

W  
ST

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ENGINEERS  
LEVEL BOOK  
No. 412 F

---

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  $1\frac{1}{2}$  see inside of back cover.

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517

file 10.11  
 Wed. 11.11.37712  
 Thurs.

Murray Ord. 781-41.0.242

15 277

## Index

Pages

Stadia survey for pipe line from Murray Dam to El Cap. pipeline	1-5
Tie to Dam from stadia line.	6

Woodstave P.L. - Stadia Survey from Murray Dam to El Cajon Ave.	7-9
Pipe Line Survey Ties -	10-12
Alternate Line - Stadia Survey	13-15
Topog. vicinity Murray Res.	16-58
Topog. check-filter plant site	59-63
Stadia survey to res. above filter site	64
Transit line " " " " "	65-66
Filter Plant revision	67
Relocation of "R" line, to reservoir site	68-69
4 profile " " " " "	70-73
Topography - reservoir site	74-77

Pipe Line Location - Murry Dam - El Capitan Pipe Line

U.S.G.S. Datum #

Feb 26 1936  
J.W. Williams  
Larry Hill  
Super  
Remmen

Sta	Hor. Angle	Cor. Course	Obs. Dist.	Vert. Angle	Cor. Dist.	H.I.	Ground Lev.	Rod
11+87	⊙					5.0	466.0	
558°25'W			564.0 <del>314.0</del>	0	565.1 365.1 <del>565.1</del>			4.70
6+22	⊙	4°06' L				5.0	466.0	
572°31'W			316.0	0	317.1			5.3
3+05	⊙	1°38' L				4.6	466.70	
574°09'W			257	+5°42	255.58			
0+49.3	⊙	29°26' R				444.63		
			49.3	0	49.3			
0+00	⊙	¢ of 24" valve on blowoff - Elev 100 elev 440.6						

27010 ft  
215.0

6+22 backsight on 3+05

Constant = 1.1

8.0  
4.5  
14.5

3+05 backsight on 0+49.3

valve elev. 444.93

rod - 0.2 on stem of res. outlet

Sta.	Hor. Angle	Cor. Course	Obs. Dist.	Ver. Angle	Cor. Dist.	H. I.	Ground Elev.	Rad
N76°41'W			1086.	-0°25'	1087.			7.9
24+89.	16°08'R					5.0	466.0	
587°11'W			965.0		966.1			5.0
15+23.	17°11'R					5.0	466.0	
570°00'W			335.0		336.1			5.0
11+87	11°35'R					5.0	466.0	

Sta.	Hor. Angle	Cor Course	obs. Dist	Ver. Angle	Cor. Dist	H.I.	Ground Elev.	Rod
------	------------	------------	-----------	------------	-----------	------	--------------	-----

N76°41'W			547.	0	548.			3.4
----------	--	--	------	---	------	--	--	-----

59+59	P.O.T.					5.0	466.1	
-------	--------	--	--	--	--	-----	-------	--



N76°41'W			1386.	+0°30'	1387.			6.4
----------	--	--	-------	--------	-------	--	--	-----

45+72	P.O.T.					5.0	455.4	
-------	--------	--	--	--	--	-----	-------	--

N76°41'W			995	0	996.			1.67
----------	--	--	-----	---	------	--	--	------

35+76	P.O.T.					5.0	455.1	
-------	--------	--	--	--	--	-----	-------	--

Sta.	Hor. Angle	Cor. Course	Obs. Dist.	Ver. Angle	Cor. Dist.	H.L.	Ground Elev.	Rod
N60°41'W			1149	-0°24'	1141			8904 578°W.±(mag.) 7.6
88+96	P.O.T.					5.0	123.6	Brushed out line
N60°41'W			851	0	852			12.7
80+44	P.O.T.					5.0	431.3	
N60°41'W			1538	-1°20'	1538			5.6
65+06	16°00' R					5.0	167.7 (on rock, ground is lower)	

Sta. H.C. S. G.C. Obs. Dist. Vert. A. Cor. Dist. H.I. for elev. Rod

317.1 1.3 315.8 elev. top pipe 1060+25.  
profile elev. 317.0

1062+23 Sta. of El Cap. pipe line at intersection

116+02

47 312.4

310.3  
116+02  
Turned S40°53'W  
540.0-25'W

N60°41'W

15.70 -3°40' 15.65

5.4

100+37 P.O.T.

50 113.0

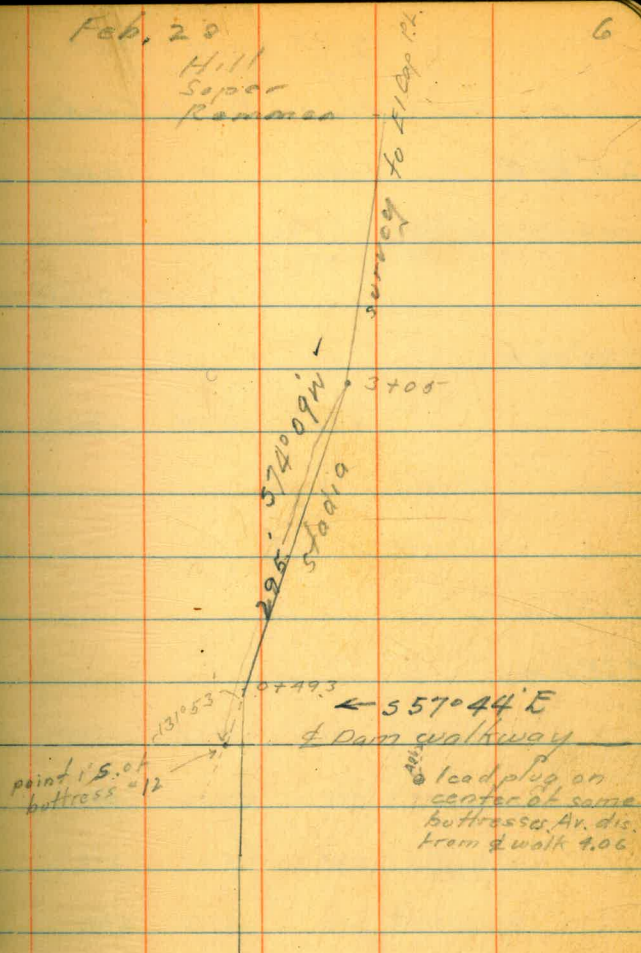


Tie to Murray Dam Axis

Feb. 28

Hill  
Super  
Remain

6



Stadia survey of wood stave pipe  
Line from Murray Dam.

Sta. Mer.  $\Delta$  Obs. dis. Vert.  $\Delta$  Cor. dis. H.I. Grad. elev. Rad.

5.0° 07' E 303' 0 304' 4.6

19+75 33° 02' L

5.32° 05' W

423' -0° 14' 424' 2.6

10+51 21° 06' L 2.2

5.53° 11' W

(7) 110° 55' R 1055' -3° 37' 1051' 9.5

(6) 111° 13' R 995' -3° 52' 991'

(6) 108° 20' R 824' -4° 49' 818'

(6) 107° 57' R 630' -6° 10' 621'

(3) 101° 49' R 484' -8° 48' 473'

(2) 93° 25' R 312' -14° 30' 294'

0+00 (1) 88° 50' R 230' -22° 15' 197' 5.0

Fore  $\checkmark$

(best sight on S. end of dam)

3/13/36  
worm

Hill  
Super  
Remmen  
Isbell

7

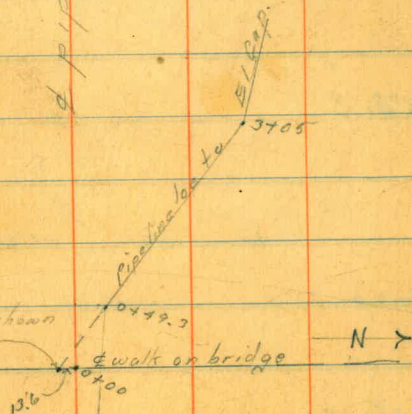
19+75 9 1/2' height = 20"  
wood stave pipe

13+75 =  $\Delta$  pipe

10+51

d pipe

Tiepoint shown  
on page 6



Sta. Hor. A Obs. dis. Vert. A Cor. dis. H.L. Grades Rod  
 13°36'30" L 520. +8°22' 510' 6.6

28+63 P.O.T. 5.0

600' -4°05' 598' 8.0

22+69 7°33'0" R. 5.0

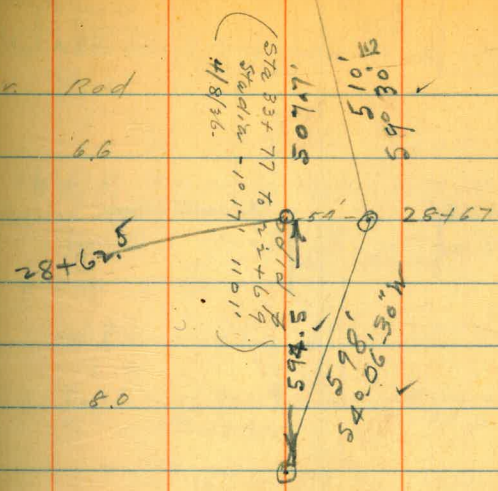
5.2°51'E  
 0°16' L 257 -7°34' 253. 11.7

20+16 5.0

5.7°41'E  
 1°44' L 236 -1°00' 237 11.8

17+79 5.0

5.0°57'E



16+25 pipe 6 R.

576.

For L Obs Dist Vert L Cor Dist H.I.

52+98 ⊙ To Int with Line on N Side of El Cajon Ave Pipe here continues South 1 Block.

51°05'30"E  
3°09'30" 393 - 1°07' 393.

49+05 ⊙

52°04'W

4°11'R 489. +0°51' 489.

AA+16 ⊙

52°07'E 700 - 0°01'

37+16 Δ Rpt

52°07'E 7°23'R 345' ± +3°14' 345.

33+71.2

33+77 ⊙

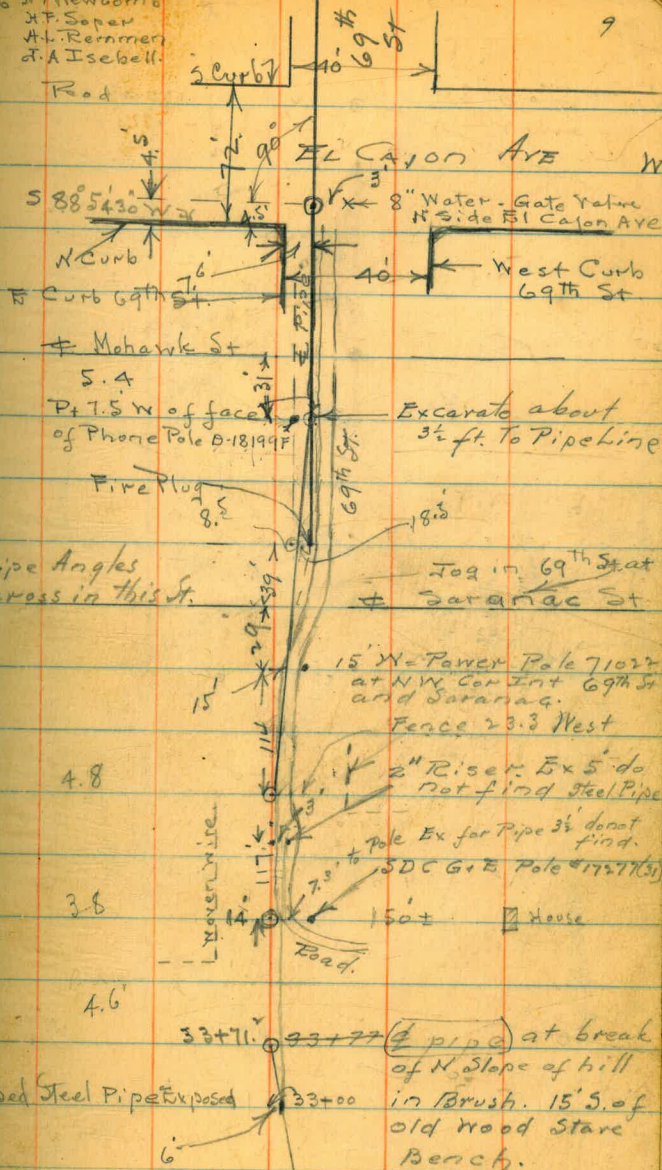
33+00 on line Pipe Exposed in wash 6' W of true line

418136 J.T. Newcomb  
J.F. Soper  
A.L. Reinmer  
J.A. Isebell.

Road

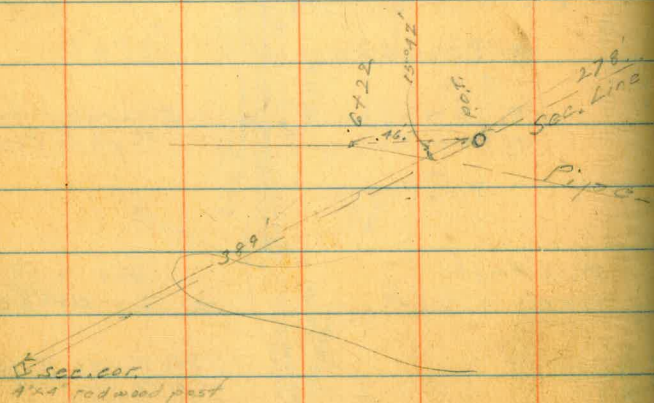
E

9



Pipe line appears to run parallel to El Cajon Ave. parallel to road about 800' W of 70th St. 2 Hrs.

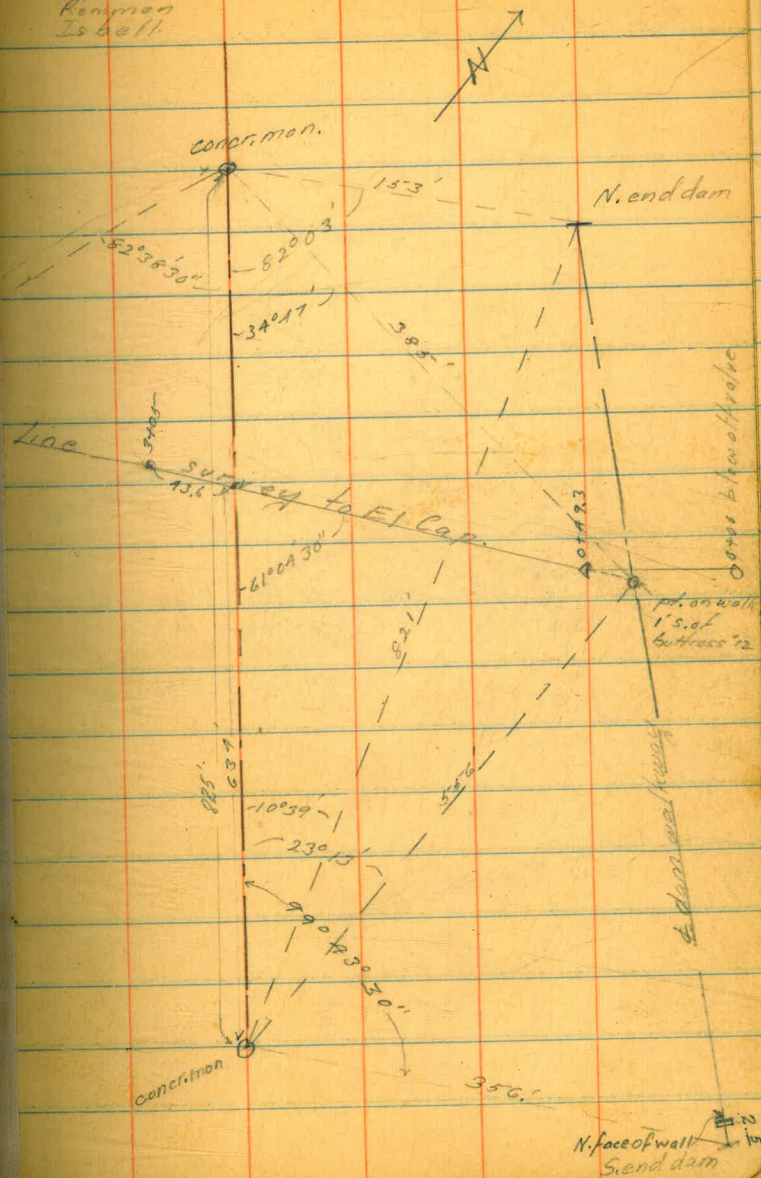
Ties from dam + pipe line  
 survey to N.E. line of Ruisoria Add.



Williams  
 Hill  
 Super  
 Reymon  
 Isbell

3/12/36  
 clear + warm

10



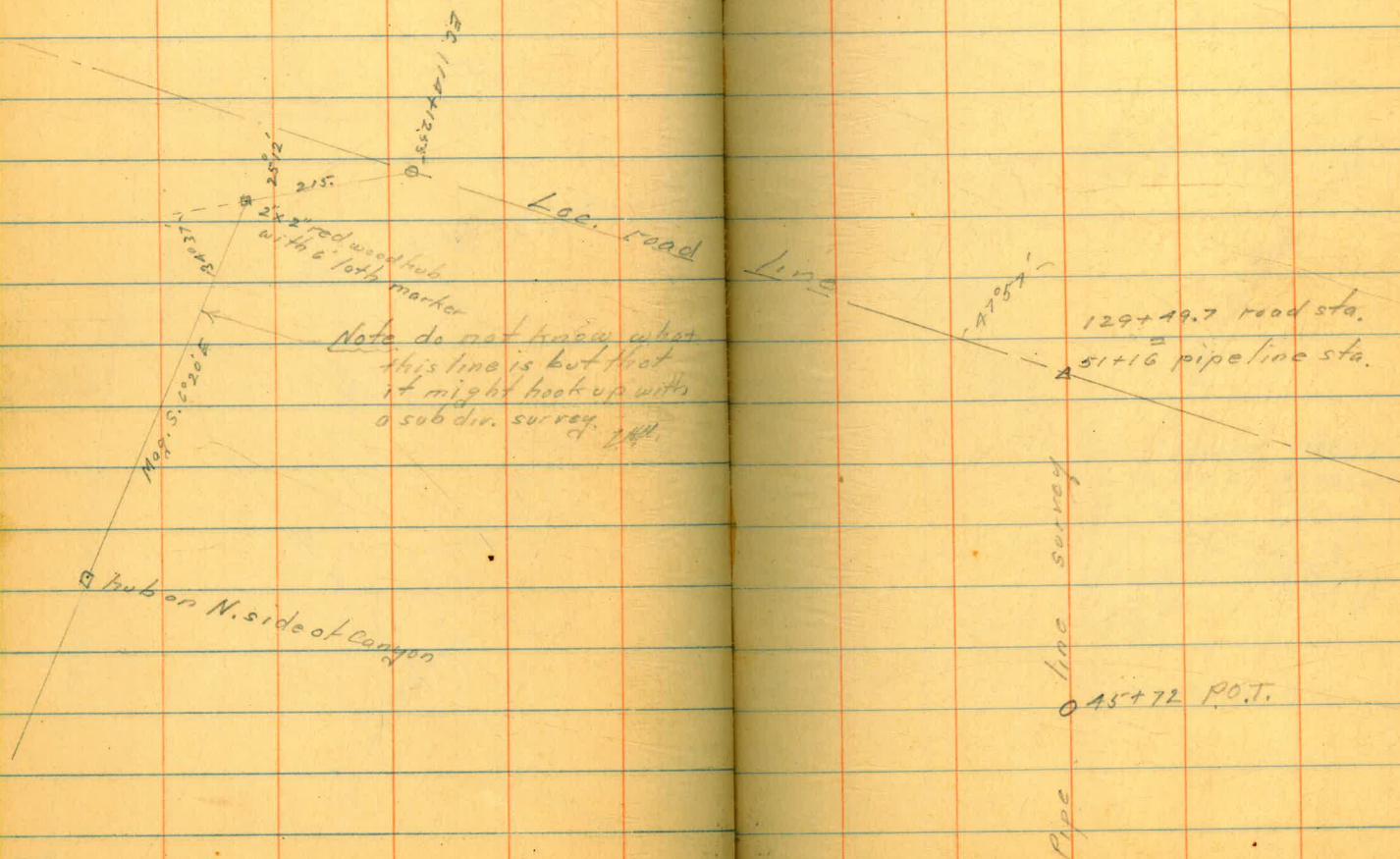
Tie to Co. road loc. line.

Hill  
Soper  
Remmon  
Isbell

clear  
warm

3/13/36

11



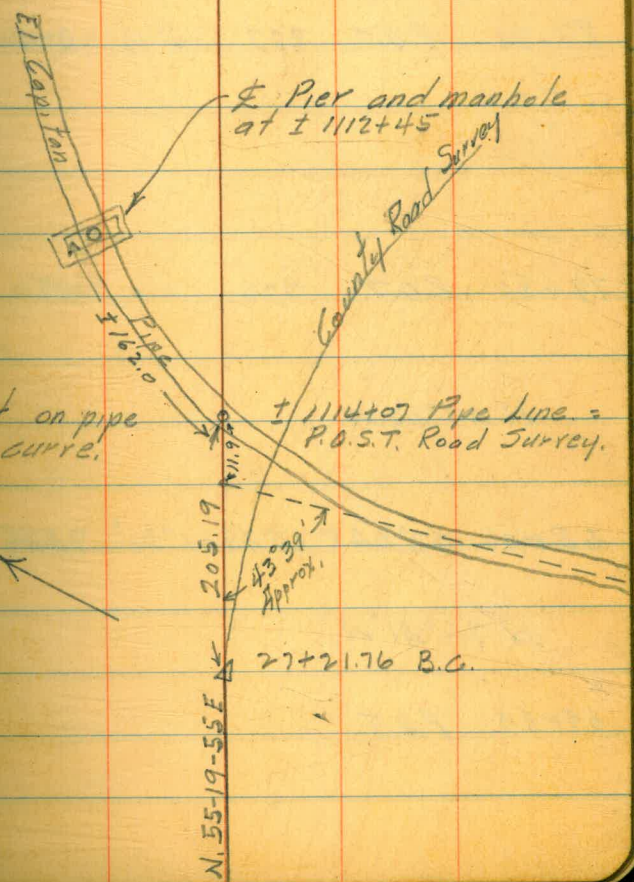
Tie between County Road Survey  
 No. 649 - Alvarado Canyon Road - and  
 El Capitan Pipe Line at ± Sta. 1114+07  
 Reference - County Field Book # 681.

May 6, 1936.  
 Converse  
 Soper  
 Kemmen  
 Isbell.

1112+45  
 1 62  
 1114+07

79203.10  
 27+21.76  
 181.44  
 23.78  
 205.19

Point on pipe  
 line curve.



N. 55-19-55 E  
 27+21.76 B.C.

Alternate stadia survey for  
pipe line from Sta. 65+06 (Page A)  
to El Capitan Pipe Line

Station Hor.  $\angle$  Obs. dist. Vert.  $\angle$  Cor. Dist.

90+46 P.O.T.

H.I. Elev.

396.0

June 15, 1936. Converse. 13  
E.F. Gabrielson  
2030 Union.  
F. 3970  
E.P. McFetridge.  
1625 - Phloxosa Way  
H. 2739.

87+21 P.O.T. 327  $-4^{\circ}13'$  325

5.5 420.0

86+71  
325  
89+96

79+51 P.O.T. 770 00

5.5 420.0

N.  $49^{\circ}07'W$

65+06  $27^{\circ}30'AR$  1445  $-1^{\circ}30'$  1445

5.5 467.7

N.  $76^{\circ}41'W$

59+59 P.O.T.



Station Horiz. Obs. Dist Vert. Cor. Dist H.Z. Elev.

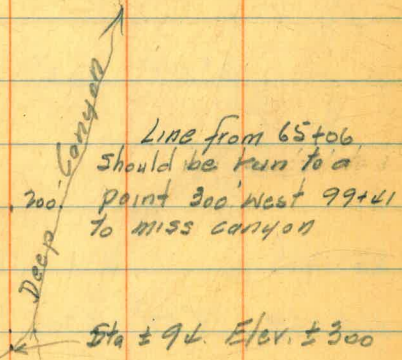
June 16, 1936.  
Converse  
Gabrielson  
McFetridge

114+69

Point on El Capitan  
Pipe Line.

100+73 P.O.T. 1446 +0°15' 1446 5.5 313.0

99+41 P.O.T. 82 00 82 5.5 313.0



90+46 P.O.T. 902 -5°18' 895 5.5 396.0

Station Hor. L. Ob. Dist Vert. L. Cor. Dist

Rod Elev.

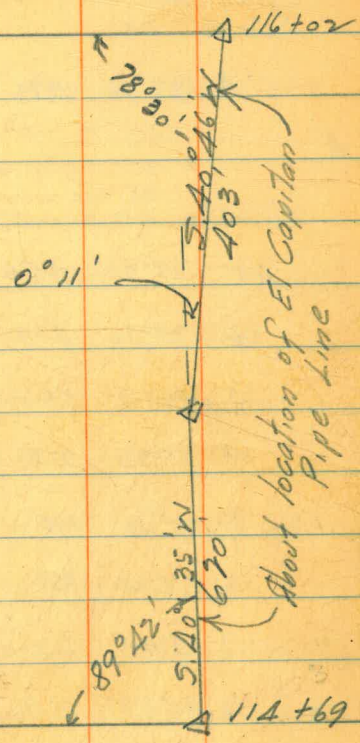
15

Δ 0° 11' R 403' -1° 40'

114+69 89° 42' 620 -0° 16'

100+73

N. 60° 41' W  
Original Survey



N. 49° 07' W  
100+73

From To Hor. Δ Obs. Dist. Vert. Δ Cor. Dist. Rod Dif. Elev. Elev.

N. Con. Mon.

S. Con. Mon. 00

A 27°46' 376 -8°33' 368 -55.3

A 5.0 467.1

N. Con. Mon. 00

A1 19°37' 456 +9°38' 443 +75.3 542.4

✓ 13°26' 200 -0°07' 200 -0.4 466.72

3 44°10' 336 -0°49' 335 -5. 462

4 37°25' 355 +2°53' 357 +16 483

5 33°26' 345 +3°24' 344 +20 487

6 28°25' 367 +6°48' 362 +43 510

7 25°40' 412 +7°23' 405 +52 520

8 21°55' 357 +6°19' 354 +39 506

9 21°25' 347 +5°39' 343 +34 501

10 21°50' 426 +6°31' 420 +48 515

11 20°05' 387 +6°06' 383 +41 508

12 14°55' 496 +10°58' 478 +93 560

Note - All horizontal angles to right from back tangent.

Tues. June 16, 1936 - noon

Fair & Hot.

Converse X  
Gabrielson   
McFetridge +

N end walk on dam.

Monument - 1" x 1" quena

Bot. N slope below dam.

1/2 way up slope

low end of rock pile

top rock pile

wall by dam - ground - 5.5  
to cement.

crook in wall - ground - 5'

W-end wall - ground - 6'

N end of spillway

"

Slope above walk.

From	To	Hor. $\angle$	obs. Dist.	Vert. $\angle$	Cor. Dist.	Rod.	D.E.	Elev.	
A								467.1	path.
13	8° 35'	534	+12° 13'	510			111	578	slope
14	3° 55'	592	+13° 31'	560			134	601	"
15	0° 10'	660	+14° 09'	620			157	624	"
16	356° 30'	712	+14° 12'	669			169	636	"
17	356° 05'	795	+14° 23'	746			192	659	"
18	353° 05'	895	+14° 00'	843			213	680	Top of ridge
19	358° 00'	890	+14° 43'	786			206	673	"
20	4° 00'	875'	+15° 22'	813			223	690	" - highest
21	5° 25'	795	+14° 44'	743			196	663	draw
22	5° 20'	720	+14° 34'	675			175	642	slope
23	14° 05'	725	+14° 53'	677			180	647	"
24	22° 55'	665	+13° 25'	630			150	617	ridge
25	15° 45'	620	+13° 43'	585			144	611	" ✓
26	10° 20'	640	+14° 08'	602			161	628	
27	12° 15'	565	+13° 03'	536			124	591	

From To	Hor. L	Obs. Dist	Vert L	Cor. Dist	Rod	D.E	Elev
---------	--------	-----------	--------	-----------	-----	-----	------

A

							467.1
28	18°20'	580	+12°38'	552	55	124	591
29	23°10'	605	+13°00'	574		132	599
30	25°30'	656	+12°28'	625		138	605
31	29°20'	610	+10°48'	589		113	580
32	25°30'	573	+11°14'	551		109	576
33	19°35'	558	+11°36'	536		110	577
34	12°40'	540	+12°02'	517		110	577
35	21°20'	492	+10°29'	476		88	555
36	25°20'	530	+10°19'	513		94	561
37	28°55'	580	+10°20'	561		103	570
38	31°35'	643	+10°04'	623		111	578
39	26°10'	165	-7°12'	162		-20	447
40	7°00'	155	-11°07'	150		-29	438
41							
42	6°40'	185'	-6°21'	183		-20	447

Wed. June 17, 1936

Fair &amp; Hot.

Converse  $\pi$   
 Gabrielson  $\square$   
 McFetridge  $\dagger$

✓

N stream edge - rock prom.

N-Low edge 10' closer 17' lower.

↓ draw.

"

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Cor. Dist	Red	D.E.	Elev.	
A								467.1	
43	7°35'	207	-2°21'	207			-8.	459	Draw.
44	5°00'	247	+1°46'	247			+8	475	
45	21°05'	272	+1°56'	272			+9	476	end of spill
46	358°45'	264	+3°38'	263			+17	484	
47	341°00'	278	+3°59'	277			+19	486	Old rd.
48	337°20'	240	+0°07'	240			0	467	
49	338°40'	195	-4°16'	194			-15	452	
50	354-30	140	-13°04'	133			-31	436	Bank edge
51	"			123				424	stream bottom -12+10'
52	0°55'	177	-3°15'	176			-10	457	W edge draw
53	349-40	200	-2°03'	200			-7	460	
54	324-40	260	-0°18'	260			-1	466	
55	318°25'	240	-3°46'	239			-16	451	
56	311°20'	215	-8°45'	210			-32	435	
57	304°15'	285	-6°35'	281			-32	435	

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	Rod	D.E.	Elev.	
A								467.1	
58		308°25'	300	-2°45'	300		-14	453	
59		310°20'	305	+1°02'	305		+6	473	
60		318°20'	287	+1°18'	287		+7	474	
61		316°10'	327	+3°10'	326		+18	485	old rd.
62		330°00'	290	+3°55'	289		+20	487	✓
63		350°00'	270	+4°13'	269		+20	487	rd.
64		33°30'	230	-4°38'	229		-19	448	
65		71°30'	280	-3°06'	280		-15	452	
66		37°30'	313	+1°42'	313		+9	476	
67		29°45'	275	+2°21'	275		+11	478	
68		27°45'	308	+3°20'	307		+18	485	
69		16°25'	295	+3°49'	294		+20	487	
70		15°30'	346	+6°02'	343		+36	503	fence
71		3°20'	330	+6°42'	327		+38	505	
72		349°15'	310	+6°24'	307		+35	502	
73		341°05'	320	+6°45'	317		+38	505	

From	To	Hor. L.	Obs. Dist	Vert. L.	Corr. Dist	Rod	D.E.	Elev.
A								467.1
74	329°30'	337	+6°17'	334			+36	503
75	318°20'	370	+5°24'	367			+35	502
76	324°15'	403	+7°29'	396			+52	519
77	336°30'	362	+8°13'	355			+51	518
78	346°35'	350	+8°32'	342			+51	518
79	7°35'	355	+7°15'	350			+45	512
80	16°10'	390	+7°17'	384			+48	515
81	12°45'	423	+9°18'	412			+68	535
82	18°15'	420	+8°37'	411			+62	529
83	10°15'	437	+10°04'	424			+75	542
84	357°30'	390	+10°30'	377			+70	537
85	351°20'	375	+9°52'	364			+63	530
86	341°10'	380	+8°53'	370			+58	525
87	334°40'	385	+9°07'	375			+61	528
88	324°35'	425	+8°15'	415			+60	527
89	328°15'	450	+9°27'	437			75	542

Fence.

Fence



From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod	D.E.	Elev.
A								467.1
90	337°30'	415	+11°11'	399			79	546
91	341°50'	410	+10°33'	397			74	541
92	344°00'	410	+10°36'	397			74	541
93	354°50'	430	+11°36'	413			85	552
94	6°35'	456	+10°58'	440			85	552 ✓
95	5°30'	506	+12°06'	484			104	571
96	359°10'	500	+12°15'	478			104	571
97	354°00'	490	+12°26'	468			103	570
<del>98</del>	<del>347°25'</del>	<del>495</del>	<del>+12°54'</del>	<del>475</del>			<del>108</del>	<del>575</del>
99	347°30'	440	+12°37'	420			94	561
100	341°35'	447	+11°37'	429			88	555
101	337°05'	455	+11°48'	437			91	558
102	332°10'	470	+11°18'	452			90	557
103	326°45'	508	+9°58'	493			87	554
104	319°25'	570	+8°25'	558			82	549

Discarded.

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Red	D.E.	Elev.	
A								467.1	
105	323-55	595	+9°41'	578			99	566	
106	329-55	540	+11°00'	520			101	568	
107	336-05	505	+12°04'	483			103	570	
108	341°50'	485	+12°20'	463			102	569	
109	348°40'	535	+13°16'	507			121	588	
110	355°45'	523	+12°46'	498			112	579	
111	1°55'	525	+12°57'	500			115	582	✓
112	0°00'	555	+13°05'	527			122	589	
113	355°50	540	+14°20'	507			129	596	Rock prom.
114	349°30	544	+13°23'	514			123	590	
115	343°10'	546	+12°50'	519			118	585	
116	337-25	555	+12°27'	529			117	584	
117	332-15	580	+11°26'	558			113	580	
118	337-20	642	+12°18'	613			134	601	
119	343-10	590	+13°09'	560			132	599	
120	350-15	573	+13°57'	540			134	601	

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod	D.E.	Elev.	
								467.1	
A									
	121	355°50'	590	+14°04'	565		+139	606	
	122	359°45'	580	+14°06'	555		+137	604	
	123	356°00'	640	+14°10'	604		+152	619	
	124	349°25'	655	+13°43'	619		152	619	✓
	125	309°30'	356	+2°45'	356		+17	484	rd.
	126	301°20'	415	+1°43'	415		+12	479	"
	127	292°20'	495	+0°34'	495		+5	472	"
	128	288°15'	586	+0°07'	586		+1	468	"
	129	285°10'	510	-1°16'	510		-11	456	
	130	289°40'	447	-1°21'	447		-11	456	
	131	293°00'	426	-2°00'	426		-15	452	
	132	296°50'	396	-1°31'	396		-10	457	projection
	133	301°35'	360	-2°15'	360		-14	453	Hollow
	134	305°40'	320	-1°16'	320		-7	460	rocks - ridge - lower
	135	304°15'	310	-3°51'	310		-21	446	" " "

From	To	Hor. &	Obs. Dist.	Vert. &	Cor. Dist.	Rod	D. E.	Elev.	
A								467.1	
136	298° 05'	356	-4° 15'	355			-26	441	low pt in swale
137	294° 25'	386	-4° 08'	385			-28	439	other ridge - W
138	291° 35'	413	-3° 55'	413			-26	441	
139	288° 50'	425	-4° 08'	424			-30	437	Rt
140	286° 15'	435	-3° 53'	434			-29	438	
141	284° 15'	455	-3° 11'	454			-25	442	
142	284° 20'	483	-2° 22'	483			-20	447	✓
143	285° 10'	520	-1° 08'	520			-10	457	
144	297° 00'	553	+2° 17'	553			+22	489	Contour Break
145	300° 25'	525	+3° 03'	524	10		<sup>cor.</sup> +23	490	Valley
146	303° 25'	470	+3° 41'	469			+30	497	
147	310° 30'	397	+4° 00'	396			+27	494	
148	317° 00'	450	+6° 23'	446			+50	517	
149	311° 00'	480	+6° 02'	476			+50	517	
150	307° 45'	505	+5° 25'	502			+47	514	

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	Rod	D.E.	Elev.
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A

467.1

151	305° 35'	588	+4° 37'	585			+47	514
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152	310° 00'	640	+6° 02'	634			+67	534
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153	316° 15'	550	+7° 36'	541			+72	539
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154	322° 10'	500	+8° 32'	490			+73	540
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155	325° 45'	550	+10° 00'	535			+94	561
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156

N. Conc. Mon.

S. Conc. Mon. 00

522.4

"B"	74° 06'	755	-2° 12'	755			-29.0	493.4
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B

48

493.4

North Mon. 0°-00'

Thurs. June 18, 1936

1	320-50	285	-8° 30'	280			-41	452
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Fair &amp; Warm

2	309-30	305	-8° 38'	300			-45	448
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Converse

3	293-25	268	-10° 48'	260			-49	444
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Gabrielson  
McFetridge

4	275-50	265	-10° 06'	257			-46	447
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X

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From	To	Hor. $\angle$	Obs. Dist	Vert. $\Delta$	Corr. Dist	Rod	D.E.	Elev.	
	B							493.4	
	5	259°15'	312	-8°07'	307		-44	449	rd.
	6	247°45'	400	-5°41'	397		-39	454	
	7	243°00'	465	-4°50'	463		-39	454	
	8	243°50'	525	-4°10'	523		-38	455	Bot. of draw.
	9	236°20'	563	-4°21'	560		-43	450	
	10	235°20'	630	-2°57'	629		-32	461	ridge
Sta. 15+83 <sup>18</sup>		241°20'	628	-2°30'	628		-27	466	Previous Surrey
	11	246°00'	585	-2°29'	585		-25	468	
	12	252°15'	540	-2°32'	540		-24	469	
	13	253°15'	453	-2°30'	453		-20	473	
	14	251°00'	376	-4°07'	376		-27	466	
Sta. 11+87 <sup>08</sup>		261°45'	337	-4°39'	337		-27	466	"
	15	270°45'	305	-4°37'	305		-24	469	Rocks
	16	282°15'	280	-7°47'	298		-38	455	rd. - 6' bank.
	17	300°10'	305	-6°22'	303		-38	455	"
	18	312°20'	350	-4°33'	349		-28	465	

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod	D.E	Elev.	
B								493.4	
19	314°10	412	-1°06'	412			-8	485	
20	305°10	377	-1°12'	377			-8	485	
21	295°50'	335	-1°02'	335			-6	487	
22	284°00	325	-0°40'	325			-4	489	Top rock prom.
23	284°10'	310	-3°54'	310			-26	467	Bot. " "
24	276°15	325	-3°12'	325			-18	475	
25	275°20	355	-0°32'	355			-4	489	Head of draw
26	269°30	335	-1°11'	335			-7	486	Top Rock
27	264°30	390	-0°33'	390			-4	489	
28	259°45	420	-1°08'	420			-8	485	
29	257°45'	496	-0°54'	496			-8	495	✓
30	258°00	565	-0°46'	565			-8	485	
31	253°15	613	-1°00'	613			-11	482	
32	249°40	680	-1°15'	680			-15	478	
33	257°55	656	+0°00'	656			00	493	
34	259°30	570	-0°07'	570			-1	492	

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	Rod	D.E.	Elev.	
B								492.4	
35	263°40'	460	+0°42'	460			+6	499	
36	267°30'	420	+1°04'	420			+8	501	
37	276°30'	385	+1°03'	385			+7	500	
38	293°00'	406	+1°58'	406			+14	507	
39	303°30'	440	+1°25'	440			+11	504	
40	310°15'	486	+1°37'	486			+14	507	
41	313°30'	483	+1°40'	483			+14	507	
42	318°00'	495	+1°27'	495			+13	506	✓ creek
43	319°40'	540	+3°36'	540			+34	527	Int. of path & draw.
44	309°00'	525	+3°07'	525			+29	522	"
45	299°00'	480	+3°13'	480			+27	520	
46	287°45'	480	+3°22'	480			+28	521	
47	282°15'	503	+3°21'	503			+29	522	
48	275°15'	580	+2°56'	580			+30	523	
49	279°50'	645	+3°43'	645	0.8		+37	530	



From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr Dist	Rod	D.E.	Elev.		
B								493.4		
50	292°00	550	+4°41'	548			+44	537		
51	299°10	545	+4°42'	543			+45	538		
52	304°00'	565	+4°47'	562			+47	540		
53	308°30	587	+4°41'	584			+48	541		
54	316°10	580	+4°38'	577			+47	540		
55	318°00'	580	+4°28'	577			+45	538	✓	Gully.
56	320°45'	647	+5°30'	643			+62	555		
57	326°30'	650	+5°06'	646			+58	551		
58	317°40'	635	+5°27'	632			+60	553		
59	313°50'	612	+5°30'	609			+58	551		
60	308°15'	617	+5°36'	614			+60	553		
61	301°00	620	+6°06'	615			+66	559		
62	293°00'	645	+5°49'	640			+65	558		
63	288°45	720	+5°13'	715			+65	558		
64	293°50'	770	+6°14'	762			+83	576		

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod	D.E.	Elev.	
B						5.0		493.4	
	65	297°45'	715	+6°48'	706		84	577	
	66	303°15'	700	+6°56'	691		84	577	
	67	310°15'	700	+6°47'	691		82	575	
	68	316°00'	730	+6°15'	722		79	572	
	69	322°15'	723	+6°27'	715		83	576	
	70	327°00'	740	+6°19'	732		81	574	✓
	71	331°10'	693	+5°46'	628		63	556	
	72	332°45'	665	+6°18'	658		73	566	
	73	332°30'	735	+7°02'	725		89	582	✓
	74	333°00'	815	+7°50'	801		110	603	
	75	329°30'	863	+7°34'	849		112	605	Rod
	76	322°50'	853	+7°52'	838		115	608	
	77	320°20'	880	+7°24'	865		112	605	
C	78	305°08'	1030	+8°00'	1011		142	635	Transit. Pt
D.	79	166°14'	615	+1°36'	615		117	510	" "
D-B		0°00'							

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod.	D.E.	Elev.	
AD						5.3		510	Transit Pt
1	253°30'	447	+10°38'	433			+81	591	Fri. June 19, 1936.
2	242°25'	455	+10°18'	441			+80	590	Fair & Hot.
3	235°00'	443	+9°09'	433			+70	580	Converse $\pi$
4	243°15'	380	+10°05'	370			+66	576	Gabrielson $\boxtimes$
5	252°55'	383	+10°07'	374			+66	576	McFetridge $\dagger$
6	246°00'	270	+8°02'	265			+38	548	
7	233°10'	290	+9°30'	283			+47	557	
8	222°10'	305	+8°05'	300			+43	553	
9	209°10'	276	+5°21'	275			+25	535	
10	216°40'	232	+6°40'	230			+26	536	
11	234°40'	200	+6°13'	198			+21	531	
12	255°50'	190	+8°06'	187			+26	536	
13	208°25'	105	+1°22'	105			+2	512	
14	187°20'	195	+1°50'	195			+6	516	
15	167°30'	202	-2°32'	202			-9	501	
16	189°50'	122	-2°27'	122			-5	505	

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	Rod	D.E.	Elev.
	D							510
	17	169°45'	85	-3°45'	85		-6	504
	18	125°10'	120	-9°00'	119		-18	492
	19	156°15'	135	-7°46'	134		-18	492
	20	157°50'	223	-4°38'	222		-18	492
	21	165°30'	254	-3°38'	254		-16	494
	22	143°10'	250	-7°56'	247		-35	475
	23	139°00'	183	-8°40'	180	10.3	corr -32	478
	24	117°10'	195	-9°03'	191		-30	480
	25	107°45'	300	-8°33'	295	8.3	corr -47	463
	26	100°45'	296	-8°58'	290		-45	465 ✓
D	E	172°44'	226	-1°10'	226		-46	504.4
E	D					5.3		504
	D	0°00'						
	1	59°10'	138	-12°06'	135	8.3	corr -18	486
	2	76°45'	175	-14°10'	168	8.3	corr -47	460

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	D.E.	Elev.
E					5.3		504.
3	68°45'	257	-8°24'	253		-37	467
4	73°30'	310	-9°20'	303		-50	454
5	80°45'	275	-11°23'	266		-53	451
6	87°00'	233	-14°22'	220		-56	448
7	104°00'	217	-13°16'	207		-48	456
8	123°00'	204	-12°57'	195		-45	459
9	145°20'	185	-13°09'	186		-41	463
10	166°50'	196	-11°42'	190	11.3	corr. -45	459
11	169°45'	235	-11°32'	228		-46	458
12	153°20'	280	-10°58'	271		-52	452
13	140°00'	343	-9°55'	334		-58	446
14	139°15'	380	-8°28'	373		-55	449
15	143°40'	435	-7°04'	429		-53	451
16	140°00'	482	-6°29'	477		-54	450
17	131°30'	460	-7°09'	454		-57	447
18	123°20'	495	-6°26'	491		-55	449

ridge.

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	D.E.	Elev.
E							504
19	119° 30'	540	-6° 01'	536		-54	450
20	118° 45'	600	-5° 28'	595		-57	447
21	118° 30'	683	-4° 56'	679		-58	446
22	124° 50'	718	-3° 37'	716		-45	459
23	128° 30'	636	-3° 45'	635		-41	463
24	131° 15'	577	-4° 00'	575		-40	464
25	144° 00'	553	-3° 40'	551		-35	469
26	148° 00'	497	-3° 58'	496		-34	470
27	151° 50'	440	-4° 31'	437		-34	470
28	150° 30'	380	-5° 13'	377		-34	470
29	152° 45'	330	-6° 03'	328		-34	470
30	160° 00'	300	-6° 56'	296		-36	468
31	173° 45'	265	-5° 53'	264		-27	477
32	188° 15'	233	-7° 27'	231		-30	474
33	201° 50'	226	-5° 37'	225	12.3	<sup>corr.</sup> -29	475
34	207° 45'	243	-5° 00'	242	11.3	-27	477

Draw

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.		D. E.	Elev.
E								504
35	191°30'	130	-8°52'	128			-20	484
36	143°15'	90	-13°18'	87			-20	484
37	103°15'	97	-14°21'	93			-23	481 ✓
38	216°20'	80	-3°00'	80			-4	500
39	224°00'	145	-0°49'	145			-2	502
40	228°30'	170	+1°58'	170	13.3	corr	-2	502
41	231°00'	230	+1°28'	230	12.3	corr	-1	503
42	231°00'	287	+0°54'	287	8.3	corr	+1	505
43	232°15'	315	+1°15'	315	9.3	corr	+3	507
44	231°45'	385	+1°17'	385	10.3	corr	+4	508
45	224°10'	380	+0°44'	380			+5	509
46	211°20'	330	0°00'	330			00	504
47	199°45'	295	-0°28'	295			-2	502
48	183°00'	317	0°00'	317			00	504
49	172°00'	350	+0°25'	350			+3	507
50	167°15'	415	+0°05'	415			+1	505

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr. Dist.	Rod	D.E.	Elev.
E								504
51	166°45'	458	0°00'	458	0	00	00	504
52	161°30'	505	0°00'	505		00	00	504
53	158°30'	565	-0°11'	565			-2	502
54	157°00'	630	-0°28'	630			-5	499
55	158°30'	670	-0°17'	670			-3	501
56	165°20'	670	+1°04'	670	7.3		corr. +10	514
57	163°00'	615	+0°43'	615			+8	512
58	166°30'	530	+1°05'	530			+10	514
59	173°10'	475	+1°52'	475			+15	519
60	176°10'	400	+2°21'	400			+17	521
61	184°45'	355	+2°28'	355			+15	519
62	197°30'	380	+3°44'	379			+24	528
63	204°45'	410	+4°04'	408			+28	532
64	214°45'	410	+3°48'	409			+27	531
65	225°15'	437	+3°46'	436			+28	532
66	232°50'	470	+3°16'	470			+26	532

Below rock



From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist.	D.E.	Elev.	
E					5.3		504	
67	236°20'	475	+3°15'	494		+28	532	
68	238°15'	438	+3°45'	438		+28	532	
69	240°10'	360	+5°00'	359	13.3	<sup>corr</sup> +23	527	
70	237°50'	313	+3°32'	313		+19	523	
71	236°45'	258	+3°01'	258		+14	518	
72	242°45'	190	+5°04'	189	9.3	<sup>corr</sup> +13	517	
73	242°30'	125	+5°00'	125		+11	515	✓ Sat. June 20, 1936
74	261°10'	200	+9°07'	196		+32	536	Fair & Warm
75	262°10'	275	+9°06'	269		+42	546	Converse X
76	255°30'	383	+8°13'	373	8.3	<sup>corr</sup> +51	555	Gabrielson <del>EW</del> McFetridge †
77	247°45'	490	+7°38'	484		+64	568	
78	247°30'	585	+7°50'	578	12.3	<sup>corr</sup> +72	576	
79	244°31'	696	+6°31'	690		78	582	
80	244°15'	670	+6°30'	663	11.3	69	573	
81	239°20'	590	+6°07'	585		62	566	
82	235°00'	575	+6°02'	570		+60	564	

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	R.o.d	D.E.	Elev.
E								504
83	229°00'	520	+6°06'	516			55	559
84	222°15'	483	+6°03'	479			51	555
85	244°45'	470	+5°58'	466			49	553
86	209°30'	466	+5°51'	463			47	551
87	203°45'	468	+5°42'	465			-46	550
88	194°00'	440	+5°16'	437			+40	544
89	183°20'	475	+4°33'	472			+37	541
90	178°30'	515	+3°47'	512			+34	538
91	175°15'	580	+3°13'	580			+32	536
92	174°15'	652	+2°54'	652			+32	536
93	172°15'	755	+2°37'	755			+34	538
94	177°00'	768	+3°53'	765			+52	556
95	179°30'	710	+4°26'	707			+55	559
96	183°40'	635	+5°21'	630			+59	563
97	188°45'	547	+5°48'	542			+55	559
98	197°40'	494	+6°14'	490			+53	557

From	To	Hor. &	Obs. Dist.	Vert. &	Corr. Dist.	Red.	D.E.	Elev.
E.								504.
99	209°00	512	+6°35'	506			58	562
100	214°00	555	+7°37'	549			+73	577
101	219°40'	570	+7°31'	561			+73	577
102	226°30'	590	+7°46'	580			+79	583
103	231°40	625	+7°36'	616			+82	586
104	235°31	675	+7°46'	665			+90	594
105	241°00	727	+7°30'	716			+94	598
106	244°45	810	+7°20'	799			+102	606
107	247°00'	880	+7°15'	867			+110	614
108	246°30'	925	+7°19'	912			+117	621
109	247°20'	950	+7°28'	935	8.3		+123	627
110	254°00	610	+9°27'	593	8.3		+96	600
111	254°50	570	+9°37'	555			+94	598
112	260°00'	543	+9°56'	528			+92	596
113	264°45	545	+9°40'	531			+90	594

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Conn. Dist	Rod	D.E.	Elev.
E								504
114	268°10	470	+10°18'	455			83	507 ✓
115	271°00'	320	+10°28'	305			57	561
116	258°00	452	+9°12'	442			71	575
117	280°30	425	+11°23'	410			82	586 ✓
118	278°20	518	+11°20'	500			100	604
119	271°45	560	+10°55'	540			109	608
120	267°30'	655	+10°27'	635	10.3		<sup>Corr.</sup> 112	616
121	258°20'	680	+10°07'	660			117	621
122	248°00	1055	+8°16'	1035			150	654
123	245°40	1000	+8°10'	980			141	645
124	244°00	940	+8°26'	920	7.3		<sup>Corr.</sup> 135	639
125	241°15'	890	+8°47'	870			134	638
126	236°30	808	+9°00'	788			125	629
127	230°50	770	+9°19'	750			123	627
128	224°15'	745	+9°38'	725			123	627
129	217°20	713	+9°40'	694			118	622

	From	To	Hor. $\Delta$	Obs. Dist	Vert. $\Delta$	Corr. Dist	Red.	D.E.	Elev.
									504
E									
	130	210°50'	695		+9°43'	677		113	617
	131	208°30'	715		+9°31'	698		116	620
	132	203°30'	695		+9°35'	677		114	618
	133	196°45'	720		+8°46'	705		108	612
	134	192°15'	765		+8°25'	750		111	615
	135	189°50'	820		+8°00'	805		112	616
	136	187°50'	870		+7°22'	856		111	615

C

4.7

635

June 22, 1936

	1	293°00'	450		-0°44'	450		-6	629
	2	297°20'	563		-0°47'	563		-8	627
	3	287°20'	356		-0°53'	356		-6	629
	4	275°45'	308		-0°22'	308		-2	635
	5	266°50'	245		+0°05'	245		0	635
	6	251°20'	210		+1°58'	210	8.7	corr +8	639 673
	7	267°15'	135		-0°21'	135		-1	634
	8	291°30'	57		-4°01'	57		-3	632

Cool &amp; Cloudy

Converse X  
 Gabrielson  
 Maria Menocal †  
 6759 Wonderland, Encanto  
 Fr. 2746.

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Red	D.E.	Elev.
C								635
	9	60°45'	38	0°00'	38	12.0	corr -8	627
	10	112°15'	103	0°00'	103	11.8	corr -7	628
	11	149°30'	173	+2°07'	173	10.7	corr 0	635
	12	135°45'	250	+0°34'	250	12.7	corr +2	637
	13	115°15'	285	+1°53'	285	14.7	corr -1	634
	14	153°45'	625	+2°46'	625	11.7	corr +23	658
	15	144°30'	620	+1°46'	620		+19	654
	16	135°45'	632	+1°28'	632		+16	651
	17	132°00'	690	+1°24'	690		+16	651
	18	126°00'	730	+1°20'	730		+17	652
	19	121°10'	770	+1°15'	770		+17	652
	20	117°45'	817	+1°02'	817		+15	650
	21	114°40'	875	+0°47'	875		+12	647
	22	111°30'	925	+0°43'	925		+12	647
	23	110°45'	993	+0°38'	993		+11	646
	24	118°10'	987	+2°04'	986		+35	670

From	To	Hor. L	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod	D.E.	Elev.
	C							635
25		122°10'	893	+2°25'	892		+37	672
26		124°50'	822	+2°33'	822		+36	671
27		130°20'	782	+2°56'	781		+39	674
28		137°15'	755	+3°24'	754		+45	680
29		142°45'	722	+3°42'	721		+46	681
30		149°15'	730	+4°00'	727		+51	686
31		157°00'	753	+4°18'	750		+56	691
32		161°00'	755	+4°26'	751		+58	693
33		167°00'	730	+5°00'	726	7.7	<sup>corr.</sup> +60	695
34		170°50'	332	+5°54'	330	7.7	<sup>corr.</sup> +31	666
35		173°30'	233	+6°31'	230		+26	661
36		191°15'	167	+8°44'	164		+25	660
37		222°40'	200	+6°53'	197		+24	659
38		235°40'	278	+4°56'	277		+24	659
39		246°00'	360	+3°44'	360		+23	658
40		259°30'	380	+3°08'	380		+21	656

From	To	Hor. $\angle$	Obs. Dist.	Vert. $\angle$	Corr	Rod	D.E.	Elev.
C						4.7		635
41	269°45'	410	+2°52'	410			20	655
42	270°00'	463	+2°20'	463			19	654
43	283°30'	525	+2°00'	525			+19	654
44	287°00'	580	+1°47'	580			+18	653
45	289°15'	680	+1°26'	680			+17	652
46	289°20'	753	+1°30'	753	8.7		<sup>corr.</sup> +15	650
47	284°20'	757	+3°05'	757	9.7		<sup>corr.</sup> +36	671
48	284°45'	673	+2°58'	673			+35	670
49	280°00'	592	+3°34'	592			+36	671
50	273°40'	542	+4°10'	540			+39	674
51	262°45'	497	+4°52'	494			+42	677
52	254°30'	525	+4°36'	523			+42	677
53	255°45'	595	+4°50'	592	12.7		<sup>corr.</sup> +42	677
54	262°50'	670	+5°41'	664	10.7		<sup>corr.</sup> +60	695
55	263°40'	584	+5°33'	580			+57	692
56	272°20'	594	+5°10'	590			+53	687



From	To	Hor. & Obs. Dist.	Vert. & Corr. Dist.	Rod	D.E.	Elev.
	C					635
57	277°45'	690	+4°39'	637	+51	686
58	281°20'	720	+3°46'	719	+47	682
59	282°15'	775	+3°28'	774	+47	682
60	278°00'	770	+4°34'	767	5.7 corr. +60	695
61	276°30'	697	+4°57'	695	+60	695
62	271°30'	618	+5°28'	614	+59	694
63	281°40'	575	+5°27'	570	+55	690 ✓
64	260°45'	770	+5°25'	764	12.7 corr. +64	699
65	266°45'	670	+5°44'	665	+67	702
66	272°15'	662	+5°36'	657	+64	699
67	275°45'	737	+5°06'	732	+65	700
68	269°30'	722	+5°38'	717	+70	705
69	253°16'	503	+4°30'	500	+39	674
70	245°00'	480	+4°08'	478	+35	670 Saddle
71	234°45'	470	+5°28'	466	8.7 corr. +40	675
72	223°15'	427	+6°37'	422	+49	684

P. From	To	Hor. $\angle$	Obs. Dist	Vert $\angle$	Corr. Dist	Red	D.E.	Elev
	C							635
73	217°00	348	+7°51'	342			47	682
74	198°00	265	+8°58'	260			41	676
75	182°20	310	+7°34	305			41	676
76	178°30'	375	+7°32'	370	10.7		corr. 43	675
77	188°40'	447	+7°20'	442	7.7		corr. 53	688
78	198°30'	387	+8°52'	380			59	694
79	209°00	405	+8°22'	397			58	693
80	220°00	480	+7°45'	472	11.7		corr. 57	692
81	208°45'	565	+8°45'	555	10.7		corr. 79	714
82	201°10	507	+8°53'	497			77	712
83	195°15	515	+8°30	505			75	710
84	194°10'	575	+8°40	563	10.7		corr. 80	715
85	202°45'	637	+8°54'	632			99	734
86	65°45'	115	-9°53'	113			-19	615
87	20°30'	133	-11°30'	129			-26	609
88	339°10	125	-11°50'	121			-25	610

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	Rod	D.E.	Elev.
C						4.7		635
89	305°45'	153	-9°08'	150			-24	611
90	286°00'	200	-5°17'	198			-18	617
91	282°15'	280	-3°24'	280	7.7		<sup>corr.</sup> -20	615
92	297°40'	280	-4°40'	277			-23	612
93	310°30'	307	-5°18'	306			-28	607
94	306°40'	365	-4°10'	364			-26	609
95	300°30'	403	-2°48'	403	8.7		-24	611
96	304°15'	480	-3°03'	480			-25	610
97	305°40'	550	-2°42'	550			-26	609
98	317°20'	600	-5°50'	596			-61	574 ✓
99	313°45'	425	-5°49'	423	10.7		-49	586
100	322°30'	373	-7°56'	367			-51	584
101	311°20'	270	-7°08'	267			-37	598
102	291°00'	258	-6°43'	255			-30	605
103	307°30'	194	-9°48'	189			-32	603
104	341°30'	190	-11°15'	184			-35	600

From	To	Hor. $\Delta$	Obs. Dist.	Vert. $\Delta$	Corr. Dist.	Rad	D.E.	Elev.	
	c							635	
	105	6°45'	210	-10°50'	204		-39	596	
	106	35°00'	223	-10°58'	216		-42	593	
	107	61°15'	250	-10°23'	242		-44	591	✓
	108	316°30'	217	-10°33'	210		-39	596	
	109	330°00'	273	-10°37'	265		-49	586	
	110	347°00'	230	-10°49'	224		-42	593	
	111	179°30'	110	+7°15'	109		+14	649	
	"F"	147°27'	653	+2°55'	652		+332	668.2	Elev of ground
	F					5.1		668	
	1	13°30'	198	-19°14'	178		-62	606	
	2	6°10'	267	-15°27'	250		-68	600	
	3	22°00'	350	-13°27'	332		-79	589	
	4	15°15'	382	-8°27'	374		-57	611	
	5	2°15'	320	-9°05'	313		-50	618	
	6	346°00'	255	-9°06'	250		-40	628	
	7	318°40'	200	-9°45'	195		-33	635	

From	To	Hor. &	Obs. Dist.	Vert. &	Corr. Dist.	Rod	D.E.	Elev.
	F							668
	8	301°15'	190	-7°53'	187	8.1	<sup>corr</sup> -29	639 ✓
	9	284°15'	227	-0°57'	227	7.1	<sup>corr</sup> 2 -6	662
	10	301°20'	276	-0°54'	276		-4	664
	11	313°10'	250	-2°21'	250		-10	658
	12	331°45'	280	-3°18'	280		-16	652
	13	346°00'	310	-4°45'	310		-25	643
	14	355°30'	394	-3°45'	394		-25	643 ✓
	15	324°00'	380	+2°21'	380		+16	684
	16	308°15'	345	+3°46'	344		+22	690
	17	300°15'	388	+3°45'	387		+25	693
	18	286°20'	313	+4°40'	312		+25	693
	19	292°00'	298	+5°24'	292		+27	695
	20	298°20'	405	+4°35'	403		+32	700 ✓

From	To	Hor. $\Delta$	Obs. Dist	Vert. $\Delta$	Corr. Dist	D.E.	Elev.
D					5.1		510
27	56°45'	275	-12°23'	264	9.1	corr. 4 -62	448
28	54°30'	343	-11°38'	330	12.1	corr. 7 -75	435
29	63°50'	418	-10°18'	405	7.1	corr. 2 -75	435
30	73°00'	430	-8°52'	421		-66	444
31	85°00'	460	-8°29'	450		-67	443
32	91°30'	383	-8°28'	375	12.1	corr. 7 -63	447
33	101°50'	360	-8°39'	353	13.1	corr. 8 -61	449
34	115°50'	333	-8°43'	326	14.1	corr. 9 -59	451
35	121°45'	323	-8°55'	316	14.1	corr. 9 -59	451
36	134°15'	257	-9°24'	252	13.1	corr. 8 -49	461
37	134°30'	344	-9°32'	335		-66	454
38	144°15'	400	-7°27'	394	10.1	corr. 6 -55	455
39	153°20'	414	-6°09'	410	14.1	9 -53	457
40	64°15'	403	-10°30'	390		-72	438
41	70°30'	466	-9°19'	455	7.1	corr. 2 -76	434
42	80°00'	490	-8°14'	480	13.1	corr. 8 -76	434

Tues. - June 23, 1936

Fair &amp; Hot

Converse X

Gabrielson

Menocal †

From To Hor. & Obs. Dist. Vert. & Corr. Dist. D.E. Elev.

D

								510	
						corr. 7			
43	89°00'	485	-8°48'	475	12.1	-80		430	
						corr. 4			
44	59°45'	460	-11°10'	443	9.1	-91		419	
45	59°45'	424'	-12°01'	406		-86		424	
						corr. 9			
46	51°45'	360	-12°14'	345	14.1	-84		426	
47	144°30'	620	-6°40'	612		-72		438	
48	141°00'	580	-8°01'	570		-80		430	
49	132°15'	556	-8°30'	544		-81		429	
50	122°15'	580	-8°59'	566		-90		420	
51	117°15'	637	-8°14'	625		-90		420	
52	116°10'	737	-7°00'	726		-89		421	
"G"	133°24'	717	-4°08'	709	5.1	-510		459	Elev. of ground

G

								459	
1	266°15'	108	+2°31'	108		+5		464	
2	140°30'	97	-2°31'	97		-4		455	
3	151°00'	256	-1°08'	256		-5		454	
4	156°00'	247	-0°35'	247		-2		457	

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist	D.E.	Elev.
G					5.1		459
5	178°15'	232	+0°55'	232		+4	463
6	199°30'	256	+2°00'	256		+9	468
7	215°10'	283	+3°27'	282		+17	476
8	229°00'	335	+5°06'	333		+29	488
9	232°15'	390	+6°12'	386		+41	500
10	248°15'	367	+6°23'	364		+41	500
11	244°20'	297	+5°30'	294		+33	492
12	235°45'	216	+4°40'	215		+18	477
13	220°30'	143	+4°00'	142		+10	469
14	178°00'	103	+1°49'	103		+2	462
15	324°00'	412	-1°57'	412		-14	445
16	331°15'	290	-5°16'	288		-26	433
17	351°00'	205	-9°08'	200	12.1	<sup>corr 7</sup> -39	420
18	23°45'	260	-9°33'	253	14.1	<sup>corr 9</sup> -52	407
19	44°00'	270	-9°35'	263	13.1	<sup>corr 8</sup> -52	407
20	59°15'	300	-10°26'	292	7.1	<sup>corr 2</sup> -56	403

step.



From	To	Hor. &	Obs. Dist.	Vert. &	Corr. Dist.	D.E.	Elev.
G							459
21	77°00	316	-10°35'	308		-57	402
22	94°00	345	-9°55'	336		-58	401
23	103°20'	443	-8°12'	435	7.1	corr. -64	395
24	112°30'	467	-7°33'	460		-61	398
25	120°45'	490	-6°28'	484	12.1	corr. 7 -62	397
26	110°00'	515	-7°30'	507	12.1	corr. 7 -73	386
27	100°00'	503	-8°28'	493		-73	386
28	91°15'	497	-8°42'	487		-74	385
29	81°00'	427	-9°40'	416		-71	388
30	68°40'	365	-10°28'	354		-65	394
31	57°15'	330	10°34'	320		-60	399
32	43°00'	285	-9°45'	275	13.1	corr. 8 -56	403
33	35°15'	265	-10°03'	257	14.1	corr. 9 -55	404
34	51°45'	335	-9°58'	325	14.1	corr. 9 66	393
35	67°15'	385	-10°10'	374	8.1	corr. 3 -69	390
36	76°45'	450	-9°45'	440		-75	384

draw

From	To	Hor. &	Obs. Dist	Vert. &	Corr. Dist	Rad	D.E.	Elev.
	6							459
	37	83°40'	516	-8°57'	504		-79	380
	38	92°30'	560	-8°26'	548		-82	377
	39	100°10'	560	-7°53'	550	11.1	corr. 6 -82	377
	40	108°45'	554	-7°54'	544	12.1	corr. 7 -82	377
	41	100°20'	587	-8°01'	577	11.1	corr. 6 -87	372
	42	92°45'	585	-8°02'	575	11.1	corr. 6 -87	372
	43	86°00'	580	-8°37'	568		-86	373
	44	78°30'	535	-9°02'	523		-83	376
	45	75°00'	475	-9°02'	464	11.1	corr. 6 -79	380
	46	6°20'	137	-10°21'	134		-24	435
	47	49°40'	164	-10°30'	159		-29	430
	48	75°45'	185	-10°25'	179		-33	427
	49	113°30'	185	-7°35'	182		-24	435
	50	128°15'	280	-5°27'	278		-26	433
	51	135°20'	313	-4°03'	312	7.1	corr. 2 -29	431
	52	142°45'	460	-2°40'	460	13.1	corr. 8 -29	430

From	To	Hor. $\angle$	Obs. Dist	Vert. $\angle$	Corr. Dist.	Red	D.E.	Elev.
G								459
53	123°45'	280	-6°20'	277			-30	429
54	123°00	377	-6°10'	374			-43	416
55	104°30	367	-8°54'	360			-56	403
56	105°00	297	-8°47'	291	9.1		<sup>corr. 4</sup> -49	410
57	338°00'	223	-7°09	220			-28	431
58	344°30'	262	-5°27'	260			-25	434
59	1°30'	285	-5°22'	283			-27	432
60	8°00'	342	-4°42'	340			-28	431
61	23°00'	322	-6°23'	319			-36	423
62	32°45'	397	-4°52'	395			-33	426
63	37°50'	467	-3°27'	467			-28	431
64	43°00	515	-3°17'	515			-29	430
65	44°15'	565	-3°10'	565			-31	428
66	42°00'	633	-2°06'	633	11.1		<sup>corr. 6</sup> -29	430
67	47°00'	610	-3°48'	609			-40	419
68	49°45'	520	-4°51	517			-44	415

From	To	Hor. $\angle$	Obs. Dist	Vert $\angle$	Corr. Dist	Rod	D.E	Elev.
G								459
	69	46°45'	430	-6°12'	425		-46	413
	70	35°00'	365	-6°33'	361		-41	418
	71	26°30'	320	-7°04'	316		-40	419 ✓
	72	14°40'	305	-7°00'	301		-37	422
	73	3°00'	247'	-8°56'	242		-38	421
	74	31°30'	312	-8°45'	307		-47	412
	75	41°30'	365	-7°53'	359		-50	409
	76	50°45'	417	-7°15'	411		-52	407
	77	54°45'	476	-6°36'	471		-54	405
	78	53°00'	578	-5°25'	573		-54	405
	79	48°45'	650	-4°12'	647	9.1	corr. 4 -52	407
	80	53°10'	675	-5°11'	670	10.1	corr. 5 -66	393
	81	58°15'	600	-6°28'	593		-67	392
	82	61°30'	500	-7°22'	492		-64	395
	83	53°45'	400	-8°32'	392		-58	401
	84	42°10'	345	-9°28'	338		-56	403

From	To	Hor. & Obs. Dist	Vert. & Corr. Dist	D.E.	Elev.
G					459
85	63°20'	430	-9°28' 420	-70	389
86	65°30'	515	-7°47' 506	-69	390
87	59°30'	600	-6°38' 592	-69	390
88	53°15'	675	-5°08' 670	corr 6 -66	393
89	57°00'	696	-5°51' 690	corr 7 -77	382
90	61°45'	630	-7°08' 621	-77	382
91	67°15'	537	-8°04' 527	-74	385
92	71°30'	470	-9°21' 458	-75	384
93	64°45'	408	-10°13' 396	-71	388

topography at Filter Plant site. All points  
taken at 90° to L-2-line.

2/2/42

Soper  
Bowlin  
Davis

59

Sta on L <sup>2</sup> line	Dist	Ver L	Elev. <small>on L<sup>2</sup> line</small>	H.I	Rod	Pt. elev.
54+23 <sup>50</sup> RT#1	2635 (265)	+4°17'	458.4	5.0	5.0	478.1
" 2	514 (516)	+3°35'	"	"	8.0	487.5
" 3	1015 (1020)	+4°09'	"	"	8.0	531.9
54+23 <sup>50</sup> LT#1	132 (134)	-7°34'	458.4	"	5.0	440.9
" 2	487 (498)	-8°47'	"	"	6.0	383.3 <small>draw</small>
55+00-LT#1	73	0°00'	463.5	5.1	9.5	459.1
70+71#1 (#2)	157 (162)	-9°55'	459.1	5.2	5.2	431.6
" 3	120 (135)	-10°47'	"	"	5.2	379.4 <small>draw</small>
55+00-RT#1	240 (241)	+3°27'	463.5	5.1	5.1	478.0
" 2	466 (467)	+2°41'	"	"	5.1	485.4
" 3	977 (980)	+3°21'	"	"	5.1	520.6
56+00 RT#1	922 (924)	+2°53'	466.4	5.2	5.2	512.6
" 2	728 (730)	+2°50'	"	"	5.2	502.5
" 3	256 (257)	+2°25'	"	"	5.2	477.6

	Dist	Vert. L	Elevation L <sup>2</sup> line	H.I.	Red	Pt. elev
56100 Lt #1 (X of Pt #4)	162 (163)	-3°18'	466.4	5.2	5.2	4570
#2	117 (122)	-11°48'	457.0	5.1	6.1	431.6
#3	244 (256)	-12°28'	"	"	11.1	398.0
57100 Rt #1	212. (212)	+2°26'	467.8	5.1	5.1	476.8
#2 (X of Pt #2)	448. (449)	+3°08'	"	"	5.1	492.3
#3	396 (396)	+1°32'	492.3	5.1	5.1	502.9
#4	512 (512)	+1°35'	"	5.1	8.1	503.4
57400 Lt #1	210. (211)	-3°37'	467.8	5.1	5.1	459.3
#2 (X of Pt #2)	299 (301)	-4°26'	"	5.1	5.1	449.6
#3	149 (138)	-13°40'	449.6	5.1	12.1	401.3
58400 Rt. #1	265. (265)	+2°45'	469.2	5.0	5.0	481.9
#2	344 (345)	+3°34'	"	"	5.0	490.4
#3 (X of Pt #3)	430 (431)	+3°14'	"	"	5.0	493.5
#4	215 (215)	-0°15'	493.5	4.9	4.9	492.6
#5	450 (450)	+0°35'	"	"	4.9	498.1

2/3/42

Soper  
Bowling  
Dams

61

	Dist	Vert. L	Elev. on L <sup>2</sup> line	H. I	Ref	Pt. elev
#6	530. (530)	+0°31'		4.9	6.9	498.3
58400-H. #1	171. (171)	-2°57'	469.2	4.9	4.9	460.4
#2 (Not Pt #2)	303. (304)	-3°33'		"	7.9	450.5
#3	35. (37)	-11°46'	450.5	4.9	4.9	443.1
#4	139. (147)	-13°36'		"	10.9	410.9
59400 Rt. #1	364. (365)	+2°49'	468.1	5.1	5.1	486.8
#2 (Not Pt #2)	441. (442)	+2°37'		"	5.1	488.3
#3	158. (158)	-0°02'	488.3	5.1	5.1	488.2
#4	443. (443)	+0°40'		"	5.1	493.4
#5	57.8 (518)	+0°35'		"	7.1	491.4
59400 H. #1	162. (162)	-2°37'	468.1	5.1	5.1	460.7
#2 (Not Pt #2)	240. (241)	-3°35'		"	8.1	450.1
#3	108. (114)	-13°30'	450.1	5.0	5.0	424.2
#4	207. (216)	-11°56'		5.0	5.0	406.4

66400.5 out.



	Dist	Vert L	Elev. on L <sup>2</sup> /inc	H.I.	Red.	Photo
60+50-Rt #1	189 (189)	+2°55'	467.5	5.0	5.0	476.0
#2	317 (317)	+2°03'		"	5.0	478.8
(Not #2)						
#3	151 (151)	+0°15'	478.8	5.0	5.0	479.5
#4	293 (293)	+0°55'		"	5.0	483.5
#5	472 (472)	+0°59'		"	5.0	486.9
#6	600 (600)	+1°05'		"	13.0	482.1
60+50 Lt #1	159 (159)	-2°10'	467.5	5.1	5.1	461.5
#2	358 (359)	-2°49'		"	11.1	443.9
(Not #2)						
#3	143 (149)	-11°13'	443.9	4.9	4.9	415.5
61+50-Rt #1	92 (93)	+4°53'	466.5	5.0	5.0	474.4
#2	285 (286)	+2°59'		"	8.0	478.4
(Not #2)						
#3	169 (169)	-0°42'	478.4	5.0	5.0	476.3
#4	556 (556)	+0°34'		"	5.0	483.9
(Not #4)						
#5	140 (140)	-2°12'	483.9	5.0	10.0	473.5
61+50 Lt #1	201 (201)	-2°39'	466.5	5.0	5.0	457.2
#2	385 (386)	-3°14'		"	10.0	439.8

	Dist.	Vert. L.	Elev. on L2/line	H.I.	Rod	Pr. elev
63+50 Lt #1	447 (448)	-2°23'	465.4	5.0	5.0	446.8
63+50 Rt #1	229 (229)	+1°34'	465.4	5.0	5.0	471.7
#2 (not #2)	561 (561)	+1°10'		"	10.0	471.8
#3	304 (304)	-0°16'	471.8	5.0	5.0	470.4
#4	416 (416)	-0°24'		"	13.0	460.9
67+33 <sup>50</sup> Lt #1	114 (114)	+0°26'	446.4	5.0	5.0	447.3
#2	432 (432)	-1°14'		"	10.0	432.1
67+33 <sup>50</sup> Rt #1	418 (418)	+0°43'	446.4	5.0	5.0	451.6
#2	596 (596)	+0°28'		"	10.0	446.2
#3 (not #3)	720 (720)	+0°30'		"	10.0	447.7
#4	247 (249)	-4°35'	447.7	5.1	5.1	427.9

2/3/42  
Hill  
Super  
Bowlin  
Davis

64

Stadia survey from filler plant to res. site on northern Hillside

Dist Hor L Vert L H.I. Rod Pt. elev

Pt #1 to #5 1179.  
(1211) " " +9°22' 5.0 5.0 694.2 Pt 5

Pt #1 to #4 902.  
(923) " " +8°38' 5.0 5.0 636.5 Pt 4

Pt #1 to #3 656.  
(662) " " +5°35' 5.0 5.0 567.8 Pt 3

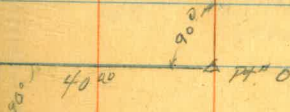
Pt #1 to 2 511.  
(514) 50°19' Lt +4°06' 5.0 10.0 536.3 Pt 2

Pt 0 to Pt 1 481.  
(485) 90° +2°20' 5.0 5.0 499.7 Pt 1  
Elev Pt 0 = 480.

slope about 10%

Pt #5 = end of site

N.E. corner Filler  
Plant site



2/12/42 65  
Super  
Bowlin  
Davis

Transit line from filter plant to Reservoir site  
and to Sect. cor 10-11-14-15

Revised - Page 68

Mag.

N 24° E

4+84<sup>00</sup> L. 50° 19' 64"

0+00 - on East pipeline filter plant.

N.E. Cor.  
Filter plant



Slope Dist Vert L. Corr. Dist. Hor L.

X

168<sup>00</sup> - 6<sup>59</sup>'

X

74.00

130°07'30" Lt

17+92<sup>22</sup> = center of Res. tract.

126.80 + 4<sup>31</sup>' 126.40 ✓

X 16+65<sup>82</sup>

86.52 - 13<sup>28</sup>' 84.14 ✓

15+81<sup>68</sup>

195.00 + 10<sup>58</sup>' 191.44 ✓

X 13+90<sup>24</sup> P.O.T.

152.55 + 15<sup>16</sup>' 147.17 ✓

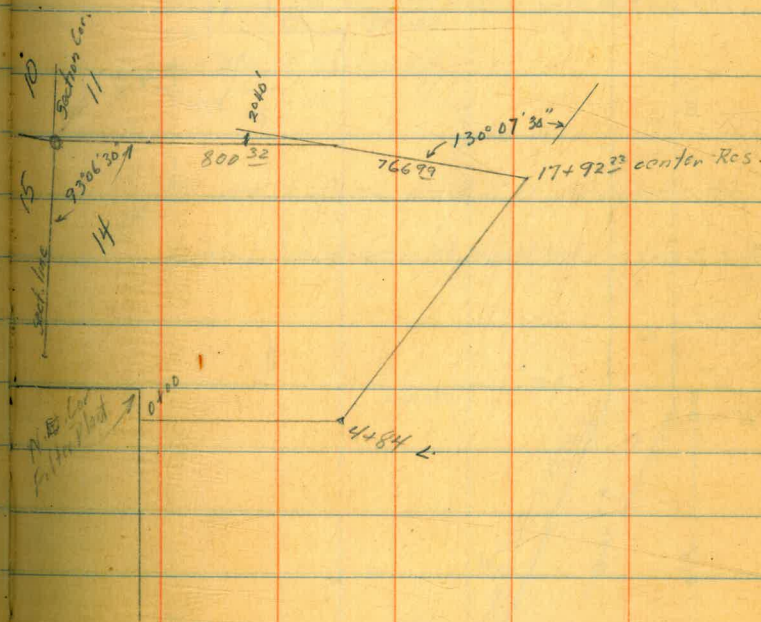
X 12+43<sup>07</sup>

200.04 - 15<sup>10</sup>' 193.07 ✓

10+50<sup>00</sup>

200.00 @ -14<sup>28</sup>' = 193.66  
 200.00 @ + 8<sup>50</sup>' = 197.86  
 200.00 @ - 6<sup>27</sup>' = 198.73  
 11.68 = 10.68  
 200.00 @ 4<sup>04</sup>' = 199.45  
 800.32

94.00 @ 0<sup>00</sup>' = 94.00  
 168.00 @ - 6<sup>59</sup>' = 166.75  
 140.00 @ - 16<sup>55</sup>' = 133.94  
 198.66 @ + 11<sup>06</sup>' = 194.94  
 130.38 @ + 0<sup>54</sup>' = 130.36  
 47.00 = 47.00  
 766.99

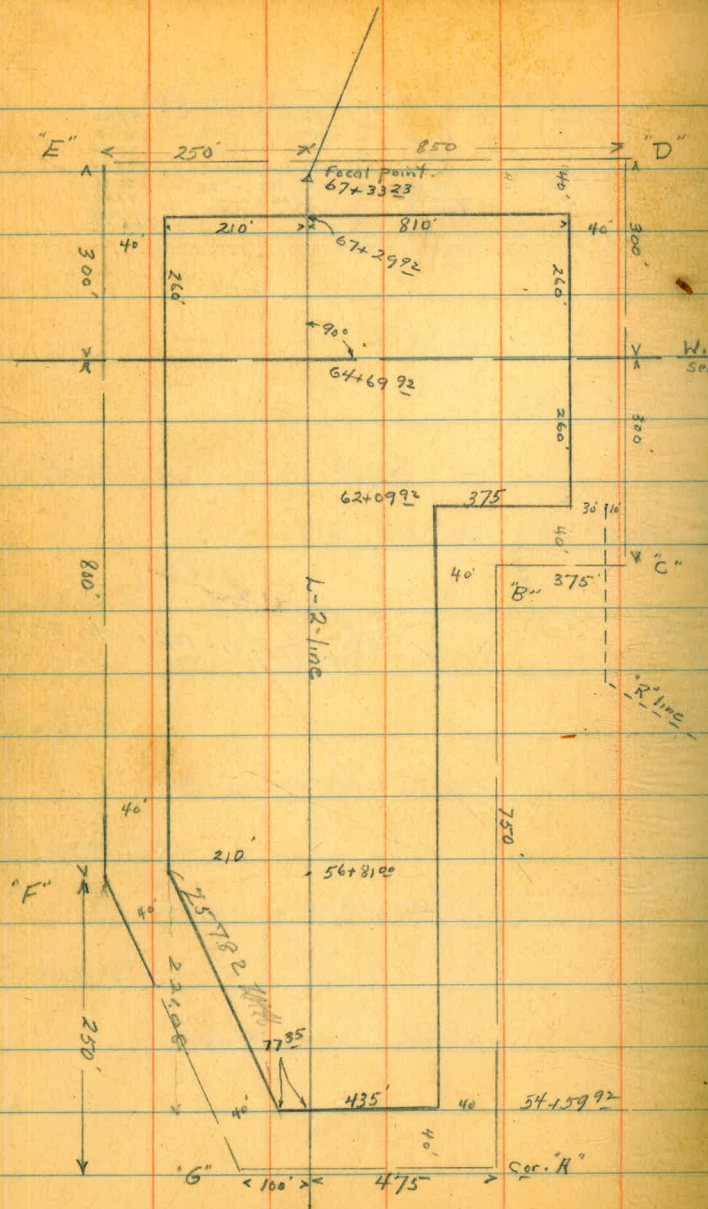


Filter Plant Site

Broken lines outside, are first revision,  
staked Feb. 19, 1942

Solid lines inside are second revision  
staked Feb 25, 1942. Error in chaining found,  
changing sta. of intersection with section line  
and sta. of focal point.

All sides of site are parallel or perpendicular  
to West line of section 14, except between Cor's E. & G.



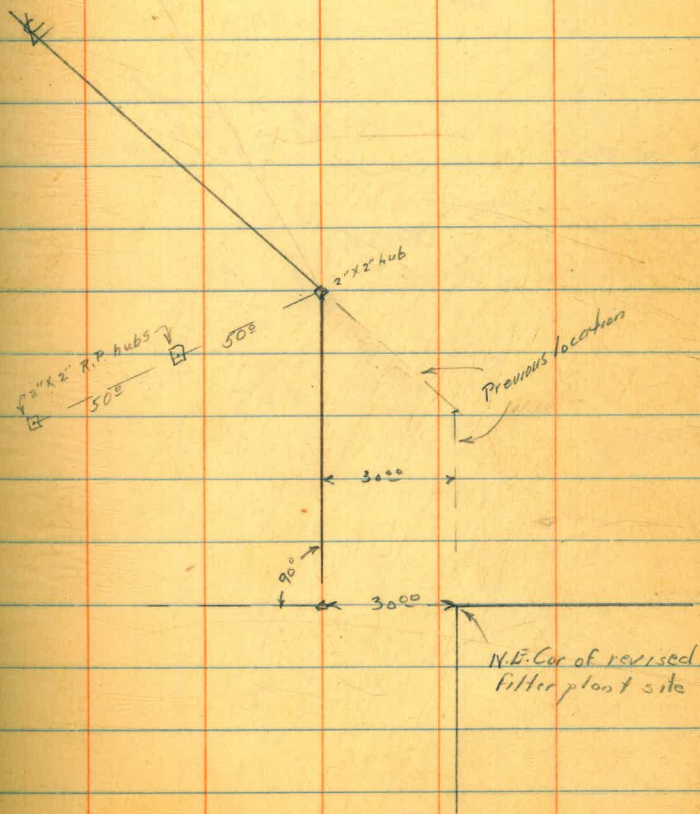
Relocation - R line to Reservoir site -  
N.E. of filter plant site.

4195'  $\angle$  50° 19' 24"

0+00

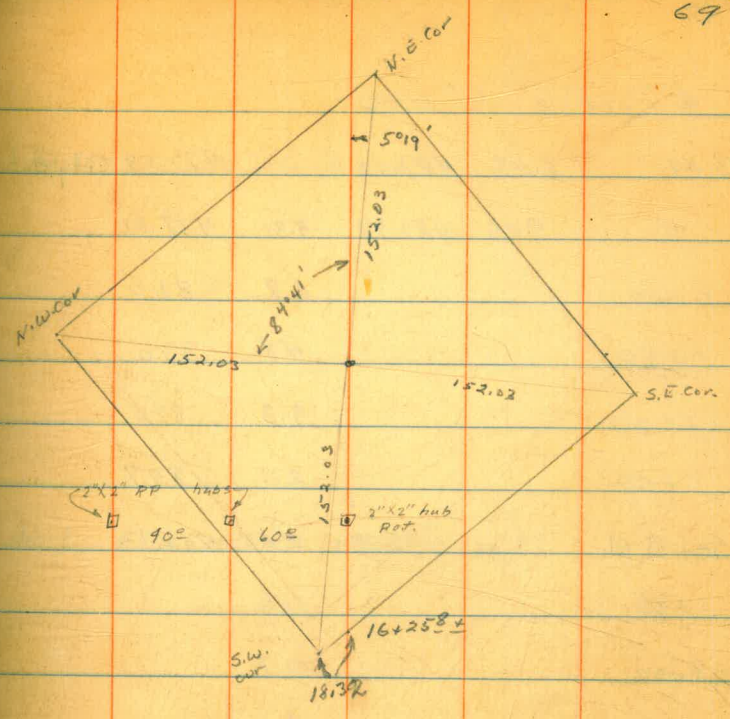
2/26/42  
Soper  
Bonnie  
Davis

68



17+64<sup>88</sup> = center of reservoir site.

16+50 . P.O.T.



\$



3/2/42

70

Super  
Blwin  
Davis

## E Profile - "R" line

B.M.	8.53	481.12		472.59 City datum	Nailing power pole, near "B" line
TP	9.96	487.77	3.31	477.81	
0+00			6.8	81.0	
0+50			4.8	83.0	
1+00			3.3	84.5	
1+50			2.1	85.7	
Set B.M.	13.02	498.74	2.05	485.72	Nail in 2x2 - 25' RT 1+50
1+80			11.6		
2+00			10.7		
+50			8.5		
3+00			6.8		
+50			4.6		
4+00			2.2		
TP	13.01	511.07	0.71	498.03	
4+50			12.1		
+95 <sup>91</sup> - 1			9.7		
5+00			9.4		

511.04

B. 5450

6.3

6400

2.8

150

0.3

IP

12.60

523.32

0.32

510.72

7400

10.1

+50

7.9

Sc 8400

5.1

150

1.5

IP

12.15

535.29

0.18

523.14

9400

8.6

+25

8.9

+38

11.0

H 4500

7.6

+82

0.1

H IP

13.00

547.94

0.35

534.94

10400

9.3

IP

12.89

560.45

0.38

547.56

560.45

10+50			12.1	
11+00			0.6	
TP	12.79	573.18	0.06	560.39
TP	12.92	586.05	0.05	573.13
11+50			12.3	
TP	12.50	598.31	0.24	585.81
12+00			8.9	
TP	13.13	611.19	0.25	598.06
12+35			11.6	
+45			7.9	
+50			6.5	
TP	12.87	623.91	0.15	611.04
13+00			4.9	
TP	12.99	636.42	0.48	623.43
13+50			2.9	
TP	13.03	649.31	0.14	636.28
14+00			6.27	

		649.31		
IP	12.18	661.08	0.41	648.90
14+50			7.8	
IP	12.84	673.31	0.61	660.47
15+00			10.4	
IP	12.68	685.63	0.36	672.95
15+50			12.4	
16+00			1.1	
IP	12.92	698.27	0.28	685.35
16+38.5			5.5	92.8
16+50			4.4	93.9
IP Set B.M.	13.12	710.26	1.13	697.14
17+00			11.1	699.2
+50			6.9	703.4
17+64 <sup>88</sup> center res. site			5.7	704.6
IP	12.83	722.54	0.55	709.71
Ground elev. at K.F. Cor. of site.			1.44	721.10

IP#5 - stadia line - elev. 694.2

Nail in 2x2 47' Pt, 16+85

3/3/42  
Saper  
Bowles  
Davis

74

Topography - reservoir site

Ground elev

N.E. Cor. of site 3.00 724.10 721.10

0+00 3.0 721.1

" 10' west 2.9 21.2

" 52' west 2.4 21.7

" 82' " 4.4 19.7

" 91' west 4.2 19.9

" 99' west 3.0 21.1

" 130' west 2.9 21.2

" 175' west 6.2 17.9

" 215' west 10.4 13.7

TT 4.43 717.22 11.31 712.79

0+50. 2.6 14.6

" 20' west 2.7 14.5

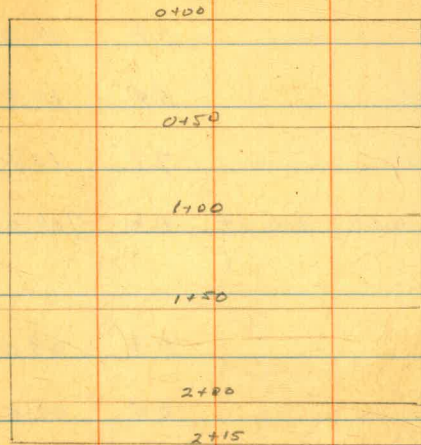
" 40' " 3.8 13.4

" 70' " 3.7 13.5

A  
N

N.W. Cor

N.E. Cor



Note: all measurements taken from East boundary or 0+00

717.22

0450 - 120' west	4.7	712.5
" 152 "	3.2	14.0
" 196' west.	5.4	11.8
" 215' west	7.1	10.1
TP 4.53	710.54	11.21 706.01

1.400 -	2.3	08.2
" 24' west	2.5	08.0
" 50' "	3.2	07.3
" 90' "	5.0	05.5
" 100' "	4.5	06.0
" 140' "	5.5	05.0
" 162' "	6.7	03.8
" 173' "	5.9	04.6
" 195' "	6.7	03.8
" 215' "	7.6	02.9
TP 1.33	703.47	8.40 702.14

703.47

1450			1.3	702.2
"	40' west.		1.3	02.2
"	60"		0.5	03.0
"	85"		2.1	01.4
"	100"		2.6	700.9
"	153"		3.2	700.3
"	215"		7.1	696.4
2300			7.5	696.0
"	22' west		9.2	94.3
"	56"		8.9	94.6
"	93"		6.1	97.4
"	133"		6.5	97.0
"	170"		9.1	94.4
"	215"		12.4	91.1
TP	2.15	699.29	6.33	697.14

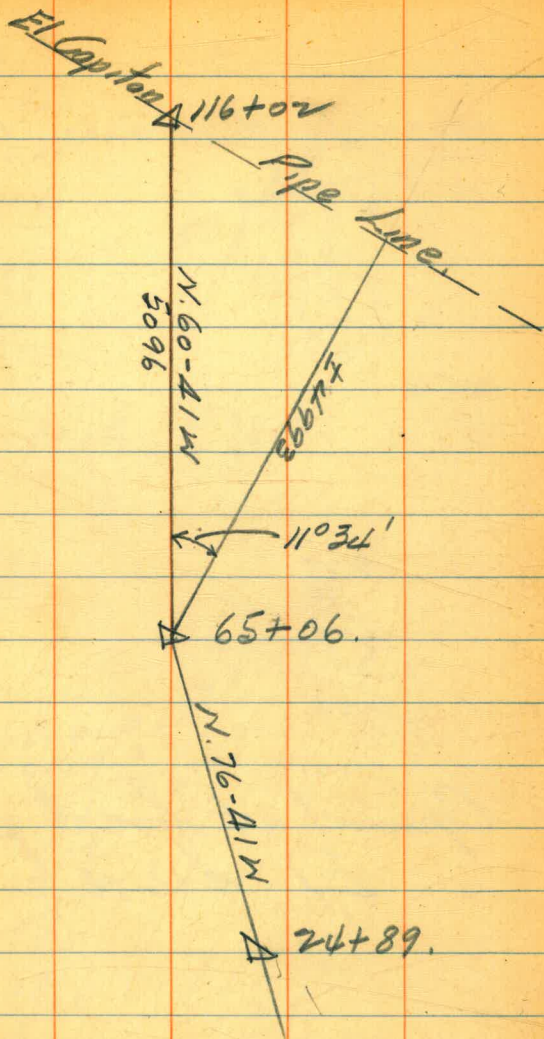
New page

ck on B.M. Rec. elev. = 697.14

699.29

2+15		4.9	694.4
"	15' west.	8.1	91.2
"	19' "	7.1	92.2
"	47' west.	6.5	92.8
"	65' "	7.2	92.1
"	100' "	3.6	95.7
"	142' "	3.7	95.6
"	185' "	9.0	96.3
"	215' west.	10.5	88.8





3409 to dam axis H.L. 52  
 Vert  $\Delta + 14^{\circ} 29'$

Dam axis

238

-1° 17'

-1101

Sta 22+69 633+77

3.27  
 .54  
 130.8  
 1635  
 17658

Ground at focal pt.  
 El. 446.4

92  
 25 0970 11 133  
 115 2030 5 1055  
 16 2.75  
 5.27  
 1.5

7.0 top  
 3.86 bot.  
 513 ±

79+01  
 7 70  
 86 71 51.9

28.62  
 50 | 1430  
 100  
 4300  
 40000  
 8

5.55-20 W  
 23 39  
 5 11-41 W  
 65+06  
 13 95  
 79+01

16+38.48  
 27.64  
 16+66.12

76-41  
 27-34  
 49-07

56481.00  
 545992  
 221.08

418400  
 3955  
 571355  
 49591  
 2761

19.7  
 60 | 1180  
 60  
 580  
 540  
 400

23.4  
 60 | 1430  
 120  
 230  
 1800  
 5000

