EXPLORATIONS IN CENTRAL AUSTRALIA.

MR. DAVIDSON'S NOTES ON COUNTRY EXPLORED EAST OF TELEGRAPH LINE.

The Central Australian Exploring Syndicate was formed to explore and prospect a block of 8,000 square miles of country in the central portion of the Northern Territory. This area was leased under a special Act, which gives the sole right to prospect over an unlimited area on payment of a nominal rent, and complying with certain specified conditions. It is undoubtedly a wise measure, as the difficulties that have to be overcome make the development of the mineral wealth of the interior one that must be undertaken by strong companies, and inducements of a special character are necessary to procure the capital required for such enterprises. It is impossible to offer too many inducements for companies to operate in Central Australia, as the opening of an extensive goldfield would have a far-reaching effect on the prosperity of South Australia and the Territory.

Before starting on this expedition we were fortunate in obtaining the advice of Mr. Charles Winnecke, F.R.G.S., whose large experience of the interior was of great assistance, and enabled us to have all arrangements fairly complete at the other end before leaving Adelaide.

One frequently hears wise people with limited experience discussing the foolishness of less wise folk in starting on expeditions in dry country in the midst of summer, quite forgetting that 1,500 miles inland there is a change of climate, and that the rains only fall during the hot weather. I followed the example of other foolish explorers, and left Adelaide in November, 1897, with all necessary plant procurable in Alice Springs, and travelled via the Transcontinental line to Oodnadatta, the terminus.

I here met Allan Breaden, an experienced Central Australian bushman, who had been engaged from Adelaide as second in command. Our goods were dispatched to Alice Springs by camels; Breaden and myself then continued the second stage of the journey on horses. The route along the Overland Telegraph Line is well known, but the country was suffering from such a severe drought that we had some difficulty in getting the poor horses over the long dry, foodless stage; but by careful "nursing" and the kindness of Mr. P. Byrne, of Charlotte Waters, we managed to get through to Alice Springs. I here purchased nine camels and a quantity of stores, and engaged four prospectors and a camel man. The expedition then consisted of myself, Breaden, P. Byrne, J. Keane, D. Pedler, W. Bullfield (prospectors), and J. Woods (camel-driver), nine camels, five horses, three blackboys, stores for six months, and a complete prospecting equipment.

In addition to our own team, I hired one of 30 camels to carry the loading to our first depot, which I hoped to make up towards the source of the Bonney River. From Alice Springs our route was still along the telegraph line; so, after getting the teams fairly started, Breaden and myself took two riding camels, with some provisions, and pushed on ahead with the object of locating a suitable place at which to form our depot.

A small station named Stirling, near Barrow Creek, was the first point at which our journey was broken. We there purchased, killed, and salted several head of cattle as a meat supply for the future, which was left for the camels to bring forward.

Barrow Creek Telegraph Station, some 15 miles further on, was our next halt. We were hospitably entertained, and continued our exploration of the telegraph line after a day's rest, arriving at Bonney Well in another 80 miles. The well is sunk on the bank of the Bonney Creek, which takes its source from the Murchison Range; and it was up towards the head of this creek that we anticipated striking a convenient waterhole, at which to form our first depot. Our exploration of the telegraph line was now finished, and we broke new ground in traversing the Bonney Flat; being in a conciliatory mood, we made a promising start by discovering a splendid hole of water, 13 miles from the well. It was situated at the junction of a branch creek, coming in on the left bank. Being practically at the base of the range, it was very conveniently placed; and, in addition, it was both a good camel and horse camp. We pitched the camp by the water for the night, bagged a brace of ducks, and returned to the Bonney Well the following day. Owing to the excessive heat and fast travelling our camels were very foot-sore, and, like ourselves, appreciated a spell while awaiting the teams.

E. Warne, from Tennant's Creek, met us here for mail, the first that had been up the line for something like four months. Having had some experience of parts of the country we proposed trying, he was able to give me some very useful information.

The camels arrived in due course, and were piloted up the Bonney to the spot selected for No. 1 depot. Camp was fixed, store and bough shed erected within the next few days, and we were then ready for the work of discovering an Eldorado—as at this stage confidence in our ability to do this was unbounded. Prospecting was commenced just 61 days from leaving Adelaide, and during that time I had travelled over 1,400 miles, 866 of which was by train, and the balance per horse and camel. On examining the surrounding ranges it became evident that to reach likely country we should have to work out in separate camps from the depot. The plan arranged and worked was to form two outside camps—with two men and a blackboy in each, leaving one man and a blackboy at the depot—whilst myself and Breaden explored for likely localities to pitch these camps. The whole formation of the range in the vicinity of No. 1 depot consisted

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consisted of sandstone and quartzite, which was not of a very promising character; but a number of intrusive sheets throughout the quartzite beds necessitated spending more time in this class of country than we should otherwise have done. The weather practically from the start had been very hot, the temperature for days ranging from 110° to 120°. The absence of any tropical rain well into February created the impression that we were in for a bad time, owing to a shortage of water. It was, however, confidently predicted that the intensity hot weather could not last. This proved correct—the weather broke all at once, and in doing so scattered our depot. Something in the nature of a waterspout fell over the head of the creek, and caused a flood, which came down the valley in a solid mass, and picked up the depot as it rolled along. Fortunately the flour stack stood the rush of water, but it was all that remained of the camp, plant, and several tons of provisions. One of the working camps, almost at the head of the branch creek, was also flooded, the men making a lucky escape to some hills close by, the blackboy guiding them by the vivid flashes of lightning. Breaden and myself were some 30 miles out from the depot, exploring for new belts of likely country, when the storm struck us. We had camped that night without water, but before daylight we had more than sufficient, having neither tent or fly. The almost continuous roll and crash of the thunder, and the vivid flashes of lightning, made an impression not easily forgotten. Although the water was simply pouring from us, and we were shivering with cold—more contrast than cold—we enjoyed the drenching as those who live and work in the tropical drought-stricken interior can enjoy a rain storm, no matter the conditions under which it is faced; and this to us meant the medium of the great discovery we were to make. On the following morning a start was made for home, as the depot was termed; but the ground was so boggy that at dusk we floundered into a watercourse, and getting one horse down we decided to leave the others, and pack in a tree, and walk. We arrived at the spot where the depot stood at about ten o'clock at night, and learned to our sorrow that it was practically all down the creek. Another heavy downpour, and a rapidly rising creek made it advisable to move the flour—the only thing remaining—to somewhat higher ground. This, at midnight in the pouring rain and boggy ground, created the feeling that even in a dry country it is possible to have too much of a good thing. After we had finished moving the flour, the rains was customary in the district, and we were keeping dry and collecting the goods. A large portion of the stuff was discovered within the first five miles, washed ashore on the same side as it had entered the creek. The balance was scattered down the creek for 20 miles, and much of it was never recovered.

The rains appeared to impregnate the country and air with life of all descriptions. The transformation from the almost lifeless of a drought-stricken life almost instantaneous. The most incessant croak of millions of frogs was the most astonishing feature; and the question naturally arises, where have they been hidden during the long dry hot months? Bush experience says, in the ground, in trees, hollow logs, and such like places; but their occurrence or discovery in these hiding-places is indeed rare, and thus leaves room for speculation as to the locality favored by the majority, and also the form they take during their retirement. Birds, of which there are few, are immediately killed, covered over by earth or formed from a forlorn, gasping, pitiable object, into one which commands some admiration. Even the chirps and song of the few that birds face the interior are a welcome addition to a silent, songless region. They appear to wait for the rains before making a decision doubtless arrived at from long experience, transmitted down through the last decade. We had discovered fish in one of the rockholes up the branch of the Bonny, and the development of the spawn washed down from this and other permanent rockholes was another marked feature of the rapid evolution of life. All the small holes for miles down the creeks were soon alive with these extremely pretty little fish, the bulk of whom formed a dainty morsel for birds; and when a large hole goes dry, the dingoes take their share. Altogether three varieties of fish were noted; the most numerous closely resembled a perch, and weighed up to three-quarters of a pound. Catfish in small numbers were present, and a small fish with dark circular stripes—this little fellow being somewhat similar to a shrimp. The existence of these small fish in the waterholes along the creeks after rain is a very clear indication that permanent rockholes exist up towards their sources. There is an abundance of life, which adds to the hardships and misery of an existence in these latitudes, and they come under the heading of "flies" and mosquitoes. These pests develop with a rapidity that is startling, and their ferocity and perseverance are remarkable; they cannot be classed as other than canny, of which they prefer a man or animal, as they do to the sweets usually favored by the common or house fly. It is hardly a subject for either prayer or poetry, but the fervent utterance of a bush devout: "O Lord, call off yer—flies," is one of frequent occurrence, and very applicable. Flies all day, and mosquitoes all night surely a greater curse never existed. The first consignment was very fierce and poisonous; when once they settled on you they had simply to be hauled off or mauled, brushing had no effect. Bugged eyes, hands, and noses were quite common, the slightest scratch from a bough was promptly converted into a raw sore. To eat a meal it was necessary to sit in the smoke of a fire, and even then only hard stuff, such as meat and damper, could be eaten. A stew or made dishes of any kind were out of the question. At picnics—daylight—it gave one the creeps to uncover the head and see the grass and bushes simply black with flies. The horses and camels suffered like ourselves, many of the latter went quite blind for some days, and the horses were either travel like mad animals all day, or standing in the water splashing; but notwithstanding their efforts, great raw patches were eaten round their eyes. To enable the camels to see at all it was necessary to plaster Mississippi oil over their eyes; this answered fairly well, but for horses it was useless, being promptly rubbed off. 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No language could convey the slightest idea of the agonies suffered through these pests, or the awful contrast than cold—they are evolving on wrong lines.
volcanic dust. Another somewhat peculiar phenomenon which may have had a bearing on these atmospheric conditions was the gradual and uniform lowering of the difference between a dry and wet thermometer in an ordinary bough shed shade. The daily drop after falling to 10° was 1¾° per day, and for the last three days the difference in temperature stood at 2°, and this was further reduced to an even temperature when the first heavy rains fell. Notwithstanding all troubles and worries the rain brought, it was welcome, enabling us to get around the country more quickly, did away with the necessity of carrying water to the outside camps, and favored the work of prospecting to a very considerable extent, by allowing many more prospects to be tried than when carrying water, and greatly facilitated the work of testing creek beds and other places for alluvial gold.

A small herd of cattle existed in the ranges, and being anxious that the owners, whoever they might be, should not find them very closely, we had to examine them, but we had to adopt them into the herd. We had to move the depot through the range on to Mosquito Creek. Along the valley of this creek is an extensive belt of eruptive rocks, its shape representing one half of a large oval, with a central core of sedimentsary rocks consisting of sandstone and quartzite, and an outside vein of the same class of rocks. The rugged ranges surrounding a valley dotted with low rises and small hills, and the Kurundi Creek with its dark green bordering of limewood traversing the centre, makes it an ideal and picturesque country. Throughout this class of country grass grows in abundance after rain. At the entrance to the gorge, formed by the creek making an outlet through the range, is a waterhole and soakage, with long green reeds. This was at first believed to be a spring, but, although water runs for many months after rain, it all disappears in a prolonged drought, by sinking a few feet good water can be obtained. As no yards existed, a number of reefs being unaccountably missed by one of the lads, and we were nearly on the point of leaving it, when I happened one Sunday to be examining an interesting bar of rock crossing the creek. In this I discovered some galena, and on Pedler trying the creek around this spot, he rose some alluvial colors—the first absolutely certain color we had discovered. In new country this is always an interesting object, more so than a 20oz. speck under normal goldfields conditions. As no reefs were considered possible to exist, a considerable amount of time was spent in endeavoring to trace up the alluvial to its source. It was followed for a considerable distance up creeks and watercourses, Pedler eventually discovering several promising veins carrying copper, galena, and gold; these prospects he improved by discovering quite a number of outcrops previously overlooked. They contained mineral and some gold, but not so rich as those first discovered.

Alluvial colors were also supposed to be obtained north of this place, but this could not afterwards be confirmed, and had therefore to be considered doubtful, although a likely belt of country with reefs carrying a little copper and pyrites existed. An extensive belt of metalliferous country was discovered on the eastern side of the range, north and north-east of Munadji; and at the time of the Kurundi discovery preparations were already in progress to move the depot through the range on to Mosquito Creek; a waterhole in this creek, about the centre of the belt, being chosen as the site for No. 2 depot. The distance from No. 1 depot to Kurundi camp was 16 miles, and from No. 2 depot to Mosquito Creek 116 miles; and water and firewood, both were always to be obtained. This belt was at first a failure, a number of reefs being unaccountably missed by one of the lads, and we were nearly on the point of leaving it, when I happened one Sunday to be examining an interesting bar of rock crossing the creek. In this I discovered some galena, and on Pedler trying the creek around this spot, he rose some alluvial colors—the first absolutely certain color we had discovered. In new country this is always an interesting object, more so than a 20oz. speck under normal goldfields conditions. As no reefs were considered possible to exist, a considerable amount of time was spent in endeavoring to trace up the alluvial to its source. It was followed for a considerable distance up creeks and watercourses, Pedler eventually discovering several promising veins carrying copper, galena, and gold; these prospects he improved by discovering quite a number of outcrops previously overlooked. They contained mineral and some gold, but not so rich as those first discovered.

The camps on the northern branches of the Bonney and Kurundi Creeks had in the meantime worked through on to the eastern side of the range, no discoveries of any importance being made, except a little copper on the McLaren Fall, and some common opal on a branch of Kurundi Creek. In this discovery was made they were stationed at a rockhole called Munadji, 12 miles up the range. Alluvial colors were also supposed to be obtained north of this place, but this could not afterwards be confirmed, and had therefore to be considered doubtful, although a likely belt of country with reefs carrying a little copper and pyrites existed. An extensive belt of metalliferous country was discovered on the eastern side of the range, north and north-east of Munadji; and at the time of the Kurundi discovery preparations were already in progress to move the depot through the range on to Mosquito Creek; a waterhole in this creek, about the centre of the belt, being chosen as the site for No. 2 depot. The distance from No. 1 depot to Kurundi camp was 16 miles, and from No. 2 depot to Mosquito Creek 116 miles; and water and firewood, both were always to be obtained. This belt was at first a failure, a number of reefs being unaccountably missed by one of the lads, and we were nearly on the point of leaving it, when I happened one Sunday to be examining an interesting bar of rock crossing the creek. In this I discovered some galena, and on Pedler trying the creek around this spot, he rose some alluvial colors—the first absolutely certain color we had discovered. In new country this is always an interesting object, more so than a 20oz. speck under normal goldfields conditions. As no reefs were considered possible to exist, a considerable amount of time was spent in endeavoring to trace up the alluvial to its source. It was followed for a considerable distance up creeks and watercourses, Pedler eventually discovering several promising veins carrying copper, galena, and gold; these prospects he improved by discovering quite a number of outcrops previously overlooked. They contained mineral and some gold, but not so rich as those first discovered.

About this time I made my first trip into Tennant's Creek Telegraph Station, a distance of 80 miles, my route being from Kurundi up past Munadji, along the eastern flank of the ranges, and then across the flats between the Murchison and the McDougall Ranges, striking the telegraph line near Mount Samuel. Mr. R. W. Scott was in charge of this station, and on this and many subsequent occasions I was made the recipient of his kindness and much valuable information, which I gratefully acknowledge. Following on the formation of the new depot, the party was reduced by three men, and amongst them Allan Broaden, whose eyes were failing—the result of an old wealme3s, intensified by several painful attacks of blight following on the fly pest. His destination was Adelaide, where he hoped his sight would soon be improved. Long residence in the interior had, however, fostered the disease, and it was found impossible to restore good sight, but that the sight could with care be retained in the existing state. His loss to me was considerable, as he was both a fine bushman and a splendid mate. The camps on the northern branches of the Bonney and Kurundi Creeks had in the meantime worked through on to the eastern side of the range, no discoveries of any importance being made, except a little copper on the McLaren Fall, and some common opal on a branch of Kurundi Creek. When the Kurundi discovery was made they were stationed at a rockhole called Munadji, 12 miles up the range. Alluvial colors were also supposed to be obtained north of this place, but this could not afterwards be confirmed, and had therefore to be considered doubtful, although a likely belt of country with reefs carrying a little copper and pyrites existed. An extensive belt of metalliferous country was discovered on the eastern side of the range, north and north-east of Munadji; and at the time of the Kurundi discovery preparations were already in progress to move the depot through the range on to Mosquito Creek; a waterhole in this creek, about the centre of the belt, being chosen as the site for No. 2 depot. The distance from No. 1 depot to Kurundi camp was 16 miles, and from No. 2 depot to Mosquito Creek 116 miles; and water and firewood, both were always to be obtained. This belt was at first a failure, a number of reefs being unaccountably missed by one of the lads, and we were nearly on the point of leaving it, when I happened one Sunday to be examining an interesting bar of rock crossing the creek. In this I discovered some galena, and on Pedler trying the creek around this spot, he rose some alluvial colors—the first absolutely certain color we had discovered. In new country this is always an interesting object, more so than a 20oz. speck under normal goldfields conditions. As no reefs were considered possible to exist, a considerable amount of time was spent in endeavoring to trace up the alluvial to its source. It was followed for a considerable distance up creeks and watercourses, Pedler eventually discovering several promising veins carrying copper, galena, and gold; these prospects he improved by discovering quite a number of outcrops previously overlooked. They contained mineral and some gold, but not so rich as those first discovered.

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The remaining prospectors were concentrated at Kurundi, where a little opening out was done. This slightly improved the general prospects, and created the impression that further developments would lead to still more encouraging results. Leaving Kurundi for the time being, we worked south-east through the range where, at four and a half miles, was a small edition of Kurundi, in which is situated the head of Kudinja Creek. In the outlet gorge from the little pond are some fine rockholes, but, excepting the lower portion, it is too rough to admit cattle. This belt proved a duffer. Better success attended the work in...
in a granitic and porphyry belt 12 miles east of the Kurundi, on the eastern flank of the ranges. We here discovered a vein of good stone showing coarse colors freely, some prospects going very high. This was followed by the discovery of a number of well-defined reefs, the stone in which was mineralised, and identical in character to the gold stone, but in the exposed portion, at any rate, these veins were non-auroferous. Two prominent landmarks, in the form of a pinnacle and a tent hill, are very conspicuous points in this belt, which was named the Kudinja belt, from the creek passing in close proximity. After giving this locality a thorough testing, a move was made on to the Mosquito Creek depot. The extent of likely auriferous country in this locality necessitated putting in a lot of work, but with only poor success. One little series of veins in a peculiar metamorphic sandstone hill was the only place in which gold was located, although we dollyed some hundreds of samples. Copper in the form of green and blue carbonates was more universally distributed in the reefs in the granite. We had not much luck on the creek on which this depot was situated, but I must record my appreciation of the aptness of the name—if anything, Mosquito Creek hardly expressed the situation. We had a few bad mosquito camps, but nothing to compare with the variety in this neighborhood. The evening meal was postponed until dark on account of the flies, and it was then a case of wiping mosquitoes off your arms between mouthfuls. From the depot we moved out to a camp some three miles north of Munadji, and packed water from the rockholes to work country extending out from the base of the range, and running north across the head of the McLaren. It was a promising strip, and should have yielded better results than obtained. Several small veins carrying fair gold, and one exceptionally large proposition panning strong colors were the most encouraging prospects discovered.

Mr. Charles Vercoe, an engineer, had in the meantime been dispatched from London to inspect and report on the discovery made; it was therefore deemed advisable to put in some development work, and enable him to see the character of the veins below the broken outcrop. The work of prospecting was therefore stopped, and the camp moved down to Kurundi, and preparations commenced for the work of testing a few of the veins. Immediately on arrival of new prospectors shortly afterwards, the whole depot and camp was moved back from Mosquito Creek. The team was then dispatched for more stores, chiefly mining plant, explosives, &c.

Mr. Vercoe arrived before we had attained any great depth, but we were into fairly settled country, and on the main vein, at 30ft. The widths of others had been exposed in costeens. A slight opportunity was then afforded him of gauging the possibilities of the reefs. Mr. Vercoe’s geniality, combined with all the Englishman’s happy knack of taking things as they come, tended to make his stay with us a very lasting and pleasant recollection. More men were engaged from Ballarat, Victoria, and sent forward for the work of developing. They naturally absorbed some provisions, therefore stopped, and the camp moved down to Kurundi, and preparations commenced for the work of development. They arrived in due course, and this work was rigorously advanced. At one time 20 men were engaged in developing. They naturally absorbed some provisions, which practically kept a team of camels on the road from Oodnadatta. Our meat supply was obtained from a small cattle station north of Tennant’s Creek. Short fences across the entrance to the gorges leading out of the Kurundi Pound being all that was required to make it a fairly secure paddock, so that a small herd of cattle was obtained at one time, and killed as required.

Whilst the work of developing was in progress, I extended the search for new belts south and south east through the country drained by the Whistle Duck, Frew River, Elkedra, and Murray Downs Creeks. A number of likely belts were discovered, which I hoped we should be able to prove gold-bearing. In two instances this was done at the time of discovery, the most important being in a small narrow belt called Kurannali, between the Whistle Duck and the Lennie Creeks, where one reef in particular was proved to contain a very rich surface patch, running into pennyweights per pound. Another very important belt, mentioned by Geologist Brown in his report on this country, was also re-inspected, and the little work done on these flying trips added several runs of good stone carrying fair gold. The belt was called Brown’s Belt, and it is situated on Hatch’s Creek, a tributary of the Frew River, south of the old Frew River cattle station. Some years ago an effort was made to develop this into a cattle country, stations being formed on the Frew, Elkedra, and Murray Down Creek. Owing to severe droughts, and the impossibility of getting cattle away when in condition, the scheme had to be abandoned after a very heavy expenditure. This failure is to be regretted, as had it been successful, larger areas would undoubtedly have been stocked.

The development work at Kurundi could not be carried below 50ft., on the main vein, and at this level the results were not sufficiently satisfactory, and it was finally abandoned, as also shafts at Kudinja, Kurannali, and Brown’s Belt. During the development of these places a party of prospectors worked through the country east of Frew River, and south-east through the ranges on to the Elkedra Creek, but it was attended with but little luck. On this creek we had an interesting camp, having fresh fish for breakfast regularly. We were camped on what at one time was a large waterhole, but it then contained only a foot or two of water, and a large number of fish. The weather was intensely cold, frost being frequent. This seemed to paralyse the fish, which would be found floating around helpless in the mornings, and the large ones, weighing up to three-quarters of a pound, were picked out and fried as required. When the sun rose and the water became warm, those remaining in the water revived.

A long narrow belt south of Elkedra Creek was tried without success, as also the country extending away from the sand plain, where there is a small hill containing fossils. Moving up the creek, we reached the site of the old Elkedra Station, on the bank of a large waterhole—one of the finest in the country—and reported as having stood the most severe droughts, and carried a considerable herd of cattle. Elkedra Pound, three miles to the north-west of the old station, was the next belt of interest tried. This place is the most natural paddock in the whole range, being in the form of a large oval, with two outlets and one inlet through narrow gorges. The range rises abruptly everywhere, but on the western end it is somewhat broken. A creek traverses the whole length of this pound, and contains some good waterholes, permanent under normal conditions. The formation within the pound being of schistose granitic origin, is well grassed. There are numerous reefs throughout this pound, but, with one exception, they do not carry gold in appreciable quantities. Moving out of the pound westward on to the Murray Downs country, we struck the old pad leading from the former to Murray Flows. In working this country we had both the camels and horses; the former could not be used in the country south-east from Brown’s
Brown's Belt, owing to the quantities of *Gastralobium* scattered along the creek banks and stony ridges. It is more comfortable working with camels, as it is possible to carry some cooking utensils, and thus have a change from the meagre carriage. On the west and north of Murray Downs Creek there is nothing, but up towards its source there is a belt two miles from the right bank. It was proved to carry some veins dollying fair gold, and the quartz contained a percentage of copper carbonates. The head of the Skinner Creek, close to this belt, was another heavily-reedbed belt, containing copper, but no gold. The Skinner is the next creek up the flank of the range from the Murray Downs Creek, and this is again followed by the Wyllie Creek. Throughout the country drained by the latter there is nothing of importance in the way of auriferous country; this, therefore, practically completed the work of prospecting within the Murchison Range. The return route was back on to the head of the Murray Downs Creek, and then direct across the ranges on the head of the Lennie, which was followed down into the plains on the eastern side of the range to within 10 miles of Kurannali depot.

The company up to this time had spent a considerable sum, of which the largest proportion was sunk in development. This work did not show the results necessary to warrant any further heavy expenditure, the reefs under present conditions being too low grade to show a remunerative balance on working. It was therefore decided to stop all development work, and confine operations to prospecting, by which means we hoped to make a sufficiently rich discovery to warrant moving in the matter of a railway, which would enhance the value of the discoveries already made and tested. A number of the men were returned, and a prospecting party retained. Kurannali camp, with all provisions, was moved into Tennant's Creek, and, through the kindness of Mr. Scott, stored under cover. A considerable quantity of plant, &c., was stored down one of the shafts. The best of these goods were afterwards removed, but much valuable plant had of necessity to be left when the company withdrew from the country.

Prospecting was continued along the flank of the range north from Munadji, and the areas in the vicinity of the Barrow Creek, Poonkey, Morgan, and Marble Creeks were tried, the reward being the usual small series of veins carrying from colors up to perhaps half an ounce; and this was not good enough. In these creeks there are a number of good rockholes, which last for many months. The country out from the ranges in the vicinity of these creeks can be called pastoral land, but it is of medium quality. When started out from Tennant's Creek, this country is used as a stand-by for the stock on the station; being distant only 35 miles, it is very convenient.

Between the northern end of the Murchison and the Tennant's Creek Range there is a plain. As a rich discovery was then the object in view, the country immediately surrounding the Tennant was skirted, and we worked east on to what is termed Fatherland, a belt of good pastoral country east of the Tennant's Station, where the cattle and horses are kept. In this are several remarkably fine billabongs, but, unfortunately, at the time of our visit they only contained a foot or two of very thick muddy water, which took two days to settle after adding Epsom salts and ashes. It was the worst water we had struck in the whole of our camps. From these billabongs the country was tried out on to the Gosse River and through the south-east portion of range, but no success attended our efforts. The locality was worthy of a more thorough examination, but owing to the water this could not be done; even in the short time we were there three horses died, and others gave indication of going the same road, in conjunction with some of the camels. It was therefore deemed advisable to discontinue operations in this quarter. The soaks in the sandy bed of the Gosse, south-east of the Fatherland, at the time of Mr. Charles Wimnecce's survey of a portion of the Gosse some years ago have, like hundreds of similar soaks throughout the whole of the interior, entirely disappeared.

Explanatory trips were made through the Shott and the Whittington Ranges, which are the source of Attack Creek, but the results of this work were very unsatisfactory, no metalliciferous country being discovered, and the whole country proved unfavorable to its existence. The sandstone and quartzite beds around the head of Attack Creek are very flat, and show no evidence of disturbance through the introduction of eruptive rocks.

The country west and north-west of Tennant's Creek was given a cursory trial, but more on principle than anything else, as it had been run over at different times during the past 20 years, and offered but little prospect of discovery. At this time it was arranged that I should have a respite, and while that object I left Paul Water in charge of the prospecting. The work to be done centred round Barrow Creek, and we moved the party down there, where some months were spent in testing the southern end of the blocks. This unfortunately proved a failure, and in February the party were recalled to Alice Springs, preparatory to starting the Western Expeditions, which had in the interim received the approval of the directors. My visit to Adelaide was, through the generosity of our board, extended to London. This being the new country to me, it was one of the most interesting and pleasant exploratory expeditions of the whole undertaking.

One of the great aims or this Western Expedition was to make a discovery of sufficient value and importance to warrant the formation of a powerful corporation to undertake the development of the interior. This in the first instance meant a railway, which is absolutely indispensable to the successful working of the large number of reefs discovered. The scheme, as shown in the diary of the Western Expedition, went close to realisation, but, like many another, it did not quite reach the standard, and so, after three years' work, it was decided to withdraw from the country. Our work and the knowledge gained remains, and I can only hope that this will enable more fortunate prospectors than the Central Australian Exploring Syndicate possessed to force the secret from mother earth, and open up a goldfield in the interior which will prove a railway across the continent to Port Darwin. This would also enable the pastoral area to be developed and stocked, as the quality and quantity is sufficient to support a large central population; but under present circumstances it cannot be utilised either for breeding purposes or for export to either the northern or southern markets.

Conforming to the general lifeless condition of the interior, animal life throughout these ranges stands at a minimum, excepting only insects and creeping things generally, which at times are abundant.

Bird life shows but the most ordinary varieties, the more numerous being galahs, parrots, hawks, crows, minahs, sparrows, and pigeons, the dapper little rock pigeon, only found in the interior, being the most
most interesting. Smaller birds around the rockholes are more numerous, but consist for the most part of sparrows; ducks and a few water birds are occasionally seen on the large waterholes. I have ridden for days without even seeing a single bird on the wing, or sighting anything living but lizards. Among the larger varieties of animal life are eur (mountain kangaroo), wallaby, and a few emus, with an occasional turkey. Small opossums are found by the natives in the gums along the creek banks. Snakes are very numerous, especially after rains; the most frequently seen being a long greenish reptile with a yellow belly. Brown, black, and carpet snakes are also frequent in these latitudes.

The native inhabitants of the ranges are few in number, and they concentrate round the stations for the greater portion of the year, occasional expeditions being made out on auspicious occasions. It is, however, advisable for anyone in charge of cattle to have them well under his eye. The most of their customs and ceremonies have been fully described by Messrs. Spencer and Gillen, but in the matter of the sign language, which the Tennant’s Creek native has reduced to a fine art, there remains an opening for much careful and interesting investigation. The natives throughout the Frew River country are less civilised, and have the reputation of being a bad tribe. They caused endless trouble and expense when the stations were in existence on the Frew, through killing and maiming cattle coming into the gorges for water. The few existing at the present time did not prove very aggressive, although at the commencement of work precautions were taken to prevent any endeavor they might have made from taking much effect.

The main geographical and geological features of the country from Adelaide to the Macdonnell Ranges have been scientifically laid down, as also the direct route along the telegraph line to Port Darwin from the Macdonnell. The area here described embraces, for the most part, previously unknown country from a mineral and topographical point of view.

It is occupied by the Murchison and a portion of the Davenport Ranges. These two ranges become confluent some 35 miles east of the telegraph line, and they form the most extensive geographical feature north of the MacDonnell Range. The Murchison Range extends for 120 miles in a south-easterly direction from Kelly’s Well, in latitude 20°. The width of the range varies considerably. It is very narrow on the northern extremity, but across the Bonney watershed it is fully 30 miles, whilst in the Frew country it has a width of nearly 40 miles.

The area occupied by the ranges and valleys combined exceeds 2,500 miles. The watersheds of this range are a most interesting study, owing to the peculiar and tortuous routes taken by the smaller creeks at the source, and the sudden and erratic variation of the levels throughout the range.

The only way to ascertain their true course is to follow them from source to outlet. Starting on the northern end, the principal creeks on the western fall are Kelley’s, Gilbert, McLaren, Bonney, and the Wycliffe. Several small creeks form in the western end of the Davenport, but all these die out in sandy flats before reaching the Bonney or Wycliffe. These creeks have a westerly course out into the sandy plains, where they eventually die away into watercourses, and lose all appearance of a creek, although the rush of water down some of these watercourses years ago have been sufficiently strong to cut out channels at intervals several hundred yards in length, in which waterholes frequently occur. Continuing south-east along the south-western flank of the range from the Wycliffe Creek, there is the Skinner and the Murray Downs Creek, which have first a southerly fall, until clear of the ranges, they then flow westward, but die out in sandy porous plains before reaching the telegraph line.

On the eastern fall, and also starting from the north, there is Marble, Morgan, and Turkey Creeks, and the Goose River, the former being its northern tributaries. Following this are Mosquito, Granite, Kurundi, and Kudings Creeks. These creeks have an easterly fall until clear of the ranges and well out into the plains, when they assume a more northerly trend. Continuing south-east there are the Whistle Duck and Frew River, with its northern tributary, the Lennie. From the Frew River south-east there is the Tacewater Creek and several minor creeks, all of which have a more or less northerly flow, but with an inclination to the eastward.

These are followed by Gastralobium Creek, a tributary, and then Kikreda Creek completes the main channels on this fall. The latter has a direct course eastward.

The formation of the Murchison and Davenport Ranges consists of quartzite, sandstone, conglomerates, and grits, together with a number of intrusive and interbedded sheets of eruptive rocks, chiefly disabases and allied rocks. The main portion of the range is formed through the folding of the sedimentary beds into two anticlines and synclines—a feature most clearly defined across the Bonney watershed, where the Davenport Range shows the second anticline. On the south-western fall of the Davenport the beds have a slight underlay, owing to the width of the fold. They dip under the Wycliffe plains, and reappear as the Osborne Range at the Taylor Crossing. The Murchison beds as exposed in this range suggest that the greatest development of these beds has occurred over the area occupied by the Murchison and Davenport Ranges. This thinning of the sedimentary rocks appears to become more marked as they extend south, as in the vicinity of Barrow Creek the granite rocks have but a thin horizontal capping of quartzite and sandstone.

The main features of the Murchison Range are the long uniform ridges of quartzite and sandstone, which are separated by narrow parallel valleys of great length and regularity. This formation predominates throughout the whole range, its uniformity being only disturbed in the vicinity of the central cores of pre-Cambrian rocks over which these beds have been folded. The general course of these ridges and valleys is south-east; but near the immediate neighborhood of the upheaval the ridges and valleys assume an oval course, which, as they extend outwards, again resume their more regular parallel structure.

The valleys throughout the ranges have been formed through the denudation of the soft sandstone beds between the quartzite. Another source of their formation has been along the interbedded sheets, which in many places replaces the sandstone. The rapid decomposition of these sheets has been even greater than the sandstone.

The contour of the quartzite ridges is very uniform, and throughout the whole series there is a remarkable absence of any prominent features which could be named, and so make a general description more easily followed. Many points and bluffs have, of course, their own little peculiarity; but an intimate knowledge of
of them is required for localisation. The creeks naturally form in the valleys which they traverse in either direction for varying distances, up to 10 miles; they then abruptly strike at right angles through one of the parallel quartzite ridges, and sometimes form what might be termed a transverse valley; but the change of direction more generally results in the formation of gorges. The creek then frequently follows the next valley on a lower level, but only until an outlet occurs through the next ridge; and so the creek passes from valley to valley until clear of the range.

The formation of those gorges in other similar ranges has been attributed to faults, but in this locality, where the gorges have been cut out of the solid quartzite, there is no evidence of this having assisted in their formation.

The rate at which the gorges were eroded have, in the remote past, been uniform with the denudation of the valleys.

The heavy tropical rains and sudden rushes of water greatly assist in this object, with the result that the outlets from the valleys are now through steep precipitous gorges worn out of the solid quartzite beds. In several places the early formation of two simultaneous outlets in close proximity is apparent, but the occurrence of a hard bar has directed the water through a single channel, and has thus left an unfinished gorge some 50ft. above the present level of the valley. Several varieties of waterhole occur throughout the ranges. The ordinary waterhole forms in a depression in the bed of the creek, and has either a mud or a rock bottom. They are usually found in the larger valleys, or where the creek has struck clear of the ranges, and before the bed of the creek becomes too sandy. The term rockhole is more generally denoted to those within the ranges, and invariably in the gorges they occur in two forms, the more common being such as are formed at the entrance or the outlet to a gorge, or at a bend in the course of the creek through a rocky channel. All of these rockholes have been formed in the same manner—by the swirling action of the water striking the opposite wall, and thus etching large holes out of the bed forming.

The more interesting variety of rockhole is that formed by the action of a waterfall; caused by a hard bar, followed by a softer strata cutting the gorge at right angles to the flow of water. The rapid erosion of the latter leads to the formation of a miniature waterfall, which, in the course of time gradually assumes a drop of from 10ft. to 40ft. The terrific swirling action of this water and stones carried over these falls leads to the formation of a large circular stone tank, containing many thousands of gallons of beautiful fresh water, varying up to 20ft. in depth, many of which are permanent.

On the eastern flank of the northern section of the Murchison Range there is an extensive belt of granite of eruptive and Archean origin, together with a considerable area occupied by metamorphic rocks. This formation extends south-easterly to Kudinga Creek, along the base of the range, when it is overlapped by Tertiary sands and loam. The metamorphic rocks reappear in the vicinity of the Frew River, but occupy but a small area.

South-east from the Frew belt the quartzite and sandstone beds have a decided inclination to the eastward, and thus overlap all the older metalliferous formations. The quartzite beds on the extremity of the range have thus a tendency to dip south-east under the great sandy plain stretching out towards the northern end of Lake Eyre. The Murchison beds have folded over, and now rest in the western flank of these older formations. The eastern section of this great fold has totally disappeared, recent and Tertiary formations overlapping the granite to the eastward. It is evident that there has been a gradual and extensive subsidence, thus intensifying the natural trough which would be occasioned by the folding of the strata in this direction.

These beds are in all probability overlapped by the artesian formation of Western Queensland, and a considerable quantity of the drainage from the Murchison doubtless finds its way into this formation, and adds to its enormous reserves. On the western flank of the Murchison the dip of rocks is under sandy flats, excepting on the northern end, where, in the vicinity of the Gilbert Creek, the older formations are visible as forming part of the axis of the central anticline. This belt extends west of the telegraph line, where some larger quartz and quartzite veins make their appearance. A little granite occurs in the form of boulders in the flats, further west of these veins. The metalliferous belts within the range consist of the central cores of metamorphic and subterranean volcanic rocks, over which the sedimentary beds have folded, and also a number of interbedded and intrusive sheets; the latter being the most important from an auriferous point of view.

Starting from the north, the first belt is at the head of the Gilbert Creek. This consists of altered sandstone and quartzite and a little slate, with kaolinised granite as the main underlying rock.

This belt is naturally small, but contains a number of quartz veins of an irregular character carrying iron oxides, but they could not be proved to carry gold. The same result attended the work of trying the veins west of the telegraph line, mentioned by Geologist Brown, which is a continuation of the Gilbert belt. These veins carry some likely stone, but they do not appear to be metalliferous. They are, however, so large that, in conjunction with other similar formations in the granite belt on the east side, they may yet prove to carry. In such enormous bodies it is impossible to say that they are totally barren, unless after the expenditure of a very considerable amount of time.

A small belt of eruptive rocks occur in the country between the southern tributaries of the McLaren and the northern tributaries of the Bonney. This contained a few quartz leaders carrying a little copper, but nothing of value. The most interesting point in this belt was the occurrence in considerable quantity of long streaked crystals of dark-green hornblende. On the north side of this intrusive sheet the quartzite beds are almost vertical, and show a precipitous face to the northward, over 100ft. in height. Enormous slabs of beautifully rippled marked quartzite were a prominent feature in these cliffs; but, although carefully examined, no trace of prehistoric animals was detected.

The eastern section of the range between the McLaren and Kurundi contains but a narrow interbedded sheet, which has folded in conformity with the quartzite beds.

In Opal Creek a little common pipe opal was discovered, but it did not develop into anything of value. A belt of eruptive and metamorphic country occurs along Porphyry Creek. This belt covers but a small area, and appears as the cone of an ancient volcano. It is the central axis over which the sedimentary rocks have folded. The eruptive rocks are much decomposed, and
and therefore difficult to determine. Some small conical hills have the appearance of volcanic tuffa inter-
mixed with altered sandstone, and around the base of these hills is a soft decomposed rock with a porphy-
ritic structure. The sandstone and quartzite beds overlapping this formation are much altered, and, even when they resume their ordinary character, the effects are noticeable in the reddish color of all the rock for
several hundred feet. Quartz reefs are fairly plentiful, but for the most part they are only short broken
runs. They exist in both the metamorphic (altered eruptive) and the sandstone. Shed quartz covers a
considerable area, and on first sight gives the belt a most promising appearance. The quartz, however,
is very white, and the large bodies contain but little iron oxide, only a small percentage of micaceous iron and clay minerals being present in several of the more likely veins. One small reef carried a heavy percentage
of iron pyrites, but the stone was somewhat dense. None of the veins in this locality could be proved to
carry gold.

The Kurundi belt is one of the most important within the ranges. It is situated on the Kurundi Creek
fall, and occurs in the form of an oval, with an abrupt face of quartzite overlapping and forming the out-
side rim. A narrow arm of this belt starts at the divide between the Bonney and Kurundi Creek, and it
extends south-east as a gradually widening valley with small broken hills, until it forms a large belt from
two miles to three miles across. The quartzite then makes a most uniform bend, and forms a similar arm
to that described, but extending away to the north-west. The country between these two arms is occupied
by sandstone and quartzite, with a few irregular masses of eruptive rocks. The main portion of the Kurundi
belt consists of this class of rocks, and, owing partly to the extensive area of sandstone and quartzite
absorbed by the molten mass at the time of its intrusion, the formation now presents a most varied series
of rocks. Another cause which I think has assisted in this matter is that the whole of the mass has not been
erupted at the same time. It would require a most thorough microscopic examination to locate many
of the northern varieties—diorite, rhyolite, felsite, dolerite, and diabase may be named—but some occur more in
the nature of a dyke. The main portion of the diabase, in the middle of the belt, is a quartzose variety-
crystalline to fine-grained aphanitic rocks. Their color is equally diversified, the weathered surfaces showing
black, brown, green, and grey. They are sometimes porphyritic, perlitic, and amygdaloidal. Owing to
the absorption of the quartzites the rocks also vary through all the quartzose varieties, and this makes
many of the northern varieties more complicated. Glass occurs in some of the rocks, but chiefly in globules, and usually
in a fine-grained rock. In several localities a somewhat weak flow structure was noticeable in these glassy
varieties. A calcareous aphanitic and also a fine crystalline rock, with numerous round kernels of carbonate
of lime, are two of the most interesting in the whole series. They frequently contain small crystals of
galena and a little copper. A dyke of dark intensely finely-grained rock, breaking with a conchoidal fracture,
lies to the north of the main vein in the pound, and carries a small percentage of galena and copper car-
bonates. A small area of limestone exists on the left bank of the creek near the outlet gorge; it is possibly
derived from the calcareous aphanitic which occurs in that vicinity. The reefs usually form a long soft
channel, the enclosing walls being a rock with a fissile character, and thus somewhat readily decomposed.
Throughout this belt 18 veins were discovered, and proved to carry gold and other minerals, the prospects
varying from 20zs in depth and 30zs. from picked stone; but, unfortunately, the majority of these veins
were low-grade, that is, as far as our discoveries went.

The other minerals associated with the gold in these reefs are copper, carbonates as azurite, and mala-
chite, with sulphides, at water-level. Galena is also present, but less universally distributed. These
minerals form quite a heavy percentage in one of the veins in the southern area, and in a more favorable
locale could be a payable copper lode proposition.

The reefs in what was termed "The Pound" (the wide area marking the south-east termination of
the belt), appeared the most important, and the development work was concentrated on these veins.

The main vein was proved for over 250ft. in length, its width varying from 5ft. to 10ft. The stone
throughout was of a good quality, carrying a fair percentage of mineral, and assaying from 10lbs. to
15lbs. It showed very little gold, except in the last shaft sunk on the south-west, and where a fair show of
stone was struck, showing splashes of gold. At this point the vein carried very little mineral. Owing
to a heavy flow of water at 52ft. it was impossible to get below this level, which was unfortunate, as indica-
tions at the water-zone were certainly promising.

Another reef to the south-east of the main vein was proved by an underlie shaft down to 70ft.
It carried good walls all the way down, but showed an inclination to become pinched in depth. The stone
was heavily mineralised with copper, galena, and pyrites, and at surface carried good gold values; but, with
the narrowing of the vein from 2ft. 6in. to 6in. to 12in., the mineral and gold decreased, and stood at
from 5lbs. to 7lbs. Drives north and south were extended for a total distance of 50ft., but only a
slight improvement developed in the north end.

A small vein south of the camp site carried some good mineralised stone along the outcrop, but it
proved to be very flat, and gave out at 25ft.

The veins in the southern arm were tested by costeens and a few trial pits, but the results obtained
were all low grade.

The northern arm contains two large and promising reefs at the termination of the belt, and where
it becomes intermixed with the quartzite and sandstone beds.

One of these veins occur on the bend of the creek, where a small portion of the outcrop is visible.
A costeen showed this vein to be 10ft. in width, and it gave prospects running up to 4oz., but the average
was very low at this particular point. A lot of this stone has a peculiar porous and rugby appearance.

Another large vein is to be found forming the northern side of a quartzite hill. It is evidently a contact
vein with a quartzite footwall, and eruptive rocks as the hanging wall. The latter has been denuded into
vein carry fair alluvial colors.

Small quantities of alluvial gold occur in the Kurundi Creek, and in the gutters and watercourses
heading from the veins in the south-east end of the belt.
South-east from Kurundi the quartzite beds of the northern section of the Murchison sweeps round to the east, and become broken and separated by the side open valleys. Two belts of igneous rocks occur in this area, but only one was proved to carry auriferous veins. The barren belt is that in the vicinity of the Whistle Duck Creek. It covers a considerable area of country, being about five miles in length and varying up to half a mile in width, but there is a marked absence of quartz reefs. On the northern end a small leader carried copper carbonates and colors of gold, but this was the only vein in which mineral was discovered. On the southern end, near the base of the main range, are some pinnacles of altered quartzite and sandstone. Associated with this metamorphic country are some heavy runs of silicious ironstone. The rock formation is varied, but the chief varieties are confined to hornet bedded rocks with a schistose structure. Felstone also occurs near the centre of the belt. The Kurannali belt is the most important of these two areas, and is noteworthy as containing the richest stone discovered throughout the ranges. The exposed portion of the belt has a length of two miles, but owing to its extreme narrowness the area is limited. Its general course is north and south, the southern termination being marked by a narrow run of very dark hills, which are surrounded by sand and alluvial flats, the larger extending south to the main range, a distance of three miles. Northward the belt passes between two ridges of quartzite and sandstone, where it has a width of a quarter of a mile. The hills on the eastern flank are tilted to a sharp angle, and show as the most prominent feature out from the main ranges. When viewed from the north, east, south east, or the divide at the head of the Lennie Creek, the locality is thus easily located. The ranges on the eastern flank are short, but those on the western side of the belt continue on to the outside range. A large alluvial flat is thus created which covers the whole northern extension of the likely country, and extends for five miles easterly to some narrow broken ridges marking the extreme eastern flank of the quartzite ridges. Around the base of these hills is a small area of eruptive rocks, which suggests that the whole of the bedrock of the flats is of the same origin, and that the largest area of the metamorphic country is thus available for prospecting. Metamorphic slates, also occur in conjunction with the eruptive rocks, together with quartz reefs, several of which carried some copper. The most important vein discovered lies in close proximity to a group of large claypans; in addition to the copper, this reef also carries colors of gold. The outcrop of this vein appeared to be very extensive, and showed as a small hill, but on examination it proved to be a very flat vein capping a low rise. Over 100ft. of costeening was sunk, which showed the width of the vein to vary from 6ft. at the crown of the rise to 8in. at the base. A series of shafts sunk out from the base of the hill demonstrated that there was no alteration in the flat dip of the vein, but the width of the reef increased to 18in., and the values showed up to 12dwts. per ton. The costeens proved that the patch of rich stone was confined to the crown of the rise, and that the bulk of the stone was worth under 1oz. per ton until near the base of the hill, when, in conjunction with the narrowing of the vein, the gold contents diminished. A long well-defined outcrop occurs three-quarters of a mile south of the camp site. The stone is highly mineralised in places, and carries low-grade gold-bearing stone throughout, with short shoots of payable stone. Near the northern end of the outcrop a shoot of rich stone was uncovered which showed coarse gold freely. A shaft sunk to intercept this shoot at 50ft. struck the reef at a point where it was much broken and disturbed, having developed from a solid 3ft. reef into an irregular series of leaders. Drives were extended for 60ft. to the north and south, but, with the exception of several short runs of stone in the south drive, which gave up to 15dwts. prospects, nothing of a payable character was struck. Towards the southern end of the outcrop a shaft was sunk on the underlie for 25ft.; the vein was more regular, from 18in. to 2ft. in width, and carried a good footwall. The stone was low-grade, but gave good uniform returns, both the white quartz and the ironstone quartz giving a show of gold. Other veins were located in various parts of the belt, and these carried a little gold along the outcrops. On the western flank of the black hills is heavily charged with copper and galena. Another larger vein outcrops on the valley of the Brown's Creek, about two miles as Roehloch from Tarragon's Rockhole; it lies between two quartzose ridges in the narrow portion of the valley. Development work was confined to the two veins carrying the rich surface stone.

The Frew River belt is situated about 12 miles east of Kurannali, and one and a half miles from the right bank of the Frew. The locality is marked by the occurrence of two narrow ridges of quartz and quartzite, separated by a narrow valley. These ridges can be seen from the hills where the Frew makes its exit from the ranges. They have an east and west course, but terminate about one mile east of the Frew. The main portion of the belt extends south from the southern ridge, but it also makes its appearance between the eastern termination of the two ridges. The formation is mainly metamorphic; altered sandstone and quartzite, with heavy ironstone and quartz veins is the predominant feature. A small belt of partly decomposed diabase occurs around the base of a broken edge of elevated country, consisting of a peculiar conglomerate rock which overlaps a considerable portion of the metamorphic country. Boulders of diabase are found throughout the scrub flats, together with a quantity of shed quartz and an occasional short outcrop. The scrub in this locality is dense, and in these latitudes this particular class of timber is usually found in soil derived from the decomposition of igneous rocks; there is thus a considerable area of likely country covered by a thin stratum of alluvial soil. Country of this description when in conjunction with dense scrub requires very careful working, and, if once reefs carrying payable stone were discovered in the belt, would be worked out to an unlimited extent.

A number of reefs were located, and although carrying good stone, the majorities were barren—a small percentage only carrying colors. A few pennyweight prospects can be obtained from a large vein in the flat country near the western termination of the two quartzose ridges. The southern boundary of the belt is marked by several groups of small pinnacle hills, which are noticeable from several points along the main range and from the Kurannali Hills. Brown's belt, in Hatch's Creek, is another of the large intrusive masses. It extends along a valley broken by quartzite from the Frew, east across Hatch's Creek, where it widens out and eventually dies away.
the very summit of this hill prospects of gold can be obtained from the solid ironstone, which forms a cementing medium for the quartz. The gold is chiefly in the form of coarse shotty specks, but fine gold is also present. These prospects could be obtained over a length of 50ft., but outside this shoot the quartz gave barren returns. It is hardly conceivable that the shoot proved is the only one contained in this huge formation. East of these hills, towards the Mosquito Creek deposits, the two long parallel ridges of quartz and quartzose rocks. In the flat country north-west of the Three Pinnacles is a small group of leaders on the bank of a small branch creek. These veins gave prospects running up to 1oz. per ton. To the west and north-west of this group two other veins, 12in. and 3ft. in width, pan a little gold, the smaller giving pennyweight prospects. Owing to the position of this belt along the base of the range, sandstone and quartzite debris cover a considerable area of undoubtedly good country. Shed quartz and ironstone is deposited over many acres of ground, and where the alluvial and rubble is shallow innumerable veins make their appearance in short broken runs. The quartz is of a promising character, being heavily charred with iron oxides; indications are thus in favor of the existence of richer gold deposits than those discovered.

In the scrub flats on the eastern borders of the granite belt large quartz and quartzote blows outcrop through the alluvium and sand, but none of them could be proved of any value.

On the southern side of Granite Creek the country is comparatively flat, and it extends south to the range outside of Kurundi, and south-east for 18 miles to Kudinja. On this route isolated granite rises and short quartzose blows are to be found.

The Kurundi belt is situated due east of Kurundi, along the base of the range. It is easily located by a pinnacle and a tent hill, which, standing out in flat country, are visible for many miles from various points along the flank of the ranges. A few isolated hills occur on the eastern borders of the belt, and some metamorphic ridges to the south. The formation carrying the reefs consists of decomposed granite. The only discovery of importance was a vein close to the northern base of the Pinnacle Hill. Stone from the outcrop showed coarse colors, and gave some excellent returns. A shaft was sunk on the underlie down to a depth of 15ft. of gravel, internal and broken quartz becoming granite. This vein, however, occasionally panned gold. A number of other reefs were discovered, but although identical in character to the gold-bearing stone, the exposed portion of the outcrop was barren. The country traversed by these reefs is flat, but, as the sub-soil is shallow, the quartz outcrop just reaches surface in places. To the north-east of the Pinnacle Hill, about one mile distant, is a large quartz blow, and north from this some very continuous parallel veins, outcropping for over a quarter of a mile. The stone, however, is very white, and could not be proved auriferous.

Taken together all these belts represent a very extensive area of metalliferous country, and of such a promising character that the results obtained appear contradictory to all ordinary indications. The fact that in most instances the returns were low-grade is a marked feature of the reefs throughout these regions. At the same time I am convinced that many—under more favorable conditions—will pay to work; also, to all those connected with prospecting, it is only too well known that a large element of luck enters into this work, and it is but rarely that the pioneers of the country strike the good things it may contain. This occurs, despite the most careful working; and, although in this instance it was the rule to test everything in the nature of a lode or reef, I am only too well aware that, notwithstanding the fact that I was well supported in the desire to miss nothing, the best may still remain to be unearthed by successors. The country is there and the gold is there, and it remains for others to improve on the prospects obtained.

Throughout the lower Northern Territory there is an enormous area of metalliferous rocks, extending throughout the MacDonnell, Burt, Treuer, and the ranges south of the western end of the MacDonnell, and also in the vicinity of and to the north and north-east of Anna Reservoir country and the Buxton Range. In addition to the known gold-bearing areas, much of the country included in these ranges would, no doubt, be proved to carry gold; but nothing but a series of rich discoveries would advance the country under present conditions.

The one essential feature necessary for the development of the interior and the opening of payable goldfields is cheaper communication. This can only be accomplished by continuing the Transcontinental Railway across the continent. An extension from Oodnadatta to the MacDonnell would very materially assist in opening the interior, and make other portions more accessible. This can only be accomplished by continuing the Transcontinental Railway across the continent. By following the creek towards its source the Gilbert belt is reached, after passing the first quartzite ridge. There are ten branches, the main channel follows the valley south-east, and by continuing along this a branch of the MacLaren is struck, which leads out on to the wide valley of the MacLaren. This country is noteworthy as being the only region which takes rise on the east side of the range. It heads from a good belt of metamorphic country west of Mosquito Creek. At a narrow entrance to the range there are some waterholes which last for about three months; these
these are the only holes of importance in this creek. After passing into the range the creek traverses a wide valley, which marks the solitary break in the whole range.

From the Bonney Well across country to the outlet of the MacLaren from the range, and then up the valley leading from the latter to the eastern fall. The main eastern of the southern branches in the wide open flats within the range follows the valley of the east syncline in a south-east direction, and leads on to Opal Creek, which strikes clear of the range near Kurundi Creek.

The Bonney has been partly described elsewhere. Along its course up to No. 1 depot are many fine holes, which, although shallow, last for three to four months after rains. In the northern end of the hole at No. 1 depot there is a soakage which always affords a drink in the driest seasons. Two branch creeks near the head of the Divide Creek contain good rockholes, one occurring in the Murchison and the other in the Davenport; the latter is permanent, and although in a rough gorge, cattle can obtain a drink. By following the valley dividing the two ranges down to within two miles of where they junction, the heads of Whistle Duck Creek are reached. The main channel takes its rise in the Davenport, and strikes out of this range through a very narrow gorge with steep perpendicular walls. Small but lasting rockholes exist in this gorge, and water was known to run for seven months after heavy rain. The Whistle Duck can be followed down on to the eastern fall, through several valleys and gorges in the Murchison. This route can be used for either camels or horses.

Conglomerate Creek is a branch of the Bonney, and takes its rise in the Davenport, where it traverses a valley which can be followed across the heads of several Wycliffe branches on to the Skinner Creek. The Dixon, Sutherland, and Wauchope Creeks heading from the western end of the Davenport are well known, the locality between the Dixon and Sutherland being noteworthy as the only place along the Overland Telegraph Line where *Gastrolabium* (the deadly poison-bush) exists.

The Wycliffe Creek has a very sandy bed until just before reaching the range, and its course is very tortuous. It enters the range through a valley, and in doing so passes round a small rise, where there is a fine waterhole. The main valley is first north-east, but it gradually veers round until it reaches the normal south-east direction. A strong branch creek comes in on the north side, four miles from the first waterhole. This can be followed east on to Conglomerate Creek, but the passage across is rough, and only suitable for horses. The main channel follows the long valley, and towards its source passes through several rough narrow gorges containing small rockholes, which, however, last a long time, being well filled with water in the valley leading from Conglomerate to Skinner Creek is struck four miles from the latter. This passage is very rough, and can only be followed by horses used to this sort of work. Permanent rockholes exist in some of the northern branches striking through the range into the valley, but they were not located. Fair lasting holes exist at intervals along the bed of the creek. From the Wycliffe down along the flank of the range to the Skinner, a distance of 25 miles, there are several small creeks, but they die out immediately on leaving the range.

The Skinner takes its source partly from the belt of the same name. It strikes clear of the range through two somewhat prominent cliffs, and within half a mile from the last low ridges there are some very large waterholes. The main branch crosses the west end of the Skinner belt, and enters the range through narrow gorges containing several small rockholes, the soakage into which appears strong. Although very rough, a passage through these gorges is possible for horses. After reaching the source of this creek, the valleys trending south-east lead on to the heads of the Julia Creek, which can be followed to its junction with the Lennie, and then on out to the eastern side of the range. One of the branches of the Lennie heads from the eastern end of the Skinner belt, but it only has a run of 100yds. before entering a narrow gorge. A route through here is possible, but very dangerous.

The Murray Downs Creek also heads from the Skinner belt, but has a number of other branches. This creek contains some exceptionally large holes in the vicinity of the old station site, but they were never filled during our experience. Six miles up the creek from the station is a series of long waterholes, the banks of which are heavily timbered with gums. These holes last many months. The valleys between the quartzite ridges are very wide and open, and in consequence, none of the rockholes so frequently seen in other creeks exist at the source of the Murray Downs. The most direct and best passage for horses over the range on to the eastern flank is up this creek; to a small branch which strikes into the main channel just as it leaves the Skinner. This branch creek traverses a narrow valley, and by following it to the base of a range running at right angles, the head of the Lennie is struck. The gorge formed by the Lennie is impassable, but a route over a ridge, which is only about 200yds. wide, lies to the east of the gorge, and leads into a valley, and then the Lennie can be followed right down to the open plain. The distance across is about 25 miles.

There is a fair road, for range country, from the old Murray Downs Station to the Frew Station. It first follows the eastern branch of the Murray Downs Creek, known as Spence's Creek. This flows down a long valley, at the north-eastern termination of which there is a low saddle; on the northern side of this saddle the head of Frew River is struck. The road then follows along the course of the Frew through gorges and valleys until the station is reached. There is a good lasting hole, marked by some large bean trees, in Spence's Creek, about 200yds. from the Old Station; it is known as Old Station Creek.

The creeks on the eastern fall of the Murchison are larger, and contain more permanent waterholes. Starting from Tennant's Creek there is a fair track for 35 miles on to Morgan Creek. A pad continues from there via Livingstone's Camp and Mosquito Creek Depot to Kurundi, and from thence via Kudinja and Kurannali, to the Frew River. Twenty miles from Tennant's Creek the pad passes a series of small billabongs in a belt of country which is quite permanent. The first creek struck is Marble Creek; 30 miles from Tennant's Creek Station. It heads from a belt of broken country marked by a prominent peaked hill and some granite, to the north of the Murchison. The creek contains no waterholes of value. Morgan Creek follows in five miles, and the pad crosses where there is a very fine rockhole, known as Kolanja. It is used as a cattle camp by Tennant's Creek. The next in order is Turkey Creek, where, at its intersection by the pad, is another fine waterhole, the locality being known as Livingstone Camp. Permanent rockholes exist in the gorges of this creek, and the head of the latter is in the base of Jordan's Bluff. These three creeks are tributaries of the Gosse River, which follows in nine miles, the Gosse being taken as the most southerly channel. It is
is a wide sandy creek when once clear of the rocky ground, and contains some fair soaks at different points, and also several large holes in the more stony country, and some excellent rockholes just within the range. From the divide to the Mosquito Creek in 13 miles, the whole bed being sandy and porous for them to last over five months. A soak can be obtained for at least two months after the surface water is dry at No. 2 depot. The Granite Creek follows in three miles, but it contains no waterholes worthy of note; it is a tributary of Kurundi Creek. Kurundi Creek is a very small stream, and loses itself in the sand shortly after clearing the range. In a gorge at the outlet from the range it contains a beautiful permanent rockhole, and for a hole of its description is easily got at by horses or camels. It is situated three miles south-east from a group of three pinnacle hills, just out from the base of the main range.

Several small creeks strike out of the range between Munadji and Kurundi, but none of them are of any importance.

Kurundi Creek has been partly described. The large hole in the Kurundi Gorge stood a 12 months' drought, but a soakage could be obtained for an indefinite period afterwards. In the plain out from the ranges there are some large holes, showing a magnificent sheet of water after a flood; but the ground is too sandy and porous for them to last over five years.

Kudinja Creek is the southern tributary of Kurundi, from which it is distant eight miles along the base of the range. It contains a good waterhole, where the creek passes the end of the outside range; it lasted over nine months, and a soak could be obtained for several months later. Near the source of this creek, in a narrow gorge, are some permanent rockholes; these would be difficult to get at with horses in a dry season, but a drink would always be obtained.

Whistle Duck Creek, some 13 miles further east, contains one of the best waterholes in the whole range. This magnificent hole is situated at the end of the outside range, round which the creek passes; it has never been known to go dry, although towards the end of 1900 it only contained a couple of feet of bad water, owing to the existence of large quantities of fish, which gave the water a very unpleasant taste. Six miles up the creek from this hole is another, at a sharp bend in the channel, it also lasts a considerable time; whilst in the gorges, near the source of this creek, are several lasting holes, as previously mentioned.

The Lennie Creek, nine miles to the south-east, is reached by striking into the broken isolated country on the flank of the main range. The southern end of the Kurunnali belt is in close proximity to this creek. Three miles south-east from the site of the Kurunnali Camp, near the centre of the belt, is a good waterhole, known as Tarragon's Rockhole. Between this spot and the base of the range are several others, with a conglomerate and quartzite bottom.

The Julia Creek is a tributary of the Lennie, with which it junctions just within the range in a small valley. About a quarter, of a mile to the south-west of the junction there is a splendid rockhole at the base of a long perpendicular face of quartzite. On following this creek up it strikes through some gorges, and eventually reaches a long valley, which extends round to the head of the Whistle Duck. The main channel traverses this valley, and passes along the base of a very white quartzite ridge on the right bank. A small branch creek strikes through this white range, and in doing so has formed a very fine rockhole. It is on the route which would be followed by striking across the range from the head of the Skinner.

The Lennie has a direct northerly course out of the range, and in passing through gorges and gaps it has formed a number of small but lasting holes. The Frew River is reached in about six miles from Tarragon's Rock. It is the largest channel throughout the range, and in flood time is an immense stream, over a quarter of a mile wide in many places. It contains a number of magnificent waterholes, several hundred yards in length, and varying up to three chains in width. They occur at intervals all along the creek until well clear of the outside range. The Cockatoo Hole, to the north of the Lennie junction, is one of the best holes in the flat country. Another good hole is at the outlet from the main ranges. The Old Station site is situated three miles within the ranges, on the banks of the finest sheet of water in the country. It has a length of over 400yds., and varies up to two and a half chains across, and in places is fully 20ft. in depth. It has been known to go dry, but only after a prolonged drought.

Other holes occur at intervals along the channel up to a short distance of the divide leading on to the Murray Downs fall. The most important hole near its source is at a place called the Old Station, situated at the second gorge, north of the divide. A valley leads from here in a south-east and easterly direction on to the Elkedra fall, a branch of which passes through a gorge into the east end of Elkedra Pound.

Hatch's Creek is the main tributary, and has an almost true northerly course from its source. It strikes into the Frew eight miles south of the station, but before doing so crosses Brown's belt. In the range south of this belt it contains several small but good holes, one of which—the Kangaroo Hole—has never been known to go dry, the soakage being very strong. On passing south through this range a narrow valley is entered, which continues to the source of the creek, the southern termination being marked by the divide between this and the Elkedra fall.

Just before passing out of this valley a branch creek comes through the range on the right bank, and in the gorge created by this creek are two rockholes—a small one at the outlet and a large permanent hole near the end of the gorge; but the latter is difficult to get at.

The pad from the Frew to the old Elkedra Station follows the course of the Frew and Hatch's Creek to the "divide," which it crosses, and then follows a northern branch of the Elkedra Creek. From the divide a valley extends away south-east, and eventually strikes on to the Elkedra; but the creek and pad heading from the divide takes a more easterly course, and continues to the end of the range, and then continues on to the Pound Creek, and flows south-east along a valley, and thence through a range into the main channel. The pad continues to the station, round the base of the ranges on the east side of the flats.

From Brown's belt a valley with a few broken hills extends easterly, right out into the open plain, clear of the ranges. About 14 miles in this direction is the Ti-tree Creek, towards the head of which are several fair rockholes.
From this creek there is a route round the end of the range to Gastralobium Creek. This is reached after crossing several small creeks heading north, and turning up a valley extending south and south-west. This valley contains eruptive rocks. The creek is a tributary of the Elkedra, but contains only ordinary waterholes along its course.

The Elkedra Creek can be reached by continuing round the south-east extremity of the ranges. It resembles the Frew from the number of magnificent sheets of water along its course, which occur at intervals until well clear of the range; the distance from the Old Station being about 12 miles. The most permanent hole is that near the Old Station site, which has never been known to go dry.

A number of small creeks exist south of the Elkedra, in the open flats, where the ranges begin to spread and die out.

Previous to passing the Old Station the Elkedra comes from a westerly direction through several gaps and valleys, small rockholes occurring in all the gaps or gorges. The pad to Murray Downs follows the course of this creek until it strikes into the range. The route is then along the base of the range, where it eventually strikes Spence’s Creek. A southern branch of the Elkedra enters the main channel just west of the second gap from the station, and at the head of this creek is a large rockhole in a rough gorge.

Other rockholes exist, in addition to those mentioned, at different points throughout the range; but occurring, as they usually do, some distance from mineral country, they have not been located.

The rock and waterholes in these regions cannot be given a time limit, owing to the many causes which affect their lasting capabilities. The seasons and the class of storms which fill the creeks and waterholes is the main factor in determining the length of time they will hold water. A heavy thunderstorm within the range may fill holes for miles outside the radius of the storm; the loss through evaporation and soakage in a case of this sort is very rapid. Again, a heavy storm falling rapidly may fill all the creeks in the country, but if after a drought, followed by a further dry spell, the holes fail rapidly. The hot dry winds in the interior have a wonderful action in lowering large waterholes with an exposed surface.

In the waterholes with clay or mud bottoms the number of crayfish and frogs, with their deep holes along the water-line, greatly assist in reducing the time a hole will last.

With heavy storms scattered over several months many of the holes here mentioned are capable of standing a 12 months’ drought, and if two good seasons fall in succession they will even stand longer, owing to the soakages replenishing the evaporation loss for months after rains have ceased.
JOURNAL OF THE WESTERN EXPEDITION.

The exploration and development of Central Australia is a history of hardships and disappointments, and our experience, covering three of the driest years ever recorded in that country, was no exception. The Central Exploration Syndicate—a London Company—was originally formed to explore and prospect a large tract of country held under special permit from the South Australian Government. This concession was situated in the Northern Territory, and originally comprised an area of 8,000 square miles. Subsequent additions brought this total up to 11,000 square miles. The position of this concession was between latitude 19° and 22° S., and east from longitude 134° E. The bulk of the country was thus east of the Overland telegraph line, and it extended north from the Barrow Creek Telegraph Station to Attack Creek—a length of 320 miles. Its greatest width was on latitude 30° 50' S., where it was 50 miles across. Two years was occupied in proving this country. Comparatively speaking only a small proportion of it was occupied by metalliciferous country, and the belts representing this area were, with one exception, very small. Throughout these belts we discovered a number of gold-bearing reefs, and a considerable amount of our capital was lost on reefs, however, without any prospect of work. The remainder of our company did not consider it would be justified in raising the necessary funds to thoroughly develop them. The present inaccessible nature of the country and costly transport prohibits the development of gold mines other than those of a high grade. With the extension of the railway from Oodnadatta to Port Darwin these conditions would be modified, and the mineral resources of the interior would then become the great factor in the development of Central Australia. On completing two years' work the directors generously requested me to proceed to London, with the double object of recruiting and of conferring with them as to the advisability of ceasing operations. It was in conference with them that the Western Expedition was decided upon, the details of which are set out in this journal. I regret that there are many things omitted which would have been of considerable scientific interest. However, there is a limit to the amount of work that any expedition can accomplish. The directors had formed a plan in giving the company of a payable goldfield, and every available minute of the trip was utilised for that purpose. The interest and value attached to this journal will therefore be in the geographical and geological features, and the importance of the country traversed from a mineralogical point of view.

The original plans formulated for the start of this expedition had to be abandoned, owing to the extremely dry season. My intention was to strike west from a billabong at the lower end of the Bonney Creek, some 30 miles west of the telegraph line. The natives reported this water dry, so I then made Kelly's Well the starting point. The position of this well is 33 miles south of Tennant's Creek Telegraph Station, and over 1,200 miles north of Adelaide. I had so arranged matters that the camels, with all plant and rations, were to be at Kelly's Well on my arrival there from Adelaide—a journey which occupied 34 days. We reached Kelly's Well on Thursday, May 3rd, 1900, and day was spent in adjusting the loads and getting things in readiness.

Mr. Field, in charge of Tennant's Creek Station, came down to see us off, and we were thus enabled to send our final telegrams from the shackles on the telegraph wires at the well—the last that was to be heard from us for nearly six months. The expedition, when complete, consisted of myself, as leader; John Byrne and J. J. Davidson, prospectors; E. W. Wood, camel-man; and Jack, the blackboy; nine bull camels; rations for six months; 85 gallons of water—equivalent to 17 days' supply; and a small dog. All plant and provisions were reduced to the very lowest quantities, the object being to be as lightly equipped as possible, in order to make the exigencies of long dry stages.

Camp No. 1, Saturday, May 5th, 1900.—The delays incidental to a start did not allow of our making a very early movement, but we eventually got under way at 10.30. Our course was on a bearing of 262° 30', and on this we travelled all day. Open mulga scrub was encountered during the first two miles, and from this we passed into low stunted scrub with sandy soil. At four miles we crossed the outcrop of a large quartz and quartzite reef. The quartz contained a fair percentage of iron oxides. The outcrop of this reef occurred in flat sandy country, surrounded by low spinifex. At eight miles a heavy belt of limewoods made their appearance in a depression to the south of our route, and around this locality birds of all descriptions were plentiful, owing, doubtless, to the trees being in blossom. At 11¾ miles we struck a low ridge, and camped on a small belt of emu or white bush, which made fair camel feed. On examination the formation of this ridge proved to be reddish sandstone slate, with a few small quartz veins. The base of the ridge for a short distance, finally crossing it at two and a quarter miles. The highest point of this ridge above the level of the plain was about 50ft., and from it we obtained a final view of the Murchison Range, and sighted a native smoke about 50 miles distant to the north-west. From the ridge we passed into a small flat, with a splendid run of camel bush. Leaving this we entered dense belt of mulga scrub at three and a half miles. This mulga took some negotiating, but we eventually succeeded, and passed out of it in one and a half miles into open scrub flats, with sandy soil and spinifex, the scrub consisting of turpentine belair, corkwoods, and a few limewoods. This class of country continued up to 12½ miles, when we crossed a small patch of grass three-quarters of a mile in width. Leaving this, we entered...
a belt of corkwood trees, and camped. The foliage of this timber made a poor substitute for camel food, but when there was no other, even it was acceptable. The distance travelled was 14½ miles. The weather was still very hot and most trying.

Camp No. 3, Monday, May 7th, 1900.—Continued on same bearing. The country passed over was monotonous in the extreme, showing that we were now well into the desert country. Open scrub and spinifex-covered sand surrounded us on every hand. At 15 miles we suddenly walked out into an open flat devoid of heavy timber. This flat had a length of one and a half miles by three-quarters of a mile in width, and at this point we noticed a few tracks of natives. The imprints had been made within the past week. We camped in some open scrub at dusk, having covered 27 miles. The weather was most trying, being intensely hot and close, and in order to quench our thirst we had frequently to refresh to the water keds during the day. The evening was only a slight improvement on the day, but a thunderstorm was working up from the south-west, and the thought of a possible downpour of rain made things more endurable. By 10 o'clock it appeared certain we were to get it, and an hour later the storm was on us with a roar, a very heavy wind preceding the rain. Under the circumstances we enjoyed the drenching, an enjoyment, too, that only those who have travelled in desert country, with the unknown in front of them, a closed waterless track behind, and rapidly-diminishing water supplies, can fully appreciate. The storm was soon over, and left us disappointed, only about half an inch of rain having fallen; and, as it was only at exceptional places that water could lodge in this desert country, our chances of a drink did not appear too favorably.

Camp No. 4, Tuesday, May 8th, 1900.—The morning was cool and cloudy, with a slight drizzling rain. Bearing unchanged for one and three-quarter miles, when we sighted some low rises to the south of our route; and as this class of country meant a likely place to find clayspans, or some holes which would hold water, I at once altered the bearing to 237° 30', in order to strike these hills. After travelling on this bearing for three miles we obtained a more extensive view of the hills, and altered the bearing another 10° south; the point we were then steering for being two low small round hills. Crossing a low ridge of reddish sandstone we came into a valley and watercourse, in which were several fine clayspans brimming over with water. Whilst the camels were coming up I continued on to the point we were steering for, with the object of seeing if more water and better feed existed, as I wished to camp. In this I was successful, and returned to the camels at our first clayspans. Whilst they were having a drink we decided to celebrate the occasion by having lunch, a luxury we had not enjoyed since starting. This finished, we continued on to the spot I had selected for our camp, 100yds, to the south-east of the two bald hills. A watercourse passed these hills, coming from the main ridge from the south-west and westerly. It had a northerly fall, and finally disappeared into sandy flats. The clayspans close to the camp would contain water for at least one month after a heavy rainfall, if followed by favorable weather—no strong winds and moderately cool days. The afternoon was too far advanced to make more than a brief inspection of the ridge, but sufficient was done to show that the rocks forming it was ferruginous sandstone—a formation which is not very productive of gold reefs. Distance travelled six miles.

Camp No. 4, Wednesday, May 9th, 1900.—At 3 o'clock this morning we had to turn out to stack our goods and saddles, and cover them, as we happened to be in the track of another passing storm. This shower completed the work of saturating our blankets and making things generally uncomfortable. We estimate that about 90 points of rain fell during the night and morning. I made a thorough examination of the hills and ridge. The formation proved uniform throughout, being all ferruginous sandstone, the beds of which dipped to the westward at a very low angle. We called this place the “Red Hills,” from its most characteristic appearance. The main ridge had a length of four and a half miles, whilst the width varied up to three-quarters of a mile; its course was 320°. A few isolated hills were visible to the north-west for about eight miles. South and south-west the country appeared to rise gradually, the horizon being thus limited. The country immediately surrounding the ridge was fairly open, with a line of watercourse running parallel on the north-east side. Several small creeks formed on the stony rises, and flowed out into this watercourse. Recently-burnt ground and markings on trees showed that natives exist in the locality. It was more than probable that they obtained their water supplies from some native well. The night was wonderfully fine and clear, although somewhat close, and it seemed as if we were finished with the rains for some time.

Camp No. 4, Thursday, May 10th, 1900.—Our anticipations regarding the weather were not realised, and about 2 o'clock in the morning we had again to get up and re-stack all our goods, which had been spread out to dry. This done, we turned into wet blankets for the rest of the night. After breakfast it rained steadily for an hour, making a flow in the watercourse, and the ground very boggy. This meant another day's delay, but in the light of present events I think we can afford this. The storm this morning came up from the south-east—previous ones had come from the west and south-west—the clouds hanging exceptionally low. The afternoon saw the sun shining very fiercely, and we were enabled to dry all our goods and blankets.

Camp No. 4, Friday, May 11th, 1900.—Spelled to-day with the object of giving the ground time to dry, it being yet too early to risk straining the camels for the sake of saving one day. We estimated that fully one and a quarter inches of rain fell during the past three days.

Camp No. 5, Saturday, May 12th, 1900.—We made a fresh start to-day under more favorable conditions. We travelled on a bearing of 262° 30' for three miles, to the most prominent point of the main ridge, crossed this, and altered the bearing to 220°. A small gutter made on the south-west side of the ridge, and ran out into a sandy flat timbered with limewood trees. This flat extended north-west along the base of the ridge. At five miles we touched low rising sandhills on our left. We continued along the side of these sand rises for two miles, and at seven and a half miles from the Red Hills camp I altered the bearing to 242°, this point being marked by a belt of limewood, which were exceptionally large and green. Prominent sandhills made their appearance at eight and three-quarter miles, a little grass being also noticeable in the vicinity of these sandhills; whilst open sandhill country was visible to the north for 10 miles. To the south the horizon line was limited, owing to the country rising in that direction. We continued on through open scrub country up to 14½ miles, when we camped. The ground was still very boggy.
boggy, and the camels left a trail behind them that will be in existence for many years. Camel feed about this locality was very scarce. A good view of the country was obtained from this camp to the south and south-west for a distance of 15 miles. It was similar to that through which we had already passed.

**Camp No. 5, Sunday, May 13th, 1900.—**Bearings unaltered. For one mile there was thick belair scrub, and then we plunged into open scrub with corkwood and desert coolibar covering the rising ground. At three miles the country dipped westerly, whilst a small limewood flat showed to the north of our route. From open scrub we passed into dense belair, and from this out into low sandhills at seven miles. Then, crossing a large sandhill, we went down into a valley, where desert sandstone was outcropping for three-quarters of a mile. Its occurrence here looked peculiar, as it was only at exceptional places that the rocks below these sandhills became exposed. The run of the sandhills was 290°. We travelled along the crown of the next sandhill for a short distance, and then crossed into a fine valley with heavy limewood trees and currant bush. A few dry clayspans showed the ti-tree, but these were dry. Byrne, in travelling up the valley to the north of our direct route, struck one in the midst of a belt of ti-tree, which contained a few inches of water. This was sufficient to give the camels a drink. The clayspan was a fairly large one, and when full it would last several months. Sandstone was outcropping through the bottom of the clayspan in several places. Four swallows, some pigeons, and a number of diamond sparrows were seen around the water. Very old camps of blacks were also noticed, but there was no recent evidence of their existence in this neighborhood. We examined the surrounding sandhills, and found that for 10 miles to the north-east the country was sandy, covered with scrub. To the north-west I found heavy sandhills for a considerable distance; whilst to the south there were scrub flats for eight miles, and then more sandhills. The outline of what appeared to be large sandhills, or a low tableland range, showed bluish to the westward at a distance of 30 miles. The distance travelled to-day was nine and a quarter miles.

**Camp No. 6, Monday, May 14th, 1900.—**Bearings 292° 30′. In three-quarters of a mile we passed out of sandhills into thick scrub, which continued for two miles. We then struck into a well-grassed flat, lightly scrubbed, the heavy timber consisting of bloodwood. One mile of this country and we were again into open scrub, which continued up to six miles, where camel feed showed better than for many miles past. Emu and currant bush, with green corkwoods, were plentiful. The tracks of small rats, wallaby, and emus were numerous about this locality. We soon passed through the belt of camel feed, and at eight and a half miles we struck a low sandhill extending to the south-east. Altered bearing 275°. A steady drizzling rain then commenced. This had been threatening all the morning, but being very cold we considered this contingency improbable. As it now had every appearance of continuing, I deemed it advisable to camp, so as to get our goods under cover and prevent them becoming soaked. Immediately after we had everything under the tarpaulin the rain practically ceased. A very light drizzle continued until six in the evening, when it ceased. As the camel feed was poor around this camp we brought the camels back about 9 o'clock, and they then stayed in camp until early morning. A prominent sandhill was visible on a bearing of 15° from camp; it was six and a half miles distant, and formed part of the belt of sandhills crossed this morning. The distance travelled to-day was nine and one third miles.

**Camp No. 7, Tuesday, May 15th, 1900.—**Same bearings. We crossed two more sandhills during the first mile. From one of these we obtained a view of the elevated country seen from the last belt of sandhills. It now showed like a low range. We continued on through open sandy country with desert coolibar and bloodwoods. A very heavy belt of limewood showed at five miles, which also marked the 86-mile point west from Kelly's Well. Dense spinifex, followed by open rising ground, was met with at a distance of eight miles, and we obtained a fair view of the supposed low range from the top of a high bloodwood. A bare reddish patch took the eye, and for this we steered, on a bearing of 275°. We crossed a ti-tree flat, where we struck two fairly fresh native tracks. Patches of belair scrub followed, and this gave place to very open country, all the smaller shrubs disappearing, and leaving only the heavier timber, such as corkwoods and bloodwoods. A little mulga grass also made its appearance amongst the spinifex. At 10 miles we passed into an open watercourse at the base of the reddish patch seen from the tree-top. Here we struck a splendid clayspan, surrounded by beautiful green grass, and, needless to say, we camped. The supposed low range proved to be only the commencement of undulating country. The summit of the undulation we had been steering for was capped with ironstone gravel, and this gave it the rocky, reddish appearance noticeable from a distance. The drainage from these gravel rises formed a watercourse and clayspans. I examined the country to the north-east for two miles. It proved to be gradually rising ground the whole way; the soil was hard sandy loam, with patches of ironstone gravel. I obtained a good view of the country to the south and south-east, the horizon line showing at from 20 miles to 25 miles over flat scrub plains. No sign of a hill was visible, the limit of vision being undulations or rising ground. Distance travelled 11½ miles.

**Camp No. 8, Wednesday, May 16th, 1900.—**I decided to spend the day in examining the country to the north, hoping that the change from plains and sandhills to undulating country might mean a pronounced break in some direction. There was a chance, too, that auriferous country might exist along this fault. Byrne and myself therefore started and travelled up the rising ground to the northward. The drainage for the first four miles was walled into the water-sandy country water continued for two miles; it then started to dip north into the depression between the undulations, rising ground again showing at from six miles to eight miles beyond. Such a view was sufficient to show that no important change occurred, and that it was useless proceeding further north. Pigeons, eagles, and many small birds were plentiful about this watercourse, whilst dingo tracks were also much in evidence. The existence of these animals, together with native tracks, was fair evidence that an undulation country existed in the locality. In all probability there were native wells or springs in the travertine limestone country which extended to the east of south for several miles.

**Camp No. 9, Thursday, May 17th, 1900.—**Bearings 275°. We started at 8:40, travelling over the watercourse and up over bare open rising ground, from which we passed down into a small valley with heavy limewood trees, looking wonderfully fresh and green. A belt of this timber followed round the base of the
the hill on our left. From this valley we again started to ascend sandy rises, with ironstone and sandstone gravel showing in places. A small outcrop of ferruginous sandstone occurred at four and a half miles. Sandstone and quartzite, and several fresh black's tracks went to to the northward. From the rising ground we descended into an open flat at five and a half miles, the scrub being very poor and stunted. Malles in small quantities was the most abundant timber. Owing to the fact that we were in a depression, the horizon line was limited both to the north and south of our route. The country continued very dreary up to 14 miles, being devoid of all heavy timber. We then entered a belt of corkwood and bloodwood, which continued up to 15 miles, where we camped—the bush being fairly fresh, with a little currant and white bush. The distance covered was 15 miles. The weather was hot, with a northerly wind.

Camp No. 9, Saturday, May 19th, 1900.—Bearing 375°. We continued on over open country, and at one mile we struck a small belt of ti-tree in a slight depression. We also sighted an old native well in a small hollow, around which were several Stuart bean trees and some large slaty-colored anthills. The well had evidently not been used for some years, and had consequently fallen in. Sandstone and quartzite gravel existed around the dump. As water sufficient for our purposes was doubtful, we did not stop to re-sink the well, trusting to find better ahead. Thick belair and other scrub was passed during the next three miles, where we camped. Throughout this belt there was good camel feed, currant and emu bush being plentiful. As the camels had had very little to eat during the past three days there was a strong temptation to camp; but overcoming this, we continued on through scrub up to eight miles, when we entered a heavy belt of ti-trees, extending in a north and south direction. The country was visible as gradually rising ground to the north for from 10 miles to 20 miles, and there was no doubt the drainage from this had formed the ti-tree watercourse, the fall of which was to the south. Water should be obtained at very shallow depth about this locality. The ti-tree gave place to a belt of bloodwoods and limewoods of fresh and vigorous appearance. At eight and a half miles we passed into very thick spinifex, which continued for three miles, two small sandhills then making their appearance. Crossing these sandhills we passed into open flats with a fair quantity of corkwood. A recently-burnt patch of country occurred at 1½ miles, where we camped. We examined a depression to the north-east with the hope of striking a native well, but in this we were unsuccessful. It had been cold and cloudy all day, and now looked sufficiently promising for rain to warrant us packing all our goods. The promise was fulfilled, and in the evening it started a drizzling rain, which continued at intervals all night, making things very uncomfortable.

Camp No. 10, Friday, May 18th, 1900.—Bearing unchanged. Our camels were not satisfied with the picking after the green grass of last camp, so they made back. We managed to get a start at 1:30, and travelled over sandy tablelands, which gave us a good view of the country to the north-west for 10 miles, but no changes were observable. From this elevated country we went down into a valley devoid of all heavy timber. Crossing this, we reached the summit of the next undulation, from which we obtained a view all round for from 10 miles to 12 miles, but this only added to the dreariness of the scene. We camped on this undulation after nine miles travelling, the camel feed being nothing but belair, scrub, which was not very appetising.

Camp No. 11, Saturday, May 19th, 1900.—Bearing 275°. We continued on over open country, and at one mile we struck a small belt of ti-tree in a slight depression. We also sighted an old native well in a small hollow, around which were several Stuart bean trees and some large slaty-colored anthills. The well had evidently not been used for some years, and had consequently fallen in. Sandstone and quartzite gravel existed around the dump. As water sufficient for our purposes was doubtful, we did not stop to re-sink the well, trusting to find better ahead. Thick belair and other scrub was passed during the next three miles, where we camped. Throughout this belt there was good camel feed, currant and emu bush being plentiful. As the camels had had very little to eat during the past three days there was a strong temptation to camp; but overcoming this, we continued on through scrub up to eight miles, when we entered a heavy belt of ti-trees, extending in a north and south direction. The country was visible as gradually rising ground to the north for from 10 miles to 20 miles, and there was no doubt the drainage from this had formed the ti-tree watercourse, the fall of which was to the south. Water should be obtained at very shallow depth about this locality. The ti-tree gave place to a belt of bloodwoods and limewoods of fresh and vigorous appearance. At eight and a half miles we passed into very thick spinifex, which continued for three miles, two small sandhills then making their appearance. Crossing these sandhills we passed into open flats with a fair quantity of corkwood. A recently-burnt patch of country occurred at 1½ miles, where we camped. We examined a depression to the north-east with the hope of striking a native well, but in this we were unsuccessful. It had been cold and cloudy all day, and now looked sufficiently promising for rain to warrant us packing all our goods. The promise was fulfilled, and in the evening it started a drizzling rain, which continued at intervals all night, making things very uncomfortable.

Camp No. 12, Sunday, May 20th, 1900.—The rain, such as it was, continued to mid-day. The weather then cleared, and after giving the camels' backs time to dry, we made a start after lunch. Bearing unchanged. We journeyed through scrub and over burnt ground for two miles, the country being visible to the north and south for five miles. Thick belair scrub followed during the next two miles, and at the end of this we reached the summit of another undulation, from which we obtained an extensive view of the surrounding country, more particularly to the south-east, where sandy undulations extend for 20 miles. The outline of another undulation, showing like a long low range, was visible at 25 miles, slightly to the south of our route. We camped at five and a quarter miles, the camel feed being belair scrub with a little dry corkwood. Close to the camp were several native tracks, dating from about the time of the first rains; they apparently came from the south-west. The weather was cool and fine.

Camp No. 13, Monday, May 21st, 1900.—Bearing 335°; our route being over burnt ground for two miles, and then into low sandy rises, with grass intermixed with the spinifex. Our course was then along the tops of these rises, from which we obtained a view to the south for 10 miles. The country appeared to be very barren, nothing visible but sand and spinifex, with very light and stunted scrub. The sight along our route was still more extensive, extending for 25 miles over a large plain, the horizon line being marked by an unbroken undulation. Heavy sandhills showed up to the north of our line. We continued along the sandy rises up to five miles, grass being associated with spinifex all the way. This run brought us—miles west of Kelly's Well, and as the prospect of a change occurring west was not promising, I decided to work north, and endeavor to strike the large mountain range seen by Buchanan. In addition, I hoped that the sandhills to the north would be the means of giving us another drink and fresh supplies of water. I therefore changed the bearing to__, this being in the direction of a prominent sandhill. One mile on this bearing took us over a low gravel rise, the pebbles of which consisted of sandstone. A small flat with bloodwoods was then crossed, the dip of the country being to the south-west. At three miles we entered a belt of limewoods—a patch of country covering a depression to the north-west of our route. Our view from the surrounding sandhills lodged in this depression. We made a search here for water, but failing to discover any, continued on over flats fairly well grassed. At five miles we crossed a large sandhill, the first of the series. The south-east end of this belt of sandhills occurs a mile to the east of our route. From this sandhill we went down into a valley a quarter of a mile in width. It was splendidly grassed, and looked a perfect paradise, the grass and herbage being all green. Heavy limewood and ti-trees completed this pretty picture. Throughout the ti-tree there were plentiful three half trees, they were dry, but on making a careful search to the north-west we discovered one which contained a fine hole of water—evidently an old native well, which had been sunk at the bottom of the claypans. The hole had the appearance of being a soakage, but owing to the recent rains it was impossible to be certain on this point. This water was on the south-western side of the valley, and about half a mile to the north-west of our route. We camped here, having travelled 11½ miles—five miles on bearing 325°, and six and three-quarter miles on bearing 335°. Blacks' tracks were plentiful about the water, and an examination of the surroundings revealed...
a camp of four wurlies. These proved to have been abandoned in a desperate hurry, as all the spears, knives, boomerangs, and implements were in the camp. As evidence of our intention not to molest the natives, we left the camps, spears, &c., intact. The spearheads were made from opal and quartzite—the latter being also used to make the knives. The shaft of one spear was made from bamboo, showing that intercourse takes place between this sandhill tribe and the Victoria River blacks. Whilst having a general cruise round the valley, two natives were sighted, but they did not stop to welcome us. They ran from us, and hailing them only increased their pace, which was not slow in the first instance. A mile north of the camp a break occurred in the sandhill in the shape of a transverse valley, timbered with heavy linemwoods. This valley drained the sandhills on the north side, the fall of the water being to the west. Travertine limestone outcropped in small patches throughout the valley and around the base of the sandhills. Soft reddish sandstone was the formation around the waterhole, whilst chaledony pebbles were scattered around the surface. Although seven days since they had had a drink, the camels were not very thirsty, and only drank a few buckets of water. This was doubtless owing to the drizzling rain and fairly cool weather.

Camp No. 13, Tuesday, May 22nd, 1900.—We camped at the water to-day, to enable the camels to have another drink and to fill themselves with the green herbage. Byrne got close quarters with a native to-day, but he could not induce him to come into camp. Birds of all descriptions were numerous, and a flock of pigeons thoughtlessly came too close, with the result that we altered our menu to pigeon stew. Rats in considerable number inhabited the sandhills.

Camp No. 14, Wednesday, May 23rd, 1900.—We travelled up the valley to the end of the northern sandhills, on a bearing of 325°, for a distance of three-quarters of a mile. Then I altered the bearing to 335°. Leaving the sandhills, we crossed the transverse valley, which was heavily timbered, and passed into belair scrub, which at four miles gave place to sandhills. The run of the sandhills was 275° to 280°. Our course being north-westerly, we crossed these sandhills at a short angle, and at five miles a prominent sandhill showed up 300yds. to the east of our route. We continued on over sandhills all day. They were at times from 30ft. to 40ft. in height, but being wide they were not difficult to cross. We passed over several valleys with heavy ti-tree and claypans, but the rain had apparently not extended down to them, as they were all dry. At 13½ miles we dropped into another valley with dense ti-tree, together with several large claypans in the same condition as those crossed earlier in the day. The camel feed was fairly good along this valley, consisting of buckbush, partly green, and a species of parakilia. An improvement on this was improbable, so I decided to camp. Blacks' tracks were plentiful for the first five miles from our last camp, but after that they disappeared. To-day it was very hot. .

Camp No. 15, Thursday, May 24th, 1900.—Bearing unaltered. Our course took us over large sandhills for three miles. They then began to get small, and the valleys between them widened to half a mile and three-quarters of a mile. At five miles we came on to the last of the sandhills, and obtained a view of the country to the north-west and west for a distance of eight miles over scrub flats, rising ground being the limit of vision at that point. The view east extended over open scrub plain for 10 miles. From the sandhills we passed into an open corkwood flat, which was soon followed by low open scrub, devoid of heavy timber. Rising ground with an eastern fall was struck at 1½ miles, this undulation being covered with belair and other scrub, which continued up to 13½ miles. More rising ground was then encountered, together with a belt of belair and corkwoods, and we camped, having covered 14½ miles. The camp was not a particularly good one, but the indications forward were against better being struck. Heavy rain had recently fallen about this locality, but there being no place for water to lodge, the sand had soon absorbed it. The soil during the past few miles had shown a marked change, the loose sandy soil gradually giving place to belts of hard red and sandy loam, with runs of ironstone gravel country; but no corresponding change appeared in the vegetation and shrubs, the spinifex being as persistent as ever. Dingo tracks were very numerous all day, but bird life was again getting scarce. The day was very hot, followed by a cold salty night.

Camp No. 16, Friday, May 25th, 1900.—Bearing unaltered. The morning opened close and cloudy. We started at 8:25, and travelled over rising ground, the soil being hard and sandy, with ironstone and sandstone gravel. From the summit of this rising ground the country to the east was visible for 12 miles, but showed no changes. We passed down into a depression with numerous anthills and a few scattered bloodwoods, the scrub being very mesare. Crossing this, we entered a belt of thick belair scrub at six and three-quarter miles. We then ascended another undulation, and obtained a view with a still wider range to the eastward, the distance visible being 20 miles, over low undulations with wide scrub flats. At 10 miles we entered undulating country with wide valleys and stunted scrub, desert coolabur being the heaviest timber. A few emu tracks were all the indications we saw of the existence of game. At 14½ miles we camped on an open flat with very green broom bush. Exploring out from the camp, Byrne struck an old black's camp, with two native wells half a mile west from our camp. On examination these proved to be from 15ft. to 20ft. in depth. They were sunk in the usual native fashion, being round, circular holes, with a vertical depth of from 10ft. to 15ft., and then a smaller hole on the under side down to the water. In the deeper of the two the sand was damp, but to have obtained water meant practically sinking the well from the surface down, and as the supply was not then assured, and we were not in urgent need of water, I did not deem it necessary to spend time and labor on this work; more especially as the country surrounding it was useless and the camel feed poor. There was nothing around this locality to indicate either the presence of wells or the existence of water at such a shallow depth. The only feature out of the common in close proximity to the wells was an outcrop of ironstone conglomerate, and this doubtless formed a bar or a basin from which the supply of water was drawn.

Camp No. 17, Saturday, May 26th, 1900.—Bearing 335°. Night again close, but towards morning we had a heavy dew. Our course was first over a belt of burnt country. Then, at two miles, we crossed a low rise and entered into an open flat scattered over which was a number of anthills, together with a few bloodwood trees. We passed from this on to rising ground, from the top of which we obtained a sight of some broken hills right on our course. This rise was capped with ironstone conglomerate, and showed numerous tracks both of emus and turkeys. In four miles we reached the broken hills, which proved to be of small extent, and consisted of ironstone conglomerate capping
capping horizontally-bedded sandstone. The main portion of the hills had a general east and west course, the eastern end of which bent round to the north-east for a distance of one mile, when it terminated. To the west of our line the ridge continued for another one and a half miles. A prominent point in this run of hills just to the right of our course enabled us to obtain a good view of our surroundings. A small sugar-loaf hill and a pinnacle hill showed on bearings of 314° and 30'. We had cool winds in the morning, but a hot sun made things very warm during the afternoon. Bearing unaltered. We passed from the sandy flat, which represented the summit of another undulation. At five miles we crossed over a small range mentioned by Buchanan, but as yet we have not seen the slightest indication of its existence. The mountains being found in this neighborhood, I decided to steer more westerly, in order to strike Hooker's Creek. At 15 miles we entered a good belt of corkwood trees with a little desert mallee, whilst in a depression half a mile to the east there was a run of limewood trees. At this spot we camped, having travelled 15 miles. We should, ere this, have sighted the high mountain range mentioned by Buchanan, but as yet we have not seen the slightest indication of its existence. The deserted character of the country, the absence of both native smoke and tracks, and the unburned spinifex were strong evidence that natives did not inhabit this country. The weather was still hot, but improving.

Camp No. 19, Monday, May 28th, 1900.—As there appeared only a remote possibility of Buchanan's mountains being found in this neighborhood, I decided to steer more westerly, in order to strike Hooker's Creek. I therefore altered the bearing to 314°, and we then travelled up over rising sandy ground, a little grass being intermixed with the everlasting spinifex. At three miles we reached the summit of this undulation, and from there obtained a good view of the surrounding country. Altered bearing to 324° 30'. A wide depression extended westwardly from the south to the north, with elevated country beyond at from eight miles to 10 miles, whilst an extensive view was obtained from the south-west back along our route. We then passed down into the valley, where turkey and emu tracks were numerous, but neither native tracks nor smoke were to be seen. The scrub was very light, consisting of ti-tree and paper-bark trees, with scattered limewoods and bloodwoods. At seven miles we struck a very dense belt of belair scrub. It was only with considerable difficulty that we forced a passage through this belt, although only one mile in width. At 15 miles we entered a good belt of corkwood trees with a little desert mallee, whilst in a depression half a mile to the east there was a run of limewood trees. At this spot we camped, having travelled 15 miles. We should, ere this, have sighted the high mountain range mentioned by Buchanan, but as yet we have not seen the slightest indication of its existence. The deserted character of the country, the absence of both native smoke and tracks, and the unburned spinifex were strong evidence that natives did not inhabit this country. The weather was still hot, but improving.

Camp No. 20, Tuesday, May 29th, 1900.—The camels got away from us last night, and it was not till nearly 12 o'clock that we got a start from the camp. Bearing 314°. We had cool winds in the morning, but a hot sun made things very warm during the afternoon. Bearing unaltered. We passed from the corkwood belt into light scrub, with a few scattered limewood and bloodwood trees. The fall of the country was to the east and north-east, a depression existing in that direction two miles from our route, with rising ground beyond at six miles. To the westward there was rising ground for two miles, and then a wide open sandy flat, which represented the summit of another undulation. At five miles we crossed over a small patch of ironstone gravel, with a little conglomerate. This was quicksand as such, and by an open flat, bounded on all sides by rising ground. At eight miles we touched a small run of emu bush and camped, having travelled eight miles. A flock of cockatoo parrots passed over the camp, travelling south-west. These were the first we had seen. They must have known where water was to be obtained, as they rarely travel many miles from it.
swamps was difficult to follow. I therefore continued on the same bearing, with the intention of getting clear of the creek valley, and then steering northerly, to cut it higher up. A few small sandy rises were first crossed, and then a narrow flat with a little ti-tree and light scrub. Leaving this, we ascended a sandy undulating country, and camped at three and three-quarter miles from the creek. A total of 11 ½ miles travelled for the day. This was a poor camel camp, the scrub being belair, with a dozen orange bushes, which we cut down to enable the camels to strip them to the last leaf.

Camp No. 21, Wednesday, May 30th, 1900.—We started on the same bearing, with the intention of reaching the crown of the rise, so as to enable me to have a view of the surrounding country. At two and a quarter miles we reached this point, and had an extensive view east and south-east over the country traversed, but in the direction I wished to steer the view was limited. If the position of the creek was as I anticipate, we would strike it by steering northerly. I therefore altered the bearing to 345°. This line took us along the crest of the range and down into a small flat. Crossing this and a ridge following, we entered plain scrub country. At two and a half miles on the north bearing we struck the outcrop of some ironstone conglomerate, and a short distance further on a large black cat crossed our path. Not being superstitious we continued onward, passing through a belt of limeworks at five miles, and then into an extensive run of good camel bush of various varieties. After travelling through this for four miles, we camped at nine miles. Seeing we had then been over a week out from water, this might seem a doubtful proceeding, but I have always found that a good feed of green bush is as beneficial to a camel as a drink. I made an examination of the country to the north-west and north-east. North-west it was all flat scrub country. One mile north-east from the camp there was a stony flat, with small sandstone and specular iron boulders. It was of no extent, soon merging into hard loam flats. A watercourse with a little grass, and timbered with bloodwood went away eastward. At a distance of four miles there was a sandy rise, from the top of which a valley heavily timbered with limeworks could be seen three miles further east. Beyond this again was rising ground at six miles. This really extended northward, and on the south end thence away east. I returned in camp with a doubt as to the correctness of my belief in the existence of Hooker's Creek in the direction we had chosen.

Camp No. 22, Thursday, May 31st, 1900.—Bearing 330°. Leaving our good camei camp we passed into open flats, and from this into scrub, which continued for four miles. At this point we crossed a narrow outcrop of quartzite with an east and west trend, the beds dipping to the north. From the top of this a tree at six miles I obtained a good sight of the surrounding country. This showed that we were in the midst of a large scrub flat, with rising ground on all sides, at distances ranging from five miles to 12 miles. The spinifex and scrub continued very heavy for 10 miles, large quantities of dead timber and spinifex being present. We continued onward, passing through a belt of limeworks at five miles, and then into an extensive run of good camel bush of various varieties. After travelling through this for four miles, we camped at nine miles. Seeing we had then been over a week out from water, this might seem a doubtful proceeding, but I have always found that a good feed of green bush is as beneficial to a camel as a drink. I made an examination of the country to the north-west and north-east. North-west it was all flat scrub country. One mile north-east from the camp there was a stony flat, with small sandstone and specular iron boulders. It was of no extent, soon merging into hard loam flats. A watercourse with a little grass, and timbered with bloodwood went away eastward. At a distance of four miles there was a sandy rise, from the top of which a valley heavily timbered with limeworks could be seen three miles further east. Beyond this again was rising ground at six miles. This really extended northward, and on the south end thence away east. I returned in camp with a doubt as to the correctness of my belief in the existence of Hooker's Creek in the direction we had chosen.

Camp No. 23, Friday, June 1st, 1900.—As soon as it was light enough to use a compass Byrne and myself started through the scrub for the three hills, leaving the camels to follow on our track. At five and a half miles we struck a valley and watercourse, timbered with heavy limework, a little grass being also present. We could see nothing of the hills until we were right on to them at seven miles. They proved a disappointment, consisting only of the broken edge of a low sandstone tableland and three small isolated hills, one only having any pretence to promineney. It had a height of 50ft., and showed up as a bald pinnacle. The formation of these hills was sandstone capped with ironstone conglomerate—the usual formation. The sandstone beds were horizontal. To the northward these beds dipped under alluvium. The country in the immediate vicinity was very open, with plenty of splendid camel-bush and a little grass. From the top of the little promienent point we could see right across on these hills we could see right across to the northward; whilst west and south-west the vision was open scrub plain from 10 miles to 15 miles—certainly not a pleasant prospect. We examined country all round in the hope of striking water, but, although it had rained here during the past month, there was no place for the water to lodge. This was the tenth day the camels had been without water, so I decided to return along our pad, as there was not the slightest indication of any creek existing to the north of us for many miles. We therefore ran our tracks back, picking up the camels about half way. No one relished the idea of retracing our steps, but it was our only sound course, so I adopted it. We then returned to the site of Camp No. 21 and again camped. Byrne and myself having walked over 32 miles. The day was intensely hot, so that we were well-nigh exhausted when we reached camp. The camels were looking well, the last two good camps refreshing them to a considerable extent.

Camp No. 24, Saturday, June 2nd, 1900.—Byrne and myself made another early start, carrying a watercan with sufficient water for lunch, my object being to push on to the creek bed and endeavor to locate water, leaving instructions with the others to bring the camels back to where we crossed the creek channel, and camp there. We walked the 144 miles back to the creek in three and a half hours. Then we had a quart of tea and started again. Byrne took the north side and I the south side. After passing the point at which the last examination had stopped the watercourse, and had been first encountered, and I felt anything but hopeful, but I kept on. It again narrowed to a watercourse, and eventually formed into a large channel, which was fully a quarter of a mile long by 50yds. wide, and from 10ft. to 12ft. in depth. Along the bottom of this channel there many small ironstone conglomerate holes, but as I passed one after the other only to find them all dry, I felt depressed. A flock of diamond sparrows alone kept up my hopes. Many of the banks were jet black and contained a little water, and the ground was still stony. Right on the south end of this channel I was rewarded by striking a splendid little sheet of water about 30yds. long by 15yds. in width, and up to one foot in depth. Floating about in this there were nine ducks and a small diver. I indulged in a long drink, and sat down and had the most enjoyable smoke I had had for
for several days. A pool of water under such circumstances is the most glorious sight imaginable, carrying with it a sensation impossible to describe. After a good rest, I started back up the creek to the camp. I reached camp just as the camels were let go, and allowed the others to share in the enjoyment of being shareholders in a fine pool of water. Byrne returned to camp an hour later, having had the same good fortune as myself. The creek on the north end did much the same as on the south, with the difference that the channel on the north side was very small. His discovery was five miles distant—mine only four and a half miles, so I decided to go south in the morning, it being too late to take the camels on to the water that night. We, however, gave the most exhausted a bucket of water each. With one exception they all looked well, considering that they had been practically 12 fairly hot days without water. They could have gone many days longer had there been any necessity, and this could have been extended still further if we had been fortunate in striking good camps.

Tuesday, June 5th, 1900.—A most peculiar fog was noticed about 10 miles to the south just before sunrise. It showed as an abrupt white wall, and, seeing that we were in a desert, it appeared odd. It was evident, however, that larger sheets of water existed than I had seen. Even had we not known that water existed there I should not have hesitated to steer for the fog. Making a much more cheerful start this morning, we headed across the creek on a bearing of 207° for two miles. Then crossing the grass flat, which was all that represented the creek, we continued on a bearing 219° for a quarter of a mile. We then altered this to a bearing of 185°, which took us along the western side of the grass watercourse, and brought us to the waterhole in two and a quarter miles. This water was called the "Duck Pond." After lunch I examined the creek for three miles. The waterhole was the last of the creek channel. Immediately afterwards it merged into a grass and paper-bark watercourse, this watercourse widening to a large grass flat, with emu bush and limewood in large quantities, which continued for three miles, and had every appearance of ending a considerable distance further south. The probable distance across this flat, which was over two miles in width, and could have easily been crossed at almost any point without raising a suspicion of its being even connected with a creek. The general course of the watershed from the Duck Ponds was east of south for one and a half miles, then south, and finally south-west. Three of the ducks and the diver have disappeared since yesterday, so that there must be other waterholes handy. Traces of natives were found about the water. They have been cutting out witchitices. The blackboy Jack also discovered a native "plant" in the hollow of a tree, consisting of a quantity of native twine and a large oval-shaped piece of ochre. In reality it was a lump of soft ferruginous sandstone which they used for decorative purposes on state occasions. The weather was still warm, with cool breezes in the early morning.

Camp No. 25, Monday, June 6th, 1900.—We had a general spell to-day, and a "clean up," after a fortnight's run. The weather had every appearance of rain until late last night. Heavy clouds hung low, whilst the atmosphere was very close, resembling a regular midsummer day. Crows and eagles and small birds were plentiful about the water. 

Camp No. 25, Tuesday, June 5th, 1900.—The threatening weather developed a cool change during the early morning, and consequently we had a fine day. I spent to-day in plotting up details of our route and ascertaining our exact position. This I found would not coincide with the present plans of Hooker's Creek country, our traverse bringing this creek much further south than it was mapped. However, I feel confident that my traverse was correct, and on that I am going to continue. Byrne examined the country to the south and south-west for five miles. On the south-west end of the large grass flat, where my work ceased, he found that the creek formed another channel, trending south-west. Following this down the channel became wide and deep, and was continuous for three miles. In the channel there was a number of small waterholes, all filled by local rain. After a flood this channel contained holes which were not of less than three feet, and the bottom of the holes consisting of ironstone conglomerate. The only loss would be by evaporation. Some of the small ones contained a supply of water which would last two months. These holes were evidently the source of the mist seen from Camp No. 24. Emus were very numerous, and so also were blacks' tracks.

Wednesday, June 6th, 1900.—I decided to explore the country to the south and south-west, with the object of trying to locate some ranges or hills, having had enough of sand and plains. Taking two camels and supplies for three days, with Byrne as mate, I made a start. Travelling south and west for six miles, we struck the creek channel, which we followed down in a south-west direction for two miles. At this point there were several large conglomerate holes, which contained about two months' water. On the left bank we discovered a tree marked GEORGE and an old oil drum hanging up in a tree. Unfortunately there was no date, but the marking was doubtless done by Buchanan, although far out of the route he was supposed to take across to Hooker's Creek from north of Tennant's Creek. The creek bed continued for another two miles, and along its banks were several clumps of mulgas. These must be the farthest from north of Tennant's "Duck Ponds."
when a mirage was about to appear also. They undoubtedly seem something out of the common. The bearing to the hills was 240° from this point, and they were distant 18 miles. As there appeared a probability of at least striking auriferous country in the vicinity of this range, the party at once to adopt appears to be the best course. We accordingly called for some of camel feed, eight miles from the Duck Pond Camp. The sun was hot during the day, but the evening and night were very pleasant.

Thursday, June 7th, 1900.—The camels were very content with their camp, and were in sight this morning, thus enabling us to reach "home" by mid-day. Our comrades were somewhat surprised to see us back so soon, having made all preparations for a lengthy stay. The thought that the day was within measurable distance of country where we might reasonably expect to find something on which to try the temper of our picks made things somewhat more cheerful.

Camp No. 26, Friday, June 8th, 1900.—We made another start to-day, our route being first across the creek channel to south of the waterhole. The watercourse makes a larger circuit to the south-east and south, eventually bending westery across our line of bearing, so that we thus saved several miles. At three miles we struck the creek at the point we were steering for, and then continued on a bearing of 239° 30' for one mile, at the end of which we obtained a fair view of Buchanan's Hills and again altered our course to one of 240°. In half a mile we passed into the grass and bluish flood country. The aulthills throughout the grass areas were very numerous and most picturesque. They appeared much narrower and of greater height than those further south, at times reaching a height of 10ft. and 12ft. They were evidently designed on Gothic principles, and were a relief to the eyes after 350 miles of spinifex. Owing to two of our party feeling unwell to-day, we camped early, on a fair patch of green emu and hop bush forming a small island surrounded by grass. Distance travelled 10 miles, four and two-third miles being on the last bearing. I examined the country to the west for three miles. The grass in this direction was somewhat tall and rank, whilst the number of small bluebush swamps was most marked. The soil of these swamps was very open and spongy. Rising sandy ground occurred at two miles, with the flood country extending in a circle to the north-west round the base of this sandy country. On this rising ground a little ironstone conglomerate outcropped, and from this point a good view of Buchanan's Hills was obtained. This resulted in a disappointment, as I could see that they were not of an auriferous character.

Camp No. 27, Saturday, June 9th, 1900.—Continued on same bearing. At one mile we struck a short run of creek channel coming from the south-west. It had a width of one and a half chains, and was 10ft. in depth. Ironstone conglomerate again occurred as the rock bottom, but the holes did not contain any water. We then passed through several small belts of scrub, surrounded by flood ground, and also crossed two small creeks. At six and two-third miles we passed out of this class of country into the old sand and spinifex with a little scrub. Rising sandy ground continued for three and a half miles, and at 10 miles we went down into a small watercourse, ironstone conglomerate showing a long rising ground on the eastern side, whilst the outcrops of crystalline limestone showed in places along the low rises to the west of our route. The valley contained a splendid belt of camel-bush, but it was too far from the hills to camp, so we continued on for another two miles through scrub, with low limestone rises on our right. At this point the camel-bush showed signs of decreasing in quantity, so I camped, being then one and a half miles from the base of the hills. The total distance travelled to-day was 12 miles. After lunch we went to the hills, and I was disappointed to find that it was not possible to see the formation unfavorable to the existence of auriferous veins, but that the hills covered but a comparatively small area. The formation of the hills was sandstone with a capping of ironstone conglomerate, being thus identical the same as the hills extending in the south-east of this point. A small creek ran across the broken hills, but they were evidently of the same character. It was somewhat dispiriting to think that we had travelled over 300 miles to inspect country which we thought auriferous only to find it was a mere patch of utterly useless country.

Camp No. 28, Sunday, June 10th, 1900.—We made a general examination of these hills to-day, but the information gathered only confirmed the impressions already formed. I have called them "Buchanan's Hills," as I think it very advisable to alter the title of "High Mountain Ranges" to a name conveying more truth, though possibly sounding less imposing. The main ridge consisted of a run of sandstone hills extending for two miles on a bearing of 328°. A break occurred in the centre, which viewed in the distance from a north-east direction resembled a deep gorge, but it was in reality merely a gap. On the north-west end was a short run of broken pinnacles, and in close proximity a large and more prominent hill stood detached from the main ridge. A low ridge continued north-west from this pinnacle for a distance of two miles, sandy flats with open scrub surrounding it on all sides. On the south-eastern end of the main ridge there was another detached pinnacle. A small creek formed on the south side, and ran between this pinnacle and the main ridge. Near the source of this creek we discovered a splendid little rockhole in conglomerate. It had a waterfall of 4ft., and was partly covered by a shelf of ironstone conglomerate. Being thus protected from both wind and sun it would last many months after once being filled. It contained about 700galls. of water. Diamond sparrows and small birds were in great numbers around this rock, whilst an old native camp and two recent tracks were to be seen close by. From this point a run of low hills extended south, and then south-westerly in broken runs for a distance of seven miles. Three small pinnacles and a broken tableland hill marked the termination of this run of country, the formation of which was similar to the main ridge. A view from the highest point above the rockhole showed rising ground, extending southerly from the east round to the south-west. It started at a distance of 12 miles east, and gradually extended south and south-west to 17 miles. An extensive flat or depression was thus formed, which junctioned with the flood country over which we crossed to the north-east. Heavy belts of lime-wood trees existed in patches over this flat, but the scrub for the most part was light and open. Crystal lling limestone occurred in low rises on the west side in large quantities on a large creek covered by ironstone conglomerate in the flats close to the base of the hills. On the north-west end, at the foot of the detached pinnacle hill, the limestone outcrops occurred immediately below the sandstone beds, but the junction of these rocks was not apparent. These sandstone beds were almost horizontal, and on the north-west end of the range they

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they had a thickness of 150ft., whilst the ironstone conglomerate capping them had a depth of 50ft. Conti-
ining south-east the sandstone beds attained a greater thickness, the measurements showing 200ft.,
while the general elevation of the hills was 250ft. above the level of the plain. The lower sandstone beds,
as exposed in the channel on the little creek, consisted of soft, slaty, and micaceous sandstone. This feature
was not noticeable on the north-west end where the limestone outcropped. Throughout the conglomerate
capping there were numbers of small and large circular holes, which after rain would hold water for a
very long time. Their occurrence was most interesting, as they have evidently been formed by erosion at some
very remote period, when this tabeland was of much greater dimensions, and so allowed of a large volume
of water flowing over its surface.

Camp No. 27, Monday, June 11th, 1900.—I sent the camels round to the rockhole to-day to give them
a drink, and to get the kegs refilled, our present water containing too much sediment. It was the finest
water I had ever seen in my life when we discovered it, but now we have good rain water we can afford to
be particular. I examined the limestone rises to the north, but failed to find anything of importance.
Sandy soil covered the limestone on all sides. A number of native smokes were visible to the south and
south-west during the morning. The weather during the last few days has been exceptionally fine.

Camp No. 28, Tuesday, June 12th, 1900.—I decided to continue westward for the purpose of ascertain-
ing the nature of the country in this direction, and then to work on to Hooker's Creek. Our course was
west to the conical hill, on the north-west end of the ridge. This we passed in two and a quarter miles,
and continued a westerly course over a limewood flat into sandy spinifex country. We here struck a solitary
mallee, which continued on until dusk, when we camped,

Camp No. 29, Wednesday, June 13th, 1900.—Having a suspicion that the camels would be anxious
to get back on to the good feed at Buchanan's Hills, we tied two of the worst wanderers down. The others,
were fresh, and I decided to continue westward for the purpose of ascertain-
ing the nature of the country in this direction, and then to work on to Hooker's Creek. Our course was
west to the conical hill, on the north-west end of the ridge. This we passed in two and a quarter miles,
and continued a westerly course over a limewood flat into sandy spinifex country. We here struck a solitary
mallee, which continued on until dusk, when we camped,

Camp No. 30, Thursday, June 14th, 1900.—Bearing 306°. At three and a half miles the country ahead
appeared to be getting somewhat impenetrable, the belair and mallee scrubs being very dense; whilst
a quantity of dead timber strewed about the ground did not improve the prospects. I therefore altered
the bearing to 330°, so as to strike Hooker's Creek more quickly, where I hoped we should get better travelling.
Two and a third miles through light scrub with dense spinifex brought us on to the bank of Hooker's Creek.
At this point the creek was well defined, having a wide sandy bed with shallow banks. Heavy limewood
timber occurred in abundance along the valley of the creek, whilst spinifex grew right up to its banks.
The creek had run within the past month, and we thus obtained small quantities of water in the sand at several
places. We travelled up to the creek on a westerly bearing of 292° for five miles, and at this point we struck
some surface water at the junction of a small branch creek with the main channel, coming in from the south
side. The camels fed well around this place, consisting of green herbage, creepers, geranium, &c.
We therefore camped. A tree close to the water was marked in a similar manner to that previously seen,

N.B.
whites before on the Victoria River, and he also saw Buchanan when he came across from Tennant’s Creek. A second native made his appearance later on. Both of them were of poor physique, and did not appear overfed. They were only a girdle made from human hair. One of them travelled with us to this camp, but after having a feed he quietly disappeared. Their weapons consisted of boomerangs and spears, the latter having quartzite and chalcedony heads.

We continued our traverse of the creek, and found that from a north of west course it bent round to the north-west. At two miles a low sandstone tableland showed on the north bank, the beds of which dipped northward, whilst some low rises showed up on a south-west bearing at a distance of five miles. In the bed of the creek a little kaolinised granite showed through the sand. Small pebbles of felsitic rock were also noticed in the wash of the creek bed, this indicating to us that eruptive and possibly auriferous belts of rocks existed towards the head of the creek. Another two miles in a westerly direction and we struck an outcrop of more kaolinised granite, half a mile in extent. We noticed a small rockhole in this same class rock in the bed of the creek, whilst the low sandstone tableland extended three-quarters of a mile along the north bank. At the end of the granite belt the creek bent suddenly to the south, and a break occurred in the sandstone tableland on the north bank at the same point. Still following the creek, the felsitic pebbles in the wash became larger and more numerous. We camped on a small waterhole in the sandy bed of the creek. Low rises showed up two and a half miles to the south-east, these being those we could see early this morning. On examination they proved to consist of a decomposed granite rock, whilst on the west side granite slightly kaolinised showed around the base. Extending eastward this granite rock was overlapped by ironstone conglomerate, which gradually dipped under the sandy desert country to the south-east. Strong tableland ranges showed to the westward, whilst several detached hills were visible to the north-west, one of the latter having a reddish appearance.

Camp No. 32, Sunday, June 17th, 1900.—Although we were still apparently some distance from the belt of eruptive rocks which we expect to strike, I decided to spend a day in having a general look round from the south-west to north of west. Hills and tableland ranges were visible in these directions. To the south-east we gained but little additional information to that already obtained. The ridge extended south for a couple of miles; then merged into a run of low rising ground which extended along the south side of the creek. East and south of these rises a depression existed at seven miles. From a point on this ridge a run of broken hills could be seen to the south-west at a distance of nine miles. Their appearance at once suggests auriferous country and the possible source of the eruptive rocks in the wash of the creek bed. North of this belt a good view was obtained of the strong tableland range which was the source of Hooker’s Creek. This range extended along the north bank of the creek to within three miles of the camp; it then broke, and two strong flat hills marked the termination in bearings from this point of 293° and 317°. Beyond these tableland hills a small run of pinnacle hills showed very black, having thus the appearance of eruptive rocks.

From this point we struck westerly to a gap in the big range, crossing the creek in three miles at a point where there were two small hills of quartzite, one on each bank. After another two miles the base of the range was reached. This range was composed of sandstone, quartzite, and conglomerate, the beds dipping south-westly at a low angle. A narrow valley divided the range at this point, and it was traversed by one of the tributaries of Hooker’s Creek. A fine waterhole was here struck, some 100yds. in length, and from half a chain to one chain in width. It was by no means permanent, but would last for six months after a good rain. From the fact that no small fish existed in this water I should judge that no permanent rockholes were to be found in that portion of the range drained by this creek. I received an unpleasant surprise at this waterhole by finding some heavy patches of Gastralobium. I had seen none coming up the creek, and in consequence I had not taken the usual precautions. On arrival at this camp I had, therefore, an uncomfortable suspicion that as this creek drained the area covered by this poisonous bush, there was no doubt that some of it existed along this creek. I should get back to camp to find that we were minus some camels. I continued north through the range, in the midst of which I struck a small belt of felsite—evidently part of an intrusive sheet. A flat and grassy watercourse occurred on the north side of the range. Between the main range and the isolated hills a small creek traversed this flat, and entered Hooker’s Creek as a small gutter north of the camp. From the top of a hill a small belt of broken country showed up forming a depression of the sandstone tableland, this depression was also noticed in the wash of the creek bed, the beds being around the base of these hills I concluded that one of the others had examined them. This conclusion afterwards proved incorrect, so that the smokes were evidently the work of natives. On my road back to camp I discovered some Gastralobium along the bank of the creek and within a half a mile of the camp; around this the camels had been feeding, but they had apparently avoided the poison bush. The blackboy had also noticed it, and all the camels had been brought into camp previous to my return. I therefore sent them out east to a small patch of feed where it was improbable that poison bush existed, but I felt by no means comfortable at the thought of possible consequences if by any chance some of the camels had dined off this bush during the night. Nothing of importance was sighted by the others in their travels.

Camp No. 33, Monday, June 18th, 1900.—I made a very early start, with the object of examining the broken belt of rock hills seen to the west yesterday. I gave instructions for the camels to continue on up the creek for 10 miles then to turn west. From this point I reckoned to be able to examine the likely country seen to the south-west. Eight miles westerly the broken hills were reached. The formation proved to be eruptive granite with a very dark weathered surface, having a close resemblance to a coarse-grained diorite. The belt extended for five miles as a run of small disconnected hills. The surrounding country was flat, so that the major portion of the granite rocks was covered by alluvium. The general course of the belt was 396°. A small run of sandstone hills flanked the granite on the east side, the tip of the bed being to the east, but they more often showed a vertical strata. From the most central and prominent granite hill a fair view of the surrounding country was obtained. To the north was an open flat for 10 miles, with grass around the base of the hills. A clear horizon line extended from north around the 280°, where the western termination of the large tableland range showed. A small hill stood out from the main range, and from this point I surveyed around it. Small bean trees existed on the sandstone hills, and grass and scrub flats, and in two miles I struck some more granite along the base of the tableland. The area covered by
by the rocks here was very small, being only from a half a mile to three-quarters of a mile in length, and very narrow. Quartz or ironstone reefs did not appear to be represented in this granite country, as I did not strike one on the first day. I continued on towards the south over the range, and in crossing the gap opposite the inner circle (which was an open scrub flat) was two miles, the opposite side being marked by a large hill, situated in a watercourse close to a number of pinnacle hills, at the back of the semicircle of the camp on the billabong just at dusk. I travelled on Byrne's direction only, and I was very satisfied with the Big Hill there was a small creek coming away north from the broken hills lying to the south. Splendid areas over the flat country towards the Big Hill. At a distance of three-quarters of a mile west from the Big Hill. A small reddish sandstone range marked this point, whilst three-quarters of a mile west from the Big Hill. The shed quartz and ironstone were evidently derived from innumerable small leaders of the camels poisoned was my first thought, and from this many others struck off in various directions. However, there was only one thing left for me to do, and that was go back. I had then been walking for nine hours, but the uncertainty of the position took all the tired feelings out of me, and I started to follow the creek back towards the camp, but after going three miles I was relieved to sight the team coming slowly along. They had simply wandered, and it was late before they were got together. It was just dusk, so we camped. After giving the camels two hours' feeding allowance I had the wanderers tied up for the night. The weather was very hot, closely resembling the days we had on starting—certainly remarkable for this time of the year. Byrne had taken the bearings coming up the creek, and these I checked with cross bearings from the hills, the whole closing to a fraction. The distance travelled to-day was five miles.

Camp No. 34, Tuesday, June 19th, 1900.—Leaving the camels to come on later, we continued on up the creek in the direction of the broken country. Two miles in a south-west and southerly direction brought this belt of country well within reach, and, discovering a good soak in the sandy bed of the creek, we decided to camp at this point. Broken pinnacle hills could be seen from the south of east to the south of west, whilst the base of Hooker's Creek Range was one and a half miles to the northward. At a spot one mile up the creek from this camp a short run of quartzite was struck on a course north and south. The creek bent round the north end, whilst the main range one was on the north bank came down very close to the creek, and then bent round again from the distance the creek at this point appeared to come through a gap, but in reality it passed between the end of the small run of quartzite hills and the main range. From the top of the former hills the country was visible for many miles, thus enabling me to take a number of bearings to the chief points. The ridge itself bent round in a semicircle. The width across the inner circle (which was an open scrub flat) was two miles, the opposite side being marked by a large hill, which, for want of a better name, I called the “Big Hill.” The bearing to this point was 334°. The hills forming the western half of the semicircle, including the Big Hill, consisted of felsic rock with a reddish appearance, together with occasional runs of porphyritic felsite. The quartzite hills extended a short distance only south, and then broke abruptly, being replaced by felsite. From the Big Hill I took a large number of bearings. Westward was a large scrub flat, with broken hilly country at five miles. From west round south to east was a large series of conical and peaked hills—a most pleasing spectacle, as it was evidently they all of an eruptive origin. We had been looking for this during the past two months. To the north-west was another small belt disconnected from the main body by small flats. It was situated along the base of the main range, quartzite beds overlapping it on the N.N.E. and N.W. These beds dipped at a low angle in a northerly direction. In the western fall of the Big Hill there was a small creek running east. We struck several small waterholes in this creek, but they were of no importance. Two small white quartz hills showed up half a mile south of the Big Hill. On examination the quartz, in addition to being white, proved to be both dense and hard. I spent some time in examining it, and trying to strike a likely shoot of stone, but all to no purpose. Ironstones were the nearest approach to any mineral discovered. Throughout this locality there was a number of quartz reefs, but the quality of the stone was not promising. A similar result attended the work of prospecting on a south-east direction from the camp, with the exception that Byrne struck a very fine billabong on a watercourse right on the fringe of the eruptive rock. This was an important find, as we could use it as a base camp to work out from. The weather was still hot, with a close atmosphere and heavy clouds towards evening.

Camp No. 35, Wednesday, June 20th, 1900.—A drizzling rain necessitated getting up towards morning to stack our goods. It was, however, of short duration. I left Byrne to pilot the team down to the billabong, where they were to camp, whilst I continued the work of trying the country up along the creek, and in particular the belt along the base of the range on the north side of the creek. It had a northern extension of four miles, and was then overlapped by sandstone and quartzite beds. These extended round in a continuous circle to the westward, with a flat three miles in width between the eruptive belt and the sandstone and quartzite country to the westward. A branch of Hooker's Creek drained this belt and the sandstone and quartzite hills to the northward. Working round I eventually reached a point five miles west from the Big Hill. A small reddish sandstone range marked this point, whilst three-quarters of a mile south was Hooker's Creek. A short broken run of hills showed up to the westward. They had the appearance of granite, and may possibly be the granite range marked as such by Gregory on the plans. A scrub flat extended east to the Big Hill from the reddish sandstone range, and my route to camp was through this country. After crossing the creek a new formation was encountered. Metamorphic sandstone with ailerons was struck in small areas through the alluvial soil, whilst the base of the alluvial belt and the quartzite hills. Metamorphic sandstone and quartzite bands were evident derived from innumerable small leaders traversing the metamorphic country. I struck a particularly promising place for alluvial, if gold existed in any of the quartz and ironstone leaders, so I filled a sample bag with good wash. I could not find a reef of sufficient promise to warrant carrying home rock samples. This class of country continued in small areas over the flat country towards the Big Hill. At a distance of three-quarters of a mile west from the Big Hill there was a small creek coming away north from the broken hills lying to the south. Splendid camel and orange bush existed about this locality, together with other scrubs. Continuing on I reached the camp on the billabong just at dusk. I travelled on Byrne's direction only, and I was very satisfied to strike it without any trouble. I had walked nearly 30 miles for the day. The billabong was prettily situated in a watercourse close to a number of pinnacle hills, at the back of the semicircle run of hills, and...
some three and a half miles south from No. 34 Camp. Green grass was plentiful in the flats surrounding the hills, whilst there was a variety of good bush for the camels. Limewoods were fairly plentiful along the watercourse, and looked fresh and green.

The waterhole itself was some 500 yds. long, with a stony bottom, and had a depth of from 3 ft. to 4 ft. I estimated that it would last for at least six months after a good rainfall. Several ducks were camped on the water. Rock pigeons were also noticed about this spot, and throughout the big tableland range. No luck attended the work of prospecting the hills immediately surrounding the camp. This looked very unsatisfactory, as by this time we should at least have seen some defined runs of quartz if any exists.

Camp No. 35, Thursday, June 21st, 1900.—There was a dense fog until mid-day. This fog commenced to fall or accumulate about 4 o’clock a.m., and got denser as the sun rose. Towards mid-day it started to lift, and was immediately followed by a light misty rain, which continued during the early portion of the afternoon. It was quite impossible to see the hills 50 yds. away during the morning when the fog was at its height. The close heavy weather with a hot sun coming on to top of the damp ground, resulting from the recent rains, was no doubt the chief factor in this phenomenon. During the last two hours of daylight I plotted up Hooker’s Creek traverse and fixed our position at this lagoon. Byrne went out to break some samples from a short run of stone he had seen on his road home the previous day. The samples he brought in were of the most promising we had obtained. The quartz was rather clear and glassy, but in addition it showed patches of iron oxides, gossan, and a little pyrites. We dollyed a number of samples, but only managed to raise a solitary color of gold. It was the first of the trip, and was naturally prized far above its worth. The quantity of good stone in the reef was very small, and the reef itself was in reality only a short quartz blow. The color was sufficient, however, to prove that metal existed in this belt, and we had greater hopes of success than we had entertained for some days. Although warm and close, the atmosphere was very damp.

Camp No. 35, Friday, June 22nd, 1900.—The morning broke with another fog and heavy dew, but not so dense as yesterday, the sun on this occasion soon clearing the atmosphere. We continued our work of prospecting the country to the south and south-west, but again there was no result. Along the eastern flank of quartzite the latter was between the eruptive and the quartzite, and was evidently an altered quartzite, its structure being schistose. The sandstone and quartzite beds dipped east under the sand and spinifex country. To the south-west there was no alteration in the felsite rock. Alluvial valleys and grass flats were freely intermixed with the hills, thus considerably reducing the area available for prospecting. To-day’s work was most disappointing. I personally carried my pick all day without seeing anything worth trying. The prospects of striking a good series of reefs did not appear very bright. If the reefs existed they were further afield, possibly to the south, where the greater development of the felsitic rock was apparent.

Camp No. 35, Saturday, June 23rd, 1900.—I intended making a start south on a flying trip to-day, with the object of ascertaining if anything more promising existed in that direction. The camels ordained otherwise. They split up in all directions, and it was too late in the afternoon when they arrived to make a start. We indulged in duck stew to-day, two of our feathered friends being utilised for that purpose. It seemed a pity to destroy any of the little life that existed in this country, but at the same time stews of this description were too tempting for us to stand on ceremony. Small birds, crows, hawks, and pigeons existed around this locality in considerable numbers.

Sunday, June 24th, 1900.—I managed to get away to-day without any trouble. Taking two camels, rations for seven days, and Byrne as mate, I left Woy to look after the camp and Davidson to continue the work of prospecting the surrounding country. Byrne and I travelled south along the watercourse leading into the billabong, and in three miles reached the end of the metamorphic belt. We then passed on to the eastern flank of the eruptive body. There we struck a run of quartzite and metamorphic rock. The latter was between the eruptive and the quartzite, and was evidently an altered quartzite, its structure being schistose. Cutting into the felsite country we worked south for another three miles, passing a small quartzite hill on our left in three-quarters of a mile, and several reddish-looking hills in one and a half miles. The formation of this hill was an altered eruptive rock; in all probability it had been felsite, but the extent of the metamorphism was too great to distinguish any known characteristic. This watercourse was timbered by the very best of camel feed, orange, emu, and currant bush being very abundant. Coolibar was the only other timber. Grass also occurred over this class of country. Small quartz and ironstone boulders and pebbles covered the plain country extended for miles to the eastward, whilst to the west broken hills and small timbered promiscuous hills existed around this locality in considerable numbers.

Monday, June 25th, 1900.—Our camels behaved themselves last night, and were in sight this morning. We travelled up the watercourse in a south-west direction, passing a small quartzite hill on our right in three-quarters of a mile, and several reddish-looking hills on our left and a half miles. The formation of these hills was an altered eruptive rock; in all probability it had been felsite, but the extent of the metamorphism was too great to distinguish any known characteristic. This watercourse was timbered by the very best of camel feed, orange, emu, and currant bush being very abundant. Coolibar was the only other timber. Grass also occurred over this class of country. Small quartz and ironstone boulders and pebbles covered the
the surface in a number of places, together with specimens of shoal rock and tourmaline. The quartz and ironstone were of an exceptionally kindly character, but, although we carried along several large samples, the dolly failed to show even a color. No outcrop of the country rock was visible along this flat or water-course, nor did any quartz or ironstone veins show through the alluvial soil. At five miles we came on to some low granite hills, the granite being much kaolinised in places, and the last remnants of the covering of quartzite beds still capped these hills. We worked south-west for one and a half miles through more granite country, with large white glasy quartz blows, and eventually reached a small series of granite hills, which afforded a good view of the surrounding country. A strong tableland range showed very distinctly from west to the south-west, whilst a run of broken hills could be seen flanking the tablelands on a bearing of 235°. To the north a few isolated granite hills could be seen. Unfortunately all that was exposed of the granite country were these hills, alluvium covering the rock formation right up to the base of the hills. Examined in the vicinity of the tableland and to the south. It was thus evident that natives inhabited this locality, and a still more evident fact that water existed. I therefore considered it advisable to investigate, as in addition to the metalliferous sign in the belt of the broken hills we might possibly make a discovery of water, which would be of great value if we failed in striking water on the West Australian border when we desired to steer south. From the granite hills we passed out into scrub and spinifex flats, and at two and a quarter miles recrossed a low wide ridge. A little of the rock showed through the alluvial soil, and proved to be silicious slate, but we could not locate any reefs or quartz veins. From this ridge we entered a wide valley, throughout which were limewood flats with a little grass. This class of country extended for seven and a half miles from the granite hills. We then struck a strongly-defined creek coming away from the tableland range on a bearing of 280° to 285°, and struck a small water-hole and saw on the creek some of the vegetation of the flats. The formation of this belt was metamorphic, the rocks consisting of ferruginous, micaceous sandstones, schistose, and metamorphic quartzite slates, and reddish silicious slates, similar to the country in the vicinity of Tennant's Creek. These rocks covered but a small area round the base of the low tablelands, which consisted of sandstone with quartzite breccia and ironstone conglomerate on the eastern end, and quartzite and sandstone only on the western side. The metamorphic rocks were overlapped by the beds composing these tablelands, the dip of the beds being very gradual to the south under gravel and hard soil. The tableland formed a circle to the south-west and junctioned with the main range, which showed boldly to the west. A flat occupied the central portion of this circle, the scrub being very open, and in places was represented by good camel-bush. Immediately around the camp the surface of the ground was covered with quartz and ironstone pebbles and boulders. A number of small quartz and ironstone veins existed, but very few defined or lengthy runs of stone could be discovered. The quantity of the stone in this country was more favorable to the existence of gold than that in the eruptive belt; ironstone oxides, hematite, and micaceous iron being very plentiful in all the quartz veins. No pyrites or other minerals could be detected. Gold was evidently very scarce in this country, as, notwithstanding all the promising stone, we failed to even dolly a color from the many samples tried. Our chance, therefore, of seeing visible gold in the stone in the first instance was particularly good. There was plenty of good herbage, together with saltbush. This latter was a novelty in these regions, and was the most northern point at which saltbush was known to exist in the central regions. I took a round of bearings from a prominent hill one mile south-west from the camp.

Tuesday, June 26th, 1900.—We continued the work of trying this belt of country, more particularly west from the camp, towards the main range, which I have called "The Ware Range," and the creek draining it, "The Wilkon," after our two executive officers in Adelaide. Along the base of the range, which rose from 200ft. to 300ft. above the level of the plain, there was a run of slaty sandstone, but very little quartz showed in this class of country. The range itself consisted of sandstone, quartz, and conglomerate, and had a general north-west and south-east course, the dip of the beds being to the south-west. I took a series of bearings from this range, and then worked back to camp, the joint result of our morning's work agoing very well as we had the opportunity of proving the existence of water the where metal existed was to prove where it did not exist. Unbroken tableland country extended to the south and south-west from eight miles to 10 miles, so that there was nothing to warrant continuing in this direction. I therefore decided to work down the creek to some rising ground about nine miles distant, and thus obtain a view to the eastward. Picking up, we made another start, our route being along the base of the low tablelands on the south side of the creek. The rocks forming this tableland consisted of quartzite and ironstone conglomerate, the ironstone conglomerate over-lapping the quartzite. The metamorphic country soon gave place to sand and gravelly soil, but the tableland continued for four miles in close proximity to the creek. It then bent away to the south. Another short tableland made to the south-east. A wide valley, heavily timbered with linewood and bloodwoods, divided the two tablelands. The creek at this point bent more to the north-east, towards a low bald rise, but, again altering its course, it bent round east and south of east, passing a mile to the south of the bald rise, a mile west of the point from the Ware Range. The creek channel was wide, with a sandy bed and fairly steep banks, a secondary bank being formed well out from the main bank by the surface drainage. Linewoods and saplings were plentiful along the banks and the valley of the creek, but very little grass appeared to grow on the flats. Judging
Judging by the flood marks it had been some years since any large volume of water descended the creek. The fresh native tracks seen to-day gave evidence that the news of our presence was being circulated, as the tracks indicated that the natives were travelling at a high rate of speed. Some emus were noticed in the creek. The balance of this load of game we had caught, but not a very encouraging one. Bearings were obtained to the chief points along the tableland ranges, the latter showing up from 260° round to 210°, when a break occurred. Small tableland hills showed from this point round to 190° at a distance of eight miles. Then an extensive plain extended to the south-east from south to east for from 25 miles south-east to 10 miles east. The horizon line was clear of hills, whilst the plain was but lightly timbered. The creek apparently trended in a south-east direction, and in all probability the formation of the hills to the south were evidently sandstone, whilst the rise from which we obtained this view was of ironstone conglomerate, which extended for one and a half miles to the north-east. Our exploratory work was thus at an end, and we headed for home across a scrub flat in the direction of the granite belt. We camped in this flat after seven and a half miles travelling. Northward camel feed was good, but the spinifex was very dense.

Camp No. 36, Wednesday, June 27th, 1900.—As we had a considerable distance to travel to reach home, and a good area of country to prospect, we made an early start. Taking different routes we worked back through the granite and felsite belts, and met at the broken hill—a spot agreed upon. We obtained some fair-looking pyrites stone from reefs in the felsite, but absolutely nothing at all from the granite country—a result that was not over-pleasant. We decided to continue on through the felsite hills to camp, but the result of the work was again a blank. We reached camp just a dink, having covered over 25 miles for the day. Everything was in good order, but the result of prospecting the country surrounding the camp had been a failure. The camels during our absence had been no trouble, having been brought back every night as instructed, and tied down. The failure to strike anything of value in this belt and the prospects generally made one think that there were far better places in the world than prospecting in this benighted country. Several small trees were marked at this water and small trig. (trigonometrical station) erected on a rather prominent bluff hill a quarter of a mile due south of the camp. To prospect this belt of country thoroughly would take some days longer, I considered that the work done showed that no good series of reefs existed, and as this was what we required, there was nothing to be gained by completing work which could only have a negative result.

Camp No. 37, Thursday, June 28th, 1900.—Having a number of samples of various classes of stone still to dolly, we got to work at daylight, as, failing any prospect, I had decided to move on and try somewhere else. Two hours' dollying and panning for absolutely nothing more than convinced me that my decision was fairly correct. If gold existed in any quantity anywhere in the belt we could not have failed to have raised some decent prospects. Gathering all our goods together we made another start, with many regrets at leaving a very fine camp. We steered a westerly course across the flat and over some hills, which brought us on to the flat west of the Big Hill. Crossing this flat we reached Hooker's Creek in seven miles, and shortly afterwards we passed the end of the outside sandstone range. We then struck a fairly strongly defined tributary of Hooker's Creek, and half a mile beyond arrived at the base of a belt of granite hills, and camped, having travelled 11½ miles.

Felsite rock occurred both on the north and south side of Hooker's Creek, west of the point at which we crossed. On the north side the eruptive rocks were overlapped by the quartzite and sandstone, whilst to the south the felsite continued for several miles, being eventually replaced by alluvial flats. At a bend in the creek where there were some small felsite hills on the left bank there was a waterhole, and this was evidently the spot so marked on the plan by Gregory. The creek draining the granite hills formed with several others the northern tributaries, whilst another creek coming from the south-west completed the drainage basin at the source of Hooker's Creek.

We spent the remaining hours of daylight in having a look round the granite hills, but, excepting several small veins of quartz and ironstone, we discovered nothing of any value. Tourmaline in the form of pebbles was plentiful throughout the granite.

Camp No. 38, Friday, June 29th, 1900.—We gave the granite and the country flanking it a fair trial to-day, and also tried the creek leading out of it for game, but the net result of the day's work was nil—the usual thing in this country apparently. This run of granite extended four miles more from the camp; it then dipped under conglomerates, and this again was overlain by sandy flats. The granite was from five miles to six miles in width, and the eastern flank was all in the form of perched boulders, with a very dark appearance. This portion was evidently of eruptive origin. On the western flank the granite was apparently of more ancient origin, and was much kaolinised. It showed as broken disconnected hills throughout the grass flat, and was in places overlapped by a narrow run of sandstone which dipped to the west. On the northern end of the western flank there was a number of quartz knobs, which were all intensely white and glassy, and we could make nothing out of them. A few stunted mulgas were seen in the vicinity of this kaolinised granite. The belt extended south for four miles, and was then covered by conglomerate tablelands and alluvial country, as on the north end and the western flank. The class of granite in this belt was not very favorable to the existence of gold reefs, and, seeing that we were unable to locate any defined reefs, I considered we had spent sufficient time on it, and therefore moved on.

Camp No. 39, Saturday, June 30th, 1900.—Our course was first round to the right of some small granite hills. We then followed a little creek which wound through the granite, and in three miles reached a hill with a peculiar flat top. This hill marked the termination of the eruptive granite. We then travelled westward across a flat lying between the eruptive and Archean granite, and reached the low conglomerate tableland overlapping the granite on the western flank in six and a quarter miles. Our course was then on a bearing of 260° for one mile, the conglomerate giving place to sandy fossil with light scrub and spinifex. Sighting a strong tableland a little to the south of our present route which appeared worth investigating, we altered the bearing to 254°, and in another mile to 250°, to a point where a crossing appeared more favorable. We arrived at the base of this new sandstone, and were met with a barrier of poison bush. This we passed through safely by cutting and breaking down the bush as we proceeded, and travelling the camels' every fast. Several patches had thus to be negotiated before getting across.
across the tableland in one and three-quarter miles. We then altered our bearing to 28° for one mile across an open flat, with the object of striking some camel feed, but in this we were not successful; and as it appeared to be another tableland hill, and in all probability a more poison-bush, I decided to camp, and as a consequence the camels had to be tied down the greater portion of the night, to prevent them getting back on to the poison bush. This was nevertheless a fatal camp as far as one of our party was concerned. Dodger, our dog, ran out barking at something during the night, and never returned. The boy followed his track for some time in the morning, noting blood along the trail, but no trace of the dog or any native tracks, the boy’s explanation of the disappearance being that Kurdaitcha had taken him, and he was in great fear that this individual would next start on the camels. Total distance travelled, 13 miles. Weather was cloudy all day and somewhat close, ending in a drizzling rain during the night, which necessitated a general pack up of all our goods.

**Camp No. 36, Sunday, July 1st, 1900.**—Our first loss was followed by two minor ones, thus fulfilling the old story of three things happening. We continued on a bearing of 28°, and within a mile of our camp we struck a good patch of camel feed much to our disgust. After travelling three miles across a scrub flat we obtained a sight of some broken tablelands five miles distant, on bearings of 30° and 31°. A small run of conglomerate occurred at four miles, and from this we passed into open scrub, which continued for seven miles to the foot of a tableland hill. This tableland was wide and flat, with sandy soil on the eastern half, with a little silicious slate, mostly in the form of rubble, on the western half. The width of this run of country was one and a half miles. From this elevated country a strong tableland was visible from the north to west, the distances varying up to 15 miles. We camped on a good patch of camel feed at 11½ miles in order to examine some hills we had noticed from the top of a tree, one and a half miles to the south-west. These little hills proved to consist of metamorphic quartzite, with silicious slate, but only a very small area of this country was exposed. In the flat country to the westward shed quarries, with a little ironstone and sandstone slate, covered a small area of country, but no reefs could be located; the shed quartz and ironstone being evidently derived from small veins. Weather was cloudy and threatening.

**Camp No. 37, Monday, July 2nd, 1900.**—The threatening weather broke last night, and during the early part of the day a continuous rain fell. As it continued all night, gradually getting heavier, by morning we were all very glad to get out of our wet blankets. For the rest of the day we stood round the fire, getting alternately wet and dry, a proceeding rarely indulged in for amusement. Towards evening it cleared a little, but not sufficient to enable us to get our goods dry, for, despite the after effects, such as rheumatism and lumbago, we had to turn into wet blankets. Some of us, however, preferred lying by the fire and dispensing with the “nap.” But this was even less satisfactory. Light misty rains continued on and off all night, but we evidently had our allowance of heavy rain. I estimated the total rainfall at about 15 inches, and it was not likely to leave any quantity of surface water.

**Camp No. 38, Tuesday, July 3rd, 1900.**—The ground was too heavy for travelling, and in addition we were subjected to heavy showers at intervals during the day. Personally I could not stand a second day of the fire, so started out to have a look at the high tableland hill showing to the south-west, beyond the little hills. A small grass flat occurred in a mile in this direction, followed by a low rise composed of slaty sandstone with small quartz veins. I here obtained some promising-looking stone, heavily charged with iron oxides and gossan, but evidently shed from leaders. This run of country was covered by quartzite tablelands to the south, whilst in every other direction it had an overburden of sandy soil. Between this point and the tableland hill were flats with turpentine and other shrubs, together with heavy spinifex. At two miles from the foot of the main hill there was a very low quartzite tableland running parallel with the former, a flat intervening between these two tablelands. The large tableland proved to consist of almost horizontal quartzite and sandstone. The main portion of this tableland extended for a length of three and a half miles on a north-west course. On the western end it had an abrupt termination, but on the eastern end it gradually merged into low tableland rises. On examination the width proved to be one and a quarter miles, and from the highest point (180 ft.) above the level of the plain a good view of the surrounding country was obtained, and this showed a few short tableland dotted over the flat at from three miles to ten miles. We continued in this direction, a south and south-west tableland of considerable width along our line of route, whilst the Ware Range was visible to the south-east. Several small creeks formed on both sides of the range, but soon died away on getting clear of the rock into sandy country. In these little creeks I saw water in two places only, and this in small quantities. This gives a fair illustration of the rainfall required to leave much surface water in a country of this description. The distance from the camp to this tableland hill was nine miles. On returning over this sandstone slate country I struck several small water-worn boulders of diorite scattered over the surface, but could find no trace of this class of rock occurring either in the metamorphic country or in the grass and spinifex flats. I therefore came to the conclusion that it had been derived from some small dyke traversing the country in this locality, but that all indications of its exact position had long since been obliterated. I arrived back in camp just about sundown, feeling fagged out, as owing to the softness of the ground walking was intensely heavy work.

**Camp No. 39, Wednesday, July 4th, 1900.**—A very heavy dew fell during the early part of the night, and this, together with ourselves, practically froze before morning. We therefore waited for the sun to thaw things before making a start; eventually getting under way about 10 o’clock we shaped a course for the broken tableland hills on a bearing of 235° 20’. For the first two miles we had fairly heavy scrub with a quantity of currant and camel bush. This then gave place to grass flats, which was also replaced at four miles by scrub and spinifex. Quartz rubble in considerable quantity occurred in small areas throughout these grass flats, a little diorite being also associated with the quartz. Good country evidently existed beneath these flats, but the overburden was too heavy to allow of reefs outcropping through the subsoil, but they could doubtless have been located by deep costeens. The quartz was of a fairly promising character, but was again delfly delved for any localities prospects had not been located. At six miles we struck a low narrow rise, the formation of which was micaceous sandstone and silicious slates of a reddish color. Small quartz veins traversed this country in all directions. We gave these a trial as we passed along, but the country available for prospecting was insufficient to warrant camping on the spot. This class of country was replaced by scrub flat, which continued up to seven and a half miles,
when we struck the end of a low quartzite tableland, around the base of which was a quantity of *Gastralobium*. Crossing this we passed into a grass watercourse with enu bush and limewood. This watercourse was formed by the drainage from the broken tableland hills for which we were steering. In four and a half miles from this point, or 12 miles from our last camp, we arrived at the foot of the hills; here we found another supply of *Gastralobium* in full blossom. In order to get clear of this I had to alter our bearing to 240°, which took us along the base of the hills for one mile, when we got clear of the poison bush, and, discovering a patch of good camel-bush, we camped. From a prominent point in this run of broken hills I took a series of bearings to all the important points available. These hills consisted of quartzite, sandstone, and a little sandstone conglomerate. The dip of the rocks was to north-west, whilst the general course of the tableland was to the east of north. They had a length of seven miles, but the width did not exceed half a mile. Several small creeks flowed throughout the hills, but they died out immediately on reaching sandy country. To the south a vision line extended round from 150° to 190°, distance varying up to 20 miles, two tablelands being visible at these points, whilst another strong tableland range showed up to the west on a bearing of 200°. From west to north was rising sandy ground at from seven miles to eight miles.

An open scrub valley occupying the intervening space.

**Camp No. 40, Thursday, July 5th, 1900.**—We experienced something new this morning in having both a heavy dew and a frost. Started at 9 o'clock. Bearing 360° for one and a quarter miles we travelled through a number of small broken hills. We then obtained a sight of the south-west end of the large tableland, and steered on a bearing of 273° 30'. We passed out of the hills into a scrub and spinifex flat, with rising ground on our right. At four and a half miles this developed into an ironstone conglomerate base of the tablelands, a spur of which we crossed, and entered an open flat at six and a half miles, and from this we passed out on to a rising tableland, which terminated in a steep and broken edge facing the south-west. The course of broken edge was 280°, and it was distant three and a half miles from the large tableland range. A grass watercourse, followed by spinifex and scrub flats, separated the two tablelands. We arrived at the foot of the point for interesting stone, the latter predominating, the lower strata was quartzite, with fine and coarse grained grits, the latter predominating, the latter comprising the grit beds, whilst the quartzite occurred as a thin capping. The grit beds had weathered in a most peculiar manner, and they now closely resemble the characteristic columnar structure of basalt.

We followed this valley and worked round on to our line of run. Very heavy limewoods. We camped at the base of the northern tableland, having travelled a distance of 15 miles. The tableland on the north showed a most abrupt and interesting wall of rock facing the south; its height varied from 50ft. to 80ft. and it extended for a distance of two miles. It was composed of sandstone quartzite, with fine and coarse grained grits, the latter predominating. The lower strata was represented by the grit beds, whilst the quartzite occurred as a thin capping. The grit beds had weathered in a most peculiar manner, and they now closely resemble the characteristic columnar structure of basalt. It was doubtless owing to this peculiarity that the range had been marked "Basalt Range" by a previous explorer. The run of hills on the south side of the valley consisted of sandstone and quartzite. A view from the top of the range showed open plain country both to the north and south for from 10 miles to 15 miles. The range itself continued to the westward for a considerable distance. A small rockhole was discovered on the top of the tableland, and as we had been somewhat lavish with the water in anticipation of striking plenty left by the recent rains, our kegs had been allowed to run low. It was therefore advisable to replenish them, as it appeared improbable that we should find any quantity at the surface. We therefore carried down about 30gal's, in the canteens.

**Camp No. 41, Friday, July 6th, 1900.**—We continued up the valley, which was fairly well grassed, on a general bearing of 280°. A break occurred in the range on our right at one and a half miles, but made again, and continued strong up to five and a quarter miles, where it showed very prominently. Shortly after we passed over the flat and the valley opened out on to the southern side. We then crossed the range on the southern side of the valley into a flat, and here the boy Jack discovered two small rockholes in some flat kaolinised granite. As they contained an ample supply of water to give the camels a drink, it was the very thing I desired, as I required a starting point for our southern course, in which direction I was anxious to make, as there appeared no likelihood of a change occurring in the country to the westward. We therefore camped, having travelled seven and a quarter miles on a bearing of 275°. The kaolinised granite was only represented by a small area of country, but it contained a few rockholes, so that we did not make a start until after lunch. My plan was now to steer south for 150 miles, and if we failed to discover either water or auriferous country in that distance, then to proceed for the Truer Range, where permanent rockholes were known to exist. The camp I obtained a round of observations in the surrounding country, which showed undulating sandy country for a distance of from five miles to 10 miles. The columnar weathering of the grit beds became less pronounced as the range extended west, finally dying out altogether. The quartzite beds then attained a greater thickness, varying up to 200ft. at the highest point of the range. The valley was the home of a great variety of birds, doubtless owing to the fact of the limewoods being in blossom and the close proximity of the rockholes.

**Camp No. 42, Saturday, July 7th, 1900.**—I required a little time to adjust several matters and to locate the position of the rockholes, so that we did not make a start until after lunch. My plan was now to steer south for 190 miles, and if we failed to discover either water or auriferous country in that distance, then to proceed for the Truer Range, when our course was now south, and close to the rockholes we passed some old native camps, in which there were peculiar shoulder mats made of spinifex, and evidently used by the natives as a covering during the rainy season. A small open flat was then crossed, and we passed into heavy spinifex with turpentine bush, light scrub, and
and a few dilapidated limewoods. At five miles we passed out of this country and started to ascend a sandy undulation, from which we crossed into a valley at seven miles. Heavy limewood trees timbered this flat, which was seven and a half miles long. At four and a half miles we struck an old native well in a depression coming from the side of the next undulation, but it had not been used for a great many years. We camped in a belt of corkwoods and peabush at eight and two-thirds miles. The afternoon was intensely hot, and climbing through thick spinifex made us think that we had once more fallen into summer. It seemed a remarkable coincidence that on three different occasions we had this trying weather when making a start of more than ordinary importance.

Camp No. 43, Sunday, July 9th, 1900.—Continued on the same bearing over a sandy rise and across a valley. Then up rising ground to the foot of the reddish range seen from above Camp No. 41. The distance to this point was six miles. The formation of the range was of reddish sandstone, with a little quartzite; the dip of the bed south. A view from the top of this range revealed a marked change in the country. A parallel range lay three-quarters of a mile to the south, whilst 10 miles further south and west was a very large tableland range, and near the centre of this range were two very prominent hills. These and the range were the most marked geographical features we had discovered. I therefore called it the “Gardner Range,” after our chairman, and the western prominence, which lay in a bearing of 242°, I called “Mount Lane”; the eastern one, on a bearing of 234°, “Mount Stubbins,” after members of our executive board. A continuation of the range from which this view was obtained extended westwards, and on the northern flank showed a run of broken pinnacle hills at a distance of four miles. They had a most promising appearance from a metalliferous point of view, so travelled west along the base of this range in the direction of these broken hills. A gap occurred in the range at two miles, and discovering a likely run of quartz reefs at this point I decided to camp and further examine them. The sandstone here was slightly altered, and contained a little mica. The outcrop of the reefs appeared of considerable size, but the country was so much disturbed and intermixed with quartz veins it was impossible to say how wide they were. In several places the dip showed, together with grey granite containing some dolomite and decomposition of pyrites. The stone was of exceptionally good quality, but we could not see any gold. Along the base of the range, and near the gap, I noticed a peculiar conglomerate underlying the sandstone range. The conglomerate consisted of quartz and tournamite, with an excess of the latter mineral. It had evidently originated from some granitic rock, as the quartz closely resembles the usual run of white glassy stone occurring in granite. I made a brief examination of the broken hills to the west. They proved to consist of micaceous schist, with numerous quartz veins and a little ironstone. No extent of this class of country existed, but it was the most promising and kindly belt we had so far encountered. The bulk of the quartz in these reefs was very white and glassy, with an occasional shoot of good stone intermixed with iron oxides. I returned to camp after dark. The weather was hot during the afternoon, with heavy rain clouds to the west and south-west. This weather had our meteorological man fairly beaten. He never experienced anything like it in his 30 years’ experience of this country.

Camp No. 44, Monday, July 10th, 1900.—We got to work pretty early, and had another try at the reefs, traversing the sandstone near the camp. Although we opened out some good stone containing copper carbonates and pyrites, we could sight no gold. I took some samples on the off chance of getting some water further along the range, just to ascertain if there was any gold in the country. Byrne and I then went on to have another try at the schist country, leaving the camels to follow later on. We worked westerly through the schist belt, but failed to strike anything of great value. On the brow of one of the hills I struck a broken run of stone intermixed with the schist country, in the main portion of the blow. I got some very likely looking honeycomb stone, showing pyrites, but not a color I could detect. Samples subsequently gave a very fine prospect of gold. This belt of country had a length of one and a quarter miles, and then gave place to flats—one of the worst features, and one of the most general in this country. There was only a small area of country above sight; the rest was out of sight. The grass was plentiful on the flats. Leaving this run of hills we continued west along the flank of the range to another still smaller run of schistose country with shed quartz and short blows all over the place, but the bulk of the stone was of a very glassy nature, and we could make nothing out of it. We prospected through this belt for three-quarters of a mile, and then passed into a small flat between this and the next run of broken hills. Camped a mile away from these last hills.

Tuesday, July 10th, 1900.—Taking two camels and Byrne, I made a start to examine the country west for 15 miles. Traversed the valley between the main range and the broken hills to the waterhole, and gave the camels a drink. Continuing westward down the valley we struck a very old horse-pad, so that we were not the first in this locality, as we had fondly imagined. These horsemen were in all probability on the lookout for pastoral country, as they appeared to have avoided the broken country. They most likely came down Sturt’s Creek, and then hit over on to the range, hoping to discover some grassy country. The little creek flowing west along the valley is joined by another small gutter coming east. Both go through a gorge in the range to the south-east. The whole of the country thus fell away to the south. This gorge was two and a half miles from the camp. We got round the end of the hills on our right, and out into open grass flats. The hills immediately flanking the sandstone beds were of a partially metamorphosed quartzite, the change being in the direction of a schist. We continued on over open flat country to a small run of hills, making half a mile to the north side of the main range. These gradually bore round to the northward from the main range, and died out. The formation was also quartzite and metamorphic rocks, the metamorphic rocks being overlapped by the quartzite, which dipped south. Distance from camp to these hills was eight miles. A view from the top of these hills showed a run of broken hills to the north of west, and back of this distant range. This was the range we had been following during the day, but it appeared to have petered out and continued, and now that we were in the vicinity of Western Australia I hoped that we might meet with something out of the common in the matter of gold-bearing country. We started round the north end of these hills, in the direction of the broken country, and ran first into a patch of poison bush, round which we made a flanking movement. A small gutter made out of the hills at this point, and here we noticed a number of fresh blackfellows’ tracks, where they had been digging for yams. There were also some pannuminy tracks. This was the second time that we had seen evidence that the blacks in this locality had
had not ceased their endeavors to keep the population up to the standard. After rounding hills, we crossed a flat, and struck the broken hills in two and a quarter miles. They proved to be schistose rocks, with a few broken runs of quartz. We tried this country, but no important discoveries were made. The quartz here carried a heavier percentage of micaceous and specular iron than in the schistose belts further east. Another small belt showed up over a flat one and a quarter miles to the west of north. The formation proved to be the same metamorphic quartzite. The character of the reefs was similar to those in the last schistose belt we tried, which taken on the whole was anything but a kindly gold-bearing stone. From this belt we worked south, in the direction of a flat at the base of the tableland, and camped. The locality was not good in camel feed, but this was not a matter of vital importance. As this would be our furthest point west I filled in the remaining portion of the evening between twilight and dark, branding a tree.

Wednesday, July 11th, 1900.—We left the camp to take care of itself this morning. J. B. went after the camels, whilst I made an observation from the top of the tableland range. The sides of the tableland were occupied by rough gorges, but these do not form into a creek, dying away into grass watercourses immediately they enter the sandy flat. From the top I obtained an extensive but disheartening view of our surroundings. The range was short, and extended in a northerly direction for two and a half miles. The quartzite and conglomerate bed forming it had a western undercliff. Open undulating country extended to the north for 15 miles, when the broken edge of a short tableland showed on a bearing of 354°. Extending to the south-west of this was rising ground at eight miles, whilst beyond was a depression, possibly the valley of Stuart's Creek, with the blue outline of a tableland range on the far western side at 25 miles. Westward there was a number of short tablelands, the distance varying from eight miles to 15 miles, and all having an abrupt termination on the western side. When the camels we had here were waiting, and we made another start, again working through the metamorphic quartzite to the north and north-east of the tableland, but the only discovery made out of the common was a small run of chlorite schist. Unfortunately we had not a waterhole within easy reach, and the camels tired; we turned our course for the main camp, doubling back through the schistose belt, from which we passed out into flat scrub country, ultimately reaching the western end of the broken hills near the camp. A small but promising series of reefs were here struck, which had previously been missed. They contained some very promising stone impregnated with iron oxide, but showed no gold, and the samples subsequently dollyied returned a blank. Eventually we reached the camp just after dark, and were pleased to find everything in order; thus another two days had passed, with nothing but our experience of where gold-bearing reefs do not exist as a result. The weather was cold, with a south-east wind and a cloudy sky.

Camp No. 44, Thursday, July 12th, 1900.—All the samples taken during the past few days had been dollyied, as we had now a waterhole to draw our supplies from for this purpose. I started early to pan off, just to ascertain whether there was really any gold in the country at all. The stone I considered the most promising—that carrying copper carbonates and pyrites—showed no trace of gold, and this was followed by many similar results, but in the end I was rewarded by obtaining a few colors out of a sample of oxidized pyrites, from the same reef as the stone containing the copper. The result was very poor, seeing that the sample consisted of about 5lbs. weight of stone. From the honeycomb reef in the first run of schistose country the best result was obtained. It gave a tail of exceptionally fine gold, equal to a few pennyweights per ton. A few other samples from the same run of country gave prospects of a few colors, but nothing good. This result I considered sufficiently promising to warrant giving the schistose country another day's trial, in the hope that we had missed something better. In addition to the reefs, we tried the gullies draining the country traversed by the best run of reefs for alluvial, but the result of our day's work amounted to absolutely nothing. Plenty of good stone of a promising character was obtained from well-defined reefs, the strike of which was east and west. The samples from these reefs were worked in the evening, with the object of getting them panned early, as a guide to future operations. In the event of obtaining any promising prospects I reckoned to put in a few more days around this locality, but if they proved duffers—as I feared—this would mean we should move on and try some other class of country. Whilst shepherding the camels this evening our boy let two of the worst wanderers stray away, and as a consequence they had a night off on the scrub country, ultimately reaching the western end of the broken hills near the camp. The best result was obtained. It gave a tail of exceptionally fine gold, equal to a few pennyweights per ton. The result was very poor, seeing that the sample contained copper carbonates and pyrites, from the same reef as the stone containing the copper. The result was very poor, seeing that the sample consisted of about 5lbs. weight of stone. From the honeycomb reef in the first run of schistose country the best result was obtained. It gave a tail of exceptionally fine gold, equal to a few pennyweights per ton. A few other samples from the same run of country gave prospects of a few colors, but nothing good. This result I considered sufficiently promising to warrant giving the schistose country another day's trial, in the hope that we had missed something better. In addition to the reefs, we tried the gullies draining the country traversed by the best run of reefs for alluvial, but the result of our day's work amounted to absolutely nothing. Plenty of good stone of a promising character was obtained from well-defined reefs, the strike of which was east and west. The samples from these reefs were worked in the evening, with the object of getting them panned early, as a guide to future operations. In the event of obtaining any promising prospects I reckoned to put in a few more days around this locality, but if they proved duffers—as I feared—this would mean we should move on and try some other class of country. Whilst shepherding the camels this evening our boy let two of the worst wanderers stray away, and as a consequence they had a night off on their own. Heavy rain clouds, with cold south-east winds, was the weather for the day, so that we appeared to have at least reached winter.

Camp No. 44, Friday, July 13th, 1900.—We were early to work panning off and crushing the balance of the samples. The result was a cruel disappointment, as we could not raise a single color. This failure to obtain a prospect from over 30 samples of quartz containing ironstone, gossan, and pyrites forced me to the conclusion that this was a remarkably poor country, and quite decided me to waste no more time in endeavoring to prove the existence of gold where it apparently did not exist. The only safe way of getting an early start. As we had the usual drizzling rain during the night, the early start was deferred.

Camp No. 45, Saturday, July 14th, 1900.—It continued to rain all the morning, but cleared towards mid-day, and despite the fact that by putting the saddles on wet we stood a chance of giving the camels bad backs, we nevertheless got under way after lunch. Starting at 1 o'clock, we travelled south to the foot of the range and on to the little creek, which we followed down to the first gorge leading out of the range. The country was somewhat rough, but we climbed over the range in the evening, and camped on the head of another small creek. Continuing along this, we passed through a very rough gorge. The camels' feet being soft in consequence of the rain, this stony road route made them limp in a painful manner. From the gorge we passed into a valley 200yds. in width, where we filled up the water-kugs at a small rockhole we had previously discovered. The creek then entered a gorge which passed through the next range on a
of the creek, and from thence across the tableland into the next valley. This valley widened as it extended south-east. The range gradually died out in the same direction. I sent Woods with the camels down the valley, to go round the edge of the outside range; he was then to head for the bluff at the base of Mount Lane. Byrne cut across the range in a more direct course to this point. I arranged to make smoke in two hours to show Woods our position as a safeguard, but on getting on top of the range I found that from there I could just about distinguish the place to which I intended steering, owing to the hazy day and misty rain. On getting down into the flat I therefore made a smoke, so that in the event of Woods not seeing this point he could steer for this smoke, and so cut our tracks. This he did. From the range we passed into the Gard Range. We first crossed a small grass flat formed by the drainage from the south side of the range, then into spinifex and scrub for several miles. We camped at 6 o'clock, having covered 11 miles. There was no good camel-bush about this camp, but a fair supply of corkwood and red pea bush, of which the camels would partake at times. There were light showers during the evening.

**Camp No. 46.** _Monday, July 16th, 1900._—I started early to have a look at the big range, leaving instructions for the camels to continue to steer for the prominent bluff at the base of Mount Lane. Byrne took the Mount Stubbins portion of the range, whilst I took that in the vicinity of Mount Lane. The camels were not in when I left, but as they had only been off the chain for two and a half hours, I did not anticipate any delay. Three miles across a flat brought me to the foot of the outside range, which had a course of 283°. This was rather a picturesque spot, being surrounded with rough ranges, whilst the valley wound round the base of Mount Lane. The latter looked very imposing when viewed from this direction. _Gastralobium_ was plentiful throughout the valley and hills, and I noticed some bushes covered with a yellow flower, but otherwise identically the same plant as that bearing the red flower. Additional prominence was given to Mount Lane from the peculiar formation of the ranges at this point—a perpendicular wall of conglomerate and grit, with broken hills in the same direction. The range had evidently been an important and extensive fault along this line, and this had caused a subsidence of the eastern portion of the range. The formation of the range consisted chiefly of sandstone, quartzite grits, and conglomerate, with a little slate around the base of the bluff. This brownish-colored slate was overlapped by red sandstone; the quartzite then followed, and was itself overlaid by beds of conglomerate and grit, in thickness, the whole being capped by quartzite. I estimated the height of Mount Lane, and also the thickness of exposed strata, to be 650ft. On reaching the top I anticipated a splendid view of our surroundings, but a misty rain started to fall, and thus effectually prevented me seeing anything beyond a few miles, and then only as a hazy outline. In travelling along the top of this mountain, climbing down gorges and up precipices, one could not help thinking that if a slip occurred and one was disabled there, one could never be discovered; indeed, the chances of ever being discovered were very slight, as it would be next to impossible to follow the camels down the stones even without rain. I continued on along the top of the range, trying at several different points to get down the bluff, but all to no purpose. I eventually reached the bluff, at which the camels were to meet me, but there was no sign of them, so I climbed down on to the stony flats and travelled on along our route for a couple of miles; then climbed another bluff with the hope of getting a view of the surrounding country, but I reached the top to be again met by another shower, clouds enveloping the top of the mountain—a sight I had never seen before in Central Australia. I managed to get a smoke going by lighting some spinifex, hoping that by this means I might get a reply from the team. In doing so I lost my matches, and followed this misfortune by having one of my nails torn off, but, being wet and intensely cold, the pain was but slight. Night was now approaching, but still I could see nothing of the camels. I made back to where I had started the fire, just in time to save the last burning stick, and this I carried along with me, as there seemed every possibility of the camels not being able to follow the route I am taking; we were therefore fully equipped with fire from falling all the time, which necessitated me lighting fires at intervals in order to keep my fire-stick alight. After travelling for two and a half miles I heard a shot echoing along the cliff—a most welcome sound, which was followed shortly afterwards by the camels. The delay had been caused by the camels splitting, and it was thus late before a start was effected. Byrne's experience was somewhat similar to my own. The weather also prevented him seeing anything from Mount Stubbins. In a small creek coming away from this mount, on a bearing of 160°, and running out into a flat on a 45° course, he struck a waterhole, which appeared to have a spring as its source. The country immediately surrounding was very green with ti-tree and paper-bark trees, thus resembling the spring country north-east of the Macdonnell Ranges, but owing to the recent rains it was impossible to arrive at a definite decision. A stony flat occurred in the valley at the base of the bluff, and there we camped in the stony valley just at dark. Our blankets were wet, and we had soaked ground to lie on, with gentle showers all the evening.

**Camp No. 47.** _Monday, July 16th, 1900._—At daylight this morning light rain was still falling, but it cleared somewhat after breakfast, and as it was advisable to get out of these stony hills, I decided to move on and get through the range, so at 11 o'clock we started to saddle up. It started to rain afresh, but despite this fact we continued the work, and made another start before 12 o'clock, continuing along the foot of the bluff. The route was terribly stony, and as the camels' feet were soft owing to the rains our camelman kept on prophesying all sorts of disasters. In about three-quarters of a mile past a prominent bluff I struck a small spur, which led down the stony hills to a flat. This spur was steep and stony, but we negotiated it in safety, and crossed into a grass valley coming away from the main range and running south-east. Our troubles were thus practically ended, as by following the creek down we avoided the stony country, and in half a mile we struck the junction of a strong creek coming away from the direction of Mount Stubbins, on a bearing of 63°. In another mile we passed out of the range, this point being marked by a prominent pinnacle detached from the main range on the left bank of the creek. The creek also divided, one branch passing between this rock pinnacle and the main range and the other going to the west of it, junctioning again a short distance to the south. I obtained a fairly extensive view from the top of this pinnacle, which showed the range extending west for eight miles and then bending northerly; south-westernly and south were tableland ranges on the far side of the flat from 10 miles to 15 miles distant, whilst a very prominent table-topped hill stood out on the east end of the southern tableland, on a bearing of 185°. To the south-
east the range took a sweep round to a bearing of 160°; then apparently bent more easterly. A small run of broken hills showed along the southern flank of the range in this direction, whilst a smaller belt of hills occurred to the westward. A large waterhole could be seen three-quarters of a mile down the creek, and being in close proximity to the auriferous country, it appeared a favorable indication and a convenient spot from which to work out from and try the surrounding country. Arriving at the waterhole, we camped on the right bank of the creek, and discovered that around it was an outcrop of some metamorphic rock, chiefly schistose quartzite. This class of country was subsequently proved to exist in small areas throughout the flats in this vicinity. The waterholes were large; one was in the nature of a rockhole, being formed out of solid rock, whilst another—50yds. lower down—extended along the bed of the creek for 200yds. From appearances I should say it was from 4ft. to 5ft. in depth, and would last for at least 10 months. This creek was in all probability one of the tributaries of Sturt's Creek, but at this point I called it the "Bramall," after our secretary. After an early dinner, we had a general cruise round and discovered several hard dense quartz reefs carrying a little pyrites. Quartz blows and short broken runs of stone were numerous, and these contained a heavy percentage of specular and micaceous iron ores. The formation of the country was all metamorphic, consisting of sandstone, slates, and altered quartzite. The camels were allowed a little latitude to-night, owing to the fact that they were suffering from the effects of the stones, but they did not move 50yds. from camp all night.

Camp No. 47, Tuesday, July 17th, 1900.—Examined the country along the flank of the range to the westward. The formation of the hills proved to be slightly altered sandstone. These I tried, but without obtaining any promising results. I then climbed the range, and for once succeeded in getting a view of the snow-capped peaks of the north-western end pointed away to the north-west. The surface was much broken by gorges, which appeared to make into a creek running out through the range on a bearing of 300°. At this point the range bent round to the north, in which direction the vision extended to a distance of 12 miles. I was also enabled to make a fair sketch of the course followed by the Bramall Creek, which followed the contour of the range at a distance of from three miles to five miles, with tablelands to the south showing. The top was about 1350 feet, with a treeless and rolling country, which was covered by a belt of spinifex with some heavy bloodwoods and limewoods. At five miles we crossed a small ridge of quartzite, and at six and a half miles we struck a small creek coming away from the range on a bearing of 345°; the banks consisted of ironstone conglomerate. This creek had recently been in flood, as there was plenty of water in all the small holes. Another small creek was crossed at eight miles. We continued along the valley at the base of the range, and camped at 10 miles on a fine patch of camel feed, whilst to the south of the camp was a small area of likely country consisting of low hills. The formation was altered quartzite with a little schistose rock. From this belt we obtained some splendid stone, containing both iron oxides and pyrites, and in addition a little copper carbonates. Unfortunately this belt was very narrow, and was covered by sandy flats on all sides. More broken country showed up along our route to 10 miles.

Camp No. 48, Wednesday, July 18th, 1900.—I cleaned up the remainder of our samples this morning, one only giving a prospect of several fine colors, a result that was not over-gratifying, and insufficient to warrant any further trial, so we once again packed up and made east along the flank of the range at a general course of 160°, in the direction of several groups of broken hills. Crossing the creek, we steered out into flats with a few patches of metamorphic country. At two miles we passed a small rise, the formation of which consisted chiefly of ironstone. From this we travelled on into a small grass watercourse, followed by a belt of spinifex with some heavy bloodwoods and limewoods. At five miles we crossed a small ridge of quartzite, and at six and a half miles we struck a small creek coming away from the range on a bearing of 345°; the banks consisted of ironstone conglomerate. This creek had recently been in flood, as there was plenty of water in all the small holes. Another small creek was crossed at eight miles. We continued along the valley at the base of the range, and camped at 10 miles on a fine patch of camel feed, whilst to the south of the camp was a small area of likely country consisting of low hills. The formation was altered quartzite with a little schistose rock. From this belt we obtained some splendid stone, containing both iron oxides and pyrites, and in addition a little copper carbonates. Unfortunately this belt was very narrow, and was covered by sandy flats on all sides. More broken country showed up along our route to 10 miles.

Camp No. 49, Thursday, July 19th, 1900.—A heavy fog prevented much being done early this morning, but at 10 I was able to take a look at the country, thus enabling us to make a fair sketch of the range, which then apparently bent more easterly. A small run of broken hills showed along the southern flank of the range in this direction, whilst a smaller belt of hills occurred to the westward. I then made a start to examine the country ahead, leaving the camels to follow, and to steer for a black knob in the end group of hills. The quartzite range was followed but it lifted from camp all night. Pouring a good shower, there was no mud to be found. The quartzite range bent from its south-east course to the eastward, meeting another portion of the range with a still more easterly trend. Open country extended away to the south to the south of east at distances varying from eight miles to 10 miles. The main valley underlay this and the main range schistose rock was seen to outcrop, together with a quantity of shell grits and conglomerate. At this point I also saw a small boulder of diorite, but failed to locate its source. It may possibly have been carried here by natives, as it had the shape of a crude stone axe.

From appearances I should say it was from 4ft. to 5ft. in depth, and would last for at least 10 months. This creek was in all probability one of the tributaries of Sturt's Creek, but at this point I called it the "Bramall," after our secretary. After an early dinner, we had a general cruise round and discovered several hard dense quartz reefs carrying a little pyrites. Quartz blows and short broken runs of stone were numerous, and these contained a heavy percentage of specular and micaceous iron ores. The formation of the country was all metamorphic, consisting of sandstone, slates, and altered quartzite. The camels were allowed a little latitude to-night, owing to the fact that they were suffering from the effects of the stones, but they did not move 50yds. from camp all night.
had a width of three-quarters of a mile, and the rocks had a dip to the northward beneath the range. Working back through the broken hills I struck some well-defined reefs, the quartz in all instances being heavily charged with micaceous iron. I eventually struck a small creek heading out from the hills in a south-west direction. Slate occurred along the bed of the creek, and at a spot where the banks consisted of ironstone conglomerate there was a small waterhole. It was then just dark, and, being a couple of miles from camp, I headed for home along the foot of the hills. While making for the camp I saw what I took for the camp light, and, although it did not seem to be the correct position, I struck out for it, and wandered off through some thick scrub, losing sight of the light altogether. I thought something was amiss or the fire a myth, so I returned to the foot of the hills, and started for where I reckoned the camp ought to be, getting there just as they were lighting fires in case I was a bit out of my latitude. Byrne in his travels sighted a blackfellow and two boys hunting wallaby. The boys were at first amused at his appearance, but on second consideration they were not so highly impressed, and disappeared very suddenly. It was doubtless one of their fires I had been steering for on my road home.

Camp No. 50, Friday, July 20th, 1900.—Another heavy dew and frost this morning. We first dollyed and panned off all samples taken from the reefs coming along the base of the range. The results were identical with those previously obtained, not the sign of a color being visible. One naturally expected some gold from such heavily-oxidised and mineral stone; but in this country good quartz, good ironstone, beautiful casing, all goes the same way—nothing. I sent the camels up to the small waterhole to supply and try them with a drink. The water, was however, too cold for them to do more than sip it. We made a start after lunch, and steered in the direction of the broken hills on a bearing of 235°. We went through scrub and spinifex up to half a mile, when we encountered a rise, consisting of silicous slates. This was replaced by sandy flats and spinifex with stunted linewoods. At two miles low rises of altered quartzite containing several white quartz reefs showed at surface. After going three-quarters of a mile across this run of country, which was at right angles to our course, we passed from the stones into thick spinifex, turpentine and other scrub being abundant. Dense scrub with desert mallee occurred at five miles, with a small high rise. At seven miles we passed into a much more open scrub with a little limestone showing near the camp. There was no cooking to do, this served the purpose of getting the billy boiled. The weather was clear and fine, with a bright sun. No. 27.

Camp No. 51, Saturday, July 21st, 1900.—More dew, followed by a heavy frost. The dews in this country do not appear to fall until after midnight. Started on same bearing. We were crossing lake country for half a mile, and then entered a thick belt of ti-tree one mile through. Suddenly we passed out of this into an open space. This open belt had a north of east and south of west trend, and extended in this direction for four miles. The surface was partly covered by sand and spinifex, patches of damp salt ground alone revealing the fact that at one time this was evidently a salt lake or marsh. Continuing across this dry lake we reached some ti-tree on the south-west side; then sighting a likely patch of feed a quarter of a mile to the south-east of our route, we headed for it; it proved to be samphire and other bush of singular character, and as we had seen no feed all day I reckoned this was exceptionally good, and camped. There was no wood about this locality, so we had to fall back on bits of stunted ti-tree. As there was no cooking to do, this served the purpose of getting the billy boiled. Distance travelled, nine miles. It was very swamy in the vicinity of the samphire country, with a little limestone showing near the camp around the edge of the marshy area. This country had evidently been a salt lake, but owing to the great falling off in the rainfall it had been overgrown with spinifex, which had accumulated sand rises. Saline matter showed at the surface in small bare areas, whilst the soil was damp and clayey in places. Salt water could be obtained in a few feet of sinking. The weather was clear and fine, with a bright sun.

Camp No. 52, Sunday, July 22nd, 1900.—Bearing unaltered. From gradually rising sandy tablelands we passed into open scrub with a few corkwood, bloodwoods, and linewoods. At six and a half miles we struck the whitish roundish anthills. The ants forming these immense columns were similar to those making the small peaked anthills, being white with brownish backs and heads. These anthills vary up to 12½ ft. in height, and across the centre they measured up to 15½ ft. in diameter; at the base they were much smaller. This class of country continued for half a mile, and then entered a thick belt of ti-tree one mile through. Suddenly we passed out of this into an open space. This open belt had a north of east and south of west trend, and extended in this direction for four miles. The surface was partly covered by sand and spinifex, patches of damp salt ground alone revealing the fact that at one time this was evidently a salt lake or marsh. Continuing across this dry lake we reached some ti-tree on the south-west side; then sighting a likely patch of feed a quarter of a mile to the south-east of our route, we headed for it; it proved to be samphire and other bush of singular character, and as we had seen no feed all day I reckoned this was exceptionally good, and camped. There was no wood about this locality, so we had to fall back on bits of stunted ti-tree. As there was no cooking to do, this served the purpose of getting the billy boiled. Distance travelled, nine miles. It was very swamy in the vicinity of the samphire country, with a little limestone showing near the camp around the edge of the marshy area. This country had evidently been a salt lake, but owing to the great falling off in the rainfall it had been overgrown with spinifex, which had accumulated sand rises. Saline matter showed at the surface in small bare areas, whilst the soil was damp and clayey in places. Salt water could be obtained in a few feet of sinking. The weather was clear and fine, with a bright sun.

Camp No. 53, Monday, July 23rd, 1900.—No. 50, varied. From gradually rising sandy tablelands we passed into open scrub with a few corkwood, bloodwoods, and linewoods. At six and a half miles we struck the whitish roundish anthills. The ants forming these immense columns were similar to those making the small peaked anthills, being white with brownish backs and heads. These anthills vary up to 12½ ft. in height, and across the centre they measured up to 15½ ft. in diameter; at the base they were much smaller. This class of country continued for half a mile, and then entered a thick belt of ti-tree one mile through. Suddenly we passed out of this into an open space. This open belt had a north of east and south of west trend, and extended in this direction for four miles. The surface was partly covered by sand and spinifex, patches of damp salt ground alone revealing the fact that at one time this was evidently a salt lake or marsh. Continuing across this dry lake we reached some ti-tree on the south-west side; then sighting a likely patch of feed a quarter of a mile to the south-east of our route, we headed for it; it proved to be samphire and other bush of singular character, and as we had seen no feed all day I reckoned this was exceptionally good, and camped. There was no wood about this locality, so we had to fall back on bits of stunted ti-tree. As there was no cooking to do, this served the purpose of getting the billy boiled. Distance travelled, nine miles. It was very swamy in the vicinity of the samphire country, with a little limestone showing near the camp around the edge of the marshy area. This country had evidently been a salt lake, but owing to the great falling off in the rainfall it had been overgrown with spinifex, which had accumulated sand rises. Saline matter showed at the surface in small bare areas, whilst the soil was damp and clayey in places. Salt water could be obtained in a few feet of sinking. The weather was clear and fine, with a bright sun.

Camp No. 54, Tuesday, July 24th, 1900.—No. 51, varied. From gradually rising sandy tablelands we passed into open scrub with a few corkwood, bloodwoods, and linewoods. At six and a half miles we struck the whitish roundish anthills. The ants forming these immense columns were similar to those making the small peaked anthills, being white with brownish backs and heads. These anthills vary up to 12½ ft. in height, and across the centre they measured up to 15½ ft. in diameter; at the base they were much smaller. This class of country continued for half a mile, and then entered a thick belt of ti-tree one mile through. Suddenly we passed out of this into an open space. This open belt had a north of east and south of west trend, and extended in this direction for four miles. The surface was partly covered by sand and spinifex, patches of damp salt ground alone revealing the fact that at one time this was evidently a salt lake or marsh. Continuing across this dry lake we reached some ti-tree on the south-west side; then sighting a likely patch of feed a quarter of a mile to the south-east of our route, we headed for it; it proved to be samphire and other bush of singular character, and as we had seen no feed all day I reckoned this was exceptionally good, and camped. There was no wood about this locality, so we had to fall back on bits of stunted ti-tree. As there was no cooking to do, this served the purpose of getting the billy boiled. Distance travelled, nine miles. It was very swamy in the vicinity of the samphire country, with a little limestone showing near the camp around the edge of the marshy area. This country had evidently been a salt lake, but owing to the great falling off in the rainfall it had been overgrown with spinifex, which had accumulated sand rises. Saline matter showed at the surface in small bare areas, whilst the soil was damp and clayey in places. Salt water could be obtained in a few feet of sinking. The weather was clear and fine, with a bright sun.

Camp No. 55, Wednesday, July 25th, 1900.—No. 52, varied. From gradually rising sandy tablelands we passed into open scrub with a few corkwood, bloodwoods, and linewoods. At six and a half miles we struck the whitish roundish anthills. The ants forming these immense columns were similar to those making the small peaked anthills, being white with brownish backs and heads. These anthills vary up to 12½ ft. in height, and across the centre they measured up to 15½ ft. in diameter; at the base they were much smaller. This class of country continued for half a mile, and then entered a thick belt of ti-tree one mile through. Suddenly we passed out of this into an open space. This open belt had a north of east and south of west trend, and extended in this direction for four miles. The surface was partly covered by sand and spinifex, patches of damp salt ground alone revealing the fact that at one time this was evidently a salt lake or marsh. Continuing across this dry lake we reached some ti-tree on the south-west side; then sighting a likely patch of feed a quarter of a mile to the south-east of our route, we headed for it; it proved to be samphire and other bush of singular character, and as we had seen no feed all day I reckoned this was exceptionally good, and camped. There was no wood about this locality, so we had to fall back on bits of stunted ti-tree. As there was no cooking to do, this served the purpose of getting the billy boiled. Distance travelled, nine miles. It was very swamy in the vicinity of the samphire country, with a little limestone showing near the camp around the edge of the marshy area. This country had evidently been a salt lake, but owing to the great falling off in the rainfall it had been overgrown with spinifex, which had accumulated sand rises. Saline matter showed at the surface in small bare areas, whilst the soil was damp and clayey in places. Salt water could be obtained in a few feet of sinking. The weather was clear and fine, with a bright sun.
noticed on the surface whilst crossing the flat, but no outcrops of country rock or reefs were discovered. We arrived at the foot of the central group of hills in six and a half miles, and camped. Total distance travelled to-day was 13 miles. We had some lunch, and then tried this patch of country, which consisted of metamorphic sandstone, with a number of reefs striking in all directions, but extending no distance. From these we obtained some good stone, consisting of likely quartz with plenty of iron oxides, but no gold. The exposed country covers but a small area, extending for one and a quarter miles in length and about a quarter of a mile in width. To the south-east over the flat and scrub knob of country rock showed above the scrub, whilst west and south-west were low sandstone tablelands at varying distances from five to 10 miles. Due west at the base of these tablelands were several small groups of hills, evidently of a similar character to those we were prospecting. The result of the afternoon's work was not over-gratifying, seeing we had come some 10 miles to examine this belt. The belt consisted of small pinnacle hills, together with low short ridges. The most prominent group was a tent hill with two pinnacles to the east and west. Sandy scrub flats occupied the whole of the surrounding country.

Camp No. 53, Monday, July 25th, 1900.—Located all the main features of the country by taking a series of bearings from a pinnacle hill first thing. The broken country and the tent hill seen from the quartzose ridge yesterday showed up to the south-east. I therefore instructed the team to steer for this tent hill on a bearing of 150°. We then turned another turn through the hills and over the flats where the little hills were showing above the surface and scrub. We here struck several good reefs with likely stone, heavily impregnated with iron oxides, but failed to sight any gold. We passed out of this class of country into scrub flats with a low tableland range to the south-west. This extended in a north-east and south-east direction, junctioning with the country for which we were steering. It was broken at frequent intervals by rocks. A prominent knob of granite on the eastern flank enabled me to take a number of cross-bearings; the tent hill of course being extended further to the south-west. The formation proved to be kaolinised granite country. There was a fair patch of camel feed in the vicinity, so we camped, having travelled 12 miles. Byrne had gone out to the south-west, to see if there was anything beyond the tableland. We made smokes to attract his attention, but those he missed, and cut down through the granite to pick up the camel pad, but failing, he fortunately sighted the smoke made by the boy, and arrived at dusk. We then made an examination of the range and surrounding country. From a rise near the camp granite hills and perched granite boulders could be seen extending away to the south-east for several miles. The base of the range proved it to consist of coarse felspathic granite. This rock showed to within 50ft. of the top of the tableland, when it was capped by coarse reddish sandstone, dipping slightly to the south-west. The sandstone capping varied from 30ft. to 50ft. in thickness; the granite immediately underlying the sandstone was much decomposed. The height of the range was from 150ft. to 200ft. above the surrounding level. Along the base of the range in a bare sloping granite rock I discovered a fine gnamma hole, containing about 40galls. of water. A view from the top of the range at this point showed a small flat to the south-east, bounded on the east by granite, and on the west and south-west by the tableland range. Beyond this flat was the tent hill which we had located by cross-bearings. Traversing this flat was a run of lime-wood timber, which appeared to mark the course of a creek, and, although it was getting late, I decided to settle the marks, hoping there might be some water. I followed along the base of the ridge, striking another small rockhole in a similar class of rock. I then struck towards the limewood valley, and found, as I suspected, that they grew along the banks of a fairly large creek with a very sandy bottom. The creek did not appear to have run for a considerable time, but on following it up for a couple of miles I struck some clarypan water in a breakaway coming into the creek out of the watercourse. It was then dark, so I started for camp, where I arrived about 8 o'clock. They were getting anxious, as I had for the first time on the trip neglected to take my revolver. The weather was very warm during the day, with a brilliant starlight night.
Camp No. 55, Wednesday, July 25th, 1900.—The tent hill for which we were steering loomed up to the south-east at a distance of three miles, and for this we steered. I preceded the camels to obtain a round of bearings, and I was successful, as the position and height of the hill enabled me to get a fair view of all the surrounding country. The range extended on a bearing of 118°, and in the opposite direction its course alters from 337° to 294° at 15 miles. A large open flat lay to the west of the range, and beyond this again there were more broken tablelands at 15 miles to 20 miles. These tablelands extended round to the south, where they showed strong at a distance of 12 miles. The course of the Aitchison Creek across the flats to the west was marked by a line of heavy limewoods timber. We continued along the base of the ridge on a bearing of 118° for two miles. The range then bent more to the south, and we altered the bearing to 130°.

In three miles we struck a run of sloping granite rocks at the base of the range, with a little creek heading west away through a gap. Plenty of water existed along the base of this rock; in fact, the soakage was so strong that in places the creek was actually trickling. I estimated that the supply here would last for about a month. This place would not need much rain to catch sufficient water for a drink, as the big sloping granite rocks act like the roof of a house. We passed several small knobs of granite on left of the route, half a mile to three-quarters of a mile from the range, one being just opposite this point. The height of the range at this point was 150ft., and from it we sighted a somewhat prominent table-topped hill on a continuation of our bearing. Two short tablelands showed over the flat scrub country on a bearing of 106° and 110°. I decided to steer for the flat-topped hill with the double object of seeing if there was anything along the flank of the far range, and also of examining the country in the vicinity of the flat-topped hill. After going three miles on our course we were opposite a point in the range beyond which there was another gap from half a mile to one mile wide. Opposite this point there was a small rise of white quartzite. At this point the granite knobs occurring in the flats country and the granite at the base of the range terminated. The range took a sweep to the south, but came back across our line further ahead. We continued on through sandy scrub country, with ti-tree in fair quantities, and then passed into travertine limestone country and small low rises outcropping through sandy soil. We camped in 14½ miles, on a fair belt of bush, with some yellow acacia, which was also fair camel feed.

Friday, July 25th, 1900.—We continued on same bearing, and crossed ridges of limestone for one and a quarter miles. Then we went into low scrub with sandy soil and patches of quartz pebbles. At two and a half miles we encountered a small low rise of sandstone slat, extending easterly for half a mile, and then on into desert mallee and other scrubs. At four and a half miles the end of the detached range touched our line. It was very low, and the sandstone occurred as huge reddish flags, which held weather together in masses, giving it a very interesting appearance. The dip of these beds was south and south westerly. Byrne had a look over the range west of the terrace point, but could see nothing but the tablelands which were visible from the tent hill. From the terrace point the table-topped hill showed up very boldly, but we were disappointed to find that there was no sign of any other broken country in the same neighborhood. However we went on, hoping for the best. From the terrace point we continued over sandy flats with low scrub for a mile, and then crossed a small sandhill with limestone rises on our left, a narrow run of which continued for two miles, finally trending away north-east. We then encountered stunted mallee, scrub, and spinifex, with several large dry clayspans. Small areas of recently-burnt country were also noticed, but no native tracks, the soil being too hard. Small patches of mulgas occurred at four miles from the terrace point, along the base of a sandhill; this was the first sign of absolute desert we had seen for some time. The sandhill did not appear to extend beyond three miles, where it died out. Its course was 78°.

Another sandhill of greater length stretched out from the end of the low tableland to the south-west, and ran parallel at a distance of three miles. A flat with heavy timber—bloodwoods and limewoods—showed to the north at five miles in the direction of some stony rises. We crossed the sandhill into a flat with a little grass and small bluebush. The country here had the appearance of a swamp, which was narrow, but extended some distance to the eastward. We had a look through some of this swampy ground in the hope that there were plenty of water-holes and bores there, but as we had not sufficient to leave any water in this class of country. A small ironstone conglomerate rise made its appearance at one mile beyond the sandhill, and this we crossed into a flat with buckbush, saltbush, and other herbage and scrub, with acacia—the first we had seen. We camped at the foot of this conglomerate, at 12½ miles travelling. Byrne in cruising round the flat, which was chiefly occupied by a bluebush swamp—doubtless a continuation of that on the west side of conglomerate rise—struck a small pool containing a few gallons of water. It was, however, insufficient to give the camels a drink. Billabongs and clayspans were large and numerous.

Camp No. 57, Friday, July 27th, 1900.—I started early to have a look at the table-topped hill, which showed a few miles ahead. Close to the camp I crossed a cave, like an excavation of travertine limestone, on the edge of the bluebush swamp. This swamp was half a mile wide, and apparently extended northerly for some considerable distance. The swampy country gave place to a splendid flat, covered with Mitchell and other good grasses, with a little saltbush, buckbush, and camel-bush in abundance. This class of country continued close up to the hill, where there was a small patch of scrub with acacia. I reached the hill in six miles, covering the finest run of pastoral country we had encountered. It was quite a treat to travel over such country. The hill proved to be sandstone, and it was practically standing alone. I obtained a good view from the summit of the hill, which was surrounded by open grass flats. To the south-west and west were several short tablelands extending round to the end of the detached range. Blackfellows' smokes were visible in this direction, and also to the northward beyond a strong depression which encircled the grass country, and was probably occupied by a continuation of the swamp country. At three and a half miles we crossed low stunted mallee scrub, but grass was still plentiful. Bluebush and swampy looking country continued for two miles, and we camped at the edge of a flat and claypan country. We crossed one and a half miles through this country we struck a small belt of mulgas, with sandhills on the south side. We passed through mulgas into more grass and swamp country, and at one and a quarter miles entered a belt of spinifex and scrub, with sandhill close by to the south. Leaving Byrne to continue the bearing we went over to examine the sandhill. A mulga and grass flat occupied a valley between this and another sandhill one and a quarter miles to the south. These sandhills had a general course slightly to the north of...
of east. I continued along this sandhill, and sighted what looked like broken country away to the north-east, but was unable to get a good view. A low but prominent hill showed straight on our course some eight miles ahead. The sandhills only extended for a short distance, and then died out into flats. They had apparently not developed. Along our course the country changed again from spinifex into claypan country, with a little grass, scrub, mulga, and camel-bush, and a large amount of emu-bush. We camped a short distance from the foot of the sandhill, having travelled 141 miles. Just after leaving the solitary hill we sighted a red kangaroo. This was the first and only one we had seen. Birds were extremely numerous about this locality, and coming along early this morning, with splendid grass flats to walk on, flocks of grass parrots and birds of other description chirping and singing, made me for a while imagine I was in a much more favored locality than Central Australia. New this was, I had not had time to devote to this interesting work. After dinner I went up on the sandhill with the glasses to try and get a better view of the broken hill, but, although I walked to a spot I took to be rising ground, and climbed a tree, I could not obtain a good sight.

_Camp No. 58, Saturday, July 28th, 1900._—As the loads were now pretty light, and boot-leather was becoming valuable, I decided to arrange to have a riding camel, on which we could take alternate spells. We continued on same bearing for the hills ahead, and in three-quarters of a mile we passed a sandhill covered with splendid camel-bush; to the south was a dense belt of mulga. Light scrub continued on up to the hills, which were reached in four and three-quarter miles. These proved to consist of several small groups of hills covered of horizontal belts of desert sandstone. They had an original feature, inasmuch as they resembled a peastal. Their height varied up to 60ft., with a gradual slope to the base, which rests on a square ledge of rock of similar formation. On account of this peculiarity they were named the “Pedestal Hills.” A view of the surroundings showed a broken edge of country extending east for one and a half miles. To the south-east there were heavy sandhills. To the south there was another group of hills, with native smokes beyond. To the south-west lay a dense belt of mulga. Stony claypans occurred in close proximity to these hills, but, although we made a careful examination, we did not find any water. An old native well was struck in a gully leading away from the eastern group of hills, but the water was barren. A small belt of broken country showed up on a bearing of 30°. It did not look over-promising, but as there was ample room for a belt of auriferous country to exist in this direction, I decided to investigate, so that when the camels arrived we moved in this direction. Shortly after altering our course we sighted some small clayholes, full of very muddy water. This was exactly what I required, as I preferred making a flying survey with a couple of camels. By this means I could ascertain if anything worth trying existed, and the information could be gleaned in very much less time; we therefore camped at this water. Byrne was running parallel to the east, and it was not for some time that we attracted his attention by lighting fires. After lunch Byrne and I made a start with two camels and rations for five days. In three-quarters of a mile from the Pedestal Hills we passed into a grass and bluebush swamp; it was narrow, but appeared to extend for some distance to the westward. Travertine limestone was plentiful along the edge of this swamp. Passing out of this we encountered rising ground, with spinifex and light scrub. Occasional outcrops of limestone were met with. This continued for two and a half miles, when we crossed the rising ground into a depression. This area was occupied by a belt of splendid grass country, throughout which were a number of claypans. In one of these we saw a little water. Open grass flats extended away to the north and north-west, with rising ground beyond at from 10 miles to 12 miles. The centre of this depression was four miles from the camp at Pedestal Hills. From this point we passed into some dense scrub and very heavy spinifex. Travertine limestone rises and mounds were plentiful throughout this class of country, which continued for three miles, being then replaced by a dense belt of mulga. This we negotiated with some considerable trouble, eventually reaching an open space, with desert mullee, just before dusk. More mulga showed ahead, and, although there was but little camel feed where we were, I determined to camp, as it appeared a risky proceeding to attempt another belt of mulga with only a little light available. Whilst boiling our quarts flocks of pigeons passed overhead. These birds were usually seen about a good season, so that it was almost a certainty that large waters exist somewhere in this neighborhood—possibly in the bluebush and grass swamp. The distance travelled from Pedestal Hills was nine miles.

_Sunday, July 29th, 1900._—The two rings allowed the camels in the matter of hopping proved an effective check, and enabled us to make an early start. From open scrub we passed into dense mulga, interspersed with acacia and camel-bush. This continued for three miles, when we again entered open scrub, which extended to the base of the broken country for which we were steering. This we reached in another mile, and it proved to be a run of low sandstone hills, the beds of which dipped south at from 12° to 15°. The course of the ridge was east and west for two miles; it then bent round to the north in a half-circle, this extension being marked by low broken rises, which gradually died out into flat sandy country. From the summit of these hills the surrounding country was visible for a considerable distance, showing some likely-looking pinnacle hills six miles distant to the north-east, with a strong tableland range beyond to the east of this line at about 11 miles. Whilst I was engaged in making these observations Byrne discovered a small rock in a gorge on the south side of the hills, to the east of our route; it was situated at the entrance of the gorge, and was formed by a small waterfall of some 6ft. The hole itself was almost circular, and was overhung with fig trees, making it a most picturesque sight. It contained about 700galls. of water. We filled up our waterbags, had some lunch, and then continued in the direction of the pinnacle hills through a gap in the sandstone ridge, which led out into a sandy flat, with light scrub, belair, and desert mulga. In four and a half miles we reached the first rises, which proved to be reddish sandstone, dipping to the north, but it appeared a risky proceeding to attempt another belt of mulga, and we turned back. From this point we travelled on a general course of 340°, prospecting some rises, with a few bald pinnacle hills, as we proceeded. This route took us over some good country, containing likely runs of stone. The granite was replaced by granitic schists, which were traversed by quartz and ironstone reefs, with a north and south strike. These reefs contained some beautiful stone—containing haematite, pyrites, and goossan. The two central prominent pinnacle hills were formed by the outcrop of one of these larger quartz reefs of considerable width, but not very promising when viewed as a medium for carrying gold. We failed to
to see any metal, but took along some large samples in the hope that by means of the dolly we would be able to obtain some gold. Three miles through this country, and we reached what appeared to be the termination of the scrub. At usual times the country was covered with a thick growth of spinifex, but to-day the country was so dry that beyond the apparent termination more country would be found to exist throughout the scrub and sandy flats. At the point where we stopped the ground was elevated, although flat. It therefore gave us a fair view of the country to the north-east, revealing a run of black broken hills, backed by a strong tableland, on a bearing of 56°. For this we steered, the country gradually dipping in the same direction. One mile on this course brought us into a small belt of mulga, and, turning this, some yellow acacia. As the prospects ahead did not favor the existence of camel feed, we camped at this spot. After supper I examined two small rises one mile to the south-east. The rock formation consisted of granitic and micaceous schist, traversing which was a mass of quartz and ironstone veins containing almost every conceivable class of stone—except that containing gold. Gossan, pyrites, iron oxides of all descriptions, laminated and very quartz were common, whilst the schistose rock was seen impregnated with pyrites, but as far as I could ascertain the veins were barren of the metal required. It was just dusk when I left this place with a number of samples on my back. As the camels appeared to be wandering, I started after them, and, much to my disgust, I found they had travelled a very considerable distance, and it was not until after 8 o'clock that I returned with them to camp. My mate was feeling bad pains all over, and a sore throat. Evidently wet blankets were telling their tale.

Monday, July 30th, 1900.—We continued on our course for the black hills. First we passed over a lowlying flat with linewoods and a suspicion of grass; then we went on to rising sandy ground with light mallee and belar sand, which continued up to the base of the hills in three and a half miles. These proved to form a narrow ridge extending for two and a half miles in a north-west and south-east direction. The rock formation was metamorphic quartzite and sandstone, with silicious slates and a little jasper. The whole had a very black appearance. The crown of the ridge consisted of a large run of dense quartz and ironstone intermixed with a little quartzite, whilst the whole surrounding country was traversed by a number of quartz and ironstone veins, but the ironstone was in all cases of a hard and dense character. After spending some hours here we continued on to the large tableland, three and a half miles to the north-east, and camped at short distance from the base of the hill on a fair patch of camel feed, green buck-bush being plentiful around some stony claypan country. Left Byrne, who was feeling worse, under the shade of a tree, whilst I went out to the tableland to get a sight of the country to the north-east. The tableland was of the usual order, consisting of quartzite and sandstone, dipping north-east at an angle of 26°. The height of the hill was from 2000ft. to 200ft. Owing to the intense heat and consequent radiation and generally hazy atmosphere, it was impossible to obtain a good sight from the summit of this tableland. The tops of some pinnacle hills showed above a strong undulation on a bearing from 27° to 40°, and distant about 20 miles. A broken ridge showed over a plain at 15 miles on a bearing of 15°. The width of the tableland was from half a mile to three-quarters of a mile, and in close proximity to the north-east side was a low parallel ridge, with a very noticeable pinnacle hill beyond standing out in the flat. A small creek made on this side of the range, and ran into the flat country in an easterly direction. To the north-west there was more broken rising ground of a promising appearance. I therefore decided to return to the camp, bring on the team, and give the country a thorough trial, the indications being favorable to the existence of a better area of auriferous country than at any other point of the trip. I returned to where I had left the camels, and found that, owing to the heat, flies, and ants, Byrne had not had much rest, and was feeling anything but well. I returned with my return course being the direct line that I had taken this morning, and along the base of the low tableland range left to the east of morning’s route. In the valleys and gorges coming out of this tableland the limewood trees looked very green and fresh, and, as we noticed some blackfellows’ tracks of recent date in the vicinity, I thought that it would repay investigation in the matter of striking water, but in this we were disappointed. We crossed a point of this tableland, and, to our surprise, there were some stony claypans with a little fresh water, together with some camel-bush. The camels did not care about the camp, and immediately they were let go they headed away east. I had to bring them back and try short hopping to induce them to stay within reasonable limits. The sun was intensely hot during the day, and continued so close up to 10 o'clock, when a cool change relieved matters.

Tuesday, July 31st, 1900.—Making an early start, we continued our homeward journey. At four and a half miles we were at a point opposite the kaolinised granite rises, and from which we passed into the flat between this and the sandstone hills first struck. These we reached at eight miles, and camped for lunch. From a hill near by I took a number of bearings, and, having a good base line to work from, I was thus in a position to sketch the surrounding country with a considerable degree of accuracy. The Pedestal Hills, although small, showed very prominently from this point. In reality they were situated on the crown of the very elevated country; hence their prominence. Continuing onward, we crossed the flat on the southern flank of the sandstone and entered the belt of mulga, which we had purposely kept east of our outgoing route, with the object of discovering a better road through it. We were successful in this, but on passing out of the mulga belt on the south side we were met with dense spinifex covering travertine limestone rises. The curled and crumpled character of the limestone made it very awkward for travelling—the camels were on the limps the whole time. We struggled on up to dusk, and camped, having covered 19 miles. In coming along we sent up some smokes to announce that we were on our road home, and were pleased to have our compliments returned from those in camp. Although we had a good patch of herbage for the camels, they nevertheless insisted on making straight for the main camp, thus causing no end of trouble during the evening. Byrne was now so tired of the heat, he had no voice at all, and can just speak. The weather is still very hot, the sun heating down very fiercely during the afternoon.

Camp No. 58, Wednesday, August 1st, 1900.—The camels became more contented towards midnight, and Byrne soon had them back into camp this morning. We then steered for the claypan we had seen on our outward journey. This we struck, and gave the camels a drink. We arrived at camp just before lunch, and found everything in good order. The camels looked exceptionally well. The dolly was going well in the afternoon, whilst I plotted over our work. I stopped now and again to pan off a few of our dotted samples.
The whole of the samples brought back returned an absolute blank—a result that seemed incredible, taking into consideration the character of the stone and the class of country from which it was obtained. These prospects were not altogether favorable for striking rich reefs in the belts to the north-east, but I nevertheless cannot pass them without giving them a more careful examination. I will therefore carry out my intention of taking the team in a circuit to the north-east. During my absence the camp men had, as instrument, weighed nearly 100, and were by the muddy water. Then we headed to add battery salts, otherwise known as sulphate of magnesia, which in a few hours would deposit all sediment. Davidson erected a "trig." on the most prominent of the Pedestal Hills, and this can be seen for over 10 miles. Strange to say, this muddy water did not appear to satisfy the camels, as, notwithstanding the green fodder, they had been having drinks twice daily. The weather was apparently revolving backward, as during the past three days it had been intensely hot, the sky being absolutely cloudless. This, with a horde of mosquitoes, did not improve matters during the evening.

Camp No. 59, Thursday, August 2nd, 1900.—We packed up this morning, and made another start, practically travelling over the same route as that taken on our flying trip. Reaching the depression occupied by the claypans we made a circuit to the west to avoid the spinifex and limestone. This route took us over well-grassed flats for two and a half miles, when we again changed back to our own line; but this time we were not successful in striking a clean passage through the mulga. However, by dint of continuous winding for one and a half hours we arrived at the open space flanking the sandstone hills, and camped on a good belt of camel-bush half a mile from the rockhole. The distance travelled to-day was 13 miles. The weather was cooler, with light winds from the west. Our invalid had improved considerably, although his voice was still missing.

Camp No. 60, Friday, August 3rd, 1900.—Instructed Byrne to pilot the camels round to a point north-east of the two small bald pinnacles beyond the kaolinised granite. The bearing to this point was 37°, and the distance of the two small thatched huts was the same as to the main body of the hills in three-quarters of a mile. These were the south-east and north-west to some low ridges over a small flat, in the centre of which there was a depression occupied by a large dry claypan, with a stony bottom. Two miles across the flat the first rises were reached. These proved to consist of sandstone, dipping to the south off ironstone conglomerate, underlying which was kaolinised granite. Only a small rim of this rock was visible, and it was traversed by short runs of white barren quartz. This belt of granite country was replaced by schistose granite rocks and schistose quartzite, the latter forming the rocks on the southern flank, whilst the remaining portion of the belt was represented by the granite schists, traversed by one small diorite dyke. The schistose belt had a length of one and three-quarter miles, and varied up to 300yds. in width. On the southern side it dipped under sand and alluvial, and to the north-west it was overlain by ironstone conglomerate, which carried a heavy overburden of alluvial soil. From this elevated country a view of the south and south-west was obtained, extending back over the grass belt to the solitary hill, and to the west over the country to an undulation at 13 miles. Throughout the schist belt was a number of promising quartz and ironstone reefs, their strike conforming to that of the country rock which was to the north-west. About the centre of this belt was a narrow outcrop of diorite extending for a length of 100yds. It was then overlapped by the schist rocks. The outcrops of two strong and well-defined reefs showed at the junction of this diorite with the schistose rock, both on the north and south sides. These reefs had a most promising appearance, being heavily charged with iron oxides and a little pyrite. Seeing the position they occupied, and the class of country they traversed, it appeared almost a certainty that I should discover some gold, but, although I prospected both up and down them, I could see nothing. My day's work ended in a most unsatisfactory manner. I, however, still hoped, and carried along with me 20lbs. of stone, representing many different samples—hardly two bearing similar characteristics. Towards the evening headed for home in a north-east direction across the flat which divided this belt from the eastern end of the mountain. The distance across was four miles. This I struggled over, and eventually reached the camp, being guided to the exact spot by a smoke signal. I was not surprised to find that the result of prospecting the country would be considered extraordinary. Here it was apparent that, although I could not see any gold, the stone must contain some, so I carried along several large samples. I reached the camp just after the camels had been unloaded. It was situated on the north side of the black broken ridge, which I have called the "Ironstone Ridge." This Ironstone Ridge and the surrounding country was the subject of our afternoon's work, but we again failed to sight any metal. To the westward the ridge extended for one and a half miles, in a continuous run of broken hills. It then broke, and a flat divided it from a low wide rise three-quarters of a mile still further west. The formation of this country consisted chiefly of gravel and conglomerate, but this in places had been denuded, and exposed slate and altered sandstone, resting on kaolinised granite. Quartz reefs traversed this class of country, but they proved white and barren quartz. The northern face of the ridge rises about 314°. To the west and north-west a heavy depression existed, with rising ground at from 12 miles to 15 miles. To the eastward the Ironstone Ridge extended in narrow runs of disconnected hills for one and three-quarter miles, and the surrounding country was the subject of our afternoon's work, but we again failed to sight any metal.
quarter mile. They then died out in the alluvial flat between the two tableland ranges to the north and south. The result of our day's work was similar to many others, and lent more color to the suggestion that gold did not exist in the interior in any quantity. The stone composing our samples was of an exceptionally fine quality, so we set to work and dollyed samples up to about 9 o'clock. We got the major portion ready for panning off first thing this morning. The weather was more seasonable during the past two days, being sunny, but cool and decidedly pleasant.

Camp No. 62, Sunday, August 5th, 1900.—The dollyed samples were panned off this morning, with the usual result. This sort of thing was so persistent that it forced us to the conclusion that the sooner we got out of this country the better for all concerned. A run of broken hills showed up on the west end of the tableland lying three and a half miles to the north-east of the Ironstone Ridge, and for those we steered on of country proved to be slightly altered quartzite, with a few quartz reefs of poor quality. It practically marked the termination of the tableland range. To the east of north-east a route lay open in which to steer for the pinnacle hills seen from the tableland, on bearings from 27° to 40°. Crossing this line there was an unbroken rise a short distance ahead, which appeared to extend north-west, and was then replaced by a low table and range at eight miles. As I wished to investigate the pinnacle hills, we steered on a bearing of 30°. This course took us through some broken hills on the end of the tableland, and then out into a flat, throughout which we frequently struck patches of rubble on the surface, consisting of silicious slate and fine quartz rubble. Owing to the smallness of the quartz pebbles I should judge that they were derived from leaders. At two miles we reached the low ridge, the formation of which was sandstone slate with metamorphic quartzite. Narrow runs of this altered country were impregnated with a heavy percentage of iron oxides. Traversing the whole were some strong well-defined lodes of ironstone, associated with wide bodies of hard and fynny quartz. These, however, varied considerably in quality, and at times showed stone of a most promising character. The ridge appeared to trend north-west and northerly, whilst the reverse end had a fairly uniform south-easterly course. Crossing the ridge we passed into a stony flat with dry claypanns. Around this was another formation of bush, consisting of buckbush, saltbush, camel-bush, and green herbage. The saltbush, as at the points previously seen, confined itself to the stony ground. The combination of both feed and likely country was too strong a temptation, and this being what I considered my lucky day, I decided to have one more try around the neighborhood. The distance travelled was six miles. The last two and a half miles of the journey were on a bearing of 30°. We had some lunch, and then we started out on the intention of finding something. North-west along the ridge the ironstone and flinty quartz developed into banded jasper, which, however, carried shoots of very kindly quartz with soft hematite. These jasper beds were associated with ironstone, and formed a series of what one might term "reefs," the outcrops of which were followed north-westerly for three miles, where they dipped under an alluvial flat.

We reached a prominent bald hill in three and a half miles. The formation of this run of country proved to be slightly altered quartzite, with a few quartz reefs of poor quality. It practically marked the termination of the tableland range. To the east of north-east a route lay open in which to steer for the pinnacle hills seen from the tableland, on bearings from 27° to 40°. Crossing this line there was an unbroken rise a short distance ahead, which appeared to extend north-west, and was then replaced by a low table and range at eight miles. As I wished to investigate the pinnacle hills, we steered on a bearing of 30°. This course took us through some broken hills on the end of the tableland, and then out into a flat, throughout which we frequently struck patches of rubble on the surface, consisting of silicious slate and fine quartz rubble. Owing to the smallness of the quartz pebbles I should judge that they were derived from leaders. At two miles we reached the low ridge, the formation of which was sandstone slate with metamorphic quartzite. Narrow runs of this altered country were impregnated with a heavy percentage of iron oxides. Traversing the whole were some strong well-defined lodes of ironstone, associated with wide bodies of hard and fynny quartz. These, however, varied considerably in quality, and at times showed stone of a most promising character. The ridge appeared to trend north-west and northerly, whilst the reverse end had a fairly uniform south-easterly course. Crossing the ridge we passed into a stony flat with dry claypanns. Around this was another formation of bush, consisting of buckbush, saltbush, camel-bush, and green herbage. The saltbush, as at the points previously seen, confined itself to the stony ground. The combination of both feed and likely country was too strong a temptation, and this being what I considered my lucky day, I decided to have one more try around the neighborhood. The distance travelled was six miles. The last two and a half miles of the journey were on a bearing of 30°. We had some lunch, and then we started out on the intention of finding something. North-west along the ridge the ironstone and flinty quartz developed into banded jasper, which, however, carried shoots of very kindly quartz with soft hematite. These jasper beds were associated with ironstone, and formed a series of what one might term "reefs," the outcrops of which were followed north-westerly for three miles, where they dipped under an alluvial flat.

Malles and limewoods were the chief timber. The width of this flat was three-quarters of a mile. Low flats rises made a continuation of the jasper line of country. The rock formation here was chiefly red silicious slates, with a gravel and ironstone conglomerate capping. The same Jasper reefs occasionally showed through this gravelly overburden. The general trend of this rise was more northerly, with alluvial flats to the south-west and gravel and conglomerate rises to the north-east. At one and a half miles the ridge had practically a northerly course, which ultimately became one of east of north. The tableland to the north was now more clearly visible, with a small detached hill some distance from the main range on the northern side o a flat which made a temporary break in the metamorphic and gravel rises. This hill was formed of sandstone, conglomerate, and quartzite, the beds dipping but slightly to the west. The tableland to the north had a north-easterly course, and at 10 miles it appeared to bend to the north at a point marked by several small broken hills standing at the base of the range. The south-western end terminated on a bearing of 40°, and there was another portion of the range, where another small isolated tableland showed. To the south there was a valley or depression extending away to the south-west. Three miles due south there was a belt of heavy limewoods, and in the centre of this there was a clear open space, which looked like an immense claypan. It appeared too yellowish, however, to contain water. I wished to further investigate, but it was getting late, and as I was anxious to try some more of the ironstone rises I decided to leave the water question unsettled. A blackfellow's smoke was on the north was now more clearly visible, with a small detached hill some distance from the main range on the northern side o a flat which made a temporary break in the metamorphic and gravel rises. This hill was formed of sandstone, conglomerate, and quartzite, the beds dipping but slightly to the west. The tableland to the north had a north-easterly course, and at 10 miles it appeared to bend to the north at a point marked by several small broken hills standing at the base of the range. The south-western end terminated on a bearing of 40°, and there was another portion of the range, where another small isolated tableland showed. To the south there was a valley or depression extending away to the south-west. Three miles due south there was a belt of heavy limewoods, and in the centre of this there was a clear open space, which looked like an immense claypan. It appeared too yellowish, however, to contain water. I wished to further investigate, but it was getting late, and as I was anxious to try some more of the ironstone rises I decided to leave the water question unsettled. A blackfellow's smoke was

Camp No. 63, Monday, August 6th, 1900.—Notwithstanding the good feed, the camels split up, and it was late before we made a start. This delay, however, enabled us to get all our samples dollyed and panned off. We had ceased to expect much, and on this account we were not disappointed when the samples proved to be consistent duffers. Continuing on the same bearing we travelled over a flat with light scrub, and reached a small ridge of sandstone in one mile. Passing from this we entered dense scrub, consisting of stunted mallee and turpentine. At three miles we crossed an open belt of country devoid of heavy timber, and then started up gradually rising ground on four miles. The soil was very gravelly, the pebbles consisting of flinty quartz, and were entirely represented by turpentine-bush and desert mallee, the former being particularly dense in patches. At six and a half miles we reached the summit of this rising ground, and passed down into a valley with mulga, green grass, and everlasting flowers of all descriptions. It was a pretty sight—one of the most charming we had the pleasure of viewing. Small birds
birds were in great numbers around this spot, and their chirping and singing made pleasant sounds for our ears. This delightful picture was, however, of short duration, being quickly replaced by a flat covered with spinifex and scrub, which we crossed, and once more started to ascend gravel rises. These rises were sparsely scrubbed, with terpine occurring in small belts. Ironstone conglomerate occasionally showed through the gravel. Indications pointed to the fact that this was undoubtedly the underlying rock of all these gravel rises. Turkey tracks were very numerous all over this rise, but we only sighted a couple of these birds, and they were on the wing. We arrived at the summit of the rise in eight miles, and then descended the other side of the hills for which we were steering. They just showed above the tops of some elevated country, so that we could not form any opinion of their worth. They appeared to extend from a bearing of 20° east to 66°.

To the east there was undulating gravel rises for eight miles to 10 miles, and to the west the tableland range showed within a couple of miles, bending away from its north-east course to one of north. I decided to steer for the most western hills on a bearing of 20°, so that if this proved the western termination of the belt, I could then work due east without any delay. I sent Byrne over to the tableland to see what the rise along the flank consisted of, and also to see if there was water in any of the gorges coming out on the east side, as it was about this locality that I had first noticed the natives' smoke yesterday. I, however, neglected to arrange a smoke signal if he were successful in striking water. Continuing on our course we passed down into a flat with limewoods and a little green grasses. Crossing this we struck some low rises in one and a half miles. They were distant about one and a half miles from the base of the tableland. Capping this rise there was a long run of quartz and ironstone, together with several minor ones. I put in half an hour on these whilst the camels were coming up, as the stone was exceptionally promising. It was somewhat tough, but very open, and contained nice patches of iron oxides, frequently associated with honeycombed stone. I failed to see any metal, but took a fair sample along with me. Traversing this rise along another course we came on through and traversed in four miles. We crossed this, and camped in the valley beyond, where there was a run of orange-bush and green corkwoods. The camels would not touch the orange-bush, preferring the corkwoods. Coming along I had noticed Byrne sending up smoke, but I attached no importance to it. He arrived in camp shortly after the camels were unloaded, and announced the pleasing intelligence that he had struck sufficient water to give the camels a drink in a gorge coming out of the range. As it meant the loss of a day to go back, I decided to continue on to the broken country, and examine it: then, failing more water there, to return to the tableland for fresh supplies. The distance travelled was 14 miles; six miles on bearing of 20°.

Camp No. 64, Tuesday, August 7th, 1900.—I went on ahead to the small pinnacle for which we were steering, leaving the team to follow. I arrived at this point in two and a half miles, and found that the pinnacle formed part of a large sandstone and grit ridge, extending on a course of 24°. The grit beds over­ lapped the sandstone on the southern end of the ridge, but north-east the layers of coarse grit had been completely denuded, leaving the sandstone exposed. The dip of these beds was to the north-west. Throughout the sandstone there were large slabs of rock, covered with the most uniform ripple markings, but, although I examined many square yards of them, I did not discover any trace of the existence of animal life in the prehistoric days when the rock was laid down. Although very low, the ridge was on an elevated country, and a good view of the surrounding country was obtained. A parallel tableland ridge showed three miles distant to the north-west and north, gradually becoming stronger to the north end. On a bearing of 350° over this parallel ridge a short tableland showed at a distance of from 17 miles to 20 miles. Rising ground marked the horizon line at from 12 miles to 15 miles from this round to the west, where there were several short runs of tablelands round to 230°. This marked the termination of the tableland in which Byrne struck the water. To the north-west the broken pinnacles seen from further south showed up over some low tableland hills lying a short distance to the eastward, thus forming a valley between them and the ridge from which the observations were made. We of course steered a course for the pinnacles, travelling first down the valley between the sandstone ridge and tableland to the eastwards for a short distance, and then winding round some low ironstone conglomerate hills we obtained a clear course up a narrow valley between some low tableland to the north of this. The steep hill tableland was too high for us to cross, I decided to continue on to the broken country, and examine it: then, failing more water there, to return to the tableland for fresh supplies. The distance travelled was 14 miles; six miles on bearing of 20°.
was on a bearing of 57°. I instructed Woods to take the team down along the southern base of the range, reaching the main run of hills. Distance travelled to this point eight and a half miles. The character of the formation proved fairly uniform, and we could discover no quartz veins of any value, the little there was being of a hard and flinty character. At one and a half miles the metamorphic country was covered by ironstone conglomerate for three-quarters of a mile, low flat rises replacing the broken hills. Several small gutters formed in this class of rock, but, although they contained some good rockholes, they were all dry. From the conglomerate we passed into a continuation of the broken hills. A noteworthy feature of this group of hills was a decided alteration in the structure of the metamorphic rocks, which passed from an almost indistinguishable rock into a quartzose schist. The runs of ironstone country, too, assumed a more defined and lode-like character throughout, whilst the hematite had been replaced by specular iron ore. This alteration was, however, of no value to us, as it was not followed by any improvement in the gold-carrying capabilities of the country. Towards evening I struck Byrne, and learned that he, like myself, had seen no smoke, as arranged. I thought it advisable to act once ascertain where the team had disappeared, so I cut down from the hills into the flats. We there struck the camel pad, and with some difficulty followed it over the stony ground. After travelling for some distance we sighted a smoke and steered for it. Not finding any feed, Woods had continued on to the limit I gave, viz., six miles, and had then camped. The spinifex around this part, however, was not good enough to make a big smoke. It was so unusual not to have an abundance of spinifex that I had not expected to camp so far south. By this time landslides and scree and other debris made travel on the flanks of the hills quite impracticable. I was inclined to camp, but, wishing to get into the water early next day, I overcame the temptation, and continued on through stunted mallee. At seven miles we reached a low sandstone rise, which we left on the right, and passed into a densely-scrubbed flat, consisting chiefly of mallee and turpentine-bush. This continued without intermission up to nine miles, when a few corkwood trees appeared on the scene. It was then just dusk, and although it was a wretched place, there was no option, so I camped. The niggly ground, extending from the south-western end of the tablelands left to the east on the outward trip terminated to the north of our camp.

Our water was nearly exhausted, as we had been drawing freely on the legs for panning purposes. In addition the camels had been a week without water, and they were beginning to look mean. I deemed it advisable therefore to make for the water discovered by Byrne in the tableland range. We packed up and steered a general 245° course along the eastern base of the southern run of low rises. Dense turpentine scrub had to be crossed during the first mile; then more open scrub up to two miles, when we struck a small watercourse. Blacks’ tracks were very numerous and on making an examination we discovered a recently-evacuated camp. The wurlies had the same covering of sand noticed further back. In addition, strips of bark were placed round the humpy in a somewhat artistic manner, as a protection from the wind. Several gullies leading out of the ridge had recently contained water, and it was doubtless from this source that the natives drew their supplies, as we could see no indication of wells. At four and a half miles we passed through a good belt of a succulent bluebush, and the country was interesting very dry, simply rushed it, and they broke no end of noses before we got through it. I was inclined to camp, but, wishing to get into the water early next day, I overcame the temptation, and continued on through stunted mallee. At seven miles we reached a low sandstone rise, which we left on the right, and passed into a densely-scrubbed flat, consisting chiefly of mallee and turpentine-bush. This continued without intermission up to nine miles, when a few corkwood trees appeared on the scene. It was then just dusk, and although it was a wretched place, there was no option, so I camped. The niggly ground, extending from the south-western end of the tablelands left to the east on the outward trip terminated to the north of our camp.

Camp No. 66, Thursday, August 9th, 1900.—Sent Byrne on ahead to the tableland, with the object of endeavoring to locate some more water, as in the vicinity of his last discovery he had seen a quantity of Gastralobium. In two miles we crossed our outgoing pad close to the rises over which the reeds entrop, and a sample of which I had on the packs. After crossing the rise out from the base of the tableland we sighted a signal smoke from Byrne, and steered for it. On arriving at the entrance of a gorge we found that he had discovered a small waterhole in the sand, and further up the gorge two magnificent rockholes. We camped a short distance from the base of the range, so as to be beyond range of any stray natives dropping rocks or spears into our midst. This was a very fine camp, as the valley between the outside range and the tableland was timbered with splendid camel-bush, whilst green herbage of all descriptions was abundant. Its one drawback was a fringe of Gastralobium along the base of the tableland. Green grass, with everlasting and other flowers, added a touch of beauty rarely met with in the desert. The rockholes were a splendid sight, being situated in the roughest part of the gorge. They were surrounded by high precipitous rocks, and over both water was still running. They were situated on different levels, the water flowing into the top hole with a drop of 5ft., and from this it flowed into the lower hole with a drop of 3ft. The upper hole was heart-shaped, wide, and 10ft. in depth. It contained about 14,000galls. The lower hole was circular, somewhat smaller in appearance, but of greater depth, being 18ft. deep. The measurement of this hole gave 20,000galls. of clear crystal rain water. The unfortunate part about these holes was that they were practically inaccessible to stock. Horses could with difficulty be brought into the lower hole, but not into the upper as it is 6ft. deep. The water, green grass, and honeydew from the foliage form a heavy thunderstorm over this portion of the country within the past fortnight. I spent the balance of the day plotting up our work, which had during our week’s prospecting got behind considerably. Swarms of sandflies and thousands of hungry mosquitoes infested this camp.
Camp No. 66, Friday, August 10th, 1900.—We indulged in a spell to-day, with the object of having a general clean-up. My own time was occupied in bringing our plans up to date. I also took a rough sketch of the waterholes and marked several trees, one at the north of the gorge, and the other in the basin of the top rockhole. There was nothing to guide one to this gorge, as no prominent landmarks of any description existed on or around the tableland. The semblance of a creek formed at the entrance to the gorge, but immediately on leaving the range it devolved into a grass watercourse. The trees are numerous down this watercourse, but as there were many others of a similar character, these bean trees were no indication as to the gorge in which the rockholes were situated. Some of the camels were not even satisfied with this camp. They were released early this morning, and two hours later the boy started to go round them, but the start was insufficient, and it took 11 hours to bring three of them back to camp. In doing so we went very close to a mud wallow. We had heard some bells and supposed the camels to be going away, so Byrne started out to investigate, and he returned to say that three wanderers were out of hopplets and were making away, but that there was no sign of the boy or the other camels. It appeared that the boy had brought the wanderers back close to camp, and had then left them there to round up the others. In doing so he neglected to hopple them. It was just dark, and if the departing bells had not aroused our suspicions we should never have seen the camels again. Late this afternoon I crushed and powdered the sample I had obtained from the rockhole above one mile east from the camp. Our luck had been so heartbreaking that I naturally expected nothing. I was therefore agreeably disappointed on examining the dike to find one solitary fine color of gold. I had to look at it from all angles and in all lights to convince myself that it was really gold. The day was hot, and the evening exceptionally cool; the sandflies and mosquitoes gave us an uncomfortable time.

Camp No. 66, Saturday, August 11th, 1900.—Had it not been for the solitary color, I intended to have made a start eastward to the broken country seen from the hills close to Camp No. 64, on the south-west end of the black ridge. Before making any alteration in my plans I determined to go over the reef as soon as it was daylight and give it another trial. On arriving there, the more I knapped the reef the more convinced I became that it must contain some gold. Two hours' work, and I obtained my reward in sighting a color of speck that was to turn out my glass, and examined it in the shade, but I could not recover it. Finally I tried it with my knife. I felt quite certain that it was gold when I broke it. After dollying some samples I found the stone carried very little gold—under 10 dwts. to the ton. I made another start after lunch, taking with me some dishes to "dry blow" likely stuff. The ground was too damp to make much progress with this work, and not finding any more reefs I carried home the concentrates, and on panning them off I found one very poor color of alluvial gold. Byrne returned to camp in the evening wreathed in smiles. He announced the fact that he had struck some "course specks." His specimens needed no minute examination, and completely eclipsed my poor specimens. The stone could certainly have carried more gold, but the specks were nevertheless very encouraging, varying in size up to 4 gr. Only one color, however, was visible in each stone. The day was hot and sultry, with storm clouds working up from the westward.

Camp No. 66, Sunday, August 12th, 1900.—A portion of the morning was occupied by dollying and panning off samples. We then spent the balance of the day prospecting around in the vicinity of our gold-bearing reefs, but without any results. Like every other belt of metalliferous country in the interior, the area available for surface prospecting was very limited, and in this instance it was more than usual. The two rises on which the reefs outcrop in reality composed the whole of this belt. The balance was occupied by ironstone gravel rises and alluvial flats, where if development work were ever undertaken other reefs would undoubtedly be proved to exist under the overburden. Jack (the boy) sighted three blackfellows at Camp No. 64, and induced them to come and pay their respects to the camp. The party consisted of one old man and two young men. The former was very doubtful of the advisability of coming too close, and stood on top of the range to wait the reception accorded the others. When he saw that they were given a feed, he concluded it was safe, and joined them. These blacks were about the average height, but somewhat bony and weedy. On inquiry, the boy learned that the native name of the rockholes was "Tanami," and that they never "died"—the conclusion we had already formed. They were shown the gold specimens, but had never seen anything like it before, so it is evident that there was not much to be got "specking" round this locality. They knew where the stone came from, and volunteered the information that there was "mobs" of similar stone to the east, together with a large creek containing plenty of water and fish. This they said was two days' sleep to the south of east. They cleared before I got back to camp, but promised to return next day. These natives spoke the same language as the tribe west of Barrow Creek, and it was the same "lingo" as that spoken on Hooker's Creek. It was therefore evident that this tribe, known as the Uramulls, was a most extensive one in the matter of covering a large area of country. A cool change set in towards evening, and a strong westerly wind lessened the supply of sandflies and mosquitoes, thus enabling us to obtain a good night's rest.

Camp No. 66, Monday, August 13th, 1900.—We continued the work of endeavoring to locate some more reefs, but failed lamentably in the effort. Not a single fresh run of stone was discovered in nine hours' continuous walking. Byrne obtained some more good specimens in the same shoot of stone from which he had taken his original specimens, by sinking a small pothole, but he could not improve on the first discovery in any other reefs in the series; nor could he prove any fresh shoots of gold in the same reef. This was a somewhat disappointing result, and our hopes began to sink. The natives fulfilled their promise, and the blackfellow was again on another visit. One of the younger blacks was deeply interested in things generally. No fresh information was gleaned from them. On leaving, our visitors incidentally took along with them a quart-pot which was lying at the waterhole, so we shall probably not see them again. The westerly wind dispersed all clouds, and to-day we had a bright clear sky.
Camp No. 66, Tuesday, August 14th, 1900.—I decided to make this the final day. On this account our endeavors were, if anything, increased. I took Byrne's series of reefs, on which I knapped all day long, but to no purpose. We naturally hoped that once having broken the spell in obtaining visible gold in the stone, we should be able to make more discoveries in the country to the east. The fact that the Tanami series of reefs were not the amount of auriferous belt lent a certain amount of color to the belief that when well into the centre of the metalliferous rocks we should get the best results. A general description of the Tanami belt and the reefs may possibly at some future day enable others to locate them. East from the camp lies a valley three-quarters of a mile in width. It is replaced by a low ridge about 40ft. in height, consisting of metamorphic quartzite and sandstone, ironstone, ribbon Jasper, and dense silicious ironstone lodes. This ridge follows the course of the range, which is about 20° east. The dip of the rocks is to the south-east. This run of country is a quarter of a mile in width, and extends for a length of one and a half miles, when it dips under alluvial flats to the north-east along the base of the tabeland. To the south-west it dips under ironstone conglomerate and gravelly rises, but continues intermittently right down along the base of the tabeland, the contour of which heads away to the south end. Continuing on the easterly line, this ridge is flanked by a flat rise, the surface of which is strewed with ironstone pebbles. In the gullies draining this rise, and in small areas denuded of the country rock, the gold country is exposed. It consists of soft red silicious slate. On the extreme eastern end of this rise the outcrop of the reef forming our first discovery occurs. The outcrop can be traced for 130yds., its strike being 40° and the dip westerly. The width of the outcrop varies from 1ft. to 4ft., its greatest width being in the centre. The stone itself is peculiar, being exceedingly tough, owing doubtless to the fact that it is honeycombed, and contains innumerable patches of soft whiteness and brownish substance, together with small round kernels of crystalised quartz, varying in size from a small pea up to 5in. in diameter. Oxides of iron are well distributed throughout the quartz, and the soft consists almost entirely of hematite, but, strange to say, samples from this failed to return a color of gold, even when obtained in close proximity to gold-bearing quartz. In places where the ironstone is very plentiful the reef is transformed into a dense, hard, jasper-like formation, practically barren of gold. Samples were tried along this reef, the prospects obtained from the south-east end of the outcrop going from colors up to a few pennyweights. On the north-east end the best run of stone occurs at a point where the reef has a width of 12in. This shoot of gold-bearing stone was 20ft. in length and gave prospects from 10dwts. to 15dwts., whilst the next 100ft. south-west gave only 6dwts. returns. To the north-east of the gold shoot the reef is partly covered with gravel and alluvium, and the prospects obtained equal 8dwts. These prospects could doubtless be improved upon by development, but the conditions under which we were working did not warrant this work being carried out. To the north-east of this reef, and at a distance of some 200yds., is a short outcrop of similar stone, carrying a heavier percentage of iron oxides, but colors only were obtained. One hundred yards to the north-west of the gold reef is another reef, the outcrop of which can be traced for a considerable distance, but the bulk of the outcrop is beneath the gravel and alluvial soil. Samples along the exposed portions of this reef were tried along this reef, the prospects obtained from the south-west portion giving from colors up to a few pennyweights. The average width of the reef is from 3ft. to 3ft. 6in. The gold shoot appeared very strong, the specimens being only obtained over a length of 10ft. These showed coarse specks, which were unfortunately but sparsely distributed. Associated with the reef where the best stone was discovered was a make of altered quartzite, traversed by fine quartz veins. Samples of this stone gave some exceptionally good prospects, equal to 150ozs. and 20ozs. per ton. Against this return chips from the quartz specimens gave only colors. The average value of the reef in the vicinity of the gold shoot was 30dlwts. The north-eastern make of the stone was very continuous, extending for 200ft., whilst the outcrop at times was over 4ft. in width. The quality of the stone was, however, poor, being intermixed with jasper, dense ironstone, and quartzite, but the whole carried some gold. No samples tried from the reefs in this locality showed a clean dish. Another reef occurs to the east of the one from which the specimens were taken, but it was narrow, and the outcrop short. Colors were the best prospects obtained. A short distance to the south-west the other three reefs show through the alluvium. They are all short runs, but two of them are of immense size, standing up above the surface for 5ft., and varying from 8ft. to 10ft. in width. Prospects from these reefs gave from a few pennyweights down to colors. Outcrops of jasper and ironstone occur on the western flank of these reefs. This class of stone appears to be closely connected with the gold-bearing reefs, although in this series the same peculiar character was noticed in the absence of gold from the ironstone portions of the reefs and from the casing. The ironstone gravel rises in this belt of country are a near approach to some of the rich "speckly" localities in Western Australia, and are the best area that can be seen for the existence of a careful search gold, for in that event a careful search gold which would reveal some alluvial leads. Unfortunately this work is beyond our province, as it would require double the time that we have at our disposal. The total result of our work was disappointing and unsatisfactory, as I should have liked to have been in a position to sink on several of the veins. Against this it was necessary to consider the conditions and the improbability of the developments being sufficiently rich to open up a payable field on half a dozen reefs. The course that appeared soundest was to continue our prospecting work further afield, with the object of discovering other gold belts.
Camp No. 67, Wednesday, August 15th, 1900.—I carried out my decision of endeavoring to discover something which would be either an improvement or a support to the Tanami series of reefs. We made another start in the direction of the broken country to the south of east. Gave the camels a drink this morning, having kept them out on the green herbage during the past three days. The object of this was to make certain they would drink when asked. It frequently happens that when you wish to start some of the camels will not drink on any account, and consequently you never know where you are. Our course was on a bearing of 294° 30'. Making a small circuit to avoid the stones along the ridge, we crossed the southern extension of the auriferous country in two miles, passing from this into turpentine scrub, which at four miles was replaced by a watercourse containing mulga and a little grass fringed with dense spinifex. From the watercourse the country started to ascend, and during the next two miles we travelled up a belt of ironstone gravel rises, timbered with desert mallee scrub, forming a face of conglomerate, extending away to the north and terminating in a knob of ironstone at one and a half miles. A flat divided this broken edge from the next run of rising ground to the eastward, whilst extending to the south-east there was an open scrub plain with elevated country beyond at from 10 miles to 12 miles. Native smokes were plentiful in this direction. Crossing the flat we reached more gravel rises, and at 10 miles a sight was obtained of the broken country for which we were making. I then altered the bearing 5° further south—bearing 310° —so as to strike about the centre of this belt. A watercourse timbered with heavy limewoods formed at the southern base of these gravelled tablelands, and ran parallel in a south-easterly direction. Whilst travelling along this gravel rise we sighted a turkey, and subjected him to the fire of two revolvers. He stood his ground for some time, but we eventually lost sight of him. At 12 miles to 13 miles we travelled along the side of the rises, crossing a small gutter at 13 miles. The sides of these rises were here an extensive depression appeared to exist. From the rises we entered a narrow scrub flat, with some fresh corkwoods, and not seeing any prospect of improving the bearing and reached more rising gravel country in one and three-quarter miles. From here a more extensive view of the broken country was obtainable, and the bearing in consequence I altered another 16° south—322°. A short tableland range was also visible from this point to the eastward. On this bearing we passed down out of the gravel rise into scrub flats, the spinifex on which was very ancient and dense. This was evidently a belt of country rarely frequented by natives. After travelling eight miles through this uninteresting country we came on to the outcrop of some travertine limestone, which occurred in patches up to nine miles. At this point quartz and ironstone pebbles were scattered about the surface, but we failed to note either the outcrop of the underlying country or any reefs. The soil for some distance passed, when not ironstone gravel, was a hard reddish loam. This, however, was replaced at 10 miles by low sand rises. These we crossed, and passed into a belt of ti-tree. From this point several pinnacle hills showed up six miles to the south. Then we struck marshy ground, which proved to be a new variety of salt marsh. The damp bare claypans, with a coating of saline matter, occurred in small areas, whilst the balance was occupied by sand rises, together with patches of spinifex. A little ti-tree and occasional belts of light scrub were also to be seen. This marsh, like the one previously discovered, has undoubtedly at some distant period been occupied by lake country, but it was now being gradually obliterated. The primary cause of this was undoubtedly the lessening rainfall, and the consequent death and death of vegetation, which allows of the surface being broken up. Sand rises were thus formed, and were soon followed by spinifex, and where sheets of water had in days gone by brightened the features of a dead country there now exists this peculiar belt of country, which cannot be described as a lake and only barely comes under the heading of a marsh. In places it could be crossed without being aware of its true character. The country is generally as sand rises, and the vegetation known generally of its existence. At the point where we crossed it it extended to the north and north-east in a semicircle, and to the south-east. It appeared to attain greater dimensions in this direction. The width along our route proved to be one and a half miles. On crossing over we ascended rising sandy ground, beyond which we expected to see the broken hills. In this we were disappointed. A fair patch of yellow acacia bush occurred at 14 miles, and in this we camped. A low ridge occurred a mile south of the camp, and this on examination proved to consist of quartz and quartzose rocks, usually associated with granite in the interior. From this point the broken country could be seen a few miles ahead. The weather during the last two days had been exceptionally fine—clear sunny sky, but not hot.

Camp No. 68, Thursday, August 16th, 1900.—Making an early start we continued across the flat on the same bearing, and reached more rising gravel country in one and three-quarter miles. From here a more extensive view of the broken country was obtainable, and the bearing in consequence I altered another 16° south—322°. A short tableland range was also visible from this point to the eastward. On this bearing we passed down out of the gravel rise into scrub flats, the spinifex on which was very ancient and dense. This was evidently a belt of country rarely frequented by natives. After travelling eight miles through this uninteresting country we came on to the outcrop of some travertine limestone, which occurred in patches up to nine miles. At this point quartz and ironstone pebbles were scattered about the surface, but we failed to note either the outcrop of the underlying country or any reefs. The soil for some distance passed, when not ironstone gravel, was a hard reddish loam. This, however, was replaced at 10 miles by low sand rises. These we crossed, and passed into a belt of ti-tree. From this point several pinnacle hills showed up six miles to the south. Then we struck marshy ground, which proved to be a new variety of salt marsh. The damp bare claypans, with a coating of saline matter, occurred in small areas, whilst the balance was occupied by sand rises, together with patches of spinifex. A little ti-tree and occasional belts of light scrub were also to be seen. This marsh, like the one previously discovered, has undoubtedly at some distant period been occupied by lake country, but it was now being gradually obliterated. The primary cause of this was undoubtedly the lessening rainfall, and the consequent death and death of vegetation, which allows of the surface being broken up. Sand rises were thus formed, and were soon followed by spinifex, and where sheets of water had in days gone by brightened the features of a dead country there now exists this peculiar belt of country, which cannot be described as a lake and only barely comes under the heading of a marsh. In places it could be crossed without being aware of its true character. The country is generally as sand rises, and the vegetation known generally of its existence. At the point where we crossed it it extended to the north and north-east in a semicircle, and to the south-east. It appeared to attain greater dimensions in this direction. The width along our route proved to be one and a half miles. On crossing over we ascended rising sandy ground, beyond which we expected to see the broken hills. In this we were disappointed. A fair patch of yellow acacia bush occurred at 14 miles, and in this we camped. A low ridge occurred a mile south of the camp, and this on examination proved to consist of quartz and quartzose rocks, usually associated with granite in the interior. From this point the broken country could be seen a few miles ahead. The weather during the last two days had been exceptionally fine—clear sunny sky, but not hot.

Camp No. 69, Friday, August 17th, 1900.—I went on ahead of the camels to spy out the land. One and a half miles from the hills a low rise of schistose rock was crossed, traversing which were several narrow quartz reefs, but of no importance. The formation of the broken country proved to be decidedly good, consisting of metamorphic rocks, with a large number of quartz and ironstone veins and blows. There was nothing to choose in the matter of camping ground, the belt being surrounded by scrub. We camped on the western flank of the belt. The distance from camp to camp was four and a half miles. A view from the top of the hills revealed a pleasing spectacle. Broken hills, in small groups, extended round from 144° to 270°, the distances varying from 12 miles to 35 miles. To the east and north of east there were several low quartz and quartzose ridges at from six miles to eight miles. The tops of two pinnacles showed over rising ground to the northward at about 35 miles, and the southern extension of the black ridge at Camp No. 64 could be seen, as also tableland to the east of that point. Bearings of the whole of the prominent pinnacles were obtained, and these can be followed by a regular triangulation of this portion of the country. That the country of the marsh country could be followed further away at the point at which we crossed it yesterday, north-easterly for a short distance, the view being then lost behind rising sand and gravel undulations lying to the north of the point of observation. The southern continuation could be seen extending south and south-west, with the main branch circling round east four miles distant, and north of all the broken country. It eventually passed away to the north-east behind the quartzose ridges and the rising ground to the eastward.
ward. This elevated country on which we camped practically represented an island encircled by the marsh area already mentioned. We put in the balance of the day prospecting the hills. The portion available for this work was, as usual, limited. The hills extended north-east and south-west, and they had a length of three-quarters of a mile by a quarter of a mile in width. A low ridge extended west from the south-west end for half a mile, and then disappeared under alluvial flats. A small run of hills also occurred one and a half miles to the north-east. The sand formation throughout this belt consisted of altered quartzite, metamorphic schist, and granitic schists, with granite occurring over very small areas in the flats to the westward. Sand bordered the eastern flank of the metamorphic rocks. The quartz and ironstone lodes were innumerable, but by far the larger number were short makes of stone with no particular strike. A large proportion of the quartz and ironstone was intensely hard and flinty, and several runs of this stone merged imperceptibly into other makes of quartz and ironstone occurring in the same country. Specular iron was also present. Towards the south end of the belt the quartz showed an improvement. Being soft and honeycombed. It also carried a good percentage of pyrites and iron oxides. These reefs appeared of considerable size, but the outcrops were much broken and thrown over. They had a general east and west strike and a northerly "dip." Following our usual custom, we obtained some wonderfully good stone, but, seeing we had recently been on gold, we disappointed with this result. We set to work this evening and dollied all our samples. Time was too precious to utilize daylight for this purpose. In a general sense the dolly was used as a check and a guide. If we could not see visible gold in the stone the reef was not of much value for our purposes.

**Camp No. 70. Saturday, August 18th, 1900.**—The samples panned this morning gave us a good indication of the value of this belt. Only three samples showed a few fine colors, and these had possibly resulted from a decomposition of the pyrites. Notwithstanding this disappointment, I decided to give the belt another half day's trial, so we set to work again, straining our eyes in the endeavor to sight a color of gold. In the ridge extending west I discovered several splendid makes of quartz, carrying good veins of ironstone and heavily charged with oxidised pyrites. From one of these veins I obtained some green carbonate of copper. From another I obtained a small area of country with hard and flinty quartz reefs, carrying good copper pyrites, but not a sign of gold. Samples from these reefs subsequently gave prospects of the quartz and ironstone being good. In many places the quartzite is extremely fine grained and of the most beautiful transparent appearance, and after lunch, taking all the samples collected along with us. My intention was now to steer for the hills lying on a bearing of 144°, and then to make a circuit of all the broken country, our terminal point being the hills west of our present position. There we had seen native smokes, so that falling water anywhere on the circuit we stood a chance of discovering some in the vicinity of the smokes, and failing any there we could fall back on Tanami. I started the team, with instructions to go round the southern end of the belt and then to steer for a large black hill seen to the south-west, whilst I worked back through the hills, and gave the honeycombed reefs another trial for a couple of hours. No good result attended this work. On the circuit we stood a chance of discovering some in the vicinity of the smokes, and failing any there we could fall back on Tanami. I started the team, with instructions to go round the southern end of the belt and then to steer for a large black hill seen to the south-west, whilst I worked back through the hills, and gave the honeycombed reefs another trial for a couple of hours. No good result attended this work. I then started after the team, passing through low scrub and sandy soil for the first mile; then into a belt of ti-tree, which led into the marsh country. At four miles there was a small belt of limewoods and a blue-bush swamp amongst which was a dry billabong. At five miles was a low sandhill, with a course of 85°. Crossing this, I entered a run of loamy soil, throughout which there were a number of anthills. This gave place to open marshy country, the damp salt claypans being at times 50yds. across. Following this there was a small area of scrub and ti-tree country, on the extreme eastern edge of which was a belt of corkwoods with currant-bush. Here the camels were overtaken, and, being late, we camped. A very open patch of country existed ahead, with a few large anthills. On examination this country proved to carry a little buckbush and an abundant supply of samphire bordering salt claypans. This fodder the camels preferred to the corkwood. The distance travelled was six and a half miles. The weather was clear and cloudless, with a hot sun during the afternoon.

**Camp No. 71. Sunday, August 19th, 1900.**—Continued on the same course, and in half a mile reached a small area of country with damp, soft claypans, over which the camels did not relish travelling; it was not, however, boggy, so we passed over it with quietness and entered a quartzite and mica-schist belt. This gave place to our old desert country, consisting of sandy soil and spinifex, with a few miserable looking limewoods and bloodwoods. At eight miles we left a low reddish looking hill some two miles south of our route. Shortly afterwards I sighted some low hills in the same direction, but closer; and as they appeared a likely run of ridges I went out of our line to examine them, and found that their appearance was not deceptive. The formation proved to be metamorphic, quartzites and schistose rocks, with dense ironstone and quartz lodes, being the predominant features. Quartz reefs of a promising character are also present. The extent of country occupied by this belt is very small, extending only for half a mile in length. From this ridge the blackish hill for which we had taken our bearing loomed prominently to the eastward. Previous to this it had been of sight, rising ground intervening between our position and the hill. Byrne had preceded us to this hill, and was to send up a smoke if he sighted water. A smoke went up shortly afterwards, so we continued our course to the hill, and, crossing a small flat, we reached there in three and a half miles. The hill is formed of perched felspathic granite boulders, some of which are very massive. It is a solitary one, with a few isolated granite boulders and small knobs of granite in the surrounding flats. Byrne discovered water in two small granma holes, and a soaking coming out of a crack beneath some huge boulders. The water is just trickling over the rocks and is utilised by hundreds of sparrows. The most likely discovery is an old native well at the base of the hill, on the east side. This well has long since collapsed, but the sand is sufficiently damp to make certainty of obtaining water by sinking. On his arrival Byrne saw a native, but he disappeared shortly afterwards, and did not again honor us. We camped on the east side of the hill, a short distance from the old well. The country is very open immediately around the hill. The hill is a smaller boulder at the base of the sloping rock acts as a screen, and makes it a place easily overlooked. From this rockhole we bailed out a good drink for all the camels; and, although only
only five days without a drink, they were thirsty, and drank over 100 gallons, but this did not exhaust the supply. Further examination revealed the existence of numerous pans of unconsolidated gravel on the south side of the hill, but not in such promising sites as the original discovery, which is surrounded by granite boulders, and sunk in a basin between two massive rocks. The most appropriate name for this spot is the "Granite Hill," and such it has been christened. During the evening I made a general survey of the surroundings, the height of the hill being 160 ft. above the level of the plain. It enabled me to start a triangulation of all the broken country to the south, south-west, and in other directions. To the northward is rising ground, with an apparent deep depression of 35° 30' to the south-west, the horizon line being marked by an undulation on the northern side of the depression, the distance varying from 18 miles to 25 miles. This is evidently occupied by an extension of the marsh country crossed to the north-west. From 50° to 100° is a low ridge at from six miles to eight miles, the southern termination of which is marked by several small granite hills. From this point round to 160° is a wide open scrub plain. The vision in this direction is very extensive, containing its greatest range on 160°, where the horizon shows a long low blue outline, resembling a tableland range at about 30 miles. This outline is so broken and uniform that it may possibly have been a desert undulation similar to others we have proved deceptive. From 160° round to west groups of hills exist, and these were located by a series of cross-beams in conjunction with those taken from the last point. Byrne managed to shoot a wallaby this evening, so we now live in anticipation of some fresh stew. This appeared to be the last wallaby in the hill, and as he is small, the natives had probably left him to develop. Small birds, such as sparrows, minahs, and others, are numerous, together with a few pigeons and a fair quantity of crows. Distance travelled from last camp, 11 miles. Weather perfect—cool, with clear sunny days, and somewhat cold nights. Wind from south-east, but light.

Camp No. 71, Monday, August 20th, 1900.—We gave the ridges to the north, east, and west a trial to-day, but the results were unsatisfactory. The general formation around this locality is the central cone of granite represented by the Granite Hill, which I should judge to be of eruptive origin. Surrounding this are flats with occasional granite boulders showing through the alluvium. To the north and westward this is replaced by kaolinised granite, which is overlapped by the metamorphic rocks, both altered and schistose granite, and schistose quartzite, and granitic schists. This schistose country is traversed by reefs, but the bulk of them resemble the clear glassy quartz characteristic of granite country in these latitudes, the local and distinguishing features here being the very dark appearance of the quartz. The large roofs and ironstone lodes in the western side have the same very dark color, and in addition are hard and dense, the latter description being also applicable to the ironstone. Only a few really good runs of kindly stone were struck, but, failing to see any colors, samples were carried home to try the effects of the dolly, which was kept going until 10 o'clock. The ridges to the east of the granite hills contain a large number of glassy quartz veins, the outcrops of which extend but a short distance. Ironstone is not so plentiful in this belt as to the westward. The camels, having a variety of bushes, are doing well. It is quite interesting to see them satisfied about something. Weather on the change—hot and sultry, with heavy clouds coming up from the north-west. Decided to make a prospecting cruise through all the broken country to the south and south-west, and return here for a fresh supply of water before continuing our homeward journey. This in all probability will be the last chance we shall have of making the rich discovery necessary to the successful termination of the expedition, as both time and area are becoming limited.

Camp No. 72, Tuesday, August 21st, 1900.—At daylight this morning we started panning and dollying the remaining samples. This work was attended with the usual result for the first dozen samples; I then managed to raise a half dozen color prospects, and also one which ran into a few pennyweights. These samples came from the western ridge, and more particularly from the extension of the ridge north of our route when coming towards the Granite Hill. The samples taken from the ridges to the eastward panned duffers every time, so that in this locality there appears some connection between the gold and the ironstone. The sample giving the best return was a honeycombed stone containing a little gossan, and on panning it a showery quartz was found. This stone was good enough to carry as many ounces as it showed in weight. The country for some distance north of the ridge gives a richly colored auriferous stone, but, having tried many scores of samples from similar formation in other parts, I was not disappointed with the usual result. On the south-west end of the eastern ridge a few acres of altered quartzite, with their sand covering denuded of the surface, revealed the existence of several old reefs, the stone containing good iron oxides, resulting from the oxidation of pyrites. The team passed on to the point where I had instructed them to camp, whilst I was engaged in trying these reefs, which were sufficiently promising to keep me there all the day. From the quartzite ridges the country is flat for one and a half miles, and is then replaced by rising sandy ground, the scrub covering consisting of turf-wattles and spinifex mallee. On this sandy ground and the marsh vegetation revealed the sandstone and ironstone rocks, a formation variously named by the natives belonging to the feminine gender; the balance consisted of one blackfellow and some of the rising generation. The camp is situated at the base of a short blackish run of broken hills, with bare open country surrounding it. Past the north-west end of the ridge is a small flat with mulga and other timber, which includes some cane and currant bushes. Green grass and large quantities of everlasting flowers are much in evidence, and together
together with the shrubs make a good camel feed. Byrne had a cruise round to some small granite hills on the south-east side of the black ridge. Noticing some fresh native tracks he ran these up, and struck a small rockhole containing about 30galls. of water. It was in a flat granite rock at the base of a small hill composed of perched boulders. This hill is one mile distant from the camp, to the south-east. Weather sufficiently hot to be trying, there being little or no wind all day. Total distance travelled 11½ miles, on a bearing of 221°.

Camp No. 79, Wednesday, August 22nd, 1900.—On examination this belt proved to be small, and in this respect resembled every other belt in these regions. The length of the main ridge is only about half a mile, with a width of 400ft., and the hills forming it are low. The formation around the base of the ridge is metamorphic, with a small belt of eruptive rocks. The hills are formed by the outcrop of a large dark silicious ironstone vein, which traverses a hornblende schist formation. This is gradually replaced by granitic schist on the south side, and becomes broken up by a diorite dyke on the north. To the east and south-east, at distances varying up to three miles, are several small granite hills. They are of a similar character to the Granite Hill, being formed of perched boulders. The balance of the country in this direction is open sandy flats, which extend south-east for many miles. To the south is a rising sandy tableland. To the west and north-west are several low flat rises, the formation of which is altered sandstone and quartzite, with silicious slates, and in a few places schistose rocks make their appearance; quartz and ironstone reefs are very plentiful, and some contain exceptionally good stone, but it stopped at that. On the most western ridge are several defined quartz reefs, containing ironstone veins and pyrites, the quartz itself being of an exceedingly kindly character. It was late when those reefs were struck, and as I had a load of samples I decided to leave them for to-morrow. The indications (in the existence of eruptive rocks) in this belt are so favorable that it warrants a more extended trial than the ordinary belts. Around the granite country to the eastward and south-east no reefs were proved to exist, the alluvial flats occupying the best areas. At the base of the extreme eastern hill Byrne sighted some native tracks, and a hole recently opened, some 2ft. 6in. in depth; it contained a little water, and the locality was favorable for obtaining a fair supply of native gold. The outcrops to all the prominent features of the country to the westward and that already examined. The evening up to 9 o'clock was enlivened by the ring of the dolly.

Camp No. 72, Thursday, August 23rd, 1900.—A few samples were panned this morning, but this was attended with the customary blank. I therefore discontinued the work, and went on with our stonebreaking, making a special point of giving my promising reefs a good trial, but all to no purpose. Reached camp comparatively early, and the Patern continuously on the dolly all day, having over 30 samples to pan. Set to working, but it was attended with the same old result—until I was absolutely sick of blanks. All the best stone, or rather the stone that had the most favorable appearance, returned duffer after duffer, but in one of the most unlikely samples, from a dense hard quartz and ironstone vein, I rose several fine colors. This sample was obtained in close proximity to the little patch of diorite on the first rise west from the end of the ridge, the reef from which it was taken is neither defined nor lengthy. However, the next best thing to knowing where gold exists is to know where not to look for it. The absence of gold from the reefs carrying a heavy percentage of iron in the belts previously proved auriferous is here reversed, and now that has been demonstrated I feel satisfied that we could raise colors without dollying 30 samples, but at the same time when numbers of samples are dollyed from as many different qualities of stone without showing more than colors it is fair evidence that there is but little gold in the locality. We will therefore move on to morrow to the broken country showing to the westward.

Camp No. 73, Friday, August 24th, 1900.—I pointed out the course of the team to take, which was to the north point of a low tableland, distant nine and a half miles on a bearing of 268°. Leaving them to start later on, I made a circuit to the south of this line in the direction of a small east and west quartzose ridge. This I reached in two and a quarter miles, but it proved to extend but a short distance westward, and was only a narrow from the west end is a low rise, and outcropping over this is a good series of splendid ironstone lodes with a little quartz. The general strike of these lodes is to the east of north, but another series crosses them at right angles. I fully expected that I could raise more than a color here, but failed to sight even the long-looked-for speck, and samples carried along for the next six miles subsequently gave several color prospects by dollying. This series of lodes is about the most defined we have struck since leaving Tanami, and but for the fact that the whole of the surrounding country showed no gold I should have tried another day on this rise; as it was, I continued my route to the south end of the tableland for which the team were steering. From this rise I passed into scrub flats, a class of country which surrounds this rise on all sides. In one mile some low rises were encountered, and these were covered with water-worn pebbles of quartzite and sandstone, evidently derived from some of the older conglomerate rocks. Those pebbly rises extend to the north-west, and were crossed by the route taken by the team. On the western fall of the rises are open stoney flats and a number of claypans, a very large claypan being situated half a mile from the base of the rise. It is 150yds. across, and when filled would hold water for at least four months. Sandstone pebbles cover the bottom of this huge claypan, which is surrounded by sand ridges on all but the north side. The drainage from the hard gravelly country to the north-west lodges in this claypan, being guided there by a narrow watercourse covered with mulga scrub. Saltbush occurs in small quantities around these stony flats. Continuing this country I passed into loose sandy soil with light stunted scrub, and this continued until I reached the point on the tableland ridge for which I was steering in five and a half miles. This proved an old friend, being a low tableland consisting of coarse sandstone dipping south-west at a very low angle. The occurrence of these sandstone beds indicates the termination of the auriferous country in this direction. On account of the sandstone beds being narrow there is just a possibility that in places the desert sandstone may be denuded, and the underlying sandstone rocks would then show above the alluvium; it is, however, a remote contingency. The view obtainable from this sandstone tableland showed rising ground to the south-east, and some low short reddish tablelands; 12 miles to the south-west of south is a narrow depression extending southerly between elevated country. The vision in this direction is extensive, the horizon line showing at 20 miles to 30 miles, low tablelands occupying the country to the westward. The general course of the sandstone tableland was 308°, and it was the north-western point of this ridge for which the team was steering. Following along the base of No. 77.
of the tableland numerous emu and a number of old blacks' tracks were seen. It is thus possible that some clayspans containing water exist in the depression extending south from the stony claypan flats. At one and a half miles I reached the point where I was to meet the camels; I was there before them, so waited. The end of the tableland is made prominent by having a precipitous face about 120ft. in height, facing the north and north-west, and a dense clump of mulga growing on its summit. The view from the pinnacles showed two pinnacle hills about two miles to the north, with several small hills surrounding. To the north-west is one of the largest groups of hills seen on this circuit; they are situated on the western side of an intervening flat. To the west several small hills show up in the flats, whilst a narrow run of broken hills is visible to the south-west at 15 miles. An extension of the sandstone tablelands occupy the country to the south. Crowns and small birds, including a large number of diamond sparrows, were noticeable at this point, but, although there were the stony clayspans around, the base of the hills was not wet, and no doubt water did exist about the locality, but doubtless in small quantities. Distance to this point nine and a half miles from last camp. On arrival of the camels we steered for two pinnacles due north. In the flat around base of the tablelands is good camel feed, consisting of a little saltbush and some currant-bush, but it was too far away from the country we wished to try to camp. Sand and useless scrub replaced this little belt of decent country, and continued up to the base of the hills, which we reached in two miles. We camped on the north side of the central hill, where there is a little stony flat with some green backbush. These hills add another disappointment to an already lengthy list, as practically speaking all that is available for prospecting are the little hills themselves. The formation is good, consisting of altered quartzite with micaceous schist, and a schistose granitic rocks, the former being traversed by some heavy runs of country saturated with ironstone. Quartz veins were very scarce. A small ridge extended to the north-side, and here the development of the micaceous schists is more noticeable; a small flat and rise on the eastern side of this ridge, about three-quarters of a mile from camp, was responsible for exposing a patch of kaolinised granite, at the base of which is an old native well; this is used to catch surface water only, as an examination showed that it contained a rock bottom. A few small quartz veins existed in this granite and the micaceous country, but of no value, so that the work attached to its work was not laborious in the matter of dollying. Starting to get hot again, the sun to-day being particularly fierce.

Camp No. 74, Saturday, August 25th, 1900.—The night was close, and the morning broke very warm, with a hazy mirage all round. This made it difficult to take accurate bearings, as the whole landscape was distorted into snow-topped mountains instead of wretched little hills. After the sun had risen a few degrees above the horizon this hazy atmosphere was dispelled, and I was enabled to take another series of cross bearings. The view from the pinnacles added but a few hills to the features already known to exist. In the strong group of hills to the north-west a little sugar-loaf hill showed about the centre, on a bearing of 31½°, and this I took as our landmark for the day. A small isolated pinnacle showed to the north of our route, and some rises to the south. These we re-examined as we passed along; the rises proved to consist of quartzite and quartz, whilst the pinnacle hill was of a similar formation to those examined yesterday. Light scrub with sandy soil is the main feature of the country right up to the base of the first run of hills. I had gone on in advance of the camels to ascertain the position generally, and see where it was advisable to camp, so, crossing this first narrow run of hills, I continued on to the second series over a flat, three-quarters of a mile in width, to the point for which we were steering. A view from this point showed hills extending all round, so the flat between the ridges was the place to unload; and I headed back, met the camels, and camped close to the first run of hills, where there was a little buckbush along the sides and tops of the smaller stony hills. It was the only bit of feed available, the low scrub in the flat being utterly useless. Distance travelled nine and a half miles. From the pinnacle hill Byrne had run a parallel line to the north, and arrived in camp just as we were having some lunch, but he had had no luck. A general survey around showed that the formation here is similar to the schistose belts tried within the past few weeks, the greatest feature is the most animated friable state of altered sandstone; quartz and ironstone reefs are abundant—too abundant, in fact, to be looked upon with anything but doubtful eyes. The belt is divided into two runs of hills, separated by the flat in which we camped. To the south these two ridges are joined, thus leaving an open valley, extending away north-east, which is also the general course of the hills. The most eastern ridge has only a length of one and a half miles, but the western spur is more extensive, continuing for fully four miles, its north-east course altering at two miles to one of northerly, this ridge eventually dying out into flats and marsh country. The greatest width attained by these hills is only a quarter of a mile, the sandy soil coming very close up to the base of the hills all round. Some of the veins tried are promising, but the bulk of the stone is not of a character to inspire confidence, but there are so many of them that one naturally took a lot of shaking off. Following out the experience gained out of the last belt we devoted the larger portion of our time to the veins carrying the best class of cross bearing. The onlooker is thus possible that some fine gold was my reward, the prospect going about 3 dwts. Another sample from the same reef returned colors. This was certainly an improvement on the general result, but any elation felt over this was soon dispelled by some heavy runs of country saturated with ironstone, and in doing so I struck one vein of more than ordinary promise and peculiarity. The ironstone was friable and friable, and looks as if it has but recently passed through a furnace. The ironstone occurs in flat slabs at surface, and extends for 100ft., when it is covered by rubble and soil; across one point it has a width of 4ft., but does not appear continuous. I made up my mind that if this did not carry anything would. We spent the evening dollying samples, in anticipation of seeing some gold in the morning. Weather intensely hot, with not a breath of wind—quite the reverse of what one might expect at this time of the year. I was hoping that we would strike some water in this belt, but appearances are dead against us. The country looks very dry, and several small gutters forming in the hills showed no indication of having rain this season.

Camp No. 75, Sunday, August 26th, 1900.—I first tried the friable ironstone samples, as I reckoned that if this did not pan gold the balance of the samples was hopeless. A small tail of intensely fine gold was my reward, the prospect going about 3 dwts. Another sample from the same reef returned colors. This was certainly an improvement on the general result, but any elation felt over this was soon dispelled by the panning of some 50lbs. weight of stone from other reef for absolutely nothing. However we continued on in search of prospecting, our attention being concentrated on the east run of hills rather than the west run of hills. The stone on the whole is better, but the outcrops of the reefs invariably consist of short broken runs; heavy quartz and ironstone blows are numerous, and several of these
these contained good stone. Large cubical pyrites occur in some of these reefs, together with an excess of iron oxides, but not a color of gold could be sighted, so the prospects appeared anything but bright.

but obtained no reply, so that the outlook is not very promising. However we must chance it, and make in from which the natives had drawn their water supply. During the last two days we have made smokes but obtained no reply, so that the outlook is not very promising. However we must chance it, and make in this direction to-morrow.

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decided to continue on to the Smoke Hill lying to the north of us, with the hope of discovering the source from which the natives had drawn their water supply. During the last two days we have made smokes but obtained no reply, so that the outlook is not very promising. However we must chance it, and make in this direction to-morrow.

iron oxides, but not a color of gold could be sighted, so the prospects appeared anything but bright. Samples
dollied to-day showed fine colors from half a dozen different places, but nearly all microscopical—a result that could not be considered anything but disheartening. The camels are now eight days without water, and the weather being hot and the feed dry they are beginning to show signs of distress. Owing to the large number of samples dollied our kegs are very low, containing only three days' supply. I have therefore decided to continue on to the Smoke Hill lying to the north of us, with the hope of discovering the source from which the natives had drawn their water supply. During the last two days we have made smokes but obtained no reply, so that the outlook is not very promising. However we must chance it, and make in this direction to-morrow.

Camp No. 75, Monday, August 27th, 1900.—As a final effort I decided to have another try at the friable ironstone show, so at daylight I got to work and put in a couple of hours along the outcrop, but I had no luck, and failed to sight anything but a doubtful color. I nevertheless brought along several large samples of different classes of stone; one of these, the most friable, afterwards gave a good 100 wt. prospect, but the others gave only fine colors. Returned to camp just as the camels were loaded, so made another start, travelling up the flat for two and a quarter miles on bearing of 15°. This brought us to the foot of the western spur at a narrow point, where we crossed on to the flat on the western side. From a hill at this point the whole of the surrounding country is visible. South-west is a large open flat, which is a southern continuation of the marsh crossed to the northward. The ironstone ridge at Camp No. 61, together with the quartzite tableland to the north of it, showed on bearings of 304° and 310°. On the far side of the depression or marsh was a short tableland on a bearing of 325°. From this point rising ground extends round to 350°, where a small sugar-leaf hill makes a prominent mark in the centre of the Smoke Hill group, and are here numerous, but the surface, although salty, is dry. Spinifex with samphire is the chief vegetation, whilst large anthills are plentiful in groups. At 10 miles we struck a short sandhill running at right angles to our route. Along the base of this sandhill is a fringe of camel-bush, which makes rather a pretty scene in the midst of desolation. Other sandhills follow at one and a half miles. Shortly after crossing the sandhill we pass out of the marsh country into hard loamy soil, which develops into sand in a short distance. We then enter a belt of good corkwoods, which continue up to camp time at 150 miles. The camels do not appear to relish this fodder; doubtless they are too dry. When let go they simply walked away a short distance and sunk. Coming along we made a number of smokes, and I was pleased to see what I took to be a reply from beyond the hills. They were of a fleeting character, such as might be expected from burning isolated patches of spinifex. On the following day I discovered that these smokes were formed by whirl-winds travelling over a large area of recently-burnt ground. It was thus a warning not to steer for a smoke unless very pronounced. Weather to-day peculiar, in having a burning hot wind from the north-east, north, and north-west. Starting on the north-east bearing in the morning, the wind followed the sun round, and finished up to the north-west. The atmosphere was very hazy all day. These climatic conditions point to a rain change, but as it is early for the thunderstorms, which usually follow winds of this description, the change will probably end in a heavy dust-storm, followed by south-east winds, which are about due.

Camp No. 76, Tuesday, August 28th, 1900.—As it was important that we should raise some water, Byrne and I made an early start to examine the country in the vicinity of the hills, where I certainly expected to strike some water. Left instructions for the camels to follow my tracks, and camp wherever I lighted a fire. After covering three and a quarter miles through corkwoods and scrub we arrived at the little sugar-leaf hill. From an auriferous point of view the surrounding country is favorable, but the hills are too small and the area insufficient to form anything like a small creek or waterhole, so that on this account it is not promising. This belt consists of a run of broken hills fringing the south-east end of a low conglomerate tableland, and it extends for about three-quarters of a mile in length, with a width of 400 yds. The formation consists of quartzite and sandstone, with metamorphic rocks represented by schists of a quartzose character; quartz reefs and ironstone veins exist in fair numbers. To the north-west the whole of the auriferous rocks are overlapped by ironstone conglomerate and gravel rises. The approximate position of our proposed camp being decided upon, we made a start to find water. A general cruise round resulted in a disappointment—not a sign of water could we locate, nor yet any likely place for it to lodge. Blacks' tracks, some days' old, were seen in considerable number, but none of recent date. We met at the appointed place in three hours, and compared notes, but our experiences were very similar. The camels had not arrived, so leaving Byrne to wait their arrival and have a go at a reef, I made a circuit to the south-west and west, where there are some wide low gravel and ironstone conglomerate rises, with flats covered with heavy spinifex. I intended on to the first of these rises, I could locate nothing, besides the ruins of the old tracks, in every direction, it did not appear worth while to follow them. The weather to-day was something cruel—intensely hot with a burning wind and a general hazy smoky atmosphere, which made it impossible to see more than a mile or two in any direction. Got back to camp early in the afternoon feeling very dry; only once do I remember feeling thirst so acutely. After lunch and a smoke the work of water and reef hunting was continued, but, although we struck several well-defined reefs, we failed to obtain the sign of a color. Two reefs were of great promise, carrying some splendid veins and shoots of ironstone; they were traceable for over 400 ft., but we nevertheless failed to get more than likely samples. The ironstone gravel rises to the north of the camp, and appears to overlap the best of the auriferous country. Sparrows and doves are numerous about the exposed conglomerate rocks, where the small holes have within recent times contained water. Not a sign of a native camp was discovered to-day, so that I have no idea of the source of their supplies. We have now only two day's supply of water in the kegs, and as it appears a forlorn hope expecting to strike it here, I think it advisable to make for the Granite Hill to-morrow.
Camp No. 77, Wednesday, August 29th, 1900.—As we could reach the Granite Hill in one and a half days, I decided to give the reef the spare half-day, and therefore made an early start, and put in all the morning on the reefs, but again only added to our collection of samples. We all returned to camp as arranged about 11 o'clock, and I then started the team after planting a quart-pot of water for my crib, as I intended spending some hours longer trying several reefs we had discovered. Instructed the team to stop for the Granite Hill, and to camp at about 10 miles if they struck feed, and if not to continue up to 14 miles and camp, irrespective of everything. Continuing the search for more reefs, I struck the source from which the natives drew their water. It was an old well one mile east of the camp, and situated in a small watercourse leading out of a pound formed by a ring of small hills. The well was about 12m. in depth, but contained no water. The land in the bottom was damp, and this, with mumps, gave an unmistakable to this being the spot. It was a satisfaction to me to have found it, notwithstanding the fact that it was useless. In this vicinity I also struck several reefs we had missed. The quartz was white, but it was not our fortune to strike visible gold. This belt of country occupies but a small area, and is not our fortune to strike visible gold. This belt of country occupies but a small area, and is

The sandhills were followed by more open marsh country, with an abundance of samphire and a little para-

kylis, then into ti-tree, throughout which were a number of large anthills. Rising ground with light scrub

followed, and as it was getting late, I was relieved to see a smoke ahead. Continuing on, the scenery

developed into a good belt of camel-bush and yellow acacia, the soil being hard and gravelly with quartz,

ironstone pebbles, and silicious slate, and schist rubble. Reached the camp at dusk, the team having

travelled 111 miles. I was about played out, and was thankful that they had struck good food inside the

14-mile limit; a patch of feed of this description, taken

with the thirsty team put in the outcrops of reefs. Samples taken from several reefs in this belt subsequently gave a show of gold, the

travelled

represented by ground just sufficiently elevated to being surrounded by sandy soil, shows the great difficulties there are in prospecting these regions, and also sandstone with silicious slates. A belt of metalliferous

veins show through the alluvium. Judging by the rubble, the underlying formation consists of altered

kylias, then into ti-tree, throughout which were a number of large anthills. Rising ground with light scrub

thick sweetish liquid, and in consequence birds were very numerous.

ridge.

It

struck into a

Camp

No. 78, Thursday, August 30th, 1900.—The early hours were spent in trying the reefs close to the camp, and from them we obtained some likely stone, containing a fair percentage of iron oxide and pyrites, but it was not our fortune to strike visible gold. This belt of country occupies but a small area, and is represented by ground just sufficiently elevated to say that it is not altogether a flat. The outcrops of the veins show through the alluvium. Judging by the rubble, the underlying formation consists of altered sandstone with silicious slates. A belt of metalliferous country occurs in comparatively flat ground, and, being surrounded by sandy soil, shows the great difficulties there are in prospecting these regions, and also the possibilities the country contains if once payable stone was struck in the small exposed area containing the outcrops of reefs. Samples taken from several reefs in this belt subsequently gave a show of gold, the best return being from one containing pyrites. After satisfying myself that these reefs were not going to open our long-looked-for Bonanza, we made a start for the Granite Hill; Byrne and myself preceding the team, and taking a bucket and shovel so as to get the well opened out by the time the thirsty team put in.
exists, and in all probability in paying quantities, it is not in rich deposits. Balance of the day was spent in plotting the work we have done during the past 10 days. As this had to be done in the open, the strong south-east wind made it anything but an enviable undertaking. The others were engaged in fixing sole-leather and hide on to our boots, as we are now practically on the upper parts of our last pairs; an average of three pairs each has been added as additional subsoil for the desert.

Camp No. 78, Saturday, September 1st, 1900.—Weather again cool, with a strong south-east wind all day. More cobbling and a general wash-up occupied the hours of daylight. My own work consisted in battling against the elements, and bringing our plan up to date. The latter was necessitated by a Barrow Creek, and as our rations are getting low—many lines, in fact, being out—I decided to make in that direction; but I must confess the thought of having to do so carries many regrets, as I dislike leaving all this gold-bearing country behind, more especially as the prospects ahead in the matter of metalliferous areas is not sufficiently promising to build any castles on the prospect of making a discovery of sufficient value to ensure the success of the expedition.

Camp No. 78, Sunday, September 2nd, 1900.—As Sunday starts we have so far not been conducive to success, I think that on this occasion we might make a homeward start on Monday. Devoted to-day to a further trial and examination of the ridges and granite knobs to the east. The low ridges previously examined were first crossed, and then a stony flat consisting of quartz and quartzite rubble. This class of country continued up to seven miles, when it is replaced by another ridge trending in a north and south direction. This ridge consists of a clastic and metamorphic sandstone, with quartz and crystalline schistose granite rocks on the eastern fall; these schists are replaced by granite still further east. On the south-east end of the ridge is a peculiar kind of stone resembling a decomposed syenite. Clear glassy quartz reefs with splashes of gossan and pyrites are numerous. Tronstone is not so plentiful in this belt, and consequently it does not appeal to one as a promising locality. The ridge has a length of three-quarters of a mile by half a mile in width. A large proportion of the surface is occupied by sherd quartz, derived from the old and broken country, and which, traversing the country, is doubtless the north-eastern continuation of the marsh country beyond the depression—elivated ground shoals at from 15 miles to 20 miles. Continued on over the flat to the granite knobs, in anticipation of obtaining a more extensive view of the high hill-top and the broken country to the north-east. These were reached in two and a half miles, and proved of similar construction to the Granite Hill—consisting solely of perched granite boulders.

Camp No. 79, Monday, September 3rd, 1900.—Still another start into the unknown. Our bearing 62° being this route, avoided the stony flats and ridges more to the eastward. At two miles we crossed a small area of quartz rubble and sandstone, from which we passed into turpentine and other scrub, with a few bloodwoods to the north of our route. At seven and a half miles we were slightly north of the ridge tried yesterday. At eight and a half miles rising sandy ground replaced the flat country, and from this point we obtained a sight of the broken hills which I wished to examine. I then altered our bearing another 7° east, so as to strike the most prominent point in the group. The rising ground led down into a depression with sandy soil and corkwood timber, which continued for two miles, when the soil then became hard red loam, and the timber changed to bloodwoods and limewoods. At 14½ miles this timber was again replaced by corkwoods, intermixed with yellow acacias and currant-bush. Camped at 16½ miles on a good belt of this fodder. Wind strong from the south-east during the early morning, but died away in the afternoon.

Camp No. 80, Tuesday, September 4th, 1900.—The broken country being only a short distance ahead, made an early start with Byrne to examine and see if there was anything in the neighborhood. Half a mile from camp was a belt of claypans, evidently formed by the drainage from the hilly country. Crossing this we struck some low rises, consisting of opal and an old native quarry. This has evidently been used for centuries as a source from which to obtain knife-blades and spear-heads. Old tracks were numerous, the impressions all being made during wet weather. They apparently come here immediately after rain, and draw their water supplies from the claypans while breaking out their implements. The broken hills were reached in three and three-quarter miles; around the base was a dense belt of mulga and a little grass. The former is also the chief growth on top of the hills, which are formed by a huge outcrop of quartzite and quartzose rock, traversing the alteration of the latter on the base of the hills. Although their height is only 120ft., they nevertheless afford a good view of the surrounding country. A high hill, the top of which was sighted on Sunday, loomed up very prominently one point north of our present route. Low ridges occupied the country immediately to the north-east, but what appeared the most interesting view showed up to the north. This was a huge claypan, which apparently contained a sheet of water altogether beyond anything we had ever seen or expected to sight. We gazed at it for some considerable time.

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time with the glasses, but being a hazy morning we could form no other conclusion, notwithstanding the fact that it was an unusual size, and had some doubtful features. I eventually decided to examine it, so instructed Byrne to wait the arrival of the camels, direct them to the high hill, and then prospect the ridges to the north-east. If I made a smoke within an hour they were to steer for that, as it meant that the claypan contained water. My course was north; within a mile from the hill I struck a group of dry stony claypans, and hereafter a green herbage and claybush. A low ridge with a little shallower was entered, the dip of the country being towards the claypan. In two and a half miles swampy ground was reached; over this hills were in considerable numbers. Samphire and ti-tree then followed, the latter fringing the supposed claypan, which proved an awful "frost," being in reality marsh covered with a yellow variety of samphire, which in the distance gave the necessary color for water. This run of country was three-quarters of a mile across, and, being fringed with very green ti-tree and backed on the western side by a heavy run of limewoods, was more than enough to deceive. My route was then east, towards a low ridge, and from here large claypans and marsh country could be seen to the north and north-west for many miles; but seeing clouds of dust rising from the claypan close by, I was not tempted to investigate any more, although they looked very enticing. After heavy rains this would be a great locality for surface water, as these claypans would last many months. I then worked back through some ridges on to our line. The formation of these ridges is metamorphic, with silicious slates and schistose rocks much decomposed. They contain some fairly promising quartz and ironstone reefs, one series having a strike north-west, and another east and west. The stone broken out of these reefs gave indications of panning something out of the common, but they failed to show any visible metal. The reefs covered but a small area, and on that account we hope that the mineral they contained would be more concentrated. Continuing on towards the high hill, a flat was crossed, and in this the outcrop of opal occurred frequently. One mile of this country, and a belt of mulga scrub crossed the route. I here struck the team, and we continued on through dense mulga, ultimately reaching an open flat, which extended right up to the base of the high hill. Around the edge of this mulga is a magnificent run of camel-bush, whilst the whole of the flat is literally covered with green mangaroo. We camped on what appears to be the termination of this belt, two and three-quarter miles from the hill. Mountainous country here, so it was good for the camels as water, but too wet for us. We moved to 134 miles. Spent the rest of the evening dollying and panning samples. This work resulted in the discovery of several colors—a very gratifying return for a day's work, I must confess. Byrne went on to the hill, but the view beyond was disappointing, only a solitary hill ahead and a small belt of likely country being visible.

He, however, struck a native well which had recently been opened by natives, and appearances indicated the view beyond was disappointing, only a solitary hill ahead and a small belt of likely country being visible. I have therefore decided to call it "Mount Davidson"—after my father, who had done much in a quiet way to open up new country in several of the colonies. The mount varies up to 350ft. in height above the surrounding plain. It stands alone, with sandy flats on three sides right up to its base; a somewhat precipitous side faces the south, but to the north it falls away gradually and forms a low ridge, which appears to merge into rising sandy country almost further to the north, on the far side of which there appears to be an extensive depression, possibly a further extension of the salt marsh country. The formation of this hill is chiefly quartzite, which, in places has a decided schistose structure, and contains a fair percentage of mica. These beds dip northerly, and overlap granite; a little of this class of country is visible at the base of the hill on the south side. A small gutter forms in the ridge extending northwards, and it is in this gutter that the well is situated; the expanse of flat of the hill rises from the base of the well; the view is very good, but I must confess that it was a disappointment, as I expected something more extensive. A depression in the rising ground to the north occurs in a north-easterly direction, and at this point several small black pinacles show above the horizon. They were distant 15 miles, and had the appearance of granite. On a bearing of 105° is another lonely looking hill of some prominence; it appears very white, its color being doubtless due to a quartz capping. To the south-east a ridge showed up at a distance of 25 miles; it is a flat tableland, and in all probability consists of sandstone or quartzite. Four miles to five miles south is a belt of broken hills intermixed with several large quartz blows, a very conspicuous one being on the western flank; the bearing to this point is 164°, and the distance five and a half miles. The ridges examined and those left to the south of yesterday's route are also visible. After completing a round of bearings and fixing various points I returned to the well, which was then down to water. It was, however, very troublesome to sink, as the sand would persist in collapsing; this trouble was counterbalanced by the fact of a sufficient supply of water existing for our requirements, and thus enabling us to make an entirely fresh start, which is of great importance; the distance into the Barrow being considerable, in view of the existence of dense mulga which we are certain to encounter. The camels had arrived by the time I returned, the distance travelled being three miles. After indulging in a lunch, I left the others to complete the walk, and started off to examine the broken run of hills to the south. I proved a fair walk, the mileage being five and a half from camp. In the flats south of the mount, and distance from its base about half a mile, I struck a promising run of stone traversing granite. Its appearance was its only recommendation as far as I was concerned, neither showing or panning a single color. In close proximity to this vein is a run of pegmatitic, the mica being in crystals of several inches in width. From this one mica was a most conspicuous constituent of the sandy soil, but it eventually died out and was followed by a low ridge of quartz and quartzite of considerable width. Low rises filled the intervening space between this ridge and the large white quartz blow for which I was steering. After three hours' walking I brought up at this point, and on examination it proved to be an enormous body of quartz, the whole hill being formed of this class of stone. The quartz itself had a somewhat glassy appearance, but contained veins and faces of good iron oxides and a little pyrite. I have seen much worse stone carry heavy gold, but I failed to prove...
prove this to contain any metal. Other reefs are visible about this locality and at various points in a low ridge extending south. Although the show is limited, indications are sufficiently strong to warrant a daily test, more especially if the samples dollied to-night give any result. I reached camp rather late, owing to the dilapidated state of my boots and a very painful ankle. The well had been cleaned out sufficiently to give those of the team who required it a drink, and also to replenish the kegs. Some of the camels unfortunately would not drink. Evidently the green mongaroo contained sufficient moisture to satisfy them. Although the well appears to contain a fair supply at 6ft., a much greater depth would have been sunk at ordinary dry times, the present supply being, I think, the result of the shower on which the mongaroo has developed—possibly the rains of two months back. Weather again hot, with no wind to cool the atmosphere. The suspicion of a smoke was seen to the north-east during the afternoon, and as no traces of native tracks are seen going away from the well in any other direction, it is evident that the natives located on the far side of the rising ground, possibly in the vicinity of the granite peaks, around the base of which is invariably a favorable site for wells.

Camp No. 82. Thursday, September 6th, 1900.—My samples were the first consideration, but they returned the familiar blank every time. I have ceased being disappointed, or I like to impress myself that such is the case, so I could not accept this as final, and decided to carry out my plans of yesterday, and give the belt to the south at least a day's trial. Leaving instructions for the team to steer for the quartz blow, and camp in the flat to the east, where there is a very fine run of green camel-bush and other good shrubs, we made a start to further examine the belt, which consists of two low broken ridges separated by a flat. The two spurs are from one mile to one and a half miles apart at their northern extremities, but they junction south-east of the quartz blow, and form a single ridge of considerable width, but very low and unbroken. North of the blow is a ridge of quartzite, its eastern termination being marked by a low round hill. This formation is traversed by white quartz reefs. South from the quartz blow are ironstone gravel rises, almost bare of scrub, thereby the gravel on the western flank. From a This dense character, and apparently devoid of gold. On the eastern flank of the rises which constitute the junction of the two main ridges is a run of honeycombed ironstone schist, identical with the formation noted in the hills to the north of Tanami. Conglomerate overlaps this in places, and the termination of the whole formation is marked by some prominent hills. South from this point are several other hills, and a short ridge to the south-east running at right angles to the main ridges. This was distant from five miles to six miles, as also a hill to the west of south, and another still more westerly but somewhat closer. From this point rising ground extends round to the north of west, where the hills left to the right of our route to the mount show above the mulga belt lying in this direction. Arrived back at camp early in the afternoon. The team had not quite struck the point indicated, but they were sufficiently close to locate the camp without much trouble, for which I sincerely am grateful, having a large parcel of stone on my back. The Pater had had another try at the big blow, but without improving my results. We set to work and did all my samples, the gross result being one solitary fine color. Byrne returned later; he had also some good stone, but his were just a color worse than mine. I cannot say that this was all I expected, notwithstanding my series of duffers. This morning Byrne brought in a sample of sillified asbitos, a run of which occurs in the eastern ridge immediately east from the quartz blow, at a point where there is a heavy run of quartz and ironstone traversing what appears from the samples to be an altered schist. The results obtained are not sufficiently promising to warrant spending any more time here unless we can strike something ahead; at present I propose steering for the solitary hill ahead, and will be guided by the country visible from there. If there is sufficient inducement to the south I should like to make a circuit in that direction, return to Mount Davidson, and then make a final start. Small birds, chiefly diamond sparrows, are fairly numerous in the flats, but we sighted no likely spot for water; their supply of drinkables is possibly obtained from the flowering camel-bush, which is abundant.

Camp No. 83. Friday, September 7th, 1900.—A round of bearings from the quartz hill was the first thing to occupy my attention; this done, the team was ready for a move, our course being for the solitary hill, on a bearing of 85°. We passed through a low gap on the eastern ridge, and here sighted a few of the desert palms noted some 60 miles west from Kelly's Well. The soil for the next four miles was very sandy, the scrub light and stunted, with a sprinkling of desert gums. An open flat with large anthills, followed by a narrow belt of ti-tree, was then crossed, the ground being here somewhat of the same character as in the marsh country passed to the north-west and north-east of the Granite Hill, but it is here evidently formed on the water lodges when it rains. A very extensive colony of the dome-shaped anthills makes this a somewhat picturesque spot, as many of them are unique and artistic in their way. From the flooded area are passed into sandy country, the spinifex being of a poor order, but nevertheless bumpy for travelling. This class of vegetation gave place to what at one time was grass country, but it is now almost devoid of herbage. At 13½ miles a narrow belt of mulga appeared on our right, and with it another splendid patch of mongaroo, which we followed up to its eastern extremity, where we camped at 15½ miles, thus leaving another three miles to go before reaching the hill; but as feed of this description is not sighted at every camp, the shortage was not taken into account. After partaking of our afternoon meal I started out to make a closer acquaintance with the hill ahead, Byrne accompanying. The view obtained from the top hardly recompensed for the labor involved in climbing. The hill itself was capped with a mass of white glassy quartz, with hardly a speck of iron oxides; around the base of the hill was schistose granite rocks. Its appearance suggests a blow more than a continuation and without any direction. Although almost case-hardened to the most unexpected, I was hardly prepared for a sight of an aureole. A very fine aureole was shown by the approach to the north-east of Mount Davidson are most distinct, and their appearance confirms the impression as to being their granite. To the north of these knobs the depression is most marked, and cannot be occupied by anything but marshy country. A small pinnacle showed on a bearing of 93°, distant some 15 miles. Twenty-five miles to the south-east, on a bearing of 150°, was a strong but short tableland ridge; its color, which we red clay sandstone formation. It is the southern corner of the rock mass. At this point our room is sufficiently promising to induce me to go out of my road now that our natures are becoming very limited; we are reduced to tea (without sugar), bread, and meat. The former is a hardship, as there is nothing one

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relishes more than a good cup of tea after an average fast of 10 hours. Felt somewhat dejected on returning to camp, as our prospecting work is now practically finished. On present appearances there is little or nothing ahead but a straight run for Barrow Creek. We were somewhat lavish with the water in panning yesterday, as we had almost decided that sufficient country would be visible from this hill to warrant putting in a few days, and returning for more water to the well. This scheme is exploded, and as it is too far to go back to replenish, we must venture on our present supply, which is equal to 10 days' under normal conditions. It should be more than sufficient, as the latitude we are in should give us a better run than we had on the outward journey, with more chances of feed and water.

Camp No. 84, Saturday, September 8th, 1900.—The team moved out of camp at 7.30, our route being past the south end of "Mount Solitaire," which we had christened this elevation. From the mount our bearing of 106° was resumed, this line taking us over a small open flat, then rising sandy ground with a little grass. At two and a half miles a small belt of very fresh limewoods was passed, and in close proximity thereto an old native camp. The blackboy subsequently reported that he had also seen an old well. This I missed, but, judging from the age of the camps, it would have required a considerable amount of reopening, and the result might not have repaid for the time and labor involved. Three-quarters of a mile beyond the old native camp, and slightly to the north of our route, a white quartz blow showed in the midst of some mulgas. This was the most important feature sighted during the day's march. Desert country continued up to 14 miles, the whole having a most drought-struck appearance; evidently a strip over which rain has ceased to fall. The soil altered at the point, the sand developing into loam, the desert area extending more northerly; shortly afterwards the change extended to the timber—a few mulgas and an odd camel-bush or two appeared in lieu of the desert trees. A narrow but dense belt of mulga was entered at 1514 miles, and, passing through this, we struck into a fairly open strip of country, around the borders of which is a belt of excellent camel-bush—altogether too good to pass, so we camped at 164 miles from Mount Solitaire, or a total for the day of 17 miles. A low rise showed up half a mile away on the edge of the mulga, to the south of east. After partaking of our supper-lunch there remained two hours of daylight, so, taking Byrne, I started off to examine and ascertain if anything was visible from the little rise. The view was surprising, showing some hills to the north and north-east, which would never have been seen if the rise not existed. A round bald-looking hill takes the eye on a bearing of 52°, distant three and a half miles, whilst a short broken jagged ridge was still more pronounced due north, this being flanked by a granite knob on 54°, whilst smaller hills were visible at various intermediate points. A slight smoke curling upwards on a bearing of 348°; it was faint, and might have been either at a great distance or merely light dry scrub at comparatively close range. It was just possible that there would be sufficient light to discover some water at the hills, so we started, Byrne steering for the granite knob and myself taking the round hill. A flat divided the rise from which observations were taken from the points where we hoped to strike water. It contained some magnificent camel-bush and green buckbush. The latter at this stage of the journey is an important find. Being green and succulent, the camels can fill themselves, and they will start to-morrow as if they had been on water. The round hill was reached in an hour's walk; it proved to consist of partly kaolinised granite, the central core of some of the rock showing a nice-grained reddish granite, with but little mica. The hill was only about 60 ft. above the surrounding level, but the view from the summit added a little to the features already known. A mulga ridge showed on 158°, a prominent little pinnacle at 106°, and a sharp needle-pointed hill just showed above the mulga on 53°. The jagged hills to the north and the granite knobs were more pronounced. A burnt patch near the base of the hill attracted attention. On examination it showed to be of recent date; working round the burnt area, I struck two native tracks—a lubra and her noble lord, or some others. Following these tracks easterly for half a mile into some low rises to the east of the hill, I struck two fine little gnamma holes in the kaolinised granite, but alas; just dry. Before reaching the spot hoped, on the track of something good.

To this he shortly afterwards replied by firing his revolver, turning up himself half an hour later. His experience was similar to my own, finding several small rockholes in the low granite rock in the flat towards the jagged ridge. Had we only struck some water here I would have put in a day, but as the position stands there would be sufficient, as the latitude we are in should give us a better run than we had on the outward journey, with more chances of feed and water.
crossed a low open sandy undulation, and went down into a depression where there was a belt of fairly green corkwoods, together with a few ti-tree and paper-bark. We cried "Enough" at 5.30, after travelling 17 miles, the camel feed being corkwood, with a sprinkling of plumbrush. The team do not appear to relish this camp, and are walking about in a more or less disgusted manner—rather amusing to contemplate. It has been a trying day, very close, with at times a fierce sun in addition. The fact of its being the worst bit of country we had seen for some time did not improve matters.

Camp No. 86, Monday, September 16th, 1900.—The team looked very tucked-up and mean this morning, as they would not tackle the dry fodder available after their luxurious feed at the past few camps. Continued on the same bearing, and in two miles struck a fair belt of feed, the plumbrush being plentiful and intermixed with yellow acacia. This was replaced by a run of sandy soil with desert mallee, oak, and stunted bloodwoods, which continued up to five miles, and then gave place to a hard gravel rise. At six and a half miles a low hill was sighted to the north of our route on a bearing of 33°, but it appeared too small to be the hill sighted by Byrne from the pinnacle, so, continuing, the prominent hill was sighted at nine miles. The ground being very hard, and there being no spinifex to signal the team, I waited for them, sending Byrne on to have a look round. On arrival of the team the bearing was altered 10° north, for the hill which, from its appearance, could with certainty be called granite, and therefore an exceptionally promising locality for striking some water, either wells or gnamma-holes; also a likely spot for good camel feed. I was very contented as I jogged along on the riding camel, as I felt confident of a good report from Byrne. This illusion was soon dispelled, the report being plenty of rockholes and a number of old wells—the latter dry, and only several of the former contained a few gallons of green water. The camel feed was, however, good, mongaroo being fairly plentiful, together with some bean trees and a little camel-bush on the fringe of the light mulga to the west and south-west. As there appeared more than sufficient to warrant hoping that a further search might reveal something, or that the wells could be opened, I camped on the north-west side of the hill, which in appearance was quite a large hill itself, composed of granite gravel, and a large rise being evident of some depth, as the cleft of granite gravel, and part consisting of perched boulders. On the north-west side is a large sloping rock, and at the base of this a number of native wells. Around this spot are some bean trees and coarse green grass. In the side of this rock are several small rockholes, and one, in what appears to be a large crevice, partly filled up with dirt; the latter contained a little water, and looked a promising spot to obtain more. On the north side of the hill, but towards the east end, and about 2000ft. from the base of the hill, in comparatively flat ground, an interesting and very lasting little rockhole was found. It contained but a few gallons, and this was sufficient to show that the rain in this locality had been light showers. This rockhole has a very narrow entrance, and widens out bell-fashioned immediately. The four canteens were filled—capacity 8galls.—and an endeavor was made to clean out the mud. Owing to the narrowness of the opening this was unavailing, the cleft being evidently of some depth, as a shovell driven down failed to bottom. An examination of the well proved this; and in the bottom was very dry, and it appeared too large an undertaking to sink down far enough to strike water, although I believe there is every prospect at about 20ft. The cleft on the side of the sloping rock was sunk down some 6ft., working at it until very late. The water made slowly, and on striking a large loose boulder in the centre of the pit further sinking was discontinued. The inflow of water gives no promise beyond a few buckets, and in addition there are indications that the well will collapse before morning. This is not the most pleasant outlook we have decided to sleep on. The smell of the little water and damp ground has made the camels very restive, and they will not feed. Been almost better had we made no effort to obtain water.

Camp No. 87, Tuesday, September 11th, 1900.—Our well fulfilled expectation by a large portion of the bottom collapsing, thus preventing the realisation of the other expectation regarding the few buckets of water; Woods only obtained a solitary bucket. The camels looked rather bad this morning, their voluntary fast having a serious effect, in conjunction with their fastidiousness at the previous camp. Took a round of bearings from the summit, and this added several interesting features, but no new ground of a likely character. Rising ground starts on 220° three miles distant, and extends in a widening circle south and east round to north. Beyond this indulation on 283° a short ridge shows at 15 miles. From this round to 44° the view is limited to from six miles to eight miles, but a depression in the rising ground on this bearing shows the outline of a desert indulation at three miles distant, and extends in a widening circle south and east round to north. Again on 35° to 50° a view is obtained over the rising ground, and shows this dip in a very marked manner. At the limit of the vision line on this bearing, 35 miles distant, strong sandhills are to be seen, these being doubtless a continuation south of the sandhills crossed on the outward journey. The small hill first sighted yesterday showed on a 335° bearing, some four miles distant. Open country shows around the base on all sides excepting west and south, where there is a belt of mulga extending away to the south-west. We resumed our journey on a bearing of 114°, and, passing to the north side of the hill, we continued over open sandy country up to three and a half miles, this point being marked by two clumps of mulga to the north and south of our route. Leaving these we entered a belt of desert mallee, with a few bloodwoods and limes. At four and a half miles a patch of burnt country was crossed, the young spinifex being very green. On 174° are a number of small pinecane hills, which in appearance was a small native hole, evidently sunk to catch surface water. Old native tracks were plentiful, but these impressions had been made during a wet time. This class of country was covered with belair and low stunted scrub. At nine and a half miles a rise was sighted one mile south, which on examination, proved to consist of an outcrop of a heavily saturated schist, about 100ft., in width. It was overlapped on all sides by alluvial soil; a view of a ridge was obtained on 217°, which extended to a broad continuation of the same ridge for a run of about 32°. A rise of small pinnacle hills was visible on 164°, the centre of the group being marked by a very sharp pinnacle of greater height than its fellows; the distance to these points was about 10 miles. On 174° are a number of small knobs showing above the horizon line at about 20 miles, their voluntary fast having a serious effect, in conjunction with their fastidiousness at the previous camp. The team looked very tucked-up and mean this morning, as they would not tackle the dry fodder available after their luxurious feed at the past few camps. Continued on the same bearing, and in two miles struck a fair belt of feed, the plumbrush being plentiful and intermixed with yellow acacia. This was replaced by a run of sandy soil with desert mallee, oak, and stunted bloodwoods, which continued up to five miles, and then gave place to a hard gravel rise. At six and a half miles a low hill was sighted to the north of our route on a bearing of 67°, but it appeared too small to be the hill sighted by Byrne from the pinnacle, so, continuing, the prominent hill was sighted at nine miles. The ground being very hard, and there being no spinifex to signal the team, I waited for them, sending Byrne on to have a look round. On arrival of the team the bearing was altered 10° north, for the hill which, from its appearance, could with certainty be called granite, and therefore an exceptionally promising locality for striking some water, either wells or gnamma-holes; also a likely spot for good camel feed. I was very contented as I jogged along on the riding camel, as I felt confident of a good report from Byrne. This illusion was soon dispelled, the report being plenty of rockholes and a number of old wells—the latter dry, and only several of the former contained a few gallons of green water. The camel feed was, however, good, mongaroo being fairly plentiful, together with some bean trees and a little camel-bush on the fringe of the light mulga to the west and south-west. As there appeared more than sufficient to warrant hoping that a further search might reveal something, or that the wells could be opened, I camped on the north-west side of the hill, which in appearance was quite a large hill itself, composed of granite gravel, and a large rise being evident of some depth, as the cleft of granite gravel, and part consisting of perched boulders. On the north-west side is a large sloping rock, and at the base of this a number of native wells. Around this spot are some bean trees and coarse green grass. In the side of this rock are several small rockholes, and one, in what appears to be a large crevice, partly filled up with dirt; the latter contained a little water, and looked a promising spot to obtain more. On the north side of the hill, but towards the east end, and about 2000ft. from the base of the hill, in comparatively flat ground, an interesting and very lasting little rockhole was found. It contained but a few gallons, and this was sufficient to show that the rain in this locality had been light showers. This rockhole has a very narrow entrance, and widens out bell-fashioned immediately. The four canteens were filled—capacity 8galls.—and an endeavor was made to clean out the mud. Owing to the narrowness of the opening this was unavailing, the cleft being evidently of some depth, as a shovell driven down failed to bottom. An examination of the well proved this; and in the bottom was very dry, and it appeared too large an undertaking to sink down far enough to strike water, although I believe there is every prospect at about 20ft. The cleft on the side of the sloping rock was sunk down some 6ft., working at it until very late. The water made slowly, and on striking a large loose boulder in the centre of the pit further sinking was discontinued. The inflow of water gives no promise beyond a few buckets, and in addition there are indications that the well will collapse before morning. This is not the most pleasant outlook we have decided to sleep on. The smell of the little water and damp ground has made the camels very restive, and they will not feed. Been almost better had we made no effort to obtain water.
timber consisting chiefly of our old friends. The soil remained sandy, and the spinifex was very stunted. At 17 miles we passed into a belt of green corkwoods, throughout which plumbrush was plentiful. As this was the only creek since we left the Gregory this morning, and, added to the annoyance of a splendid track of a patch of yellow acacia and berry-bush. I believe that the best policy in traversing country like this is to travel whilst there is light, and camp—feed or no feed. It is almost better to have no feed than poor stuff, especially when camels are dry. After passing through the feed belt at three and a half miles, we struck on to some rising sandy ground with desert mallee and light scrub. This was followed at five miles by a really charming little belt of country—good grass intermixed with the spinifex, and the bulk of the shrubs were camel fodder. Blacks' tracks around this locality were numerous; it is evidently a good yam patch, a very considerable area having been dug up in search of this dainty. The work and tracks were several months' old. This belt was limited in area, and we soon passed into open bluish scrub, with heavy spinifex, a belt of mallee following at nine and a half miles. Coming along a number of stones were made, in the hope that a more inquisitive native than the average would give up a reply. A light smoke was then seen by the blackboy to the north, but it had evidently been sent up after we passed, a sharp lookout having been

Camp No. 88, Wednesday, September 12th, 1900.—Bearing unchanged. The team looked as if they required a good drink this morning, and I was anxious to take the opportunity to get a start, as the weather was hot again. I had quite a long track for the past few days, our team has anything but a lasting appearance. However, we must strike a portion of some of the creek's coming north from Ann's Reservoir and the Buxton Range, and as there are undoubtedly natives in the neighborhood, we should drop on to some water within the next three days.

Camp No. 89, Thursday, September 13th, 1900.—Being anxious to raise a drink for the camels, daylight saw us on the move. Sent Byrne to strike the creek at a bearing of 50°, whilst I cut out the line on a bearing altered 30° north of the usual course, the team having instructions to follow my tracks, and to stop wherever I made a smoke. At three and a half miles the limewoods along the creek valley were sighted, and at five miles the bed of the creek remaining all sand, and the rain had been insufficient to leave any soakage. Following it up I struck a small creek coming in on the right bank, this had been running within recent times, and as it headed from the stony flats this immediately appealed to one as the place to discover water. At several places I obtained water by scooping out a hole with my hands. The sand was shallow, and the prospects none too good to make a certainty of giving the team a good drink; however, it was not the best soil discovered, so I returned to the point where I crossed the creek and made an examination of the country to the north, whilst Byrne ran the creek up for a couple of miles to see if any more water existed. Within the semicircle of exposed rock, around the head of the branch creek, I struck some good-looking quartz and ironstone, but evidently stock from small veins; white barren-looking...
looking quartz covers a considerable area of ground, and the outcrops of several veins of this class of stone
was tried without success. On reaching the top of the overlapping conglomerate and alluvial, it showed a
flat summit, which gradually developed into a sandy plain to the northward. Climbing a fairly high tree
I obtained a view of the surrounding country; the most striking thing being the top of what is undoubtedly
a very large hill, southerly bearing. This is in all probability one of the mountains discovered by Stuart
in one of his later trips, being changed to 17° south. Besides this prominent mount was another of smaller
dimensions, together with what appeared a short range extending south-east from the mount. The distance
to this point is about 32 miles. Nothing was visible from this mount round to 110°, where, within 15 miles,
was a short reddish-looking ridge, and another at 65°, distant about two miles. This completed all the
observations obtainable from the tree-top, so I returned to camp well satisfied with the day’s work, water-
day being always a means of making one feel more cheerful. Byrne had sighted nothing further up the creek.
This little run of granite rock was thus evidently especially designed with the object of affording us a drink.
It was not until late at night that the whole of the team were watered. They were very thirsty, and although
most too inflated to eat, they kept on returning for another, and yet another bucket of water.

Camp No. 90, Friday, September 14th, 1900.—Filled up our legs, and gave the camels a bucket of water
apiece. They were very eager for more, and it is very certain that educating or training camels to go without
a drink is not a success, and further I believe it is a mistake; the fresher a camel is, and the more water
he has before starting on a long dry stage, the better for all concerned. Took a round of bearings to the
more important little hills from a ridge a quarter of a mile south of the camp, and then made a start to
travel up the creek for the day, as I wished to ascertain its general course, and also hoped to strike some
more water. Byrne preceded the team; he was to send up a smoke at various intervals, which I hoped
would enable us to take longer bearings, and thus save time. This idea, however, was a failure, as there
was practically nothing to burn, and a strong wind blowing prevented the smoke rising. Got out under
way about 8.30, and crossing the creek, travelled on a bearing of 131°, passing a small hill at one mile, and
between two reddish rises at one and a half miles—these rises mark the termination of the belt—we passed
into a gum flat. Leaving this at two and a quarter miles, our line was over the end of a low altered
claypan, which first swept round to the east, and then gradually turned and headed south in a larger sweep;
the view from the top showed

The creek extended for two miles along our course, and advantage was taken thereof to resume our original
route at

Our route at 10½ miles was in the flat open country, a quarter of a mile from the bank of the creek. Noticing a clump of very green limewoods around a depression just to the
right of our route, I went over to examine, as it appeared a likely spot for water. It proved a large billabong,
and contained a magnificent sheet of water; the most glorious sight of its kind that we have seen for many
a day. I signalled for the team, and decided to camp, as in addition to the water, the flats, although abso-
lutely devoid of grass, contained a fair quantity of buckbush and mongaroo. The camels were very eager
to get at the water, and immediately they unloaded they rushed straight into it, and after they had taken
aboard an enormous quantity, they lay down in it, and enjoyed a bath. The creek was a quarter of a mile
west of this billabong, and with the exception of the green limewoods, and a slight depression in otherwise
flat country, there is nothing to make this spot one easily discovered. The creek bends too far south to
continue our exploration of it, much to my regret; and the same feeling is very keen regarding the high mount
beyond this point there is a junction of two creeks, or perhaps only a division of the main channels. Old
native camps were plentiful, and at various points there exists the remains or evidence of soakage wells in
the bed of the creek. They had the appearance of being at least a couple of years old. We followed the
left bank, which first swept round to the east, and then gradually turned and headed south in a larger sweep;
the last bearing being nearly south.

On this we steered. Making a start about 8 o’clock, the
first portion of the trip was over open scrub flats for five miles. At this point we could see some ridges to
the north-east, the distance varying up to eight miles. The high mount also loomed to the west of south.
A belt of mulga was then encountered, and the bearing altered 17° south, to have a better run, and to strike
a small quartz hill visible through the timber. This was reached in seven and three-quarter miles.
The view from the top showed an apparently endless sea of mulga in all directions, with only a few broken isolated
hills to the north, north-east, and south, showing above the scrub. The mount top looked blue and prominent,
and made one regret still more that time and circumstances did not justify an examination. A narrow open
flat extended for two miles along our course, and advantage was taken thereof to resume our original
bearing. On the open flat terminating, we entered a dense mulga, which continued up to 183 miles; we
then passed into a large open space, quite clear of mulga, it takes the form of an irregular oval, and was
surrounded by mulga. A little camel feed existed on the fringe of the mulga, so not considering it advisable
to again enter mulga, we camped. It has been a very trying day, as not only is it tedious work keeping a
line, but painfully slow. Winding through the mulga with the team, the drudgery at crippling one or more adds to the anxiety. However, if we can only negotiate the balance of this horrible scrub as safely, we
shall have cause for congratulation.

Camp No. 92, Sunday, September 16th, 1900.—We have ceased building castles, so, notwithstanding the
fact that our thrice 40 days in the wilderness are nearing an end, there is not the same pleasure and anticipa-
tion in rolling up and repacking the team as when we had the unknown before us. Continued on our bearing
of yesterday, two and a half miles, and a quarter of a mile to the north-east, and then made a start to
a splendid camel camp at two and a half miles, much to our
disgust. It is so annoying to miss a good camp by
two or more miles the creek channel was defined , with shallow but steep banks , and a very sandy bed. Slightly
soaked by a mile or two. A short
distance further and we entered an open space round the base of a small hill. Here we struck a small dry billabong and several old native camps and a stony claypan; at this spot we
noticed

No 27.
noticed some saltbush. The hill consists of a large quartz blow, associated with granitic rocks, a feature common to all the country close to and west from Barrow Creek. From this hill others could be seen to the north-east and south-east, with a few rises of perched granite boulders to the south of our route, at a distance of three miles. A small open flat extended along our track, but it was soon replaced by mulgas, which continued up to five miles, when we once more entered an open space with numerous anthills, corkwoods, lime-woods, and other shrubs replacing the mulgas. At 10½ miles the bearing was altered 57° south, so as to continue in the comparatively open country. This was again changed in two miles to the original course, as there was no chance of avoiding the mulgas, which closed in all round; it was very dense, and remained so up to 18 miles, when, sighting what appeared to be a hill through the timber, we steered on a bearing of 75° for three-quarters of a mile, and reached an open space just on dusk, with some hills a short distance to the east. We felt fortunate in thus getting a place to unload, without going into the matter of feed, which, however, was sufficient to fill our animals after a very tedious and trying journey.

Camp No. 93, Monday, September 17th, 1900.—Made an early start to have general survey from the hills at the end of the open space. These proved to consist of a large white quartz outcrop, similar to those already examined in this class of country. It appeared to be situated on the eastern side of the divide separating the Lander and Hanson watersheds, as a very extensive view was obtained from the summit. It extends from north round 300°, the whole of this area being dotted with broken and isolated hills. To the south-east some heavy ranges showed up, and these were taken as the northern extension of the ranges from Ann's Reservoir and Central Mount Stuart. A large series of bearings were taken to all the most noteworthy hills. Making a good start with the team, we travelled on a bearing of 105° for one and a quarter miles, and then altered this to our usual bearing, which was run for three and a quarter miles through mulga scrub; at this point an open space showed to the south of the line, and the route was altered 70° south, and in one and a half miles a further 5°, which gave us an additional half a mile of good travelling. Opening the country then showed along our original line, and advantage was taken of it to resume our course. Limewoods and bloodwoods soon became plentiful, and in two miles we entered a watercourse with coarse tussocky grass, almost black, and some excellent camel bush and bean trees. This appears to be the end of a small creek, running out of some of the hills to the south, but it is many a long day since the watercourse has been flooded. The greenness of the bean trees is an indication of the presence of water at no great depth.

This little patch of desert country was surrounded by a narrow strip of mulga, which gave place to better country and investigation, and I consented. Shortly after we struck a belt of very dense scrub, with an abnormal amount of dead timber lying about, which made progress very slow. At 144 miles we struck the Hanson Creek, which we crossed, and then camped. Made an examination of the creek for a couple of miles, but there was no sign of water, in fact our only hope was from local showers which might possibly have filled a small hole. This creek is known not to have been flooded for quite a number of years; but judging from the width of the creek-bed, fully one and a half chains, and an abnormal amount of dead timber lying about, which could not be seen. We decided to locate some of the hills in the vicinity of Barrow Creek, but although heavy ranges showed south and south-east, nothing was recognised. Even Jack, who is a Barrow Creek boy, could not remember any of the points showing from the tree-tops, doubtless from the fact that he had never viewed the Barrow country from the westward, and at an elevation. Speculation on the discoveries to be made to-morrow have now given place to those of the outside world—the Boar war, home, and such-like subjects.

Camp No. 94, Tuesday, September 18th, 1900.—We loaded up this morning with the intention of bringing up at Barrow Creek to-morrow, as the nearer we get to civilization the more anxious we become for home news. Continuing our bearing we struck at once into dense scrub, which opened out round the base of a granite hill, capped with sandstone, at five and a half miles. From the top of this a good view might have been obtained, but a close morning mist had settled down, and we distinctly seen at any distance. The heavy ranges showed more prominently to the south of our route, with the outline of a low range to the north, on which there was a prominent pinnacle, although we did not recognise it. This afterwards proved to be a well-known feature within a few miles of the Barrow, in the range of hills extending north-west from the station. To the north of the sandstone-capped hill is a small flat, with stony claypans, and the whole is surrounded by mulgas. At seven and three-quarter miles we passed the hill, the country being here quite open. Two series of hills then showed up to the right and left of our line, and were passed at 10 miles. The hills to the south appeared to consist of likely quartz, and a gorge in the side did not look an unlikely spot for water. Byrne offered to steer over and investigate, and I consented. Shortly after we struck into a very dense belt of scrub, which continued up to camp time. At 15 miles a small rise of limestone was crossed, and on waiting for the team I learned that the boy had noticed Byrne's track crossing our line to the north, he having crossed the course ahead of the team. This sounded bad, as the ground being very hard the team left but a slight impression and could be easily missed if travelling at all quickly. Hoping, however, that he would soon discover he had crossed the route, and that he would cut back and so strike our pad, I therefore continued on up to 17½ miles. At 15½ miles we passed some small granite boulders and a flat granite, which rock the boy recognised; this fact was interesting from its being the first known point we had struck since leaving the telegraph line. There was no appearance of Byrne at 17½ miles, so I decided to go no further, as his absence meant that he had missed the trail on the hard ground. After clearing a place to get the camels down, we unloaded, but as there was nothing for them to eat they were tied up for the night. It had been a terribly trying day—infinitely worse than we have ever believed only by periods of excessive travel, and we were thankful for daylight, so we had therefore to suffer a most anxious night, as Byrne failed to turn up before dark. At such times all sorts and conditions of possible accidents flash across one's mind. We had many times made into camp very late at night without causing anxiety, but through the dense mulga here there is no possible hope of travelling at night. I am, however, calculating that Byrne is too old a hand to lose his head, and, failing an accident, he will in the event of being unable to locate the pad, strike back to the hills, and so
pick it up in the open country where he branched off. This is the most anxious time we have had on the whole trip, and being so near the close, the prospect of a mishap is keenly felt. We certainly have very little, and our palates would most certainly have missed our share of tea.

**Camp No. 95, Wednesday, September 19th, 1900.**—Long before daylight I had everything arranged to go back along the trail with provisions and a bare water allowance for six days, in the event of accident. Leaving instructions for the camels to move on to a little feed, and camp inside five miles, I made a start at the break of day back along the trail, with two camels and the boy Jack. I was not many miles on the road when I was relieved to hear the report of a revolver, and I then, for the first time for many hours, felt that the trip would end without an accident. Shortly afterwards came up with Byrne, who was following the pad. He had had a rough time of it, as yesterday had given him an awful thirst, which the anxiety had under such conditions intensified. Failing to strike the pad after crossing the line of march, he had doubled back for the hills, and in the hard country had missed the very slight trace of a pad left by the team. He cut back and picked up the pad about the spot he had branched off, but by this time it was too late to make into the Barrow, so we steered a little south of our route to a spot on the Six Mile Creek, where Jack reckoned there was some camel feed. This we struck, and camped, after travelling five miles. It was a very good camp, and the team being ravenously hungry, would hardly wait to be unloaded. This was the last day, I decided to broach one of the two bottles of whisky we had carried on the long round journey. There is a sort of suppressed excitement about being near to news of those at home, so that it is almost unbearable, and I was sorely tempted to start for the Barrow in the afternoon; but on the ground of "Good news will keep," and the longer you are away from bad news the better, I am waiting for to-morrow. Plotted up the last of our work, and prepared a cable for transmission on arrival. This, unfortunately, will not be the cable I had anticipated being in a position to send on completing the expedition. The disappointment is great after three years' work in the interior, but in this line success only comes to the few, and I cannot but hope that those who may follow in our footsteps will reap the reward we naturally think we deserved, but failed to secure.

**Barrow Creek, September 20th, 1900.**—Having a clear run for the Barrow, we made all haste to reach there and ascertain the news from home, which was now our only consideration. On arrival there we were met by an old friend in Mr. Frank Scott, who, knowing us of old, thoughtfully remarked on a welcome handshake that, "all O.K. down below"—a remark that relieved a strain, and allowed one to think of other subjects. Water was very short at the Barrow, but Mr. Scott's invariable kindness gave way, and the camels were saved a further journey of 20 miles for a drink. We had been absent from the telegraph line for 140 days, and it was naturally a relief to again sight comparative civilisation. At the same time, the completion of our work carried many regrets. The fascination of exploring new country is indescribable, no matter the hardships, but to be denied the realisation of our hopes and ambitions to make gold-mining in Central Australia an accomplished fact in the interest of a good company and the country, is keenly felt. However, I can still hope that at some future time our work will be continued, and that someone may ultimately benefit by the knowledge we have gained of the metalliferous character of the interior. It is a satisfaction to be in a position to say that not a serious mishap or loss occurred on the whole trip, our only real loss being the dog. Our health throughout was good, Byrne being the only man to suffer from a cold, which deprived him of his voice for some time. However, it is over, and we can think of our troubles as a pleasure. The trip will always remain a fascinating memory to me, our non-success alone marring an otherwise pleasant recollection of a very arduous exploring trip in the interior. To those associated with me in the expedition I have to tender my thanks for their willing co-operation, which greatly assisted to bring us through without a single accident. I trust that, should they ever try another exploratory trip, their leader will meet with the same cordial assistance, and at the same time have the good fortune to lead them on to the rich discovery for which we all worked.

The main geographical and geological features of the country traversed may be briefly summarised as follows:—A central desert extending west from longitude 134°, and between latitude 19° and 22° south; an arm of this desert extends north-west from Central Mount Stuart to latitude 21° south, the desert sweeping round the end of this belt in a south-west direction occupying the sincline of a huge fold, the western anticline occurring in the vicinity of the West Australian border, where Archean granite, with the older slates and schistose rocks, make their appearance. The sandstone and quartzite tableland ranges, represented by the Victoria River, Hovker's Creek, and Stuart's Creek series, extend south along the West Australian border to latitude 30° south. The beds forming these ranges overlap the older metalliferous formation, and dips away west under the great central desert. The drainage from the whole surrounding country, and more particularly on the south-west and south, represent d by the Hanson Creek and the Landeer Creek, lodges in the central depression, thus forming the large area of salt marsh country we touched at several points. The distance travelled along the direct route was 1,570 miles; the additional walking associated with a prospecting expedition of this description, brings the total distance travelled to approximately 2,200 miles. The area of country thus traversed, and that proved indirectly to be desert, or of no value from a mineral point of view, is about 30,000 square miles. Of this area about 4,000 miles represents the metalliferous belts consisting of granite, eruptive and metamorphic rock. A considerable portion of this area is covered by a thin stratum of alluvium, but reefs and occasional outcrop of country rock shows through the sandy and loam flat, making it very difficult country to prospect. The sandstone and quartzite ranges, with conglomerates and desert sandhills, extend about 2,200 miles. The balance, 30,000 miles, represents the secondaries and tertiaries, consisting of alluvial plains with sandhills, gravel, travertine, limestone, and conglomerates. The pastoral area of value stands at one block of splendidly grassed country, covering about 500 square miles. A further extension of this class of country south through the sandhills is probable. Small bluebush and grass swamps are numerous over this area; these, when filled, would last a considerable time, but there was no surface water of permanent character. I have no doubt, however, that large hills bongs exist, the country being most suitable to their occurrence.

Although
Although we failed to discover payable reefs under present conditions, this does not signify that they do not exist. The real work of prospecting the large areas of auriferous country located by this expedition is still to be done. Owing to the inaccessible nature of the country, we had to prospect for a big thing or nothing; the former, under present conditions, being necessary to start an extensive field over 1,000 miles from a railway. We proved many low-grade shows to exist, and these could doubtless be improved by development; and when greater facilities exist for the development of these discoveries by a railway across from Adelaide to Port Darwin, I have no doubt payable gold reefs will be opened up. The future of this country depends entirely on the development of its mineral wealth. A large central mining population being the only means by which Central Australia can be transformed from a desolate waste to a prosperous country. I have very grave doubts as to the occurrence of rich deposits of gold in the interior. In expressing this opinion, I do so on the grounds that these deposits are generally found associated with eruptive rocks, or in the vicinity of upheavals caused by volcanic action. In the interior, or the particular portion of it dealt with in this expedition, there is a marked absence of any important or extensive volcanic action, and consequently the sedimentary rocks have been metamorphosed in the same position as originally deposited, being between 900 miles and 1,000 miles from the coast line. I think we can claim for the gold discovered that it came from a point further from the coastline, and nearer the centre of Australia than has previously been known. The absence of gold in the exposed portion of well-defined reefs, and good deposits of iron traversing the older schists and siltites, the frequent non-auriferous character of pyrites, which even in country unfavorable to the occurrence of gold frequently carries an appreciable quantity of that metal, leaves an opening for speculation as to the cause, or lack of cause, which would account for this peculiarity. The distance from the coastline around which the greatest volcanic disturbances have occurred, appears to me to be the most feasible explanation of this phenomenon. By rich deposits, I mean heavy gold such as discovered in West Australia, and which was the main factor in the rapid development of that country. I have a very high opinion of the possibilities contained in the Tanami country. The indications are favorable to existence of alluvial gold, and when once lines of reefs are discovered of a payable character in the narrow belts of exposed country, they will be traced into the areas now covered with sand and alluvium; thus opening enormous possibilities. The low ironstone gravel ridges in this locality closely resemble some of the best West Australian country. It is a place that cannot be too strongly recommended for at least 12 months' steady and systematic work, and I should be surprised if good results are not then obtained.

As our lives depended on the camels, these were invariably our chief study. We did not make a point of daylight start, but allowed the camels time to fill themselves in the mornings before starting; by this means we always had them in good condition, and fit for long day stages. When started we used to travel all day, or to wherever it was advisable to camp. We did not stop for dinner, and after the first fortnight we had no difficulty in walking all day without either food or drink. This was very necessary, seeing that never at any time had we the remotest idea of where we might get our next water supplies, and only twice on the trip did we leave any water behind us that we could have returned to for additional supplies had it been necessary. As regards the camels, one often hears the expression that when trained, a camel can go any length of time without a drink, but our experience went to show that taking a camel in good condition, fresh from plenty of feed and water, he is more capable of travelling an exceptionally long dry stage than after doing many stages of even from six days to 12 days. This I know will be disputed, but it is nevertheless our experience on this expedition. When on season they were always brought back about 10 o'clock at night, and tied up by the hopples, and were liberated at 3 o'clock in the morning for their breakfast. Had we let them go all night, it is more than probable that we, or our remains, would still be in the desert.

The native inhabitants of this portion of the interior are limited in number, and we had practically no opportunity of studying them. Judging from the few we saw, they are of poor physique, as might be expected from the absence of big game and permanent waters. With the exception of one we saw on Hooker's Creek, the others had apparently not been white before, but they all know of their existence. At many points along the route it was evident from the markings on trees, where the natives had been cutting out bees and grubs, that iron tomahawks had been traded out into these regions. The spinifex capes, and the sand-thatching to the bough shelters, were the only new customs we came in contact with. From the conversation held by our boy with the natives met, whom he partially understood, it was evident that the tribe known as Uramulla, inhabit the whole of this country. The main tribal division of the Uramulla are identically the same as those of the Arunta, as described by Messrs. Spencer and Gillen. The similarity of these divisions points unmistakably to the fact that this desert tribe is a branch of the Great Arunta tribe. In conjunction with the large area of swamp and marsh country, it may be of interest to allude to the legend amongst the blacks along the telegraph lines of the existence of a large freshwater lake, with quantities of wild fowl of all descriptions. The truth of this fable in days gone by is indisputable, but in handing it down to the present days no allowance has been made for the climatic changes which have undoubtedly occurred throughout the whole of the interior, and converted these lakes into a wilderness.

This diary was written at night, by fire-light; it has therefore many defects, and is not as comprehensive as it might have been, had we been only exploring for new country. However, the information it contains relates to previously unknown country, and I trust that on this account it will be found useful, if not very interesting reading.

**SUMMARY**
SUMMARY REPORTS ON THE WESTERN EXPEDITION.

Barrow Creek, September 29th, 1900.

Dear Sir,—I have to report as follows on the country explored and prospected during the past four and a half months:—

Colored tracing of route should reach you under separate cover, so that you will be in a position to see at once the gold-bearing areas as distinct from the useless desert and tableland country. I have numbered the belts from which we obtained gold in red, in the order of discovery.

The block of country tried extended from latitude 18° 30' to latitude 21° 30', longitude 128° 30' to 134°. Practically speaking, the whole of this block is useless desert; the gold-bearing areas occupying the western portions.

No. 1 belt, situated south of Hooker's Creek; approximate length 30 miles, with a width of 15 miles to 20 miles. Formation consisting of eruptive rock, chiefly felsite. On the western flank is a narrow belt of granite in the form of perched granite boulders. Reefs throughout this belt of a poor character, and very scarce. From a large glassy quartz blow we obtained a solitary color with the aid of the dolley; a few other reefs yielded a little iron pyrites and copper carbonates. On the southern end of the belt, south of the Wilson Creek, a narrow strip of metamorphic sandstone and silicious slates outcrops along the base of the sandstone and quartzite tablelands. Reefs here numerous, but with few exceptions are short, broken runs, and of no width; these reefs carry a heavy percentage of ironstone, but they nevertheless proved to be unprofitable. In the western flank of this belt but few quartzes, and some scores of prospects were tried with the sign of a prospect; a similar result followed a trial of the creek beds for gems. No. 1 was the only belt of eruptive rock of any size that we struck throughout the whole trip.

No. 2 belt, situated south from latitude 19°, longitude 129°, extends in broken patches for 20 miles, with a width varying from a quarter of a mile to a few hundred feet. Formation—micaceous schist, with schistose, quartzite, and altered sandstone. On the extreme western edge a large broken reef occurs in the sandstone. The main vein has a width across the outcrop of 10ft. in places; the offshoots are smaller. Course of vein, east and west. Stone of good kindly character, being intermixed with oxidised iron pyrites. Prospects from this reef gave a small bunch of fine colors. One shoot of copper carbonates also occurs in this reef, but the copper stone did not give even a color of gold. Reef outcropping and traceable for 200yds.

Three miles further west, and a mile from the foot of the range, is a narrow run of broken hills; formation—mica schist. Cupping one of the hills is a large broken make of very honeycombed and friable stone, heavily charged with oxides of iron and some pyrites. This stone showed no gold, but prospects gave from colors up to 7dwt's. of very fine gold. This make of stone is not very well defined, and broken character of the hill does not allow of it being traced any distance. Other quartz reefs around this locality gave colors only, and west from this point three more small belts were tried; similar class of country, but the reefs were more numerous, being in fact too plentiful, blows and runs of very white and glassy quartz occurring in numbers. Some contained patches of iron and gosean, but we could not raise even a poor prospect out of them. Some of the gullies were given a half-day's trial for alluvial, but without success.

Leaving this belt we crossed over the ranges, and eventually got on to the south-western flank of the Gardner Range. A belt of likely country exists here, extending in broken patches for a length of 20 miles; but again the belt was narrow. The intervening spaces between the exposed portions of the belt is occupied by alluvial flats. Had we been fortunate enough to strike some good reefs in the exposed country, a lot of the alluvial flats for some miles to the south-west of the Gardner Range would have been worth a trial; as throughout the scrub and spinifex of these flats the outcrops of reefs were struck in several places. Formation—this run of country chiefly silicious slates, altered sandstone, and quartzite, with quartz reefs and ironstone formations. The quartz reefs carry a heavy percentage of specular and micaceous iron. One reef carried a little copper carbonates and pyrites, together with a splendid looking stone. But not the sign of a color could we raise from this or any of the reefs or ironstone lodes. South-east from Camp No. 49 the country appeared all tablelands, sandstone, and quartzite; so sighting a run of likely-looking country south-west we steered for that, hoping that as we would then be well into West Australia we should meet with something good. We were again disappointed, the whole of this block the country is fairly flat, low rises of ironstone gravel being the only break. In the vicinity of the camps mentioned, formation of country granite schists, with little hornblende schist and other metamorphic rocks, with runs of jasper rock and large bodies of dense ironstone; reefs and ironstone lodes, strong and well-defined, more particularly the ironstone formations, which were of great size, but these were now absent. In place of a very prominent reef we tried as checks on the work done during the day, but it required no checks. Large samples crushed through a 60-sieve failed to show a color: a result that hardly seemed creditable, considering the class of stone dolfied.

No. 3 belt, "Tanami." From this belt we obtained the best results of the trip; it is very small; the actual gold-bearing area is only some two miles in length, at the western flank of the country. On the south of this block the country is fairly flat, low rises of ironstone gravel being the only break. On the western flank is a run of jasper and ironstone, with quartz and quartzite; still further west is a quartzite tableland range overlaying the auriferous country. On the north end of the gold block are alluvial flats, and these give place to sandstone and quartzite ranges in three miles, the beds of which again overlap the older gold-bearing areas. On the eastern flank alluvial plains occupy the whole of the country, the only breaks being again runs of ironstone gravel. The reefs occur in very low ridges and some of the flats between. Very little of the country rock shows, but where it does, the formation is reddish slate, with sandstone slate and altered sandstone.

No. 27.
No. 1 series of reefs. These number three, the most important being a reef traceable for 250ft.; widest part of outcrop, 5ft., but this narrows to 18in. in places; strike of reef, north-east. On the north-east end is a shoot of stone from which I obtained the first visible colors. The gold shoot is about 50ft. in length, but gradually gets poorer as it extends; the central portions gave prospects of from 15dwt. to an ounce, but dies off to colors; these can be obtained right along the whole length of the reef. Gold in nice strong shotty specks, and is of good quality. The stone is very peculiar, being open, but extremely tough; patches of reddish and white earthy matter being distributed throughout. The gold appears to adhere more closely to the hard and semi-crystallised stone.

Another strong body of stone exists some 300yds. north-east of the above reef, along the same line—marked by a continuation—it is only a short run; similar class of quartz but in addition carries a heavy percentage of good iron oxides. Prospects from this reef gave colors only; this same result being obtained from a reef some 400ft. west of the first-mentioned. No extent of outcrop is visible above the surface, the line of reef being marked by stray boulders.

No. 2 series; situated one and a quarter miles to the north-east of the first series. Five reefs occur quite close together in this group. No. 1 is the reef from which we obtained some specimen stone. The reef is broken in two places, and faulted; total length being about 200ft. Alongside this reef is a large run of jasper ironstone, very dense and hard, but at times merging into good stone, somewhat similar to the reef. Outcrop of reef varies up to 4ft.; the width of gold shoot 2ft. 6in. The stone, on the whole, is similar to the first series. The rich shoot occurs on the south-west end of reef, but does not continue beyond the first fault, going north-east. South-west the outcrop does not show above the surface. Stone from the gold shoot gave good prospects, going up to 1dwt. to the pound, but this class of stone was not over plentiful. We obtained some good stone, showing strong coarse colors, but this again could have been better distributed. Sunk a pothole on the shoot, without any alteration. Outside this patch we could not strike any more valuable metal, but all prospects tried gave gold, from colors up to 15dwt.; the average being under the 4oz. East from this is another small run of stone, worth only colors. South-west, some 200ft., is a short run of stone, the width of which gave us prospects from which two short but very large bodies of stone, the outcrops having a width of 10ft. in places; prospects from these gave from a few pennyweights down to colors. No length of outcrop visible owing to the flat nature of the country, one reef being in the centre of a small watercourse, and another close to the edge. These are well-defined reefs, and no doubt extend for some considerable length, but time would not permit of pothole sinking to test the covered portions of the reef. Regretted having to leave this belt without sinking a shaft on the gold shoot some 20ft.; but with a large area of likely country ahead, this could not be managed in the time. Twelve miles to the north-east of this gold belt is another promising run of country seven miles in length, but narrow. Ironstone predominates throughout this belt; even the altered country rock being heavily charged with iron oxides. Quartz reefs very scarce. Failed to raise a trace of gold out of the stone collected from this belt.

No. 3 belt, situated 30 miles to the south-east of Tanami, comprises a short run of broken hills, with low rises and spurs out from the main run of hills. Formation—schistose rock, with a little kaolinised granite. Reefs of quartz and ironstone plentiful, together with bodies of quartz and quartzose rock. Several large ore bodies on the southern end of the broken hills; honeycomb and gossan quartz plentiful, with fair percentage of pyrites. Best results, colors only. A long run of stone, much broken, caps an east and west spur jutting out from the south-west end of the hills, contains splendid looking stone, good enough looking to go ounces; but the best result obtained from a short shoot of stone was about 5dwt. Reefs also contained a little copper. Several other reefs about this locality also gave a mean prospect of fine gold.

No. 5 belt, situated 17 miles still further to the south-east. Central portion occupied by a hill of granite boulders; west and east are two patches of reef-bearing ground. Formation—granitic schist, and much altered rocks of a similar character. In the eastern patch of country the reefs are very numerous. Sherd кварти by the alluvial flats, together we not of a very kindly character, being similar to many granite reefs in these regions; stone clear and glossy, with patches of gossan in places. Ironstone formations, apparently composed of altered quartz rock heavily saturated with ironstone, are also fairly plentiful. Best results again, colors. In the western portion this result was improved up to a few pennyweights in one place, and colors from several others. The first of these was obtained from a partly-decomposed quartz and ironstone lode, apparently of fair width, and continues for over 100ft. Large reefs of black quartzose rock, with iron, also occur in this strip of country, but we could raise nothing out of them.

No. 6 belt, situated 12 miles to the south-west of the Granite Hill. Short run of black broken hills, surrounded with low rises. The ridge itself was composed of the same dark quartzite and quartzose rock, with iron and gossan to the boundary, but not a speck of gold could be even dollyed out of it. On the eastern end are several small hills of granite; north and westly the rises were of a promising character. Strong, well-defined quartz reefs traverse some of these ridges, the stone being of a class that warranted the expectation that we were going to strike something good; but in one day I had dollyed and dollyed some 30 samples without raising a color. Gave the quartz reefs best, and tried some iron and quartz veins on a ridge some two miles to the south of west. These iron and quartz veins are strong, well-formed ore bodies, varying up to 3ft. in width, and fairly continuous; these gave colors and fine prospects of gold from several places. Formation of country here still schistose, but more of a hornblende nature, in places merging into a rock closely resembling diorite. The occurrence of these rocks in conjunction would, in any other country but South Australia, be an almost certain indication of the existence of metals. Passing this belt nine miles in a westerly direction brought us on to sandstone tableland, this evidently being the southern end of the exposed portions of auriferous country. Steering northwesterly we tried a small belt of mica schist country, but only struck a few small quartz leaders, of no value.

No. 7 belt; a strong run of hills, extending for about eight miles, is the main feature; width of belt varying up to three-quarters of a mile. Formation—rock is here gradually merging back into schistose, quartzite, and altered sandstone, from the micaceous and granitic schist of the more eastern belts. The sandstone and quartzite beds are much crumpled and twisted, the reefs having a similar appearance. Quartz
and iron reefs both fairly plentiful; some of a poor class, and others containing stone of great promise, pyrites, gossan, and iron oxides being well distributed; but nevertheless the usual intensely fine bunch of colors was the order, with only one exception; this was from a very soft friable ironstone locality which had the appearance of having recently been subjected to an intense heat. The locale was but poorly defined, being too soft to stand out from the surrounding country. Obtained colors over a length of 500ft., and from one large blow of stone I obtained prospects equal to 1oz.; but this prospect, as far as the work would permit of judging, did not extend over any length of stone. Obtained colors from over a dozen different places in this belt, and the number of color shows could have been greatly augmented had we dollyed prospects from all and never tried, shortage of water prevented this being done. Only dollyed sufficient to give us a guide as to what stone carried, and what class of stone was useless.

No. 8 belt, situated 10 miles due west of the No. 4 belt, comprises only a narrow strip of broken country along the fringe of a run of iron conglomerate, which overlaps the gold-bearing rocks on the western flank. The hills have a length of three miles, and then merge into low gravel rises to the south-west; the rises here were a failure, containing no reefs of any description. In addition to many others, two reefs traversing the run of broken hills stand out prominently as the most important and promising reefs in the belt. One is traceable for over 4000ft., and the outcrop varies up to 80ft. Stone throughout the whole reef of a very uniform character, carrying nearly an equal share of quartz and iron oxides. The other reef was of a similar character, but a shorter run and of greater width—80ft. to 90ft. across the outcrop. This gave colors only. From the long reef some prospects were taken, others colors, and one equal, to 5dwt. Outside these two reefs we struck nothing of any importance in this locality.

No. 9 belt, situated on the banks of the salt marsh in flat open country. Only a few reefs outcropping above alluvial soil; several of these gave colors, one, a reef 1500ft. in length, and up to 20ft. 6in. wide, gave a few pennyweights prospect of fairly strong colors. The stone was white quartz, hard, but certainly a little iron and a fair percentage of pyrites. The belt covers but a small area, and is a north-easterly trending reef. The total duration of work on this reef was 11 days out from water, and making in to the Granite Hill for a drink, so that we did not have much time to devote to this belt.

No. 10 belt, situated 30 miles to the north east from the granite hills; country in this direction becoming more granitic. Run of quartzose rock, together with huge glassy white quartz, started to make their appearance. A small patch of good country exists in the locality marked No. 10. Quartz and ironstone veins traversing low rises of metamorphic country, some of these veins being defined and continuous, and varying up to 30ft. in width; others again being short disjointed makes of stone. Fine colors from several places was the result from pannings. South from Camp No. 81, some five miles, is another likely run of auriferous character. Several enormous blow or small hills of quartz is the distinguishing feature of this belt. Formation of country unchanged, and the general character of the reefs unaltered.

Doubtful color was the result from pannings. South from our line, about longitude 132°, we were then in sight of the explored country south and south-east of our route, broken hills showing some 30 miles off. Passed several patches of likely-looking country to the south of the line, about longitude 133°, but being on Barkley Syndicate property, I did not stop to examine these.

Alluvial Gold.—The little alluvial we tried was no indication of the worth of this country for this class of gold. There is a very strong probability that good alluvial gold exists, many portions of the gold-bearing areas being of a very promising and encouraging character; enormous quantities of shed quartz lying about the surface, with good ironstone, and some gold in the stone is as good an indication as one could wish for. A party trained in the art of panning and dollying devoted 10 days to allow of much time being spent in alluvial prospecting.

Failing to discover rich reefs, the next best thing to open up a country is the discovery of good alluvial deposits. I think, now that the country is explored and the gold areas located, that an expedition, whose main object was alluvial gold, would meet with fair success.

The work of prospecting had to be carried on under considerable difficulties and many disadvantages, and time would not permit of exploring ahead and then going back to bring on the team. We had to prospect and explore at the same time, and when we had left a water we had not the slightest idea where we were to strike our next drink; only on about two occasions did we leave permanent water behind, so that it was always a matter of keep going. With the knowledge we have now of that country, its waters, distribution of gold-bearing and non-metaliferous rocks, a party re-traversing the country could do more thorough work; and by careful prospecting obtain somewhat better results than we obtained in many instances. At the same time, I feel satisfied that the rich series of reefs necessary to start extensive operations in this country does not exist in the country we have been over. Ordinary grade reefs from 3oz. to 1oz. in all probability do exist; it is only reasonable to suppose that such is the case, seeing the number of reefs and area of country that we have proved gold-bearing. The whole formation of the country is not one in which rich patches of gold-bearing stone is usually found. No good belt of eruptive rocks, such as diorite, exists, and without evidence such as it gives of strong disturbances, there does not appear much prospect of striking these rich shoots of stone, so familiar in Western Australia.

I estimate that we proved by actual inspection and indirect evidence fully 30,000 miles of country, the bulk, unfortunately, being desert.

In conclusion, I may say that I deeply regret not being in a position to report more satisfactorily. On this trip I did anticipate being able to send you something out of the ordinary. The country is there in fair quantities; some gold is there, and plenty of reefs, but not the rich series we require. For the party and myself, I can justly claim an honest effort to make the expedition a success. We kept going continually day from day to day, and I think covered more country and tried more reefs than most expeditions—that is, within the given time.

I would finally ask you to pardon all shortcomings in this report, as time has been very limited.

H. P. Wilson, Esq., Broken Hill Chambers, Adelaide.
ALLAN A. DAVIDSON.
Barrow
No. 37.
Barrow Creek, September 26th, 1900.

Dear Sir—A few general details of the trip may be of interest.

As the season was extremely dry, anticipated some difficulty in getting over the first dry stages. With this prospect ahead, I cut down all loading that could possibly be dispensed with, packed my riding camel, and we all footed it.

Starting from Kelly’s Well on the 9th May, we travelled westerly for 140 miles; practically speaking the whole of this country traversed up to this point was useless desert—sand and stunted sandstone. For the first three days we had intensely hot weather, and the water from Kelly’s Well being heavily mineralised, we had a severe gremlin. Third night the weather broke, and we had a thunderstorm; this saved the expedition, as for the first month we struck no water but that left by this storm. Had we waited for a twelvemonth we could not have struck a more favorable opportunity for a start. On the fourth day we struck a claypan, and so obtained a drink for the camels. Even after a foot of rain in this sandy desert it is only at exceptional places where a drink could be obtained next day; no place for water to lodge. Light but soaking rains delayed us here for three days. Making a fresh start with good water, we continued westward, getting water in three places during the next seven days; at the end of that time we were some distance beyond the boundary of the Barclay Syndicate country. As the prospect around us and ahead for 20 miles showed nothing but desert, decided to steer for a range marked on the geological map of the Territory as “High Mountain Range,” and metalliferous. Our course was then north-easterly, and it proved the most serious run of the trip. We failed to sight the high mountain ranges, where I expected to strike creeks and waterholes. Continuing on past where this range was supposed to be, we eventually struck the lower end of Hooker’s Creek, where it is gradually disappearing into watercourses. Failed to determine the flow of the water correctly; been no water flowing in this locality for many years, and continued on for three days without striking any water. Fell back on the watercourse, and followed it up, striking a claypan on the 13th day; walking over 30 miles a day for two days to obtain this result. Camels were very dry, but in no way distressed. Travelled over 150 miles on this run, and with the exception of two small runs of broken sandstone hills the country traversed was nothing but desert. Working out from this claypan water, sighted the supposed high mountain ranges, some 20 miles out of position. These proved a wretched failure, being nothing but a short run of low hills; formation—sandstone and conglomerate, and unfavorable for gold or any other minerals. After this disappointment, we went west from Buchanan’s Hills, but as the country was nothing but desert, with no camel feed, struck northerly on to Hooker’s Creek. A camel getting staked necessitated going slow for three days. In the gravel wash of the creek noticed some eruptive and granite rocks, so followed the creek up, eventually striking a belt of country towards the head of the creek; this not yielding any promising results, continued country for another 50 miles, practically the whole of this run being over useless country. Sandstone and quartzite tablelands hills predominating. At this point the only loss occurred; our dog rushed out barking during the night, and disappeared for good. Throughout this country we had considerable trouble in negotiating the deadly poison-bush, “Gastralobium”; it grows in abundance in this latitude, but by steering round, shepherding and tying down the camels, we pulled through without a single camel getting even a dose of it. At the end of this 70 miles we were within a short distance of the West Australian border, and at the spot marked on the geological plan as Basalt Range. I anticipated striking some good country here, but the Basalt Range was like the high mountain ranges—a fraud—proving to be a sandstone and grit tableland range, the beds weathering in a somewhat similar manner to the characteristic columnar structure of Basalt. Gave the geological map of the Territory best after this failure. Course was then south, with the object of getting round on the western side of the desert. In 15 miles struck No. 2 belt of auriferous country, from which we obtained the first poor but decent prospects of gold; naturally an exciting and interesting event after nothing of any value exists out in this direction.

Between latitude 20° and 21°, longitude 129°, the exposed hilly portions of the belts do not cover any extent of ground, but the low rises and alluvial flats are also good; in fact it was from this class of country we obtained the best reefs. For a start we tried belt after belt, reef after reef, and scores of prospects dotted and panned, but all without even the slightest sign of any gold. Reefs of quartz and ironstone, huge
huge ironstone formations, splendid gossany quartz, all went the same way—nothing. I at last rose a single fine color, and having discovered a rockhole—one of the two permanent waters we struck on the trip—I was in a position to return and give the reef a second trial; after two hours' work I was rewarded by sighting the first visible color, in the stone, of the trip. Byrne, on the afternoon of the same day, struck another series of reefs, from one of which he obtained stone showing nice coarse colors—all the result of a single color. Some natives came into camp the day after; they were shown the gold, but reckoned they had not seen anything like it in their travels. Our hopes were high at this time, notwithstanding the fact that we were unable to add to the discoveries of the first day. We had still a large area of country to try, east from the first discovery. Starting from this we had nothing but a series of disappointments to face, one after the other. Good belts of country, good reefs, and splendid stone, and with the dolly going all day and late into the night the best results we could raise was a prospect of 500, the bulk being fine colors only, and up to a few pennyweights, but never the sign of a color in the stone. In trying this country we had to depend on native wells for water, and these we had first to find, then sink them. Time was now getting short, likewise the rations, so steered a roundabout course for the Barrow. In three days struck a native well and two small belts of good country; gave these a couple of days, with the usual result—digging out the well and giving the camels a drink meanwhile. Then continued our course to the Barrow, passing and trying several small patches of country, but failed to sight a single color. In three days struck another native well, but this, like the reefs, was a duffer, and after digging at it till 10 o'clock at night gave it best; by morning it had made only a bucket of water. On the sixth day from last drink we struck a large creek, the Lander, and from a little creek running into this we obtained a soakage, from which we just managed to get sufficient water to give the camels a drink and fill up the kegs; the work taking half a day and part of the night to complete. Following the creek up next day, we struck a billabong containing a nice sheet of water, but very shallow. We were then some 100 miles from Barrow Creek, and back into Barkley Syndicate country. The 100 miles proved to be a fairly continuous belt of thick mulga scrub. At times we had to clear a road for the camels, and our pad curved and twisted in a most tedious manner; we eventually got through it, and struck in for the Barrow, reaching here on the 20th September, being just one day off four and a half months. My course for the Barrow was only a few miles to the southward, and as on this trip I depended solely on the prismatic compass, I feel proud of the work, although disappointed and disgusted with the result. Our route, with flying trip, covered a distance of 1,326 miles, and as we were 139 days out, this gives an average of nine and a half miles travelling for every day we were out. We spelled six days, lost four days with rain, and a few half and quarter days through the camels wandering. As an exploring expedition I can justly claim a success, as we never had a single serious mishap of any description. We enjoyed splendid health, Byrne alone being a sufferer, catching a cold and losing his voice for the time being. Our living was mostly very hard; it was only at odd intervals that water could be spared for cooking more than dampers. The water we had to spare went in panning samples. We finished up on tinned beef and damper, with tea neat—no sugar; this, together with jams and sundries, being out some time. As a general rule we had only two meals per day, breakfast at 6 o'clock, dinner at 4 o'clock or 5 o'clock; when travelling, no drinks between times. Boot leather was another item getting scarce towards the finish. Estimate I walked fully 2,000 miles, and rode 200—nearly. Walked through the soles of three pairs of heavy boots, several sets of hide soles, and finished up on the uppers of the last pair. The others were in much the same plight. I have, &c.,

H. P. Wilson, Esq., Broken Hill Chambers, Adelaide

ALLAN A. DAVIDSON.

REPORT

No. 27.
The Arltunga goldfield is situated in the Macdonnell Ranges, 70 miles east of Alice Springs, and about 360 miles from Oodnadatta, the terminus of the railway. The field covers a very large area of country, gold having been discovered at intervals over a length of 80 miles, and for a width of 25 miles. A large proportion of this has never been thoroughly prospected. No outside capital has been invested in the field, so that the work of prospecting this country has been done by working men, and of necessity their only object has been alluvial gold, reefs outside a radius of 15 miles from the main camp being ignored. It is therefore still a good field for prospecting, and it is highly probable some valuable discoveries will yet be made in this locality.

The White Range is a run of hills situated six miles from the Government battery. It has a north and south course, and the quartzite beds composing this range underlie to the east, and are overlain by schistose, granitic rocks. The ordinary gold reefs in this locality occur in this class of rock. The eastern slope of the range is very uniform, being broken only by gorges, and it is on this fall that the gold-bearing formations are outcropping. They extend straight up the hill from the base towards the cap; their trend being thus east and west, and at right angles to the strike of the beds.

The Gold-bearing Formations.—These are most peculiar; nothing similar to my knowledge exists in Australia. These lodes or formations consist of innumerable quartz veins, small and large, which in places merge into one large body. Quartzize is intermixed, and the whole traverses quartzite beds. The course of these formations is regular and defined, but in their present state of development it is impossible to be accurate about their width. No work has been done to test the width, and the workings as they now stand expose no walls. From what can be seen, the gold-bearing quartz merges into quartzite, and is again transposed into gold stone without the slightest sign of a break in the structure of the rock. This is probably due to some intense metamorphic action, and may be of great width. All through these formations blocks and patches of gossan and cavernous stone occur, and it is this class of stone that carries the bulk of the gold.

Gold is frequently visible in the stone.

Development.—The work done has not been of a kind that assists in forming an opinion of the extent or capabilities of these formations. The stone has simply been rooted out at all the most convenient places to enable the men to pay their way. Open cuts, trenches, and potholes comprise the whole of the development work done from these workings; 697 tons 12wts. 2qrs. have been treated, for a return of 607 cwts. 18dwt. 19grs., valued at £2,243 Is. 4d. A table of crushings from the main blocks is appended. By these it will be seen that as work proceeded the crushings have improved. Part of this may be due to a more careful dressing of the stone sent to the mill, but in addition I am of opinion that the stone is improving in value as they get down. The stone is of a character that readily lends itself to dressing, so that as cartage charges to the battery are heavy, the men have to sacrifice quantity to quality. The earlier crushings varying from 3dwts. to 12dwt., is the value of the stone as taken out on a face. By dressing the stone the men earn from 30s. to £5 per week.

Area, &c.—The properties under notice consist of the following:

<table>
<thead>
<tr>
<th>Property</th>
<th>Acres</th>
<th>cwts.</th>
<th>qrs.</th>
</tr>
</thead>
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<tr>
<td>White Range South</td>
<td>17</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>White Range Excelsior</td>
<td>20</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>White Range Extended</td>
<td>20</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>White Range East</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>White Range North</td>
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</table>

White Range South.—The formations have been proved to carry gold in this area; there are three chains apart, and running parallel. On one of these a little work has been done, consisting of a trench along the outcrop to a depth of 5ft. and for a length of 35ft. A crushing of 6 tons gold from here yielded at the rate of 2ozs. 6dwt. 3grs. per ton. The outcrop is visible for a length of 150ft., and has a width of from 4ft. to 8ft. The second formation is practically untried, its outcrop appears stronger, and extends for 200ft.

White Range Excelsior.—This property adjoins the above on the north. Two main runs of stone exist here also, but only a few tons have been taken from one. The outcrops are not visible for any length, being covered by quartzite rubble. The main workings consist of an open cut 40ft. in length, with a depth of 15ft. From this cut the bulk of the stone crushed (as per list attached) has been taken. The workings show no walls, and to all appearances the true width of this formation is much greater. The same class of stone as that taken out exists on both sides of the cut.

White Range Extended.—This adjoins on the north again. The main formation here runs parallel with the Excelsior vein, and distant two and a half chains. It runs up the bank of a gorge, and the outcrop is in consequence much disturbed. The outcrop can be traced for 300ft. At different places along the outcrop good stone has been taken out. The chief work consists of an underlay cutting 30ft. in length, from 3ft. to 4ft. wide, and with a depth of 14ft.; £400 worth of stone has been taken from this cutting. The width of the formation at this point appears to be from 15ft. to 20ft.

White Range.—Gold-bearing stone exists in a number of places over this lease. Some of the formations are small, and others again appear of great width, a few hundredweight of stone being taken out wherever the stone showed a good patch of gossan. The more concentrated work is on two runs of stone about 1chm. apart;
apart; one of these, known as the Long Lead, extends for 500 ft.; all along this, average stone has been taken out by trenching to a width of from 5 ft. to 5 ft., and for several feet in depth. The outcrop, where visible, shows a width varying up to 8 ft., or 10 ft.; the other formation has been rooted about for 50 ft. at surface, and an open cutting sunk to a depth of 15 ft., with a width of 4 ft. Some of the best stone on this property exists here, and on the sides of the cutting the same class of stone as that taken out, so that the width is evidently much greater.

White Range Ext. joins the White Range Block on the east. The run of stone known as the Long Lead extends into this property, but only very little work has been done thereon. Another large formation, but somewhat broken and more intermixed with quartzite than the others, is showing on the northern boundary; it can be traced for 300 ft., and runs of stone can be picked up on the same line for a quarter of a mile. Away from the main lines good stone is showing in a number of places. A recent crushing taken from this block, consisting of a few hundreds from various places, gave the following return:

- Six tons for 170 s.

Take from this block, consisting of a few hundreds from various places, gave the following return:

Summary.—Although the work done does not expose the true width of these lodes, I am of opinion that they extend to a great width; certainly up to 25 ft. at least. The amount of stone crushed does not give a true index of the amount that can be taken out, owing to the methods the men have of working. Should the width of these formations warrant it, the bulk of these shows could be worked on the open cut system for some years to come.

Timber and Water.—Water sufficient to run the Government battery of 10-head is obtained from a well 90 ft. in depth. Other wells have been sunk on the field, and with one or two exceptions a fair supply was obtained, but not sufficient for a large undertaking. A larger creek, known as the Habe, is situated about five and a half miles from the White Range, and I have no doubt that a site could be chosen here for a dam with a holding capacity sufficient for all requirements. Timber for heavy work would have to be carted a considerable distance, but ordinary rough mining timber could be obtained within a reasonable distance.

**MEMO. OF RETURNS, WHITE RANGE PROPERTIES, TAKEN FROM OFFICIAL FIGURES.**

<table>
<thead>
<tr>
<th>Name of Mine</th>
<th>Quantity Treated</th>
<th>Battery Returns</th>
<th>Cyanide Returns</th>
<th>Total Gold Extracted</th>
<th>Average Yield</th>
<th>Value</th>
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Average per ton, 16 dwts. 16 grs.
LADIES AND GENTLEMEN—Our meeting to-night is for the purpose of hearing a few details of Mr. Allan A. Davidson's explorations in Central and Northern Australia during a period of three years, from 1878 to 1901.

Mr. Davidson, in his prefatory remarks, says:—"The exploration and development of Central Australia is a history of hardships and disappointments, and our experience covering three of the driest years ever recorded in that country was no exception. The present inaccessible nature of the country, and costly transport, prohibits the development of gold mines other than those of a high grade. Two years were occupied in proving the country east of the transcontinental telegraph line, between Barrow's Oolat Telegraph Station and as far north as Tennant's Creek Telegraph Station; a block containing over 11,000 square miles. Comparatively speaking, only a small proportion of it was occupied by metalliferous country, and the belts representing this area were, with one exception, very small. Throughout these belts we discovered a number of gold-bearing reefs, and a considerable amount of capital was sunk in development work. The reefs, however, proved to be of such a low grade, that it was considered it would not justify the employers in raising the necessary funds to thoroughly develop them. The present inaccessible nature of the country, combined with costly transport, prohibits the development of gold mines other than those of high grade. With the extension of the railway from Oodnadatta to Port Darwin these conditions will be modified, and the mineral resources of the interior would then become the great factor in the development of Central Australia."

It may be of interest generally, and of value to future explorers and prospectors, to give a somewhat detailed description, from the unpublished reports of Mr. Davidson, of this large block. Plans, as a rule, however complete, only give an inadequate idea of the nature of the country. Nearly the whole of this large block—11,000 square miles—is occupied by the massive Murchison and Davenport ranges, parts of which are of considerable elevation, the crossing of the Bonney, which is on a level plain, being 1,252 ft. above sea level, measured by me with barometer and hypometer, in 1879, and parts of the ranges are probably several thousand feet higher. These ranges contain numberless splendid gorges, large waterholes, and several permanent waters, springs, &c. Rock waterholes are also frequently found; as an instance of the permanency of these waters, I may mention from personal knowledge gained some 20 years ago, that a large mob of horses, a score or more, were running wild in these parts, one of which I saw; they were evidently the descendants of some lost by the overland telegraph construction parties, and had been breeding here for some 10 years or more up till 1880, when I saw their tracks. Since then, I believe these horses, as well as others running on Bishop's Creek, north-west of Tennant's Creek, have been appropriated by some of the local residents, many of whom were undesirable characters from Queensland. This appropriation was done without a right or permission from the Government, to whom they undoubtedly belonged.

A very large river discovered by me in 1878, and named the \"Gosse River\"—after Mr. William Christie Gosse, an old explorer, and at that time Deputy Surveyor-General of South Australia—rises in the northern and central portions of the Murchison Ranges, and trending northward, receives numerous tributaries from the westward. It has a wide channel and an abrupt high bank, lined with magnificent large eucalypti. Indications of enormous floods are everywhere evident in the branches of many trees, where dead is lodged fully 30 ft. above the creek bed. I have been able to locate its course for over a 100 miles, when it assumes the appearance of a flooded grassy flat (the grass being quite 6 ft. in height); eventually, with other creeks, it abouches into some large coolabah and polygonum swamps formed by the Creswell, Buchanan, and other large rivers. Mr. Davidson's work occupied him on the upper parts of the Gosse River. Two other large rivers, the Frew and the Eldrida, emanate from these ranges, the former trending northwards, contains many splendid and large waterholes; some undoubtedly permanent. Eventually, on reaching the level sandy country, it resolves itself into a grassy channel or flat, and finally junctions with its surplus waters. The Rankine and James rivers, the affluents of the Herbert River, form at this junction an immense polygonum swamp, and the drainage of all these rivers, with the exception of the Gosse, finds its way into the Herbert, and then into the Lake Eyre basin. The Eldrida rises in the Murchison and Davenport ranges, trending easterly; it contains several large permanent waterholes, one especially, which is described as a small sea or lake. The characteristics of this creek are similar to the others, as it assumes a wide, grassy, and bluebush channel when reaching the level sandy country, and eventually, with the Frew, Sandover, and other rivers (the latter emanating from the Macdonnell Ranges) find their way into the large polygonum swamp, and thence into the Herbert River. This immense polygonum swamp, many plots of which are quite 30 ft. in height, is situated in latitude 20° 30' south, and longitude 137° 30' east, at the junction of the sandy country and the Mitchell grass downs. There are many other large and small creeks emanating from the Murchison and Davenport ranges, some trending westward, and others to the east; one of these Mr. Davidson named \"Gastralobium Creek\", from the immense quantity of the deadly poisonous shrub (Gastralobium grandiflorum) growing here in the utmost profusion. All these creeks eventually contribute their surplus water to the Herbert River. In several of these creeks good waterholes are found, and in one, Coorundee Creek, a splendid large spring exists, with plenty of large fish, which also abound in all the other large creeks emanating from these ranges. Mr. Davidson examined and named the following:—Granite Creek, Opal Creek, Mosquito Creek, The Julia, Lennie, Quarry, Whistle Duck, and Munadgee creeks, all tributaries of the Frew River; and Turkey, Morgan, and Marble creeks, tributaries of the Gosse River.

Mr.
Mr. Davidson discovered many gold-bearing areas in these ranges, besides those mentioned by Mr. H. Y. L. Brown, and he thought it worth while to specially test and describe five of the principal belts, as well as to furnish a detailed sketch of these places: locating the various gold reefs, copper and other mineral deposits.

The principal gold-bearing belts are called—the North Coorunindee, South Coorunindee, Mannindee, Coondings, and Skinner. Mr. Davidson tested these various reefs, more particularly those at Mannindee, where several shafts were sunk to a vertical depth of 51 ft., besides some distance beyond this on the underlay of the reef; and although the results would have been considered very payable in other and more accessible regions, nothing less than 100 oz. ore was considered payable here. Doubtless, as Mr. Davidson remarks, when the transcontinental railway comes into existence a large mining field will be developed here, as the country being so elevated (over 6000 ft.) is very suitable for permanent settlement. Water also is abundant, and good grazing land is found in the many valleys and adjoining plains; the country is moreover plentifully timbered with large gums and other woods.

Mr. Davidson, on completing his two years' work in this region, was requested to proceed to London, with the double object of recruiting and of conferring with his principals as to the advisability of ceasing operations. It was while conferring with them that the Western Expedition was decided upon, the details of which will be presented to the society in journal form; together with two maps—one showing the topographical features and geology of the country traversed, the other an enlarged scale, the several belts of gold-bearing country and the work performed during the first two years.

Mr. Davidson throughout kept a careful record and traverse of the country passed over, and I was thus able to reproduce his route with the greatest accuracy; these maps will be a splendid guide to future explorers. He particularly the general portions of the country traversed. The geologists delineated as they were examined throughout the whole route. Mr. Davidson originally intended to effect his start on this Western Expedition from a billabong at the lower end of the Bonny Creek, some 30 miles west of the telegraph line, but this water was found to have dried up, and he decided upon starting from the telegraph line at Kelly's Well. The position of this well is 33 miles south of Tennant's Creek Telegraph Station.

Mr. J. Field, the Stationmaster of Tennant's Creek, was at Kelly's Well, and thus Mr. Davidson was able to discover and visit all Stanley's prominent friends.

Kelly's Well is over 1,300 miles north of Adelaide, and his journey from Adelaide to this place occupied 34 days. The height of Kelly's Well above sea level is 1,101 ft., by barometric and hypsometer measurement by myself in 1879. The expedition now consisted of Allan A. Davidson, the leader; two prospectors, John Byrne and J. J. Davidson; a camel-man, E. W. Wood; and Jack, the blackboy; with nine bull camels, and rations for six months, together with Sigsalls of water, equivalent to 17 days' supply; they also had a small dog.

The party started on their westward journey on May the 5th, 1900, and for details of this journey I must refer you to his journal. I shall merely give here an outline of his route, to enable you to understand where the expedition course was taken. Long stretches were traversed where no water existed, but Providence favored Mr. Davidson by a fall of a succession of seasonable rains, which enabled him to cross the long dry stages on claypan waters.

Leaving Kelly's Well, latitude 18° 59' 30" south, longitude 134° 11' 15" east, at five miles, a very large quartz and ironstone reef was crossed, which would be well worth prospecting. The journey was continued westward for a distance of more than 220 miles without meeting with any permanent water; many shallow claypans, however, were found, and these having been filled by recent rains enabled the party to cross what would in ordinary seasons have been a waterless country, and when a few low, isolated conglomerate hills were passed. Eventually, in latitude 19° south, longitude 123° 30' east, Mr. Davidson discovered a very large creek, with abundance of good water; it is erroneously supposed to be Hooker's Creek. But this latter creek is fully 60 miles farther north and north-west. A further traverse of 30 miles N.W. was made to some low hills, when the party followed the creek up to the westward; crossing a very large grassy swamp at from five to 20 miles from the start. In about 60 miles, latitude 18° 30', longitude 130° 40', hills and ranges were seen; these now became numerous, and extended both to the north and south of the route as far as 200 miles, and the water, both of the sea and rivers and of the several springs, increased both in size and in elevation towards the westward. The course of the large creek was still followed, and its head waters were found to be in latitude 19° south, and longitude 130° 15' east. It takes its rise from amongst numerous massive granite ranges, some of which appear to be of considerable elevation.

A deviation was made here to examine some high ranges about 25 miles to the north, but this latter creek is fully 60 miles farther north and north-west. A further traverse of 30 miles N.W. was made to some low hills, when the party followed the creek up to the westward; crossing a very large grassy swamp at from five to 20 miles from the start. In about 60 miles, latitude 18° 30', longitude 130° 40', hills and ranges were seen; these now became numerous, and extended both to the north and south of the route as far as 200 miles, and the water, both of the sea and rivers and of the several springs, increased both in size and in elevation towards the westward. The course of the large creek was still followed, and its head waters were found to be in latitude 19° south, and longitude 130° 15' east. It takes its rise from amongst numerous massive granite ranges, some of which appear to be of considerable elevation.

A deviation was made here to examine some high ranges about 25 miles to the S.S.E., when Mr. Davidson discovered a very high and prominent range, which he named "Ware Range." A large creek was also discovered emanating from these ranges and trending south-westerly, this Mr. Davidson named the "Wilson." The ranges continued southwards as far as the eye can reach. On returning, the journey was continued westward over detached ranges, where a good deal of Gastralobium was seen, and special care had to be taken with the camels. In about latitude 19° 1', longitude 126° 30', a turn was made to the south to latitude 19° 5', longitude 127° 20', and on further progress, an immense number of hills and ranges were seen; these now became numerous, and extended both to the north and south of the route as far as 200 miles, and the water, both of the sea and rivers and of the several springs, increased both in size and in elevation towards the westward. The course of the large creek was still followed, and its head waters were found to be in latitude 19° south, and longitude 130° 15' east. It takes its rise from amongst numerous massive granite ranges, some of which appear to be of considerable elevation.

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The western boundary of the colony was crossed at the 20° of latitude, and Western Australia entered.

Hills and ranges appeared in all directions; a few salt marshes were crossed. On reaching Camp 52 (Mr. Davidson's farthest western point), longitude 128° 51', latitude 20° 6', the return journey was commenced, and the West Australian boundary again crossed in latitude 20° 22'. Here a large creek, trending south-west, and named "Mount Aitchison," Limestone country, was named the "Aitchison." Limestone country as in other places, frequently on the surface. On reaching latitude 20° 36', and after having travelled some 50 miles, a turn due east for 15 miles brought the party to numerous bluebush swamps and claypans, amongst isolated hills; another turn in a north-eastern direction for 40 miles again brought the expedition to Gardner's Ranges. A splendid rock waterhole, containing about 18,000 galls., was found, it was called by the natives "Tanami." This, I believe, is the only occasion on which Mr. Davidson came into contact with
The Taylor and interesting to explore this part of the country was now again of various directions. When the party then travelled eastward amongst isolated hills and detached ranges; granite hills and quartz blows were here found, and some time was spent in prospecting and testing the stone, but the results were not favorable. The salt marsh, or lake, continued eastward for fully 40 miles before Mr. Davidson lost sight of it, but it evidently continued further. Several prominent hills and ranges were fixed and named — "Granite Hill," "Mount Davidson," "Mount Solitaire." &c. Very high ranges and mountains appeared some 20 or more miles to the southward, between longitude 130° and 132°; two especially high and prominent mountains loomed up conspicuously (one of these Stuart's Mount Bartlett), distant 50 miles from Mr. Davidson's track.

The Lander River, discovered and named by Mr. W. G. Gosse, was then crossed and followed for some distance in latitude 30° 45', longitude 132° 30' east. A very large group of broken hills and ranges (Stuart's Mount Rennie and Mount Peaks) were also noticed to the south of the route when passing the 133° of longitude, when the country was now again level flats. He had several long stages without water, one of over 100 miles, and at about 25 miles further south-east the party crossed the Taylor River. These fixings of the large Branches rivers add considerably to the knowledge we had of the channels of these important rivers.

In another 10 miles Barrow Creek Telegraph Station was reached, where the party were most hospitably received by the stationmaster, Mr. F. R. W. Scott, and his staff. Barrow Creek is 1,724ft. above sea level, in latitude 23° 30' south, longitude 133° 58' east. The expedition departed from Kelly's Well on the 5th of May, 1900, and returned to Barrow Creek in the middle of September, having been absent nearly five months.

I have had over 24 years' experience in explorations, and am therefore qualified to express an opinion on exploration. I am very pleased to be able to state that Mr. Davidson's explorations are now nearly the last that can be made in Australia on an extensive scale, although there are of course many places yet which have never been visited by white men.

There are two parallel strips of unknown country—one south of Mr. Davidson's track, 90 miles in width north and south, and 360 miles in length, east and west. The second portion is between Mr. Davidson's outgoing and returning routes, being also 90 miles in width north and south, and fully 300 miles in length east and west. Hill ranges and mountains have been noticed in both these regions, and it would be most interesting to explore this part of the country fully. There are also two other blocks—one to the north-east of Mr. Davidson's outgoing journey, 100 miles wide in a north-east and south-west direction, and 200 miles long in a north-west and south-east; the other block is between Mr. Davidson's western outgoing track and Mr. Nat Buchanan's trip from Tennant's Creek to Hooker's Creek, 60 miles wide north and south, by 110 miles long east and west.

The exploration of these latter two blocks are of especial interest, apart from the high mountains and ranges that exist there, the problems of the lower portions of the several large rivers which evidently join Lake Woods, are worth unravelling, and the extent of the large salt lakes is well worth ascertaining.

The journey, owing to his able management, was a thorough success. No mishaps of any kind occurred, and Mr. Davidson has assured me that the utmost harmony prevailed throughout the party during their long and tedious journey. I consider Mr. Davidson's journey, although not quite so extensive, should be classed with that of other leading explorers: his work is of double interest also to us by the fact that it gives us a correct knowledge of the topographical as well as geological nature of the country, which has not been the case with many other explorers, and I feel that his work is more than ordinarily accurate.

Mr. Davidson's work covers 27,000 square miles, and fills up one of the blank spaces in the map of Australia which was allotted to the Elder Expedition.

Recognising the great importance of Mr. Davidson's work, especially to geographers and scientists, and being urged by Mr. H. Y. L. Brown (the Government Geologist), to whom I had shown several previous geological maps of Mr. Davidson's, to obtain a record of this work, which will materially help to complete the geological plan of the Northern Territory—recently compiled and prepared by Mr. Brown and myself—I suggested to Mr. Davidson that he should present or offer his work to the Royal Geographical Society, to geographers and scientists, and especially to us by the fact that it gives us a correct knowledge of the topographical as well as geological nature of the country, which has not been the case with many other explorers, and I feel that his work is more than ordinarily accurate. Mr. Davidson's work covers 27,000 square miles, and fills up one of the blank spaces in the map of Australia which was allotted to the Elder Expedition.

I introduced this subject, the records of this expedition, and Mr. Davidson to the Hon. J. L. Parsons and Mr. T. S. Reed (the Secretary of our Geographical Society), who both kindly rendered me every assistance. Together with the Hon. J. L. Parsons and Mr. Davidson we interviewed the then Premier and Minister for the Interior (the Hon. P. W. Hokié), who has always taken a special interest in the Northern Territory, exhibiting to him the several plans, and also the journal. Mr. Holder recognised the large amount of valuable work that was being offered, and promised to consider the matter favorably. I may here point out that Mr. Davidson depended entirely for personal remuneration on any mineral discoveries he might make on these trips, but, as you no doubt are aware, nothing was discovered of a profitable nature, although a very large area of this country is of an auriferous nature. The only result of Mr. Davidson's long and arduous labors so far are represented by his plans and journal, which I shall be pleased to offer to our Government, through the Royal Geographical Society of South Australia.


MAPS.