

cally carried on during the year, and the treatment of quartz will shortly be commenced. The equipment of the mine is practically complete, and comprises the following works:—

Hoisting-works: Hoisting-engine, with two cylinders, 48 in. by 16 in., Corliss valves, two reels each, carrying 1,700 ft. of $3\frac{1}{2}$ in. by $\frac{1}{2}$ in. flat steel rope, post brakes and foot brakes; the engine is set on a concrete foundation 10 ft. deep; two horizontal tubular boilers, 16 ft. by 66 in., arranged to run together or separately; common stack, 90 ft. high by 3 ft. diameter; Rand air-compressor, class B type, of a six $3\frac{1}{2}$ drill capacity. The poppet-heads are 50 ft. high, and sheave-wheels 7 ft. in diameter. The entire plant is housed under two buildings, 90 ft. by 28 ft. by 63 ft. high, and boiler-house 56 ft. by 34 ft. by 32 ft. high. Ore-bin, 45 ft. by 15 ft. by 16 ft., distant 250 ft. from shaft B. The ore passes from this bin into the aerial tramway buckets. Blacksmith's shop and change room are now under construction. Total cost of improvements to date, £7,432. The aerial tramway connecting the mine ore-bin with mill is of the Otto type, the fixed bearing-ropes being 30 mm. on the loaded and 24 mm. diameter on the light side. The buckets, sixty-six in number, each hold 550 lb. of ore. Total length between terminals, 6,796 ft. The capacity has been tested up to 30 tons per hour. The two longest spans are 1,900 ft. and 1,243 ft., and the highest standard, 100 ft. There is a tension station midway on the line, and nineteen intermediate supports in all. The tramway runs by gravity. There is a fall from the loading to the unloading station of 883 ft., and the line passes over a summit 200 ft. higher than the loading terminal.

The mill has forty stamps, with sixteen Frue vanners, two 9 in. by 15 in. Blake rock-crushers, and eight suspended ore-feeders of the Challenge type. The plates are 10 ft. in length. Power is furnished by Pelton water-wheels. The battery is driven by a 6 ft. diameter wheel, water being delivered under an effective head of 168 ft. The vanners are driven by a 3 ft. wheel, with a 166 ft. effective head; and the crushers by a 3 ft. wheel, under 140 ft. pressure. Nine Government heads of water supply the power and feed for the plant. The mill building is 80 ft. by 115 ft., and 83 ft. high. The chlorination plant is in course of construction. The building is 142 ft. in length and 43 ft. wide. The reverberatory furnace is 80 ft. by 14 ft. Three chlorinating-tanks, 9 ft. diameter and 3 ft. deep, and eight precipitating-tanks, 6 ft. diameter and 3 ft. deep.

Work in the mine: No. 4 level—Driving, 556 ft.; cross-cutting, 89 ft.; rise to battery level, 35 ft. In the east ground a large block of low-grade ore is being opened, which appears to be part of the old Union ore-chute. No. 5 level—Driving, 623 ft.; cross-cutting, 87 ft.; rise to No. 4 level, 177 ft. Both east and west large bodies of ore have been developed. Intermediate level—Driving, 110 ft.; cross-cutting, 47 ft.; rise to No. 5 level, 183 ft. No. 6 level—Driving, 258 ft.; cross-cutting, 560 ft.; rise to intermediate, 106 ft.; rise to No. 5, 244 ft.; south-east winze, 21 ft.; winze to No. 7, 119 ft. No. 7 level—Driving, 738 ft.; cross-cutting, 582 ft.; rise to bottom level of old Progress workings, 17 ft. Nearly the entire distance driven on this level has been in ore, the cross-cutting being from shaft B to the ore-chutes of the old Globe and Progress Mines. Totals—Driving, 2,285 ft.; cross-cutting, 1,365 ft.; rises, 762 ft.; winzes, 140 ft. Shaft B has been sunk an additional 320 ft., making the total depth 945 ft. This is a three-compartment shaft, and the actual time occupied in sinking was nine months. Total cost, including half the mine-manager's salary, £4,848 6s. 2d., or £5 2s. 7d. per foot. Two stations, 25 ft. by 12 ft. by 10 ft., have been cut at the No. 6 and No. 7 levels. The water-race furnishes power and feed-water to the forty-stamp mill. The length of the race is 10 miles 34 chains. Iron pipes are used—2,850.5 ft. of 20 in., 2,844 ft. of 18 in., 350 ft. of 12 in., and 60 ft. of 6 in., and has a working-capacity of fifteen heads; cost, £15,285.

Wealth of Nations Mine.—The works done in the mine during the last year are as follows: The incline-shaft has been sunk 280 ft., making a total of 624 ft. It has been furnished throughout with ladders, stages, rails, guides, and a skip with safety gear made ready for work. A large chamber has been cut out of the rock, and timbered up for winding machinery and chamber at brace of shaft; also, two uprisers for rope-pulleys. In connection with the latter, ore- and waste-bins have been cut in the rock and secured with timber. New rails have been laid in the level for a distance of 1,100 ft. Considerable repairs have also been done in renewing the level timber. On the 200 ft. level a distance of 150 ft. has been retimbered. On the 350 ft. level 320 ft. has been driven north on the track of the lode. The drive is well timbered, and air-pipes fixed for ventilation. On the 500 ft. level 64 ft. of driving has been done northwards on the track of the lode, a chamber formed and timbered at incline shaft, and 40 ft. of the drive timbered up. The leading stope on the east lode has been timbered, and passes formed ready for work. On the south block, on the same level, an uprise of 30 ft. has been made on the lode to form a connection with the old stope, and leave it open to commence work. In the old stopes, between the 350 ft. and 500 ft. levels, considerable work had to be done to secure the lode and leave it in working-order. 930 tons of ore had to be taken out and the space timbered afresh. On the Energetic side of the hill, the old level, having collapsed, had to be redriven and timbered a distance of 300 ft., and in the 200 ft. level a drain had to be cut and formed under the timber to take the main-shaft water away. About 20 chains of the water-race had to be enlarged, partly rock-cutting, timbering, and fluming. Wages, £180; timber, £10; caretaker's wages, one year, £124; total, approximate, £314.

Golden Fleece Group.—This group includes the Low-level Tunnel and adjoining leases. The tunnel has been driven 1,485 ft., cross-cut 610 ft., and a rise of 88 ft. to connect with winze from Golden Fleece. This winze has been sunk a distance of 380 ft. for the year, and is now connected with the tunnel workings. The work for the last twelve months has been confined to making this connection.

Boatman's Group.—The cross-cut from the Eureka level was driven a distance of 312 ft., but, having failed to develop anything of value, has been discontinued. No. 5 level in the Welcome has been driven north a distance of 453 ft. There is about 220 ft. of stone, small and broken. A rise was put up 167 ft. on the southern end of the block and cross-cut 21 ft. A cross-cut was put in about 50 ft. down the main rise, 13 ft. to the west, and a track driven on 38 ft.

Caledonian Group, Larry's Creek.—Work has been confined to opening up the old workings.