

*Asbestos*.—Active prospecting by the Hume Pipe Co. (Aust.), Ltd., has been carried out on the area held by the company in Block I, Flora Survey District, Takaka County, with the object of developing the extensive asbestos deposits of the area which they hold under mineral prospecting warrant.

#### PROSPECTING.

A 10½-per-cent. decrease in boring operations is shown for the period when a comparison is made with those of the previous year. The investigation of several large areas was finalized, and a sufficient payable yardage proved to warrant a capital expenditure of considerable magnitude on the construction of four dredges of large capacity. The construction of these machines will commence in the near future, the localities being Kanieri, Arahura, Ngahere, and Ikamatua. Active boring is still proceeding on some areas where investigation has not been finalized.

Other areas were proved to be either unpayable or the yardage of payable ground too limited in extent to interest the capitalists who financed the boring operations.

The investigation of areas suitable for hydraulic mining has not received much attention. The only notable activity in this branch of mining is extensive water-race construction by the Department of Labour in connection with the Humphrey's Gully scheme.

The Mines and Labour Departments have led the way in lode prospecting, their financial assistance being given to organized parties working in several areas.

#### FATAL ACCIDENTS.

There were three fatal accidents during the year (one of which was a double drowning fatality), as follows:—

On the 5th June, William Woods, dredgemaster, and Aynsley Adair Moore, dredge-construction foreman, were drowned in the rush of water from a dam on the dredging claim of the Nemona Gold-dredging Co. at Marsden, when the wall under which they were working suddenly burst.

On the 23rd August, Peter Ayson Watt, electrician, met his death by electrocution at the Brian Born Dredge, German Gully. The deceased was making an inspection of the transformer and switch gear when he came in contact with a strong electric current.

On the 28th September, Robert Thompson Gallon, miner, was killed by an explosion of gelignite at the mouth of No. 10 tunnel, Humphrey's Gully water-race works. Gallon was in a tent used by the workmen for "crib" and for preparing charges, when an explosion of nearly 10 lb. of gelignite, which was stored in a carbide drum in the tent, occurred.

#### NON-FATAL ACCIDENTS.

There were three non-fatal accidents during the year, as follows:—

On the 23rd March, Adam Pirrie, a subsidized miner working under the control of the Grey Mining Executive Committee, cut off the index finger of his right hand whilst replacing some laths in the side of a drive at the Ten-mile Creek. The accident was caused by the small hatchet which Pirrie was using receiving a knock caused by some debris of rock coming away from the side of the drive without warning, thus deflecting his left hand whilst he was in the act of preparing a lath.

On the 18th May, Duncan Campbell, a driller employed by the Rimu Gold Dredging Co., Ltd., on its area near Ikamatua, sustained a badly broken arm. The accident was due to Campbell getting his arm caught in the driving-pulley of the drill. It was subsequently found necessary to amputate the injured limb.

On the 28th June, R. A. Fyfe, a subsidized miner working under the control of the Westland Mining Executive Committee, sustained facial cuts, bruising of the back, and fracture of the right leg, whilst working in an alluvial claim at Callaghans. The accident was due to a piece of ground breaking away from the top of the face and falling into the claim.

#### GENERAL REMARKS — MINING.

Gold won from alluvial mining (other than dredging) during the year amounted to 13,627 oz. 10 dwt. 2 gr., valued at £99,148 19s. 6d., which represents a decrease of 3,340 oz. 2 dwt. 14 gr., worth £22,427 0s. 2d. when compared with last year's figures. Due chiefly to the amount of other work offering the number of men engaged in this branch of mining decreased by 849.

Dredging returns continue to increase, the total production of gold for the year amounting to 34,080 oz. 6 dwt. 11 gr., valued at £271,796 15s. 11d., which represents an excess over last year's production of 4,793 oz. 0 dwt. 19 gr., valued at £39,800 6s. 10d. The number of men engaged in this class of mining during the year exceeded the number employed in the previous year by forty-four. Four new dredges were put into commission during the period, and the ensuing year will see one commencing production on a large scale, and four new dredges under construction.

Gold won from lode mines during the year amounted to 22,601 oz. 16 dwt. 8 gr., valued at £182,239 8s. 8d. These figures show a decrease on those of the previous year of 3,986 oz. 5 dwt. 20 gr., valued at £33,720 6s. 10d. The number of men employed decreased by twenty-nine.

The decrease in gold won from all branches of mining, when a comparison is made with the previous year's figures, amounts to 2,533 oz. 7 dwt. 15 gr., valued at £16,347 0s. 2d. The total number of men employed decreased by 841.

#### PROSECUTIONS.

No charges were laid during the period for infringement of the Mining Act and regulations.

#### ADDITIONS TO MINING PLANT ON WEST COAST.

Recent years have witnessed great changes in the type of machinery used in all branches of mining. Formerly steam-engines were used almost exclusively for power purposes, but electric motors and Diesel engines have largely supplanted steam power. The latest provision of modern mining machinery has been made by the Blackwater Mines, Ltd., which company has installed a powerful electric-winding plant at its north shaft, which operates double-deck cages to hoist ore from a depth of 2,300 ft. The following is a description of the plant:—

The Ward-Leonard Hgner system using a Series Scherbius slip-regulator and power-factor controller was selected, owing chiefly to the long transmission-line and small capacity of the generating-station. This system consists of an A.C.—D.C. motor-generator set incorporating a heavy flywheel and speed-regulator, which is electrically connected to the D.C. winding motor, the particulars of which are: A 220 to 400 h.p. A.C. slipring motor is direct-connected to the 6-ton flywheel 9 ft. in diameter; speed 1,000 r.p.m.; energy, 35,000 horse-power seconds, which is also coupled to the D.C. generator of 250 to 600 kw. capacity. The speed of this set is controlled by a Series Scherbius slip-regulator connected to the A.C. motor. The winder motor (rated 320 to 750 h.p.) is coupled to the drum-shaft by double-helical gearing, and is electrically connected to the above motor-generator set. One simple lever on the driver's platform provides complete control of the winder, from an even crawling speed to full speed in both directions, and a similar lever operates the brakes on both drums (a vast improvement on the many levers of a steam winder). Elaborate automatic safety devices are fitted to each drum, which ensure fool-proof operation of the winder. These "Lilly" controllers switch off the power and apply the brakes in any of the following contingencies: Overwind at both top and bottom of the shaft, overspeed during any part of the wind, excessive acceleration and retardation at