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THE GREATEST QUARTZ MINE IN AUSTRALIA

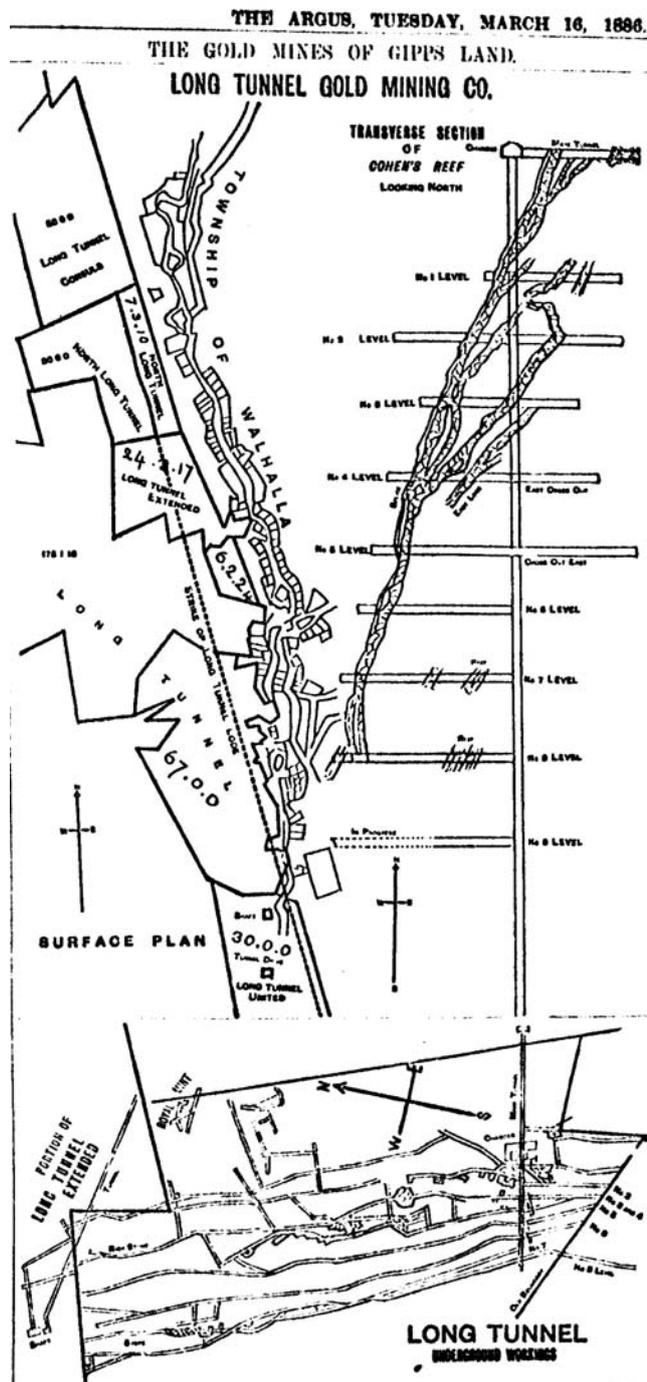
FROM OUR SPECIAL REPORTER

Twenty-four years ago last December, a hardy band of gold-seekers started south from Donnelly's Creek, in North Gipps Land, to prospect the mountains lying between the Jordan River and the sea. Wood's Point, Jericho, Aberfeldy, and Donnelly's Creek were under occupation in all directions, and it was doubtless the wonderful returns from the alluvial obtained from the beds of the various creeks that suggested the expedition, headed by Edward Stringer, into these ranges, hitherto untrodden by a white man. After suffering all the privations associated with exploration in the early history of the colony, Stringer discovered gold in a small creek which bears his name to this day. The township which has sprung up along the creek was named Walhalla, but old mountaineers still fondly cling to the name of "Stringer's". He received the reward offered by the Government for the discovery of a new goldfield, but only lived a few years after. His bones now lie in Toongabbie, with only an old rickety enclosure to mark their resting-place.

There were a few rich claims on the two branches of the creek, but as alluvial diggings they could not be classed with those of Wood's Point on the Goulburn, Jericho on the Jordan or the Thompson River. Stringer's Creek flows between two precipitous mountains, and the narrow street of the township of Walhalla follows to some extent its sinuous course.

While the shallow digging was at its height, a party, of which a man named Hinchcliffe, who afterwards died in the bush, was the leader, was camped on the summit of the hill, afterwards included in the Empress ground. Here they discovered an outcrop of lode, and after prospecting it, decided to mark out and register a claim. On their way to Sale to carry out the necessary formula before Warden Carey, they camped at a store managed by a man named Cohen, for Mr. Rappiport, of Melbourne, and it was he who induced them to call the new discovery "Cohen's Reef", a line that has since made itself famous in the annals of Victorian mining history. Claims followed in quick succession, and were known by their respective numbers from No. 1 up to No. 32. They were 80 yards each along the line of reef, and held under miners' rights. These afterwards merged into companies, the principal of which were the Walhalla, the original prospectors of which were an American (who was best known in the mountains by the *sobriquet* of the Duke, Jones and Sherwood; the North Gipps Land, taken up by Gibson, Knox, and party, and the Wellesley, by O'Brien, Newsom, and party. An old pioneer named Clarke was part proprietor of Nos. 8, 9, and 10 blocks, afterwards the Wellesley and Long Tunnel, and sold his interest

in No. 9 on the 27th of October to Messrs. Gardiner and Cunningham, and No. 10 to Messrs. W. Pearson and Firebrace, for £500 each. The mines were worked for a short period, and then formed into a company. The first battery was that of the Alpine company, further south than the Walhalla. Two other companies – the Molesworth and Golden Fleece – both of which are now absorbed in the Long Tunnel leases, were also working with a fair measure of success about this time. From old statistics I gather that the heaviest yield for one crushing came out of the North Gipps Land ground – viz. 400 tons for 3,200 oz. 16 dwt. The Walhalla had crushings of from 5oz. to 6 oz., the Empress a small one of 10 oz., the Alpine several of 2 oz., and the South Cohen's (now the Long Tunnel United) 10 oz. to the ton.



I was not surprised to learn that where there had been such rich gold lawsuits were numerous. One in which the Walhalla ground was in dispute went to the Privy Council, and cost £20,000.

The Long Tunnel can now fairly lay claim to be the principal quartz mine in Australia. It has eight levels opened up, all of which are in full work, has paid not far short of £1,000,000 in dividends, and has stone in sight that the manager estimates will take five years to crush. In addition to this, the stone for 17 years has averaged (and will apparently continue) 1½ oz. to the ton. Mr. Ramsay Thompson is the general superintendent of the whole of the extensive works. Mr. T. Tupper, an old miner on the Hustler's line at Sandhurst, is the mining manager, and has made several important discoveries since he took charge; and Mr. James McNeil is in charge of the whole of the large machinery. All of the surface works, tunnel, and chamber are lit with the electric light. The present directors are the Hon. W. Pearson, Messrs. T. Johnson, J. Lyons, of Sale; H. Clements, of Prospect; and J. Neill and S. Symonds, of Walhalla.

The geological formation of the country, unlike many other portions of the ranges, is clay slate and schists of the Upper Silurian, intersected with belts of sandstone, elvan, and massive diorite dykes, of an eruptive character. These run almost parallel with the strike of the country, and generally conform to the same dip and underlay.

Very little time elapsed after the discovery by Hinchcliffe, in January, 1863, of the rich specimens on the surface above this creek claim before the news became widespread, and the country for miles north and south was pegged. A co-operative party worked the stone down to the water level. Crushing machinery followed rapidly, and in a few months the echoes up the rugged mountain sides echoed the banging of a hundred head of stamps. No practical attempt was made to find the lode which outcropped on the surface till the month of February of the same year, when a company was registered, with the veteran Mr. Rosales as manager. The first step was to drive an adit level, or tunnel, as the more generally accepted term, into the side of the hill in a westerly direction. Where the lode was cut it was found to be solid, well-defined, and carrying some very rich gold. The block held on the north was then floated as the Wellesley Company, who also drove a tunnel and intersected the same lode, carrying equally rich gold. The claims No. 9 and 10 adjoining further north, and which are now in the Long Tunnel Company's lease, were held as ordinary mining claims, but the prospecting operations had not up to this time been marked by any degree of success. The western

ground was marked out, a lease applied for, for the whole, and the now famous Long Tunnel Company registered in July, 1863. Prospecting was continued by driving the tunnel further into the hill, with the object of cutting the lode worked by the other companies on the south. At 566 ft. from the mouth, the diorite dyke was intersected, and every indication obtained that the lode passed through the ground, but at a greater depth. So satisfactory were the prospects that the then directory determined upon thoroughly opening up the claim. Reports upon the mine and of the best machinery were obtained from Mr. Rosales and Mr. G. S. Hartrick, now of Sandhurst. They recommended that a shaft should be sunk at the end of the tunnel. The lode had been so far developed in the southern claims that its course could be pretty accurately ascertained in the Long Tunnel. In the Wellesley, immediately south, it was ascertained to be dipping north about 32 deg., with a western underlie of 45 deg. In July, 1867, Mr. Ramsay Thompson, the present general manager, was appointed as superintendent and engineer to the company. A survey of the tunnel showed that the gradient was too great for practical purposes, and it was decided to cut it down to a fall of 6 in. in 100 ft. This work was started on November 14 of the same year, and completed in May, 1868. The length was also added to, bringing the total from the entrance up to 575 ft. Everything was, and is now, carried out in a most substantial manner. The timbering was of the very best, and a double set of steel rails 22 in. gauge laid down. The tunnel when completed was 8 ft. in height by 6 ft. in the clear. Immediately the tunnel was in the required distance a chamber was started in May, 1868, for the reception of the pumping and winding machinery. It was then 84 ft. in length, but has since been enlarged to 104 ft., 23 ft. in width, 13ft. high, the rock above being supported by massive wrought iron girders and cast-iron pillars. In August, 1868, the site of the shaft was marked out in the chamber at the end of the tunnel, and sinking rapidly carried on. The shaft is 8 ft. 6 in. by 6 ft. 7 in. in the clear, and divided into the ordinary compartments for pumping and winding. In May, 1869, at a depth of 140 ft. from the tunnel (from the surface to the tunnel perpendicular would be between 500 ft. and 600 ft.) the lode was cut within a few feet of where the surveys indicated; a prospect showed the stone to carry equally rich gold to that worked south by the Wellesley. The shaft was continued until it passed through 20 ft. of stone, which was then considered to be the cap of the eastern and western legs. At 170 ft. the shaft was stopped and the lode opened out upon. While all this work was in progress preparations were made at the surface for the erection of the machinery, a task surrounded by many difficulties. The hill into which the tunnel is driven rises abruptly, and almost perpendicularly, from the bed of the creek, and the flat ground was so limited in extent that a large amount

of excavation was necessary to obtain room for the necessary buildings. The plans for the machinery were completed in December, 1867. The directors determined that it should be powerful, and of the best description. Nearly opposite the mouth of the tunnel a large air-compressor was placed in position, together with four 20 in. diameter compressing pumps, on a 4 ft stroke. These are built on immense foundations, and arranged so that two or more can be worked as necessity requires. These pumps are worked by a high-pressure horizontal engine of 60-horse power, the steam for which is generated in three Cornish boilers 37 ft. x 6 ft. 6 in. The pumps compress the air up to 45 lb. to the square inch. The compressed air is sent along the tunnel, in an 8 in. cast-iron pipe, 800 ft. to the pumping and winding machinery in the chamber. The engine driving the pumps, three plunger sets, is 30-horse power, and that for hauling purposes 20-horse power. Flat wire ropes, 2½ in. x ½ in., are used for winding, the drums taking on about 1,200 ft. each. Patent safety appliances are attached to the whole of the machinery, and every precaution taken to prevent over-winding. The height from the brace to the pulleys is such that an extra turn of the engine would carry the cage to the pulleys. The absence of steam in the chamber renders the atmosphere cool and pleasant to work in. Ice, generated in the pumping engine, can be had *ad lib*. The major portion of the extensive machinery was manufactured at the works of the Langlands Company, on the Yarra-bank, and the Fulton Foundry Company. There were no roads, such as are now made round Little Joe, 17 or 18 years ago, nor was the railway through the “new province” contemplated. The machinery, weighing 125 tons, was conveyed by steamer to Port Albert, and thence by horse teams to its destination, the road carriage alone costing £12 per ton. In January, 1869, the last nail of the extensive plant was driven and operations below vigorously proceeded with.

Early in 1868, after the tunnel had been driven the full length, a winze was sunk 32 ft., where the lode was met. A drive was started on the course, and continued to the western boundary of the Wellesley ground, where the lode was found to be very rich. In December, 1868, the first crushing was made of 61 tons, a very fair trial, and the battery gave the splendid return of over 7 oz. to the ton. The company had no battery of its own at this time, and the greatest difficulty was experienced in conveying the stone to the mill of the North Gipps Land Company, some distance down the creek. The future success of the company was now assured, as they had a large lode apparently running through the claim, and wherever prospected, showing payable gold. At 170 ft., the full depth of the shaft, a second level was driven and carried to the south, as shown on the plan above. And it would be as well here to

mention that in the sketch of the levels shown the boundary south is what existed when the Wellesley was at work. Since that time the present Long Tunnel Company has included the claims of the Wellesley and Walhalla companies. The drive at the 800 ft. level shown has been driven further south a distance of 800 ft. or 900 ft. from the old boundary and towards what is now the Long Tunnel United. The two levels from the shaft to the south proved a block of ground 235 ft. in length by 118 ft. deep. As it was stoped up the stone developed into two branches, an eastern and western, which averaged 30 ft. in width. At one point in No. 4 level, as shown on the plan, the stone was stoped out 50 ft. in width for a considerable distance.

The mine was now in full swing, and crushing carried on regularly at the same battery. Within 12 months the returns had paid off the whole of the cost of the machinery, opening up the mine, and for large supplies of firewood, props, and laths. In November, 1869, the first dividend of £1 per share on 2,400 shares was declared. A battery close to the mine now became almost compulsory, and in May, 1870, the first 20 heads of stampers were erected within a few yards of the main street. The shaft was kept going, and the various levels as shown on the plan down to No. 9 driven both north and south. The lode has maintained a wonderful regularity both in size and character from the outcrop on the surface in the North Gipps Land through the Walhalla and Wellesley, down to the extreme north end of the No. 8 level of the Long Tunnel. At the higher levels the gold was heavier than those below, but from No. 4 the gold is very even in distribution throughout the quartz. Portions of the lode do not strike one as being valuable – in fact, have a hungry and barren appearance – but Mr. Thompson informs me this crushes as well as some of the much more promising-looking stone. Taken altogether, however, the lode is highly mineralised with iron and arsenical pyrites. In some of the higher levels, as shown on the sketch above, the lode has made into eastern and western legs. The eastern run making away from the main lode at No. 4 level is very rich, and has every appearance of continuing on up to the surface. If so, it becomes almost a new and a second reef throughout the mine. At the splice the stone makes smaller, but it is of a very rich character, and will average nearly 5 oz. to the ton. It has maintained its high average through all the levels above No. 4. The even character of the lode throughout the mine is shown by the fact that from the first crushing in December, 1869, to January of the present year, it has averaged 1 oz. 11 dwt. 17.24gr. to the ton, a period of 17 years, and there is now stone in sight at the various levels down to No. 8 that will keep the battery going for over five years.

The quartz crushed during the 17 years was 289,639 tons 10cwt., which gave a total yield of 459,767 oz. 8 dwt. of gold. The gross value was £1,620,473 3s. 7d., and the dividends paid to the fortunate shareholders £976,800. The company was originally registered in 2,400 shares at £5 each. The original area held by the company was 21 acres, but the directors gradually acquired by purchase, and consolidated the leases of the various dams on the south and new ground on the west, until it now reaches 246a. Or. 24p. The surface plan above of course only represents a portion of the claim; westward it extends a considerable distance. The whole of the ground extends along the line of reef, and includes the old Walhalla Company's mine. This ground came into the possession of the Long Tunnel Company after the Walhalla worked out their ground at the upper levels. At their No. 4 the lode dipped into the Long Tunnel ground. The Walhalla, however, continued to prospect their southern ground, and put a drive in 1,300 ft. through the old North Gippsland and Empress, then abandoned claims. This drive intersected a very promising lode, carrying what was believed to be payable gold. The manager was very favourably impressed with its appearance in the drive, but it was impossible to work it without sinking their shaft to a greater depth. Financial difficulties and the prospect of calls brought about a cessation of operations, and like many another good mine it was abandoned. The Long Tunnel Company was compelled to purchase the property in order to effectually drain their own mine. They have sunk this shaft 200 ft. deeper for the purpose of developing the ground, and a drive has now connected with the No. 8 level of the Long Tunnel. This is the drive shown on the plan as going south beyond the old boundary. On the day of my visit this drive was looking very promising for quartz; droppers were coming in, and later advices state that the drive has shown a further improvement. The old company possessed an extensive plant, but since it was merged into the Long Tunnel several additions have been made. The whole mine is well ventilated. At the No. 2 compressor the air is compressed to 65 lb. to the square inch, and reticulated throughout the mine by 2 in. gas-piping. These also convey the air for the rock-borers, four of which are at work in the levels or stopes. With the exception of a small concern at Daylesford, the Long Tunnel was the first mine that worked the whole of its machinery by means of compressed air, and though it may be considered more expensive than steam, the management is much more satisfied with the results. The mine was developed so rapidly, especially of late years, that it became necessary to increase the crushing plant; 20 head of stamps were added, making 40 in all, and these are kept constantly going. A new engine by R. Fulton, of Melbourne, was also erected. It is a 22 in. cylinder, with a 4 ft. stroke, expansive gear, and can be worked up to 75 horse-power. This

is steamed from three multi-tubular boilers. The stone is broken before reaching the stampers by two breakers of 2½ in. gauge, which make 240 strokes per minute. The tables of the battery are 9 ft. x 5 ft. As the stone contains a large percentage of arsenical pyrites, the tailings are carried off for concentration, and then into two 24 ft. circular buddles. The pyrites are treated at the works at Footscray, but large consignments have been sent to Freiberg, in Germany, with the most successful results. The average crushing from all parts of the mine is about 2,100 tons per month. Some years ago, furnaces and Chilian mills were erected at the mine for the treatment of the pyrites, but experience has shown that more profitable returns are obtained by forwarding them to the regular smelting works. The old Walhalla battery, which is also the property of the Long Tunnel Company, consists of 40 head of stampers, 20 of which are constantly going, **crushing for the Long Tunnel Extended, the company immediately adjoining the Long Tunnel on the north.** The pumping and winding machinery at the Walhalla shaft is underground, but is driven by steam generated by boilers in the chamber. This tunnel is driven 373 ft.; the chamber of 100 ft. long by 32 ft. wide. The machinery consists of a 22 in. oscillating pumping engine, a 30-horse power winding engine, and two 14 ft. x 6 ft. 6 in. multi-tubular boilers. **The old Empress mine, further south,** has pumping and winding machinery erected over a shaft 300 ft. in depth, and the upper levels are connected with the Long Tunnel.

The total horse-power of the company's engines is 220, the total quartz crushed for the company and the public 3,100 tons per month, and the number of hands employed 250, at an average wage of £2 10s. per week.

An item of very great expense in the working of the mine is the distance the firewood, props, laths, and other mining timber have to be conveyed. The company has 14 miles of tramways constructed round the precipitous mountains, with steel, iron, and wooden rails.

To Mr. Ramsay Thompson, the mining manager, and the engineer, I am indebted for a large amount of valuable information.

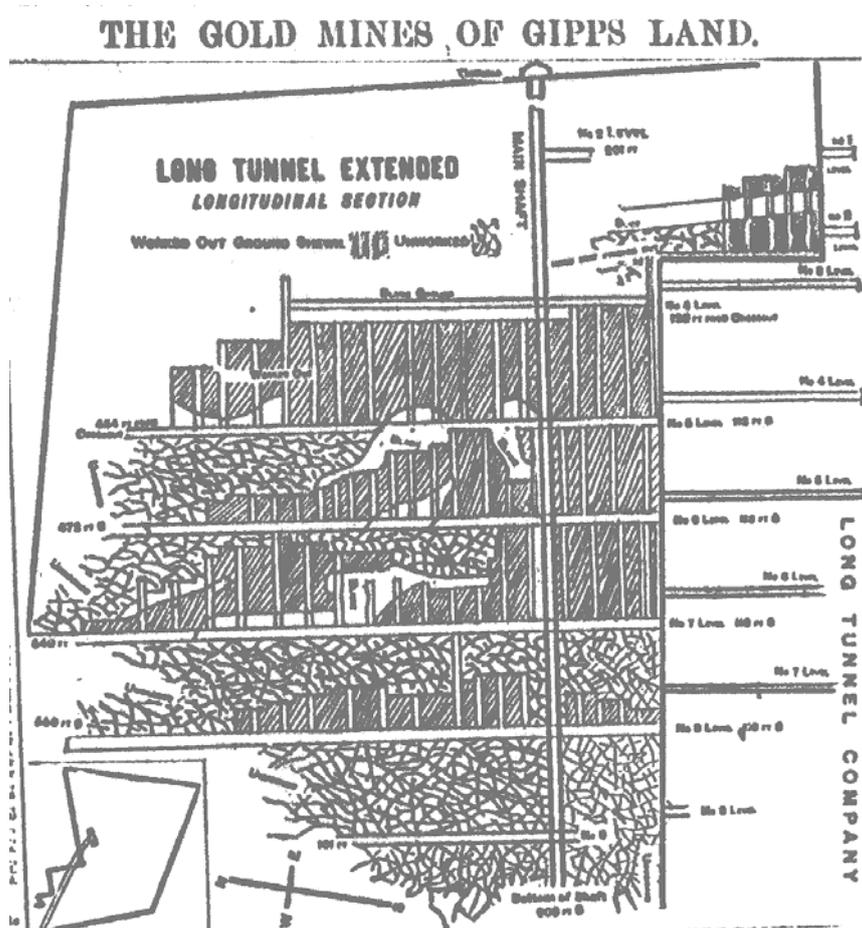
THE LONG TUNNEL UNITED

Immediately to the south of the Long Tunnel, as shown on the plan above, is the claim of the newly-formed company under the title of the Long Tunnel United. The shallow levels were worked to advantage many years ago, but the general decay of

mining in the mountains has had such an effect upon outside capital that the claim has been idle ever since. Local mining men watched the development of the Long Tunnel in that direction with a patient hope that some discovery would be made that would warrant the expenditure of further capital. The drive south, as shown on the plan of the levels, gave such indications of a near approach to the lode, that, in conjunction with a Melbourne syndicate, the ground was re-occupied, put into a company of 24,000 shares, and is now in active operation. In company with the management of the Long Tunnel and representatives of the metropolitan syndicate, I inspected the ground plans, and the surveyed line of the reef. There is a general consensus of opinion among the old identities of the Long Tunnel, that the lode worked at shallow levels was the eastern stone, which was then found to be broken up and disordered by the gorges and eruptive disturbances of the bygone age. Mr. Thompson and many other miners are confident that the main body of stone is away to the west, and it is for this run that the drive is coming in a southerly direction towards the United. A drive has also been started from the southern end of the United, just above where the lode was discovered near the bed of the creek, in what is considered to be the western leg of the lode, now being worked by the Long Tunnel. The range is unbroken, and when reached the management estimates to have 600 ft. of backs; 40 ft. or 50 ft. should be far enough to reach the stone. A shaft, indicated on the plan, is also sunk on the claim, but it is not proposed to do any work in that direction just yet. A late telegram from the Long Tunnel states that stone had been cut in the southern drive at the 800 ft. level, but it will be Thursday next before much is known of it.

Altogether the outlook of mining at Walhalla and the surrounding mountains is brighter than for the last 10 years.

THE LONG TUNNEL EXTENDED MINE
BY OUR SPECIAL REPORTER



When the rush took place to Stringer's creek – now Walhalla – the country north and south for miles was pegged and held under the mining regulations of the day, but it was not until some years after that gold payable to any extent was discovered north of what is now the Long Tunnel mine. About 20 years ago a company was formed and called the Hercules to endeavour to pick up the run of stone worked further south. A tunnel, 450 ft. in length, was driven into the side of the hill, and opened out on the line of the lode, 100 ft. north and south to the adjoining boundary, a distance of about 350 ft. Work was carried on for the time with varied degrees of success. The stopping done south and near the boundary produced stone which yielded on an average 18 dwt. to the ton, payable certainly, but not nearly so rich as that of their neighbour further south. After some months' work the reef went under foot, and could not be worked profitably without more suitable machinery. Prospects altogether in the mountains were not bright, and after some delay it was decided to reform the

company and start work on a more comprehensive basis. The new name given the mine was the **Long Tunnel Extended**. The main tunnel, as shown on the surface plan above, was carried into the hill for 900 ft. At the end of the tunnel a large chamber 100 ft. in length by 16 ft. high and 30 ft. wide was excavated for the reception of the machinery. At the Long Tunnel the machinery in the chamber is driven by compressed air, but at the Long Tunnel Extended the company is satisfied to work their pumping and winding engines by steam generated in the chamber. **An expensive piece of work in the large cavern, for so the chamber appears in the dim candle light, is a bricked flue driven to the surface, a height of 510 ft.,** and an inclined air shaft, 450 ft. in length, the top of which opens out into an adjoining gully. About three years were occupied in carrying out these works, and a large pumping and winding plant having been purchased, a start was made in December, 1878, to put down the shaft from the centre of the chamber to a contract depth of 600 ft., or where No. 6 level is shown on the sketch. At this point a crosscut was driven, **and the reef struck in the month of July, 1881. It was 4 ft. in width, and carried payable gold.** In the meantime levels were driven above, viz., No. 2 at 201 ft. in depth, No. 4 at 414 ft., and No. 5 at 515 ft. At No. 6 it will be seen that the reef was stoped out north for a distance of 472 ft. from the crosscut. **Here the country changed, became very hard, and the reef pinched out.** Up at this end, as reef began to contract, it became very rich, and was apparently the end of the stone dipping under foot to the north. A crosscut was then driven in No. 5 level above the 131 ft., **which developed one of the peculiar features of the quartz reefs in the mountains.** After driving on past where it was expected to reach the stone, no reef could be found. The levels north and south were started on the supposed line, and at 10 ft. it was picked up and traced south to the boundary of the Long Tunnel. On the north side the level was driven 20 ft. before stone was met with. When sent to the mills it turned out to be a good quality. The drive followed the lode north for 150 ft., **where the stone was thrown east from 18 ft. to 20 ft.** From this point it was followed 304 ft. All these backs up to within 20 ft. of No. 4 level carried first-class stone. A crosscut was driven into No. 4 where the walls of the lode were met with, but they **carried no stone whatever.** The level was then tried south, but though it was driven to the boundary, there was **nothing but barren country.** In a northerly direction the country was almost similar for nearly 180 ft., when the reef came in about **10 in. wide, and appeared as if it was the commencement of a new shoot of stone coming from the south overhead.** A rise was put up on the southern boundary, 60 ft. on the underlay, and a level driven round the overlap above the No. 3 level of the Long Tunnel, as shown on the plan. Here splendid stone was discovered which appeared to be the same shoot as that met at

the north end of the same level. A second rise was put up at the extreme north end of the level, 70 ft. high, carrying payable stone the whole distance. Coming further down the shaft the No. 7 level was started and driven 540 ft. north, and to the boundary on the south. The whole of the south end is stoped up to No. 5 level, and north to the extent shown on the sketch. **At both ends, in fact throughout in this level, the lode varied in quality, and in some parts was very much disordered.** At No. 8 level the crosscut went in 48 ft., and southerly the reef taken out for a height of 25 ft. Here it varies from 2 ft. to 10 ft. in thickness, and is of fair quality. North the level has been extended 539 ft. 6 in., and stoped for a length of 315 ft. to an average height of about 30 ft. **The lode varies in size from 12ft. to, in some parts, as narrow as 6 in., but the stone taken altogether is payable.** At No. 9 level the reef was intersected at a distance of 90 ft., and when struck was only a few inches in thickness. North up to the point shown on the plan, 161 ft., the average width is 3 ft., and of very fair quality stone. No stoping has yet been done over the level either north or south.

Going up the shaft again to No. 2 level, the crosscut was put in fully 300 ft., before the lode was reached. A contract had just been let at the time of my visit to drive this level south, in anticipation of meeting with the same reef now worked in the stopes round what is locally known as the "overlap" and shown on the plan above No. 4 level. All the ground below the No. 8 level north and south has yet to be worked. The drive is in 161ft., and has over 530 ft. to go before reaching the boundary.

The company consists of 9,000 £6 shares, of which £3 11s. has been paid up, and on which dividends to the amount of £6 4s 6d. have been declared, or a grand total of £30,700.

The machinery consists of a horizontal winding engine 20-horse power, made by Cochran of Glasgow; two winding drums for round wire rope capable of carrying 2,000 ft.; a pumping engine, 55-horse power, made by Horwood and Sons, of Sandhurst. In the shaft there is a 9 in. pump, consisting of lift and four plungers. There is also in the chamber a national air compressor, capable of driving three rock-borers, a Tangye steam pump for feeding boilers, two Cornish flue boilers, one 25 and the other 30-horse power, and sunk in the floor of the chamber is a large air receiver. The battery at which the Long Tunnel Extended crushes is the property of the Long Tunnel Company and connected with the old Walhalla mine. The stone is trucked along a tram line round the side of the range from the mouth of the tunnel to hoppers, a considerable distance down the creek. The average output is 1,000 tons every four weeks.

Mr. William Parker is the general manager of the works, and I am indebted to him for much of the information in connexion with the mine.

THE NEW LONGFELLOW'S MINE

About a mile and a half to the west of the Long Tunnel line of reef, the Longfellow's line at one time attracted a considerable amount of attention, but as soon as the best of the gold was worked out the principal mine there – the Longfellow's – succumbed to the general depression. Accompanied by Walhalla's principal broker and general informant, Mr. Retardt, I tramped the spurs to the claim, which has recently been resuscitated under the management of Mr. Hickey. The old tunnel is being driven ahead. A small leader, which has since developed into a reef 3 ft. in width, was just cut, and carried a very nice sample of gold. The mine will be fully prospected with every possibility of success, as the country is intersected by several lodes, most of which were worked successfully at the higher levels.

THE SHAMROCK

The reef bearing the above name was discovered in 1865 by Finn Bros., and where worked profitably was from 4 ft. to 4 ft. 6 in. thick. At one time the shares were worth from £11 to £12 each. Several dividends were paid, but little or no dead work carried on during times of prosperity. When the depression throughout the mountain goldfields came there were no funds in hand, and, like many another mine, this one closed its career. Mr. Reginald Murray, the Government geologist, in his report last April says:- “The Shamrock reef is to the south of the Donnelly's Creek track It is very much to be wondered at that such reefs as the Shamrock, the Perseverance, and others with similar histories, should remain so long neglected, when by means of a little carefully-conducted exploration, the continuation of the gold-bearing shoots would in all probability be discovered.” The first crushing gave the original holders 4½ oz. to the ton, and as there appears to be a mining revival throughout the Walhalla district, the old claim has been resuscitated. A lease of over 23 acres has been obtained, and a company with a capital of £12,000 is in process of formation. The old tunnel is in 500 ft., from the end of which it is 250 ft to the surface. At the northern boundary the depth will be about 400 ft., and owing to the hilly nature of the country tunnels for lower levels can be easily driven. The present holders are so satisfied with the mine that they have not issued a public prospectus, but are allotting the shares privately.