

EXPENDITURE ON SCHOOLS OF MINES.

The following table shows the expenditure by the Government on schools of mines since their inauguration, exclusive of subsidies paid to the University of Otago towards the School of Mines in connection with that institution:—

Financial Years.	Subsidies towards the Erection of Schools of Mines, and Maintenance.	Chemicals and Apparatus, also Mineralogical Specimens supplied to Schools of Mines.	Scholarships.	Salaries of Teachers, and Travelling-expenses, &c.	Total Sum paid by the Department towards the Schools of Mines.
	£ s. d.	£ s. d.	£	£ s. d.	£ s. d.
1885-86 ...	...	36 19 9	...	1,223 9 10	1,260 9 7
1886-87 ...	257 16 6	409 1 4	...	2,716 9 3	3,383 7 1
1887-88 ...	253 15 9	253 14 1	...	1,714 9 6	2,221 19 4
1888-89 ...	42 10 0	6 12 9	...	1,139 4 1	1,188 6 10
1889-90 ...	142 2 0	181 14 10	...	716 3 10	1,040 0 8
1890-91 ...	217 6 6	54 8 0	...	620 9 9	892 4 3
1891-92 ...	181 14 0	...	...	689 5 9	870 19 9
1892-93 ...	312 3 4	...	...	670 1 0	982 4 4
1893-94 ...	197 0 5	...	...	858 19 4	1,055 19 9
1894-95 ...	390 0 0	45 10 10	...	773 17 8	1,209 8 6
1895-96 ...	820 0 0	...	50	849 3 0	1,719 3 0
1896-97 ...	352 14 11	58 18 6	100	834 12 8	1,346 6 1
1897-98 ...	1,089 18 6	29 19 9	100	780 19 0	2,000 17 3
1898-99 ...	740 15 2	32 19 7	50	729 10 11	1,553 5 8
1899-1900 ...	990 3 4	24 3 8	50	52 16 3	1,117 3 3
1900-1901 ...	866 10 11	56 3 4	98	77 7 10	1,098 2 1
1901-1902 ...	1,155 12 3	63 5 1	49	69 16 4	1,337 13 8
1902-1903 ...	1,379 15 6	134 18 8	158	111 0 0	1,783 14 2
Totals ...	9,389 19 1	1,388 10 2	655	14,627 16 0	26,061 5 3

The above statement shows the amount expended on the different schools of mines throughout the colony; but, in addition to this, the sum of £10,053 6s. 2d. has to be added, as that has been paid to the School of Mines attached to the University of Otago, £750 being paid last year towards maintaining the school, which makes the total expenditure up to the 31st March last to be £36,114 11s. 5d. This expenditure has extended over a period of eighteen years.

GOLD-SAVING ON DREDGES.

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In a paper on the above subject, published in the annual report for 1900, I stated that "among the first improvements that will be made in the gold-saving appliances in use on dredges will be the addition to every dredge of a distributor. The width of the tables will also be increased, especially when the dredge is designed to treat gravels known to contain very fine or scaly gold."

It is interesting to note what improvements have actually been made in gold-saving appliances during the three years that have passed since the above was written. On the Otago goldfields there has been little practical improvement.* The old-fashioned method of making the screen perforations discharge directly upon the head of a set of inclined tables or strakes covered with matting, on each of which is laid a sheet of expanded metal, still prevails. With few exceptions, no attempt has been made to regulate the quantity of pulp passing over the different divisions in the tables, nor does the quantity of water lifted and utilised for washing the gravels bear any proportional relation to the normal quantity of sand passing through the perforations of the screen. So limited is the power available in many dredges that when lifting the maximum quantity of gravels the speed of the engine is decreased to such an extent as to reduce the efficiency of the centrifugal pump, and a smaller quantity of water is available at the time when it is most needed.

During the three years' practice under review the creek and river flats of southern Nelson and Westland have been opened up as dredging fields. About two-thirds of the dredging ground on the West Coast consists of creek and valley deposits, and the balance of littoral deposits. The gold found in the littoral deposits, both recent and alluvial, is in a fine state of division, and, as it occurs with large quantities of magnetite, ilmenite, garnet, and other minerals of high specific gravity, has long exercised the ingenuity of miners and others to obtain a fair extraction when dealt with in quantities. The effect has been a tendency not only to extend the spread of tables, but also to provide distributors and mixing-boxes, so that the pulps passing over each foot in width of the tables shall consist approximately of definite proportions of mineral matter and water. When it was proposed to furnish the first West Coast dredges with the primitive gold-saving appliances in use on the Otago rivers, the Coast miners and those acquainted with the difficulties attending the saving of scaly and fine gold at once condemned the tables as unfit.

* Lee's tables have been adopted on some of the dredges in Southland with most satisfactory results.—J. HAYES.