operated, showing the shafts, it together with the field book, will be found very useful, the progressive position of each dredge when working being marked thereon.

From the information obtained in sinking shafts the principal dimensions of the dredge can be fixed. The capacity of the gold-saving apparatus is the first consideration, and the other parts then in proportion. The proportion of sand and water passed over each foot in width of the table, is an important factor in the success, or otherwise, of the dredge; and it is particularly so in old littoral deposits containing a large percentage of titanic iron-sands. In this class of wash, a distributing head-box, a large supply of water, also tables adjustable as to fall, and with strakes that can be cleaned up separately, should be provided. The proportion of sand to water should be about as 1 to 20; the minimum flow of water 10,000 cubic inches per minute per foot of table width; and the sand maximum for the same about 2,000 cubic inches. The table-fall should be adjustable between the limits of 1 to 2 inches per foot, by wedges or screws.

Power is, of course, usually derived from coal or fire wood, but in the case of a company operating a large fleet of old dredges within the radius of a few miles, a large central electric plant utilizing either coal, wood, or water power, may be found suitable and advantageous, from many points of view.

The writer will now give an estimate of the cost of treating a cubic yard of gravel with a large, modern dredging machine, under average conditions. With a bucket capacity of 7 cubic feet, speeded for the delivery of 10 buckets, 0.75 full, per minute, the delivery will be 115 cubic yards per hour, and 14,490 cubic yards per week.

The cost of running for a week will be:—

Six men at 10s. per day for 6 days ..	£18
Manager	4
Coal, varies very greatly, say..	15
Oil, waste, etc..	1
Repairs..	5
Office expenses, say..	10
Total..	£53

And the cost of treating a cubic yard will be 0.87d. With gold at £3 17s. 6d. per ounce, the profits on working ground worth 1s. 11.05d. or 11.9 grains, as per extract from log given in Table I., would be: (23.05d. minus 0.87d. equals) 22.18d. per cubic yard; and (14,490 multiplied by 22.18 equals) £1,339 2s. 4d. per week.

The cost of a dredge to do this work would be under £10,000 in any manufacturing centre.

A member remarked that the figures given in the paper differed somewhat from those published elsewhere. A valuable report by Mr. Jaquet had been published by the New South Wales Government in which the cost of gold dredging in Montana was given as 4½d. per cubic yard against somewhat less than 1d. mentioned by the writer of the paper. That 4½d. was the cost of using steam; with electricity, which was now largely adopted in Montana, the cost was about 2¼d. per cubic yard, and he believed that about 98 per cent of the gold was saved. Undoubtedly this method was an important advance in working alluvial deposits, and even if the author's figures were a little optimistic, it could be no doubt carried out at a remarkably low cost; in fact, in some of the New Zealand gold dredging operations, a dredge costing from £5,000 to £10,000 had repaid its entire cost within six months.

Mr. W. Denman Verschoyle wrote that since writing his paper, he had been travelling through British Columbia. Numerous attempts had been made to dredge the rivers of that colony but up to the present time no successful operations, for any length of time, had been recorded. He thought that the want of success was principally owing to the class of dredges that had been built. With few exceptions, they had been of the grab, suction or dipper type. These had all been tried in New Zealand, and had been discarded many years ago, and when the same thing had been done in British Columbia there was every probability that dredging would be successful.

NEW OFFICIALS FOR GREENWOOD SMELTER.

IT is announced that Mr. J. E. McAllister, C.E., M.E., for some time past assistant superintendent at the Tennessee Copper Company's smelter at Copperhill, Tennessee, U.S.A., has been appointed superintendent of the British Columbia Copper Company's smelter at Greenwood, B.C., in succession to Mr. Paul Johnson, E.M., whose official connection with the company came to an end on February 25th last. Mr. McAllister is not an entire stranger at Greenwood, he having visited the Boundary District at times about four years ago, whilst the construction of the Boundary section of the Columbia & Western Railway was in progress.

Mr. McAllister graduated as a civil and mining engineer at the Ontario School of Practical Science, Toronto, in 1890. Following this he gave special attention to structural steel, first with the Dominion Bridge Company and afterwards with the New Jersey Steel & Iron Company. Returning to Toronto he took a post graduate course in Applied Sciences at the Toronto University, graduating in 1895 and receiving his B.A. Sc. degree. In the autumn of 1896 and spring of 1897 he took a special course in mining and metallurgy at the Michigan College of Mines, Houghton, Mich., soon afterwards joining Mr. Sydney M. Johnson, C.E., (now of Greenwood, B.C.,) the firm practising at Trail, B.C., as civil and mining engineers. In the fall of that year he joined the staff of the Trail smelter under Mr. H. C. Bellinger, then superintendent of Mr. F. August Heinze's smelter known as the works of the British Columbia Smelting & Refining Co., Ltd. When these works were sold to the Canadian Pacific Railway Company Mr. McAllister became confidential secretary to Mr. Heinze's chief engineer, Mr. W. F. Tye, C.E., who joined the C. P. R. Co.'s staff when