"The reef consists mostly of quartz of a laminated character, stained in places with oxide of iron and containing pyrites near the water level. Judging from the character of the western reef, it is a true fissure vein and therefore has every prospect of maintaining in depth. Its longitudinal extent has not yet been proved, but to judge from the surface indications it will probably split up and be lost to the southward. The lode is small but of good quality, as has been proved by the very constant returns of about 1⅓ ounces of gold to the ton. It is by no means a company proposition, but there is every reason to believe that a party of working miners like the present owners should be able to make a fair return from it.

"The proposed work for which the loan is asked is to sink a main working shaft nine feet by four feet in the clear, divided into three compartments, and timbered throughout to a depth of 250 feet at a point which will cut the western lode at that depth. Besides this it is proposed to purchase a winding engine, boiler, headgear, cages, rope, and tanks for bailing water, also pumps and piping if required. If this work is undertaken it will be with every reasonable prospect of success provided the sum available is sufficient to carry through the undertaking."

Northam District.—In the month of September, Mr. H. P. Woodward visited Northam for the purpose of examining and reporting upon certain gold discoveries. It appears that discoveries of gold have been reported from the vicinity of Northam, from the period of its earliest settlement, and that prospecting work has been carried out at various periods, both by the Government and the residents, whilst the establishment of an ore crushing plant at Seabrook has given a considerable impetus to the search for gold in recent years.

Mr. Woodward's work in the district was exclusively confined to the examination and sampling of those localities where gold is reported to have been discovered. The high state of cultivation in the district resulted in most of the potholes and trenches in which lodes are reported to have been opened up being filled up, and any sampling possible consisted solely of collecting scattered fragments from the surface.

Mr. Woodward's report is as follows:—

"Northam * is situated upon the Avon River at its junction with the Mortlock; the surface is hilly and broken but the hills for the most part are soil-clad to the summits. Rocky ridges are rarely met with, the rock outcrops being mostly confined to the low-lying tracts and the stream beds.

"The rocks of the district are mostly granitic with belts of schistose country which strike roughly north and south with an easterly dip, and it is in these belts or along the junction of these with the granite that the mineral veins occur.

"Traversing one of these belts which lies immediately to the eastward of Northam are some large ferruginous banded quartz dykes very similar to those met with upon the Murchison goldfield. These form bold, rough, broken ridges of hills which can be traced for many miles. Associated with these dykes are numerous ferruginous quartz and hematite veins, also outcrops of limonite with opal veins and garnet rock.

"The tops of a few of the highest hills are capped by superficial ferruginous deposits (laterite), the under beds being ochre clays which are often weathered away, leaving caves beneath the harder upper beds.

"The first point examined was upon the Grass Valley road about 1½ miles from Northam, upon Block P. 1 (Cunine); here the road passes through a break in a large banded ferruginous quartzite dyke mass striking north and south and dipping to the eastward. A sample of this was taken and numbered No. 1, but the sample yielded no gold.

"There was also a white quartz outcrop running at an angle to it, the strike of which was more to the north-west, but owing to the extremely barren and flinty character of the stone it was not sampled.

"At Mallabine, Block 1080, about two miles to the north-eastward of the last mentioned, a considerable amount of prospecting has been done by the owner, Mr. J. Beard, and his father before him. Good prospects are said to have been obtained from small ferruginous leaders which were opened upon by means of pits and trenches which are now pretty well filled in, but a considerable quantity of stone is lying about the surface from which a sample was taken, No. 2, which yielded no gold upon assay.

"In this locality a shaft has been sunk to a depth of 72 feet 6 inches in mica schist with the object of cutting the leader at a depth, but this shaft is not deep enough to attain its object.

"Copper is said to have also been discovered in this vicinity, but since all the old holes have now been filled in and the surface ploughed over there is no trace of it to be seen at the present time.

"About half a mile north, upon the northern half of Block 1080, Mr. Beard has also done some further prospecting upon what is said to have been a ferruginous leader rich with gold, but since all the stone has been removed and the shaft is not accessible a sample could not be taken. The rocks here are similar to that at the last mentioned, with the additions of bands of garnet rock.

"At the south-east corner of P. 3, near a conical hill with a laterite capping, gold is said to have been discovered in small potholes, now filled in, upon the west side of the hill. This land is now under crop, but some fragments of common opal are strewn about upon the surface.

"Upon the east side of the hill a shaft has been sunk to a vertical depth of over 100 feet in crystalline schists with veins of hypersthene, hematite, quartz, garnets and tourmaline, the joints of the rocks being often coated by thin facing of opal.

"About three miles north of this, upon the eastern edge of P. 4, there is a large and well-defined quartz outcrop of a very barren character, striking north-west and south-east, near which, in a creek bed, gold is said to have been discovered. In this stream bed a number of holes have been sunk but apparently without result, and these have now been filled in.

* *Vide* Lithograph 27, issued by the Department of Lands.

"Mt. Dick, which is about five miles north of Northam, is upon the line of ferruginous quartzites, but close to it are some outcrops of limonite with veins of semi-opal which have been opened up. The opal is much weathered, but is apparently of the fire variety and should be worth a further trial.

"There are also some veins of ligniform asbestos, but this mineral is too brittle in the fibre to be of any value.

"About six miles north of Northam, upon Mr. Morgan's property, T. 1, gold is said to have been discovered many years ago, and to test this the Government sunk a shaft over 100 feet deep upon the top of a hill at some little distance from the point where the discovery is said to have been made.

"A number of small holes have been sunk with the object of discovering the reef, but so far although a considerable quantity of quartz was met with, no definite body was encountered.

"The quartz from these holes varies considerably in character, but an average sample was taken of the whole, No. 3, the assay of which yielded a trace of gold. If a selection of the most promising stone had been treated alone there is no doubt but that a much better result would have been obtained.

"In the bend of the river immediately north of Northam, two pits have been sunk on two small parallel reefs by Mr. Cohen. This land is now under cultivation, but samples were taken from the stone raised, Nos. 4 and 5, neither of which yielded any gold.

"Taking the district as a whole it does not present any promising mineral character, but it is highly probable that gold may be discovered in small quantities, but it is extremely questionable whether these will prove to be payable. Small low-grade lodes are of absolutely no value, therefore without large auriferous formations are discovered there is no hope of a gold mine being worked at a profit in this district.

"The following is a return of assays made in the Survey Laboratory, under the supervision of Mr. E. S. Simpson:—

1293—No. 1	...	...	...	Gold—*nil.*
1294—No. 2	...	...	...	Gold—*nil.*
1295—No. 3	...	...	...	Gold—trace.
1296—No. 4	...	...	...	Gold—*nil.*
1297—No. 5	...	...	...	Gold—*nil.*"

Recent Mining Developments at Greenbushes.—A visit of the Assistant Geologist, Mr. Campbell, in the month of December to Mullalyup in connection with a question affecting the alienation of mining lands, afforded an opportunity for acquiring some information regarding the recent developments at Greenbushes. On his return, this officer submitted the following notes on the observations made:—

"I have the honour to report that, in accordance with instructions, I visited Greenbushes on the 13th December and obtained from Warden Geary some particulars of the localities where tantalite had been obtained.

"The principal one is M.L. 369, the Enterprise, held by Messrs. Jones, Grey, and Marsh, and is on the main road about three-quarters of a mile south of the post office. An open-cut about 12 feet deep has been made on the west side of the road; the upper seven feet shows a wash of tin and tantalite (*see* Mineral Specimens [**6507, 6508, 6509**]); below this is kaolinised gneiss containing a micaceous lode formation, 18 inches wide (*see* Mineral Specimen [**6506**]), slightly greenish in tint, but in places slightly ferruginous, carrying particles of tantalite and tourmaline from coarse dust to chunks, one inch in diameter. A drive has been put on the lode 30 feet. The lode is seen for 18 feet when it tapers out, but the micaceous formation continues and appears to be making again at the end of the drive. The strike of the lode is 323 degrees and the underlay 22 degrees to the south-west. A shaft, about seven feet deep, has been commenced a few yards further south to reach this lode further on the underlay. A pothole one and a-half chains north-west of the last spot shows a somewhat similar wash; *see* Mineral Specimen [**6508**]. Sample [**6509**] is the washed ore, ready for the market.

"A little tantalite is said to have been found in wash with tin on the next lease to the north, No. 370, The Wills, held by Alfred Seabrook, and a claim, No. 755, the Dill-McKay, held by Messrs. Hille and O'Farrell, adjoining the east side of M.L. 369, and also in M.L. 379, the Galtimore, held by Messrs. Marsh and Galt; this is one mile south-westerly from the Greenbushes Well Reserve 13811; it adjoins part of the south side of M.L. 313, The Battler's Hope; the workings of the latter were not accessible at the time of my visit. Several shafts have been put down in a line bearing 235 degrees at a depth of 40 feet in kaolinised granite; a micaceous lode containing tantalite is stated to have been found. (*See* Mineral Specimen [**6375**] given by Mr. Galt.)

"The remainder of the day I devoted to the examination of several leases where it appeared that tin-bearing lodes were being worked. Most work has been done in the Cornwall, M.L. 356, formerly No. 40, when it was held by the Greenbushes Tin Development Co., a Kalgoorlie syndicate I understood. The old workings comprised several shafts from 60 feet to 120 feet depth on the various lines of lode, of which there appear to be four in number (*see* Mineral Specimens **6510, 6511, 6512**), striking about 161 degrees with a westerly underlay of 84 degrees. The two western lodes at least are in decomposed granite, and either one or two of the eastern lodes are probably in the dark mica schist [**6514**] showing in the dump of the 120-feet shaft. Very little stoping appears to have been done by this company, their chief endeavour being to go deeper. The mine was reported on by Mr. Maitland, the Government Geologist, on the 26th of October, 1901, in connection with an application of several mines for Government subsidies, shortly before the mine was abandoned. The present owners, Messrs. Woodgate and Meagher, have been stoping and driving from the old workings at 60 feet to the surface of the decomposed rock, which is overlaid by about 7 feet of tin wash and gravel. They state that they found rich patches of ore. They have also sunk several minor shafts with drives and stopings, and have been very well satisfied with the mine.