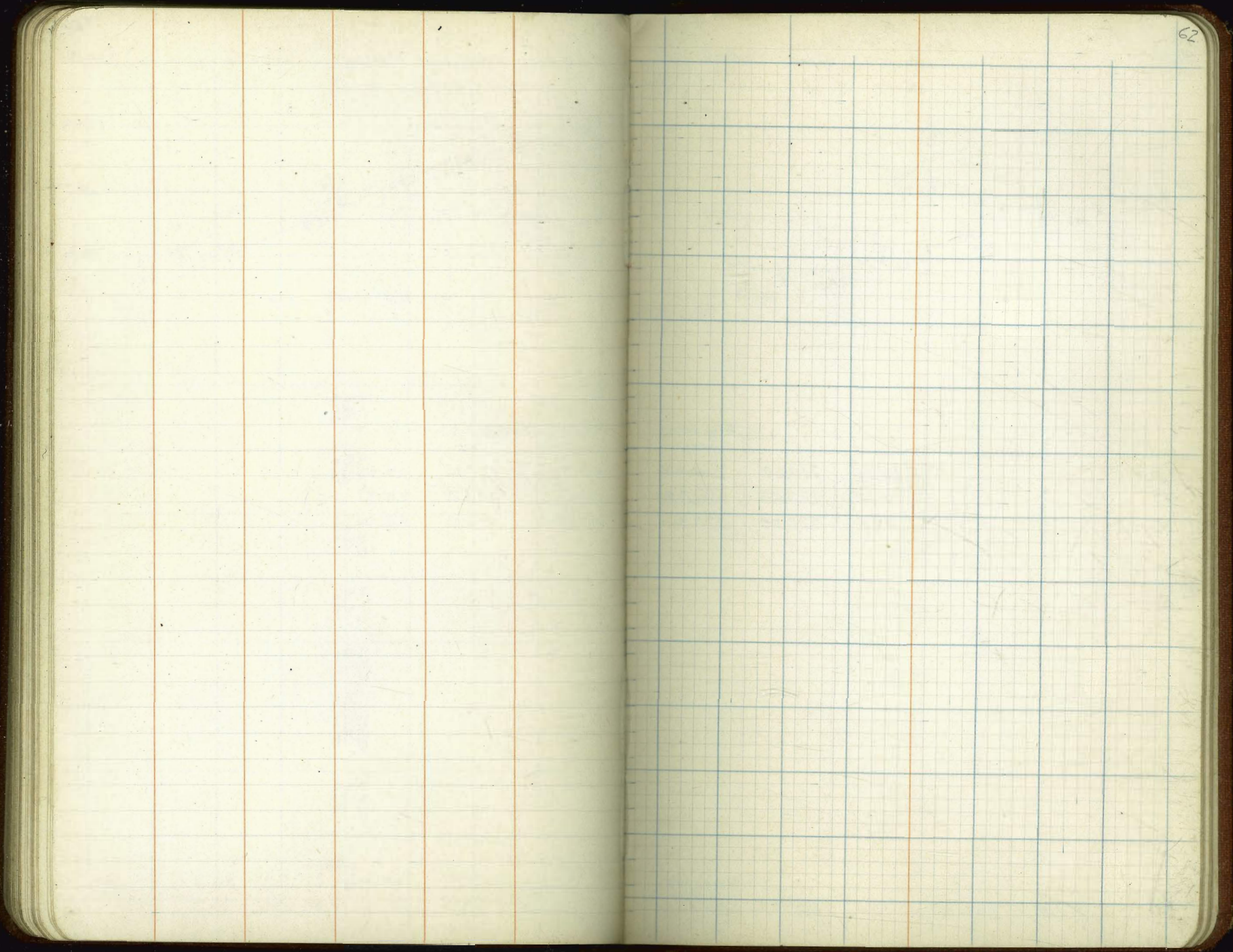
	Elev. Subs.	Flour Line GRADES.	Cuts and Fills	offsets
B +10'	16.80	210.38	208.40	+1.98
C	13.83	213.35	212.90	+0.45
A -10'	1.09	226.09	217.40	+8.69

TP	2.18	227.18	4.94	225.00	Temp. B.M. on Page 63 this book
	2.15	229.94		227.79	



224.9	225.1	210.6	210.8
5.3	8.1	16.6	16.4
floor	19.0	64.0	82.0
227.18			

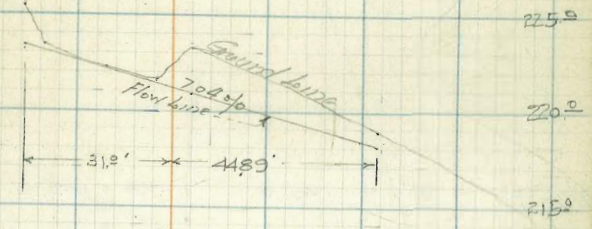
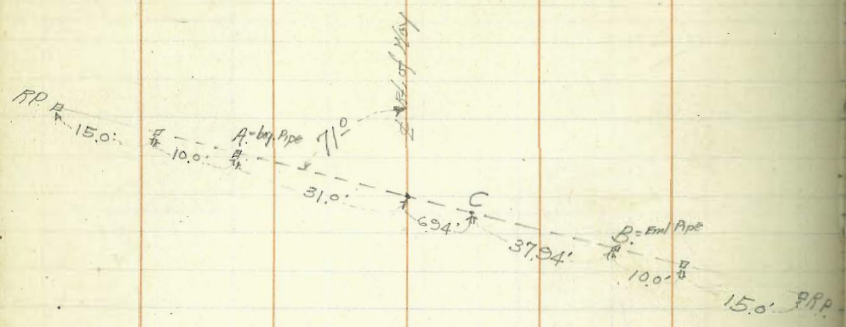






1/16/10  
Lesley  
Matheson  
9-2-29

STH. 220 + 39  
76-24" K.C. Pipe  
B. 109 = GRADE 7.04 of.  
Build 1 Straight Hd. Well



			Flow line Grades	Calcd Fills offsets	
B. 110'	12.75	217.62	218.10	-0.48	218.9 21.5
C	7.72	222.65	220.70	+1.95	10' Lt. 223.2 21.2 25.0
A. 10'	3.11	227.26	223.30	+3.96	221.6 28.8 28.0
					227.2 22.2 11.0
					223.5 6.9 4.0
					225.5 4.3 Above
					230.37

2.58      230.37

227.79

Temp. 81°  
10' Spot 123-47  
20' 24, 221.53



Y.M. Co.  
Lecky  
11/11/1909  
10-2-29

Sta. 223+50  
100-24" RC Pipe  
H<sub>g</sub>. 20% GRADE 10.25%

Build 1 Straight Hd. Wall

RB 20' □ 30' □ 40.0' □ 10.74' □ 40.74' □ 11.0' □ 15' □

C  
10.74'

B

Flow line  
GRADES

B+11'		13.05	208.34	207.10	+ 1.24
C	221.39	8.07	213.32	212.10	+ 1.22 10' 5ft.
A-2'	232.35	4.67	227.68	217.30	+ 10.38

Cuts and fills offsets

208.5  
127.5  
60.0

213.5  
71.5  
50.0

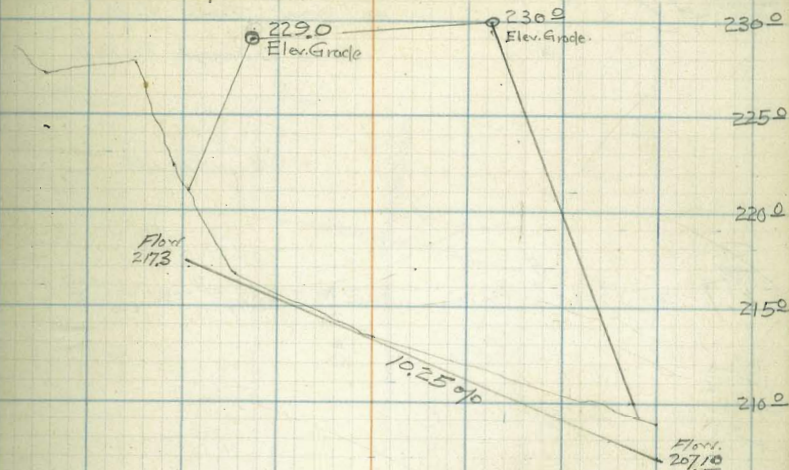
216.7  
47  
21.0

222.3  
109  
8.0

227.9  
156  
40.0

232.35

64



208 = Error

227.79 = 811'

227.76

Temp.  
chk. on B.M. Bgt 63

4.59

T.P. 11.42 232.35

0.46

220.75

Temp. B.M.

11.25 221.35

210.14

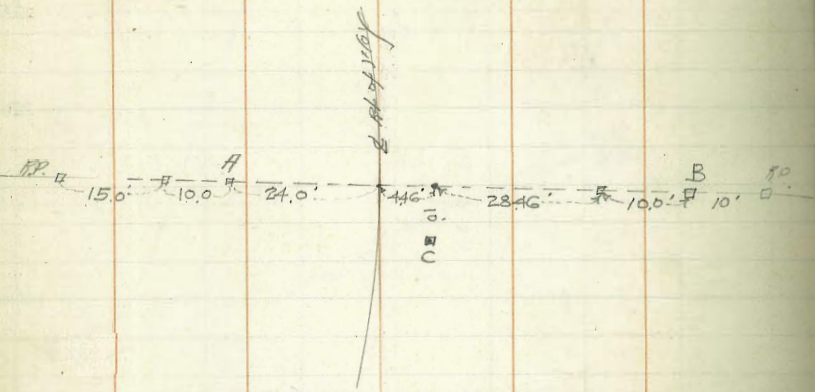
Bgt. 163-68



10-9-29

Sta. 227+85  
 57' - 18" P.C. Pipe  
 By 90° GRADE 5.0%

Build 2 Straight Hd. Wall



Elev. Grade @ 232.9



			Elev. Stake	Flow Line GRADES	Cuts/Fills offsets
B+10'		12.03	229.24	226.85	+ 2.39
C		10.93	230.34	228.27	+ 2.07 10' Pt.
A-10'		0.53	240.74	229.70	+ 11.04

229.1  
 229.6  
 231.5  
 238.0  
 222.2  
 227.0  
 30.0  
 30.0  
 30.0

RAIL

Rough chg. on L stake	228+00	6.9	234.4 = Error
			234.3 = Stub
T.P.	12.20	241.27	4.50
	5.78	233.51	229.07
			227.79

Temp. B.M.  
 Page 63

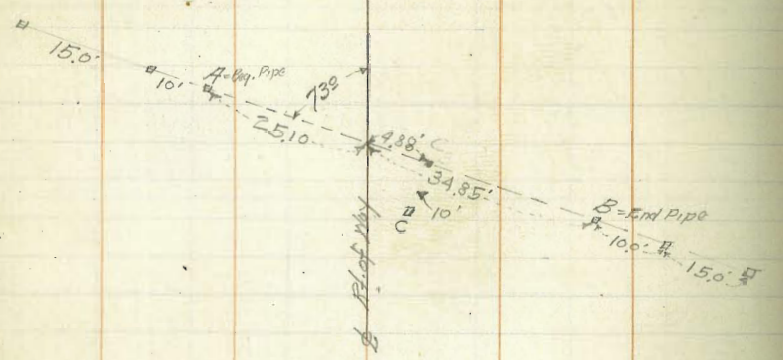






Volker  
and Party 9-A-29

STATION 235+90  
60' - 36" RC Pipe  
P. 107' GRADE = 4.0 %  
Build 1-L Hd. Wall



	x	-	Elev. Hub	Flow Line Grades	Cuts and Fill offsets
B+10'		11.42	233.84	233.30	+0.54
C		6.82	238.44	234.50	+3.94 10' ft.
A+10'	245.26	4.70	240.56	235.70	+4.86

Note: this Ht. used for invert on page 63

	7.35	249.29	3.82	241.94	
T.P.	2.22	245.26	12.30	243.04	Temp. B.M. Body 163.71
	1.61	255.71		253.73	50' L. Sta. 274+00

245.26  
 4.3  
 25.0  
 27  
 15.0  
 6.3  
 25.0  
 10.6  
 60.0

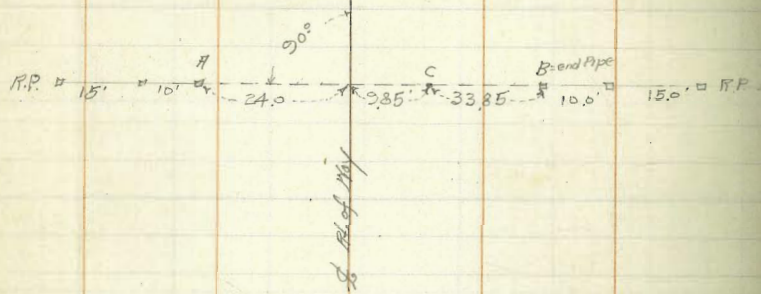






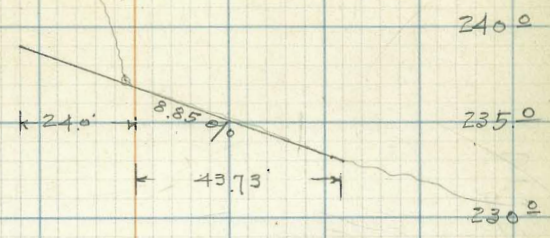
Walker  
and Barty 9-4-29

Sta. 239+00  
68" R.A. R.C. Pipe  
Rz = 20° GRADE = 8.85%  
Build 1-L-Hd. Wall



	+	-	Elev. Sub	Flow Line Grades	Cuts. <sup>100'</sup> fills	offsets
B+10'		16.86	232.43	233.00	-0.57	
C		12.88	236.41	236.00	+0.41	70' South
H-10'	249.29	2.81	246.48	239.00	+7.48	

249.29 = H.I. from Page 67



249.29	243.4	244.5	247.2	253.1
	5.9	4.8	13.1	16.2
	From	12.0	22.0	41.5





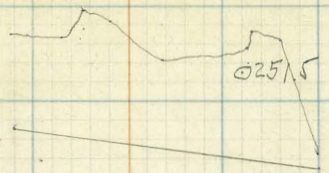


Walter  
MS High  
Lee Co  
Mo Hwy 12-29

Sta. 244+81  
64'-24" P.C. Pipe  
Bz = 107° Grade = 3.125 %  
Build 1- L. Hd. Wall



EC = 244+71.90  
EC = 244+72.87



71  
255.0  
250.0  
245.0

247.2  
253.1  
255.6  
257.7  
262.1  
264.2  
264.9  
265.9  
265.5  
265.25

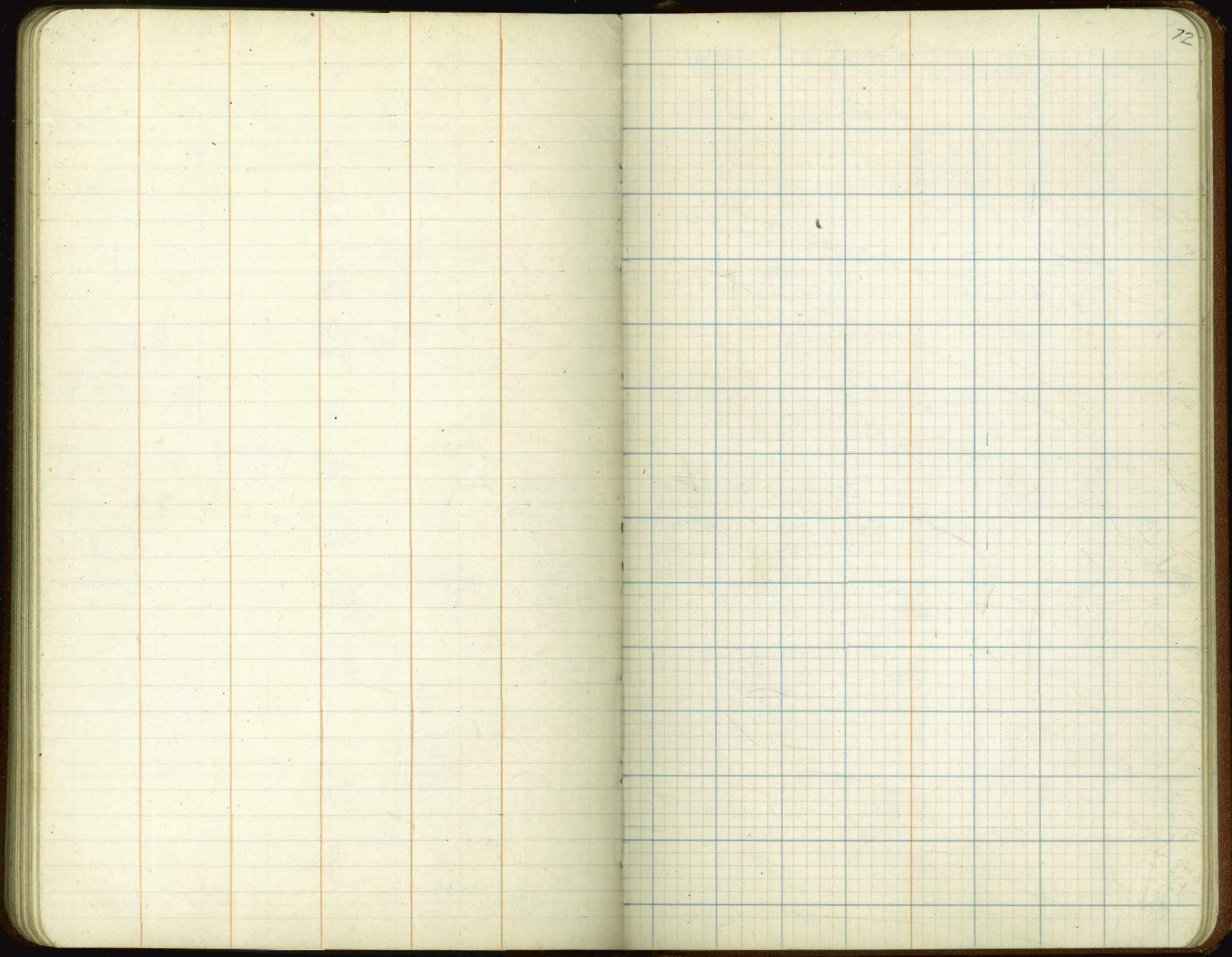
15.0  
9.1  
8.6  
5.5  
4.1  
8.0  
7.3  
8.9  
8.7

56.0  
51.0  
50.0  
32.0  
31.0  
15.0  
11.0

Sta.	x		Elev. Stake	Flow line Grades	Grd. Fills. offsets
+74 = B+10'		14.06	248.10	246.5	+ 1.60
+64 = B=end Pipe				246.5	
+32 = C		10.20	252.05	247.5	+ 4.55
A-10	262.25	6.23	256.02	248.5	+ 7.52
T.P.	1.42	262.25	5.04	260.88	Temp. B.M.
	1.85	265.87		264.02	Page 75

265.5  
265.25  
A-10



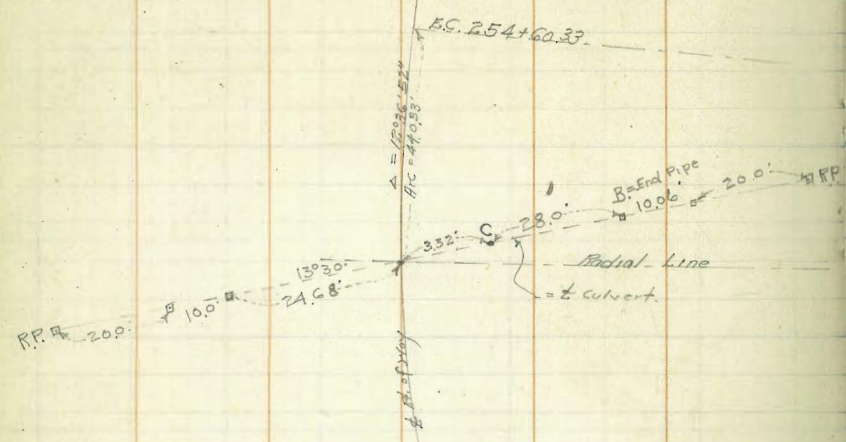




Walker  
and Party 9-12-29

STA. 250+30

56'-48" R.C. Pipe  
H<sub>3</sub> 76°38' Grade = 44C of 0  
Build 1 L Hd. Wall.



Δ = 10.26-15.24  
Arc = 40.93

	Stk.	Stake	Flow line Grades	Cuts <sup>Had</sup> fills	offsets.
B	9.63	259.73	254.50	+ 5.23	
C	3.54	259.82	255.75	+ 4.07	
A	0.96	268.40	257.00	+ 11.40	

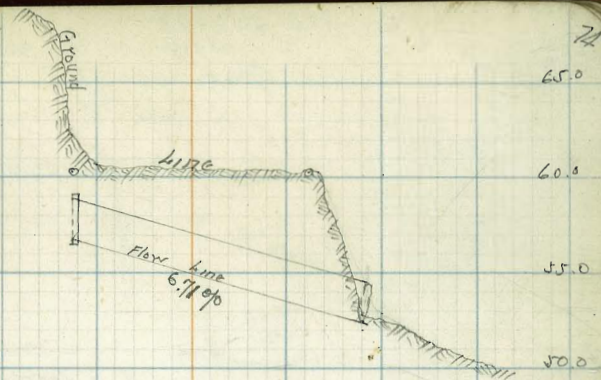
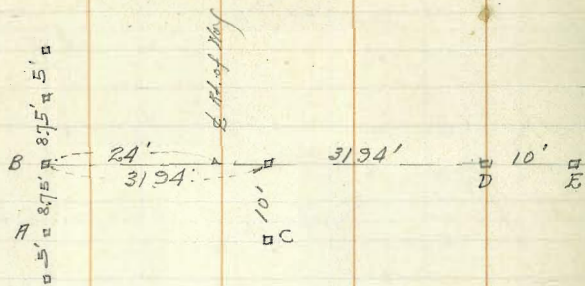
260.8  
2.6  
56.0  
260.1  
2.3  
22.0  
263.3  
6.1  
24.0  
268.1  
4.3  
7

5.34    269.36    264.02    Temp. B.M.  
Page 75



Walker  
 Glen Blas  
 L. Diebert  
 Nuttall  
 4-3-30

Sta. 41436  
 64" - 24" R.C. Pipe  
 #3 202 Grade 6.71%



	Element	Element	Flow Line	Cuts & Fills
		Station	Grades	
E	12.01	51.37	52.60	-1.23
D	9.86	53.52	52.60	+0.92
C	3.49	59.89	54.75	+5.14
B	1.12	62.26	56.90	+5.36
A	1.11	62.27	56.90	+5.37

51.3  
 12.1  
 74.0

52.9  
 10.5  
 64.0

60.7  
 3.2  
 51.0

60.4  
 3.0  
 24.0

60.7  
 2.7  
 5.0

62.3  
 1.1  
 0.00

63.58

7.73

63.38

55.65

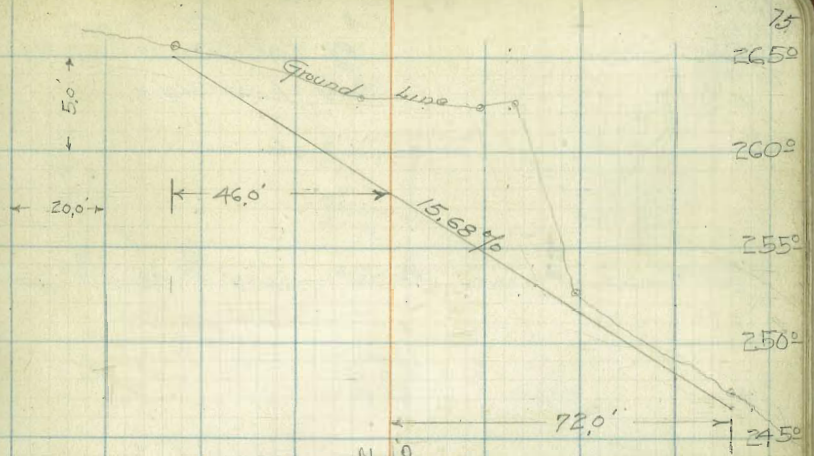
RM. #2  
 90' R/L 92+71 Under-Fence



Water  
No High  
No Low  
Level of 9-10-22

JTA. 253+75  
120'-24" R.C.P. H<sub>3</sub> 96'21"  
Grade 15.68 of.

Build 1 straight Hd. Wall



		Elev. Sub.	Flow Line Grades	Cuts and Fills	
B.I.		14.77	245.71	246.73	- 1.02 offsets
+78.33		2.65	257.83	252.57	+ 5.16 10' H.
	260.48				
+39.33		272.52	9.46	263.06	258.84 + 4.22 10' H.
H 18.		272.52	6.72	265.80	265.00 + 0.80
		6.03	264.02	264.02	
10.43		270.05		259.62	
T.P.	0.86	260.48	12.90	259.62	Nail in Td. Alt.
T.P.	0.16	272.52	12.87	272.36	
T.P.	0.33	285.23	12.73	284.90	
	2.98	297.63		294.65	BM 20-78' Lt. Sp. 250+90

2650  
2625  
2604.8  
262.4  
262.2  
262.0  
265.4  
271  
272.52

120.0  
8.50  
8.0  
10.1  
10.8  
2.6  
4.0  
7.1  
7.0



Walker.  
Leckey  
Mutton  
Koragy  
10-21-29

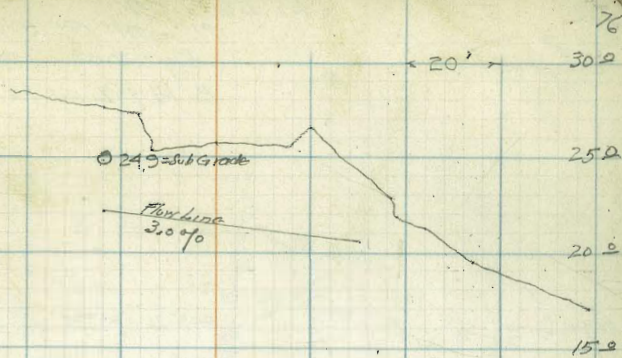
Sta. 18+00  
54'-18" R.C. PIPE  
Pg. 302 GRADE 3.0%  
Build-1-L-HdW.

A 10.0' B 25.0' C 24.0' D 25.8' E 26.98' F 25.0' G 10.0'

			Flot Line GRADES	Cuts Fills
E	13.17	18.16	20.58	-2.42
D	6.81	24.52	20.58	+3.94
C	5.48	25.85	21.39	+4.46
B	3.60	27.73	22.20	+5.53
A	2.47	28.86	22.20	+6.66

587 31.33

2546 BM#1 2"x2" HdL  
73' L+ 16+95



21.2  
20.1  
28.0

21.8  
20.5  
22.0

22.9  
21.9  
21.0

24.5  
23.8  
24.0

25.8  
25.5  
24.0

25.8  
25.5  
24.0

25.4  
25.9  
20.0

27.4  
27.5  
7.0

27.7  
27.6  
7.0

31.3

17.0  
14.3  
27.0

19.5  
11.8  
72.0

31.3

76

30.0

25.0

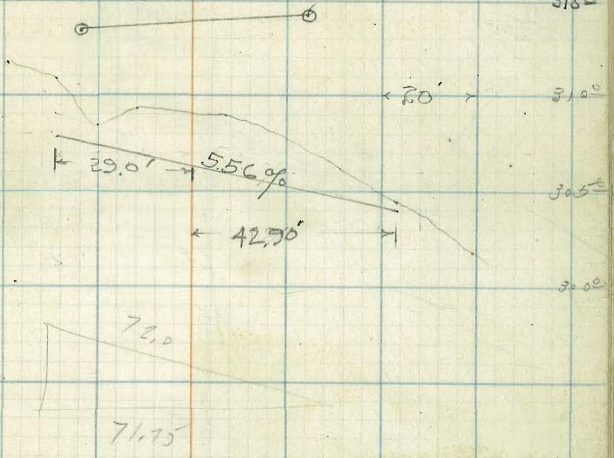
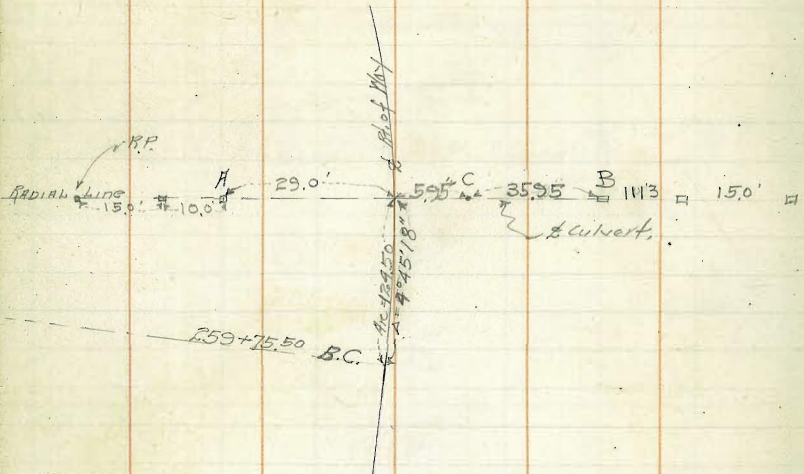
20.0

15.0



Yolker  
 2/22/29

Sta. 261+00  
 72'-24" R.C.P. pipe  
 $\theta = 30^\circ$  GRADE 5.56%  
 Build 1-L Hd. Mail



	$\pi$		Elev. Stub.	Flow Line Grades	Let's $\pi$ fills
B	320.94	19.03	301.91	304.00	- 2.09
C		16.91	308.03	306.00	+ 1.03
A		5.88	315.06	308.00	+ 7.06

374.3  
 304.3  
 309.0  
 305.3  
 308.4  
 310.8  
 320.94

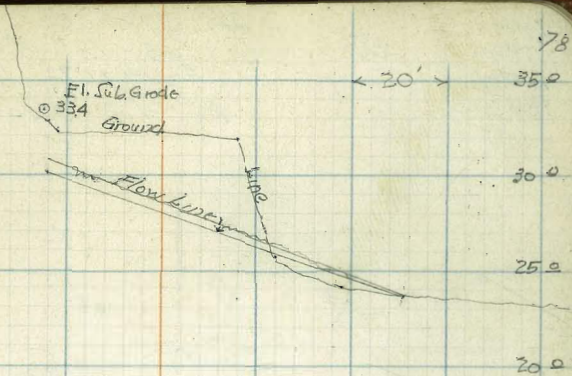
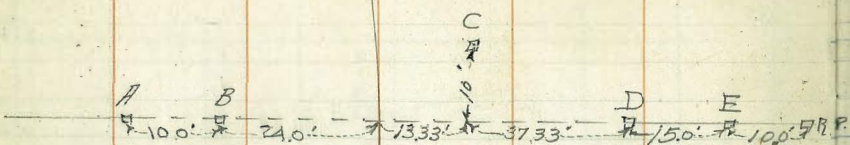
0.06 320.94

320.88 Temp 81.7, 73.4, 26.4 in 11 R.C. tree  
 Grad Post 164-1



Wb. Ker.  
Leakey  
M. Hoon  
Hureq  
10-21-29

Sta. 23+50  
75'-18" R.C. Pipe 858  
B. 502 GRADE 25%  
Build 1-L HWY



	Flowline GRADES			Cuts & Fills	
E	36.65	13.97	23.18	23.61	-0.43
D	36.65	13.32	23.33	23.61 26.81	-0.28
C	36.65	4.69	31.96	27.15 02	+4.81 +5.15
B	36.65	3.74	32.91	30.70 02	+2.21 +5.41
A	41.82	2.33	39.43	30.70	+8.73

22.9  
23.7  
25.0  
25.9  
415' Hk

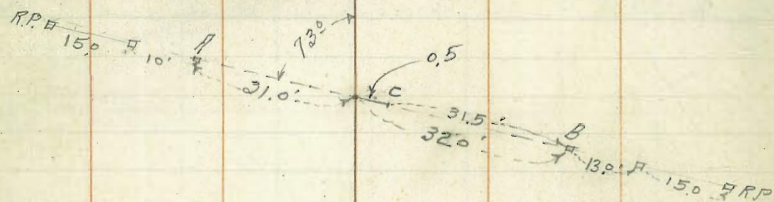
24.0  
22.6  
22.0  
25.6  
11.0  
18.0  
31.7  
4.3  
40.0  
32.1  
4.5  
24.0  
32.1  
4.5  
2.0  
24.0  
32.9  
27.7  
B-oroo

T.P. 8.01 41.82 3.74 32.91  
4.35 36.65 32.30  
Temp. & M. in Pipe See Book 163-7  
22' H 22' J D



Walker  
McHugh  
Lockey  
Mottson  
9-12-29

Sta. 278+00  
23-18" R.C. Pipe  
AB = 107' Grade = 2.0%  
Build 2 - Straight Hd. Walls.



	x		Elev. Sub.	Grade Floor Line	
B		6.73	382.88	382.56	+0.32
+33		5.84	383.77	383.50	+0.27
A	389.61	4.82	384.79	384.50	+0.29

573	389.61	9.22	383.88	
0.27	393.10	7.51	392.83	
536	400.34		394.98	

EMM 2.3  
Not in cut  
on South Side

Running Just West Station 278+00

384.7  
4.5  
383.7  
383.0  
382.6  
66.0



60-24

42700

△ 900

MADE IN GERMANY.