

380

FIELD

W57

Walter
Quality



MICROFILMED

JAN 6 1965

MICROFILMED

JAN 6 1965

$$\begin{array}{r} 11225 \\ 2 \\ \hline 22450 \\ 11225 \\ \hline 33675 \end{array}$$

89-87
 9002
 9006
 89-87
 89-87

89-87
 9002
 9006



11225
 2
 22450
 11225
 33675

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Preliminary Pipe Line Survey	
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Lower Otay Dam	29-31

N-E Δ $90^{\circ}02'30''$ $90^{\circ}01'30''$ $01.02'$
S-E Δ $89^{\circ}56'30''$ $89^{\circ}58'$
S-W Δ $90^{\circ}03'$ $90^{\circ}02'$
N-W Δ $90^{\circ}00'$ $89^{\circ}59'$

~~340'02'00'~~

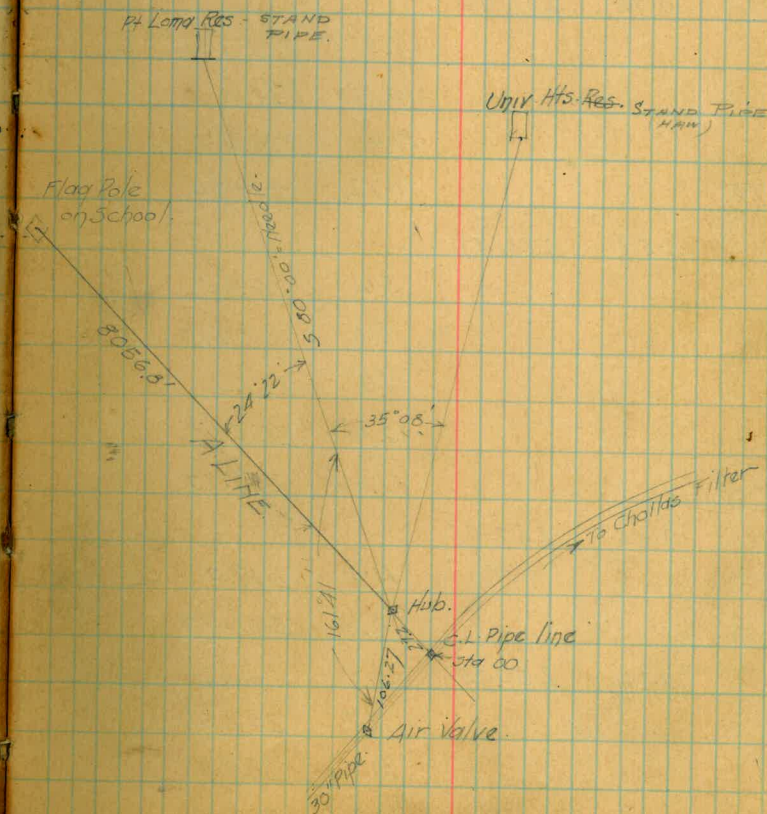
Preliminary Pipe Line Survey.

A. Line Levels.

	+	H.I.	-	Elev.	
Top Valve.	7.94	378.24		370.30	X
0+00 Gr. E.L. Pipe.		79.0	7.8	370.4	
+27			0.9	377.3	
1			8.0	370.2	
T.P.			12.73	365.51	
	0.48	365.99			
2			8.6	357.4	
T.P.			12.44	353.55	
	0.71	354.26			
3			6.1	348.2	
T.P.			12.10	342.16	
	1.13	343.29			
4			2.7	340.6	
5			7.5	335.8	
T.P.			12.96	330.33	
	0.47	330.80			
6			6.2	324.6	
+80			14.7	316.1	
7			14.2	316.6	
8			13.7	317.1	
Top of T.P.			12.94	317.86	
	0.64	318.50			
+80			1.7	316.8	
9			2.6	315.9	
+35			5.3	313.2	
T.P.			12.92	305.58	

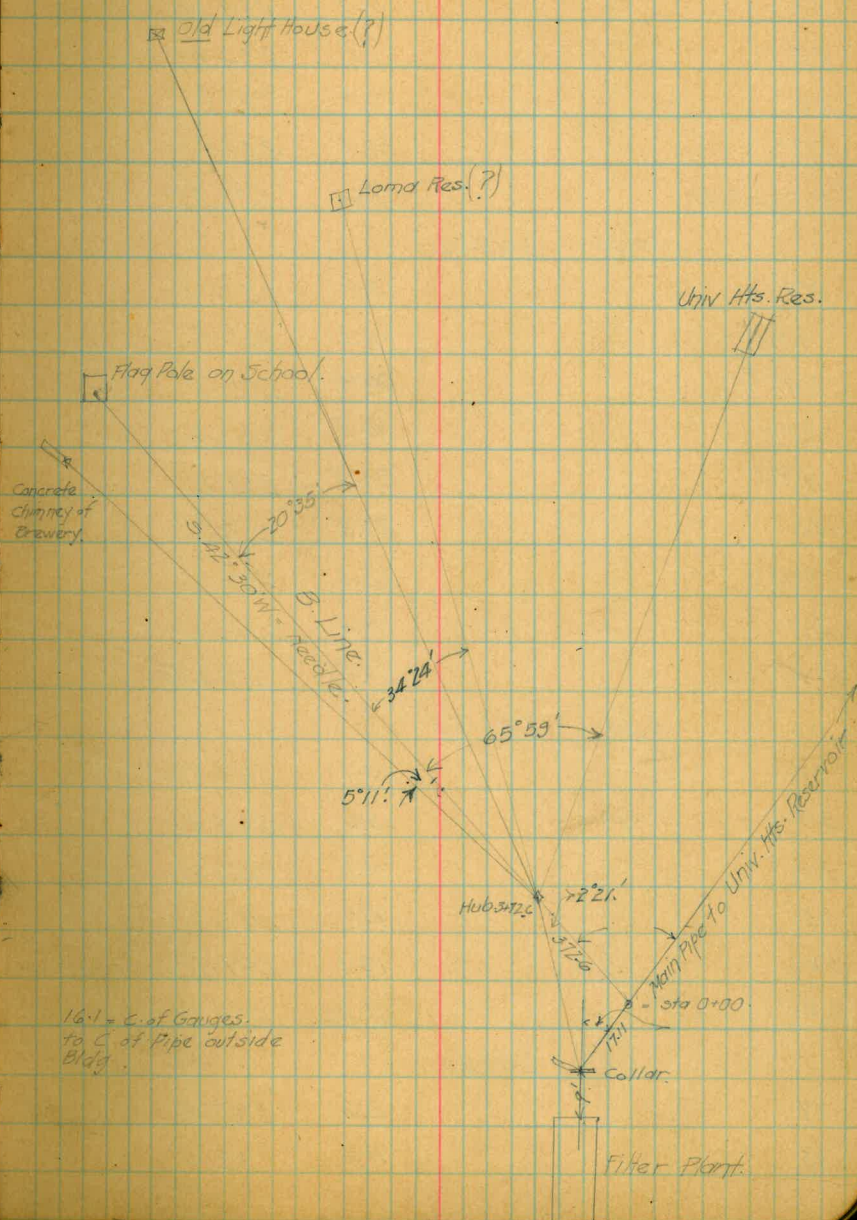
April 2-1913

West
Burnier.
Moore.



305.58

	0.69	306.27		
10			52	301.1
T.P.			12.87	293.40
	0.73	294.13		
11			12.8	281.3
+45			19.0	275.1
12			18.6	275.5
T.P.			12.92	281.21
	0.75	281.96		
13			7.3	274.7
14			10.4	271.6
15			11.4	270.6
Top 15 - T.P.			11.72	270.24
	0.57	270.81		
16			5.6	265.2
17			8.0	262.8
18			8.6	262.2
19			12.4	258.4
T.P. Top 19			11.64	259.17
	0.85	260.02		
20			11.1	249.0
T.P. 20 Top			10.25	249.77
	0.26	250.03		
21			7.7	242.3
22			10.3	239.7
23			12.7	237.3



250.03

3

T.P. Top 23		12.01	238.02
	4.36		242.38
24		7.9	234.5
25		9.2	233.2
26		10.5	231.9
27		10.2	232.2
T.P. Top Stake		9.60	232.78
	10.25		243.03
28		13.9	229.1
+10		15.3	227.7
29		30.4	212.6
+85		36.5	206.5
+90		30.8	212.2
20		29.3	213.7
+40		22.8	220.2
31		4.4	238.6
T.P.		0.07	242.96
	8.80		251.76
32		5.1	246.7
33		3.6	248.2
34		4.7	247.1
35		8.1	243.7
36		10.1	241.7
T.P.		11.96	239.80
	0.60		240.40
37		2.6	237.8
38		4.5	235.9

240.40

39		7.1	233.3
40		10.7	229.7
41		13.6	226.8
+60		11.2	229.2
42		14.3	226.1
T.P.		12.63	227.79

1.26 229.03

+50		3.7	225.3
43		4.8	224.2
+50		6.5	222.5
44		7.9	221.1
+50		9.0	220.0
45		9.1	219.9
+65		11.3	217.7
46		9.5	219.5
+50		6.8	222.2
47		5.5	223.5
T.P.		0.51	228.52

8.13 236.65

48		7.3	229.4
49		4.0	232.7
50		3.0	233.7
+80		3.9	232.8
51		1.8	234.9
52		6.3	230.4
53		10.7	226.0
T.P.		11.71	224.94

	9.87	234.81		
54			12.6	222.2
55			12.4	222.4
+ 32	↳ Road		11.8	223.0
56			10.6	224.2
57			6.2	228.6
58			1.8	233.0
T.P. Top 58			0.97	233.84
	5.66	239.50		
59			4.8	234.7
60			4.3	235.2
61			2.6	236.9
62			5.5	234.0
63			8.2	231.3
64			9.7	229.8
65			12.6	226.9
T.P. Tap 65			12.51	226.99
	1.35	228.34		
66			2.5	225.8
67			3.2	225.1
68			3.3	225.0
69			7.2	221.1
70			11.0	217.3
T.P.			12.53	215.81
	1.85	217.66		
71			3.9	213.8
72			7.6	210.1

+50	217.66	11.2	206.5
73		12.9	204.8
+50		17.0	200.7
74		17.8	199.9
+50		19.4	198.3
75		19.3	198.4
+50		15.6	202.1
76		13.6	204.1
+50		13.2	204.6
T.P.		11.62	206.04

11.62 217.66

77		10.0	207.7
+50		7.9	209.8
78		6.0	211.7
+50		3.9	213.8
+80		0.9	216.8
T.P.		0.66	217.00

8.24 225.24

79		8.0	217.2
+50		5.6	219.6
80		5.2	220.0
T.P. Top NE Cor Past School Fence		1.18	224.06
+56.8 = E.L. School house		5.9	219.3

*

B. LINE

April 4-1913.

West.
Evings.
Moore.

8

	+	H.I	-	Elev
Cent. Cen Collar	9.65	327.40		317.75
0+00 Gr. at Pipe line			13.5	313.9
1			12.8	314.6
+50			12.2	315.2
2			9.5	317.9
3			2.2	325.2
+40			1.0	326.4
4			6.0	321.4
T.P.			12.77	314.63
	-0.02	314.61		
5			4.4	310.2
6			11.2	303.4
T.P.			13.00	301.61
	-0.02	301.59		
7			2.5	299.1
+20			4.9	296.7
8			9.3	292.3
+40			22.1	279.5
+52			23.2	278.4
+62			26.2	275.4
+66			22.5	279.1
+78			22.1	279.5
9			15.4	286.2
+10			11.7	289.9
+50			9.2	292.4
10			9.7	291.9
T.P.			9.04	292.53

		9.04	292.55
T.P.			
	3.93	296.48	
11		5.1	291.4
12		2.3	294.2
13		5.5	291.0
14		11.0	285.5
15		12.9	283.6
16		13.9	282.6
T.P.		12.98	283.50
	0.53	284.03	
17		5.0	279.0
18		6.0	278.0
19		6.3	277.7
20		5.4	278.6
21		8.5	275.5
22		10.2	273.8
23		10.6	273.4
T.P.		10.34	273.69
	2.91	276.60	
24		4.2	272.4
25		1.4	275.2
26		6.7	269.9
27		11.3	265.3
T.P.		12.83	263.77
	0.70	264.47	
28		2.5	262.0
29		5.3	259.2
30		9.2	255.3

+ 264.47 -

31 11.2 253.3

32 13.5 251.0

T.P. 12.82 251.65

3.49 255.14

32+50 7.6 247.5

33 15.3 239.8

+55 29.5 225.6

+65 29.6 225.5

34 20.4 234.7

+40 9.2 245.9

35 7.1 248.0

36 6.7 248.4

37 7.1 248.0

38 9.5 245.6

T.P. 8.87 246.27

162 247.89

39 4.9 243.0

40 5.7 242.2

4.1 6.3 241.6

42 9.4 238.5

43 9.5 238.4

44 9.1 238.8

T.P. 8.46 239.43

2.70 242.13

45 3.2 239.9

46 7.2 234.9

+40 13.0 229.1

242.13

47	18.5	223.6
48	32.3	209.8
+85	44.9	197.2
49	49.1	193.0
+10	52.0	190.1
50	60.0	182.1
+25	63.8	178.3
+30	62.9	179.2
51	43.9	198.2
+40	26.0	216.1
52	15.2	226.9
T.P.	9.19	232.94
5-28	238.22	
53	3.9	234.3
54	6.7	231.5
55	11.3	226.9
56	12.4	225.8
+30	10.8	227.4
57	11.3	226.9
T.P.	12.92	225.30
4.50	229.80	
58	7.7	222.1
+20	10.0	219.8
59	25.2	204.6
+30	28.4	201.4
60	43.6	186.2

229.80

60 +20		52.0	177.8
+25		51.8	178.0
61		23.0	206.8
+20		16.2	213.6
62		7.7	222.1
63		6.1	223.7
64		6.6	223.2
64 +30		6.6	223.2
65		0.9	228.9
T.P.		0.44	229.36
	7.36	236.72	
66		3.0	233.7
67		3.2	233.5
68		5.8	230.9
69		8.5	228.2
70 +70		8.8	227.9
70		11.3	225.4
+55		12.7	224.0
T.P.		12.66	224.06
	12.84	236.90	
71		19.8	217.1
72		27.3	209.6
+75		39.0	197.9
73		30.1	206.8
+75	E. L. Road	22.0	214.9
+90		22.4	214.5

74		22.0	214.9
75		18.3	218.6
76		9.5	227.4
77		3.0	233.9
78		3.9	233.0
750		4.1	232.8
79		6.7	230.2
T.P.		11.58	225.32
	4.60	229.92	
80		9.8	220.1
+20		11.3	218.6
81		32.0	197.9
+50		26.0	203.9
82		12.6	217.3
+50		6.6	223.3
83		5.7	224.2
T.P. - 25'E 90425		6.43	223.49
	0.68	224.17	
84		3.3	220.9
85		3.7	220.5
86		7.4	216.8
87		10.6	213.6
88		13.1	211.1
T.P.		12.87	211.30
	1.30	212.60	
870		4.6	208.0
89		7.9	204.7

		212.60		
T.P.	+		12.82	199.78

	7.01	206.79		

90			8.7	198.1
+40			11.9	194.9

91			24.4	182.4
+50			24.4	182.4

+75			20.0	186.8
92			12.9	193.9

93			3.4	203.4
T.P.			0.89	205.90

	12.67	218.57		
+80			8.5	210.1

94			7.9	210.6
+60			4.6	214.0

95			4.3	214.3
T.P.			2.67	215.90

	8.14	224.04		
+50			5.5	218.5

96			4.7	219.3
Top NE fence Post.			+0.02	274.06

+50.7	School fence		4.4	219.6
97			4.5	219.5

+14.3	E. line school house.		4.7	219.3
T.P.			12.90	211.14

	1.99	212.23		
T.P.			12.64	199.59

	2.10	201.69		
--	------	--------	--	--

	+	201.69	-	E.I.
T.P.			12.85	188.84
	0.86	189.70		
T.P.			12.04	177.66
	1.20	178.86		
T.P.			11.14	167.72
	3.80	171.52		
T.P.			12.13	159.39
	4.03	163.42		
T.P.			6.19	157.23
	9.74	166.97		
T.P.			4.59	162.38
	5.95	168.33		
T.P.			12.64	155.69
	7.57	163.26		
T.P.			12.85	150.41
	1.59	152.00		
N. Plug. H. St. City Limits			11.30	140.70
S. Gr. line			9.77	142.23

Dec. 1913

16

N

Top Res. Site

297.2 297.2

3.4

7

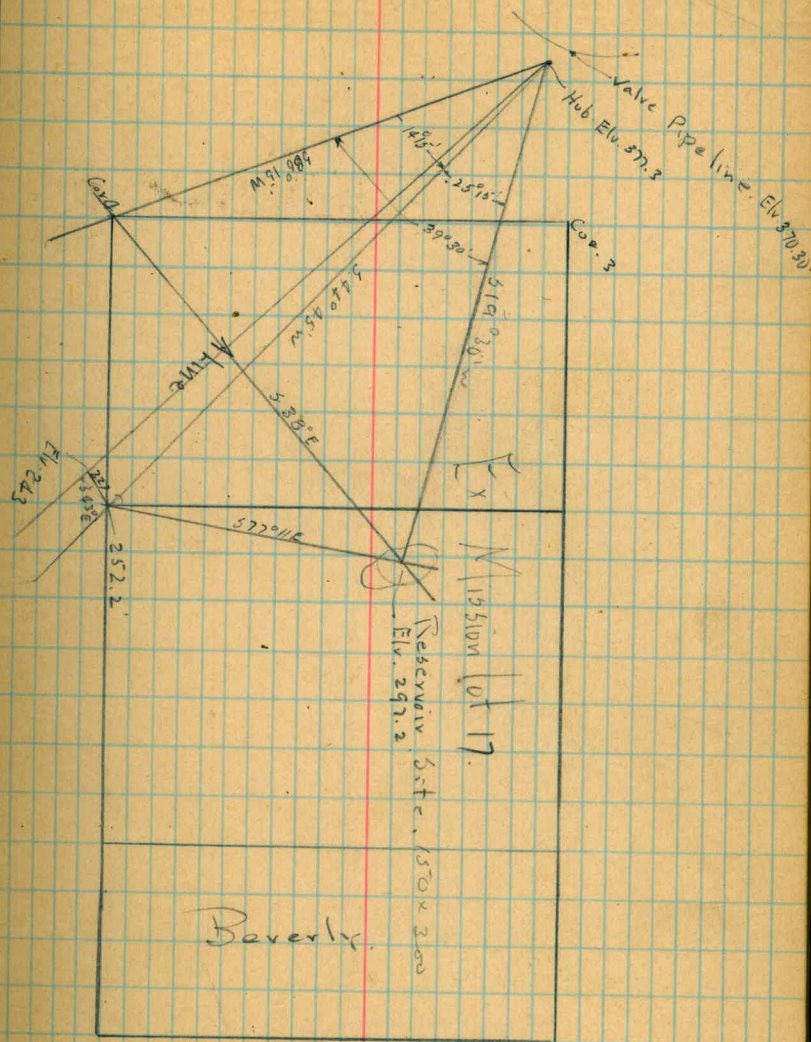
16.2

6.8

4.2

3.1

4.3



TRANSIT Line for 200 Contour
at Cholls School

ANGLE

L R

14+64^Δ 50°18'

11+45^Δ 22°00'

9+26^Δ 63°59'

4+12^Δ 17°25'

1+80^Δ 40°23'

PIPE
0+00 70°57'

3-27-14

HUSTON
LORD
O'BRYEN

17

= A-92+682 - of west-line - of profiles

POINT - ON N.E. CORNER 1005 + C STS IN
Broadway Heights - Δ From 1005 St

ANGLE

L R

33+89±

53°44'

N.E. COR. OF LAD. ST. + "C" ST

29+025[△] 18°38'26+572[△] 13°40'24+211[△] 44°33'20+615[△] 10°06'19+594[△] 42°44'16+69[△] 24°55'

Levels on 200' contour line

0+00	12.93	212.98	200.05' pipe
1		10.6	202.4
+80 ^Δ		13.0	200.0
2		12.3	200.8
3		9.7	203.3
4		12.0	201.0
+12 ^Δ		12.7	200.3
5		13.6	199.4
6		14.1	198.9
7		14.9	198.1
8		14.7	198.3
9		13.6	199.4
+263 ^Δ	208.45	12.9	200.1
10		6.0	203.5
11		8.3	200.3
+452 ^Δ		8.45	200.0
12		8.0	200.5
13		6.4	202.1
14		5.8	202.7
+644		8.5	200.0
15		8.6	199.9
16		9.0	199.5
+69		8.5	200.0
17		8.0	200.5
18		8.3	200.3

3-28-14

Houston

Lard

O'Brien

19

20773

19-	✓		
+594 ^Δ	7.7	200.0	
20-	4.6	203.1	
+615 ^Δ	7.7	200.0	
21	10.0	197.7	
22	10.0	197.7	
23	6.4	201.3	
24	7.1	200.6	
+21.1 ^Δ	7.7	200.0	
25	6.2	201.5	
26	7.5	200.3	
+573 ^Δ	7.5	200.3	
27	8.4	199.3	
28	7.4	200.1	
29	7.8	199.9	
+925 ^Δ	7.7	200.0	
30-	7.8	199.9	
31-	20719	7.2	200.5
32-	7.4	199.8	
33-	5.6	201.6	
+894 ^Δ	7.4	200.0	

PIPE

Topography for New Houston
Reservoir at Chollas School
Elev.

5-28-14

Taken from Forward Tangent at
A-Points

21

5- ~ 1994

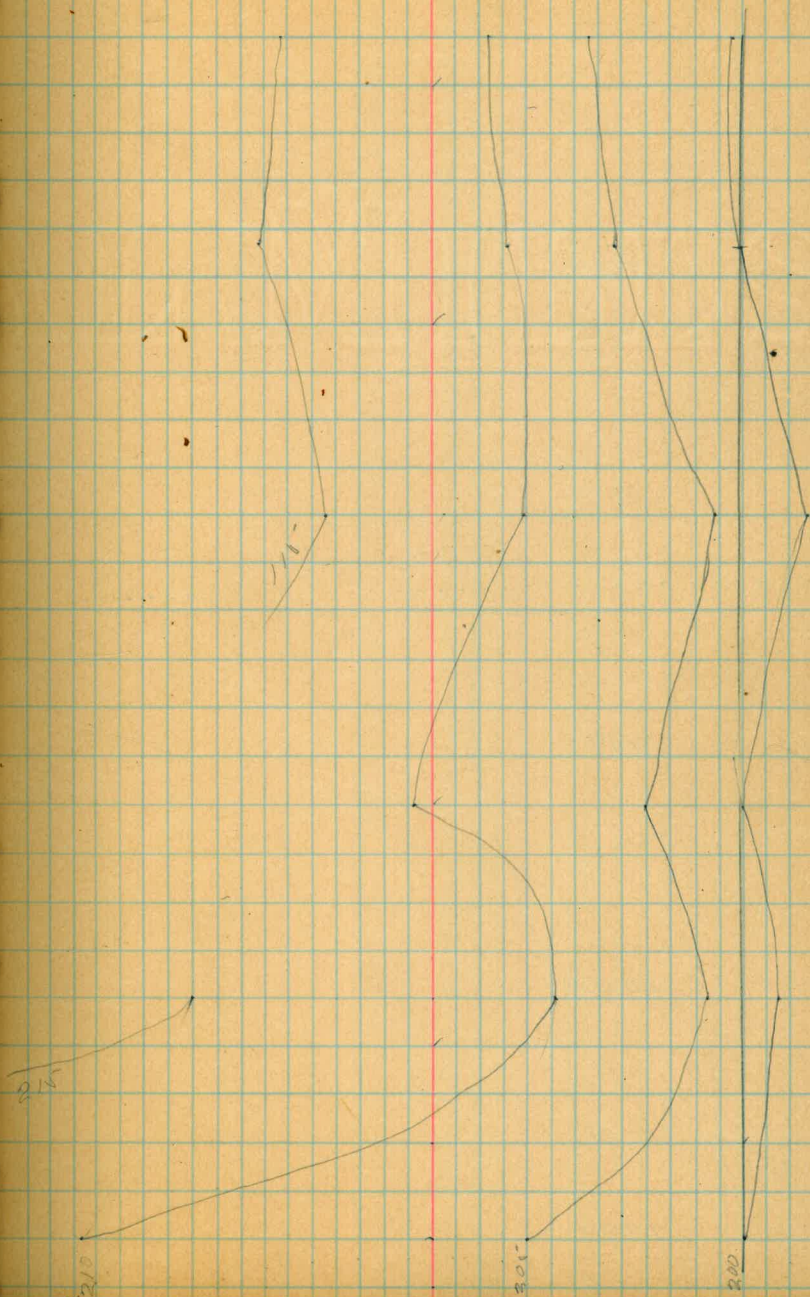
4- 2010

3- 2033

2- 2008
+50

1- 2034

0+00 200.0



10- 2025

9- 1994

8- 1983

7- 1981

6- 1989

5- 1994

300
5220300
70220

200

210

220

200

3-30-14

HUSTON
LORD
ORIGIN

23

15- 200.0

14- 202.7

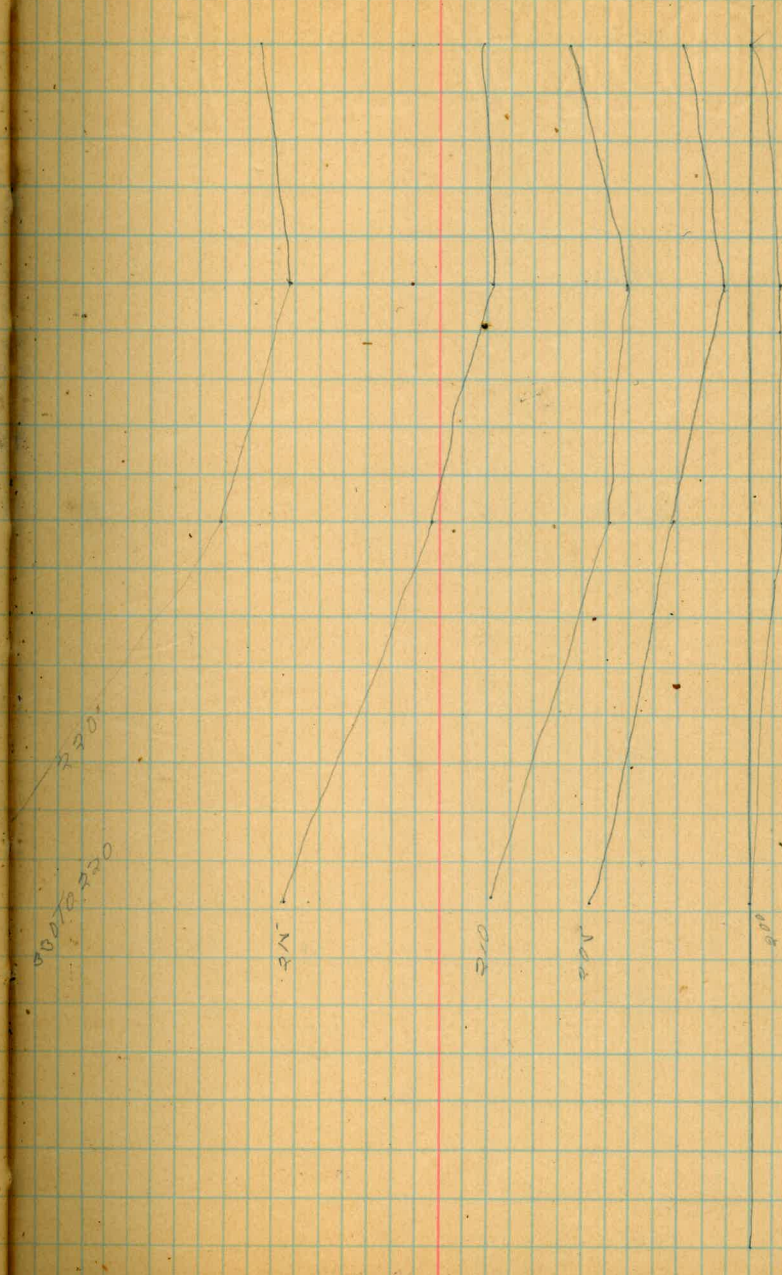
13- 203.1

12- 200.5

11- 202.9

10- 200.2

10- 202.5



20- 203.1

18.54 200.0

19- 203.0

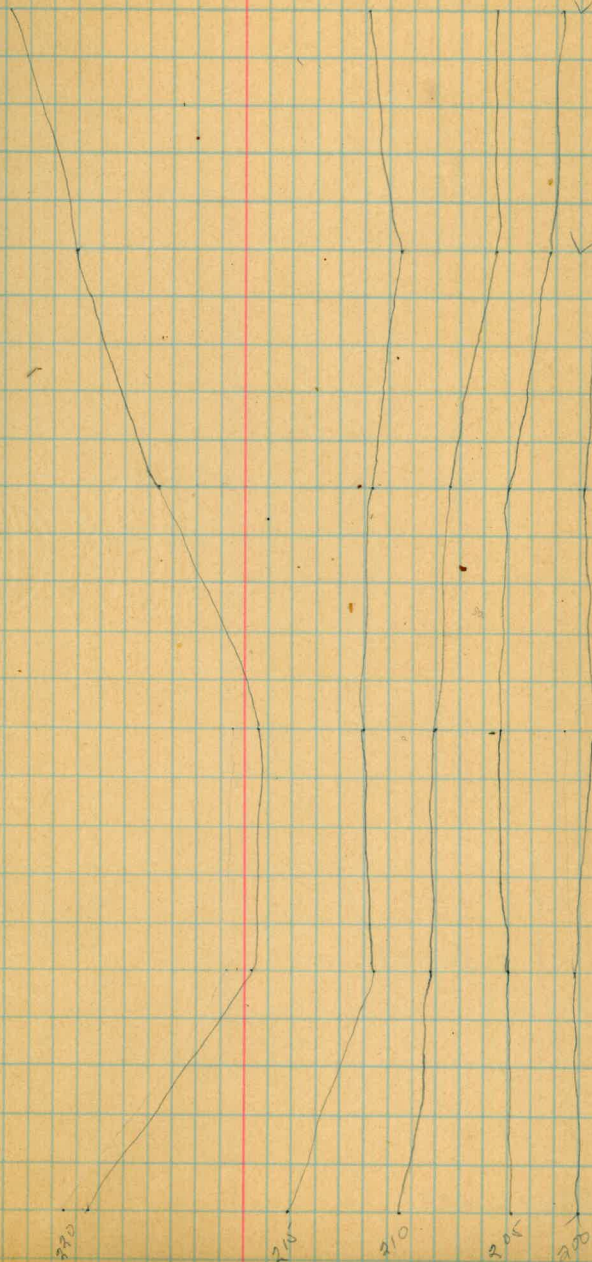
18- 200.3

17- 200.5

16- 199.5

15- 200.8

18
17
16
15



24

20- 2015

21- 2000

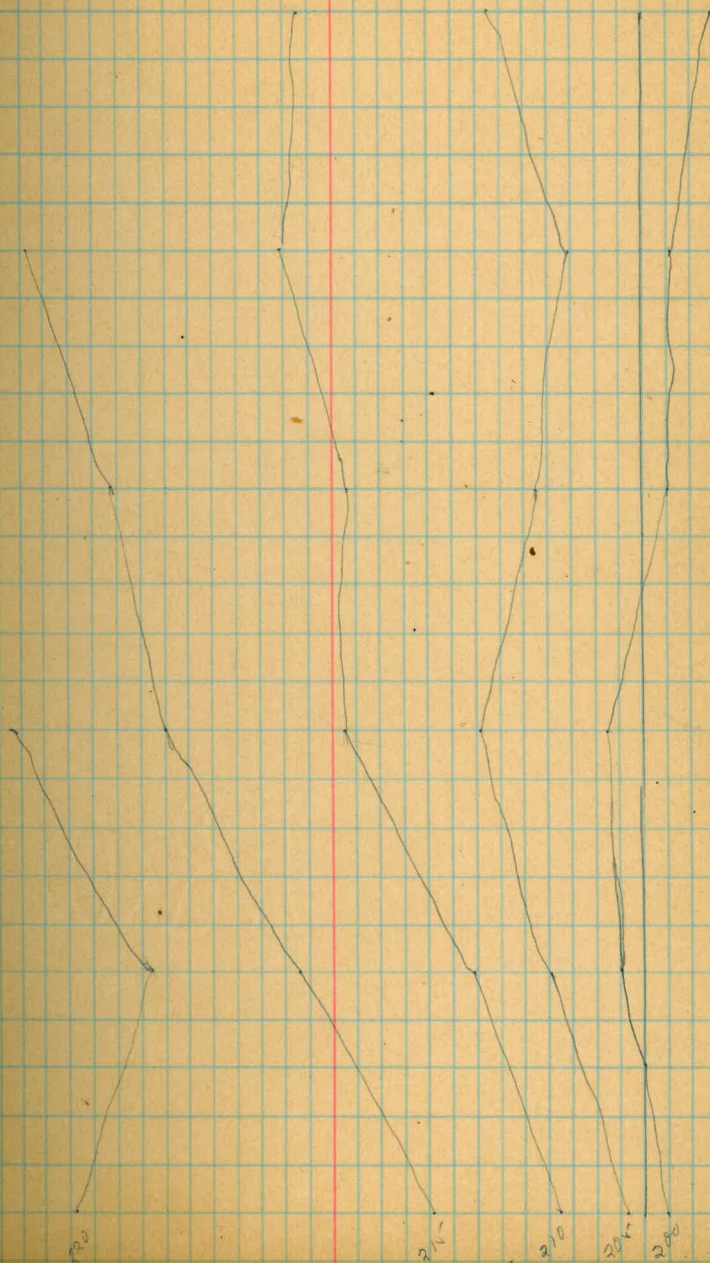
24- 2006

23- 2013

22- 1977

21- 1977

20- 2031

224
to 220

30- 1999

29- 1999

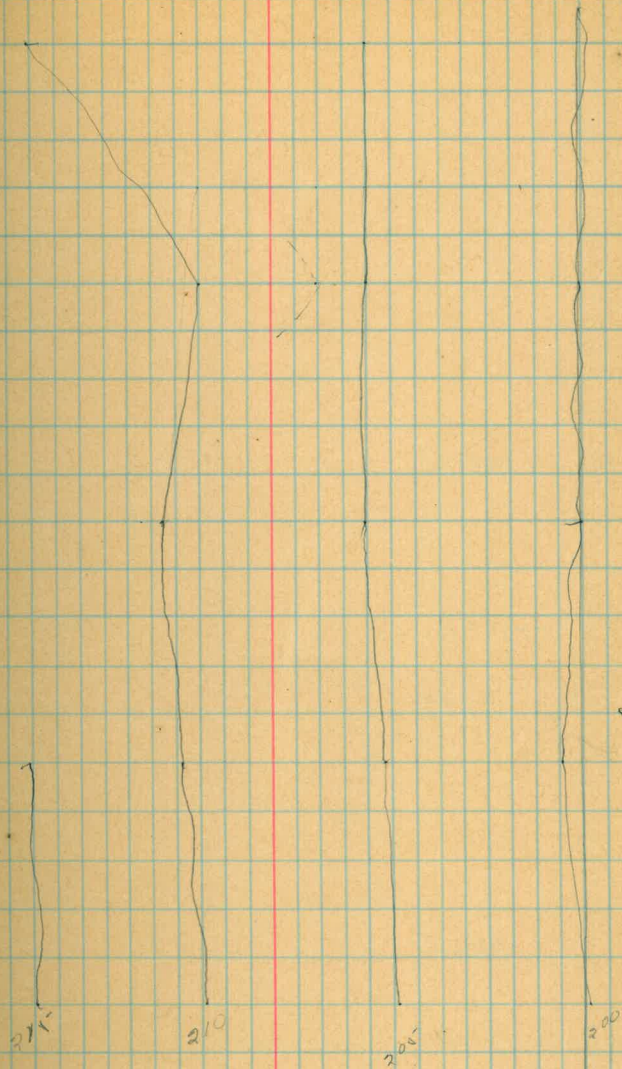
28- 2001

27- 1993

26- 2002

25-

3256215



33- 2016

32- 1998

31- 2005

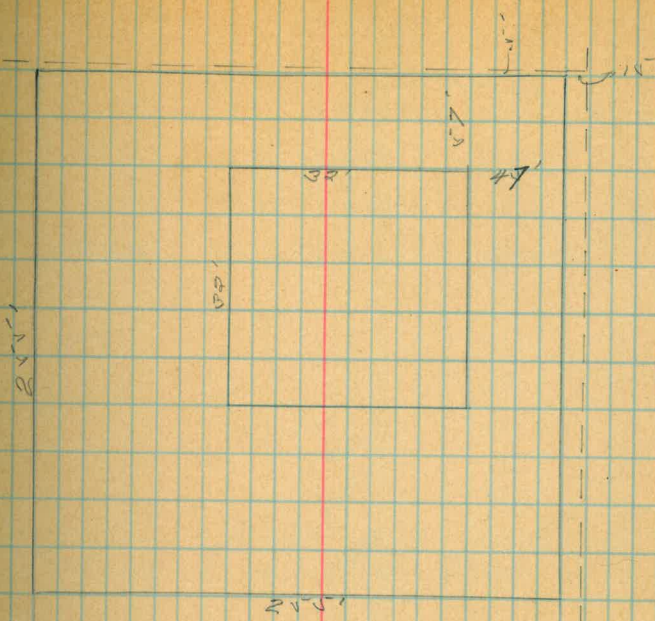
30-

210

201

200

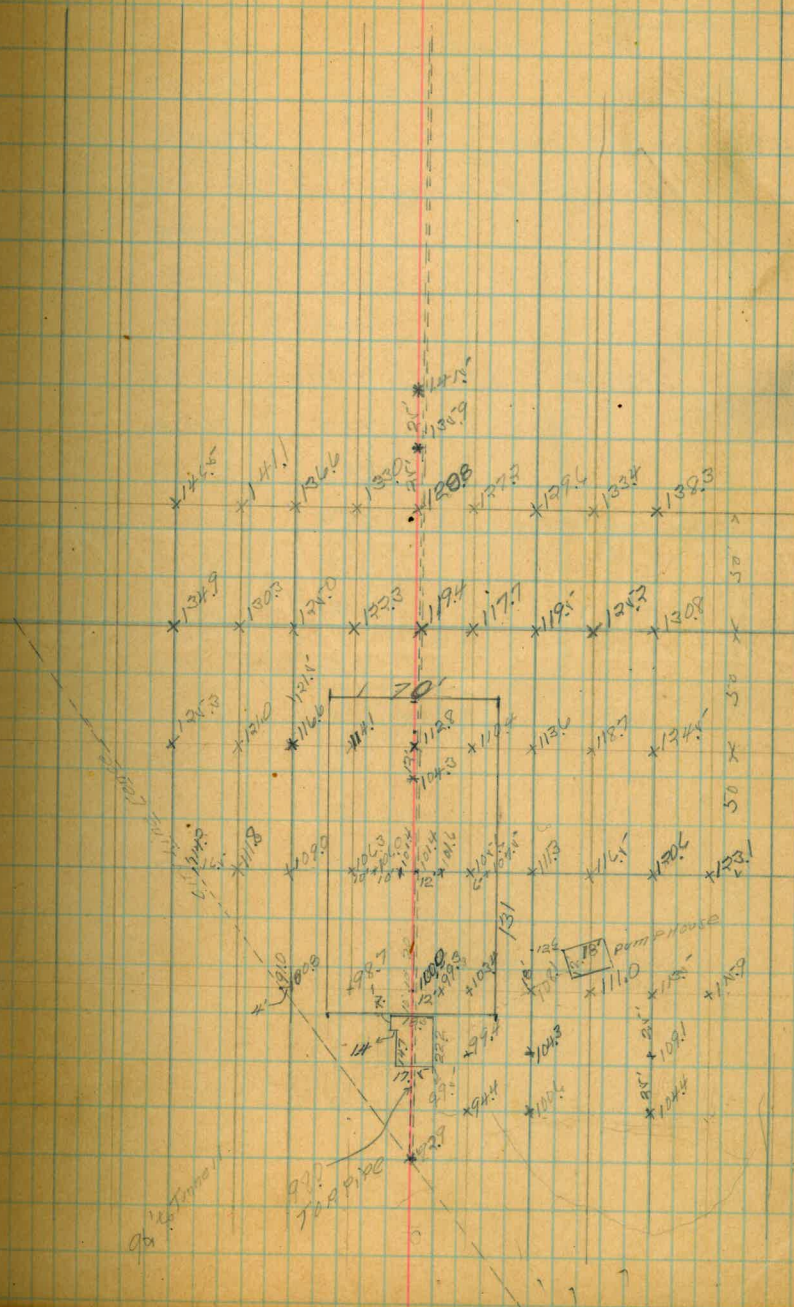
Box 5 x 4 20



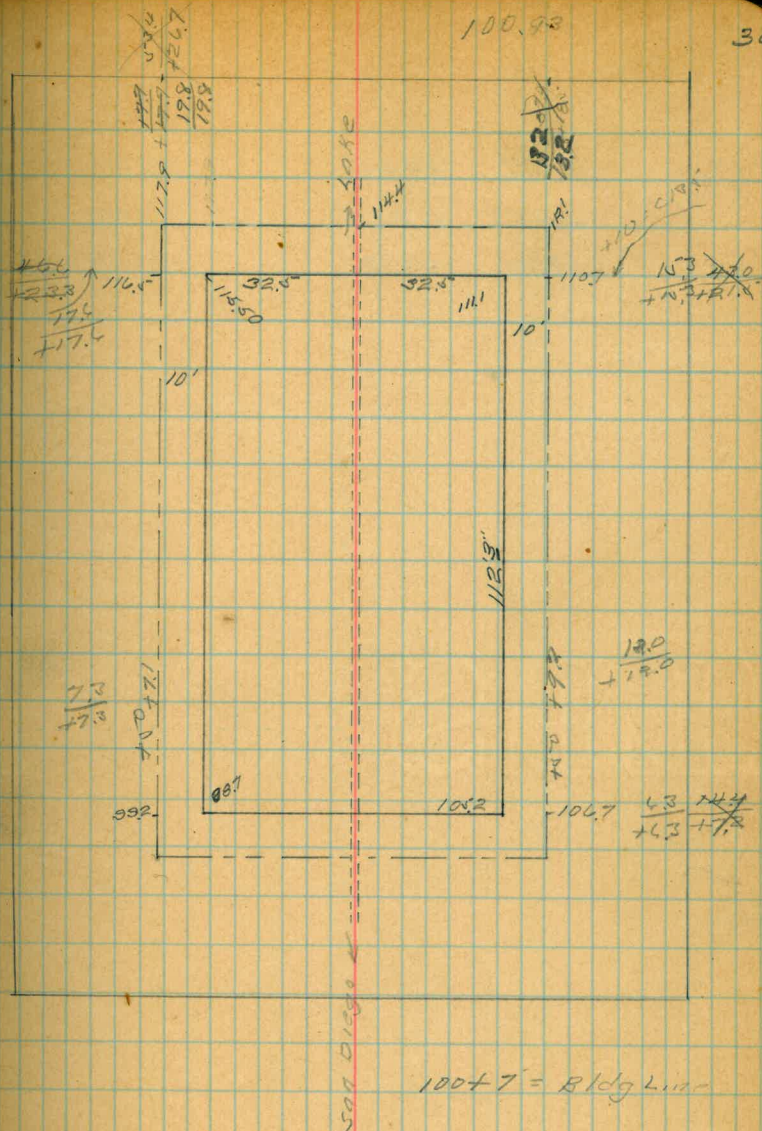
Levels for Filter Plant at Huston
 Lower Otay Dam 8-6-14
 KIMBLE

29

	Hub 0+00			
Assumed Elev	1036	11036		100.00
T.P.	1294	12300	0.80	110.06
T.P.	1211	13435	0.76	133.34
T.P.	1274	14667	0.42	133.93



B.M.	assumed.	402	104.02	100.00
On elev. of Gate	4.2"	5.65		98.37
Center of 42" pipe				96.50
Elev. of Floor of Building				101.18
Sub-grade				100.98
		5.3		98.7
		4.8		99.2
T.P.	1278	116.56	0.19	103.83
		11.4		105.2
		9.9		106.7
B.M.	nail in Pump House	356		113.00
		5.5		111.1
		5.9		110.7
		2.2		114.4
T.P. 504	1294	128.44	1.06	115.50
		11.9		116.5
		10.5		117.9
		14.3		112.1



3/6/18 C. W. G. S.

B.M.	1157	12457	11300
"	-050	11250	11300
"	1034	12234	11300

44

~~Solar Time 10.09'~~

~~Vert 49°33' Δ L 43°03'~~

~~10-14~~

~~Vert~~

From Meridian ST

3-28-14

a.m.

9.43 Vert Angle 47°30'

Angle Left To Sun 52°04'

E-ST

10.03 a.m. Vert 51°06'

Angle R To Sun 44°00'

1337
668.5

668.5

73

116.52
93
15.63

10402
75.7
96.50
2.52

5.65
1.75
7.52

98.37
12
98.35
1.75
96.50
4.68
101.18

27.5

19

18.5
07

128.44
73
27.51
21.8
23.3
44.5

19 20.7
26.7
47.4