

1929.
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.
RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31ST MARCH, 1929, TOGETHER WITH STATEMENT OF ACCOUNTS.

Presented to both Houses of the General Assembly in pursuance of Section 10 of the Rangitaiki Land Drainage Act, 1910.

SIR,—

Department of Lands and Survey, Wellington, 1st July, 1929.

I have the honour to submit herewith the report upon drainage operations in the Rangitaiki Plains for the year ended 31st March, 1929, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

The accompanying statement of accounts and balance-sheet shows the financial transactions for the year, and the position of the account as at the 31st March last. A plan of the drainage district is attached.

I have, &c.,

J. B. THOMPSON,

Under-Secretary for Lands.

The Hon. G. W. Forbes, Minister of Lands.

REPORT OF CHIEF DRAINAGE ENGINEER.

SIR,—

In accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit report on these operations for the fiscal year ended 31st March, 1929.

The main construction projects in hand during the previous year were the Kopeopeo Canal diversion—excavating, bridging, and flood-gating—and the Tarawera River stop-banking. Both these works were completed during the period under review. The walking plants engaged on the former work were transferred for dredging projects in other swamps, and the floating plant on the Tarawera River was laid up. Maintenance dredging by two dredges, and hand maintenance and improvements, were carried on throughout the area.

The season experienced was similar in most respects to that of the previous year. No flooding of any consequence occurred during the winter, and the summer was again exceptionally dry. The country generally seems to have dried out more rapidly and thoroughly than previously with the advent of the dry weather, and this year even the lower lands were somewhat detrimentally affected by the long dry spell.

The area is more than keeping pace with the general increase in dairying products, as is evidenced by the fact that the Rangitaiki Plains Dairy Co. manufactured a total of 1,934 tons of butter, as compared with 1,558 tons during the past season, representing an increase of almost 25 per cent. The Tarawera Cheese-factory manufactured 243 tons—last year's total being 300 tons—the decrease being due to the deflection of some suppliers to the dairy company.

During the past two seasons there has been a marked improvement in the quality of the dairy stock, and some exceptional returns have been made by individual herds. There is no question that the bulk of the Rangitaiki Plains is very suitable for dairying, healthy for stock, and capable of giving an ample yield of the necessary winter feed. This year large quantities of hay and ensilage have been saved on the area, the last-named being somewhat of an innovation in this locality.

The commencement of a through railway service during the year is being taken full advantage of for the rapid freighting of cattle, sheep, and dairy-produce, and the bringing-in at reduced rates of the manures of which this area stands in great need.

The low-lying country is receiving attention for flax-cultivation, and already areas totalling approximately 5,500 acres have been purchased for this purpose, and there is a prospect of further areas being made available. Small areas of fertile low-lying country seem to lend themselves to pumping in winter to relieve the accumulation of water, which, owing to the high level of the outfalls, cannot escape sufficiently fast. Several electrically driven pumps have been installed in readiness for the coming winter, and it will be interesting to note the success attending these ventures.

Rainfall.—The average rainfall as recorded at Thornton for the past eleven years has been 54.16 in. Last year's total was 55.57 in., rain falling on sixty days. The wettest month was May, with a fall of 13.92 in., and the driest January, when 0.24 in. was recorded.

Eastern District.—The excavation of the Kopeopeo Canal diversion was completed late in the period, and the northern spoil-bank for the major portion of its length was levelled and formed in order to make a combined roadway and stop-bank. The large concrete flood-gate and four small Calco gates, which take the drainage from the country south of the diversion, were completed during the year. Three hardwood pile bridges were erected on the roads crossed by the diversion. Several small flood-gates were placed in this area, also minor improvements, and the general maintenance of existing works carried out as required.

Western District.—The programme of stop-banking and channel-improvement of the Tarawera River was carried out to completion during the year, and the pumice banks protected at likely points of erosion over a considerable length. The record of water-levels in this river since the cessation of dredging operations so far shows no general tendency of a rise above previous levels, and it is fairly safe to assume that the river-bed is on a permanent grade. It is essential, however, to keep these records over a prolonged period before this assumption can be finally accepted. Owing to the unstable nature of the stop-banks, periodical inspections will be necessary in order to counter any tendency of the banks to erode.

In addition to the usual maintenance of hand drains, maintenance dredging was carried out in the lower reaches of the Awakaponga Canal, Tarawera Western Drain, and Section 109 Drain. The two last-named works were still in hand at the end of the period.

Dredges.—Five dredges, comprising two Monighan drag-lines, two Priestmans, and one Bay City dipper dredge have been operating part time during the period. A total of 339,450 cubic yards of spoil was dredged, covering a distance of 11 miles 50½ chains. The cost per cubic yard of the material excavated was 5.73d.

The following table shows the total amounts excavated, and the cost per cubic yard, for the past ten years :—

| | Cubic Yards. | Cost per Cubic Yard. | | Cubic Yards. | Cost per Cubic Yard. |
|---------|-----------------|-------------------------|---------|-----------------|-------------------------|
| 1919-20 | 176,672 | 6.62d. | 1924-25 | 626,762 | 5.56d. |
| 1920-21 | 215,768 | 8.82d. | 1925-26 | 431,277 | 5.88d. |
| 1921-22 | 473,994 | 6.68d. | 1926-27 | 227,006 | 6.05d. |
| 1922-23 | 540,802 | 8.13d. | 1927-28 | 359,080 | 5.28d. |
| 1923-24 | 788,059 | 5.59d. | 1928-29 | 339,450 | 5.73d. |

No. 8 Priestman Dredge : This plant completed the eastern bank stop-banking of the Tarawera River early in the year, and after minor widening and channel-improvements were effected, plant was laid up near the railway-bridge. The distance dredged during the period was 87½ chains, and a total of 45,000 cubic yards of spoil was excavated.

No. 9 Priestman Dredge : This plant was put into commission towards the middle of the period to carry out maintenance work on the Awakaponga and Section 109 Canals. The first of these was completed, and Section 109 Canal was well under way at the end of the year. A total of 93,450 cubic yards of spoil was excavated, covering a distance of 3 miles 75 chains.

No. 17 Monighan Dredge : This plant assisted with the completion of the Kopeopeo Canal diversion, and towards the end of the year was transferred by rail to the Waihi Swamp. During the portion of the year worked 63,270 cubic yards of material was excavated, covering a distance of 48 chains.

No. 18 Monighan Dredge : After completing its programme of work on the Kopeopeo Canal this plant was dismantled and transferred by scow to the Kaitaia Swamp. The amount of spoil excavated before transfer was 40,740 cubic yards, and the distance dredged 52½ chains. This plant, together with Monighan No. 17, have left a very creditable record of canal-construction work on the Rangitaiki Plains, extending over a period of eight years. This work has been carried out with a very low repair bill and with the efficiency of the plants little impaired.

No. 21 Bay City Dredge : Maintenance work in the Tarawera Western Drain was commenced by this plant early in the year, and a total distance of 5 miles 27.5 chains completed, 96,990 cubic yards of spoil being removed. A short length at the north end of the Central Drain will be dredged by this plant while it is in the locality. Work on the Tarawera Western Drain will be carried on to completion during the coming year.

Bridges, Flood-gates, &c.—The large four-door flood-gate on the Kopeopeo Canal diversion was completed during the year, and in addition nine small flood-gates, three pile bridges, and four sill bridges were erected.

Drains, Stop-banks, &c.—No new hand drains were constructed in the area during the period. The only new stop-banking was that carried out by the dredges on the Tarawera River and the Kopeopeo diversion.

Drains in Operation.—The total length of drains constructed is as follows : Dredge canals, 68 miles 28 chains ; main-outlet drains, 106 miles 24 chains ; road-drains, 30 miles 46 chains. Of the hand drains a total of 96 miles 40 chains is annually maintained by the Department.

REVENUE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1929.

| <i>Dr.</i> | | | <i>Cr.</i> | | |
|--------------------------------------|--------|-------|--|---------|-------|
| | £ | s. d. | | £ | s. d. |
| To Rates, &c., written off | 424 | 7 4 | By Accrued rents | 140 | 5 4 |
| Interest on debentures | 20,669 | 19 0 | Rates levied to meet maintenance cost | 2,431 | 2 9 |
| Maintenance of completed works | 4,827 | 0 8 | Rates levied for payment of interest | 2,000 | 0 0 |
| | | | | 4,431 | 2 9 |
| | | | Excess rates levied in previous year transferred in reduction of maintenance costs | 1,309 | 14 6 |
| | | | Penalty levied on arrears of maintenance rate | 69 | 2 5 |
| | | | Penalty levied on arrears of capital rate | 57 | 11 2 |
| | | | | 126 | 13 7 |
| | | | Maintenance costs—recoverable out of rates | 1,086 | 3 5 |
| | | | “Thirds” | 15 | 15 4 |
| | | | Interest on investments | 120 | 0 11 |
| | | | Rates for year ended 31st March, 1919, capitalized under section 12 (4) (c), Finance Act, 1927 (No. 2) | 8,049 | 16 1 |
| | | | Balance transferred to Drainage Works Account | 10,641 | 15 1 |
| | | | | £25,921 | 7 0 |
| | | | | £25,921 | 7 0 |

BALANCE-SHEET AS AT 31ST MARCH, 1929.

| <i>Liabilities.</i> | | | <i>Assets.</i> | | |
|--|---------|-------|---|----------|-------|
| | £ | s. d. | | £ | s. d. |
| Loan Account | 515,500 | 0 0 | Drainage-works—Expenditure in connection therewith (including wages, supplies, administration expenses, engineering expenses, depreciation of plant and capitalized interest charges)—reduction under section 22, Finance Act, 1925 | 348,679 | 7 7 |
| Less loans redeemed under Public Debt Repayment Act, 1925 | 15,500 | 0 0 | Less securities cancelled and amounts written off as per contra | 15,500 | 0 0 |
| Securities cancelled and amount written off as per contra | 15,500 | 0 0 | | 333,179 | 7 7 |
| | 500,000 | 0 0 | Drainage works—Cost recoverable out of rates | 205,000 | 0 0 |
| Temporary transfers from other accounts, section 40, Public Revenues Act, 1926 | 5,000 | 0 0 | Capitalized interest (section 12, Finance Act, 1927 (No. 2)) | 24,045 | 17 4 |
| Loans redeemed from Consolidated Fund | 2,500 | 0 0 | | 229,045 | 17 4 |
| Less sinking fund in hands of Public Trustee | 1,525 | 16 0 | Plant and machinery | 14,113 | 8 4 |
| | 974 | 4 0 | Live-stock | 2 | 2 6 |
| Interest contributed by Consolidated Fund | 81,165 | 14 6 | Loose tools | 298 | 11 9 |
| Unpaid purchase-money for land taken | 210 | 1 1 | Buildings | 1,249 | 11 5 |
| Sundry creditors—Miscellaneous | 1,745 | 17 9 | Wharves | 314 | 5 6 |
| Interest on debentures accrued but not due | 4,941 | 10 3 | Material and stores | 1,040 | 11 6 |
| Suspense Account | 1,179 | 12 5 | Fuel | 44 | 2 3 |
| Rates paid in advance | 17 | 2 5 | Land for Settlements Account | 20 | 0 0 |
| Rent paid in advance | 8 | 15 0 | Maintenance costs (recoverable by rates) | 1,086 | 3 5 |
| | | | Sundry debtors— | | |
| | | | Rates | 7,025 | 16 4 |
| | | | Law-costs | 89 | 5 7 |
| | | | Rents | 5 | 10 8 |
| | | | Miscellaneous | 76 | 16 11 |
| | | | | 7,197 | 9 6 |
| | | | Consolidated Fund—Amount short-paid on account of maintenance subsidy | 1,160 | 0 0 |
| | | | Stamps on hand | 3 | 11 0 |
| | | | Cash in hands of Post Office | 75 | 15 5 |
| | | | Cash in Public Account, 31st March, 1929 | 6,411 | 9 11 |
| | | | | £595,242 | 17 5 |
| | | | | £595,242 | 17 5 |

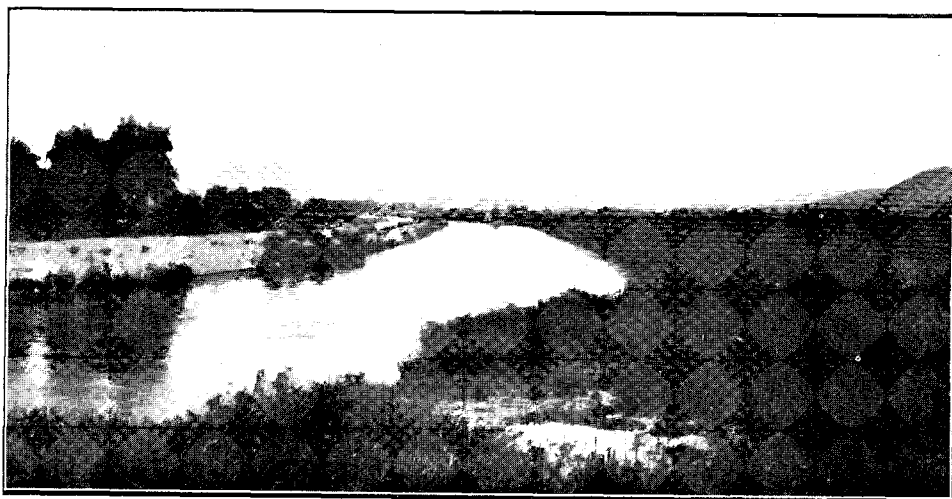
J. B. THOMPSON, Under-Secretary for Lands.
J. H. O'DONNELL, Controller of Accounts.

I hereby certify that the Statement of Receipts and Payments, Revenue Account, and Balance-sheet have been duly examined and compared with the relative books and documents submitted for audit, and correctly state the position as disclosed thereby.—G. F. C. CAMPBELL, Controller and Auditor-General.

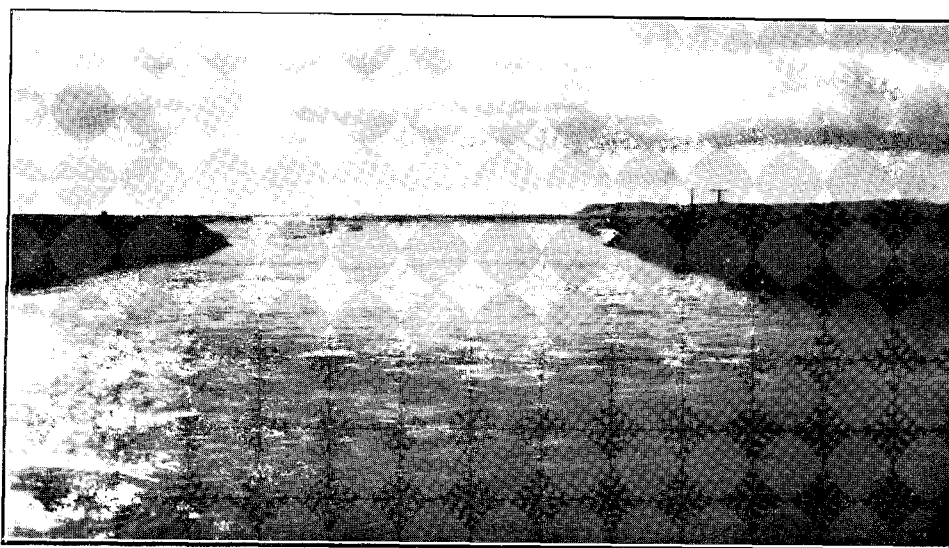
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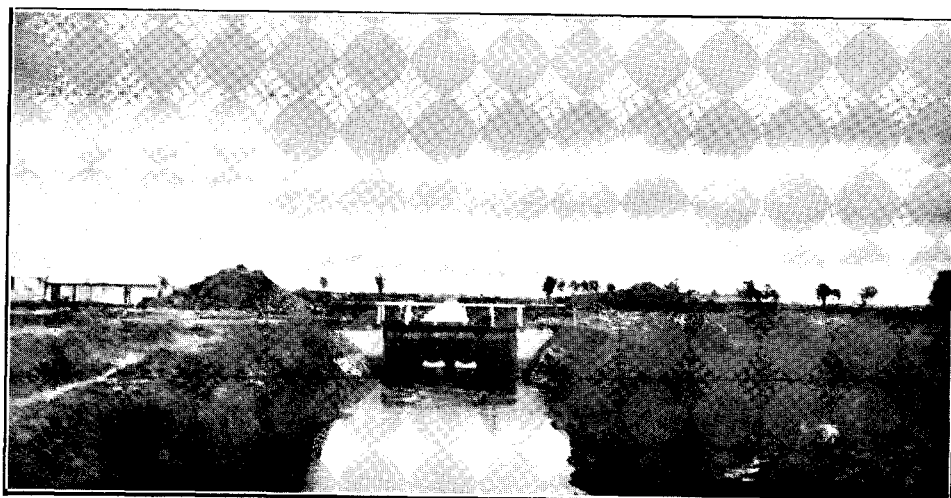
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