

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA  
IN AND FOR THE COUNTY OF SAN DIEGO.

City of Oceanside, a municipal corporation, Florence E. Whitney and J. M. Danziger, as executrix and executor of the last will of C. A. Canfield, deceased; M. Pieper, David E. Jones, Cornelius M. Hermans, Eunice E. Jones, and Carolina M. Winston,

Plaintiffs,

vs.

Volcan Water Company, William G. Henshaw, and Ed Fletcher,

Defendants.

COMPLAINT

Plaintiffs allege for cause of action:

1. The plaintiff City of Oceanside is now, and for ten years and upwards last past has been, a municipal corporation of the sixth class, created, organized and existing under and by virtue of the laws of the State of California, and situated in the county of San Diego in said state.

One C. A. Canfield died at the city of Los Angeles, in the county of Los Angeles, in this state, on the 15th day of August, 1913, being then a resident of said county of Los Angeles, and leaving estate therein. Said C. A. Canfield left a written will wherein the plaintiff Florence E. Whitney was named executrix and the plaintiff J. M. Danziger was named executor thereof; afterwards the said executrix and executor filed and presented said will for probate in the superior court of said Los Angeles county, together with their petition praying that such will be admitted to probate, and thereafter, on the 22nd day of September, 1913, such court last mentioned, by its order then duly given and made, admitted such will to probate as the last will and testament of said C. A. Canfield, and ordered that letters testamentary thereof be issued out of the said superior court of Los Angeles county to the said Florence E. Whitney, executrix, and J. M. Danziger, executor, and such

letters were issued to them accordingly by the clerk of said last named court and attested by the seal thereof on the 22nd day of September, 1913, and have not been revoked, and that said Florence E. Whitney ever since has been, and is now, the executrix and said J. M. Danziger has ever since been, and is now, the executor of the last will and testament of said C. A. Canfield, deceased.

Said defendant Volcan Water Company is now, and has been (as plaintiffs are informed and believe) for above two years last past, a corporation, created, organized and existing under the laws of the State of California.

2. There is in the said county of San Diego a natural stream of water known as, and called, the San Luis Rey River, which has its source in the Palomar, the Volcan, the San Ysidor, and other mountains in the neighborhood of the large body of land in said county sometimes called "Rancho San Jose del Valle," and more commonly called Warner's Ranch, and the said river flows, and always has flowed, from the sources aforesaid, in a general westerly direction, but with numerous turns and meanderings, into the Pacific Ocean at a point on the shore of the ocean within the territorial limits of the City of Oceanside in said county of San Diego, and such stream in its natural condition flows through, and a part of its natural channel lies in, said territorial limits of the City of Oceanside in its course to the ocean.

Said City of Oceanside is, and for many years last past has been, the owner of a tract of land known as the "pumping station lot," which is a part and parcel of the southwest quarter (S. W. ¼) of section thirteen (13), in Township eleven (11) south, of range five (5) west, S. B. B. and M., in said county of San Diego, and more particularly described as follows, to wit:

Beginning at a point 1249.3 feet west from the quarter post common to sections thirteen (13) and twenty-four (24), in township eleven (11) south, range five (5) west, San Bernardino B. and M.; and running



thence north 50°27' west, making an angle with the section line of 125°12' a distance of 202.38 feet; thence north 54°45' west, making an angle with the last preceding line of 175° 42' a distance of 485.49 feet to a point in the north line of said pumping station lot, which north line makes an angle with the last mentioned preceding line of 110° 30' and measures 34.09 feet from the last mentioned point to the northeast corner of said pumping station lot; thence at a right angle 100 feet to the southeast corner of said pumping station lot; thence at a right angle 200 feet to the southwest corner thereof; thence at a right angle 100 feet to the northwest corner of the same; and thence at a right angle 165.91 feet to the first mentioned point in the north line of said pumping station lot--and which is the point of beginning of the boundary of such pumping station lot as above described.

Said pumping station lot is situated about 200 feet distant from the surface channel of said river and in the level bottom lands adjacent to the channel of the said river; there are situated on said pumping station lot certain buildings, engines, pumps and machinery, appliances and equipment, which constitute, and for many years last past have constituted, a pumping plant owned and operated by the City of Oceanside for the pumping of water for purposes hereinafter stated.

Said City of Oceanside is now, and for many years last past has been, the owner of a certain other tract of land within the corporate limits of said City, and bounded and described as follows:

Commencing at a point north 34° 60' west and distant 60 feet from the northwest corner of said pumping station lot as shown on the map attached to deed of grant from one Herbert Crouch to the said City of Oceanside, dated February 11, 1891, and running thence north 55°44' east to a stake 371 feet; thence north 34° 16' west to a stake 295 feet; thence south 55° 44' west to a stake 305 feet; thence north 34° 16' west to a stake 299 feet; thence south 55° 44' west to a stake 66 feet; thence south 34° 16' east to a stake 299 feet; thence south 55° 44' west to a stake 295 feet; thence south 34° 16' east to a stake 295 feet; thence north 55° 44' east to a stake 295 feet to the point of beginning; containing five (5) acres of land;

in which said last described tract of land are situated several wells, the property of the City of Oceanside.

Said City is, and for many years last past has been, the owner of a system of water works, including said pumping plant, machinery and wells, and also lines of pipes and conduits

many miles in length which ramify through said city and the territory thereof.

The water of said San Luis Rey River in its natural course flows across, through, and over the said last described tract of land of the City of Oceanside, and such land is riparian to said river.

3. The said plaintiff M. Pieper is the owner, and for many years last past has been the owner, of a tract of land situated in the said City of Oceanside described as follows:

The west thirty (30) acres of the northeast quarter (N.E.¼) of the southeast quarter (S.E.¼) of Section twenty-two (22), in township eleven (11) south, range five (5) west, San Bernardino B. and M., and also lot four (4) of the said section five (5); containing in all sixty-five (65) acres, more or less.

The water of the San Luis Rey River in its natural course flows across, over and through the said lands of the plaintiff M. Pieper, which lands are riparian to said river.

4. The said deceased C. A. Canfield was at the time of his death the owner of that portion of a parcel of land in the Monserate Rancho in said county of San Diego, according to the map on file in the office of the recorder of said San Diego county, recorded in book 2, page 108, of Patents, (said parcel being a part of what is commonly known as Tract B of said Monserate Rancho) together with that portion of the subdivision of Tract D of said Monserate Rancho according to the map No. 821 filed in the office of the recorder of said county of San Diego on the 25th day of September, 1896, particularly described as follows, to-wit:

Commencing at a point on the east boundary line of said tract B of the Rancho Monserate marked M-5 of the external survey of said Rancho, being the corner common to sections ten (10), eleven (11), fourteen (14) and fifteen (15), township ten (10) south, range three (3) West, S.B.M.; thence south 40 chains along the east boundary line of Tract B to corner No. 6 of said external survey; thence west 40 chains to corner No. 7 of said external survey; thence south 40 chains to corner No. 8 of said external survey; thence south 89°24' west along the south boundary line of said Rancho to the southwest corner of lot one hundred and ten (110) of said subdivision of Tract D of the Rancho Monserate; thence north along the west line of said



Lot one hundred and ten (110) to a point in the center of the County Road, as said road is shown on survey No. 221 on file in the office of the county surveyor of said San Diego County; thence northerly and easterly following the center line of said County Road to a point in the center line of said County Road that would be intersected by a line drawn south 75° 38' west 163.40 chains from a point of commencement of the premises herein particularly described, being said point marked M-5; thence north 75° 38' east 163.40 chains to said point of commencement; containing eight hundred and forty (840) acres of land, more or less; excepting, however, from lot one hundred and ten (110) of the subdivision of said Tract D that portion thereof conveyed by William E. Gird to Robert Milne by deed recorded in book 474, at page 215, of Deeds, records of said San Diego County, and particularly described as follows:

Beginning at a point on the County Road between Bonsell and Temecula, said point being 1.46 links north 0° 30' east from the southwest corner post of said lot one hundred and ten (110); thence north 0° 30' east 18.595 chains to the northwest corner post of said lot one hundred and ten (110); thence south 36° 42' east 9.19 chains to a post at corner of fence; thence south 26° 35' west 12.55 chains to the point of beginning.

And the said C. A. Canfield, at and previous to the time of his death, owned and possessed the right to develop, pump and extract water from his land above described, for irrigation, domestic, and other purposes upon such land. Such land is underlain with water, which percolates into the same from the flow of said river through and over the same, and such underlying water may be easily developed, pumped, and extracted for the purposes above mentioned on said land; the land is suitable for tillage, and the application of water to the purposes of tillage thereon increases the value of such land; and the continued, undiminished flow of the water in said stream is necessary to maintain the underlying water therein so that the same may be developed, pumped, and extracted for irrigation, domestic, and other purposes on such land.

The water of said San Luis Rey River flows in its natural course across, over and through the said lands of said deceased, which lands are, and always have been, riparian to the said stream.

Said C. A. Canfield, at and previous to the time of his death, was also the owner of that certain other tract of land situated in the county of San Diego, lying contiguous to

the portion of the Monserate Rancho above described, which said other tract is described as follows:

The southeast quarter (S.E.¼) of section Fifteen (15), in township ten (10) south, of ranch three (3) west, S. B. B. and M.

Said southeast quarter of section 15 includes a part of the level bottom lands which border upon the said stream, and lies distant from the channel thereof about three-eighths of a mile; and said southeast quarter of section 15 is, and always has been, subirrigated, moistened and made productive by the water naturally flowing in the channel of said river and percolating therefrom through said sands, gravels, and other detrital matter which forms the bed and banks of the said stream and the bottom lands in the neighborhood thereof, and thence into the subsoil of the said southeast quarter of section 15, lying in point of elevation below the level of the channel of said stream. Said C. A. Canfield, at and previous to the time of his death, owned the like rights to develop, pump and extract water underlying said southeast quarter of section 15 for use thereon as he owned in said land which is parcel of the Monserate Rancho; and said southeast quarter of section 15 is susceptible of improvement by the use of the underlying water thereon in like manner with said parcel of the Monserate Rancho, and the continued and undiminished flow of the water in said stream is necessary to the maintenance of the water underlying said southeast quarter of section 15, so that the right to develop, pump and extract water thereon may be exercised.

The said executrix and the said executor are, and since their appointment as such, above alleged, have at all times been, in virtue of their offices, respectively, of executrix and executor aforesaid, in the possession and control of the said lands owned as aforesaid by C. A. Canfield at the time of his death, which lands are part of the estate of the said C. A. Canfield now in course of administration by the said executrix and executor; and all the rights aforesaid of the said C. A. Canfield in the said lands at the time of his death to develop, pump, and



extract water from the said lands, for the use of irrigation, domestic and other purposes thereon, are now part of his estate in course of administration and are held and possessed by the said executrix and executor.

5. The plaintiff David E. Jones is, and for many years last past has been, the owner, and possessed, of the following described tract of land, situated in said county of San Diego, to wit:

The northeast quarter (N. E.  $\frac{1}{4}$ ) of northeast quarter (N. E.  $\frac{1}{4}$ ) and the east three-eighths (E.  $\frac{3}{8}$ ) of the northwest quarter (N. W.  $\frac{1}{4}$ ) of the northeast quarter (N. E.  $\frac{1}{4}$ ) of section nine (9) in township eleven (11) south, of range four (4) west, S.B.B. and M., containing fifty-five (55) acres; excepting therefrom eleven (11) acres, more or less, sold to one Jacob Libby, said 11 acres lying on the east side of the county road over said land, as such road was located thereon October 25, 1902.

The said land of the plaintiff David E. Jones lies in the level bottom lands bordering upon the stream aforesaid and distant from the channel of the said stream about 1250 feet; and such land of the said David E. Jones is, and always has been, subirrigated, moistened and made fertile and productive by the water naturally flowing in the channel of said stream and percolating therefrom through the sands, gravels and other detritus forming the bed and banks thereof, and thence through similar material in adjacent lands to and into the said land of David E. Jones, the subsoil of which lies in point of elevation, below the bed and channel of the said river.

6. The plaintiff Eunice M. Jones is the owner of a tract of land situated in said county of San Diego and described as follows, to wit:

The fractional east half (E  $\frac{1}{2}$ ) of the southwest quarter (S. W.  $\frac{1}{4}$ ) of the southwest quarter (S. W.  $\frac{1}{4}$ ) of section eight (8), in township eleven (11) south, of range four (4) west, S. B. E. and M., and so much out of the west half (W.  $\frac{1}{2}$ ) of the southeast quarter (S. E.  $\frac{1}{4}$ ) of the southwest quarter (S. W.  $\frac{1}{4}$ ) of said section eight (8) as will make up twenty (20) acres of land, being the 20 acres conveyed to A. J. Myers on May 12, 1885, by William and Alice I. Wallace by deed recorded in the office of the recorder of said San Diego County.

The said land of the plaintiff Eunice M. Jones lies

in the level bottom lands bordering upon the stream aforesaid and distant from the channel of the said stream about 1250 feet; and such land of the said Eunice M. Jones is, and always has been, subirrigated, moistened and made fertile and productive by the water naturally flowing in the channel of said stream and percolating therefrom through the sands, gravels, and other detritus forming the bed and banks thereof, and thence through similar material in adjacent lands to and into the said land of Eunice M. Jones, the subsoil of which lies, in point of elevation, below the bed and channel of the said river.

7. The plaintiff Cornelius M. Hermans is now, and for many years last past has been, the owner, and possessed, of the following described tract of land, situated in said county of San Diego, to wit:

The west twenty-five (25) acres of the northwest quarter (N. W.  $\frac{1}{4}$ ) of the northeast quarter (N. E.  $\frac{1}{4}$ ) and the east thirty (30) acres of the northeast quarter (N. E.  $\frac{1}{4}$ ) of the northwest quarter (N. W.  $\frac{1}{4}$ ) of section nine (9), in township eleven (11) south, range four (4) west, S. B. B. and M.

Said San Luis Rey River in its natural course flows, on, across and through the said land of the plaintiff Cornelius M. Hermans, which lands are riparian to said stream.

8. The plaintiff Carolina M. Winston is, and, for many years last past has been, the owner, and possessed, of those certain parcels of land, part of the Rancho Guajome, in said county of San Diego, described as follows:

Beginning at a post in the fence on the southwest corner of the Rancho Guajome, thence along the fence on the west line of said Rancho Guajome, north  $32^{\circ} 15'$  east, 3402 feet to a post, thence south  $56^{\circ} 45'$  east 2768 feet to a post, thence south  $24^{\circ} 45'$  east 1072 feet to a post in the fence on south side of County Road, thence along said fence south  $65^{\circ} 50'$  west 708 feet to a post, thence south  $33^{\circ} 15'$  west 2225 feet to a post in the fence on the south line of the Rancho Guajome, thence along fence on the south line of said Rancho north  $57^{\circ} 00'$  west 3238 feet to post at point of beginning, containing 256 acres of land and being known as Lot 2 of the Rancho Guajome, per partition map thereof.

Also beginning at post in the fence on the north line of the Rancho Guajome, said post being south  $56^{\circ} 45'$  east 2832 feet distant from the northwest corner of said Rancho, thence from said point



of beginning south 33° 15' east 3630 feet to a post, thence south 24° 45' east 1072 feet to a post in the fence on south side of County Road, thence north-easterly and along said fence on south side of county road to its intersection with the fence on the north line of the Rancho Guajome, thence along fence on north line of said Rancho, north 56° 45' west 3888 feet to post at point of beginning, containing 224 acres of land and being known as Lot 3 of the Rancho Guajome per partition map thereof.

Said parcel of land first above described being known as Lot 2 and said parcel of land second above described being known as Lot 3 according to an allotment made by the Referees and confirmed by the superior court of said San Diego County, in its decree in the partition suit in said superior court entitled "Susie G. Coats, vs. Richard O'Neill et al.," being civil case No. 10201, according to a map showing the partition of the Rancho Guajome and land adjoining, to which map and a certified copy of said decree filed in the Recorder's office in said county of San Diego, in Book 258, at page 291, of Deeds, reference is hereby made.

Said San Luis Rey River in its natural course flows on, over, across and through the said lands of the plaintiff Carolina M. Winston, which lands are riparian to the said stream.

9. The course of said river lies among mountains several thousand feet in height, in the eastern part of its course, which mountains gradually diminish in elevation toward the west and the foothills of the same flatten out into high mesas or tablelands toward and to the ocean shore, and the course of said river from the place where the defendants are constructing a dam, as hereinafter alleged, some forty miles east of the City of Oceanside, lies first in a mountain canyon with steeply sloping sides, and then further westward in a narrow valley with alternating contractions and expansions, in some places a few hundred feet wide, and varying thence to a width of about three miles at the widest part; but everywhere shut in and well defined by high lands which line the sides of such valley on both sides to the ocean shore. Flat bottom lands, consisting of soil underlaid with sands, gravels, and other detrital material, compose the greater part of said inclosed valley where the lands of the plaintiffs are situated, as in this complaint alleged. The natural flow of water in the said stream moistens the said lands of the plaintiffs, not only so much of the

said lands as lie immediately adjacent and contiguous to the surface channel, of said stream, but also those parts of said lands which, although not immediately contiguous to the surface channel of the stream, are yet in the valley thereof, and in the bottom lands neighboring to the said stream, as hereinbefore alleged; the said lands not immediately contiguous to said channel are reached and moistened by the percolations of water from the stream into such neighboring lands; and the natural flow of the said water in the said stream is a continuing source and cause of benefit and fertility to all the said lands. The lands of the said plaintiffs, respectively, other than those of the plaintiff City of Oceanside and the plaintiff M. Pieper, are, and have been for many years, cultivated to useful crops of various kinds, the usual products of the country. To the successful production of such crops, and tillage of the said lands, the water and moisture supplied, as aforesaid, by and from the said stream have always been, are now, and will continue to be, necessary, and if such water be withdrawn or materially reduced in quantity all the said lands of plaintiffs will become more arid and less productive.

10. The flow of the water of said river is intermittent and varies greatly in different years and in different seasons of the same year. Usually the river flows in the surface channel thereof through and near the lands of the plaintiffs, as above described, for a time in each year varying from a few weeks to a few months (according to the quantity and distribution of rainfall during the successive rainy seasons), and during the remainder of the year the surface channel, in the greater part of its course, through, over or near the said lands, as above described, is dry; but the said stream has a subsurface flow, when not disturbed by artificial means, which is perpetual. The extent and thoroughness of the wetting and subirrigation of all the lands of the plaintiffs is influenced and determined by the extent (both as to time and as to quantity



of water) of the flow of said stream during the wet season of each year. If the flood water which descends in the said river during the wet season and produces a stream in the surface channel thereof, and at times escapes from the channel and spreads over the neighboring bottom lands, be prevented, even in part, from flowing down such channel, then the quantity of water which percolates from the stream and into the lands of the plaintiffs aforesaid is, and will be, correspondingly diminished and the elevation of the water plane in the said lands of the plaintiffs is, and will be lowered; their lands are, and will be, made more arid; and the obtaining of any water out of such lands, by means of pumps or otherwise, for use on the said lands or elsewhere, is, and will be, more expensive than if the water flowing naturally in the said river be not impeded, prevented, or diverted.

At times of heavy and long-continued rainfall water descending in said river overflows the banks of the same, and flows and spreads on the surface of the bottom lands neighboring thereto, including a great part of the said lands of plaintiffs, and by the deposit of silt in and on the same, as well as by the wetting of such lands, adds to the fertility, productiveness and value of the same. All the water of the said stream at any time flowing therein is useful and necessary for the irrigation of lands in the watershed and valley thereof, including the said lands of plaintiffs, and for supplying the domestic needs and uses of the inhabitants of said watershed and valley and the needs and uses of said City of Oceanside and its inhabitants.

11. Said City of Oceanside has a population of about one thousand souls, which population is increasing and will continue to increase; and it has a territorial area within its corporate limits of about four and one-half square miles, and the said stream flows a distance of above half a-mile within such corporate limits. The water taken by said City from the said lands owned by it, by means of its pumping plant and

machinery above described is, and always has been (for above ten years last past), obtained by pumping the same from wells aforesaid bored in said lands of the City and beneath the surface of the ground where the said stream flows; the water so obtained, being purified by filtration through the sands and gravels forming the banks and channel of said stream and the lands adjacent thereto, is for that reason fitter for consumption for all purposes than water which flows in the said surface channel. The cost of pumping said water by the City of Oceanside depends directly upon the elevation of the plane of saturation in the ground where said wells of the City are situated. If such plane of saturation declines (which it does when the flow of water in the said stream is diminished), then the water obtained by said City must be lifted from a greater depth, and the cost of pumping the same is correspondingly increased. The said City, for a period of above ten years last past, has obtained and taken, by the means aforesaid, a quantity of the water of said stream which percolates from the channel thereof into the ground where said wells of the City are situated, varying from 30 to 50 inches, measured under 4-inch pressure, in constant flow, and has during such time diverted and used and does yet divert and use such water for the municipal purposes of said City, including sprinkling of streets, the extinguishment of fires, the supply of municipal offices, and other beneficial municipal purposes, and has distributed and yet distributes by means of the system of works aforesaid so much thereof as is not used for such municipal purposes to and among the inhabitants of said City who have consumed and yet consume the same for the useful and beneficial irrigation of city lots within said city limits, and for their domestic purposes. The quantity of said water now being taken, and necessary to be taken, for the said uses and purposes of the City of Oceanside and its inhabitants amounts to fifty inches measured under 4-inch pressure, perpetual flow, and such quantity must, and will, increase in the future. Said City is



now installing a system of sewers for municipal uses and the uses of its inhabitants, the maintenance of which will require large quantities of said water above the amount at present used as aforesaid.

There is no water available or obtainable for the uses of the City of Oceanside above described, or for the uses of irrigation and domestic supply on any of the lands of the plaintiffs above described, other than the water which naturally flows in the said stream and the channel thereof.

12. The said defendants, Volcan Water Company, William G. Henshaw and Ed. Fletcher, and each of them, have entered upon the said stream and the channel thereof at a point thereon above the said lands of the plaintiffs in or near the northwest quarter of section ten (10), in township eleven (11) south, range two (2) east, S.B.B.M. in the said county of San Diego, and have there begun the construction of a dam across the channel of the said San Luis Rey River and the construction of other works, all with the design and for the purpose of obstructing, damming back and impounding the flow of water in the said stream, and collecting the same in a reservoir above said dam, and diverting the same from such reservoir into a ditch or flume or pipe line, or all of such kinds of conduit, and leading and conducting the water from the said river and entirely beyond and out of the watershed thereof, and the said defendants ~~have~~ have schemed and planned, and are scheming and planning, and it is their intention by means of the said dam and other works (when completed as defendants intend) to obstruct and dam up the flow of water in said stream and to impound it in a reservoir above such dam, and thereby create an artificial lake above 1000 acres in area, from which the water will rapidly evaporate, and to divert the water of the stream and such reservoir and convey it beyond and out of the watershed of the said river, and to various places in said county of San Diego, far remote from the said watershed, and there make such water an article of merchandise and furnish, sell and deliver the same for such prices

as they can obtain, to persons and corporations for use and consumption by the purchasers thereof, in parts of said San Diego County out of, and far remote from, the valley and watershed of the said San Luis Rey River. That the said defendants, and each of them, unlawfully claim the right to so divert, take, transport, and dispose of, the water of the said river, and out of the watershed thereof, and to deprive the said plaintiffs, and each of them, of the use of the same. That the portion of the valley and watershed of the said stream above the said proposed dam and reservoir which the said defendants design to construct, as aforesaid, is, as plaintiffs are informed and believe, the part of the watershed and valley of said river most productive of water and run-off to supply the flow of the said river, and, as the plaintiffs are informed and believe, the works of the said defendants which they have begun to construct, as above stated, will, if completed as said defendants intend) impound and restrain from coming down the said stream in the natural flow thereof to the said lands of the plaintiffs, more than one-half of the total flow of said river. And the said defendants threaten to, and will, unless restrained by this court, (as the plaintiffs are informed and believe) divert and take all the water of the said river to be impounded by them by the dam and reservoir aforesaid (except such as will be evaporated and lost from the lake to be formed in such reservoir) out of the watershed of said stream, as aforesaid, and make use of it as an article of merchandise, as aforesaid, and by their said acts all the water of said stream at any time flowing above the said dam, designed and projected by them, as aforesaid, will be used and consumed beyond and out of the watershed and valley of the said river, and entirely prevented from descending to the lands of the plaintiffs, or any of said lands.

13. And, in consequence of such damming up and diversion of the said water, the quantity descending in the said stream to the said lands of the plaintiffs will be diminished to the extent of one-half thereof, or more, and the level of the water beneath the surface of the plaintiffs' said lands, and all



the lands of similar character in the valley of said river below said point of intended diversion, will be lowered, and the obtaining of such water for irrigation and domestic uses for all of said lands, or for any other purpose, by means of pumping therefrom, or any other means, will be rendered more difficult and more expensive, and the water obtainable by plaintiffs, and each of them, on and from their said lands, respectively, for any purpose, will be greatly reduced in amount, and all the said lands of plaintiffs, in consequence of the diminished flow of said stream to result from the intended acts of the said defendants, as above alleged, will be rendered less fertile and less valuable; the water in said lands of the City of Oceanside available for the use of said City and its inhabitants will be diminished in amount and rendered more difficult and expensive to pump and procure; and thereby the plaintiffs, and each and every of them, will sustain great and irreparable injury.

14. The said defendants have not, and each of them has not, any right to dam up and spread out the waters of said stream by the means aforesaid, or any right to take the said water, or any part thereof, out of the watershed and valley of the said river, for purposes of use, sale, consumption, or any other purpose, or at all.

WHEREFORE the plaintiff pray that, pending this action, a writ of injunction issue out of this court, directed to and commanding the said defendants, and each of them, and their agents, servants, attorneys and employees, and all persons acting in aid or assistance of them, or any of them, absolutely to desist and refrain from collecting the water of the said stream, or any part thereof, in a reservoir for storage in such manner that such water, or any material part thereof, will be lost by evaporation; and from taking, leading, or in any manner diverting any water of the said stream, or any of its tributaries, by the means devised by them as alleged in this complaint, or by any other means, from or out of the valley or watershed

drained by the said San Luis Rey River, or any of its tributaries, and from interfering in any manner with the flow of the water in the said river in its natural course at any time, to or toward the said lands of the plaintiffs, and all thereof; and that upon the trial of this action such injunction be made perpetual by the judgment of the court. That the right and title of the said plaintiffs, and each of them, to have the water of said stream come down to, and by, and into the lands of the plaintiffs, as against the adverse claims and pretensions of the said defendants, be quieted, and that it be adjudged and decreed that the said defendants have not, nor has any of them, any right as against the plaintiffs, or any of them, to take the water of the said stream, or any part thereof, beyond or out of the watershed and valley thereof, or to cause the wastage and loss of such water by damming it back in a reservoir, nor to interfere with the flow of the water in any manner which will, or may, have the effect of diminishing or lowering the elevation of the plane of saturation of underground water in the lands of the plaintiffs, and the whole thereof. And that plaintiffs recover their costs, and have all other and proper relief.

John Johnston  
City Attorney of the City of Oceanside

Hunsaker & Britt  
Attorneys for Plaintiffs.

State of California, }  
County of San Diego. } SS

David Rorick, being duly sworn, deposes and says: That he is an officer, to wit: the President of the Board of Trustees of the City of Oceanside, one of the plaintiffs named in the above and foregoing complaint, that he has heard read the said complaint, and knows the contents thereof, and that the same is true of his own knowledge, except as to matters therein stated on information or belief, and as to those matters he believes it to be true.

David Rorick  
Subscribed and sworn to before  
me this 6th day of February, 1914.

Geo. A. Lane  
Notary Public in and for the county  
of San Diego, State of California.

Notarial Seal.



November 5, 1914.

Mr. Ed Fletcher,  
San Diego, Cal.

Dear Sir:-

The following data is furnished regarding the Lower  
San Luis Rey River:

Square Miles of Watershed below Warners Dam and above City of Oceanside,	360 sq. miles
Square Miles of watershed below Warners Dam and above Escondido Intake,	38 " "
Area of Saturated Gravels between the Rincon and Oceanside,	7,700 acres.
Estimated total volume of water in gravels which can be considered as storage reservoirs, and which are at present surcharged with water,	18,900 Mill. of Gall.
Total volume of water in gravels which can be developed by pumping each year, without appreciably reducing the amount of water wasted into the Ocean,	4,600 " "
Average flood waters wasted per year into the Ocean during past three years,	4,220 " "
4 days Flood of January 26-29, 1914, wasted to Ocean water enough to supply city of Oceanside,	48 years.
Water Consumption of City of Oceanside for year 1913,	96 Mill. Galis.

Very sincerely yours,

WSP-EK

Lee = by phone. Nov 5-1914 (1)

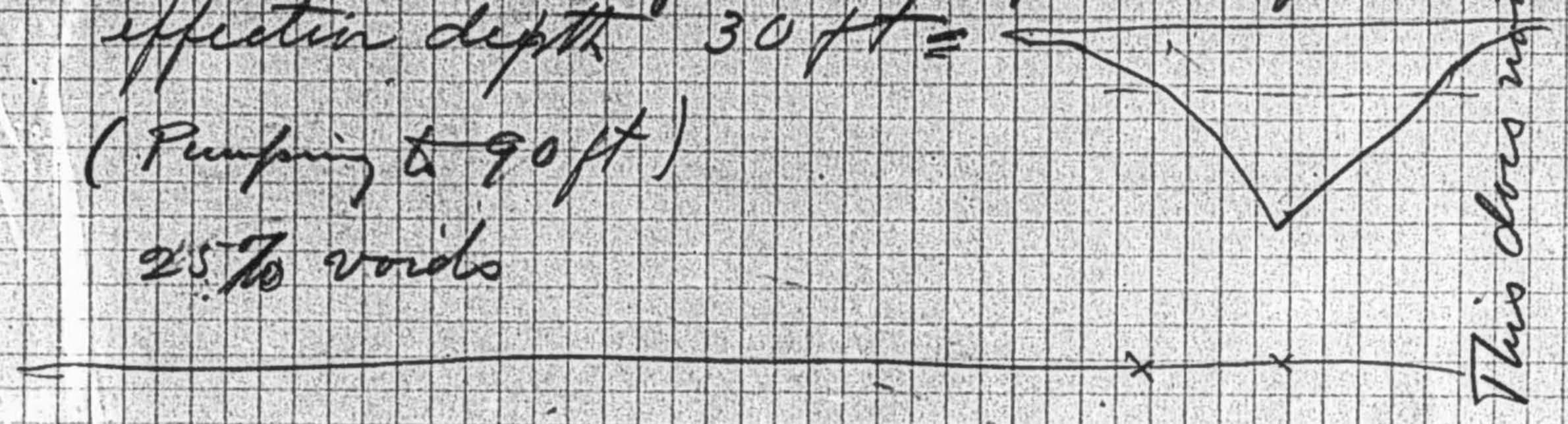
1. Area of sat. Land 7700 Acres
2. Total Vol of storage which can be considered reservoirs 58,000 Acre ft = 18,900 million gallons
3. Total vol which can be developed each year without appreciably reducing amt wasted into ocean, 14,000 Acre ft. = 4560 million gallons
4. Surplus into ocean would be the safe withdrawal at Warners. Last 3 years - 15,000 " "

Consumption figures for 1913  
95.5 million gallons



\$8,000 Here! determined by -

Considered average max depth 90ft -  
 effective depth 30ft =  
 (Pumping to 90ft)  
 25% voids



5,500 = ~~17,000~~ = ~~safety yield did~~  
~~13,000~~ = ~~waste into Ocean~~  
~~12,000~~ = ~~Evap~~  
~~27,000~~ = ~~Supply Total~~  
~~13,000~~ =  
~~10,000~~ =

(A) Evaporation from River bed  
 + 15' bottoms

13,772 ft

Fluctuations of water plume 11,670

Evaporation during period  
 of rise of water plume  
 16% of (a)

2,200

Loss of living stream  
 Warrms Down Pala by evap  
 Living stream at Pala.

840

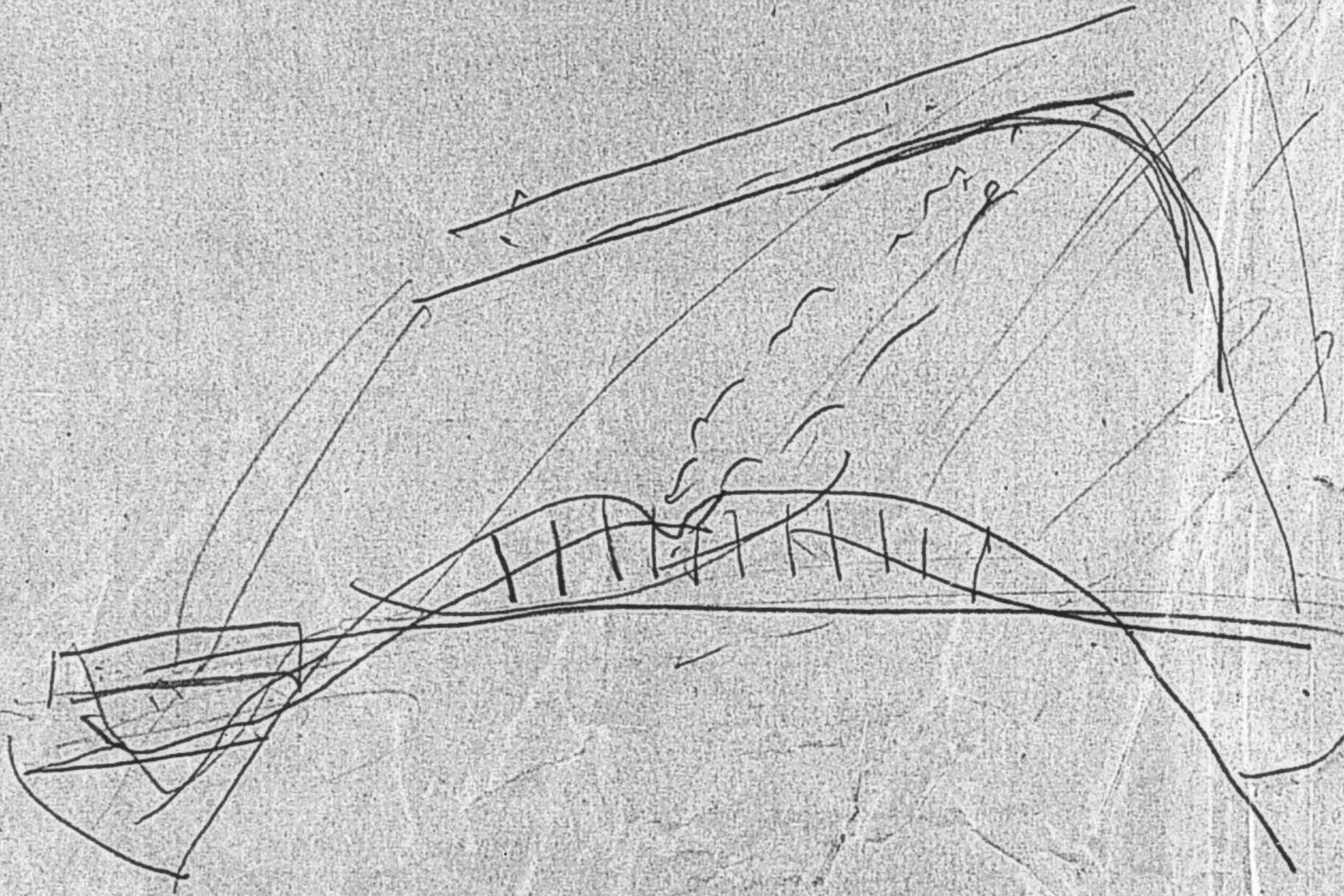
1,800

16,310

Conclusion 6000 Hft. Example anyway

This does not  
 2000 ft. below Pala.  
 after Warrms Down Pala  
 Consider runoff







April 23, 1914.

Mr. P. E. Harroun,

58 Sutter St.,

San Francisco, Cal.

Dear Sir:

Enclosed is the consumption figures for the City of Oceanside for the year 1913.

1912

November		6,427,900 gal.
December	not noted	

1913

January		6,268,900	"
February		4,770,770	"
March		6,239,300	"
April		7,967,900	"
May		10,122,625	"
June		9,237,600	"
July		10,539,025	"
August		10,132,550	"
September		8,915,300	"
October		8,131,050	"
November	no record		"
December		5,659,350	"

87,984,370

← say 7,500,000  
95,500,000

Yours truly,

Engineer.

P-K

53  
 45  
 42  
 59  
 51  
 26  
 5  
 87,984,370



Sta	Concrete pipe	Rein Conc. Pipe	Steel Pipe (low)	Steel Pipe (high)	Tunnel
623 to 74780	10,880	800	400	400	-
74780					
5853+40	5,820	800	1130	2810	
853+40 =					
882+68					
to	4300				
925+68		2100	500	1700	
27340	16,700	3900	2030	4910	
90 to					
1020+00					
<del>120+00</del>					
<del>X0560</del>		16			
<del>9300</del>					
<del>12480</del>					
	804	\$1.00	1.50	2.00	
220+00	7,050	450	4,500		
393+40	23,750	4150	6530	4910	

0 to 623					
Sta	11,700	24,100	23,000	3500	
0 to 367	6,400	14,400	15,900	0	0
36,700					
62,300	5,300	9,700	7,100	3500	
25,600					
367 to 623					

San Luis Rey  
Water Development  
Carlsbad Branch

5640  
450  
6700  
12790



# Estimate for 1<sup>st</sup> Proposition

	Concrete Pipe	Rein. Conc. 10-12 pipe	Steel Riv. <sup>35-100</sup> (low pressure)	Steel Riv. <sup>107-150</sup> (high pressure)	Tunnel
747+80			650		
754+30	350				
757+80	380				
761+60	170				
763+30	570				
769+00	310				
772+10		180			
773+90	430				
778+20	430				
782+50	230				
784+80			480		
789+60	190				
791+50	260				
794+10				1290	
807+00	380				
810+80	610				
816+90	770				
824+60				1520	
839+80	740				
847+20	7	620			
853+40					
1057+60	5820	800	1130	2810	



Sta 882+68 to 925+68

			Elev.	Dist.	
(2)	885+00	}	✓	45	232
(1)	882+68				
(3)	888+00		✓	70	300 ✓
(4)	890+00		✓	90	200 ✓
(5)	898+00		✓	50	800 ✓
(6)	900+30		✓	110	230 ✓
(7)	910+00		✓	130	970 ✓
(8)	915+00		✓	150	500 ✓
	920+00		✓	55	500 ✓
	925+68			40	588 ✓
	4320				<u>4300</u>
	882+68				

0	0-50	50-100	100-150	
Concrete	Reinf. Conc. pipe	Steel Riv. (low)	Steel Riv. (high)	Tunnel

232 ✓	300 ✓	230 ✓	
800 ✓	100 ✓	970 ✓	
1028		500	
<u>2100</u>	1500	1700	

747+80  
10560  
85340

747+80  
623  
74180

925+68  
882+68  
4300

2100  
300  
1700  
4300

17,320  
2052  
2530  
3600  
25,502



# Carlsbad (1) branch

Concrete pipe	Rin conc. pipe 0-50	Steel Riv. low pres. 50-100	Steel Riv. high pres. 100-150	Tunnel
---------------	------------------------	--------------------------------	----------------------------------	--------

0				
4+05	405			30
4+05				
	395			40
8+00				
	500			30
13+00				
		300		50
16+00				
	200			30
18+00				
		300		50
21+00				
	600			25
27+00				
		150		50
28+50				
	050			25
29+00				
	100			40
30+00				
	200			20
32+00				
		600		65
38+00				
	1200			20
50+00				
	400			25
54+00	4950	450	900	



(2)

Carlsbad ranch.

	Conc Pipe	0-50	50-100	100-150
5400				
	3000			
38400 ✓			3600	
3500				
12000 ✓				
12000				
	4050	450	900	
	<u>7050</u>	<u>450</u>	<u>4500</u>	

3000

4.5

38400 ✓

3500

3600

6.0

12000 ✓

5.0

12000

4050

450

900

7050

450

4500

7050

450

4500

12000

23, 750  
 4 150  
 0 530  
 4910  
39340



Arthur L. Adams,  
Office of- Con's. hydraulic Engineer  
401 California St.

San Francisco, Cal. March 16, 1897.

To The Board of Town Trustees,  
Oceanside, California.

Gentlemen:-

On the 8th day of January last I recieved the following letter:-

Oceanside, Cal. Jan. 6, 1897.

Mr. Arthur L. Adams,  
S. F. Cal.

Dear Sir:-

At a meeting of the Board of Trustees, City of Oceanside, held Jan. 5th, 1897, the Water Committee of said Board was instructed to employ a Hydraulic Engineer at once to ascertain an available source of water supply for the city, and to report on the best means and cost of bringing the water to the city. As the Board has already had some correspondence with you on the subject, and has examined your references, the Committee has decided to employ you to do the work if you are in a position to attend to it at once. We enclose a copy of the resolution authorizing the same. If you are at liberty please come to Oceanside at once, or let us know when you can come.

Wm. Pickle,  
Water Committee— Geo. M. Patterson,  
L. L. Scott.

Accompanying letter was the following transcript of the resolution referred to in the above:-

"Resolved:- That a sufficient sum of money be appropriated for the purpose of employing a competent and experienced Engineer to determine and report on the best available source of water supply for the City of Oceanside, the cost thereof, and the most feasible plan of obtaining the same, and that the Water Committee be instructed to employ a competent Hydraulic Engineer at once to make such an investigation."

In accordance with the instructions therein contained I proceeded to your city, and between Jan 12 and Feb. 1, in company with the members of your Hon. Board and other citizens, made a careful examination of the different apparent sources of practicable water supply for your town; instituted the prosecution of certain surveys requisite for the farther development of necessary information, which surveys have since been completed; and after a careful consideration of all available data relating to this subject, I herewith have the honor to formally present the results of my studies and deliberations.

The wording of the above letter of instruction, supplemented by verbal discussion with the Committee having the matter in charge, has made it evident that your action in causing this investigation to be made, has been prompted by the hope that the conditions might be found sufficiently favorable to justify the Town of Oceanside in undertaking unaided the development and introduction of a supply of water sufficient in quantity for both domestic use and the general irrigation of land lying within the corporate limits. This investigation has therefore BEEN PRIMARILY CONFINED TO THESE LINES, and does not in any way enter upon the feasibility or cost of

(2)  
of any large enterprise having for its object the irrigating of extended tracts of country, and which if constructed at all, of necessity must be at great cost. Such enterprises in your vicinity have apparently already been seriously considered, and more or less exhaustively investigated.

The study of the problem presented has however, as the Board already knows, by reason of the necessarily large expense involved in any scheme of water development and conduction, made it seem advisable that the question of supplying water to territory within the limits of South Oceanside and Carlsbad should also be incidentally considered in connection with the Oceanside supply. Through the public spirit of certain of your citizens in having supplied the necessary assistance and met the other expenses attendant upon this slight departure from the original plan, this has been rendered possible

#### SOURCES OF SUPPLY.

In determining the most suitable source of water supply for Oceanside, with due regards to the requirements of quality, quantity, permanency, construction feasibility, and economy, it may be said at the outset that the problem is not an easy one. With the data at hand, or at all readily attainable, the conclusions lack that sharply defined certainty that eliminates doubts and leads to speedy and sure results. The investigator is forced to deal largely in unknown quantities which make his results probabilities where it would be his wish to be able to state facts. This is a condition of affairs not infrequently confronting the investigator of water supplies where but scant supplies exist, but in the present case they are more than usually noticeable because of the investigation being made at a time of the year when any measurements of water that might be made would prove valueless in determining the low stage flow. Hence conservatism tends to the possible underestimating the favorability of the real conditions.

Within a radius of 20 miles, there are three and only three sources of gravity water supply which have seemed deserving of a more or less thorough examination:-

- (1) De Luz.
- (2) Meesa Canon.
- (3) San Luis Rey.

**DE LUZ:** This stream formed by the confluence of several smaller streams having their rise in the Santa Rosa Mts. empties into the Santa Margarita from the North.

The point where diversion would have to be made is distant approximately 18 miles from Oceanside.

The low stage flow is reported by residents on the stream to be practically constant. Only one actual measurement has been made during the dry season of any year. This measurement was made by Mr. H. W. Spencer of Oceanside, and is reported by him to have been about 90 inches. A small tributary stream entering at a lower point could be made available. The exact volume afforded by it is not known, but doubtless amounts to several inches.

The country affords no natural advantages for storage. Reliance must therefore be placed entirely upon the natural flow of the stream. The frequent recurrence of seasons of rainfall in this section of the country far below the average, sometimes following one another in a series of dry years, always renders the constancy in the supply of streams through long periods of years a matter of considerable uncertainty. The writer is however of the opinion, in the absence of positive information, that from the depth of the soil on this watershed, its gravelly character, and the abundance of vegetation as compared with other sections, that the rainfall is less fluctuating in quantity from year to year than in other regions about Oceanside, the percolating water better conserved, more uniformly supplied to the stream, and the volume of low stage flow from year to year consequently not subject to great fluctuations.

This source, while not capable of increase in dry seasons above say 100 inches, presents the positive advantage of being already on the surface,

0104



the exact amount easily measured, and can be diverted with very slight expense

**MOOSA CANON:** This proposition contemplates the impounding of a sufficient supply of water from the natural flow of the stream during the rainy season, by the construction of a dam just above what is known as Moosa Falls on Sec. 36, T. 10 S. R. 5 W., and owned by Mr. Kinkaid. At this point very good natural advantages are offered for a dam site.

The natural low stage flow of the stream where raised to the surface at the dam site, amounts so nearly as can be ascertained by inquiry to about 40 or 50 inches, which amount the writer believes to be an over rather than an under estimate of the quantity. There is no considerable increase in this flow excepting after heavy rains.

The proposition has for several reasons, not necessary to here mention, seemed worthy of careful consideration, and to that end, a preliminary contour survey has been made of the reservoir site from which its capacity for a depth at the dam of 50 or 75 feet have been respectively determined.

The drainage area has been determined from the most reliable county map obtainable and a special study made of the record of rainfall at Esccondido and Fallbrook, the two stations most similarly situated as compared with this drainage area. The drainage area is disappointingly small, being but 27 square miles in extent (See Exhibit "A"). The rainfall record at Esccondido, covering a period of 10 years gives a mean annual precipitation of 15.7 inches. Could this amount of rainfall be depended upon each year, or the average be practically constant for periods of even three years, this source would be deserving of the most careful consideration. But even the short period covered by the record shows fluctuations in the rainfall anywhere from twice the average to one half the average. It also shows that in the three successive years 1881, 1882, & 1883, an aggregate of but 28 inches fell, during which years there was probably little or no run off from this water shed.

The practical utilization of this drainage area would require that the storage capacity be sufficient for several years consumption, and the conserving of the occasional great floods that come with unusual rains. For this it is wholly insufficient.

The filling of the reservoir from the surplus waters of the San Luis Rey River could be accomplished only by diverting high up on the River at approximately an elevation of 500 feet above sea level. This enterprise would necessitate a long and expensive system of pipe lines and a dam 90 feet in height in order to accomplish the storage of about 2000 acre feet of water. Clearly such an enterprise whatever its merit is outside the range of this present investigation. We may therefore in the present instance discredit the Moosa Canon proposition on the ground of insufficient drainage area for the storage capacity and vice versa.

**SAN LUIS REY RIVER:** This brings us to the third and last source of supply deserving of our consideration. The writer has reserved it to the last because he believes this source to give greater promise of sufficiency than either of the others mentioned; and upon it accordingly has been expended the chief effort in determining as many as possible of the facts relating thereto.

This stream in common with most of the streams in that section of the State discharges a large volume during the Fall, Winter, and Spring months, and toward its mouth flows no water on the surface during the Summer.

The drainage area is large amounting to 381 square miles. (See Exhibit "A"). The altitude is generally high, and the country mountainous.

The bed of the stream and valley through which it flows, is composed of sand overlying gravel and boulders, and through this the Summer discharge of the stream finds its way, only rising to the surface in whole or in part where impervious ledges of rock or narrow contractions of the valley interpose as obstructions to the flow.

The existence of this under flow is discernible in several ways: first by the fact that the level of the ground water during the dry season in the valley is never but a few feet beneath the surface, and again, by the stream first disappearing from the surface near its mouth as the Summer

approaches, and gradually receding up the valley as the season advances. This receding is due to the constantly lessening ratio between the amount of water afforded from the drainage area and the capacity of underlying pervious materials for discharging water as underflow.

It is thus apparent that since the stream to all appearances goes almost dry far up into the mountains, that any plan for utilizing the waters of the San Luis Rey River without storage must contemplate the development from the underflow of at least a part, and the greater part, of the water supply. As no facilities exist for storage except on the higher sections of the stream, and are capable of utilization only at great expense, their consideration would at once remove this enterprise outside the lines of investigation already established.

In the selection of a diverting point for the development of water from the underflow, since underground storage can scarcely be said to exist here in a practicable form, one would naturally select a point where the valley is narrowest, and the impenetrable rocks well defined on both sides, in order that the underflow being thus obstructed by its narrow passage, may be crowded to the surface. There is but one such point on the river below Pala, which point lies just above the Monserate Ranch, and has been selected for the diverting point, should water be developed from this source.

The quantity of water which is here capable of development of course has a most important influence upon the merits of this proposition, and upon the general outlines of any scheme of development and utilization. It is the prime consideration upon which all else depends, and will now be considered.

Records of actual determination of the rate of flow through sand or gravel are very meagre. Such observations as have been made however indicate a velocity anywhere from 1 to three miles per annum, depending principally upon the coarseness and degree of uniformity in the size of the particles as affecting the percentage of voids therein, through which voids the water percolates. These observations relate to comparatively homogeneous material. If there exist streaks of coarse gravel or boulders with voids unfilled with finer material, creating well defined channels that afford but slight resistance to the flow, much larger quantities of waters may be susceptible to development than in the former case.

The soundings at the point considered for diversion show a depth of from 7 to 20 ft. of sand through which a rod may be readily sunk, overlying a bed of gravel and boulders of unknown depth.

The width of the river bottom at this point is 900 ft. If we assume a rate of percolation through this section of 2 miles per annum, and that the voids in the material amount to 1/3 of the whole volume, it would be necessary for us to intercept the underflow to a depth of 10 ft. for each cubic foot of water per second (50 inches) developed. Thus if we desired to develop 100 inches of water from the underflow independently of the water flowing on the surface, we should expect a submerged dam 20 ft. in height to be necessary.

As previously stated such developments are subject to great variations, and the results can not at all be accurately predicted excepting by much careful and necessarily somewhat expensive investigation.

In the present case as might be expected from the sharp contraction in width of the river bottom at this point, the underflow is reported to be raised in part to the surface, and to always flow in considerable visible quantities. Just what this low stage flow amounts to in volume, seems most unfortunately to have never been determined, and is a very important factor in making any forecast of the probable amount of water that can be secured at the low stage with development work of given magnitude.

Whatever this low stage flow is, we should expect it to be practically constant in volume from season to season, since a stream of such length, general width of bottom, drainage area, extended valleys and high altitudes, should maintain a practically uniform underflow.

It may be argued that the volume of the Summer flow brought to the



(5)

the surface at the ledge above Pala represents the total underflow. That this water, said to amount to about 100 inches, represents the entire flow of the San Luis Rey River seems very improbable; and that it should all be forced to the surface at this point considering the broken and upheaved condition of the country, is not conclusive. The natural inflow from the tributary country between this point and the point of proposed diversion, would lead one to anticipate a greater underflow at the latter point than at the former.

**CONCLUSIONS ON WATER SUPPLY:** In conclusion of this discussion of the different sources of water supply, the writer is of the opinion that the latter mentioned source warrants farther investigation, and from the data at hand promises the greatest measure of success for the money to be expended; that the amount of water susceptible of economical development in addition to the surface flow may be anywhere from 100 to 300 inches; that this uncertainty may be reduced to much narrower limits by a proper system of investigation including deep excavations and measurements of the low stage surface flow; that this should be accomplished before actual construction work is undertaken; and that when construction be undertaken, the development and diverting work should be first completed and its results known before the final outlines of the plan for conveying the water to Oceanside are determined upon.

In event of serious disappointment resulting from more extended investigation at this point, the writer would advise the reconsideration of the De Luz source of supply.

**SURVEYS.**

In considering the general plan for conducting the water from these different sources to the point of utilization, access has been had to meagre records of a survey from the De Luz diverting point to Oceanside, kindly submitted by Mr. M. W. Spencer of Oceanside; and as has been stated, a preliminary survey has been made by direction of your Hon. Board from the San Luis Rey diverting point to Oceanside, with some incidental development work in the Moca Canon. This latter for reasons previously given will not again be considered. These surveys have been used as a basis for the determination of the approximate cost of utilizing either of the two before mentioned sources of supply.

In the case of the former, the data is too meagre for the determination of close results, and such figures as are given later are submitted only as a rough approximation.

Concerning the surveys recently completed in connection with this investigation, complete maps and profiles are herewith conveyed. It must be borne in mind that this line is a preliminary one, and in no sense a final location; and that while a final survey would in most respects conform to the general alignment given, intelligent discrimination will demand so many minor changes as to practically constitute a new line. The records presented are however well adapted for the purposes intended.

**OUTLINES OF SCHEME PROPOSED.**

In absence of any actual determination of the amount of water that can be developed on the San Luis Rey River at the point proposed, the writer has assumed two hypothetical cases which may be considered to cover the two extreme conditions liable to arise; and has accordingly made as basis for these two estimates a capacity of 115 and 300 inches respectively.

In both cases it is assumed that wood stave pipe would be used throughout; this being in the author's opinion not only the cheapest, but the most serviceable class of pipe suited to the prevailing conditions.

The elevation above sea level of the water surface at point of diversion is ----- 260 ft.  
The assumed elevation of entry pipe is ----- 250 "  
The elevation of delivery at Oceanside terminus of main line ----- 203 "  
The length of pipe to said elevation in Oceanside ----- 94000 "  
The available fall per mile ----- 2.64 ft  
The necessary diameter for delivery of 115 inches ----- 16. inches

(6)

The necessary diameter for delivery of 300 inches ----- 23 inches

If it be asked, why not deliver water at a higher elevation, I say that the amount of land in Oceanside alone lying below the elevation designated is in excess of what the 16 in. pipe will supply; that the quantity of land tributary to this elevation in Oceanside, South Oceanside, and Carlsbad is two or three times in excess of what the 23 in. pipe will supply; and that in any case the choicest of the irrigable land lies beneath the 200 ft. contour.

If it be asked why not utilize more fall by diverting higher on the river, and make a corresponding reduction in the diameter of the pipe, I reply that the relations between length of line, diameter and fall and capacity of pipe and stream are such as to render such a solution of the problem much more expensive than the plan proposed and without compensating benefits.

It will be observed by reference to maps and profiles, that the question of conducting water from the terminus of the main pipe line in Oceanside to South Oceanside and Carlsbad, has been considered in connection with the construction of the 23 in. pipe; and in either case a suitable distributing pipe from the terminus of the main line down the principal street of Oceanside is contemplated.

The submerged dam is assumed in both cases to be built of concrete above and timber below to be 20 ft. in height in the first instance and 40 ft. in the second case.

**SUMMARIZED ESTIMATES OF COST.**

**De Luz Proposition. (very approximate)**

Length of line ----- 18 miles  
Capacity ----- 115 inches  
Pipe:-----19,400 ft. 12" stave pipe.  
5,000 " 9" steel riveted.  
66,240 " 14" stave pipe.  
9,400 " 14" steel riveted----- 63,000.  
Head works ----- 500.  
Additional cost river crossing ----- 500.  
Pipe line fixtures ----- 2,000.  
Engineering, superintendance, etc. ----- 4,000.  
Total approximate cost ----- 70,000.  
Distributing line through Oceanside.  
Pipe:-----8,585 ft. steel riveted pipe at 65c. ----- 5,580.  
Fittings etc. ----- 520.  
Engineering, superintendance etc.)) ----- 400.  
Total cost ----- 6,500.  
Total cost De Luz proposition complete ----- 76,500.

**San Luis Rey River Proposition No. 1.**

Length of line of pipe ----- 94,000 ft.  
Diameter of pipe ))) ----- 16. inches  
Capacity of pipe ----- 115. inches  
Pipe:-----94,000 ft. of pipe complete with fixtures in place in ground, at 75c ----- 70,500.  
Concrete and wood submerged dam 20 ft. high ----- 14,000.  
Engineering and incidentals ----- 5,000.  
Total approximate cost ----- 89,500.  
Distributing line thru Oceanside.  
As given above ----- 6,500.  
Total cost San Luis Rey Proposition #1. ----- 96,000.

**San Luis Rey Proposition No. 2.**

Length of line of pipe ----- 94,000 ft.  
Diameter of pipe ----- 23 in.  
Capacity of pipe ----- 300 inches.



Pipe:-----94,000 ft. of stave pipe complete with fixtures in place in ground----- at 1.02	95,880.
Concrete and wood submerged dam 40 ft. high-----	25,000.
Engineering and incidentals -----	8,000.
Total approximate cost -----	128,880.

**Distributing line through Oceanside.**

Pipe:----- 8,585 ft. steel riveted pipe at 75c. (14 in.)	6,438.
Fittings, etc. )-----	750.
Engineering, superintendance, etc. -----	450.
Total cost -----	7,638.

**South Oceanside and Carlsbad Extension.**

Pipe:----- 12,690 ft. 20" stave pipe ----- at 90c-----	11,421.
2,500 " " steel riveted pipe at 1.15	2,875.
Fittings, fixtures etc. -----	1,000.
Engineering and incidentals -----	1,000. to 145 176
Total cost-----	16,296.

**Total cost San Luis Rey Proposition No. 2 including Oceanside extension and extension to S. Oceanside and Carlsbad ----- 152,814.**

None of these estimates include anything for water rights, rights of way or legal expenses. The amounts designated are believed to be sufficient for the construction of the works under sound and economical business management, and efficient engineering service.

COMPARISON OF COSTS: From the foregoing it will be noticed that for the development of a small supply of water, say approximately 100 inches continuous flow, that the De Luz is apparently much the cheaper supply. It will also be noticed that the cost of conducting a larger supply into town is very much less in proportion to the amount of water delivered, than when dealing with the smaller quantity. For instance, the estimated cost of developing and conducting 300 inches is but 45% greater than for 100 inches from the same source. This simply serves to illustrate the advantage derived from the development of as large a supply as possible, and then building a pipe line of sufficient capacity for its conduction.

**QUANTITY OF WATER NECESSARY FOR IRRIGATION.**

The amount of water necessary for the proper irrigation of land is an exceedingly variable quantity depending upon many different conditions not necessary to here enumerate. In Southern California an inch of water is variously estimated to be sufficient for the irrigation of anywhere from 5 to 10, and in some cases even 20 acres of land. The writer believes that owing to the scarcity and consequent value of water in that section that there is a tendency to frequently largely overestimate in this particular. The minimum figure mentioned doubtless much more frequently prevails in practice than the second. The largest safe assumption is probably between the two, perhaps 6 to 7 acres to the inch when conducted in pipes and very carefully conserved.

**CONCLUSIONS.**

To summarize this report:

- (1) There are two sources of supply and only two that may be expected to yield a minimum supply probably in neither case much less than 100 inches.: De Luz and San Luis Rey River.
- (2) The former, no storage being possible, can not reasonably be expected to yield much in excess of 100 inches.
- (3) The latter source may yield very much more. How much more can only be determined by development work.
- (4) The former can be delivered to Oceanside for approximately 70,000

- (5) The latter for about-----89,500.
- (6) If the necessary supply can be developed 300 inches can be delivered from the latter source for about-----129,000.
- (7) These figures are exclusive of distributing pipes, water rights, legal expenses, rights of way etc.

In concluding this report the writer wishes to express his appreciation of the assistance so faithfully rendered him in the investigation by the members of your Hon. Board, the citizens of Oceanside, generally, and the Engineers and other members of the party engaged in the preliminary surveys.

Very Respectfully Submitted,

Arthur L. Adams.  
Consulting Engineer.



See how they water development notes on

# 3<sup>rd</sup> Alternative Proposition. <sup>(4) mi 500 mi season</sup>

Moosa Reservoir. \$ 60,000 ✓

Moosa 15" Pipe Line 15"  
23,500 ft @ 1.50 35,000 ✓  
11,750

~~Branch~~  
24" Pipe Line Bonsal  
to El Salto - as before. 117,690  
~~109,500~~

C.P. ~~7,100~~

El Salto Reservoir - 69,000 ✓

8" Branch Oceanside. 3,200 ✓  
~~8,000~~

Branch to Carlsbad 12,800 ✓  
~~13,000~~

\$ 294,500

1<sup>st</sup> Cost -

1 1/2 cts per 100

(2)

## ALTERNATIVE.

### SECOND PROPOSITION. (250 miners inches)

Erect pumping plant at Bonsal with capacity of 250  
Miners Inches.

Build 24" line from Bonsal to Carlsbad to terminate  
in small local reservoirs

#### Estimate of cost.

Duplicate preceding first proposition except  
change site of pumping plant and add 24" pipe  
Guajome to Bonsal.

Cement pipe 5300 ft.	\$ .80	4240	
R.C.P. 9600 ft.	1.00	9600	
Riv. " 7100 ft.	1.50	10650	
	3500 ft.	2.00	<u>7000</u>
			31,490

Annual operating cost including  
interest and all charges

Same per 1000 Gallons

### THIRD ALTERNATIVE PROPOSITION. (500 Miners Inches Irrigation Season)

Moosa Reservoir	\$ 60,000	
Moosa 15" pipe line 23,500 ft. \$ 1.50	35,000	
24" pipe line Bonsal to El Salto as before. C.P.	109,500	
El Salto Reservoir	69,000	
8" Branch to Oceanside	8,000	
Branch to Carlsbad	<u>13,000</u>	\$ 294,500



**SAN LUIS REY WATER DEVELOPMENT**  
 for lands adjacent to  
**OCEANSIDE, SOUTH OCEANSIDE and CARLSBAD.**

by William S. Post.

June 22, 1912.

**FIRST PROPOSITION.**

(250 Miners Inches.)

Erect pumping plant on Guajome Ranch, with capacity of 250 miners inches.

Build 24" Pipe Line, Guajome Ranch to Carlsbad and a branch to Oceanside. This line ~~will~~ and branch will terminate in small local distribution reservoirs upon each of the three mesas.

**Estimate of Cost.**

Guajome Pumping plant		\$ 25,000
24" pipe line		
Cement pipe,	ft. @ \$ 0.80	
"      "      "	ft. @ 1.00	
Riv. pipe	" @ 1.50	
	" @ 2.00	
Distribution Reservoirs		4,000
Branch to Oceanside,	3200ft @ \$4.00	3,200

**Annual operating cost.**

Operating expense	\$ 10,000
Int. and Dep. 10%	7,800
	<u>17,800</u>

Annual cost per continuous miners inch  
 Cost per 1000 gallons

cents

60,000 ✓  
 35,000 ✓  
 11,700 ✓  
 69,000 ✓  
 3,200 ✓  
 1,280 ✓  


---

 297,700

Annual Cost

12,000  
 29,770  
 500 ) 41,770 ( 83 1/2  
 40,000  
 1,770  
 1,500  
 270

4770 ) 83.50 ( 1.  
 4770  
 35800

613  
 5925152  
 0.6.120



Killed

San LUIS REY WATER DEVELOPMENT  
for lands adjacent to  
OCEANSIDE, SOUTH OCEANSIDE, and CARLSBAD.  
by William S. Post.  
June 22, 1912.

FIRST PROPOSITION. (250 Miners Inches)

Erect pumping plant on Guajome Ranch, with capacity  
of 250 Miners Inches.  
Construct 24" Pipe line to Oceanside and  
Carlsbad, to terminate in small local distribution reservoirs  
immediately over the lands

Estimate of cost

Guajome pumping plant				\$25,000
24" Pipe Line	Cement pipe 35,000 ft.	8/80	28,000	
	Riv.	1.00	3,500	
		1.50	5,100	
		8.00	<u>4,200</u>	41,800
Distribution Reservoirs				6,000
Branch to Oceanside				8,000
<b>First cost per Miners inch</b>				<b>\$515</b>

Annual Operating Cost		
Interest and Dep. 10%	6	10,000
		<u>7,000</u>
		17,000

Cost per continuous miners inch 671  
1000 Gallons 1 1/2 cents

Divide \$71.00

by 4.770

8200 3000 2000 700

Cement Reinforced Steel Steel  
Iron High

8876 10260	8200	3000	2000	700	
1400					
901 to 10260	6800				
	6000	2000	2000		
15000 addn	12800	5000	4000	700	
	3000				
say	22,580				
	11,250				
					1,500
					33,750

Carlsbad — El Salto

Connection

8800  
3000  
2000  
7000  
12500

Bonvall to El Salto  
as per Case  
notes \$83,940

Connecting to  
Carlsbad  
33,750  
117,690



**SAN LUIS KEY WATER DEVELOPMENT**  
**FOR LANDS ADJACENT TO**  
**OCEANSIDE, SOUTH OCEANSIDE, & CARLSBAD.**  
**by WILLIAM S. FOST.**  
**JUNE 22, 1911**

9,300  
 22,800  
 22,400  
 3,500  
 -----  
 58,000

250 / 17,496 (70)      623  
 17500                      580  
                                     43

4770 / 70.00 (015)  
 4770  
 -----  
 22300  
 23850

11,700  
 24,100  
 23,000  
 23,500  
 -----  
 82,300  
 20,800  
 15,900  
 -----  
 36,700

202600	40,200	29,500	26,300	5,600	1000
65900	33800	15,100	10,400	5,600	1000

0-367+3 6700	6,400	14,400	15,900	0	0
58000	9,300	22,800	22,400	3,500	
4300	2,400	1,300	600		
62,300	11,700	24,100	23,000	3,500	0

5,300  
 9,700  
 7,100  
 3,500  
 -----  
 25,600

0.59631

Estimate of Cost.

~~Same as~~

Duplicate preceding <sup>1st</sup> Plan  
 except change site of  
 Pumping plant  
 and add 4" Pipe Yucapine  
 to Bonsal

~~78,000~~

\$67 to 663

Cement Pipe C.P. 5300 @ .80 4240  
 R.C.P. 9600 @ 1.0 9600  
 Riv. 7100 @ 1.50 - 10650  
 3500 @ 2. 7000

31,500

~~\$ 109,500~~

Annual Operating Cost

~~1st Cost per Miners Inch. \$440~~

Annual operating cost  
 including interest + all  
 charges -

\$ 80

Same per 1000 Gals. -

2 cts.



31590  
 72  
 187  
 06915

1026 + 50  
 1901  
 125-00  
 18000  
 10450  
 52000  
 15600  
 5600

33,800  
 27,040  
 15,100  
 15,600  
 15,200  
 11,000  
 15,940  
 8,148  
 2022  
 2254

78,200  
 2000  
 17,500  
 96,600  
 252  
 762  
 2160

33,800  
 16,950  
 50,700

1200  
 1000  
 2000  
 5000  
 16,000  
 3400

2250  
 7050  
 92400  
 6  
 056  
 74960 (3)

THE BOARD OF THE CITY OF  
 OF THE CITY OF  
 HARRISON A. BRIDGES  
 CHAIRMAN  
 JOHN B. BROWN  
 SECRETARY

4770  
 82,000  
 4770  
 38300  
 113,000  
 17500  
 500  
 4770  
 85,000  
 11,000  
 2520  
 21,650  
 10,650  
 16,000  
 20,000  
 13,000  
 16,500  
 21,650  
 186

1st cost per M. J. = ~~313~~ (2)

~~Cost per 1000 Gal~~  
~~Annual Operating Cost.~~  
~~Operating Expense 10,000~~  
~~Interest & Dep. 10% on Cost 7800~~  
~~Annual Cost per continuous M. J. = \$17,800~~  
~~Annual Cost per continuous M. J. = \$5871~~  
~~Cost per 1000 Gallons - 1 1/2 cents.~~

Alternative  
 2nd Proposition (250 Mlines Dub)

Erect Pumping Plant at  
 Anders Bousal, with capacity  
 of 250 Mlines inches.

~~Cost~~ Build 24" Line  
 Bousal to Carlsbad - to  
 terminate in small local  
 reservoirs.

18,000  
 1000  
 4800 / 5000 (1)



**REPORT ON COASTSIDE WATER SYSTEM**  
 by  
**William S. Post.**  
 June 18, 1913.  
 Estimate of Cost. (Amended)

Estimated of Cost. (Amended)

Construction A.

Pumping plant near Bonsal, lift 110 ft. weels, delivery pipe, complete capacity 250 Miners Inches			\$ 25,000
Pipe Line, 1st Section			
Cement Pipe	33800 ft.	a \$ 1.50	50,700
" " reinf.	15100 "	" 2.00	30,200
Riveted Pipe light	10400 "	" 2.50	26,000
Riveted " heavy	5600 "	" 3.50	19,600
Tunnel	1000 "	" 15.00	15,000
	<u>65900 "</u>		
El Salto Reservoir			
Concrete	6000 yds.	a \$ 7.	42,000
Stripping			2,000
Outlet and Valves			5,000
Levee	42000 "	" .25	10,500
Land	200 acres	a \$50.	10,000
12" Branch to Oceanside 12,000 lin. ft.		\$ 1.	<u>12,000</u>
		Total	\$248,000

Construction B.

Moosa Canyon			
Riveted Pipe light	23500 ft.	a \$1.80	\$ 42,300
Moosa Diverting Dam			16,000
Main Pipe extended upstream			
Cement Pipe	5700 ft.	a 1.50	8,550
" " Reinf.	7990 "	" 2.00	15,980
Riveted " light	14700 "	" 2.50	36,750
Keys Canyon Branch			
Riveted Pipe	10000 ft.	a 1.50	15,000
Diverting Dam			10,000
		Total	\$ 138,580

Construction C.

36" Main supply pipe extended upstream			
Cement Pipe	700 ft.	a \$1.50	\$ 1,050
" " reinf.	6410 "	" 2.00	12,820
Riveted " light	1200 "	" 2.50	3,000
Monserate Pumping Plant			<u>10,000</u>
		Total	\$ 26,870



Optional Construction which may be deferred.

Moosa Reservoir	\$ 60,000
Keys Canyon Reservoir est.	80,000
Monserate Rancho Reservoir est.	30,000
Reservoir above the narrows	30,000
<b>Total</b>	<b>\$ 200,000</b>

Operating Costs

Construction A. (250 Miners Inches)	
Interest and depreciation 10%	\$248,000
Operating pumping plant	15,000
Ditch Management	5,000
<b>Total</b>	<b>\$ 44,000</b>

Cost per annual Miners Inch \$ 175.  
 Cost per 1000 Gals. 3 3/4 cts.

Construction A & B (500 Miners Inches)	
Interest and depreciation 10%	\$386,580.
Operating pumping plant	15,000
Ditch Management	15,000
<b>Total</b>	<b>\$ 68,660</b>

Cost per annual Miners Inch \$ 137.  
 Cost per 1000 Gals. 3 cts.

Construction A, B, & C. (1000 to 1200 Miners Inches)	
Interest and depreciation 10%	\$413,450.
Operating pumping plant	10,000
Ditch Management	20,000
<b>Total</b>	<b>\$ 71,350</b>

Cost per annual Miners Inch \$71.35 cts to \$59.46  
 Cost per 1000 Gals. 1 1/2 to 1 1/4 cts.

SAN LUIS REY WATER DEVELOPMENT  
 for lands adjacent to  
 OCEANSIDE, SOUTH OCEANSIDE and CARLSBAD.  
 by William S. Post.  
 June 22, 1912.

0103

FIRST PROPOSITION.

(250 Miners Inches.)

Erect pumping plant on Guajome Ranch, with capacity of 250 miners inches.

Build 24" Pipe Line, Guajome Ranch to Carlsbad and a branch to Oceanside. This line XXXI and branch will terminate in small local distribution reservoirs upon each of the three mesas.

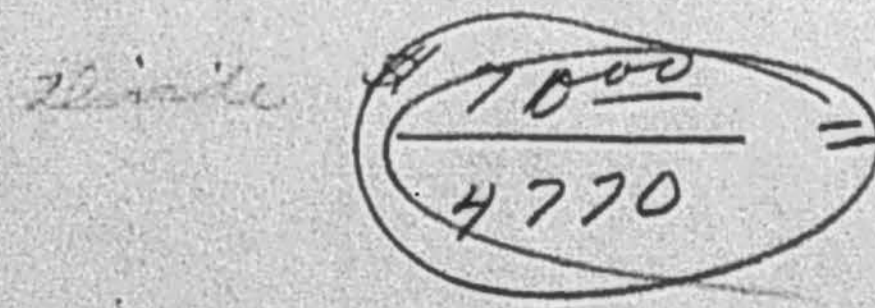
Estimate of Cost.

Guajome Pumping plant	\$ 25,000
24" pipe line	
Cement pipe, 23,750 ft. @ \$ 0.80	19,000
"    "    reinf. 4,150 ft. @ 1.00	4,150
Riv. pipe (low pr.) 6,530" @ 1.50	9,795
"    "    (high pr.) 4,910" @ 3.00	14,730
	<u>47,675</u>
Distribution Reservoirs	4,000
Branch to Oceanside 3200' @ \$1.00	3,200
	<u>74,960</u>
	42,760
	<u>74,960</u>

First Cost per Miners inch \$300  
 Annual operating cost.

Operating expense	\$ 10,000	10,000
Int. and Dep. 10%	7,800	7,496
	<u>17,800</u>	<u>17,496</u>

Annual cost per continuous miners inch  
 Cost per 1000 gallons 70.00 cents  
 1 1/2



1 1/2

0103



for lands adjacent to  
OCEANSIDE, SOUTH OCEANSIDE and CARLSBAD.

by William S. Post.

June 22, 1912.

2222 2/1 1

0103

FIRST PROPOSITION.

(250 Miners Inches.)

Erect pumping plant on Guajome Ranch, with capacity of 250 miners inches.

Build 24" Pipe Line, Guajome Ranch to Carlsbad and a branch to Oceanside. This line ~~will~~ and branch will terminate in small local distribution reservoirs upon each of the three mesqs.

Estimate of Cost.

Guajome Pumping plant	\$ 25,000	
24" pipe line		
Cement pipe, 23,750 ft. @ \$ 0/80	19,000	
" reinf. 4,150 ft. @ 1.00	4,150	
Riv. pipe (low pr.) 6,530 @ 1.50	9,790	
" (high pr.) 4,910 @ 3.00	14,730	
Distribution Reservoirs	4,000	42,760
Branch to Oceanside 3200' @ \$1.00	3,200	7,200
		49,960
	74,960	25,000
		74,960

First Cost per Miners inch \$300  
Annual operating cost.

Operating expense	\$ 10,000	10,000
Int. and Dep. 10%	7,496	7,496
	17,496	17,496

Annual cost per continuous miners inch  
Cost per 1000 gallons

\$ 70.00  
1 1/2 cents

Divide  $\frac{7000}{4770} =$

1 1/2

0103

(2)

ALTERNATIVE.

SECOND PROPOSITION. (250 miners inches)

Erect pumping plant at Bonsal with capacity of 250 Miners Inches.

Build 24" line from Bonsal to Carlsbad to terminate in small local reservoir

Estimate of cost.

Duplicate preceding first proposition except <sup>but</sup> change site of pumping plant and add 24" pipe Guajome to Bonsal.

74,960

Cement pipe 5500 ft.	\$ .80	4400	
R.O.P. 9500 ft.	1.00	9500	
Riv. 7100 ft.	1.50	10650	
3500 ft.	8.00	28000	590
			51,490

Annual operating cost including

per miners inch interest and all charges  
First cost per miners inch \$427  
annual cost per continuous miners inch \$86  
Cost per 1000 gals. 12 cents

106,550

THIRD ALTERNATIVE PROPOSITION. (500 Miners Inches Irrigation Season)

Mesa Reservoir	\$ 60,000	60,000
Mesa 15" pipe line 25,500 ft. @ \$ 1.50	38,250	35,000
24" pipe line Bonsal to El Salto as before, C.P. and connected as below	100,500	117,300
El Salto Reservoir	69,000	69,000
8" Branch to Oceanside	8,000	3,200
Branch to Carlsbad	25,000	12,800
		\$ 294,500

First Cost per Miners Inch \$297,700  
Annual cost per continuous miners inch \$86 1/2  
Cost per 1000 gals. 2 cents.



117° 30'  
33' 15"

25'

R. 5 W.

(San Luis Rey 122000)

20'

CALIFORNIA  
SAN DIEGO CO.  
OCEANSIDE SHEET  
"A"

PUMPING PLANT  
PLANT NO. 1.



PRELIMINARY PLAN  
FOR IRRIGATION PUMPING SYSTEM  
ON  
LOWER SAN LUIS REY RIVER.  
TO ACCOMPANY REPORT OF W.S. POST.  
MAY 27<sup>TH</sup>, 1912.

(Escudobu)

T. 12 S.



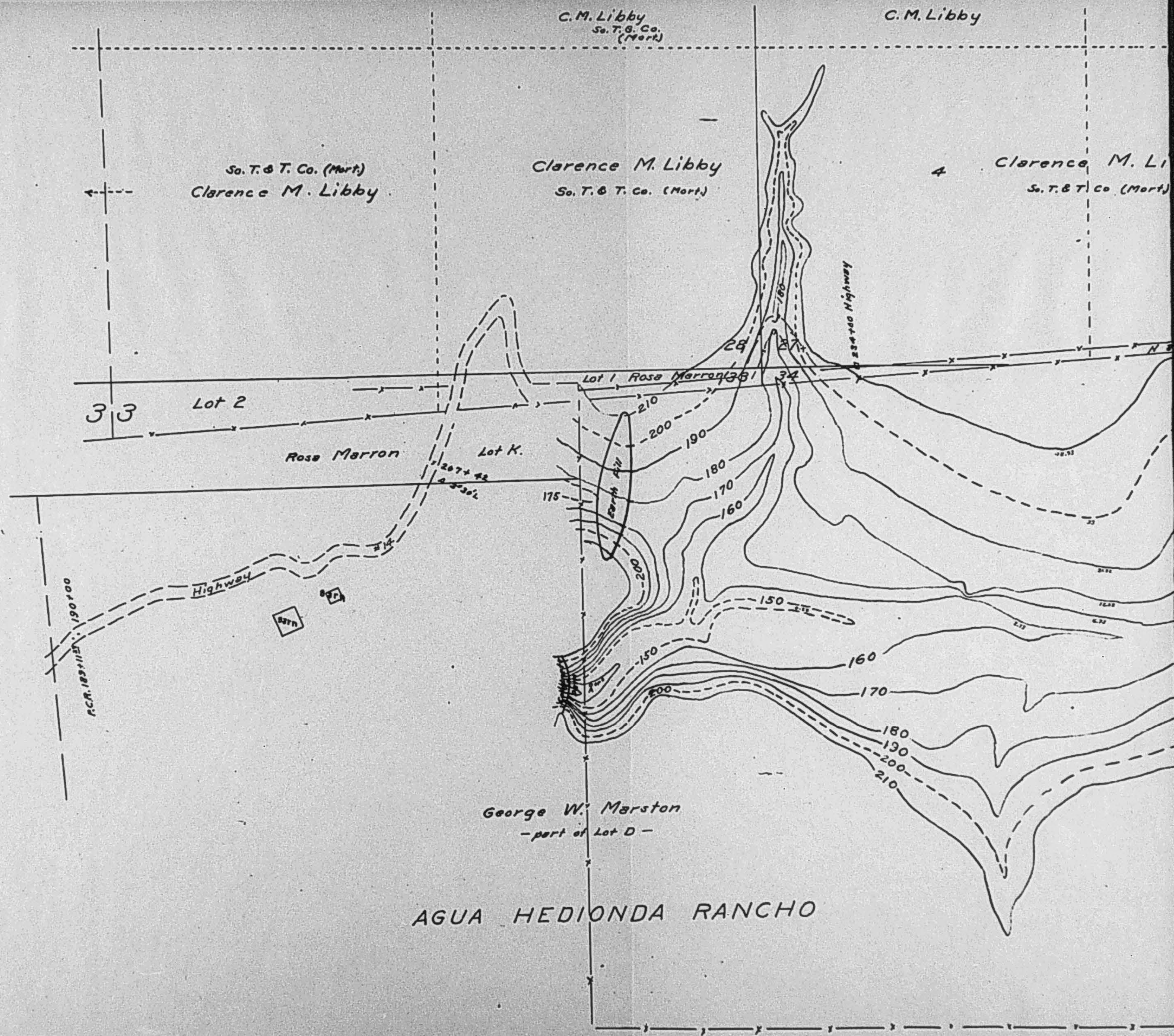
C.M. Libby  
So. T. & T. Co. (Mort.)

C.M. Libby

So. T. & T. Co. (Mort.)  
Clarence M. Libby

Clarence M. Libby  
So. T. & T. Co. (Mort.)

Clarence M. Libby  
So. T. & T. Co. (Mort.)



Will S. Ke  
- part of -



Libby

Chester Gunn

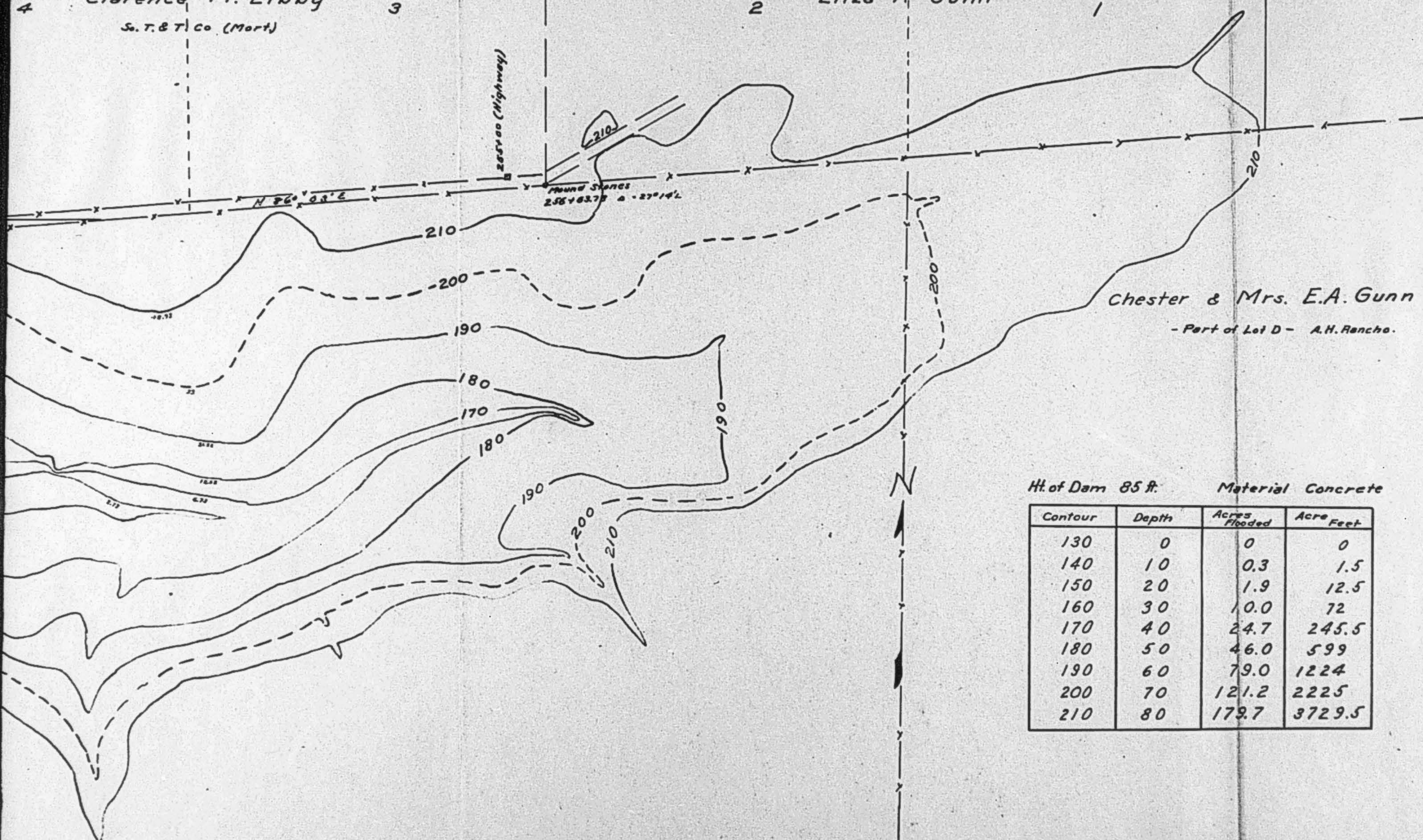
J.A. Harding (undiv. 1/2 Int.)  
J.C. Boyd " " "

4 Clarence M. Libby 3  
S.T. & T. Co. (Mort)

2 Eliza A. Gunn 1

265700 (Highway)

Found Stones  
255703.75 @ 27°14'2"



Chester & Mrs. E.A. Gunn  
- Part of Lot D - A.H. Rancho.

Ht. of Dam 85 ft. Material Concrete

Contour	Depth	Acres Flooded	Acres Feet
130	0	0	0
140	10	0.3	1.5
150	20	1.9	12.5
160	30	10.0	72
170	40	24.7	245.5
180	50	46.0	599
190	60	79.0	1224
200	70	121.2	2225
210	80	179.7	3729.5

Will S. Kelly  
- Part of Lot D -

VOLCAN LAND & WATER CO.  
Oceanside Water System  
**EL SALTO RESERVOIR**  
Scale 1" = 400'

June 1912  
by R.A. Hamilton  
W.S. Post Engr

1.001



**Ed Fletcher Papers**

**1870-1955**

**MSS.81**

**Box: 63 Folder: 19**

**Business Records - Land Companies - Volcan Land  
and Water Company - Del Mar/ Oceanside (includes  
South Coast Land Company) - Oceanside project**



**Copyright:** UC Regents

**Use:** This work is available from the UC San Diego Libraries. This digital copy of the work is intended to support research, teaching, and private study.

**Constraints:** This work is protected by the U.S. Copyright Law (Title 17, U.S.C.). Use of this work beyond that allowed by "fair use" requires written permission of the UC Regents. Permission may be obtained from the UC San Diego Libraries department having custody of the work (<http://libraries.ucsd.edu/collections/mscl/>). Responsibility for obtaining permissions and any use and distribution of this work rests exclusively with the user and not the UC San Diego Libraries.