

MINERALS OTHER THAN GOLD.

Iron.—Operations at the Onakaka works were resumed during the early part of the year, and carried on practically without interruption for the full period. The pipemaking plant (under construction during the previous year) was early put in commission, and resulted in a reasonable proportion of the company's pig iron being absorbed. The pipes manufactured are of the cast type, made in vertical casings by the "Table" method in preference to that known as the "Spun." The table at Onakaka has the various sizes of pipe moulds 4 in. and upwards bolted to it. This is spanned above by a 7-ton overhead electrical crane. Alongside are the core-stoves and coremaking machines also spanned by an electrical crane. The core-bars are of cast iron, and are made in the foundry adjacent to the pipe plant. These bars, when warmed up, are splashed with a preparation of clay and sawdust and are then struck up with loam to give a clean straight barrel. This is tried in a gas-fired oven which has a top and bottom bogey on which the cores lay and are pushed in and out as required. The moulds on the table are rammed up around a pattern with 2 in. of sand. Pneumatic rammers are employed. When the pattern is drawn out of the mould it is blackened with a wash of clay and blacking and then dried by gas. The cores are placed in these boxes when everything is dry and are cast with metal from a 4-ton ladle, which takes the metal from a receiver in front of the cupolas as required. The metal used is remelted in a cupola, of which there are two ready for use as required. The pipes, when stripped from the moulds, are allowed to roll on the gantry, where the first operation is the stripping of sand from the inside. This sand comes off the core and is used again. From this point the pipe goes to the end-cutter, which cuts off the 6 in. of extra metal which is always cast to allow any dirt or dross to float to the top as well as to take care of shrinkage. After the end-cutter, pneumatic machines are used to fettle and trim up the pipes. The pipes now pass to a very substantial testing-machine, where every pipe is subjected to the test pressure required according to the class of manufacture, whether Class A, B, C, or D. At these pressures they are rapped with a substantial hammer, care being exercised not to allow any doubtful pipe to pass through. From the testing-plant the pipe rolls to the gas-fired heating-stove, where all pipes are heated to 250° F., and from there roll into a bath of Angus Smith solution. From this bath the pipe passes to the stock-yard ready for shipping. Test bars are cast regularly from metal similar to that used in the pipe-manufacture, and whereas the test bar is required to be 28,000 lb. to specification, the average bar at Onakaka is 31,000 lb. 16,150 tons of ore were used during the time under review, the resultant production of pig iron being 8,075 tons, with a value of £5 per ton. One hundred and twenty-five men were employed at the works and quarry.

Petroleum.—A certain amount of geological exploratory work has been undertaken on an area located in the Tutaki Survey District (Murchison), with nil results regarding discoveries of importance. Operations on all other properties in the district remain suspended.

PROSPECTING.

Greatly increased activity has been shown in this branch of work. A Dunedin company, whose object is the development of likely gold-mining properties, has had a staff of two experienced miners driving tunnels and sinking shafts for the greater part of the year on an alluvial terrace north of and fronting the Waitahu River, about four miles and a half from Reefton. The whole of the material taken from the tunnels has been washed, and has yielded almost 1 dwt. of gold per cubic yard. On account of the water in the ground it was not possible to reach bottom in the shafts put down; neither could the main body of wash be reached. The material sunk through in every instance nevertheless yielded payable prospects. Rises are to be put up to the surface from the drives to complete the test of the overburden, and the gravels obtained therefrom are to be washed in order to ascertain their values. It is intended to work the ground by sluicing should the final test prove satisfactory, but some months must elapse before the work referred to is completed. An engineer has been engaged to make a survey of the area, which is at present held under a prospecting license.

An extensive alluvial area near Blackwater (Mount David) has been acquired by another company registered at Dunedin. The area is to be worked by sluicing, and the company has been engaged for several months in constructing a large water-race, several miles in length, as preliminary to working its claim. Upwards of one hundred men have been employed at times on the water-race.

Keystone drilling on an area at the Awatuna Beach has revealed moderate values over an average depth of 22 ft. The ground was in part treated by the Awatuna Dredge several years ago, but high fuel costs would appear to have then operated against the successful working of the plant. The dredge is to be recommissioned by a new company and fitted with electric power (in lieu of steam), and reasonable hopes are entertained that the altered conditions will allow the dredge to operate as a profitmaking unit when it again commences work.

Considerable field-prospecting has taken place, but discoveries from this source have been nil.

ACCIDENTS.

Two fatal and two non-fatal accidents occurred in the district during the year. The two fatalities mentioned were separate and distinct. The first, in which an old man named John Lyes was the victim, occurred at an alluvial claim near Greymouth on 17th January. The victim, during a certain stage of his mining operations, found it necessary to remove an old tree-stump from near his sluice-boxes. This he proceeded to do with the aid of gelignite, but on the shot discharging he was struck and killed by a falling log. The second fatality occurred at the Cobden Quarry on 14th August. The victim (Richard Comerford) in this case was caught and crushed with an unexpected fall of debris, death being instantaneous. Two men, both named George White, were the victims of the non-fatal accidents. The occurrences were both simple. In one case the victim struck his lower left leg against a truck that had come off the track, and suffered a fracture. He was employed at the Progress Mill, and the mishap occurred on 8th July. The second occurrence was due to the victim (White) striking a plug of frozen gelignite with a pick he was wielding whilst engaged at levelling some debris on the surface at the Blackwater Mine on 2nd August. As a result thereof White suffered a fracture of the right leg and the loss of his right eye, together with the destruction of his two index fingers. The whole of the occurrences described above were purely accidental.

GENERAL REMARKS.—MINING.

Recoveries from alluvial mining showed a falling-off when compared with the previous year, the value of gold won being £6,237 10s. 9d., as against £9,029 19s. 11d. recorded in connection with the earlier period.

The gold obtained from quartz-mining showed a decrease also, the amount won from that source being 19,624 oz., as against 20,467 oz. for 1929. The decrease last mentioned was no doubt due to a non-resumption of work at the Murray Creek Mine, together with the cessation of operations connected with the Dominion Consolidated's property. The exhaustion, towards the end of the year, of the rich stone contained in the McVicar block, Alexander Mine, was perhaps a contributory factor also.

SOUTHERN INSPECTION DISTRICT (T. McMILLAN, Inspector of Mines).

QUARTZ AND ALLUVIAL MINING.

Waitaki County.

Livingstone and Maerewhenua.—Five men were employed in this locality at sluicing in the greensand deposits. Two of them were engaged driving a tunnel 11 chains in length to take water on to an unworked area. The gold won amounted to 112 oz. 17 dwt., valued at £436.