

W 303

CAST

303

LEVEL BOOK

No. 380F

F  
MICROFILMED #303  
JAN 12 1965

130 225+536  
30" Take off 228+50  
1267 244+51

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(floor)  
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original notes

Readings on Gauging Stations-San 47-51  
Dieguito Conduit. Nov. 1930

Lake Hodges, San Dieguito Conduit

x section & gauging sta. thru reconstructed 53-57  
portion

Bench Levels along conduit  
from Hodges to San Dieguito

Sta.	+S	M.I.	-S	Elev.	Profile Elev.
B.M.	263	266.63		267.00	
B.M. <sup>#1</sup>			12.79	253.81	
	269	262.53			
0+34.8			9.65	252.88	
B.M. <sup>#2</sup>			3.09	259.77	
B.M. <sup>#3</sup>			6.01	256.52	
	686	263.38			
B.M. <sup>#4</sup>			7.68	255.70	
	531	261.01			
			7.95	253.06	253.13
B.M. <sup>#5</sup>			5.28	255.73	
	467	260.40			
B.M. <sup>#6</sup>			4.65	255.76	
	470	260.46			
B.M. <sup>#7</sup>			5.07	255.42	
	715	262.57			
			10.30	252.27	252.25
B.M. <sup>#8</sup>			7.54	255.03	
	357	260.60			
B.M. <sup>#9</sup>			5.80	254.80	
	367	258.77			
" <sup>#10</sup>			7.92	254.05	
	581	259.86			
" <sup>#11</sup>			6.05	253.81	
	490	258.71			

Parton  
Hill-notes  
Elliot-T  
Simpson-rod  
Walton-tape

Rain 9/6/29

1

Cross on concn wall under spillway  
Cross on concn at sta. 0+32

End of 36' wood stave <sup>top</sup> pipe at concn wall  
Near end of W.S. top concn 3+36

Bot. of conduit at 14+

Bot. of conduit at 30+ Trestle 6

	258.71		
B.M. 12		5.42	253.29
	5.10	258.39	
" 13		5.19	253.20
	4.99	258.19	
" 14		5.11	253.08
	4.40	257.48	
" 15		5.03	252.95
	7.13	259.58	
		10.29	249.29 249.47
" 16		7.39	252.19
	7.29	259.48	
" 17		7.76	251.72
	5.24	256.96	
" 18		5.58	251.38
	4.72	256.10	
" 19		4.96	251.14
	4.73	255.87	
" 20		5.04	250.83
	5.99	256.82	
		9.21	247.61 247.83
" 21		6.45	250.37
	6.02	256.39	
" 22		6.45	249.94
	4.61	251.55	

Bot. of conduit Tr. 22

Bot. of conduit Tr. 28

	254.85					
B.M. #23		4.71	.249.84			
	5.59	.255.43		246.81	Bot. of conduit at 131+36	
		8.90	.246.53			
" #24		5.71	.249.72			
	6.39	.256.11				
" #25		6.26	.249.86			
	3.70	.253.55				
		7.43	.246.12	246.40	" " " " 139+74	
" #26		3.83	.249.72			
	6.04	.255.76				
" #27		5.84	.249.92			
	8.30	.258.22				
" #28		8.58	.249.64			
	5.31	.254.95				
" #29		5.30	.249.65			
	5.40	.255.05				
		10.23	.244.82	245.01	Bot " " " 178+68	
" #30		5.37	.249.68			
	1.43	.254.11				
" #31		4.30	.249.81			
	3.95	.253.76				
" #32		3.94	.249.82			
	6.41	.256.23				
#33		6.09	.250.14			
	4.57	.254.71				
		11.04			Bot. " " at edge of Sand Trap at Siphon 15' back of inlet	

	254.71		
B.M. 34		4.94	249.77
	0.28	250.05	
T.P.		12.74	237.31
	1.06	238.37	
		12.65	225.72
	1.14	226.86	
T.P.		12.69	214.17
	0.85	215.02	
T.P.		12.82	202.20
	1.41	203.61	
B.M. 35		2.38	196.23
T.P.		1.30	202.31
	12.98	215.29	
		0.55	214.74
	12.68	227.42	
		0.56	226.86
	12.97	239.83	
		0.63	239.20
	12.31	251.51	
		2.75	248.76
	5.78	254.54	
B.M. 36		4.14	250.40
		11.81	242.73

Hodges & Olverham roads  
Nail in Pow. pole 50' N. of intersece of

Top of coner. 4'x4' M.H. Sta. 221+86  
How line

	254.54			
T.P.		11.48	243.06	
	2.79	250.85		
B.M. 37		0.77	250.08	
	5.18	255.26		
		13.10	242.16	
" 38		5.18	250.08	
	7.81	257.89		
		16.11	241.78	241.94
T.P.		10.08	247.81	
	5.39	253.20		
		12.27	240.23	
B.M. 39		3.28	249.92	
			240.23	
			9.7	
			249.63	
			240.23	
			10.59	
B.M.			250.82	

At syphon

Bottom of Ditch 20' W. of Syphon Outlet.

Bot. of conduit at end of concr. 239+50

Surface of Lake  
Top of concr. conduit wall, N. side, at end of conduit sta. 239+50

Elev. at 250.0 mark on gage near spillway of dam

Top of belt on well at gage

Level Notes checked  
9/12/19 - W.B.C.



X-sec's + profile of conduit  
from Hodges to San Dieguito

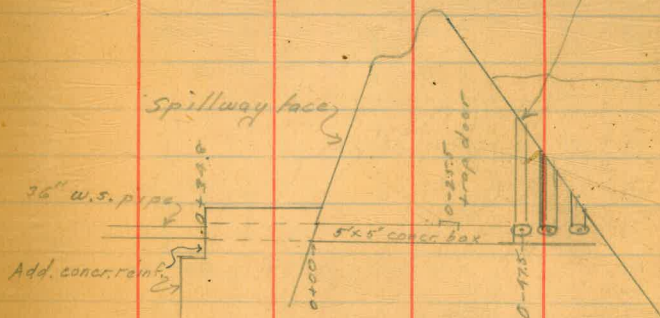
B.M.	0.96	264.96	264.00	cross on strut near inlet.
0-25.5		10.94	254.02	Flow line of
0-47.5		2.91	262.05	

B.M. 2	2.98	262.12	259.44	
0+34.8		9.54	252.88	
3+07.5		5.5	256.92	

Parker cloudy 9/7/29  
Hill  
Elliot  
Simpson  
Walton

Concr. conduit from inlet to face of spillway?  
Measured at trap door, sta 0-25.5 (0+00 = face of spillway)  
First stand pipe = 0-47.5

June 1st stand pipe + valve



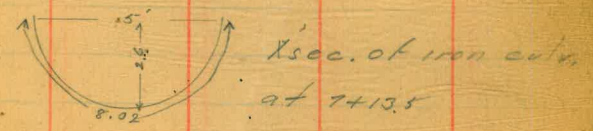
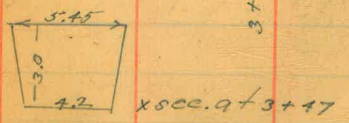
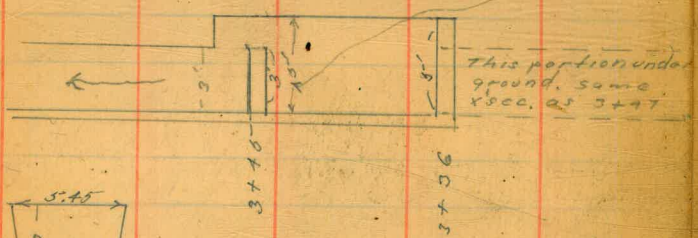
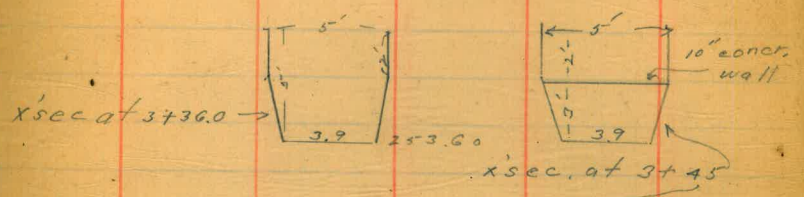
Top of 10" concr. wall at 3+30

Top of 36" wood stave pipe at face of <sup>wall</sup> concr.

" " " " " " junction with concrete conduit.

262.72

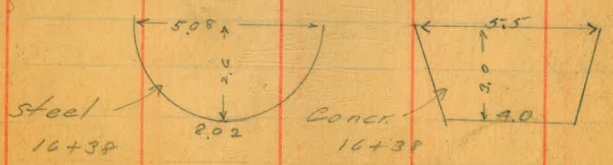
3+30	8.80	253.61	Flow line
3+50	8.80	253.82	" "
3+50	5.80	256.62	top of conduit
3+50	6.21	255.51	water surface



7+13.5

B.M. #4	5.17	260.87	255.70
46+38	7.97	252.90	252.90
46+38	6.10	254.77	252.80
			Flow line
			water surface

Cross on Conduit Wall Sta. 17+50

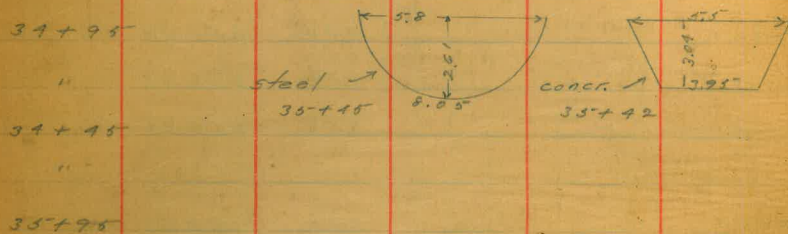


B.M. 8	5.24	260.27	255.03	
35+45		8.18	252.09	Flow L. at (water)
35+45		6.36	253.91	Surface
34+95		8.36	251.91	Flow line
34+95		6.30	253.97	Surface
34+45		8.26	252.01	Flow line
31+15		6.21	254.06	Surface
33+95		8.45	251.82	Flow line
35+95		6.41	253.86	Surface

Note above readings taken where conduit makes nearly a right angle at sta 35+45

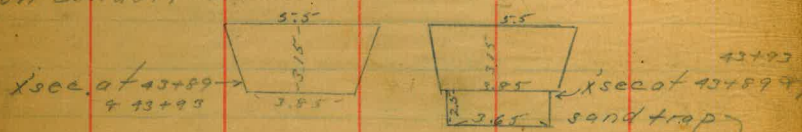
B.M. 10	5.57	259.62	254.05	
43+89		8.72	251.20	Flow line
43+89		10.92	248.70	bot. sand trap
43+89		6.52	253.10	water surface
43+89		5.31	254.31	top of wall
43+94.7		8.52	251.10	Flow line
44+04.7		12.42	247.20	" 42" pipe
44+04.7		6.50	253.12	water surface
44+04.7		5.30	254.32	top of wall

Cross on conduit wall sta 33+84  
35+45 angle pt. in conduit

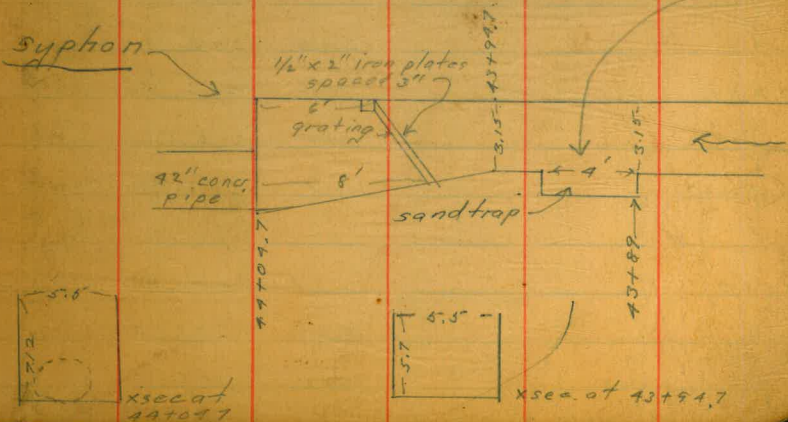


Note heavy grass growth in syphon

X on conduit 48+55



syphon



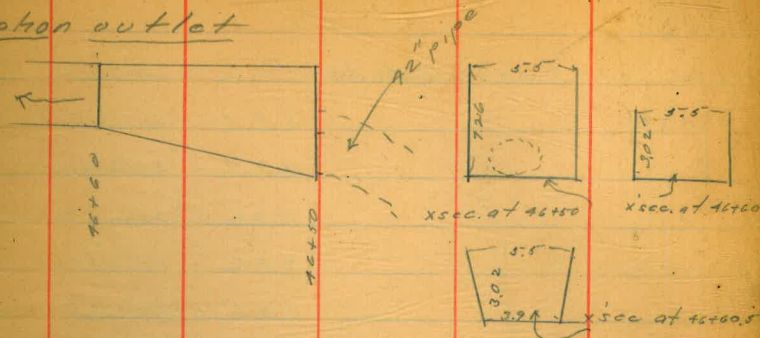
259.62

46+00	12.65	246.97	flow line
46+35.0	5.99	254.23	top of wall
46+50	6.67	252.93	water surface
46+60.5	8.18	251.14	flow line
46+60.5	6.72	252.90	surface
46+60.5	5.16	254.16	top of wall
48+90	8.72	250.90	flow line
"	5.67	253.95	top of wall
"	6.83	252.77	water surface
49+00	13.02	246.60	flow line at pipe
"	6.81	252.81	water surface
"	5.60	254.02	top of wall

9/9/27

R.M. 11	4.50	258.31	253.81
51+95	End of 42" pipe	4.50	253.81
"		5.70	252.61
"		12.43	245.88
52+05		7.38	250.93
"		5.71	252.57
"		4.47	253.84
53+09		7.73	250.58
"		4.68	253.63
"		5.78	252.53

## siphon outlet



siphon - same dimensions as previous

Gross on conduit sfo, 56+95

Top of wall

Water surface

flow line at pipe

flow line

water surface

top of wall



x sec at 55+09

portion  
begin. of covered

siphon outlet same as prev.

B.M. #14	128	257.26	253.08
71+38		7.81	259.55
"		4.74	252.62
"		5.92	251.44
71+48		4.72	252.64
"		5.90	251.46
"	Begin. 42" pipe	12.34	245.02
B.M. #15	501	257.46	252.45
73+50		4.91	252.55
"		6.12	251.34
"	End of 42" pipe	11.92	245.54
73+60		5.03	252.43
"		6.12	251.34
"		8.05	249.41
B.M. #19	379	254.93	251.14
100+70.7		3.80	251.13
"		4.73	250.20
"		6.87	248.06
100+79.7		3.79	251.14
"		4.73	250.20
"	Begin. 42" pipe	10.84	244.09

X on conduit at sta 70+14±

Flowline

top of wall

water surface

top of wall

water surface

Flowline

X on conduit sta 74+80

top of wall

water surface

Flowline (partly clogged with sand,  
grass, not sure of elev.)

top of wall

water surface

Flowline

Syphon same  
dimens. as prev.

X on conduit sta 99+80±

top of wall

water surface

Flowline

top of wall

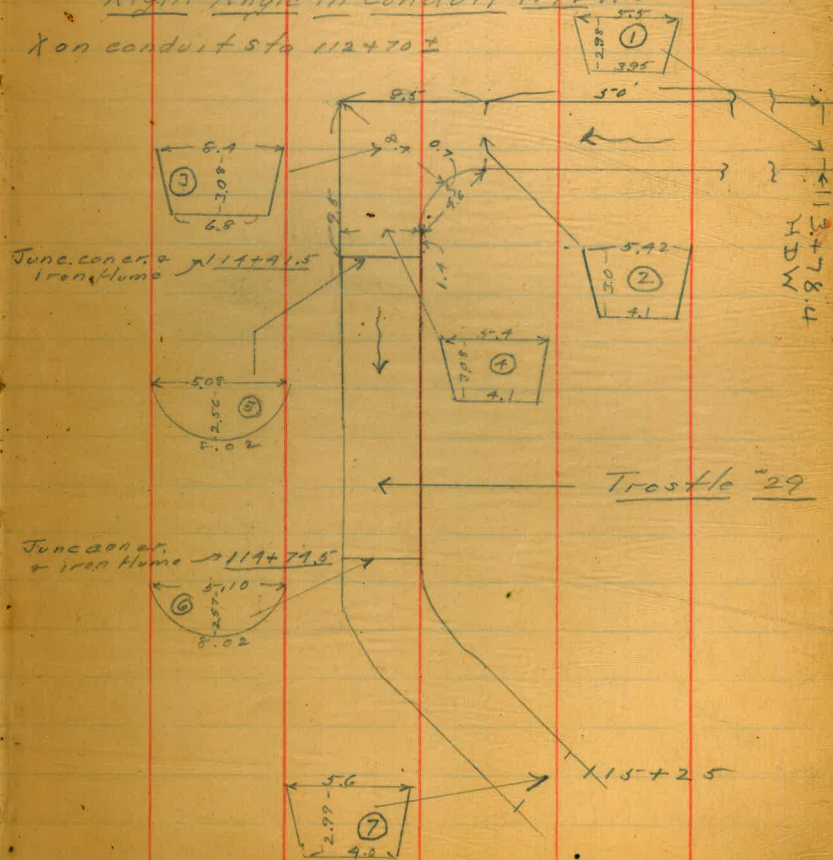
water surface

Flowline

Syphon same as prev.  
except being on about  
a 14 rad. curve.

		254.93	
102+29		4.00	250.93
"		4.86	250.07
	End of 12" pipe	10.35	249.58
102+37		4.07	250.86
"		4.87	250.06
"		7.05	247.88
B.M. 21	7.58	254.95	250.37
" 1	7.57		247.38 Flow L
" 1	5.17		249.78 water sur
" 2	5.19		249.76 water sur
" 2	7.58		247.37 Flow line
" 3	5.17		249.76 water sur
" 3	7.60		247.35 Flow L
" 4	5.20		249.75 water sur
" 4	7.60		247.32 Flow L
" 5 Sta. 114+41.5	5.22		249.73 water sur
" 5	7.58		247.37 Flow L
" 6	7.60		247.35 Flow L
" 6	5.23		249.72 water sur
" 7	7.57		247.38 Flow L
" 7	5.23		249.72 water sur

top of wall      syphon outlet 102+37  
 water surface  
 flowline - partly clogged with sand & grass  
 top of wall  
 water surface      same as prev. except  
 flowline      syphon box on 14' rad. e.  
 Right Angle in conduit 114+41.5  
 X on conduit sta 114+70 ±

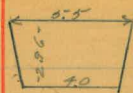


B.M. 23	3.83	253.67	249.84
126+97	3.90	249.77	top of wall
"	4.15	249.52	water sur.
"	6.86	246.81	Howline

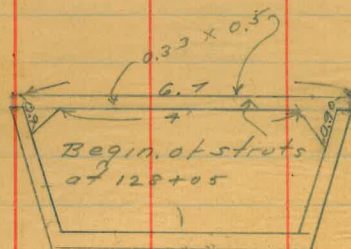
128+05 begin. of 0.33x0.5 cross struts, spaced about 6' c. to c.

B.M. 25	5.32	255.17	249.85
135+36	5.32	249.85	top of wall
"	5.69	249.18	water sur.
"	8.79	246.38	Howline

B.M. 25	5.16	255.01	249.85
139+48	5.29	249.72	top wall
"	5.56	249.45	Water sur.
"	8.84	246.17	Howline

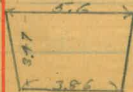


X sec. of 126+97

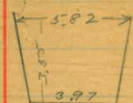


inside width at top 5.5

X on conduit sta. 137+86



X sec. of sta. 135+36



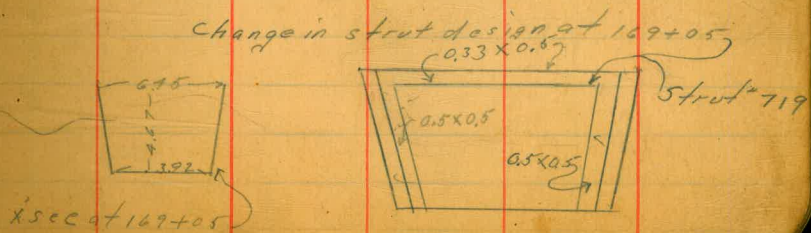
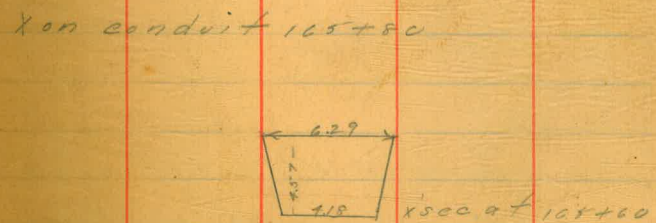
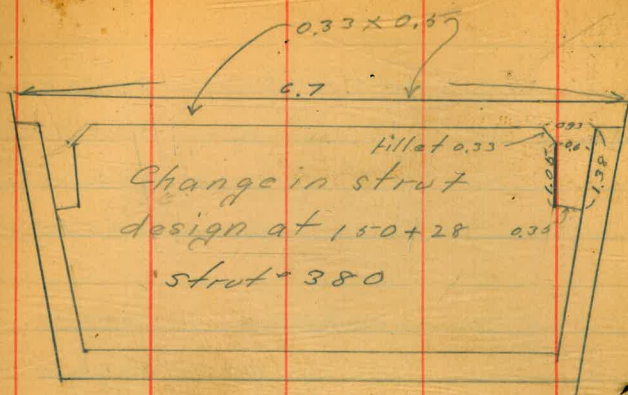
X sec. 139+48

1650+28

B.M. 27	4.89	254.81	249.92
154+48			4.89
"			5.45
"			9.24
			249.92 top wall
			249.36 water sur.
			245.57 flow L

B.M. 28	5.10	254.74	249.64
105+60			5.00
"			5.49
"			9.57
			249.74 top wall
			249.25 water sur.
			245.17 flow L

B.M. 29	5.16	254.80	249.64
169+05			4.98
"			5.48
"			9.65
			249.82 top wall
			249.32 water sur.
			245.15 flow L





B.M. 30	5.17	255.15	249.68	
179+00		5.40	249.75	top wall
"		6.29	248.86	water sur
"		10.34	244.81	flow L.

non conduit 180+89



Xsec. of 179+00

B.M. 31	5.07	254.85	249.81	
186+00		4.95	249.90	top wall
"		6.30	248.55	water sur
"		10.14	244.71	flow L.

non conduit 188+85



Xsec of 186+00

B.M. 31	5.28	255.09	249.81	
192+02.7		10.62	244.47	flow L.
"		5.13	249.96	top wall
"		6.84	248.25	water sur
192+06.7		11.22	243.87	flow L.

Syphon



Xsec of 192+02.7



Xsec of 192+10.7

192+10.7		5.34	249.75	top wall
"		6.85	248.24	water sur
"	Begin. 4" pipe	11.80	243.29	flow L.

Syphon intake



12" pipe

192+06.7

192+10.7

	255.09		
194+02.0	5.25	249.84	top wall
"	7.06	248.03	water surf.
" End of 12" pipe	10.78	244.31	flow line
194+10	10.80	244.29	"



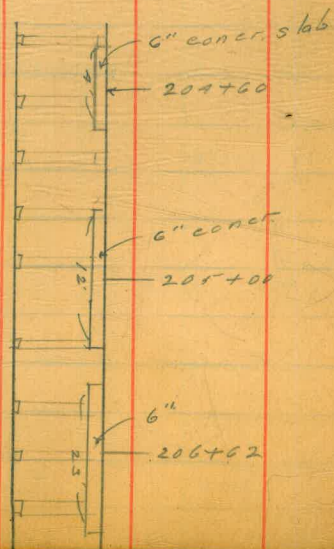
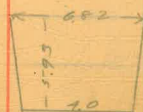
Note no break in grade at outlet



199+50

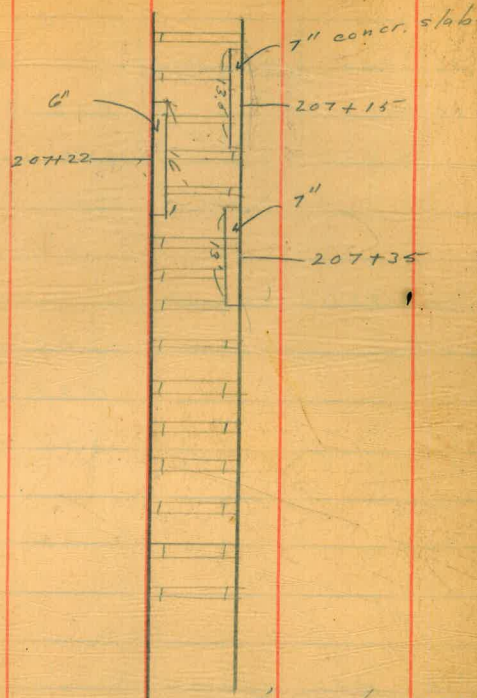
B.M. 32	C.48	256.30	249.82	
202+00		6.28	250.02	top wall
"		8.76	247.54	water surf.
"		12.21	244.09	flow line

x on conduit Sta 196+67



B.M. 34	5.34	255.11	249.77	
210+73.5	5.23	249.88	249.88	top of wall
"	8.27	246.84	246.84	Water sur
"	11.40	243.71	243.71	Flow L
210+88	5.23	249.88	249.88	top wall
"	8.30	246.81	246.81	water sur
"	14.38	240.73	240.73	Flow line

Begin 12" pipe



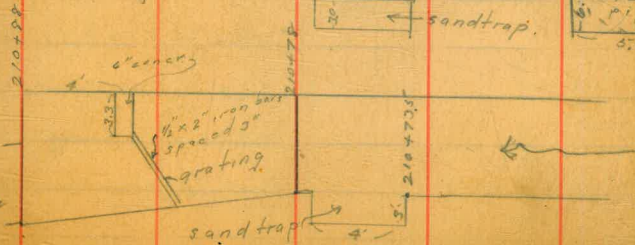
siphon

X on conduit at siphon 210+87

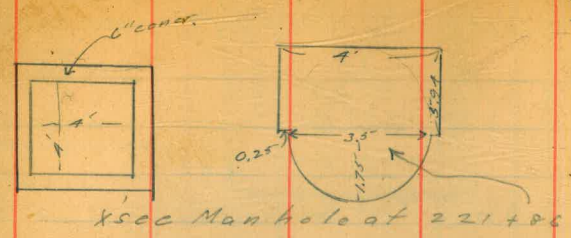
X sec. at 210+73.5 = 210+77.5

X sec. at 210+73.5

X sec. at 210+88



B.M. 36	4.35	254.75	250.10	top of wall	221+86
221+86			8.32	watersurf	
"			12.05	flow line	
"			9.35	top of wall	



B.M. 37	3.36	253.44	250.08		
228+60			12.00	Flow line	228+60
"			7.33	watersurf	
"			3.36	top of wall	
221+90			11.20	flow line	

on wall 228+60 Note strut 1428 at 228+60



B.M. 38	1.10	254.78	250.08		
234+00			4.19	top of wall	
"			9.43	watersurf	
"			12.33	flow L.	

X on conduit 235+65



ELWS - below gate

B.M. 39	4.96	254.88	249.92		
			4.96	top of wall	
			10.33	water surf	
			13.10	flow L.	
<u>Profile Elev. 241.94</u>					

X on wall at end of conduit sta 239+50



Details and Add. Sections of  
San Dieguito Conduit Sept. 25, 1929.

B.M. #37

2.77 252.85

6.68

6.73 246.12

6.78

7.46

7.39 245.46

11.28

10.67 242.14

10.71

2.80

2.81 250.04

7.34

2.74

250.08

Water Surface in  
Air Vent  
W.S. at End  
of Syphon  
W.S. above  
Flash board  
W.S. below  
Flash board  
W.S. 12' below  
Flash board  
Flow Line at  
End of Syphon  
Flow Line at  
Flash board  
F.L. 12' below  
Flash board  
Gauging Pnt.  
Top of wall above  
Flash board  
Top of flash bd.  
Top of Air Vent

1-2"x6" Flash Board  
not in below Top Flash Board.  
2"x6" Flash Board  
Check  
See next page for  
Detail

#1430

#1432

Floor

#1430

Floor

#1432

#1430

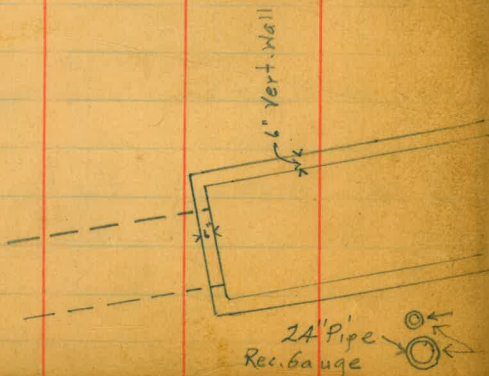
Note: Flow into side conduit 1.695 Cubic Ft. per second.

2.75 250.10

Top of Wall  
at end of Syphon

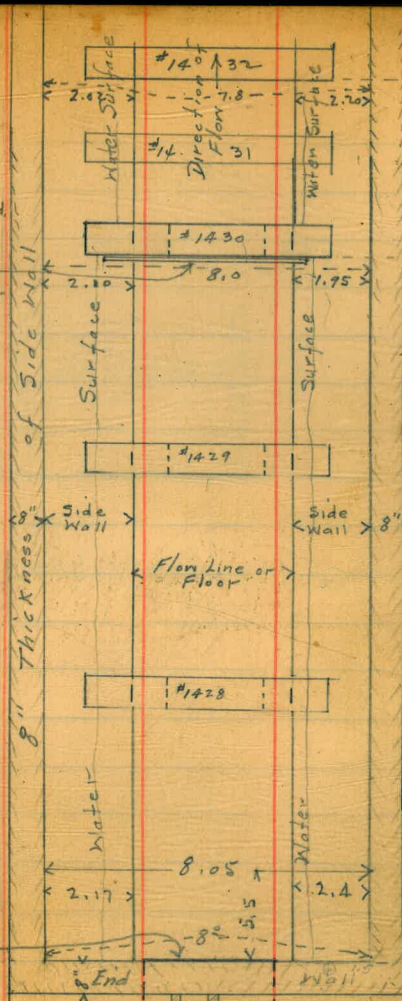
15' from N.W. Cor. of Wall.

42" Gate  
End of Syphon

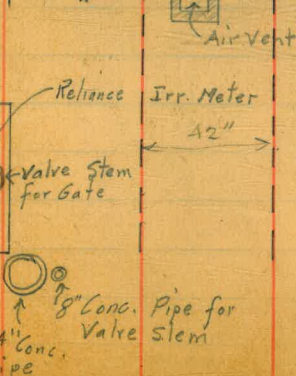


Water Gauge  
- Not in Use

Notes by  
Geo. Converse 9/25/29



8" Thickness of Side Wall



18

234400  
End  
Bridge

233195  
Begin  
Conc.  
Bridge

233186  
End of  
RCP

2321895  
Begin  
48 RCP

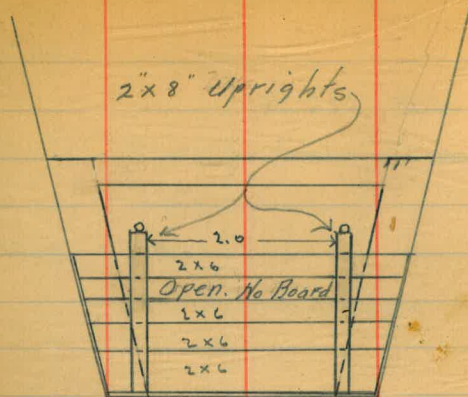
220485  
EC

2284985  
EC

2281605  
End of  
Syphon

Heath  
6/7/36

Notes by  
Geo Converse  
9/25/29



(See preceding page) Detail of Flash Board Gate  
18.5 ft. below end of Siphon.

San Dieguito Conduit - Additional

B.M. 26

6.18 255.90

249.72

6.28 249.62

10.25 245.65

6.50 249.40

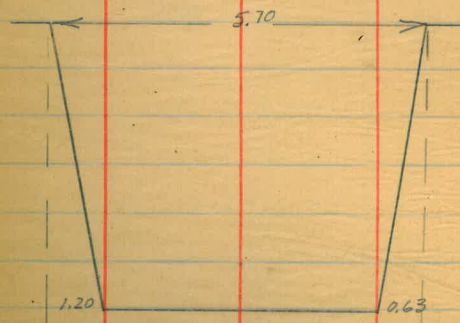
Sections 9/25/29 - Notes by M.D. Elliott 20°

Top of Wall at Sta 150+03

Top of Wall (This point blue teed for gauging point)

Flow Line

Water Surface



Normal Section at Sta 150+28

Survey party

Geo. Converse Ch. of Pky

M.D. Elliott Level

Earl Walton Chain

OK Parker Res Engr.

B.M. #23

247.84

5.11

254.95

5.09 249.86

5.37 249.58

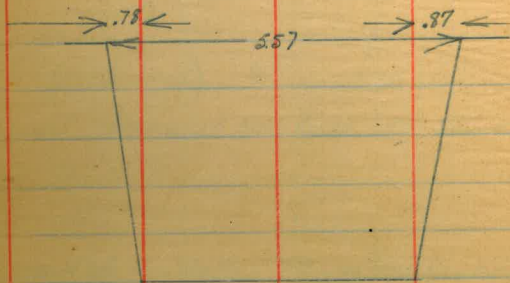
8.31 246.64

Top of Wall Sta 128+95

Top of Wall + Gauging Point Sta 128+05

Water Surface "

Flow Line "



Normal Section Sta 128+05



B.M. # 19

6.93

258.07

251.14

7.24 250.83

10.22 247.85

8.00 250.07

7.00 251.07

7.81 250.26

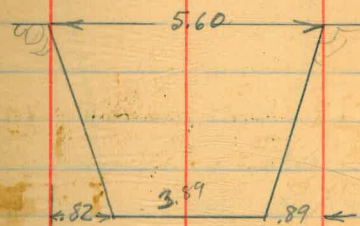
9.99 248.08

Top of Wall 99+80

Top of Wall &amp; Gauging Point (Blue Keel) Sta 102+37

Flow Line

Water Surface

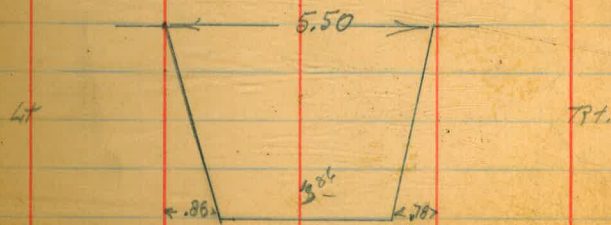


Normal Section Sta 102+37

Top of Wall &amp; Gauging Point (Blue Keel) Sta. 100+70

Water Surface

Flow Line



Normal Section Sta 100+70

B.M. #

5.11 257.56

5.16 252.45

6.25 251.31

8.19 249.37

4.98 252.58

6.09 251.47

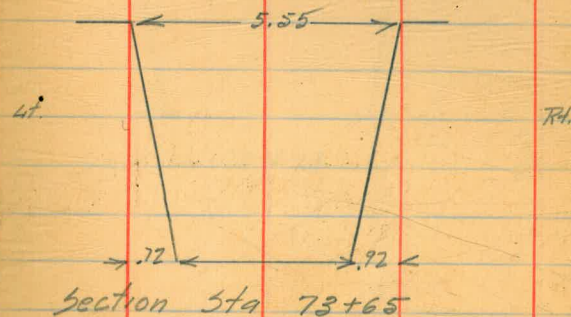
7.96 249.60

Top of Wall 74+80

Top of North wall & gauging point Sta 73+65

Water Surf. "

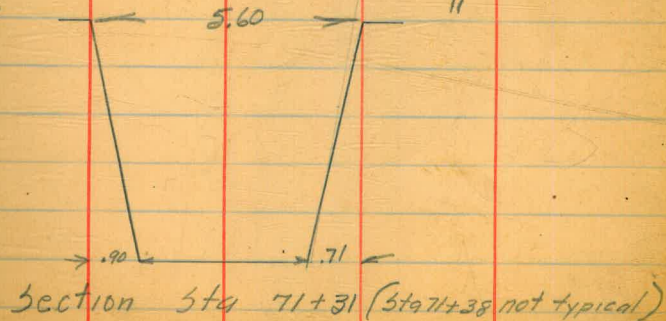
Flow Line "



Top of S. Wall & gauging point. Sta 71+31

Water Surf. "

Flow Line "



BM # 15

5.11 257.56

252.45

4.80

6.04

7.82

Top of Wall 74+80

Top of S. Wall & Gauging Pnt. 70+73

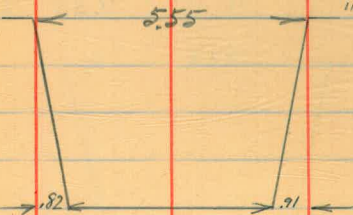
Water Surf "

Flow Line " 5.55

.82 .91

Section 70+73

25



B.M. # 10

4.44      258.49

4.63      253.86

5.89      252.60

7.55      250.94

254.05

4.84

5.90

7.88

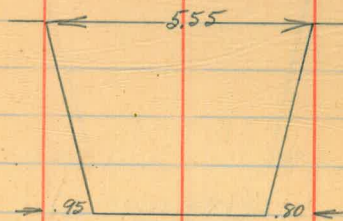
286

Top of Wall <sup>48+55</sup> ~~47+00~~

Top of S. Wall, Gauging Point 52+05

W. surface      "

Flow Line      "



Section 52+05

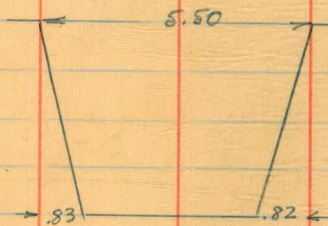
Lt.

Rt.

Top S. Wall & Gauging Point 52+58

Water surf.

Flow line



Section at Sta. 52+58

258.49

4.54	253.95
5.65	252.84
7.57	250.92

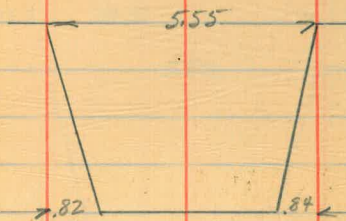
Top of S. Wall & Gauging Pnt. 48+83

Water Surf 1'

Flow Line "

lt.

rt.



Section 48+83

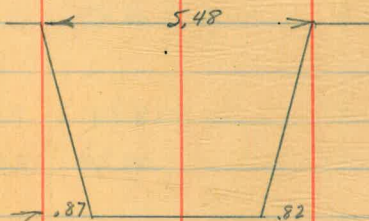
BM #10

4.44	254.05
5.66	
7.49	

B.M. Top of S. Wall & Gauging Pnt. 48+55

W.S. "

Flow Line "



Section 48+55

B.M. #8

4.72 259.75

255.03

4.95 254.80

5.93 253.82

7.96 251.79

B.M. #28

6.24 255.88

249.64

6.65 249.23

10.82 245.06

6.61 249.27

10.74 245.14

Top of Wall 33+84

Top of S. Wall &amp; Gauging Post 35+95

W.S. "

Flow Line "



Section 35+95

W.S.

165+80

Sta 169+05

Flow Line "

W.S.

165+60

Flow Line "

{ Wer gauge reading below Dam = .92  
 { Discharge = 9.53 M.G.D.  
 { Res. surface Drop = .045 D. Ave.

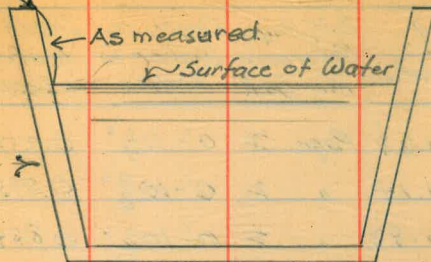
This data is from Caretaker Robinson-Hodges Dam  
 9/25/29.

# San Dieguito Conduit

9/25/29 - Elevation of surface of Water flowing in San Dieguito Conduit as measured below B.Ms on top of wall of conduit. Measurements made on slope of wall from B.M. down to water. See sketch

B.M.  
at top edge  
of wall

29  
Measurements by Carl Walton  
Under direction of O. R. Baker.  
9/25/29



B.M. Numbers	B.M. Elevations	B.M. Page Reference this book	Depth to Water in Inches	Depth to Water in Decimals	Elevation of Water Surface
1	253.84	Page 1	Water in Pipe Line		
2	259.44	" 1	" "	" "	
3	256.52	" 1	0'-11 $\frac{1}{2}$ "	0.9583	255.5617
4	255.70	" 1	0'-8 $\frac{1}{4}$ "	0.6875	255.0125
5	255.73	" 1	1'-0 $\frac{3}{4}$ "	1.0625	254.6675
6	255.76	" 1	1'-2 $\frac{3}{8}$ "	1.1979	254.5621
7	255.42	" 1	0'-11 $\frac{7}{8}$ "	0.9896	254.4304
8	255.03	" 1	1'-0 $\frac{3}{4}$ "	1.0625	253.9675
9	254.80	" 1	1'-4 $\frac{1}{2}$ "	1.3750	253.4250
10	254.05	" 1	1'-2 $\frac{7}{8}$ "	1.2396	252.8104
11	253.81	" 1	Covered Conduit		
12	253.29	" 2	" "	" "	
13	253.20	" 2	" "	" "	
14	253.08	" 2	1'-7 $\frac{3}{8}$ "	1.6146	251.4654
15	252.45	" 2	1'-2 $\frac{5}{8}$ "	1.2188	251.2312
16	252.19	" 2	1'-2 $\frac{1}{2}$ "	1.1771	251.0129
17	251.72	" 2	1'-0 $\frac{7}{8}$ "	1.0729	250.6471

(See next page for continuation)

San Dieguito Conduit  
Water Surface Elevations (Concluded)

9/25/29. (See preceding page)

30

B.M. Numbers	B.M. Elevations	B.M. Page Reference this Book	Depth to Water in Inches	Depth to Water in Decimals	Elevation of Water Surface
18	251.38	Page 2	0'-11 $\frac{1}{4}$ "	0.9375	250.4425
19	251.14	" 2	0'-10 $\frac{3}{4}$ "	0.8958	250.2442
20	250.83	" 2	0'-10 $\frac{1}{4}$ "	0.8542	249.9758
21	250.37	" 2	0'-6 $\frac{3}{8}$ "	0.5313	249.8387
22	249.94	" 2	0'-3 $\frac{7}{8}$ "	0.3229	249.6171
23	249.84	" 3	0'-3 $\frac{1}{2}$ "	0.2604	249.5796
24	249.72	" 3	0'-2 $\frac{3}{8}$ "	0.1979	249.5221
25	249.85	" 3	0'-4 $\frac{3}{8}$ "	0.3646	249.4854
26	249.72	" 3	0'-3 $\frac{7}{8}$ "	0.3229	249.3971
27	249.92	" 3	0'-7"	0.5833	249.3367
28	249.64	" 3	0'-4 $\frac{1}{2}$ "	0.3750	249.2650
29	249.65	" 3	0'-7 $\frac{1}{8}$ "	0.5938	249.0562
30	249.68	" 3	0'-11 $\frac{3}{4}$ "	0.9792	248.7008
31	249.81	" 3	1'-6 $\frac{1}{8}$ "	1.5104	248.2996
32	249.82	" 3	1'-11 $\frac{7}{8}$ "	1.9896	247.8304
33	250.14	" 3	2'-10 $\frac{7}{8}$ "	2.9063	247.2337
34	249.77	" 4	3'-0 $\frac{5}{8}$ "	3.0521	246.7179
35	196.23	" 4	Syphon		
36	250.40	" 4	3'-11 $\frac{5}{8}$ "	3.9688	246.4312
37	250.08	" 5	4'-0 $\frac{7}{8}$ "	4.0729	246.0071
38	250.08	" 5	5'-3 $\frac{7}{8}$ "	5.3229	244.7571
39	249.92	" 5	5'-6 $\frac{5}{8}$ "	5.5521	244.3679

Checked by H.C. 9/25/29



Readings on Gauging Stations.  
San Dieguito Conduit.

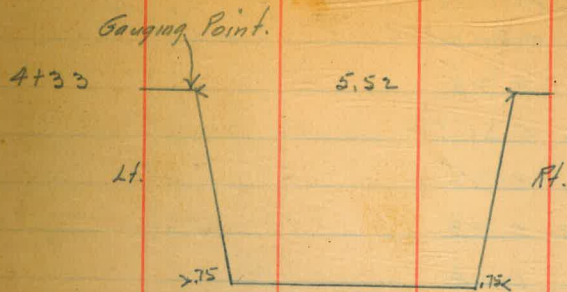
Sept. 30. 1929

B.M. #2.			259.44	
	1.81	261.25		
4+33		4.61	256.64	Top Side Wall
		7.60	253.65	Flow Line
		5.62	255.63	Water Surface

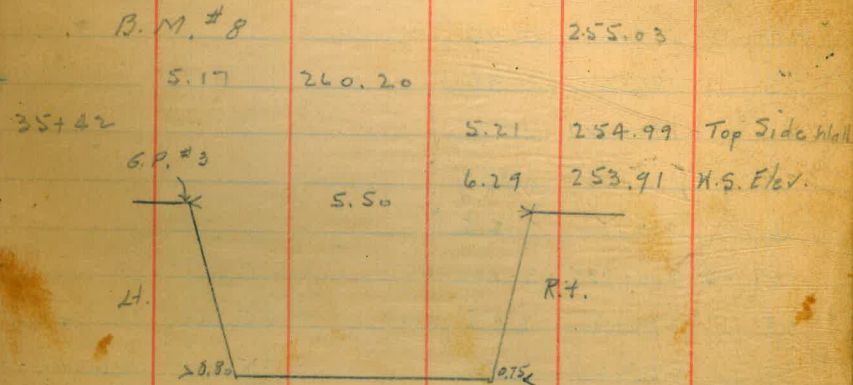
Gauge Point	Sta.	Measure on Side Wall	Elev. Top Side wall	Water Surface Elev.
1 ✓	4+33			255.63
2 ✓	16+39.5	0.74		
3 ✓	35+42		254.99	253.91
4 ✓	35+95	0.99		
5 ✓	42+89	1.31		
6 ✓	46+60	1.34		
6-A	48+55	1.26		
7 ✓	48+82	1.17		
8 ✓	52+05	1.33		
9 ✓	52+09	1.10		
10 ✓	71+31	1.17		
11 ✓	73+65	1.16		
12 ✓	100+70.7	0.85		
13 ✓	102+37	0.80		
14 ✓	113+78.4	0.61		
15 ✓	115+28	0.67		

31

Sept. 30. 1929.  
Converse  
Elliott  
Walton.



Recommend using above section and location for  
Gauging on acct. of unsettled condition of water at Sta.  
3+50



Gauge Point	Station	Measure on Side Wall	Elev. Top Side Wall	Water Surface Elev.
16 ✓	126+97	0.28		
4 16-A ✓	128+05	0.31		
17 ✓	135+36	0.35		
18 ✓	139+48	0.23		
18-A ✓	150+28	0.24		
19 ✓	154+48	0.57		
20 ✓	165+60	0.46		
5 21 ✓	169+05	0.50		
22 ✓	179+00	0.95		
23 ✓	186+00	1.36		
24 ✓	192+02.7	1.73		
25 ✓	194+02	1.86		
26 ✓	202+00	2.55		
27 ✓	210+73.5	3.11		
28 ✓	221+86	3.93	250.40	246.47
29 ✓	228+60	3.94	250.10	246.16
29-B ✓		3.91	250.11	246.20
29-A ✓	228+91	4.70		
30 ✓	234+00	5.07		
31 ✓	239+50	5.47		

End Open Conduit.

Strut #719.

39d

W.S. in Air Vent.

# Readings on Gauging Stations.

Sta.	WG. 92 14.77 feet	W. Gauge 0.83 12.59 c.f.s.	W. Gauge 0.71 9.96 c.f.s.	W. Gauge 0.66 7.74 c.f.s.	
	Sept. 30	Oct. 9	Oct. 10	Oct. 11	
4+33		1.24	1.48	1.69	
16+39.5	0.74	0.99	1.24	1.56	255.90
35+42		1.30	1.54	1.74	254.99
35+95	0.99	1.19	1.43	1.63	254.80
43+89	1.31	1.57	1.90	2.15	254.31
46+60	1.34	1.59	1.88	2.10	254.16
48+55	1.26	1.50	1.78	2.02	
49+83	1.17	1.39	1.68	1.91	253.98
52+05	1.33	1.52	1.77	1.96	253.86
53+09	1.10	1.30	1.55	1.74	253.63
71+31	1.17	1.43	1.69	1.93	252.58
73+65	1.16	1.36	1.61	1.81	252.40
100+70.7	0.85	1.18	1.60	1.87	251.02
102+37	0.80	1.09	1.47	1.70	250.83
113+78.4	0.61	0.96	1.46	1.75	250.36
115+25	0.62	0.97	1.54	1.82	250.37
126+97	0.28	0.66	1.29	1.72	249.77
128+05	0.31	0.67	1.31	1.73	249.86
135+36	0.35	0.73	1.39	1.85	249.85
139+48	0.17	0.62	1.23	1.73	249.72
150+28	0.24	0.62	1.30	1.80	249.62
154+48	0.57	0.93	1.58	2.07	249.92
165+60	0.46	0.82	1.48	1.98	249.74

Sept. & Oct. 1929.

W. End Trestle #3.

E. End Trestle #7

W. " " 7

E. End Siphon #1

W. " " 1

E. " " 2

E. " " 2

W. " " 2

" " " 2

E. " " 3

W. " " 3

E. " " 4

W. " " 4

50' E. Trestle #29

50' W. " 29

100' E. of first cross brace

First cross brace

At cross brace #126

At overhead drain W. 135+36

At strut #380

At Road Crossing

W. of over head drain. 20' E. B.M. #28

Leak in Conduit at B.M. #7.  
± 180' E. Trestle #4-A.  
One of stringers on S. Side  
Trestle #16. out of line &  
should be repaired.

Sta.	Sept. 30	Oct. 9	Oct. 10	Oct. 11	Elev. Point
169+05	0.50 <sup>48.80</sup>	0.87 <sup>48.95</sup>	1.53 <sup>48.29</sup>	2.05 <sup>48.77</sup>	249.83
179+00	0.95 <sup>48.80</sup>	1.70 <sup>48.87</sup>	1.96 <sup>47.79</sup>	2.45 <sup>49.30</sup>	249.74
186+00	1.36 <sup>48.84</sup>	1.65 <sup>48.25</sup>	2.33 <sup>47.51</sup>	2.87 <sup>49.09</sup>	249.84
192+02.7	1.73 <sup>48.23</sup>	1.95 <sup>47.98</sup>	2.67 <sup>47.29</sup>	3.13 <sup>46.83</sup>	249.96
194+02	1.86 <sup>47.98</sup>	2.05 <sup>47.79</sup>	2.77 <sup>47.15</sup>	3.16 <sup>46.48</sup>	249.84
202+00	2.55 <sup>47.47</sup>	2.67 <sup>47.25</sup>	3.43 <sup>46.59</sup>	3.93 <sup>46.09</sup>	250.02
210+73.5	3.11 <sup>46.77</sup>	3.25 <sup>46.57</sup>	3.99 <sup>45.89</sup>	4.58 <sup>45.50</sup>	249.88
221+86	3.93 <sup>46.47</sup>	4.06 <sup>46.34</sup>	4.63 <sup>45.77</sup>	5.08 <sup>45.32</sup>	250.40
228+60	3.97 <sup>46.14</sup>	4.05 <sup>46.00</sup>	4.47 <sup>45.61</sup>	4.85 <sup>45.23</sup>	250.05
	3.91 <sup>46.02</sup>	4.02	4.47	4.85	
228+91	4.70	4.82	5.38	5.76	250.10
234+00	5.07 <sup>44.92</sup>	5.16 <sup>44.23</sup>	5.62 <sup>44.57</sup>	5.74 <sup>44.05</sup>	249.99
239+50	5.47 <sup>44.45</sup>	5.54 <sup>44.38</sup>	5.82 <sup>44.10</sup>	6.07 <sup>43.85</sup>	249.92
Meter to S.F.R.	59 Sec. 100 c.f.s.	52 Seconds 100 c.f.s.	40 Sec. 100 c.f.s.	36 1/2 Sec. 100 c.f.s.	
	1.69 c.f.s.	1.723 c.f.s.	2.5 c.f.s.	2.74 c.f.s.	

Strut # 719

20' N. Overhead Drain.

Strut # 1015.

E. end Syphon # 4

W. " " 4

At Pump

E. End Syphon # 5

Manhole " # 5

W. End " # 5

Air Vent

Level notes of line for ditch  
change proposed on weakened section

Sta						
		255.90	B.M	16+40		
	10.86	266.76				
	543	261.63	10.56	256.20	T.P.	on S. Wall
0+						
0+ 1810			5.46	256.17	on S. Wall	-91 = WS 255.28 June 9 -32 2M
0+ 38.45			5.56	256.07	on N. Wall	
0+55			3.5	258.1		
0+65			1.8	259.2		
	11.87	273.24	0.26	261.37		
0+95			7.8	265.4		
1+20			4.6	268.8		Conduit 27.1
1+39			7.0	266.2		262.3 4.5 12
1+52			11.9	261.3		
	hand level 0.80	261.50	12.54	260.70		
1+87			16.1	245.4		
			21.9	239.6		under Flume
2+00			9.1	264.1		

contin. p. 52

2+44<sup>S</sup>

5295

HI  
544  
5295  
147

055

10

Note 0+00 = beginning of Contract Sta 169+05  
on stationing starting from Dam.

326  
293  
34

5295  
312  
077

5350  
5295  
.055

6929  
055  
6874

6874  
6970  
096

7007  
6874  
133  
6929  
6874  
054  
6975  
6874  
101  
6950  
6874  
076

3169  
76  
4455

89  
50  
745

Deer Mountain March 11, 1930  
Dams 1 Hodges Conduit

HI

5295

530

2+44<sup>S</sup>  
-0+25  
-0+00

0+26.5

53.5

77.0

95

1+19

1+30

1+48

1+78

1+90

2+14

2+44<sup>S</sup>

2+68

2+86

3+10.5

TR

1/2 End of X-wing

3+35

3+68

3+89.5

4+14.0

4+45<sup>S</sup>

4+74<sup>S</sup>

5.35

5.32

5.35

5.36

5.370<sup>S</sup>

5.336

5.368

5.368

5.368

5.385

5.288

5.295

5.340

5.330

5.360

5.350

7.007

6.975

6.970

6.928

6.950

Diff Sta  
36  
Elev of Sta  
2+44<sup>S</sup>

0

-0.005

-0.05

-0.02

-0.06

-0.07

-0.041

-0.08

-0.073

-0.090

1.007

.00

-0.04

-0.03

-0.06

-0.055

-0.133

-0.101

-0.096

-0.054

-0.076

6.874

6.929

Note  
 Eq. 7000  
 6874  
 0100 = 169 + 05 .186  
 0400 = Beginning 7022  
 6874  
 of struts to .148  
 7015  
 bottom of Conduit 6874  
 141

5320  
 5154  
 166  
 5350  
 5154  
 196  
 538  
 515  
 23

5364  
 5154  
 210

5365  
 5154  
 211

5154  
 420  
 4734

5325  
 5154  
 171

5310  
 5154  
 156

5250  
 5154  
 096

5154  
 .420  
 4734

5303  
 5134  
 169

4744  
 60  
 34

74  
 89

63

5163  
 36  
 905

5163  
 54

618  
 80

623  
 70

5163  
 97

6265  
 6+60

6265  
 61  
 721

60  
 79  
 39

600  
 60

60

5104<sup>s</sup>

5134<sup>s</sup>

5163<sup>s</sup>

5197<sup>s</sup>

6+18<sup>o</sup>

6+43<sup>s</sup>

6+60<sup>s</sup>

6+84<sup>s</sup>

7+21<sup>s</sup>

7+39<sup>s</sup>

7+60<sup>o</sup>  
 TP

7+85

Hodges Conduit  
 HI Elevation of Bottom  
 6.874

7.060

7.022

7.015  
 2.224

5.154

5.320

5.350

5.38 (using side sight)

5.364

5.365

5.225

5.310

5.250  
 .420

5.134

5.303

0.504

4.00

37

- .186

- .148

- .141  
 4.650  
 5154

- .166

- .196

- .23 (?)

- .210

- .211

- .071

- .156

- .096  
 4734

- .169

5357  
5134  
-223

5360  
5134  
-226

5408  
5134  
-274

5420  
5134  
-286

5438  
5134  
-304

5440  
5134  
-306

5440

5134  
710  
4424

9479<sup>s</sup>

989<sup>s</sup>  
48

1027<sup>s</sup>

1027<sup>s</sup>  
30

1057<sup>s</sup>

760  
511<sup>s</sup>

7460  
77  
8137

8136

770  
90

8255

877

8118

47

9021

8155

60

9205

851

90

9458

4,424  
6104  
0,548  
0,900  
312

8416<sup>s</sup>

8437

8455

8479

9402<sup>s</sup>

9420<sup>s</sup>

9445<sup>s</sup>

TP

under bridge  
9460

9479<sup>s</sup>

10402<sup>s</sup>

10427<sup>s</sup>

10445<sup>s</sup>

10457<sup>s</sup>

HJ Hodges Conduit  
Elevation of Bottom  
5134

5,357

5,360

5,408

5,420

5,438

5,440

5,440

.710

10,988

10,886

10,900

10,920

10,900

10,920

38

-223

-226

-274

-286

-304

-306

-306

4,424

-298

-312

-332

-312

-332



1027<sup>5</sup>  
47  
1074<sup>5</sup>

1074<sup>5</sup>  
52  
1124<sup>5</sup>

11

1124<sup>5</sup>  
49  
1174<sup>5</sup>

Elevation of  
Bottom - Hodges Conduit

Station	Elevation	Notes	Correction
1074 <sup>5</sup> <sub>34</sub>	10.936	beg of W	-348
11708 <sup>5</sup>	10.990		-402
11724 <sup>5</sup> <sub>27</sub>	10.970	high water outside	-382
11751 <sup>5</sup>	10.980		-392
11774 <sup>5</sup> <sub>22</sub>	10.993	End of W	-405
12702 <sup>5</sup>	10.948	beg. of W	-360
12722 <sup>5</sup>	10.965		-377
12752 <sup>5</sup>	10.970		-382
12772 <sup>5</sup> <sub>28</sub>	10.980		-392
13700 <sup>5</sup> <del>13710<sup>5</sup></del>	10.980		-392
13718 <sup>5</sup> <sub>30</sub>	11.000		-412
13748 <sup>5</sup> <sub>29</sub>	11.000		-412
13766 <sup>5</sup>	11.026		-438

13 66  
23

10588  
4642  
5946  
5745  
11691

Hodges Conduit  
10588 Elevation of Bottom

40

W 13+90 <sup>0</sup> TP 21 <sup>5</sup>	10.988 4.642	5.745 HI = 11.691	5.745	-400 5.946
14+11 <sup>5</sup>				
E 210 19 14+19 <sup>5</sup>	X 5113			
14+49 <sup>0</sup>	12.090			-399
Water 14+79 <sup>5</sup>	12.130			-439
dry point 14+91 <sup>5</sup> 21	12.100			-409
W 15+22 <sup>5</sup>	12.112			-421
W 15+40 <sup>5</sup>	12.140			-449
D 15+75 <sup>5</sup>	12.095			-404
D 15+90 <sup>5</sup>	12.093			-402
W 16+37 <sup>5</sup>	12.172			-481
W 16+86 <sup>5</sup>	12.150			-459

16+86<sup>s</sup>  
21  
17+17<sup>s</sup>

16 86<sup>s</sup>  
47  
17+34<sup>s</sup>

18 74<sup>s</sup>  
47  
19+22<sup>s</sup>

19 22<sup>s</sup>  
44  
19 70<sup>s</sup>

12184  
2490  
4694

Hodges Conduit  
Elevation of Bottom

Dry point  
17+17<sup>s</sup>

11691 12.130  
7387 4304  
7880

Dry point  
17+34<sup>o</sup>

12.184 12.619  
435

Dry stretch  
high  
17+78<sup>s</sup>

12.650  
466

18+26<sup>s</sup>

12.702  
518

18+74<sup>s</sup> - high

12.680  
496

19+04<sup>s</sup> low

12.690  
506

19+22<sup>s</sup> high

12.710  
526

19+52<sup>s</sup>

12.708  
584

19+70<sup>s</sup>

12.742  
558

20+06<sup>s</sup>

12.746  
562

20+18<sup>s</sup>  
47

12.765  
581

20+66<sup>o</sup>

12.770  
586

20+84<sup>s</sup>

12.746  
7490  
4694

9.024 4330

21+14<sup>o</sup>

9.680  
dup W  
656

21 14

05

21 52

19203

16905

2298

Hodges Conduit  
Elevation of Bottom

42

	9024		
W			
21+62	9660	Depth	636
22+12	9578		554
{ Dry 49			
22+61	9670		646
{ 35			
22+97	9728		704
last brace w/ siphon			

194 + 0  
192 03  
1 99

Ray  
22+98  
1 99  
24 97

194 02  
350 69  
7

6 184  
704  
5480

25+22  
77  
79  
99

28 86  
94  
29-81

3/28/31

Hodges Conduit. Elevation of  
Bottom

Recreation

#7

Station	Elevation	Bottom	43
8eg. end of siphon	5.480	6.124	-764
24+97 D	6.288		-768
TP	.722		4758
7P	10.193	+5435	
25+22 W	11.005		882
25+49.5	11.006		813
25+79.5	10.982		789
25+99.5	11.012		819
26+21	11.020		827
26+69	11.026		833
26+94	11.066		873
27+48.5	11.068		875
27+90	11.204		-1.011
9	5.400		4.7933
d 28+36.5	11.683	6.890	925
d 28+86.5	12.608		912
u 29+40 W	12.595		965
	12.648		

Hodges Conduit  
Elevation of Bottom

Station	AI	Hodges Conduit Elevation of Bottom	Notes
29181 <sup>9</sup>	11.683	11.663	- 980
30440		12.650	- 967
30775		12.582	- 899
31223		12.610	- 927
	10.593	5.702	4.871
31769		11.551	978
32227		11.600	- 1.027
32764		11.562	- 1.027
33102		11.594	- 989
33427		11.568	- 1.021
33460		11.591	- 995
34117		11.542	- 1.018
34505		11.610	- 969
35112		11.724	- 1.037
			- 1.151

29 51  
30 75

12610  
11683  
927

11551  
10573  
978

31460  
955  
32405

32764  
62  
33427

64  
95  
600

60  
13  
53

12548  
11443  
-----  
1.105

3458  
7  
-----  
35300

11724  
10573  
-----  
1.151

35151  
7  
-----  
36260

36465  
94  
-----  
37410

37410

3741  
94  
-----  
38355

38355

38+35  
77  
-----  
39+12

39+12

35  
95  
-----  
39+31

39+31

T.P.  
Evo W  
35+30  
10.573  
11.443

Damp  
35+51

35494

36+26

36+46

36+95

W  
37+41

all  
37+86

P  
38+35

W  
38+84

P  
39+12

39+31

10  
39+77

W  
39+97

Hodges Conduit  
Elevation of Bottom  
5980

12.548

12.548

12.472

12.360

12.550

12.660

12.576

12.668

12.636

12.530

12.680  
6.434

11.002

11.002

10.987

11.092

6.850

45

4.893  
- 1.105

- 1.029

- .917

- 1.107

- 1.217

- 1.133

- 1.225

- 1.193

- 1.087

- 1.227  
5.009

- 1.169

- 1.169

- 1.154

- 1.259

Hodges Conduit  
Elevation of Bottom

46

210.77 <sup>+</sup>	40+73 <sup>5</sup>	37 31
194 0 <sup>-</sup>	20 97	93 <sup>0</sup>
16 7 <sup>-</sup>	1576 <sup>5</sup>	4024 <sup>5</sup>

40+24<sup>5</sup>

11.042

- 1.209

40+78<sup>0</sup>

11.068

- 1.235

41+21<sup>5</sup>

11.110

- 1.277

41+52<sup>5</sup>

11.150

- 1.317

41+73<sup>5</sup>

11.220

- 1.387



Readings on Gauging Station  
San Dieguito Conduit.

Nov. 1930

G. K. Parker }  
G. W. Converse } Nov. 14-1930

47

Sta.	Wier Gauge 0.99	Second Feet 16.40		
4+33	0.92			
16+39.5	0.56	255.90	255.34	
35+42	0.88	254.99	254.11	
35+95	0.76	254.80	254.04	
43+89	0.96	254.31	253.35	
46+60	1.00	254.16	253.16	
49+55	0.86			
48+83	1.06	253.95	252.91	
102+37	0.67	250.83	250.21	
113+78	0.63	250.36	249.73	
115+75	0.68	250.37	249.69	
126+97	0.69	249.77	249.08	
128+05	0.73	249.86	249.13	
135+36	0.90	249.85	248.95	
139+48	0.86	249.72	248.86	
150+78	1.03	249.62	248.59	
154+48	1.38	249.42	248.54	
165+60	1.37	249.74	248.37	
169+05	1.45	249.85	248.40	

32 77

43 1.00

42 86

43 87

61 116

59 110

64 112

33 86

47

33

29

179+00	1.12	249.08	247.96
186+00	1.09	248.84	247.75
192+02.7	1.99	249.56	247.57
194+02	2.14	249.47	248.33
202+00	2.48	249.44	246.96
210+73.5	2.50	249.64	246.54
221+86	4.38	250.40	246.02
228+60	4.40		
	4.40		
228+91	4.64	250.10	245.46
234+00	5.08	249.99	244.91
239+50	5.84	249.92	244.08

Reset

Reset.

Reset.

Reset.

Reset.

Reset.

Okay

Stephens Water Level Recorder 17.5  
 and Vent Sentinel Recording Weir Gauge 18.5

Readings on Gauging Stations  
San Dieguito Conduit.  
Nov. 1930.

49

Measurements by G.W. Converse assisted by  
M.D. Elliott

16.37 soft

Station. Gau. Pt. Reading  
Nov. 19-30

Station	Gau. Pt.	Reading			
Wier		0.98			
4+33	# 1	0.93			
16+40	2	0.61	255.90	255.29	W. End Trestle 3
35+42	3	1.00	254.99	253.99	E. End Trestle 7
35+95	4	0.89	254.80	253.91	W. End Trestle 7
43+89	5	1.18	254.31	253.13	E. End Siphon 1
46+60	6	1.21	254.16	252.95	W. " " 1
48+55	6-A	1.15			E. " " 2
48+83	7	1.08	253.95	252.87	E. " " 2
52+05	8	1.24	253.86	252.62	W. " " 2
53+09	9	1.03	253.63	252.60	W. " " 2
71+31	10	0.99	252.58	251.59	E. " " 3
73+65	11	0.98	252.40	251.42	W. " " 3
100+70 <sup>2</sup>	12	0.84	251.07	250.23	E. " " 4
102+37	13	0.79	250.83	250.04	W. " " 4
113+78 <sup>4</sup>	14	0.78	250.36	249.58	50' E. Trestle 29
115+25	15	0.83	250.37	249.54	50' W. " 29

Nov. 19-30

Sta.	No.	Reading		
126+97	16	0.73	249.77	249.04
128+05	16-A	0.76	249.86	249.10
135+36	17	0.91	249.85	248.94
139+48	18	0.86	249.72	248.86
150+28	18-A	1.01	249.62	248.61
154+48	19	1.37	249.92	248.55
165+60	20	1.35	249.74	248.39
169+05	21	1.42	249.82	248.40
169+09	21-A	1.06		
169+26	21-B	1.07		
179+00	22	1.06	249.08	248.02
186+00	23	1.00	248.84	247.84
192+03	24	1.87	249.56	247.69
194+02	25	2.02	249.47	247.45
202+00	26	2.24	249.44	247.20
	26-A	2.22		
	26-B	2.98		
	26-C	2.29		
210+73 <sup>E</sup>	27	2.12	249.04	246.92
221+86	28	3.88	250.40	246.52
Santa Fe Ranch	Sentinal	17.5		
Conduit	Stephens	16.0		
228+60	29	3.90		
228+60	29-B	3.90		

Points - Set 1/19  
 Very

100' E. 1<sup>st</sup> C. Brack  
 At 7<sup>th</sup> Cross Br.  
 Gr. Brack #126  
 At over head Drain  
 At Strut #380  
 At Rd. Crossing  
 W. Over head Drain  
 Strut 719  
 Start New Work  
 W " " "  
 20' W Overhd. Drain  
 Strut 1015  
 E. End Siphon 5  
 W. " " 5  
 At Pump.  
 E. End Siphon 6  
 Manhole.  
 W. End Siphon 6  
 Air Vent.

Aug 2 1931

Sta.	No.	Nov. 19-30 Reading		
228+91	29-A	4.09	250.10	246.01
234+00	30	4.32	249.99	245.67
239+50	31	4.62	249.92	245.30

30' W. Siphon 6  
2nd. Orr. Hd. Down  
End Conduit

from page 35

273.24

12.48 283.88 1.84 271.40

2+50 0.7 283.2

11.99 294.28 1.59 282.29

2+70-92 4.5 289.8

3+06.07 1.1 293.12

3+55 7.0 287.3

0.05 281.61 12.71 281.56

4+00 2.1 279.5

4+43.67 11.5 270.1

0.50 269.54 12.57 269.04

4+70 7.3 262.2

1.59 260.38 10.75 258.79

4+75.44 4.64 255.74

4+84.1 4.55 255.83 s-well

-81 = W/S, 255.02 June 9-32

283.1  
10.1  
23

302.8  
10.6  
39

292.5  
13.0  
276 \* 305.5  
13.6  
31.6

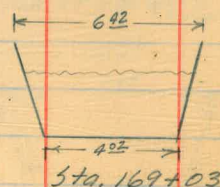
262.0  
8.0  
19

Hodges Conduit.  
Cross sections and gauging stations  
thru reconstructed portion.

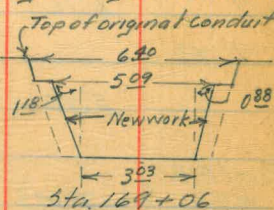
11/19/30 - Clear - cool  
O.K. Parker Res. Eng. 53  
Simpson T notes  
Soper Hd. Ch.  
Remmen R. Ch.

B.M. #27			249.92	Top of wall	153+13 (About 40' E. of E. end of cattle guard) Lake Hodges to Santa Fe Ranch Road
	9.03	258.95			
T.P.			1.76	257.19	
	5.37	262.56			
T.P.			9.47	253.09	
Reset Gauging Sta. #21	1.81	254.89			
			5.19	249.70	Top of wall of conduit Sta 169+03 Lt. side
			5.08	249.81	" " " " " Rt. side
			6.54	248.35	Water surface 169+03
			9.80	245.09	Bottom of Conduit 169+03
Reset Gauging Sta #21A			5.58	249.31	Top of Wall of new work Sta 169+06 Lt. side
			5.43	249.46	" " " " " Rt. side
			6.56	248.33	Water surf. 169+06
			9.46	245.43	Bottom of conduit 169+06
			5.25	249.64	Top of Wall of original conduit 169+06 Lt. side
			5.13	249.76	" " " " " Rt. side
Set Gauging Sta. #21B			5.48	249.41	Top of wall, new work, 169+56 Lt. side
			5.55	249.34	" " " " " Rt. side
			6.57	248.32	Water surface 169+56
			9.52	245.37	Bottom of conduit 169+56
			5.26	249.63	Top of wall, old work, 169+56
			5.15	249.74	" " " " " 169+56
T.P.			5.10	249.79	
	7.30	257.09			

Note: this section in original conduit.



Note: this section at beginning of New work

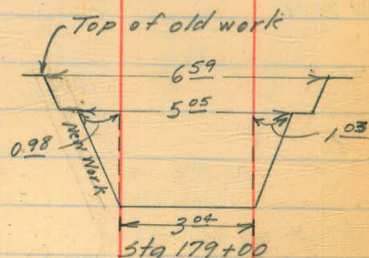


Hodges Conduit.

11/19/30

54

		257.09			
T.P.			7.28	249.81	
Reset G.S. # 22 (on RT. of curve)	6.56	256.37			
			7.29	249.08	Top of wall, new work, Sta 179+00, Lt. side.
			7.19	249.18	" " " Rt. side.
			8.30	248.07	Water surface 179+00
			11.25	245.12	Bottom conduit 179+00
			6.65	249.72	Top of wall, original cond., 179+00, Lt. side
			6.57	249.80	" " " Rt. side



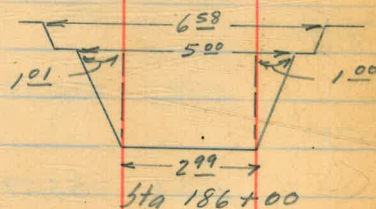
T.P. 6.45 249.92

6.16 256.08

T.P. 6.19 249.89

5.80 255.69

Reset G.S. # 23 (also B.M.)			6.85	248.84	Top of wall, new work, Sta. 186+00, Lt. side
			6.82	248.87	" " " Rt. side
			7.81	247.88	Water sur. 186+00
			10.80	244.89	Bottom conduit 186+00
			5.90	249.79	Top of wall, original conduit, 186+00 Lt. side
			5.93	249.76	" " " Rt. side



T.P. 5.88 249.81

3.77 253.58

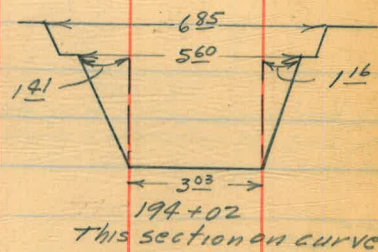
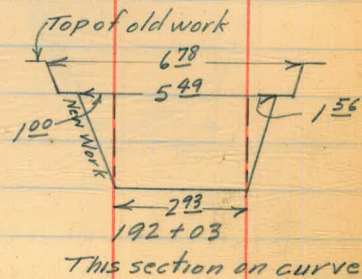


Hodges Conduit

11/19/30

55

check	253.58				
B.M. #31		3.79	249.79	Record El.	249.81
Reset Gauging Sta. #24 and B.M.				Top of old wall	Sta. 188+85
		4.02	249.56	Top of wall	New Work, 192+03, Lt. side.
		4.05	249.53	"	" " Rt. side.
		5.86	247.72	Water surf.	192+03
		9.00	244.58	Bottom cond.	192+03
		3.73	249.85	Top of wall	old work 192+03 Lt. side
		3.84	249.74	"	" " Rt. side
Reset Gauging Sta. #25 and B.M.					
		4.11	249.47	Top of wall	New work, 194+02, Lt. side
		3.99	249.59	"	" " Rt. side
		6.04	247.54	Water surf.	194+02
		9.04	244.54	Bottom Conduit	194+02
		3.85	249.73	Top of wall	old work, 194+02 Lt. side
		3.71	249.87	"	" " Rt. side
T.P.		3.77	249.81		
	5.88	255.69			
T.P.		5.57	250.12		
	5.67	255.79			



# Hodges Conduit

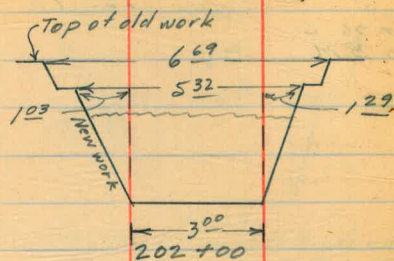
11/19/30

56

Reset  
Gauging Sta #26  
and B.M.

255.79

6.35	249.44	Top of wall	New work, 202+00, Lt. side
6.30	249.49	"	" " Rt. side
8.54	247.25	Water surface	
11.46	244.33	Bottom conduit	
5.74	250.05	Top of wall	Old work, 202+00, Lt. side
5.88	249.91	"	" " Rt. side



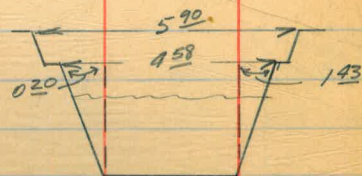
T.P.

5.32 250.47

Set  
Gauging Sta #26A  
and B.M.

4.79 255.26

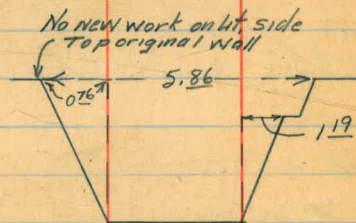
5.96	249.30	Top of wall	New work, 206+87, Lt. side
6.17	249.09	"	" " Rt. side
8.17	247.09	Water surface	
11.02	244.24	Bottom conduit	
5.15	250.11	Top of wall	old work 206+87, Lt. side
5.35	249.91	"	" " Rt. side



206+87  
Note: this section runs 10' east, there merging into section 26, and west about 35', there merging into sect. 26 B

Set  
G.S. #26B  
and B.M.

5.26	250.00	Top of wall	old work, 207+43, Lt. side
6.00	249.26	"	New work, " Rt. side
5.21	250.05	"	old work; " Rt. side
8.19	247.07	Water Surf.	
11.00	244.26	Bottom Conduit	



207+43  
Note: this section extends about 25' E. there merging into 26-A section, and extends about 50' west, there merging into 26-C section easterly.

# Hodges Conduit

255.26

Set  
6.3, #26-C  
and B.M.

5.99	249.27	Top of wall	New Work, 208+47, Lt. side.
6.03	249.23	"	" " Rt. side.
8.25	247.01	Water Surf.	"
11.06	244.20	Bottom Cond.	"
5.32	249.94	Top of wall	Old Work " Lt. side.
5.31	249.95	"	" " Rt. side.

T.P.

4.50 254.51

5.25	250.01		
5.47	249.04	Top of wall	New work, 210+74, Lt. side
5.47	249.04	"	" " Rt. side
7.51	247.00	Water Surf.	
10.64	243.87	Bottom Cond.	
4.64	249.87	Top of wall	Old Work, 210+74, Lt. side
4.71	249.80	"	" " Rt. side

Check  
B.M. #34

4.76	249.75	Record E.I. 249.77	S.W. Cor. of syphon Hd. Wall Sta 210+87
------	--------	-----------------------	---

Clear 11/19/30 Cool -  
O.H. Parker Res. Eng.  
W.H. Simpson T notes  
50 per Hd. Ch. Rod  
Kremmen T.C.H.



Note: this section extends east about 40' there merging into 26 B section westerly, and gradually merges into section of #27 westerly.



These notes transferred from Simpson's original notes to this book by M.D. Elliott 11/20/30.

August 6 '31

P.O.G.

	Gauge			
	1.00			
A+33?	BM#3	0.87	256.52	255.65
16+40±	2	0.50	255.90'	255.40?
35+42	3	0.88	254.99	254.11
35+95	4	0.74	254.80	254.10
43+89	5	1.00	254.31	253.31
46+60	6	1.05	254.16	253.11
48+83	7	0.90	253.95	253.05
52+05	8	1.10	253.86	252.76
53+09	9	0.89	253.63 <sup>p-9</sup> ?	252.74
71+31	10	0.79	252.58	251.79
73+65	11	0.80	252.40	251.60
100+70	12	0.59	251.07	250.48
102+37	13	0.59	250.83 <sup>p-11 = 86?</sup>	250.24
113+78	14	0.52	250.36?	249.84
115+25	15	0.56	250.37?	249.81
126+97	16	0.42	249.77	249.35
128+05	16 A	0.45	249.86	249.41
135+36	17	0.65	249.85	249.20
139+48	18	0.56	249.78	249.16
150+28	18-A	0.87	249.62	248.75
154+48	19	1.22	249.92	248.70
165+60	20	1.22	249.74	248.52
169+05	21	1.27	249.82	248.55
179+00	22	0.95	249.08	248.07
186+00	23	0.89	248.84	247.95

58

100' upstream Trestle # 3 leak  
 150' downstream from Trestle # 4 leak  
 W. end " " leak  
 60' upstream a large leak 30' out appears  
 upstream bulkhead #9 trestle cracked  
 permitting loss of good sized stream

West bulkhead Trestle #10 large leak  
 East bulk " " #10A " "

East Siphon unsanitary condition large  
 number dead fish caught in trash rack  
 slight leak W. end Siphon 48+33  
 Trestle #14 minimum Freeboard 0.4'  
 #23  
 large leak 120' upstream from BM #9

Trestle #24 Freeboard .25' small leak

" " 28 " " .14

" " " " " .07 N.W. Cor.

" " 29 " " .06 " "

" " 30 " " 100 small leak spilling  
 also leak in bulkhead

leak 300 downstream from Road crossing

near 165 too many cross braces broken

Aug. 6 - 31

59

192+03	24	1.76	249.56	247.80
194+02	25	1.90	249.47	247.47
202+00	26	2.25	249.44	247.19
206+87	26A	2.38	249.30	246.92
210+74	27	2.33	249.04	246.71
221+86	28	4.19	250.40	246.21
22841	29-A	4.34	250.10	245.66
	29,	4.28	250.11	245.83
		565	sparkling gauge 315 pm	
234+00	30	4.90	249.99	245.09
239+50	31	5.35	249.92	244.57

Aug. 17 - 31

239+50	31	249.92	4.94	244.98
228+91	29	250.11	4.94	245.17
221+86	28	250.40	5.20	246.20
210+74	27	77		245.17
		249.04	4.60	244.44
202+03	24	249.56	4.12	248.44
169+05	21	249.82	3.88	245.94

Unsanitary condition of trash rack dead fish rabbits  
and live rattlesnakes

All rods from BM to W.S.  
Sparkling gauge 33

249.55  
4.60  
11

Levels for surge line at  
Torrey Pines Booster Pump

			24.17	City Datum
			+6.12	
12.60	42.89		30.29	U.S.G.S.
		0.51	42.38	
5.79	48.27			
		4.13	44.14	Set 15W
0+00				
top of pipe		8.1	40.2	
ground		5.3	43.0	
0+10 ±	top of pipe	5.9	42.4	
	bot.	7.7	40.6	
0+50		0.0	48.3	
	12.03	60.00	0.20	48.07
1+00			7.1	52.9
1+50			1.3	58.7
2+00	12.42	71.86	0.56	59.44
			7.6	64.2
<del>1+52</del>			<del>4.9</del>	<del>67.0</del>
2+40			0.0	71.9
	11.89	83.60	0.15	71.71
2+50			10.6	73.0
3+00			5.0	78.6
3+18			2.2	81.4
	12.22	95.64	0.18	83.42
3+22			10.6	85.0
3+50			0.4	95.2
on top of stake 3+50			0.00	95.64

June 6 - 32

P.O.C

4

60

BM on P.L. cor. Mon. 1325

1262

1261

BM. on N.E. cor. top of Weir box con. 2 1/2" wide

con. drain pipe north to slough

in old road

5+00

4+00

3+00

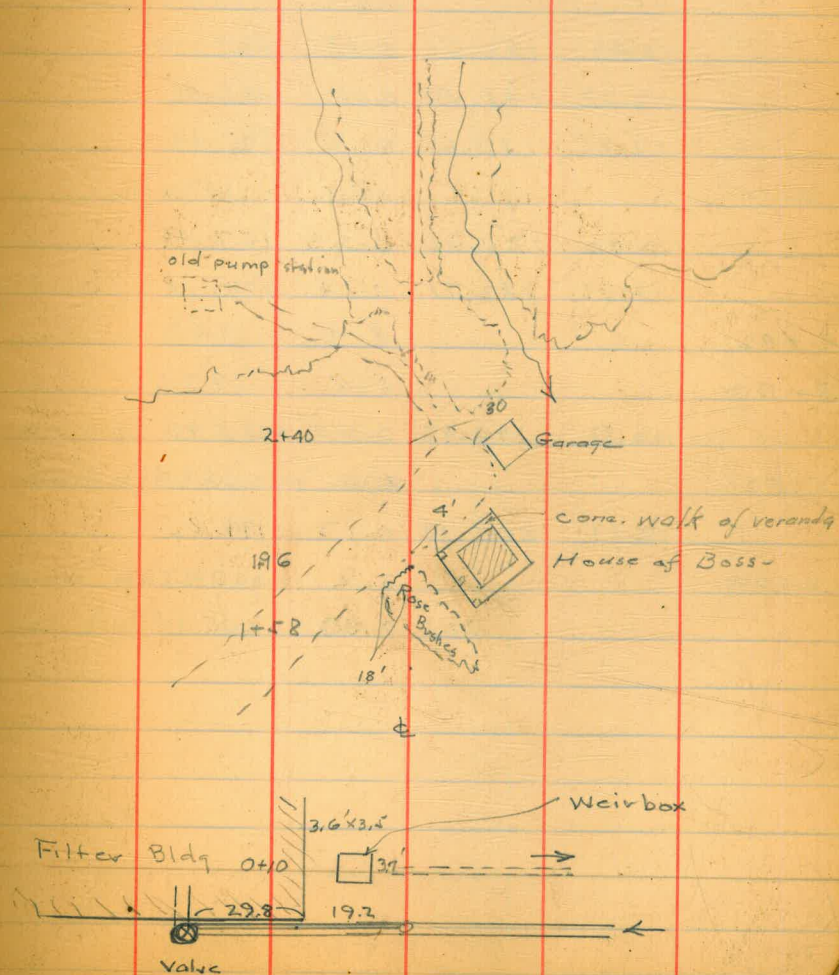
2+00

+50

1+00

Angle of  
Pipe

87°40'± from north to west



## Levels contin.

95.64

12.03 107.67

0.41 107.26

13.02 120.28

4+00

1.6 118.7

12.46 132.56 0.18 120.10

13.09 145.55 0.10 132.46

12.25 157.69 0.11 145.44

4+50

10.1 147.6

12.90 170.36 0.23 157.46

12.53 182.71 0.18 170.18

4+92

8.4 174.3

5+00

5.5 177.2

12.52 194.98 0.25 182.46

5+50

8.0 187.0

12.87 207.72 0.13 194.85

6+00

3.2 204.5

2.50 205.14

June 6-32

P.O.C

62

on ridge 10' wide line is located to run on  
north drainage of ridge

End of line

set BM about 6+20 on line



P. Beermann  
4-22-30

Final Grades  
Paseo Delicias Crossing.

Sta.	Bottom of Pipe El.			BM. at El. 88.85 For Final Grade
	8.73			
	42 97.58			
0+55 <sup>68</sup>	87.93	10.86	86.72	
0+62 <sup>80</sup>	86.43	10.86	86.72	C .29
	4.62 42 93.47			
0+70 <sup>46</sup>	84.11	8.58	84.89	C .78
0+78 <sup>29</sup>	82.47	9.24	84.23	C 1.76
0+86 <sup>23</sup>	81.52	10.86	82.67	C 1.15
0+94				
0+95	81.80			
1+02 <sup>85</sup>	81 <sup>80</sup>	11.51	81.96	C .16
1+06 <sup>47</sup>	81.64			

4/22/30

63

P. Beermann  
8885  
873  
97.58  
10.86  
86.72

88.85  
4.62  
93.47

72

43

29

93.47

858

8489

84.11

78

93.47

924

8423

82.47

1.76

93.47

10.86

82.67

81.52

1.15

93.47

11.51

81.96

81.80

16

P. Beermann  
1-18-30

Final Grades  
San Elijah Crossing

Sta.	Bot. of Pipe		El. of Stake	BM.	
	994 1020 108.84			98.90	
1+32 <sup>30</sup>	104.14	4.51	104.33	C	.19
1+26 <sup>45</sup>	102.80	6.63	102.21	F	.59
1+23 <sup>10</sup>	101.72	7.69	101.15	F	.57
1+19 <sup>99</sup>	100.07	8.80	100.04	F	.03
1+09 <sup>91</sup>	93.55	7.40	94.53	C	.98
1+06 <sup>37</sup>	91.68	9.82	92.11	C	.43
1+02 <sup>56</sup>	90.45	10.03	91.90	C	1.45
0+98 <sup>60</sup>	89.90	11.49	91.69	C	1.79
0+65 <sup>90</sup>	89.94	12.20	90.99	C	1.05
0+62 <sup>38</sup>	89.79				

64

108.84 880 10004	108.84 451 10433	108.84 663 10221	292
101.93 740 9453	101.93 982 9211	101.93 01115 1003 9190	9890 4285 10318
		101.93 1024 9169	994 9890 10884 9890
		101.93 1024 9099	9890 3203 10793 9099 8994 105 9169 8990 179 9190 9045 145 92.11 9168 43 9453 9355 98

Final Grades  
"Puerto del Sol" Crossing

Sta	Bottom of Pipe	4.575 H2	4.1630 4.97 4.2 103.37	BM. 98.40
		102.98		
0+62 <sup>62</sup>	90.12			
0+65 <sup>62</sup>	90.27		12.83	
0+68 <sup>62</sup>	90.32			
0+71 <sup>32</sup>	90.32			
1+01 <sup>67</sup>	90.34	12.07	90.91	13.01 C. 57
1+04 <sup>67</sup>	90.34			
1+07 <sup>67</sup>	90.37			
1+10 <sup>67</sup>	90.46	✓ 12.07	90.91	13.01 C. 57
1+14 <sup>62</sup>	90.92			
1+18 <sup>47</sup>	92.07			

65

98.40  
4.97  
102.98  
98.40  
4.97  
103.37

102.98  
12.07  
90.91  
90.34  
57  
103.37  
12.83  
90.54  
103.37  
13.01  
90.36

H. 7  
103.78

11.74 91.54 C 1.08

103.28  
11.74  
91.54  
90.46  
1.08

Puerta del Sol Continued

Sta	Bott Pipe			
✓ 1+22 <sup>04</sup>	93.87	5.5	97.41	C 3.54
1+25 <sup>25</sup>	96.26 ✓			
1+27 <sup>49</sup>	98.25			
1+29 <sup>70</sup>	100.28			
1+34 <sup>04</sup>	104.42 ✓			
✓ 1+36 <sup>78</sup>	107.01	108.44 .63	107.81	E .59
1+39 <sup>76</sup>	109.02			

OK

41  $\frac{4.88}{98.48}$   
103.28

490 98.38 C 2.12

NS  $\frac{11.13}{109.53}$   
11.13

5.61 103.92 F .52

102.98  
95.57  
97.41  
93.87  
3.54  
1103.28  
490  
98.38  
96.26  
12

119.53  
5.61  
103.92  
104.42  
.52

98.40  
100.4  
98.44  
63  
107.81

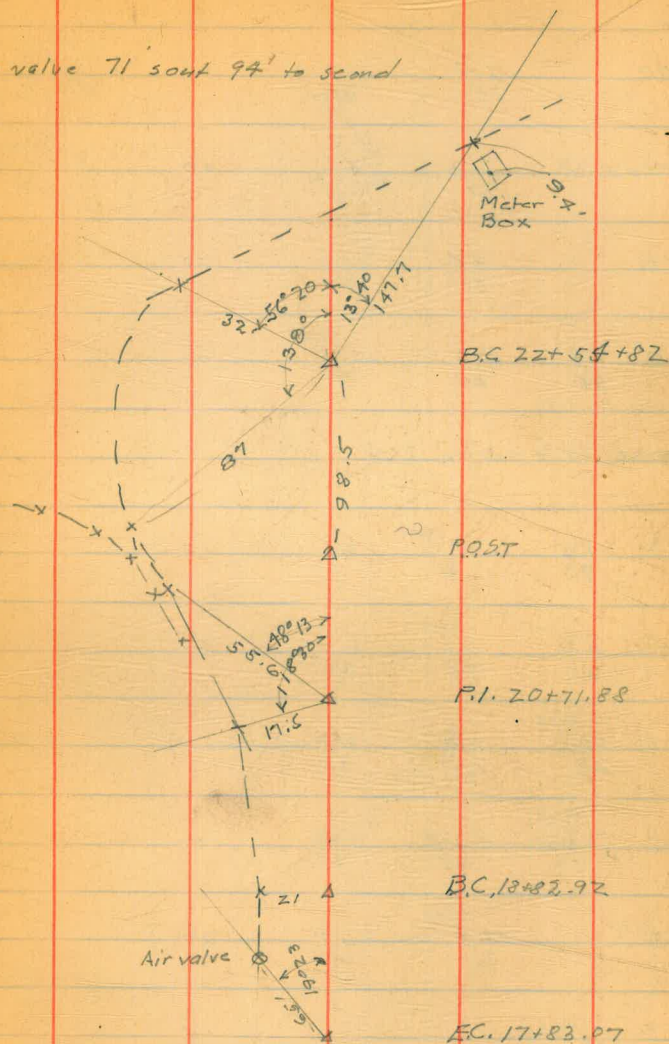
Locating Pipe line at Del Mar  
Golf course trying new road to Pipeline

Sta	35	20	Pipe	C of Road
4+00			7.3 Lt	28
5+00	7.0 35	1.0 20	0.0 8.0 Lt	00
6+03.25	3.5 35	+0.4 20	0 1.0 Lt	0.0
7+00	2.72 35	+0.3 20 Lt		Pipe P.I. 00
8+00	+0.3 35	+0.2 20.0 Lt	0.0 1.0 Rt	Pipe 00
9+00	+0.1 35	+0.2 20 Lt	0.0 2.0 Rt	
9+33	Air		2.2 Lt	00 same as 9+00
10+00	1.0 35	1.0 20	1.3 7.0 Lt	00
11+00	9.3 35	9.4 33.0	2.6 20	00
12+00	4.0 55	1.3 35	1.0 20	00
B.C. 13+06+		0.9 33	0.2 20	00
14+00	+0.6 35	+0.4 20	+0.2 13	00

June 7-37  
P.O.C

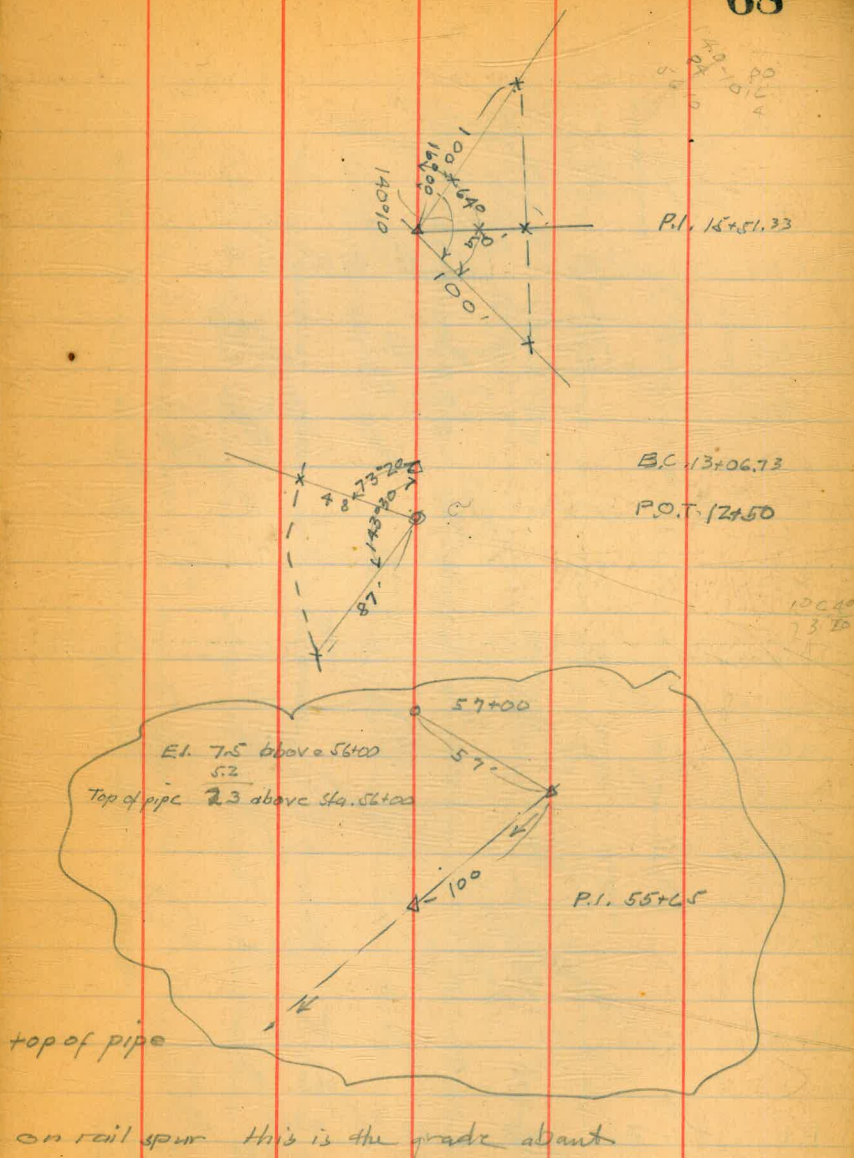
67

to Air valve 71 south 94° to second

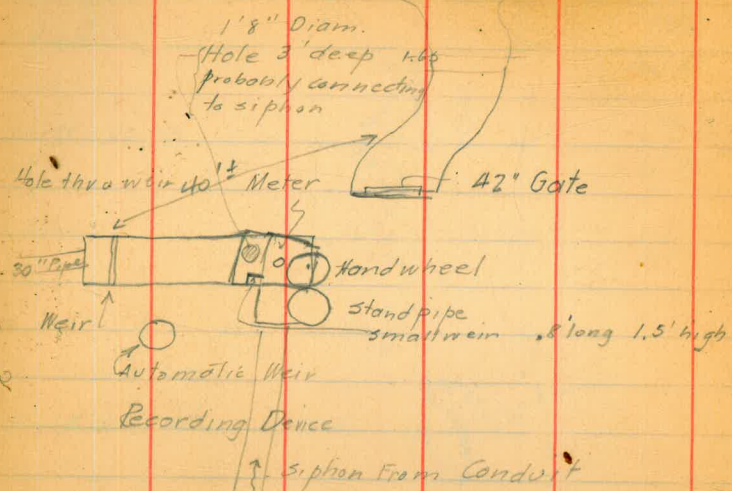


Sta				\$	
15+00	3.9 35	1.0 20 Lt	00		Pipe 0.0 9.0 Rt
16+00	6.3 35	4.7 20	00		Pipe 0.2 10 Rt
17+00	0.0 35	+1.2 20	00		0.4 9.0
18+00	1.4 35	10.2 20	+0.3 10	00	Pipe
18+44.6 Air valve 21.5 Lt					
19+00	1.7 35	0.0 21	0.5 20	00	Pipe
20+00	0.9 35	0.0 25	0.3 20	00	Pipe
21+00	1.8 48	2.4 35	2.3 20	00	Pipe
22+00	+2.5 59	+0.8 35	+0.3 20	00	Pipe
B.P. 22+54.79	+2.8 35	+1.3 20		00	Pipe
			0.4	17 East	
23+25	P.I.		1.7 00		
24+00			3.7 00		

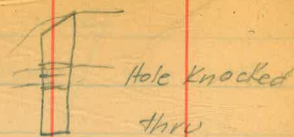
Bridge in between here being built







Weir  
42" wide  
2' High on deep side



Depth of Water in flume 2.1 Feet  
at weir .8' Foot

10.465

10.446 W.L. in flume

11.176 W.L. in Box

11.170

1117

1045

.72

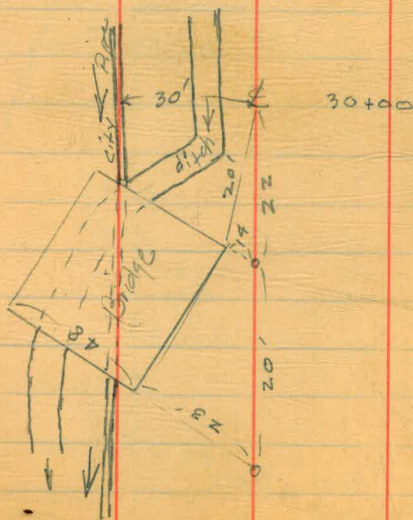
tie to pipe line cont. in  
12.64 H.L.

tidal gate 36"

top of pipe

27+57	3.6 35	4.1 20	11.2 13.7	55 00	3.9 50
28+00	6.2 35	10.8 20	4.3 70	5.1 00	
29+00		in drainage 10.6 ditch 35	5.5 23	5.2 00	
30+00	8.7 35	5.4 28		7.0 00	
P.1	5.4 55	7.0 70	10.5 32	4.8 16	4.5 00

76.8 BM on conc. Block of pipe Bolster  
4.96  
12.64





Jan Elijah Crossing

	10.99	109.89	Elev. of stake	Elev. Bot of Pipe	Pipe 28.9 Cut
0+80					
0+66		13.58	96.31	90.6	5.7
0+74		11.71	98.18	91.0	7.2
0+89		10.33	99.56	91.0	8.6
1+04		5.71	104.18	91.8	12.4
1+20		3.08	106.91	101.0	5.8
1+40					
	11.14	110.04			98.9
0+89		11.14			98.90
1+31 <sup>7</sup>		3.24			106.80
1+33 <sup>2</sup>		2.95			107.09
0+62		17.57			92.47
1+20		5.45			104.59
		11.50			98.54
	45.8	103.12			
0+62		10.47			92.46
61 <sup>8</sup>		10.90			92.22
0+66 Ditch		12.11			91.01

Datum as per Converse  
Preliminary Cut Marks

4/2/30  
9890  
1099  
109.89  
Remission  
70  
1162  
189  
1358  
109.89  
11354  
963  
109.89  
1033  
99.56  
109.89  
571  
104.18  
109.89  
308  
681  
96.31  
906  
5.7  
981  
104.2  
918  
12.4  
106.8  
111  
50

Last joint 131<sup>7</sup> El. 106.80  
First joint 0+61<sup>8</sup> El. 92.22

1+33<sup>7</sup>  
0+62

110.04  
324  
106.80  
98.54  
110.04  
11.14  
100.4  
292  
98.54  
458  
103.12  
106.80  
98.47  
74.33  
15.17  
103.12  
12.11  
91.01  
110.04  
324  
106.80  
110.04  
11.14  
100.4  
292  
98.54  
107.09  
110.04  
17.57  
499  
17.57  
92.47  
103.12  
109.89  
92.22

checking Bot. Ac.

Puerta Del Sol

Converse Datum

71

Station	Dist	Elev of Stake	Elev Bottom	Cut
1108	8818	107.22		98.4
0+52		14.37	92.85	89.5
0+80		10.68	96.54	90.4
1+08		8.84	98.38	90.1
1+27	10.85	117.78	106.93	98.8
1+44		256	115.22	111.7
0-	4+4.30			
0+62 <sup>5</sup> (Bog)	2	103.10 <sup>T</sup>	92.54	98.40
0+80		8.15	94.95	90.1
1+08		4.70	98.40	98.40
1+27	14.60	113.04	103.7	98.44
1+41			31	112.73
1+44 <sup>2</sup>	193	114.97	.90	114.07
1385			2707	

98.4	
882	
107.22	
1230	
202	
1437	
106.93	
10.85	
117.78	
107.22	
1437	
92.85	
89.5	
3.4	
107.22	
10.68	
96.54	
90.4	
6.1	
107.22	
8.84	
98.38	
90.1	
8.3	
98.40	
4.66	
103.66	
98.40	
11.59	
110.03	
201	
113.04	
117.78	
256	
115.22	
111.7	
3.5	

2+20

2.8

72

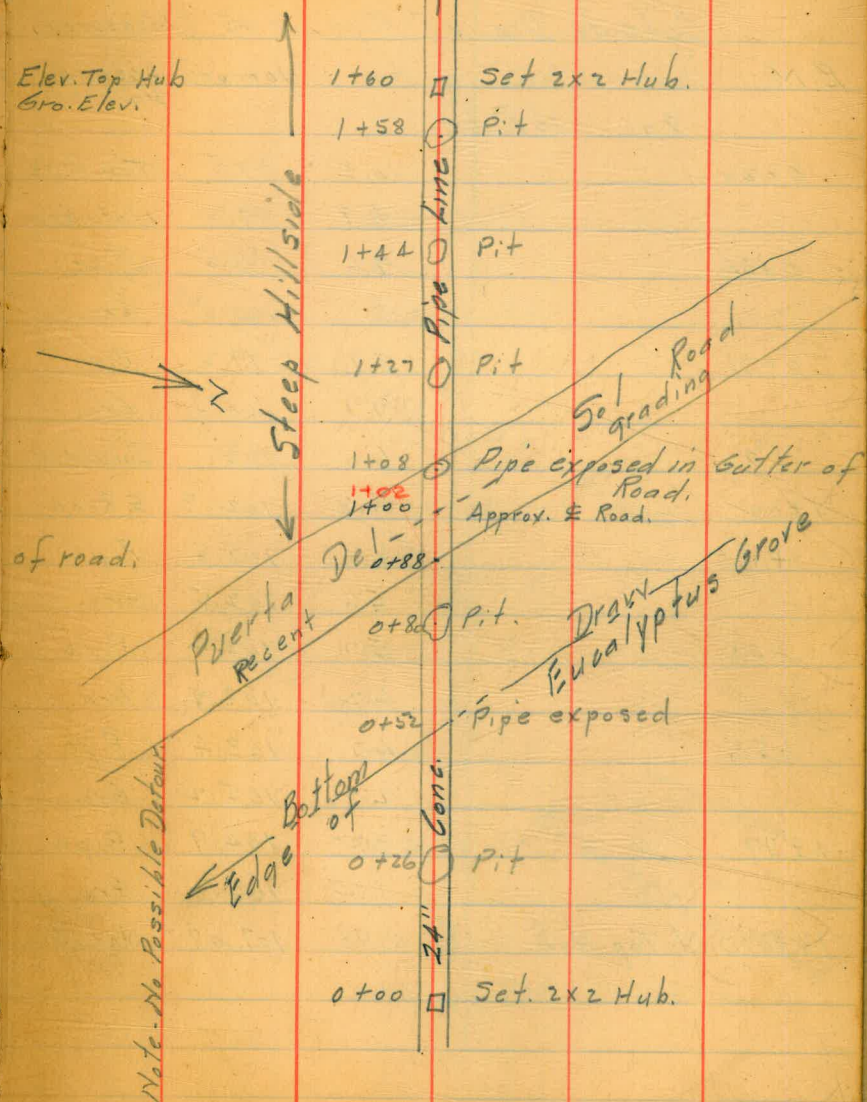
Profile of Ground and Elevations on  
24" Concrete Pipe at Crossing of San  
Diego Pipe Line and Puerta Del Sol Road  
Santa Fe Ranch.

Outside Dia. of Pipe = 2.45 (Not measured)

B.M.			100.00 Assumed at Sta. 0+00.	Elev. Top Hub Gro. Elev.	
	4.01	104.01			
0+26		7.9	96.1	Top Pipe	
		6.8	97.2	Nat. Gro.	
0+35		7.1	96.9	Nat. Gro.	
+52		12.0	92.0	Top Pipe	
		12.0	92.0	Nat. Gro.	
+67		9.1	94.9	Nat. Gro.	
+80		9.1	94.9	Top Pipe	
		7.7	96.3	Nat. Gro.	
+88		5.5	98.5	Shoulder of road.	
1+00		5.4	98.6	♀ Road	
+08		5.6	98.4	Top Pipe	
		5.6	98.4	Nat. Gro.	
T.P.	12.70	115.33	1.38	107.63	
1+27			10.5	104.8	Pipe
			9.3	106.0	Gro.
+44			0.8	114.5	Pipe
			0.0	115.3	Gro.
T.P.	9.36	124.38	0.31	115.02	
1+58			1.7	122.7	Pipe
			1.2	123.2	Gro.
1+60 B.M. Top Hub.			0.20	124.2	Nat. Gro.

March 18, 1930  
Cloudy & Cool  
Showers in A.M.  
#5

Converse  
Elliott  
Simpson  
Kincaid & 2 Men.  
73



Note - No Possible Datum

Profile of Ground and Elevations  
on 24" Concrete Pipe at Crossing of

San Diego Pipe Line and Camino Viejo Road,  
Santa Fe Ranch

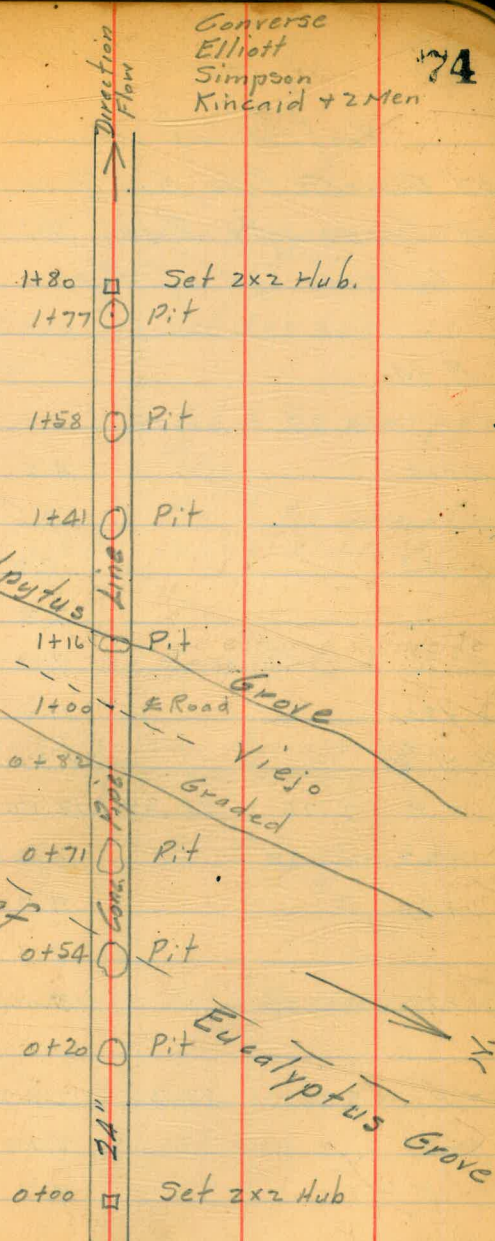
Outside Dia. of Pipe = 2.45 (Measured)

B.M.					
	8.06	108.06	100.00	Assumed	Elev. Top Hub at
				Sta. 0+00.	Gro. Elev.
0+20		10.6	97.5	Top Pipe	
		8.9	99.2	Nat. Gro.	
0+54		9.6	98.5	Pipe	
		8.1	100.0	Gro.	
0+71		8.9	99.2	Pipe	
		7.7	100.4	Gro.	
+82		6.0	102.1	Shoulder	
1+00		5.8	102.3	£ Road	
+16		6.6	101.5	Pipe	
		5.6	102.5	Gro.	
+41		5.7	102.4	Pipe	
		4.2	103.9	Gro.	
+58		4.7	103.4	Pipe	
		2.9	105.2	Gro.	
1+77		3.2	104.9	Pipe	
		1.2	106.9	Gro.	
1+80 B.M. Top Hub.	0.98	107.08		Nat. Gro	

March 18, 1930.  
Cloudy + Cool.

#6

Elev. Top Hub at  
Gro. Elev.



Note - No Possible Detour.

Santa Fe Ranch. #1

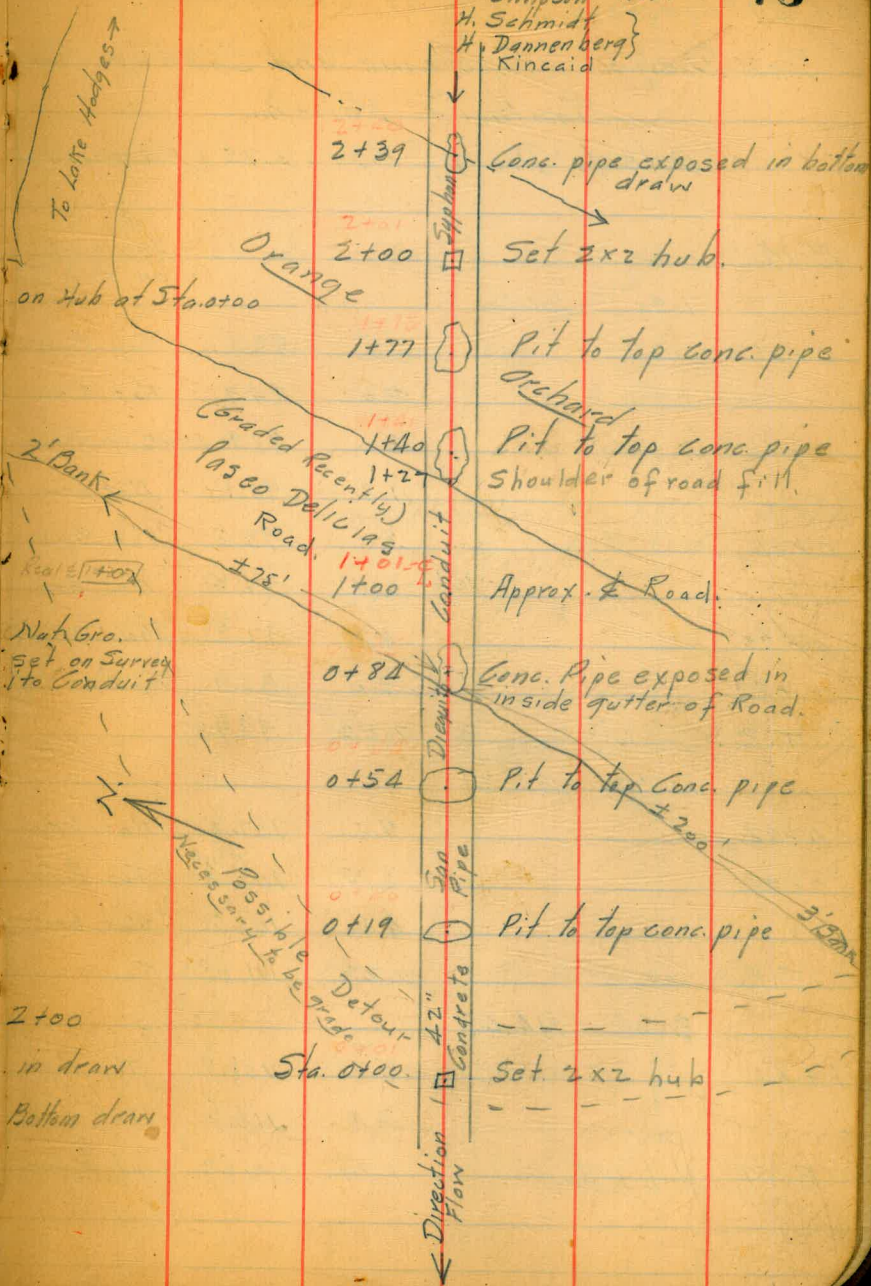
Profile of Ground and Elevations on  
42" Concrete Pipe, San Dieguito Conduit Siphon,  
at Crossing #1. Paseo Delicias Road Crossing.  
Outside Dia. of Pipe = 51 5/8" (Measured)

B.M.			100.00	Assumed Elev. Gro. Elev.	on Hub at Sta. 0+00
	0.75	100.75			
0+19		4.5	96.3	Top Pipe	
		3.0	97.8	Nat. Gro.	
0+54		8.3	92.5	Top Pipe	
		7.3	93.5	Nat. Gro.	
0+76		9.1	91.7	Nat. Gro.	
0+84		11.9	88.9	Top Pipe and Nail in Pole of San Diegu	Nat. Gro. Set on Survey to Conduit
B.M. #35		8.32	92.43		
T.P.	2.76	91.39	12.12	88.63	
1+27		3.0	88.4	Nat. Gro.	
1+40		9.7	81.7	Top Pipe	
		8.4	83.0	Nat. Gro.	
1+77		13.0	78.4	Top Pipe	
		11.6	79.8	Nat. Gro.	
T.P.	3.36	82.26	12.49	78.90	Top Hub. 2+00
2+39		7.2	75.1	Top Pipe	in draw
		7.7	74.6	Nat. Gro.	Bottom draw

March 18, 1930.  
Weather - Cloudy & Cool.

Converse - Notes  
Elliott  
Simpson  
H. Schmidt  
H. Dannerberg  
Kincaid

75



Profile of Ground and Elevations  
on 27" Concrete Pipe at Crossing #2.

San Diego Pipe Line and San Elijo Road,  
Santa Fe Ranch.  
Outside Dia. of Pipe = 2.75 (Not measured)

B.M.				Bro. Elev.	
	1.90	101.90	100.00	Assumed on Hub at	Elevation Sta. 0+00.
0+21		8.5	93.4	Top Pipe	
		7.0	94.9	Nat. Gro.	
0+46		13.0	88.9	Top Pipe	= Grade break
		11.8	90.1	Nat. Gro.	
0+66		8.1	93.8	Top Pipe	
		6.4	95.5	Nat. Gro.	
0+71		4.1	97.8	Shoulder of	road San
0+89		3.0	98.9	Top Pipe and	gro. elev.
T.P.		2.92	98.98		
	12.33	111.31			
0+94		9.1	102.2	Nat. Gro.	
1+20		6.5	105.8	Top Pipe	
		4.6	106.7	Nat. Gro.	
T.P.		0.23	111.08		
	3.34	114.42			
1+40		5.7	108.7	Top Pipe.	
		3.9	110.5	Nat. Gro.	
B.M. Hub 1450		1.89	112.53	Nat. Gro.	

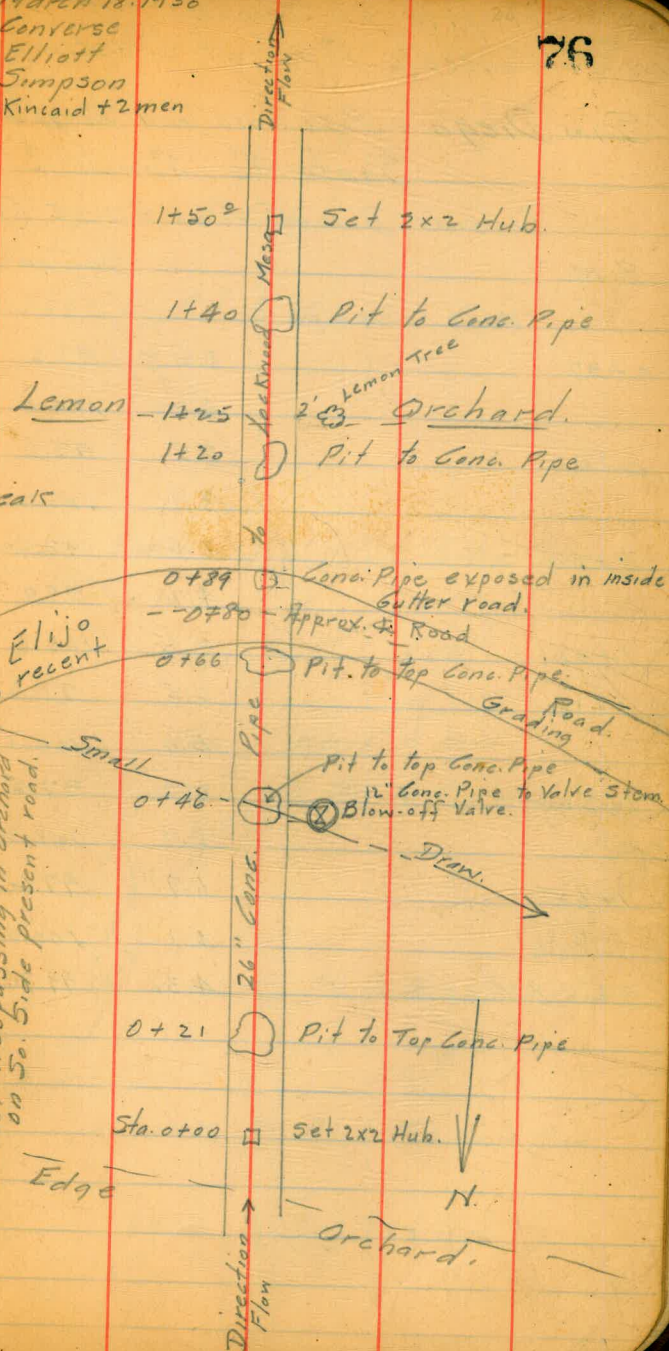
March 18, 1930  
Converse  
Elliott  
Simpson  
Kincaid + 2 men

76

= Grade break

road San Elijo  
No recent  
gro. elev.

Note - No Detour possible  
without trespassing in Orchard  
on So. Side present road.



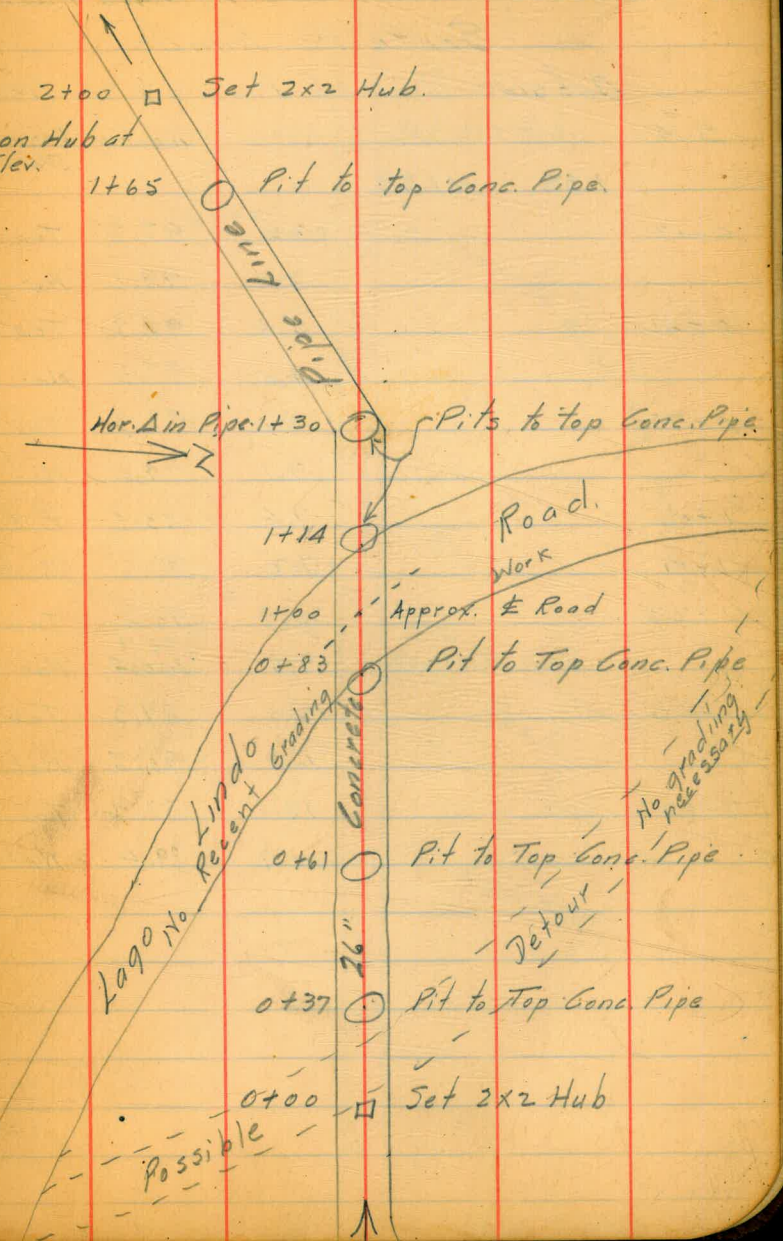
Profile of Ground and Elevations  
on 26" Concrete Pipe at Crossing #3.

San Diego Pipe Line and Lago Lindo Road  
Santa Fe Ranch

Outside Dia. of Pipe = 2.65 (Measured)

B.M.			100.00	Assumed Elevation on Hub at Sta. 0+00	
	4.06	104.06		1465	Gro. Elev.
0+37		6.5	97.6		Top Pipe
		4.1	100.0		Nat. Gro
0+61		6.5	97.6		Top Pipe
		3.9	100.2		Nat. Gro
0+83		6.5	97.6		Pipe
		4.2	99.9		Gro
1+00		3.5	100.6		£ Road
1+14		6.5	97.6		Pipe
		4.0	100.1		Gro.
1+30		6.6	97.5		Pipe
		3.9	100.2		Gro.
1+65		6.7	97.4		Pipe
		4.1	100.0		Gro.
2+00 B.M. on Hub		4.30	99.76		Nat. Gro

March 18, 1930.  
Converse  
Elliott  
Simpson  
Kincaid + 2 Men.





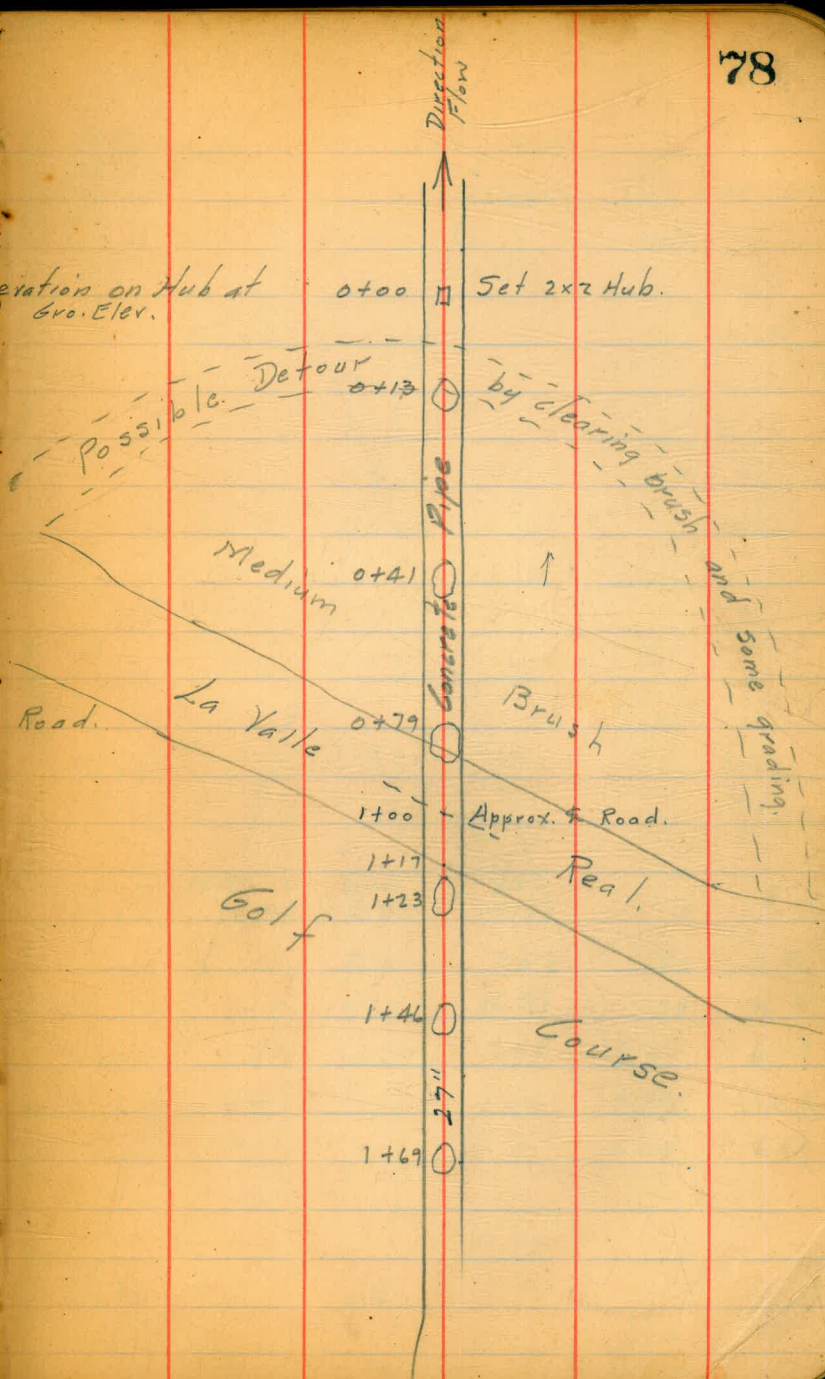
Profile of Ground and Elevations  
on 27" Concrete Pipe at Crossing #4.

San Diego Pipe Line and La Valle Real. Road  
Santa Fe Ranch.

Outside Dia. of Pipe = 2.75 (Measured)

B.M.			100.00	Assumed El. Sta. 0+00.	Elevation on Hub at Gro. Elev.	
	1.33	101.33				
0+13		3.5	97.8	Top Pipe		
		2.2	99.1	Nat. Gro.		
0+41		5.4	95.9	Top Pipe		
		4.0	97.3	Nat. Gro.		
0+79		8.0	93.3	Top Pipe		
		7.1	94.0	Nat. Gro.		
1+00		7.4	93.9	± Road		
1+17		7.7	93.6	Shoulder of Road.		
1+23		10.9	90.4	Top Pipe		
		9.9	<del>100.4</del> 91.4	Nat. Gro.		
1+46		12.0	89.3	Top Pipe		
		10.8	90.5	Nat. Gro.		
1+69		13.1	88.2	Top Pipe		
		11.9	89.4	Nat. Gro.		

78





San Elijah  
7.555 22264

stake  
215.08

0446

0466

11.72

210.92

offset  
0474

8.566

214.07

ape  
0489

7.40

215.24

offset  
0489

7.86

214.78

offset  
04914

2.832

219.81

766

227.47

1420

4.42

223.05

1440

Bottom of Pipe Cot

210.92 2264 214.07  
207.04 507 202.54  
89.4407 6.53

DIRECTIONS FOR USE OF TABLES

TABLE No. 1

207.04

Distance of slope stake from side or 9.21

207.82

take for any width roadway, slope 1 1/2 to 1

208.44

if ground is nearly level, the cut or fill at side

207.98

is to be cut or filled by the double method, the

208.74

let column and top row. The number in body

217.34

table in row and column

IMPROVED TABLES  
AND  
INFORMATION

TABLE No. 2

To find Tangent and External for curve of

any other curve, divide by degree of curve and

and column found in column of correction.

Degree of curve with a given I may be found

by dividing tangent (or external), opposite I by

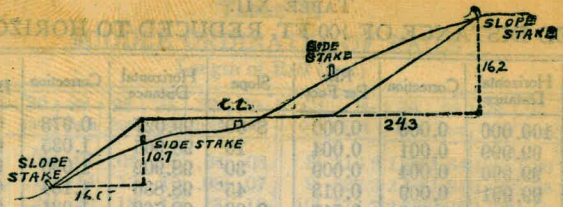
factor tangent (or external).

The distance from a point on the tangent to

the curve is nearly the square of the tangent

length divided by twice the radius.

223.05  
217.34  
5.71



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 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.

Weir gauge below Dam .92.

Discharge 9.53 M.G.D.

Res. Surface D.A. .045  
(Drop).

5 pms 27" I.D. 3' long  
 bell end broken on 4  
 1 in good condition 3" thick

0.97  
 52  
 179

139  
 4  
 3  
 6

1.45  
 4  
 3

1.41  
 1.20  
 2.00

1.20

1.60

8.90  
 3.15

8.0

1.18  
 1.20  
 2.38

9.14  
 3.14  
 6.01

2.26  
 1.86  
 4.10

1.20  
 2.00  
 1.20

1.50 + 2.0  
 1.28 + 0.6  
 3.00 / 22.23  
 22.23

369  
 372

169 + 05

51  
 52  
 53

47  
 27  
 13

27  
 33  
 7

50  
 13

50  
 26

37

36

37

35

37

03

2.5

40 / 100  
 60  
 200  
 36

5 / 182  
 15  
 32

60 / 100  
 60  
 400  
 360

133-30  
 1-29-28  
 4 08

2  
 5 / 122

60  
 4  
 48

5 / 242  
 20  
 42

192

52 / 100  
 52  
 480  
 468  
 120  
 104  
 160

2.74

36.5 / 1000  
 730  
 2704  
 2553  
 14500  
 1460

169

59 / 100  
 59  
 410  
 254  
 560  
 231