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Dear Sir.

In compliance with your request, I now have pleasure in furnishing you with a report on the Lafroy Deep Lead.

This Lead is overlaid with basalt, and appears to be running at right angles to the reefs of the district. A series of bores put down by the Tasmanian Government, proved the existence of heavy wash at depths varying from 175ft to 270ft. In one of these bores gold was reported from the lowest gravel, of which there was 6ft 10in in thickness, at a depth of 263ft from surface. On the western side of the basaltic area a shaft was sunk 343ft by the East Pinafore G. M. Coy. This shaft was sunk with a view of picking up a continuation of the New Pinafore reef. Hard basalt being struck, and water making rather freely, it was decided to bore with diamond drill from the bottom of shaft. This was done and bottom reached at 240ft from surface. Samples of the wash obtained were carefully tested and failed to give the faintest trace of gold. Nothing daunted the Company pushed on with sinking of shaft and after innumerable difficulties succeeded in reaching bottom, which was dipping very fast South East. Samples of the wash taken from all over the bottom of shaft were tested and in each case encouraging prospects of gold were obtained, which shews the fallacy of placing too much reliance on the Diamond Drill for proving the existence of gold in wash. At 263ft a crosscut was driven south a distance of 170ft. The wash was cut in crosscut and eventually dipped down to the bottom of cross

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cut, where the New Pinafore reef was also met with, this was at 85ft from shaft. The reef here was 8 or 10 feet wide & carried a little gold. <sup>101 263 ft level</sup> The wash where first tapped at back of crosscut carried payable prospects, and at the bottom highly payable prospects were obtained. Samples giving as high as  $\frac{3}{4}$  dwt per dish, the gold was well waterworn and of a coarse nature. As it was impossible to drive east at this level owing to the reef and wash dipping underfoot in that direction, work was confined to driving west on the course of the reef, and prospecting the wash on the north side. The developments in the wash were sufficient to warrant the erection of a sluicing plant and a fair quantity of wash was extracted but the results were not sufficiently good to continue work in that direction. The amount of gold won from sluicing is not obtainable, but I know it was a splendid sample of waterworn gold. Operations on the reef were attended with a little success but having only a limited amount of backs it was deemed advisable to sink the shaft a further lift not only to gain more backs on the reef, but also to cut the wash at a greater depth by driving East on the reef. The No 2 level was opened out at 343ft from surface and the New Pinafore reef again intersected at 110ft. <sup>SOUTH</sup> This was driven on for a distance of 88ft East and 310ft west. In the latter drive the reef was well defined and shewed plenty of stone, and at times some very rich but small patches of stone were obtained. The reef going east was not so well defined, caused through a bar of black slate coming in, and was not persevered with, mainly owing to the Shareholders having

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become disheartened with the difficulties & disappointments encountered by the Co. A small amount of prospecting was done at no. I level, and heavy wash proved to exist with a little gold scattered throughout, the thickness of wash averaging over 4 ft. adjoining this claim to the westward is the prosperity of the New Pinafore G. M. Co from which 54, 670 oz of gold have been obtained and \$70,500 paid in dividends. This reef was worked for a distance of 1400ft along its course & may fairly be termed the Champion reef of the district. The reef matter and the enclosing country rock is of a very soft nature and has no doubt been much ~~broken~~<sup>ru</sup>ded. Starting about the centre of this property the bed rock is reached at about 5 ft from surface & from this point to Eastern boundary it dips to a depth of 200 ft from surface. Good alluvial gold was obtained from the shallow ground in the vicinity of, and at a good distance North, of the line of Reef & many hundreds of tons of wash were obtained from various depths & crushed with quartz obtained from the reef. At 200 ft level the reef was cut at 100 ft North, from central shaft, and here carried 10 ft of good payable stone. This stone did not continue very far East and after passing through a flank of several hundred feet good stone was again met with, and continued until the wash made its appearance in the drive, and eventually dipped underfoot at about 50 ft from East Pinafore. <sup>Section</sup> The wash here carried good prospects of gold and was afterwards blocked out for a distance of 75 ft long by 65 ft wide, average thickness of wash 3 ft, and forming a well defined gutter having an Easterly trend & dips. The best of the wash was crushed with quartz obtain-

*In the New Pinafore workings 200ft level*

ed, & to <sup>to</sup> beat the poorer portion a sluice was erected & by this means alone 75~~0~~ oz of gold were obtained. This gold was well waterworn & much heavier than that obtained from the New Pinafore reef. When it was being worked (~~the writer had~~) very little doubt *was entertained* that it had been derived from some other source a fair distance away. / As only a small quantity of ground remained to work no effort was made to prove it at a deeper level. About 400ft north and running parallel to the last named is the famous New Chum reef from which 42,000 oz of gold were obtained and \$79,250 disbursed in dividends. This reef was followed until it dipped under the basalt to the eastward. Next in order in the same direction comes the East Extended Chum's & White Pinafore reefs which also produced a fair amount of gold and like the others mentioned also dip under the basalt. To the southward about 15 chains, is the Golden Era reef which carried some very rich stone and produced an appreciable amount of gold. From the main shaft on this reef a cross-cut was run out north 600ft, and an alluvial gutter was passed through at 170ft from surface. This gutter carried very encouraging prospects of alluvial gold and is evidently a branch or tributary of the main lead, still further south lies the East Clarence & Morning Star reefs the former being of a soft nature similar to the New Pinafore reef. These reefs were also responsible for a considerable amount of gold and at no great distance east are also overlaid with basalt. The New Native ~~South~~ reef from which 26,000 oz of gold were obtained and \$28,457 distributed in dividends is next in evidendce. This reef appears ~~to~~ run at

the head of the basaltic area for some considerable distance, but must eventually run into the more eastern portion. Between this reef and the Morning Star reef on the north side, and the Golden Point on the south, a considerable of gold was won from alluvial in shallow deposit, eventually dipping into the deep ground. The last named reef furnished some of the richest stone worked in the district, one crushing in the early days yielding 700 oz from 50 tons quartz. This reef is bearing N.E. & S.W. and if continuous would junction eventually with Native Youth and other reefs. Continuing still further south numerous reefs of more or less importance, have been found, the most notable being the Volunteer and Land o' Cakes reefs. The former turned out 39,006 oz of gold and paid \$83,375 in dividends, and in the latter sufficient gold was obtained to warrant the erection of a battery and a fair amount was paid in dividends. These reefs also are overlaid with basalt along their Eastern extension and are situate about 2 miles south and at a height of 328 ft above the line of bays just alluded to. In the intervening space many small patches of alluvial in shallow deposit have been worked with good results, and in most cases these shallow leads run into deep ground. At the northern end of the field a shallow alluvial deposit was worked about 25 years ago. This was known as the Pinefore lead, and was by far the best shallow lead in the district, but no records are available of the amount of gold won. This lead was also followed until it dipped away rapidly under the basaltic area, and no attempt has been made to prove it further, doubtless

owing to the presence of hard basalt, and the fear of heavy water, reasons quite sufficient to deter the ordinary parties of miners.

The foregoing is not meant to be a detailed account of the different reefs and leads but merely to give an idea of the great possibilities that exist under the great basaltic area under review. When it is considered that there are 18 known lines of reefs which have produced upwards of 7 tons of gold ( to say nothing of the numerous shallow leads ) trending towards this same area, there seems to be every inducement for the expenditure of capital for systematically proving the wash, & at the same time one or other of the principal reefs known to lie beneath it. That the majority of the reefs mentioned were of a very soft nature, and rich at the present surface level, is proof enough that any wearing down from original surface, must have resulted in the liberation of a lot of gold, and that this wearing down has been very considerable is evidenced by the fact that such large bodies of wash exist in the deep ground, and the presence of fairly extensive deposits of alluvial wash in shallow deposit. For many years we were speculating as to whether any gold existed under the basalt or not. We have since proved this to be a certainty in the cases of the New & East Pinafore Coy's mines, at depths ranging from 200ft to 243ft, and it now remains for the capitalist to prove the extent and richness of the deposit.

The late Government Geologist speaks very highly of this portion of the Lefroy field, and I can fully endorse his remarks thereon as regards the prospects of the Deep Lead, and if full

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None of the wash treated by the New or East Pinafore Coy's required puddling but went direct to the sluice boxes.

It must be remembered that any Company working on the lines indicated would have two strings to their bow, viz the alluvial wash and the reefs, either or both of which may prove highly payable.

In conclusion I can only state that I have every confidence that not only will payable gold be found under the basaltic area in the wash but also that one or more of the reefs will be proved.

The amount of water when work ceased was approximately 260,000 gallons, per 24 hours, which was easily dealt with by the above pump. Between No 1 and bottom level (343 ft) the water was very light and was disposed of by baling occasionally.