(For the purpose of considering the objections raised to the granting of mineral leases, it is necessary to bear in mind that "alluvial ground" is that which is defined in the Mining Act.) There is only a very limited area of detrital deposits in the gullies and ravines and such are only narrow, and in no case of any depth. On the low slopes of the main range, to the east of the Cassiterite lease, there are numerous veins, which have shed a fair quantity of tin (and a little tantalite), which now lies not far from its parent source, and should, I think, be withheld from lease until such time as some competent officer certifies that the ground (which is but shallow) has been worked out.

Despite the fact that the surface of the country is traversed by lodes and contains more or less tin set free by their disintegration, the field cannot be said to constitute an alluvial field, differing in this respect (and geologically) from that of Moolyella previously reported on.

Mt. Margaret Goldfield.—During his work on the Mt. Margaret Goldfield, Mr. Assistant Geologist Gibson examined and reported upon the following centres:—Laverton (including Lancefield and Ida H.), Burtville, Erlistoun, Duketon, and Mulga Queen, in addition to which a brief examination was made of the country between these centres. Geological sketch maps have been prepared, on a scale of 20 chains to an inch, of Laverton, Lancefield, Ida H., and Burtville, and black and white maps on a similar scale, showing the position of the principal lines of reef at the centres of Erlistoun, Duketon, and Mulga Queen. In addition to this work an examination was made of the country at the Cosmo Newberry Ranges and thence to Mounts Shenton, Venn, and Warren, and on to the Ulrich Range at the south end of Lake Wells. Mr. Gibson has prepared the following brief description of the salient geological features of the principal centres examined:—

"Laverton (including Lancefield and Ida H.).—This centre is the present terminus of the Eastern Railway. The salient geological features are practically identically similar to those of Mt. Morgans, which has already been dealt with in detail by Mr. Jackson in Bulletin No. 18. The staple formation consists of a series of basic and acidic rocks, of which the basic occupy by far the larger area. The basic rocks, the greenstones, are essentially hornblendic and occur both massive and schistose, being similar to those usually found forming the auriferous series of the Eastern Goldfields. It is within these greenstones that the auriferous reefs and lodes are found to occur. The acidic rocks vary through felsites, felspar-porphyries and granites, and occur chiefly as dykes and intrusive masses, being most largely developed at the north end of the district in the vicinity of Lancefield. A few small deposits of laterite (ironstone conglomerate) occur, forming the cappings of low greenstone hills and ridges, but is mostly of an inferior grade. The greater part of the area under examination is covered by a varying depth of recent detrital deposits, which render detailed mapping extremely difficult, and on this account many of the geological boundaries may be looked upon as purely arbitrary. The ore deposits, like those of Morgans, can be divided into two classes:—

"(*a.*) Lodes which are genetically similar to the banded and hematite-bearing quartz lodes which form so conspicuous a feature of the Murchison and Mt. Margaret Goldfields.

"(*b.*) Gold-bearing quartz reefs of the normal type.

"Most of the principal mines are working on deposits of the first class. The district as a whole is well watered, but timber is not too abundant and is rapidly becoming exhausted.

"Burtville.—This centre differs from the majority of West Australian mining districts as yet opened up, in that the majority of the auriferous quartz reefs are found in an area of granitic rocks. This area occupies a roughly circular extent of between one and two miles in diameter, and is situated entirely within the greenstones, into which it appears to be intrusive; it has also apparently been subjected to the same strains as the greenstones, and the reefs in it almost without exception run parallel to those found in the adjoining greenstones. The greenstones, which occupy the larger portion of the field, are of the usual type and consist both of massive and foliated varieties. Both they and the granites are very much decomposed and weathered, such weathering continuing well below the deepest mine workings (about 200 feet). The greater part of the district is covered with recent detrital deposits, often to a depth of 20 or 30 feet, and this renders accurate detail mapping almost impossible; very few of the reefs outcrop; floaters are picked up on the surface and the reefs are found by deep costeaning, or sinking and crosscutting, the soft nature of the country rendering this a fairly easy undertaking. The reefs are of white quartz and are numerous, but small (4 to 10 inches), and almost invariably rich—five and 10 ounce crushings being of common occurrence. This fact, taken together with the soft nature of the country, renders it an ideal district for prospectors but not of much use to companies, there not being sufficient stone procurable to keep any sized crushing plant continuously at work. Fresh water is abundant on the field, but timber is scarce.

"North Erlistoun.—This district embraces the centres of Erlistoun, Duketon, and Mulga Queen. Mining is very slack, with the exception of the last centre. The salient geological features are much the same as those of most of the other mining centres of the Eastern fields. At Erlistoun are found the banded and hematite-bearing quartz lodes traversing the greenstones in a general north and south direction. Here, although auriferous, they have not proved sufficiently so to pay for working. The reefs being worked throughout the three centres are white quartz reefs of the normal type; they are usually of fair size and often of considerable length. They occur without exception in the greenstones, and at Duketon appear to be along the junction of the greenstone schists with a granitic rock, though the country is so decomposed and rotten that it is almost impossible to discriminate between the two classes of rock. There is an abundant supply of fresh water throughout the district, and timber of good quality is fairly abundant.

"Cosmo Newberry Ranges and Mounts Shenton, Venn, and Warren.—A detailed examination was made of the country at these centres, as well as of the country at the Ulrich Range on the south end of Lake Wells.

"At the Cosmo Newberry there is an area of country some ten miles long and three to five miles wide, consisting for the most part merely of a series of small lenticular gashes in the greenstones, and from their appearance are not likely to live continuously to any great depth; their gold contents, too, are mostly low. A good deal of surface prospecting has been done here, but no work of any importance; several potholes have been put down, and one shaft has been sunk to a depth of about 30 feet.

"There is a Government well at the Ranges, but the supply of water is small, due to the well not being deep enough.

"Mount Shenton is the highest point on a north and south range of hills formed by a large belt of hematite-bearing quartz reefs; this belt is in greenstones, and the whole extent of the probable auriferous country is only some 10 miles by 2 (including Mt. Venn, which is the southerly extension of the range). This hematite-bearing quartz belt is some three miles long, but as far as tested is practically non-auriferous. Near Mt. Venn the belt dies out, but there is a larger extent of greenstone country. These greenstones are mostly massive, and are intruded by masses of porphyry; a few quartz reefs occur, but they are mostly small and irregular and low in gold contents.

"At Mt. Warren are a series of rough greenstone ranges extending over an area of some six or eight square miles; these greenstones appear to be similar to those usually comprising the auriferous series of our goldfields, but as far as could be seen in a cursory examination (owing to scarcity of water) quartz reefs are conspicuous by their rarity.

"A full detailed account of these districts will be given in the report now in course of preparation."

New Find 60 miles E.N.E. of Duketon.—Mr. Gibson prepared the following preliminary report upon this district:—

"I have visited the new find, situated on the south-east side of Lake Wells, in the vicinity of the Ulrich Range, and about 60 miles east-north-east of Duketon, and have made an examination of it as to its extent and probable resources.

"The workings are situated on the north-eastern side of a low rough ridge of greenstone hills, trending in a general north-west and south-easterly direction for five or six miles, and having a maximum width of a little over a mile, tapering to nothing at either end; these hills are entirely surrounded by sand plains and spinifex. The rocks which comprise this ridge consist of fine to coarse-grained massive and foliated greenstones (amphibolite), similar to those usually found forming the auriferous series of the Eastern fields, and are traversed by a large number of acidic dykes, varying from a coarse-grained granite to a fine, compact, quartz porphyry, the latter type being by far the more prevalent. These dykes vary greatly in size, and run in all directions, though the majority of them have a general north and south trend; they also appear to be newer than the quartz reefs which they frequently cut through; the greenstones are usually considerably crushed and foliated in close proximity to them. The north-eastern fall of the hills is into a long narrow arm of salt lake—probably part of Lake Wells—lying from about two miles away.

"This lake runs past the north-western end of the hills, and then turns and runs southerly, being crossed by the road about six miles west of the 'find.'

"The present workings are situated on a small gully running down the eastern fall: this has been worked at irregular intervals for a length of about 20 chains, and a good deal of work has been done. Most of the gold has been got in the wash right in the bed of the creek at a depth of from two to four feet from the surface, and usually at points where the gully is crossed by the granitic dykes which form natural riffles on the bed of the gully. No, or very little, gold has been got on the fall of the hills into the creek; and this fact, viz.:—that all the gold has been shed and carried into the bed of the creek, militates against the chance of any rich leaders being found. So far most of the gold found is pretty fine, the largest piece obtained being less than 10dwts. No specimens have been obtained, but one or two pieces of gold were found with small pieces of ironstone attached, which would show that the gold has been shed from a small ironstone leader, or leaders, in the greenstones, which has been completely denuded away. There are several other gullies in the hills, and these have all been tried for alluvial, and so far with negative results; the sides of the hills and the flats at the foot of them have also been tried in numerous places with similar results. At the time of my visit there were seven men at the 'find,' one of whom was employed in carting water from the soak 20 miles distant by road, the remaining six were engaged in alluvial working, and had obtained amongst the lot of them between 15 and 18dwts. of gold as the results of a week's work. These men professed themselves as very dissatisfied with the district, and gave it as their intention to leave the place within the next few days. On my way into Duketon I passed another party of five on their way out to the 'find'; this will make quite a sufficient number of men to thoroughly test the locality, if that has not been done already.

"While at the 'find' I saw several runs put through the shakers, and all of them with very disappointing results, mostly only a couple of small 'colours.' A party of four who were at the 'find' some weeks before the present party obtained 8ozs. 7dwts. of gold as the result of six weeks' work; while, in addition to this, one man got from 28 to 30dwts., but I was unable to ascertain how long it took him to get this amount.

"This district was originally prospected by H. Swincer, who is said to have obtained a little alluvial gold here about four years ago; a couple of years later, Kirkpatrick and party, as the result of several weeks' work, obtained a few ounces of alluvial gold; I was unable to ascertain the exact amount, but it was said to be somewhere about 10ozs.

"As regards the reefing possibilities of the district, I don't think anything of importance is likely to be found in this line. Quartz reefs are certainly fairly numerous, but they are small and very irregular, being for the most part merely short lenses or gashes running with the foliation of the greenstones, and are, I think, not likely to live to any great depth; they are also much broken and distorted, owing to the