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008

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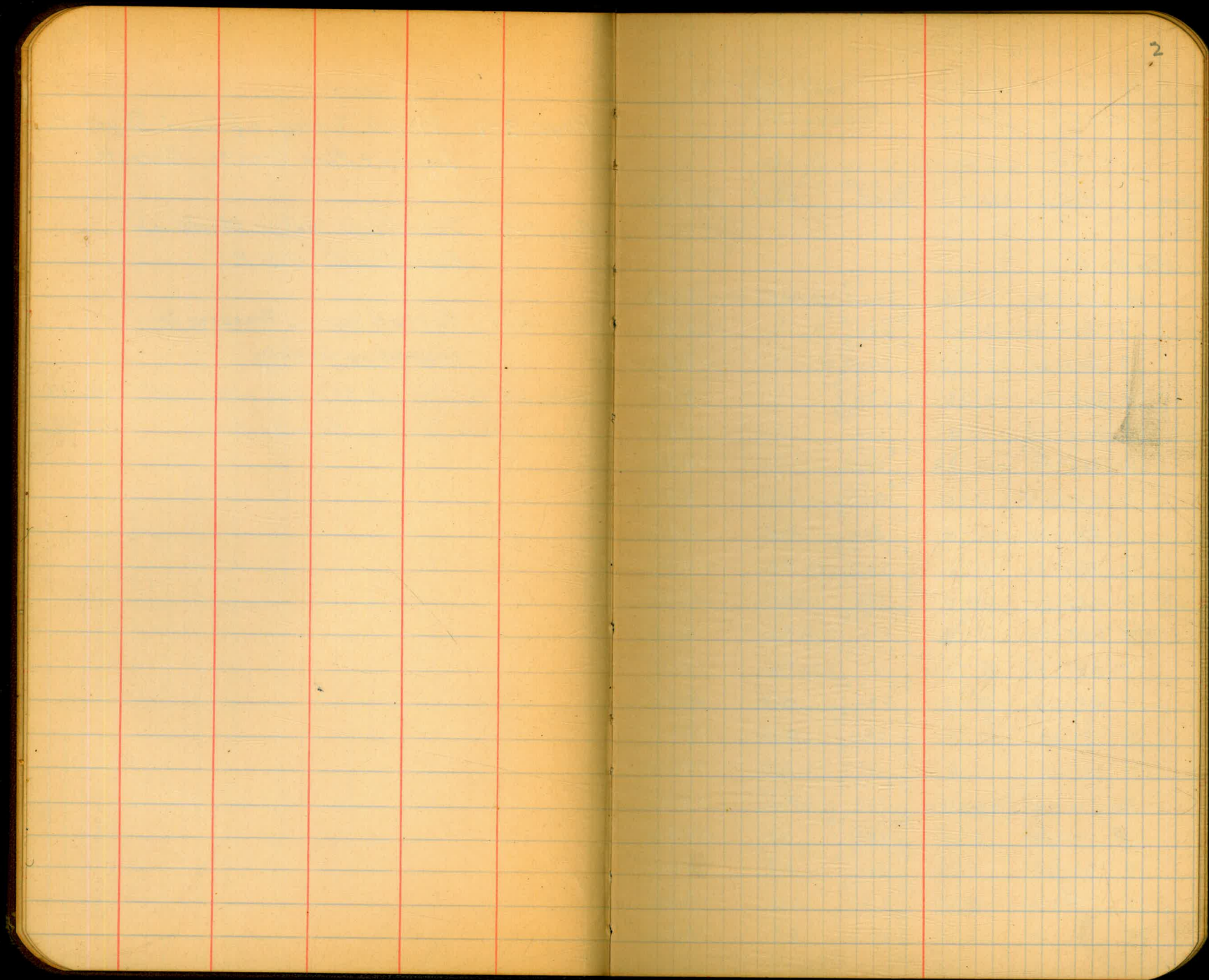
Page 3-7. Stadia Survey of Sand Deposits
Lyons + Pine Creeks. Barrett

Page 8-9. Soundings below Mouth of
Pine Creek. O.K.P.

Page 10-11 Barrett Dam - Traverse thru
Inspection Gallery

Elev. of tanks at Morena + Barrett 12-13

Morena Dam Spillway Reconstruction 14-15 ✓



2

From	To	Hor. L.	Vert. L.	Dist	Rod	Dif. Elev	Elev.
A				3.0-5.48			162.97
	A ₂₁	34° 05'	—	248	4.2	+0.8	163.8
				4.0-6.0			
	22	47-30	—	200	4.6	+0.4	163.4
				4.0-5.30			
	23	70-45	—	130	4.8	+0.2	163.2
				4.6-6.0			
	24	113-30	—	140	5.3	-0.3	162.7
				9.0-10.65			
	25	166-55	—	265	6.8	-1.8	161.2
				8.0-11.26			
	26	179-40	—	326	8.2	-3.2	159.8
				8.0-11.95			
	27	181-55	—	395	10.1	-5.1	157.9
				9.0-13.05			Top
	28	183-15	—	405	12.9	-7.9	155.1
				8.0-12.12			Bottom
	29	190-05	—	412	9.8	-4.8	158.2
				8.0-12.23			Top Sand Bar
	30	189-45	—	423	12.6	-7.6	155.4
				8.0-12.95			Bottom
	31	194-50	—	495	10.7	-5.7	157.3
				8.0-13.05			Top
	32	194-50	—	505	14.7	-9.7	153.3
				6.0-8.68			Bottom
	33	210-0	—	268	6.9	-1.9	161.1
				6.0-8.68			Top
	34	212-0	—	268	10.9	-5.9	157.1
				5.0-5.95			Bottom
	35	236-20	—	95	5.5	-0.5	162.5
				5.0-6.00			Top
	36	238-0	—	100	7.0	-4.0	159.0
				5.0-5.50			Bottom
	37	7-40	—	50	4.8	+0.2	163.2
				5.0-5.55			Top
	38	7-40	—	55	6.3	-1.3	161.7
							Bottom

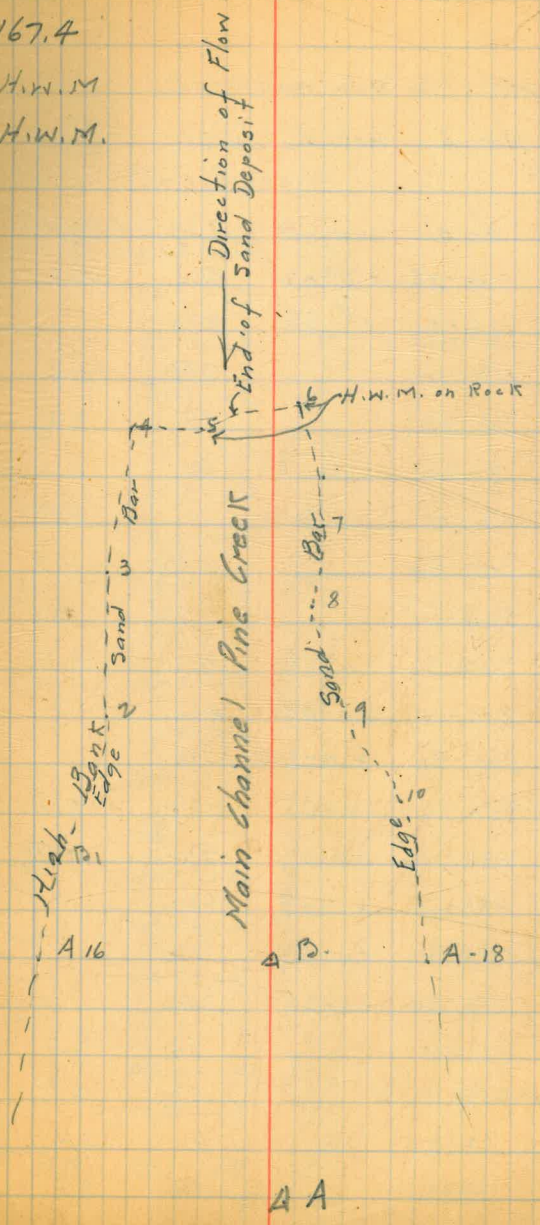
H.I. 5.0

B.

167.4

A	201-12			2.0-4.53			
B ₁	315-50			253	3.6	+1.4	168.8
				1.0-5.53			
V	343-0			453	1.7	+3.3	170.7
				3.0-8.60			
3	353-15	+0-25		560	H.I.	+4.1	171.5

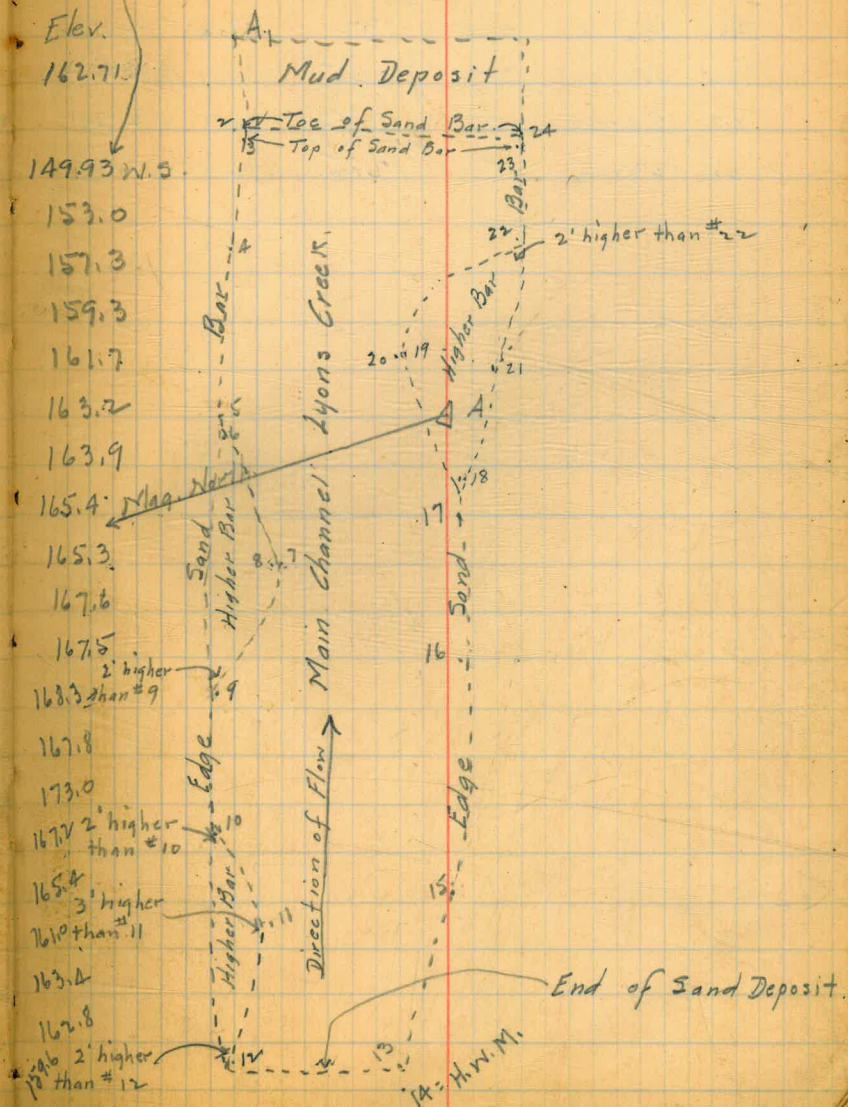
From	To	Hor. L	Vert. L	Dist.	Rod	Dif. Elev.	Elev.
B							167.4
84	3-25	+0-29	4.0-13.05 905		H.I.	+7.6	175.0 H.W.M.
5	1-35	+0-29	4.0-13.05 905		"	+7.6	175.0 H.W.M.
6	5-0	+0-29	2.2-13.0 1080		"	+9.1	176.5
7	11-15	+0-28	4.0-11.6 760		"	+6.1	173.5
8	11-05	+0-29	2.0-7.18 518		"	+4.4	171.8
9	21-40	—	1.0-4.68 368	1.9		+3.1	170.5
10	40-20	—	2.0-4.25 225	3.3		+1.7	169.1



Stadia Survey of Limiting Lines of
Sand Deposit - Mouth of Lyons Creek -
Barrett Reservoir.

From	To	Hor. L	Vert. L	Dist.	Red.	Dif. Elev.	Elev.
A	H.I.S.						162.71
Mag. N.	0°-0'						
A1	114-25	-2-02		5.0-8.60 360	H.I.	-12.98	149.93 W.S.
2	114-30	-1-55		5.0-7.90 290	"	-9.7	153.0
3	113-10			9.0-11.83 283	10.4	-5.4	157.3
4	94-25			8.0-8.48 98	8.4	-3.4	159.3
5	13-20			5.0-5.70 70	6.0	-1.0	161.7
6	12-0			5.0-5.70 70	4.5	+0.5	163.2
7	302-50			2.0-3.32 1.32	3.8	+1.2	163.9
8	304-0			2.0-3.32 1.32	2.3	+2.7	165.4
9	302-35	+0°28'		4.0-7.17 317	H.I.	+2.6	165.3
10	302-10	+0°41'		5.0-9.12 412	"	+4.9	167.6
11	300-30	+0-32		4.0-9.18 518	"	+4.8	167.5
12	302-10	+0-55		2 x 8.0-10.71 542	8.0	+5.6	168.3
13	299-10	+0-33		3.0-8.34 534	H.I.	+5.1	167.8
14	299-0	+1-05		3.60-9.0 540	"	+10.3	173.0
15	295-40	+0-42		3.0-6.70 370	"	+4.5	167.2
16	292-20	+0-38		5.0-7.46 246	"	+2.7	165.4
17	291-20			6.0-6.58 58	6.7	-1.7	161.0
18	285-10			4.0-4.53 53	4.3	+0.7	163.4
19	73-30			5.0-8.41 41	4.9	+0.1	162.8
20	73-30			8.0-8.49 49	8.1	-3.1	162.8

Res. Gauge at Barrett Dam, A.M. Oct. 1, 1929.



From	To	Hor. L	Vert L	Dist.	Rod.	Dif. Elev	Elev.
A				5.0-5.32			162.71
A21	136-10	0-0		32	5.2	-0.2	162.5
22	132-10	—		8.0-9.45 145	8.9	-3.9	158.8
23	124-40	—		9.0-11.83 283	10.1	-5.1	157.6
24	123-15	—		10.0-12.85 285	12.7	-7.7	155.0

Barrett Res. - Pine Valley Sand Bar
 Soundings from So. edge sand bar
 following general course of
 Canyon Channel out into Res.

Sounding	Location	Depth.	Elev.
1	00	0.0	149.93
2	105	1.5	148.4
3	40	1.5	148.4
4	80	1.5	148.4
5	100	2.3	147.6
6	125	2.8	147.1
7	150	3.0	146.9
8	200	3.8	146.1
9	250	4.8	145.1
10	300	6.7	143.2
11	350	9.0	140.9
12	400	10.3	139.6
13	450	12.5	137.4
14	500	14.3	135.6
15	550	14.8	135.1
16	600	13.0	136.9
17	650	12.6	137.3
18	700	13.8	136.2
18-A	700	13.0	135.9
19	750	13.0	136.9
20	800	14.0	135.9
20-A	800	13.5	136.4
21	900	18.5	131.4
22	1000	19.2	

#1 Sounding was 40' N. of #1 Stadia Reading
 and $\pm 75'$ E. of W. Shore Line = $\pm 75'$ W. of
 E. Shore Line.

18-A = 50' E #18

End of Sand Bar
 20-A = 50' E #20

23 1100 J. 27.5 50'E. 22.0

24 1200 22.5 50'W 24.5 50'E 26.5

20 1/2" x 14 1/2"
3/4" Border outside

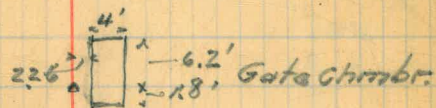
Barrett Dam
Location of Inspection gallery

Sta	Slope Dist	vert Angle	Hor Dist	Def. Angle	CO
Δ 10			147.10	L 24-43	N 67-18 1/2 W
(N face S divide wall)			110.7)		N 42-35 1/2 W
Δ 9a			203.52	L 90-47	⑦
Δ 8	96.10	+ 19° 05'	90.81	R 180-00	N 48-11 1/2 E
			(16.15)		
Δ 9	91.30	+ 6° 02'	90.79	R 90-53 1/2	S 48-11 1/2 W
Δ 8	148.71	+ 25° 23'	134.35	R 4-41 1/2	S 42-42 E = EG.
Δ 7	64.61	+ 26° 57'	57.59	R 6-45 1/2	S 47-23 1/2 E
Δ 6	33.49	+ 1° 44'	33.47	R 3-44	S 54-09 E
Δ 5	29.66	+ 26° 40'	26.51	R 8-43	S 57-53 E
			7.25		S 66-36 E
Δ 4	80.60	- 0° 01'	80.60	R 11-06	S 66-36 E
	(52.5	- 33° 41'	43.69)		
Δ 3	93.23	- 33° 44'	77.53	L 5-32	S 77-42 E
	(27.27	- 25° 35'	24.60)		
Δ 2	57.96	- 29° 47'	50.30		S 72-10 E
Δ 1	71.12	- 22° 41'	65.62	R 90-05	S 72-10 E
(Δ 1a	83.89	+ 20° 37'	78.52)		
Δ X	79.45	- 8° 32'	78.57		N 17-45 E

- ① Note: Gallery 4' x 6.53'
- ② Spring line 4.60 up from floor
- ③ Horiz Dist from Δ 1 to Δ 2 12 ft.
- ④ Interior angle marked □
- ⑤ Horiz Dist Δ 1 to Δ X 14.55
- ⑥ Stochosen on top of step runs.
- ⑦ all pts etc of gallery except when noted
- ⑧ 520 from downstream edge crest
- ⑨ add 1.0' to ground elev @ Δ 4 because vert angle there
- ⑩ Δ 9 to Δ 8 7.6 Horizontal to face dam

3/24/32 (10)

R.G. Vreest
Frank Osborne
C.H. Sommerman
J.A. Isbell
(also 3/25/32)



- 26' N of Δ on lowest step
to ctr radial drift to south 100.85' long
on lowest step (75' high
to middle of water (18) of
L gate to right
to bank in grade
mk. on gallery floor
top on crest above Δ 1
(Mag)
stk. below dam

Sta	Slope Dist	Vert Angle	Horiz Dist	Defl Angle
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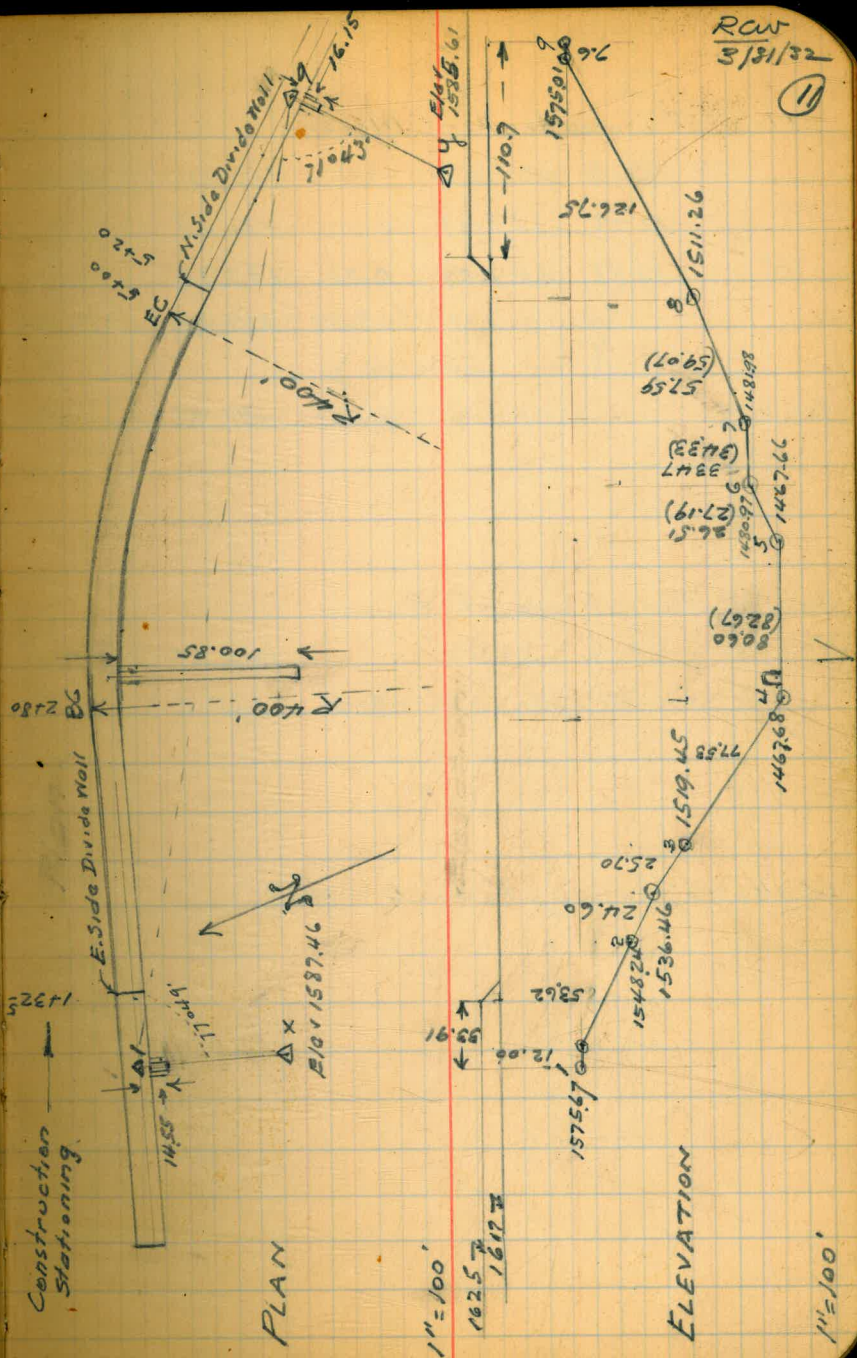
note: azimuth closure $-0^{\circ}02\frac{1}{2}'$
 Elevation closure $+0.03$ feet
 Horiz Coordinate closure Lat -0.62 ft Dep -0.27 ft

Δ X

Δ/a
 (5 face W divide wall)

All (3.60 from downstream edge crest)

142.85	2788-07	517-4722W
176.76	46-52	174-1022W



Elev. of water tank at Morena

13.08 175.69 162.61

TP 12.49 188.07 0.11 175.58

TP 12.97 200.69 0.35 187.72

+9.58 210.27

Set B.M. 6.26 194.43

Elev. of Pump house at Morena.

13.10 175.71 162.61

3.0 172.7

Length of pipe - pump to tank = 1712.

5/22/41
Hill
Super
Brooks
Hodgson

12

Water level - Morena Lake 10:50 A.M. 5/22/41

Top of water tank (7⁶ deep, inside)
(10⁷ diam. ")

Nail in N.W. Cor. of water tank house.

water level

Base of pump. Depth of well = 48 feet

Elev. of water tank at Barrett

	13.0	182.0		169.0
			10.0	172.0
TP	13.0	195.0	0.0	182.0
TP	13.3	208.3	0.0	195.0
TP	13.0	221.3	0.0	208.3
TP	13.0	234.3	0.0	221.3
TP	13.0	247.3	0.0	234.3
TP	13.0	260.3	0.0	247.3
TP	13.0	273.3	0.0	260.3
TP	13.0	286.3	0.0	273.3
TP	13.0	299.3	0.0	286.3
TP	13.0	312.3	0.0	299.3
TP	13.0	325.3	0.0	312.3
TP	13.0	338.3	0.0	325.3
TP	13.0	351.3	0.0	338.3
TP	9.0	360.3	0.0	351.3
			3.5	356.8

191.3
 3.5
 187.8

3.5

5/22/41
 Hill
 Super
 Brooks
 Hoopes

13

Water level - Barrett Lake 2:20 P.M. 5/22/41

Ground elev. at base of pump.

Top of conc. reservoir at East end. (8' to floor of reser.)

Length of pipe - pump to Res = 636.

H. H.
Bris's notes
King T
Phillips
6/11/46

Levels to Determine Elev of existing

Spillway at Morena Dam

838

161.09

152.71

Elev of
Lake Morena
June 11-46
10:25 AM
Gorge at
Bent Flood

Bent #1	Starting from East Side	Elev	Elev
" "		5.95	155.14
" "		5.93	155.16
" #3		5.88	155.21
" #4		5.85	155.24
" #5		5.86	155.23
" #6		5.84	155.25
" #7		5.86	155.23
" #8		5.92	155.17
" #9		5.86	155.23
" #10		5.86	155.23
" #11		5.87	155.22
" #12		5.87	155.22
" #13		5.90	155.19
" #14		5.86	155.23
" #15		5.90	155.19
" #16		5.85	155.24
" #17		5.86	155.23
" #18		5.86	155.23
" #19		5.97	155.12
" #20		5.92	155.17
" #21		5.89	155.20

Distances from Face of Dam to a point

Where Elev 152.87 did intersect face of Sloping

Spillway. Elev 152.87 = 4.33 below top New

Spillway or 2.33 below average Elev old Spillway

Bent #1	Elev	Bents Numbered East to West
" #1	7.35	
" #3	7.29	
" #5	7.36	
" #7	7.30	
" #9	7.36	
" #11	7.30	
" #13	7.30	
" #15	7.45	
" #17	7.30	
" #19	7.34	
" #21	7.33	
" #22	7.36	

π

161.09

Bent #22

596

155.13

Set BM.

0.56

160.53

Lake
Gauge Elev

Painted circle on rock: 257 - East of East End Marcus Spillway

Average Elev at Bents

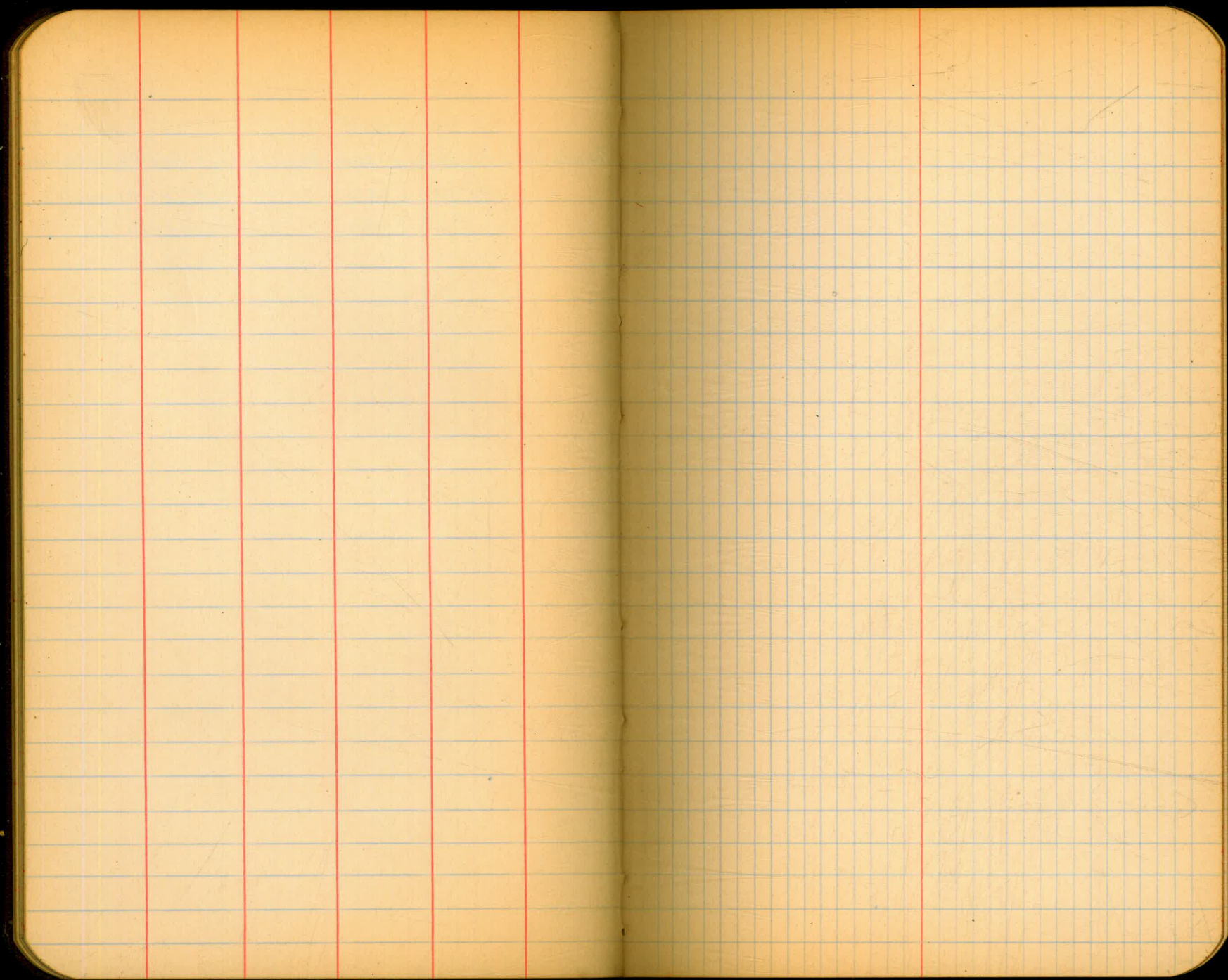
589

155.20

Elev Top New Spillway

3.89

157.20



1400
200

2,800,000

Nails

Nails

Scotch Pads

H. Pencils with Clips

356.8
172.0

184.8