W
548-A

"A"

MICROFILMED

"A"

YUV
100

275
2
550

12.9

8.3
4.8
3.1

10.9

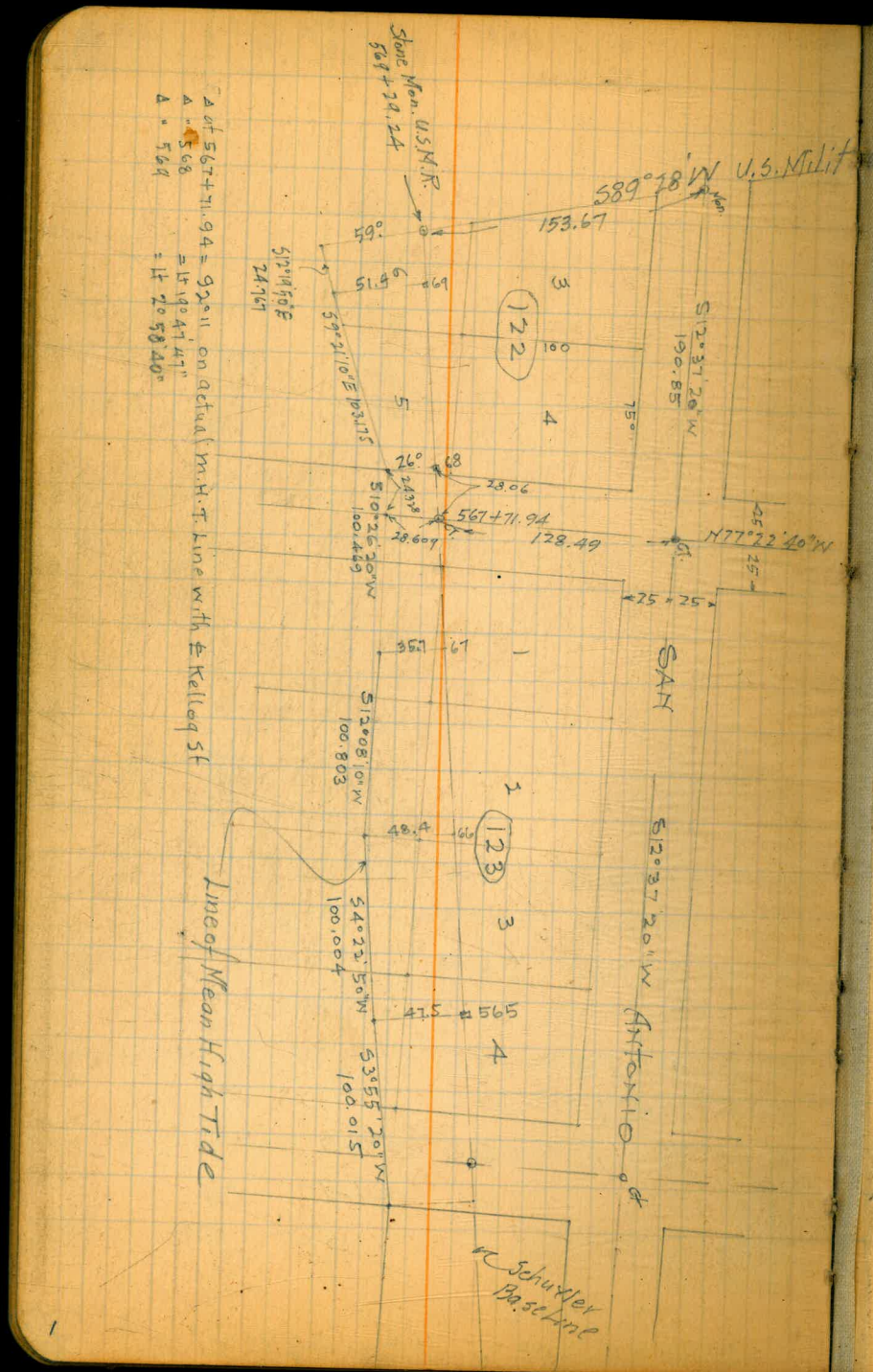
15.7
11

470
2
940

7.22 5.9
3°08
(46-45)
23-22-30

177
2
354

Index



Lot 5 & 6 Block 122 (Whitehead)
Surveyed March 1924 by J.W.W.

Kellog St.

		N	S	E	W
N8°06'10"W	26.0	2.22			25.91
N4°53'50"E	28.06	27.96		2.40	
S77°22'40"E	28.61		6.25	27.92	
S10°26'20"W	24.33		23.93		4.41
		30.18	30.18	30.32	30.32

Lawrence St.

Levels on Frank Donners Property

nov. 4-1923

+	H.I.	−		
				387.379
				100.00
1.60	101.60			B.M. Brass Plug S.E Cor. Texas & Myrtle
		2.57	99.03	Curb Ret. S.W Cor Texas & Myrtle
		4.19	97.41	Finish floor
		5.81	95.794	95.37 Top of Soil pipe bottom of Soil pipe outside of Building 5" or .42 lower
		6.35		
		6.35	95.25	94.59 Top of 8" sewer Int Texas & Myrtle .66
		8.00	93.60	Top of Manhole & Louisana & Myrtle
		1.97	99.63	Top of Manhole & Texas & Myrtle

95.25
.66
94.59

9 3/8

110
319 − 4.00 | 6

Myrtle & Texas	277.0
Texas & St. Park	275.0
Myrtle & Louisana	271.0

100
.26
700
280
3500

95.37
94.59
.78
.40
118

Photo

Sept 21 1937

Barrett Dam

9.20 AM

#1 Photo taken at entrance to City Property at Barrett Dam - Photo taken 60' from Gate looking Southeasterly — Showing Warning Signs —

9.40

#2 On Barrett Road facing Easterly. On Curve West of Accident showing straight Roadway with No curves etc

10 A.M

#3 Camera Facing East 50' W of where car left Bank. McKinney 6' N of Car.

10.10 AM

#4 Camera Facing W 50 E of where car left Bank McKinney 6' N of Car

#5 Camera Facing W 50' E of Where Car left Bank showing over 400' of Straight Rd

Next Page

Sept. 21. 1937
J.H. McKinner
J.W. Williams
R.A. Schwartz

To Barrett

East

Beg. of Curve 4+05 { 6' 6' }
3+65 7.5 x 6
3+25 * 4' x 8' CAR OVER BANK
3+00 4 x 9
2+93 5' x 8'
2+50 10.5 x 3
2+35 10' 2'
2+00 7 x 5'
+50 4.5 x 7.5
1+00 5 x 8
+50 5 x 8
0+00 4 x 11 15' wide
Beg. of Tangent

at Sta. 2+00 Left Wheel Track 12' from Right Bank
at Sta 2+93 Left Wheel left road 13' from Right Bant
at Sta 3+00 Left Wheel 1' off of roadway

Turned over

at Sta. 3+25 Car completely off of road right wheel 13' from Right bank car.
Slope from Road to Barrett Reservoir where car left Road 11' down to 15' out
or 73.3% slope

4

11:00 P.M.

#6 Camera 50' West of Point
Where Car first Left the Bank
Camera Facing East - Car in
Center of Road. Showing
4'-3' clearance on N Side
℄ of Tread
And 4'-8' clearance on S Side
℄ of Tread

7% Line South from cut saddle – 35' cut

Osborne
Isbell
Leakey
Brooks

Sept. 13-1938
Cloudy - Hot

Sta.	Cor. Dist.	Hor. ∠	Vert. ∠	H.I.	Rod	Mag. Ber.	℄		
9 to 8	168.9 (170)	P.O.T.	-6°20'	6.7 798.9	6.7	S. 31° W.	200' +43%	-30% 150'	sta. 8
5 to 7	588.1 (590)	0°30' 0°14'30" L.	-4°01'	5.1 845.3	5.1	S. 5° W.	200' +30%	-16% 200'	sta. 7
7 to 6	179.0 (177)	P.O.T.	-0°40'	5.1 843.3	5.1		Wash at 90% to line 200' +45%	-29% 100'	sta. 6
3 to 5	369.2 (370)	55°05' 27°32' L.	-4°01'	5.1 886.6	5.1	S. 5°30' W.	100' +38%	-38% 150'	sta 5
3 to 4	184 (1.85)	P.O.T.	-11°05'	5.1 877.7	8.1		Wash at 90° to line 200' +27%	-39% 200'	sta. 4
							200' +23%	-20% 100'	sta. 3
2 to 3	142.3 (142)	50°45' 25°22' L.	-4°01'	5.1 912.3	5.1	S. 33° W.	+20% 100'	+25% 75'	-18% 150' sta. 2
1 to 2	673.6 (680)	45°58' 22°59'-R.	-6°03	5.1 922.5	5.1	S. 57°30' W.	Grade 200' +20%	30'-4%	300' + 14% = sta. 1
0 to 1	426.0 (429)	85°54' 42°57' R.	-5°30'	5.3 993.5	5.3	S. 34°30' W.	C-24.0 100' +30%	75' +5%	+7% 150' = For sta. 0

Backsite on N.-4

N.-4

Sta.	Cor. Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.	Mag. Bar.				
16 to 17	136.3 (136)	45°27'30" 22°43' L.	-4°01'	4.8 693.6	4.8	S. 28°30'E	125' +40%	-31% 200'		sta. 17
15 to 16	100.5 (100)	52°08' 26°04' L.	-4°01'	5.0 703.2	5.0	S. 6°E.	100' +8%	50' +23%	100' +41%	-34% 100' sta. 16
13 to 15	677.7 (680)	13°19' 6°39' L.	-4°01'	5.0 710.2	5.0	S. 20°W.	100' +7%	75' +44%	-44% 75'	-7% 50' sta 15
13 to 14	239.8 (240)	25°20' 12°40'30" L	-4°01'	5.0 741.0	5.0	S. 14°W.	200' +36%	-35% 200'		sta. 14
12 to 13	104.5 (104)	15°24' 7°41' L.	-4°01'	5.0 757.8	5.0	S. 27°W.	100' +28%	-35% 150'		sta. 13
10 to 12	463.7 (465)	32°22' 16°10'30" R.	-4°01'	5.2 765.1	5.2	S. 35°W.	100' +21%	-31% 200'		sta. 12
10 to 11	195.8 (193)	P.O.T.	-11°55'	5.2	9.2	Wash 90° to line 100' +33%		-27% 300'		sta. 11
9 to 10	281.6 (282)	27°16' 13°37'30" L.	-4°01'	6.7 797.7	6.7	S. 17°30'W.	200' +45%	-39% 100'		sta. 10
7 to 9	396.1 (397)	52°51'30" 26°25'30" R.	-4°01'	5.1 817.5	C.T -2.0 3.1	S. 31°W.	200' +31%	-50% 100'	20% 100'	sta. 9

Sept. 14-1938 Hill. Osborne Isbell Leekey Brook's

Sta.	Cor. Dist.	Hor. ∠	Vert. ∠	H.I.	Rod
23 to 24	237.4 (2.40)	F.O.T.	-7°07'	5.1 602.9	
23 to 25	537.8 (5.37)	95°00'30" 47°30'30" R.	+1°02'	5.1 642.2	
20 to 22	264.2 (2.60)	F.O.T.	-9°20'	5.0 617.8	
20 to 23	384.1 (3.85)	46°04'30" 23°02'30" R.	-4°01'	5.0 632.7	
20 to 21	284.6 (2.85)	6°52'30" L.	-4°01'	5.0 639.6	
19 to 20	185.6 (1.85)	52°16'30" 26°08'30" L.	-4°01'	5.1 646	
18 to 19	129.4 (1.29)	93°42' 46°51' L.	-4°01' 6	5.0 665.6	
17 to 18	269.7 (2.70)	27°39' 13°49'30" L.	-4°01'	5.1 674.7	

7% Line South from oat Saddle 10

Mag. Ber. ℄

+9% 200' — draw N.37°30'E. sta 24 — -8% 200'

C-15'

S.45°E. +17% 150' -9% 150' sta. 25

N.87°30'E. +31 200' -16% 200' sta. 23

+14% 100' ⊥ 90° to draw
+17% 200' +30% 75' } draw:
+15% 150' sta. 21

Slopes 90° to sta. 21

N.69°30'E. +25% 125' +33% 60' -23% 150' sta. 20

Slopes 90° to forward tangent

S.89°E. 125' +19% 50' +41% 28% - 75' -18% 100' sta 19

Slopes on sta. 18 are 90° to Forward tangent

S.42°30'E. 100' 36% 100'-17% 100'-29% -28% 100' sta 18

Sta.	Cor. Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.
32 to 34=32	0° Foster line 365.7 (365)	7°29'-30" 3°44' L.	+1°32'	5.1 504.7	
31 to 32	447.9 (448)	26°11' 13°05'30" L	-2°52'	5.0 495.9	
30 to 31	809' (810)	24°09' 12°04'30" L	-2°52'	5.2 518.3	5.2
29 to 30	157.6 (157)	41°00'30" 20°30' L	-2°52'	5.1 558.5	5.1
28 to 29	144.6 (144)	34°08' 17°04' L.	-2°52'	5.2 566.4	
27 to 28	164.6 (1.64)	32°30'30" 16°14'30" L.	-2°52'	5.1 573.6	
26 to 27	330.2 (3.30)	47°21'30" 23°41' R.	-2°52'	5.1 581.8	
25 to 26	579.6 (5.80)	66°03' 33°02' R.	-2°52'	5.1 598.2	20.1

Mag. Bar.	℄			
S. 71°30' E.	+5% 200'	-7% 150'		Sta. 32
S. 68° E.	+29% 75'	+37% 75'	-31% 75'	-2% 100' Sta 31
S 53°30' E				
S. 43°30' E	150' +37%	-37% 150'		Sta. 30
S. 23° E.	150' +33%	-33% 125'		Sta. 29
S. 6° E.	+34% 250'	-26% 250'		Sta. 28
S. 11° W.	+35% 200'	-28% 200'		Sta. 27
S. 12° E.	+32° 150'	-25% 100'		Sta. 26

Sta	Sta.	Cor. Dist.	Hor. ∠	Vert. ∠	H. I.	Rod	Mdg. Bor.	℄		
32 +										
31 +										
30 +										
29 +										
28 +										
27 +	check for elev 34 to 43	(655)		+4.11						
26 +	34 to 53		15°39'30" 7°19'30" L.		5.3		S. 81°30' E.	+18% 150'	-16% 150'	sta. 34
25	32 to 33	105.6 (104)	P.O.T.	-6°44'	5.1	-12'		6% 150'	6% 150' N 5° W. draw	sta. 33

Line From pavement North to
Line From odt saddle

Sept. 14-1938

Hill
Osborne
Isbell
Leahey
Brooks

Sta.	Cor. Dist.	Hor. ∠	Vert. ∠	H.I
Mag. Bar.				
64 to B	(990)		+0°13'	4.8
64 to A	(395)	30°43'30" R.	+1°46'	4.8

- 7% From a 10' Cut in Oat Saddle

Sta	Cor Dist	Horz Ang	Vert Ang	H.I	Rod
7 to 8	172.0 (180)	P.O.T.	-12° 10'	5.0	12.0
5 to 7	538.4 (540)	1° 38' 30" 0° 49' Lt	- 4° 01'	5.0	50
5 to 6	204.4 (205)	P.O.T.	-10° 21'	5.0	14.0
4 to 5	154.2 (154)	12° 40' 6° 20' Lt	- 4° 01'	5.1	5.1
2 to 4	411.0 (413)	55° 54' 30" 27° 56' 30" Lt P.O.T.	- 4° 01'	4.9	4.9
2 to 3	231.1 (235)	27° 56' 30" Lt P.O.T.	- 8° 21'	4.9	12.9
1 to 2	687.6 (690)	10° 21' 5° 11' Lt	- 4° 01'	5.1	5.1
0 to 1	414.0 (415)	107° 43' 53° 52' Rt.	- 4° 01'	5.1	15.1

Backsight N-4. O-N Line = 0-7% Line.

O TO N S 6° 54' E

Hill
Osborne
Isbell
Leeloy
Brooks.

9-

Hot + Cloudy. 14

Mag Ber

Note Mag Bearing Not Corrected.

Note:- Percent over Horz Dist.

Note - All side shots split of Ang Unless recorded Otherwise.

-37.0 Wash +31% / 100 -31% / 125

-37.7 S 9° 30' E +43% / 100 +29% / 60 -20% / 30 -35% / 100

-45.4 Wash. +31% / 150 -31% / 150

-10.8.3 S 9 E +30% / 50 +40% / 80 -34% / 20 -48% / 100

-28.8 S 2° E +23% / 60 +30% / 40 -30% / 25 -40% / 75

-41.9 Wash +27% / 150 -23% / 125

-48.2 S 25° W +77% / 100 +17% / 60 -24% / 125

-39.0 S 30° 30 W +14% / 100 -10% / 40 +14% / 200

Sta	Cor Dist	Horz Ang	Vert Ang	H.I.	Rod
15 to 16	90.4 (90)	54° 08 27°04'30" Lt	-4°01	5.1	5.1
14 to 15	155.1 (155)	7° 33' 3°46'30" Lt	-4°01'	4.9	4.9
13 to 14	428.9 (430)	1°41 0°50 Lt	-4°01	4.9	4.9
11 to 13	632.9 (635)	8°41 4°21'30" Rt	-4°01'	4.9	4.9
11 to 12	200.0 (200)	10°45' Lt	-4°01'	4.9	4.9
10 to 11	215.0 (215)	28°01' 14°00'30" Lt	-4°01	5.0	5.0
7 to 10	339.3 (340)	61°04 30°32' Rt	-4°01	5.0	5.0
7 to 9	145.3 (146)	4° 00' Lt	-4°01'	5.0	5.0

Mag Ber

Note Vert Ang over Stadia dist — Percent over Horz Dist.

All side shots split of Ang unless recorded otherwise

-6.3
S 19°30E 20% / 50 28°% / 50 23°00' / 53 -40% / 150

-10.8
S 8°W 28% / 50 20°49' / 73 +23°51' / 21 -60% / 25 -43% / 100

-30.1
S 11° W +32% / 60 +24°53' / 53 -60% / 30 -42% / 100

-44.4
S 12° W +35% / 100 -31% / 30 -25% / 50

-14.0 Wash +38% / 150 -38% / 150

300

-15.0
S 7°30' W +35% / 150 +42% / 60 -42% / 50 -45% / 150

-23.7
S 22 W +25% / 100 +38% / 20 -38% / 200

-10.1
Wash. +25% / 100 +31% / 30 -31% / 100

Sta	Cor Dist	Horz Ang	Vert Ang	H.I	Rod	Mag Ber.
23 to 24	273.0 285	P.O.T	-11°56	4.9	8.9	-57.7
20 to 23	443.8 (445)	68° 16 30 34° 08 Rt	-4.01	5.0	5.0	-31.1 N 81° E
20 to 22	264.7 (265)	P.O.T	-14°23	5.0	5.0	-63.9 N 81 E
20 to 21	299.4 (300)	17°20' Lt.	-4°01'	5.0	5.0	-21.0
19 to 20	120.3 (120)	78° 50' 39°24' Lt	-4°01'	5.1	5.1	-8.4 N 46° E
18 to 19	135.2 (135)	51° 55' 25°57'30" Lt	-4° 01'	5.1	5.1	-9.4 N 84°30' E
17 to 18	105.4 (105)	43° 43 21° 51' Lt	-4° 01'	5.0	5.0	-7.3 S 68°30' E
16 to 17	73.5 (73)	53° 30' 26° 46' Lt	-4° 01	5.2	5.2	-5.1 S 46° E

Note Vert Ang over Stadia Dist Percent over Horz Dist

All side shots split of Ang unless recorded otherwise.

23 to 24: +9% S 13 W → Creek -9%/200

20 to 23: +31%/300 (90°) -22%/60 -28%/125 -16%/200

20 to 22: +19%/150 S 20° E → Creek -19%/150

Note Mag Bearing Not Corrected

20 to 21: Rt West 34%/200; +19%/150 -19%/200 90° from a line between ∢21 + ∢22 or Creek. Lt East 40%/150

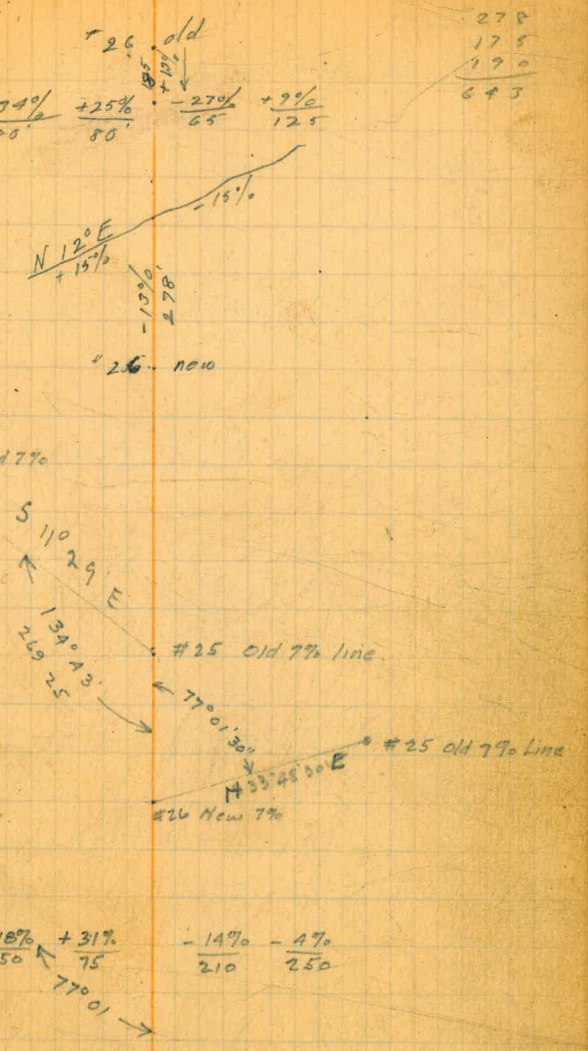
19 to 20: +18°17'/250 +17°07/78 (85°) -39%/60 -29%/100

18 to 19: 25%/50 +17°45'/172 +15°00'/50 (61° 10') -15%/70 -25%/75

17 to 18: 22%/60 28%/70 +21°47/72 (67° 40') -26%/60 -31%/100

16 to 17: 20%/60 30%/70 +23°32/52 (65° 10') -37%/140

Sta		Cor Dist	Horz Ang	Vert Ang	H.I	Rod	
old 7% 25	old 7% to 26		Back sight #26 New 7% Line				
New 7% 26	old 7% to 25	138.0 (142)	154°03' 77°01 30" Rt	-9°47	5.0	5.0	-23.7 S 18'W
New 7% 26	old 7% to 26	685.5 (690)	40°04 Rt	-5°12	5.0	11.0	-62.3 S 19 E
23	to 26	590.8 (590)	81°24' 40°42'Rt	-1°12'	4.9	4.9	-12.4 S 58°30'E
23	to 25	515.5 (515)	P.O.T	-1°55'	4.9	4.9	-17.2



M Line revision from M'8 to M45

Sta	Cor Dist	Horz Ang	Vert Ang	Hi	Rod & Elev.
M'14 to M'15	124.7 (126)	39°41' Lt. P.O.T	-7°50	5.1	-17.0 / 5.1
M12: M'11 to M'14	5-75.9 (5.75)	88°50' 44°25' Lt	-1°10'	4.8	-11.8 / 4.8
M'14 to M'13	119.4 (120)	P.O.T.	-6 35	5.1	-13.7 / 5.1
M'11 to M'12	15-9.2 (158)	44°25' Lt	+4°06'	5.0	+11.0 s / 5.0
M'11 to M'8	390.8 (395)	△Pt to M'8	+6°34	5.0	+44.9 / 5.0
M'11 to M'10	5-1.0 (55)	P.O.T	-11°08	5.0	-10.6 / 5.0
M'8 to M'9	184.1 (185)	P.O.T	-5°59'	5.2	-19.3 / 5.2
M'8	Set on M'8 Backsighted M'3				

Hill
Osborne
Isbell
Leckey
Brooks
Mag Ber

9-29-38

Note—Mag Bearings Not Corrected

Note—Vert Ang over Stadia dist Percent over Horz Dist

-8%/100 ← -18%/75 ← S 70° E → +18%/100 +24%/100

S 45° E

S 49°30' W -13%/100 -10%/60 +14%/70 +24%/100

9.0°

-15% S 20° E +15%/100

S 49°30' W -25%/100 -31%/30 +34%/150

44°25'

S 86°30 E +13°33' +38%/125

S 86°30 E -9%/150 ← S 3 W creek → +9%/150

N 86°30' W -12%/65 -22%/125 -20%/30 +18%/40 +21%/75

-22%/75 -30%/70 +23%/50 +15%/40 +29%/60

Sta	Cor Dist	Horz Dist	Vert Ang	H.I	Rod
M'22 + M'23	185.9 185	55° 00' Rt	-1°10'	4.9	-3.8 4.9
M'21 to M'22	159.9 (159)	26° 08 13° 04 Rt	-1°10	4.8	-3.3 4.8
M'19 to M'21	342.9 (343)	123° 52' 30" 61° 56' Lt	-1°10	5.1	-7.0 5.1
M'19 to M'20	178.9 (178)	12° 15' Lt	-1°10'	5.1	-3.6 5.1
M'17 to M'19	446.8 (445)	54° 08 27° 04 Rt	-1°10'	5.1	-9.1 5.1
M'17 to M'18	283.9 (283)	35° 02 Rt	-1°10'	5.1	-5.8 5.1
M'14 to M'17	394.8 (394)	79° 54' 2 39° 47 Lt 37	-1°10'	5.1	-8.0 5.1
M'14 to M'16	244.9 244	39° 47' Lt. P.O.T	-0°51	5.1	-3.6 5.1

Mag Bcr

-25% / 200 ← S 82° E wash. + 30% / 150

Note:- Side shot are split of Ang unless recorded otherwise

S 11°30 E — -25% / 175 + 32% / 80 + 16% / 80

S 25° E — -41% / 150 + 32% / 170 + 18% / 70

+42% / 25 -42% / 20 -20% / 90 + 20% / 75 + 46% / 100

S 37° W — -15% / 150 + 20% / 100 + 14% / 100

-30% / 75 To Bottom wash +16% / 150

S 10° W — -16% / 150 +16% / 150

-16% / 120 -22% / 60 +18% / 150

Sta	Cor Dist	Horz Ang	Vert Ang	H.I	Rod	Mag Ber
M'29 to M'31	368.8 (368)	6°51 Rt	-1°10'	5.0	-7.5 5.0	
M'29 to M'30	210.9 (210)	29°02' Rt	-1°10'	5.0	-4.3 5.0	
M'28 to M'29	334.9 (334)	100°03' 50°01'30" Rt	-1°10'	4.9	-6.8 4.9	S 29°W
M'27 to M'28	380.8 (380)	17°08 8°34' Rt	-1°10'	4.9	-7.7 4.9	S 23°E
M'22 to M'27	605.7 (605)	40°19' 20°09 Lt	-1°10'	4.9	-12.3 4.9	S 31°30'E
M'22 to M'26	497.8 (497)	4°35' Lt	-1°10'	4.9	-10.1 4.9	
M'22 to M'25	560.8 (560)	20°14 Rt	-1°10	4.9	-11.4 4.9	
M'22 to M'24	253.9 (253)	20°37' Rt	-1°10'	4.9	-5.1 4.9	

-37% / 180 ← N 62 E Wash → +52% / 75

-37° / 150 ← S 58° E Wash → +47° / 100

-51% / 150 → +48% / 12.5 → 90° → -36% / 150 → -23% / 50 → +26% / 150

-31% / 150 → +33% / 65 → +23% / 75 → 90° → -49% / 110 To Bottom Wash → +49% / 50 → +40% / 40

-25% / 150 ← Wash N 43 E → +45% / 150

-34% / 200 ← Hog Back N 80° E → +34° / 150

Old line. M45 to M47=?	Old Line	40° 28' 20 14' Rt							
M'29 to M'35=M45	701.7 (705)	61° 47' 30° 53' 30" Lt	+ 2° 39'	5.0	+26.6 11.0	S 1° 30' E	- 2% / 150	+ 7% / 60	+ 20% / 150
M'29 to M'34	521.7 (525)	30° 53' 30 Rt	+ 2° 58	5.0	+ 27.2 5.0	+ 10% / 150	00 / 60	+ 16% / 150	
M'29 to M'33	349.9 (349)	30° 53' 30 Rt	- 1° 10'	5.0	- 7.1 5.0	- 2% / 100	+ 46% / 50	- 31% / 60	+ 24% / 150
M'29 to M'32	199.5 (225)	30° 53' 30 Lt.	- 20° 05'	5.0	- 72.8 5.0	- 16% / 150	N 62° E Wash		+ 18% / 165

M² line from M 55 to bridge site

Hill
Osborne
Isbell
Leakey
Brooks

9-29-38

Mag Ber

Sta.	Cor. Dist	Horz Ang	Vert Ang	H.I	Rod
M71A to M72A		29° 57' 14° 58' 30 Rt			
M²5 to M71A	248.3 (248)	31° 25 15° A3 Lt	-3° 00'	4.9	4.9
M²3 to M²5	287.6 (287)	7° 37 Rt	-2° 18'	4.9	4.9
M²3 to M²4	180.8 (180)	26° 25' Lt.	-2° 18'	4.9	4.9
M²3 to M²6	439.4 (439)	20° 50 10° 25 Rt	-2° 18'	4.9	4.9
M²2 to M²3	1019.6 (1020)	33° 47' 16° 53' Lt.	-2° 18'	4.7	4.7
M²0 to M²2	618.1 (618)	31° 08' 15° 34' Rt	-2° 18'	5.2	5.2
M²0 to M²1	335.3 (335)	8° 19' Rt.	-2° 18'	5.2	5.2
M²0 = M 55	Backsighted on New M 5A				

Tie to Williams line in book #1641 page 62

-13.0
S 30° E
+40% / 150 — -30% / 125 — -10% / 100

-11.5
+34% / 125 — -34% / 150

9°
-7.2
To Top of Saddle. +31% / 125 — S 77 W Wash → -31% / 35 — -17% / 200

-13.6
S 13° E
+40% / 125 — -39% / 100 — -23% / 100

-40.9
S 23° 30' E
+40% / 125 — -31% / 125

-24.8
S 8° E
+49% / 125 — -35% / 125

-13.4
+17% / 150 — -22% / 150

-10% / 125 — 20 / 20 — -1% / 30 — -14% / 60 — +13% / 100

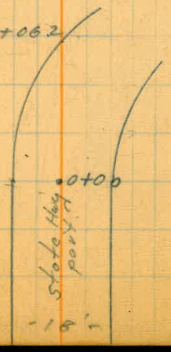
P line - Foster north.

Sta.	Detlec.
6+60	P.O.T.
4+10	P.O.T.
1+06.2	P.O.T.
0+00	P.O.T.

Transfered to Book #648

10/17/38 Hill
Isbell
Leckey
Brooks

Main channel
San Vicente Crk.



Sta.	Def/cc.	C.C.	Curve Data
+54.2	15°02'30" E.C.		
+50	14°59' ✓		
16	14°16' ✓		
+50	13°33' ✓		
15	12°50' ✓		
+50	12°07' ✓		
14	11°24' ✓		Δ 30°05' L
+50	10°41' ✓		R 2000.
13	9°58' ✓		T 537.4
+50	9°15' ✓		L. 1050.1
12	8°32' ✓		P.I. 11+41.5
+50	7°49' ✓		
11	7°06' ✓		
+50	6°23' ✓		
10	5°40' ✓		
+50	4°57' ✓		
9	4°14' ✓		
+50	3°31' ✓		
8	2°48' ✓		
+50	2°05' ✓		
7	1°22' ✓		
+50	0°39' ✓		
6+04.1	B.C.		

Sta.	Deflec.	C.C.
29+99.3	14°55'30"	E.C.
+50	14°13'	
29	13°30'	✓
+50	12°47'	✓
28	12°04'	✓
50	11°21'	✓
27	10°38'	✓
+50	9°55'	✓
26	9°12'	✓
+50	8°29'	✓
25	7°46'	✓
+50	7°03'	✓
24	6°20'	✓
+50	5°37'	✓
23	4°58'	✓
+50	4°12'	✓
22	3°29'	✓
+50	2°46'	✓
21	2°03'	✓
+50	1°20'	✓
20	0°37'	✓
19+57.3	B.C.	

Curve Data

Δ 29°51' L
R. 2000'.
T 533.1
L 1042.0
P.I. 21+90.4
Ext. 69.74

40

38

36

34

32

Sta.	Deflec.	Curve Data
46+71.3	1°57'30" Lt.	
+50	1°39'	
46	3°56'	Δ 9°55' R
+50	3°13'	R. 2000.
45	2°30'	T. 173.5
+50	10°17"	L. 346.2
44	1°04'	P.I. 44+98.6
+50	0°21'	
43+25.1	B.C.	

Transferred to Book #5 48

Stadia loc. along clearing from top of Wildcat Canyon - north.

2-7-39
Hill
Isbell
Sopher
Remmen

clowdy

B.M. 1548.4
+3.9
1552.3
-5.1
1547.2

El. of. #1

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.		Magn.	L ℄ R
6 to 8	273.8 (273')	P.O.T.	-1°32'	5.1	-7.3 5.1	1494.4		-6°/100' 8. +6°/100'
6 to 7	166.0 (167')	P.O.T.	-6°29'	5.1	-18.8 5.1	1482.9		+6°/75' -3°/30' 7. +11°/100
5 to 6 P.O.T.	495.2 (495')	(1°28'30") 0°44' R.	-2°23'	4.9	-20.6 4.9	1501.7	N. 5° E.	level/80' +7°/40' 6. -6°/30' +8°/25' level/45'
3 to 5 △	613.6 (613')		-1°37'	4.9	-17.3 4.9	1522.3		-1°/100' 5. +4°/45' level/100'
3 to 4	300.4 (300')	(23°21') 11°40'30" R.	-2°46'	4.9	-14.5 4.9	1525.1	N. 5°30' E.	level/30' +2°/40' -5°/35' 4. +7°/100
1 to 3 △	314.9 (314')		-0°50'	5.1	-7.6 8.1	1539.6		-2°/60' -7°/60' rd. 3. +10°/50' +6°/50'
1 to 2	99.0 (98')	P.O.T.	-0°42'	5.1	-1.2 5.1	1546.?	N. 9°15' W. ℄ Road	-2°/100' 2. rd. +4°/100
								+2°/100 -3°/30' 1. +4°/25 rd +4°/75
1 to 0	516.0 ~~5?4.6~~ (5?9)		~~-?°46'~~	5.1	-19.7 -12.0 9.1	El. 1547.? → 1535.?	S. 9°15' E. ℄ Road	+12°/100 0. rd. -8°/100

Transit at #1 B.S. on #0

(cont.)

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod	
9 to 16	2037.0 (2050')	P.O.T.	+0°29'	5.0	+17.2 5.0	15093
9 to 15	1691.0 (1690')	P.O.T.	+0°02'	5.0	+1.0 5.0	14931
9 to 14	1521.0 (1520')	P.O.T.	-0°08'	5.0	-3.5 5.0	14886
9 to 13	1265.9 (1265')	P.O.T.	-0°41'	5.0	-15.1 5.0	14770
9 to 12	810.1 (810')	P.O.T.	-1°34'	5.0	-22.1 5.0	14700
9 to 11	675.2 (675')	P.O.T.	-2°08'	5.0	-25.1 5.0	14670
9 to 10	311.2 (311')	P.O.T.	-3°02'	5.0	-16.5 5.0	14756
6 to 9 ℄	715.9 (715')	P.O.T.	-0°46'	5.1	-9.6 5.1	14921

Mag.	L	℄	R.
	+2°/100'	-1°/10 rd.	16. +3°/100'
℄ Road	-3°/100'	level/40'	15. level/100'
	-5°/45'	-2°/45'	14. level/15 rd. level/30' -8°/40' +10°/40'
	-2°/100'	13. +3°/35 rd.	+8°/100'
℄ Road	-1°/100'	12. rd.	+2°/100'
	-1°/100'	11.	+1°/45' +12°/60'
N. 3°45' E.	-1°/100'	10.	+3°/30' +6°/90'
	+1°/80'	-5°/30'	9. +7°/90' +17°/50'

(cont.)

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.		Mag.	∠	℄	R.
20 to 24	515.3 (550')	P.O.T.	-5°55'	4.9	-66.5 14.9	1479.1		+12° 65'	-14° 40'	24. +12° 100'
20 to 23	391.7 (395')	P.O.T.	-6°05'	4.9	-48.7 11.9	1491.9			-5° 100'	23. +12° 100'
20 to 22	239.3 (245')	P.O.T.	-9°32'	4.9	-40.2 4.9	1500.4		+6° 60'	-6° 40'	22. +12° 100'
20 to 21	68.6 (72')	This ∠ For Topog. line only 22°06' R.	-14°16'	4.9	-23.9 4.9	1516.7	N. 41°30' E.	+7° 70'	+14° 30'	21. -5° 35' +8° 65'
18 to 20 △	316.0 (315')	(5°26'30") 2°43' R.	+0°21'	5.1	+1.9 5.1	1540.5	N. 19° E.	-8° 50'	+6° 75'	20. -31° 26° 30' lere! 40' +12° 50'
X at 20 20 to 19	36.9 (38')	P.O.T.	-13°33'	4.9	-8.9 ?	1531.7		lere! 20'	+7° 65'	+16° 15' 19. -4° 45' +8° 65'
17 to 18 △	243.5 (243')	(26°13') 13°06'30" R.	+2°48'	5.0	+11.9 5.0	1538.7	N. 16° E.		+1° 75'	-3° 60' 18. +5° 75' +8° 30'
9 to 17 △	2406.7 (2406')		+0°48'	5.0	+34.7 4.0	1526.8		lere! 75'	-4° 33' 10.	17. +4° 100'

(cont.)

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.	Mag.	L	℄	R
Pt. on rock 4' above ground 29 to 32 △	363.0 (365')		-5°11'	6.0	-32.9 6.0 1427.8		-38°/80' -18°/35' -8°/35'	32	level/30' +8°/70'
29 to 31	273.5 (275')	P.O.T.	-5°33'	6.0	-28.6 8.0 1432.1		-18°/70' -8°/30'	31	+10°/100'
29 to 30 ~~P.O.T.~~	198.6 (200')	(9°44'30") 4°52' L.	-6°20'	6.0	-31.0 15.0 1429.7	N.37°E.	-10°/120'	30	+15°/30' +10°/70'
29 to 28	72.0 (72')	180°00'	-1°01'	6.0	-9.3 14.0 1451.4		~~[illegible]/10'~~ -13°/60' ~~[illegible]/30'~~ -8°/60 ~~level/25'~~	28	+6°/30' +21°/40' +10°/40'
20 to 29 △	1441.1 (1444')	(46°45') 23°22'30" R.	-3°08'	4.9	-79.9 5.9 1460.7	N.43°E.	-14° ~~[illegible]~~/70 -20°/30'	29	+17°/20' +6°/80'
20 to 27	1147.1 (1150')	P.O.T.	-3°27'	4.9	-74.2 9.9 1460.4		-18°/100'	27	+8°/100'
20 to 26	936.4 (940')	P.O.T.	-4°06'	4.9	-78.1 15.9 ? 1462.5		-7°/100'	26	+10°/100'
20 to 25	746.4 (750')	P.O.T.	-4°32'	4.9	-59.2 4.9 1481.4		-13°/70' -3°/45'	25	+6°/40' +20°/60'

(cont.)

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.
37 to 39 ▲	168.8 (165')		-2°09'	5.2	-6.2 5.2
37 to 38	75.0 (74')	(78°06'30") 39°03'30" Rt.	-0°52'	5.2	-1.1 5.2
35 to 37 ▲	328.9 (337')	P.O.T.	-9°30'	4.7	-55.0 4.7
35 to 36	188.5 (193')	(41°53'30") 28°57' Lt.	-9°49'	4.7	-32.6 11.7
35 to C.C. Cor. bronze cap	(180')	115°58' Rt.	-9°50'	4.7	4.7 -9.39
on rk 4' above grd. 32 to 35 ▲	509.0 (513')		-5°49'	4.0	-51.8 4.0 1376.0
32 to 34	426.6 (430')		-5°51'	4.0	-52.7 13.0 1375.1
32 to 33	218.9 (223')	(42°32') 21°16' R.	-8°40'	4.0	-39.4 10.0 1388.1

2-9-39
Hill.
Isbell
Sopher
Remmen

32

Mag.	L	∠	R
	-1°/60 -3°/60 -5°/28 (10°) 39.	+5°/20	+10°/50 +13°/40 +20°/50
N.7°30'E.	-2°/30 -1°/45 -5°/20 38.	+7°/35	+10°/35 +15°/45 +12°/50
	-7°/45 -1°/20 -4°/45 37.	+6°/35	+9°/60 +13°/30 +20°/40
N.38°30'E.	-3°/45 -8°/60 36. -15°(68°)	+11°/25	+21°/75
	-12°/50 -14°/65 35.	+28°/80	+50°/20
	-16°/75 -20°/25 34.	+20°/70	+45°/30
N.59°45'E.	-12°/75 -6°/35 33.	+18°/100	

(cont.)

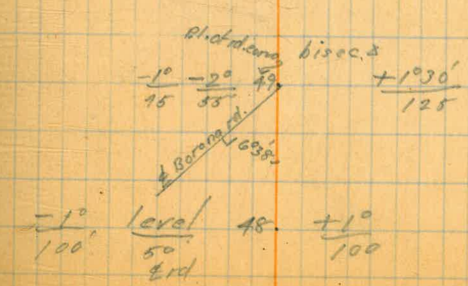
Sta.	Dist.	Hor. ∠	Vert. ∠	H.I	Rod.
45 to 47	130.0 (129')	P.O.T.	+0°03'	5.1	+0.1 5.1
45 to 46	56.3 (56')	(12°35'30') 6°18' Rt.	-6°35'	5.1	-6.5 5.1
43 to 45 △	875.9 (875')		+0°32'	5.0	+8.1 5.0
43 to 44	199.0 (198')	(29°59') 14°59'30" Lt.	+0°04'	5.0	+0.2 5.0
41 to 43 △	505.0 (504')		+0°15'	5.1	+2.2 5.1
41 to 42	163.0 (162')	(24°42'30") 12°21' Lt.	+0°06'	5.1	+0.3 5.1
39 to 41 △	355.0 (354')		-0°20'	5.1	-2.1 5.1
39 to 40	243.0 (242')	(38°43') 19°21'30" Rt.	-0°17'	5.1	-1.2 5.1

Mag.	L	℄	R
	-0°30' / 150	47 (65)	+0°30' / 150
N. 76° E.	-0°30' / 150	46 (65)	+0°30' / 150
	-0°30' / 200'	45 (650)	bisect △ +1° / 85 level / 75
N. 69°30' E.	-0°30' / 150	44 (120° 60°)	+0°30' / 150
	-15° / 20 small crk; -1° / 85	43	+1° / 150
N. 85° E. crk / 45; note crk. turns to left & crosses rd. about opp. this sta.	-3° / 70; -0°30' / 70	42	+1°30' / 200
	crk / 35; +1° / 45; -2° / 85; -3° / 50	41	+6° / 15; +4° / 60 barn; +5° / 40 garage; +3° / 40
S 83°30' E	crk / 130; -2° / 80; -5° / 45	40	45' House 20 20; +2° / 15; +18° / 10; +3° / 12 cor house; +1° / 50; +10° / 5; +6° / 70

(cont.)

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.	Mag.
49 to 50	282.9 (282')	(110°01'30") 55°00'30" Lt.	+1°19'	5.1	+6.5 5.1	N.21°30'E.
P.I. of road curve (near red roofed church) = 45 to 49 △	783.9 (783)		+0°31'	5.1	+6.9 5.1	
45 to 48	615.0 (614')	P.O.T.	+0°10'	5.1	+1.8 5.1	

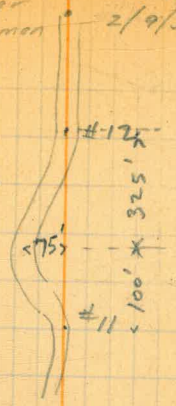
50. in center of Borana road



Stadia loc. along existing road from top of Wildcat Canyon to north end of W.P.A. improvement.

Hill Isbell cloudy
S-per Remmen 2/9/39

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.	Mag.	
11 to 12	422.3 (425)		-5°27'	5.0	-90.3 1189 5.0		
10 to 11	211.5 (214)	(51°20') 25°40' Lt.	-7°24'	5.1	-27.5 1229.3 5.1 ✓	S. 42°15' W.	In road
9 to 10	313.9 (316)	(41°27') 20°44' Rt.	-6°38'	5.3	-36.3 1256.8 5.3 ✓	S 68° W.	In road
8 to 9	224.7 (226)	(21°57') 10°58' Rt.	-5°53'	5.1	-23.1 1293.1 5.1 ✓	S 47°30' W.	In road
7 to 8	244.4 (248)	(61°41'30") 30°51' Rt.	-7°54'	5.1	-33.9 1316.2 5.1 ✓	S 36°45' W.	In road
6 to 7	268.2 (270.)	(1°23'30") 0°42' Rt.	-5°58'	5.2	-28.0 1350.1 5.2 ✓	S 5°15' W.	In road
5 to 6	528.8 (530)	(59°48'30") 29°54'30" Rt.	-3°49'	5.2	-35.3 1378.1 5.2 ✓	S. 5° W.	In road
4 to 5	435.9 (437)	(124°24') 62°12' Lt.	-4°09'	5.1	-31.6 1413.4 5.1 ✓	S. 25° E.	In road
3 to 4	164.4 (165)	(87°17'30") 43°39' Rt.	-5°49'	5.1	-16.7 1445 5.1 ✓	S. 38° W.	In road
2 to 3	98.1 (98)	(113°57') 56°58'30" Rt.	-5°34'	5.2	-9.6 1461.7 5.2 ✓	S. 6° E.	In road
1 to 2	187.5 (188)	(134°41') 67°20'30" Lt.	-5°12'	5.0	-17.1 1471.3 5.0 ✓	S. 64° E.	In road
0 to 1	618.7 (620)	(21°55'30") 10°58' Rt.	-3°37'	5.1	-39.1 1488.4 5.1 ✓	S. 3°30' W.	In road



Elev. 0 = 1535.2

o In road

(cont.)

Sta.	Dist.	Hor. L	Vert. L	H. I	Rod	Mag.		
							1148.9	1145.7
							1135.3	1132.6
							1108.0	1005.3
								1.06
								1006.4
						El. pt. 14 = 1183		
								+5 1.06
								H.I. 1184.4
						1099.0 U.S. BM. - T. 8 Bronze Cap		1106.6
14 to 15	~~395.2~~ (396)	(65°24'30") 32°42'30" Rt.	-3°58'	5.2	-27.4 5.2	S. 34° W.	In road	
13 to 14	~~436.6~~ (436)	(57°43') 28°51'30" Lt.	-1°43'	5.1	-13.1 5.1	S. 0°30' W.	In road	#14 Beginning improved road
11 to 13	~~1005.7~~ ~~1006~~ (1010)	(24°44') 12°22' Lt.	-4°20'	5.0	~~27.4~~ 80.9 ~~-93.3~~ 5.0	S. 29°45' W.	12' W. of ℄ Road	

Stadia loc. from Borona road near church south to junction with clearing line.

Sta.	Dist.	Hor∠	Vert∠	H.I.	Rod & El.
0 to 4	531.0 (530')	P.O.T.	-0°36'	5.0	-10.6 / 10.0
0 to 3	476.0 (475')	P.O.T.	-0°32'	5.0	-4.4 / 5.0
0 to 2	236.9 (235')	P.O.T.	-1°23'	5.0	-5.7 / 6.0
0 to 1 = EC.	152.4	17°20' R R.1000.' T 152.4 L 302.5	Level	5.0	8.8
0 = P.I. = 50' on forward tang. from P.I. road curve - P. 34					1331.2
0-1	233.9 (-233')		+1°17	5.0	+5.2 / 5.0

2/10/39 Williams, Hill, Isbell, Soper, Remmen — rain

Mag.B. | L | ℄ | R

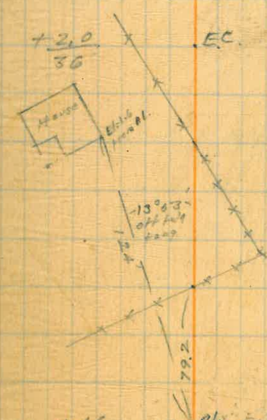
4: $\frac{+0°30'}{100'}$ $\frac{-0°30'}{100'}$ center crk, 45°

3: $\frac{+0°30'}{15'}$ bank crk, 45°; $\frac{-0°30'}{70'}$ $\frac{-0°30'}{80'}$ Pt. 3 1 to 1 slope to bot.

2: $\frac{+1°}{150}$ $\frac{+2°}{45}$ 2. $\frac{-2°}{45}$ $\frac{-0°30'}{150'}$

S23°45'W

1: $\frac{+2.0}{36}$ EC. $\frac{-2.2}{50}$



0: $\frac{+1.6}{50}$ 0 P.I. Ext. $\frac{-0.2}{11.6}$ $\frac{-1.7}{31.9}$ $\frac{-2.1}{61.6}$

0-1 in center of road

(cont.)

Sta.	Dist.	Hor. ∠	Vert ∠	H.I.	Rod & El.
11 to 12	184.0 (183')	P.O.T.	+0°45'	4.8	+2.4 4.8
8 to 11 ⊼	414.2 (414')	P.O.T.	+2°36'	3.5	+15.8, 13.4, 9.8 6.5
8 to 10	362.0 (362')	P.O.T.	+3°06'	3.5	+13.6 9.5
8 to 9	258.9 (258')	P.O.T.	+1°21	3.5	+3.1 6.5
* 0 to 8	1621.0 (1620')	P.O.T.	+0°06'	5.0	+2.8 5.0
0 to 7	1301.0 (1300')	P.O.T.	−0°11'	5.0	−9.2 15.0
0 to 6	941.0 (940')	P.O.T.	−0°12'	5.0	−8.3 10.0
0 to 5	581.0 (580')	P.O.T.	−0°28'	5.0	−4.7 5.0

Mag. 8.

L			℄	R		
		+6° / 100	12	−4° / 90	−2° / 50	
+4° / 80	level / 20	−5° / 35'	11	+7° / 70	level / 20	−4° / 50'
	+3° / 100	−4° / 45	10	+6° / 40	+3° / 30'	−3° / 30'
+2° / 60	+1° / 50	level / 30'	9	+3° / 30	+2° / 80	
	+2° / 150	level / 40'	8	−3° / 45	−1° / 80	
	+4° / 75	+1° / 80	7	−0°30' / 100		
		+0°30' / 150	6	−0°30' / 150		
		+0°30' / 100'	4+5 (+5)	s. bank, to 1 slope to bot. −0°30' / 100'		

(cont.)

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.
19 to 20 △	68.7 (68')	(0°08') 0°04' Lt.	+4.02'	4.5	+4.1 5.2
18 to 19 △	131.6 (131')	(51°03') 25°32' Rt.	+3°26'	4.8	+7.9 1396.7 4.8
17 to 18 △	111.1 (111')	(57°12') 28°36' Lt.	+5°13'	4.5	+10.2 1388.5 4.5
13 to 17	354.1 (354')	P.O.T.	+2°58'	4.8	+18.4 1378.6 4.8
13 to 16	320.0 (320')	P.O.T.	+3°12'	4.8	+17.9 4.8
13 to 15	228.7 (228')	P.O.T.	+2°18'	4.8	+6.2 7.8
13 to 14	153.7 (153')	P.O.T.	+2°28'	4.8	+6.6 4.8
11 to 13 △	328.7 (328')	P.O.T.	+1°48'	4.8	+10.4 1360.2 4.8

Feb. 14 – 1939

Williams
Hill
Isbell
Sopher
Remmen
Knight.

7.77
6.66
1.11

2.0
9 2 1
7.8 9
1.3 2

Mag.	L	℄	R.
S. 20° 15' W. Grade 7%	+20° / 70	+18° / 35	20 — −17° / 55 crk — +19° / 60
S. 20° 15' W.	0.7 +20° / 60 +17° / 40	1396.7 19	−17° / 80 crk — +13° / 30'
S. 15° W.	2.0 Cot. 3.1 to +3°26'	1388.5 18	−20° / 35 — −10° / 65'
	+28° / 100		
	+21° / 100	17.	−13° / 100
	+23° / 100	16.	−16° / 40 — −6° / 60
	+20° / 30 — +14° / 40	15.	−6° / 100
S. 24° W.	+11° / 60 — +9° / 40	14.	−1° / 100
	+7° / 50 — +5° / 50'	13.	−9° / 100

138 / 2 / 276 | 10.3 − 3.7 = 6.6 | 10.3 − 4.1 = 6.2 | 10.9 − 9.2 = 1.8

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.	Mag.		L	℄	R
~~26 to 28~~	(129')	P.O.T.	+2°50'	4.8	4.8					
~~26 to 27~~	(91')	P.O.T.	−0°33'	4.8	4.8					
25 to 26 △	103.5 (103')	(0°10') 0°04'30" Lt.	+4°02'	4.7	+2.8 9.2	S. 1° W.	C. 1.8 to 7%	+15°/60 +35°/20 level/20 +32°/35	1463.4 . 26	−30°/25 crk +15°/30 +25°/50
24 to 25 △	275.7 (276')	(7°09') 3°34'30" Rt.	+4°02'	4.4	+19.7 4.1	S. 1° W.	C. 6.2 to 7%	+17°/80 +28°/25	1460.6 . 25	−35°/30 crk +20°/40 +27°/30
22 to 24 △	179.3 (180')	(9°52') ~~4°26'30" Rt.~~ 4°56' Rt.	+5°38'	4.6	+17.7 4.6	S. 2° E.	C. 5.9 to 7%	+33°/55 +27°/45	1440.9 . 24	−27°/5 −37°/35 crk +22°/65
22 to 23	82.4 (82')	P.O.T.	+5°0'	4.6	−0.8 12.6			+25°/60 +22°/50	1422.4 . 23	−23°/35 crk. +12°/55 +22°/30
21 to 22 △	148.4 (150')	(40°01') 20°00' Lt.	+7°37'	4.6	+19.8 4.6 1423.2	S. 6°45' E.	C. 0.9 to 7%	+27°/60 +23°/40	1423.2 . 22	−20°/60 crk. +22°/30
20 to 21 △	155.3 (155')	(15°26') 7°43' Lt.	+4°02'	4.6	+2.6 12.9	S. 13°30' W.	F. 8.3 to 7%	+21°/80 +25°/30	1403.4 . 21	−17°/45 crk. +17°/60'

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.
		on line 30 to 34			+8.1
30 to 32	275.0 (275')	P.O.T.	+3°33'	4.9	13.9
		(8°10')			+10.6
30 to 31	217.0 (217')	4°04'30" Lt.	+4°02'	4.9	9.6
		(62°59')			+25.4
26 to 30 △	296.8 (298')	31°30' Rt.	+4°54'	4.6	4.6
26 to 29	135.7 (135')	P.O.T.	+2°44'	4.6	+6.5 4.6
26 to 28	68.5 (68')	P.O.T.	-4°51'	4.6	-5.8 4.6
26 to 27	32.2 (33')	P.O.T.	-13°18'	4.6	-7.6 4.6
~~26 to 29 △~~	(364')	(13°31') ~~6°45'30" Lt.~~	~~+4°02'~~	4.8	4.6
26 to 29	(328')	(13°34') 6°47' Lt.	+4°02	4.8	5.9

Mag.	L	∠	R
		11.2 / 9.6 / 1.6	
	+5° 65 +20° 20 −25° 15	1496.9 · 32	+25° 30 +28° 70
S. 29°30' W. C. 1.6 to 7%	+5° 65 +18° 50 −25° 20	1497.4 · 31	+30° 40 +24° 60
Grade 9' left S. 31°30' W. C. 6.3 to 7%	+8° 65 +15° 20 −35° 15	1488.8 · 30	+30° 65 +20° 35
	+7° 70 −14° 30 ck.	1469.9 · 29	+27° 80 +33° 20
	+8° 40 +5° 60	1457.6 · 28	−7° 5 ck +30° 100
	+24° 50 +20° 25 +17° 30	1455.8 · 27	−10° 10 ck H. +20° 20 +28° 70
Pt. on rock 2' above ground S. 6° E. C. 2.0 to 7%			
S. 6° E. C. 0.7 to 7%			

Feb. 15-1939
Williams
Hill
Isbell
Sopher
Remmen
Knight

Sta.		Dist.	Hor. ∠	Vert. ∠	H.I.	Red.
						-7.5
39 to 40		138.6 (138')	on line 39 to 47	-3°05'	5.1	5.1
						-21.8
38 to 39	△	477.1 (477')	0°00'	-2°37'	5.1	5.1
			(14°07'30")			+3.9
37 to 38	P.O.T.	258.9 (258')	7°04' Rt.	+0°52'	5.0	5.0
			(11°18')			+66.4
30 to 37	△	923.2 (928')	5°38'30" Lt.	+4°31'	4.9	11.4
						+52.3
30 to 36		776.5 (780')	on line 30 to 37	+4°22'	4.9	11.9
						+44.9
30 to 35		677.1 (680')	on line 30 to 37	+4°28'	4.9	12.9
						+38.3
30 to 34		583.2 (585')	4°23' Lt.	+4°03'	4.9	7.9
						+17.0
30 to 33		374.5 (375')	on line 30 to 34	+3°40'	4.9	12.9

Mag.	L	℄	R	
				1529.8
	+30/100 +1°/30	40	-5°/20 +10°/50 +5°/40	
				1537.8
S 37°30' W.	+10°/20 +1°/90	39	+2°/125	
				1559.1
S. 34°45' W.	+10°/80 +5°/25	38	+2°/45 +7°/65	
				1555.2
S. 28° W.	+12°/60 -4°/30 -45°/10	37	+18°/40 +12°/40 +8°/30	
				1591.1
	+15°/40 +12°/50 -3°/20	36	+13°/100	
				1533.7
	+20°/20 +15°/90 -5°/45	35	+20°/100	
				1527.1
	+15°/30 -5°/70	34	+15°/100	
				1535.8
	-15°/35 level/20 +7°/55	33	+9°/40 +27°/65	

23 24 30

358/2 716   280/2 560

Std.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod	Mag.	L	℄	R
47 to 48	68.5 (68')	on line 47 to 52	-4°43'	4.9	-5.6 / 4.9		+10°/100 +8°/30	1495.2 · 48	-8°/60 -13°/35 crk +10°/25
47 to 46	64.6 (64')	180° 00'	-4°35'	4.9	-5.2 / 4.9		+11°/90 +15°/15	1495.6 · 46	-10°/25 -20°/15 -5°/30 crk +6°/30
47 to 45	125.6 (125')	180° 00'	-3°28'	4.9	-15.6 / 12.9		+1°/30 +2°/75	1485.2 · 45	-2°/45 crk +1°/35 level/50
39 to 47 P.O.T.	909.7 (910')	(46° 49') 23°24'30" Rt.	-2°18'	5.1	-36.5 / 5.1 1500.8	S.57°30'W.	+10°/100	1500.8 · 47	-16°/20 -15°/65 crk +8°/35
39 to 44	715.5 (716')	on line 39 to 47	-2°45'	5.1	-47.3 / 13.1	℄ Road	+3°/65 +4°/35	1495.0 · 44	-4°/15 -5°/85
39 to 43	559.3 (560')	on line 39 to 47	-3°16'	5.1	-40.0 / 13.1		+2°/50 +5°/40 +6°/50	1497.3 · 43	level/60' +10°/25 +6°/50
39 to 42	513.4 (514')	on line 39 to 47	-3°10'	5.1	-35.4 / 12.1	on fence line	+3°/80 +8°/25 -8°/25	1501.9 · 42	+2°/75 +1°/30
39 to 41	219.7 (220')	on line 39 to 47	-4°27'	5.1	-17.1 / 5.1		+2°/80 +12°/25 -12°/15	1520.2 · 41	+12°/15 +8°/50 +5°/75

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod.	Mag.	L	℄	R	
52 to ~~E.C.~~ B.C.	339.2 (339')	180° 00'	+2°55'	5.1	+11.3 / 11.1		+7°/65, +11°/35	1491.7 E.C.	-5°/15	
52 to Ex.	103.8 (104')	124° 05' Lt.	+6°15'	5.1	+11.4 / 5.1					R = 500', T = 338.20', Ex = 103.65', L = 594.7
52 to ~~B.C.~~ E.C.	337.5 (337')	68° 09' Lt.	+2°27	5.1	+14.4 / 5.1			E.C.		
52 to 9 on prev. line	311.2'	68° 09' Lt.								
47 to 52 = 10 prev. line	518 (518')	0° 00'	-2°36'	4.9	-23.5 / 4.9	S 58° W.	+8°/90	1488.7 - elev. of ext. Ex. 52	-6°/35, -5°/70	
47 to 51	422.3 (422')	on line 47 to 52	-2°26'	4.9	-17.9 / 4.9		+7°/120	1482.9 51	-5°/50	On semi-tangent
47 to 50	261.2 (261')	on line 47 to 52	-3°10'	4.9	-14.4 / 4.9		+21°/75, +8°/25	1486.4 50	-5°/30, -2°/70	On semi-tangent
47 to 49	148.9 (149')	on line 47 to 52	-5° 03'	4.9	-13.1 / 4.9		+15°/25, +8°/80 (70°	1487.7 49 110°)	-5°/100	

Stadia Location Top of Wildcat Cañon South 2/15/39

Williams
Hill
Isbell
Soper
Kemmen
Knight

clear + warm

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod & Elev.	Mag. Ber.	
3 to 7	469.8 (477')	P.O.T.	-7°35'	4.4	-62.5 4.4		+30°/20 -4°/20 -30°/10 -8°/35 level/20 . 7 rd. -3°/100
3 to 6	283.9 (291')	P.O.T.	-11°15'	4.4	-56.4 4.4		-10°/65 -6°/35 . 6 +16°/20 level/20 rd. level/20 +3.0'/0 +13°/40
3 to 5	168.4 (174')	P.O.T.	-11°15'	4.4	-33.5 4.4	S22°E	-16°/100 . 5 level/70' rd. level/20' +5.0'/1.2 +16°/20'
3 to 4 Note pt. 3 moved 3.56 to left 90° from back tang.	75.6 (80')	P.O.T. backsight on pt. #1 of north line	-15°00'	4.4	-20.2 -1.2 lower than former pt. 3 4.4	℄ road	-20°/65 -25°/25 +2°/10 . 4 -2°/15 +1.0'/0 +7°/80' ✓
* 0 to 3	761.1 (763')	P.O.T.	-3°32'	5.2	-47.0' 5.2		-5°/40 level/30 -6.0'/1.5 -13°/30 . 3 +1°/65 +12°/40 ✓
0 to 2	681.4 (684')	P.O.T.	-4°19'	5.2	-51.4 5.2	℄ road	-8° ~~-80°~~/80 -22°/5' -4°/15 . 2 +4°/15 +17°/10 +10°/45 +14°/50 ✓
						S22°80'E	-13°/100 . 1 +8°/35 +3°/50 rd. level/20' ✓
0 to 1	530.2 (533')	P.O.T.	-4°58'	5.2	-46.1 5.2		level/10 +20°/15 -20°/20 -9°/15 level/10' . 0 level/10' +3.0'/0 +12°/60 +16°/40' ✓
backsight on pt. #1 of north line					-19.7		

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod + Elev.	Mag. Ber.	L	∅	R
12 to 13	67.0 (67')	P.O.T.	−7°09'	5.0	−8.4 5.0		+20° 35	+15° 35	−18° 30
* 8 to 12	692.8 ✓ (699')	P.O.T.	−5°51'	5.1	−71.6 ✓ 5.1		+5° 50	+30° 35	−35° 20
8 to 11	479.2 (483')	P.O.T.	−5°46'	5.1	−48.4 5.1		+25° 40	−25° 35	−15° 20
8 to 10	152.9 (157')	P.O.T.	−10°25'	5.1	−28.1 5.1		+20° 35	−20° 30	level 10
8 to 9	14 (13')	(24°22') 12°11 R	−2°14'	5.1	−5.5 5.1				
* 5 to 8	673.2 ✓ (677')		−9°53'	5.1	−57.4 ✓ 5.1		+20° 25	+30° 25	−40° 25

L	∅	R
+20° 35	+15° 35	−18° 30
−1° 20	.13 road	+1° 5
−1° 15	+10.0' 5	+25° 60
+12° 20		
+5° 50	+30° 35	−35° 20
level 12	.12 road	level 5
+6.0 1.5	+12° 15	+20° 90
+25° 40	−25° 35	−15° 20
level 15	.11 road	level 5
+7.0' 1.8	+22° 45	+14° 50
+20° 35	−20° 30	level 10
+15° 15	−30° 25	level 7
.10 trd	level 7	+7.0 1.8
+32° 50	+15° 45	
S 10° E		
level 15	−8.0 2 rd	−30° 5
level 5	.8	level 5
+5.0' 0	+25° 45	+16° 30

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod. & Elev.	Mag. Ber.	L	℄	R.
* 19 to 20	124.2 (125')	P.O.T.	−6°55'	5.1	−15.0 5.1		+15°/50 −2°/40 Level/10	.20	+5°/15 +22°/30 +10°/35 −12°/50
						N14°W			
* 16 to 19	214.0 (214')	P.O.T.	−3°56'	5.0	−14.7 5.0		+20°/100 +7°/30	.19	+5°/75 −8°/25
19 to 18	103.2 (104')		−7°32'	5.1	−13.7 5.1		+15°/100 60°	.18 (120°)	−14°/20 (−14°/60 −6°/30) perp to 18
16 to 17	57.4 (57')	P.O.T	−5°57'	5.0	−6.0 5.0		+8°/100 60°	.17 (120°)	−12°/70 −26°/35
			same crew 2/16/39			S13°W			
* 15 to 16	186.5 (186')	49°03' 24°31'30"R	+2°53'	4.6	+9.1 4.6		+20°/60 −12°/25 +7°/25	.16	−9°/40 −30°/25 −9.0/2.± road −1°/25
* 12 to 15	139.5 (139')	P.O.T.	−3°28'	5.0	−8.5 5.0		+23°/100	.15	−25°/35 ck. +2°/10' +25°/10' road −1°/15
12 to 14	100.9 (102')	P.O.T.	−8°14'	5.0	−20.6 11.0		+20°/40 +26°/60	.14	−8°/25 +28°/10 Level 10-road-15 +10°/5 +15°/10 +25°/40

Sta.	Dist.	Hor. ∠	Vert. ∠	H.I.	Rod & El.
* 23 to 30	475.9 (482') ✓	P.O.T.	-7°00' ✓	4.9	1228.4 -5.0 4.9
23 to 26	263.4 (266')	P.O.T.	-6°41'	4.9	-30.9 4.9
23 to 25	142.3 (147')	P.O.T.	-11°29'	4.9	-33.9 9.9
23 to 24	73.6 (75')	P.O.T.	-10°11'	4.9	-13.2 4.9
* 20 to 23	328.3 (330') 382	P.O.T.	-5°14' ✓	5.1	1286.7 (50.0) 34.8 5.1
20 to 22	226.5 (228')	P.O.T.	-6°07'	5.1	-34.3 15.1
20 to 21	70.2 (72') ✓	8°14' R	-11°29'	5.1	-14.2 5.1

Mag B. S. 22°15' W

L	∠	R
+13°/100 . 30	-15°/40	-8°/60
+22°/50 +12°/50 . 26	-8°/40	-17°/80
+20°/75 +12°/80 . 25	-2°/35	-7°/70
+16°/80 +7°/40 . 24	-7°/25	-15°/90
+15°/100 . 23	-15°/25	-25°/30 -12°/50
+25°/100 . 22	-13°/60	+7°/80
+15°/30 level/30 +12°/50 . 21	-12°/10	+22°/6.3 -6°/40

Sta.	Dist.	Hor. ∠	Vert ∠	H.I.	Rod ± ℄
					1174.0
* 30 to 35	519.6 (524) ✓	P.O.T.	-5°53' ✓	4.8	-54.4 4.8
~~30 to 34~~	(486')	~~P.O.T.~~	~~-7°01'~~	~~4.8~~	~~4.8~~
30 to 33	319.7 (325')	P.O.T.	-8°03'	4.8	-45.2 4.8
30 to 32	170.7 (175')	P.O.T.	-10°01'	4.8	-30.1 4.8
30 to 31	71.7 (75')	P.O.T.	-13°53'	4.8	-17.7 4.8
30 to 29	58.9 (58')	P.O.T.	+1°52'	4.8	+1.9 4.8
30 to 28	96.0 (95')	P.O.T.	+0°15'	4.8	-4.6 4.8
30 to 27	149.6 (150')	P.O.T.	+5°52'	4.8	+14.5 4.8

Sta. 3

$\frac{+7°}{70}$ $\frac{+12°}{50}$. 35 $\frac{-14°}{60}$ $\frac{-10°}{130}$ from ℄ = ℄ road

$\frac{+17°}{40}$ $\frac{+12°}{75}$. 33 $\frac{-5°}{35}$ $\frac{-13°}{40}$ $\frac{-5°}{35}$

$\frac{level}{30}$ $\frac{+13°}{75}$. 32 $\frac{-6°}{50}$ $\frac{-10°}{40}$ $\frac{level}{50}$

$\frac{+18°}{100}$. 31 $\frac{-6°}{125}$

$\frac{+15°}{50}$ $\frac{+11°}{60}$. 29 $\frac{-12°}{75}$ $\frac{-6°}{80}$

$\frac{+14°}{100}$. 28 $\frac{-6°}{65}$ $\frac{-8°}{40}$

$\frac{-5°}{25}$ $\frac{+10°}{80}$. 27 $\frac{-12°}{100}$

Sta	Dist.	Hor. ∆	Vert. ∆	H.I.	Rod & Elev	Mag. B.
see page 52						
39 to 40	389.0 (389)	P.O.T.	−2°53′	5.0	−19.6 5.0 1097.5	
55+74					1102.4	
54+74						S 12°30 W
39 to 41	704.7 (705′)	8°16′ 4°08 L	−2°39′	5.0	−32.6 5.0	
53+00					1112.5	
51+90					El. 1120.3	
* 36 to 39	674.0 (680′)	P.O.T.	−5°54′	5.0	−69.6 1101.9 5.0	
51+00					−13.1 from 3[illegible]	
					El. 1134.[illegible]	
50+00						
36 to 38 (14 on grade line)	217.4 (223′) ✓	P.O.T.	−9°51′ ✓	5.0	−37.8 [illegible] 5.0 1133.7	
36 to 37	91.5 (98′)	P.O.T.	−16°09′	5.0	−26.4 5.0	
* 35 to 36 (pt. 36 on rock 4 above grd)	68.9 (68′) ✓	10°16′30″ 5°08 L ✓	−2°06′	4.9	1171.5 −23 4.9	S 15°30 W
35 to 34	64.8 (65′)	P.O.T.	−3°01′	4.9	−3.4 4.9	

L ℄ R

−9°/60   level/30   .40   +54°/5   + 23°/100   + 18.0 Grade 22 W.

−7°/33   level/35′   level/4′   +13.0/10′   +25°/100

same direct 73′ from ℄   −15°/30 from 18 rd   level/18′   level/10′   +4.0/16′   +16°/50 from ℄   +27°/50′

−21 from 39

culv. 57′ from pt. 39   46′   +6.9 = Grade 15 W

dist. on slope

+8°/60   +5°/50′   level/20′

level/80′   +24°/40 from ℄   +9.0/9′   level/6′   .41+90   level/25′   B.M. U.S. 1099.0

+8°/90   level/10 − road −   .39   level/18   −25°/12   +30°/100   −2.3 below 39

dist. on slope

+17°/33   +24°/50 from ℄   level/9   level/23′

+15°/100   +4′/12   level/11   level/30′

+15°/90   +7°/30   .38 road   −1°/−30   −17°/25   +10°/45

+15°/100   .37   −6°/70 2rd   −4°/35

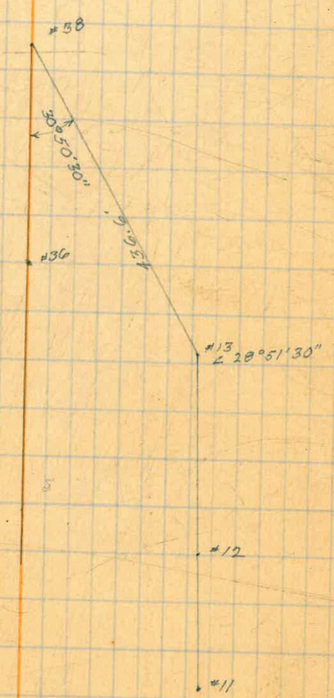
sections from ground

+7°/50   +10°/55   .36   −18°/45   −11°/110 from ℄ = ℄ road

level/30   +10°/75   .34   −10°/80   −5°/50

Sta.	Dist.	Hor ∠	Vert ∠	H.I.	Rod + Elev.	Mag. B.
12 to 11	422.3' (425)		+5°24'	5.2	+39.9 5.2	
13 to 12	583.4' (586')		+4°30'	5.1	+41.0 10.1	
41 to 42	284.2 (284')	37°30' 18°44'30"L	-3°05'	5.1	-15.5 1000.0 5.1	

35°
30 50 - 30
61 41



S 6°E

+8°/35 -12°/35 -35°/20 level/15 . 42 level/17 +16.0/8 +30°/75

+20°/40 level/35 -35°/20 level/20 . 41 level/12 +18.0/6 +35°/90

P.I. "1 = P.I. 29 E.	263'	+5°53'
P.I. "2 W	71'	+0°58'
P.I. "2 to "3	318'	+2°01
P.I. "3 to "4	334'	-9°29'
P.I. 4 to P.O.T.	431'	+11°53'
P.O.T. to P.I. "5	350'	-4°40'
"5 to P.O.T.	92'	+6°07'

6" City Test 6.14 Lower than Levi.
350' up stream from L.S. Pump #2

Place	B.M.	Date	Depth Below B.M.	El.	Rem.
P.I.					
County Park	509 ±	7/17/31	−21.70		
		7/18/31	−21.78		

only 1 Reading

	B.M	Dist	El.	Date
Jennghaus E.G.	Top of Casing 486.±	-9.7		7-30-31

"Hole" Top of 8" casing 2.15 ± above river channel 175' north

2 Readings

Place	B.M	Below Top of Casing	El.	Date
1 Foster	459.0	-2.47		7-18-31
		-3.40		12-31-39

one Reading

Place	B. M.	Below Top Casm	E/.	Date
No 11 Dist				
	459.°	11.4		7/20/31

Water flowing in stream bed to here on 3-12-31 (P.O.G)

B.M. is 7.8 above old N + S. River Channel

Place	B.M.	Below	El.	Date	
Pratt 2"	to Casing				
Test Well	447.3	27.0		7-19-31	L.
		11.4		4-1-31	H.
		34.9		11-15-30	L.
		0.		5-18-30	H.
		41.0		12-23-29	L.
Oct 1. 1929 Change B.M.	441.7	3.3		2-20-29	H.
		11.3		11-30-28	L.
		2.2		7-5-28	H.

B.M is 5.3 above River Channel. Channel 50' S. of Well

	B.M.	Below	El.	Date	
No 6	436.3	40.5		7-19-31	L.
		19.0		4-1-31	H.
		46.3		11-15-30	L.
		2.2		5-18-30	H.
		46.0		12-23-29	L

B.M. #5 2' above River Bed.
950' N of dist Pumping P.L on Line

	B. M	Below 14" Casing	El.	Date	
Melville	436.6	Dry.	41.[illegible]	7-19-31	
		31.4	6-30-31	6-20-31	L
		22.8		4-1-31	H.
		41.0		11-15-30	L
		6.2		5-18-30	H.
		42.5		12-2-29	L.
		20.4		2-20-29	H.
		32.6		11-30-28	L.
		13.26		7-5-28	H.

River Channel about 5' lower.

about 1' ab. River Channel

	B.M.	Below Top Pipe	El.	Date
Truttman 2" Test Well	431.4	Dry 24.0		7-20-31
		17.6		4-1-31
		24.0		12-15-30
		0.		5-18-30
		24.0		9-12-29
		13.4		7-12-29
		23.0		11-30-28
		8.6		7-5-28

about 7' ab. River Channel.

	B.M.	Below	El.	Date
Truttman 16" Casing	428.3	dry	7-20-31	Closed by pump
		18.3	4-1-31	H.
		23.0	12-15-30	L.
		0.	5-29-30	H.
		26.1	12-23-29	L.
		9.7	7-12-29	H.
		19.5	11-30-28	L.
		6.9	7-5-28	H.

✓	B.M.	Below	El.	
City 2" and Testwell		21.5		7-20-31

and Dist 2" Well	B.M.	Below	El.	Date	
	421.1	18.52		7-20-31	L
		16.3		4-1-31	H.
		16.6		12-15-30	L.
		10.2		4-11-30	H.
		18.3		12-23-29	L.
		10.1		7-12-29	H.
		16.5		2-20-29	L.
		9.4		7-5-28	H.

	B.M.	Below	El.	Date	
Pickett's					
Dug Well	415.1	Dry 13.°		7-20-31	Dry all of 1931
		12.°		10-25-30	L.
		7.4		5-29.30	H
		Dry		12-23-29	L.
		10.°		7-12-29	H.
		13.5		11-30-28	L.
		8.9		7-5-28	H.

B.M 413.1

Phelbrook.

Dug Well

15.2	7-20-31	L
13.5	4-1-31	H.
14.4	12-15-30	L.
9.0	5-29-30	H
Dry (15)	12-23-29	L
11.3	7-12-29	H
13.5	11-30-28	L.
10.4	7-5-28	H

B. M 408.4

Common 2" Test

11.5	7-20-31	L
8.°	4-1-31	H.
10.9	12-15-30	L.
5.4	5-29-30	H.
11.9	12-23-29	L.
7.8	7-12-29	H.
9.6	11-30-28	L.
7.2	7-5-28	H.

1/15/31 Gay well furthest North
S of R.R. Tract near Gal feed house
17.07 below top. casing
Ricketts well L 65-A 1" Test
near Williams Cor. S Vicente
11.20 below top of reducer
Ricketts well L-5 Wood Casing
15.02 east of L 65-A

Grey well 2" test with reducer
about 1 mi ± east of Ricketts
21.27 below tops of reducer

Top of Casing
393.11 Levi well 8" casing S of Lot
59 South of Cities Lakeside
Longdon-Whittaker wells.
Mud at 33.8 below top of casing
first time this well has gone dry

Magnuson Well.
19.59 8" cement casing N.S. River
City well #16 come in from
road N.S. Valley
19.44 below top 12" Casing down 3'

Riverview Test well No 2
E. Cottonwood road
16.86 below top 6" casing

1944

Bridge

H.S. Valley

down 1.4 ft.

stops at east Palm tree
last month

7/15/31

Ballantine 2" test well East of
Morton Place opposite R.V. Point
20.85 below top of 2" pipe down 2.7 since June 2

County Farm 2" test well on
barbed wire fence line west of
County pumping plant about ¼ mi
12.82 below top pipe

The good old dug well
East of old ranch house &
barn: old well measured by Lee
15.77 below 3 notches on N side
motor room P.ed.

Taft well on Stevens & Hartley
tract (on El Cajon Valley group)
10" casing) west of Granite Pit
15.27 below top casing 1st st south of Gr. Pit

Letter to F. A. Rhodes April 11. 1925
The following is the information you
requested.
Irrigation use in district area 1924
2,578,860 gals daily
Domestic use in district area 1924
236,557 gals daily
It should be borne in mind that
under our system of accounting a
large portion of the irrigation water
listed above is domestic and is
paid for at the domestic rate.
Domestic use in East San Diego
1924 — 225,118,000 gals.
Teralta. Normal Heights. Kensington
Park, and a few scattering consumers
75,477,000 gallons
Irrigation East San Diego
32,064,450 gallons
C. Harritt sup.

L.M., L.G. & S.V. Irrig. Dist.	11,877.34	Ac
Turner Inclusion	17.46	Ac
Maryland Hts. Inclusion	776.51	"
G.B. Wilken Inclusion	11.80	"
Judson La Mesa Colony Inclusion	364.00	"
Judson Ft. Robinson Inclusion	87.14	"
Miles Inclusion	32.76	"
Grossmont Inclusion	374.72	"
Mt. Helix Inclusion	320.00	"
Thum Inclusion	828.65	"
El Cajon Inclusion (City)	700.00	"
El Cajon Valley Inclusion	2267.00	"
	17655.38	Ac

5.0
3.8
1.2

IMPROVED TABLES AND INFORMATION

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

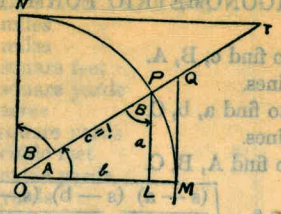


TABLE II

TRIGONOMETRIC FORMULÆ

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

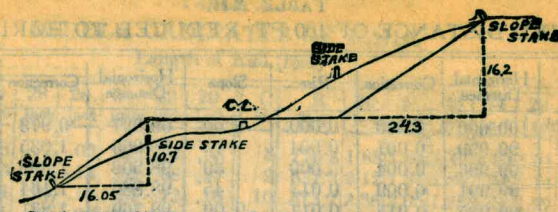
$$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \qquad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Lines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \tfrac{1}{2}(A+B)}{\tan \tfrac{1}{2}(A-B)}$$



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1 65	1 80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3 45	3.60	3 75	3.90	4.05	4.20	4 35	2
3	4.50	4 65	4.80	4.95	5.10	5 25	5 40	5.55	5.70	5.85	3
4	6.00	6 15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7 50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9 00	9 15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10 65	10.80	10.95	11.10	11.25	11.40	11.55	11 70	11.85	7
8	12.00	12 15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13 50	13.65	13 80	13 95	14.10	14.25	14.40	14 55	14.70	14.85	9
10	15.00	15 15	15 30	15 45	15.60	15.75	15.90	16.05	16.20	16 35	10
11	16 50	16 65	16 80	16.95	17 10	17.25	17.40	17.55	17.70	17.85	11
12	18 00	18.15	18.30	18 45	18.60	18 75	18.90	19.05	19.20	19 35	12
13	19 50	19 65	19.80	19.95	20.10	20.25	20 40	20.55	20.70	20.85	13
14	21.00	21 15	21.30	21.45	21 60	21.75	21.90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24 15	24 30	24 45	24.60	24.75	24 90	25 05	25.20	25.35	16
17	25.50	25 65	25.80	25 95	26.10	26 25	26 40	26.55	26.70	26.85	17
18	27.00	27 15	27.30	27 45	27.60	27.75	27.90	28.05	28 20	28.35	18
19	28 50	28 65	28 80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30 00	30 15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31 50	31 65	31.80	31.95	32 10	32 25	32.40	32.55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33.60	33 75	33.90	34.05	34.20	34.35	22
23	34 50	34 65	34.80	34.95	35.10	35 25	35 40	35.55	35.70	35 85	23
24	36.00	36 15	36.30	36 45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37 80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39 00	39 15	39.30	39 45	39 60	39.75	39.90	40.05	40.20	40.35	26
27	40 50	40 65	40 80	40.95	41.10	41.25	41 40	41.55	41.70	41.85	27
28	42 00	42 15	42.30	42.45	42.60	42 75	42.90	43.05	43.20	43.35	28
29	43 50	43 65	43.80	43 95	44.10	44 25	44 40	44.55	44.70	44 85	29
30	45 00	45 15	45.30	45 45	45.60	45.75	45.90	46.05	46 20	46.35	30
31	46.50	46.65	46.80	46 95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48 00	48.15	48.30	48 45	48.60	48 75	48.90	49.05	49 20	49.35	32
33	49.50	49 65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51 00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52 50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54 00	54.15	54.30	54 45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55 50	55 65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57 45	57.60	57 75	57.90	58.05	58.20	58 35	38
39	58 50	58.65	58 80	58.95	59.10	59 25	59.40	59 55	59.70	59.85	39
40	60 00	60 15	60 30	60 45	60 60	60.75	60 90	61.05	61 20	61.35	40
41	61.50	61 65	61.80	61 95	62 10	62 25	62.40	62 55	62 70	62.85	41
42	63 00	63.15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64.35	42
43	64.50	64 65	64 80	64.95	65.10	65 25	65 40	65.55	65.70	65.85	43
44	66 00	66 15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67 50	67 65	67 80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69 00	69 15	69 30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70 50	70 65	70 80	70 95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72 15	72.30	72.45	72.60	72.75	72.90	73 05	73.20	73 35	48
49	73 50	73 65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

Hor. Δ 4°09' L.
Dist. 637' 629.8
Vert. Δ -6°26' -71.1

Dist. 678 - 674.2
V. Δ -4°59' - -58.7
Hor Δ - 1°48 L

Hor.	Vert.
516.0	-19.7
761.1	-47.0
673.2	-57.5
692.8	-71.6
2643.1	

1547.2
195.9
1351.3

2643 / 198.80
185 01
10790

7.5

23/50 15/40

20°09' Lt

7282
7992
710

.52 Hi

2623
1323

519
9.1

77°01'30
154 04 30
77 02 15

90
1323
7637
53 30
130 07

154 03
77 01 30

519
314
613
495
715
2406
243
315
1444
365

4°09' Lt

430 0°50' Lt 5 11 W

1.3

14
76

71 41
0 50

575
2
1150

21-16

248

134 43 30
269 24
134 41

134 42

269 25
134 42 30

845
2
1690

1608
405
1203
2406

2095
243
315
1444
365
513
337
165
354
504
875
783
7993

39-03-30

1621 - 8
414.2 - 11
328.7 - 13
254.1 - 15
111.1
131.6
68
155
150
180
276
103
298
428
258
477
910
519
7282

(414) P.O.T. -5°45' 5.2

1139.7
27.3
1112.4

124.5

36. 33.8

51 55
25 57 30

14000
.03
42000

1° 39
0 48 30

55 55
27 57 30

54 30
57 15

78 40
39 25

53 30
26 45

43 43
21 51 30

8° 41
4° 20 30

3
179 60
25 57
154 03
77 01

100.8
101
110.9

31 25
15 43

7 33
3 46 30

345
2
690

2406
311
2095

43
37
6

111

760
2
1520

429
680
1109

49 30
34 40

107 43
53 52

1100

33 47
16 53