ANNUAL REPORT

and

FINANCIAL STATEMENT

of

CHIEF ENGINEER

and

GENERAL SUPERINTENDENT

IMPERIAL IRRIGATION DISTRICT
CALIFORNIA
(and Subsidiary Company in Mexico)

1930

Annual Report

and

Financial Statement

of

Chief Engineer

and

General Superintendent

1930

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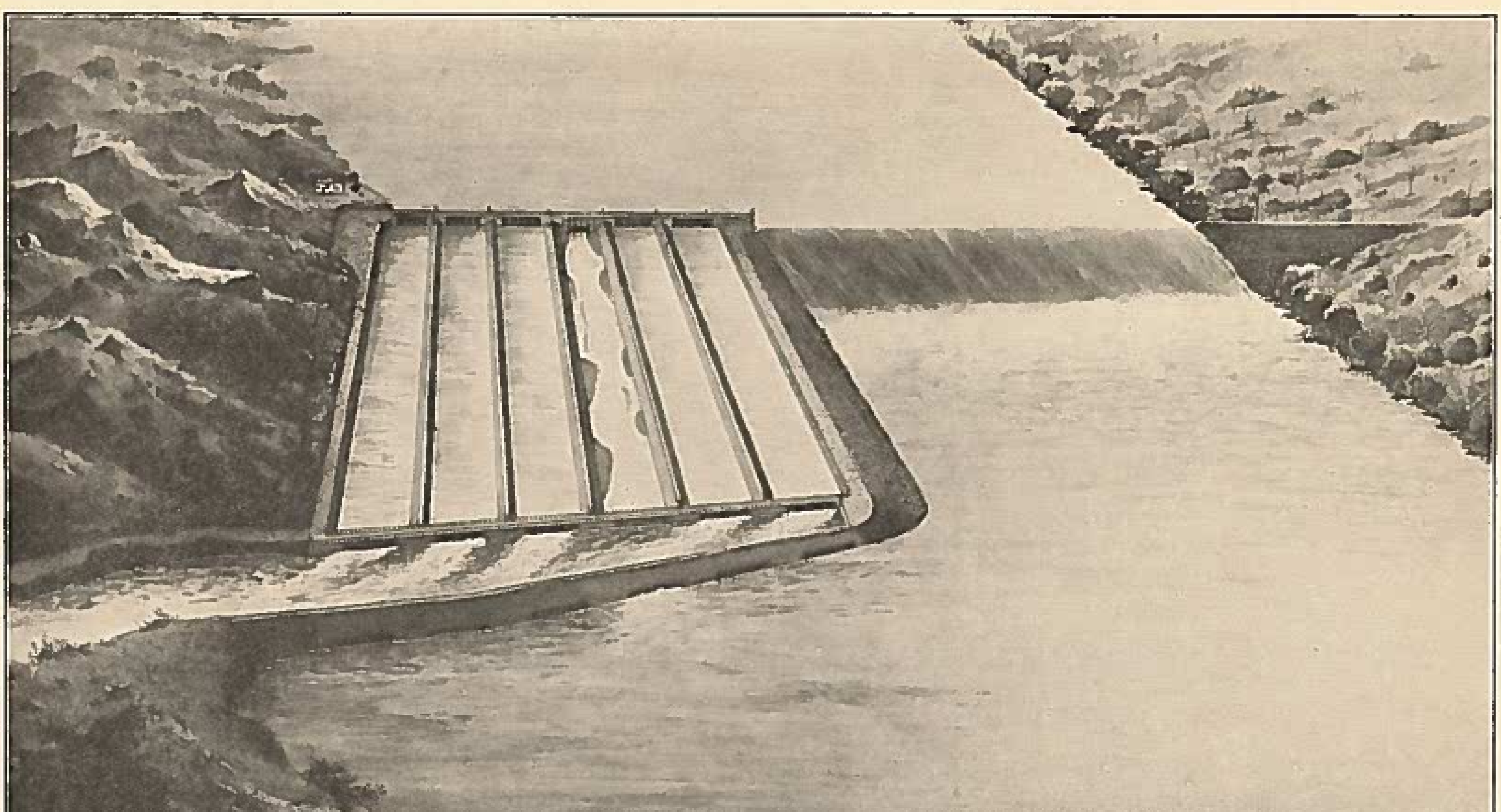
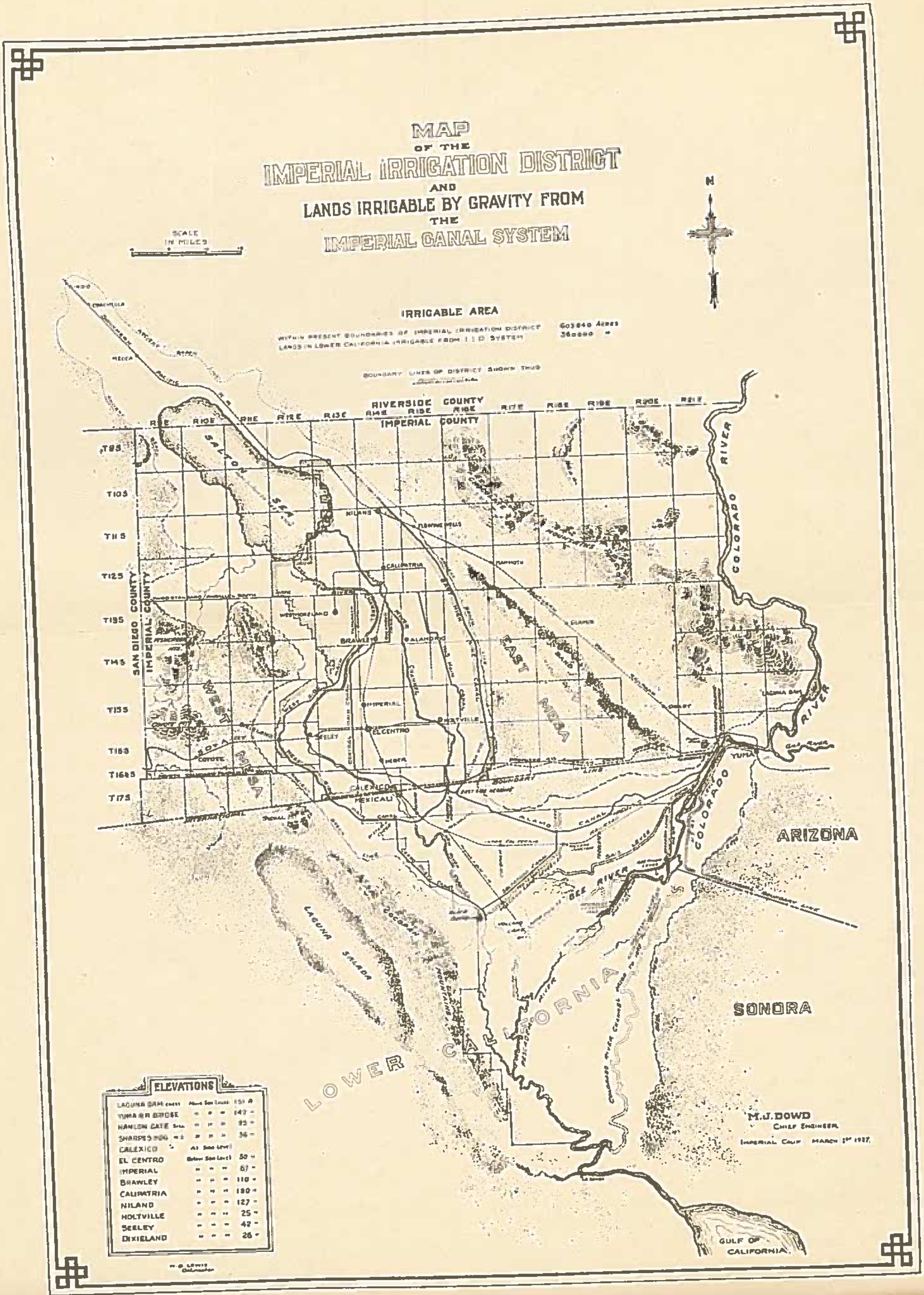
Tabulations



PROPOSED INTAKE AND DESILTING WORKS FOR ALL-AMERICAN CANAL



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
IMPERIAL COUNTY
SALTON SEA
NILAND
CALIPATRIA
WESTMORLAND
BRAWLEY
IMPERIAL
EL CENTRO
HOLTVILLE
SEELEY
CALEXICO
MEXICALI
EAST MESA
WEST MESA
COLORADO RIVER
YUMA
ARIZONA
SONORA
LOWER CALIFORNIA
LAGUNA SALADA
GULF OF CALIFORNIA
ELEVATIONS
LAGUNA DAM crest Above Sea Level 151 ft
YUMA RR BRIDGE " " " 142 "
HANLON GATE Sill " " " 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 "
M.J. DOWD
CHIEF ENGINEER
IMPERIAL CALIF MARCH 1ST 1927

Annual Report and Financial Statement for Calendar Year 1930

FOREWORD

On the whole, the year 1930 was less favorable than the previous year. However, compared to general conditions throughout the country and especially in other agricultural communities, the Imperial Valley occupied a most favorable position and was able to show less effect of the world-wide depression than any other area of similar size. As an indication of this, it should be noted that Imperial Valley was one of the very few areas in the United States to remain a "white spot" throughout the year on the economic map prepared monthly by "Nation's Business."

Most crops were produced successfully although there was a general price decline during the year. Climatic conditions interfered somewhat with both the quality as well as the output of the cantaloupe crop, shipments and price being much less than in 1929. Considerable activity was noted in improving undeveloped tracts of land particularly in the area south of Westmorland and also in new building construction in the towns of the valley; building permits in El Centro for the year were the largest of record. Some 6600 acres in the area lying between the westerly boundary of the District and Kane Springs and north of the Los Angeles Highway, were included in the District in August, 1930.

As regards operations of the District, the silt content of the water was the most serious factor this year being double the normal amount and requiring all facilities of the District to maintain capacity in the canal system. This is shown by the fact that during the year over 3800 miles of canals were cleaned as compared to an average of 3345 miles for the past five years. The summer flood peak on the Colorado River was low and caused but little damage to the protective levee system. The late flow was, however, much above normal and while it was the cause of the high silt content of the water, yet it assured an ample supply during the low flow period.

Revenue from water sales in Mexico has decreased rapidly for the past two years being one-third less this year than in 1928. In addition there is a threatened cut in rates by the Mexican Government which if enforced would further curtail revenue from that source throwing an additional burden on the American water user. In view of these facts, together with the situation in general, a program of retrenchment was started by the District in the fall looking towards the reduction of expenditures to the lowest amount possible, consistent with the maintenance of the canal system.

Hoover Dam (Boulder):

Although the Boulder Canyon Project Act had been made effective by six-state ratification of the Santa Fe or Colorado River Compact, a final tri-state conference between Arizona, California, and Nevada was held at the request of Secretary of the Interior Ray Lyman Wilbur, in Reno, from

January 20 to 31 of this year. It was hoped that a settlement of differences between Arizona and the other states might be reached whereby approval of the compact could be made unanimous but, as in previous conferences, no progress was made and adjournment was taken to Phoenix. The conference continued at the latter city from February 6 to 9, inclusive, ending in a hopeless deadlock created by Arizona's position regarding power revenue, with which subject the other states could not deal, such being under the complete control and jurisdiction of the United States Government.

In April, Secretary Wilbur entered into power contracts with the Metropolitan Water District, the City of Los Angeles and the Southern California Edison Company by the terms of which the sale of power generated at the dam guarantees payment of the cost of the dam, as required by the Act. In these contracts provision was made for withdrawal of power by the states of Arizona and Nevada; also for the use of power by a number of small municipalities and power companies on the coast in California.

As a result of these contracts, Secretary Wilbur requested from Congress an appropriation of $10,660,000 to commence construction of the dam. Hearings were held in May by the Appropriation Committee and this sum approved after the Attorney General had rendered an opinion on June 9 that the power contracts were valid.

On July 3, the Second Deficiency Appropriation Bill for 1930 was passed by Congress, which included the item of $10,660,000 for Boulder Dam. On July 7, Secretary Wilbur issued Order No. 436 to Commissioner of Reclamation, Dr. Mead, which was as follows: "You are directed to commence construction on Boulder Dam to-day." Thus work was actually started on one part of the Colorado River Project for which Imperial Valley has been working so many years.

On August 1, Secretary Wilbur entered into a contract for the branch railroad from the main line of the Union Pacific to the dam site and on September 17, drove the spike officially starting the work. Also on September 17, Secretary Wilbur issued a department order officially naming the dam "Hoover Dam."

It had been contemplated that the final plans and specifications for the dam would be completed about June 1, 1931, but owing principally to the unemployment situation as well as the desire to speed up construction of the dam, the plans and specifications were completed early in December and construction bids requested.

In October, Arizona filed the long threatened suit before the Supreme Court of the United States, asking "that the Colorado River Compact and the Boulder Canyon Project Act be decreed to be unconstitutional, void and of no effect." The Secretary of the Interior and the other six states of the Colorado River Basin were made defendants. It is not expected that the suit will in any manner interfere with the construction of Hoover Dam.

In order to bring about a settlement of differences between the agricultural users of water along the river in California and the cities on the coastal plain, desiring water for domestic uses, Governor Young called a conference of the interested parties in February. There were represented at the conference, the Governor; the California Colorado River Commission; the Metropolitan Water District, representing the cities on the coastal plain; the Coachella Valley County Water District, the Imperial Irrigation District and the Palo Verde Irrigation District, representing the agricultural interests along the Colorado River; and the Boulder Dam Association.

On February 21, after several days of discussion, an agreement was reached dividing Colorado River water available to California as follows: The first 3,850,000 acre feet to the agricultural group, the next 1,100,000 acre feet to the Metropolitan District and all over 4,950,000 acre feet to the agricultural group. This agreement was ratified in April by similar resolutions adopted by the Metropolitan Water District, the Coachella Valley County Water District, the Imperial Irrigation District, and the Palo Verde Irrigation District.

The water contract executed in April between the Metropolitan Water District and the Secretary of the Interior did not recognize the agreement between the California users, heretofore mentioned, for which reason further conferences were held between the interested parties, resulting in the adoption of resolutions stipulating modifications of the water contract by inserting the terms of the agreement apportioning the water between the agricultural group and the Metropolitan Water District.

All-American Canal:

The survey of the All-American Canal by the Bureau of Reclamation under terms of the contract entered into in March, 1929, was continued this year, the field work being practically completed in May, following which office work on estimates and plans was carried on in the Denver office. This work was delayed somewhat by the decision to complete Hoover Dam plans by December 1. However, now that the latter has been accomplished, it is expected that a report on the canal will be had within a few months. Engineers of the District are keeping in close touch with the preparation of the plans and estimates and to that end the officials of the Bureau of Reclamation are offering the fullest cooperation.

During the year, several conferences were held with government officials at which discussions were had relative to the repayment contract between the Secretary of the Interior and the District, which must be secured before construction of the canal can be started. Considerable progress was made and actual drafting of the contract will be started within a short time.

With the completion of Hoover Dam and the All-American Canal, the Imperial Valley will without question be in a more advantageous position for assured permanent properity than any other agricultural community in the country.

Organization and General Features:

The Imperial Irrigation District was organized July 25, 1911, and operates under the California Irrigation District Act. In 1916, the District took over the operations of the private company which had theretofore operated the system and also took over the subsidiary company holding the concession for the canal system in Mexico.

Distribution of water in the United States was at that time handled by some thirteen mutual water companies. In 1923, the District absorbed all of these companies and now delivers water directly to the land. All operations in Mexico, however, both in regard to the protective levee system as well as the canal system are carried on through the subsidiary company of the District, which is a Mexican corporation under the jurisdiction of the Federal Mexican Government.

The following tabulation shows tenure of office of the various District 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.

Bonds:

Since 1916 there have been four bond issues totaling $16,000,000, the last issue being in 1922. Proceeds were used for the purchase of the private company in 1916 and the mutual water companies in 1923; for construction of protective levees, canals and structures; and for a system of deep drain outlets.

Redemption of bonds commenced in 1925 with the payment of $100,000 on the principal. This year principal payment amounted to $250,000 and to date $1,150,000 has been retired, reducing the outstanding bonds to $14,850,-000. The total payment of interest and redemption this year was $1,087,920, being nearly as large as the maximum of $1,161,000 which will be reached in 1934. The District has never failed to meet the payments of both interest and principal when due.

Laguna Dam Contract:

The present diversion works of the District at Andrade on the Colorado River must be considered as of a temporary character. No permanent diversion weir or dam is available in the river at that point and by reason of an injunction obtained by the Yuma County Water Users' Association in 1916, none can be built. Because of these facts and also with the All-American Canal in view, the District entered into a contract with the United States Government in October, 1918, providing for the moving of the headworks from Andrade up the river to Laguna Dam. As its proportionate share of the cost of Laguna Dam, the District agreed to pay the Government a total of $1,600,000 in twenty years without interest; to date $832,000 or a little more than one-half has been paid. The installments now amount to $96,000 due in December of each year.

OPERATIONS FOR THE YEAR

Colorado River Diversion:

The flow of the Colorado River was ample at all times to meet the demand, although for a few days in September the entire flow was diverted by means of a sand dam, similar to ones constructed in past years.

Total diversions for the year at Andrade were 3,280,708 acre feet, as compared to 3,423,511 last year, and the average of the past nineteen years of 2,707,716 acre feet. The percentage of diversion to discharge of the Colorado River recorded at Yuma for the year was 30.86, while that for previous years has been as follows: 1923, 18.4; 1924, 27.0; 1925, 25.4; 1926, 25.3; 1927, 18.1; 1928, 25.6; and 1929, 19.7; the percentage for the past year being by far the highest of the past eight years.

The maximum diversion for the year of 7078 second feet occurred on July 9, the minimum of 2150 on February 3, and the average daily diversion for the year was 4532 second feet while that for last year was 4735.

The percentages of diversion to discharge at Yuma for the several months of the year were as follows:

January	73.51	May	16.56	September	69.72
February	74.30	June	12.81	October	70.19
March	52.52	July	36.39	November	69.22
April	26.95	August	22.75	December	91.96

The following tabulation indicates the water demand during the year:

DIVERSION

	Daily in Second Feet					Total Monthly In Acre Feet
	Maximum		Minimum		Mean	
January	3,275	3rd	1,900	12th	2,845	174,942
February	4,850	12th	2,805*	3rd	3,010	167,168
March	5,018	29th	2,150	18th	4,070	250,526
April	5,880	10th	4,340	20th	5,299	315,336
May	6,320	27th	3,200	3rd	4,903	301,458
June	6,600	28th	4,400	1st	5,876	349,654
July	7,078	9th	4,458	27th	6,368	391,561
August	6,460	5th	4,337	31st	5,390	331,426
September	5,700	4th	4,044	7th	4,956	294,916
October	4,850	1st	3,800	27th	4,395	270,244
November	4,530	6th	3,120	2nd	3,839	228,416
December	4,000	3rd	2,750	25th	3,335	205,061

*During the cut-out from 5:00 P. M. on the 14th to 10:00 A. M. on the 20th, due to repairs at Cudahy, only 140 second feet from leakage was running.

Annual dredging of the Alamo between Rockwood and Hanlon Gates started May 22, when the dredge Brawley commenced operations. In July the dredge Calexico was also placed in service, both dredges then remaining in service until dredging for the year was discontinued on September 13. A total of 1,458,318 cubic yards of silt was removed by the two dredges during the year.

Closure of the river by a sand dam, for the purpose of diverting the total flow, was effected on September 27; the dam however was breached a few hours later by a rising river but was repaired on the 29th and remained effective until October 3, when it was no longer required.

Water Distribution—General:

The water supply during the year was adequate for the demand at all times but the percentage of silt was high, making it difficult to maintain adequate service. For the entire month of August the mean silt content by volume, as determined at Dahlia Heading, was 14.70 per cent, the highest since tests were initiated. A comparison of the silt content of the water for the years 1929 and 1930, in per cent by volume, is shown by the following tabulation.

SILT CONTENT AT DAHLIA HEADING
In Per Cent by Volume

	1929			1930		
	Max.	Min.	Mean	Max.	Min.	Mean
January	0.88	0.50	0.64	0.75	0.38	0.50
February	1.13	0.50	0.70	0.63	0.25	0.70
March	6.50	0.50	2.83	1.80	0.60	0.97
April	6.25	2.50	4.18	5.00	0.80	2.37
May	3.00	1.25	1.90	3.50	0.90	1.63
June	1.50	0.63	0.89	2.10	0.80	1.13
July	2.38	0.63	1.37	20.00	0.50	5.25
August	22.50	2.00	12.08	24.00	5.00	14.70
September	18.75	2.50	7.58	9.00	2.50	5.27
October	23.75	1.25	5.79	4.50	1.50	2.77
November	2.50	0.88	1.33	2.00	0.90	1.30
December	1.00	0.50	0.67	1.80	0.90	1.08

Although the mean silt content did not average quite as high as last year, it was nearly twice the normal amount.

Of the 3,280,708 acre feet diverted from the river 1,679,433* acre feet, or 51.2 per cent was delivered to users in the United States and 484,919 acre feet, or 14.8 per cent to users in Mexico; a total of 2,164,352 acre feet to all users. Deliveries in the United States were 45,246 acre feet greater, but those in Mexico 131,015 acre feet less, than for the previous year.

There was a cut-out of the entire system during the latter part of February for purposes of general inspection and repairs. The cut was started at 5:00 P. M. on the 14th and completed by midnight of the same day. Two thousand second feet were turned back at 10:00 A. M. on the 20th, the water reaching Cudahy by 7:00 P. M. All canals were again full and deliveries being made at all points by the morning of the 22nd.

Water Distribution—Mexico:

The water demand has been decreasing in Mexico since 1928, when deliveries were 728,529 acre feet. Deliveries this year of 484,919 acre feet were 21 per cent under those for 1929, and 32 per cent under those for 1928. Due to economic conditions in Mexico, it is apparent that the 1931 deliveries will be even less than those for the current year, which fact, together with the threatened reduction in the water rates by the Mexican Department of Agriculture and Development, indicates a serious depletion of revenue for the coming year.

One of the larger operations undertaken in Mexico this year was the major overhauling and repairing of Cudahy Check. The work consisted of conditioning roads for the proper handling of large quantities of materials, excavating a by-pass around the structure to handle some three thousand second feet of water, constructing a bridge across the by-pass, building two earth-fill dams in the Alamo, one above and the other below the check, major repairs to the check, and the final closing off of the by-pass, returning the water to the Alamo Canal following the opening up and elimination of the two earth-fill dams.

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

Preliminary work started February 4; on February 14 water was turned into the by-pass and returned again to the Alamo upon the completion of repairs on March 16, forty days after the commencement of the preliminary work. During the general cut-out of the canal system from February 15 to 20, the dams were built above and below the structure.

The construction of the by-pass and the three earth-fill dams required the excavation of some 50,000 cubic yards of earth, the placing of approximately 250 cubic yards of one-man rock, and some 15,000 sacks of dirt. Ninety-seven thousand board feet of lumber, 2300 pounds of bolts, 2100 pounds of drift pins and 17 kegs of nails were used in making necessary replacements. All details of the work were carefully planned in advance and carried through without serious difficulty or interruption of water service to the canal system.

Also during the general cut-out repairs were made to the Solfatara Head Gate, consisting of replacing two bents, floor joist and floor of the structure, and repairing gate assemblies. About forty tons of rock were placed on the upstream and downstream ends of the structure to check erosion.

Dredging operations for the year included the berming, raising, and strengthening of the following canals and banks: West side of the West Side Main from one and one-half miles below the head to a point one-half mile below Progreso; east side of West Main from head to Progreso and three additional trips on the east bank from the head to a point about one-half mile below; approximately four miles along the north bank of the Solfatara from Tortuoso downstream and one and one-tenth miles on the south bank from the intersection with the Mexicali and Gulf Railroad to the junction of the Cerro Prieto; the north side of the Carrillo Bend, twice for the entire length and about one thousand feet at the head on the south side; north bank of the Ash from the head downstream for three thousand feet and one mile on the south bank; the south side of the Alamo in the neighborhood of Mile 10 for one mile; and the east side of the South Alamo from the head to the boundary. Considerable difficulty was experienced with bed sand, particularly in the heads of the West Side Main and the Ash Canals. The head end of the West Side Main required continuous dredging for a considerable period to keep it open.

A summary of mileage dredged follows:

	Miles
West Side Main	6.3
Solfatara	5.6
Carrillo Bend	4.2
Alamo	2.0
Ash	1.5
	19.6

On September 5 a break was had in the north bank of the Solfatara Canal about three and one-half miles above New River Check. The break was reported at 6:00 A. M. and the water immediately cut out of the canal. Crews were started filling and placing sacks to prevent widening and a Marion dragline, laid up at New River Check, was started up and rushed to the break, arriving at 11:00 A. M. the following morning. About 600 feet of water was turned back into the head of the canal on the morning of the 7th and the flow was back to normal the following morning. The break was about 120 feet wide and had a maximum depth of fifteen feet.

During the year, a study of the rate schedule for water delivered in Mexico was undertaken by the Department of Agriculture and Development in Mexico City. A hearing was held in that city in November but although no decision was reached, pending the submission and study of additional data, it was apparent that the rates are to be lowered because of the unfavorable economic situation existing in Lower California. The Department of Agriculture and Development has complete control in the matter of fixing rates or tariff on water delivered in Mexico.

A crop report for the year, taken during July, showed 133,707 acres irrigated as compared with 165,039 acres in July, 1929, and 191,446 acres in 1928. Acreage shown for various crops was as follows: Cotton, 102,419 or 76.6 per cent; alfalfa, 16,848 or 12.6 per cent; grains, 4276 or 3.2 per cent and miscellaneous, 10,164 acres or 7.6 per cent. Water duty in acre feet per acre for the past years, omitting land served by the Pescadero Siphons, is as follows: 1925, 3.36; 1926, 3.53; 1927, 3.67; 1928, 3.82; 1929, 4.23; and 1930, 3.96.

Water Distribution—United States:

The following tabulation gives relative data for the several operating divisions in the United States:

Division	Miles of Canals*	Miles of Drains**	Irrigable Area	Acre Feet Delivered
Holtville	342	131	100,000	299,222
Imperial	420	33	127,000	380,670
Brawley	447	305	148,000	550,086
Calipatria	385	257	103,000	305,361
Calexico	127	14	43,000	144,094
Total	1,721	740	521,000	1,679,433

*Includes wasteways.

**Exclusive of main outlet drains.

Water deliveries for the year of 1,679,433 acre feet* are 45,246 acre feet more than for 1929 and are the highest of record. The duty of water for the year was 3.82 acre feet per acre as compared to 3.85 and 3.67 for the years 1929 and 1928 respectively.

An inspection of the entire system was made during the period of general cut-out, February 15 to February 20, during which time numerous minor repairs were made to canals and structures. The system as a whole, however, was found to be in a good condition.

A tabulated summary of the crop report appears on Page 36. The gross area in crop of 725,548 acres was 49,705 acres in excess of that for the previous year, while the net area cropped of 439,260 acres was 15,115 acres greater. Garden crops showed the greatest gain with an increase of 57,198 acres.

*See note on Page 6.

A comparison of cleaning operations, classified by methods used, for the years 1929 and 1930, follows:

SUMMARY OF CLEANING OPERATIONS
Miles Dredged One Side, Miles Shoveled

	Canals			Surface Drains		
	Dredged	Ruthed	Shoveled	Ruthed	Shoveled	Total
1930						
Mexico	20	0	0	0	0	20
Holtville	0	666	64	174	9	913
Imperial	4	1,007	186	37	0	1,234
Brawley	12	436	31	199	38	716
Calipatria	0	437	23	163	2	625
Calexico	6	241	32	14	0	293
Total	42	2,787	336	587	49	3,801
1929						
Mexico	29	0	0	0	0	29
Holtville	3	508	37	66	2	616
Imperial	18	886	200	35	4	1,143
Brawley	0	508	20	242	12	782
Calipatria	0	495	23	160	24	702
Calexico	4	278	28	15	0	325
Total	54	2,675	308	518	42	3,597

The silt content of the water was again excessive during a large part of the year, the percentage during August reaching a maximum of 24 per cent by volume, although it was not as high during September and October as last year. The mileage of canals cleaned last year, which was high due to the heavy bed silt content, was exceeded this year by 204 miles, due to the same cause.

During May, considerable difficulty was experienced in handling canals, especially in the south end of the Valley. On the Dahlia Canal dredging of the head end every three weeks was required to maintain sufficient capacity. In July the Dogwood Canal, with a capacity of 100 second feet at the head, was completely silted up in one week, necessitating the construction of an additional sluice gate a short distance below the head.

On February 26, an unusual earthquake occurred which cracked the ground over a considerable area west of the Calipatria Highway and between the Vail Canal and New River. The ground was cracked and miniature geysers formed which spouted sand and water for several hours, doing minor damage to crops and ditches.

During the year, the changing channels of the New and Alamo Rivers cut into the banks, requiring considerable work to prevent serious erosion, especially in the Imperial Division. In the vicinity of the Stuart ranch on New River at Lyon's Crossing, the channel alignment was straightened by digging one-quarter of a mile of new channel with a Bucyrus dragline, the new channel taking the entire flow. In numerous other instances, jetties were successfully used in aligning the channels.

As usual, there were a number of small breaks in the canal system during the year but none was of a serious nature, other than one on the Ash Canal at Delivery 48.

The break on the Ash at Delivery 48, referred to, occurred October 27. Appearance of the canal after the break indicated the water had found its way around the east side of the wooden check at that point, deflecting the current to the west bank and causing a breach which flooded some 200 acres. The check was carried downstream for a distance of 1300 feet. Water was out of the canal five days while repairs were made, which required the use of 2600 sacks of dirt and 1700 feet of lumber.

On the Ash Canal, silting of the Gray ranch was completed in July and started immediately thereafter on the Prendergast ranch.

Improvements to canals during the year included the following: Elder Lateral 3 extension to New River, Eucalyptus Lateral 2 extension to Lateral 4, Elder extension, East Highline extension and construction of Lateral 8 in the Niland District, Vail Lateral 4 extension, deepening Spruce Lateral 3, and raising concrete sidewalls on Lateral 9. In the new Thistle area, the District installed a number of checks and deliveries on laterals constructed by water users. There were also thirty-two lateral and surface drains constructed.

The following tabulation shows a total of 2526 deliveries, checks, drops, bridges, and miscellaneous structures repaired, replaced or constructed during the year. This is 294 in excess of the figure shown for the previous year.

CONSTRUCTION, REPLACEMENT AND REPAIR OF STRUCTURES

	Repaired					Constructed or
Division	Deliveries	Checks and Drops	Bridges	Misc.	Total	Replaced
Holtville	84	84	17	0	185	129
Imperial	371	227	81	0	679	202
Brawley	49	155	29	22	255	317
Calipatria	25	97	10	131	263	155
Calexico	136	91	16	46	289	52
Total	665	654	153	199	1,671	855

On September 2, work was commenced on a storm protective levee system along the Los Angeles Highway between the Outer Trifolium Canal and Kane Springs, for the protection of both the highway and the Trifolium Extension Canal. A total of 60,000 cubic yards of material was moved on the ten ditches and three controls, the work being done by the District and the cost paid by the State. The job was completed by December 13.

The first Improvement District was organized this year. It is known as Improvement District No. 1 and is for the purpose of replacing open community ditches, in the Rio Vista Subdivision west of Brawley, with a central pipe line. Plans and cost estimates were prepared and the District created after having held a public hearing. Funds are to be provided by warrants which will be repaid by the landowners during a ten-year period. All proceedings are under the direction of the Imperial Irrigation District.

In order to solve the ever-increasing problem of controlling the growth of vegetation on the canal banks, the use of heavy discs was successfully developed this year. Experiments were made on the East Highline Canal in the Holtville Division and as far as is known, it is the first time this method has been used. A special type of disc, developed and constructed in the District shops, is pulled by a "60" Caterpillar by means of a hitch which permits the disc to be placed at any position desired, either on top or on the sides of the canal. Not only are all trees, brush, and vegetation removed but also the berm is trimmed, doing away with the dredging heretofore required. From results obtained, it is expected that this will prove one of the most valuable developments which the District has made.

In connection with the grading of canal banks, which has also become a major operation in the maintenance of the canal system, a floating type of "bulldozer" was successfully developed this year in cooperation with a large equipment company. This is essentially a grader blade pushed by a Caterpillar, the new feature being the control of the blade under varying conditions. Much is expected from this machine in lowering the cost of bank grading.

The program of noxious weed eradication was continued this year, infestations on canals and drains being removed and treated wherever found. In general, the situation is well under control although the work will have to be continued for an indefinite time.

River Protection:

The discharge of the Colorado River at Yuma for the year of 10,629,000 acre feet was 61 per cent of that for the year previous and but 65 per cent of the past twenty-eight year average. The discharge of the Gila River for the year was 12,200 acre feet, or 6700 acre feet more than for the previous year and but a small fraction of the 771,106 acre feet average of the past twenty-eight years.

Variations of the Colorado at Yuma, in second feet, for the year are shown by the following:

Date	Discharge	Date	Discharge
January 1	3,660	June 17	51,300
January 4	2,780	June 30	39,400
January 16	5,840**	July 1	36,100**
January 31	2,540*	July 16	10,300*
February 3	1,770*	July 18	19,200
February 11	5,260	August 3	12,400*
February 12	4,560	August 16	47,500**
February 23	6,550	September 1	11,400**
February 28	7,520**	September 8	6,430
March 3	13,300**	September 15	10,800
March 15	5,790*	September 29	3,500*
April 1	8,100	October 1	3,010*
April 9	6,300*	October 11	8,000**
April 22	35,300**	October 15	6,300
May 5	40,200**	November 15	4,590*
May 21	17,800*	November 25	7,000**
May 30	30,400	November 30	6,260
June 1	29,600*	December 5	2,580
June 9	53,600**	December 7	3,500
June 13	41,700	December 31	2,350*

*Minimum for Month.
**Maximum for Month.

Flash floods during July and August tended to hold discharge above normal during that period.

The maximum discharge for the year was 53,600 second feet on June 9, while that for previous years was as follows: 1924, 65,800 on June 24; 1925, 52,900 on June 8; 1926, 73,100 on June 16; 1927, 81,200 on February 20; 1928, 98,800 on June 13; and 1929, 88,900 on June 7. The maximum discharge since 1912 was 220,000 second feet and occurred on January 22, 1916, being a flash flood from the Gila River.

The minimum discharge of 1770 second feet occurred on February 3, while that of the previous year, amounting to 1360 second feet, occurred on January 2. The minimum discharge since 1903 of 1200 second feet occurred September 11, 1924.

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 33. The following information is shown: discharge by years, maximum and minimum discharge with date, diversion at Hanlon Heading by years, and maximum and minimum daily diversion with date.

On February 10 a Bucyrus dragline began raising and strengthening Bee River Levee at Mile Post 24½, preparatory to the rock hauling period and continued until April 13, moving 84,985 cubic yards of earth. A track gang of thirty-five men and foreman worked in conjunction with the Bucyrus in repairing and raising track. The Bucyrus was returned to the United States on April 16.

Rock hauling was started on April 14 and continued until July 2, during which period 31,696 cubic yards of rock were dumped on all levees. A flash flood on July 28 necessitated the dumping of two trains after the regular season. Although the river reached unusually high levels in August —40,000 second feet on the 15th and 16th and approximately 30,000 second feet for the four subsequent days—it was unnecessary to do any rock hauling in that month, this being due in part to the fact that early in the month the current at Mile Posts 21 and 22½ moved to the center of the river and at no time threatened the levee at that point of previous attack.

The following tabulation gives the amount of rock, in cubic yards, placed on all levees during recent years:

Year	Cubic Yards	Year	Cubic Yards
1923	95,966	1927	48,036
1924	40,528	1928	30,672
1925	42,592	1929	26,608
1926	40,848	1930	31,696

Total for eight years—356,946 cubic yards.

This total yardage was distributed as follows: C. D. Levee, 2,136; Ockerson, 15,662; Bee River, 209,342; and Pescadero, 129,806.

The entire flow of the river this year, except for a short period in June, passed through the Vacanora Canal below Pescadero Dam and the Pescadero Cut was dry. It is apparent that it will be some few years at least, before the river returns to the Pescadero Channel.

Considerable discussion was had with the Mexican Federal Government regarding the responsibility for maintaining the lower portion of the levee system and also regarding the diversion of water by others at points on the levees. The attempted development of the delta by others has seriously interfered with the work of the District, making it necessary to try to reach an understanding. This matter was still under negotiation at the close of the year, no agreement having been reached.

A survey, started November 3 to meander the river and take elevations on the delta cone between the Pescadero and Rodriguez levees, was completed December 24. The ground surface was found much higher than at the time of the previous survey in 1927.

Drainage—Construction:

Construction of outlet drains with funds of the fourth bond issue was completed last year and with the exception of a few structures built out of the general fund, work on such drains was confined to maintenance this year.

The third large wheel dredge was completed in the spring and these three, together with the smaller wheel machine, worked steadily throughout the year excavating drains six and eight feet deep. A large number of these drains were for individuals and the rest were community drains in

which the District cooperated by installing the necessary structures, all others costs being paid for by the landowners benefited. During a portion of the year, it was necessary to double-shift the machines in order to meet the demand for drains of this type.

The use of small covered tile drains on individual farms increased considerably this year, installations made by the District for water users totaling over sixty thousand feet. In addition, some installations were made for water users by others than the District. This type of drain is now working very successfully in various parts of the Valley.

Drainage—Maintenance of Deep Drains:

Maintenance of the outlet drainage system included repairs to bridges, siphons, and flumes and raising of the latter where necessary, bank protection and channelization, operation of drainage pumps as heretofore and dredging. The permanent test wells were read regularly and many investigations of ground water conditions were made throughout the Valley.

The following tabulation gives the miles of deep drains dredged during the year:

Name of Drain	Miles Dredged
Mesquite	7.49
Central Main	1.55
Central No. 2	4.17
Central No. 3	7.64
Holtville No. 9 and No. 9A	2.12
South Central	11.78
Holtville Main	1.42
Ash	1.19
Total	37.36

Alamo and New Rivers:

No work was required on the Alamo River outlet to Salton Sea and none on the New River outlet until December 8, 1930, when the backwater effect of the silt cone made it necessary to divert the water to the west, a short distance from the sea, into a low area between the river channel and the Trifolium Drain outlet. This change lowered the water surface in the river some two feet.

On the New River a cut-off one-quarter of a mile in length was made immediately above Lyon's Crossing to eliminate a sharp bend which was cutting into adjoining farm land. Excavation was made with a Bucyrus dragline and no difficulty was had diverting the entire flow of the river to the new cut.

The usual amount of bank protection work was required on both rivers, rock and steel jetties, brush and old auto bodies being used. Work of this type will always be required owing to erosion caused by seepage from adjoining land, as well as to the shifting of the channels of the rivers.

Meteorological Data:

The District continued to act as observer this year for the Weather Bureau of the United States Department of Agriculture. In addition to the work heretofore carried on, there was added this year wind velocity observations.

The maximum temperature was 112 degrees, occurring in both June and July, the minimum was 26 degrees on December 22 and the mean for the year was 70.3 degrees.

During the year there were 293 clear days, 40 partially cloudy and 32 cloudy. The average relative humidity was 28.3 per cent, and the rainfall was 1.90 inches.

A tabulation giving meteorological data for the year is shown on Page 37.

Miscellaneous:

The Telephone Department was engaged primarily in maintenance work during the year, very little construction being performed. The only construction worthy of note was the new line from Mile 6 to Volcano Junction, which connects the Assistant Superintendent's residence with four phones in watchmen's or maintenance camps. The change materially improved service.

The purchase or construction of new equipment included ten cars and trucks, eight heavy discs, one tractor and one gas-electric dredge. The gas-electric, being the second constructed by the District, was completed in May and started working shortly thereafter.

The amount of capital invested in materials and supplies was decreased slightly during the year, the value as of December 31 being $236,000. There has been a gradual decrease since the year 1923, when the materials and supplies account totaled nearly one-half million dollars.

During the past six years the District has paid in bounties the sum of $62,275 for the destruction of 708,000 gophers and 114,000 muskrats. During the past year, payments on muskrat bounties amounted to $6000.

Material and Equipment:

Material and equipment of all kinds purchased during the year amounted to nearly $530,000.00. The following tabulation gives an approximate summary of the major items purchased:

Gasoline, oil, and grease	$85,512
Lumber and cement	69,017
Automobiles, parts, and repairs	51,869
Light, power, and heat	48,036
Dredges, tractors, and parts	37,083
Culverts, pipe and hose	29,973
Hardware	25,839
Commissary supplies	24,946
Metal castings	22,948
Office supplies and printing	21,943
Freight on material (net)	20,174
Steel, iron, and bronze	16,807
Hay and feed	12,369
Engineering equipment	9,867
Rope and cable	8,652
Telephone and telegraph service	6,894
Sacks	6,683
Electrical supplies	5,838
Welding supplies	4,530
Machinery parts and repairs	3,900
Miscellaneous	3,356
Ice	3,030
Drygoods	1,902
Rock, sand, and gravel	1,393
Railroad equipment	1,381
Harness, wagons, and plows	1,299
Tents and canvas	758
Explosives	625
Total	$526,624

Valuations and Assessments:

During the year the net assessed valuation was increased by $962,683. Payments required to meet matured bond interest, bond redemption and amounts due on Laguna Dam contract, have steadily increased, except for slight decreases in the years 1928 and 1930. The bond interest for the year 1931 will be $816,000 or $15,125 less than for the year 1930 but bond redemptions will be $300,000, which is $50,000 more than for the year 1930. The Laguna Dam payment will remain the same, i. e., $96,000.

Assessment For	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	68.5	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
1931	$42,999,100	94.4	$1,212,000	258.1	$2.84

*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:

Assessment For	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	2,106,668	85.2
1931	$50,587,177	$5.00	$2,529,359	$1,034,268*	40.9

*To December 31, 1930.

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
1930	96,000	264,532	1,087,920	1,729,896	3,178,348

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

	Water Charges			
Year	Mexico	U. S.	Certificate Redemption (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
1930	419,277	80,573	202,302	702,152

*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.

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 31, 1930, 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, 1930	Per Cent of Total Assess't
1921	$ 260,698*	19.5	$ 31,389	2.34
1922	83,479	15.7	13,596	2.56
1923	155,461	13.4	30,345	2.62
1924	244,706	11.3	55,441	2.58
1925	293,623	13.8	65,325	3.08
1926	298,500	12.6	79,645	3.35
1927	381,216	15.6	115,137	4.71
1928	377,752	15.6	166,517	6.88
1929	318,985	13.2	203,531	8.43
1930	340,942	13.8	311,912	12.61
Total............	$2,755,362		$1,072,838	

*Approximate for 1920-21.

Financial Statement, December 31st, 1930

BALANCE SHEET

ASSETS

CURRENT ASSETS:			
Cash		$ 931,436.69	
Materials and Supplies		241,407.32	
Accounts Receivable		2,936,399.76	
Land Held under District Tax Deeds		33,331.39	$ 4,142,575.16
CAPITAL ASSETS:			
Irrigation System, Additions and Betterments		$10,052,207.56	
Protective Levees and Works		3,873,910.43	
Drainage Canals and Structures		2,762,569.76	
Equipment and Facilities		892,110.12	
Buildings		294,491.48	
Land		127,237.76	
Salton Sea Flooding Easements		13,790.00	
Patent Rights		424.50	18,016,741.61
CONTINGENT AND DEFERRED ASSETS:			
Laguna Dam Diversion Right		$ 1,600,000.00	
All-American Canal Survey by United States		40,000.00	
Deposits and Interest, F. and M. Bank, Imperial		62,748.66	
Funds Advanced for Litigation and Investigations		7,465.56	1,710,214.22
DEFERRED CHARGES TO OPERATION:			
Prepaid Insurance		$ 11,071.83	
Prepaid Corral Expense		8,176.24	
Other Prepaid Expenses		5,375.94	24,624.01
Total Assets			$23,894,155.00

LIABILITIES AND SURPLUS

CURRENT LIABILITIES:			
Unpaid District Warrants		$ 655,035.41	
Accrued Interest on District Warrants		6,118.03	
Unpaid Matured Bond Interest		419,375.00	
Third Issue Bonds Maturing July 1st, 1931		300,000.00	
Unpaid Time Vouchers		50,366.61	
Unpaid Purchases		19,579.17	
Other Accounts Payable		35,137.73	$ 1,485,611.95
CAPITAL LIABILITIES:			
District Bonds Issued	$16,000,000.00		
Less Third Issue Bonds Redeemed	1,150,000.00		
District Bonds Outstanding		$14,850,000.00	
Less Bonds Maturing July 1, 1931 (Current Liability)		300,000.00	14,550,000.00
Forward			$16,035,611.95

Brought Forward			$16,035,611.95
CONTINGENT AND DEFERRED LIABILITIES:			
Laguna Dam Diversion Right		$ 1,600,000.00	
Less Installments Paid		832,000.00	768,000.00
DEFERRED CREDITS TO INCOME:			
Deferred Revenue from 1930-31 Assessments		$ 2,524,691.60	
Penalties on 1st Installment, 1930-31 Assessments		26,681.11	
Deferred Revenue from Improvement District No. 1 Assessments		1,068.65	
Other Deferred Credits		1,421.91	2,553,863.27
SURPLUS:			
Surplus from Prior Years		$ 4,201,933.11	
Surplus for Current Year		334,746.67	4,536,679.78
Total Liabilities and Surplus			$23,894,155.00

DETAIL OF FINANCIAL STATEMENT

ASSETS

CASH:			
Cash with District Treasurer:			
General Fund	$ 312,067.24		
Bond Fund	588,493.91		
Compania Fund	10,252.17		
Improvement Dist. No. 1 Fund	516.75	$ 911,330.07	
Cashier Account — Revolving Fund		5,316.00	
Assessor and Collector—Redemption Fund		7,977.11	
Business Manager—Redemption Fund		500.00	
Petty Cash Funds		3,750.00	
Cash in Transit to Treasurer		2,563.51	$ 931,436.69
MATERIALS AND SUPPLIES:			
Value of Stores—Storehouses and Material Yards:			
Andrade	$ 63,833.36		
Brawley	2,214.85		
Calexico	1,397.29		
Calipatria	2,590.42		
Holtville	2,333.13		
Imperial	41,923.87		
Imperial Shop Stores	106,868.64		
Mexicali	14,221.19	$ 235,382.75	
Value of Stores on Hand:			
Mercantile Store, Andrade	$ 2,522.73		
Mess Houses	125.03	2,647.76	
Quarried Rock, Andrade		1,575.72	
Quarried Rock, Calipatria		1,427.47	
Materials and Supplies in Process		341.78	
Materials and Supplies in Transit		3.32	
Mexican Revenue Stamps		28.52	241,407.32
Forward			$1,172,844.01

Brought Forward			$1,172,844.01
ACCOUNTS RECEIVABLE:			
Assessor and Collector—1930-31 Assessments		$1,490,423.23	
Improvement District No. 1 Assessments		551.90	
Penalties on First Installment, 1930-31 Assessments		26,681.11	
Certificates of Sale—Delinquent Assessments	$1,106,233.69		
Less Reserve for Possible Cancellations	221,246.74	884,986.95	
Accrued Interest Receivable on Certificates of Sale	$ 696,915.45		
Less Reserve for Possible Cancellations	209,074.63	487,840.82	
Niland District Contract Payments		8,000.00	
Uncollected Water Sales & Service Charges, United States		16,240.20	
Miscellaneous Accounts Receivable	$ 99,744.44		
Less Provision for Possible Losses, Accounts Receivable	79,637.99	20,106.45	
Accrued Interest Receivable on Bank Deposits		683.10	
Notes Receivable		886.00	2,936,399.76
Land Held under District Tax Deeds			$ 33,331.39
Forward			$4,142,575.16

Brought Forward				$4,142,575.16
CAPITAL ASSETS:				
Construction Costs Incurred Prior to 1930:				
Canal System, Additions and Betterments		$9,900,915.39		
Protective Works		3,830,137.85		
Drainage Canals and Structures		2,757,859.45		
Buildings	$422,461.49			
Less Reserve for Depreciation	133,949.32	288,512.17		
Land		122,075.34	$16,899,500.20	
Construction Costs Incurred in 1930:				
Additions and Betterments		$ 151,292.17		
Protective Works		43,772.58		
Drainage Canals & Structures		4,710.31		
Buildings		5,979.31		
Land		5,162.42	210,916.79	17,110,416.99
Equipment and Facilities:				
Excavating Machinery and Field Equipment		$1,548,343.74		
Less Reserve, Depreciation		1,056,880.14	$ 491,463.60	
Rolling Stock		$ 223,473.95		
Less Reserve for Depreciation		89,836.10	133,637.85	
Telephone and Power Lines		$ 142,990.65		
Less Reserve for Depreciation		18,426.27	124,564.38	
Shop Machinery		$ 77,798.19		
Less Reserve for Depreciation		35,751.17	42,047.02	
Office Equipment		$ 54,003.41		
Less Reserve for Depreciation		15,343.83	38,659.58	
Automobiles and Trucks		$ 88,153.08		
Less Reserve for Depreciation		61,294.67	26,858.41	
Commissary Equipment		$ 38,226.43		
Less Reserve for Depreciation		29,838.42	8,388.01	
Live Stock			8,385.00	
Shop Tools			18,106.27	892,110.12
Other Capital Assets:				
Salton Sea Flooding Easements			$ 13,790.00	
Patent Rights			424.50	14,214.50
Total Capital Assets				$18,016,741.61
Forward				$22,159,316.77

Brought Forward			$22,159,316.77
CONTINGENT AND DEFERRED ASSETS:			
Laguna Dam Diversion Right		$1,600,000.00	
All-American Canal Survey by United States		40,000.00	
Deposits—Farmers & Merchants Bank of Imperial (General Fund)		53,254.27	
Deposits—Farmers & 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	$ 6,465.56		
For Duties at Andrade	1,000.00	7,465.56	1,710,214.22
DEFERRED CHARGES TO OPERATION:			
Prepaid Insurance		$ 11,071.83	
Prepaid Corral Expense		8,176.24	
Other Prepaid Expenses		5,375.94	24,624.01
Grand Total Assets			$23,894,155.00

LIABILITIES AND SURPLUS

CURRENT LIABILITIES:			
Unpaid District Warrants	$ 705,152.92		
Less Warrants favor Compania and Revolving Funds	50,117.51	$ 655,035.41	
Interest Accrued on District Warrants		6,118.03	
Unpaid Matured Bond Interest		419,375.00	
Third Issue Bonds Maturing July 1st, 1931		300,000.00	
Unpaid District Time Vouchers		45,120.79	
Unpaid Compania Time Vouchers		5,245.82	
Unpaid Compania Vouchers		477.51	
Unpaid Revolving Fund Checks		1,425.35	
Unpaid Purchases		19,579.17	
Mexican Federal Water Tax Refundable to Water Users		585.19	
Advance Deposits on Water Accounts, Mexico		17,070.41	
Deposits for Construction Work		8,539.14	
Guaranty Deposits on Water Accounts, U. S.		210.75	
Unpaid State Compensation Insurance		6,227.38	
Redemptions of Assigned Certificates of Sale		367.00	
Unredeemed Mercantile Store Coupons		235.00	$ 1,485,611.95
Forward			$1,485,611.95

Brought Forward			$1,485,611.95
CAPITAL LIABILITIES:			
Imperial Irrigation District Bonds Outstanding:			
First Issue 5%		$3,500,000.00	
Second Issue 5%		2,500,000.00	
Third Issue 5½%	$1,350,000.00		
Less Bonds Maturing July 1, 1931, (Current Liabilities)	300,000.00	1,050,000.00	
Fourth Issue 6%		7,500,000.00	14,550,000.00
CONTINGENT AND DEFERRED LIABILITIES:			
Laguna Dam Diversion Right			768,000.00
DEFERRED CREDITS TO INCOME:			
Improvement District No. 1 Assessments, Year 1930-31		$ 1,068.65	
Assessments Levied by District, Year 1930-31		2,524,691.60	
Penalties on 1930-31 Assessments		26,681.11	
Unapplied Cash Collections		290.00	
Deposits for Redemption of Certificates of Sale		1,131.91	2,553,863.27
SURPLUS:			
Surplus of Prior Years		$4,201,933.11	
Surplus of Current Year		334,746.67	4,536,679.78
Grand Total Liabilities and Surplus			$23,894,155.00

INCOME AND EXPENSE STATEMENT

INCOME:			
Assessments for Year 1930 (1929-30 Levy)			$2,371,722.94
Water Sales and Service Charges:			
Water Sales, Mexico		$ 419,277.17	
Water Sales, United States	$14,692.28		
Service Charges, United States	65,880.62	80,572.90	499,850.07
Total Operating Income			$2,871,573.01
Miscellaneous Income:			
Interest on Certificates of Sale		$ 134,835.34	
Penalties and Costs on 1930 Assessments		46,390.15	
Special Revenue—Construction Surface Drains		19,063.66	
Rental of District Property		6,958.20	
Cash Discounts Earned		4,487.49	
Interest on Bank Deposits		5,560.63	
Gain on Mexican Exchange		2,326.87	
Unpayable Accounts		1,066.17	
Miscellaneous Revenue		1,698.75	222,387.26
Total Income			$3,093,960.27
EXPENSES:			
Operation and Maintenance of System		$1,733,799.73	
Depreciation of Equipment and Facilities	$127,729.42		
Depreciation of Buildings	20,172.79	147,902.21	
Interest on District Bonds		831,125.00	
Total Operating Expenses		$2,712,826.94	
Miscellaneous Expenses:			
Interest on District Warrants	$26,438.06		
Adjustments of Inventories of Materials and Supplies	3,225.74		
Loss on Mexican Exchange	6,283.44		
Loss on Sales of Land held under Tax Deeds	4,461.56		
Uncollectible Accounts	1,346.97		
Taxes	368.45		
Miscellaneous Losses	4,262.44	46,386.66	
Total Expenses			$2,759,213.60
Surplus of Income Over Expenses for Year 1930			$ 334,746.67

ADJUSTMENTS TO SURPLUS

	DEBIT	CREDIT
Surplus, December 31st, 1929		$4,336,790.55
ADJUSTMENTS:		
Reserve for Cancellations of Interest on Certificates of Sale	$ 156,363.32	
Accrued Interest on Certificates of Sale	7,390.39	
Damages and Right to Flood Mesa Vineyard Tract No. 1	4,551.48	
Loss on Obsolete Materials and Supplies	4,100.04	
Damages to Land, Alamo Canal Break	1,493.07	
Accrued Interest on Bank Deposits	1,001.59	
Miscellaneous Debit Adjustments	6,940.19	
Reserve for Cancellation of Certificates of Sale		13,011.13
Adjustments to Buildings Account		12,313.76
Siphons under State Highway near Westmorland		9,173.71
Revenue from Niland District Contract		8,000.00
Miscellaneous Credit Adjustments		4,484.04
Excess of Income Over Expenses for 1930, per Income and Expense Statement		334,746.67
Surplus, December 31st, 1930	4,536,679.78	
Totals	$4,718,519.86	$4,718,519.86

Statement of Cash Receipts and Disbursements by Funds

GENERAL FUND

Balance on Hand January 1st, 1930 (Overdraft)		†$ 20,852.03
RECEIPTS:		
*From Assessor and Collector	$1,478,807.72	
Water Sales and Service Charges, United States	82,661.95	
For Construction of Drain Ditches	53,545.33	
Sales of Land held under District Tax Deeds	31,773.55	
For Delivery Gates, Checks and Waste Boxes	12,256.76	
For Construction of Siphons, Culverts and Flumes	11,875.29	
For Construction and Repairs of Bridges	8,453.71	
Rental of District Property	7,779.03	
Andrade Mercantile Store Cash Sales	7,428.25	
Interest on Bank Deposits	6,345.85	
Refunds of Gasoline Tax by State of California	6,258.12	
Refunds of Cash Advances	6,130.61	
For Waste Spills, Drain Pipes, and Installation	5,709.98	
Refunds of Cash Bonds in Condemnation Proceedings	4,225.00	
Dredging and Grading Private Drains and Ditches	4,075.52	
Sales of Materials and Supplies	2,630.28	
Shop Repair Work for Others	1,963.77	
Shoveling and Brushing Private Drains and Ditches	1,035.89	
Refunds of Freight Overcharges	820.75	
Sales of Old Equipment and Scrap	760.72	
Refunds of Insurance Premiums	674.14	
Assignments of Certificates of Sale	598.48	
Payments for Personal Telephone Calls	594.19	
Inclusion of Land in District	110.00	
Sales of Maps and Blue Prints	100.45	
Other Miscellaneous Receipts	4,607.97	
Total Receipts		1,741,223.31
Transfers From:		
Compania Fund	$ 274,810.38	
Bond Fund	92,298.49	
Petty Cash Fund	40.00	367,148.87
Forward		$2,087,520.15

*See tabulation of Cash with Assessor and Collector on Page 29.
†Deduction.

Brought Forward			$2,087,520.15
DISBURSEMENTS:			
Audited Warrants Paid (excluding transfers)		$ 236,965.02	
Interest Paid on Registered Warrants		20,911.87	
		$ 257,876.89	
Transfers To:			
Compania Fund	$1,212,029.63		
Revolving Fund	302,872.65		
Assessor's Redemption Fund	2,423.74		
Headquarters Redemption Fund	250.00	1,517,576.02	1,775,452.91
Balance in General Fund, December 31st, 1930			$ 312,067.24

BOND FUND

Balance on Hand, January 1st, 1930		$ 327,731.93
RECEIPTS:		
From Assessor and Collector, as per Schedule	$1,440,681.96	
Assignments of Certificates of Sale	298.51	1,440,980.47
		$1,768,712.40
DISBURSEMENTS:		
Matured Bond Interest Paid	$ 837,920.00	
Matured Bonds Paid	250,000.00	
	$1,087,920.00	
Transfers To:		
General Fund	92,298.49	1,180,218.49
Balance, December 31st, 1930		$ 588,493.91

COMPANIA FUND

Balance on Hand, January 1st, 1930		$ 7,440.39
RECEIPTS:		
From Water Users, Mexico	$ 443,455.66	
Less Loss on Exchange	6,283.44	
	$ 437,172.22	
Miscellaneous Accounts Receivable	1,364.01	
	$ 438,536.23	
Transfers From:		
General Fund	1,212,029.63	
Compania Tax Fund	4,353.20	1,654,919.06
		$1,662,359.45
DISBURSEMENTS:		
District Time Vouchers	$1,182,877.45	
Compania Time Vouchers	151,199.34	
Compania Vouchers	28,778.00	
	$1,362,854.79	
Transfers To:		
General Fund	274,810.38	
Compania Tax Fund	14,442.11	1,652,107.28
Balance, December 31st, 1930		$ 10,252.17

COMPANIA TAX FUND

Balance on hand, January 1st, 1930		$ 25,432.89
RECEIPTS:		
Transfers from Compania Fund		14,442.11
		$ 39,875.00
DISBURSEMENTS:		
Compania Vouchers in payment of Federal Water Tax	$ 21,500.00	
Refunds of Federal Tax to Water Users	14,021.80	
	$ 35,521.80	
Transfers to Compania Fund	4,353.20	39,875.00
Balance, December 31st, 1930		None

IMPROVEMENT DISTRICT NO. 1 FUND

Balance on hand, January 1st, 1930	None
RECEIPTS:	
From Assessor and Collector, per Schedule	$ 516.75
DISBURSEMENTS	None
Balance, December 31st, 1930	$ 516.75

CASHIER ACCOUNT REVOLVING FUND

Balance on Hand, January 1st, 1930		$ 5,812.54
RECEIPTS:		
Transfers from General Fund		302,872.65
		$ 308,685.19
DISBURSEMENTS:		
Audited Cashier Account Checks	$ 292,307.24	
Audited Andrade Drafts	11,061.95	303,369.19
Balance, December 31st, 1930		$ 5,316.00

ASSESSOR'S REDEMPTION FUND

Balance on hand, January 1st, 1930	$ 9,620.01
RECEIPTS:	
Transfers from General Fund	2,423.74
	$ 12,043.75
DISBURSEMENTS:	
Redemptions of N. S. F. Checks received in payment of Assessments	4,066.64
Balance, December 31st, 1930	$ 7,977.11

HEADQUARTERS REDEMPTION FUND

Balance on hand, January 1st, 1930	$ 500.00
RECEIPTS:	
Transfers from General Fund	250.00
	$ 750.00
DISBURSEMENTS:	
Redemptions of Miscellaneous N. S. F. checks	250.00
Balance, December 31st, 1930	$ 500.00

PETTY CASH FUNDS

Balance on hand, January 1st, 1930	$ 3,790.00
RECEIPTS:	None
DISBURSEMENTS:	
Transfer from Accounting Department Petty Cash Fund to General Fund	40.00
Balance, December 31st, 1930	$ 3,750.00

CASH WITH ASSESSOR AND COLLECTOR

Balance with Assessor on January 1st, 1930			$ 607,929.20
RECEIPTS:			
1929 Assessment Levy		$1,040,970.13	
1930 Assessment Levy		1,034,268.37	
Improvement District No. 1 Assessment Levy		516.75	
Redemptions of Certificates of Sale:			
Year			
1912	$ .96		
1913	.65		
1914	5.76		
1915	3.08		
1916	9.95		
1917	3.88		
1918	8.32		
1919	16.38		
1920	64.21		
1921	52.74		
1922	192.37		
1923	393.36		
1924	533.78		
1925	3,947.50		
1926	17,181.36		
1927	23,112.45		
1928	59,091.85		
1929	56,065.39	160,683.99	
1929 Certificates of Sale sold to Others at Annual Sale, September 8th, 1930		8,020.93	
Interest on Redeemed Certificates of Sale		32,779.12	
Penalties and Costs on 1929 Assessments		8,038.22	
Collections for Others than District		26,787.72	
Miscellaneous Fees, etc.		12.00	
Total Receipts in 1930			2,312,077.23
			$2,920,006.43
Deposited With District Treasurer:			
In General Fund		$1,478,807.72	
In Bond Fund		1,440,681.96	
In Improvement District No. 1 Fund		516.75	2,920,006.43
Balance, December 31st, 1930			None

Expenditures for Calendar Years 1925 to 1930, Inclusive

No.	Feature Item	1925	1926	1927	1928	1929	1930	1931
1.	BOARD OF DIRECTORS:							
	El Centro Office	$ 88,818.41	$ 93,140.39	$ 100,406.69	$ 97,461.41	$ 105,348.20	$ 107,849.51	110,714.08
2.	GENERAL ADMINISTRATION:							
	Headquarters Office	$ 96,693.39	$ 87,378.63	$ 88,922.17	$ 90,836.84	$ 96,185.04	$ 89,389.31	83,930.42
3.	STORAGE:							
	Boulder Canyon Dam	$ 26,310.66	$ 6,386.76	$ 67,148.03	$ 86,746.57	$ 59,504.77	$ 62,823.18	19,657.83
4.	DIVERSION:							
	Laguna Dam Contract		$ 192,000.00	$ 96,000.00	$ 96,000.00	$ 96,000.00	$ 96,000.00	96,000.00
	Diversion Gates	$ 21,365.08	20,624.18	24,653.96	25,099.56	26,380.58	24,908.68	20,916.82
	Intake Canal	834.61	2,471.17	2,669.51	2,996.06	3,510.63	2,333.82	969.57
	Dredging	79,714.54	72,631.31	80,708.10	34,762.67	89,257.85	79,903.42	48,704.15
	Diversion Weir	17,286.31	18,764.91	14,646.84	11,497.30	11,160.79	11,014.63	9,066.07
	Miscellaneous Operations	11,943.55	13,825.85	12,752.62	14,744.02	13,917.98	13,327.52	11,938.12
	Total	$ 131,144.09	$ 320,317.42	$ 231,431.03	$ 235,099.61	$ 240,227.83	$ 227,488.07	187,594.73
5.	WATER DISTRIBUTION:							
	Mexico:							
	Canal Operation	$ 64,197.79	$ 64,649.26	$ 62,411.20	$ 63,877.43	$ 64,864.00	$ 62,002.39	59,071.33
	Canal Maintenance	134,897.30	89,670.77	73,971.51	91,119.73	102,131.11	98,265.29	71,442.24
	Structure Maintenance	10,933.51	4,595.06	10,232.25	21,671.54	11,240.00	38,543.56	6,806.33
	Canal Construction				932.21			
	Structure Construction		2,549.54					
	Total	$ 210,028.60	$ 161,464.63	$ 146,614.96	$ 177,600.91	$ 178,235.11	$ 198,811.24	137,319.90
	United States:							
	Canal Operation	$ 211,429.37	$ 197,207.38	$ 191,970.91	$ 197,083.72	$ 198,538.01	$ 201,053.56	204,724.50
	Canal Maintenance	684,328.94	675,335.85	637,375.36	606,319.91	647,582.81	710,477.01	500,684.39
	Structure Maintenance	101,071.06	118,851.19	145,034.49	129,496.95	132,863.54	112,128.35	87,351.30
	Canal Construction	4,908.39	11,722.17	10,313.24	22,786.89	34,283.92	15,643.73	6,597.63
	Structure Construction	90,451.81	31,118.76	33,425.49	45,039.57	60,415.62	72,301.26	43,169.24
	Total	$1,092,189.57	$1,034,235.35	$1,018,119.49	$1,000,727.04	$1,073,683.90	$1,111,603.91	~~[illegible]~~ 842,529.08

No.	Feature Item	1925	1926	1927	1928	1929	1930	
6.	RIVER PROTECTION:							
	Patrol and Maintain Levees	$ 14,962.66	$ 70,463.60	$ 77,145.32	$ 25,948.10	$ 45,996.75	$ 26,523.07	
	Improvem'ts to Levee System	66,747.40	42,452.32	48,001.51	50,482.53	12,522.57	43,772.58	
	Total	$ 81,710.06	$ 112,915.92	$ 125,146.83	$ 76,430.63	$ 58,519.32	$ 70,295.65	7,653.48
7.	REAL ESTATE AND EQUIPMENT:							
	Telephone and Power Lines, Operation and Maintenance	$ 23,329.49	$ 24,799.30	$ 26,238.70	$ 23,707.56	$ 27,691.23	$ 28,328.30	27,696.77
	Telephone and Power Lines, Construction	21,399.54	2,420.48	361.53	3,489.70	2,342.22	2,560.67	50.00
	Real Estate and Buildings, Maintenance	10,778.87	17,978.37	15,975.88	21,500.91	16,718.10	15,991.70	18,741.27
	Real Estate and Buildings, Construction	109,322.53	7,640.41	9,618.51	2,657.00	11,234.16	10,304.79	1,635.41
	Equipm't, Renewals, Purchases	41,355.31	64,065.34	63,024.97	56,332.96	91,478.77	51,815.66	30,371.68
	Total	$206,185.74	$ 116,903.90	$ 115,219.59	$ 107,688.13	$ 149,464.48	$ 109,001.12	78,495.13
8.	BONDED INDEBTEDNESS AND INTEREST:							
	Bond Interest	$863,850.00	$ 923,645.00	$ 875,717.50	$ 864,982.50	$ 844,875.00	$ 837,920.00	827,830.00
	Redemption of Bonds	98,000.00	145,000.00	202,000.00	195,000.00	250,000.00	250,000.00	298,000.00
	Int. on Registered Warrants	9,554.97	5,904.81	17,074.01	27,574.73	20,949.07	20,911.87	31,908.55
	Total	$971,404.97	$1,074,549.81	$1,094,791.51	$1,087,557.23	$1,115,824.07	$1,108,831.87	1,157,738.55
9.	DRAINAGE AND MISCELLANEOUS:							
	Drainage Construction	$ 12,257.23	$ 55,363.76	$ 34,287.36	$ 12,959.53	$ 15,842.95	$ 4,710.31	
	Drainage Maintenance	77,522.01	60,447.21	83,946.43	77,866.09	52,037.10	65,831.82	38,802.63
	New River Outlet	16,807.77	14,272.65	26,628.64	15,557.06	3,457.16	1,073.06	
	New River Bank Protection	152.95	684.83	1,016.61	2,666.46	2,382.04	4,780.96	22,803.00
	Alamo River Outlet	1,083.85	517.70	12,179.70	6.61	217.30	902.12	
	Alamo River Bank Protection	1,488.07	13,540.31	9,886.24	12,191.87	11,448.43	9,201.06	
	Adjustment Salton Sea Claims		116,031.22	4,795.46	350.00			3,590.37
	Miscellaneous	9,430.77	698.47			3,206.28	5,754.82	6,158.43
	Total	$118,742.65	$ 261,556.15	$ 172,740.44	$ 121,597.62	$ 88,591.26	$ 92,254.15	71,354.43

Summary

	1925	1926	1927	1928	1929	1930	
1. Board of Directors	$ 88,818.41	$ 93,140.39	$ 100,406.69	$ 97,461.41	$ 105,348.20	$ 107,849.51	110,714.08
2. General Administration	96,693.39	87,378.63	88,922.17	90,836.84	96,185.04	89,389.31	83,930.42
3. Storage	26,310.66	6,386.76	67,148.03	86,746.57	59,504.77	62,823.18	19,657.83
4. Diversion	131,144.09	320,317.42	231,431.03	235,099.61	240,227.83	227,488.07	187,594.73
5. Water Distribution, Mexico	210,028.60	161,464.63	146,614.96	177,600.91	178,235.11	198,811.24	137,319.90
Water Distribution, U. S.	1,092,189.57	1,034,235.35	1,018,119.49	1,000,727.04	1,073,683.90	1,111,603.91	843,529.08
6. River Protection	81,710.06	112,915.92	125,146.83	76,430.63	58,519.32	70,295.65	7,653.48
7. Real Estate and Equipment	206,185.74	116,903.90	115,219.59	107,688.13	149,464.48	109,001.12	78,495.13
8. Bonded Indebtedness & Interest	971,404.97	1,074,549.81	1,094,791.51	1,087,557.23	1,115,824.07	1,108,831.87	1,161,942.54
9. Drainage and Miscellaneous	118,742.65	261,556.15	172,740.44	121,597.62	88,591.26	92,254.15	71,354.43
Total Budget Expenditures	$3,023,228.14	$3,268,848.96	$3,160,540.74	$3,081,745.99	$3,165,583.98	$3,178,348.01	2,701,191.62
Construction Fund Expenditures: Drainage Construction	$ 507,893.88	$ 274,629.37	$ 228,938.59	$ 61,156.21	$ 72,283.38		—
Total, including Expenditures from Construction Fund	$3,531,122.02	$3,543,478.33	$3,389,479.33	$3,142,902.20	$3,237,867.36	$3,178,348.01	2,701,191.62
CAPITAL ACCOUNTS	873,458.75	836,047.48	793,119.23	633,933.17	706,741.56	610,531.68	491,518.26
EXPENSE ACCOUNTS	2,657,663.27	2,707,430.85	2,596,360.10	2,508,969.03	2,531,125.80	2,567,816.33	2,209,673.36

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

Colorado River Discharge

Year	Total Acre Feet	Maximum Sec. Feet	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
1930	10,629,000	53,600	June 9	1,770	Feb. 3

Hanlon Heading Diversion**

Year	Total Acre Feet	Maximum Sec. Feet	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	4,968	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
1930	3,280,708	7,078	July 9	1,900	*Jan. 12

*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 Heading being greater than the discharge at Yuma on several occasions.

**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.

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

For 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%
1915		$ 175,000.00				
1916		175,000.00				
1917		175,000.00		$ 62,500.00		
1918		175,000.00		125,000.00		
1919		175,000.00		125,000.00		$ 34,375.00
1920		175,000.00		125,000.00		137,500.00
1921		175,000.00		125,000.00		137,500.00
1922		175,000.00		125,000.00		137,500.00
1923		175,000.00		125,000.00		137,500.00
1924		175,000.00		125,000.00		137,500.00
1925		175,000.00		125,000.00	$ 100,000.00	134,750.00
1926		175,000.00		125,000.00	150,000.00	127,875.00
1927		175,000.00		125,000.00	200,000.00	118,250.00
1928		175,000.00		125,000.00	200,000.00	107,250.00
1929		175,000.00		125,000.00	250,000.00	94,875.00
1930		175,000.00		125,000.00	250,000.00	81,125.00
1931		175,000.00		125,000.00	300,000.00	66,000.00
1932		175,000.00		125,000.00	300,000.00	49,500.00
1933		175,000.00		125,000.00	350,000.00	31,625.00
1934		175,000,00		125,000.00	400,000.00	11,000.00
1935		175,000.00		125,000.00		
1936	$ 70,000.00	171,500.00		125,000.00		
1937	70,000.00	168,000.00		125,000.00		
1938	105,000.00	162,750.00	$ 50,000.00	123,750.00		
1939	105,000,00	157,500.00	50,000.00	121,250.00		
1940	140,000.00	150,500.00	75,000.00	118,125.00		
1941	140,000.00	143,500.00	75,000.00	114,375.00		
1942	140,000.00	136,500.00	100,000.00	110,000.00		
1943	140,000.00	129,500.00	100,000.00	105,000.00		
1944	175,000.00	120,750.00	100,000.00	100,000.00		
1945	175,000.00	112,000.00	100,000.00	95,000.00		
1946	175,000.00	103,250.00	125,000.00	89,375.00		
1947	175,000.00	94,500.00	125,000.00	83,125.00		
1948	210,000.00	84,000.00	125,000.00	76,875.00		
1949	210,000.00	73,500.00	125,000.00	70,625.00		
1950	210,000.00	63,000.00	150,000.00	63,750.00		
1951	210,000.00	52,500.00	150,000.00	56,250.00		
1952	245,000.00	40,250.00	150,000.00	48,750.00		
1953	245,000.00	28,000.00	150,000.00	41,250.00		
1954	280,000.00	14,000.00	175,000.00	33,125.00		
1955	280,000.00		175,000.00	24,375.00		
1956			200,000.00	15,000.00		
1957			200,000.00	5,000.00		
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

(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.

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
			$ 175,000.00	$ 175,000.00	1915
			175,000.00	175,000.00	1916
			237,500.00	237,500.00	1917
			300,000.00	300,000.00	1918
			334,375.00	334,375.00	1919
			437,500.00	437,500.00	1920
			437,500.00	437,500.00	1921
	$ 225,000.00		662,500.00	662,500.00	1922
	450,000.00		887,500.00	887,500.00	1923
	450,000.00		887,500.00	887,500.00	1924
	450,000.00	$ 100,000.00	884,750.00	984,750.00	1925
	450,000.00	150,000.00	877,875.00	1,027,875.00	1926
	450,000.00	200,000.00	868,250.00	1,068,250.00	1927
	450,000.00	200,000.00	857,250.00	1,057,250.00	1928
	450,000.00	250,000.00	844,875.00	1,094,875.00	1929
	450,000.00	250,000.00	831,125.00	1,081,125.00	1930
	450,000.00	300,000.00	816,000.00	1,116,000.00	1931
	450,000.00	300,000.00	799,500.00	1,099,500.00	1932
	450,000.00	350,000.00	781,625.00	1,131,625.00	1933
	450,000.00	400.000.00	761,000.00	1,161,000.00	1934
$ 422,000.00	437,340.00	422,000.00	737,340.00	1,159,340.00	1935
377,000.00	413,370.00	447,000.00	709,870.00	1,156,870.00	1936
396,000.00	390,180.00	466,000.00	683,180.00	1,149,180.00	1937
313,000.00	368,910.00	468,000.00	655,410.00	1,123,410.00	1938
327,000.00	349,710.00	482,000.00	628,460.00	1,110,460.00	1939
279,000.00	331,530.00	494,000.00	600,155.00	1,094,155.00	1940
292,000.00	314,400.00	507,000.00	572,275.00	1,079,275.00	1941
292,000.00	296,880.00	532,000.00	543,380.00	1,075,380.00	1942
320,000.00	278,520.00	560,000.00	513,020.00	1,073,020.00	1943
304,000.00	259,800.00	579,000.00	480,550.00	1,059,550.00	1944
334,000.00	240,660.00	609,000.00	447,660.00	1,056,660.00	1945
333,000.00	220,650.00	633,000.00	413,275.00	1,046,275.00	1946
373,000.00	199,470.00	673,000.00	377,095.00	1,050,095.00	1947
383,000.00	176,790.00	718,000.00	337,665.00	1,055,665.00	1948
333,000.00	155,310.00	668,000.00	299,435.00	967,435.00	1949
320,000.00	135,720.00	680,000.00	262,470.00	942,470.00	1950
317,000.00	116,610.00	677,000.00	225,360.00	902,360.00	1951
300,000.00	98,100.00	695,000.00	187,100.00	882,100.00	1952
300,000.00	80,100.00	695,000.00	149,350.00	844,350.00	1953
300,000.00	62,100.00	755,000.00	109,225.00	864,225.00	1954
300,000.00	44,100.00	755,000.00	68,475.00	823,475.00	1955
585,000.00	17,550.00	785,000.00	32,550.00	817,550.00	1956
		200,000.00	5,000.00	205,000.00	1957
$7,500,000.00	$10,612,800.00	$16,000,000.00	$21,894,925.00	$37,894,925.00	

Crop Report

For Year 1930

UNITED STATES

Field Crops	Acres
Alfalfa	207,977
Alfalfa (planted since Oct. 1)	30,594
Barley (1929-30)	60,953
Barley (1930-31)	50,282
Corn	25,482
Cotton	10,317
Oats (1929-30)	2,209
Oats (1930-31)	977
Wheat (1929-30)	10,942
Wheat (1930-31)	11,205
Bermuda	15,321
Cane	1,410
Sudan	5,534
Hemp	21,501
Clover	295
Cow Peas	30
Rice	169
Miscellaneous	120
TOTAL	455,318

Permanent Crops	Acres
Asparagus	3,402
Apricots	55
Dates	216
Grapes, Malaga	1,168
Grapes, Thompson	1,602
Grapes, Other	193
Grapefruit	10,175
Olives	58
Oranges	702
Pomegranates	112
Strawberries	100
Plums	17
Pears	17
Tangerines	221
Nursery Stock	63
Figs	31
Pecans	346
Lemons	87
Shade Trees	61
Avocados	10
Miscellaneous	28
TOTAL	18,664

Garden Crops	Acres
Lettuce (1929-30)	46,384
Lettuce (1930-31)	53,911
Cantaloupes (1929-30)	41,161
Cantaloupes (Fall 30)	1,610
Cantaloupes (1930-31)	39,029
Honeydews (1929-30)	4,638
Honeydews (Fall 30)	505
Honeydews (1930-31)	4,674
Honeyballs (1929-30)	4,194
Honeyballs (Fall 30)	105
Honeyballs (1930-31)	2,873
Tomatoes (1929-30)	1,202
Tomatoes (1930-31)	2,321
Peas (Spr. 30)	3,426
Peas (Fall 30)	11,637
Peas (Spr. 31)	6,865
Carrots (1929-30)	1,766
Carrots (1930-31)	5,143
Watermelons (1929-30)	8,202
Watermelons (1930-31)	8,311
Squash	653
Cabbage	890
Beans	109
Cucumbers	428
Spinach	253
Greens	220
Casabas	45
Sweet Corn	101
Beets	24
Sweet Potatoes	168
Celery	60
Anise	50
Peppers	72
Broccoli	64
Onions	34
Jap Melons	20
Chicory	145
Endive	76
Turnips	115
Miscellaneous	82
TOTAL	251,566
Field Crops	455,318
Garden Crops	251,566
Permanent Crops	18,664
GRAND AREA IN CROPS	725,548
Less Area Counted Twice	286,288
NET AREA CROPPED	439,260

MEXICO

	Cotton	Alfalfa	Grains	Misc.	Total
Acres	102,419	16,848	4,276	10,164	133,707*
Per Cent	76.6	12.6	3.2	7.6	100.00

GRAND TOTAL AREA CROPPED, United States and Mexico.........572,967

*29,035 acres also received water from siphons installed at Pescadero Dam.

Meteorological Data---Year 1930

TEMPERATURE

Month	Mean Maximum	Mean Minimum	Mean	Maximum	Date	Minimum	Date	Greatest Daily Range
January	67.1	38.2	52.7	77	30th	28	28th	42
February	80.1	41.8	61.0	89	19th	34	28th	50
March	79.4	45.3	62.4	92	25th, 26th	34	1st	45
April	88.6	55.1	71.9	99	20th	45	1st	40
May	87.5	55.9	71.7	104	21st	43	8th	44
June	101.3	65.4	83.4	112	7th	57	1st, 23rd	45
July	104.9	75.4	90.2	112	2nd, 11th, 15th	68	3rd, 19th	41
August	103.4	71.7	87.6	110	26th, 27th	63	14th	41
September	97.1	62.3	79.7	110	4th	51	30th	43
October	88.5	51.9	70.2	100	7th	46	31st	42
November	78.7	43.2	61.0	92	3rd, 4th	31	19th	44
December	70.0	32.9	51.5	77	1st, 9th	26	22nd	45
Year	87.2	53.3	70.3	112	June 7, July 2, 11, 15	26	December 22	50

RELATIVE HUMIDITY		PRECIPITATION IN INCHES			WEATHER		
Month	Per Cent	No. Days Over .01	Monthly	Greatest 24 Hours	Clear	Partial	Cloudy
January	45	3	.35	.14	15	6	10
February	30				23	4	1
March	38	4	.38	.19	22	4	5
April	22	1	.03	.03	26	3	1
May	25	3	.41	.24	25	1	5
June	20				28	2	0
July	27½				24	7	0
August	27				23	5	3
September	21	1	.73	.73	27	3	0
October	19				29	1	1
November	23				23	3	4
December	42				28	1	2
Year	28.3	12	1.90	.73	293	40	32

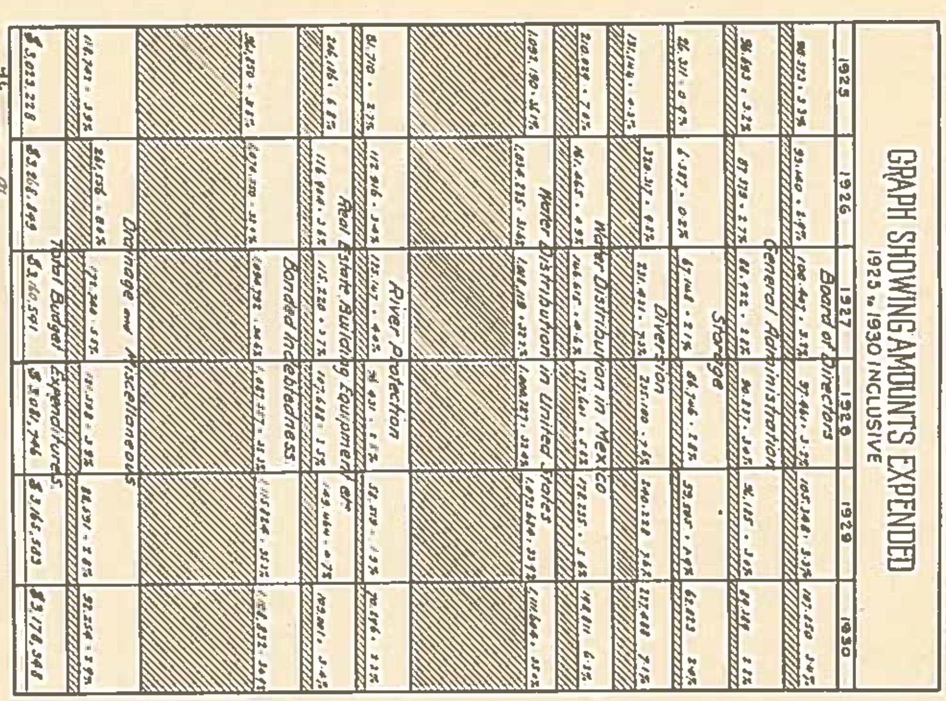
Water, Weather and Crop Tables - Imperial Valley, U. S. and Mexico

Calendar Year.	Total Area Irrigated for Year.	Total Quantity of Water Diverted From Colorado River — Acre Feet.	Total Quantity of Water Wasted, Lost, and Unaccounted For—Acre Feet.	Total Quantity of Water Delivered to Users, United States and Mexico—Acre Feet.	Net Acre Feet Per Acre Delivered.	Rainfall—Feet.	Water Delivered Per Acre Plus Rainfall During Season—Feet.	Mean Annual Temperature — Degrees Fahrenheit.	Date of Last Killing Frost in Spring Before July 15.	Date of First Killing Frost After July 15 in Fall.	Percentage of Area in Different Crops. Cereals and Seed.	Cotton.	Hay and Forage.	Fruits, Vegetables and Misc.
1912	242,110	1,433,753	613,195	820,558	3.39	0.20	3.59	70.0	Jan. 3	Dec. 21	47.9	3.3	44.0	4.8
1913	275,797	1,667,343	672,582	994,761	3.61	0.16	3.77	69.9	Mar. 25	Dec. 25				
1914	316,832	1,863,518	700,317	1,163,201	3.67	0.24	3.91	71.6	Jan. 31	Dec. 13	26.6	12.3	47.1	14.0
1915	334,534	1,912,931	766,515	1,146,416	3.43	0.28	3.71	71.2	Jan. 19	Nov. 14				
1916	375,509	2,236,207	928,201	1,307,906	3.48	0.40	3.88	71.1	Feb. 2	Nov. 13	35.5	11.4	42.1	11.0
1917	435,940	2,412,456	937,748	1,474,708	3.38	0.14	3.52	71.0	Mar. 4	Dec. 11				
1918	508,210	2,876,834	1,162,071	1,714,763	3.37	0.15	3.52	70.9	Feb. 3	Nov. 27	31.5	36.2	21.7	10.6
1919	588,250	2,854,209	1,156,873	1,697,336	2.89	0.24	3.13	70.9	Feb. 25	Nov. 29	30.8	31.3	23.9	14.0
1920	603,440	3,095,956	1,303,472	1,792,484	2.97	0.41	3.38	70.1	None	Dec. 7	20.6	49.2	16.9	13.3
1921	531,674	2,535,020	1,218,815	1,316,205	2.48	0.50	2.98	70.8	Feb. 16	Nov. 19	31.5	31.5	31.0	6.0
1922	563,400	2,890,282	1,415,284	1,474,998	2.62	0.21	2.83	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	598,389*	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	589,184*	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
1930	572,967*	3,280,708	1,116,356	2,164,352	3.85	0.16	4.01	70.3	Jan. 23	Nov. 19	13.5	13.1	38.3	35.1

Previous to January 1st, 1923, water wasted, lost and delivered, based on amount "Billed to Mutual Water Company," since that time on deliveries to water users. Includes both United States and Mexico.

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

*19,700 acres in 1928, 19,751 acres in 1929 and 29,035 acres in 1930 were served through the Colorado River Land Company's siphons at Pescadero Cut and by the Alamo "6B" Canal. To this acreage the following amounts were furnished by the Alamo "6B" Canal: 55,577 acre feet in 1928; 1,303 acre feet in 1929; 70,155 acre feet in 1930. This acreage and water, included in the tabulation herein given, has been subtracted in figuring the duty of water.



46
3,119,228
96
3,172,849

SALTON SEA ELEVATIONS

July, 1921—January, 1931

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
July 1st, 1930	—244.3
Jan. 1st, 1931	—244.3

STATE OF CALIFORNIA, } ss.
COUNTY OF IMPERIAL, }

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 statements 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.

Subscribed and sworn to before me this 21st day of February, 1931.

(SEAL) 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.