

mined with it, and this brings the average value down to about £1 8s. per ton. Ore of this value when crushed as an addition to the existing output is payable. On the Dreadnought lode a stoping-block known as Cannon block, extending from 30 ft. east to 106 ft. west of the Empire 444 ft. east crosscut, has been opened up in good ore. In the same neighbourhood a stoping-block on the south branch of Dreadnought lode, known as Gun block, extending from 63 ft. east of the Empire 444 ft., east crosscut to 345 ft. east, has been opened up. On the eastern end, 117 ft. of this is in Grand Junction property. It is a narrow stope of good value. Investigation of the north leader at this level was also carried out. It was followed for a distance of 135 ft. in a north-easterly direction from Bulls north crosscut at the western end of the Martha lode. Starting as a small leader it opened out to 13½ ft. at the 50 ft. mark and then gradually decreased. At the distance of 86 ft. it split into small branches. A short shrinkage stope was opened up on it, between the 17 ft. and 68 ft. marks, which is yielding good ore. On the Regina section of Martha lode a considerable amount of investigation was carried out on the level over a length of about 450 ft. westward from its junction with the main lode at No. 4 shaft, main north crosscut. A good shrinkage stope, known as Riley's block, was worked between a point 50 ft. west of White north-west crosscut and 105 ft. east of the same, but operations had to be suspended at 40 ft. up owing to the ground not being considered safe. Investigation was then made of the northern part of this Regina section, and a stoping-block is being opened up between 168 ft. and 304 ft. west of White north-west crosscut. The records of a block of unstopped ground on the Royal lode, situated between 45 ft. east and 45 ft. west of No. 5 shaft, south-east crosscut, were reviewed, and calculations showed that it contained about 14,625 tons of an average value of £1 12s. per ton, and stoping was started on it. This block is known as Wurm block.

No. 8 level (852 ft.): Following the investigations made on the south part of the Empire lode at Nos. 9 and 10 levels, a drive was put out eastward from No. 4 shaft north crosscut on this level, a distance of 20½ ft. and connected to an old widening on the south wall, used for some years as a stable. Assays ranged from £1 12s. 7d. to £2 11s. per ton. Widening was also carried out along the south wall a distance of 31½ ft. in good ore to the eastern end of old stopes. A stoping-block, to be known as Ivy block, was commenced here, extending from 31 ft. west to 69 ft. east of No. 4 shaft, north crosscut. Partly with the object of obtaining ventilation for a stoping-block below at No. 9 level, and partly for further exploration, the drive on the Alexandra lode eastward from No. 4 shaft, north-west crosscut, was extended 41½ ft., making its total length from the main crosscut 200 ft. At this point the drive was turned slightly towards the south and towards the Empire lode. The north section of the Empire lode was intersected at 84 ft. Where intersected its width was 12 ft., comprising a mixture of quartz, calcite, and country rock, and its average value was 6s. 6d. per ton. The lode dipped flatly at an inclination of 1 in 1 towards the north-west. This lode was followed in a north-easterly direction for a distance of 75 ft. The width proved to be small, and decreased as driving was continued eastward. Assays also were low. At 57 ft. in this drive on the north section a crosscut was put out to the north-west, where a winze was sunk to provide ventilation for Leather block underneath. Returning to the point of intersection of the Empire north section, the south-eastern crosscut was continued until it met the main Empire lode, along which driving is now in hand on the northern or hanging wall with a view of investigating a junction of the Empire and Dreadnought lodes which takes place some distance to the east. This drive is in payable ore, and is heading into an area which appears to warrant further investigation. On the north branch of Martha lode all the broken ore was drawn off from Dye block, which was close up against the company's eastern boundary on this lode. Immediately west of the Dye block another, known as Cowan block, has been opened up on the same lode. This block has a length of 150 ft. Samples up to 26 ft. in the stope have averaged £1 6s. 3d. per ton. On the Alexandra lode a short shrinkage stope known as Tawa block was opened up immediately north of No. 4 north-west crosscut. This block extended from 30 ft. east to 80 ft. west of the main crosscut. Unfortunately the lode pinched out at 52 ft. up and stoping had to be stopped.

No. 7 level: The only work on this level was the recovery of ore from arches on the Martha lode by means of sublevels. Very considerable quantities of ore were won.

No. 6 level: A good deal of ore was won by a caving system from the Martha lode from a sublevel 120 ft. below No. 6. From another sublevel, 40 ft. below No. 6, the stoping of Memmott block on the north branch of Martha lode in the eastern part of the mine was completed. Further investigation of this lode is being made. At a sublevel 34 ft. below No. 6 an arch of the Empire lode extending between 200 ft. and 360 ft. west of No. 4 shaft was opened up by means of a dip and footwall gangway, and ore is being won from it. A stoping-block about 162 ft. in length, known as Foster block, has been opened up on the level on the north branch of Martha lode at about 500 ft. east of the line of No. 2 shaft; this stope is now up 16 ft. in ore of good quality.

No. 5 level: In what is known as the 16 ft. sublevel a length of the Empire lode arch under No. 5 level south from No. 2 shaft is being extracted by means of a footwall gangway and stoping on square sets. In the course of driving the footwall gangway the J lode, which runs north-east and south-west at about 350 ft. south of No. 2 shaft, was intersected, and was driven along in a south-westerly direction a distance of 55½ ft. The lode proved to be about 7 ft. in width, and as the values in it were payable further investigation of it will be carried out. On the north branch of Martha lode investigations were also carried out at this level for a length of about 350 ft. north of No. 2 shaft. A crosscut north from the Martha footwall gangway at 85 ft. east of No. 2 shaft, new north-west crosscut, disclosed 10½ ft. of sulphide ore and country rock mixed, of a value of £1 9s. 1d. per ton. Driving was carried out westward on this ore for 39½ ft., where connection was made to old workings. The lode along its length was wider than the drive, but the average value was only about 18s. per ton. In the eastward direction 74 ft. were driven. The value of the reef over the width of the drive was erratic, ranging from 15s. 11d. to over £3 per ton, with indications in places of exceptionally rich seams. Investigation was being continued in this part of the mine.

Surface workings: A certain amount of ore was won during the year from the Martha and Welcome lodes by a dip and surface drive respectively.

Diamond-drilling: No diamond-drilling was carried out during the year.

Exploration: The deadwork footage for the year amounted to 8,535 ft., of which 4,233 ft. represented general development, the remainder of the work being done in connection with arch and pillar operations.

The quantity of water raised from No. 15 level showed a considerable falling-off, being only 437,411,500 gallons, as compared with 439,218,100 during 1928 and 469,539,900 during 1927. The quantity raised, however, was equal to an average of 813 gallons for each minute of the 365 days in the year.

Output: A total of 181,085.71 tons of 2,240 lb. was won and treated, the tonnage from each lode being as follows: Martha, 56,844.64; Edward, 52,071.42; north branch, Martha, 17,239.29; Royal, 13,539.28; Empire, 9,123.21; north leader, 6,938.39; Regina section, 5,353.57; south branch, Dreadnought, 5,261.60; No. 2 reef, 4,505.35; North lode, 3,164.28; Mary, 2,559.82; north section, Empire, 1,500.89; Dreadnought, 1,319.62; Alexandra, 762.60; south branch, Martha, 231.25; Boundary, 219.64; right-hand branch, Welcome, 167.85; Surprise, 155.35; J lode, 123.21; north branch, Welcome, 4.46.

The total value of bullion recovered was £321,031 12s. 3d. The recovery of gold was 67,615 oz. 15 dwt., valued at £283,986 2s., and of silver 370,455 oz. 4 dwt., valued at £37,045 10s. 3d. The company paid dividends during the year to the amount of £99,181 8s., making the total disbursements to date £5,693,511 0s. 6d. The average number of men employed was 537.

The general position of the mine must, in the existing circumstances, be looked upon as very satisfactory. Development of the various newly-located ore-bodies referred to in the foregoing summary has enabled sufficient ore to be mined to keep the reserves in the mine at practically the same figures as last year, and the management is very hopeful that further investigation during 1930 will continue to yield as good results.