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REPORT
OF
HAWAIIAN IRRIGATION CO.,
Limited

FOR THE TWELVE MONTHS ENDING
DECEMBER 31, 1930

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1930

OFFICERS
HAWAIIAN IRRIGATION COMPANY, LIMITED
1930

J. W. WALDRON.....President and Manager
A. L. CASTLE.....Vice-President
G. E. SCHAEFER.....Treasurer
F. A. SCHAEFER.....Secretary
YOUNG, LAMBERTON & PEARSON, C. P. A.....Auditors

BOARD OF DIRECTORS

J. W. WALDRON.....Honolulu
A. L. CASTLE.....Honolulu
E. I. SPALDING.....Honolulu
E. H. WODEHOUSE.....Honolulu
R. W. SHINGLE.....Honolulu
F. A. SCHAEFER.....Honolulu
G. E. SCHAEFER.....Honolulu

SUPERINTENDENT

W. P. NAQUIN.....Honokaa

REPORT
OF
HAWAIIAN IRRIGATION CO.,
Limited

FOR THE TWELVE MONTHS ENDING
DECEMBER 31, 1930

Printed by
Honolulu Star-Bulletin
Merchant Street
1931



Report of the President and Manager

The Stockholders

Hawaiian Irrigation Co., Ltd.,

Honolulu, T. H.

GENTLEMEN:

Herewith I beg to hand you the following reports for the year 1930:

- A. Section One—Upper Ditch:
 - 1. Report of the Assistant Superintendent to the local Superintendent.
 - 2. Various statistical tables.
- B. Section Two—Lower Ditch:
 - 1. Report of the Assistant Superintendent to the local Superintendent.
 - 2. Various statistical tables.
- C. Section Three:
 - Consolidated Profit and Loss Account and Balance Sheet.
- D. Section Four:
 - General Statistics.
- E. The Report of the Auditors.

UPPER DITCH

The total flow during the year 1930 was 6,050,605,000 gallons as against an average flow for the last ten years of 5,152,365,300 gallons. This is the second highest flow on record, the highest being 6,866,268,000 gallons, in 1928, and the lowest, 1,792,045,000 gallons, in 1917 (See Exhibit "Q").

The daily average flow was 16,577,000 as against a daily average of 14,112,000 gallons for the past ten years, and against the highest daily average flow of 18,760,000 gallons, in 1928, and the lowest of 5,286,000 gallons, in 1917. There were three months in the year during which the daily average flow dropped below 10,000,000 gallons, as follows:

January	9,081,000 gallons
October	7,525,000 "
December	9,631,000 "

The highest daily flow during the year was 61,198,000 gallons, in April, and the lowest, 183,000 gallons, in February.

The flow for the six summer months was 3,314,157,000 gallons.

The flow for the six winter months was 2,736,448,000 gallons.

The revenue during the year 1930 was \$50,351.70 as against an average revenue of \$38,763.67 for the past twenty-four (24) years. The highest revenue on record was \$56,606.16, in the year 1928, and the lowest revenue obtained in any one year was \$18,446.48, in 1917 (See Exhibit "F-1").

The operating expenses of the Upper Ditch, exclusive of Depreciation and Amortization, amounted to \$40,172.27 as against \$42,316.67 in the preceding year. The sum of \$270.00 has been written off to Depreciation and \$2,159.98 to Amortization, leaving a net profit for the year of \$7,749.45, as against a net loss of \$7,776.39 in the year 1929. The result of the year's operation is quite satisfactory and is mainly accounted for by the exceptionally good flow of the ditch throughout the year and a corresponding increase in revenue as against last year.

No money was spent on new construction during 1930. The figure for the amount expended on new construction work since the year 1915, when the Company changed hands, remains at \$259,428.85, as shown in last year's report.

LOWER DITCH

The total flow during the year 1930 was 12,996,591,000 gallons as against an average flow of the past ten years of 11,885,047,100 gallons. The highest flow was 15,126,566,000 gallons, in 1916, and the lowest, 10,309,872,000 gallons, in 1926 (See Exhibit "Q").

The daily average flow for the year was 35,607,000 gallons as against a daily average flow for the past ten years of 32,606,000 gallons. The highest daily average flow was 41,329,000 gallons, in 1916, and the lowest 28,402,000 gallons, in 1926. February, with a daily average delivery of 32,113,000 gallons, had the lowest daily average of any one month in the year. The lowest daily average flow on record was 20,376,000 gallons, on February 9, 1926.

The revenue from water sales in the year 1930 amounted to \$101,862.42 as against an average revenue of \$100,918.77 during the past twenty and one-half (20½) years. The lowest revenue obtained in any one year was \$89,638.04, in 1926, and the highest revenue was \$116,939.35, in 1920, when the plantations made an additional payment to meet the large bonus paid in that year (See Exhibit "F-2").

The operating expenses of the Lower Ditch, excluding Depreciation and Amortization, were \$78,216.07 as against \$78,526.36 in the year 1929. The amount of \$420.00 was written off to Depreciation and \$9,937.65 to Amortization. Waipio Valley shows a loss of \$1,419.91, leaving a net profit for the year of \$11,868.79 as against a net profit of \$5,048.43 in 1929. This is principally accounted for by the steady flow of water throughout the year with a correspondingly larger revenue from water sales.

WAIPIO VALLEY

The Waipio Valley shows a loss of \$1,419.91 as against a loss of \$2,518.43 in 1929; the expenditures in that year, however, included the cost of clearing and planting ten acres of Macadamia Nut trees.

The loss of the valley for 1930 is made up as follows:

Rental and Taxes.....	\$2,591.75	
Maintenance, etc.	511.86	
Rice Mill (insurance).....	29.64	
Waipio Valley Experiment.....	549.69	
Overhead Charges	475.77	\$4,158.71
	<hr/>	
Rentals Collected		2,738.80
		<hr/>
Loss for the Year (Exhibit "N").....		<u>\$1,419.91</u>

The loss on handling the valley for the past sixteen years has been as follows:

1915 Loss	\$ 6,261.57
1916 Loss	4,046.25
1917 Loss	2,964.68
1918 Loss	1,161.10
1919 Loss	75.96
1920 Loss	677.88
1921 Loss	1,804.33
1922 Loss	2,031.24
1923 Loss	2,282.49
1924 Loss	1,250.57
1925 Loss	1,205.27
1926 Loss	1,244.84
1927 Loss	\$ 2,115.24
Less Refund of Rental....	1,000.00
	<hr/>
	1,115.24

1928 Loss	1,069.59
1929 Loss	2,518.43
1930 Loss	1,419.91
Net Loss, 16 Years.....	<u><u>\$32,129.35</u></u>

In view of the fact that the cultivation of rice in the Waipio Valley had been abandoned with no prospect of being taken up again in the future, arrangements were made with the Trustees of the Bernice P. Bishop Museum to sell the machinery of the Rice Mill for account of the Trustees, to dismantle the mill building and outbuildings, and erect from the material thus obtained several cottages for homes of taro planters. Four cottages were built at the end of the year, in different locations of the valley, which were occupied as soon as they were completed.

A total of 12,325 bags of taro were marketed in 1930 as against 11,866 bags in 1929. The price received averaged 72½ cents per bag, which is considerably better than during the past two years, when prices averaged 55¾ and 58 cents per bag, but it is still somewhat below the cost of production.

The value of the produce raised upon Bernice P. Bishop Museum lands in the valley and marketed during the year 1930 was as follows:

12,325 bags Taro.....	\$ 8,934.10
47 head Cattle.....	1,500.00
Other Products	276.50
	<u>\$10,710.60</u>
5% of which would be.....	535.53

The value of products raised upon the land since the new lease was signed, in 1922, is as follows:

Year	Value	5%
1922	\$ 37,444.22	\$1,872.21
1923	26,862.00	1,343.10
1924	17,995.40	899.77
1925	21,435.50	1,071.78
1926	27,662.00	1,383.10
1927	13,652.50	682.63
1928	9,079.65	453.98
1929	7,961.80	398.09
1930	10,710.60	535.53

an increase of 34.52% as compared with 1929 but 71.40% less than in 1922.

Rents and taxes amounted to 24.20% of the total value of the produce.

The additional area of Macadamia Nut trees referred to in my last report, planted in the valley in 1929 as per agreement with the Trustees of the Bernice P. Bishop Museum, is making good growth and very little replanting was necessary.

PROFIT AND LOSS ACCOUNT

This account shows the following figures for 1930:

Profit, Upper Ditch (Exhibit "G-1").....	\$ 7,749.45
Profit, Lower Ditch (Exhibit "G-2").....	11,868.79
	<hr/>
Net Profit, 1930 (Exhibit "G-3").....	<u>\$19,618.24</u>

AGENTS' BALANCE

The debit balance due the Agents on December 31, 1930, was \$125,730.50 as against \$160,514.22 due on December 31, 1929.

The balances for the past 15 years are as follows:

	Upper Ditch	Lower Ditch	Total
1916	\$	\$.....	\$ 73,964.56
1917 .....	.....	.....	100,552.75
1918 .....	.....	.....	124,116.95
1919 .....	.....	.....	122,339.23
1920 .....	.....	.....	135,819.05
1921	116,091.30	31,277.42	147,368.72
1922	114,631.51	7,882.22	122,513.73
1923	132,149.65	6,088.10	138,237.75
1924	151,972.69	4,311.64	156,284.33
1925	170,646.49	4,150.92	174,797.41
1926	192,691.74	5,323.16	198,014.90
1927	206,153.62	4,835.81	201,317.81
1928	200,991.46	24,157.68	176,833.78
1929	202,503.13	41,988.91	160,514.22
1930	190,285.34	64,554.84	125,730.50

In the 12 years from 1916 to 1927 (inclusive) the outstanding unsecured debt increased by \$127,353.25, but it has since been reduced by \$75,587.31, leaving a net increase of \$51,765.94 as of December 31, 1930.

LABOR

Reference to Exhibit "P" shows that ordinary labor earned during 1930 \$44.41 per month as against \$43.77 per month in 1929, \$43.35 in 1928, \$44.46 in 1927, and \$45.23 in 1926. We find that during the year ordinary labor was paid \$10,466.50 for 6,127 working days, or an average of \$44.41 per month for 26 working days. The total payroll for the year 1930 was \$20,235.60 as against \$23,449.48 in 1929, a decrease of \$3,213.88.

WEATHER

The total rainfall at Upper Kawainui and Upper Alakahi averaged 233.52 inches during 1930 as against 176.88 inches in the previous year. This rainfall was registered on 354 days of the year and is the highest since 1918 (See Exhibit "U"). Lower Kawainui registered 212.26 inches as against 202.88 inches in the previous year, while Lower Alakahi registered 162.56 inches as against 164.52 inches in the previous year.

The greatest monthly rainfall on the Upper Ditch (Upper Kawainui) was 39.68 inches, in April, and the lowest was 7.22 inches, in October. On the Lower Ditch (Lower Kawainui) the greatest rainfall was 39.08 inches, in the month of April, and the lowest 4.59 inches, in October.

During the past 16 years the highest rainfall in the Upper Ditch was recorded in 1918 and amounted to 285.35 inches, while the lowest precipitation of 103.99 inches was recorded in 1917. On the Lower Ditch the highest rainfall for the same period amounted to 265.44 inches (in 1918) and the lowest to 70.44 inches (in 1917).

HONOKAA WATER WORKS

We have been delivering water for the use of Honokaa Village since November, 1923. Under our license the Territory is entitled to 500,000 gallons daily, subject, however, to the contracts of the Company.

During the seven full years that water has been delivered we find:

	Delivered	Government Entitled to	Deficiency Honokaa Sugar Co.	Supplied By: Pacific Sugar Mill
1924	27,001,520	11,519,000	9,674,157	5,808,363
1925	29,656,000	13,463,000	10,127,000	6,066,000
1926	35,015,000	10,571,000	15,296,000	9,148,000
1927	40,574,000	16,535,000	14,831,000	9,208,000
1928	44,141,000	30,625,000	9,669,000	3,847,000
1929	42,122,000	24,114,000	18,008,000	.....
1930	38,281,000	36,173,000	2,108,000	.....

FORESTRY

The necessity of reforestation on the watershed of the Kohala Mountains has been repeatedly pointed out in previous reports. The Territorial Government, the owner of the land, through its Board of Agriculture and Forestry, has made a start in the right direction by planting out several varieties of trees in the foothills of the Puu Alala section of the forest reserve, most of which are making good progress. Some trees have also been planted in the Koiawe section of the forest reserve. A more extensive reforestation program, however, will have to be undertaken in order to preserve the watershed, which is of utmost importance to the Hamakua District.

Several hundred California Redwood seedling trees have been planted out by us during the year in the No. 3 Reservoir section of the Ditch system. It will be interesting to note how this variety will turn out under local conditions.

Respectfully submitted,

J. W. WALDRON,
President and Manager,
Hawaiian Irrigation Company, Ltd.

SECTION I

UPPER DITCH

ASSISTANT SUPERINTENDENT'S REPORT FOR THE
YEAR ENDING DECEMBER 31, 1930

MR. W. P. NAQUIN,
Supt., Hawaiian Irrigation Co., Ltd.,
Haina, Hawaii.

DEAR SIR:

I herewith beg to submit my annual report for the year ending December 31, 1930:

UPPER DITCH

Weather:

The rainfall on the watershed was exceptionally good during 1930, one of the best on record. The Upper Kawainui total was 244.71 inches, the highest since 1918, when a rainfall of 285.35 inches was recorded at that station.

The month of April had the highest amount of rainfall—39.68 inches—and October the lowest—7.22 inches.

Upper Kawainui Rainfall (355 days).....	244.71 inches
Monthly Average (29 days).....	20.39 “
Daily Average .....	.67 “
Highest Daily Rainfall (Nov. 23).....	5.82 “
Kohala Mts. Summit Rainfall.....	145.00 “

The average rainfall at the four Upper Ditch stations was 198.58 inches.

Water:

The flow of the ditch was the second highest since the ditch has been in operation. The water was well distributed throughout the year.

The highest monthly flow was 980,002,000 gallons, in April, and the lowest 233,260,000 gallons, in October.

The highest daily flow was recorded on April 5—61,198,000 gallons—and the lowest on February 21—183,000 gallons.

The Total Flow was.....	6,050,605,000	gallons
Monthly Average was.....	504,217,000	"
Daily Average was.....	16,577,000	"
Honokaa Sugar Company received.....	5,092,094,000	"
Paauhau Sugar Plantation Co. received.....	498,926,000	"
The Flow of the Winter Months was.....	2,736,448,000	"
The Flow of the Summer Months was.....	3,314,157,000	"

It is interesting to note that the flow of the summer months exceeded that of the winter months by 577,709,000 gallons.

There were three months in the year during which the daily average flow dropped below 10,000,000 gallons:

January	9,081,000	gallons
October	7,525,000	"
December	9,631,000	"

Run-Off:

The ratio of run-off was .424 of the precipitation, slightly less than in 1929 and the lowest since 1924, when it was .3921.

As usual, a chart showing rainfall and ditch flows will be prepared, also a blueprint giving the rainfall in inches at the different stations.

Storms:

During the month of November sections of the Hamakua District were visited by two rainstorms and cloudbursts; the first, during the night of Tuesday, November 18, which was most severe in the Paauhau and Honokaa sections; the second, during the night of Sunday, November 26, which concentrated in the Kawela, Kapulena and Kukuihaele sections. The first storm did no serious damage to the Upper Ditch system, but the flood waters of the second one caused a washout of a fill in the Kawela section, destroying a portion of the concrete ditch for a distance of about 30 feet. Repair work was started the day following the storm and within four days the delivery of water was resumed. The broken section has been replaced with a concrete flume supported by two concrete piers, so that a washout at this point is not likely to occur again. Fortunately, all the plantation reservoirs were filled to capacity at the time of the shutdown and there was no shortage of fluming water.

In the mountain section of the ditch a tunnel at Waima caved in, blocking up the ditch flow for about 12 hours while a passage was being cleared.

The storm did also a considerable amount of damage to the Upper Ditch telephone system.

Flumes:

No replacement of flumes was made during 1930 and only minor repairs were necessary. The three wooden flumes, between Waima and No. 3 Weir above the Honokaa reservoirs, which eventually will have to be replaced with concrete structures, were kept in repair. They will probably last another year or two.

Trails and Bridges:

The trails were kept in good condition, and repairs to bridges were made wherever necessary.

Telephones:

Heavy winds at different times during the year, particularly the storm in November, caused considerable damage to the telephone lines. Several sections of the system had to be repaired or replaced.

Fences:

Repair work to fences has continued throughout the year. Twelve coils of plain wire, four coils of barbed wire and about 760 posts were used.

Buildings:

The Ditchhouse at No. 3 Reservoir was repaired and painted during the early part of the year and this building is now in very good condition. Only minor repairs were made to other buildings.

General:

During the coming year a large number of telephone posts, which are wearing out, will have to be replaced. Repair work to fences will also have to be kept up. About three miles of fence in the distributing section, from Waikoloa to Malanahae, will need to be replaced altogether. It is our intention to use concrete posts for this work, a considerable number of which was made in 1930 for this purpose.

Permanent Improvements:

No permanent improvements were made during the year 1930 and none are contemplated for 1931.

Respectfully submitted,

P. BARTELS,
Assistant Superintendent,
Hawaiian Irrigation Company, Ltd.

Haina, Hawaii, February 2, 1931.

EXHIBIT "A"—1

EXPENDITURES FOR PERMANENT IMPROVEMENTS FOR THE YEAR ENDING DECEMBER 31, 1930

Properties	Net Balance Dec. 31, 1929	Cost to Dec. 31, 1929	Additions During 1930	Cost to Dec. 31, 1930	Reserves Dec. 31, 1929		Charged to Reserves in 1930		Reserves Dec. 31, 1930		Net Balance Dec. 31, 1930
					Deprecia- tion	Amortiza- tion	Deprecia- tion	Amortiza- tion	Deprecia- tion	Amortiza- tion	
Buildings	\$ 1,400.00	\$ 2,883.87	\$	\$ 2,883.87	\$ 1,483.87	\$	\$ 60.00	\$	\$ 1,543.87	\$	\$ 1,340.00
Development Account	15,448.56	27,164.53	.....	27,164.53	.....	11,715.97	.....	616.63	.....	12,332.60	14,831.93
Franchise and Contracts...	278,232.00	278,232.00	.....	278,232.00	.....	.....	.....	.....	.....	.....	278,232.00
Fixtures	400.00	2,074.54	.....	2,074.54	1,674.54	.....	50.00	.....	1,724.54	.....	350.00
Irrigation Works Construc- tion	342,210.00	351,692.81	.....	351,692.81	.....	9,482.81	.....	1,543.35	.....	11,026.16	340,666.65
Livestock	270.00	2,009.05	100.00	1,909.05	1,739.05	.....	.....	.....	1,739.05	.....	170.00
Machinery	500.00	6,040.45	2,057.57	3,982.88	5,540.45	.....	1,832.57	.....	3,707.88	.....	275.00
Survey Instruments.....	70.00	383.21	.....	383.21	313.21	.....	10.00	.....	323.21	.....	60.00
Telephones.....	140.00	592.36	.....	592.36	452.36	.....	10.00	.....	462.36	.....	130.00
Tools and Implements.....	200.00	643.03	.....	643.03	443.03	.....	50.00	.....	493.03	.....	150.00
Wagons and Harness.....	50.00	894.40	.....	894.40	844.40	.....	5.00	.....	849.40	.....	45.00
Weir Registers	180.00	659.71	.....	659.71	479.71	.....	10.00	.....	489.71	.....	170.00
	\$639,100.56	\$673,269.96	\$ 2,157.57	\$671,112.39	\$ 12,970.62	\$ 21,198.78	\$ 1,637.57	\$ 2,159.98	\$ 11,333.05	\$ 23,358.76	\$636,420.58

Machinery Account Eliminations 1930: White Truck sold to Honokaa Sugar Co. Cost \$2,057.57—Depreciation Reserve, \$1,907.57.

EXHIBIT 'B'—1

EXPENDITURES FOR PERMANENT IMPROVEMENTS ITEMIZED

ACCOUNTS	LOCATION	DESCRIPTION	AMOUNT
Livestock	Haina	1 Wagon Mule Sold to Honokaa Sugar Co.....\$ 30.00	\$ 100.00
		1 White Horse Sold to Honokaa Sugar Co..... 40.00	
		1 Colt Sold to Honokaa Sugar Co..... 30.00	
Machinery	Haina	½ Cost I Two-ton White Truck Sold to Honokaa Sugar Co.....\$150.00	150.00
		\$ 250.00	

EXHIBIT "C"—1
OPERATING EXPENSES FOR THE YEAR ENDING
DECEMBER 31, 1930

ACCOUNTS	Labor	Material	Total
Repairs Buildings	\$ 51.15	\$ 416.96	\$ 468.11
Repairs Fences	654.89	1,144.70	1,799.59
Repairs Flumes	311.02	41.13	352.15
Repairs Open Ditches.....	1,000.77	435.91	1,436.68
Repairs Reservoirs	109.94	41.72	151.66
Repairs Telephones	317.04	93.30	410.34
Repairs Trails	718.97	33.16	752.13
Repairs Tunnels	89.04	32.10	121.14
Repairs Weirs and Weir Registers..	92.89	113.64	206.53
Bond Interest .....	.....	9,720.00	9,720.00
Commission on Water Sales.....	.....	1,258.79	1,258.79
Ditch Tenders	2,241.65	65.15	2,306.80
General Expense	46.55	768.35	814.90
Interest .....	.....	14,146.85	14,146.85
Legal Expense .....	.....	14.25	14.25
Management .....	.....	2,221.80	2,221.80
Office Expense	583.39	600.66	1,184.05
Rents .....	.....	376.50	376.50
Sinking Fund .....	.....	2,430.00	2,430.00
TOTALS.....	\$ 6,217.30	\$ 33,954.97	\$ 40,172.27

EXHIBIT "D"—1
SUMMARY OF MONTHLY OPERATING EXPENSES FOR THE
YEAR 1930

	Labor	Material	Total
January	\$ 785.47	\$ 2,551.64	\$ 3,337.11
February	844.91	2,768.48	3,613.39
March	813.57	2,958.00	3,771.57
April	749.55	2,914.00	3,663.55
May	691.75	2,910.59	3,602.34
June	748.10	3,205.05	3,953.15
July	816.65	2,720.53	3,537.18
August	802.20	2,735.93	3,538.13
September	837.65	2,623.71	3,461.36
October	777.15	2,633.56	3,410.71
November	854.65	3,053.84	3,908.49
December	746.25	370.96	375.29
TOTALS.....	\$ 9,467.90	\$ 30,704.37	\$ 40,172.27

NOTE:—The above figures for labor and material are taken from the monthly reports and the labor figures include labor on general overhead charges which are adjusted at the end of the year. The correct division of labor and material after the adjustments are effected is shown in Exhibit "C"—1, and "C"—2.

EXHIBIT "E"—1
REVENUE ACCOUNTS FOR THE YEAR 1930

	Honokaa Sugar Co.	Paauihan Sugar Plant. Co.	Total
January	\$ 2,044.32	\$ 476.94	\$ 2,521.26
February	2,009.80	216.82	2,226.62
March	3,370.14	828.08	4,198.22
April	6,426.67	801.37	7,228.04
May	4,660.46	828.08	5,488.54
June	4,577.74	710.73	5,288.47
July	4,029.49	629.43	4,658.92
August	4,916.52	828.08	5,744.60
September	4,330.75	410.09	4,740.84
October	1,758.02	427.40	2,185.42
November	2,955.98	337.77	3,293.75
December	2,152.86	624.16	2,777.02
TOTALS.....	\$43,232.75	\$ 7,118.95	\$50,351.70

EXHIBIT "F"—1
REVENUE ACCOUNTS TO DATE

	Pacific Sugar Mill	Honokaa Sugar Co.	Paauihau Sugar Pltn. Co.	Reservoirs	Total
1907.....	\$ 12,358.33	\$ 20,781.61	\$	\$	\$ 33,139.94
1908.....	14,258.56	22,938.14	.....	.....	37,196.70
1909.....	12,000.02	17,913.89	2,574.14	.....	32,488.05
1910.....	15,040.46	23,086.15	5,925.96	3,000.00	47,052.57
1911.....	14,190.08	22,598.38	6,158.57	3,000.00	45,947.03
1912.....	12,056.77	18,510.60	5,052.20	3,000.00	38,619.57
1913.....	7,200.94	12,318.74	3,346.98	1,500.00	24,366.66
1914.....	8,655.54	19,184.81	6,106.15	.....	33,946.50
1915.....	8,055.90	16,288.74	4,331.39	.....	28,676.03
1916.....	13,122.16	20,939.55	5,336.19	.....	39,397.90
1917.....	7,271.43	9,294.89	1,900.16	.....	18,466.48
1918.....	15,243.55	22,943.99	7,571.49	.....	45,759.03
1919.....	11,536.53	17,630.68	6,301.20	.....	35,468.41
1920.....	11,559.67	17,063.49	5,257.87	.....	33,881.03
1921.....	15,548.26	23,659.75	7,119.81	.....	46,327.82
1922.....	14,610.28	19,851.70	6,513.22	.....	40,975.20
1923.....	16,308.53	23,961.49	7,214.80	.....	47,484.82
1924.....	12,382.01	18,320.42	4,996.34	.....	35,698.77
1925.....	15,424.97	24,348.13	6,254.51	.....	46,027.61
1926.....	10,336.76	15,138.31	4,380.85	.....	29,855.92
1927.....	15,698.99	23,811.43	5,268.28	.....	44,778.70
1928.....	8,578.46	41,420.60	6,607.10	.....	56,606.16
1929.....	.....	33,788.39	4,027.13	.....	37,815.52
1930.....	.....	43,232.75	7,118.95	.....	50,351.70
TOTALS.....	\$271,438.20	\$529,026.63	\$119,363.29	\$ 10,500.00	\$930,328.12

EXHIBIT "G"—1

PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1930

1930	1930
December: To Operating Expenses.....\$ 40,172.27	December: By Water Sales.....\$ 50,351.70
To Depreciation as per Exhibit "A"—1 270.00	
To Amortization as per Exhibit "A"—1 2,159.98	
To Net Profit for Year 1930..... 7,749.45	
\$ 50,351.70	\$ 50,351.70

EXHIBIT "H"—1

BALANCE SHEET—DECEMBER 31, 1930

LIABILITIES	ASSETS
Bonds	Franchise and Contracts.....
Capital Stock	Irrigation Works Construction.....
Reserve for Premiums on Cancelled Bonds.....	Cost
Commission on Water Sales Suspense.....	Less Amortiz'n Reserve.\$ 11,026.16
Workmen's Compensation Reserve.....	Sinking Fund Reserve.. 105,973.52 116,999.68
Drafts Outstanding	Development Account
F. A. Schaefer & Co., Ltd.....	Cost
Sundry Creditors	Less Amortization Reserve.....
	Fixed and Movable Assets.....
	Cost
	Less Depreciation
	Sundry Debtors
	Rents Suspense
	Trustees for Bondholders.....
	Cash on Hand.....
	Profit and Loss Account.....
	Balance December 31, 1929.....
	Profit for Year 1930.....
\$645,685.84	\$645,685.84

EXHIBIT 'I'—1

STATEMENT OF BONDS ISSUED AND SINKING FUND

BONDS:		
Authorized and Issued Nos. 1-200.....	\$200,000.00	
Replaced by Lower Ditch Bonds Nos. 180-200 ..	\$21,000.00	
Retired by Purchase from Sinking Fund Nos.		
1/5, 176/79, 21/25, 47/49.....	17,000.00	38,000.00
		<u>\$162,000.00</u>
SINKING FUND:		
Trustees have Collected.....	\$ 57,165.00	
Interest on Investment.....	\$49,470.00	
Less Accrued Interest Paid.....	473.65	48,996.35
		<u>\$106,161.35</u>
Premium Retiring Nine (9) Bonds.....		187.83
		<u>\$105,973.52</u>
As per Sinking Fund Account.....	\$17,000.00	
17 Bonds Retired (Par).....	\$17,000.00	
Discount on Eight (8) Bonds.....	577.00	16,423.00
		<u>\$ 89,550.52</u>
Invested in 106 Lower Ditch Bonds Nos. 33- 34-339-52, 76/84/, 95/96, 102, 104, 113, 182/183, 193/6, 206, 209/10, 228, 229/33, 234/35, 243/5, 254/5, 262, 328/9, 351, 373, 377, 379/80, 393/9, 400/1, 434/6, 487, 609/10, 651, 666, 675/6, 805/9, 340/44, 476/81, 482/84, 494/98, 381, 382/383, 491/93, 763/64, 766/67, 770, 773, 774.....	\$86,367.00	
Cash in Bank by Trustees.....	3,183.52	<u>\$ 89,550.52</u>

**EXHIBIT "J"—1
LABOR FOR 1930**

	Number of Laborers				Total Days Worked				Amount Paid Each Class				Average 26-Days Rate per Man			
	Ordinary.....	Skilled.....	Supt.....	Total.....	Ordinary.....	Skilled.....	Supt.....	Total.....	Ordinary.....	Skilled.....	Supt.....	Total.....	Ordinary.....	Skilled.....	Supt.....	Total.....
January.....	13	3½	1	17½	240	77	26	343	\$ 412.20	\$ 172.80	\$ 204.17	\$ 789.17	\$ 44.66	\$ 58.35	\$204.17	\$ 59.82
February.....	21	3	1	25	277	72	26	375	477.10	163.65	204.16	844.91	44.78	59.10	204.16	58.58
March.....	13	3	1	17	248	53	26	327	430.05	118.65	266.67	815.37	45.09	58.20	266.67	64.83
April.....	12½	2½	1	16	240	51	26	317	410.45	101.60	237.50	749.55	44.47	51.80	237.50	61.48
May.....	8	3	1	12	208	51	26	285	355.00	99.25	237.50	691.75	44.38	50.60	237.50	63.11
June.....	9	3½	1	13½	215	68	26	309	367.25	143.35	237.50	748.10	44.10	54.81	237.50	62.95
July.....	10	3½	1	14½	235	82	26	343	400.75	178.40	237.50	816.65	44.34	56.57	237.50	61.90
August.....	23	2½	1	26½	279	51	26	356	492.75	106.20	237.50	836.45	45.92	54.14	237.50	61.09
September.....	11	3½	1	15½	265	57	26	348	476.50	123.65	237.50	837.65	46.75	56.40	237.50	62.58
October.....	10	3	1	14	240	58	26	324	412.75	126.90	237.50	777.15	44.71	56.89	237.50	62.86
November.....	11	3½	1	15½	267	66½	26	359½	459.85	157.30	237.50	854.65	44.78	61.50	237.50	61.81
December.....	9	2½	1	12½	222	57	26	305	379.50	129.25	237.50	746.25	44.85	58.96	237.50	63.61
TOTAL.....	150½	37	12	199½	2,936	743½	312	3,991½	\$5,074.15	\$1,621.00	\$2,812.50	\$9,507.65	\$ 44.93	\$ 56.69	\$234.38	\$ 61.93

SECTION II

LOWER DITCH



ASSISTANT SUPERINTENDENT'S REPORT FOR THE
YEAR ENDING DECEMBER 31, 1930

MR. W. P. NAQUIN,
Supt., Hawaiian Irrigation Co., Ltd.,
Haina, Hawaii.

DEAR SIR:

I herewith beg to submit my annual report for the year ending December 31, 1930.

LOWER DITCH

Weather:

The rainfall at Lower Kawainui was 212.26 inches, which fell on 304 days of the year. This is the highest annual rainfall at this station since 1918, when 265.44 inches were recorded. The average rainfall at the four intakes was 168.02 inches.

Water:

The flow of the ditch was very satisfactory, it being the highest since the year 1916.

The highest monthly flow was 1,177,918,000 gallons, in June, and the lowest was 899,157,000, in February. The highest daily flow was recorded on June 24—42,698,000 gallons—and the lowest on January 16—24,229,000 gallons.

The Total Flow was.....	12,996,591,000 gallons
Monthly Average was.....	1,083,049,000 "
Daily Average was.....	35,607,000 "
Honokaa Sugar Company received.....	4,308,797,000 "
Paauhau Sugar Plantation Co. received.....	7,828,777,000 "
The Flow of the Winter Months was.....	6,174,108,000 "
The Flow of the Summer Months was.....	6,822,483,000 "

It will be noted that the flow of the summer months exceeded that of the winter months by 648,375,000 gallons.

Shortage:

The flow was short of the contracted quantity on only 24 days of the year.

Honokaa Sugar Co. was short.....	25,624,000 gallons
Paauhau Sugar Plantation Co. was short.....	44,598,000 "

Total Shortage	<u>70,222,000 gallons</u>
----------------------	---------------------------

A Loss in Revenue of but.....\$ 673.42

This is the lowest shortage since the year 1916.

Storms:

During the month of November, sections of the Hamakua District were visited by two rainstorms and cloudbursts; the first, during the night of Tuesday, November 18, which was most severe in the Paauhau and Honokaa sections; the second, during the night of Sunday, November 26, which concentrated in the Kawela, Kapulena and Kukuihaele sections. Both did a considerable amount of damage to the Lower Ditch system. The Lower Kawainui intake was blocked up each time, but a sufficient amount of water was coming over the main weir at Kukuihaele from the other intakes to furnish the plantations the contract amount until the intakes could be cleaned out. A considerable amount of debris, stones and earth was washed into the open ditch at several points during both storms and it required a large force of men for some days afterwards to clean out the ditch. Jams occurred after the first storm in flume No. 18 Honokaa Section and flume No. 8 Paauhau Section, and after the second one in flumes No. 15 and 16, Kukuihaele Section. These jams caused the flume boxes to open up, shutting off the delivery of water to all weirs below the damaged flumes. The ditch had to be shut down on both occasions for a period of about 10 hours while repairs to the flumes were being made. The telephone line was down in places, but communication was quickly reestablished.

There was also a severe Kona storm earlier in the year, which did a considerable amount of damage to the trails in the mountain section and to the telephone system all along the ditch line.

Intakes:

As stated in the last annual report, the condition in regard to occasional blocking up of the intakes, especially of the one at Kawainui, was expected to continue for some time. This happened several times during the year, but usually there was sufficient water coming over the other intakes to supply the plantations with the contract amount.

An over-supply of water during the month of April gave us the opportunity to thoroughly clean out the Kawainui tunnel of the Lower Ditch, between the Lower Kawainui intake and flume. A large amount of gravel and sand had accumulated therein, since it was last cleaned out some years ago. The job was completed with a force of eight men in about 10 days and the tunnel is now in good condition again.

Flumes:

In addition to the repair work on flumes after the storms in November, the box of flume No. 9, in the Kukuihaele section, had to be replaced in June, which caused a temporary shutdown of the ditch.

Trails and Bridges:

The trails were kept in good condition. During the year we replaced four worn-out wooden bridges with concrete structures, two 6' x 12' and 8' x 12', respectively, in the Honokaa section, one 12' x 12' in the Paauhau section and one 12' x 14' for the Mudlane road crossing at Kukuihaele. It is our intention to gradually replace the wooden bridges, as they wear out, with bridges of concrete construction.

Telephones:

Old wooden posts were replaced whenever necessary by posts of a concrete base 4" x 6"—6 feet long with a 4" x 4"—12-foot piece Redwood attached. This practice will be continued hereafter, so that eventually the whole line will have this type of post, which will last a great many years.

Buildings:

No extensive repairs were needed to any of the buildings during 1930.

Weirs:

The wooden baffle boards in Weirs Nos. 2 and 3 of the Kukuihaele section of the ditch were replaced in November with baffles of concrete construction. There are still four weirs in the Kukuihaele section with wooden baffle boards that are in bad shape and these will have to be replaced in the near future.

General:

With exception of the flumes, the ditch system is in good shape. These flumes have now carried water for a period of over 20 years and while it has been possible to replace the sills, legs, braces, caps, stringers and uprights, when necessary, while the ditch is in operation, the beds and boxes can only be replaced when the ditch is shut down and the flumes are empty. Except where replacements have been made in some of the flumes, during temporary shutdowns, the flume beds and boxes are generally in poor condition. Although repairs are being made as much as possible, it may happen in the future, that, in case of storms and heavy rains as experienced last year, some of the flume boxes will open up. How-

ever, since repairs can usually be made within a short time after the break occurs, the delivery of water to weirs below the flume to be repaired should not be interrupted for more than a few hours at a time.

Permanent Improvements:

No permanent improvements were made during the year 1930 and none are contemplated for 1931.

Honokaa Water Works:

Water was delivered to the Honokaa Water Works as required, being contributed as follows:

Hawaiian Irrigation Company water..	36,173,000 gallons
Honokaa Sugar Company water.....	2,108,000 "
Total.....	<u>38,281,000 gallons</u>

WAIPIO VALLEY

Rice:

There was no rice produced in the Waipio Valley during 1930.

In September the Trustees of the Bernice P. Bishop Museum granted our request that the Waipio Valley Rice Mill be dismantled and the building material be used for the construction of some cottages on Bishop Museum land for houses of Hawaiian families. The rice-mill building and outhouses were taken down in October and with the material four cottages were built near taro patches of the Bishop Museum land in different locations of the valley. These are now all occupied by taro planters. The cost of labor, transportation and some additional material for the completion of these cottages has amounted to \$388.49, which was charged to the Waipio Valley Expense Account.

Taro:

12,325 bags of taro were marketed, which is a little more than in 1929, but still considerably less than was sold in the past few years. The price has averaged 72½ cents per bag as against 55¼ cents per bag received last year. Although this is quite an improvement, this price barely covers the cost of production.

Macadamia Nut Trees:

The trees planted in previous years have been well taken care of and they are making good progress.

Waipio Valley Disbursements:

Rental and Taxes.....	\$2,591.75
Maintenance	123.38
Construction of Cottages.....	388.48
Insurance, Rice Mill (Cancelled).....	29.64
Waipio Valley Experiment.....	549.69
Overhead Charges	475.77
	\$4,158.71

Waipio Valley Receipts:

Rents Collected (including Pasturage)....	2,738.80
	\$1,419.91

The following is a list of products from Waipio Valley during 1930:

12,325 Bags Taro.....	\$ 8,934.10
47 Head Cattle.....	1,500.00
Other Products	276.50
	\$10,710.60
5% of which would be.....	<u>535.53</u>

In 1922 the planters received for their produce \$37,444.22, and in 1930 \$10,710.60, a decrease of 71.40% in eight years.

Respectfully submitted,

P. BARTELS,
Assistant Superintendent,
Hawaiian Irrigation Company, Ltd.

Haina, Hawaii, February 3, 1931.

EXHIBIT "A"—2

EXPENDITURES FOR PERMANENT IMPROVEMENTS FOR THE YEAR ENDING DECEMBER 31, 1930

PROPERTIES	Net Balance Dec. 31, 1929	Cost to Dec. 31, 1929	Additions During 1930	Cost to Dec. 31, 1930	Reserves Dec. 31, 1929		Charged to Reserves in 1930		Reserves, Dec. 31, 1930		Net Balance Dec. 31, 1930
					Depreci- ation	Amorti- zation	Depreci- ation	Amorti- zation	Depreci- ation	Amortiza- tion	
Buildings.....	\$ 2,425.00	\$ 5,122.53	\$	\$ 5,122.53	\$ 2,697.53	\$	\$ 100.00	\$	\$ 2,797.53	\$	\$ 2,325.00
Development Account.....	99,864.16	175,600.63	.....	175,600.63	.....	75,736.47	.....	3,986.13	.....	79,722.60	95,878.03
Franchise and Contracts.....	881,068.00	881,068.00	.....	881,068.00	.....	.....	.....	.....	.....	.....	881,068.00
Fixtures.....	240.00	1,397.31	.....	1,397.31	1,157.31	.....	40.00	.....	1,197.31	.....	200.00
Irrigation Works Construction.....	684,565.12	852,923.11	.....	852,923.11	.....	168,357.99	.....	5,951.52	.....	174,309.51	678,613.60
Livestock.....	160.00	1,391.45	50.00	1,341.45	1,231.45	.....	.....	.....	1,231.45	.....	110.00
Machinery.....	500.00	6,839.83	2,097.58	4,742.25	6,339.83	.....	1,772.58	.....	4,567.25	.....	175.00
Survey Instruments.....	70.00	383.92	.....	383.92	313.92	.....	10.00	.....	323.92	.....	60.00
Telephones.....	350.00	891.60	.....	891.60	541.60	.....	25.00	.....	566.60	.....	325.00
Tools and Implements.....	350.00	908.49	.....	908.49	558.49	.....	75.00	.....	633.49	.....	275.00
Wagons and Harness.....	50.00	559.87	.....	559.87	509.87	.....	5.00	.....	514.87	.....	45.00
Weir Registers.....	400.00	1,367.93	.....	1,367.93	967.93	.....	30.00	.....	997.93	.....	370.00
	\$ 1,670,042.28	\$ 1,928,454.67	\$ 2,147.58	\$ 1,926,307.09	\$ 14,317.93	\$ 244,094.46	\$ 1,487.58	\$ 9,937.65	\$ 12,830.35	\$ 254,032.11	\$ 1,659,444.63

Machinery Account Eliminations, 1930—White Truck sold to Honokaa Sugar Co.
Rice Huller Sold

Cost—	\$2,057.58	Depreciation Reserve—	\$1,907.58
Cost—	40.00	Depreciation Reserve—	.....
	<u>\$2,097.58</u>		<u>\$1,907.58</u>

EXHIBIT "B"—2
EXPENDITURES FOR PERMANENT IMPROVEMENTS ITEMIZED

ACCOUNTS	LOCATION	DESCRIPTION	Amount
Livestock.....			\$ 50.00
	Haina.....	2 Pack Mules Sold to Honokaa Sugar Co.....	\$ 50.00
Machinery.....			190.00
	Haina.....	1 Rice Huller Sold.....	40.00
		½ Cost 1 Two-ton White Truck Sold to Honokaa Sugar Co.....	150.00
			\$240.00

EXHIBIT "C"—2
OPERATING EXPENSES FOR THE YEAR ENDING
DECEMBER 31, 1930

Accounts	Labor	Material	Total
Repairs Buildings.....	\$ 48.28	\$ 228.74	\$ 277.02
Repairs Flumes.....	731.50	966.09	1,697.59
Repairs Open Ditches.....	1,193.59	1,205.85	2,399.44
Repairs Telephones.....	199.17	246.83	446.00
Repairs Trails.....	843.02	1,034.15	1,877.17
Repairs Tunnels.....	192.25	20.59	212.84
Repairs Weirs and Weir Registers..	199.16	317.36	516.52
Bond Interest.....	.....	39,360.00	39,360.00
Commission on Water Sales.....	.....	2,546.57	2,546.57
Ditch Tenders.....	1,757.91	192.21	1,950.12
General Expense.....	43.53	1,755.64	1,799.17
Legal Expense.....	.....	14.25	14.25
Management.....	.....	3,992.37	3,992.37
Office Expense.....	583.38	669.26	1,252.64
Rents.....	.....	10,034.37	10,034.37
Sinking Fund.....	.....	9,840.00	9,840.00
TOTALS.....	\$ 5,791.79	\$ 72,424.28	\$ 78,216.07

EXHIBIT "D"—2
SUMMARY OF MONTHLY OPERATING EXPENSES FOR THE
YEAR 1930

	Labor	Material	Total
January	\$ 751.06	\$ 5,609.44	\$ 6,360.50
February	775.77	5,440.74	6,216.51
March	830.99	5,965.94	6,796.93
April	793.64	5,977.67	6,771.31
May	786.85	5,489.37	6,276.22
June	701.45	5,632.66	6,334.11
July	697.30	5,721.30	6,418.60
August	771.50	5,537.44	6,308.94
September	766.89	5,802.12	6,569.01
October	754.02	5,828.72	6,582.74
November	752.21	5,874.82	6,627.03
December	660.61	6,293.56	6,954.17
TOTALS.....	\$ 9,042.29	\$ 69,173.78	\$ 78,216.07

NOTE: The above figures for labor and material are taken from the monthly reports, and the labor figures include labor on general overhead charges which are adjusted at the end of the year. The correct division of labor and material after the adjustments are effected is shown in Exhibit "C"-1, and "C"-2.

EXHIBIT "E"—2
REVENUE ACCOUNT FOR THE YEAR 1930

	Honokaa Sugar Co.	Paauhau Sugar Plant. Co.	Total
January	\$ 2,940.68	\$ 5,881.37	\$ 8,822.05
February	2,562.28	5,124.57	7,686.85
March	2,971.08	5,932.26	8,903.34
April	2,876.71	5,753.42	8,630.13
May	2,972.60	5,945.21	8,917.81
June	2,876.71	5,706.38	8,583.09
July	2,972.60	5,945.21	8,917.81
August	2,972.60	5,945.21	8,917.81
September	2,876.71	5,753.42	8,630.13
October	2,972.60	5,945.21	8,917.81
November	2,870.45	5,637.48	8,507.93
December	2,964.85	5,927.02	8,891.87
LESS: Deduction for Summer and Winter Clause.....	\$ 34,829.87 831.08	\$ 69,496.76 1,633.13	\$104,326.63 2,464.21
TOTALS.....	\$ 33,998.79	\$ 67,863.63	\$101,862.42

EXHIBIT 'F'—2

REVENUE ACCOUNTS TO DATE

	Pacific Sugar Mill	Honokaa Sugar Co.	Paauihau Sugar Plan- tation Co.	Hamakua Mill Co.	George F. Marshall	Total
1910.....	\$ 10,044.06	\$ 15,147.85	\$ 30,762.58	\$	\$	\$ 55,954.49
1911.....	17,070.48	20,240.89	67,710.79	.....	.....	105,022.16
1912.....	17,367.42	21,187.78	68,985.36	3,023.20	.....	110,563.76
1913.....	16,318.85	19,735.36	62,223.16	50.00	.....	98,327.37
1914.....	15,280.84	18,634.17	66,514.45	.....	.....	100,429.46
1915.....	15,749.99	19,249.98	69,999.94	.....	135.22	105,135.13
1916.....	15,704.32	19,098.84	68,516.44	.....	20.42	103,340.02
1917.....	14,510.95	17,828.06	65,174.32	.....	.....	97,513.33
1918.....	15,234.75	18,658.66	66,686.22	.....	.....	100,579.63
1919.....	14,759.43	18,338.70	65,922.38	.....	.....	99,020.51
1920.....	18,609.49	22,825.17	75,504.89	.....	.....	116,939.55
1921.....	15,114.45	18,439.28	63,960.91	.....	.....	97,514.64
1922.....	15,543.75	18,981.83	67,619.90	.....	.....	102,145.48
1923.....	15,428.72	18,866.76	68,291.61	.....	.....	102,587.09
1924.....	14,775.19	17,934.73	65,106.47	.....	.....	97,816.39
1925.....	13,902.59	17,036.55	61,881.64	.....	.....	92,820.78
1926.....	13,462.71	16,458.79	59,716.54	.....	.....	89,638.04
1927.....	13,885.78	16,995.50	61,858.33	.....	.....	92,739.61
1928.....	7,329.00	26,328.48	67,235.63	.....	.....	100,893.11
1929.....	.....	32,543.09	64,954.73	.....	.....	97,497.82
1930.....	.....	33,998.79	67,863.63	.....	.....	101,862.42
TOTALS.....	\$280,092.77	\$428,529.26	\$ 1,356,489.92	\$ 3,073.20	\$ 155.64	\$ 2,068,834.79

EXHIBIT "G"—2

PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1930

1930	
December: To Operating Expenses.....	\$ 78,216.07
To Depreciation as per Exhibit "A"—2.	420.00
To Amortization as per Exhibit "A"—2.	9,937.65
To Loss on Waipio Valley.....	1,419.91
To Net Profit for Year 1930.....	11,868.79
	<u>\$101,862.42</u>

1930	
December: By Water Sales.....	\$101,862.42
	<u>\$101,862.42</u>

EXHIBIT "H"—2

BALANCE SHEET, DECEMBER 31, 1930

LIABILITIES		ASSETS	
Bonds	\$ 656,000.00	Franchise and Contracts.....	\$ 881,068.00
Capital Stock	959,265.75	Irrigation Works Construction.....	472,596.05
Reserve for Premiums on Cancelled Bonds.....	28,070.00	Cost	\$852,923.11
Commission on Water Sales Suspense.....	434.99	Less Amortization Re-	
Workmen's Compensation Reserve.....	808.40	serve	\$174,309.51
Bond Interest	19,680.00	Sinking Fund Reserve 206,017.55	380,327.06
Rents Suspense	7,000.00		
Drafts Outstanding	1,250.00	Development Account	95,878.03
Sundry Creditors	1,211.74	Cost	175,600.63
		Less Amortization Reserve.....	79,722.60
		Fixed and Movable Assets.....	3,885.00
		Cost	16,715.35
		Less Depreciation	12,830.35
		Material and Supplies.....	1,032.86
		Trustees for Bondholders.....	68,930.05
		F. A. Schaefer & Co., Ltd.....	64,554.84
		Sundry Debtors	18,697.58
		Cash on Hand.....	728.74
		Profit and Loss Account.....	66,349.73
		Balance December 31, 1929.....	\$78,218.52
		Profit for Year 1930.....	11,868.79
	<u>\$1,673,720.88</u>		<u>\$1,673,720.88</u>

EXHIBIT 'I'—2

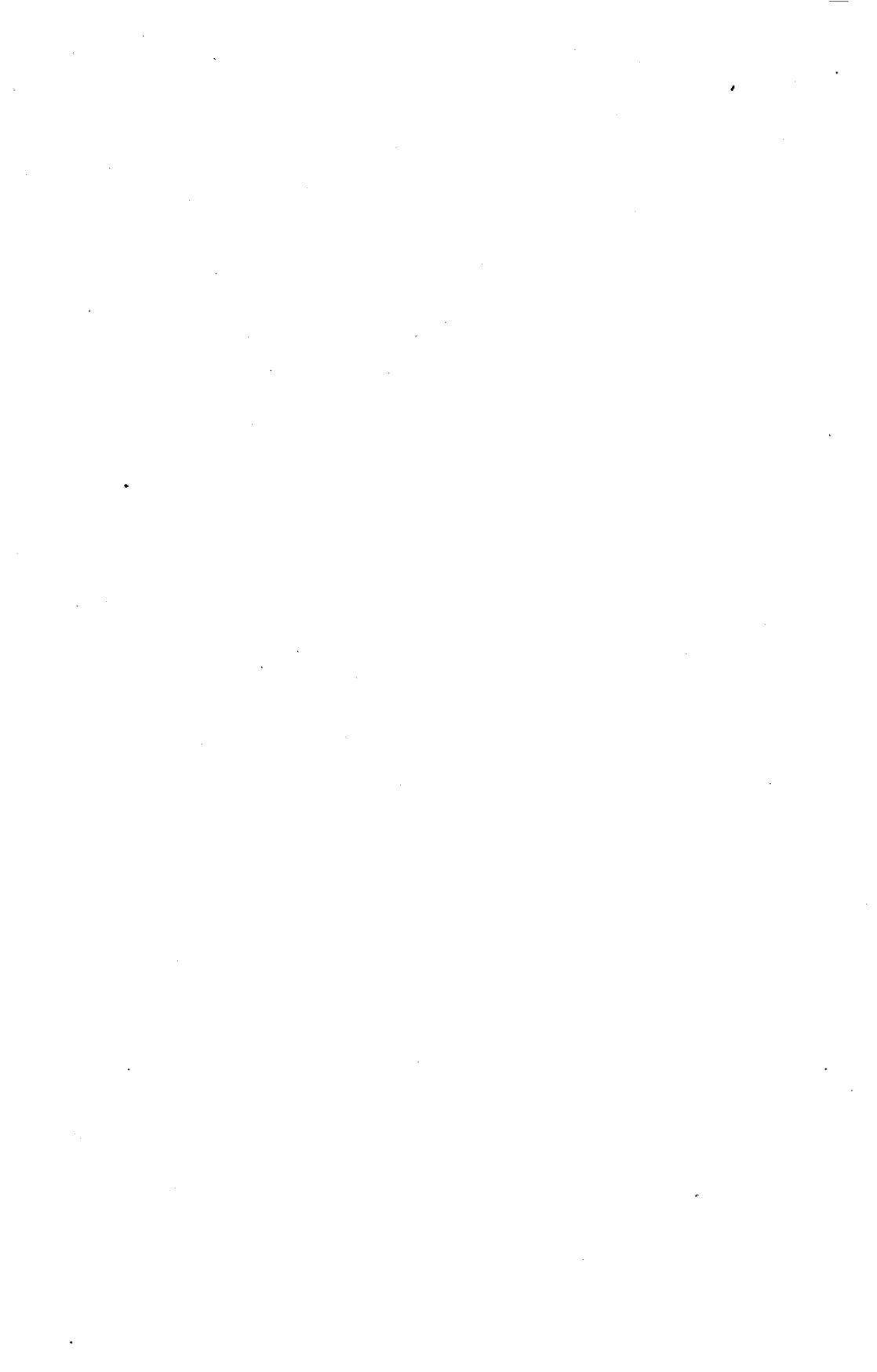
STATEMENT OF BONDS ISSUED AND SINKING FUND

BONDS:	
Authorized Nos. 1-1000.....	\$ 1,000,000.00
Held by Trustees to Retire Upper Ditch Bond Issued Nos. 822-1,000	179,000.00
	\$ 821,000.00
Retired by Purchase from Sinking Fund 165 Bonds Nos. 27/30, 31, 32, 46/8, 53, 86, 90/2, 106/7, 146/70, 191/2, 202, 216/20, 221/7, 241/2, 246/53, 256/61, 263/5, 316/25, 345, 352/5, 374/6, 384/92, 485/6, 488/90, 596, 598/9, 611/13, 677/8, 711/14, 720/7, 810/12, 815/21, 913/14, 236/40, 378, 597, 674, 810/4	165,000.00
	\$ 656,000.00
SINKING FUND:	
Trustees have Collected.....	193,676.04
Interest on Investment.....	\$12,450.00
Less Accrued Interest Paid.....	108.49
	12,341.51
As per Sinking Fund.....	\$ 206,017.55
Less 165 Bonds Retired at Cost.....	137,087.50
	\$ 68,930.05
Invested in 74 Upper Ditch Bonds (Nos. 6/16, 17/20, 41/45, 31/40, 46, 57, 51/56, 58/60, 126/7, 128, 129/40, 141/142, 143/155, 156, 157.....	\$68,472.50
Cash in Bank by Trustees.....	457.55
	\$ 68,930.05

EXHIBIT "J"—2

LABOR FOR 1930

	Number of Laborers				Total Days Worked				Amount Paid Each Class				Average 26-Days Rate per Man			
	Ordinary.....	Skilled.....	Supt.....	Total.....	Ordinary.....	Skilled.....	Supt.....	Total.....	Ordinary.....	Skilled.....	Supt.....	Total.....	Ordinary.....	Skilled.....	Supt.....	Total.....
January.....	13	4	1	18	305	83	26	414	511.50	199.20	204.16	914.86	43.94	62.40	204.16	57.45
February.....	14	4	1	19	287	80	26	393	486.05	187.05	204.17	877.27	44.03	60.79	204.17	58.04
March.....	12	4½	1	17½	302	80	26	408	509.95	187.70	266.67	964.32	43.90	61.00	266.67	61.45
April.....	15½	5	1	21½	301	71	26	398	504.00	155.75	237.50	897.25	43.53	57.04	237.50	58.61
May.....	12	4	1	17	291	83	26	400	489.05	183.90	237.50	910.45	43.69	57.61	237.50	59.18
June.....	8	3½	1	12½	208	86	26	320	357.20	190.65	237.50	785.35	44.65	57.64	237.50	63.81
July.....	14	3½	1	18½	288	69	26	383	466.95	150.55	237.50	855.00	42.16	56.73	237.50	58.04
August.....	13	4½	1	18½	241	102	26	369	410.90	233.40	237.50	881.80	44.33	59.49	237.50	62.13
September.....	9	4½	1	14½	215	108	26	349	371.70	253.05	237.50	862.25	44.95	60.92	237.50	64.24
October.....	12	4½	1	17½	240	112	26	378	406.90	268.25	237.50	912.65	44.08	62.27	237.50	62.77
November.....	11	4½	1	16½	265	122½	26	413½	455.05	300.10	237.50	992.65	44.65	63.69	237.50	62.42
December.....	10	4½	1	15½	248	89	26	363	423.10	213.50	237.50	874.10	44.36	62.37	237.50	62.61
TOTAL.....	143½	51	12	206½	3,191	1,085½	312	4,588½	5,392.35	2,523.10	2,812.50	10,727.95	43.94	60.43	234.38	60.79



SECTION III

**CONSOLIDATED PROFIT AND LOSS ACCOUNT
AND BALANCE SHEET**

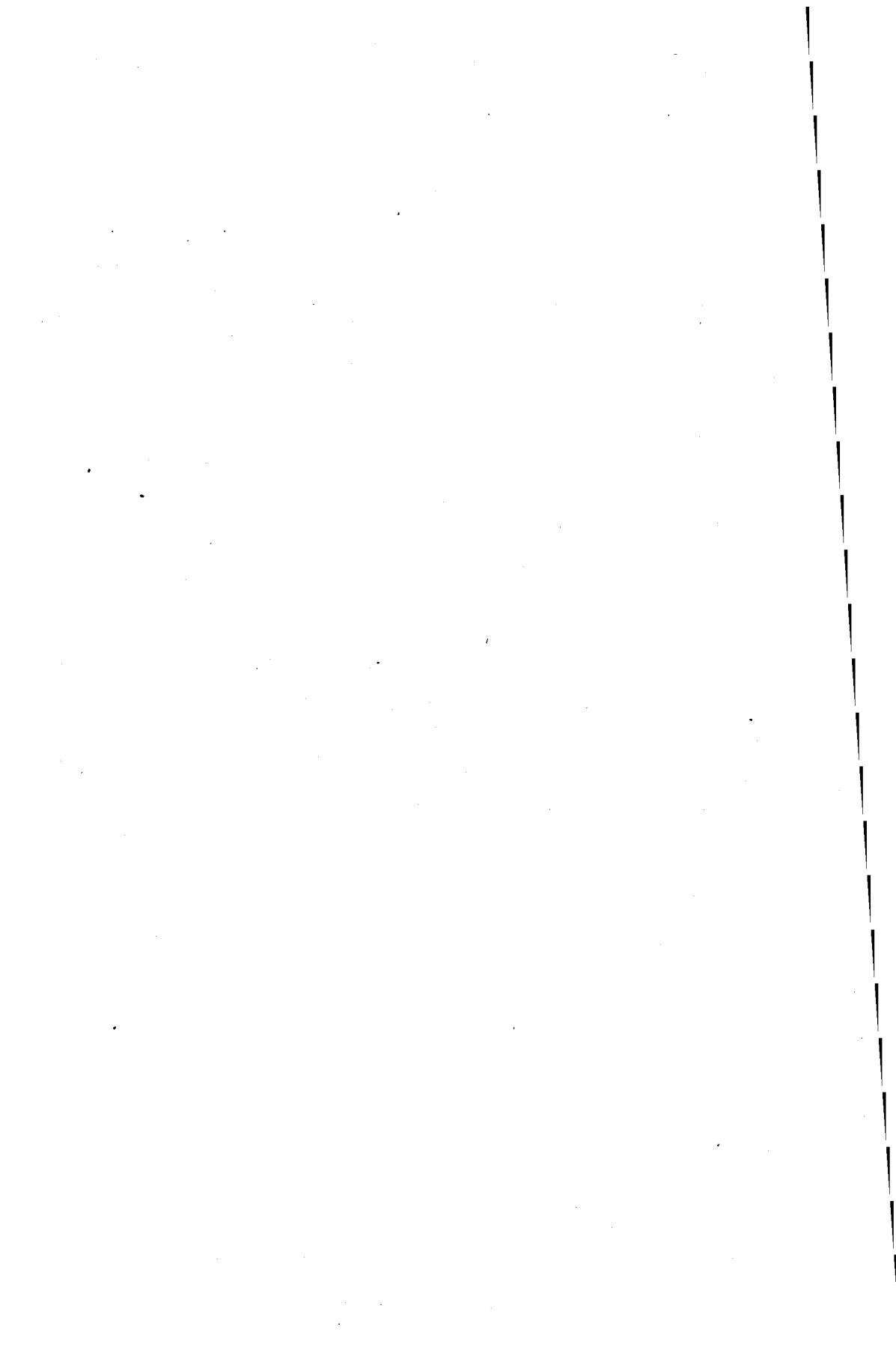


EXHIBIT "G"—3

COMBINED PROFIT AND LOSS ACCOUNT OF UPPER AND LOWER DITCHES
FOR THE YEAR ENDING DECEMBER 31, 1930

1930		1930	
December 31: To Operating Expenses.....	\$118,388.34	December 31: By Water Sales.....	\$152,214.12
Upper Ditch.....	\$ 40,172.27	Upper Ditch	\$ 50,351.70
Lower Ditch	78,216.07	Lower Ditch	101,862.42
To Depreciation	690.00		
Upper Ditch	\$ 270.00		
Lower Ditch	420.00		
To Amortization	12,097.63		
Upper Ditch	\$ 2,159.98		
Lower Ditch	9,937.65		
To Loss on Waipio Valley.....	1,419.91		
Lower Ditch			
To Profit for Year.....	19,618.24		
Upper Ditch	\$ 7,749.45		
Lower Ditch	11,868.79		
	<u>\$152,214.12</u>		<u>\$152,214.12</u>

SECTION IV
GENERAL STATISTICS

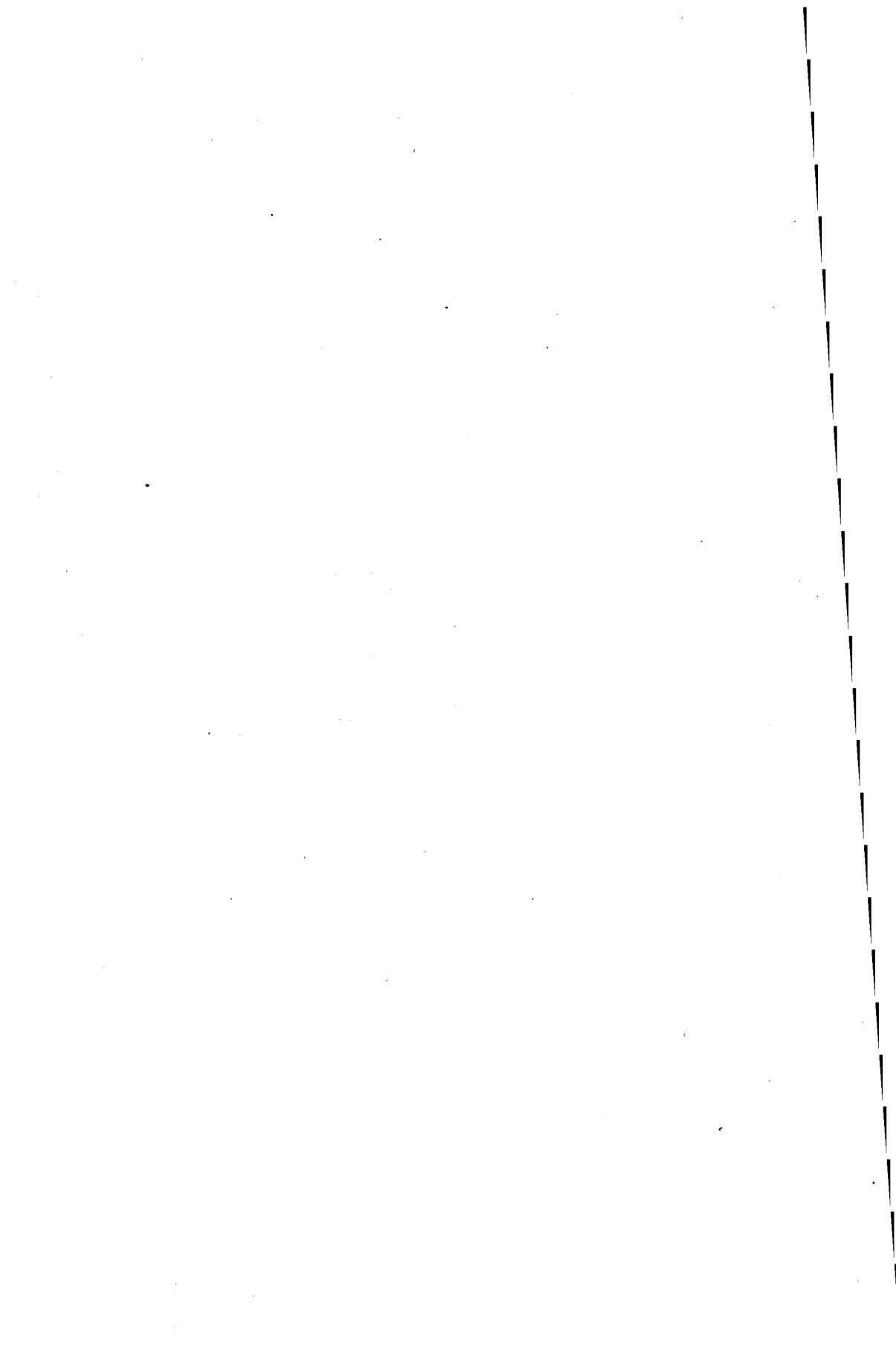


EXHIBIT "K"
WAIPIO VALLEY EXPENSE ACCOUNT ITEMIZED

DEBITS		CREDITS	
1930		1930	
January	Labor	December	Loss for the Year.....
	Animals		
February	Labor		
	Animals		
March	Labor		
	Animals		
April	Labor		
	Animals		
May	Labor		
	Animals		
June	Labor		
	Animals		
July	Labor		
	Animals		
August	Labor		
	Animals		
September	Labor		
	Animals		
October	Labor		
	1 Keg 8d Galv. Wire Nails.....		
	100 Lbs. 20d Galv. Wire Nails.....		
	Animals		
November	Labor		
	½ Doz. Rim Door Locks.....		
	6 Pairs 3 x 3 Japanned Butts.....		
	6 Doz. 1¼ No. 10 Wood Screws.....		
	76 Lbs. Lead Head Roof Nails.....		
	100 Lbs. No. 4 Galv. Wire Nails.....		
	Animals		
December	Labor		
	7 Pairs Window Sash.....		
	150 Lbs. Galv. Wire Nails.....		
	25 Lbs. White Lead.....		
	15½ Lbs. Everseal Plastic.....		
	10 Lbs. Putty.....		
	1 Gallon Boiled Linseed Oil.....		
	2 Sets Rim Door Locks.....		
	1 Qt. Turpentine.....		
	Animals		
	\$ 511.86		\$ 511.86

EXHIBIT "L"
WAIPIO VALLEY LEASE ACCOUNT

DEBITS		CREDITS	
1930		1930	
June	6 Months' Rent Lease No. 4 to Dec. 5, 1930	February	Rentals Collected
	\$ 25.50	March	\$ 3.00
	First Half 1930 Taxes	April	835.25
	on Lease No. 31.....\$280.00	April	10.00
	Less Credit for 1928 Taxes	June	5.00
	Illegally Collected by Coun-	July	1,232.55
	ty of Hawaii 19.25	August	37.00
	260.75	September	12.50
November	Second Half 1930 Taxes on Lease No. 31..	October	249.50
December	6 Months' Rent Lease No. 4 to June 5, 1931	November	115.00
	25.50	December	239.00
	12 Months' Rent Lease No. 31 to Dec. 31,		
	1930		
	2,000.00		
	Profit for the Year.....		
	147.05		
	<u>\$2,738.80</u>		<u>\$2,738.80</u>

EXHIBIT "L"—A
WAIPIO VALLEY EXPERIMENTS

DEBITS		CREDITS	
1930		1930	
January	Labor.....\$ 40.75	December	Loss for the Year.....\$ 549.69
	Taking Picture of Macadamia Nut Trees 15.15		
	Animals ..... .76		
February	Labor..... 24.30		
	Animals ..... .88		
March	Labor..... 12.00		
	Animals ..... .66		
April	Labor..... 19.70		
	Animals 1.15		
May	Labor..... 10.75		
	300 Lbs. Superphosphate..... 10.06		
	642 Lbs. Potassium Nitrate..... 21.75		
	Animals 1.28		
June	Labor..... 23.05		
July	Labor..... 90.40		
	Taking Picture of Macadamia Nut Trees 26.26		
	Animals ..... .83		
August	Labor..... 37.27		
	500 Lbs. Double Superphosphate..... 16.70		
	1,000 Lbs. Potassium Nitrate..... 32.70		
	Animals 1.15		
September	Labor..... 26.62		
	Animals ..... .97		
October	Labor..... 61.69		
	Animals 5.86		
November	Labor..... 28.19		
	Animals 4.09		
December	Labor..... 32.45		
	Animals 2.27		
	<u>\$ 549.69</u>		<u>\$ 549.69</u>

EXHIBIT "M"

WAIPIO VALLEY RICE MILL ACCOUNT ITEMIZED

DEBITS		CREDITS	
1930		1930	
August	Insurance on Rice Mill and Machinery..... \$78.00	August	Return Premium, Insurance on Rice Mill and Machinery \$48.36
		December	Loss for the year..... 29.64
	<u>\$78.00</u>		<u>\$78.00</u>

EXHIBIT "N"

WAIPIO VALLEY PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1930

DEBITS			CREDITS	
1930			1930	
December	To Waipio Valley Expense.....	\$ 511.86	December	By Waipio Valley Lease.....
	To Waipio Valley Rice Mill	29.64		By Loss for the Year
	To Waipio Valley Experiments	549.69		\$ 147.05
	To Overhead Charges.....	475.77		1,419.91
	Office Expense	\$113.53		
	General Expense	163.06		
	Management	199.18		
		\$1,566.96		\$1,566.96

EXHIBIT "O"

COMPARATIVE PROFIT AND LOSS ACCOUNT FOR UPPER AND LOWER DITCHES, FOR FIVE YEARS

Items of Income and Expenditures	1926			1927			1928			1929			1930		
	Upper Ditch	Lower Ditch	Total	Upper Ditch	Lower Ditch	Total	Upper Ditch	Lower Ditch	Total	Upper Ditch	Lower Ditch	Total	Upper Ditch	Lower Ditch	Total
OPERATING EXPENSES:															
Repairs Buildings	\$ 1,301.36	\$ 435.36	\$ 1,736.72	\$ 384.04	\$ 553.83	\$ 937.87	\$ 784.35	\$ 659.58	\$ 1,443.93	\$ 344.97	\$ 718.73	\$ 1,063.70	\$ 468.11	\$ 277.02	\$ 745.13
Repairs Fences	2,009.45	.....	2,009.45	2,289.61	.....	2,289.61	1,956.27	.....	1,956.27	1,558.36	.....	1,558.36	1,799.59	.....	1,799.59
Repairs Flumes	1,339.50	3,030.85	4,370.35	644.85	1,968.44	2,613.29	847.31	1,231.24	2,078.55	1,500.39	2,382.37	3,882.76	352.15	1,697.59	2,049.74
Repairs Open Ditches	1,049.64	2,105.74	3,155.38	1,072.49	1,959.48	3,031.97	1,209.51	2,273.52	3,483.03	1,574.19	1,840.50	3,414.69	1,436.68	2,399.44	3,836.12
Repairs Reservoirs	202.81	.....	202.81	201.26	.....	201.26	198.19	.....	198.19	143.78	.....	143.78	151.66	.....	151.66
Repairs Telephones	318.67	986.73	1,305.40	282.21	557.81	840.02	385.91	609.23	995.14	309.52	341.60	651.12	410.34	446.00	856.34
Repairs Trails	778.76	1,726.55	2,505.31	779.24	1,788.91	2,568.15	739.02	1,731.07	2,470.09	853.95	1,838.01	2,691.96	752.13	1,877.17	2,629.30
Repairs Tunnels	219.57	108.89	328.46	181.25	119.75	301.00	173.13	317.77	490.90	135.53	68.00	203.53	121.14	212.84	333.98
Repairs Weirs and Weir Registers	459.58	159.92	619.50	9,810.00	39,360.00	49,170.00	191.66	177.94	369.60	146.89	474.53	621.42	206.53	516.52	723.05
Bond Interest	9,900.00	39,480.00	49,380.00	188.62	121.49	310.11	9,720.00	39,360.00	49,080.00	9,720.00	39,360.00	49,080.00	9,720.00	39,360.00	49,080.00
Commission on Water Sales.....	746.39	2,240.95	2,987.34	1,119.45	2,318.55	3,438.00	1,415.14	2,522.33	3,937.47	945.39	2,437.45	3,382.84	1,258.79	2,546.57	3,805.36
Ditch Tenders	2,573.53	2,689.58	5,263.11	2,253.36	2,401.61	4,654.97	2,214.18	2,311.94	4,526.12	2,303.38	2,113.80	4,417.18	2,306.80	1,950.12	4,256.92
General Expense	944.95	1,397.95	2,342.90	651.99	1,719.54	2,371.53	1,054.66	1,761.56	2,816.22	967.05	2,041.59	3,008.64	814.90	1,799.17	2,614.07
Interest	14,645.59	2,797.55	17,443.14	16,296.93	2,469.64	18,766.57	16,682.88	1,288.45	17,971.33	15,380.19	39.95	15,420.14	14,146.85	.....	14,146.85
Legal Expense .....	.....	.....	.....	25.00	.....	50.00	34.50	.....	36.50	4.00	.....	4.00	14.25	.....	28.50
Management	2,017.14	3,419.30	5,436.44	1,962.88	3,332.71	5,295.59	2,376.64	3,782.57	6,159.21	2,108.45	3,492.02	5,600.47	2,221.80	3,992.37	6,214.17
Office Expense	741.02	1,019.06	1,760.08	733.22	1,356.22	2,089.44	1,173.93	1,265.87	2,439.80	1,066.21	1,155.17	2,221.38	1,184.05	1,252.64	2,436.69
Rents	387.00	9,970.00	10,357.00	387.00	9,982.00	10,369.00	412.00	9,982.00	10,394.00	376.50	9,994.00	10,370.50	376.50	10,034.37	10,410.87
Sinking Fund	2,475.00	9,885.00	12,360.00	2,430.00	9,840.00	12,270.00	2,430.00	9,840.00	12,270.00	2,430.00	9,840.00	12,270.00	2,430.00	9,840.00	12,270.00
Taxes .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	332.23	388.64	720.87	.....	.....	.....
Forestry	12.99	10.15	23.14	22.80	12.79	35.59	61.74	.....	61.74	111.61	.....	111.61	.....	.....	.....
Surveying	16.79	.....	16.79	.....	.....	.....	.....	.....	.....	4.08	.....	4.08	.....	.....	.....
Amortization	3,842.22	13,068.29	16,910.51	3,277.64	12,182.41	15,460.05	3,652.11	11,747.71	15,399.82	2,729.81	10,807.81	13,537.62	2,159.98	9,937.65	12,097.63
Depreciation on Ditches.....	857.19	1,013.54	1,870.73	826.57	1,030.37	1,856.94	692.97	823.71	1,516.68	545.43	596.79	1,142.22	270.00	420.00	690.00
Unamortized Balance of Abandoned Property	.....	.....	.....	10,443.51	4,373.31	14,816.82	1,555.41	1,362.32	2,917.73	.....	.....	.....	.....	.....	.....
Bad Accounts Written Off.....	.....	.....	.....	42.00	.....	42.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waipio Valley Loss or Gain.....	.....	1,244.84	1,244.84	.....	2,115.24	2,115.24	.....	1,069.59	1,069.59	.....	2,518.43	2,518.43	.....	1,419.91	1,419.91
TOTAL OPERATING ACCOUNTS.	\$ 46,839.15	\$ 96,790.25	\$143,629.40	\$ 56,305.92	\$ 99,589.10	\$155,895.02	\$ 49,961.51	\$ 94,120.40	\$144,081.91	\$ 45,591.91	\$ 92,449.39	\$138,041.30	\$ 42,602.25	\$ 89,993.63	\$132,595.88
Less Sundry Credits.....	.....	755.01	755.01	.....	.....	.....	.....	1,000.00	1,000.00	.....	.....	.....	.....	.....	.....
NET OPERATING EXPENSES....	\$ 46,839.15	\$ 96,035.24	\$142,874.39	\$ 56,305.92	\$ 99,589.10	\$155,895.02	\$ 49,961.51	\$ 93,120.40	\$143,081.91	\$ 45,591.91	\$ 92,449.39	\$138,041.30	\$ 42,602.25	\$ 89,993.63	\$132,595.88
Water Sales	29,855.92	89,638.04	119,493.96	44,778.70	92,739.61	137,518.31	56,606.16	100,893.11	157,499.27	37,815.52	97,497.82	135,313.34	50,351.70	101,862.42	152,214.12
PROFIT FOR YEAR.....	\$	\$	\$	\$	\$	\$	\$ 6,644.65	\$ 7,772.71	\$ 14,417.36	\$	\$ 5,048.43	\$	\$ 7,749.45	\$ 11,808.79	\$ 19,618.24
LOSS FOR YEAR.....	16,983.23	6,397.20	23,380.43	11,527.22	6,849.49	18,376.71	.....	.....	.....	7,776.39	.....	2,727.96	.....	.....	.....
PACIFIC SUGAR MILL.....	\$ 10,336.76	\$ 13,462.71	\$ 23,799.47	\$ 15,698.99	\$ 13,885.78	\$ 29,584.77	\$ 8,578.46	\$ 7,329.00	\$ 15,907.46	\$	\$	\$	\$	\$	\$
HONOKAA SUGAR CO.....	15,138.31	16,458.79	31,597.10	23,811.43	16,995.50	40,806.93	41,420.60	26,328.48	67,749.08	33,788.39	32,543.09	66,331.48	43,232.75	33,998.79	77,231.54
PAAUHAU SUGAR PLANT. CO...	4,380.85	59,716.54	64,097.39	5,268.28	61,858.33	67,126.61	6,607.10	67,235.63	73,842.73	4,027.13	64,954.73	68,981.86	7,118.95	67,863.63	74,982.58
TOTALS	\$ 29,855.92	\$ 89,638.04	\$119,493.96	\$ 44,778.70	\$ 92,739.61	\$137,518.31	\$ 56,606.16	\$100,893.11	\$157,499.27	\$ 37,815.52	\$ 97,497.82	\$135,313.34	\$ 50,351.70	\$101,862.42	\$152,214.12
TOTAL WATER SALES.....	\$ 29,855.92	\$ 89,638.04	\$119,493.96	\$ 44,778.70	\$ 92,739.61	\$137,518.31	\$ 56,606.16	\$100,893.11	\$157,499.27	\$ 37,815.52	\$ 97,497.82	\$135,313.34	\$ 50,351.70	\$101,862.42	\$152,214.12
BALANCE DUE AGENTS.....	\$192,691.74	\$ 5,323.16	\$198,014.90	\$206,153.62	\$ 4,835.81	\$201,317.81	\$200,991.46	\$ 24,157.68	\$176,833.78	\$202,503.13	\$ 41,988.91	\$160,514.22	\$190,285.34	\$ 64,554.84	\$125,730.50

EXHIBIT 'P'

LABOR FOR 1930, UPPER AND LOWER DITCH COMBINED

	Number of Laborers				Total Days Worked				Amount Paid Each Class				Average 26-Days Rate per Man			
	Ordinary...	Skilled.....	Supt.....	Total.....	Ordinary...	Skilled.....	Supt.....	Total.....	Ordinary...	Skilled.....	Supt.....	Total.....	Ordinary...	Skilled.....	Supt.....	Total.....
January.....	26	7½	2	35½	545	160	52	757	923.70	372.00	408.33	1,704.03	44.07	60.45	204.17	58.53
February.....	35	7	2	44	564	152	52	768	963.15	350.70	408.33	1,722.18	44.40	59.99	204.17	58.30
March.....	25	7½	2	34½	550	133	52	735	940.00	306.35	533.34	1,779.69	44.44	59.89	266.67	64.72
April.....	28	7½	2	37½	541	122	52	715	914.45	257.35	475.00	1,646.80	43.95	54.85	237.50	59.88
May.....	20	7	2	29	499	134	52	685	844.05	283.15	475.00	1,602.20	43.98	54.94	237.50	60.81
June.....	17	7	2	26	423	154	52	629	724.45	334.00	475.00	1,533.45	44.53	56.39	237.50	63.39
July.....	24	7	2	33	523	151	52	726	867.70	328.95	475.00	1,671.65	43.14	54.46	237.50	59.87
August.....	36	7	2	45	520	153	52	725	903.65	339.60	475.00	1,718.25	47.11	57.71	237.50	61.62
September.....	20	8	2	30	480	165	52	697	848.20	376.70	475.00	1,699.90	45.94	59.36	237.50	63.41
October.....	22	7½	2	31½	480	170	52	702	819.65	395.15	475.00	1,689.80	44.40	60.43	237.50	62.60
November.....	22	8	2	32	532	189	52	773	914.90	457.40	475.00	1,847.30	44.71	62.92	237.50	62.13
December.....	19	7	2	28	470	146	52	668	802.60	342.75	475.00	1,620.35	44.40	61.04	237.50	63.07
TOTAL.....	294	88	24	406	6,127	1,829	624	8,580	10,466.50	4,144.10	5,625.00	20,235.60	44.41	58.91	234.38	61.32

EXHIBIT "Q"
FLOW OF DITCHES FOR 1930

	Upper Ditch	Lower Ditch	Total	Daily Average		Highest Flow		Lowest Flow	
				Upper Ditch	Lower Ditch	Upper Ditch	Lower Ditch	Upper Ditch	Lower Ditch
January	281,514,000	1,055,367,000	1,336,881,000	9,081,000	34,044,000	40,836,000	37,958,000	1,968,000	24,229,000
February	286,306,000	899,157,000	1,185,463,000	10,225,000	32,113,000	54,154,000	37,251,000	183,000	27,443,000
March	521,572,000	1,049,116,000	1,570,688,000	16,825,000	33,843,000	45,564,000	35,770,000	1,743,000	31,006,000
April	980,002,000	1,064,866,000	2,044,868,000	32,667,000	35,496,000	61,198,000	38,040,000	6,969,000	33,768,000
May	664,179,000	1,137,852,000	1,802,031,000	21,425,000	36,705,000	55,218,000	40,580,000	4,317,000	34,120,000
June	630,080,000	1,177,918,000	1,807,998,000	21,003,000	39,264,000	45,670,000	42,698,000	3,231,000	32,154,000
July	544,461,000	1,173,933,000	1,718,394,000	17,563,000	37,869,000	39,039,000	41,485,000	2,403,000	35,410,000
August	678,264,000	1,137,198,000	1,815,462,000	21,879,000	36,684,000	51,566,000	39,008,000	5,025,000	33,220,000
September	563,913,000	1,107,192,000	1,671,105,000	18,797,000	36,906,000	47,725,000	42,158,000	1,563,000	34,064,000
October	233,260,000	1,088,390,000	1,321,650,000	7,525,000	35,109,000	35,470,000	36,824,000	699,000	32,958,000
November	368,484,000	1,050,308,000	1,418,792,000	12,283,000	35,010,000	42,113,000	40,768,000	550,000	29,316,000
December	298,570,000	1,055,294,000	1,353,864,000	9,631,000	34,042,000	32,278,000	37,720,000	1,146,000	29,532,000
TOTAL	6,050,605,000	12,996,591,000	19,047,196,000	16,577,000	35,607,000	61,198,000	42,698,000	183,000	24,229,000
Average Daily Flow ..	16,577,000	35,607,000	52,184,000						

FLOW OF DITCHES FOR PAST TEN YEARS

	Upper Ditch	Lower Ditch	Total	Daily Average		Highest Flow		Lowest Flow	
				Upper Ditch	Lower Ditch	Upper Ditch	Lower Ditch	Upper Ditch	Lower Ditch
1921.....	5,507,983,000	12,413,029,000	17,921,012,000	15,090,000	34,008,000	57,708,000	54,630,000	198,000	23,520,000
1922.....	4,616,337,000	12,966,137,000	17,582,514,000	12,647,000	35,524,000	56,230,000	53,154,000	240,000	26,304,000
1923.....	5,595,388,000	12,849,606,000	18,444,994,000	15,330,000	35,204,000	57,360,000	53,814,000	240,000	18,936,000
1924.....	3,789,840,000	12,030,855,000	15,820,695,000	10,355,000	32,871,000	60,290,000	60,918,000	84,000	18,348,000
1925.....	5,621,072,000	11,186,382,000	16,807,454,000	15,400,000	31,073,000	68,250,000	40,914,000	212,000	11,640,000
1926.....	3,493,840,000	10,309,872,000	13,803,712,000	9,598,000	28,402,000	72,630,000	46,338,000	27,000	20,376,000
1927.....	5,248,998,000	10,827,200,000	16,076,198,000	14,381,000	29,663,000	76,012,000	46,104,000	228,000	19,170,000
1928.....	6,866,268,000	11,887,514,000	18,753,782,000	18,760,000	32,480,000	68,712,000	42,666,000	273,000	22,554,000
1929.....	4,733,322,000	11,383,245,000	16,116,567,000	12,968,000	31,187,000	63,630,000	39,621,000	28,000	16,098,000
1930.....	6,050,605,000	12,996,591,000	19,047,196,000	16,577,000	35,607,000	61,198,000	42,698,000	183,000	24,229,000
TOTAL 10 Yrs.	51,523,653,000	118,850,471,000	170,374,124,000	14,112,000	32,606,000	76,012,000	60,918,000	27,000	11,640,000

NOTE: The lowest flow on record while the Lower Ditch was in full operation was 19,170,000 gallons on April 8, 1927. The records show lower flows at times, due to temporary shut-downs of Ditch for repairs.

EXHIBIT 'R'

GALLONS OF WATER DELIVERED DURING 1930

	Honokaa Sugar Co.	Paauhau Sugar Pl. Co.	Excess Water	Parker Ranch	Honokaa Water Works	Total
Upper Ditch—						
January.....	195,538,000	26,782,000	.....	15,500,000	.....	237,820,000
February.....	230,431,000	12,175,000	.....	14,000,000	.....	256,606,000
March.....	406,858,000	46,500,000	.....	15,500,000	.....	468,858,000
April.....	876,278,000	45,000,000	.....	15,000,000	.....	936,278,000
May.....	550,887,000	46,500,000	.....	15,500,000	.....	612,887,000
June.....	550,361,000	39,910,000	.....	15,000,000	.....	605,271,000
July.....	464,017,000	35,345,000	.....	15,500,000	.....	514,862,000
August.....	589,698,000	46,500,000	.....	15,500,000	.....	651,698,000
September.....	495,677,000	23,028,000	.....	15,000,000	.....	533,705,000
October.....	179,842,000	24,000,000	.....	15,500,000	.....	219,342,000
November.....	321,852,000	18,967,000	.....	15,000,000	.....	355,819,000
December.....	230,655,000	35,049,000	.....	15,500,000	.....	281,204,000
TOTALS.....	5,092,094,000	399,756,000		182,500,000	.....	5,674,350,000
Lower Ditch						
January.....	306,671,000	613,343,000	62,418,000	.....	2,907,000	985,339,000
February.....	267,209,000	534,419,000	30,329,000	.....	1,672,000	833,629,000
March.....	309,841,000	618,650,000	53,397,000	.....	2,881,000	984,769,000
April.....	300,000,000	600,000,000	96,961,000	.....	2,754,000	999,715,000
May.....	310,000,000	620,000,000	128,454,000	.....	3,016,000	1,061,470,000
June.....	300,000,000	595,094,000	182,409,000	.....	3,118,000	1,080,621,000
July.....	310,000,000	620,000,000	149,295,000	.....	3,256,000	1,082,551,000
August.....	310,000,000	620,000,000	144,350,000	.....	3,369,000	1,077,719,000
September.....	300,000,000	600,000,000	143,487,000	.....	3,395,000	1,046,882,000
October.....	310,000,000	620,000,000	100,480,000	.....	3,543,000	1,034,023,000
November.....	299,347,000	587,909,000	97,454,000	.....	3,007,000	987,717,000
December.....	309,192,000	618,103,000	68,762,000	.....	3,255,000	999,312,000
TOTALS.....	3,632,260,000	7,247,518,000	1,257,796,000	.....	36,173,000	12,173,747,000
GRAND TOTAL.....	8,724,354,000	7,647,274,000	1,257,796,000	182,500,000	36,173,000	17,848,097,000

EXHIBIT "S"

GALLONS OF WATER DELIVERED FOR PAST TEN YEARS

	Pacific Sugar Mill	Honokaa Sugar Co.	Paauihau Sugar Pl. Co.	Excess Water	Parker Ranch	Honokaa Water Works	Total Water Delivered	Total Flow Over Weirs
Upper Ditch								
1921.....	1,764,574,000	2,720,812,000	399,805,000	.....	176,052,000	.....	5,061,243,000	5,507,983,000
1922.....	1,585,943,000	2,167,221,000	365,741,000	.....	176,684,000	.....	4,295,589,000	4,616,337,000
1923.....	1,875,833,000	2,646,266,000	405,139,000	.....	175,744,000	.....	5,102,982,000	5,595,388,000
1924.....	1,243,036,000	1,673,596,000	280,564,000	.....	174,791,000	.....	3,371,987,000	3,789,840,000
1925.....	1,788,136,000	2,848,239,000	351,215,000	.....	177,911,000	.....	5,165,501,000	5,621,072,000
1926.....	1,131,735,000	1,672,868,000	246,002,000	.....	143,335,000	.....	3,193,940,000	3,493,840,000
1927.....	1,769,049,000	2,651,420,000	295,834,000	.....	174,103,000	.....	4,890,406,000	5,248,998,000
1928.....	1,002,254,000	4,950,554,000	371,014,000	.....	175,812,000	.....	6,499,634,000	6,866,268,000
1929.....	.....	4,078,583,000	226,139,000	.....	144,862,000	.....	4,449,584,000	4,733,322,000
1930.....	.....	5,092,094,000	399,756,000	.....	182,500,000	.....	5,674,350,000	6,050,605,000
TOTALS.	12,160,560,000	30,501,653,000	3,341,209,000	.....	1,701,794,000	.....	47,705,216,000	51,523,653,000
Lower Ditch								
1921.....	1,576,222,000	1,922,957,000	6,982,528,000	1,304,880,000	.....	.....	11,786,587,000	12,413,029,000
1922.....	1,620,991,000	1,979,535,000	7,192,436,000	1,469,756,000	.....	.....	12,262,718,000	12,966,177,000
1923.....	1,608,995,000	1,967,534,000	7,121,839,000	1,190,114,000	.....	.....	11,888,482,000	12,849,606,000
1924.....	1,545,340,000	1,875,836,000	6,809,674,000	715,173,000	.....	.....	10,946,023,000	12,030,855,000
1925.....	1,449,841,000	1,776,671,000	6,453,372,000	463,451,000	.....	13,463,000	10,156,798,000	11,186,382,000
1926.....	1,403,968,000	1,716,416,000	6,227,583,000	528,831,000	.....	10,571,000	9,887,369,000	10,309,872,000
1927.....	1,448,090,000	1,772,388,000	6,450,940,000	730,629,000	.....	16,535,000	10,418,582,000	10,827,200,000
1928.....	797,591,000	2,808,862,000	6,951,251,000	780,975,000	.....	30,625,000	11,369,304,000	11,887,514,000
1929.....	.....	3,393,781,000	6,775,849,000	588,523,000	.....	24,114,000	10,782,267,000	11,383,245,000
1930.....	.....	3,632,260,000	7,247,518,000	1,257,796,000	.....	36,173,000	12,173,747,000	12,996,591,000
TOTALS..	11,451,038,000	22,846,240,000	68,212,990,000	9,030,128,000	.....	131,481,000	111,671,877,000	118,850,471,000

EXHIBIT "T"

LOSS IN DITCHES IN 1930

	UPPER DITCH			LOWER DITCH			TOTAL		
	Leakage Etc.	Wasted	Total	Leakage Etc.	Wasted	Total	Leakage Etc.	Wasted	Total
January.....	41,588,000	2,106,000	43,694,000	70,028,000	.....	70,028,000	111,616,000	2,106,000	113,722,000
February.....	26,014,000	3,686,000	29,700,000	65,528,000	.....	65,528,000	91,542,000	3,686,000	95,228,000
March.....	40,390,000	12,324,000	52,714,000	64,347,000	.....	64,347,000	104,737,000	12,324,000	117,061,000
April.....	24,080,000	19,644,000	43,724,000	65,151,000	.....	65,151,000	89,231,000	19,644,000	108,875,000
May.....	30,941,000	20,351,000	51,292,000	76,382,000	.....	76,382,000	107,323,000	20,351,000	127,674,000
June.....	16,197,000	8,612,000	24,809,000	97,297,000	.....	97,297,000	113,494,000	8,612,000	122,106,000
July.....	22,603,000	6,996,000	29,599,000	91,382,000	.....	91,382,000	113,985,000	6,996,000	120,981,000
August.....	12,831,000	13,735,000	26,566,000	59,479,000	.....	59,479,000	72,310,000	13,735,000	86,045,000
September.....	24,182,000	6,026,000	30,208,000	60,310,000	.....	60,310,000	84,492,000	6,026,000	90,518,000
October.....	11,591,000	2,327,000	13,918,000	54,367,000	.....	54,367,000	65,958,000	2,327,000	68,285,000
November.....	10,811,000	1,854,000	12,665,000	62,591,000	.....	62,591,000	73,402,000	1,854,000	75,256,000
December.....	15,857,000	1,509,000	17,366,000	55,982,000	.....	55,982,000	71,839,000	1,509,000	73,348,000
TOTALS....	277,085,000	99,170,000	376,255,000	822,844,000	.....	822,844,000	1,099,929,000	99,170,000	1,199,099,000
Average Daily Loss.....	759,000	272,000	1,031,000	2,254,000	.....	2,254,000	3,013,000	272,000	3,285,000

LOSS IN DITCHES FOR PAST TEN YEARS

	UPPER DITCH		LOWER DITCH		TOTAL	
	Total	Average Daily Loss	Total	Average Daily Loss	Total	Average Daily Loss
1921.....	446,740,000	1,224,000	626,442,000	1,716,000	1,073,182,000	2,940,000
1922.....	320,748,000	879,000	703,459,000	1,927,000	1,024,207,000	2,806,000
1923.....	492,386,000	1,349,000	961,564,000	2,634,000	1,453,950,000	3,983,000
1924.....	390,864,000	1,068,000	1,071,049,000	2,926,000	1,461,913,000	3,994,000
1925.....	455,571,000	1,248,000	1,029,584,000	2,860,000	1,485,155,000	4,108,000
1926.....	299,900,000	824,000	422,503,000	1,164,000	722,403,000	1,988,000
1927.....	353,592,000	982,000	408,618,000	1,120,000	767,210,000	2,102,000
1928.....	366,634,000	1,001,000	518,210,000	1,416,000	884,844,000	2,417,000
1929.....	283,738,000	777,000	600,978,000	1,647,000	884,716,000	2,424,000
1930.....	376,255,000	1,031,000	822,844,000	2,254,000	1,199,099,000	3,285,000
TOTALS....	3,791,428,000	1,038,000	7,165,251,000	1,966,000	10,956,679,000	3,004,000

EXHIBIT "U"

RAINFALL FOR THE YEAR 1930

STATION	UPPER KAWAINUI		UPPER ALAKAHI		AVERAGE KAWAINUI and ALAKAHI		UP PER KOI AWE		PUU-ALALA		NO. 3 RESERVOIR		LOWER KAWAINUI		LOWER ALAKAHI		LOWER KOI AWE		LOWER WAIMA		AVERAGE OF VALLEY INTAKES		AHUALOA HOMESTEADS		MAIN WEIR KUKUIHALE	
	ELEVATION	4,080		3,874				3,355		2,800		2,815		1,040		1,030		1,000		980				2,551		985
	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches
January.....	29	10.80	26	11.92	28	11.36	28	10.13	27	10.47	21	7.88	22	7.86	23	8.28	17	5.57	17	6.97	20	7.17	11	5.94	15	8.23
February.....	25	15.99	25	15.42	25	15.70	28	12.01	27	13.69	17	12.16	16	21.11	15	16.22	15	13.00	15	13.62	15	15.99	10	12.33	14	12.34
March.....	31	19.25	30	17.31	30	18.28	31	13.60	31	16.24	23	13.67	27	19.99	26	15.85	22	14.19	21	15.11	24	16.28	15	19.71	19	12.78
April.....	30	39.68	30	34.73	30	37.21	30	24.58	29	23.32	27	15.86	30	39.08	30	26.39	30	22.33	30	26.33	30	28.53	25	30.43	26	17.92
May.....	31	21.23	31	17.79	31	19.51	31	12.18	31	7.19	20	3.50	29	13.69	29	10.14	26	7.10	27	7.95	28	9.72	17	7.89	20	4.53
June.....	30	26.78	30	22.30	30	24.54	30	16.69	28	11.13	23	7.25	27	17.01	28	11.99	24	9.87	25	12.00	26	12.72	20	12.16	22	7.09
July.....	31	19.70	30	20.86	30	20.28	31	16.47	31	10.86	25	6.00	31	19.04	31	11.63	28	10.18	26	11.30	29	13.04	19	9.02	20	3.67
August.....	31	27.63	31	23.36	31	25.50	31	16.48	30	9.75	23	6.21	30	17.39	29	12.90	27	10.07	26	13.80	28	13.54	15	12.68	15	5.47
September.....	29	23.70	30	20.43	30	22.06	29	17.30	27	13.39	25	6.80	28	16.35	27	12.06	27	11.06	27	13.43	27	13.23	17	11.03	19	6.29
October.....	30	7.22	29	7.98	29	7.60	31	5.99	27	5.40	13	4.20	21	5.37	21	4.59	21	3.83	22	4.97	21	4.69	9	1.91	12	1.37
November.....	28	20.70	29	19.29	29	20.00	29	21.85	28	24.07	17	19.09	23	26.12	22	26.39	22	23.17	22	27.64	22	25.83	15	19.30	19	18.68
December.....	30	12.03	31	10.94	31	11.48	30	7.27	27	7.20	16	5.35	20	9.25	20	6.12	20	6.00	18	7.75	20	7.28	11	5.31	15	4.29
TOTALS : Days..... Inches.....	355	244.71	352	222.33	354	233.52	359	174.55	343	152.71	250	107.97	304	212.26	301	162.56	279	136.37	276	160.87	290	168.02	184	147.71	216	102.66
MONTHLY AVERAGE	29	20.39	29	18.53	29	19.46	30	14.55	28	12.73	21	9.00	25	17.69	25	13.55	23	11.36	23	13.41	24	14.00	15	12.31	18	8.55

EXHIBIT "V"
ANNUAL RAINFALL FOR THE PAST TEN YEARS

STATION	UPPER KAWAINUI		UPPER ALAKAHI		AVERAGE KAWAINUI and ALAKAHI		UPPER KOIAWE		PUU-ALALA		NO. 3 RESERVOIR		LOWER KAWAINUI		LOWER ALAKAHI		LOWER KOIAWE		LOWER WAIMA		AVERAGE OF VALLEY INTAKES		AHUALOA HOMESTEADS		MAIN WEIR KUKUIHAELE	
	ELEVATION		4,080		3,874		3,355		2,800		2,815		1,040		1,030		1,000		980				2,551		985	
	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches
1921.....	306	227.99	291	195.25	299	211.62	287	134.51	262	71.29	.....	.....	283	184.04	266	122.60	260	110.65	261	128.59	269	136.47	229	133.59	197	134.67
1922.....	345	183.32	299	169.68	322	176.50	273	118.10	266	69.64	200	42.75	265	160.95	254	117.42	247	110.48	249	117.84	255	126.67	225	126.48	182	87.97
1923.....	343	230.06	310	202.84	327	216.46	292	152.38	264	104.33	216	70.57	258	200.09	263	147.47	249	136.17	255	145.84	256	157.16	237	173.12	193	131.80
1924.....	299	169.58	282	146.78	293	158.20	374	102.69	260	81.33	202	37.02	250	141.79	243	105.20	231	95.79	239	93.09	241	108.97	208	104.80	179	72.69
1925.....	324	178.39	313	149.87	318	164.13	319	110.46	294	81.15	227	40.43	261	114.20	254	86.03	249	77.76	247	80.72	253	89.68	198	93.34	187	66.58
1926.....	307	130.26	295	119.79	301	125.02	290	96.12	259	78.46	204	50.23	236	114.86	218	83.66	218	74.96	220	79.02	223	88.12	132	75.46	142	72.17
1927.....	316	156.71	310	144.81	313	150.76	312	106.82	271	91.10	201	63.95	239	133.01	238	97.45	231	92.36	233	91.09	235	103.48	142	92.84	164	101.01
1928.....	336	217.22	323	200.83	330	209.03	328	133.58	304	120.37	236	90.68	268	163.36	261	121.89	262	115.27	263	121.59	264	130.53	157	118.91	197	82.33
1929.....	325	179.26	321	174.50	323	176.88	320	140.77	293	140.01	196	108.67	241	202.88	230	164.52	221	143.48	216	169.93	227	170.20	143	147.18	167	131.41
1930.....	355	244.71	352	222.33	354	233.52	359	174.55	343	152.71	250	107.97	304	212.26	301	162.56	279	136.37	276	160.87	290	168.02	184	147.71	216	102.66

AUDITOR'S CERTIFICATE

To the Stockholders:

We have audited the accounts of the Hawaiian Irrigation Company, Limited, for the year ended December 31st, 1930, and have to report to the stockholders that we have obtained all the information and explanations we have required. In our opinion, the foregoing Balance Sheets are properly drawn up so as to exhibit a true and correct view of the state of the company's affairs, according to the best of our information and the explanations given to us and as shown by the books of the Company.

YOUNG, LAMBERTON & PEARSON, C. P. A.,
Auditors.

Honolulu, T. H., Feb. 20, 1931.

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