ANNUAL REPORT

and

FINANCIAL STATEMENT

of

CHIEF ENGINEER

and

GENERAL SUPERINTENDENT

IMPERIAL IRRIGATION DISTRICT
CALIFORNIA
(and Subsidiary Company in Mexico)

1929

Annual Report

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Financial Statement

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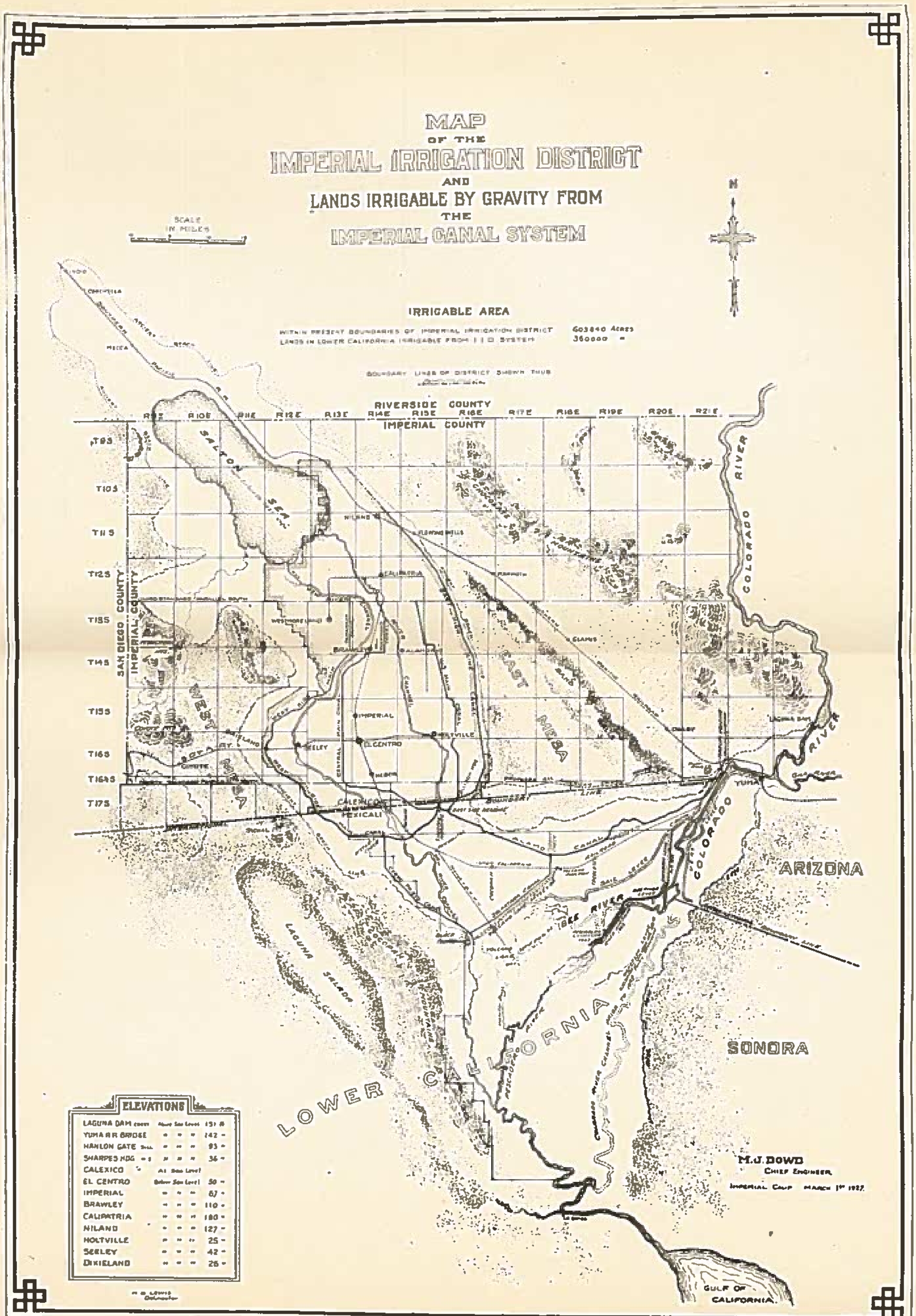


MAP
OF THE
IMPERIAL IRRIGATION DISTRICT
AND
LANDS IRRIGABLE BY GRAVITY FROM
THE
IMPERIAL CANAL SYSTEM
SCALE IN MILES
N
IRRIGABLE AREA
WITHIN PRESENT BOUNDARIES OF IMPERIAL IRRIGATION DISTRICT 603840 ACRES
LANDS IN LOWER CALIFORNIA IRRIGABLE FROM I. I. D. SYSTEM 360000 "
BOUNDARY LINES OF DISTRICT SHOWN THUS
RIVERSIDE COUNTY
IMPERIAL COUNTY
SAN DIEGO COUNTY
R9E R10E R11E R12E R13E R14E R15E R16E R17E R18E R19E R20E R21E
T9S T10S T11S T12S T13S T14S T15S T16S T16½S T17S
SALTON SEA
NILAND
CALIPATRIA
WESTMORELAND
BRAWLEY
IMPERIAL
HOLTVILLE
EL CENTRO
SEELEY
HEBER
CALEXICO
MEXICALI
DIXIELAND
EAST MESA
WEST MESA
COLORADO RIVER
YUMA
ALAMO CANAL
LAGUNA SALADA
ARIZONA
SONORA
LOWER CALIFORNIA
GULF OF CALIFORNIA
M.J. DOWD
CHIEF ENGINEER
IMPERIAL CALIF. MARCH 1ST 1927
ELEVATIONS
LAGUNA DAM Above Sea Level 151 ft
YUMA R.R. BRIDGE " " " 142 "
HANLON GATE " " " 93 "
SHARPES HDG " " " 36 "
CALEXICO At Sea Level
EL CENTRO Below Sea Level 50 "
IMPERIAL " " " 67 "
BRAWLEY " " " 110 "
CALIPATRIA " " " 180 "
NILAND " " " 127 "
HOLTVILLE " " " 25 "
SEELEY " " " 42 "
DIXIELAND " " " 26 "

Annual Report and Financial Statement for Calendar Year 1929

FOREWORD

In looking back over the past year a very marked improvement in general conditions throughout the Valley is readily noted. Throughout the year, crops were good and in almost every case the prices received were higher than for several previous years. The marked improvement in conditions was due not only to this cause but also to other factors, notably the effect on the people by the realization that the Colorado River development is at last a reality. To this may be attributed the increased turnover of land, it being particularly significant that the larger operators of the vegetable industry purchased many thousands of acres during the year, changing their policy from that of tenants to that of landowners. A number of undeveloped tracts of land were placed under cultivation and the improvement in farming methods as a whole was again apparent, as for the year previous. Without doubt the year 1929 will be placed in the records as the most successful in the past ten years.

No unusual events occurred in connection with District operations. The flood peak on the Colorado River was normal, the late flow was one of the highest of record, assuring an ample water supply, and no unusual difficulties were encountered in either the operation or maintenance of the canal system.

The silt content of the water was very high, the mean for the year being nearly double that for 1928, which was due in a large measure to the high discharge of the river during the low flow period. This caused a considerable increase in the amount of dredging on the canals and likewise an increase in expenditures but service was maintained as usual.

ORGANIZATION AND GENERAL FEATURES

The Imperial Irrigation District, comprising some 605,000 acres, of which 515,000 are irrigable, was organized July 25th, 1911, under the state law known as the California Irrigation District Act and has at present an estimated population of 60,000 persons, approximately one-half of whom live in the following incorporated cities and towns: Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmorland.

The elective officials are: five Directors, elected by divisions; a Treasurer, and an Assessor and Collector, who are elected in four year periods by duly registered voters living within the boundaries of the District, either on farms or in cities or towns. The Directors are elected by groups—those for Divisions One, Three and Five composing one group and those for Divisions Two and Four the other—one group being elected each odd numbered year.

The Directors acting as a board appoint a Secretary, Attorney, Chief Engineer, Consulting Engineers and such other assistants as deemed advisable and have power to transact all business and perform all necessary duties in accordance with the California Irrigation District Act.

The following tabulation shows tenure of office of the various Directors since date of organization:

Name	Division	From		To	
Fritz Kloke	1	July	1911	March	1913
W. O. Hamilton	2	July	1911	October	1916*
H. L. Peck	3	July	1911	March	1913
Earl C. Pound	4	July	1911	March	1915
Porter N. Ferguson	5	July	1911	October	1916*
C. W. Brockman	1	March	1913	October	1916*
Allison Peck	3	March	1913	December	1913*
J. A. McBride	3	January	1914**	October	1916*
John D. Bennett	4	March	1915	October	1916*
J. R. Edmunds	1	October	1916**	March	1921
Leroy Holt	2	October	1916**	March	1919
R. D. McPherrin	3	October	1916**	October	1923*
J. S. Nickerson	4	October	1916**	March	1923
C. D. Manning	5	October	1916**	May	1920*
J. Stanley Brown	2	March	1919	May	1921
Mark Rose	5	May	1920**		
C. W. Brockman	1	March	1921		
Roy E. Breedlove	2	June	1921**	March	1923
Ira Aten	2	March	1923		
Earl C. Pound	4	March	1923		
Mack Trentham	3	October	1923**	March	1925
Wm. O. Blair	3	March	1925		

* Resigned. ** Appointed.

In February of this year, an election was held for Directors of Divisions One, Three, and Five and the present incumbents were all returned to office.

All water for irrigation and domestic purposes is diverted from the Colorado River at a point in the United States a short distance above the International Boundary and is conducted through Mexico before entering the Imperial Valley of the United States. All operations in Mexico are carried on through the agency of the Compañia de Terrenos y Aguas de la Baja California, S. A., a Mexican corporation and a subsidiary of the Imperial Irrigation District.

As no permanent weir or diversion dam in the river is available at the present headworks, the water is diverted during the low flow period by either a temporary weir or by the construction of a sand dam across the channel. This has proved unsatisfactory to both the District and the water users of the Yuma project and following negotiations with the latter a contract was entered into with the United States in 1918, providing for the moving of the present intake from Andrade to Laguna Dam, some twenty-five miles farther upstream. As its proportionate share of the cost of Laguna Dam, the District agreed under the contract to pay the Government a total of $1,600,000 to the credit of the Yuma project; to date $736,000 has been paid.

The Alamo and New River Channels, formed by the waters of the Colorado when that stream was discharging its total flow into Imperial Valley during the break of 1905-1907, form the outlets for a comprehensive drainage system for the Valley. At present there are 693 miles of surface drains and 233 miles of deep drains constructed with outlets to these main channels which discharge into the Salton Sea.

The present bonded indebtedness of $15,100,000 is the unpaid portion of bond issues voted as follows: First Issue of $3,500,000 at five per cent, October 29th, 1914; Second Issue of $2,500,000 at five per cent, May 26th, 1917;

Third Issue of $2,500,000 at five and one-half per cent, September 15th, 1919; and the Fourth Issue of $7,500,000 at six per cent, June 1st, 1922. The proceeds from these bonds were expended in acquiring the properties of the California Development Company in 1916, for the absorption of the thirteen Mutual Water Companies in 1922, for the construction of a system of main drains and for additions and betterments to the irrigation and protective levee systems.

That the District may properly function it has been necessary to construct or provide, among others, the following features.

A protective levee system in Mexico 73.5 miles in length, 47.5 miles of which are provided with a standard railway and heavily revetted with rock on the river side, together with an adequate quarry and equipment for moving rock rapidly in cases of emergency.

Diversion headworks and suction dredges to assure an ample supply of water at all times and a distribution system of 1884 miles of canals and 926 miles of drains with necessary structures to serve some 6000 users.

COLORADO RIVER DEVELOPMENT

Boulder Dam:

Under the terms of the Boulder Canyon Project Act, as passed December 21st, 1928, a period of six months was provided in which to make the act effective upon a seven state ratification of the Colorado River Compact; following this period the act would become effective on ratification by six states only. In an effort to secure Arizona's signature to the compact—that state being the only one which had not signed—a conference was held at Santa Fe, New Mexico, from February 14th to March 8th, in which representatives of all the basin states participated. No agreement was reached with Arizona, although there was a clarification on some of the points under controversy.

This conference was followed by informal meetings between the California and Arizona Commissions in Los Angeles during April, and led to another conference in Washington, D. C., from May 27th to June 14th, this being a final effort to reach an agreement with Arizona prior to the expiration of the six months period. However, the situation at the end of the last conference was unchanged, it not being possible to make a settlement with Arizona.

In order to clear up the controversy regarding the previous ratification by California of the Seven State Compact, the Legislature on January 10th of this year gave unconditional ratification to the compact. On March 4th, 1929, the Legislature unconditionally ratified the Six State Compact and on the same date accepted the limitation on use of water by California as called for in the Boulder Dam Act.

The ratification by California of the Six State Compact was immediately followed by ratification of the same compact by the legislature of the state of Utah on March 6th, the previous ratification of that state having contained reservations. This completed the approval of the Six State Compact and shortly after the expiration of the six months period above referred to, it was accepted by President Hoover acting for the United States, thus making effective both the Compact and the Boulder Canyon Project Act.

In October, Secretary of the Interior, Ray Lyman Wilbur, called a conference of bidders for Boulder Dam power and initiated the drafting of power contracts which will guarantee repayment to the Government of the cost of the dam. It is anticipated that these contracts will be executed in time to request an appropriation at the short session of Congress following which, actual construction of the dam will be started.

All-American Canal:

In March, 1929, a contract was entered into between the Secretary of the Interior, and the Imperial Irrigation District, and the Coachella Valley County Water District, covering the making of surveys, plans, and estimates for the canal. Survey work was commenced by the Government in August and was well advanced by the end of the year.

OPERATIONS FOR THE YEAR

Colorado River Diversion:

The flow in the river was ample at all times to meet the demand. In fact the discharge during the low flow period was considerably above normal, that for September being double the average for the past twenty-seven years. Because of the high discharge, it was not necessary to construct a sand dam in the river, neither was the construction of the diversion weir required. However, in July the annual contract with the Yuma County Water Users' Association for the building of the weir was renewed and the $500,000 indemnity bond, called for by the contract, was furnished by the District.

Diversions varied from a minimum of 2200 second feet on January 2nd to a maximum of 7200 second feet on June 21st; during the latter part of the year the demand decreased to 2800 second feet on December 15th. Total diversion for the year amounted to 3,423,511 acre feet, the largest of record and 151,982 acre feet greater than for last year. Of the total discharge of the river at Yuma this year, the diversion was 19.73 per cent, as compared to 25.6 per cent last year.

The following tabulation indicates the demand throughout the year:

DIVERSION

	Daily in Second Feet					Total Monthly In Acre Feet
	Maximum		Minimum		Mean	
January	3,100	29th	2,200	2nd	2,794	171,818
February	4,175	28th	2,630	3rd	3,280	182,188
March	6,800	30th	3,635	10th	5,485	326,356
April	6,700	1st	4,267	21st	5,476	325,870
May	5,400	29th	4,237	12th	5,023	308,880
June	7,200	21st	4,625	16th	6,167	366,948
July	7,075	17th	5,246	29th	6,470	397,833
August	6,660	9th	5,200	18th	6,089	374,426
September	5,472	2nd	3,525	18th	4,528	269,457
October	5,024	18th	3,406	13th	4,428	272,269
November	4,409	2nd	2,937	17th	3,761	223,777
December	3,750	4th	2,800	1st, 15th	3,313	203,689

Dredging of the Alamo Canal between Rockwood and Hanlon gates was commenced May 27th and continued until October 15th, following which the dredges were overhauled and placed in charge of watchmen. During this period the dredge Brawley operated 278 shifts, excavating 1,255,799 cubic yards of silt and the dredge Calexico operated 73 shifts, excavating 224,825 cubic yards. The total year's excavation was 1,480,624 cubic yards, the greatest for the past five years. Both dredges are of the suction type, electrically operated, the Brawley being a "20 inch" and the Calexico an "18 inch" dredge. During the spring a new pump of different design was installed on the Brawley which not only increased the output of the dredge but also eliminated, to a very great extent, the difficulty with clogging previously experienced.

Water Distribution—General:

The water supply was ample to make deliveries on demand at all times.

Photo by courtesy Fairchild Aerial Surveys, Inc.

DIVERSION WORKS AT ANDRADE

1. Rockwood Overpour Gate 742 feet in length. 2. One of the suction dredges—"Brawley." 3. Location of temporary diversion dam. 4. Protective levee Yuma Project, Arizona. 5. Office and residences of River Division.

However, the high discharge of the river during the low flow period resulted in a large increase in the silt content of the water and made it difficult to maintain ample capacity in the lateral system.

A comparison of the silt content of the water for the years 1928 and 1929, in per cent by volume, is shown by the following tabulation:

SILT CONTENT AT DAHLIA HEADING
In Per Cent by Volume

	1928			1929		
	Max.	Min.	Mean	Max.	Min.	Mean
January	0.83	0.43	0.57	0.95	0.56	0.70
February	3.85	0.43	1.58	1.23	0.55	0.77
March	1.78	0.55	1.14	6.65	0.63	2.95
April	3.15	0.68	1.55	6.45	2.63	4.27
May	2.28	0.85	1.46	3.33	1.65	2.18
June	1.80	0.60	1.15	1.92	0.82	1.17
July	4.22	0.45	0.83	2.95	0.80	1.55
August	5.43	1.20	2.39	23.00	2.20	12.51
September	7.00	1.30	3.20	19.25	2.62	7.95
October	14.60	0.65	3.35	24.02	1.35	6.27
November	12.50	1.50	4.89	2.62	0.95	1.44
December	1.55	0.63	1.12	1.20	0.55	0.78
Mean Monthly	4.92	0.77	1.94	7.80	1.28	3.55

Of the 3,423,511 acre feet diverted from the river, 1,634,187* acre feet, or 47.7 per cent, was delivered to users in the United States and 615,934 acre feet, or 18.0 per cent, was delivered to users in Mexico, a total of 2,250,121 acre feet delivered. Compared to last year, deliveries in the United States were 139,356 acre feet greater but in Mexico 96,321 acre feet less, making a net increase in total deliveries, United States and Mexico, of 43,035 acre feet.

Water Distribution—Mexico:

The water demand in Mexico this year was lower than for last year, deliveries decreasing 13.5 per cent. This was due to a less acreage in crop resulting from two factors; one, the falling off of production per acre from long cropping and the other, the drop in the price of cotton which is the principal crop grown.

Although bed silt continued to cause difficulties, conditions were improved as compared to past years except on a few canals such as the West Side Main near the head, Carrillo Bend, Wistaria, and Ash where considerable work was done to maintain capacity.

Dredging operations for the year included the berming, and raising and strengthening of banks of the following canals: east bank of Solfatara Canal from the head to the second bridge, also the west bank from Tortuoso to the Mexicali and Gulf Railroad; south bank of Cerro Prieto Canal from La Bomba Bridge to Tule Check; Carrillo Bend Canal entire length; West Side Main Canal from head downstream for one and one-half miles; and both banks of the Alamo Canal in the vicinity of Kilometers 49 and 55. Part of this work was gone over several times, due to the heavy silt content.

*Based on "gate measurements" shown by test to be at least ten per cent low.

A summary of mileage dredged follows:

	Miles
Solfatara Canal	12.3
Cerro Prieto	7.7
Carrillo Bend	4.6
West Side Main	1.5
Alamo	2.4
Total	28.5

The amount of dredging for last year was 12.5 miles, or 44 per cent of that for this year.

On the morning of June 10th, a break was had in the west bank of the Solfatara Canal at Kilometer 16, about four miles below Tortuoso Drop. The entire bank was washed out and approximately 250 acres of cotton were flooded. Repairs were rushed night and day until completed, the water being turned back into the canal as the work progressed. By the 16th, 800 second feet was passing the break and the normal flow of 1400 second feet was put back on the 18th.

The area between the Solfatara Canal and Volcano Lake Levee below Tortuoso Drop was silted in down to the Mexicali and Gulf Railroad. In this manner the old borrow pits back of the levee were filled and the level of the area raised, thereby affording better protection from attack by the river should it ever swing into Volcano Lake again.

A few repairs were made to a number of the large structures but none of a major character was required. The Southern Pacific Company rebuilt its bridge over the Solfatara Canal and in accordance with the contract executed when the canal was constructed, the District deposited $8500 to cover the cost of the work.

In order to supplement the water supply for some 2650 acres irrigated from a deep well, the Compañia Agricola de Cuervos reconstructed and placed in service the Alamo CB pumping plant located on the south bank of the canal a short distance below the Alamo CA plant. This was the only change in pumping plants on the canal system this year.

The Rules and Regulations governing the operation of the canal system were revised by the Department of Agriculture and Development of the Mexican Government, the revision being made effective August 31st. Protests have been made to several of the changes which are detrimental to the interests of the District.

The crop report for the year showed 165,039 acres in cultivation as compared with 191,446 acres for the previous year. Of the 165,039 acres, 19,751 acres were irrigated primarily from the siphons installed at Pescadero in 1928.

Acreage shown for various crops was as follows: cotton, 145,452, or 88.1 per cent; alfalfa, 16,893, or 10.3 per cent; grain, 2185, or 1.3 per cent; and miscellaneous 509, or 0.3 per cent.

Water duty in acre feet per acre for past years, omitting the land served by the Pescadero Siphons, is as follows: 1925, 3.36; 1926, 3.53; 1927, 3.67; 1928, 3.82; and 1929, 4.23.

Water Distribution—United States:

The following tabulation gives relative data for the various operating divisions:

Division	Miles of Canals	Miles of Surface Drains	Irrigable Area	Acre Feet Delivered 1929
Holtville	350.9	123.3	100,000	283,191
Imperial	425.8	24.8	127,000	367,761
Brawley	465.0	275.0	142,000	527,354
Calipatria	377.7	263.1	103,000	310,146
Calexico	127.4	6.7	43,000	145,735
Total	1,746.8	692.9	515,000	1,634,187

A considerable increase in the mileage of canals and surface drains has been made in the past few years. The above tabulation shows the total mileage to be 2,439.7, while that for the year 1925 was 2,264.7, an increase for the four years of 175 miles.

Water deliveries for the year totaled 1,634,187 acre feet, (See note at bottom of page 48) and increase of 139,356 acre feet over last year and the largest of record. The duty of water for the year was 3.85 acre feet per acre as compared to 3.67 acre feet per acre for last year. The lowering of the duty is due in part to more intensive cropping and the increase in acreage of cover crop, especially sesbania.

A tabulated summary of the crop report for the year is shown on page 45. The gross area in crop was 675,843 acres and the net cropped area was 424,145 acres, an increase in the latter of 17,202 acres over that for 1928. This is a substantial increase and is indicative of the better conditions in the Valley.

The silt content of the water was approximately twice that for last year, as shown by the tabulation on page 7; this condition together with the increased demand for water required an unusual effort to maintain adequate capacity in the canal system. The sand or bed silt was particularly troublesome, especially in the Imperial Division and is shown by the fact that in this division during the year 1928, 623.6 miles of canal were cleaned while for 1929, 886.3 miles required dredging, an increase of over 42 per cent. Had it not been for the improvements made to the canal system during the past few years together with the additional sluice gates installed, it is doubtful if the demand for water could have been met this year during the heavy run of silt in the months of August, September, and October.

Although the usual number of small breaks occurred at various points none was of a serious nature.

On the East Highline Canal, the old portion of the concrete check at No. 1 Heading was raised to the height of the new section and new gates and gate lifts installed. Continued bank erosion below the structure was checked by riprapping with some thirteen hundred 10"x14"x18" concrete blocks.

On the same canal, the rubble masonry check constructed last year at the Standard Heading, failed in June and was rebuilt of a heavier type with longer aprons. No further trouble is anticipated.

The old wood outlet structure of the Plum Lateral was replaced by a 36-inch pipe, as a temporary means of checking the grade pending the installation of a concrete lined chute.

Considerable trouble was experienced with the concrete portion of the Schenk Siphon over the Alamo River. It was necessary to replace the old foundation, which had become inadequate, timber piling and concrete saddles being installed for this purpose. Originally, this section was corrugated pipe which was later jacketed with concrete by the No. 7 Water Company. Leaks developed and it was found necessary this year to remove the old corrugated pipe and line the inside of the concrete pipe with gunite. Expansion and contraction later caused several new cracks to develop which could not be sealed off so the leak water was caught and carried to the Alamo River in a small pipe. The concrete in the shell of the pipe is of a poor quality and it is only a matter of time until renewal of the entire section will be necessary.

In conformity with the contract between the Imperial Irrigation District and the Niland Water District, extension of the lateral system to serve the latter was started in February and completed in July. The earth work included the extension of the East Highline Canal for two and one-half miles north of "Z" Heading with five laterals extending westerly to Salton Sea and parallel surface drain from the railroad to the sea, the total of new canals being 32 miles. Structures included: five lateral headings of rubble masonry; five railroad crossings, with provision for future double tracking, of 36-inch diameter Hume concrete pipe with reinforced concrete headwalls in accordance with specifications submitted by the Southern Pacific Company; two metal flumes crossing storm washes; one rubble masonry overpour spillway; and eleven single span timber bridges with rubble masonry abutments. Check and delivery structures are to be of wood construction and will be installed as required.

On August 4th, an exceptionally heavy rain storm occurred in the mountains east of Niland, the run-off from which broke the East Highline Canal at a number of points and severely damaged the lateral system including the new work in the Niland District. Repairs were rushed and conditions returned to normal by the fourteenth, there being no crop loss as far as could be learned. Two additional storms were had on August 15th and September 16th which did considerable damage to the canal system but not as much as the previous storm. However, such repairs in the Niland District as were not required to provide service for growing crops were postponed for the balance of the year.

Silting in areas along the east side of the Ash was continued this year. The desilting of the water in this manner is very beneficial to the Ash Canal system, not only in providing clear water for irrigation but also in very materially reducing the amount of dredging on the laterals.

Important improvements made this year included: raising with brick the concrete lining of the Birch Canal twelve inches, from the head to a point one-half mile east of the Calexico city limits, a distance of 1.5 miles to provide additional capacity; construction of sluiceway on the Elder Canal one and one-half miles below the head, consisting of a 48-inch diameter Hume concrete pipe forty feet in length connecting to an open channel leading to New River; sluiceway at end of Wisteria Lateral 3 to New River; completion of Orchid Lateral relocation west of old Low Line Canal; installation in the vicinity of Westmorland in cooperation with State Highway Department of seven highway crossings consisting of 30-inch Hume concrete pipe; extension of Trifolium Lateral 15; new checks and deliveries on Trifolium Canal extension; replacement of a large number of wood checks and deliveries with rubble masonry structures in the Brawley and Calipatria Divisions; and the enlargement of the Thistle Canal and installation of checks and deliveries to serve new lands.

There was also considerable activity in the opening up of surface drains and a number of miles of such were taken over by the District. The deepening and construction of the six and eight foot drains is discussed under drainage.

Mileage of canals, laterals, and surface drains, as of December 31st, 1929, arranged according to method of maintaining, together with a comparison of the amount of work done in 1928 and 1929, is shown in the following tabulations:

MILES OF CANALS AND SURFACE DRAINS
(Classified according to method of maintaining)

	Canals			Surface Drains		
	Dredged	Ruthed	Shoveled	Ruthed	Shoveled	Total
Mexico	124.6	12.4	0	0	0	137.0
Holtville	19.5	289.0	42.4	117.2	6.1	474.2
Imperial	25.0	342.3	58.5	23.8	1.0	450.6
Brawley	25.0	431.0	9.0	268.5	6.5	740.0
Calipatria	0	358.8	18.9	249.9	13.2	640.8
Calexico	16.5	92.9	18.0	6.2	.5	134.1
Total	210.6	1,526.4	146.8	665.6	27.3	2,576.7

SUMMARY OF CLEANING OPERATIONS
Miles Dredged One Side, Miles Shoveled

1 9 2 9

	Canals			Surface Drains		
	Dredged	Ruthed*	Shoveled	Ruthed	Shoveled	Total
Mexico	28.5	0	0	0	0	28.5
Holtville	2.7	507.8	36.9	65.7	1.6	614.7
Imperial	17.9	886.3	199.5	34.5	3.5	1,141.7
Brawley	0	507.8	20.0	242.4	12.0	782.2
Calipatria	0	494.9	23.3	159.6	24.2	702.0
Calexico	3.6	277.6	28.0	15.0	0	324.2
Total	52.7	2,674.4	307.7	517.2	41.3	3,593.3

1 9 2 8

	Dredged	Ruthed*	Shoveled	Ruthed	Shoveled	Total
Mexico	12.5	0	0	0	0	12.5
Holtville	17.6	735.3	64.4	139.0	5.5	961.8
Imperial	0	623.6	143.8	2.5	2.0	771.9
Brawley	2.0	415.0	52.0	231.0	26.0	726.0
Calipatria	0	490.1	18.5	227.2	0	735.8
Calexico	0	274.4	32.8	0	0	307.2
Total	32.1	2,538.4	311.5	599.7	33.5	3,515.2

*Includes Clark and Buckeye dredges.

It is interesting to note the increase in total mileage of canals cleaned, that for the year 1927 being 3,274.4; that for 1928, 3,515.2; while that for this year was 3,593.3 miles, an increase of 318.9 miles or a fraction less than ten per cent over the year 1927.

There was more work required on repairs of structures than usual, including some 647 deliveries, 569 checks and drops, 161 bridges, and 126 miscellaneous structures. In addition there were 729 structures constructed or replaced. Detail of repairs, replacements, and construction for the year is given in the following tabulation:

CONSTRUCTION, REPLACEMENT, AND REPAIR OF STRUCTURES

	Repaired					Constructed or
Division	Deliveries	Checks and Drops	Bridges	Misc.	Total	Replaced
Holtville	179	165	34	0	378	218
Imperial	278	178	65	0	521	219
Brawley	105	133	26	27	291	242
Calipatria	73	87	33	99	292	21
Calexico	12	6	3	0	21	29
Total	647	569	161	126	1,503	729

The growth of vegetation on the canal banks is becoming a more serious problem each year. The magnitude of the situation is brought out by the fact that this year over $155,000 was spent on brushing alone. Serious consideration is being given to methods by which this expenditure can be decreased as well as the growth controlled. The elimination of noxious weeds was continued this year as in the past with the situation well in hand.

River Protection:

The discharge for the year of the Colorado River at Yuma of 17,474,000 acre feet was the highest since 1923 and 1,130,840 acre feet more than the average flow for the last twenty-eight years. The discharge of the Gila River for the year was only 5,500 acre feet, the lowest of record, and but a mere fraction of the 799,213 acre feet average for the last twenty-seven years.

Variations in the flow of the Colorado at Yuma in second feet throughout the year are shown by the following:

Date	Discharge	Date	Discharge
January 2nd	1,360*	June 11th	76,200
January 11th	4,420	June 19th	87,600
January 19th	2,920	June 30th	64,300*
January 31st	5,440**	July 1st	66,800**
February 3rd	3,660	July 27th	18,800*
February 11th	7,080**	August 8th	52,400**
February 22nd	3,020*	August 15th	37,600
February 28th	4,160	August 18th	50,500
March 2nd	3,420	August 30th	11,300*
March 14th	6,230	September 1st	11,500*
March 15th	15,400	September 3rd	18,100
March 19th	30,600**	September 14th	37,800
March 27th	9,560	September 24th	17,800
April 1st	14,800	September 29th	42,000**
April 5th	9,750*	October 1st	30,200**
April 11th	37,200	October 31st	9,750*
April 20th	14,500	November 1st	9,700**
April 29th	38,600	November 22nd	8,080
May 7th	22,200*	November 25th	6,230*
May 19th	50,700	December 7th	5,000
May 31st	73,700**	December 13th	7,220
June 7th	88,900**	December 31st	4,440*

*Minimum for Month.
**Maximum for Month.

Of outstanding note in connection with the run-off this year were the flash floods during the low water period reaching over 50,000 second feet in August, over 40,000 second feet in September and over 30,000 second feet in October. These flows were the result of summer rains and account for the extremely high silt content which was so troublesome throughout the canal system.

The maximum discharge for the year was 88,900 second feet on June 7th, while that for previous years was as follows: 1924, 65,800 on June 24th; 1925, 52,900 on June 8th; 1926, 73,100 on June 16th; 1927, 81,200 on February 20th; 1928, 98,800 on June 13th. The maximum daily discharge since 1912 was 220,000 second feet and occurred on January 22nd, 1916.

The minimum discharge for the year of 1360 second feet occurred on January 2nd and, with the exception of the years 1924 and 1925, was the lowest of the past seventeen years.

A tabulation by years from 1912 to date, showing the discharge of the Colorado at Yuma and diversion at Hanlon Heading, will be found on page 44. The tabulation gives the following information: discharge by years, maximum and minimum daily discharge with date, diversion at Hanlon Heading by years, and maximum and minimum daily diversion with date.

Operations on the levee system preparatory to the flood season were started in April. The spur track on the Salz Levee was removed to the C. D. Levee and utilized in constructing a twenty-five car passing track at Mile 10½. The cut-off on the C. D. Levee, between Miles 2⅞ and 4⅝, was raised several feet with a Bucyrus drag line operating on two 8-hour shifts, seven days a week, the work being completed on May 11th. This work required the moving of thirty-seven thousand three hundred cubic yards of material. The Bucyrus was then moved to the Bee River Levee and used to raise and strengthen sections at Mile Posts 21 and 22.

Rock hauling was commenced on May 21st and continued until August 22nd, a total of 29,360 cubic yards being placed during this period, most of it during June and principally at Mile Posts 21 to 25, and 27. Between October 2nd and 10th, hauling was resumed, the rock being placed on the Pescadero Levee a short distance below the siphons; this work was at the request and expense of the Delta Canal Company.

Except at Pescadero Dam, there were no direct attacks by the river during the flood season. At that point during June, seepage through the dam washed out portions of the earth core and large cavities developed, causing settlement in the top of the levee from a few inches to two feet in depth. Some 7000 cubic yards of rock was dumped in raising the levee back to grade.

The most serious factor this year was the effect of the work of the Baja California Canal Company on the east side of the river opposite the Bee River and Pescadero Levees. In an attempt to develop the land east of Pescadero Cut, that Company built a levee from San Luis westerly and parallel to the Bee River Levee to Pescadero Dam thence southwesterly approximately parallel to the cut for a number of miles. At the dam, the new levee was extended out into the channel, narrowing in the latter to less than 1000 feet in width. A siphon plant was installed on the new levee a short distance east of Pescadero Dam, from which point a canal was excavated southwesterly parallel to Pescadero Cut.

When the plans became known to the subsidiary company of the District, a strong protest was filed with the Mexican Government against permitting the work to be done because of the dangerous results to the works on the west side of the river which would certainly follow.

However, the protest was not approved; the permit was granted and the works described were installed. As soon as the river came into flood the effect of the new levee was immediately apparent, the gauge heights of the water along the Bee River Levee showing much higher than normal. Fortunately, with a discharge of only 70,000 second feet, the river broke through the new levee at several points on June 2nd and immediately the river level dropped back to normal.

As a result of the break the location of the channel changed at Pescadero Dam, part of the flow passing down the new canal on the east side of the river and the remainder swinging back against the Pescadero Levee below the dam. Subsequently, more and more of the flow went to the east as the canal scoured out until by the latter part of October the entire discharge was passing down the canal and Pescadero Cut was dry, as were also the siphons at the dam. At the close of the year the situation remained unchanged.

In November, the tracks in the quarry at Andrade were realigned, grades flattened, and curves lengthened to facilitate the handling of loaded rock trains.

Telephone and Power Lines:

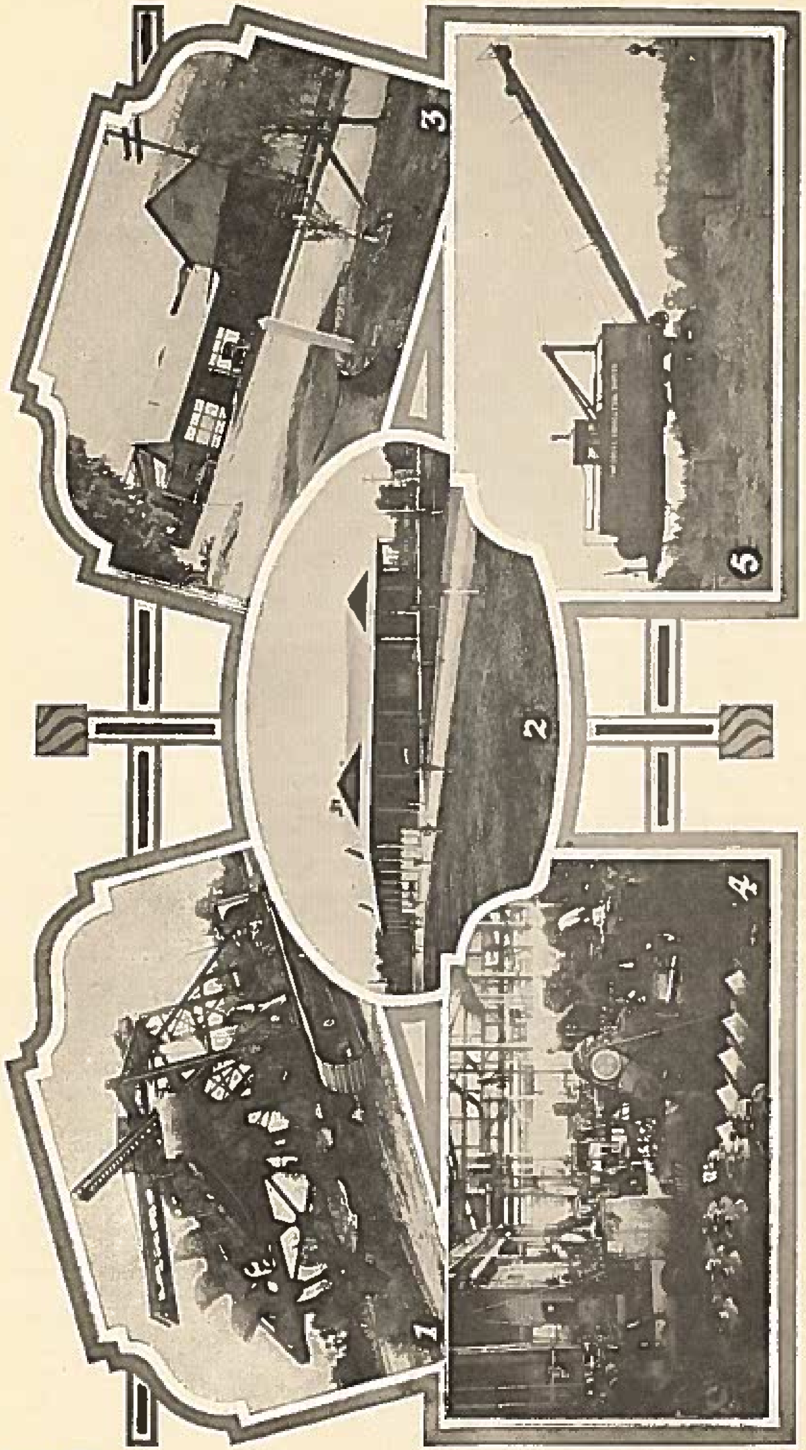
With expanding operations and the increasing introduction of electrical equipment has come ever-increasing demands upon the Telephone and Power Department. Suction dredges, an appreciable percentage of all field equipment and practically all shop equipment are now electrified. This equipment, together with a comprehensive network of telephone lines spreading over every portion of the territory covered by District operations, requires the constant attention of this department.

Operations of the department include: (1) Maintenance and servicing of shop electrical equipment, dredges and other field equipment, small electrified units of office equipment and the moving and raising of telephone, telegraph and power lines to permit proper field operations; (2) Maintenance of existing telephone lines and construction of new ones where required; (3) Maintenance of light and power lines; (4) Replacement of discarded or obsolete units and the installation of new equipment.

The electrical system consists of local wiring for power, light and heat at Andrade and in the General Offices, Imperial Division Office, Imperial Machine Shop, Imperial Stores and Yard, together with other short lines. To this are connected seventy-eight A. C. industrial and fractional horse power motors, together with numerous fan equipment. In addition to the equipment noted above, there are on dredges and other pieces of equipment, seven D. C. generators and fifteen direct current motors.

Construction and installation on lines and equipment for the year include the following: (1) Installing new switchboard in General Office, and the rewiring for common battery service of instruments in the Headquarters, Imperial Division, and El Centro Offices; (2) Extending "W" Lateral line one and one-eighth miles to the "Y" Lateral, and installing telephone; (3) Construction of one mile of new line, with three pairs of wires on ten-pin crossarms, from the Central Main to the Beech Canal and dismantling of old line; (4) Construction of line to superintendent's and water master's residences in Holtville.

General maintenance and repairs for the year include: In the United States; replacing 137 poles, stubbing or resetting 231 poles, replacing 14 anchors, clearing 189 cases of trouble, replacing 57 batteries, installing or



1. New type "wheel" dredge developed by District for drain excavation. 2. Headquarters building at Imperial. 3. General storehouse and shops at Imperial. 4. Portion of machine shop at Imperial. 5. Bucyrus 1½ yard drag line—7 of this type owned by District.

moving 14 telephones, and removing three telephones. In Mexico, replacing 207 poles, stubbing or resetting 325 poles, replacing 27 anchors, clearing 69 cases of trouble, replacing 14 batteries, installing or moving 5 telephones and removing 1 telephone and gong.

In addition to the above, there were 1.50 miles of line moved, 1.2 miles dismantled and 0.3 of a mile strung on Pacific Telephone and Telegraph Company poles; also 250 six-pin crossarms were replaced by a like number of sixteen-pin crossarms, and two short ground lines were made metallic.

The telephone system consists of the following: In the United States; 189.7 miles of pole lines carrying 431.4 miles of circuits, with 180 telephones, 27 signaling devices, 2 switchboards, and 4 switch boxes connected. In Mexico, 149.9 miles of pole lines carrying 248.9 miles of telephone circuits, with 48 telephones, 10 gongs, and 1 switch box connected.

The total equipment in both the United States and Mexico consists of 339.6 miles of pole lines carrying 680.3 miles of circuits, with 228 telephones, 37 signaling devices, 2 switchboards, and 4 switch boxes connected. In addition, the District lines make contact on 47.2 miles of foreign poles.

DRAINAGE

Construction of Deep Drains:

This year saw the completion of the drainage construction program provided for by the bond issue voted in June, 1922. From the available fund of $2,458,638, approximately $1,947,000 was expended on actual drain construction; approximately $25,000 was expended on improvements to Alamo and New River channels, which are the main outlets to Salton Sea for the drainage system; approximately $191,000 was used to purchase excavation machinery; and $296,000 expended on investigations, establishing a comprehensive system of test wells, and engineering.

This year 7.36 miles were constructed at a cost of $72,283 and included 3.03 miles on the extension of Central No. 2 Drain and 4.33 miles on the Fig Drain. The total mileage constructed under the bond issue was 189.68 miles, together with the necessary structures which included 274 bridges, 286 flumes, 47 culverts, and 31 miscellaneous structures.

In addition to expenditures from the bond fund, there has been expended from the general fund, during the past several years, a total of $394,063 for the construction of 43.58 miles of deep drains. Of this amount, $15,843 was spent this year principally for structures on the Verde and Warren Drains; these two drains are being excavated by sluicing. The foregoing expenditures do not include any work on surface drains or drains constructed by the "wheel" dredges but represent deep main drains only.

Summing up the results to date, there has been constructed 233.6 miles of deep main drains at an expenditure of $2,852,701. The result of this work has been the improving of drainage conditions on many thousands of acres of land and the benefits will continue to increase as the water is drained from larger areas but the greatest value of this system is in having deep drains available throughout the project to serve as outlets for the net work of a lateral drain system, on which a good start has already been made. Tabulations on pages 41, 42, and 43 give details of the drainage work.

Construction of drains six feet in depth with the small wheel machine was continued this year. The larger machine, on which construction was started last year, was completed this spring, a second one of the same type also constructed and work on a third started in the fall. The new machines have digging wheels sixteen feet in diameter and excavate to a depth of eight feet. They have proved very successful, doing the work at a most reasonable cost, in fact the demand for these machines is greatly ahead of their capacity. During the year, some four miles of the drains constructed with the small wheel dredge were deepened and a total of twenty-five miles of new drains built.

A further development in drainage this year was the use of small tile drain for individual farms. In order to cooperate and encourage this type of drainage, the District puchased a special tile machine. Approximately five miles of tile four to six inches in diameter was laid in the north end of the valley and has proved successful so far, although sufficient data are not yet available to warrant definite conclusions.

Maintenance of Deep Drains:

Expenditures for drainage maintenance this year totaled $52,037, being divided into the following items:

Canals	$31,697	Structures	$13,548
Pumping	5,123	Test Wells	1,670

Miles of main drains dredged during the year were: Rose No. 1, 2.26; Dixie Nos. 1 and 1A, 3.34; Dixie No. 2, 1.40; Dixie No. 3, 3.43; Dixie No. 4, 3.92; Spruce, 5.30; a total of 20.79 miles. In addition, hand labor was utilized in channelizing, cutting tules, and removing small plugs caused by breaks or debris. For the latter work, the Browning Crane was also used extensively and proved to be very efficient.

Repairs were made to many structures and included extension of bridges, painting of metal flumes and culverts, and in a few cases lining metal flumes with a thin shell of concrete where erosion was excessive. No difficulties out of the ordinary were encountered.

The major item of pumping cost was power for the Rose pump which delivered a total of 4683 acre feet during the year. The pump was completely overhauled for the first time since installation.

Drainage investigations were made in a large number of areas and periodic readings of all test wells were continued. An increase in requests for ground water surveys was noted this year as well as inquiries as to existing condition on individual tracts of land from banks and insurance companies.

Alamo and New Rivers:

A minimum amount of maintenance was necessary this year on the outlets of the two rivers to Salton Sea. Although the growth of the delta silt cones was apparent, no changes were made in the existing channels. Some silting was carried on along the south bank of New River near the Sea for reinforcing the bank.

On the Alamo River a cut-off of more than one-quarter of a mile in length was constructed a short distance downstream from the Schenk Siphon to eliminate a bad bend which had caused considerable damage to adjoining land. Another short cut-off was excavated to the northwest of Calipatria to eliminate a bad bend which was cutting into adjoining farm lands.

The usual amount of bank protection at numerous points was necessary on both rivers, Kellner jetties, brush, and old auto bodies being used. In

the Calipatria Division rock was used for riprapping with good success. Total expenditures on both rivers amounted to $17,504.

Meteorological Data:

The District has been acting as observer for the Weather Bureau of the United States Department of Agriculture since 1915. Commencing September, 1925, observations were made at Imperial, those prior having been made at Calexico.

Daily observations are made covering temperature—maximum and minimum—humidity, direction of prevailing winds, character of the day, and general observations, such as storms or earthquakes. In addition to making monthly reports, temperatures and rainfall are telegraphed to Los Angeles each morning at six o'clock for the daily radio broadcast.

The maximum temperature for the year was 117 degrees on June 24th, the minimum 24 degrees on February 8th and 9th, and the mean 70.8 degrees. The mean maximum for the year was 87.7 degrees and the mean minimum, 53.9 degrees.

During the year there were 299 clear days, 54 partly cloudy, and 12 cloudy. The average relative humidity for the year was 24.4. Rainfall amounted to but 1.64 inches, there being only six days during the year with a precipitation of over 0.01 of an inch.

A tabulation giving meterological data for the year is shown on page 49.

Mechanical Department:

To maintain its equipment, the District has two large modern and well equipped machine shops, one at Imperial and the other at Andrade. An auto shop is also maintained at Imperial to overhaul and maintain the fleet of over one hundred autos and trucks which are constantly in service.

At the Andrade Shop, the Bucyrus drag line and two Marion shovels were overhauled and repairs made to the suction dredges, locomotive crane, dump cars, locomotives, and other equipment.

At the Imperial Shops, in addition to the usual maintenance of all classes of equipment there was considerable new construction undertaken. The large wheel dredge started last year was completed, also a second one constructed, and work on a third commenced late in the fall. Another Gas-Electric dredge for cleaning small canals, similar to the one now in use, was started but not completed owing to the rushing of the work on the wheel dredges.

Purchasing and Stores:

The following is a list of new equipment purchased or constructed during the year. Thirteen Ford coupes and one Ford six-wheel truck; two small and one large portable pumps, one "60" Caterpillar, one "3 yard" revolving scraper, one Buckeye tile trench excavator, one power grader, three Imperial wheel dredges, one Imperial Gas-Electric dredge, and one air compressor.

By centralizing all purchasing for the District in the Purchasing Department, located at the Imperial Headquarters, materials are purchased in large quantities at lower unit prices and it is also possible to maintain a closer supervision of stock on hand than would otherwise be possible. Materials and supplies on hand in the various stores have been materially reduced during the past several years totaling at present approximately $250,000, as compared to over $500,000 in 1923.

Material and equipment of all kinds purchased during the year amounted to nearly $600,000. The following tabulation gives an approximate summary of the major items purchased.

Lumber and Cement	$91,415
Gasoline, Oil and Grease	78,501
Dredges, Tractors, and Parts	50,432
Light, Power and Heat	46,067
Automobiles, Parts, and Repairs	45,695
Culverts, Pipe, and Hose	35,255
Hardware	26,865
Commissary Supplies	26,885
Office Supplies and Printing	24,214
Metal Castings	19,731
Hay and Feed	18,823
Steel, Iron and Bronze	17,843
Rope and Cable	7,681
Electrical Supplies	7,171
Machinery Parts and Repairs	6,841
Telephone and Telegraph Service	6,738
Sacks	6,628
Engineering Equipment	6,257
Rock, Sand and Gravel	3,531
Welding Supplies	3,421
Ice	2,891
Railroad Equipment	2,554
Miscellaneous	2,537
Drygoods	2,406
Explosives	1,791
Tents and Canvas	1,675
Harness, Wagons, and Plows	1,516
Total	$545,364

Budget Revenue and Expenditures:

The Budget of Expenditures for the year was based on anticipated available revenue of $2,991,206 but due principally to an increase in the redemption of certificates of sale, the actual revenue was $3,213,760, or $222,554 more than the estimate, as shown by the following comparison:

	Estimated	Actual
Payment of Assessments	$2,051,206	$2,140,811
Certificates of Sale	220,000	421,884
Water Charges—United States	90,000	85,575
Water Charges—Mexico	610,000	532,490
Miscellaneous Revenue	20,000	33,000
Total	$2,991,206	$3,213,760

Total expenditures for the year amounted to $3,165,584 exceeding by $178,884 the budget of $2,986,700; but it is to be noted that expenditures were less than the actual available revenue by $40,176, the comparison being as follows:

Actual Available Revenue	$3,213,760
Total Expenditures	3,165,584
Difference	$ 48,176

The following tabulation gives a comparison of actual expenditures and budget estimates for the various items:

COMPARISON OF BUDGET ESTIMATE WITH ACTUAL EXPENDITURES

	Budget Estimate	Expended	Under Budget	Over Budget
1. Board of Directors	$ 88,000	$ 105,348		$ 17,348
2. General Administration	$ 86,000	$ 96,185		10,185
3. Storage	$ 15,000	$ 59,505		44,505
4. Diversion	$ 240,000	$ 240,228		228
5. Water Distribution:				
Operation of Canals	$ 259,000	$ 263,402		
Maintenance of Canals	694,300	744,951		
Maintenance of Structures	140,600	144,104		
Construction of Canals	26,000	24,214		
Construction of Structures	49,100	39,207		
Construction, Niland Project		31,278		
Muskrat Bounty		4,763		
	$1,169,000	$1,251,919		82,919
6. River Protection	$ 73,500	$ 58,519	$14,981	
7. Real Estate, etc.:				
Telephone and Power Lines	28,500	30,033		
Real Estate and Buildings	22,000	27,952		
Auto Vehicles	8,000	10,514		
Miscellaneous New Equipment	53,000	80,966		
	$ 111,500	$ 149,465		37,965
8. Bond and Other Indebtedness	$1,104,900	$1,115,824		10,924
9. Drainage and Miscellaneous:				
Drainage Maintenance	$ 73,000	$ 52,037		
Drainage Construction	10,000	15,843		
Alamo and New Rivers	15,800	17,505		
	$ 98,800	$ 85,385	13,415	
Prior Years		$ 3,206		3,206
	$2,986,700	$3,165,584	$28,396	$207,280

Valuations and Assessments:

During the year the net assessed valuation was increased by $1,012,303. Payments required to meet matured bond interest, bond redemption and amounts due on Laguna Dam contract, have steadily increased until the year 1928, when the amount of these fixed charges decreased by $11,000, due to a reduction of bond interest. The bond interest for the year 1930 will be $13,750 less than for the year 1929, bond redemptions and Laguna Dam payment remaining the same, i. e., $250,000 and $96,000, respectively.

Calendar Year	Net Assessed Valuations*	Per Cent of 1921	Fixed Charges	Per Cent of 1921	Rate Required
1921	$45,555,551	100.0	$ 469,500	100.0	$1.03
1922	40,983,642	89.9	694,500	147.9	1.69
1923	39,413,783	86.5	951,500	202.7	2.41
1924	36,573,181	80.3	951,500	202.7	2.60
1925	36,050,103	79.1	1,080,750	230.2	3.00
1926	40,393,572	88.7	1,123,875	239.4	2.78
1927	41,563,353	91.2	1,164,250	248.0	2.80
1928	41,141,887	90.3	1,153,250	245.6	2.80
1929	41,024,114	90.1	1,190,875	253.6	2.90
1930	42,036,417	92.3	1,177,125	250.7	2.82

*15% less than the total assessed valuation set up on books of Assessor and Collector.

Land assessments paid before issuance of Certificates of Sale, for the above years are as follows:

Calendar Year	Assessed Valuation	Rate Per $100	Total of Assessments	Paid	Per Cent
1921	$53,594,766	$2.50	$1,339,869	$1,074,167	80.2
1922	48,216,049	1.10	530,376	446,895	84.3
1923	46,369,156	2.50	1,159,229	1,003,769	86.6
1924	43,027,272	5.00	2,151,364	1,913,928	89.0
1925	42,411,886	5.00	2,120,594	1,824,825	86.1
1926	47,521,849	5.00	2,376,092	2,076,669	87.4
1927	48,898,062	5.00	2,444,903	2,061,477	84.3
1928	48,402,220	5.00	2,420,111	2,039,368	84.3
1929	48,263,664	5.00	2,413,183	2,090,467	86.6
1930	49,454,608	5.00	2,472,730	1,065,698*	43.1

*To December 31st, 1929.

The following statement shows the portion of each year's assessment transferred to certificates of sale, the percentage of this portion to the total assessment, the amount of certificates of sale for each year unpaid on December 31st, 1929, and the percentage of these unpaid certificates of sale to the total assessment.

Assessment for	Portion of Assessment Transferred to Certificates of Sale	Per Cent of Total Assessment	Certificates of Sale Unpaid, December 31, 1929	Per Cent of Total Assess't
1921	$ 260,698*	19.5	$ 34,311	2.56
1922	83,479	15.7	14,365	2.71
1923	155,461	13.4	33,018	2.85
1924	244,706	11.3	63,966	2.97
1925	293,623	13.8	73,999	3.49
1926	298,500	12.6	95,992	4.04
1927	381,216	15.6	148,808	6.09
1928	377,752	15.6	201,750	8.34
1929	318,985	13.2	272,372	11.29
	$2,414,420		$938,581	

*Approximate for 1920-21.

Comparison of Asset and Expense Expenditures and Income:

The following table gives a comparison of expenditures by asset and expense accounts, exclusive of those in connection with absorption of Mutual Water Companies and Drainage Construction from funds derived from the sale of bonds. The asset accounts include new construction, equipment, and betterments; while expense accounts include operation, maintenance of canals, maintenance of structures, etc.

	Asset Expenditures		Bonded Indebtedness and Expense		
Year	Laguna Dam	Other	Bond Interest and Principal	Other	Totals
1921	$32,000	$577,654	$ 434,411	$ 934,393	$1,978,458
1922	32,000	653,499	408,555	898,796	1,992,850
1923	64,000	721,480	724,165	1,634,989	3,144,634
1924	64,000	429,157	794,977	1,632,321	2,920,455
1925	96,000	365,565	961,850	1,772,730	3,196,145
1926	96,000	224,418	1,068,645	1,783,786	3,172,849
1927	96,000	266,181	1,077,717	1,720,643	3,160,541
1928	96,000	281,777	1,059,982	1,643,987	3,081,746
1929	96,000	288,458	1,094,875	1,686,251	3,165,584

The revenue from water sales and service charges, together with amounts realized from redemption of Certificates of Sale, was as follows:

	Water Charges		Certificate Redemption	
Year	Mexico	U. S.	(Including Interest)	Total
1921	$334,938	$765,464	$ 75,125	$1,175,527
1922	469,741	788,952	168,887	1,427,580
1923	526,972	918,370*	176,707	1,622,049
1924	532,418	295,698*	178,344	1,006,460
1925	630,259	253,593*	258,704	1,142,556
1926	585,156	82,955	219,774	887,885
1927	496,017	82,308	211,564	789,889
1928	615,785	83,575	303,852	1,003,212
1929	532,490	85,575	421,884	1,039,949

*The gross revenue from water sales in the United States for these three years was as follows: for the year 1923, $920,047; for the year 1924, $1,039,658; and for the year 1925, $1,019,248. The net revenue was as shown in the above tabulation, after applying assessment credits in the following amounts: on 1923 water sales, $1,677; on 1924 water sales, $743,960; and on 1925 water sales, $765,655.

Financial and Cost Statements and Tabulations:

Following are the Financial and Cost Statements for the year 1929, together with additional statements and tabulations concerning the current year's operations. They are more particularly enumerated as follows:

1. Financial Statement.
2. Income and Expense.
3. Adjustments to Surplus.
4. Cash Receipts and Disbursements.
5. Cash with Assessor and Collector.
6. Expenditures for Calendar Years 1923 to 1929, Inclusive.
7. Fourth Bond Issue, Receipts, and Expenditures.
8. Drainage Construction Expenditures.
9. Drainage Excavation.
10. Drainage Structures.
11. River Discharge and Diversion at Hanlon.
12. Crop Report.
13. Bond Issues, Principal and Interest.
14. Water, Weather, and Crop Report.
15. Meteorological Data.
16. Graph showing Bond and Laguna Dam Payments.
17. Graph showing Expenditures.
18. Salton Sea Elevations.
19. Affidavit of Business Manager.

Financial Statement, December 31st, 1929

ASSETS

CURRENT ASSETS:		
Cash	$ 970,452.68	
Materials and Supplies	254,047.85	
Accounts Receivable	2,788,479.28	
Land Held under District Tax Deeds	24,520.41	$ 4,037,500.22
CAPITAL ASSETS:		
Irrigation System, Additions and Betterments	$10,661,684.34	
Protective Levees and Works	3,080,137.85	
Drainage Canals and Structures	2,758,059.95	
Equipment and Facilities	969,932.81	
Buildings	297,491.20	
Land	122,075.34	
Salton Sea Flooding Easements	10,590.00	17,899,971.49
CONTINGENT AND DEFERRED ASSETS:		
Laguna Dam Diversion Right	$ 1,600,000.00	
All-American Canal Survey by United States	20,000.00	
Deposits and Interest, F. and M. Bank, Imperial	62,748.66	
Funds Advanced for Litigation and Investigations	20,313.06	1,703,061.72
DEFERRED CHARGES TO OPERATION:		
Prepaid Insurance	$ 8,010.84	
Prepaid Corral Expense	9,876.75	
Other Prepaid Expenses	7,985.00	25,872.59
Total Assets		$23,666,406.02

LIABILITIES AND SURPLUS

CURRENT LIABILITIES:		
Unpaid District Warrants	$ 296,835.30	
Accrued Interest on District Warrants	591.84	
Unpaid Matured Bond Interest	426,170.00	
Third Issue Bonds Maturing July 1st, 1930	250,000.00	
Unpaid Time Vouchers	56,606.16	
Unpaid Purchases	27,292.88	
Other Accounts Payable	53,905.95	$ 1,111,402.13
BONDED INDEBTEDNESS:		
Unmatured District Bonds	$15,100,000.00	
Less Bonds Maturing July 1st, 1930	250,000.00	14,850,000.00
CONTINGENT AND DEFERRED LIABILITIES:		
Laguna Dam Diversion Right	$ 864,000.00	
All-American Canal Survey by U. S.	20,000.00	884,000.00
DEFERRED CREDITS TO INCOME:		
Deferred Revenue from 1929-30 Assessments	$ 2,452,840.40	
Penalties on 1st Installment, 1929-30 Assessments	21,293.14	
Deferred Revenue—Niland District Contract	8,000.00	
Unapplied Cash Collections	2,079.80	2,484,213.34
SURPLUS:		
Surplus from Prior Years	$ 3,792,963.53	
Surplus for Current Year	543,827.02	4,336,790.55
Total Liabilities and Surplus		$23,666,406.02

DETAIL OF FINANCIAL STATEMENT

ASSETS

CASH:

Cash with District Treasurer:			
General Fund	$ 20,852.03*		
Bond Fund	327,731.93		
Compania Fund	7,440.39		
Compania Special Tax Fund	25,432.89	$ 339,753.18	
Cash with Assessor and Collector		607,929.20	
Cashier Account - Revolving Fund		5,812.54	
Assessor and Collector—Revolving Fund		9,620.01	
Business Manager—Revolving Fund		500.00	
Petty Cash Funds		3,790.00	
Cash in Transit to Treasurer		3,047.75	$ 970,452.68

MATERIALS AND SUPPLIES:

Value of Stores—Storehouses and Material Yards:			
Andrade	$ 63,821.81		
Brawley	2,658.88		
Calexico	1,861.18		
Calipatria	2,368.64		
Holtville	2,516.53		
Imperial	46,329.73		
Imperial Shop Stores	107,414.42		
Mexicali	16,763.77	$ 243,734.96	
Value of Stores on Hand:			
Mercantile Store, Andrade	$ 2,421.75		
Mess Houses	176.19	2,597.94	
Quarried Rock, Andrade		6,041.90	
Quarried Rock, Calipatria		811.74	
Materials and Supplies in Process		25.67	
Materials and Supplies in Transit		785.28	
Mexican Revenue Stamps		50.36	254,047.85
Forward			$1,224,500.53

*Indicates Red.

Brought Forward			$1,224,500.53

ACCOUNTS RECEIVABLE:

Assessor and Collector—1929-30 Assessments		$ 1,387,142.35	
Penalties on First Installment, 1929-30 Assessments		21,293.14	
Certificates of Sale—Delinquent Assessments	$ 976,092.22		
Less Reserve for Possible Cancellations	195,003.61	781,088.61	
Accrued Interest Receivable on Certificates of Sale	$ 606,255.72		
Less Reserve for Possible Cancellations	56,479.03	549,776.69	
Niland Dist. Contract Payments		8,000.00	
Uncollected Water Sales and Service Charges, U. S.		18,515.38	
Misc. Accounts Receivable	$ 98,322.19		
Less Provision for Possible Losses, Accounts Receivable	79,637.99	18,684.20	
Accrued Interest Receivable on Bank Deposits		2,469.91	
Notes Receivable		1,509.00	2,788,479.28
Land Held under District Tax Deeds			24,520.41

CONTINGENT AND DEFERRED ASSETS:

Laguna Dam Diversion Right		$ 1,600,000.00	
All-American Canal Survey by United States		30,000.00	
Deposits—Farmers and Merchants Bank of Imperial (General Fund)		53,254.27	
Deposits—Farmers and Merchants Bank of Imperial (Revolving Fund)		8,201.04	
Interest on Certificates of Deposit, Farmers and Merchants Bank of Imperial		1,293.35	
Funds Advanced:			
For Litigation	$ 9,890.56		
For Special Investigations	10,422.50	20,313.06	1,703,061.72

DEFERRED CHARGES TO OPERATION:

Prepaid Insurance		$ 8,010.84	
Prepaid Corral Expense		9,876.75	
Other Prepaid Expenses		7,985.00	25,872.59
Forward			$5,766,434.53

Brought Forward			$5,766,434.53
FIXED ASSETS:			
Construction Costs Incurred to December 31, 1929:			
Canal System, Additions and Betterments		$10,661,684.34	
Protective Works		3,080,137.85	
Drainage Canals and Structures		2,758,059.95	
Buildings	$ 414,905.90		
Less Reserve for Depreciation	117,414.70	297,491.20	
Land		122,075.34	16,919,448.68
Equipment and Facilities:			
Excavating Machinery and Field Equipment	$1,514,265.30		
Less Reserve for Depreciation	963,408.52	$ 550,856.78	
Rolling Stock	$ 223,473.95		
Less Reserve for Depreciation	78 954.11	144,519.84	
Telephone and Power Lines	$ 141 372.48		
Less Reserve for Depreciation	15,703.50	125,668.98	
Shop Machinery	$ 77,389.07		
Less Reserve for Depreciation	30,041.33	47,347.74	
Office Equipment	$ 51,158.99		
Less Reserve for Depreciation	12,908.35	38,250.64	
Automobiles and Trucks	$ 80,386.25		
Less Reserve fon Depreciation	56,214.34	24,171.91	
Commissary Equipment	$ 38,226.43		
Less Reserve for Depreciation	26,015.78	12,210.65	
Shop Tools		18,106.27	
Live Stock		8,800.00	969,932.81
Other Fixed Assets:			
Salton Sea Flooding Easements			10,590.00
Total Fixed Assets			$17,899,971.49
Grand Total Assets			$23,666,406.02

LIABILITIES AND SURPLUS

CURRENT LIABILITIES:			
Unpaid District Warrants	$ 377,086.74		
Less Warrants favor Compania and Revolving Funds	80,251.44	$ 296,835.30	
Interest Accrued on District Warrants		591.84	
Unpaid Matured Bond Interest		426,170.00	
Third Issue Bonds Maturing July 1st, 1930		250,000.00	
Unpaid District Time Vouchers		51,188.79	
Unpaid Compania Time Vouchers		5,417.37	
Unpaid Compania Vouchers		1,152.20	
Unpaid Revolving Fund Checks		3,279.67	
Unpaid Purchases		27,292.88	
Unpaid Mexican Federal Water Tax		25,811.43	
Advance Deposits on Water Accounts, Mexico		7,473.10	
Deposits for Construction Work		7,584.80	
Guaranty Deposits on Water Accounts, U. S.		155.00	
Unpaid State Compensation Insurance		6,717.25	
Redemptions of Assigned Certificates of Sale		1,507.45	
Unredeemed Mercantile Store Coupons		225.05	$ 1,111,402.13
CONTINGENT AND DEFERRED LIABILITIES:			
Laguna Dam Diversion Right		$ 864,000.00	
All-American Canal Survey by United States		20,000.00	884,000.00
DEFERRED REVENUES:			
Assessments levied by District, Year 1929-30		$ 2,452,840.40	
Deferred Revenue, Niland District Contract		8,000.00	
Unapplied Cash Collections		1,917.89	
Deposits for Redemption of Certificates of Sale		161.91	2,484,213.34
BONDED INDEBTEDNESS:			
Imperial Irrigation District Bonds:			
First Issue 5%		$ 3,500,000.00	
Second Issue 5%		2,500,000.00	
Third Issue 5½%	$1,600,000.00		
Less Bonds Maturing July 1, 1930	250,000.00	1,350,000.00	
Fourth Issue 6%		7,500,000.00	14,850,000.00
SURPLUS:			
Surplus of Prior Years		$ 3,792,963.53	
Surplus of Current Year		543,827.02	4,336,790.55
Grand Total Liabilities and Surplus			$23,666,406.02

INCOME AND EXPENSE STATEMENT

INCOME:

Assessments for Year 1929 (1928-29 Levy)			$2,340,708.16
Water Sales and Service Charges:			
Water Sales, Mexico		$ 532,490.27	
Water Sales, United States	$ 13,766.87		
Service Charges, United States	71,807.75	85,574.62	618,064.89
Total Operating Income			$2,958,773.05
Miscellaneous Income :			
Interest on Certificates of Sale		$ 173,287.65	
Revenue from Sales of Land held under Tax Deeds		67,723.06	
Penalties and Costs on 1929 Assessments		49,708.89	
Special Revenue—Niland District Contract		12,000.00	
Special Revenue—Protective Work		5,145.60	
Rental of District Property		6,424.88	
Cash Discounts Earned		4,222.21	
Interest on Bank Deposits		3,606.57	
Gain on Mexican Exchange		1,750.00	
Unpayable Accounts		1,179.07	
Miscellaneous Revenue		2,808.19	327,856.12
Total Income			$3,286,629.17

EXPENSES:

Operation & Maintenance of System		$1,651,987.10	
Depreciation of Equipment and Facilities	$176,876.84		
Depreciation of Buildings	22,201.24		
Total Depreciation Expense		199,078.08	
Interest on District Bonds		844,875.00	
Total Operating Expenses		$2,695,940.18	
Miscellaneous Expenses:			
Interest on District Warrants	$ 21,540.91		
Adjustments of Inventories of Materials and Supplies	12,811.34		
Loss on Mexican Exchange	3,057.66		
Fire Losses	377.50		
Taxes	367.29		
Miscellaneous Losses	8,707.27	46,861.97	
Total Expenses			2,742,802.15
Surplus of Income over Expenses for Year 1929			$ 543,827.02

ADJUSTMENTS TO SURPLUS

	Debit	Credit
Surplus, December 31st, 1928		$3,906,364.34
ADJUSTMENTS:		
Reserve for Loss on Accounts Receivable	$ 76,198.34	
Loss on Machinery and Equipment	33,204.28	
Adjustments to Building Account	4,219.95	
Adjustments to Depreciation Account	3,903.06	
Loss on Obsolete Materials and Supplies	1,801.12	
Damage Claim caused by Seepage from East Highline Canal	1,092.64	
Miscellaneous Debit Adjustments	3,535.13	
Compensation Insurance Dividend for 1928		7,419.07
Interest on Bank Deposit, F. & M. Bank		1,293.35
Miscellaneous Credit Adjustments		1,841.29
Excess of Income over Expenses for 1929, as per Income and Expense Statement		543,827.02
Surplus, December 31st, 1929	4,336,790.55	
Totals	$4,460,745.07	$4,460,745.07

Statement of Cash Receipts and Disbursements by Funds

GENERAL FUND

Balance on Hand, January 1st, 1929			$ 40.33
RECEIPTS:			
From Assessor and Collector as per Schedule		$1,169,543.34	
Water Sales and Service Charges		* 86,500.90	
Sales of Land Held under District Tax Deeds		69,620.20	
Assignments of Certificates of Sale		39,169.31	
For Construction of Drain Ditches		28,475.98	
Interest on Assigned Certificates of Sale		20,680.49	
Refunds of Cash Advances		10,745.65	
Andrade Mercantile Store Cash Sales		8,437.44	
State Compensation Insurance 1928 Dividend		7,419.07	
For Delivery Gates, Checks and Waste Boxes		7,371.64	
Refunds of Gasoline Tax by State of California		7,119.51	
Rental of District Property		6,813.77	
For Drain Pipes and Installation		5,004.63	
From Delta Canal Co. for Revetment Pescadero Levee		5,000.00	
For Repairs or Construction of Bridges		4,949.56	
For Grading and Dredging Private Drains and Ditches		4,844.02	
Interest on Bank Deposits		3,699.32	
Sales of Materials and Supplies		3,326.70	
For Construction of Siphons and Flumes		2,667.63	
Shop Repair Work for Others		2,013.34	
Sales of Old Equipment and Junk		1,680.55	
For Shoveling Private Drains and Ditches		1,362.83	
Payments for Personal Telephone Calls		552.07	
Repairs to Telephone Lines and Rentals of Contacts		374.31	
Refunds of Insurance Premiums		302.00	
Sale of Zanjero House		300.00	
Refunds of Freight Overcharges		160.93	
Sales of Maps and Blue Prints		104.05	
Payments of Notes Receivable		97.65	
For Pumping Water from Fields		79.34	
Other Miscellaneous Receipts		15,658.68	
Total Receipts			1,514,074.91
Transfers From:			
Compania Fund		$ 390,447.39	
Bond Fund		255,317.87	
Construction Fund		77,564.22	723,329.48
Total			$2,237,444.72
DISBURSEMENTS:			
Audited Warrants Paid	$ 599,566.89		
Interest Paid on Registered Warrants	21,932.65	$ 621,499.54	
Forward		$ 621,499.54	$2,237,444.72

Brought Forward		$ 621,499.54	$2,237,444.72
Transfers To:			
Compania Fund	$1,194,010.37		
Revolving Fund	280,433.07		
Bond Fund	98,470.25		
Assessor's Redemption Fund	10,000.00		
Headquarters Redemption Fund	629.25	1,583,542.94	2,205,042.48
			$ 32,402.24
Less—Deposits with Receiver of Farmers and Merchants Bank of Imperial, Transferred to Contingent and Deferred Asset Account			53,254.27
Balance, December 31st, 1929 (Overdraft)			$ 20,852.03

CONSTRUCTION FUND

Balance on Hand, January 1st, 1929	$ 77,564.22
RECEIPTS:	
None.	
DISBURSEMENTS:	
Transfers To:	
General Fund, Covering Construction of Drainage Canals and Structures	77,564.22
Balance, December 31st, 1929	None

BOND FUND

Balance on Hand, January 1st, 1929		$ 243,102.17
RECEIPTS:		
From Assessor and Collector as per Schedule	$1,283,002.28	
Sales of Land Held under Tax Deeds	36,292.90	
Assignments of Certificates of Sale	20,369.18	
Interest on Certificates of Sale Collected by Treasurer	3,885.52	
	$1,343,549.88	
Transfers From:		
General Fund	98,470.25	1,442,020.13
		$1,685,122.30
DISBURSEMENTS:		
Matured Bond Interest Paid	$ 852,072.50	
Matured Bonds Paid	250,000.00	
	$1,102,072.50	
Transfers To:		
General Fund	255,317.87	1,357,390.37
Balance, December 31st, 1929		$ 327,731.93

CASHIER ACCOUNT REVOLVING FUND

Balance on Hand, January 1st, 1929		$ 5,335.58
RECEIPTS:		
Cash Received in Exchange for Check	$ 80.00	
Transfers From:		
General Fund	280,433.07	
Compania Fund	30,000.00	310,513.07
		$ 315,848.65
DISBURSEMENTS:		
Audited Cashier Account Checks	$ 270,090.96	
Audited Andrade Drafts	9,845.15	
	$ 279,936.11	
Transfers To:		
Compania Fund	30,000.00	
Petty Cash Fund	100.00	310,036.11
Balance, December 31st, 1929		$ 5,812.54

COMPANIA FUND

Balance on Hand, January 1st, 1929		$ 24,055.44
RECEIPTS:		
From Water Users, Mexico	$ 569,816.24	
Less—Loss on Exchange	3,057.66	
	$ 566,758.58	
Miscellaneous Accounts Receivable	1,400.22	
Refund of Fine on Scales	100.00	
	$ 568,258.80	
Transfers From:		
General Fund	1,194,010.37	
Revolving Fund	30,000.00	1,792,269.17
		$1,816,324.61
DISBURSEMENTS:		
District Time Vouchers	$1,178,991.89	
Compania Time Vouchers	139,513.69	
Compania Vouchers	33,453.86	
	$1,351,959.44	
Transfers To:		
General Fund	390,447.39	
Revolving Fund	30,000.00	
Compania Tax Fund	36,477.39	1,808,884.22
Balance, December 31st, 1929		$ 7,440.39

COMPANIA TAX FUND

Balance on Hand, January 1st, 1929	$ 22,205.50
RECEIPTS:	
Transfers from Compania Fund	36,477.39
	$ 58,682.89
DISBURSEMENTS:	
Compania Vouchers in Payment of Mexican Federal Water Tax	33,250.00
Balance, December 31st, 1929	$ 25,432.89

ASSESSOR'S REDEMPTION FUND

RECEIPTS:	
Transfer from General Fund	$ 10,000.00
DISBURSEMENTS:	
Redemption of N. S. F. Checks Received in Payment of Assessments	379.99
Balance, December 31st, 1929	$ 9,620.01

BUSINESS MANAGER'S REDEMPTION FUND

RECEIPTS:	
Transfers from General Fund	$ 629.25
DISBURSEMENTS:	
Redemption of N. S. F. Check Received as Deposit on Drain Construction	129.25
Balance, December 31st, 1929	$ 500.00

PETTY CASH FUNDS

Balance on Hand January 1st, 1929	$ 1,690.00
RECEIPTS:	
Funds advanced in 1927 to F. H. McIver for Expenses, Taken into El Centro Office Petty Cash Fund	2,000.00
Transfers From:	
Revolving Fund to Accounting Petty Cash Fund	100.00
Balance, December 31st, 1929	$ 3,790.00

CASH WITH ASSESSOR AND COLLECTOR

Balance with Assessor on January 1st, 1929			$ 547,906.26
RECEIPTS:			
1928 Assessment Levy		$1,091,181.59	
1929 Assessment Levy		1,065,698.05	
Redemptions of Certificates of Sale:			
Year			
1912	$ 1.66		
1913	1.23		
1914	3.76		
1915	4.60		
1916	28.60		
1917	96.64		
1918	708.68		
1919	349.35		
1920	1,943.52		
1921	805.91		
1922	1,408.50		
1923	3,538.74		
1924	10,562.40		
1925	32,007.53		
1926	51,669.93		
1927	106,803.88		
1928	39,483.57	249,418.50	
1928 Certificates of Sale Awarded Others at Annual Sale of Property, Sept. 8th, 1929		11,172.74	
Interest on Redeemed Certificates of Sale		77,269.98	
Penalties and Costs on 1928 Assessments		13,894.38	
Collections for Others than District		1,805.44	
Miscellaneous Fees, etc.		2,127.88	
Total Receipts			2,512,568.56
			$3,060,474.82
Deposited with District Treasurer:			
In General Fund		$1,169,543.34	
In Bond Fund		1,283,002.28	2,452,545.62
Balance, December 31st, 1929			$ 607,929.20

Expenditures for Calendar Years 1923 to 1929, Inclusive

No. Feature Item	1923	1924	1925	1926	1927	1928	1929
1. BOARD OF DIRECTORS:							
El Centro Office	$ 88,459.50	$ 77,664.77	$ 88,818.41	$ 93,140.39	$ 100,406.69	$ 97,461.41	$ 105,348.20
2. GENERAL ADMINISTRATION:							
Headquarters Office	$ 125,337.52	$ 106,305.09	$ 96,693.39	$ 87,378.63	$ 88,922.17	$ 90,836.84	$ 96,185.04
3. STORAGE:							
Boulder Canyon Dam	$ 39,502.12	$ 23,869.00	$ 26,310.66	$ 6,386.76	$ 67,148.03	$ 86,746.57	$ 59,504.77
4. DIVERSION:							
Laguna Dam Contract		$ 132,480.00		$ 192,000.00	$ 96,000.00	$ 96,000.00	$ 96,000.00
Diversion Gates	$ 20,962.18	21,382.10	$ 21,365.08	20,624.18	24,653.96	25,099.56	26,380.58
Intake Canal	818.70	1,767.46	834.61	2,471.17	2,669.51	2,996.06	3,510.63
Diversion Weir	32,852.87	25,691.28	17,286.31	18,764.91	14,646.84	11,497.30	11,160.79
Dredging	42,495.20	72,277.59	79,714.54	72,631.31	80,708.10	84,762.67	89,257.85
Misc. Operations	24,966.83	9,361.79	11,943.55	13,825.85	12,752.62	14,744.02	13,917.98
Total	$ 122,095.78	$ 262,960.22	$ 131,144.09	$ 320,317.42	$ 231,431.03	$ 235,099.61	$ 240,227.83
5. WATER DISTRIBUTION:							
Mexico:							
Canal Operation	$ 58,214.40	$ 62,338.81	$ 64,197.79	$ 64,649.26	$ 62,411.20	$ 63,877.43	$ 64,864.00
Canal Maintenance	114,132.66	145,534.46	134,897.30	89,670.77	73,971.51	91,119.73	102,131.11
Structure Mainten'ce	5,996.76	13,349.69	10,933.51	4,595.06	10,232.25	21,671.54	11,240.00
Canal Construction						932.21	
Struct're Construction	7,642.68	17,733.75		2,549.54			
Total	$ 185,986.50	$ 238,956.71	$ 210,028.60	$ 161,464.63	$ 146,614.96	$ 177,600.91	$ 178,235.11
United States:							
Canal Operation	$ 203,382.13	$ 213,627.66	$ 211,429.37	$ 197,207.38	$ 191,970.91	$ 197,083.72	$ 198,538.01
Canal Maintenance	725,975.00	675,700.17	684,328.94	675,335.85	637,375.36	606,319.91	647,582.81
Structure Mainten'ce	105,922.96	124,275.45	101,071.06	118,851.19	145,034.49	129,496.95	132,863.54
Canal Construction	36,599.66	35,576.58	4,908.39	11,722.17	10,313.24	22,786.89	34,283.92
Str'cture Construction	30,493.78	90,757.87	90,451.81	31,118.76	33,425.49	45,039.57	60,415.62
Total	$1,102,373.53	$1,139,937.73	$1,092,189.57	$1,034,235.35	$1,018,119.49	$1,000,727.04	$1,073,683.90

No. Feature Item	1923	1924	1925	1926	1927	1928	1929
6. RIVER PROTECTION:							
Patrol & Maintain Levees	$ 40,369.94	$ 17,231.29	$ 14,962.66	$ 70,463.60	$ 77,145.32	$ 25,948.10	$ 45,996.75
Improvem'ts Levee System	157,596.74	58,971.87	66,747.40	42,452.32	48,001.51	50,482.53	12,522.57
Total	$197,966.68	$ 76,203.16	$ 81,710.06	$ 112,915.92	$ 125,146.83	$ 76,430.63	$ 58,519.32
7. REAL ESTATE AND EQUIPMENT:							
'Phone & Power Lines, O. and M.	$ 27,774.82	$ 26,822.38	$ 23,329.49	$ 24,799.30	$ 26,238.70	$ 23,707.56	$ 27,691.23
'Phone & Power Lines, Construction	17,391.79	1,295.22	21,399.54	2,420.48	361.53	3,489.70	2,342.22
Real Estate & Buildings, Maintenance	12,054.97	10,164.80	10,778.87	17,978.37	15,975.88	21,500.91	16,718.10
Real Estate & Buildings, Construction	55,910.48	15,910.62	109,322.53	7,640.41	9,618.51	2,657.00	11,234.16
Equip. - R'new'ls, Purch's's	381,615.47	154,031.30	41,355.31	64,065.34	63,024.97	56,332.96	91,478.77
Total	$494,747.53	$208,224.32	$206,185.74	$ 116,903.90	$ 115,219.59	$ 107,688.13	$ 149,464.48
8. BONDED INDEBTEDNESS AND INTEREST:							
Bond Interest	$724,165.00	$794,977.50	$863,850.00	$ 923,645.00	$ 875,717.50	$ 864,982.50	$ 844,875.00
Discount on Bonds Sold	60,000.00	13,750.00					
Redemption of Bonds			98,000.00	145,000.00	202,000.00	195,000.00	250,000.00
Int. on Reg. Warrants			9,554.97	5,904.81	17,074.01	27,574.73	20,949.07
Total	$784,165.00	$808,727.50	$971,404.97	$1,074,549.81	$1,094,791.51	$1,087,557.23	$1,115,824.07
9. DRAINAGE AND MISCELLANEOUS:							
Drainage Construction			$ 12,257.23	$ 55,363.76	$ 34,287.36	$ 12,959.53	$ 15,842.95
Drain Maintenance		$ 28,842.30	77,522.01	60,447.21	83,946.43	77,866.09	52,037.10
New River Outlet		30,994.68	16,807.77	14,272.65	26,628.64	15,557.06	3,457.16
New Riv. Bank Protection			152.95	684.83	1,016.61	2,666.46	2,382.04
Alamo River Outlet			1,083.85	517.70	12,179.70	6.61	217.30
Alamo R. Bank Protection			1,488.07	13,540.31	9,886.24	12,191.87	11,448.43
Adj. Salton Sea Claims				116,031.22	4,795.46	350.00	
Miscellaneous			9,430.77	698.47			3,206.28
Total		$ 59,836.98	$118,742.65	$ 261,556.15	$ 172,740.44	$ 121,597.62	$ 88,591.26

Summary

	1923	1924	1925	1926	1927	1928	1929
1. Board of Directors	$ 88,459.50	$ 77,664.77	$ 88,818.41	$ 93,140.39	$ 100,406.69	$ 97,461.41	$ 105,348.20
2. General Administration	125,337.52	106,305.09	96,693.39	87,378.63	88,922.17	90,836.84	96,185.04
3. Storage	39,502.12	23,869.00	26,310.66	6,386.76	67,148.03	86,746.57	59,504.77
4. Diversion	122,095.78	262,960.22	131,144.09	320,317.42	231,431.03	235,099.61	240,227.83
5. Water Distribution, Mexico	185 986.50	238,956.71	210,028.60	161,464.63	146,614.96	177,600.91	178,235.11
Water Distribution, U.S.	1,102,373.53	1,139,937.73	1,092,189.57	1,034,235.35	1,018,119.49	1,000,727.04	1,073,683.90
6. River Protection	197,966.68	76,203.16	81,710.06	112,915.92	125,146.83	76,430.63	58,519.32
7. Real Est. & Equipment	494,747.53	208,224.32	206,185.74	116,903.90	115,219.59	107,688.13	149,464.48
8. Bonded Indebtedness and Interest	784,165.00	808,727.50	971,404.97	1,074,549.81	1,094,791.51	1,087,557.23	1,115,824.07
9. Drainage and Misc.		59,836.98	118,742.65	261,556.15	172,740.44	121,597.62	88,591.26
T't'l Budget Expenditures	$3,140,634.16	$3,002,685.48	$3,023,228.14	$3,268,848.96	$3,160,540.74	$3,081,745.99	$3,165,583.98
Construction Fund Expenditures:							
Drainage Construction	$ 553,521.37	$ 568,801.21	$ 507,893.88	$ 274,629.37	$ 228,938.59	$ 61,156.21	$ 72,283.38
Purchase Mutual Water Companies	1,302,591.67						
Total, inc. Expenditures from Construction Fund	$4,996,747.20	$3,571,486.69	$3,531,122.02	$3,543,478.33	$3,389,479.33	$3,142,902.20	$3,237,867.36
CAPITAL ACCOUNTS	2,577,592.77	1,130,438.40	873,458.75	836,047.48	793,119.23	633,933.17	706,741.56
EXPENSE ACCOUNTS	2,419,154.43	2,441,048.29	2,657,663.27	2,707,430.85	2,596,360.10	2,508,969.03	2,531,125.80

FOURTH BOND ISSUE, RECEIPTS, AND EXPENDITURES

Fourth Issue of Bonds, Par Value					$7,500,000
Receipts from Authorized Sales:					
August 5th, 1922	$2,000,000	at	94.5	$1,890,000	
August 31st, 1922	2,500,000	at	94.5	2,362,500	
November 6th, 1922	1,000,000	at	94.5	945,000	
January 2nd, 1922	Bonus			7,500	
	500,000	at	97.5	487,500	
April 11th, 1924	50,000	at	97.5	48,750	
May 29th, 1924	100,000	at	97.5	97,500	
June 23rd, 1924	100,000	at	97.5	97,500	
July 2nd, 1924	300,000	at	97.5	292,500	
October 31st, 1924	500,000	at	100.0	500,000	
March 31st, 1925	450,000	at	101.0	454,500	
	$7,500,000			$7,183,250	
Discount				316,750	$7,500,000
Expenditures:					
Equipment				$ 191,414	
Purchase of Mutual Water Companies				4,724,612	
Drainage Construction				2,267,224	$7,183,250

Drainage

DRAINAGE CONSTRUCTION EXPENDITURES

GENERAL FUND

	1929		Total	
	Miles	Cost	Miles	Cost
East of Alamo	None	$15,842.95	32.71	$ 244,154.87
Between Alamo and New Rivers			3.43	36,107.30
West of New River			7.44	28,347.95
Engineering, etc.				43,796.57
Alignment of Rivers				41,656.40
Total	None	$15,842.95	43.58	$ 394,063.09

CONSTRUCTION FUND

	1929		Total	
	Miles	Cost	Miles	Cost
East of Alamo			54.10	$ 649,540.53
Between Alamo and New Rivers	3.03	$30,988.34	77.31	861,465.06
West of New River	4.33	34,866.64	58.27	435,594.05
Engineering, etc.		6,428.40		295,901.39
Alignment of Rivers				24,722.98
Purchase of Machinery				191,413.99
Totals	7.36	$72,283.38	189.68	$2,458,638.00

SUMMARY OF DRAINAGE EXPENDITURES

	1929		Total	
	Miles	Cost	Miles	Cost
East of Alamo		$15,842.95	86.81	$ 893,695.40
Between Alamo and New Rivers	3.03	30,988.34	80.74	897,572.36
West of New River	4.33	34,866.64	65.71	463,942.00
Engineering, etc.		6,428.40		339,697.96
Alignment of Rivers				66,379.38
Purchase of Machinery				191,413.99
Totals	7.36	$88,126.33	233.26	$2,852,701.09

SUMMARY OF DRAINAGE EXCAVATION

Drains	Cubic Yards Excav. 1929	Unit Cost	Miles 1929	Total Yards To Date	Unit Cost	Mileage to Date
Ash				45,593	$.138	1.50
Bonds Corner No. 1				85,827	.143	2.62
Calipatria No. 2				123,485	.063	2.39
Central Main and Extension				977,190	.095	14.70
Central No. 2				237,277	.065	4.41
Central No. 2 Extension and Tile	136,788	.056	3.03	136,788	.056	3.03
Central No. 3				471,782	.071	7.64
Dahlia Tile				48,193	.108	2.47
Dixie No. 1				208,998	.089	4.10
Dixie No. 2				70,364	.065	1.52
Dixie No. 3, 3A, and 3B				230,378	.077	4.61
Dixie No. 4 and 4A				250,559	.089	3.85
Dixie No. 4 Extension				2,088	.113	.06
Fig Drain	207,993	.070	4.33	226,489	.075	4.52
Gerrard Drain				20,952	.076	1.77
Greeson Wash				162,572	.161	8.71
Greeson No. 1				19,686	.182	.47
Holtville Main				1,097,271	.098	23.00
Holtville No. 1 and Extension				262,390	.111	5.01
Holtville No. 2				693,579	.102	10.81
Holtville No. 2A and 2B				136,954	.098	2.94
Holtville No. 2C				99,495	.140	2.61
Holtville No. 2D and 2DA				197,931	.079	3.64
Holtville No. 3				157,960	.114	2.50
Holtville No. 4				225,975	.103	6.12
Holtville No. 6 and Extension				441,374	.098	8.66
Holtville No. 7				114,309	.061	2.14
Holtville No. 8				459,800	.059	7.57
Holtville No. 9 and 9A				72,588	.123	2.52
Holtville No. 11				19,156	.133	.52
Martin				10,470	.090	.36
Mesquite				420,768	.068	7.52
Moss				20,948	.122	.90
Mt. Signal				322,720	.067	5.40
Mt. Signal No. 1 and 1A				124,142	.067	2.69
No. 9				337,675	.094	6.72
Orchid Outlet				118,394	.110	1.63
Outlets — Miscellaneous				18,297	.161	.75
Rose Outlet				543,145	.100	7.80
Rose No. 1				315,683	.171	5.74
Spruce				238,576	.087	5.50
South Central				652,051	.067	11.78
Schilling Tile				4,250	.151	.64
Timothy No. 1				50,168	.072	1.61
Timothy No. 2				26,440	.098	1.68
Trifolium No. 1				518,370	.074	11.87
Trifolium No. 2				378,686	.080	7.00
Trifolium Storm				81,409	.093	3.79
Westmorland				120,716	.110	3.47
Totals	344,781	.065	7.36	11,600,091	$.089	233.26

SUMMARY OF DRAINAGE STRUCTURES
(Expenditures from Construction Fund Only)

Structure	Number	Total Cost	Unit Cost
4-Ton Bridges	144	$ 83,199.87	$ 577.78
8-Ton Bridges	120	90,681.26	755.68
10-Ton Bridges	1	1,006.39	1,006.39
12-Ton Bridges	7	8,352.44	1,193.20
15-Ton Bridges	2	2,675.13	1,337.56
No 72 Flumes	143	107,966.94	755.01
No. 84 Flumes	10	7,547.12	754.71
No. 96 Flumes	14	14,027.39	1,001.96
No. 108 Flumes	46	52,164.01	1,134.00
No. 120 Flumes	38	42,911.08	1,129.24
No. 132 Flumes	6	7,848.78	1,308.18
No. 144 Flumes	1	923.27	923.27
Pipe Flumes	21	24,497.52	1,166.52
Miscellaneous Flumes	7	6,882.51	983.21
Culverts	47	105,661.36	2,248.11
Trestles	1	1,617.63	1,617.63
Siphons	2	9,224.88	4,612.44
Drop Structures	1	1,085.82	1,085.82
Sluiceway	1	728.66	728.66
Combination Culvert and Flume	3	3,535.63	1,178.54
Miscellaneous	23	5,387.55	234.24

COMPARISON OF COLORADO RIVER DISCHARGE AT YUMA, ARIZONA WITH DIVERSION AT HANLON HEADING

Colorado River Discharge

Year	Total Acre Feet	Maximum Sec. Ft.	Date	Minimum Sec. Feet	Date
1913	11,788,300	62,500	June 10	2,600	Jan. 18
1914	20,654,400	136,700	June 14	3,300	Jan. 7
1915	14,643,200	90,000	Feb. 3	2,700	Sept. 20
1916	22,940,400**	220,000*	Jan. 22	3,800	Jan. 12
1917	20,610,600	142,900	July 4	5,300	Jan. 9
1918	13,145,300	94,300	July 3	4,100	Sept. 13
1919	10,740,000	82,600	Nov. 30	1,800	Jan. 16
1920	21,445,800	190,000	June 8	5,100	Dec. 27
1921	19,464,400	185,700	June 28	5,200	Jan. 10
1922	17,019,500	115,000	June 10	3,300	Oct. 18
1923	17,843,500	100,000	June 8	4,600	Jan. 3
1924	11,421,000	65,800	June 24	1,200	Sept. 11
1925	12,457,300	52,900	June 8	1,210	Jan. 8
1926	12,201,000	73,100	June 16	2,440	Sept. 17
1927	17,095,000	81,200	Feb. 20	2,620	Jan. 9
1928	12,781,000	98,800	June 13	2,020	Dec. 31
1929	17,474,000	88,900	June 7	1,360	Jan. 2

**Maximum Acre Feet.
*Maximum Second Feet January 22nd.

Hanlon Heading Diversion****

Year	Total Acre Feet	Maximum Sec. Ft.	Date	Minimum Sec. Feet	Date
1913	1,667,343	3,419	July 25	786	Dec. 31
1914	1,863,518	4,205	July 26	802	Jan. 1
1915	1,912,931	5,003	June 23	746	Jan. 30
1916	2,218,898	5,854	June 22	1,011	Jan. 19
1917	2,270,110	5,595	Sept. 22	1,456	Aug. 16
1918	2,719,149	5,932	Aug. 17	295	Jan. 13
1919	2,656,675	6,082	Aug. 4	1,781	Jan. 13
1920	2,821,543	5,992	July 19	1,789	Feb. 28
1921	2,419,595	4,868	Sept. 17	413	Jan. 5
1922	2,890,282	5,860	July 31	1,740	Jan. 14
1923	3,275,425	6,910	Aug. 15	2,492	Dec. 28
1924	3,078,307	7,200	July 30	1,295	***Sept. 11
1925	3,158,665	6,948	July 22	300	Dec. 15
1926	3,090,769	6,400	July 8	300	Dec. 11
1927	3,089,191	6,612	July 15	821	Dec. 27
1928	3,271,529	7,255*	July 25	989	Dec. 4
1929	3,423,511**	7,200	June 21	2,200	Jan. 2

**Maximum Acre Feet.
*Maximum Second Feet July 25th.

***The wasteway from the Yuma Main Canal at Siphon Spill is between the meter station at Yuma and Hanlon Heading, which accounts for the Diversion at Hanlon being greater than the Discharge at Yuma on September 11th, 1924.

****This tabulation includes all water diverted from the Colorado River to the Imperial Irrigation District, except the following amounts, listed by years in acre feet, which were diverted at Cerro Prieto Headgate from Volcano Lake; 1916, 17,309; 1917, 142,345; 1918, 157,685; 1919, 197,534; 1920, 274,413; 1921, 115,425.

Crop Report

For Year 1929

UNITED STATES

Field Crops	Acres
Alfalfa	208,608
Alfalfa (Planted after Oct. 1)	37,167
Barley (1928-29)	56,840
Barley (1929-30)	60,953
Corn	29,251
Cotton	20,431
Oats (1928-29)	1,731
Oats (1929-30)	2,209
Wheat (1928-29)	10,317
Wheat (1929-30)	10,942
Bermuda	19,255
Cane	2,010
Sudan	2,691
Hemp	1,014
Miscellaneous	344
Total	463,763

Permanent Crops	
Asparagus	3,150
Apricots	69
Dates	209
Figs	63
Grapes, Malaga	1,629
Grapes, Thompson Seedless	1,667
Grapes, Others	200
Grapefruit	9,622
Olives	71
Oranges	236
Pears	17
Pomegranates	55
Strawberries	153
Pecans	207
Tangerines	163
Plums	24
Nursery Stock	41
Lemons	12
Avocados	10
Miscellaneous	114
Total	17,712

Garden Crops	Acres
Lettuce (1928-29)	31,270
Lettuce (1929-30)	46,384
Cantaloupes (1928-29)	27,284
Cantaloupes (Fall 29)	1,830
Cantaloupes (1929-30)	35,659
Honey Dews (1928-29)	3,338
Honey Dews (Fall 29)	361
Honey Dews (1929-30)	2,809
Honey Balls (1928-29)	2,347
Honey Balls (Fall 29)	535
Honey Balls (1929-30)	1,846
Tomatoes (1928-29)	1,702
Tomatoes (1929-30)	1,202
Peas (Spr. 29)	3,159
Peas (Fall 29)	10,274
Peas (Spr. 30)	3,426
Carrots (1928-29)	1,485
Carrots (1929-30)	1,766
Watermelons (1928-29)	6,207
Watermelons (1929-30)	7,087
Squash	555
Cabbage	516
Beans	413
Cucumbers	757
Onions	79
Spinach	505
Sweet Potatoes	124
Casabas	77
Peppers	133
Chicory	138
Endive	105
Broccoli	198
Jap Melons	20
Beets	166
Anise	316
Greens	20
Turnips	60
Miscellaneous	215
Total	194,368

Field Crops	463,763
Garden Crops	194,368
Permanent Crops	17,712
GRAND AREA IN CROPS	675,843
Less Area Counted Twice	251,698
NET AREA CROPPED	424,145

MEXICO

	Cotton	Alfalfa	Grains	Misc.	Total
Acres	145,452	16,893	2,185	509	165,039*
Per Cent	88.1	10.3	1.3	0.3	100.00

GRAND TOTAL AREA CROPPED, United States and Mexico, 589,184 acres.

*19,751 acres were irrigated principally from siphons installed last year at Pescadero Dam.

District Bond Maturities and Interest-Issues 1 to 4, Inclusive

For Calendar Year	FIRST ISSUE (1) Principal $3,500,000.00	FIRST ISSUE (1) Interest For Year at 5%	SECOND ISSUE (2) Principal $2,500,000.00	SECOND ISSUE (2) Interest For Year at 5%	THIRD ISSUE (3) Principal $2,500,000.00	THIRD ISSUE (3) Interest For Year at 5½%	FOURTH ISSUE (4) Principal $7,500,000.00	FOURTH ISSUE (4) Interest For Year at 6%	Total Principal Per Year	Total Interest Per Year	Total Interest and Principal 4 Issues	For Year
1915		$ 175,000.00								$ 175,000.00	$ 175,000.00	1915
1916		175,000.00								175,000.00	175,000.00	1916
1917		175,000.00		$ 62,500.00						237,500.00	237,500.00	1917
1918		175,000.00		125,000.00						300,000.00	300,000.00	1918
1919		175,000.00		125,000.00		$ 34,375.00				334,375.00	334,375.00	1919
1920		175,000.00		125,000.00		137,500.00				437,500.00	437,500.00	1920
1921		175,000.00		125,000.00		137,500.00				437,500.00	437,500.00	1921
1922		175,000.00		125,000.00		137,500.00		$ 225,000.00		662,500.00	662,500.00	1922
1923		175,000.00		125,000.00		137,500.00		450,000.00		887,500.00	887,500.00	1923
1924		175,000.00		125,000.00		137,500.00		450,000.00		887,500.00	887,500.00	1924
1925		175,000.00		125,000.00	$ 100,000.00	134,750.00		450,000.00	$ 100,000.00	884,750.00	984,750.00	1925
1926		175,000.00		125,000.00	150,000.00	127,875.00		450,000.00	150,000.00	877,875.00	1,027,875.00	1926
1927		175,000.00		125,000.00	200,000.00	118,250.00		450,000.00	200,000.00	868,250.00	1,068,250.00	1927
1928		175,000.00		125,000.00	200,000.00	107,250.00		450,000.00	200,000.00	857,250.00	1,057,250.00	1928
1929		175,000.00		125,000.00	250,000.00	94,875.00		450,000.00	250,000.00	844,875.00	1,094,875.00	1929
1930		175,000.00		125,000.00	250,000.00	81,125.00		450,000.00	250,000.00	831,125.00	1,081,125.00	1930
1931		175,000.00		125,000.00	300,000.00	66,000.00		450,000.00	300,000.00	816,000.00	1,116,000.00	1931
1932		175,000.00		125,000.00	300,000.00	49,500.00		450,000.00	300,000.00	799,500.00	1,099,500.00	1932
1933		175,000.00		125,000.00	350,000.00	31,625.00		450,000.00	350,000.00	781,625.00	1,131,625.00	1933
1934		175,000.00		125,000.00	400,000.00	11,000.00		450,000.00	400,000.00	761,000.00	1,161,000.00	1934
1935		175,000.00		125,000.00			$ 422,000.00	437,340.00	422,000.00	737,340.00	1,159,340.00	1935
1936	$ 70,000.00	171,500.00		125,000.00			377,000.00	413,370.00	447,000.00	709,870.00	1,156,870.00	1936
1937	70,000.00	168,000.00		125,000.00			396,000.00	390,180.00	466,000.00	683,180.00	1,149,180.00	1937
1938	105,000.00	162,750.00	$ 50,000.00	123,750.00			313,000.00	368,910.00	468,000.00	655,410.00	1,123,410.00	1938
1939	105,000.00	157,500.00	50,000.00	121,250.00			327,000.00	349,710.00	482,000.00	628,460.00	1,110,460.00	1939
1940	140,000.00	150,500.00	75,000.00	118,125.00			279,000.00	331,530.00	494,000.00	600,155.00	1,094,155.00	1940
1941	140,000.00	143,500.00	75,000.00	114,375.00			292,000.00	314,400.00	507,000.00	572,275.00	1,079,275.00	1941
1942	140,000.00	136,500.00	100,000.00	110,000.00			292,000.00	296,880.00	532,000.00	543,380.00	1,075,380.00	1942
1943	140,000.00	129,500.00	100,000.00	105,000.00			320,000.00	278,520.00	560,000.00	513,020.00	1,073,020.00	1943
1944	175,000.00	120,750.00	100,000.00	100,000.00			304,000.00	259,800.00	579,000.00	480,550.00	1,059,550.00	1944
1945	175,000.00	112,000.00	100,000.00	95,000.00			334,000.00	240,660.00	609,000.00	447,660.00	1,056,660.00	1945
1946	175,000.00	103,250.00	125,000.00	89,375.00			333,000.00	220,650.00	633,000.00	413,275.00	1,046,275.00	1946
1947	175,000.00	94,500.00	125,000.00	83,125.00			373,000.00	199,470.00	673,000.00	377,095.00	1,050,095.00	1947
1948	210,000.00	84,000.00	125,000.00	76,875.00			383,000.00	176,790.00	718,000.00	337,665.00	1,055,665.00	1948
1949	210,000.00	73,500.00	125,000.00	70,625.00			333,000.00	155,310.00	668,000.00	299,435.00	967,435.00	1949
1950	210,000.00	63,000.00	150,000.00	63,750.00			320,000.00	135,720.00	680,000.00	262,470.00	942,470.00	1950
1951	210,000.00	52,500.00	150,000.00	56,250.00			317,000.00	116,610.00	677,000.00	225,360.00	902,360.00	1951
1952	245,000.00	40,250.00	150,000.00	48,750.00			300,000.00	98,100.00	695,000.00	187,100.00	882,100.00	1952
1953	245,000.00	28,000.00	150,000.00	41,250.00			300,000.00	80,100.00	695,000.00	149,350.00	844,350.00	1953
1954	280,000.00	14,000.00	175,000.00	33,125.00			300,000.00	62,100.00	755,000.00	109,225.00	864,225.00	1954
1955	280,000.00		175,000.00	24,375.00			300,000.00	44,100.00	755,000.00	68,475.00	823,475.00	1955
1956			200,000.00	15,000.00			585,000.00	17,550.00	785,000.00	32,550.00	817.550.00	1956
1957			200,000.00	5,000.00					200,000.00	5,000.00	205,000.00	1957
Total..	$3,500,000.00	$5,680,500.00	$2,500,000.00	$4,057,500.00	$2,500,000.00	$1,544,125.00	$7,500,000.00	$10,612,800.00	$16,000,000.00	$21,894,925.00	$37,894,925.00	

(1) Date of Issue January 1st, 1915, Matures January 1st.
(2) Date of Issue July 1st, 1917, Matures July 1st.
(3) Date of Issue October 1st, 1919, Matures July 1st.
(4) Date of Issue July 1st, 1922, Matures July 1st.

Water, Weather and Crop Tables

Calendar Year.	Total Area Irrigated for Year.	Total Quantity of Water Diverted for Direct Use—Acre Feet From Colorado River.	Total Quantity of Water Wasted, Lost and Unaccounted For—Acre Feet.	Total Quantity of Water Delivered to Mutual Water Companies and Users—Acre Feet.	Net Acre Feet Per Acre Delivered to Mutual Water Companies and Users.	Rainfall—Feet.	Water Delivered Plus Rainfall During Season—Feet.	Mean Annual Temperature—Degrees Fahrenheit.	Date of Last Killing Frost in Spring Before July 15th.	Date of First Killing Frost After July 15th in Fall.	Percentage of Area in Different Crops. Cereals and Seed.	Cotton.	Hay and Forage.	Fruits, Vegetables and Miscellaneous.
1912	242,110	1,433,753	520,665	913,088	3.77	0.20	3.97	70.0	Jan. 3	Dec. 21	47.9	3.3	44.0	4.8
1913	275,797	1,667,343	551,305	1,116,038	4.05	0.16	4.21	69.9	Mar. 25	Dec. 25				
1914	316,832	1,863,518	556,251	1,307,267	4.13	0.24	4.37	71.6	Jan. 31	Dec. 13	26.6	12.3	47.1	14.0
1915	334,534	1,912,931	618,662	1,294,269	3.87	0.28	4.15	71.2	Jan. 19	Nov. 14				
1916	375,509	2,236,207	750,215	1,485,992	3.96	0.40	4.36	71.1	Feb. 2	Nov. 13	35.5	11.4	42.1	11.0
1917	435,940	2,412,455	728,016	1,684,439	3.86	0.14	4.00	71.0	Mar. 4	Dec. 11				
1918	508,210	2,876,834	878,193	1,998,641	3.93	0.15	4.08	70.9	Feb. 3	Nov. 27	31.5	36.2	21.7	10.6
1919	588,250	2,854,209	773,936	2,080,273	3.54	0.24	3.78	70.9	Feb. 25	Nov. 29	30.8	31.3	23.9	14.0
1920	603,440	3,095,956	1,009,999	2,085,957	3.46	0.41	3.87	70.1	None	Dec. 7	20.6	49.2	16.9	13.3
1921	531,674	2,535,020	726,670	1,808,350	3.40	0.50	3.90	70.8	Feb. 16	Nov. 19	31.5	31.5	31.0	6.0
1922	563,400	2,890,282	755,982	2,134,300	3.79	0.21	4.00	70.6	Feb. 6	Jan. 3	26.2	33.1	28.2	12.5
1923	530,000	3,275,425	1,741,003	1,534,422	2.90	0.29	3.19	70.2	Feb. 11	Jan. 1	15.1	44.8	30.0	10.1
1924	544,338	3,078,307	1,413,934	1,664,373	3.06	0.06	3.12	72.5	Jan. 23	Dec. 19	13.7	45.5	27.9	12.9
1925	586,545	3,158,665	1,377,807	1,780,858	3.04	0.25	3.29	71.1	Jan. 18	Dec. 12	13.4	40.9	30.3	15.4
1926	546,402	3,090,769	1,281,863	1,808,906	3.31	0.54	3.85	72.6	Feb. 2	Dec. 14	16.0	29.1	36.1	18.8
1927	545,216	3,089,191	1,208,573	1,880,618	3.45	0.39	3.84	72.3	Jan. 24	Dec. 7	16.8	23.5	39.8	19.9
1928	578,689*	3,271,529	1,064,443	2,207,086	3.72	0.02	3.74	71.9	Jan. 18	Nov. 16	22.4	20.5	35.3	21.8
1929	569,433*	3,423,511	1,173,390	2,250,121	3.95	0.14	4.09	70.8	Feb. 9	Nov. 23	13.8	17.8	42.5	25.9

Previous to January 1st, 1923, water wasted, lost and delivered, based on deliveries to Mutual Water Companies, since that time on deliveries to water users.

NOTE—Deliveries to land based on orifice measurement and are at least 10% less than actual as shown by tests.

*In addition to the irrigated acreage herein given, 19,700 acres in 1928 and 19,751 acres in 1929 were served through the Colorado Land Company's siphons at Pescadero Cut and by the Alamo "6B" Canal ;

55,577 acre feet in 1928 and 1,303 acre feet of water in 1929, which were delivered to Alamo "6B" Canal, have been included in "Acre Feet Delivered" but omitted in computing the Duty of Water in Mexico.

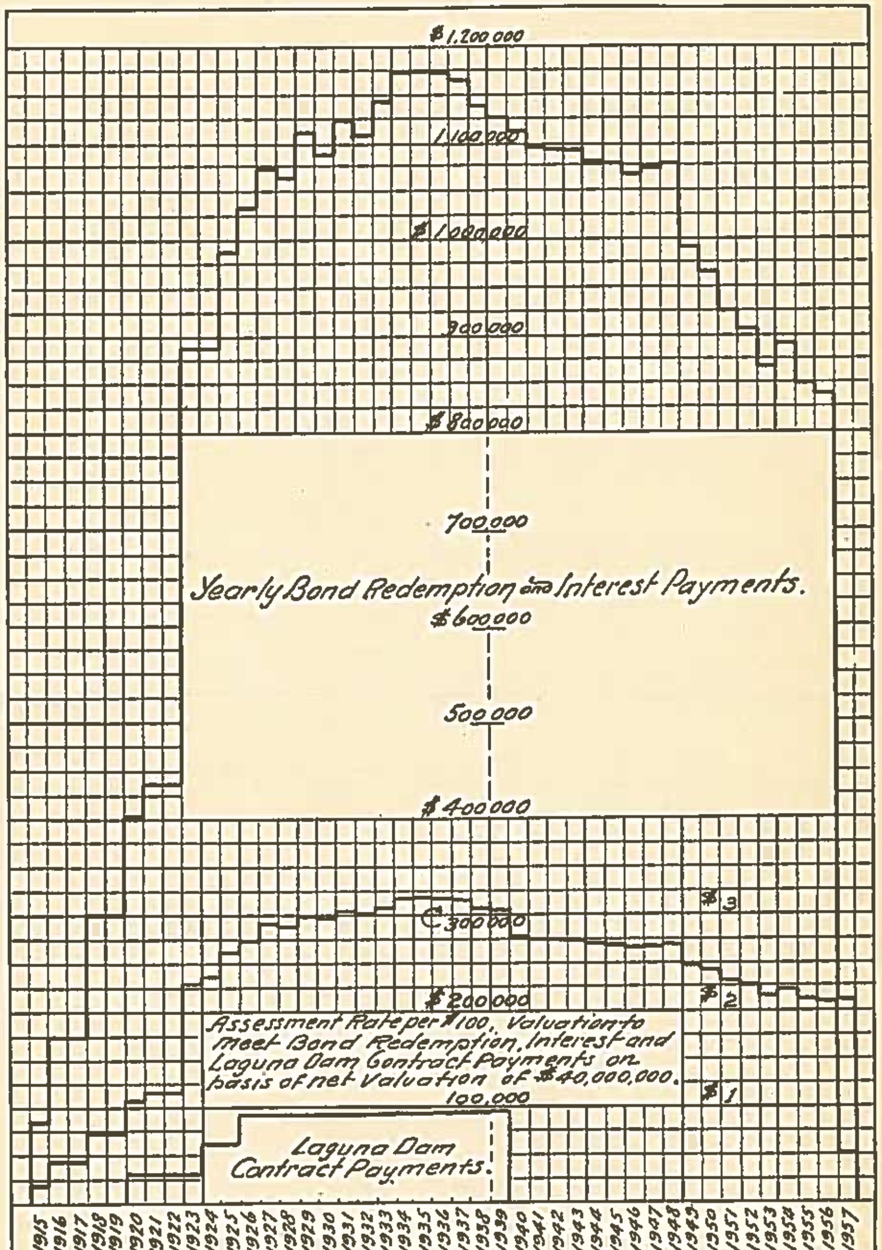
Meteorological Data – Year 1929

TEMPERATURE

Month	Mean Maximum	Mean Minimum	Mean	Maximum	Date	Minimum	Date	Greatest Daily Range
January	68.5	33.0	50.7	79	12th	25	24th, 25th	46
February	72.1	37.8	55.0	88	23rd	24	8th, 9th	50
March	79.1	44.7	61.9	95	29th	36	23rd, 24th	47
April	83.7	48.3	66.0	98	16th	36	5th	45
May	95.7	59.7	77.7	102	10th, 18th, 24th	49	1st	43
June	101.0	66.8	83.9	117	24th	54	1st	44
July	105.5	75.8	90.7	111	14th, 22nd	69	8th	40
August	103.2	77.9	90.5	111	30th	73	16th	36
September	97.1	64.4	80.8	112	15th	54	22nd, 23rd, 25th	44
October	89.5	58.2	73.8	104	5th	40	31st	41
November	79.1	39.3	59.2	88	5th	30	23rd	48
December	77.0	39.0	58.0	84	7th	31	21st, 22nd	45
Year	87.7	53.9	70.8	117	June 24th	24	Feb. 8th, 9th	50

RELATIVE HUMIDITY — PRECIPITATION IN INCHES — WEATHER

Month	Relative Humidity Per Cent	Precipitation No. Days Over .01	Monthly	Greatest 24 Hours	Weather Clear	Partial	Cloudy
January	31	2	.15	.14	22	7	2
February	26				25	3	0
March	24				25	4	2
April	21				26	2	2
May	15				30	1	0
June	17				28	1	1
July	27				21	10	0
August	32	2	.26	.17	24	7	0
September	25	2	1.23	.88	25	3	2
October	20				21	10	0
November	23				30	0	0
December	31				22	6	3
Year	24.4	6	1.64	—	299	54	12



GRAPH SHOWING AMOUNTS EXPENDED

1925 TO 1929 INCLUSIVE.

	1925	1926	1927	1928	1929
Board of Directors	98.373 - 3.3%	93,140 - 2.9%	100,407 = 3.2%	97,461 - 3.2%	105,348 = 3.3%
General Administration	96,693 - 3.2%	87,379 - 2.7%	88,922 - 2.8%	90,837 - 3.0%	96,185 = 3.0%
Storage	26,311 - 0.9%	6 387 - 0.2%	67,148 - 2.1%	86,746 - 2.8%	59,505 - 1.9%
Diversion	131,144 = 4.3%	320,317 = 9.8%	231,431 - 7.3%	235,100 - 7.6%	240,228 - 7.6%
Water Distribution in Mexico	210,029 - 7.0%	161,465 - 4.9%	146,615 = 4.6%	177,601 - 5.8%	178,235 - 5.6%
Water Distribution in United States	1,092,190 - 36.1%	1,034,235 - 31.6%	1,018,119 = 32.2%	1,000,727 = 32.4%	1,073,624 = 33.9%
River Protection	81,710 - 2.7%	112,916 - 3.4%	125,147 = 4.0%	76,431 = 2.5%	58,519 = 1.9%
Real Estate, Building Equipment etc.	206,186 - 6.8%	116,904 = 3.6%	116,220 - 3.7%	107,688 - 3.5%	149,464 = 4.7%
Bonded Indebtedness	961,850 = 31.8%	1,074,550 = 32.9%	1,094,792 = 34.6%	1,087,557 = 35.3%	1,115,824 = 35.3%
Drainage and Miscellaneous.	118,742 = 3.9%	261,556 - 8.0%	172,740 - 5.5%	121,598 - 3.9%	88,591 = 2.8%
Total Budget Expenditures.	$3,023,228	$3,268,849	$3,160,541	$3,081,746	$3,165,583

SALTON SEA ELEVATIONS

July, 1921—January, 1930

Date	Sea Level
July 1st, 1921	—249.1
Jan. 1st, 1922	—249.2
July 1st, 1922	—249.2
Jan. 1st, 1923	—249.9
July 1st, 1923	—250.2
Jan. 1st, 1924	—249.1
July 1st, 1924	—249.0
Jan. 1st, 1925	—250.2
July 1st, 1925	—249.9
Jan. 1st, 1926	—249.7
July 1st, 1926	—248.8
Jan. 1st, 1927	—247.8
July 1st, 1927	—247.0
Jan. 1st, 1928	—246.4
July 1st, 1928	—246.0
Jan. 1st, 1929	—246.5
July 1st, 1929	—245.8
Jan. 1st, 1930	—245.2

STATE OF CALIFORNIA,
COUNTY OF IMPERIAL. ss.

R. H. Maddux, being first duly sworn, deposes and says

That he is employed as Business Manager of the Imperial Irrigation District, in which capacity he is in charge of the District's Books of Account; that he has at the request and on behalf of the Chief Engineer and General Superintendent of the Imperial Irrigation District, caused to be compiled from said books of account the above financial statements and statistics and that said statement and statistics and all thereof are true and correct to the best of his knowledge and belief.

R. H. MADDUX, Business Manager
Imperial Irrigation District.

(SEAL)

Subscribed and sworn to before me this 4th day of June, 1930.

L. J. THOMAS,
Notary Public in and for the County of Imperial, State of California.

My Commission expires May, 1933.

Approved:

M. J. Dowd, Chief Engineer and General Superintendent,
Imperial Irrigation District.