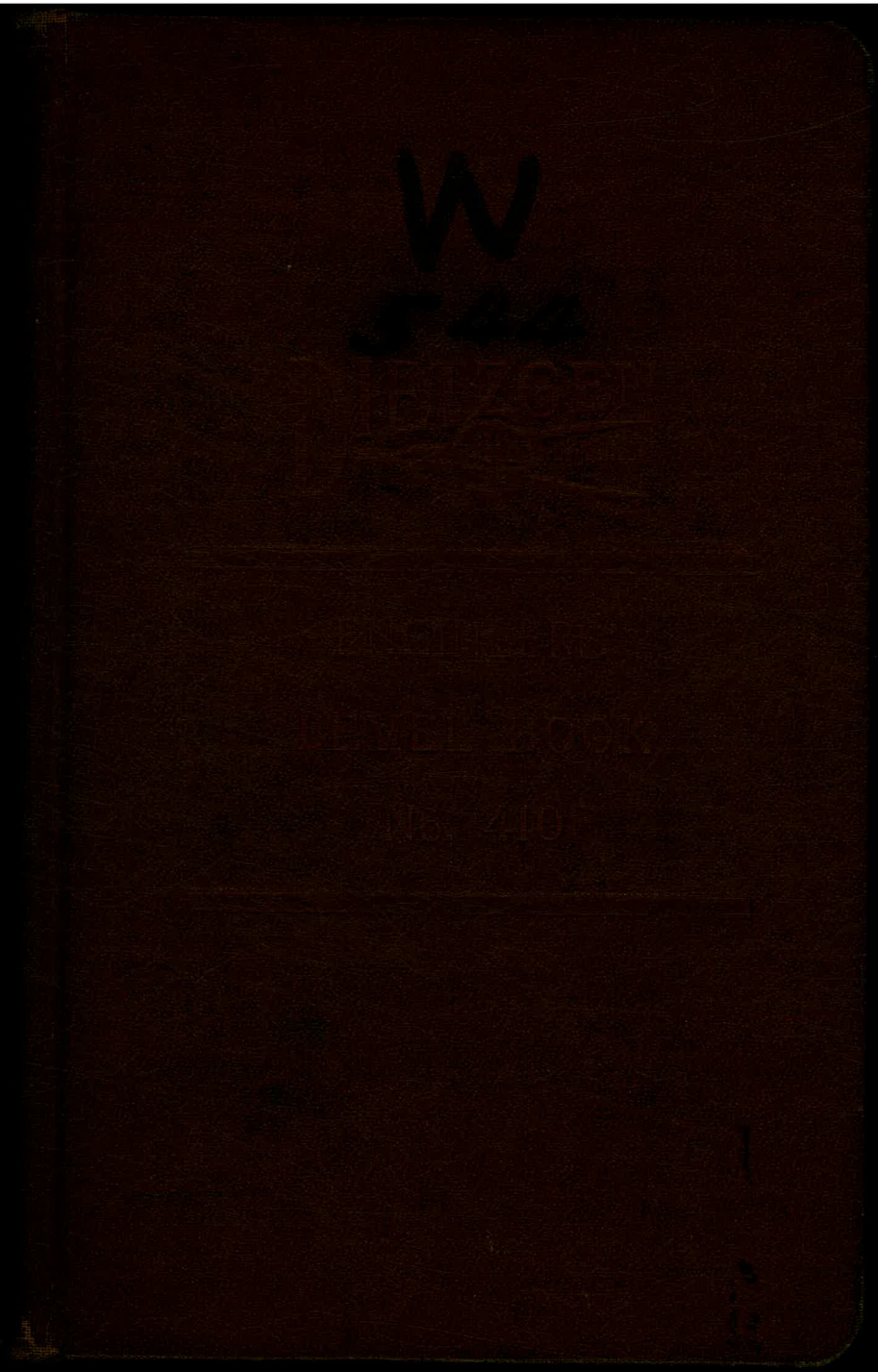
W
544

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

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.

544

This Field Book is manufactured of a high grade **50%** Rag Paper having a **WATER RESISTING** surface.

Page

Index.

Feb 16 1937
Soper
Isbell

Bench levels and profile of Lake Murray –
El Capitan Pipeline proposed pipe location.

B.M				500.06	B.M. (City elevation) on "A" line.
	8.77	508.83			
T.P.			11.19	497.64	
	8.29	505.93			
T.P.			12.93	493.00	
	2.41	495.41			
T.P.			12.62	482.79	Set B.M# 3 Nail in 1"x2" marker, 35' Rt. sta. 6+50
	1.75	484.54			
T.P.			12.73	471.81	
	2.46	474.27			
T.P.			12.43	461.84	Set B.M# 2 Nail in rock 25' Rt. sta 2+60
	0.34	462.18			
T.P.			12.91	449.27	
	0.48	449.75			
T.P.			11.80	437.95	
	24.50		86.61		

500.06
-437.95
62.11

86.61
24.50
62.11

Feb. 17, 1937
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T.P.			437.95	
	3.10	441.05		
			6.55	434.50	Set B.M.#1. Lead plug and nail in S.W. Corner of Buttress # of Murray Dam.
0+00			5.70	435.35	top of flange of 24" Gate Valve
0+00			8.0	33.0	Ground elev.
0+12			5.9	35.1	top of Concrete pier under 24" pipe
0+12			7.6	33.4	Ground elev.
0+21			6.1	34.9	top of concrete pier under 24" pipe
0+21			7.5	33.5	Ground elev.
0+28			5.5	35.5	top of concrete pier under 24" pipe
0+28			7.0	34.0	Groundelev.
0+31			6.5	34.5	top of concrete foundation under 24" pipe.
0+32			7.1	33.9	Ground elev.
0+68.29 ℄			7.8	33.2	
1+00			8.4	32.6	
+20			11.4	29.6	
+45			6.1	34.9	
+68			6.9	34.1	

		441.05 ✓		
2+00			2.3	38.7 ✓
T.P.			0.97	440.08 ✓
	12.91	452.99 ✓		
2+13			13.5	39.5 ~~38.5~~ ✓
+39			4.6	48.4 ~~47.4~~ ✓
+50			2.1	50.9 ~~49.9~~ ✓
+62			5.9	47.1 ~~46.1~~ ✓
T.P.			0.40	452.59 ✓
	12.92	465.51 ✓		
+80			11.2	54.3 ✓
92			10.6	54.9 ✓
3+00			5.6	59.9 ✓
ck on B.M.#2				
3+25.22 ℄			4.3	61.2 ✓
+41			6.3	59.2 ✓
+48			14.0	51.5 ✓
+56			10.3	55.2 ✓
+75			9.5	56.0 ✓
4+00			10.9	54.6 ✓
+70			15.7	49.8 ✓

		465.51 ✓			
4+80			17.6	447.9 ✓	
5+00			12.6	52.9 ✓	443.6
TP			11.53	453.98 ✓	
	7.77	461.75 ✓			
+45			9.3	52.4 ✓	443.6
+78			12.9	48.8 ✓	
+85			5.8	55.9 ✓	
				See	page 73
6+00			6.3	55.4 ✓	443.7
6+42.09 ℄			1.9	59.8 ✓	
+88			15.1	46.6 ✓	
7+00			13.5	48.2 ✓	
+38			6.4	55.3 ✓	

8.3

8.8

		461.75 ✓			
8+00			4.2	457.5 ✓	
TP.			2.81	458.94 ✓	
	6.33	465.27 ✓			
8+58			1.5	63.8 ✓	Edge of old road.
+85.28 ℄			3.1	62.2 ✓	
+91			3.2	62.1 ✓	Edge of old road.
9+00			6.1	59.2 / ~~59.3~~	
+25			13.4	51.9 ✓	
+45			22.0	43.3 ✓	
+63			17.2	48.1 ✓	

		465.27 ✓		
10+00		12.5	452.8 ✓	Edge of old road.
+53		14.3	51.0 ✓	Edge of old road.
+80		9.3	56.0 ✓	
11+00		9.6	55.7 ✓	
+18		9.1	56.2 ✓	
+45		1.5	63.8 ✓	
+73.03 ℄		1.3	64.0 ✓	
TP.		1.31	463.96 ✓	TP on sta. 11+73.03
	4.43	468.39 ✓		
12+00		4.8	63.6 ✓	

	468.39 ✓		
12+15		3.5	64.9 ✓
+50		4.3	64.1 ✓
13+00		7.0	61.4 ✓
+50		8.2	60.2 ✓
+90		12.0	56.4 ✓
14+00		13.8	54.6 ✓
+40		20.0	48.4 ✓
15+00		13.7	54.7 ✓
+42		10.6	57.8 ✓
15+61.11 ℄		11.7	56.7 ✓

(Profile Continued on Page 9)

		468.39			
T.P.			11.67	456.72	T.P. on sta. 15+61.11
	9.41	466.13			
			8.61	457.52	B.M on "B" line marked elev. 457.60
T.P.			0.26	465.87	
	12.78	478.65			
T.P.			2.21	476.44	
	12.88	489.32			
T.P.			0.04	489.28	
	12.99	502.27			
ck on B.M.			2.29	499.98	B.M on "A" line elev. 500.06
Check levels from B.M. on "A" line, to Murray Dam. and back to B.M. on "B" line.				500.06	
	5.40	505.46			
T.P.			7.83	497.63	
	8.87	506.50			
T.P.			12.97	493.53	
	0.76	494.29			
			11.49	482.80	ck. on B.M. #3. Elev. 482.79

				482.80	
	1.43	484.23			
T.P.			12.36	471.87	✓
	2.48	474.35			
T.P.			12.50	461.85	✓
	2.60	464.45			
T.P.			12.66	451.79	✓
	7.71	459.50			
T.P.			12.33	447.17	✓
	1.48	448.65			
			10.69	437.96	✓
T.P.			8.55	440.10	✓
	12.96	453.06			
T.P.			0.44	452.62	✓
	12.66	465.28			
T.P.			11.27	454.01	✓
	7.71	461.72			
T.P.			2.75	458.97	✓
	7.78	466.75			
			2.77	463.98	✓

Ck. on B.M.#2 Elev. 461.84

Ck. on T.P. Elev. 437.95

Ck on T.P. Elev. 440.08

" " " " 452.59

" " " " 453.98

" " " " 458.94

" " " " 463.96

Feb. 18, 1937
Super
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			463.98		
	5.29	469.27			
TP			12.53	456.74 ✓	ck on TP. elev. 456.72
	1.79	458.53			
			0.99	457.54 ✓	ck on B.M on "B" line, elev. 457.60
	Profile - continued.				
B.M. 4				457.60 ✓	B.M. on "B" line, Elev. 457.60
	0.99	458.59 ✓			
16+00			3.2	55.4 ✓	
+25			4.2	54.4 ✓	
+60			8.3	50.3 ✓	
T.P.			13.02	445.57 ✓	
	0.28	445.85 ✓			
17+00			3.7	42.1 ✓	

		445.85 ✓		
TP			13.06	432.79 ✓
	1.02	433.81 ✓		
17+70			6.1	27.7 ✓
18+00			12.4	21.9 ✓
TP			13.10	420.71 ✓
	1.76	422.47 ✓		
18+24			3.8	18.7 ✓
+31			7.2	15.3 ✓
+70			13.6	08.9 ✓
+95			20.9	01.6 ✓
19+00			19.9	02.6 ✓

		422.47 ✓		
19+25			12.5	410.0 ✓
+70			2.9	19.6 ✓
TP.			0.18	422.29 ✓
	12.27	434.56 ✓		
20+00			8.4	26.2 ✓
+30			0.7	33.9 ✓
TP.			0.88	433.68 ✓
	12.92	446.60 ✓		
21+00			1.0	45.6 ✓
TP.			0.08	446.52 ✓
	12.77	459.29 ✓		

		459.29 ✓		
21+40			6.9	452.4 ✓
+75			2.7	56.6 ✓
22+00			1.0	58.3 ✓
TP			0.11	459.18 ✓
	11.93	471.11 ✓		
22+50			10.7	60.4 ✓
23+00			9.3	61.8 ✓
+50			7.9	63.2 ✓
24+00			7.2	63.9 ✓
+50			5.9	65.2 ✓

		471.11 ✓		
25+00			5.2	65.9 ✓
+78.51 ℄			5.3	65.8 ✓
26+00			5.7	65.4 ✓
+50			6.0	65.1 ✓
27+00			8.5	62.6 ✓
+50			10.8	60.3 ✓
T.P.			12.42	458.69 ✓
	3.09	461.78 ✓		
28+00			4.4	57.4 ✓
+50			6.3	55.5 ✓

	461.78 ✓		
29+00		9.3	452.5 ✓
		5.53	456.25 ✓
29+50		10.2	51.6 ✓
30+00		12.9	48.9 ✓
+50		15.3	46.5 ✓
+88		18.8	43.0 ✓
31+00		17.0	44.8 ✓
+50		16.6	45.2 ✓
32+00		16.9	44.9 ✓

Set B.M." 5. Nail in 1"x2" marker, 45' Rt. 29+00

		461.78 ✓		
32+50			17.2	444.6 ✓
33+00			15.2	46.6 ✓
+50			13.6	48.2 ✓
+75			12.5	49.3 ✓
34+00			12.8	49.0 ✓
+50			12.2	49.6 ✓
35+00			11.7	50.1 ✓
P.I.			11.40	450.38 ✓
	3.56	453.94 ✓		
35+70			2.6	51.3 ✓

		453.94 ✓		
36+00			2.8	51.1 ✓
+50			3.4	50.5 ✓
37+00			4.6	49.3 ✓
+15			4.5	49.4 ✓
+60			7.9	46.0 ✓
38+00			11.6	42.3 ✓
TP.			12.41	441.53 ✓
	0.16	441.69 ✓		
38+50			3.5	38.2 ✓
39+00			6.0	35.7 ✓

Set B.M. #6. Point on rock 40' Rt. 39+00

		441.69 ✓		
39+45			8.0	433.7 ✓
+75			10.3	31.4 ✓
T.P.			12.80	428.89 ✓
	1.33	430.22 ✓		
40+00			2.3	27.9 ✓
+40			6.0	24.2 ✓
+80			7.8	22.4 ✓
41+00			7.2	23.0 ✓
+40			9.1	21.1 ✓
+70			10.0	20.2 ✓

	430.22 ✓		
42+00	10.9	419.3 ✓	
+15	13.5	16.7 ✓	
+45	15.2	15.0 ✓	
+65	20.0	10.2 ✓	
+82	23.2	07.0 ✓	
43+00	20.6	09.6 ✓	
+13	19.1	11.1 ✓	
+58	8.2	22.0 ✓	
44+00	0.3	29.9 ✓	
TP	0.23	429.99 ✓	

				429.99 ✓
	12.65	442.64 ✓		
44+40			8.1	434.5 ✓
45+00			3.4	39.2 ✓
+30			0.5	42.1 ✓
TP.			0.38	442.26 ✓
	12.48	454.74 ✓		
+75			6.9	47.8 ✓
46+00			5.3	49.4 ✓
+50			4.2	50.5 ✓
47+00			3.7	51.0 ✓
+30			3.0	51.7 ✓

		454.74 ✓		
47+65			3.6	451.1 ✓
48+00			3.7	451.0 ✓
+30			4.3	450.4 ✓
+60			5.8	448.9 ✓
+85			8.4	446.3 ✓
49+00			11.1	443.6 ✓
TP			12.22	442.52 ✓
	0.40	442.92 ✓		
49+40			4.7	438.2 ✓
+65			7.5	435.4 ✓

center of old road.

Set B.M. #7. Nail in 1" x 2" marker 50' Rt. 49+00

		442.92 ✓		
49+88.79			11.9	431.0 ✓
50+00			13.8	29.1 ✓
TP			12.41	430.51 ✓
	0.01	430.52 ✓		
50+35			7.6	22.9 ✓
+87			18.5	12.0 ✓
51+00			26.4	04.1 ✓
+08			30.0	400.5 ✓
+30			24.5	06.0 ✓
+65			20.8	09.7 ✓

		430.52 ✓		
52+00			18.8	411.7 ✓
+50			12.9	17.6 ✓
53+00			5.6	24.9 ✓
TP.			0.54	429.98 ✓
	12.53	442.51 ✓		
53+35			12.1	30.4 ✓
+60			7.2	35.3 ✓
54+00			1.1	41.4 ✓
TP.			0.52	441.99 ✓
	12.32	454.35 ✓		
54+50			4.3	50.0 ✓

		454.35 ✓		
TP.			0.36	453.99 ✓
	12.99	466.98 ✓		
55+00			9.7	57.3 ✓
+40			5.7	61.3 ✓
56+00			3.7	63.3 ✓
+35			2.5	63.5 ✓
57+00			1.2	67.8 ✓
TP.			0.70	466.28 ✓
	9.26	475.54 ✓		
57+50			8.3	67.2 ✓
58+00			8.3	67.2 ✓

	475.54 ✓		
58+20		7.0	468.5 ✓
+35		7.7	467.8 ✓
59+00		7.5	468.0 ✓
+50		5.7	469.8 ✓
60+00		6.7	468.8 ✓
+50		6.6	468.7 ✓
61+00		5.9	469.6 ✓
+50		4.2	471.3 ✓
62+00		2.3	473.2 ✓
+12.36 ℄		2.6	472.9 ✓

Feb 19, 1937
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		475.54 ✓			
T.P.			2.56	472.98 ✓	T.P. on sta. 62+12.36
	4.71	477.69 ✓			
62+50			3.7	74.0 ✓	
63+00			3.7	74.0 ✓	
+50			4.1	73.6 ✓	
64+00			4.7	73.0 ✓	
+50			4.5	73.2 ✓	
65+00			5.0	72.7 ✓	
B.M.			5.10	472.59 ✓	Set B.M.#8. Nail in power pole #76918. 125' Lt 64+40
65+50			4.5	73.2 ✓	

		477.69 ✓			
66+00			4.0	473.7	✓
+50			3.9	73.8	✓
67+00			3.7	74.0	✓
+50			4.3	73.4	✓
68+00			4.9	72.8	✓
+50			4.9	72.8	✓
TP			4.82	472.87	✓
	0.38	473.25 ✓			
69+00			1.0	72.2	✓
+25			1.1	72.1	✓

		473.25 ✓			
69+50			2.2	471.1	✓
+75			2.5	70.7	✓
70+00			3.9	69.3	✓
+50			7.4	65.8	✓
+75			9.1	64.1	✓
71+00			12.3	60.9	✓
T.P.			12.87	460.38	✓
	0.25	460.63 ✓			
71+50			5.7	54.9	✓
72+00			13.2	47.4	✓

		460.63 ✓			
T.P.			12.74	447.89 ✓	
	0.22	448.11 ✓			
72+45			7.8	40.3 ✓	
+65			12.9	35.2 ✓	
T.P.			12.93	435.18 ✓	
	0.24	435.42 ✓			
72+80			4.8	30.6 ✓	
73+00			13.7	21.7 ✓	
+22			25.6	09.8 ✓	
+27			30.8	04.6 ✓	
+33			24.8	10.6 ✓	

		435.42 ✓		
73+67			5.7	429.7 ✓
TP.			0.07	435.35 ✓
	12.39	447.74 ✓		
73+86			11.7	36.0 ✓
74+00			9.2	38.5 ✓
+50			1.6	46.1 ✓
TP.			0.24	447.50 ✓
	12.58	460.08 ✓		
75+00			6.1	54.0 ✓
TP.			0.09	459.99 ✓
	12.77	472.76 ✓		

		472.76 ✓		
75+50			12.1	460.7 ✓
+75			8.7	64.1 ✓
76+00			7.0	65.8 ✓
+50			3.4	69.4 ✓
TP.			0.41	472.35 ✓
	10.36	482.71 ✓		
77+00			11.0	71.7 ✓
+59.74 L.			9.2	73.5 ✓
78+00			8.7	74.0 ✓
+50			8.2	74.5 ✓

	482.71 ✓		
79+00		8.2	474.5 ✓
B. M.		2.45	480.26 ✓
79+50		8.3	74.4 ✓
80+00		8.3	74.4 ✓
+50		8.4	74.3 ✓
81+00		8.1	74.6 ✓
+50		8.6	74.1 ✓
+91.29 ℄		9.1	73.6 ✓
TP.		9.10	473.61 ✓
	2.75 ✓ 476.36		

Set B. M.# 9. Point on rock, 50' Rt 79+00

TP on 81+91.29

		476.36 ✓			
82+00			2.6	473.8	✓
+15			3.0	73.4	✓
+40			1.3	75.1	✓
83+00			2.1	74.3	✓
+50			4.2	72.2	✓
84+00			8.0	68.4	✓
+50			12.4	64.0	✓
TP			12.86	463.50	✓
	0.14	463.64 ✓			
85+00			3.6	60.0	✓

	463.64 ✓		
85+50		6.2	457.4 ✓
86+00		7.8	55.8 ✓
+50		7.8	55.8 ✓
87+00		6.2	57.4 ✓
+50		4.9	58.7 ✓
88+00		3.9	59.7 ✓
+50		3.8	59.8 ✓
89+00		3.3	60.3 ✓
B.M.		4.41	459.23 ✓
89+50		4.7	58.9 ✓

Set B.M" 10. Point on rock 30' Lt. 89+20

		463.64 ✓		
90+00			8.2	455.4 ✓
TP.			5.35	458.29 ✓
	7.88	466.17 ✓		
+40			18.0	48.2 ✓
+65			28.0	38.2 ✓
91+00			13.4	52.8 ✓
+25			6.8	59.4 ✓
+55			3.8	62.4 ✓
92+00			1.0	65.2 ✓
TP.			0.70	465.47 ✓
	11.12	476.59 ✓		

	476.59 ✓		
92+50		8.9	467.7 ✓
93+00		6.5	70.1 ✓
+35		4.6	72.0 ✓
+73.81 ℄		3.3	73.3 ✓
94+00		3.7	72.9 ✓
+50		6.8	69.8 ✓
95+00		10.7	65.9 ✓
+20		11.5	65.1 ✓
+40		15.4	61.2 ✓
+50		13.3	63.3 ✓

		476.59 ✓		
96+00			12.3	464.3 ✓
+50			12.3	64.3 ✓
97+00			10.8	65.8 ✓
+50			7.8	68.8 ✓
TP.			7.27	469.32 ✓
	9.73	479.05 ✓		
98+00			6.0	73.0 ✓
+30			4.2	74.8 ✓
+60			5.4	73.6 ✓
+80			4.0	75.0 ✓

		479.05 ✓		
99+00			5.5	473.5 ✓
+15.98 Lt.			5.3	73.7 ✓
+55			7.9	71.1 ✓
+70			6.3	72.7 ✓
100+00			6.5	72.5 ✓
+50			5.5	73.5 ✓
101+00			5.1	73.9 ✓
+40.70 Lt.			5.4	73.6 ✓
T.P.			9.51	469.54 ✓
	0.94	470.48 ✓		

Set B.M. #11. Point on large boulder, 40' Lt 101+85

		470.48 ✓		
102+00			6.9	463.6 ✓
+15			11.3	59.2 ✓
TP.			12.99	457.49 ✓
	0.43	458.92		
+55			3.5	54.4 ~~55.4~~
103+00			10.2	47.7 ~~48.7~~
TP.			12.83	44~~5~~.09
	0.68	44~~5~~.77		
103+50			4.9	40.9 ~~42.9~~
104+00			11.1	34.7 ~~36.7~~
TP.			12.91	43~~7~~.86 ✓
	0.18	43~~5~~.04		

		43[3].04		
104+50			2.3	43[0].7
105+00			5.8	2[7].2
+50			9.8	2[3].2
TP.			12.95	42[0].09
	0.55	42[0].54		
106+00			1.8	18.8 ~~20.8~~
+50			6.6	14.0 ~~16.0~~
107+00			9.2	11.4 ~~13.4~~
+50			12.6	8.0 ~~10.0~~
TP.			12.90	40[9].74
	1.98	4[09].72		

		09. 4H.72			
108			6.9	402.8	
+50			6.9	402.8	
109			8.8	400.9	
+50			11.9	397.8	
110			12.5	397.2	
+50			10.9	398.8 ~~400.8~~	
111			7.1	402.6	
+50			7.0	402.7	
TP.			4.99	404.73	Set B.M.# 12. Nail in 1"x2" marker, 50' Rt. 111+50
	1.60	406.33			

		40 6.33		
112			3.5	40 2.8
+50			5.3	40 1.0
113			6.7	399.6 ~~401.6~~
+50			11.4	39 4.9
TP			12.97	39 3.36
	0.15	39 3.51		
114			4.1	389.4 ~~391.4~~
+50			10.1	38 3.4
TP			13.06	38 0.45
	0.64	38 1.09		
115			3.4	37 7.7

		385.09		
115+50			8.9	377.2
PI			13.01	370.08
	0.81	370.89		
116			2.1	68.8
+50			7.0	61.9
117			11.3	57.6
PI			12.67	358.22
	0.75	358.97		
117+45			3.9	55.1
+90			13.3	43.7
118			17.2	41.8

		6. 358.97		
118+40			19.5	7 338.5
+70			17.5	39.5 41.5
119			14.4	2 47.6
+35			8.7	48.3 50.3
+80			1.7	5 57.3
TP.			0.37	6. 358.60
	12.65	69. 371.25		
120			13.8	5 57.4
+50			8.1	1 63.1
121+			4.6	4 67.6

		371.25		
121+30			2.0	369.2
+60			0.9	370.3
B.M.			4.57	368.68
TP			0.98	370.27
	2.76	373.03		
121+80			0.2	372.8
122			2.6	370.4
+50			3.6	369.4
123			4.8	368.2
+37			5.9	367.1

Set B.M. #13. Nail in 1"×2" marker, 50' Rt. 121+00

	378.03		
123+57		4.3	368.7
+80		7.1	365.9
124		7.3	365.7
+23		6.2	364.8
+45		9.7	361.3
125		10.1	360.9
+50		10.9	360.1
126		11.6	359.4
+65		13.3	357.7
+85		12.1	358.9

		371.03		
T.P.			12.41	58. 360.62
	4.58	363.20		
127+00			6.3	58.9
+06			6.6	58.6
+25			4.4	58.8
+48			6.7	58.5
+70			5.2	58.0
128			6.7	58.5
+18			6.5	58.7
+29			3.5	59 .7

		363.20	
128+44.5	6.5	358.7	Ground surface, edge of valve box
128+44.5	3.2	368.0	top of valve box.
	7.48	355.72	top of 36" pipe.
	7.20	358.00	Check on B.M.# 130, 100' Lt. ECPL 1017+00. Elev. 362.11 (U.S.G.S. datum)
			New B.M.# 14

362.11
6.12
355.99

Feb 24, 1937
Soper
Isbell
Remmen.

Profile of alternate line from sta. 62+12.36 to El Capitan Pipeline. "B" Line alternate.

TP			472.98 ✓	TP on sta. 62+12.36 See page 25.
	1.30	474.28 ✓		
62+50			2.9 71.4 ✓	
63+00			4.0 70.3 ✓	
+50			5.1 69.2 ✓	
64+00			5.3 69.0 ✓	
+50			5.8 68.5 ✓	
TP			2.67 471.61 ✓	
	1.75	473.36 ✓		
			0.775 472.585 ✓	ck on B.M.#8 Elev. 472.59

		473.36 ✓			
65+00			6.5	466.9	✓
+50			9.7	63.7	✓
66+00			13.3	60.1	✓
T.P.			12.78	460.58	✓
	0.32	460.90 ✓			
+50			4.3	56.6	✓
67+00			7.1	53.8	✓
+50			8.7	52.2	✓
68+00			9.9	51.0	✓
T.P.			10.36	450.54	✓
	0.27	450.81 ✓			

	450.81 ✓		
68+50		1.5	449.3 ✓
69+00		3.4	47.4 ✓
+25		4.2	46.6 ✓
+40		3.3	47.5 ✓
+60		4.1	46.7 ✓
70+00		4.1	46.7 ✓
+40		4.7	46.1 ✓
+65		5.4	45.4 ✓
+80		7.5	43.3 ✓
71+00		8.0	42.8 ✓

		450.81 ✓			
71+25			9.6	441.2	✓
+55			8.9	41.9	✓
+85			10.4	40.4	✓
72+00			10.2	40.6	✓
+25			11.7	39.1	✓
+45			10.5	40.3	✓
73+00			12.8	38.0	✓
T.P.			12.85	437.96	✓
	0.61	438.57 ✓			
73+45			1.7	36.9	✓

		438.57 ✓			
74+00			7.0	431.6 ✓	
+50			9.9	28.7 ✓	
75+00			11.7	26.9 ✓	
+35			12.9	25.7 ✓	
+55			13.1	25.5 ✓	
TP.			12.72	425.85 ✓	Set B.M "15. Nail in 1"x2" marker 35' Lt 76+00
	5.81	431.66 ✓			
76+00			8.6	23.1 ✓	
+30			8.0	23.7 ✓	
+45			8.0	23.7 ✓	

	431.66 ✓		
76+70		10.1	421.6 ✓
77+00		10.9	20.8 ✓
+15		10.3	21.4 ✓
+40		11.0	24.7
+65		8.1	23.6 ✓
+85		8.7	23.0 ✓
78+00		7.6	24.1 ✓
+25		6.5	25.2 ✓
+65		5.9	25.8 ✓
+85		7.1	24.6 ✓

	431.66 ✓		
79+00		5.5	426.2 ✓
+25		5.2	26.5 ✓
+55		7.5	24.2 ✓
+80		5.8	25.9 ✓
80+00		6.4	25 X 3
+12		8.4	23.3 ✓
+35		6.6	25.1 ✓
+75		9.5	22.2 ✓
+85		7.9	23.8 ✓
81+00		8.1	23.6 ✓

		431.66 ✓			
81+25			10.0	421.7	✓
+40			9.0	22.7	✓
+75			9.1	22.6	✓
82+00			9.4	22.3	✓
P.I.			9.76	421.90	✓
	6.29	428.19 ✓			
82+10			5.4	22.8	✓
+25			6.0	22.2	✓
+45			4.7	23.5	✓
+65			5.8	22.4	✓

		428.19 ✓		
82+85			4.8	423.4 ✓
83+00			5.5	22.7 ✓
+15			6.2	22.0 ✓
+45			4.6	23.6 ✓
+63			6.3	21.9 ✓
+75			5.7	22.5 ✓
+90			7.3	20.9 ✓
84+00			6.3	21.9 ✓
+20			5.0	23.2 ✓
+45			6.9	21.3 ✓

	428.19 ✓		
84+70		4.8	423.4 ✓
85+00		6.1	22.1 ✓
+20		5.3	22.9 ✓
+50		6.8	21.4 ✓
+80		5.5	22.7 ✓
86+00		5.7	22.5 ✓
		5.28	422.91 ✓
86+50		5.6	22.6 ✓
87+00		8.2	20.0 ✓
TP		7.65	420.54 ✓

Set B.M. #16 Nail in 1"×2" marker 50' Rt 86+00

	4.57	425.11 ✓		420.54 ✓
87+15			6.0	19.1 ✓
+35			4.8	20.3 ✓
+60			7.0	18.1 ✓
88+00			5.9	19.2 ✓
+15			6.1	19.0 ✓
+40			4.6	20.5 ✓
+70			6.2	18.9 ✓
89+00			5.5	19.6 ✓
+50			8.4	16.7 ✓
90+00			11.4	13.7 ✓

		425.11 ✓			
90+30			12.2	412.9	✓
TP			12.83	412.28	✓
	0.16	412.44 ✓			
91+00			6.9	405.5	✓
+23			8.8	403.6	✓
+45			13.3	399.1	✓
TP			13.08	399.36	✓
	0.11	399.47 ✓			
91+70			7.3	392.2	✓
92+00			22.4	377.1	✓
+31			40.3	359.2	✓

		399.47 ✓		
92+50			35.0	364.5 ✓
93+00			20.8	378.7 ✓
+50			8.0	391.5 ✓
+75			3.0	396.5 ✓
TP			2.93	396.54 ✓
	12.06	408.60 ✓		
94+00			9.3	399.3 ✓
+50			4.4	404.2 ✓
95+00			2.0	406.6 ✓
+45			0.1	408.5 ✓

		408.60			
TP			0.03	408.57 ✓	
	5.54	414.11 ✓			
95+70			6.3	07.8 ✓	
96+00			4.8	09.3 ✓	
+40			6.0	08.1 ✓	
+65			4.1	10.0 ✓	
97+00			5.3	08.8 ✓	
			2.60	411.51 ✓	Set B.M. #17 Nail in 1"x2" marker 60' Lt 97+00
97+15			5.2	08.9 ✓	
+37.41 Lt			3.4	10.7 ✓	

		414.11 ✓		
97+60			4.8	409.3 ✓
98+00			6.0	08.1 ✓
+50			8.4	05.7 ✓
99+00			11.6	02.5 ✓
PT			12.96	401.15 ✓
	0.82	401.97 ✓		
99+35			2.2	398.8
+45			2.1	98.9
+80			5.7	96.3 ✓
100+00			8.7	93.3 ✓

		401.97 ✓		
TP.			12.925	389.045 ✓
	0.36	389.405 ✓		
100+50			3.3	86.1 ✓
101			10.6	78.8 ✓
TP.			12.965	376.440 ✓
	0.225	376.665 ✓		
101+60			11.2	65.5 ✓
TP.			12.90	363.765 ✓
	0.065	363.830 ✓		
+80			4.0	59.8 ✓
102			7.2	56.6 ✓
TP.			12.95	350.88 ✓

	0.175	351.055 ✓		350.88 ✓
102+30			0.9	350.2 ✓
+70			13.3	37.8 ✓
PI			12.825	338.230 ✓
	0.43	338.66 ✓		
103			7.8	30.9 ✓
+35			13.6	25.0
PI			12.90	325.76 ✓
	0.15	325.91 ✓		
PI			13.01	312.90 ✓
	0.175	313.075 ✓		
103+70			2.4	10.7 ✓
104			13.2	299.9 ~~09.9~~

		313.075 ✓		
TP.			12.86	300.215 ✓
	0.06	300.275 ✓		
TP.			13.015	287.26 ✓
	0.20	287.46 ✓		
104+50			5.4	282.1 ✓
TP.			12.99	274.47 ✓
	0.445	274.915 ✓		
TP.			12.935	261.980 ✓
	0.51	262.49 ✓		
105			1.1	61.4 ✓
TP.			13.01	249.48 ✓
	0.37	249.85 ✓		
105+50			5.7	44.1 ✓
TP.			12.69	237.16 ✓

	0.33	237.49 ✓		237.16 ✓
T.P.			12.98	224.51 ✓
	2.53	227.04 ✓		
106+00			3.1	23.9 ✓
			1.32	225.72 ✓
T.P.			12.85	214.19 ✓
	0.21	214.40 ✓		
106+45			10.1	204.3 ✓
+70			12.5	201.9 ✓
T.P.			11.51	202.89 ✓
	3.575	206.465 ✓		
107			4.5	202.0 ✓

Set B.M. "18. Nail in 1"×1" stake 50' Rt 106+00

		206.465 ✓		
107+07			5.0	201.5 ✓
+69			6.8	199.7 ✓
+35			6.0	200.5 ✓
+38			4.5	02.0 ✓
+69			5.1	01.4 ✓
+75			0.3	06.2 ✓
TP			0.215	206.250 ✓
	11.94	218.19 ✓		
108			5.7	12.5 ✓
TP			0.09	218.10 ✓
	12.615	230.715 ✓		

March 2 1937
Converse
Soper
Isbell
Remmon

		230.715 ✓		
108+50			1.2	229.5 ✓
TP			0.085	230.630 ✓
	12.955	243.585 ✓		
TP			0.205	243.380 ✓
	12.81	256.19 ✓		
109			5.0	251.2 ✓
TP			0.64	255.55 ✓
	12.83	268.38 ✓		
TP			0.31	268.07 ✓
	12.86	281.23 80.93 ✓		
TP			0.275	280.955 655 ✓
	13.005	293.960 66 ✓		
109+50			12.0	281.0 81.7 ✓
TP			0.00	293.96 66 ✓

				293.66 ✓
	12.81	306.47 ✓		
110			3.6	303.2 (02.9) ✓
TP			0.01	306.46 ✓
	12.82	319.28 ~~58~~ ✓		
110+25			7.6	~~12.0~~ (11.7) ✓
TP			0.08	319.50 (20) ✓
	8.55	328 ~~.05~~ (27.75) ✓		
110+60			7.5	~~20~~ .5 (20.8) ✓
111			4.5	~~23~~ .5 (23.2) ✓
+50			4.4	~~23.6~~ (23.3) ✓
112			4.9	~~23.1~~ (22.8) ✓

	27.75 ✓ ~~328.05~~		
112+28		5.7	22.0 ✓ ~~322.3~~
+36		5.1	22.6 ✓ ~~22.9~~
+55		6.3	21.4 ✓ ~~21.7~~
113		7.1	20.6 ✓ ~~20.9~~
+30		8.3	19.4 ✓ ~~19.7~~
+55		7.5	20.2 ✓ ~~20.5~~
114		9.6	18.1 ✓ ~~18.4~~
+50		10.2	17.5 ✓ ~~17.8~~
115		10.1	17.6 ✓ ~~17.9~~
+06.76		9.9	17.8 ✓ ~~18.1~~

		27.75 ✓ 328.05		
TP			7.97	19.78 ✓ 320.08
	1.66	321.44 ✓ 74		
TP			13.00	308.44 ✓ 74
	9.69	318.13 ✓ 43		
TP			3.21	14.92 ✓ 315.22
	8.33	329.25 ✓ 55		
			4.93	318.32 ✓ 62

Set B.M.# 19. Nail in 1"×2" marker 100' Rt 114+80

ck. on B.M.# 136 Hub, 30 Lt 1069+30. Elev. 324.36 (U.S.G.S. datum)

318.62 − 6.12 = 324.44

318.32 + 6.12 = 324.44

℄ Profile of "L" line, from Sta 5+97.18 - 23+50
" " " "L2" " " " 23+53.64 - 67+33.50

Cont'd from page 3, this book.

B.M. "3	1.13	483.92		482.79		Nail in 1×2 marker 35' Rt 6+50 - Page "A" this book
TP	1.04	472.49	12.47	471.45		
TP	0.72	460.18	13.03	459.46		
5+97.18 BC.			4.9	455.3	443.0	12.3
6+10			3.0	57.2		
+15			5.3	54.9		
+45			2.3	57.9		
+50			5.9	54.3	443.0	11.3
+77			11.0	49.2		
7+00			12.0	48.2	443.0	5.2
+25			8.2	52.0		

	460.18				
7+50		6.4	453.8	443.1	10.7
8+00		5.7	54.5	443.1	11.4
+25		3.9	56.3		
+50		4.0	56.2	443.1	13.1
+68 5/8 E.C.		3.7	56.5		
+86		5.0	55.2		
9+00		8.2	52.0	443.2	8.8
+16		9.6	50.6		
+45		19.5	40.7		
+50		19.8	40.4	443.2	F 2.8

		460.18				
9+55			21.1	439.1	✓	
+61			17.3	42.9	✓	
10+00			15.5	44.7	✓443.2	1.6
+28			11.8	48.4	✓	
+35			8.4	51.8	✓	
+50			9.2	51.0	✓443.3	7.7
+88.75 B.L.			10.0	50.2	✓443.7	
11+00			6.7	53.5	✓444.3	9.2
+15			4.4	55.8	✓	
+25			1.1	59.1	✓	

		460.18				
TP	8.93	468.85	0.26	459.92		
11+43			4.7	64.2		
+50			4.6	64.3	449.4	14.9
12+00			4.9	64.0	452.7	11.3
+10.92 E.C.			4.2	64.7		
+50			4.6	64.3	454.0	10.3
+87.50 B.C.			7.3	61.6		
13+00			7.4	61.5	453.3	8.2
+50			8.4	60.5	450.6	9.9
TP	3.39	461.89	10.35	458.50		

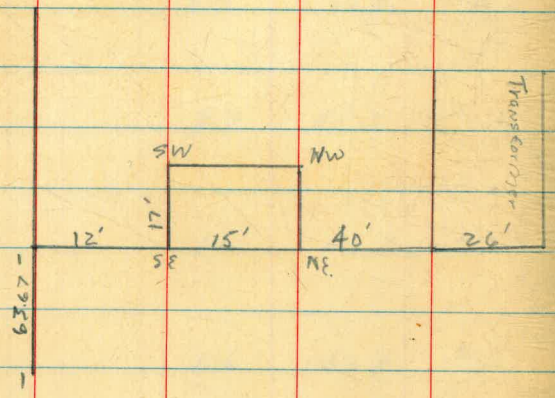
		461.89			
13+78			3.6	458.3 ✓	
14			6.6	55.3 ✓447.9	7.4
+33			10.0	51.9 ✓	
+50			8.5	53.4 ✓447.2	6.2
15			3.7	58.2 ✓447.1	11.1
+30			1.6	60.3 ✓	
+50			1.6	60.3 ✓447.0	13.3
+70			3.2	58.7 ✓	
16			4.4	57.5 ✓446.9	10.6
+30				53.7 446.8	6.9
+50			10.8	51.1 ✓443.1	8.0
Set B.M.			12.71	449.18 ✓	Stake in ground 31' Rt-16+50

Contd in Book 543 page 50

Alvarado P. Plant

H.11
K.D.G.
0+7
2-11-43

B.M.	Top Air Valve - El-Cap			107.78
	2.66	110.44		
N.E.Cor			9.07	106.37
S.E. Cor			5.90	105.04
S.W. Cor			1.30	109.14
N.W. Cor			1.15	109.29



IMPROVED TABLES
AND
INFORMATION

B.M. 130 362 11 - 100 Lt 101+00

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.