

in comparison with the results obtained with the old dry-crushing plant and of the assays obtained from the mine-manager's samples; but a gradual improvement is expected to take place, and it is anticipated that a large body of profitable ore will be developed at No. 8 level. The new battery, which was erected from designs by Mr. Alfred Harper Curtis, Assoc.M.Inst.C.E., mining engineer, representative in New Zealand of Messrs. Bewick, Moreing, and Co., London, is a wet-crushing and cyaniding plant consisting of four rock-breakers of Blake type; thirty heads of 1,050 lb. stamps, and twenty heads of 950 lb. amalgamated copper plates for recovery of the coarser gold; classifiers for separation of sands and slimes; spitzkasten for thickening the slimes prior to treatment in agitators; fifteen 6 ft. Union and Frue vanners for concentrating; ten steel vats, 22 ft. diameter by 10 ft. deep, for cyaniding coarse sands; six steel vats, 22 ft. diameter by 5 ft. deep, for cyaniding fine sands; four wooden and two steel vats, 22 ft. diameter by 5 ft. deep, fitted with agitators for treatment of slimes with cyanide; also the usual sumps, storage-tanks, pumps, precipitation-boxes, and other accessories. The concentrators, pumps, and agitators are operated by water-power; the breakers and stamps are operated by steam-power; the plant for generating the steam consisting of two Babcock-Wilcox boilers, and the engine being a Wheelock-Corliss single-cylinder horizontal engine of 245 indicated horse-power, with automatic expansion gear and Blake condenser. 11,252 tons of ore was treated during the year for 20,705 oz. of bullion, valued at £17,256 18s. 3d.; and an average of 180 men was employed.

New Zealand Crown Mines Company (Limited).—This mine still continues to be one of the best gold-producers in this district, and is being extensively opened up at various levels. The large underlay shaft has been sunk a further distance of 147 ft. during the year, making the total depth now 372 ft. below the No. 6 Waitawheta level. At this depth the No. 4 B level chamber is being opened out, and when completed the main levels will be extended north and south on the reef, and thereby open up large blocks of ground, as there is 120 ft. of backs between this level and No. 3 B level. The reef (which varies from 4 ft. to 12 ft. in width) has been driven on at No. 3 B level a distance of 1,076 ft. south, and 340 ft. north; and at No. 2 B level it has been driven on a distance of 1,730 ft. south, and 284 ft. north. Stopping operations are being vigorously carried on over the back of this level, where a large amount of payable ore is obtained. A considerable amount of driving, rising, and stopping is in progress in the upper workings above No. 6 Waitawheta level, where there is also a large tonnage of quartz produced. The Waitawheta Tunnel has been driven on the reef a total distance of 2,894 ft. It is at present being extended on the eastern branch with very good results, and at this place the reef is intact for some distance upwards, so that the prospects are exceedingly encouraging, the recent developments showing that there is a likelihood of the mine producing payable ore for an indefinite period. As the mine is well equipped with pumping and winding machinery, there should be no difficulty in obtaining an increased supply of ore to keep the additional twenty heads of stamps (in the course of erection) constantly going. Auxiliary steam-power is being erected, which will be used to assist in driving the plant when the water runs short in the summer months. The tram-line between the mine and the mill is being widened, and relaid with heavier rails, with the intention of running a small locomotive on it to bring the ore from the mine to the battery. The quantity of ore treated was 32,028 tons for 35,660 oz. 14 dwt. of bullion, valued at £66,203 17s. 9d.; and £10,000 was paid to the shareholders in dividends. An average of 240 men was employed.

Comstock United Mine.—An option was held over this property by a syndicate, who directed the operations to extending the low-level tunnel a distance of 650 ft., making it a total distance of 1,100 ft. This work was done for the purpose of intersecting a large reef which is said to exist in this end of the ground, but, not being successful in cutting the reef within the distance named, the men were discharged; but the manager is sanguine that the reef will be met with should the drive be extended a few feet further. Six men were employed in this mine.

Leap Year Mine.—A considerable amount of work has been done on this property by two men. The work has consisted in prospecting and driving on a reef that was discovered about 3 ft. in width. Assays of the quartz are said to have given results varying from £2 8s. 3d. to £27 16s. per ton, but in this instance (as in many others) it will require capital to develop the property.

WAIORONGOMAI.

Empire and New Find Mine.—In the early part of the year operations were directed to stopping on the reef in the Empire section, but, as the chute of payable quartz had been worked out above the level, a winze was sunk about 20 ft. on the reef and stoped up to the level. As the quartz had to be raised to the level with a windlass—thereby increasing the cost of getting it—the manager decided to extend the low level under this place, which has now reached within a few feet of a point immediately under the winze sunk on the reef. Twenty men were employed for most part of the year, but lately they were all discharged, and the owner has been granted six months' protection over the property. 1,289 tons of quartz was treated at the battery for a return of 851 oz. 18 dwt. of gold, valued at £2,384 16s. 5d.

There has been a little prospecting done in the Loyalty and Cadman Claims, but otherwise very little work has been done outside those named in this locality. No returns.

TE AROHA.

The Tui ground, which was abandoned for some time, has recently been taken up by a syndicate, who are testing the reef with a view to raising capital to treat the large bodies of complex ore that traverse this ground and some of the adjacent country.

KOMATA.

Komata Reefs.—This mine has been steadily worked during the year, operations being principally directed to driving and stoping on the reef at the No. 4 and intermediate levels.