



#693

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 $30.6 + (20 - 16) \div 2$ or 2 ft. added to $30.6 = 32.6$. For slopes of 1 on 1½ see inside of back cover.

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"	P. 79 - 4/19/46 m. 80	

Alignment of Rd. Around Murray Lake 1-17 ✓
 Profile of Rd. Around Murray Lake 19-75 ✓

Elev. Top 3 Hubs - Alvarado Filter Pl. Site
 East Test Pit - Murray Lake Pit #1 74 ✓

Check levels 21 & 73 ✓

LAYOUT AXIS & REFERENCE
 POINTS ALVARADO TREAT. PLANT 75 ✓
 6-77 ✓

Profile Proposed Dam site Murray Canyon 76 ✓

Additional ties to Alvarado Treat Plant 77 ✓

data for elliptical corners of Reg. Res. 78 ✓

profile & Alignment of Temporary Ditch at
 Murray Lake (changed) 79 ✓

Road Survey Around Murray Lake From 104
 Station Angle Mag. E. CC.
 Sta. 104 + 75.43 Euc. P.h. Loc.

8+00 House

P.J. 6+34.05
 97°14' N32°15'E N49°25'E
 45°57' LT.

P.I. 3+97.60
 102°38' N77°30'E S84°55'EE
 51°19' RT.

2+94.40 Prop. Line

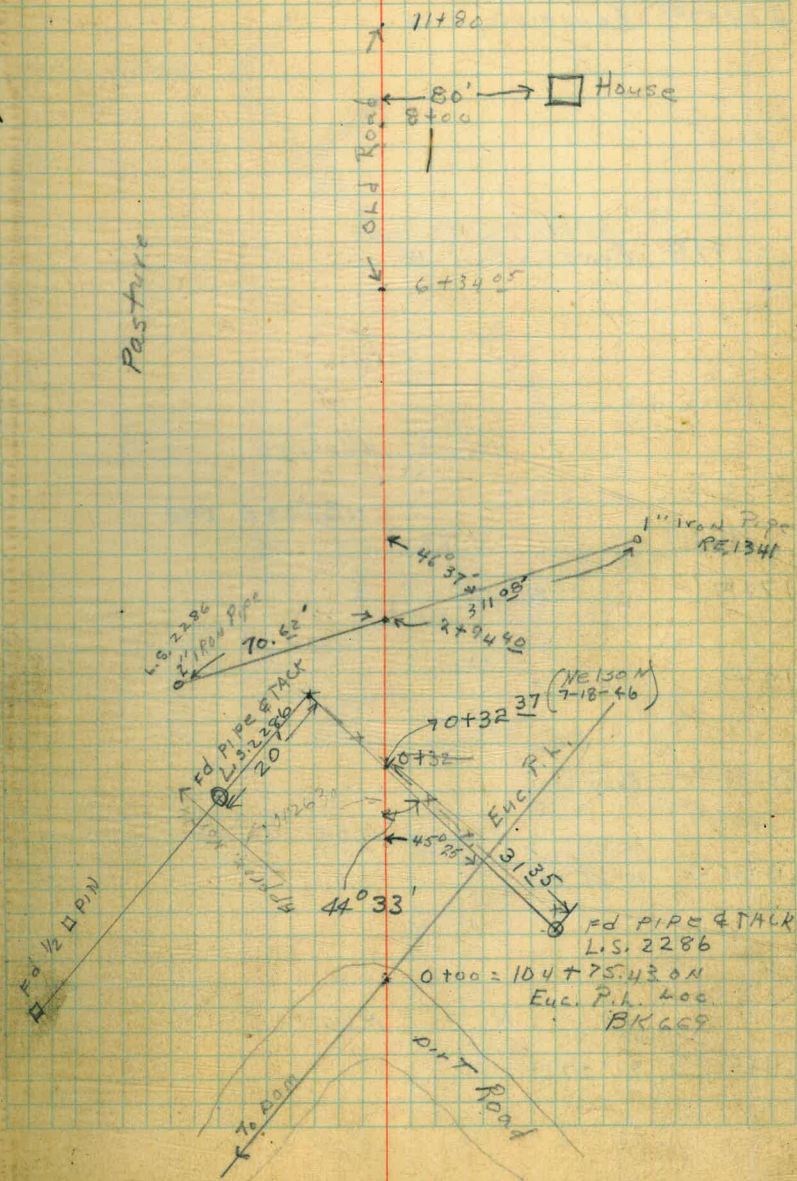
0+32 Fence

3+7.6

0+00
 90°50' N26°30'E N43°43'E
 45°25' LT.

Note Cor. Course based on
 District's res. map 425
 showing bearings & dist.
 142

Hill
 KING
 KIMMER
 10-25-45
 +75.43 Euc. P.h. loc.



Sta. Δ Mag. c.c.

27+57²⁹ Fence + Prop. line

159.47

25+97⁸² Fence + Prop. line

215.62

		N46°45' E	N62°06' E
P.I. 23+82 ²⁰	58°58'		
	29°29' R+		
664.48		N33°28' E	ENE
P.I. 17+17 ⁷²	80°50'	N16 E	N23°28' E
	40°25' R+		

15+98 Fence

22.10

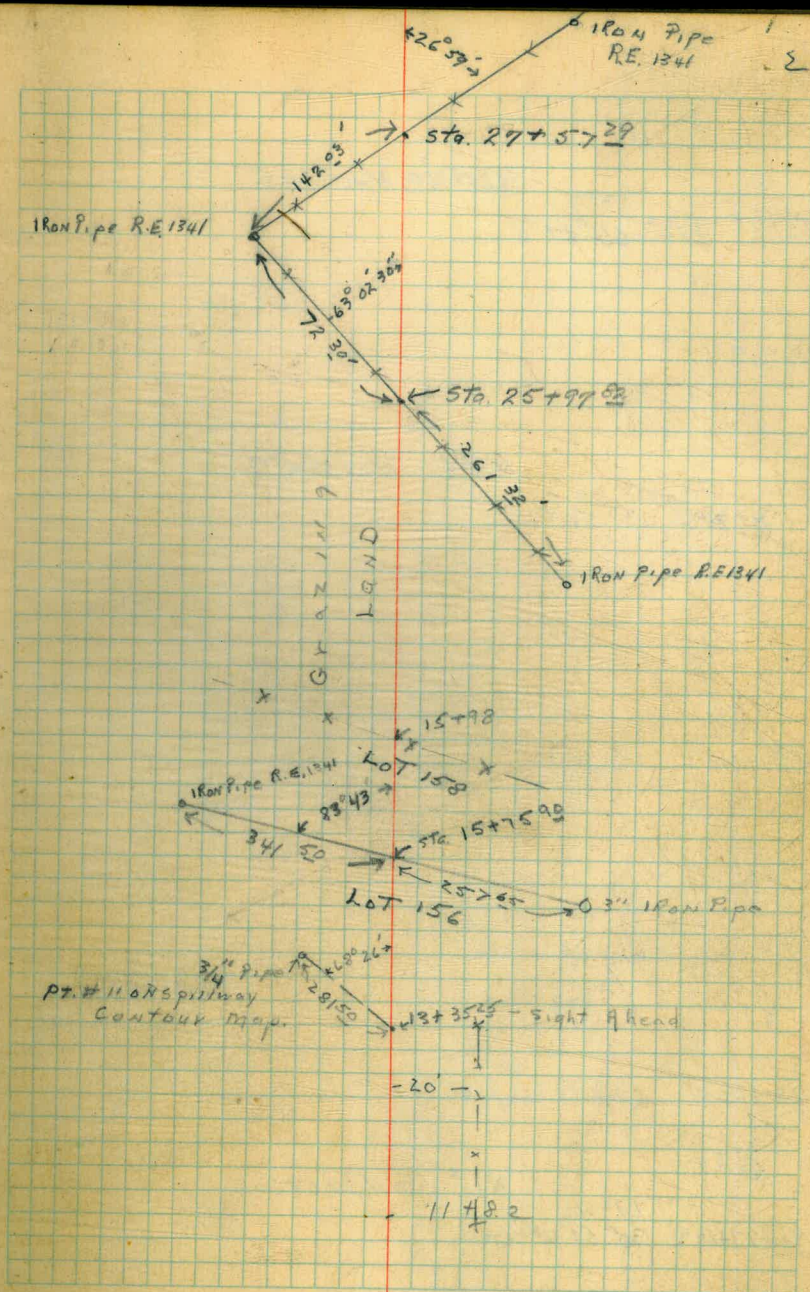
15+75⁹⁰ Prop. line

240.65

P.I. 13+35 ²⁵	55°50'	NR4° W	N6°57' W
	29°55' LT		

153.

P.I. 11+82 ²⁵	52°51'	N4°30' E	N22°58' E
	26°27' LT		



Sta. A

P.J. 35+39.66 ^{08°} N 25° 30' E N 41° 55' 30" E
04° LT ✓

351.77

P.J. 31+27.89 ^{27° 40'} N 29° E N 45° 55' 30" E
13° 50' RT ✓

327.89

28+60 Edge of canyon

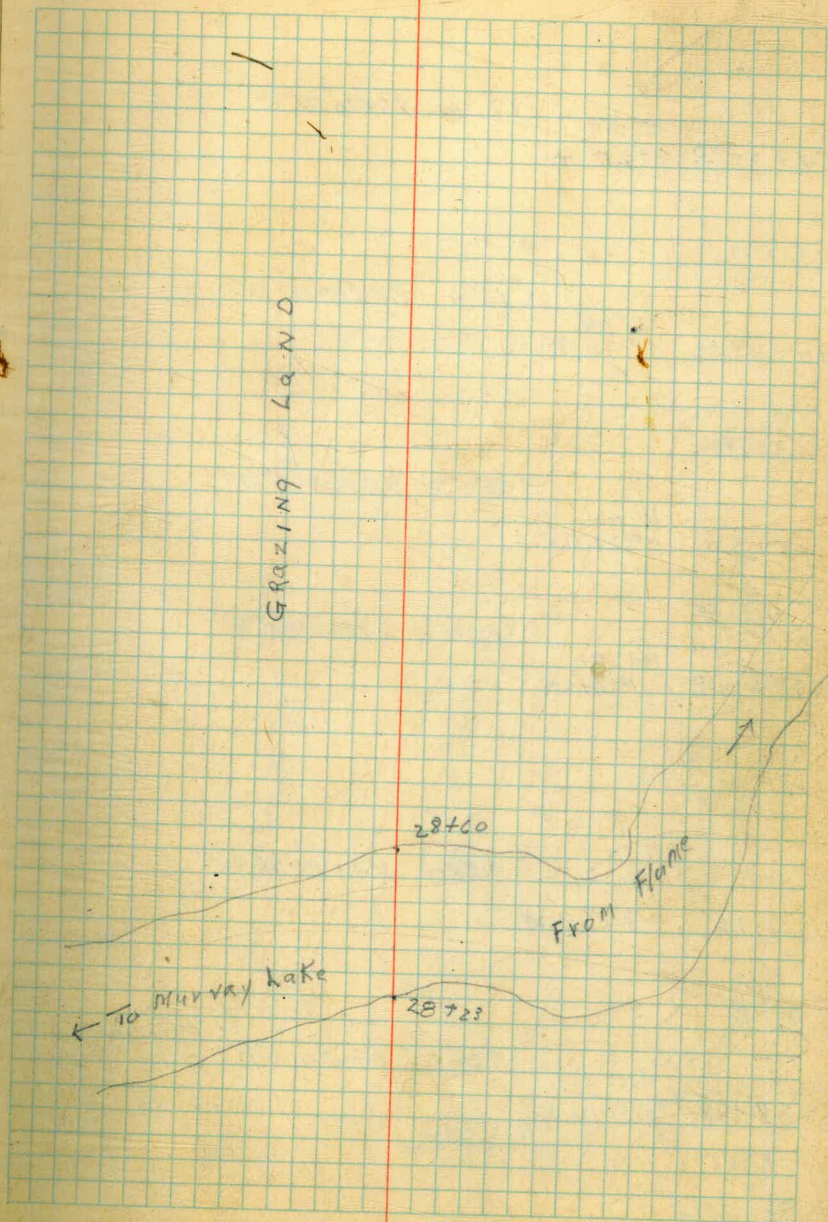
37.00

28+23 Edge of canyon

58.60

P.J. 27+64.40 ^{21° 40'} N 16° 15' E N 32° 05' 30" E
30° 51' 30" LT ✓

7.11



54+22³⁰ 18° 54' S 67° W S 82° 16' 38" W
9° 27' RT ✓

515.30

49+07.00 11° 08' S 56° W S 72° 43' 30" W
5° 34' RT ✓

350.00

45+57 16° 42' S 58° 10' W S 67° 09' 30" W
8° 21' LT ✓

242.80

43+14²⁰ 125° 22' S 62° 15' W S 75° 30' 30" W
61° 41' LT ✓

96.20

42+18 176° 0' N 58° W N 42° 48' 30" W
88° 0' LT ✓

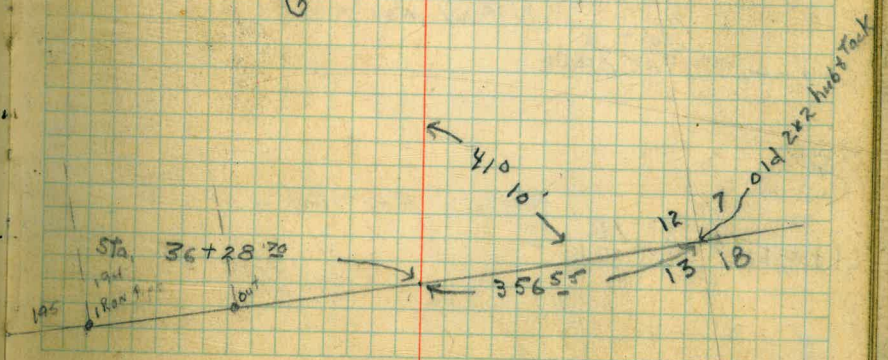
319.29

38+9871 4° 32' N 26° 30' C N 70° 11' 30" E
36° 16' RT ✓

270.01

36+28²⁰

89.04



82+7870 65° 28' N 50° 30' E N 66° 48' 30" E
32° 44' Rt ✓

211.85

80+6685 51° 10' N 18° E N 34° 04' 30" E
15° 35' Rt ✓

573.85 16° 08' N 4° 30' E N 18° 29' 30" E
Mag. Bearing Under P.L. line

74+73 8° 04' Lt ✓

603.72

74+13 Fence

68+6930 23° 12' N 17° 15' E N 66° 33' 30" E
11° 36' Rt ✓

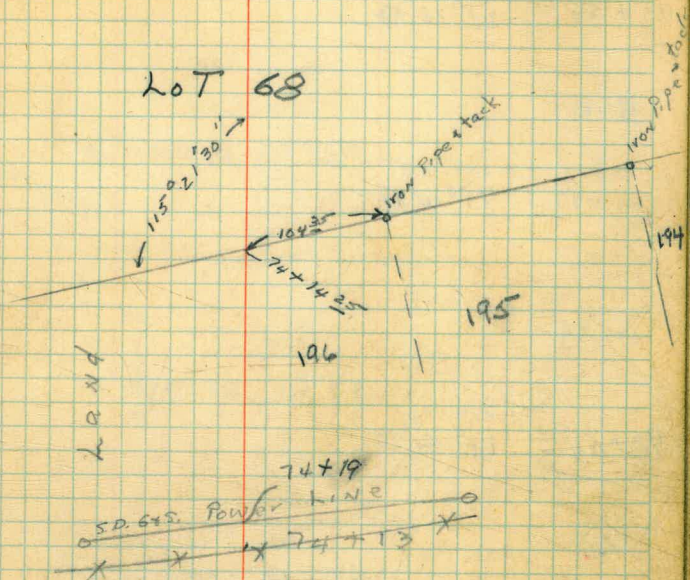
424.75

64+4455 70° 18' N 7° W N 14° 57' 30" E
70° 08' Rt ✓

323

61+2155 85° 18' N 73° 30' W N 53° 16' 30" W
42° 39' Rt ✓

699.25



N 08° 01' 30" E EWE

954 58⁶⁰ 42° 30' N 8° W N 18° 01' 30" E
 21° 18' RT ✓

181.60

93+77 159° 28' N 29° 36' W N 13° 16' 30" W
 79° 14' RT ✓

172.84

92+04¹⁶ 35° 40' S 71° W S 87° 29' 30" W
 17° 50' RT ✓

168.51

90+35⁶⁵ 27° 50' S 54° W S 69° 39' 30" W
 136° 25' LT ✓

226.60

88+09⁰⁵ 7° 10' N 90° 30' E N 26° 43' 00" E
 3° 35' RT ✓

171.45

86+37⁶⁰ 88° 38' N 0° E N 22° 29' 30" E
 44° 19' LT ✓

258.90

Land

Grazing

101° 38'
118+58⁸⁰ 50° 49' LT ✓
S 44° 30' W. S 62° 39' 30" W

85.80
145.32

117+73 Bottom Creek from Black Mt.

59.52

183° 50'
117+13⁴⁸ 91° 57' LT ✓
N 83° W N 66° 31' 30" W

423.13

50° 56'
112+90³⁵ 25° 28' RT ✓
N 10° 30' E N 26° 25' 30" E

465.92

16° 08'
108+24⁴³ 8° 04' LT ✓
N 16° 36' W N 0° 02' 30" W

1265.83

Land

117+73
Creek Bed

Grazing

$5^{\circ} 43'$ $58^{\circ} W$ $S 24^{\circ} 26' W$

138+33⁸⁰ $20^{\circ} 51' 30'' L$ ✓

473.15

$511^{\circ} 15' W$ $S 27^{\circ} 17' 30'' W$

133+60⁶⁵ $24^{\circ} 48'$
 $120^{\circ} 24' R$ ✓

437.45

$510^{\circ} 30' E$ $S 14^{\circ} 53' 30'' W$

129+23²⁰ $66^{\circ} 28'$
 $33^{\circ} 14' R$ ✓

188.20

$534^{\circ} 15' E$ $S 18^{\circ} 20' 30'' E$

127+35 $165^{\circ} 22'$
 $88^{\circ} 41' L$ ✓

134.69

$547^{\circ} 30' W$ $S 61^{\circ} 20' 30'' W$

126+00³³ $65^{\circ} 52'$
 $32^{\circ} 56' R$ ✓

396.33

$515^{\circ} W$ $S 31^{\circ} 21' 30'' W$

122+04⁰⁰ $62^{\circ} 30'$
 $31^{\circ} 15' L$ ✓

345.20

L
a
n
d

G
r
a
z
i
n
g

764 + 060⁶ ^{32° 32'} 16° 16' Rt ✓
S 27° 30' W S 45° 00' 30" W

515.13

158 + 90⁹³ ^{38° 25'} 19° 12' 30" Rt ✓
S 14° 15' W S 29° 34' 30" W

508.93

153 + 82 ^{13° 02'} 6° 31' Rt ✓
S 5° 30' E S 10° 22' W

373.17

150 + 088⁸ ^{265° 53'} 132° 56' 30" Lt ✓
S 11° 05' E S 3° 51' W

359.15

146 + 493² ^{180° 45'} 90° 22' 30" Rt ✓
N 59° 30' W N 43° 12' 30" W

159.26

144 + 90¹² ^{43° 58'} 21° 59' Rt ✓
S 30° 30' W S 40° 25' W

656.72

Hand
written
Grazing

180+00 Road

179+23 Fence

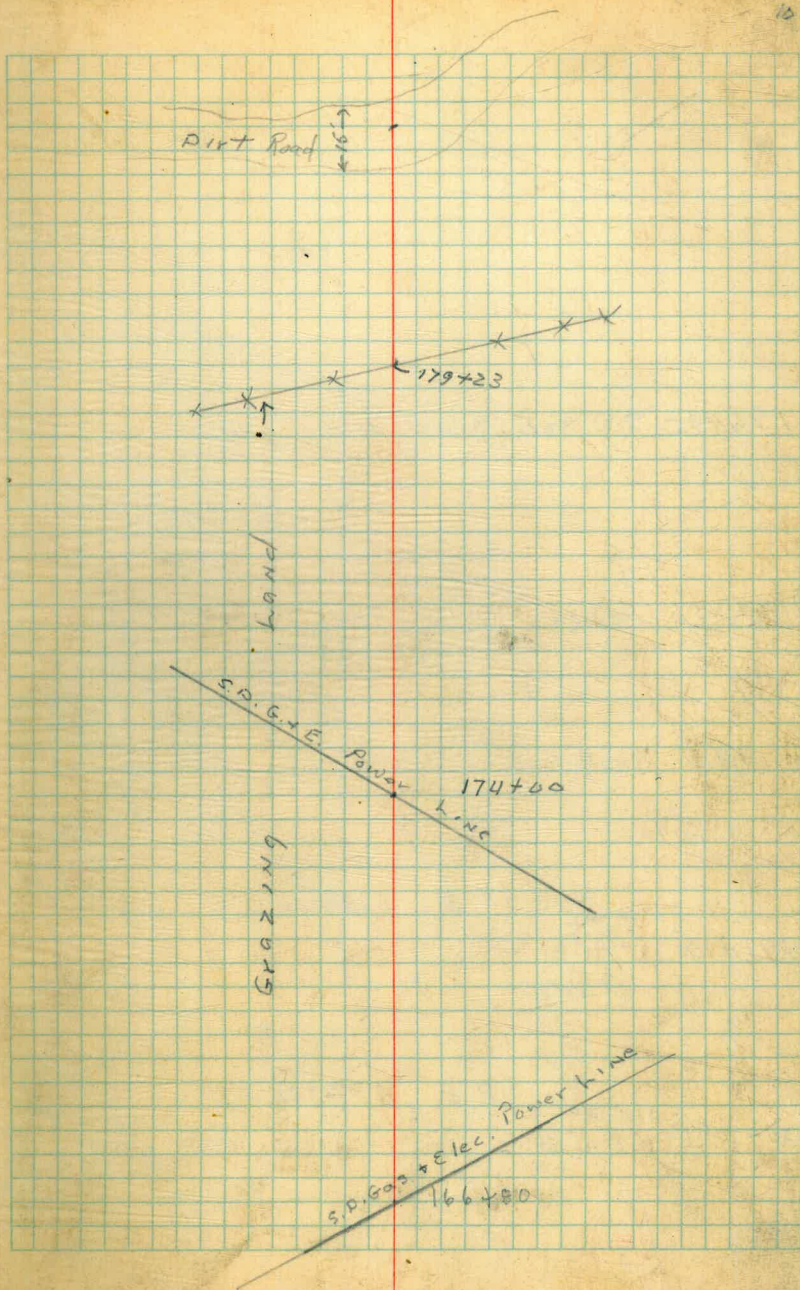
110.0' N46°W N29°44'35"W
177+35 50°30' RT ←

174+00 S.D. Gas & Elec. Power Line

173+00 58°51'30" RT,
N48°30'W N24°14'30"W

168+68 51°03'30" RT
102°07' S80°30'W N83°08'W

166+80 S.D. Gas & Elec. Power Line



194+95 S.D. 94 E. Powerline

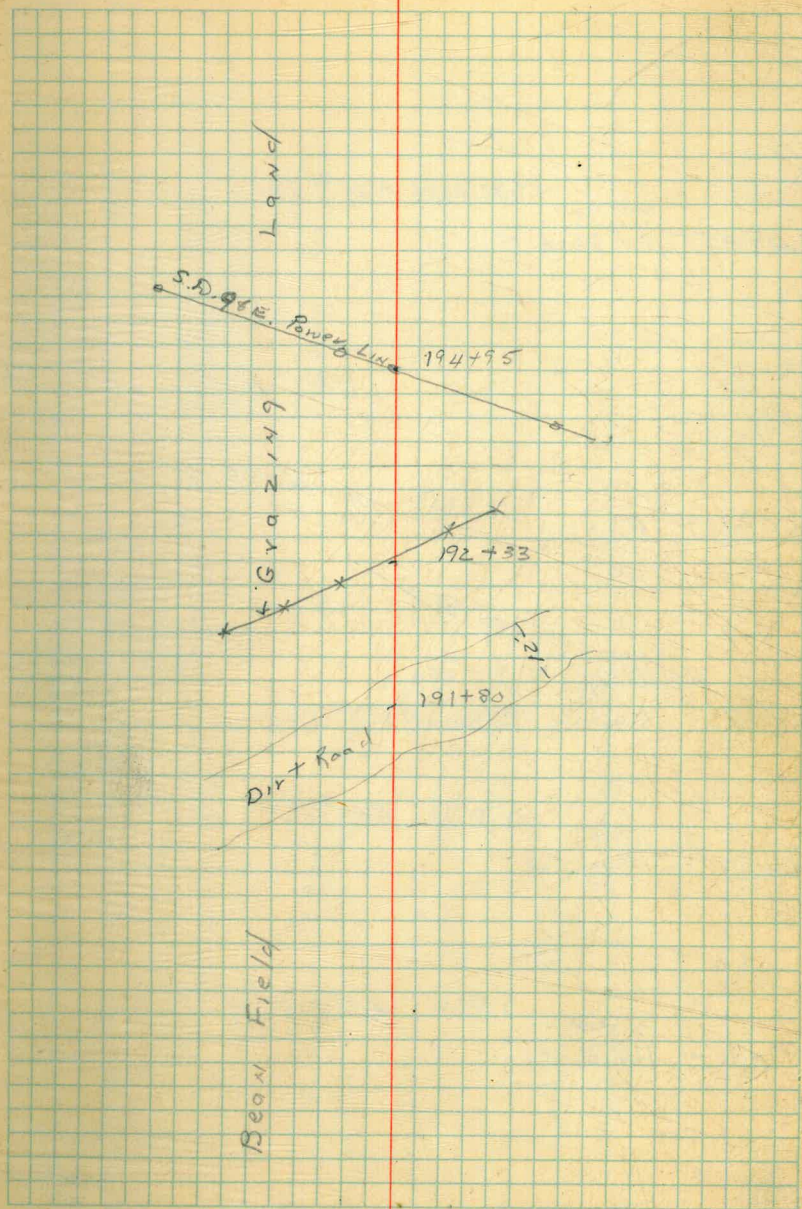
192+33 Fence

191+80 Road

191+10 120° 22' 53° E S 13° 43' 30" W
06° 11' RT L

599.13
185+10.87 285° 20' 59° E S 7° 33' 30" W
142° 42' LT L

175.87



40°40' 582°30'W N81°23'W
 209+55 20°20'Lt ✓

380.00

208+09 Fence

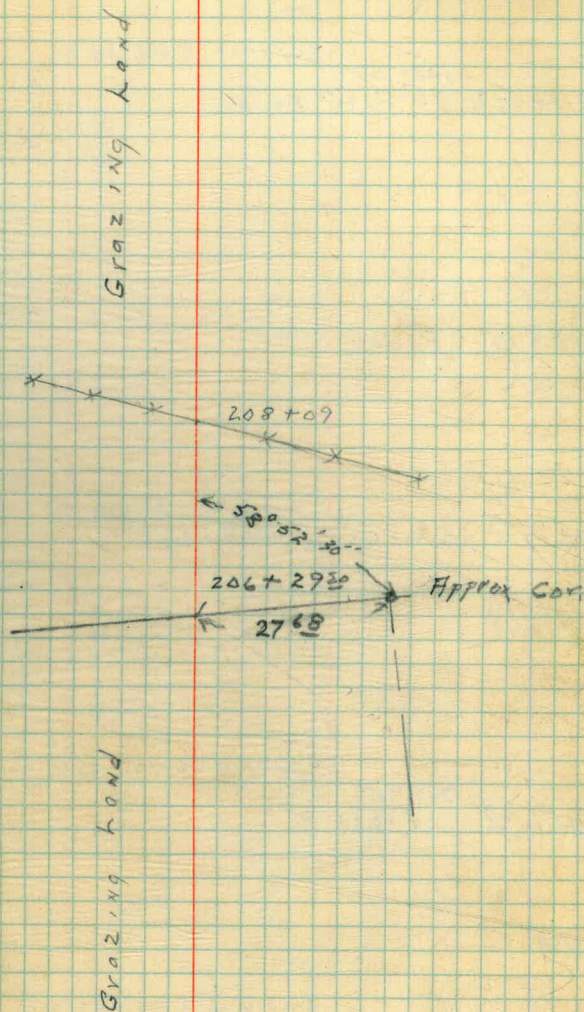
206+85 S. D. 948. Power Line

380°25' N78°W N61°03'W
 205+75 19°12'30"Lt ✓

585.00

199+90⁰⁰ 248°00' N58°W N41°50'30"W
 124°25' Rt ✓

880.00



119° 53' S34°15'W S50°26'W
215+9570 59°56'38" RT V

181.50

215+77 Fence

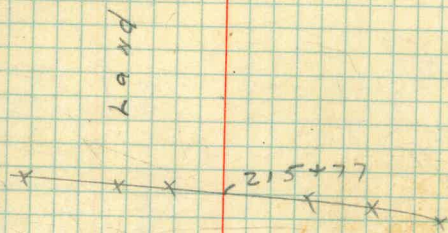
215+57 S.W. G&E Power Line

203° 32' S24°45'E S9°30'30"E
214+1420 101° 46' LT V

154.20

120° 43' S76° 15' W N87° 44' 30" W
212+60 06° 21' 80" LT

305



S.W. G&E Power Line
215+57

GRAZING

234+94³⁰ ^{20°12'} 12°05' Rt ✓
S 40°15' E S 23°00' E

514.3°

232+72⁰⁰ P.O.T.

229+80⁰⁰ ^{15°54'} 7°57' Lt ✓
S 51°45' E S 38°05' E

334.0

226+46⁰⁰ ^{33°08'} 16°34' Lt ✓
S 43°36' E S 27°08' E

476.45

221+69⁵⁵ ^{81°30'} 40°49' Rt ✓
S 27° E S 10°31' E

407.05

217+62⁵⁰ ^{208°32'} 101°49' Lt ✓
S 66°15' E S 57°23' E

166.8

Grazing Land
Rock outcroppings

2484066^{53° 10'}
^{S 67°36'E S 50°37'30"E}
 26°35'30" RT ✓

121.69

246484^{27°58'}₉₂
^{N 86°36'E S 77°33'E}
 13°59' RT ✓

173.22

245411^{215° 10'}₇₀
^{N 72°E N 88°27'E}
 107°35'30" RT ✓

186.7

243+25^{120° 19'}₀₀
^{S 0° W S 16°02'30"W}
 06°06'30" RT ✓

174.41

241+50^{420°30'}₅₉
^{S 6°E S 9°56'W}
 21°19' RT ✓

385.29

237+65^{23° 14'}₃₀
^{S 27°30'E S 11°23'E}
 11°37' RT ✓

271.8

GRAZING LAND

Rock out croppings

256+1872 ^{54° 06'} 27° 03' RT ✓
S53°30' W S67°25' W

142.64

254+7615 ^{62° 06'} 31° 03' RT ✓
S21°36' W S40°22' W

111.85

253+6430 ^{54° 58'} 27° 29' RT ✓
S5°36' E S9°19' W

148.52

252+1570 ^{70° 42'} 30° 51' RT ✓
S34°30' E S18°46' E

250.7

249+6500 ^{57° 53'} 28° 56' 30" RT ✓
S38° E S22° 01' E

158.47

Grazing land

Large Rock outcroppings

104+75.43 Enc. Pl. See Page 1

0+00 =

279+79.63 =

279+47.76

+340.37
1308.50

N89°08'E

0-62.23 ON Base Line Filter Pl. Site

266+39.26 = 33°08' Lt ✓

259+06.85 End Walkway on West End Dam

834.69

S73°E

S57°44'E Axis of dam

S57°41'30"E

258+04.57

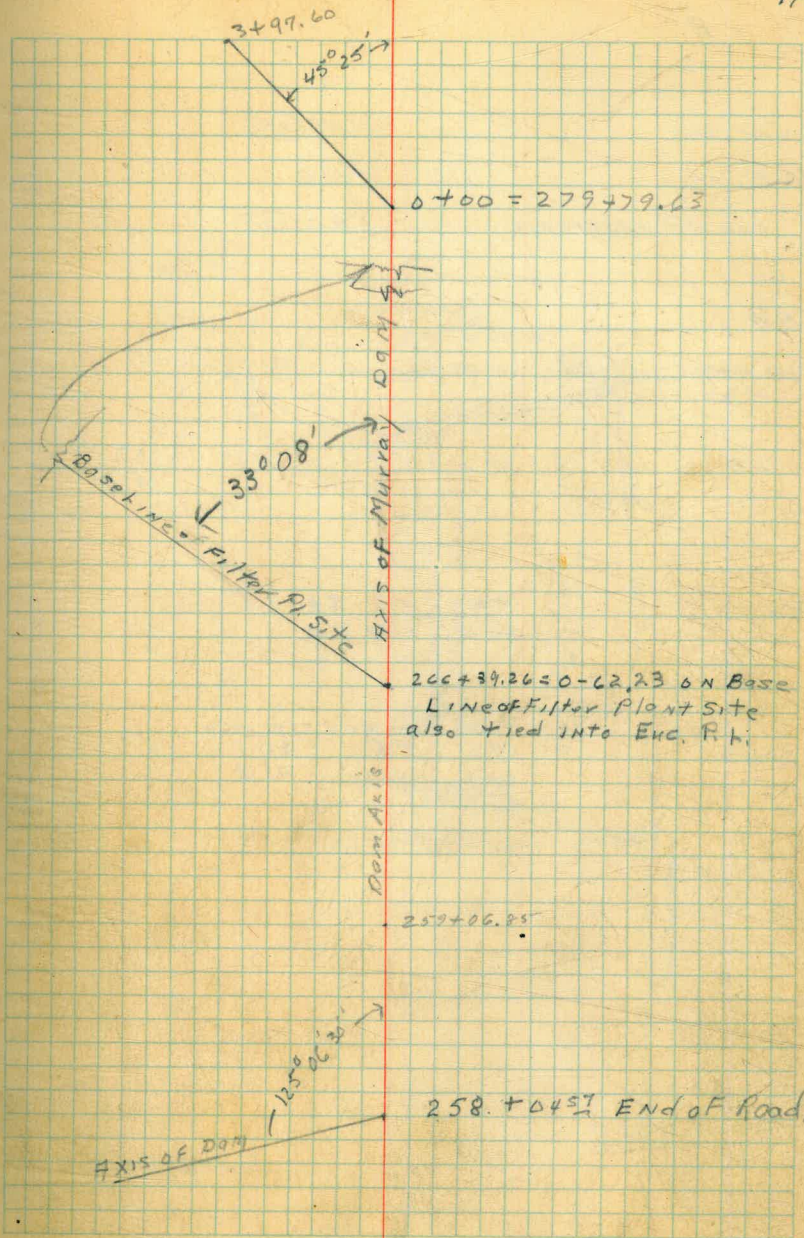
2509.12

12506.30

Lt ✓

End of Road

185.78



N.W. Cor. F89 (133)
 NE Cor. F0.0
 toe of reservoir F8.0 (127)

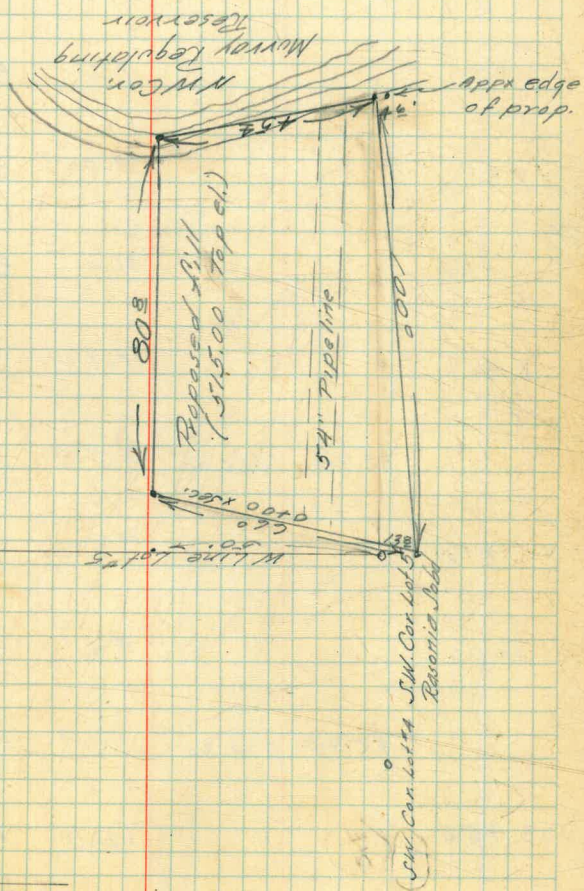
B.M. 505.69

12.47 518.16

0+00 15.5 12.2 10.2 9.0 6.7 5.1 3.2
 84' Lt. 65' Lt. 61' Lt. 50' Lt. 30' Lt. 14' Rt.

0+50 14.3 11.8 8.4 2.9
 84' Lt. 60' Lt. 50' Lt.

1+00 along toe of reservoir
 14.0 9.8 3.2
 74' Lt. 50' Lt. 45' Lt.



Profile of Road Around Murray Lake

0+00 = 10475.43 Enc. P.H. BK 669

B.M.	7.26	553.87	546.61 ✓
0+00		12.3	541.6 ✓
+50		9.5	544.4 ✓
1+00		7.0	546.9 ✓
+50		4.4	549.5 ✓
2+00		1.3	552.6 ✓
	12.74	566.02 ✓	0.59 553.28 ✓
+50		9.8	556.2 ✓
3+00		5.4	560.6 ✓
	12.95	578.36 ✓	-0.61 565.41 ✓
3+50		12.0	566.4 ✓
Δ 3+97.60		8.0	570.4 ✓

No. R. 45 - King-Hunley
Leonard - Klippner

19

Nail in Tree Sta. 107 Enc. P.H. BK 669

578.36

4+00 8.0 570.4 ✓

+50 3.3 575.1 ✓

T.P. 5.85 582.45 ✓ 1.76 576.60 ✓

5+00 4.5 578.0 ✓

+50 1.9 580.6 ✓

6+00 1.2 581.3 ✓

Δ 6+34⁰⁵ 0.7 581.8 ✓

6+50 1.3 581.2 ✓

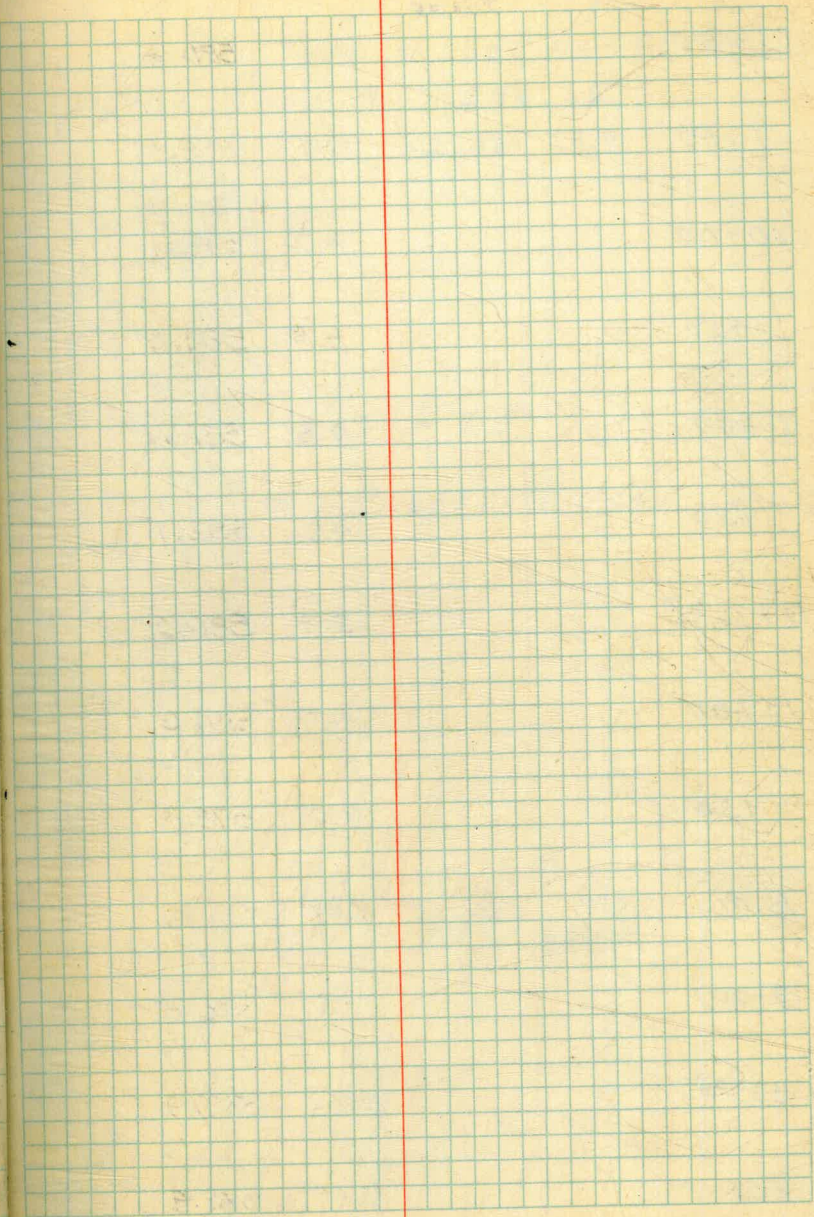
7+00 4.2 578.3 ✓

+50 6.3 576.2 ✓

8+00 6.0 576.5 ✓

+50 3.7 578.8 ✓

Δ 9+00 0.7 581.8 ✓



		582.45		
9+50			0.9	581.6 ✓
T.P.	4.87	586.33 ✓	0.99	581.46 ✓
10+00			4.2	582.1 ✓
+50			4.4	581.9 ✓
11+00			4.6	581.7 ✓
+50			4.2	582.1 ✓
Δ 11+82.25			3.4	582.9 ✓
12+00			4.7	581.6 ✓
+50			8.0	578.3 ✓
B.M.	8.17	585.41 ✓	9.09	577.24 ✓
13+00			11.5	573.9 ✓
Δ 13+35.25			12.5	572.9 ✓
+50			13.0	572.4 ✓

2-13-46 Clear
warm

Nelson X
Rice Notes 21
Leonard Rod

check levels between B.M.S
Elev 577.24 & 596.25

$$\begin{array}{r}
 577.24 \\
 + 12.68 \\
 \hline
 589.92 \\
 - 0.17 \\
 \hline
 589.80 \\
 + 11.75 \\
 \hline
 601.55 \\
 \hline
 61.23 \\
 595.32 = 596.25
 \end{array}$$

ERROR IN T.P between STA 16+00 &
STA 17+00

Set B.M. Nail in Fence Post 20' Rf. 13+00

585.41

14+00			13.9	571.5	✓
+50			11.0	574.4	✓
15+00			8.5	576.9	✓
+50			5.5	579.9	✓
16+00			1.1	584.3	✓ ^{CK} <u>con</u>
T.P.	11.97	596.94	0.44	584.97	✓
+50			5.7	591.2	✓
17+00			3.6	592.4 593.3	✓ ^{con}
^A 17+17 ⁷²			3.7	593.2	✓
+50			4.2	592.7	✓
18+78			3.3	593.6	✓
18+00			4.6	592.3	✓
+25			6.4	590.5	✓

		596.94		
18+50			5.6	591.3 ✓
19+00			8.6	588.3 ✓
+50			9.0	587.9 ✓
T.P.	8.34	597.58	7.70	589.24 ✓
20+00			11.7	585.9 ✓
+50			10.4	587.2 ✓
21+00			7.6	590.0 ✓
+50			3.9	593.7 ✓
22+00			1.0	596.6 ✓
T.P.	9.31	606.06 ✓	1.33	596.25 ✓
+50			3.7	602.4 ✓
23+00			0.8	605.3 ✓
+50			1.9	604.2 ✓

Rock left Sta 22+00 2'

	606.06		
Δ 23+82 ³⁰		2.1	604.0 ✓
24+00		0.7	605.4 ✓
+50		4.2	601.9 ✓
25+00		9.5	596.6 ✓
T.P.	0.85	595.83 ✓	11.08
			594.98 ✓
+50		3.5	592.3 ✓
26+00		7.4	588.4 ✓
+50		10.2	585.6 ✓
27+00		13.1	582.7 ✓
T.P.	1.92	584.85 ✓	12.90
			582.93 ✓
+50		3.6	581.3 ✓
Δ 27+64 ⁴⁰		4.0	580.9 ✓
28+00		6.9	578.0 ✓

584.83 ✓

28+23 10.6 579.3 ✓

28+33 28.6 556.3 ✓

28+57 27.2 557.7 ✓

28+60 9.9 575.0 ✓

29+00 6.6 578.3 ✓

+50 3.0 581.9 ✓

T.P. 12.33 596.41 ✓ 0.77 584.08 ✓

30+00 10.4 586.0 ✓

+50 5.3 591.1 ✓

31+00 2.5 593.9 ✓

+18 0.0 596.4 ✓

T.P. 10.10 603.99 ✓ 2.52 593.89 ✓

+50 7.9 596.1 ✓

25

Bottom Canyon where Flume Enters Lake

h \ " h " h "

	603.99			
31+65		8.7	595.3	✓
Δ 31+87.89		6.4	597.6	✓
32+00		7.3	596.7	✓
+50		6.7	597.3	✓
33+00		6.9	597.1	✓
+35		5.2	598.8	✓
+50		6.1	597.9	✓
34+00		3.1	600.9	✓
+50		2.7	601.3	✓
35+00		3.7	600.3	✓
Δ 35+39.66		4.4	599.6	✓
B.M.	0.74	600.97	3.76	600.23
+50		2.6	598.4	✓

Set B.M. At 10' sta. 35+32 Mark Top Rock

600.99

35+77			1.7	599.3 ✓
36+00			4.9	596.1 ✓
+50			7.7	593.3 ✓
37+00			10.5	590.5 ✓
+50			12.4	588.6 ✓
T.P.	1.43	589.38 ✓	12.02	587.95 ✓
38+00			3.3	586.1 ✓
+50			8.4	581.0 ✓
△ 38+98.7'			11.4	578.0 ✓
39+00			11.5	577.9 ✓
T.P.	0.47	577.48 ✓	12.37	577.01 ✓
39+50			2.6	574.9 ✓
40+00			4.8	572.7 ✓

577.48

40+34 7.1 570.4 ✓

+50 11.0 566.5 ✓

T. P. 2.86 567.4 ✓ 12.60 564.88 ✓

41+00 5.9 561.8 ✓

+50 4.6 563.1 ✓

42+00 4.6 563.1 ✓

Δ 42+18⁰⁰ 3.6 564.1 ✓

+50 6.7 561.0 ✓

+68 10.2 557.5 ✓

43+00 5.3 562.4 ✓

Δ 43+14²⁰ 1.8 565.9 ✓

+50 1.2 566.5 ✓

44+00 0.8 566.9 ✓

Bottom CREEK BED

	567.74		
44+50		2.0	565.7 ✓
45+00		0.6	567.1 ✓
T.P.	12.82	579.51 ✓	1.05 566.69 ✓
Δ 45+57		8.2	571.3 ✓
46+00		4.2	575.3 ✓
+50		1.8	577.7 ✓
47+00		0.8	578.7 ✓
T.P.	12.74	591.76 ✓	0.49 579.02 ✓
47+50		11.9	579.9 ✓
48+00		9.8	582.0 ✓
+50		8.0	583.8 ✓
49+00		5.9	585.9 ✓
Δ 49+07 ²⁰		5.9	585.9 ✓

591.76

49+50 4.4 587.4 ✓

T.P. 11.49 598.39 ✓ 4.86 586.90 ✓

50+00 9.7 588.7 ✓

+50 9.3 589.1 ✓

51+00 8.4 590.0 ✓

+50 7.9 590.5 ✓

52+00 7.2 591.2 ✓

+50 6.7 591.7 ✓

53+00 5.6 592.8 ✓

+50 5.3 593.1 ✓

54+00 6.1 592.3 ✓

A 54+22³⁰ 6.4 592.0 ✓

A T.P. 1.24 592.60 ✓ 7.03 591.36 ✓

	592.60		
54+50		0.3	592.3 ✓
55+00		1.0	591.6 ✓
+50		3.2	589.4 ✓
56+00		5.1	587.5 ✓
+50		6.9	585.7 ✓
57+00		8.3	584.3 ✓
+50		9.3	583.3 ✓
58+00		9.5	583.1 ✓
+50		10.2	582.4 ✓
T.P.	2.92	583.28 ✓	12.24 580.36 ✓
59+00		3.3	580.0 ✓
+50		5.8	577.5 ✓
60+00		7.0	576.3 ✓

583.28

60+50		9.6	573.7	✓	
61+00		11.1	572.2	✓	
Δ61+21 ⁵⁵		10.2	573.1	✓	
61+50		10.8	572.5	✓	
62+00		11.2	572.1	✓	
+50		12.7	570.6	✓	
T.P.	7.93	578.46	12.75	570.53	✓
63+00		13.6	569.9	✓	
+28		18.5	560.0	✓	
+34		22.6	555.9	✓	
+41		22.5	556.0	✓	
+50		17.9	560.6	✓	
64+00		12.4	560.1	✓	

32

578.46

 $\Delta 64+44^{55}$ 8.6 569.9 ✓

65+00 6.1 572.4 ✓

+50 3.9 574.6 ✓

66+00 1.7 576.8 ✓

T.P. 9.37 586.78 ✓ 1.05 577.41 ✓

+50 8.2 578.6 ✓

67+00 8.1 578.7 ✓

+40 8.1 578.7 ✓

+50 6.7 580.1 ✓

+62 5.7 581.1 ✓

68+00 6.4 580.4 ✓

+15 7.1 579.7 ✓

+33 5.3 581.5 ✓

586.78

68+50 5.6 581.2 ✓

 $\Delta 68+69^{30}$ 4.7 582.1 ✓

69+00 4.3 582.5 ✓

+50 4.7 582.1 ✓

70+00 5.3 581.5 ✓

+40 3.1 583.7 ✓

+50 4.0 582.8 ✓

+67 5.9 580.9 ✓

71+00 4.6 582.2 ✓

+13 6.7 580.1 ✓

+36 3.5 583.3 ✓

+50 5.1 581.7 ✓

72+00 4.1 582.7 ✓

34

B.M.	3.62	586.78 585.61 ✓	4.79	581.99 ✓
72+30			5.1	580.5 ✓
+60			11.4	579.2 ✓
+87			22.4	563.2 ✓
73+00			18.5	567.1 ✓
+30			7.2	578.4 ✓
+50			2.9	582.7 ✓
74+00			1.4	584.2 ✓
+50			0.8	584.8 ✓
T.P.	7.16	592.06 ✓	0.71	584.90 ✓
Δ 74+73 ⁰⁰			5.2	586.9 ✓
75+00			7.5	584.6 ✓
+27			5.7	586.4 ✓

B.M. ON ROCK 4' RT. STA. 72+14

Bottom of DRAW

59296

75+50		7.2	584.9	✓	
76+00		6.7	585.4	✓	
+50		7.8	584.3	✓	
77+00		6.4	585.7	✓	
+50		6.9	585.2	✓	
78+00		6.7	585.4	✓	
+50		6.8	585.3	✓	
79+00		5.5	586.6	✓	
T.P.	8.97	594.59	6.44	585.62	✓
79+50		8.8	585.8	✓	
80+00		8.8	585.8	✓	
+50		8.7	585.9	✓	
Δ 80+685		9.9	584.7	✓	

594.59

81400 10.2 584.4 ✓

+50 11.9 582.7 ✓

T.P. 5.01 587.69 ✓ 11.91 582.68 ✓

82400 8.2 579.5 ✓

+50 10.6 577.1 ✓

482 +78⁷⁰ 12.0 575.7 ✓

T.P. 2.29 572.93 ✓ 12.05 575.64 ✓

83400 3.9 574.0 ✓

+50 4.0 573.9 ✓

+79 3.6 574.3 ✓

84400 6.0 571.9 ✓

+25 4.8 573.1 ✓

+50 6.2 571.7 ✓

ON ROCK & 81450

577.93

85+00 5.8 572.1 ✓

+50 9.6 568.3 ✓

86+00 13.8 569.1 ✓

+06 14.0 563.9 ✓

A 86+3760 9.1 568.8 ✓

+50 9.1 568.8 ✓

87+00 6.7 571.2 ✓

+50 5.3 572.6 ✓

88+00 6.1 571.8 ✓

A 88+09⁰⁵ 6.2 571.7 ✓

+50 7.2 570.7 ✓

89+00 8.6 569.3 ✓

+50 9.6 568.3 ✓

38

89 + 72 10.1 567.8 ✓

+ 81 14.0 563.9 ✓

90 + 00 10.2 567.7 ✓

Δ 90 + 35⁶⁵ 3.5 574.4 ✓

+ 50 2.7 575.2 ✓

T. P. 12.68 588.74 ✓ 1.87 576.06 ✓

91 + 00 8.7 580.0 ✓

+ 50 9.3 579.4 ✓

92 + 00 7.5 581.2 ✓

Δ 92 + 04¹⁶ 7.8 580.9 ✓

+ 50 4.8 583.9 ✓

93 + 00 2.7 586.0 ✓

+ 50 2.5 586.2 ✓

588.74

Δ 93+07		2.3	586.4	✓
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T. P.	8.81	592.47	5.08	583.66	✓
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94+00		6.4	586.1	✓
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+50		5.1	587.4	✓
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95+00		6.3	586.2	✓
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+50		8.0	584.5	✓
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Δ 95+58 ⁶²		7.5	585.0	✓
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96+00		7.8	584.7	✓
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+50		8.6	583.9	✓
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Δ 97+00		9.3	583.2	✓
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+50		9.9	582.6	✓
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98+00		9.7	582.8	✓
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T. P.	9.35	590.66	11.16	581.31	✓
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590.66

98+50	7.8	582.9	✓
99+00	8.1	582.6	✓
+50	7.5	583.2	✓
100+00	8.5	582.2	✓
+50	7.8	582.9	✓
101+00	7.7	583.0	✓
+50	7.2	583.5	✓
102+00	7.1	583.6	✓
+50	7.7	583.0	✓
103+00	10.4	580.3	✓
+17	12.9	577.8	✓
+50	11.4	579.3	✓
T. P.	7.82	589.02	✓
	9.46	581.20	✓

589.02

104+00 7.2 581.8 ✓

+50 5.1 583.9 ✓

105+00 4.9 584.1 ✓

+50 5.1 583.9 ✓

106+00 6.3 582.7 ✓

+50 6.8 582.2 ✓

107+00 6.5 582.5 ✓

+50 4.2 584.8 ✓

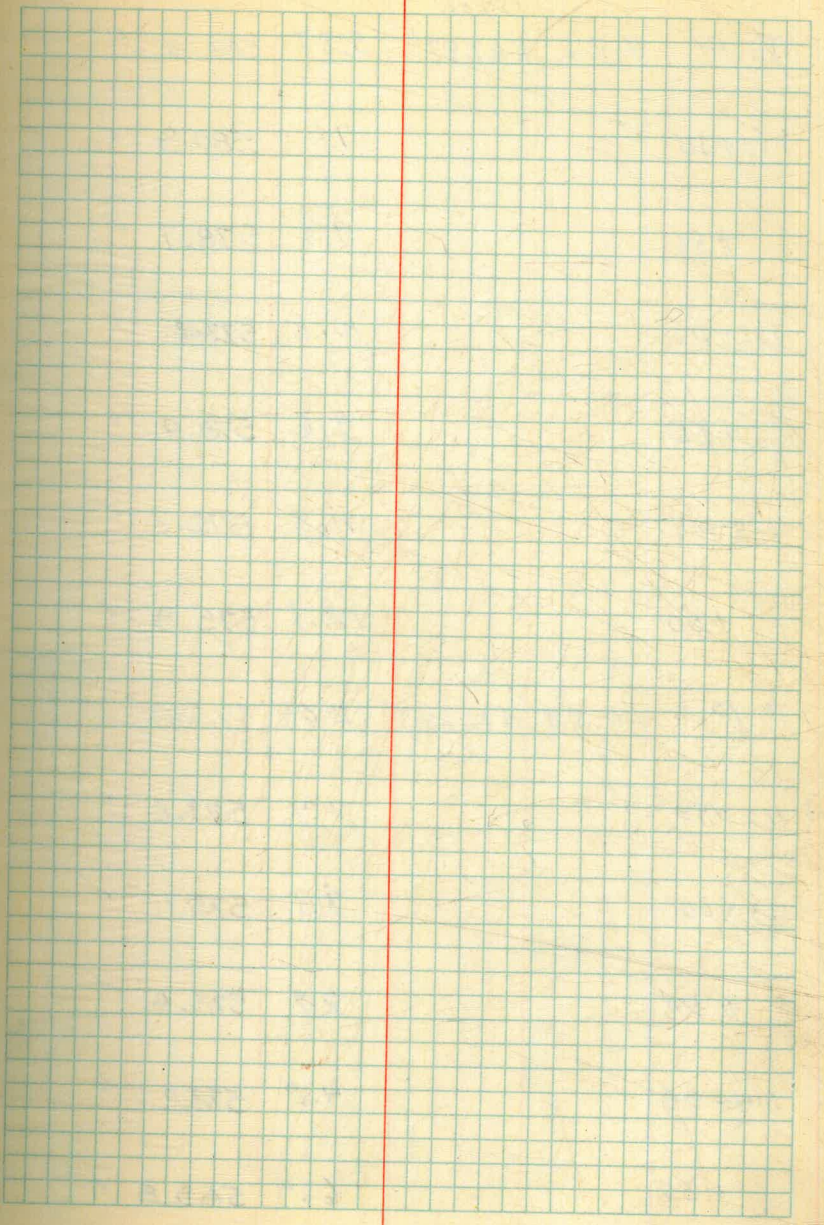
108+00 2.0 587.0 ✓

A/08+24⁴³ 1.3 587.7 ✓

+50 1.5 587.5 ✓

109+00 4.1 584.9 ✓

+50 6.0 583.0 ✓



T. P	4.82	589.02 587.97 ✓	5.87	583.15 ✓
110+00			7.1	580.9 ✓
+50			9.3	578.7 ✓
111+00			10.6	577.4 ✓
+50			9.6	578.4 ✓
112+00			11.8	576.2 ✓
+50			12.1	575.9 ✓
T. P.	0.89	576.22 ✓	12.64	575.33 ✓
A 112+90 ³⁵			2.4	573.8 ✓
113+00			3.1	573.1 ✓
+50			2.8	573.4 ✓
114+00			4.0	572.2 ✓
+50			6.4	569.8 ✓

	576.22		
115+00		9.9	566.3 ✓
T. P.	2.12 567.12 ✓	11.22	565.00 ✓
+50		5.2	561.9 ✓
116+00		7.2	559.9 ✓
+50		8.0	559.1 ✓
117+00		7.4	559.7 ✓
Δ 117+13 ⁴⁸		7.6	559.5 ✓
+50		9.5	557.6 ✓
+62		11.3	555.8 ✓
+82		9.2	557.9 ✓
118+00		6.0	561.1 ✓
+50		0.2	566.9 ✓
B.M.	12.92 579.15 ✓	0.89	566.23 ✓

Set B.M. 2x2 Hub under Fence 53' Pt. 5 1/2 NB

579.15

118+58⁸⁰ 10.7 568.5 ✓

119+00 10.5 568.7 ✓

+50 10.1 569.1 ✓

120+00 8.7 570.5 ✓

+50 7.6 571.6 ✓

121+00 5.3 573.9 ✓

+50 1.3 577.9 ✓

122+00 0.2 579.0 ✓

122+04⁰⁰ 0.2 579.0 ✓

+35 3.5 575.7 ✓

+50 1.7 577.5 ✓

123+00 0.0 579.2 ✓

T. P. 11.92 588.94 ✓ 2.13 577.02 ✓

588.94

123+50 7.9 581.0 ✓

124+00 8.0 580.9 ✓

+50 6.5 582.4 ✓

125+00 4.8 584.1 ✓

+50 4.5 584.4 ✓

Δ 126+00²³ 5.0 583.9 ✓

+57 7.8 581.1 ✓

127+00 13.6 575.3 ✓

Δ 127+35 17.9 571.0 ✓

+50 17.0 571.9 ✓

128+00 13.8 575.1 ✓

+50 9.0 579.9 ✓

129+00 6.7 582.2 ✓

$\Delta 129+23^{20}$	588.94	5.6	583.3	✓
+50		3.8	585.1	✓
130+00		2.0	586.9	✓
T. P. 10.79	593.14	4.59	584.35	✓
+50		8.7	586.4	✓
131+00		10.3	584.8	✓
+50		6.5	588.6	✓
+60		5.0	590.1	✓
132+00		4.8	590.3	✓
+50		4.7	590.4	✓
133+00		4.9	590.2	✓
+50		3.3	591.8	✓
133+60 ⁶⁵		2.9	592.2	✓

595.14
T. P. 10.28 602.89 ✓ 2.53 592.6 ✓

134+00 9.8 593.1 ✓

+50 8.8 594.1 ✓

135+00 6.8 596.1 ✓

+50 4.6 598.3 ✓

136+00 2.3 600.6 ✓

T. P. 12.38 613.80 ✓ 1.47 601.42 ✓

+50 11.1 602.7 ✓

137+00 8.3 605.5 ✓

+50 6.1 607.7 ✓

138+00 5.3 608.5 ✓

138+33⁸⁰ 4.1 609.7 ✓

+50 4.8 609.0 ✓

613.80

139+00

6.4 607.4 ✓

+50

8.8 605.0 ✓

140+00

11.3 602.5 ✓

+50

10.1 603.7 ✓

141+00

9.3 604.5 ✓

T..P. 4.13 608.30 ✓

9.63 604.17 ✓

+50

4.1 604.2 ✓

142+00

5.2 603.1 ✓

+50

6.7 601.6 ✓

143+00

7.9 600.4 ✓

+50

9.4 598.9 ✓

144+00

10.1 598.2 ✓

+50

11.5 596.8 ✓

608.30

144+90¹² 9.8 598.5 ✓

145+00 12.2 596.1 ✓

+50 13.0 595.3 ✓

T. P. 0.47 597.50 ✓ 11.27 597.03 ✓

146+00 4.9 592.6 ✓

Δ 146+49³⁸ 8.6 588.9 ✓

147+00 9.6 587.9 ✓

+36 13.1 584.4 ✓

+50 12.7 584.8 ✓

148+00 12.5 585.0 ✓

T. P. 0.18 585.60 ✓ 12.08 585.42 ✓

+50 5.2 580.4 ✓

149+00 9.1 576.5 ✓

583.60

149+50	10.4	575.2	✓
150+00	7.7	577.9	✓
150+08 ⁸³	7.8	577.8	✓
+37	13.2	572.4	✓
+44	16.1	569.5	✓
+60	9.5	576.1	✓
151+00	6.7	578.9	✓
+50	6.0	579.6	✓
152+00	3.1	582.5	✓
+50	4.0	581.6	✓
153+00	3.7	581.9	✓
+50	3.1	582.5	✓
A 153+82	3.4	582.2	✓

51

585.60

154+00 4.3 581.3 ✓

+50 4.6 581.0 ✓

155+00 6.3 579.3 ✓

T. P. 10.89 591.30 ✓ 5.19 580.41 ✓

+16 13.9 577.4 ✓

+50 11.5 579.8 ✓

+81 7.1 584.2 ✓

156+00 7.1 584.2 ✓

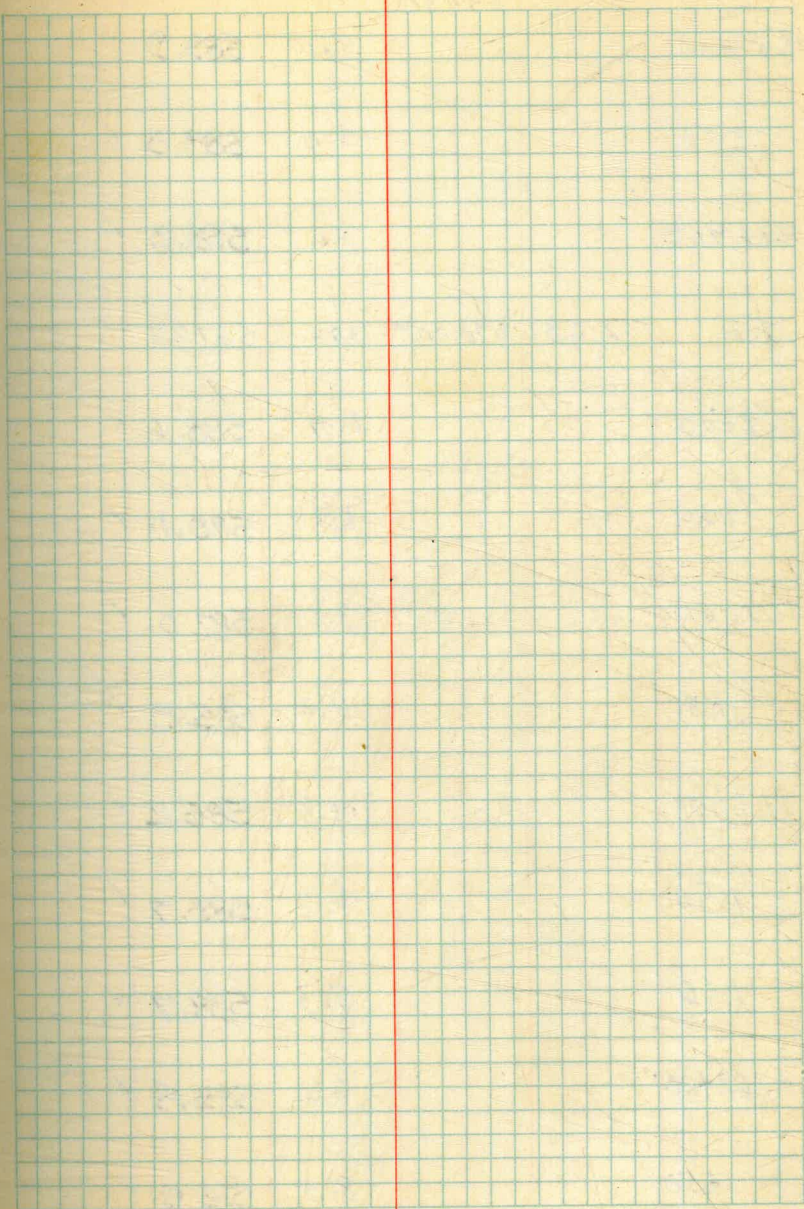
+50 4.7 586.6 ✓

157+00 3.1 588.2 ✓

+38 1.3 590.0 ✓

+50 2.4 588.9 ✓

+74 1.9 589.4 ✓



	591.30		
158+00		7.4	589.9 ✓
+50		3.0	588.3 ✓
Δ 158+90 ⁹³		3.0	588.3 ✓
T.P.	2.63	590.00 ✓	3.93 587.37 ✓
159+00		1.4	588.6 ✓
+50		1.9	588.1 ✓
160+00		3.0	587.0 ✓
+50		4.2	585.8 ✓
161+00		4.8	585.2 ✓
+50		6.3	583.7 ✓
+66		5.3	584.7 ✓
+162+00		6.6	583.4 ✓
+50		8.5	581.5 ✓

	590.00			
163+00		9.9	580.1	✓
+50		11.7	578.3	✓
164+00		12.5	577.5	✓
Δ 164+06 ⁰⁶		12.3	577.7	✓
+50		12.6	577.4	✓
165+00		13.3	576.7	✓
B.M.	1.60	579.18	12.42	577.58 ✓
+50		3.0	576.2	✓
166+00		4.4	574.8	✓
+50		6.9	572.3	✓
167+00		8.9	570.3	✓
+25		8.6	570.6	✓
450		11.4	567.8	✓

Set B.M. on Rock 38' Rt. 164+82

579.18

55

168		11.8	567.4	✓	
+34		11.8	567.4	✓	
+50		13.1	566.1	✓	
Δ 168+68 ⁶⁰		12.0	569.2	✓	
T. P.	2.95	569.38	12.75	566.43	✓
168+87		4.0	565.4	✓	
169+00		2.1	567.3	✓	
+50		3.7	565.7	✓	
170+00		4.9	564.5	✓	
+29		3.5	565.9	✓	
+50		5.3	564.1	✓	
171+00		5.7	563.7	✓	
+50		6.1	563.3	✓	

569.38

171+64	7.9	561.5	✓
172+00	8.3	561.1	✓
+35	7.1	562.3	✓
+50	8.1	561.3	✓
+60	9.2	560.2	✓
Δ 173+00	7.1	562.3	✓
+38	6.6	562.8	✓
+50	7.3	562.1	✓
+75	7.8	561.6	✓
174+00	6.2	563.2	✓
+15	4.8	564.6	✓
+50	5.9	563.5	✓
+69	3.8	565.6	✓

56

	569.38		
175+00		3.5	565.9 ✓
+17		2.4	567.0 ✓
T.P.	8.02 574.4) ✓	2.99	566.39 ✓
+50		8.3	566.1 ✓
176+00		7.7	566.7 ✓
+50		6.7	567.7 ✓
177+00		5.6	568.8 ✓
+20		6.3	568.1 ✓
Δ177+35		4.9	569.5 ✓
+50		5.7	568.7 ✓
178+00		6.0	568.4 ✓
+50		7.2	567.2 ✓
179+00		7.1	567.3 ✓

574.41

179+50 7.7 566.7 ✓

180+00 6.9 567.5 ✓

+50 6.1 568.3 ✓

181+00 4.8 569.6 ✓

+50 4.5 569.9 ✓

182+00 5.6 568.8 ✓

+50 4.9 569.5 ✓

183+00 4.8 569.6 ✓

+50 7.0 567.4 ✓

184+00 4.7 569.7 ✓

+50 6.3 568.1 ✓

185+00 4.3 570.1 ✓

185+10⁸⁷ 4.8 569.6 ✓

179+50	7.7	566.7	✓
180+00	6.9	567.5	✓
+50	6.1	568.3	✓
181+00	4.8	569.6	✓
+50	4.5	569.9	✓
182+00	5.6	568.8	✓
+50	4.9	569.5	✓
183+00	4.8	569.6	✓
+50	7.0	567.4	✓
184+00	4.7	569.7	✓
+50	6.3	568.1	✓
185+00	4.3	570.1	✓
185+10 ⁸⁷	4.8	569.6	✓

574.41

185+50 8.0 566.4 ✓

+61 9.8 564.6 ✓

186+00 4.7 569.7 ✓

+50 4.8 569.6 ✓

187+00 5.5 568.9 ✓

+50 6.1 568.3 ✓

188+00 5.6 568.8 ✓

+50 5.9 568.5 ✓

189+00 5.9 568.5 ✓

+50 6.4 568.0 ✓

190+00 7.3 567.1 ✓

+23 5.7 568.7 ✓

+50 8.0 566.4 ✓

574.41

191+00 7.7 566.7 ✓

A 191+10 7.4 567.0 ✓

+50 8.6 565.8 ✓

192+00 8.5 565.9 ✓

+50 10.9 563.5 ✓

193+00 10.4 564.0 ✓

+50 10.2 564.2 ✓

194+00 11.0 563.4 ✓

+50 12.4 562.0 ✓

B. M. 7.73 573.40 ✓ 8.74 565.61 ✓

195+00 12.5 560.9 ✓

+50 10.8 562.6 ✓

196+00 11.7 561.7 ✓

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573.40

196+50 10.1 563.3 ✓

197+00 10.9 562.5 ✓

+50 9.7 563.7 ✓

198+00 8.6 564.8 ✓

+50 8.0 565.4 ✓

199+00 6.3 567.1 ✓

+50 6.2 567.2 ✓

Δ199+90 5.7 567.7 ✓

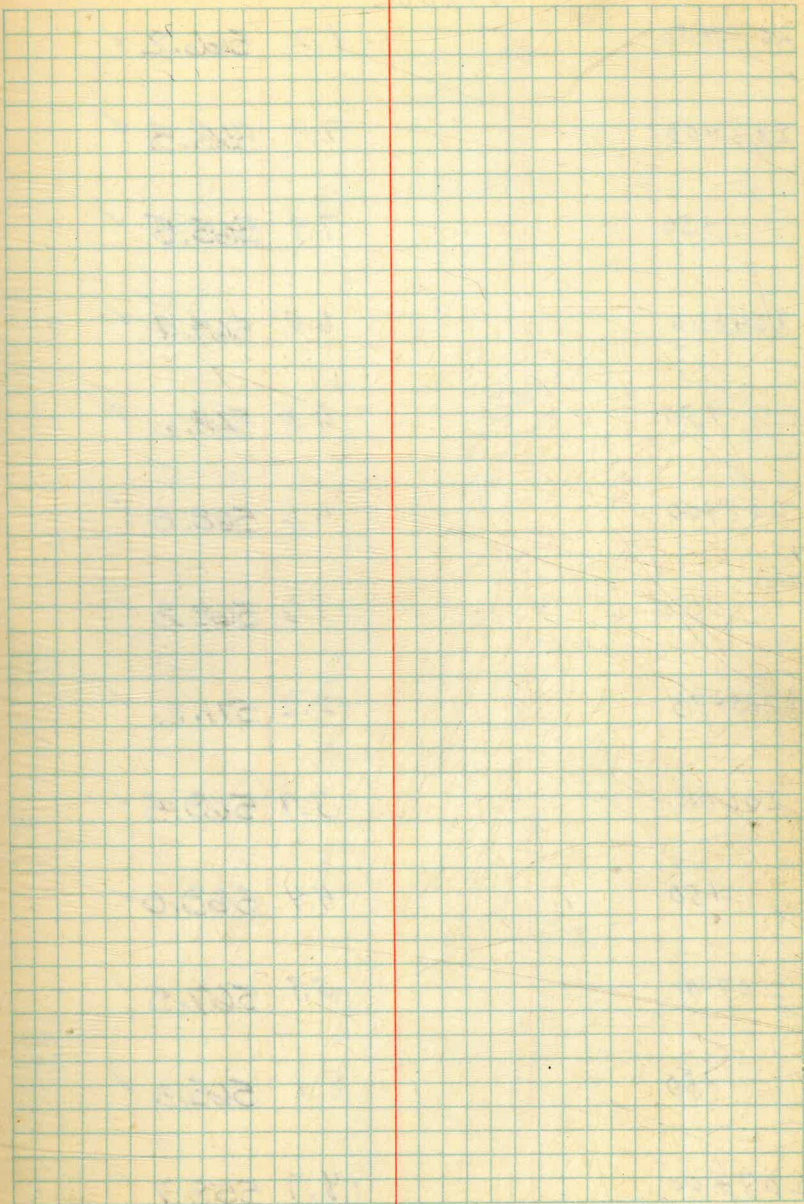
200+00 6.0 567.4 ✓

+50 6.8 566.6 ✓

201+00 4.9 568.5 ✓

+50 7.8 565.6 ✓

202+00 8.2 565.2 ✓



573.40

202+50 7.2 566.2 ✓

203+00 7.9 565.5 ✓

+50 7.9 565.5 ✓

204+00 6.0 567.4 ✓

+50 4.8 568.6 ✓

205+00 4.6 568.8 ✓

+50 3.6 569.8 ✓

Δ205+75 2.2 571.2 ✓

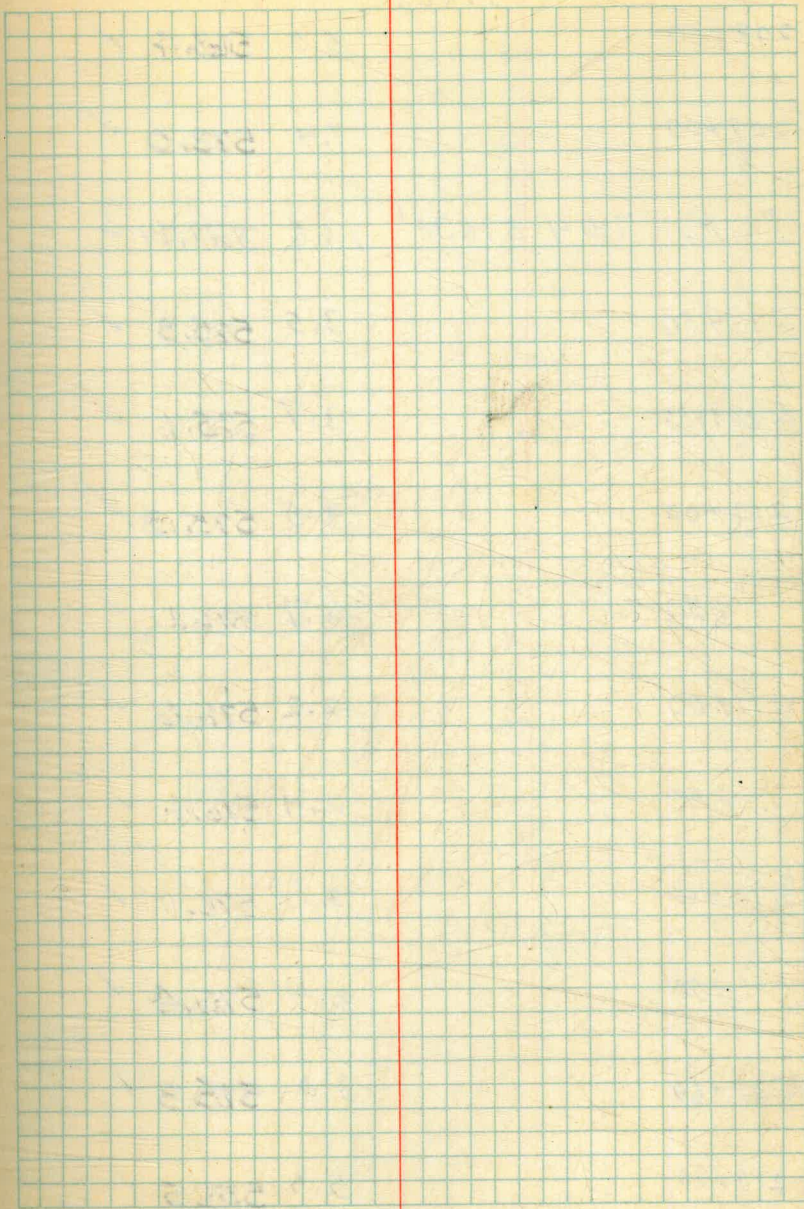
206+00 3.9 569.5 ✓

+50 4.4 569.0 ✓

207+00 5.9 567.5 ✓

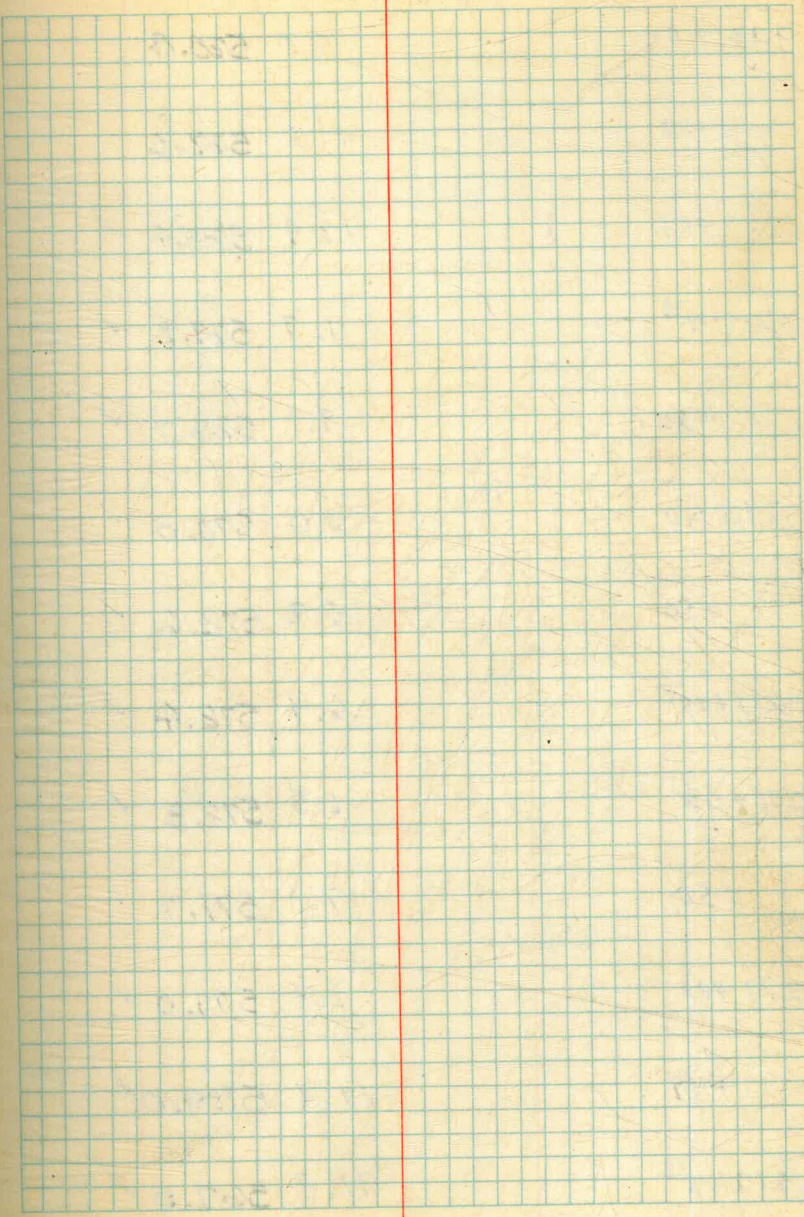
+50 8.1 565.3 ✓

208+00 14.7 558.7 ✓



573.40

208+50	5.0	568.4	✓
209+00	1.4	572.0	✓
T. P. 7.04	578.78	1.66	571.74 ✓
+50	3.5	575.3	✓
Δ 209+55	3.7	575.1	✓
210+00	3.5	575.3	✓
+50	2.7	576.1	✓
211+00	2.2	576.6	✓
+50	2.4	576.4	✓
212+00	2.7	576.1	✓
+50	2.4	576.4	✓
Δ 212+60	3.0	575.8	✓
213+00	5.3	573.5	✓



578.7d

213 + 50

8.0 570.8 ✓

214 + 00

11.5 567.3 ✓

+ 07

13.4 565.4 ✓

Δ 214 + 14²⁰

11.7 567.1 ✓

+ 50

9.1 569.7 ✓

215 + 00

8.0 570.8 ✓

+ 50

6.2 572.6 ✓

Δ 215 + 95⁷⁰

6.4 572.4 ✓

216 + 00

6.5 572.3 ✓

+ 50

7.1 571.9 ✓

217 + 00

7.8 571.0 ✓

+ 49

14.8 564.0 ✓

Δ 217 (2⁵⁰)

11.8 567.0 ✓

	578.74				
218+00		10.9	567.9	✓	
+50		8.0	570.8	✓	
219+00		5.1	573.7	✓	
+50		4.5	574.3	✓	
220+00		2.7	576.1	✓	
+50		1.2	577.6	✓	
221+00		0.0	578.8	✓	
+50		0.3	578.5	✓	
Δ 221+69 ⁵⁵		0.5	578.3	✓	
222+00		0.7	578.1	✓	
T. P.	12.57	590.73	0.62	578.16	✓
+50		11.8	578.9	✓	
223+00		11.7	579.0	✓	

		590.73		
223+50			11.8	578.9 ✓
224+00			11.9	578.8 ✓
+50			12.7	578.0 ✓
225+00			13.8	576.9 ✓
+50			13.5	577.2 ✓
226+00			12.3	578.4 ✓
226+46			9.9	580.8 ✓
227+00			7.4	583.3 ✓
+50			4.3	586.4 ✓
228+00			1.3	589.4 ✓
T. P.	12.18	602.57	0.34	590.39 ✓
+50			8.9	593.7 ✓
229+00			5.3	597.3 ✓

		602.57		
T. P.	7.46	608.78 [✓]	1.25	601.32 [✓]
229+50			4.7	604.1 [✓]
Δ229+80			3.0	605.8 [✓]
230+00			2.1	600.7 [✓]
+50			3.6	605.2 [✓]
231+00			7.0	601.8 [✓]
+50			8.9	599.9 [✓]
232+00			9.8	599.0 [✓]
+50			12.2	596.6 [✓]
pot 232+72			13.2	595.6 [✓]
T. P.	0.86	596.68 [✓]	12.96	595.82 [✓]
233+00			3.0	593.7 [✓]
+50			6.3	590.4 [✓]

596.68

234+00

9.2 587.5 ✓

+50

12.6 584.1 ✓

A234+94²⁴

14.0 582.7 ✓

235+00

14.0 582.7 ✓

+50

12.6 584.1 ✓

236+00

13.0 583.7 ✓

+50

13.1 583.6 ✓

237+00

11.4 585.3 ✓

+50

11.4 585.3 ✓

A237+65³⁰

11.0 585.7 ✓

238+00

10.0 586.7 ✓

+50

10.2 586.5 ✓

239+00

11.6 585.1 ✓

68

596.68

T. P. 0.30 587.38 ✓ 9.60 587.08 ✓

239+50 6.6 580.8 ✓

240+00 11.6 575.8 ✓

+50 9.8 577.6 ✓

241+00 4.7 582.7 ✓

Δ241+50⁵⁹ 5.9 581.5 ✓

242+00 3.8 583.6 ✓

+50 5.2 582.2 ✓

243+00 6.5 580.9 ✓

Δ243+25⁰⁰ 7.5 579.9 ✓

+50 9.8 577.6 ✓

T. P. 0.79 577.52 ✓ 10.65 576.73 ✓

244+00 5.4 572.1 ✓

577.52

244+50 10.0 567.5 ✓

+65 12.3 565.2 ✓

245+00 6.0 571.5 ✓

Δ245+11²⁰ 4.1 573.4 ✓

+50 1.7 575.8 ✓

Δ 246+00 0.3 577.2 ✓

+50 0.3 577.2 ✓

T. P. 7.24 582.92 ✓ 1.84 575.68 ✓

Δ 246+84⁹² 3.9 579.0 ✓

247+00 3.5 579.4 ✓

+50 3.7 579.2 ✓

248+00 5.6 577.3 ✓

Δ 248 06⁶² 6.4 576.5 ✓

582.92

248 +50

5.6 577.3 ✓

249 +00

3.1 579.8 ✓

+50

2.4 580.5 ✓

 $\Delta 249 + 65^{08}$

3.2 579.7 ✓

T.P. 11.40 590.09 4.23 578.69 ✓

250 +00

8.8 581.3 ✓

+50

6.5 583.6 ✓

251 +00

5.7 584.4 ✓

+50

4.1 586.0 ✓

252 +00

2.9 587.2 ✓

 $\Delta 252 + 15^{28}$

2.7 587.4 ✓

+50

3.9 586.2 ✓

253 +00

2.7 587.4 ✓

590.09

253+50 5.1 585.0 ✓

Δ 253+64³⁰ 5.8 584.3 ✓

T. P. 4.87 591.27 ✓ 3.69 586.40 ✓

254+00 4.5 586.8 ✓

+50 3.7 587.6 ✓

Δ 254+76¹⁵ 4.8 586.5 ✓

255+00 6.1 585.2 ✓

+50 5.4 585.9 ✓

256+00 6.0 585.3 ✓

Δ 256+18⁷⁹ 8.0 583.3 ✓

T. B. M. 7.97 583.30 ✓

T. P. 3.40 582.43 ✓ 12.24 579.03 ✓

+50 0.8 581.6 ✓

X ON ROCK @ 256+1879

	582.43			
256+72		4.8	577.6	✓
257+00		4.0	578.4	✓
+50		4.8	577.6	✓
A258+04 ⁵²		7.9	574.5	✓
T. P.	1.86	571.97	12.32	570.11
T. P.	1.11	560.20	12.88	559.09
258+50		2.4		
T. P.	0.16	547.62	12.74	547.46
259+00		2.1		
B.M.		5.17	542.45	542.51

(Notes reduced by MR. Jan 22, '46)

2-13-46 Nelson A
clear-water RICE 103 73
Leonard φ

CHECK LEVELS FROM
B.M. ON DAM TO STA
258+04⁵²

	542.51	B.M.
+	9.15	
	546.66	
-	0.10	
	546.56	
+	12.90	
	559.46	
-	0.16	
	559.30	
+	12.59	
	571.89	
-	1.84	
	570.05	
+	11.62	
	581.67	
-	7.97	
	573.70 = 574.5	

End of Road

Top Hdwall. East End Dam. See BK. 669

Elevs Top 3 hubs bottom East Test Pit #1
WB

Alvarado Treatment Pl. Site

		City Datum	Used	
B.M.	5.43	541.82	536.39	
	6.49	546.28	2.03	539.79
Hub #1		17.73		528.55
Hub #2		17.65		528.63
Hub #3		17.82		528.46
T.B.M.	2.25	541.98	6.55	539.73
B.M.		5.58	536.40	536.39
Check on Hubs 1-10-45				
B.M.	6.06	545.79		539.73
Hub #1		17.22	528.57	528.55
Hub #2		17.155	528.635	528.63
Hub #3		17.32	528.47	528.46
		6.06	539.73	

KING
Waddel
Klinger

Dec-14-45

74

Top Murray Dam - East End U.S.G.S. 542.51
6.12
City Datum 536.39

N.W. Corner

N.E. Corner

South Center

Nail in P.Pole # 76572

Top Murray Dam - East End

Nail in P.P. # 76572

N.W. Cor.

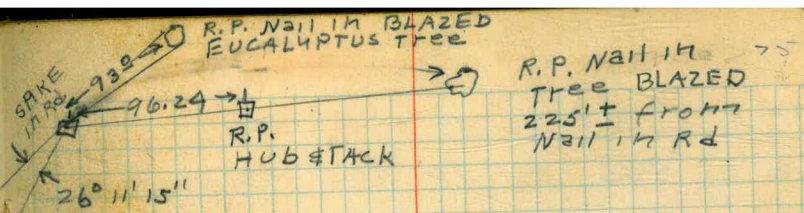
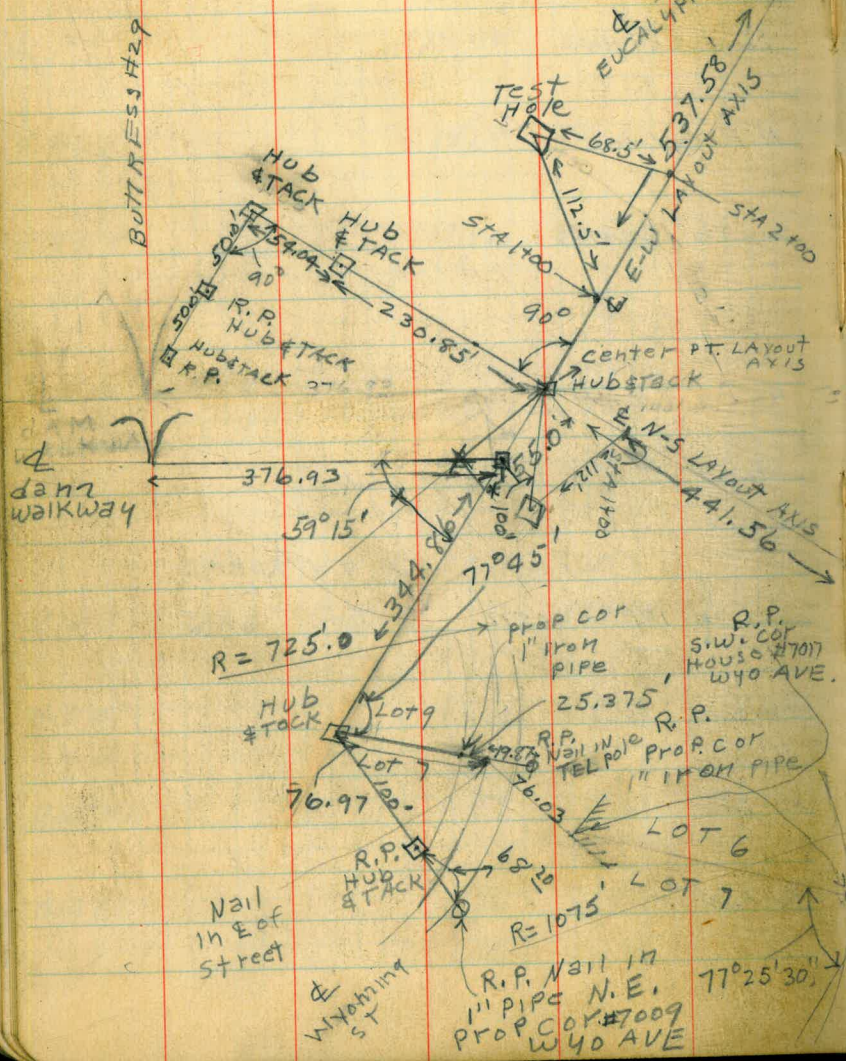
N.E. Cor

So. Center

LAYOUT AXIS FOR ALVARADO
TREATMENT PLANT & REFERENCE POINTS

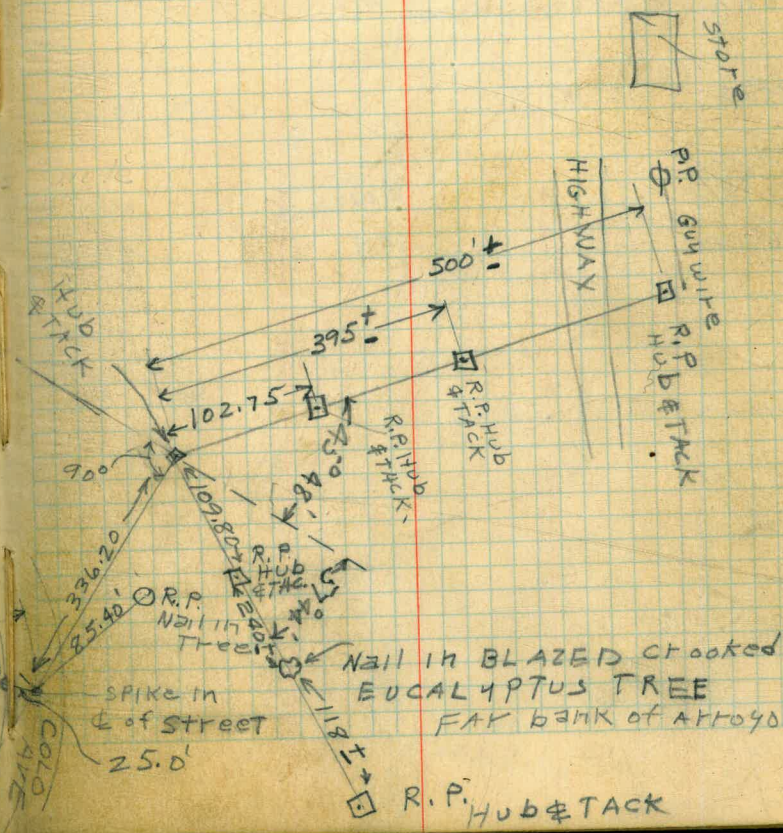
4-8-46
Clear-Warm

Nelson T
Leonard
RICE

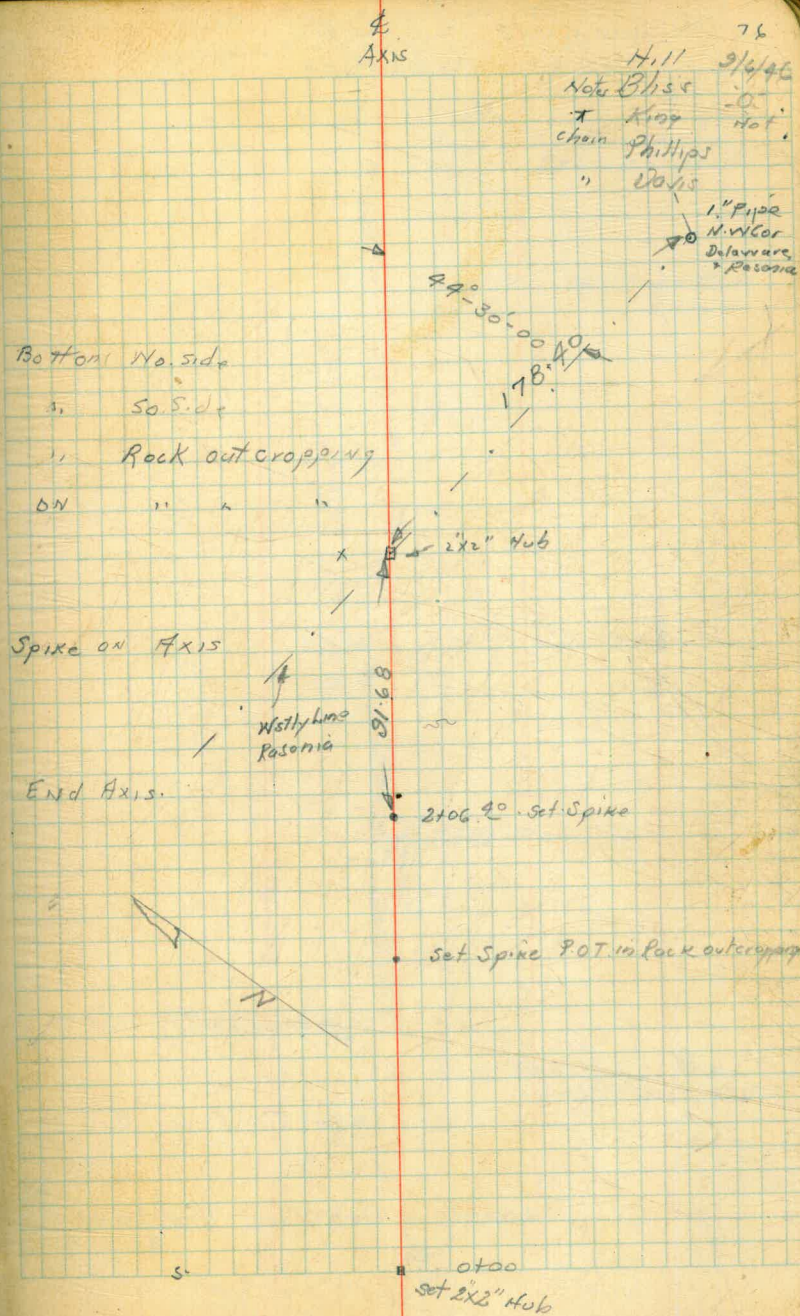


REFERENCE POINTS

5-27-46 Clear-Hot
Nelson T
Leonard
RICE



	Profile +	Proposed X	Damside -	Murray Canyon Elev	Δ pt
BM	9.90	461.40		451.50	
0+00	4.90	461.70	460	456.80	
102			4.9		
Slope Distance	Vertical Angle	Horizontal Dist	Rod		
			4.9		
72.40	-35° 07'		4.9		0.1
101.40	-37° 49'		4.9		0.2
123.54	-30° 19'		4.9		0.3
142.20	-16° 30'		13.9		0.4
146.25	-12° 30'		4.9		0.5
167.90	-7° 54'		4.9		0.6
150.3	-13° 38'				
1798			10.9		Level Shot
206.40			4.9		" "



Jan. 5, 1948

Rainey
King
Nixon

King
Leonard
Nixon

2-20-48

North-South Line



No. line

Hubst.
E Axis

So. line
450.06

CONC. MON. & Nail

Spike - 570' From Axis E

line only Hub & Jack 736' From
Axis E

20 ft

oil Road

Additional ties to Alvarado
Treatment Plant
East-West Line

77

Hubst. for line only
IN BROWN'S YARD

245'

CONC. MON. 583.05 East of
Axis E

EAST LINE

90'

SET hubst.

400'

SET hubst.

400'

AXIS ON'S OWN

385.77'

CONC. MON.

225.93'

CONC. MON. IN OIL POND
611.20' West AXIS

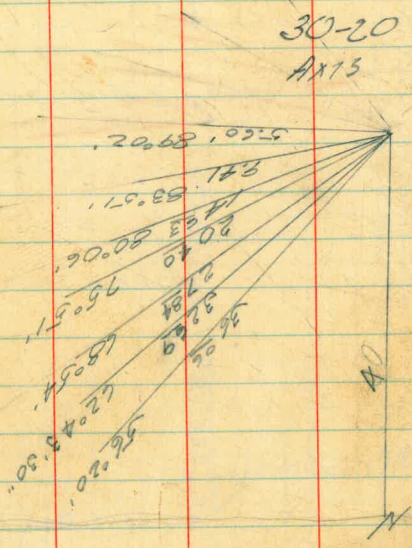


Guard Fence Ext St.

495'

Aug 21, 1947 Remney
Nathan
Baker

Angles turned Interior from Axis N Sight



Reiley
King
Nichols
Baker
Aug. 25, 1947

B.M. U.S.G.S. on Dam		542.51		
	11.04	553.55		
0+25	5.4	548.15	543.2	
0+50	4.5	549.05	543.1	
1+00	3.3	550.25	543.0	
1+50	2.9	550.65	542.9	
2+00	4.3	549.25	542.8	
2+25	5.4	548.15	542.75	
2+50	9.1	544.45	542.7	
3+00	15.2	538.35	542.6	

cuts Murray Lake Temporary Ditch
From Sect. II El Monte Pipeline 79

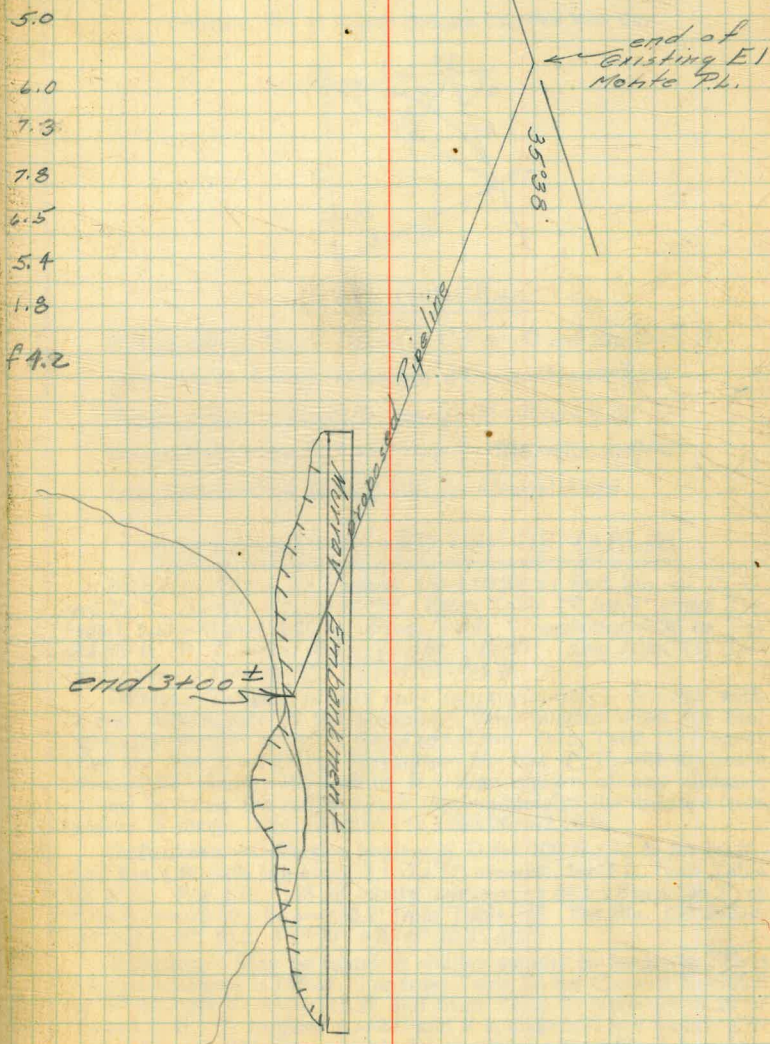


TABLE I.—MINUTES IN DECIMALS OF A DEGREE.

1'	.0167	11'	.1833	21'	.3500	31'	.5167	41'	.6833	51'	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

TABLE II.—INCHES IN DECIMALS OF A FOOT.

1/16	3/32	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729
1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167

TABLE III.—RADI, ORDINATES AND DEFLECTIONS.

Deg.	Radius	Mid. Ord.	Tan Offset	Def. for 1 Foot	Deg.	Radius	Mid. Ord.	Tan Offset	Def. for 1 Foot
0° 10'	34377.5	.036	.145	0.05'	7°	819.02	1.528	6.105	2.10'
20	17188.8	.073	.291	0.10	20	781.84	1.600	6.395	2.20
30	11459.2	.109	.436	0.15	30	764.49	1.637	6.540	2.25
40	8594.42	.145	.582	0.20	40	747.89	1.673	6.685	2.30
50	6875.55	.182	.727	0.25					
1	5729.65	.218	.873	0.30	8	716.78	1.746	6.976	2.40
10	4911.15	.255	1.018	0.35	20	688.16	1.819	7.266	2.50
20	4297.28	.291	1.164	0.40	30	674.69	1.855	7.411	2.55
30	3819.83	.327	1.309	0.45	40	661.74	1.892	7.556	2.60
40	3437.87	.364	1.454	0.50	9	637.28	1.965	7.846	2.70
50	3125.36	.400	1.600	0.55	20	614.56	2.037	8.136	2.80
					30	603.80	2.074	8.281	2.85
					40	593.42	2.110	8.426	2.90
2	2864.93	.436	1.745	0.60	10	573.69	2.183	8.716	3.00
10	2644.58	.473	1.891	0.65	30	546.44	2.292	9.150	3.15
20	2455.70	.509	2.036	0.70	40	521.67	2.402	9.585	3.30
30	2292.01	.545	2.181	0.75	11	499.06	2.511	10.02	3.45
40	2148.79	.582	2.327	0.80	30	478.34	2.620	10.45	3.60
50	2022.41	.618	2.472	0.85	40	459.28	2.730	10.89	3.75
3	1910.08	.655	2.618	0.90	13	441.68	2.839	11.32	3.90
10	1809.57	.691	2.763	0.95	30	425.40	2.949	11.75	4.05
20	1719.12	.727	2.908	1.00	40	410.28	3.058	12.18	4.20
30	1637.28	.764	3.054	1.05	14	396.20	3.168	12.62	4.35
40	1562.88	.800	3.199	1.10					
50	1494.95	.836	3.345	1.15	15	383.07	3.277	13.05	4.50
					30	370.78	3.387	13.49	4.65
4	1432.69	.873	3.490	1.20	16	359.27	3.496	13.92	4.80
10	1375.40	.909	3.635	1.25	30	348.45	3.606	14.35	4.95
20	1322.53	.945	3.718	1.30	17	338.27	3.716	14.78	5.10
30	1273.57	.982	3.926	1.35	40	319.62	3.935	15.64	5.40
40	1228.11	1.018	4.071	1.40	18	302.94	4.155	16.51	5.70
50	1185.78	1.055	4.217	1.45	19				
5	1146.28	1.091	4.362	1.50	20	287.94	4.374	17.37	6.00
10	1109.33	1.127	4.507	1.55	21	274.37	4.594	18.22	6.30
20	1074.68	1.164	4.653	1.60	22	262.04	4.814	19.08	6.60
30	1042.14	1.200	4.798	1.65	23	250.79	5.035	19.94	6.90
40	1011.51	1.237	4.943	1.70	24	240.49	5.255	20.79	7.20
50	982.64	1.273	5.088	1.75					
					25	231.01	5.476	21.64	7.50
6	955.37	1.309	5.234	1.80	26	222.27	5.697	22.50	7.80
10	929.57	1.346	5.379	1.85	27	214.18	5.918	23.35	8.10
20	905.13	1.382	5.524	1.90	28	206.68	6.139	24.19	8.40
30	881.95	1.418	5.669	1.95	29	199.70	6.360	25.04	8.70
40	859.92	1.455	5.814	2.00	30	193.18	6.583	25.88	9.00

NOTE. Chord Deflection=2 times tangent deflection.

65.55 (25258) 127
33.48 12.00 202

TABLE IV.—TANGENTS AND EXTERNALS TO A 1° CURVE.

Central Angle	Tangent	External	Central Angle	Tangent	External	Central Angle	Tangent	External
1°	50.00	.22	11°	551.70	26.50	21°	1061.9	97.57
10'	58.34	.30	10'	560.11	27.31	10'	1070.6	99.16
20	66.67	.39	20	568.53	28.14	20	1079.2	100.75
30	75.01	.49	30	576.95	28.97	30	1087.8	102.35
40	83.34	.61	40	585.36	29.82	40	1096.4	103.97
50	91.68	.73	50	593.79	30.68	50	1105.1	105.60
2	100.01	.87	12	602.21	31.56	22	1113.7	107.24
10	108.35	1.02	10	610.64	32.45	10	1122.4	108.90
20	116.68	1.19	20	619.07	33.35	20	1131.0	110.57
30	125.02	1.36	30	627.50	34.26	30	1139.7	112.25
40	133.36	1.55	40	635.93	35.18	40	1148.4	113.95
50	141.70	1.75	50	644.37	36.12	50	1157.0	115.66
3	150.04	1.96	13	652.81	37.07	23	1165.7	117.38
10	158.38	2.19	10	661.25	38.03	10	1174.4	119.12
20	166.72	2.43	20	669.70	39.01	20	1183.1	120.87
30	175.06	2.67	30	678.15	39.99	30	1191.8	122.63
40	183.40	2.93	40	686.60	40.99	40	1200.5	124.41
50	191.74	3.21	50	695.06	42.00	50	1209.2	126.20
4	200.08	3.49	14	703.51	43.03	24	1217.9	128.00
10	208.43	3.79	10	711.97	44.07	10	1226.6	129.82
20	216.77	4.10	20	720.44	45.12	20	1235.3	131.65
30	225.12	4.42	30	728.90	46.18	30	1244.0	133.50
40	233.47	4.76	40	737.37	47.25	40	1252.8	135.35
50	241.81	5.10	50	745.85	48.34	50	1261.5	137.23
5	250.16	5.46	15	754.32	49.44	25	1270.2	139.11
10	258.51	5.83	10	762.80	50.55	10	1279.0	141.01
20	266.86	6.21	20	771.29	51.68	20	1287.7	142.93
30	275.21	6.61	30	779.77	52.89	30	1296.5	144.85
40	283.57	7.01	40	788.26	53.97	40	1305.3	146.79
50	291.92	7.43	50	796.75	55.13	50	1314.0	148.75
6	300.28	7.86	16	805.25	56.31	26	1322.8	150.71
10	308.64	8.31	10	813.75	57.50	10	1331.6	152.69
20	316.99	8.76	20	822.25	58.70	20	1340.4	154.69
30	325.35	9.23	30	830.76	59.91	30	1349.2	156.70
40	333.71	9.71	40	839.27	61.14	40	1358.0	158.72
50	342.08	10.20	50	847.78	62.38	50	1366.8	160.76
7	350.44	10.71	17	856.30	63.63	27	1375.6	162.81
10	358.81	11.22	10	864.82	64.90	10	1384.4	164.86
20	367.17	11.75	20	873.35	66.18	20	1393.2	166.95
30	375.54	12.29	30	881.88	67.47	30	1402.0	169.04
40	383.91	12.85	40	890.41	68.77	40	1410.9	171.15
50	392.28	13.41	50	898.95	70.09	50	1419.7	173.27
8	400.66	13.99	18	907.49	71.42	28	1428.6	175.41
10	409.03	14.58	10	916.03	72.76	10	1437.4	177.55
20	417.41	15.18	20	924.58	74.12	20	1446.3	179.72
30	425.79	15.80	30	933.13	75.49	30	1455.1	181.89
40	434.17	16.43	40	941.69	76.86	40	1464.0	184.08
50	442.55	17.07	50	950.25	78.26	50	1472.9	186.29
9	450.93	17.72	19	958.81	79.67	29	1481.8	188.51
10	459.32	18.38	10	967.38	81.09	10	1490.7	190.74
20	467.71	19.06	20	975.96	82.53	20	1499.6	192.99
30	476.10	19.75	30	984.53	83.97	30	1508.5	195.25
40	484.49	20.45	40	993.12	85.43	40	1517.4	197.53
50	492.88	21.16	50	1001.7	86.90	50	1526.3	199.82
10	501.28	21.89	20	1010.3	88.39	30	1535.3	202.12
10	509.68	22.62	10	1018.9	89.89	10	1544.2	204.44
20	518.08	23.38	20	1027.5	91.40	20	1553.1	206.77
30	526.48	24.14	30	1036.1	92.92	30	1562.1	209.12
40	534.89	24.91	40	1044.7	94.46	40	1571.0	211.48
50	543.29	25.70	50	1053.3	96.01	50	1580.0	213.86

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Actual distance

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113 55

TRAVERSE TABLE U.S. ARMY

257W

of N193 - N169
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~~200~~

143

37 - Jan 10 - 46 - 4 P.M.

42.51

422

46.73

315

43.58

12870

5645

51

5594

994

65.88

63

288

8.22

563

57422

572.7

3.65

33

76.9

4.95

7.426

5.4
70.5
5.2
56.53

80
2.0
5.58
400

543.05
490.00
93.05



Please Return to
City of San Diego Water Dept.
Room 268 Civic Center
Telephone Main 5161

DISTANCES FROM CENTER OF ROADWAY FOR
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2
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	26.2	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.

MADE IN U.S.A.