

WILLIAM S. POST  
ASSOC. MEM. A. S. C. E.  
FLETCHER BLDG., 924 8TH ST.  
SAN DIEGO, CALIFORNIA

Office

REPORT ON BERNARDO RESERVOIR

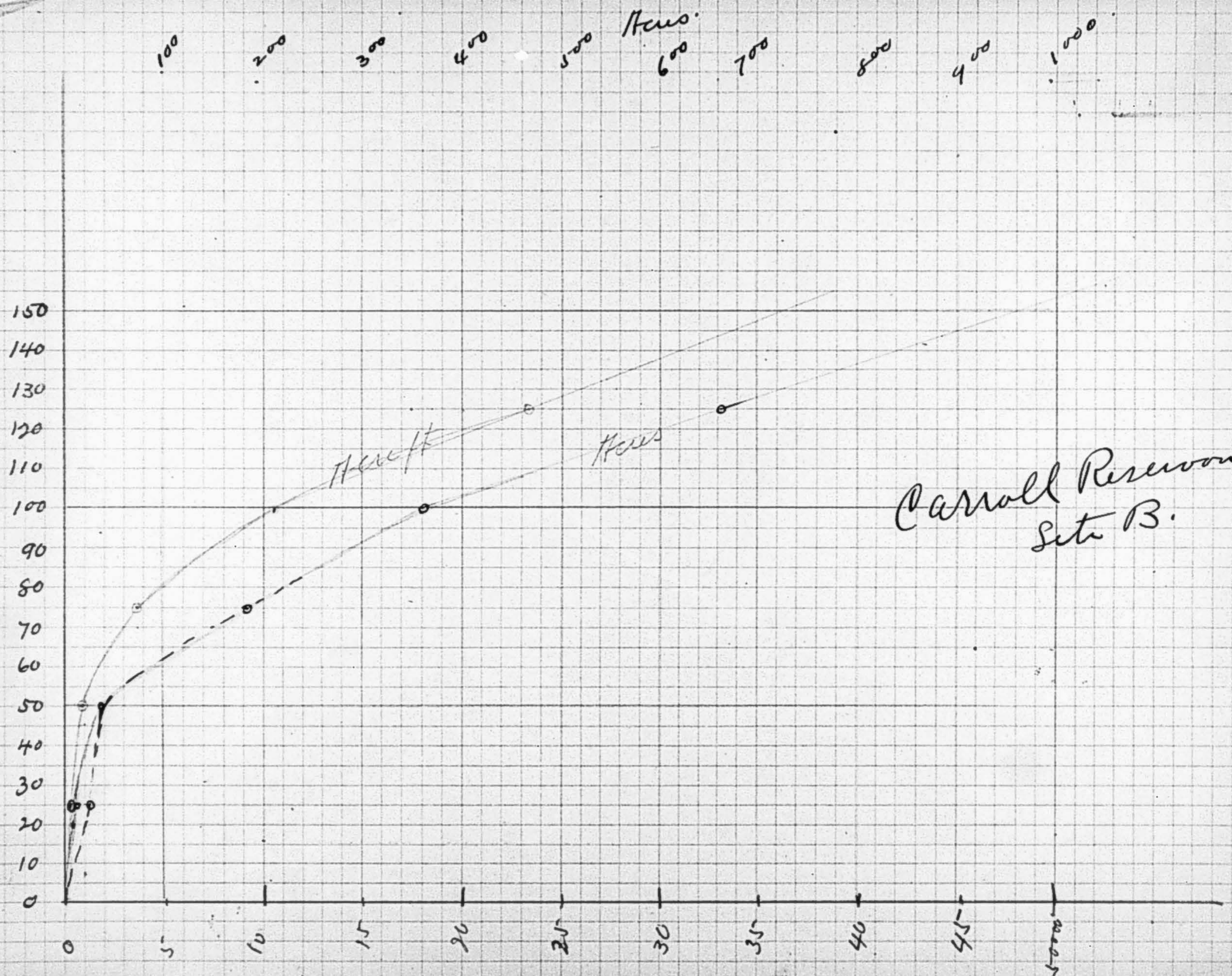
ON

SANTA YSABEL RIVER

By WILLIAM S. POST

Feb. 18, 1914.





Carroll Reservoir  
Site B.



Acres.

Bernardo Reservoir

Site A.

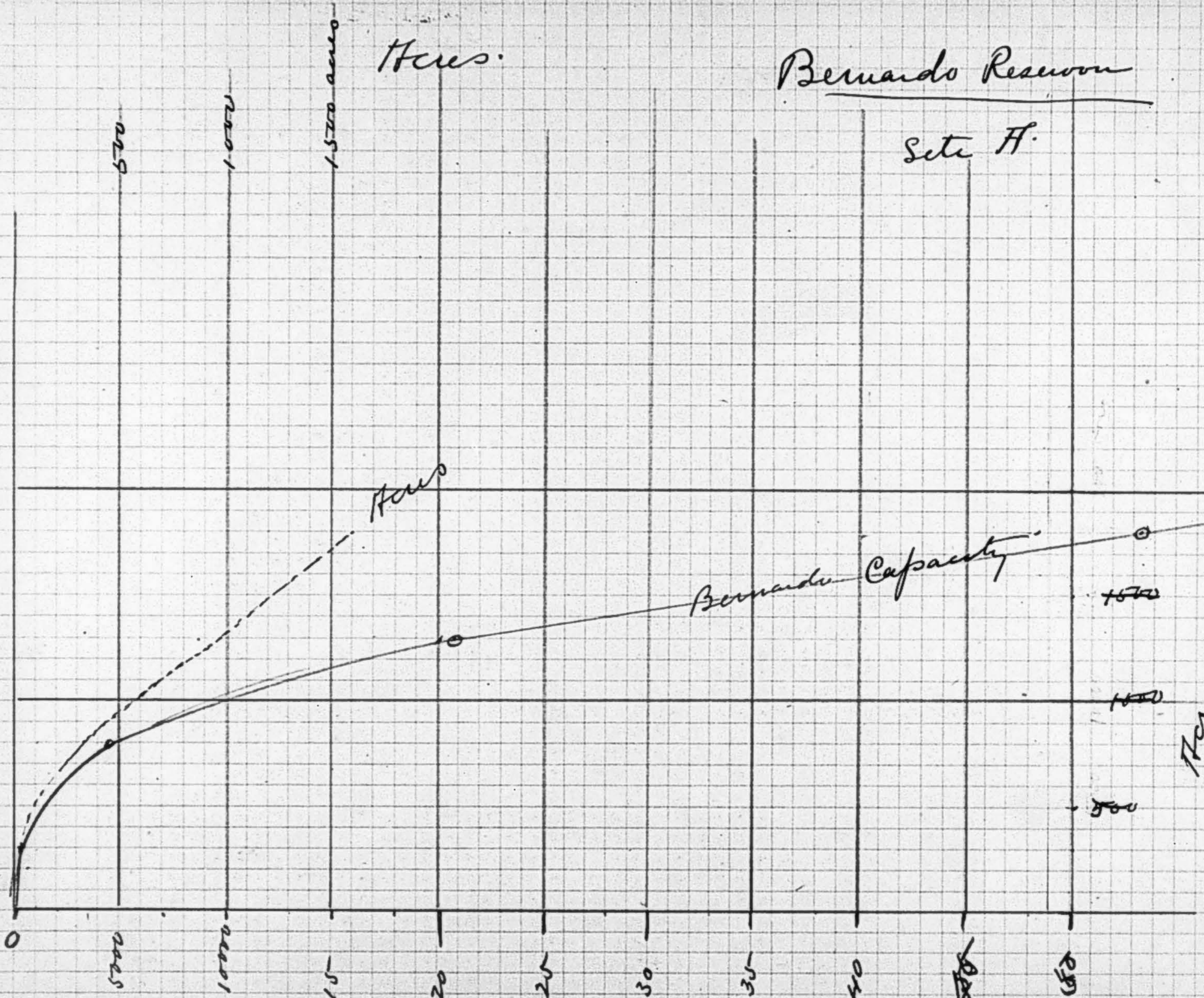
130  
120  
110  
100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0

Acres

Bernardo Capacity

Acres

feet



500

1000

1500 acres

5000

10000

15000

20000

25000

30000

35000

40000

45000

50000

500

1000

1500

5000

10000

15000

20000

25000

30000

35000

40000

45000

50000



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WILLIAM S. POST.

FEB. 18. 1914.

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FLETCHER BLDG., 924 5TH ST.  
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REPORT ON BERNARDO RESERVOIR

ON SANTA YSABEL RIVER.

BY WILLIAM S. POST

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INTRODUCTORY.

This reservoir site lies at the lower end of the San Pasqual Valley. Its altitude is 200 to 350 feet above sea level and is to be compared to the Sweetwater Reservoir in general situation.

The drainage area is 264 square miles.

The riparian situation is very simple, as the Santa Fe Ranch and a few properties near Del Mar are alone concerned.

The strategic value of the site is important.

It is nearly high enough to put water into La Jolla and Point Loma. It will also make simpler the plan of pumping water into the Pamo Conduit, as outlined in the report of Mr. Hickok to Mr. Farnham, August 15, 1913, a plan which I am convinced is the proper procedure for starting water delivery.

It seems to me only a question of time when the advisers of the City of San Diego will recognize the value of this site, and plan to use it, providing a 100 foot pumping lift and an eight mile pipe line to the northerly limits of the Linda Vista Mesa, and approximately six miles to the Ocean.



DAM SITE "A" *Bea*

This site is in the Canyon two and one quarter miles below the Bernardo (post office) Bridge. The high water line of 90 feet would extend three miles above it. The following is the essential data:

Elevation of bottom 260 feet.  
 Elevation of high water surface 350 feet.  
 Elevation of top of Dam 355 feet.  
 Type -- Rock fill, plank or concrete face.  
 Height -- 95 feet.  
 Bottom Length -- 300 feet.  
 Top length -- 600 feet.  
 Rock fill - cu. yds. 168,200.  
 Excavation - cu. yds. 58,000.  
 Outlet - a tunnel 700 feet.  
 Spillway (not over dam) 300 feet wide.  
 Estimated cost \$200,000.00.

*Bernardo*

TABLE OF CAPACITIES.

<u>Depth</u>	<u>Elevation of Water Surface</u>	<u>Acres Flooded</u>	<u>Capacity Acre-feet.</u>
0	260	0	0
15	275	17	85
40	300	327	4385
65	325	991	20860
90	350	1602	53260

LANDS FLOODED.

The Dam Site and the major portion of the Reservoir are on the Bernardo Ranch. Referring to the Company's



Riparian Map, sheets No 2 and 3. The acreage is roughly as follows:

Sheet No 2.

Parcel No 9	E E Nulton	100	acres
" " 13	E A Schellenberg	100	"
" " 10	Melanethon Barnett	150	"
" " 14	?	300	"

Sheet No 3.

Parcel No 2	A R Woodham	50	"
" " 1	F C Foster	50	"
" " 4	H G Fenton	150	"
" " 5	W G Henshaw	700	"
		<u>1600</u>	acres
		*****	

INITIATION OF RIGHT.

The usual procedure is to file a notice of water appropriation, which must be in land owned or by consent of owner. Reasonable change of headgate can be made.

Naturally this filing should be made on the dam site, which is on parcels No 9 and No 13.

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RESERVOIR SITE "B"

This site is two miles below Site "A". It is 95 feet lower than Site "A", and its capacities are about one fifth of that of Site "A", for the same heights of Dam.

On the other hand the foundation is of basalt or volcanic trap rock and is an ideal situation for a masonry dam. The land damages will be somewhat less.



The following is the data for 105 foot dam.

Elevation of bottom	175 feet.
Elevation of Top	275 "
Type estimated, rock fill.	Also suitable for concrete.
Height	105 feet
Bottom Length	100 "
Top length	670 "
Rock fill - cu yds	167,150
Excavation - cu yds	53,000
Outlet - a conduit	230 feet
Spillway alongside dam	150 "

Estimated cost for 105 ft. dam	\$200,000.00
" " " 125 " "	\$270,000.00
" " " 135 " "	\$310,000.00

*Carroll*

TABLE OF CAPACITIES.

<u>Elevation of Water Surface</u>	<u>Depth</u>	<u>Acres Flooded</u>	<u>Capacity Acre-feet.</u>
175	0	0	0
200	25	26	208
225	50	36	983
250	75	183	3700
275	100	360	10500
295	120	600	21000
305	130	720	26000
<i>Memo -</i> 300	125	661	28260
	<u>LANDS FLOODED.</u>		
365	140	840	32,000
325	120	600	21,000

The lands affected, referring to Riparian Map

Sheet No 2, are as follows: (for 105 foot dam)

Parcel No 4	United States	60 acres
" " 5	Carroll	240 "
" " 6	Mary A Hallen	60 "
		<u>360 acres</u>

INITIATION OF WATER RIGHT.

It happens that the dam site is on unclaimed U. S. land and anyone could place a water filing on it, and by making application to U. S. Interior Department would secure an exclusive right.



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CONCLUSIONS.

Site "A" is preferable because of larger storage capacity, higher elevation.

Site "B" has the advantage of the best foundation, and the ease of initiating water rights.

San Diego, Calif.

February 18, 1914



**Ed Fletcher Papers**

**1870-1955**

**MSS.81**

**Box: 41 Folder: 2**

**Business Records - Reports - Post, W.S - "Report  
on Bernardo Reservoir on Santa Ysabel River"**



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