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REPORT ON GOLD MINES NEAR HOGAN'S TRACK.

Government Geologist's Office,

Launceston, 3rd November, 1899.

SIR,

IN accordance with your instructions, I visited some of the gold claims on or near this track on the 15th, 16th, and 17th October. Those which I was able to examine were the Brilliant, the Golden Ridge, the New Carthage, and the Double Event. I could not visit the Queen of the Earth, which lies by itself to the southward, and as no one is in charge there and the water would have to be baled out, I should not have gleaned much more about the field than I learned from inspection of the other claims.

Topography.—Access to this goldfield is gained by a fair bush road called Hogan's Track, which starts from the Fingal-Mathinna Road about three miles below Mathinna, and runs N.E. to George's Bay. At 10 or 11 miles along this track the Brilliant and Golden Ridge sections are reached. About a mile past the shaft of the Golden Ridge Syndicate, a two-mile branch-track goes off to the N. and E. down the four-mile hill to the sections worked formerly by the New Carthage Gold Mining Co., No Liability. Those sections are close to a tributary of the head waters of the Scamander River. Two more miles of footpath, now overgrown with fern and scrub, lead northwards across the valley up the hill on which the Double Event mine is situate.

The track from Mathinna to the Brilliant is passable for wagons and spring carts, but there are a few swamps along its course which are very difficult to negotiate in wet weather. Hogan's Track is being put in order right through to George's Bay, and it is to be hoped that it will be maintained in something like a decent state, as it is a convenient path for prospectors. The want of tracks has doubtless contributed to the neglect of this field by miners. Ascending from the flats of the South Esk the hill is very steep, and loaded wagons consequently go round by Marshall's Track, which diverges from the Fingal Road five miles below Mathinna and unites with Hogan's a mile west of the Brilliant. This is a mile further round, but the grade is easier: I went one way and returned the other. The track rises at the Brilliant to 700 feet above Mathinna, and at the Golden Ridge Hill to 900 feet—or 1600 feet and 1800 feet respectively above sea-level. The country is covered with fine iron bark, stringy bark, and peppermint timber with little or no undergrowth, and is an ideal one for prospecting.

Geology.—The broad alluvial fields forming the valley of the South Esk belong to the later Tertiary and recent periods. To the S. and W. of the river are the slates and sandstones through which run the gold-bearing reefs of the Mathinna field. These have so far proved non-fossiliferous, but are with great probability classed as lower Silurian. The dominant strike of the whole series is N.W.—S.E., and the mean dip is N.E., where not reversed by folds. After crossing the South Esk and emerging from the valley, the rising hills are composed of yellow sandstones covered with quartz detritus. These strata still belong to the Silurian series, but at about 300 feet above Mathinna they are overlaid unconformably by grey and reddish grits, sandstones and conglomerates. These can only belong to the Devonian or Permo-Carboniferous

systems. I heard that casts of fossil shells had been found in some of the beds, and from the description given I recognised them as spirifers. These grits in places are coarsely crystalline and full of sharply-bounded crystals of brilliant black titanite iron, mistaken sometimes for cassiterite. I believe the beds are the lower members of the Permo-Carboniferous system. Higher up, at the Brilliant and the Golden Ridge, the grey, brown, and yellow Silurian sandstones, nearly vertical, with perhaps a slight dip to the E., form the hills. They are unfossiliferous, and the hill-crests for three miles traverse the strike of a monotonous succession of these sandstone beds. I tried to form an idea as to whether they are younger or older than the auriferous slates, but could not find data sufficient to warrant any definite conclusion. On the whole, however, I think they are younger, though certainly still members of the Silurian system.

The bed-rock of the whole field, though it can only be seen in a part of it, is granite. It is important to fully recognise this fact, as it is connected with a proper interpretation of the gold occurrences. It is of little use to spend time in examining in detail the veins of auriferous quartz, which ramify through the sandstone, and in wondering how they will behave in depth, unless we understand the relations between the sandstone and the rocks which underlie it. On the Brilliant or southern side of the Golden Ridge hill I could see nothing but sandstone and bands of quartzite. But half way down the northern side of this razor-like ridge, granite comes in and fills the bottom of the valley near the head of the Scamander, rising into high hills S.W. and N.W., and forming the base of the hill on the east. Granite country is said to extend for ten miles to the north. At the New Carthage I saw it plainly underlying the sandstone. We have, therefore, decisive evidence of the position of the granite. It intruded at great depths into the sandstone sediments, hardening them at the contact, and probably contributing to their tilting. This granite upheaval and intrusion could not affect the Permo-Carboniferous grits and conglomerates, for the latter were subsequently laid down on the upturned edges of the older sandstones.

BRILLIANT MINE.

This claim now comprises three sections, viz., 109-93G, 10 acres, (the Brilliant proper), also known as Terry's Section; 115-93G, 10 acres, called Marshall's Section; and 602-93G, 10 acres, known as Shearn's Section. The first two are on the south side of the creek, and the third one on the north side.

East of, and near Mr. Terry's hut on Section 115-93G, is what is called Marshall's Reef, or the White Lode, a band of light grey to whitish quartzite about 5 feet wide, running N. and S., carrying quartz veins said to have yielded, on crushing, from 2 ozs. down to 14 dwts. gold. A pile of quartzite and vein-stuff, from 60 to 100 tons is lying at the mouth of a shaft which has been sunk 40 feet down on this reef. The stone will shortly be put through the battery which is now being erected on the Brilliant section. A horse of country seems to have split the reef, which at surface was 18 in. on western side and 3 ft. 6 in. on the eastern. The legs have united, and drives 10 to 12 feet are

said to have been driven N. and S. on the lode at the bottom of the shaft. The bottom drives were under water, and I did not inspect them. About 10 feet to the south there is an 11-ft. cutting to prove the reef, and at 25 feet to the north there is another shaft 20 feet deep. Still further N. is a small shaft 15 feet deep, showing four feet of mullock between false walls. On the E. side the face is unaltered sandstone, and on the west side, mullocky. The slope of the hill on the line of reef goes down 50 feet (vertical measurement) to the creek which divides the Brilliant properties from the Ridge Hill, but the reef itself is not traceable further north than the last-mentioned shaft. In the opposite direction it has been exposed in the cutting a few feet south of the main shaft, but I did not see any costeaning further south. Its bearing is true N. 12° E. As I could not get into the shaft, I did not take any samples of the stone, but the crushing will very soon prove its value. The name "reef" can only be applied to this course of stone for convenience. The quartz, the quartzite, and the sandstone of the country rock all have the same strike and dip, and the quartzite was no doubt originally sandstone too. I look upon the quartz as an infiltration vein between the bedding-planes of the sedimentary rocks. This infiltration has silicified the sandstone on either side of its path and converted it into quartzite. This is, it will be noted, a very different process from that of fissuring the rock and filling the fissure with reef material. The behaviour of the quartz beyond where it is visible cannot be predicted, nor can its continuance in any given direction be depended upon. The occurrence of gold in it, however, shows that it is continuous in some way or other with a deep-seated source. As far as can be seen, the make does not extend very far horizontally, and this shortness is an unfavourable sign for its behaviour at a depth. At the same time, if the results of the crushing turn out fairly well, the owners should drive on the make as long as they have it, and see what they can stoop out. The result will guide them as to further sinking. At the main shaft the hard grey sandstone, which encloses the quartzite, changes, going E., to a softer variety, but, again, it becomes harder where a series of small auriferous veins run through the country. On the east side of the small creek on the Brilliant section the sandstone is light grey with yellow faces, and carries bluish quartz leaders. Some Mathinna people made a cutting here some 60 ft. long into the solid-bedded grey sandstone, which is dense and rather massive. It is still nearly vertical, or with only a slight easterly variation from the perpendicular, and encloses veins of quartz between its planes. A little N.E. of this a trench has been cut down to six feet in yellow and reddish gossanous matter, traversed by veins of bluish quartz, which may be the capping of some lode. However, I took a sample, which Mr. W. F. Ward, Government Analyst, has assayed, and reports to contain neither gold nor silver. This formation also runs with the country, which is hard, massive grey sandstone. Just W. of the Brilliant Creek there is a small soft yellow gossany band, about a foot wide, containing some gold-bearing quartz in grey, laminated sandstone. This is the only vein which I saw on the Brilliant sections tending to diverge from the bearing of the country. It comes in at the N.W. angle of the sink, and seems to make a little easting as it goes out to the south. In the eastern part of Section 109 is the Brilliant lode, bearing true N. 22° E., enclosed in pale grey quartzite standing in vertical beds. This band of quartzite widens out eastwards past the battery, and is, perhaps, altogether 150 yards in width. It carries two or three quartz veins. The reef has been traced some 20 feet south of the shaft, and surface pieces have been picked up in the gully a few hundred yards further south. It is intended to prospect in that direction: that is, indeed, one of the first things to be done by those who intend carrying on work here. About 9 chains S.E. of Marshall's shaft, a shaft has been sunk on the Brilliant lode to a depth of 30 feet. This shaft was unwatered while I was there. I found the lode in the

bottom to consist of grey quartzite with strings of bluish quartz. At the north end of shaft this band or lode was 18 inches to 2 feet wide, and appeared to be squeezed out of shaft on the east side. It is thus pinched at the south end to a few inches in width. I doubt whether its disappearance is due to a change of direction. It looks as if the extremely hard quartzite had pinched it out. However, that could soon be tested by a cuddy east. There are no true walls to this reef: the apparent walls are faces of massive quartzite. It is unfortunate that its greatest width is at the N. end, for the ground there slopes down to the creeks. A little driving S. will have to be done to follow the reef into the hill. The shaft collar is about 60 feet below that of Marshall's shaft. A 10-head battery is now being put up. This seems to me to be premature, for I could not see more than 100 tons of stone at the outside ready for it, and no new stone has been broken yet. It will no doubt be welcomed by any other small claims which may be started in the neighbourhood, as this field is a good distance from Mathinna. A loaded wagon takes eight hours to make the journey from the township, and will cost the hirer 25s. per day.

What is called Jack's Lode, west of the Brilliant reef, is a band of five or six inches of altered quartzite, with a blue quartz leader an inch or two in width. A small shaft has been sunk on it 10 feet in the solid. The leader keeps to the W. wall and bends a little to the E. The band itself is in more defined quartzite each side.

I traced the sandstone strata eastwards beyond the eastern side-line of the Brilliant section: brown and grey massive sandstone, with cross jointing and small leaders of quartz.

On Shearn's section, 602, north of section 109, several old workings are found, mostly in yellow sandstone, showing quartz veins, many of which are auriferous. On the saddle of the hill is Grueber's shaft, sunk 50 or 60 feet deep in yellow sandstone country, with a vertical leader 4 inches wide alongside 14 inches of gold-bearing gangue. Near here is Carney's shaft, 10 feet deep, also in yellow sandstone, with quartz veins, said to be auriferous: strike about N. 12° E.: bedding-plane vertical. The widest vein is 4 inches, and the thickness decreases to half an inch. These veins are often horizontal, running across the bedding. Going down the hill on the southern slope are numerous trenches and cuttings exposing quartz stringers, some of which I have found, since my return, yield good prospects. It is unnecessary to mention these in detail. There seems to be ample proof that the beds are everywhere traversed by thin veins and strings of quartz, very often gold-bearing. In the aggregate the quantity of auriferous quartz must be considerable, and it is no wonder that the field has aroused the hopes of gold-seekers.

For the proprietors of the Brilliant sections it is urgent to know whether there is a chance of these veins living down and making into solid bodies or reefs of quartz at a reasonable depth. After examining the country immediately to the N., I believe that the vein-matter is derived from the underlying granite, and that it will be exceptional to find solid reefs on these sections until the granite bed-rock is reached. On the other hand, as the granite is being approached, reefs may be met with. But all the evidence goes to show the sandstone country in this property (and I am speaking of these sections only, and not of the field as a whole, which I do not pretend to be able to judge from a cursory traverse) is not altogether favourable for reefs. The force which fissured the granite and produced, as we shall see, mineral lodes in it, was not sufficient, as a rule, to fissure the superincumbent slates also, and the silica merely found its way along lines of easy passage—the bedding-planes and joints. Any alteration or deviation in these divisional planes is sure to produce corresponding changes in the lines of quartz deposition. Thus it is impossible to depend upon the makes of quartz maintaining their original directions or any uniformity of thickness. There is nothing to be surprised at in this. It does sometimes happen when a

payable reef emerges from granite into sandstone that it degenerates into unremunerative stringers. The further question presents itself—at what depth will the granite be struck here? The answer can only be given after detailed survey. Approximately, however, we may reason thus: the Golden Ridge Hill is about 250 ft. above the bottom of the Brilliant shaft, and descends 1000 ft on the N. side, the granite mounts about half way up the hill on that side; consequently, if the underground surface of the granite intrusion is a horizontal plane, it would come through the hill southwards at about 250 ft. below the present bottom of the shaft. But we have no proof that the upper boundary of the underlying granite is horizontal: possibly it might sink into the form of a deep valley, receding to a great depth. Further, we cannot be sure of locating the points where the supposed reefs issue from their granite parent. In the absence of any surface exposure of granite on the south side of the Ridge Hill, I am not very favourably impressed with the chances of the Brilliant veins. If an undeniable reef could be found, the prospect would be altogether different. As it is, perhaps a small party might be able to knock out a living by working some of the richer veins. The outlook at the bottom of the main shaft is not promising at present, especially as samples of lode stuff which I broke from right across the formation, when assayed by the Government Analyst only yielded 6 dwts. 12 grs. gold per ton, and 8 dwts. 4 grs. silver. The present battery will not treat this kind of reef-matter effectively. But the vein must be further explored by driving south upon it with occasional short crosscuts, and the southern portions of sections 115 and 109 must be prospected more thoroughly than they have been hitherto. The discovery of a few rich veins, even if small, would soon pay for a lot of dead work.

GOLDEN RIDGE MINE.

No work is being carried on here now. Operations seemed to have ceased a couple of years ago for want of funds. The lease covers three 10-acre sections—90-93G, 110-93G, 111-93G on Hogan's Track, N.E. of the Brilliant. The Golden Ridge Syndicate Company, Limited, of London were the adventurers, and appear to have expended about £1000 on the mine without any results beyond establishing the existence of veins on the property assaying from 1 dwt. to 13 dwts. gold per ton. Want of success has probably been due in some measure to misdirected efforts. Of course, it was very natural to try and follow the veins where found to be auriferous, but a mistake was made in confining work to the southern side of the hill. The granite country comes in on the northern slope, and as there is reason for believing that the auriferous veins proceed from that rock, search should be made at the contact, and work set out accordingly.

There are two principal points at which work has been carried on—the Iron Blow and the main reef. The Blow is exposed on the top of the Ridge Hill, about 1200 feet above the valley to the N. A shaft has been sunk upon it 50 feet in depth. Being abandoned, I could not go down it, but the Hon. N. J. Brown has kindly placed at my disposal some of the mine reports and the assays of quartz. I could not establish the bearing of this outcrop with any exactitude, nor even assure myself that it is a reef at all, but it appears to run E. of north, and W. of south. The shaft is in sandstone with veins of good-looking quartz. The main vein is, perhaps, 10 inches to a foot wide, stained with iron oxide and green arsenate of iron. At 50 feet a 20-ft. crosscut was put in to the N.W. through sandstone. but no quartz was met with, and, in fact, no quartz is reported to have been seen in the shaft below a depth of 25 feet. In March, 1897, Mr. W. F. Ward, the Government Analyst, assayed sample from heap at top of shaft and found gold, 9 dwts 19 grs.; silver, 1 oz. 12 dwts. 16 grs.; but as the stone has disappeared in the shaft, and there are no proper walls to the formation, such as it is, which seems to be running with the country, I can only regard it as another

instance of the unreliability of the quartz makes in this sandstone.

The main reef on the property has been sunk on in an underlay shaft to a depth of about 50 feet. The reef or vein is enclosed in sandstone, which here has a westerly dip. A smaller prospecting shaft has been sunk on this reef, known as Knight's shaft, from which four tons of stone were raised and sent for treatment. Two tons were crushed at the old City of Melbourne battery and returned 21 dwts. per ton. The other two were treated at the Ballarat School of Mines, and the Hon. N. J. Brown has permitted me to extract the results from the Laboratory Superintendent's report of treatment, as follows:—

One ton net yielded	17 dwts. 23 grs. bullion (fineness, 16 carats $1\frac{1}{2}$ grs.)
Assay of barrel tailings	7 dwts. 20 grs. per ton tailings.
Weight of barrel tailings	2 cwts. 3 qrs. 22 lbs.
Assay of battery tailings (running)	15 grs. per ton.

<i>Contents per ton of stone.</i>	<i>Fine gold per ton.</i>
Bullion extracted at battery, 17 dwts. 23 grs., containing fine gold.....	12 dwts. 4 grs.
Left in battery tailings	15 grs.
Left in barrel tailings (chiefly in the pyrites).....	1 dwt. 3 grs.
Total contents.....	13 dwts. 22 grs.

One ton net yielded..... 1 oz. 6 dwts. 21 grs. gold bullion.

Crushed in battery through 2500 holes to the square inch over Wynne and Tregurtha tables, then over Halley and blanket tables. The Wynne and Tregurtha concentrates were amalgamated in the barrel.

Yield from 1st ton.....	17 dwts. 23 grs.
Yield from 2nd ton	1 oz. 6 dwts. 21 grs.
	2 oz. 4 dwts. 20 grs.

bullion from the two-ton parcel=1 oz. 2 dwts. 10 grs. bullion per ton.

A deep tunnel has been driven N.W. into the hill on its southern fall to strike the main reef. The tunnel is in sandstone country all the way. At 340 feet in, a small quartz vein, heavily charged with arsenical pyrites, was cut, and the adit continued past it another 200 feet without any further discovery. The present end is in unmineralised sandstone with irregular massive heads unfavourable for driving, and with no indication of proximity to any mineral veins. The small vein cut at 340 feet was sampled where intersected, and assayed by the Government Analyst, who gives the result as 2 dwts. gold with a trace of silver. This vein is rather persistent in the drive, but varies a good deal in thickness. I did not see any stone more than two or three inches wide, and some of it only an inch. It is highly pyritic. The quartz, what there is of it, is kindly-looking. From all appearances this is the lode seen at surface, and yet I feel some doubt, as it is not running exactly with the country strata. The sandstones have been subjected to some moving force in this section, for the beds, which are dipping at high angles at surface, are seen lying rather flat in the tunnel. The property requires a thorough survey by a mining and geological expert in order to locate the veins and advise as to mine works. All the work done hitherto may be looked upon as preliminary, and serving to give some idea of the chances of the sections. It has exposed veins of auriferous quartz, but has shown that so far the stone is irregular in occurrence, and variable in quality. I do not know the latest results in Knight's shaft, but if the stone holds down it will have to be followed. The principal search work, however, must be taken in hand from the northern side of the hill. The surface conditions are favourable for cheap working. Adit levels are practicable; mine timber of excellent quality is plentiful; water power in the valley is available; the locality is healthy; and Hogan's Track passes through two of the sections; but if work is to be resumed, it must be laid out judiciously, and after taking competent advice.

NEW CARTHAGE MINE.

This is reached by a deviation called the New Carthage Track, which branches off from Hogan's Track to the N.E., a mile past the Golden Ridge mine. The path then descends the Four-mile Hill a thousand feet into a valley watered by one of the feeders of the Upper Scamander and carved out in granite rock. The principal mine work done is on the 10 acres, 1496-93G, known as Marshall & Miller's section, where an adit, just above the track near the base of the hill, has been driven 60 ft. S. 20° E. into granite. The approach is in 15 ft. of decomposed granite *in situ*. At 60 ft. it intersects a small quartz reef, which runs about W. 20° S—E. 20° N., dipping or underlaying south. The course of the reef has been driven on about 50 ft. each way. Being very near surface, the country granite is usually rather soft, though near the reef it is sometimes very hard, and is then a quartzose variety, with little or no felspar and abundant black mica. The adit did not intersect the reef at more than 30 ft. below grass, and an old stope worked from surface comes down to within 13 ft. or 14 ft. of the back of level. A rise has been put up over where the best stone was noticed, and for three feet up the lode was 12 inches wide, but above that small and broken. In the sole of the level at this point the stone is stated in the mine reports, lent to me by Mr. T. Furlong-Marsden, to have been 15 inches wide. None that I saw exceeded a foot, but the estimate may have included marginal mineralised material. In the W. drive the stone keeps to a fair hanging-wall, and is of very variable width. It is of a bulgy nature, thinning out and swelling every now and then. Three feet behind the end it is 6 inches wide, but in the end itself has pinched. This end is in rather decomposed and soft granite. The quartz is kindly-looking, and has a family likeness to a good deal of the East Coast auriferous stone. It does not show free gold; nevertheless, it has good gold contents. Its main visible characteristic is the arsenopyrite with which it is charged. It is often stained with arsenate of iron, and occasionally carries a little galena. Samples which I took from different parts of the reef in this drive have been assayed by the Government Analyst, with the following results:—Gold, 1 oz. 12 dwts. 16 grs.; silver, 1 oz. 12 dwts. 16 grs. I did not notice any galena in these specimens, from which the silver yield might have been derived. If, as is most probable, the whole of the metal came from the arsenopyrite, it is electrum, a natural alloy of gold and silver. In the E. drive the greatest width of stone which I observed was 9 inches. Sandstone country comes in in the end, and the reef is pinched out. A short crosscut has been put in on the hanging-wall of drive a few feet behind this end with a view to pick up the lode, but only granite rock was found. I am afraid it will not be of much use to drive this end any great distance further. It might, however, be continued a little way to settle whether the reef lives at all in the sandstone. The present drives are near surface, and the future development of the mine will have to be by sinking. A good stream just below the mine had water enough to drive 10 head of stamps, and the power can be increased by bringing in an auxiliary supply from a creek higher up: but the product from this reef will require treatment by smelting and parting methods, as the gold does not seem to be in the quartz but in the other minerals. I was told that 45 tons of stone were sent to Victoria for treatment, and yielded 4 oz. gold and 4 oz. silver per ton; and I have learned since my return that another lode on the property has given a still higher assay. The assay returns show unmistakably that the mineral is highly auriferous, and the next thing is to ascertain the quantity of mineralised stone which can be obtained. At present both ends are far from encouraging. The best plan will be to sink where the stone was best in the drive, but some trouble with water may be expected. Gold-bearing reefs in granite are not viewed favourably in this Colony, and this one seems very variable and bunched. But we really know next to nothing of it, and, considering its contents, it is singular that it has not secured more attention. It is certainly small, but is too good to be

left alone. The work done hitherto has been, strictly speaking, only prospecting, and it is time something is done to prove the value of the occurrence.

DOUBLE EVENT MINE.

This is also an abandoned claim, about a mile N.W. of the New Carthage. The track from the New Carthage runs north-west along what is marked on the Upper Scamander chart as the Scamander River itself, but which I was assured was only a tributary stream. About 100 ft. up the hill, which is granite all the way up, is a cutting on section 939-87G, which exposes a vein of quartz about 9 in. wide. The bearing of this lode is about N. 67° E., and the character of stone resembles that of the New Carthage. It lies under six feet of soil and granitic detritus. About 20 chains N.E. of this is another parallel lode. On the main Double Event reef towards the top of the hill a shaft has been sunk 60 feet on the underlie. The bearing of this reef is N. 57° E., and it dips to the N. at a high angle. I could only inspect the shaft by looking down. I saw that it is in soft decomposed granite, getting harder going down. The stone is on the N. side of the shaft, and is 10 or 12 inches wide at the top, widening out, I am told, as it descends to two or three feet or more: this, of course, I could not see. There is a short cuddy N. at bottom of shaft. The stone from the shaft is of a solid and encouraging appearance. I was told that quartz from the bottom had assayed 4 oz. 6 dwts., but quartz selected by myself from the pile at mouth of shaft and assayed by the Government Analyst only yielded 3 dwts. 6 grs. A tunnel to the S. will cut this reef at about 70 feet depth, or ten feet below the present bottom of the shaft. The reef is exposed further E. in a small sink ten feet deep, which shows good bluish quartz 18 inches wide, and widening to the N. going down. It has been uncovered at intervals along its course eastwards some 100 feet or more, and for some distance also westwards. At the top of the hill further E. it is covered by the sandstone strata. The way to develop this mine is by adit, cross-cut, and drives E. and W.: particularly E. At a good height and in a remote locality, the mine, though not particularly difficult to get at, is rather unfavourably situated; and if the average yield from the stone is no more than the low assay return just quoted the outlook is unpromising. The appearance of the quartz is inviting, and there seemed to be more of it than I had seen elsewhere on this field. I am in ignorance of the results obtained from previous work, and particularly as to whether it was discontinued owing to the stone or the gold-yield falling off, but judging from the little I was able to see, I should recommend renewed trial on a moderate scale.

In terminating this Report I beg to thank Messrs. Geo. Carney and S. Terry, jun., who took me over the ground. As will have been noticed from my remarks, the field is broadly divisible into two sections: the sandstone and the granite areas. The Brilliant workings are in the former, the New Carthage and Double Event in the latter. The Golden Ridge mine is in the sandstone, but the property comprises both. In the granite portion of the field the reefs are true lodes: in the sandstones they appear as small veins, often deflected by the bedding and joints of the sedimentary strata. Even in the granite the reefs are not large, and in both granite and sandstone the nature of the gold appears to be the same—viz., alloyed with a large proportion of silver, the latter sometimes in excess of the former. I have formed a more favourable opinion of the granite area than of the sandstone country, but both require more prospecting than they have had hitherto.

I annex map and section to illustrate the present Report.

I have the honor to be,

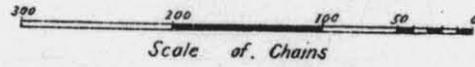
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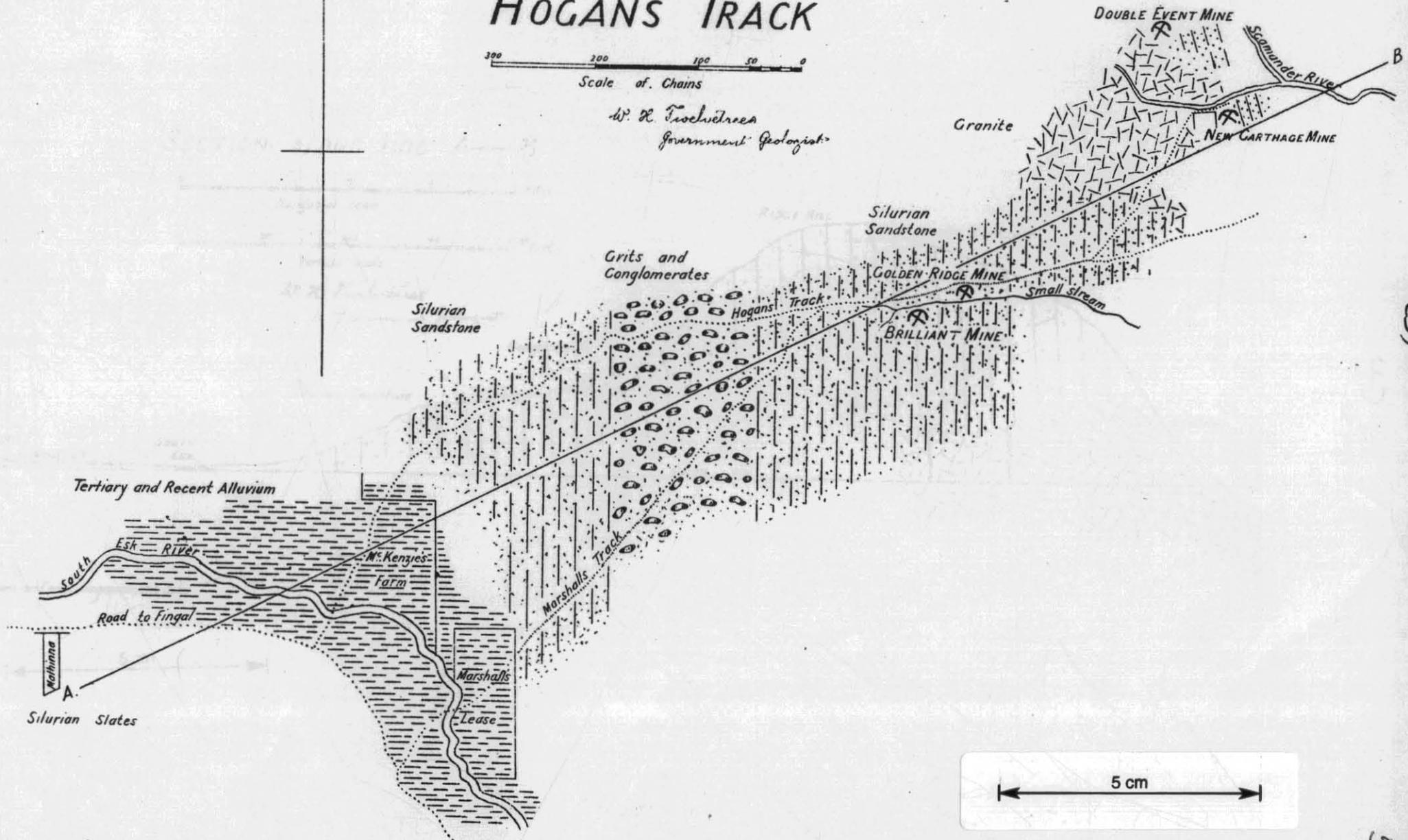
W. H. TWELVETREES,
Government Geologist.

W. H. WALLACE, Esq., Secretary for Mines.
Hobart.

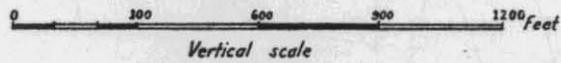
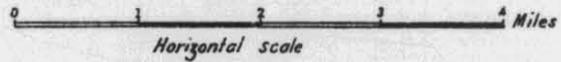
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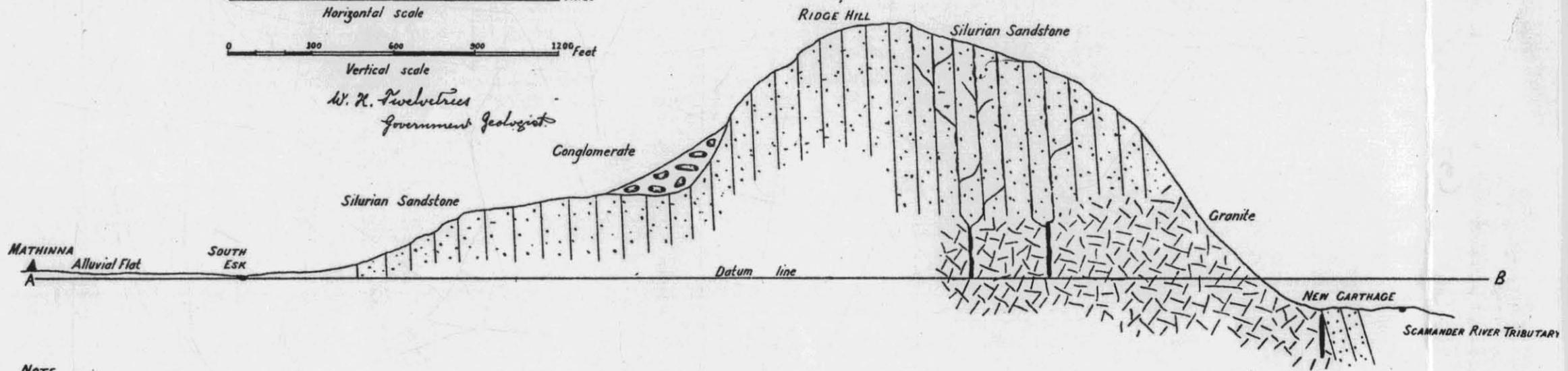
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SECTION ALONG line A—B



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NOTE.

Lodes and veins diagrammatic only.

