

W
551

WATER

LEVEL

BOOK

BY

W. W. W.

1912

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DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide.

Side Slopes 1 on 1.

For Single Track Embankment

MICROFILMED

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6 + (20-16) * 2 or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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551

4/3 56 55
89 13
4/3 56 56
89 14

The paper stock of this book is made of a high grade 50% rag paper having a water resisting surface. This book is sewed with Bing Special Enamel Waterproof Thread.

Made in U. S. A.

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SAN VICENTE ROAD SURVEY

Levels over "F" line Foster North

Sta.	+	∞	-	Elev.	Grade
+50			9.7	1031.4	11052.8
+05			28.0	1013.1	✓
181			30.5	1010.6	✓ 10500
+83			30.2	1010.9	✓
+73			33.1	1008.0	✓ Est. Draw 1048.5
+50			32.5	1008.6	✓ Est. Draw 1047.3
180			23.3	1019.8	✓ 1044.5
+50			21.1	1020.0	✓ 1041.2
179			15.5	1025.6	✓ 1039.0
178+50			4.9	1036.2	✓ 1036.8
TP	0.52	1041.14	15.62	1040.62	✓
178			3.4	1052.8	✓ 1035.5
+50	7.9			1062.1	✓ 1030.8
177	8.9			1065.1	✓ 1028.0
+50	7.5			1063.7	✓ 1025.3
176+00			4.2	1052.0	✓ 1022.5
TP	15.03	1056.24			1041.21

Continued From Book 535

Nov. 26-1938

Isbell
Leakey
Brooks

Xsec. 1/3/39

+10°05' 50'	-13°50' 20'	+1°25' 25'	-0°50' 50'
	+19°10' 50'	+10°45' 25'	+1°25' 75'
+13°00' 50'	-6°30' 25'	-0°45' 75'	
+0°25' 50'	-1°50' 25'	-4°25' 82'	
-0°35' 50'	-5°20' 75'		
+5°50' 50'	-2°30' 75'		
+4°55' 50'	-4°25' 50'		
+3°50' 50'	-5°50' 50'		
+1°50' 50'	-6°45' 50'		
+14°45' 50'	-12°15' 50'		
+19°00' 50'	-14°45' 50'		
+16°25' 50'	-16°30' 50'		
+18°15' 50'	-11°40' 50'		

Xsections taken slope measurement from E
∞ moved out as shown

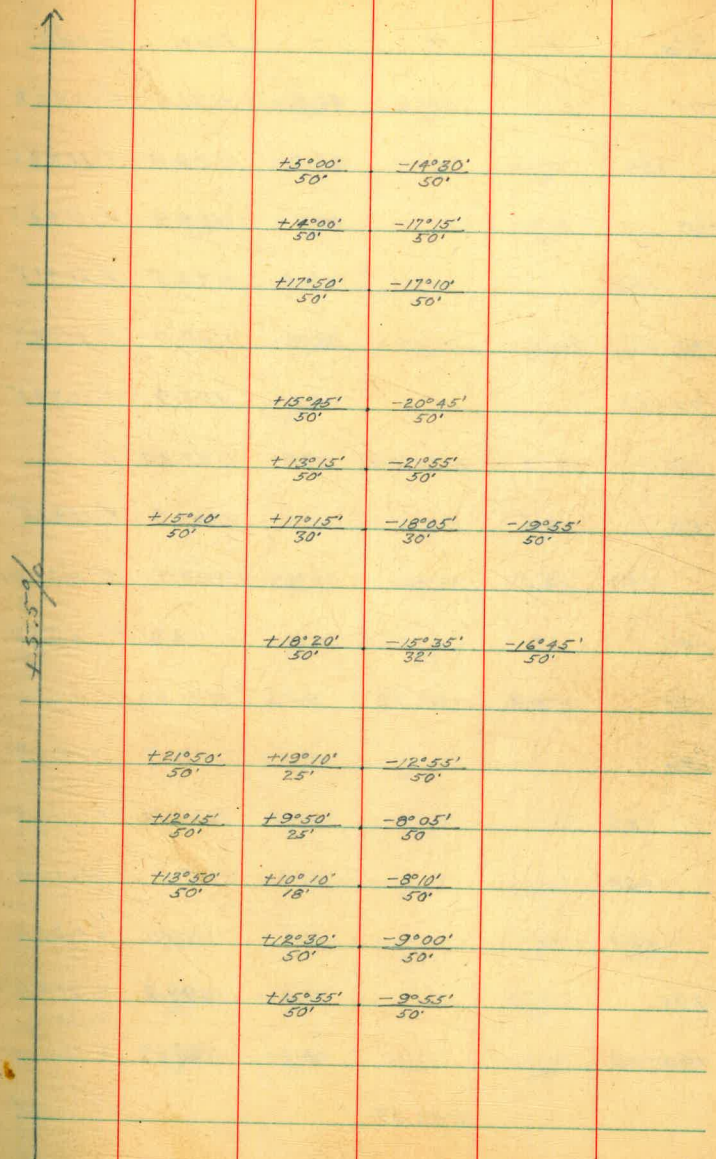
Sta.	+	x	-	Elev.	Grade
188			5.5	1082.1	√1088.5
+50			23.6	1064.0	√
+40			27.1	1060.5	1085.2 Bot. Draw
187			22.0	1063.6	√1083.0
+50			12.1	1075.5	√1080.3
186			10.1	1077.5	√1077.5
+50			12.3	1075.3	√1074.8
185			12.2	1075.4	√1072.0
+50			7.6	1080.0	√1069.3
184			5.3	1082.3	√1066.5
183+50			11.5	1076.1	√1063.8
B.M.	15.68	1087.61	0.01	1071.93	√
183			3.0	1068.9	√1061.0
182+50			12.9	1059.0	√1058.3
T	15.81	1071.94	0.23	1056.13	√
182+00			8.8	1047.6	√1055.5
T	15.22	1056.36	0.00	1041.14	√
		1041.14			

2

	+15°55' 50'	+17°35' 35'	-9°45' 75'	
	+11°50' 50'	+7°50' 20'	-3°30' 75'	
	+21°05' 50'	+16°45' 21'	-9°50' 100' Bot. Draw	
		+21°10' 50'	-15°35' 75'	
		+22°10' 30'	-24°45' 35'	-19°40' 75'
		+25°50' 50'	-19°40' 75'	
		+29°00' 50'	-27°40' 50'	
		+25°00' 50'	-24°05' 50'	
	+17°40' 50'	+20°10' 20'	-23°45' 30'	
	+16°00' 50'	+20°50' 26'	-13°35' 25'	-17°00' 50'
21' R.				183+54
		+6°05' 50'	-8°25' 50'	
		+1°15' 50'	-2°40' 50'	
		-2°15' 50'	+1°40' 50'	

Sta.	+	∓	-	Elev.	Grade
+90.8			16.0	1126.4	✓
+50			8.6	1133.8	✓ 1118.8
193			3.4	1139.0	✓ 1116.0
192+50			6.1	1136.3	✓ 1113.3
TP	8.15	1142.37	0.31	1134.22	✓
192			1.5	1133.0	✓ 1110.5
+64			5.1	1129.4	✓ 1108.5
191+50			9.8	1124.7	✓ 1107.8
TP	15.92	1134.53	0.32	1118.61	✓
191			9.4	1109.5	✓ 1105.0
TP	16.08	1118.93	0.00	1102.85	✓
+50			3.4	1099.4	✓ 1102.3
190			6.0	1096.8	✓ 1099.5
5-0 +42.4			1.5	1101.3	✓ 1096.8
189			2.7	1100.1	✓ 1094.0
188+50			9.9	1092.9	✓ 1091.3
TP	15.51	1102.85	0.27	1087.34	✓

1087.61



Sta.	+	π	-	Elev.	Grade
201			41.5	1131.5	✓ 1142.8
+50			44.2	1128.8	✓ 1142.6
200			47.1	1125.9	✓ 1142.1
+50			38.5	1134.5	✓ 1141.5
199			30.3	1142.7	✓ 1140.7
198+50			19.1	1153.9	✓ 1139.5
TP	15.75	1172.99	0.28	1157.24	✓
198	6.5			1164.0	✓ 1138.5
+50	12.0			1169.5	✓ 1137.0
197	1.7			1159.2	✓ 1135.4
TP	15.88	1157.52	0.73	1141.64	✓
196			13.7	1128.9	1131.6
+85			15.7	1126.7	✓ 1131.0
+60			25.4	1117.0	✓ 1130.0
+20			41.2	1101.2	✓ 1127.6
195			43.2	1099.2	✓ 1126.9
194+00			18.1	1122.3	✓ 1121.5
		1142.37			

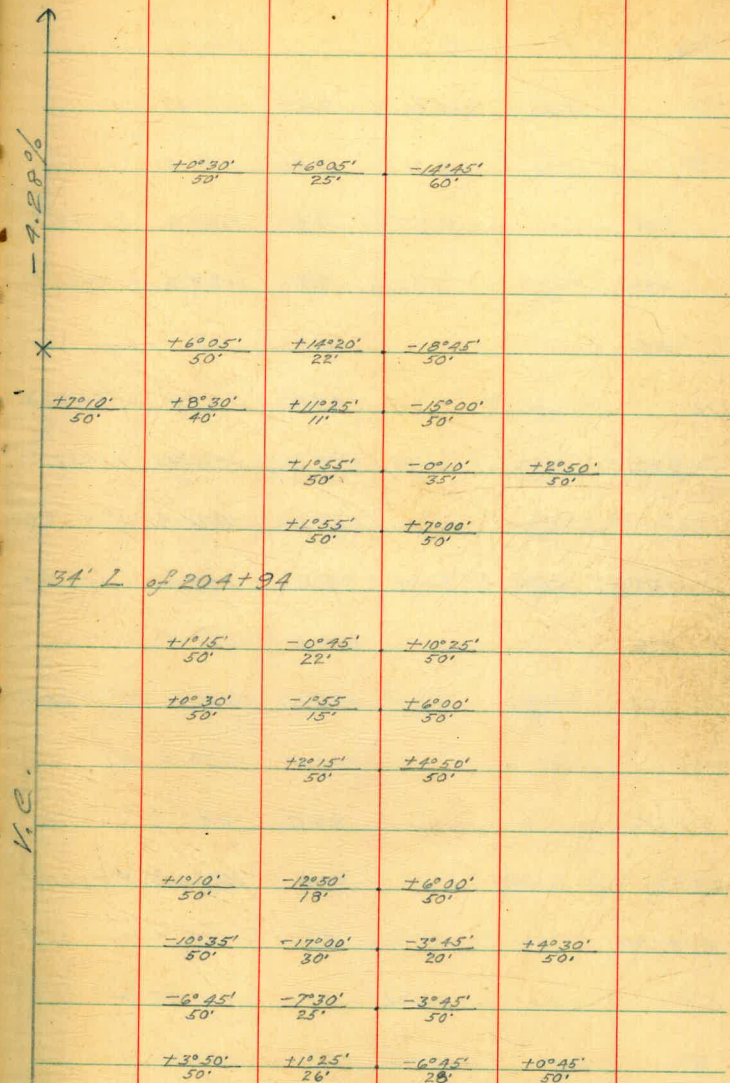
	+8°15' 50'	+7°00' 50'		
	+10°05' 50'	-9°35' 15'	+5°15' 50'	
	+19°45' 50'	+14°45' 20'	-15°45' 15'	-4°00' 50'
	+20°00' 50'	-18°10' 50'		Finish 1/4/39
	+19°35' 50'	-17°15' 27'	-20°45' 50'	Finish 1/3/39
	+16°40' 50'	-20°10' 50'		
	+19°00' 50'	+12°10' 30'	-20°50' 30'	-22°50' 50'
		+18°40' 50'	-28°40' 15'	
		+23°00' 50'	-28°35' 15'	
		+22°50' 50'	-22°55' 100'	
	+20°25' 50'	+27°20' 27'	-22°25' 100'	
	+24°30' 50'	+38°20' 22'	-21°15' 65'	-17°30' 100'
	+18°05' 50'	+20°15' 35'	-14°20' 23'	-8°45' 73'
	+15°55' 50'	+12°10' 15'	-4°50' 40'	-3°35' 100'
	-2°35' 50'	-6°15' 30'	-1°35' 30'	-5°10' 50'

V.C.

X 194+50

+5.57

Sta.	+	X	-	Elev.	Grade
TP	0.04	1163.26 ✓	15.64	1163.22 ✓	
207			8.2	1170.7 ✓	1129.5 ✓
TP	0.32	1178.86 ✓	16.06	1178.54 ✓	
+65			10.9	1183.7 ✓	
+50			7.5	1187.1 ✓	1131.6 ✓
206			0.1	1194.5 ✓	1133.6 ✓
+50			0.6	1194.0 ✓	1135.4 ✓
205			6.2	1188.4 ✓	1137.1 ✓
B.M.	6.45	1194.60	0.11	1188.15 ✓	
+50			6.0	1182.3 ✓	1138.5 ✓
204			11.1	1177.2 ✓	1138.7 ✓
203+50			15.0	1173.3 ✓	1140.7 ✓
TP	15.86	1188.26 ✓	0.59	1172.40 ✓	
203			4.5	1168.5 ✓	1141.5 ✓
+50			6.5	1166.5 ✓	1142.2 ✓
202			18.7	1154.3 ✓	1142.0 ✓
201+50			33.1	1139.9 ✓	1142.8 ✓
		1172.99			



Sta.	+	x	-	Elev.
B.M.	15.70	1227.69 ✓	0.23	1211.94 ✓
217			3.4	1208.8 ✓ 1176.3
+50			10.2	1202.0 ✓ 1167.8
+23			9.5	1202.7 ✓
216			11.8	1200.9 ✓ 1164.3
+75			11.4	1200.8 ✓
+95			8.8	1203.4 ✓ 1160.5
215			7.6	1204.6 ✓ 1157.3
+70			4.7	1207.5 ✓ 1155.2
+32			6.4	1205.8 ✓ 1152.5
TP	15.70	1212.17 ✓	0.21	1136.47 ✓
214			1.1	1195.6 ✓ 1150.3
TP	15.71	1196.68 ✓	0.14	1180.97 ✓
+57 ± Δ 7%			3.5	1177.6 ✓ 1147.3
TP	15.82	1181.11 ✓	0.11	1165.29 ✓
+25			4.4	1161.0 ✓ 1145.1
213			12.5	1152.9 ✓ 1147.3
		1165.40		

7

18.5' left of 217+57

	-24°35' 50'	+18°05' 22'	+21°50' 50'
	-23°05' 50'	+18°20' 50'	
	-18°55' 50'	-11°50' 18'	+12°00' 50'
	-18°55' 50'	-21°50' 25'	+15°45' 24'
	-17°50' 50'	-15°45' 31'	+16°55' 23'
	-22°10' 50'	-23°00' 39'	+20°30' 29'
		-27°05' 50'	+25°05' 50'
	-23°55' 50'	-21°30' 23'	+31°35' 28'
	-18°50' 50'	-27°15' 30'	+28°00' 50'
	-19°35' 50'	-12°15' 17'	+24°25' 50'
		-18°50' 50'	+4°05' 35'
			+21°65' 52'

+7%

Sta.	+	X	-	Elev.	Grade
223			32.0	1206.2	✓ 1213.3
+50			40.0	1198.2	✓ 1209.8
+11			38.4	1199.8	✓
222			34.4	1203.8	✓ 1206.3
+82			31.0	1207.2	✓
+72			26.6	1211.6	✓ 1204.3
221			14.6	1223.6	✓ 1199.3
				1228.4	
+70			9.8	1229.4	1197.2
220			5.1	1233.1	✓ 1192.3
+70			1.9	1236.3	✓ 1190.2
219			8.1	1230.1	✓ 1185.3
+80			9.1	1229.1	✓
+65			6.0	1232.2	✓
218+50			7.4	1230.8	✓ 1181.8
TP	11.17	1238.19	✓ 0.62	1227.02	✓
218			3.1	1224.5	✓ 1178.3
217+57			10.3	1217.3	✓ 1175.3
				1227.64	

8

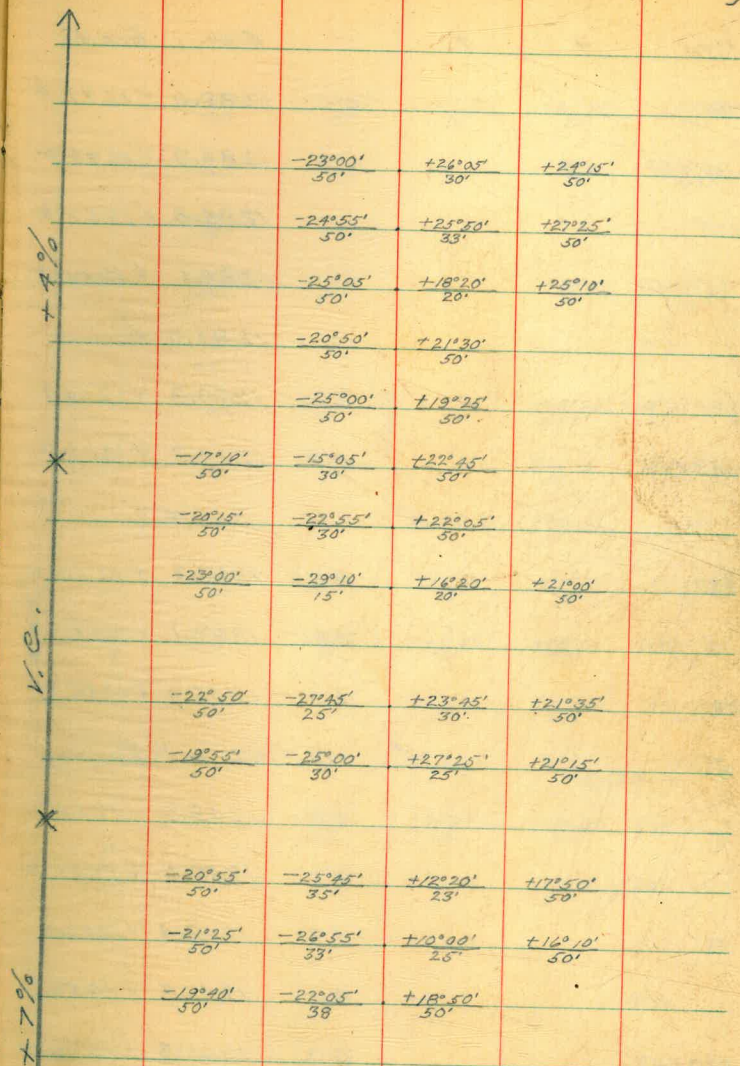
E

↑

-10°20' 50'	-13°25' 21'	+14°05' 50'	
	-10°10' 50'	+11°00' 25'	+13°45' 50'
-13°30' 50'	-16°50' 25'	+10°25' 50'	
-17°50' 50'	-22°30' 19'	+11°40' 50'	
	-20°15' 50'	+17°10' 30'	
	-23°15' 50'	+13°55' 17'	+18°35' 50'
	-23°25' 50'	+23°45' 20'	+22°15' 50'
	-25°10' 50'	+15°45' 30'	+18°15' 50'
	-28°50' 50'	+26°50' 50'	
-27°45' 50'	-31°45' 27'	-21°20' 14'	+21°00' 50'
	-29°35' 56'	-19°30' 20'	+19°15' 50'
-26°30' 50'	-28°55' 37'	-19°35' 30'	+28°15' 20'
			+20°10' 50'

+ 700

Sta.	+	x	-	Elev.	Grade
+25			5.6	1247.7	√12498
230			6.2	1247.1	√12488
+45			7.5	1245.8	√12466
229			6.1	1247.2	√12448
228			12.2	1241.1	√12408
+20			22.4	1230.9	√1237.4
227			19.6	1233.7	√12368
+47			15.6	1237.7	√12345
226			14.9	1238.4	√12323
TP	15.66	1253.30	0.55	1237.64	√
225			3.4	1234.8	√12268
+50			9.1	1229.1	√12236
224			10.6	1227.6	√12202
223+90.9 A			11.5	1226.7	√12127
+70			14.2	1229.0	1218.2
+50			18.3	1219.9	√12168
223+15			29.5	1208.7	√
		1238.19			



Sta.	+	X	-	Elev.	Grade
236			1.1	1282.0	✓1272.8
+50	1.8			1284.9	✓1270.8
235		0.7		1283.8	✓1262.8
+50	1.0			1284.1	✓1266.8
+10			1.1	1282.0	✓
				<i>in hole</i>	
234			3.8	1279.3	✓1264.8
233+50			8.9	1274.2	✓1262.8
TP	16.00	1283.14	✓0.78	1267.14	✓
233			0.2	1267.7	✓1260.8
+50			5.8	1262.1	✓1258.8
232			12.0	1255.9	✓1256.8
B.M.	15.75	1267.92	✓1.13	1252.17	✓
+75			3.8	1249.5	✓1255.8
+60			2.7	1250.6	✓1255.2
231			3.9	1249.4	✓1252.8
+50			6.0	1247.3	✓1250.8
230+43			8.0	1245.3	✓1250.5
		1253.30			

10

-18°45' 100'	-19°45' 50'	+24°15' 30'	+21°20' 50'	+24°20' 100'
-19°45' 100'	-20°40' 70'	+24°20' 32'	+23°20' 75'	+26°05' 100'
-19°30' 100'	-21°00' 68'	+27°25' 100'		
-20°10' 100'	-21°50' 65'	+25°10' 50'	+28°50' 75'	+27°35' 100'
-21°00' 100'	-23°10' 55'	+22°45' 30'	+26°35' 65'	+28°25' 80'
-21°30' 100'	-22°40' 65'	+21°55' 35'	+26°45' 52'	+24°20' 100'
-21°10' 100'	-27°00' 31'	+23°30' 33'	+23°55' 78'	+25°15' 100'
-20°30' 100'	-24°50' 40'	+24°30' 35'	+24°10' 78'	+25°35' 100'
-19°25' 100'	-24°10' 35'	+22°25' 50'	+21°45' 82'	+24°50' 100'
28' Left of 232+36				
12/28/38				
	-18°50' 50'	+21°50' 25'	+24°40' 50'	✓
	-21°45' 50'	+20°40' 32'	+22°15' 50'	
-21°00' 50'	-25°10' 25'	+21°25' 50'		
	-21°50' 50'	+23°15' 50'		

Sta.	+	π	-	Elev.	Grade
241+70			1.0	1297.6	✓ 1295.6
B.M.			8.80	1289.76	✓
241			4.4	1294.2	✓ 1292.8
Tie To					
M-55			10.9	1287.7	✓ 1290.6
240			11.2	1287.4	✓ 1288.8
+70			11.7	1286.9	✓
+50			10.1	1288.5	✓ 1286.9
239			11.2	1287.4	✓ 1284.4
238+66			13.4	1285.2	✓
TP	15.44	1298.56	✓ 0.02	1283.12	✓
+50			1.4	1281.7	✓ 1282.8
238			9.2	1273.9	✓ 1280.8
+50			17.4	1265.7	✓ 1278.8
237			13.0	1270.1	✓ 1276.8
+90			11.7	1271.4	✓ 1276.1
+70			7.4	1275.7	✓ 1275.6
236+50			5.3	1277.8	✓ 1274.8

1283.14

Sta.	+	π	-	Elev.	Grade
					+7°10' 50'
					+8°35' 28'
					-13°00' 50'
30' Right of 239+75 in Car Saddle					
					+3°50' 50'
					-9°55' 50'
240+45					-1°35' 50'
					+1°40' 27'
					-4°35' 50'
					-5°05' 50'
					-3°40' 25'
					+0°10' 50'
					-10°15' 50'
					+4°45' 35'
					+2°20' 50'
					-13°30' 50'
					+12°45' 24'
					+7°15' 50'
					1/4/39
					-13°25' 100'
					+11°40' 20'
					+11°25' 71'
					-6°35' 29'
					-11°10' 100'
					-10°20' 89'
					+11°45' 100'
					-9°20' 100'
					+12°10' 100'
					-12°25' 100'
					-12°25' 50'
					-6°45' 32'
					+13°00' 100'
					-15°35' 100'
					-16°40' 35'
					+12°50' 100'
					-16°30' 100'
					-19°00' 32'
					+15°10' 100'

Sta.	+	x	-	Elev.	Grade
251			7.3	52.1	✓ 1343.0
250+80			7.3	52.1	✓
B.M.	15.64	1359.38	0.32	1343.74	✓
+50			1.9	1342.2	✓ 1340.2
250			12.8	1331.3	✓ 1337.3
TP	15.95	1344.06	0.33	1328.11	✓
249			27.3	1301.1	✓ 13316
+76			35.0	1293.4	✓
+66			38.8	1289.6	✓
+52			40.2	1289.2	✓ 1328.9 Bot. Draw
+47			37.2	1291.2	✓
+35			35.3	1293.1	✓ 1327.9
+20			31.7	1296.7	✓
+07			22.0	1306.4	✓
248			20.4	1308.0	✓ 1325.9
TP	15.10	1328.44	15.70	1313.34	✓
247+50			7.8	1321.2	✓ 1323.0

1329.04

Dec. 2 - 1938

Hill
Lobell
Leakey
Brooks

13

+17°15'
50'

+20°10'
38'

-31°15'
12'

-28°15'
50'

42' Left of 250+34

+10°20'
50'

-20°10'
26'

-22°15'
50'

+22°25'
50'

-11°45'
32'

-16°10'
50'

-3°50'
80'
Bot. Draw

-8°10'
55'
Bot. Draw

-0°10'
45'

-5°55'
73'

+16°25'
50'

+26°10'
13'

-4°00'
50'

-5°40'
100'

+12°30'
50'

-2°00'
34'
Bot. Draw

-11°15'
100'
Bot. Draw

+20°00'
50'

-15°45'
28'

-15°45'
100'

+18°50'
50'

+22°45'
28'

-15°55'
29'

-18°50'
50'

157

Sta.	+	x	-	Elev.	Grade
+50			47.1	1345.4	✓ 13825
+40			53.1	1339.4	✓ 13823
261			59.3	1332.2	✓ 13815
+58			70.0	1322.5	✓
+48			74.0	1318.5	✓ 1380.1 Bot. Draw
260			45.7	1346.8	✓ 1377.5
+71			36.7	1355.8	✓ 1378.9
+63			31.4	1361.1	✓
+22			14.8	1377.7	✓ 1377.9
259			10.1	1382.1	✓ 1377.5
TP	0.35	1392.45	15.89	1392.10	✓
258+30			3.3	09.7	✓ 1376.9
TP	0.17	1407.99	15.95	1407.82	✓ ✓
258			13.0	10.8	✓ 1375.2
+50			7.7	16.1	✓ 1373.8
257			3.8	20.0	✓ 1372.3
256+50			2.1	21.7	✓ 1370.6
			1423.77		✓

15

+18°05' 60'	+16°45' 25'	o.k. -5°20' 13'	-8°00' 43'	-13°10' 133'	
	+22°05' 70'	+25°10' 27'	-4°10' 35'	-14°00' 100'	x
+13°55' 30'	+25°10' 21'	-23°40' 27'	-15°50' 37'	-16°15' 110'	-18°05' 150'
				Bot. Draw	Bot. Draw
+17°50' 100'	+11°30' 65'	-12°20' 22'	+2°40' 62'	-15°30' 26'	-2°25' 88'
-6°35' 92' Bot. Draw	-5°30' 60'	-9°45' 43'	-10°10' 35'	-14°10' 70'	-7°10' 100'
+3°35' 60'	o.k. -2°05' 40'	+5°55' 20'	-9°15' 37'	-14°15' 70'	-6°25' 80'
+12°00' 50'	+1°15' 25'	-12°15' 26'	-18°00' 77'		
x	+6°15' 50'	+10°00' 16'	-14°05' 31'	-15°30' 78'	
		+9°15' 50'	-9°50' 50'		
		+7°20' 50'	+4°35' 28'	-6°50' 38'	-2°00' 50'
			+10°20' 50'	-5°00' 22'	-0°15' 50'
			+7°00' 50'	-0°05' 50'	
			+6°05' 50'	-1°45' 50'	

V.R.

Sta.	+	X	-	Elev.	Grade
+50			12.3	1411.6	✓13995
+25			14.0	09.9	✓13990
267			13.4	10.5	✓13935
+50			7.0	16.9	✓13925
266			2.4	21.5	✓13915
+70			+1.2	25.1	✓
+50			+1.0	24.9	✓13905
265			3.4	20.5	✓13895
+50			11.2	12.7	✓13885
264			13.5	10.9	✓13875
TP	16.05	1423.91	0.05	1407.86	✓
+75			1.2	06.7	✓13870
+50			6.8	1401.1	✓13865
263			10.1	97.8	✓13865
TP	15.81	1407.91	0.35	1392.10	✓
+50			5.0	87.5	✓
262			21.7	1370.8	✓13835
				1392.45	

	+13°40' 50'	-18°00' 50'
	+12°15' 50'	+10°45' 20'
	+10°45' 20'	-17°10' 50'
	+9°10' 50'	+7°45' 30'
	+7°45' 30'	-14°50' 30'
	+12°55' 50'	-19°15' 50'
	+14°35' 50'	-21°15' 50'
	+15°00' 50'	-18°15' 50'
	+13°45' 50'	-21°45' 50'
	+24°05' 50'	-25°35' 50'
	+23°15' 50'	-27°15' 50'
	+23°50' 50'	-24°55' 50'
	+28°45' 50'	-32°10' 50'
	+26°45' 50'	-28°50' 50'
	+18°45' 50'	+24°50' 30'
	+24°50' 30'	-29°55' 75'
	+9°05' 50'	+14°20' 30'
	+14°20' 30'	-24°15' 30'

+2%

Sta.	+	x	-	Elev.	Grade
	+95		57.0	1391.3	✓
271			31.9	63.4	✓ 1401.6
	+80		29.3	66.0	✓
	+62		16.0	79.3	✓
	+50		13.6	81.7	✓ 1400.6
	+20		3.2	92.1	✓
T.P.	2.50	1395.26	16.00	1392.76	✓
270			14.1	94.7	✓ 1399.5
	+75		11.2	1397.6	✓
	+50		11.1	1397.7	✓ 1398.5
	+35		2.0	66.8	✓ 1398.2
B.M.	0.55	1408.76	15.70	1408.21	✓
269			1.1	22.8	✓ 1397.5
	+75		+2.0	25.9	✓ 1397.0
	+50		+2.0	25.9	✓ 1396.5
	+25		0.0	23.9	✓ 1396.0
268			3.8	1420.1	✓ 1395.5
				1423.91	

+2.11%

+2%

+8°50' 60'	+11°25' 52'	+15°45' 20'	-27°20' 17'	-17°35' 50'	-14°35' 75'
		+19°10' 50'	-14°00' 40'	-16°40' 50'	
		+25°35' 50'	-27°55' 50'		
		+30°10' 50'	-0°05' 15'	-4°10' 50'	
	+28°20' 30'	+20°10' 30'	-6°30' 50'		
Hub 62 R 269 + 15					
		+15°00' 50'	-14°40' 50'		
		+14°15' 50'	-13°00' 50'		
		+17°00' 50'	-18°55' 50'		
		+17°00' 50'	-16°45' 50'		
	+14°55' 50'	+15°15' 28'	-14°25' 50'		

EL 24.0

Sta.	+	x	-	Elev.	Grade
277			+5.2	1497.5	1418.5
	+50			53.5	
			+11.2	51.1	1419.5
				52.7	
276			+10.4	51.2	1418.5
	+50		+3.1	95.4	✓1411.1
275			19.1	28.2	✓1410.0
T.P.	15.79	1412.29	0.02	1426.50	
T.P.	15.50	1426.52	✓0.15	1411.02	✓
T.P.	15.95	1411.17	0.04	1395.28	✓
	+15		1.2	94.1	✓1408.2
274			16.9	78.9	✓
273+82			25.7	69.6	✓1407.6
	+50		7.9	87.9	✓1406.9
273			9.6	90.7	✓1405.8
	+50		10.4	81.9	✓1404.8
272			22.9	72.4	✓1403.7
	+75		33.3	62.0	✓1403.2
	+50		54.0	1341.3	1402.7
		1395.26			

+ 2.11%

+14°00' 50'	+16°15' 30'	-17°35' 50'	
	+13°05' 50'	-12°30' 50'	
	+15°40' 50'	-21°10' 38'	-21°55' 50'
	+8°15' 50'	-20°15' 50'	
	+4°00' 50'	-12°05' 50'	
	+14°30' 50'	o.k. -9°00' 37'	-10°50' 50'
		+14°20' 75'	-5°40' 75'
			80' Draw
+20°00' 50'	+18°00' 27'	-17°05' 50'	
+19°20' 50'	+25°15' 78'	-19°55' 50'	
	+9°20' 50'	-14°50' 50'	
+6°12' 60'	+0°30' 30'	-7°10' 21'	-10°10' 75'
+7°00' 60'	o.k. -3°00' 25'	-5°50' 55'	-6°05' 75'
	+11°15' 100'	-7°35' 120'	

Sta.	+	X	-	Elev.	Grade
T.P.	16.04	1446.07	✓ 0.09	1450.03	✓
+50			1.6	28.5	✓ 1423.8
+07			1.0	26.1	✓ 1422.9
281			10.0	20.1	✓
					1422.6
+93			15.5	14.6	Bot. Draw
+50			6.6	23.5	✓ 1421.7
+35			3.7	26.1	✓ 1421.3
280			8.4	21.7	✓ 1420.6
+85			11.1	1419.0	✓ 1420.3
					1419.5
+50			30.8	1399.3	✓ Bot. Draw
279			23.8	1406.3	✓ 1418.5
+67			31.0	1399.1	✓ 1417.8
					1417.4
+50			30.9	1399.2	✓ Bot. Draw
278			2.4	20.7	✓ 1416.9
T.P.	3.35	1430.12	✓ 15.52	1426.77	✓
+83			15.1	27.2	✓
+50			1.3	21.0	✓ 1415.3
					1442.29

+11°45' 50'	+9°45' 25'	-16°55' 50'	
+13°15' 50'	-16°50' 30'	-15°25' 50'	
+5°15' 50' Bot. Draw	-14°00' 45' Bot. Draw		
+16°00' 50'	+7°45' 26'	-19°35' 24'	-19°20' 50'
+13°15' 50'	-6°00' 50'		
+4°00' 50'	-8°00' 50'		
+1°30' 50'	-11°25' 18'	-7°10' 50'	
+20°30' 50'	+3°10' 50'		O.K.
+13°45' 50'	-20°15' 25'	-24°25' 55' Bot. Draw	-13°15' 15'
+10°30' 53'	+18°15' 32'	-1°10' 21'	X -21°45' 54' Bot. Draw
+9°30' 50' Bot. Draw	-12°50' 20'	-4°10' 60'	
+5°45' 50'	+0°45' 18'	-3°00' 30'	-6°40' 50'
+10°15' 50'	-17°50' 50'		

+ 2.110/3

Sta.	+	x	-	Elev.	Grade
+60			16.3	34.1	√19364
+35			17.1	33.8	✓
+11			23.5	26.9	√19356
287			20.8	29.9	√19359
T.P.	15.35	1450.30	✓ 15.83	1935.01	✓
+73			19.2	37.6	√19348
286			3.1	47.7	√19333
+60			0.4	50.7	√19329
285			8.0	42.8	√19311
+40			4.1	46.9	1929.9
B.M.	9.54	1450.84	✓ 4.77	1941.30	✓
284			1.0	45.1	√19290
+35			9.4	36.7	√19277
+08			21.6	24.5	√Bot. crk.
283			19.8	26.3	✓
+50			21.5	24.6	√19265
282			16.1	30.0	√19255

1446.07

+2.11%

Hub 50'R 281+78

+11°05' 50'	-15°10' 50'	
+10°30' 50'	-9°05' 50'	
+11°10' 50'	-11°35' 50'	
+8°05' 50'	-11°15' 50'	
+9°20' 50'	-11°30' 11'	-17°25' 50'
+10°50' 50'	-7°10' 50'	
+9°05' 50'	+5°15' 27'	-5°20' 50'
-10°30' 78'	+4°40' 47'	-6°00' 50'
-0°25' 50'	-8°30' 36'	-3°45' 50'
+16°20' 50'	+8°55' 38'	+8°05' 50'
+8°45' 50'	-10°10' 46'	-6°05' 60'
+11°00' 50'	-15°50' 41'	-31°15' 33'

1/5/39



Bot. Draw

Sta.	+S	H.I.	-S	Elev.	Grade
	+50		2.0	81.9	√1458.5
298			10.2	73.7	√1457.5
	+50		13.0	70.9	√1456.5
	+25		14.5	69.4	√1456.0
T.P.	15.60	1483.88	0.19	1468.28	✓
297			4.8	63.7	√1455.5
T.P.	15.75	1468.97	0.11	1452.72	✓
	+50		3.1	49.7	√1454.5
296			16.4	36.4	√1453.5
	+50		23.3	29.5	√1452.5
M11			6.8	46.0	✓
295			15.9	36.9	√1451.5
	+50		10.9	41.9	√1450.5
294			6.0	46.8	√1449.5
	+65				
	+15	2	1.6	51.2	
	+50		2.0	50.8	√1448.5
293			1.2	51.6	√1447.5

1462.83

%			
		+8°00' 50'	-11°15' 50'
	+19°25' 50'	+14°40' 10'	-14°00' 50'
		+14°05' 50'	-15°15' 50'
		+10°40' 50'	-14°30' 50'
		+12°10' 50'	-11°10' 50'
		+10°20' 50'	-7°00' 40'
			-7°35' 60'
	-3°00' 96' Bot. crk.	+7°00' 40'	-6°10' 50'
			-4°30' 75'
	+18°45' 90'	+7°20' 50'	+2°15' 12'
			-7°40' 50'
			-6°20' 100'
Check on M11 - lost stadia line			
	+9°05' 80'	+9°35' 50'	-9°15' 50'
			-9°45' 90'
		+11°10' 50'	-11°00' 50'
			-12°00' 75'
		+14°20' 50'	-12°25' 50'
		+17°10' 50'	-15°15' 50'
	+16°10' 50'	+13°15' 35'	-15°40' 50'

Sta.	+S	H.I.	-S	Elev.	Grade
304+74			17.1	14286	1471.0
T.P.	0.99	1445.70	16.00	1447.71	✓
304			10.5	50.2	✓1469.5
T.P.	0.18	1460.71	15.64	1460.53	✓
B.M.			0.78	1475.39	✓
+35			8.7	67.5	✓1468.2
303			4.1	72.1	✓1467.5
T.P.	0.57	1476.17	15.94	1475.60	
+60			9.6	81.9	✓1466.7
+25			7.5	84.0	✓1466.0
302			8.2	83.3	✓1465.5
+50			11.5	80.0	✓1465.5
301			8.8	82.7	✓1463.5 1462.5
+40			1.4	90.1	✓ X
300			0.5	90.7	✓1461.5
299			0.5	91.0	✓1459.5
T.P.	7.84	1491.54	0.18	1483.70	✓
		1483.88			

+20%

Hub set of 302+82

+7°00' 110'	+4°15' 70' Bot. Draw	+5°25' 50'	+3°00' 100'
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-5°50' 100' Bot. Draw	-2°25' 50'	+3°20' 50'
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-4°00' 50'	-0°50' 50'
---------------	---------------

0°00' 50'	+0°45' 50'
--------------	---------------

-1°45' 50'	-2°20' 50'
---------------	---------------

-0°30' 50'	-4°05' 50'
---------------	---------------

+1°25' 50'	-3°30' 50'
---------------	---------------

+6°00' 50'	-5°45' 50'
---------------	---------------

+12°30' 50'	-10°20' 50'
----------------	----------------

+15°10' 50'	-15°40' 50'
----------------	----------------

+18°15' 50'	-15°35' 50'
----------------	----------------

+12°00' 50'	-18°20' 50'
----------------	----------------

Dec. 5 - 1938

H. H.
Isbell
Lockey
Brooks

24

Sta.	+	X	-	Elev.	Grade
309+85			0.3	1506.9	✓ 1481.3
TP	15.78	1507.24 ✓	0.28	1491.46	✓
+16			12.4	79.3	✓ 1479.8 Bot. Draw
309			11.4	80.3	✓ 1479.5
+27			3.1	28.6	✓ 1478.0
308			1.1	90.6	✓ 1477.5
+70			0.6	91.1	✓
307+50			3.4	38.3	✓ 1476.5
TP	15.77	1491.74 ✓	0.33	1475.97	✓
307			2.1	74.2	1475.8
TP	15.39	1476.30 ✓	0.33	1460.91	✓
+44			4.6	56.6	✓ 1474.4
306			15.2	46.4	✓ 1473.5
TP	15.57	1461.24 ✓	0.03	1445.67	✓ 1473.0
+76			7.4	38.3	✓ Bot. Draw
+45			8.7	37.0	✓ 1472.4
305			13.8	31.9	✓ 1471.5
		1445.70			

V.C. ↑

X 309+50

T 20%

+9°00' 50'	+11°05' 25'	-2°50' 16'	+2°15' 40'	+0°25' 50'
+17°10' 50'	+12°45' 23'	-5°30' 50'		
+17°40' 50'	+12°55' 16'	-20°00' 24' Bot. Draw	-10°35' 50'	
+15°30' 50'	+13°55' 22'	-13°15' 50'	-13°00' 99' Bot. Draw	
	+14°25' 50'	-17°45' 50'		
	+9°35' 50'	-11°00' 37'	-14°20' 50'	
	+7°35' 50'	-5°55' 50'		
	+12°40' 50' Bot. Draw	-1°05' 50'		
+11°35' 80'	+11°55' 50'	-7°45' 13' Bot. Draw	-9°10' 50'	-2°45' 90'
+12°30' 85'	+12°50' 50'	+16°55' 18'	-0°15' 50'	+0°15' 95'
+9°45' 85'	+8°45' 50'	-14°15' 18' Bot. Draw	-7°00' 50'	-4°50' 35'
+9°20' 100'	+9°00' 50'	-8°00' 60' Inf. Bot. Draw	-4°30' 92'	-4°30' 110'

Sta.	+	X	-	Elev.	Grade
+80			29.3	88.1	✓14999
+50			27.3	90.1	✓14983
314			27.6	89.9	✓14963
+50			27.9	89.5	✓14943
+10.9			26.4	91.0	
313			25.9	1491.5	✓14924
+50			21.0	1496.4	✓14909
312			11.4	1506.0	✓14884
T.P.	270	1517.22	15.78	1519.72	
+50			16.4	14.1	✓14864
311			3.5	27.0	✓14846
B.M.	276	1530.50	4.86	1527.74	✓
+70.2			4.1	48.5	✓14836
310+37			7.6	25.0	✓14826
TP	11.61	1532.60	✓1.74	1520.99	✓
310			11.0	11.7	✓14816
TP	15.74	1522.73	✓0.25	1506.99	✓
		1507.24			

12/1/80
Hill
School
Locker
Bunks

Begin 2nd line

+3.94%

X

62' R. 310+70

M+3

V.C.

+8°30' 50'	+0°00' 50'	
+8°20' 50'	-0°35' 50'	
+1°55' 50'	-2°25' 50'	
+6°15' 50'	-5°15' 50'	
+5°40' 50'	-6°50' 50'	
+10°35' 50'	-3°05' 50'	
+9°50' 50'	-2°50' 23'	-6°15' 50'
+9°00' 50'	-2°40' 34'	+0°05' 50'
+7°45' 50'	+1°00' 13'	-2°00' 30'
		-2°55' 50'
+6°15' 50'	-3°30' 32'	-1°05' 50'
+1°10' 50'	+2°10' 23'	-4°55' 14'
		-1°50' 50'
+8°45' 50'	-0°35' 50'	

Sta	+S	H.I.	-S	Elev	Grade
+50			12.6	1515.4	✓ 1512.5
+25			11.8	16.2	✓ 1572.0
T.P.	10.68	1527.96	0.14	1517.28	✓
318			8.1	1509.3	✓ 1511.4
+74			16.5	1500.9	✓ 1510.6
+50			9.5	07.9	✓ 1508.9
+30			6.3	11.1	✓ 1509.2
317			8.3	09.1	✓ 1508.1
+78			11.1	06.8	✓
+50			9.9	07.5	✓ 1506.1
+64			9.3	08.1	
316			7.5	1509.9	✓ 1509.2
+95			11.5	1505.9	✓
+50			17.9	1489.5	✓ 1502.2
+30			18.2	99.2	✓ 1501.4
+25			29.8	92.6	✓
315			28.3	1489.1	✓ 1500.2

15-17.42

	+7°30' 35'	∩ +11°25' 50'	+19°20' 25'	-9°50' 34'	+5°30' 65'	+5°20' 34'
	-6°10' 20'	∩ +6°30' 30'	+3°20' 58'	+9°00' 12'	-13°40' 50'	+0°30' 74'
	+4°45' 100'	+5°05' 60'	-16°00' 13'	-12°30' 45'	-12°55' 70'	-10°55' 100'
		+6°40' 100'	-7°45' 72'	-4°45' 100'		
		+5°55' 100'	-6°40' 38'	∩ -16°00' 54'	-17°30' 82'	
	+0°45' 50'	-2°10' 27'	-7°55' 30'	-12°25' 30'		12/29/38
		+3°10' 50'	+10°40' 21'	∩ -11°35' 29'		
	+12°15' 50'	+11°00' 28'	-16°00' 50'			
Take x sec of 315+95 & call it sta 316						
		+16°20' 50'	-20°15' 50'			
	+11°50' 50'	+22°50' 18'	-15°15' 50'			
		+13°15' 50'	-20°00' 30'	-15°35' 50'		
	+7°00' 50'	+10°05' 29'	-10°50' 20'	-4°55' 50'		

V.C.

+ 3.94%

X 300. Dec. 16-1938
 I.B. Hall
 Lecky
 Brooks

Sta	+5	141	-5	1491.1	Grade
	+50		105	889	✓ 1491.1
					1493.3
326			8.0	914	✓ 920
	+50		5.5	939	✓ 940
					1495.5
325			3.6	958	✓ 960
	+50		2.3	971	✓ 970
					1500.0
TP.	0.55	1499.39	16.07	1498.84	
					1502.2
324			14.6	1500.3	✓ 1500.0
					1506.6
323			8.3	06.6	✓ 07.0
					1610.4
322			4.5	15 10.0	✓ 11.0
BM	130	1514.91	14.85	1513.61	✓
					1512.7
321			12.0	16.0	✓ 1512.7
	+50		8.4	19.6	✓ 1513.4
					1513.6
320			6.0	23.0	✓ 1513.6
	+75		3.7	24.3	✓ 1513.7
	+50		5.2	22.8	✓ 1513.6
	+18		9.3	18.7	✓ 1513.4
319			9.9	19 15.1	✓ 1513.2
					1527.96

-2.44%

X

V.C.

HUB 30 R 321 + 36

	+0°20'	-2°15'	+1°40'		
	100'	42'	40'		
	+0°10'	-3°20'	+3°35'		
	100'	35'	60'		
	+1°35'	-4°50'	+4°35'		
	100'	23'	100'		
	+2°45'	-3°45'	+3°00'	+9°00'	
	100'	22'	85'	15'	
	+3°00'	+0°15'	+0°15'	+3°20'	+7°25'
	100'	33'	21'	56'	100'
	+6°10'	+3°40'	+1°20'	-1°15'	+2°25'
	100'	78'	39'	22'	82'
	+6°20'	+6°45'	-6°25'	+2°00'	+1°50'
	100'	69'	19'	78'	100'
	+5°25'	+5°10'	+1°35'	-4°30'	+3°15'
	100'	80'	18'	12'	44'
	+7°40'	+5°15'	-0°20'	+2°15'	+2°15'
	100'	46'	23'	74'	100'
	+8°25'	+0°30'	+5°40'	+0°05'	+1°05'
	100'	59'	28'	25'	60'
	+5°30'	+1°50'	+1°45'	+4°30'	+8°20'
	100'	70'	28'	26'	73'
	+4°30'	+2°35'	+2°50'	-11°00'	
	100'	28'	40'	100'	
	+5°05'	+0°35'	+13°35'	+10°30'	+11°45'
	100'	25'	25'	41'	75'
	+1°00'	+14°25'	+10°10'	+4°25'	+7°40'
	35'	65'	42'	17'	46'
	-0°55'	+12°15'	+11°20'	+1°20'	+8°50'
	30'	70'	43'	25'	60'

12/20/38
 cloudy

Rd 14

Sta +S H1 -S Elev Grade

+10			10.5	63.6	✓
337			11.4	62.7	✓ 1468.75
+45			7.7	66.4	✓ 1469.3
336			3.1	71.0	✓ 1469.75
335			4.9	69.2	✓ 1471.0
334			6.1	68.0	✓ 1472.5
333			3.8	70.3	✓ 1474.0
+50			1.2	72.9	✓ 1474.75
T.P.	0.70	1474.07	10.70	1473.37	✓
332			10.6	73.5	✓ 1475.5
331			9.3	74.8	✓ 1477.0
330			7.8	76.6	✓ 1478.5
+50			7.7	76.4	✓ 1479.4
329			7.7	76.4	✓ 1480.7 80.6
328			2.5	81.6	✓ 1484.4 84.0
T.P.	0.36	1484.07	15.68	1483.71	✓
327			12.8	1486.6	✓ 1488.9 1488.0
			14.99	1499.39	

-1.0%

-1.0%

V.C.

-1.44%

+1°55' 100'	+2°00' 60'	+3°10' 27'	+2°15' 25'	+2°00' 60'	+1°10' 100'
	-0°15' 100'	-3°00' 53'	+4°15' 34'	X -3°25' 66'	
-4°20' 100'	-3°20' 90'	-3°30' 28'	-3°00' 45'	X -3°45' 55'	
X +56	0°00' 100'	+0°25' 45'	-1°05' 100'		
		+0°50' 100'	-1°35' 47'	+1°00' 100'	
	+1°40' 100'	+1°35' 40'	0°00' 25'	+2°15' 100'	
	+0°40' 100'	+0°20' 50'	-1°40' 27'	+2°00' 100'	
		+2°00' 100'	-3°00' 35'	-0°45' 100'	
	+6°55' 100'	+5°45' 43'	-5°45' 58'	-1°10' 100'	
X	+7°55' 100'	+6°40' 35'	-4°00' 44'	0°00' 100'	
	+5°20' 100'	+8°45' 49'	+8°00' 36'	-4°00' 22'	+0°30' 55'
		+3°50' 100'	+4°15' 50'	+4°25' 100'	
X	+0°10' 100'	-0°50' 48'	+6°00' 50'		
	+0°25' 100'	-1°25' 45'	+4°10' 50'		

Sta	+S	H.I.	-S	Elev	Grade
T.P.	6.1	1481.05	1.21	1463.65 ✓ 1474.54	
345			3.7	72.1 ✓	60.05
+50			6.9	68.8	Use ground clar. for X sec 1461.1
344			15.3	60.5	1461.75
+50			16.5	59.3	1462.25
343			17.0	58.8	1462.75
+50			16.1	59.7	1463.25
342			16.4	59.4	1463.75
341+50			14.8	61.0	1464.25
B.M.	15.06	1475.75	6.13	1460.69 ✓	
Pt. H letter line			6.5	1460.6 ✓	
342			7.1	60.0 ✓	
341			5.1	62.0	1464.75
340			2.9	64.2	1465.25
T.P.	1.35	1467.12	8.30	1465.77 ✓	
339			8.4	65.7	1466.75
338			9.6	64.5	1467.75
		1474.07			

12/12/38
N.H. Isbell
Looney
Brooks

X sec. Dec. 16 1938
Cloudy

29

12/23/38
Clear.

Hub 36' of sta 342+84

Check on Pt. H of stadia letter line

	+2°15' 50'	-2°45' 50'		
	-5°15' 50'	+3°35' 24'	-7°45' 50'	
	+6°45' 50'	+7°30' 36'	-3°30' 50'	
		+4°05' 50'	-1°50' 50'	
	+5°40' 100'	+2°30' 53'	-0°10' 100'	
	+3°10' 100'	+0°55' 47'	-0°15' 100'	
+3°55' 100'	+2°40' 83'	+1°15' 43'	+0°10' 45'	0°00' 100'
+8°00' 100'	+2°45' 75'	+0°15' 29'	-0°20' 100'	
	+6°20' 100'	+1°50' 40'	-0°45' 100'	
3°00' 100'	+1°25' 66'	-0°30' 30'	+5°05' 14'	+6°45' X 40'
	+0°05' 100'	-1°00' 38'	+2°35' 22'	+0°15' 100'
		+1°20' 100'	-0°10' 68'	-3°00' 100'

Sta	+S	H.L.	-S	Elev	Grade
355			11.0	1910.8	1414.5
354			9.0	12.8	1417.0
353			7.4	19.4	1421.25
352			5.3	16.5	1426.95
351			1.5	20.3	1431.65
T.P.	11.6	1921.25	19.82	1420.59	
+35			12.4	23.0	1435.0
350			8.8	26.6	1436.95
T.P.	0.23	1438.41	15.36	1435.18	
349			12.4	38.1	1442.05
T.P.	0.35	1450.54	15.34	1450.19	
348			11.1	54.6	1447.25
T.P.	0.04	1465.73	15.36	1465.69	
347			10.7	70.4	1452.45
+27			3.1	78.0	1455.8
346			2.2	78.7	1456.95
345+61			2.8	1478.3	1455.2
		1481.05			

+1.42%
 *
 V.C.
 *
 -5.2%
 *
 V.C.
 *
 O.R. = shift on Old Road

-2°55' 50'	+1°05' 22'	-0°20' 31' O.R.	+3°05' 50'		
±0°00' 75'	-3°10' 25'	+0°05' 26' O.R.	+5°25' 50'		
	-1°10' 75'	+6°00' 25' O.R.	+2°50' 13' O.R.	+5°00' 50'	
-1°30' 75'	-3°15' 32'	+6°25' 34'	+10°15' 50' O.R.		
	-2°50' 75'	+7°20' 31'	+13°50' 50'	3' to O.R.	
-4°25' 75'	-5°10' 60'	+12°05' 21'	+10°15' 33'	+14°50' 30' O.R.	
-6°30' 75'	-9°00' 40'	+16°50' 18'	+12°25' 29'	+10°15' 42' O.R.	+14°15' 50' O.R.
-10°35' 75'	-11°10' 38'	+21°30' 11'	+12°35' 24'	+13°50' 38' O.R.	+10°55' 50' O.R.
	-4°35' 50'	+2°10' 50'			
-1°00' 50'	-0°25' 28'	-4°50' 22'	-2°35' 50'		
-1°45' 50'	-2°15' 25'	-1°50' 50'			
	-0°50' 50'	+0°20' 33'	-0°50' 50'		
+0°20' 50'	+1°45' 25'	-2°35' 32'	-1°45' 50'		

Sta	+S	H.I.	-S	Elev.	Grade
362			4.1	1399.4	1403.57
+80			4.3	1399.2	✓ 03.85
+50			2.2	1401.3	✓ 04.35
361			1.4	02.1	05.13 in road
T.P.	0.96	1403.58	10.33	1402.57	✓
+50			9.2	03.7	✓ 05.91
360			8.5	04.4	✓ 06.69
+50			7.6	05.3	✓ 07.47
359			8.1	04.5	✓ 08.25
+50			7.6	05.3	✓ 09.03
358			6.6	06.3	✓ 09.81
+50			5.5	07.4	✓ 10.59
357			5.3	07.6	✓ 11.37
+50			4.0	08.9	✓ 12.15
356			3.0	09.9	✓ 12.93
355+50			2.0	10.9	✓ 13.71
B.M.	15.0	1412.90	10.35	1411.90	✓
		1421.75			

+2°55' 50'	+0°30' 40'	+8°15' 50'	
+3°45' 50'	+2°40' 33'	+2°15' 20'	+3°30' 50'
+1°45' 50'	+0°00' 25'	-1°55' 50'	
	+2°50' 50'	+0°00' 50'	
	+3°10' 50'	-1°35' 52'	-0°15' 50'
+2°15' 50'	3' Oak Tree 38'	-3°20' 35'	-0°50' 50'
+2°50' 50'		-3°00' 50'	-0°20' 50'
+2°15' 50'		+1°20' 50'	
+1°45' 50'		+0°55' 50'	
+0°35' 50'		+0°35' 50'	
+0°35' 50'		+0°55' 50'	
+1°00' 50'		+1°35' 50'	
+0°10' 50'		+0°55' 50'	
+0°50' 50'	+0°20' 29'	-0°35' 44' O.R.	+0°40' 50'
+1°15' 50'		-1°10' 30' O.R.	+0°30' 50'

10 30 1

20' 2 30 5 40 5 - Hub

Sta	+S	H.I.	-S	Elev	Grade
					1387.1
374			1.7	86.2	89.89
B.M.	1.02	1387.62	9.53	1386.60	
					1387.7
+50			9.7	86.4	90.29
					1388.4
373			9.8	86.3	90.07
					1389.0
+50			9.2	86.9	91.77
					1389.7
372			9.0	87.1	91.89
					1390.3
+50			8.9	87.2	92.59
					1391.0
371			8.3	87.8	92.89
					1392.3
370			6.8	89.3	93.29
					1393.6
369			6.0	90.1	94.29
					1394.9
368			4.7	91.4	96.19
T.P.	3.70	1396.13	11.10	1392.43	
					1396.2
367			11.1	92.4	94.89
					1397.5
366			9.7	93.8	97.89
					1398.89
365			7.7	95.8	100.89
					1400.95
364			6.0	97.8	102.01
					1402.01
363			5.9	1397.6	1402.01
		1403.53			

32

	+6°00' 50'	+5°00' 35'	+2°30' 32'	-3°40' 13'	+2°00' 50'
	Hub 29 L 373+86				
	+4°30' 50'	+2°50' 47'	+1°50' 50'	-1°10' 25'	+1°20' 50'
			+3°35' 50'	+1°00' 50'	
		+2°25' 50'	-0°10' 25'	+0°05' 50'	
			+0°55' 50'	+0°25' 50'	
			+0°25' 50'	+2°20' 50'	
			+0°05' 50'	+2°50' 50'	
			+0°10' 50'	+1°40' 50'	
			+1°25' 50'	+2°50' 50'	
			-0°10' 50'	+1°10' 50'	
			+1°35' 50'	+1°00' 50'	
			+3°35' 50'	+1°40' 50'	
			+2°50' 50'	+1°20' 50'	
			+1°00' 50'	+3°10' 50'	
			+3°45' 50' O.R.	+1°30' 15'	+12°15' 50'

X 780

-1.50%

-1.52%

Sta	+S	H.L.	-S	Elev	Grade
T.P.	428	1389.14	7.76	1379.86	
					1370.7
380			5.9	81.7	70.7
					1371.7
+81			0.0	87.6	72.3
					1374.0
+44			2.4	85.2	74.4
					1374.7
+26			6.9	80.7	75.6
					1376.2
379			7.2	80.4	76.7
					1376.8
+71			8.9	78.7	77.6
					1380.3
378			6.6	81.7	80.2
					1381.7
+53			6.6	81.0	81.0
					1382.3
+30			6.8	80.8	81.9
					1383.0
+05			9.1	78.5	in ch. bed
					1383.0
377			8.2	79.4	80.2
					1383.9
+41			3.8	83.8	84.1
					1384.5
376			3.5	84.1	85.2
					1385.1
+60			3.2	84.4	in road
					1385.8
375			2.8	85.6	in road
					1386.4
+60			2.5	85.1	85.7

1387.67

Grade	W.E.	Grade	W.E.
-3°05' 63' W.E.	-9°25' 21' W.E.	+11°30' 25'	+12°35' 50'
-8°55' 60' W.E.	-7°55' 23' W.E.	+3°50' 25'	+6°10' 50'
8°40' 50'	-9°00' 47' W.E.	-1°00' 16' W.E.	+1°05' 50'
-2°05' 57' W.E.	-18°35' 9' W.E.	+56°10' 22'	+22°50' 40'
-2°20' 58' W.E.	-23°00' 5' W.E.	+30°20' 25'	+4°40' 35'
-0°50' 52' W.E.	-9°50' 3' W.E.	+16°30' 22'	+12°05' 50'
2°50' 50'	-4°45' 44' W.E.	-8°25' 20' W.E.	+5°00' 50'
-0°15' 50'	-4°35' 36' W.E.	-7°25' 22' W.E.	+4°35' 50'
		-3°50' 52'	+3°55' 50'
		+5°50' 50'	+1°48' 18'
		+1°15' 50'	
		+7°35' 50'	-0°55' 20'
		-4°00' 21'	-4°00' 50'
		+5°10' 50'	+4°00' 21'
		-4°15' 21'	-1°05' 50'
		+13°30' 50'	+6°30' 30'
		-4°35' 15'	-0°25' 50'
		+7°30' 50'	+9°05' 25'
		+6°00' 15'	-3°30' 20'
		-0°05' 50'	
		+7°40' 50'	+2°00' 22'
		-4°10' 15'	+1°35' 50'

Note: W.E. = Waters edge of lake behind small dam

Sta	+S	H.L.	-S	Elev.	Grade
385			17.4	1322.1	4336.65
+64			16.9	1322.6	39.1
+62			31.2	1308.3	39.3
					12.9
381+09			41.3	1298.2	Bot. creek
383+35			19.6	19.9	48.0
T.P.	1.60	1339.48	15.88	1337.88	✓
T.P.	0.37	1353.76	18.72	1353.59	✓
T.P.	0.68	1369.11	15.71	1368.43	✓
+65			10.6	70.5	62.77
+45			10.3	73.8	54.14
+26			8.0	76.1	55.45
382			12.0	72.1	57.23
+25			6.0	78.1	62.4
381			5.3	78.8	64.09
+86			2.7	81.4	65.65
+77			5.4	78.7	67.73
					1370.0
+13			0.7	83.7	70.1
					1387.14

K.C. - 6.8666

	+3°10' 50'	+0°15' 27'	+1°35' 18'	+11°30' 36'	-20°10' (15) 50
	+2°05' 65'	-4°05' 46'	-3°50' 17'	-31°05' 25'	-20°00' 58'
	+13°05' 65'	+12°50' 40'	+19°35' 21'	-8°20' 15'	-11°35' 83'
	+12°20' 50'	+5°25' 25'	+2°50' 100'	+6°40' 26'	+9°05' 77'
	-17°15' 25'	-3°45' 18'	-1°30' 100'	-9°15' 53'	-24°50' 33'
	-20°50' 100'	-22°15' 67'	-31°25' 47'	-38°40' 25'	+14°10' 25'
		-17°00' 50'	-21°50' 20'	+11°00' 50'	+6°45' 50'
			-15°30' 50'	+5°00' 55'	+8°55' 50'
		-6°10' 50'	-4°50' 33'	+10°40' 12'	+12°00' 50'
			-8°10' 50'	+3°10' 25'	+5°40' 50'
		-19°45' 32'	-7°50' 45'	+8°00' 50'	
		-32°45' 28'	-6°15' 45'	+16°20' 17'	+7°50' 50'
		-13°45' 56'	-7°55' 40'	+13°30' 30'	
	-4°30' 65'	-7°15' 43'	-15°50' 28'	+11°10' 25'	+8°30' 50'

12/24/38
Clear Warm

X +5-0

Top of Dam
N. End

Top of Dam
Center

W.E.

Sta	+S	M	-S	Flav
450			4.6	31.0 1258.04
+10			4.6	31.0 1260.57
396			12.6	23.0 1261.19 Bot. crk.
+62			10.8	24.8 1263.80
+50			5.8	29.8 1264.62
T.P.	0.44	1235.56	15.92	1235.12
395			3.2	47.8 1268.05
T.P.	0.44	1251.04	15.83	1250.60
T.P.	0.53	1266.43	15.67	1265.90
T.P.	0.23	1281.57	15.82	1281.34
+23			13.5	83.7 1273.33
394			6.1	91.1 1274.91
+86.7			4.4	92.5
+66			5.0	92.2 1277.24
393			16.9	80.3 1281.77
+50			14.0	83.2 1285.20
392			6.2	1291.0 1288.63
		1297.16		

6.86%
 100'

Level				
-0°30' 55'	-17°00' 28'			
	Bot. crk.			
-0°15' 15'	-25°15' 17'	-11°00' 46'	-2°00' 65'	-2°15' 75'
		Bot. crk.	Bot. crk.	
±0°00' 50'	+18°15' 25'	-0°45' 40'	+5°15' 66'	+1°45' 100'
		Bot. crk.		
+4°15' 75'	-4°00' 30'	+11°15' 25'	+9°00' 53'	+10°00' 75'
	Bot. crk.			
-4°30' 85'	-10°00' 45'	+7°15' 25'	+16°15' 58'	
Bot. crk.	Bot. crk.			
-7°20' 75'	-6°45' 40'	+13°00' 46'	+16°00' 50'	
-15°45' 75'	-15°00' 25'	+19°45' 21'	-11°15' 29'	
-18°45' 75'	-17°30' 55'	+8°00' 24'	-10°45' 26'	
	-17°00' 75'	+5°15' 21'	-10°00' 29'	
-12°00' 75'	-19°45' 45'	+12°15' 50'		
-11°15' 75'	-11°45' 55'	+14°00' 27'	+15°45' 50'	
-13°45' 75'	-15°45' 29'	+18°45' 50'		

Sta	+S	H.I.	-S	Elev.
BM		7.19	1236.01	✓
T.P.	407	1243.20	14.38	1239.13 ✓
BM		10.02	1243.49	✓
411		9.0	19.5	✓
410		1.6	18.9	
PTO D'line				
+73.4		4.9	18.6	1248.60
409		6.1	17.1	✓1248.72
408		8.5	15.0	✓1248.91
+11		11.3	12.2	1248.91
407		11.6	11.9	1249.10
+45.5		12.4	11.1	edge part
+28		12.6	10.9	1249.23
T.P.	7.83	1253.51	14.60	1245.68 ✓
		1260.28		

Check on Hwy BM at Shady Dell - El. 1236.52

S.E. cor. curb hd. wall, W. side, M.C. 3.62, 201. 406+95

+5°30' 50'	Level 16'	Level 9' Edge Pav.	-2°00' 9' Edge Pav.	-4°45' 17'	-6°30' 50'		
+11°45' 50'	+12°00' 31'	-0°30' 20' Edge Pav.	-1°00' 9' Edge Pav.	-1°00' 9' Edge Pav.	+0°45' 19'	-5°00' 50'	
+11°30' 50'	+14°15' 22'	-1°15' 18' Edge Pav.	-1°00' 9' Edge Pav.	-1°00' 9' Edge Pav.	-2°45' 24'	-7°45' 50'	
+5°00' 50'	+5°30' 20'	+0°30' 18' Edge Pav.	-1°00' 9' Edge Pav.	-2°00' 9' Edge Pav.	-4°00' 17'	-14°15' 28'	-12°15' 50'
+2°30' 50'	+2°00' 23'	+3°00' 9.4' Edge Pav.	-5°30' 9.6' Edge Pav.	-4°15' 23'	-15°00' 32'	-10°15' 50'	
+16°00' 50'	+31°15' 8'	-3°30' 4.8' Edge Pav.	-3°30' 24.6' Edge Pav.	-3°45' 40'	-8°00' 50'		

-0.8896

YARDAGE OF ISOLATED BOULDERS

"F" line

1/10/39

Estell
Leckey
Brooks

Sta. 310 to 312	6 yds.
Sta. 314 to 315	8 yds.
Sta. 315 to 316	16 yds.
Sta. 316 to 317	66 yds.
Sta. 317 to 318	6 yds.
Sta. 318 to 319	115 yds.
Sta. 319 to 320	14 yds.
Sta. 320 to 321	10 yds.
Sta. 321 to 322	31 yds.
Sta. 322 to 323	21 yds.
Sta. 324 to 325	14 yds.
Sta. 325 to 326	6 yds.
Sta. 328 to 329	3 yds.
Sta. 331 to 332	2 yds.
Sta. 333 to 334	3 yds.
Sta. 334 to 335	5 yds.
Sta. 335 to 336	6 yds.
Sta. 336 to 337	4 yds.

See Page 42

40

Sta. 338 to 339	20 yds.
Sta. 339 to 340	50 yds.
Sta. 340 to 341	10 yds.
Sta. 347 to 348	20 yds.
Sta. 348 to 349	15 yds.
Total yds.	351

"PL" Line

Sta. 312 to 313	15 yds.
Sta. 314 to 315	8 yds.
Sta. 315 to 316	21 yds.
Sta. 316 to 317	26 yds.
Sta. 317 to 318	51 yds.
Sta. 318 to 319	41 yds.
Sta. 319 to 320	15 yds.
Sta. 320 to 321	21 yds.
Sta. 321 to 322	13 yds.
Sta. 322 to 323	20 yds.
Sta. 323 to 324	3 yds.

"PL" line

Sta. 329 to 325 2 yds.

Sta. 326 to 327 5 yds.

Sta. 329 to 330 12 yds.

Sta. 331 to 333 3 yds.

Sta. 336 to 337 20 yds.

Sta. 338 to 339 13 yds.

Sta. 344 to 345 7 yds.

Sta. 345 to 346 9 yds.

Sta. 346 to 347 12 yds.

Sta. 348 to 349 10 yds.

Sta. 349 to 350 5 yds.

Sta. 350 to 351 6 yds.

Sta. 351 to 352 2 yds.

Sta. 374 to 375 8 yds.

Sta. 375 to 376 50 yds.

Sta. 394 to 395 15 yds.

Total yds. 313

See Page 2

YARDAGE IN ISOLATED BOULDERS
P LINE
1-11-39
Heckey

Sta	Dist Lt	Lt	W	Rt	Dist Rt
18+10			5.3 CY. 4x6x6		
18+60				1.3 CY. 3x3x4	18
19+00	18		5.3 CY. 4x6x6		
19+20	10		1 CY. 3x3x3		
20+60				5.3 CY. 4x6x6	12
21+90				1 CY. 3x3x3	10
44+85				2 CY. 3.5x3x4	30
109+30				6.3 CY. 4x6x6	20
121+60				2.1 CY. 18x6x6	18
122+00				1 CY. 2x3x4	15
122+15				1 CY. 1.5x3x4	7
144+45				2.7 CY. 2x6x6	8
145+18	12		1.8 CY. 3x4x4		
145+25	12		1.3 CY. 2x3x6		
	15		20 CY. 6x6x15		
147+60				10 CY. 3x6x15	
147+80				9 CY. 6x4x10	2
148+20				16 CY. 6x6x12	15

Sta	Dist Lt	Lt	W	Rt	Dist Rt
148+30				16 CY. 6x6x12	10
148+80	20		35.5 CY. 8x8x15		
149+20	3		5 CY. 6x6x4		
149+70	25		11.5 CY. 6x6x10		
152+05				26.6 CY. 6x10x12	
152+05				9 CY. 4x6x10	15
156+50				50 CY. 6x15x15	
157+40				9 CY. 4x6x10	8
158+80				2.1 CY. 4x4x4	
159+00	10		30 CY. 4x4x6		
163+50	3		3.6 CY. 3x4x8		
163+55	15		5.5 CY. 4x6x6		
165+90	15		4.7 CY. 4x4x8		
166+50	10		3.6 CY. 4x4x6		
171+70				11.8 CY. 4x8x10	20
179+25	15		25 CY. 3x15x15		
193+20				9.6 CY. 4x8x8	15
196+20				17.8 CY. 4x6x20	18

Sta	Dist Lt	Lt.	t	Rt	Dist Rt.
196+90			2.7 CY. 3x4x6		
203+40			11 CY. 5x6x10		
203+60			9 CY. 3x10x8		
213+60	3.5	9 CY. 6x8x5			
213+90			14.8 CY. 5x8x10	6	
279+90	2.5	19.3 CY. 6x6x10			
280+50			10.6 CY. 6x6x8		
281+30			1.8 CY. 3x4x4	8	
281+55			1 CY. 3x3x3	18	
281+80	15	5.3 CY. 3x6x8			
281+90			7.1 CY. 4x5x6	10	
282+05	5	1.8 CY. 2x4x6			
283+50	8	6.3 CY. 4x6x6			
283+75			2.7 CY. 2x6x6		
285+50	18	2.7 CY. 3x4x6			
287+60			1 CY. 2x3x4	7	
310+40	15	17.8 CY. 4x10x12			

Sta	Dist Lt.	Lt.	t	Rt.	Dist Rt.
312+10	15'	1.3 CY. 2x4x3		2x3x4 2x3x4	20' 15'
+35	10'	2x2x3		2x2x3 2x3x6 2x3x3	10' 15' 5'
+95		6x6x8		1x3x7 1x3x4	15' 10'
319+40				3x3x2	10'
+50				2x2x5	15'
315+15	5'	2x2x2			
+25				2x2x2	20'
+35	12'	2x3x3			
+45	20' 7'	2x2x5 5x5x8		2x3x3	15'
+60	20'	3x3x3			
+70				2x3x7 2x2x3	20' 15'
+85	7'	2x5x6			
+90				1x4x6	
316+20	10'	3x4x6		3x4x12	10'
+30				2x2x4 2x2x2	5'
+40	15'	3x3x3			
+75				4x5x8 3x3x4	20' 13'
+85				3x3x3 3x6x8	20'

See p^l line from here

Sta.	Dist.	Lt.	¢	Rt.	Dist.	Rt.
317	13'	5X6X7	2X4X4			
+10	5'	3X5X6		3X6X6	5'	
+20	20'	2X2X3				
+30	20'	3X3X4		2X2X2	10'	
+40	20'	3X3X3				
+55	25'	3X5X5				
+85	15'	2X2X2				
318+05	20'	3X3X3				
+08	25'	2X2X4		2X2X3	15'	
+15	8'	3X4X7				
+20				2X2X2	15'	
+25	5'	2X2X2				
+40	10'	3X4X12		2X2X3	20'	
+50	20'	3X3X3		3X3X3	20'	
+50	15'	3X3X3		3X3X3	15'	
+60				2X2X2		
+80	20'	3X3X6				
+80	15'	3X3X3				
+80	12'	3X3X6				
+90	25'	5X5X8				
+95	15'	2X2X4				

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Sta.	Dist.	Lt.	¢	Rt.	Dist.	Rt.
319+15				4X5X6	10'	
+20	20'	3X3X3		2X2X2	4'	
+60	15'	2X2X3		2X2X2	5X3X2	15'
+80				3X5X8	12'	
320+08	10'	2X5X9				
+15				1X3X4		
+35				2X3X5		
+65	12'	3X3X15				
+85				2X5X7	8'	
+95	15'	3X4X8				
321+07				3X3X3		
+15	12'	3X3X6				
+35	6'	2X3X5				
+30	3'	2X3X5		2X2X2	3'	
+75	7'	1X2X3		2X4X4		
322+15'	15'	3X10X10				
+30	10'	3X10X10				
+45	7'	3X4X9				

Sta.	Dist. Lt.	Lt.	#	Rt.	Dist. Rt.
322+60	10'	3x3x3		3x4x6 3x5x8	30' 20'
+75	15'	3x5x7		3x3x7 4x5x5	30' 20'
+80				3x4x4	10'
+85	3'	1x2x2		2x3x3 7x7x8	5' 25'
+95	12' 8'	3x3x3 3x3x3		1x2x3	6'
323x08	15' 4'	2x3x5 1x2x3		2x2x2 2x4x4	15' 5'
+20	25'	3x3x4	3x3x3		
+25				1x2x3	23'
324+50			6x4x10		
+70				2x3x6	8
+80				3x3x6	20
325+00	10	6x6x12		3x4x4	10
326+45	14	3x3x6			
328+70	25	4x5x6			
329+35	18	3x6x6			
330+35	15	2x3x7			
334+10	12	2x4x6		4x6x7	15
335+00	25	4x6x8		2x3x4	17

Sta.	Dist Lt	Lt	#	Rt	Dist Rt
235+55				2x4x6	15
336+30	15	4x6x10	4x4x4		
336+65				3x4x6	12
338+00				4x4x4	10
338+08	10	3x6x12			
338+15	20	4x4x4		4x4x6	15
338+20	14	4x4x6			
338+25	12	4x4x4			
338+35				2x6x10	12
338+90				4x10x15	18
339+00				6x5x10	12
339+15				8x8x10	
339+25				4x4x8	
339+35				4x6x12	15
339+50	12	2x3x4		4x4x6	8
339+55				4x6x8	
339+60				3x4x6	
339+75	8	4x5x6	3x6x8	4x4x4	10

Sta	Dist Lt	Lt	¢	Rt	Dist Rt
339+80			4x6x8		
339+90			4x5x6		
340+00				3x3x4	5
345+25				3x3x4	5
345+50	17	2x3x3			
348+40	18	2x4x12			
	18	6x10x10			
348+50	5	4x4x6			
348+60	15	3x4x6			
353+00	15	3x4x4			
353+45	8	3x4x4			
353+50	12	3x4x5			
357+30				4x4x5	6
357+50				4x4x6	10

Excavation and Embankment Table

47

Sta. to Sta.	C.Y. Excav.	C.Y. Emb.		Sta. to Sta.	C.Y. Excav.	C.Y. Emb.
0+00 - 4+00	1050	4607	Excav. borrow	112+50 - 118+25	4620	1109
4+00 - 7+00		Bridge		118+25 - 122+00	117	4113
7+00 - 18+00	73	10,259		122+00 - 128+00	8820	498
18+00 - 27+00	20,127	101		128+00 - 130+00	104	7,511
27+00 - 33+00	511	7,348		130+00 - 133+00	5,526	153
33+00 - 36+00	1,567	114		133+00 - 138+00	882	15,598
36+00 - 46+50	5,370	2,243		138+00 - 145+00	10,563	709
46+50 - 52+50	1,032	5,060		145+00 - 152+00	3,107	8,144
52+50 - 63+50	8,843	8,793		152+00 - 160+50	13,488	3,249
63+50 - 75+00	5,927	5,726		160+50 - 168+50	2,733	8,728
75+00 - 79+75	26,280	100		168+50 - 175+50	8,276	6,605
79+75 - 83+75	191	54,320		175+50 - 178+50	15,210	13
83+75 - 86+50	7,920	592		178+50 - 182+50	7	21,172
86+50 - 89+50	181	29,773		182+50 - 190+50	5,825	7,743
89+50 - 97+00	36,313	2,036		190+50 - 194+00	9,694	182
97+00 - 102+50	17,504	372		194+00 - 196+00	54	9,585
102+50 - 109+00	2,504	11,253		196+00 - 199+00	10,705	12
109+00 - 112+50	9,174	128		199+00 - 202+00	213	5,058

(cont.)

Sta. to Sta.	Excav. C.Y.	Emb. C.Y.
202+00-208+00	50,530	13
208+00-212+50	168	121,493
212+50-222+00	74,864	239
222+00-232+00	5,017	8,958
232+00-237+00	9,867	946
237+00-240+00	398	3,497
240+00-251+00	3,095	26,283
251+00-259+00	61,095	28
259+00-263+00	868	43,397
263+00-270+00	29,959	742
270+00-275+00	648	46,844
275+00-278+00	19,167	70
278+00-283+50	1,220	75,64
283+50-286+75	6,886	373
286+75-297+00	1,973	12,602
297+00-303+00	24,083	0
303+00-307+00	99	30,285
307+00-313+00	19,306	517

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(cont.)

Sta. to Sta.	Excav. C.Y.	Emb. C.Y.	
313+00-318+50	432	6,927	
318+50-327+50	3,986	1,366	
327+50-334+00	2,163	2,163	side borrow
334+00-342+50	3,229	3,229	" "
342+50-349+00	10,171	975	
349+00-355+50	0	9,185	
355+50-378+00	8,905	8,905	side borrow
378+00-383+00	11,542	4	
383+00-385+50	139	18,379	
385+50-394+50	10,042	337	
394+50-400+50	359	28,679	
400+50-406+00	28,112	842	
406+00-409+734	30	3,205	

Stadial line from S.E. CORNER
 SEC 36 TO S.W. CORNER SEC 36
 T 14S RTW, S.B.M. San Vicente, N.M.

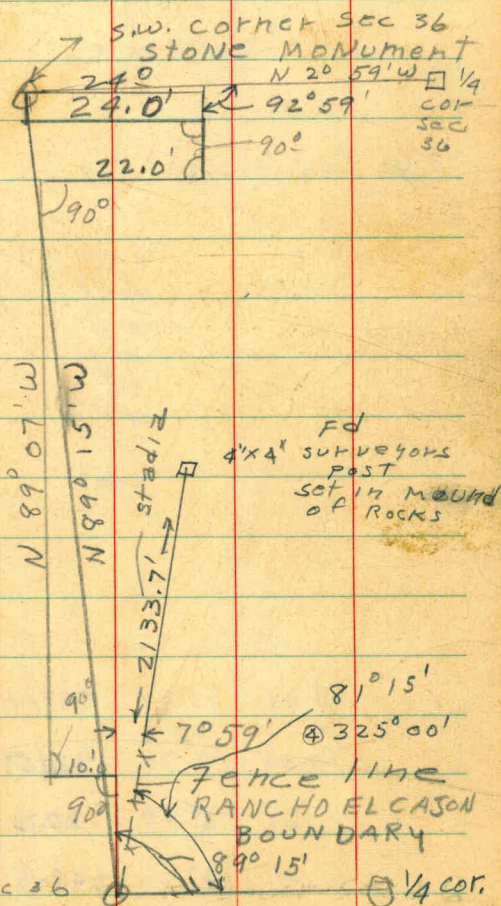
5-7-46
 Clear-HOT

Nelson T
 Leonard
 Rice

49

STA Rod INT Vert \angle Hor Dist. Total dist 5-13-46 chained dist \leftarrow 5-13-46 same party \rightarrow Clear-HOT

STA	Rod	INT	Vert \angle	Hor Dist.	Total dist	5-13-46 chained dist
13	-	-	-	2.4	5358.4	5314.72
12	.97		8°30'	96.0	5356.0	
11	1.72		2°40'	172.6	5260.0	
10	.50		-	51.0	5087.4	
9	1.57		-	158.0	5036.4	
8	-		-	4.5	4878.4	
7	12.00		9°30'	1168.4	4873.9	
6	2.52		-	253.0	3705.5	
5	7.45		-	746.0	3452.5	
4	7.10		2°50'	709.3	2706.5	
3	4.49		4°30'	447.2	1997.2	1984.4
2	6.68		-	669.0	1550.0	
1	4.35		-	436.0	881.0	877.0
0	4.44		-	445.0	445.0	441.5



stadia line from S.W. COR sec 36
 TO W 1/4 COR SEC 36 T14S R1W S.B.M

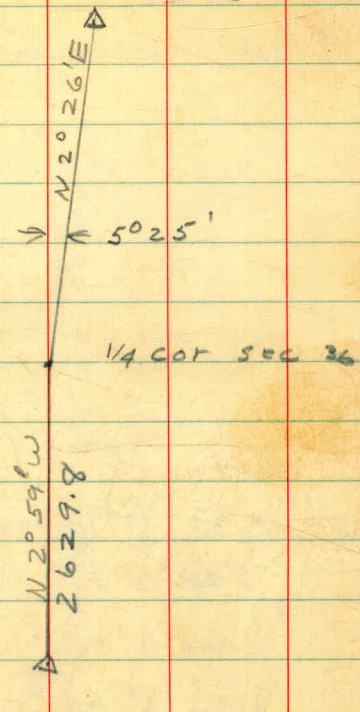
5-14-46
 CLEAR-HOT

Nelson
 Leonard SD
 Rice

N.W. COR
 sec 36

Radial degree true dist Total

Radial	degree	true dist	Total
10.41	11° 30'	999.67	2629.8
10.04	16° 20'	924.59	
.61	3° 50'	60.73	
6.47	3° 20'	644.8	



Stadia line from W¹/₄ cor sec 36
to W¹/₄ cor sec 25 T 145 R 1W
S. B. M.

5-15-96
cloudy-cool

Nelson
Leonard
RICE

51

Rod int	Deqrec	corr per 100'	true dist	Total dist
---------	--------	------------------	--------------	---------------

1676	1328			
1328	418			
348	910			

11.9

2.22	19° 10'	10.78	198.07	2656.20
------	---------	-------	--------	---------

7.84	3° 30'	.37	781.1	
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12.66	4° 50'	.71	1257	1676.03
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1.02	6° 20'	1.22	100.96	
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2.19	6° 30'	1.28	216.20	
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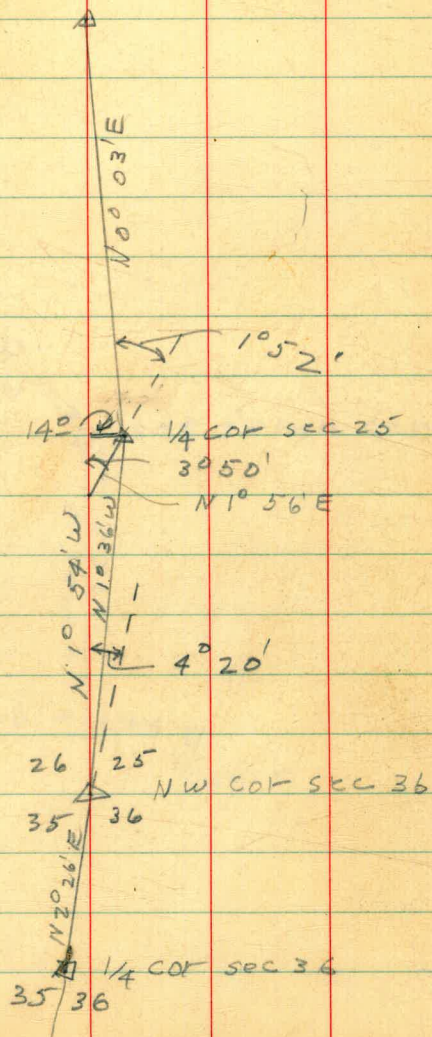
1.03	10° 20'	3.22	101.87	
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9.35	16° 30'	8.07	859.55	2598.4
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6.48	6° 00'	1.09	660.94	
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11.00	2° 30'	.19	1097.91	
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89.59
136
88.23

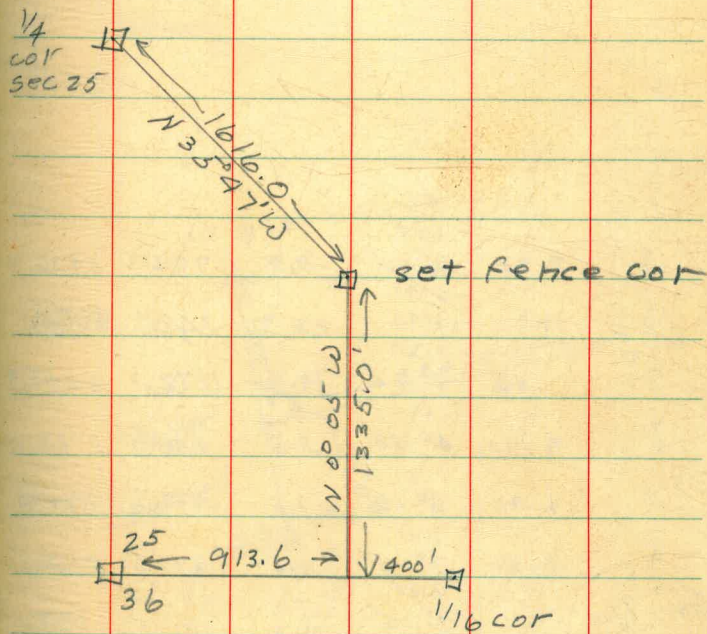


Stadia line from 913.6 East
of sec cor $\frac{25}{36}$ to W $\frac{1}{4}$ corner of
SEC 25 19S R 1W S.B.M.

5-17-46
clear-Hot

Nelson
Leonard
Rice

52

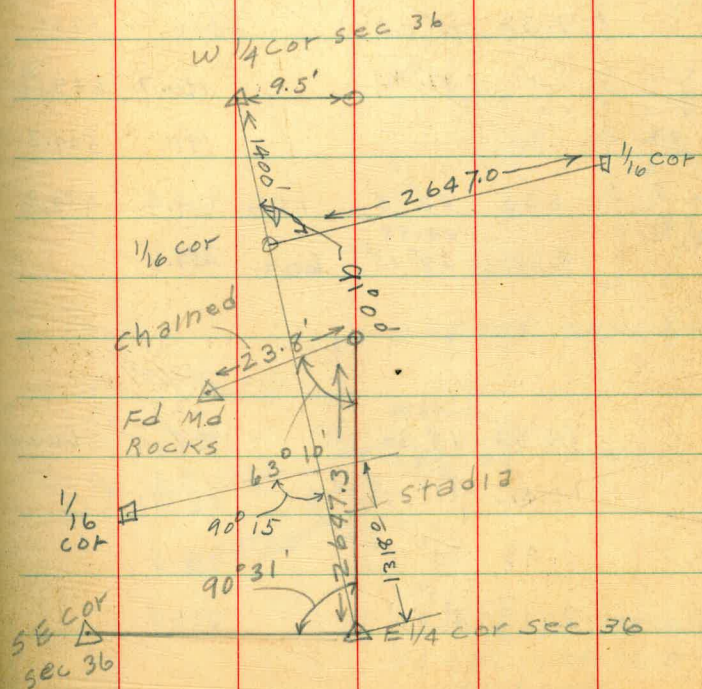


STADIA LINE FROM E 1/4 COR
SEC 36 TO W 1/4 COR SEC 36

5-20-96
clear-hot

Nelson
Leonard
Rice 53

	Rad INT	DEGREE	corr per 100'	True dist	Total
9	7.93	6° 40'	10.7	782.3	5436.3
8	3.72	14° 40'	23.9	348.1	4654.
7	11.92	7° 25'	19.9	1172.1	4305.9
6	4.90	4° 50'	3.5	486.5	3133.8
5	4.90	3° 10'	1.51	488.5	2647.3
4	2.82	7° 15'	4.51	277.5	2158.8
FOR APPROX 1/16 COR	11.11	8° 05'			1319.0
3	16.52	1° 20'	.83	1651.2	1881.3
2	.92	2° 0'		92.0	230.1
1	1.47	14° 15'	8.9	138.1	



Stadia line from center 1/4 cor-
SEC 36 To South 1/4 cor sec 36

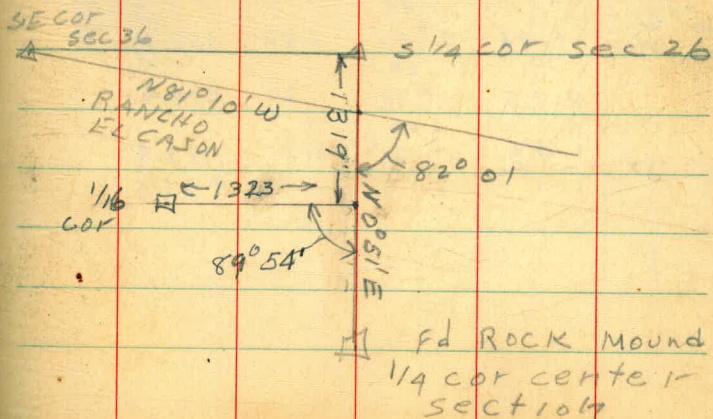
5-21-46
Cool-Cloudy

Nelson
Leonard 54
Rice

Rod INT	degree	corr per 100'	True dist	Total
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Rod INT	degree	corr per 100'	True dist	Total
7.36	15° 10'		686	1331
1.11	17° 45'		100.7	644.9
.70			70.	544.2
1.30	20° 15'	11.98	15.6	114.4
4.20	22° 15'	14.34	60.2	359.8
13.32	10° 30'	332	1286.8	2622.0
10.42	13° 30'	5.45	985.2	
1.43	10° 10'	3.12	138.5	
2.13	4° 50'	.71	211.5	

Stadia TO
SET 1/16 COR
EAST



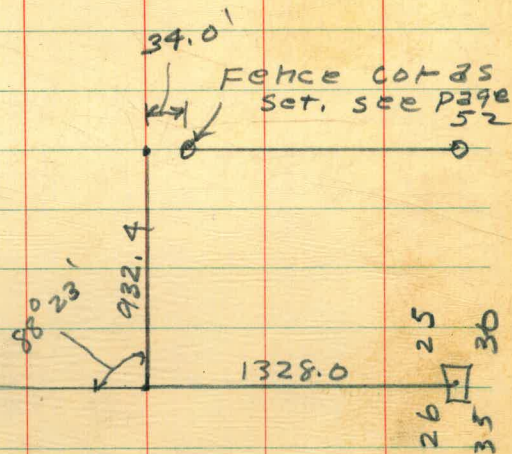
stadia line from 1116 cor,
 1/4 mile north of SW corner
 sec 25 T 143 R 1W S.B.M.,
 932.4' EAST

Rod int	degree	corr	true dist	total dist
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3.15	19.57 26° 15'	61.6	253.4	932.4
.27	—		271.0	
1.94	1.94 8° 00'	3.80	190.2	
2.75	.20 2° 35'	.60	274.4	
1.93	2.92 9° 50'	5.6	187.4	
			932.4	

5-31-46
 clear-140T

Nelson
 Leohard 55
 Rice



89° 15'

16
18
20
22
24
26
28
30
32
34
36
38
40

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	25.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.